RESOLUTION APPOINTING MARK FREITAS AND JANE MANLEY TO THE CITY OF MODESTO MEASURE L CITIZENS’ TRANSPORTATION SALES TAX COMMISSION

WHEREAS, in November of 2016, Stanislaus County voters approved a county-wide, 25-year, half-cent sales tax increase known as Measure L which went into effect on April 1, 2017, and

WHEREAS, on October 4, 2016, Council approved Ordinance No. 3656-C.S. adding Chapter 10 to Title 8 of the Modesto Municipal Code to establish a Citizens’ Transportation Sales Tax Commission, and

WHEREAS, the Commission will consist of eleven (11) members appointed by Council to represent the City’s citizens, and

WHEREAS, the purpose of the City’s Citizens’ Transportation Sales Tax Commission will be to:

• Ensure all transportation revenue collected by the City from Measure L is spent in accordance with the Measure L Ordinance and Expenditure Plan;

• Hold public meetings as necessary regarding the expenditure and status of funds generated by Measure L;

• Review independent audits of the expenditure of tax funds and implementation of the programs and projects in the Expenditure Plan; and

• Issue an annual report on its findings regarding compliance with the requirements of the Expenditure Plan and the Ordinance to Council, and

WHEREAS, on August 2, 2017 by Resolution No. 2017-291, Council appointed 9 members to the City’s Citizens’ Transpiration Sales Tax Commission, and
WHEREAS, at that time, 2 positions remained vacant as the City had not received applications meeting the requirements of those seats, and

WHEREAS, the City received 2 applications that were presented to the Appointments Committee for consideration on August 8, 2017 and the Committee recommends appointing the following to the City’s Citizens’ Transportation Sales Tax Commission:

<table>
<thead>
<tr>
<th>Representing</th>
<th>Appointee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Member from labor union with members residing in the City of Modesto</td>
<td>Mark Freitas</td>
</tr>
<tr>
<td>1 member from any local nonpartisan political organization with tax-exempt status</td>
<td>Jane Manley</td>
</tr>
</tbody>
</table>

NOW, THEREFORE, BE IT HEREBY RESOLVED by the Council of the City of Modesto as follows:

1. Mark Freitas and Jane Manley are hereby appointed to the City of Modesto Measure L Citizens’ Transportation Sales Tax Commission effective July 1, 2017, and

2. The City Clerk is hereby directed to transmit a copy of this resolution to the Secretary of the Commission, thereof.
The foregoing resolution was introduced at a regular meeting of the Council of
the City of Modesto held on the 5th day of September, 2017, by Councilmember
Madrigal, who moved its adoption, which motion being duly seconded by
Councilmember Kenoyer, was upon roll call carried and the resolution adopted by the
following vote:

AYES: Councilmembers: Ah You, Grewal, Kenoyer, Madrigal, Ridenour,
Zoslocki, Mayor Brandvold

NOES: Councilmembers: None

ABSENT: Councilmembers: None

ATTEST: 

SEAL

APPROVED AS TO FORM:

By: 

ADAM U. LINDGREN, City Attorney
RESOLUTION APPOINTING JOSEPH SANCHEZ TO THE CITY OF MODESTO CULTURE COMMISSION AS A CITY OF MODESTO RESIDENT AND REBECCA HARRINGTON AS A STANISLAUS COUNTY RESIDENT WHO DOES NOT LIVE IN THE CITY OF MODESTO, WITH A TERM EXPIRATION OF JANUARY 1, 2021

WHEREAS, Section 1102 of the Charter of the City of Modesto authorizes the City Council to appoint members to various Boards and Commissions, and

WHEREAS, the Appointments Committee met on August 8, 2017 and recommended appointment of Joseph Sanchez and Rebecca Harrington to the Modesto Culture Commission.

NOW, THEREFORE, BE IT HEREBY RESOLVED by the Council of the City of Modesto as follows:

1. Joseph Sanchez is hereby appointed to the Modesto Culture Commission as a City of Modesto resident with a term expiration of January 1, 2021.

2. Rebecca Harrington is hereby appointed to the Modesto Culture Commission as a Stanislaus County Resident who does not reside in the City of Modesto with a term expiration of January 1, 2021.

3. The City Clerk is hereby directed to transmit a copy of this resolution to the appointed member of the Modesto Culture Commission, and the Secretary thereof.
The foregoing resolution was introduced at a regular meeting of the Council of the City of Modesto held on the 5th day of September, 2017, by Councilmember Madrigal, who moved its adoption, which motion being duly seconded by Councilmember Kenoyer, was upon roll call carried and the resolution adopted by the following vote:

AYES: Councilmembers: Ah You, Grewal, Kenoyer, Madrigal, Ridenour, Zoslocki, Mayor Brandvold

NOES: Councilmembers: None

ABSENT: Councilmembers: None

ATTEST: [Signature]

STEPHANIE LOPEZ, City Clerk

(SEAL)

APPROVED AS TO FORM:

By: [Signature]

ADAM U. LINDGREN, City Attorney
RESOLUTION APPOINTING DAVID RODDICK TO THE CITY OF MODESTO BOARD OF ZONING ADJUSTMENT WITH A TERM EXPIRATION OF JANUARY 1, 2022

WHEREAS, Section 1102 of the Charter of the City of Modesto authorizes the City Council to appoint members to various Boards and Commissions, and

WHEREAS, the Appointments Committee met on August 8, 2017 and recommended appointment of David Roddick to the Modesto Board of Zoning Adjustment.

NOW, THEREFORE, BE IT HEREBY RESOLVED by the Council of the City of Modesto as follows:

1. David Roddick is hereby appointed to the Modesto Board of Zoning Adjustment with a term expiration of January 1, 2022.

2. The City Clerk is hereby directed to transmit a copy of this resolution to the appointed member of the Modesto Board of Zoning Adjustment, and the Secretary thereof.
The foregoing resolution was introduced at a regular meeting of the Council of the City of Modesto held on the 5th day of September, 2017, by Councilmember Kenoyer, who moved its adoption, which motion being duly seconded by Councilmember Zoslocki, was upon roll call carried and the resolution adopted by the following vote:

AYES: Councilmembers: Ah You, Grewal, Kenoyer, Madrigal, Ridenour, Zoslocki, Mayor Brandvold

NOES: Councilmembers: None

ABSENT: Councilmembers: None

ATTEST: [Signature]

SEAL

APPROVED AS TO FORM:

By: [Signature]

ADAM U. LINDGREN, City Attorney
RESOLUTION APPOINTING JOANNA ESPARZA TO THE EQUAL OPPORTUNITY/DISABILITY COMMISSION AND HUMAN RELATIONS COMMISSION TO COMPLETE A TERM SET TO EXPIRE ON JANUARY 1, 2021

WHEREAS, Section 1102 of the Charter of the City of Modesto authorizes the City Council to appoint members to various Boards and Commissions, and

WHEREAS, the Appointments Committee met on August 8, 2017, and recommended appointment of JOANNA ESPARZA to serve jointly on the Equal Opportunity/Disability Commission and Human Relations Commission.

NOW, THEREFORE, BE IT RESOLVED by the Council of the City of Modesto as follows:


2. The City Clerk is hereby directed to transmit a copy of this resolution to the appointed members of the Commissions and the Secretary thereof.
The foregoing resolution was introduced in a regular meeting of the Council of the City of Modesto held on the 5th day of September, 2017, by Councilmember Madrigal, who moved its adoption, which motion being duly seconded by Councilmember Zoslocki, was upon roll call carried and the resolution adopted by the following vote:

AYES: Councilmembers: Ah You, Grewal, Kenoyer, Madrigal, Ridenour, Zoslocki, Mayor Brandvold

NOES: Councilmembers: None

ABSENT: Councilmembers: None

ATTEST: [Signature]

(monic)

APPROVED AS TO FORM:

By: [Signature]

ADAM U. LINDGREN, City Attorney
RESOLUTION APPROVING A SIXTH AMENDMENT TO THE MASTER AGREEMENT FOR AUDITING SERVICES BETWEEN THE CITY OF MODESTO AND MOSS-ADAMS, LLP IN AN AMOUNT NOT TO EXCEED $100,000; AND AUTHORIZING THE MAYOR, OR HIS DESIGNEE, TO EXECUTE THE AMENDMENT TO THE AGREEMENT

WHEREAS, Section 900 of the Modesto City Charter provides that the City Auditor shall be appointed by and serve at the pleasure of the City Council of the City of Modesto, and

WHEREAS, the City Council desires to amend the Master Agreement for auditing services with the firm of Moss-Adams, LLP extending the term of the Agreement from July 1, 2017 to June 30, 2018, and

WHEREAS, the compensation amount needs to be amended to include an additional amount not to exceed $100,000, and

WHEREAS, The Audit Committee at its June 20, 2017 meeting established priorities for Moss Adams’s work in FY2017-18 as: (i) Accounts Receivable Internal Controls Testing; (ii) Financial Policy Development; and (iii) Ongoing Internal Auditor Services. If funds are available the next priorities would be: (i) Permitting Efficiency Study and (ii) Fleet Utilization Study.

NOW, THEREFORE, BE IT RESOLVED by the Council of the City of Modesto that it hereby approves an Amendment to the Master Agreement for auditing services with Moss-Adams, LLP.

BE IT FURTHER RESOLVED that the Mayor, or his designee, is hereby authorized to execute the Amendment to the Master Agreement.
The foregoing resolution was introduced at a regular meeting of the Council of the City of Modesto held on the 5th day of September, 2017, by Councilmember Kenoyer, who moved its adoption, which motion being duly seconded by Councilmember Grewal, was upon roll call carried and the resolution adopted by the following vote:

AYES: Councilmembers: Ah You, Grewal, Kenoyer, Madrigal, Ridenour, Zoslocki, Mayor Brandvold

NOES: Councilmembers: None

ABSENT: Councilmembers: None

ATTEST: [Signature]

SEAL

APPROVED AS TO FORM:

By: [Signature]

ADAM U. LINDGREN, City Attorney
RESOLUTION APPROVING ANNEXATION MAP RELATED TO
ANNEXATION NO. 1 TO COMMUNITY FACILITIES DISTRICT NO. 2016-1
(KIERNAN BUSINESS PARK EAST #2), AUTHORIZING AND DIRECTING
RECORDING THEREOF AND LEVYING SPECIAL TAX

WHEREAS, reference is made to (a) the Resolution of Formation, Resolution No. 2016-20 (the "Resolution of Formation"), adopted by this City Council (this "City Council") on January 26, 2016 approving the formation of the City of Modesto Community Facilities District No. 2016-1 (Kiernan Business Park East #2) ("CFD No. 2016-1") pursuant to the Mello-Roos Community Facilities Act of 1982 (Sections 53311 and following, California Government Code; hereafter in this resolution, the "Mello-Roos Act"), and (b) the Amended Boundary Map for CFD No. 2016-1 (the "Boundary Map"), recorded on August 11, 2017, in Book 5 of Maps of Assessment and Community Facilities Districts, at Page 65, official records of the County Recorder of the County of Stanislaus (the "County Recorder"), for the identification of (1) the boundary of CFD No. 2016-1, and (2) the area designated as future annexation area (the "Future Annexation Area") as provided by the Mello-Roos Act, and

WHEREAS, the properties identified as Assessor’s Parcel No. 078-015-007 ("Parcel #1") and Assessor’s Parcel No. 078-015-025 ("Parcel #2") are situated within the Future Annexation Area (collectively, the "Subject Property"); and

WHEREAS, in accordance with the provisions of Sections 53339 through 53339.9, inclusive, of the Mello-Roos Act (the "Annexation Provisions"), pertaining to annexation of property to a community facilities district, Plaza Road Development Group, LLC, owner of Parcel #1 and Dale Road Development Group, LLC, owner of
Parcel #2, have submitted to the City Manager of the City (the “City Manager”) executed forms entitled “Request and Unanimous Approval for Annexation and Landowner-Voter Ballot” (together, the “Unanimous Approval Forms”), each requesting the annexation of the parcel owned by said landowner to CFD No. 2016-01 and voting in favor of authorizing the levy of the special tax on the Subject Property, and

WHEREAS, a map entitled “Boundary of Proposed Annexation #1 to the City of Modesto Community Facilities District No. 2016-1, City of Modesto, County of Stanislaus, State of California” (“Annexation Map No. 1”), showing the boundary of the Subject Property, has been filed with the City Clerk of the City (the “City Clerk”) and a copy thereof presented to Council at the September 5, 2017 meeting, and

WHEREAS, pursuant to Section 53339.8 of the Mello-Roos Act (“Section 53339.8”), the Unanimous Approval Forms request that the City execute and record a notice of special tax lien pertaining to the Subject Property (the “Notice”) in the official records of the County Recorder, and

WHEREAS, this City Council wishes by this resolution to approve and direct the recordation of Annexation Map No.1; and to direct, as soon as practicable following the recordation of Annexation Map No. 1, the preparation, execution and recordation of the Notice, with provisions to cross-reference the recorded Annexation Map No. 1.

NOW, THEREFORE, BE IT RESOLVED THAT the City Council of the City of Modesto hereby finds, determines and resolves as follows:

1. The foregoing recitals are true and correct, and this City Council hereby expressly so finds and determines.

2. This City Council hereby approves Annexation Map No. 1 and authorizes
and directs the City Clerk to cause the execution and recordation thereof in the official
records of the County Recorder in accordance with the provisions of Section 3113 of the
California Streets and Highways Code.

3. This City Council hereby levies the Special Tax on the property located
within Annexation Map No. 1 and directs the City Clerk, following the recordation of
Annexation Map No. 1, to cause the preparation, execution and recordation of the Notice
in the official records of the County Recorder in accordance with the provisions of
Section 53339.8 and Streets and Highways Code section 3114.5(b). Upon recordation of
the Notice, the Subject Property shall be subject to the levy of the special tax of CFD No.
2016-1 in accordance with the rate and method of apportionment of special tax for said
CFD No. 2016-1, as approved by the Resolution of Formation and attached thereto as
Exhibit B thereof.

4. This resolution shall take effect immediately upon its adoption.
The foregoing resolution was introduced at a regular meeting of the Council of
the City of Modesto held on the 5th day of September, 2017, by Councilmember Kenoyer,
who moved its adoption, which motion being duly seconded by Councilmember
Ridenour, was upon roll call carried and the resolution adopted by the following vote:

AYES: Councilmembers: Ah You, Kenoyer, Madrigal, Ridenour, Zoslocki,
NOES: Councilmembers: None
ABSENT: Councilmembers: Grewal, Mayor Brandvold

ATTEST: 
STEPHANIE LOPEZ, City Clerk

(SEAL)

APPROVED AS TO FORM:

By: 
ADAM U. LINDGREN, City Attorney
Special Taxes applicable to each Assessor’s Parcel in the City of Modesto Community Facilities District No. 2016-1 (Kiernan Business Park East) shall be levied and collected according to the tax liability determined by the Administrator through the application of the appropriate amount or rate for Taxable Property, as described below. All of the property in CFD No. 2016-1, unless exempted by law or by the provisions of Section F below, shall be taxed for the purposes, to the extent, and in the manner herein provided, including property subsequently annexed to the CFD, unless a separate Rate and Method of Apportionment of Special Tax is adopted for the annexation area.

A. DEFINITIONS

The terms hereinafter set forth have the following meanings:

“Acre” or “Acreage” means the land area of an Assessor’s Parcel as shown on an Assessor’s Parcel Map, or if the land area is not shown on an Assessor’s Parcel Map, the land area shown on the applicable Final Map or other recorded County parcel map.

“Act” means the Mello-Roos Community Facilities Act of 1982, as amended, being Chapter 2.5 (commencing with Section 53311), Division 2, of Title 5 of the Government Code of the State of California.

“Administrative Expenses” means any or all of the following: expenses incurred by the City in carrying out its duties with respect to CFD No. 2016-1, including, but not limited to, levying and collecting the Special Taxes; the fees and expenses of legal counsel; charges levied by the County Auditor’s Office, Tax Collector’s Office, and/or Treasurer’s Office; costs related to annexing property into the CFD; costs related to property owner inquiries regarding the Special Taxes; and all other costs and expenses of the City in any way related to the establishment or administration of the CFD.

“Administrator” means the person or firm designated by the City to administer the Special Taxes according to this RMA.

“Annual Maintenance Special Tax” means a special tax levied in any Fiscal Year to pay the Annual Maintenance Special Tax Requirement, as defined below.

“Annual Maintenance Special Tax Requirement” means the amount of revenue needed in any Fiscal Year to pay for: (i) Authorized Services, (ii) establishment of reserves, (iii) Administrative Expenses, and (iv) amounts needed to cure any delinquencies in the payment of Annual Maintenance Special Taxes which have occurred in prior Fiscal Years.
"Assessor’s Parcel" or "Parcel" means a lot or parcel shown on an Assessor’s Parcel Map with an assigned Assessor’s Parcel Number.

"Assessor’s Parcel Map" means an official map of the County Assessor designating parcels by Assessor’s Parcel Number.

"Assessor’s Parcel Number" or "APN" means a unique number assigned to an Assessor’s Parcel by the County Assessor for purposes of identifying a property.

"Authorized Services" means the public services authorized to be funded by the CFD as set forth in the documents adopted by the City Council when the CFD was formed.

"CFD" or "CFD No. 2016-1" means the City of Modesto Community Facilities District No. 2016-1 (Kiernan Business Park East).

"CFD Formation" means the date on which the Resolution of Formation to form CFD No. 2016-1 was adopted by the City Council.

"City" means the City of Modesto.

"City Council" means the City Council of the City of Modesto, acting as the legislative body of CFD No. 2016-1.

"County" means the County of Stanislaus.

"Escalation Factor" means, in any Fiscal Year, the greater of (i) the percentage increase, if any, in the construction cost index for the San Francisco region for the prior twelve (12) month period as published in the Engineering News Record or other comparable source if the Engineering News Record is discontinued or otherwise not available, or (ii) four percent (4.0%).

"Final Map" means a final map approved by the City pursuant to the Subdivision Map Act (California Government Code Section 66410, et seq.) that creates individual lots on which a building permit can be issued for construction of residential units without further subdivision of the lots.

"Fiscal Year" means the period starting on July 1 and ending on the following June 30.

"Maximum Annual Maintenance Special Tax" means the Maximum Annual Maintenance Special Tax, determined in accordance with Section C, that can be levied in any Fiscal Year.

"Maximum One-Time Facilities Special Tax" means the greatest amount of One-Time Facilities Special Tax that can be levied on an Assessor’s Parcel in any Fiscal Year determined in accordance with Section C below.

"Maximum Special Taxes" means, collectively, the Maximum One-Time Facilities Special Tax and the Maximum Annual Maintenance Special Tax.
“One-Time Facilities Special Tax” means a special tax levied and collected in full by the City prior to a structural building permit being issued for new construction on a Parcel of Taxable Property.

“Proportionately” means the ratio of the actual Annual Maintenance Special Tax levied in any Fiscal Year to the Maximum Annual Maintenance Special Tax authorized to be levied in that Fiscal Year is equal for all Assessor’s Parcels of Taxable Property.

“Public Property” means, in any Fiscal Year: (i) all Parcels within the boundaries of the CFD that are owned by or irrevocably offered for dedication to the federal government, the State of California, the City or any other public agency; provided, however, that any property leased by a public agency to a private entity and subject to taxation under Section 53340.1 of the Act (as such section may be amended or replaced) shall be taxed and classified in accordance with its use; or (ii) all Parcels within the boundaries of the CFD that are encumbered by an unmanned utility easement making impractical its utilization for other than the purpose set forth in the easement.

“RMA” means this Rate and Method of Apportionment of Special Tax.

“Special Taxes” means, collectively, the One-Time Facilities Special Tax and the Annual Maintenance Special Tax.

“Taxable Property” means all Assessor’s Parcels within the boundaries of the CFD that are not exempt from the Special Taxes pursuant to law or Section F below.

“Taxable Public Property” means, in any Fiscal Year, all Parcels of Public Property within the CFD that, (i) based on a tentative map or other development plan, were expected to be Taxable Property and, (ii) based on this expectation, Maximum Annual Maintenance Special Taxes were assigned to the Parcels in prior Fiscal Years.

“Tax Zone” means a mutually exclusive geographic area within which the Special Taxes may be levied pursuant to this RMA. All of the property within CFD No. 2016-1 at the time of CFD Formation is within Tax Zone 1. Additional Tax Zones may be created when property is annexed to the CFD, and separate Maximum Special Taxes shall be identified for property within the new Tax Zone at the time of such annexation. The Assessor’s Parcels included within a new Tax Zone established when such Parcels are annexed to the CFD shall be identified by Assessor’s Parcel Number in the Unanimous Approval Form that is signed by the owner(s) of the Parcels at the time of annexation.

“Unanimous Approval Form” means that form executed by the record owner of fee title to a Parcel or Parcels annexed into the CFD that constitutes the property owner’s approval and unanimous vote in favor of annexing into the CFD and the levy of Special Taxes against his/her Parcel or Parcels pursuant to this RMA.
B. DATA FOR ANNUAL TAX LEVY

Each Fiscal Year, the Administrator shall identify the current Assessor's Parcel Numbers for all Parcels of Taxable Property within the CFD. The Administrator shall also determine: (i) in which Tax Zone each Parcel of Taxable Property is located, (ii) the Acreage for each Parcel of Taxable Property, and (iii) the Annual Maintenance Special Tax Requirement for the then-current Fiscal Year.

In any Fiscal Year, if it is determined that (i) a Final Map or parcel map for a portion of property in the CFD was recorded after the last date upon which the Assessor will incorporate the newly-created Parcels into the then current tax roll, (ii) because of the date the Final Map or parcel map was recorded, the Assessor does not yet recognize the new Parcels created by the Final Map or parcel map, and (iii) one or more of the newly-created Parcels meets the definition of Taxable Property, the Administrator shall calculate the Special Tax for the property affected by recordation of the Final Map or parcel map by determining the Special Taxes that apply separately to each newly-created Parcel, then applying the sum of the individual Special Taxes to the Parcel that was subdivided by recordation of the Final Map or parcel map.

C. MAXIMUM SPECIAL TAXES

1. Tax Zone 1

Table 1 below identifies the Maximum One-Time Facilities Special Tax and Maximum Annual Maintenance Special Tax assigned to all Parcels of Taxable Property in Tax Zone 1 at CFD Formation and all Parcels that annex into Tax Zone 1 after CFD Formation.

<table>
<thead>
<tr>
<th>Fiscal Year 2015-16 Assessor's Parcel Number (s)</th>
<th>Fiscal Year 2015-16 Maximum One-Time Facilities Special Tax*</th>
<th>Fiscal Year 2015-16 Maximum Annual Maintenance Special Tax*</th>
</tr>
</thead>
<tbody>
<tr>
<td>078-015-029</td>
<td>$0</td>
<td>$2,872 per Acre</td>
</tr>
<tr>
<td>078-015-030</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* On January 1, 2016 and each January thereafter, the Maximum One-Time Facilities Special Tax and Maximum Annual Maintenance Special Tax rates shall be adjusted by the Escalation Factor. Each annual adjustment of the Maximum One-Time Facilities Special Tax and the Maximum Annual Maintenance Special Tax shall become effective on the subsequent July 1.
2. **Additional Tax Zones**

If property is annexed into the CFD and a separate Tax Zone is established for such property, a Maximum One-Time Facilities Special Tax and a Maximum Annual Maintenance Special Tax will be identified for Taxable Property in the new Tax Zone in the Unanimous Approval Form signed by the annexing property owner.

**D. METHOD OF LEVY OF SPECIAL TAXES**

1. **One-Time Facilities Special Tax**

The Maximum One-Time Facilities Special Tax determined pursuant to Section C above shall be levied on all Taxable Property in CFD No. 2016-1 and shall be collected as set forth in Section E below.

2. **Annual Maintenance Special Tax**

Each Fiscal Year, the Administrator shall determine the Annual Maintenance Special Tax Requirement for that Fiscal Year. The Annual Maintenance Special Tax shall be levied on all Parcels of Taxable Property as follows:

   **Step 1:** The Annual Maintenance Special Tax shall be levied Proportionately on each Parcel of Taxable Property that is not Taxable Public Property up to 100% of the Maximum Annual Maintenance Special Tax for each Parcel for such Fiscal Year;

   **Step 2:** If additional revenue is needed after Step 1, the Annual Maintenance Special Tax shall be levied Proportionately on each Parcel of Taxable Public Property up to 100% of the Maximum Annual Maintenance Special Tax for each Parcel for such Fiscal Year.

---

**E. COLLECTION OF SPECIAL TAXES**

The Maximum One-Time Facilities Special Tax shall be collected prior to a building permit being issued for new construction of a structure on a Parcel of Taxable Property within CFD No. 2016-1, and shall be immediately delinquent if not so paid.

The Annual Maintenance Special Tax for CFD No. 2016-1 shall be collected in the same manner and at the same time as ordinary ad valorem property taxes, provided, however, that the City may directly bill, collect at a different time or in a different manner, and/or collect delinquent Annual Maintenance Special Taxes through foreclosure or other available methods. The Annual Maintenance Special Tax shall be levied and collected in perpetuity unless and until the City determines that the Annual Maintenance Special Tax no longer needs to be levied to pay for Authorized Services and Administrative Expenses.
F. **EXEMPTIONS**

Notwithstanding any other provision of this RMA, no Special Tax shall be levied on Parcels of Public Property except Taxable Public Property, as defined herein.

G. **INTERPRETATION OF SPECIAL TAX FORMULA**

The City reserves the right to make minor administrative and technical changes to this document that do not materially affect the rate and method of apportioning Special Taxes. In addition, the interpretation and application of any section of this document shall be left to the City's discretion. Interpretations may be made by the City by resolution of the City Council for purposes of clarifying any vagueness or ambiguity in this RMA.

H. **ENFORCEMENT**

All delinquent One-Time Facilities Special Taxes, and delinquent Annual Maintenance Special Taxes billed off the County tax roll, shall be subject to an immediate 10% penalty plus interest charges of 1.5% as of the first day of the month after the delinquency date and on the first day of each month thereafter. Any such delinquent Special Taxes shall, at the City's discretion, be placed on the next secured property tax roll. The amount placed on the roll shall include the 10% penalty and the interest charges through the following January 1. This shall not prevent the City from simultaneously pursing the delinquency by an action on a contract of guarantee against a third party who promised to pay the taxes, or from assigning such right of action to the property owner or other appropriate party.
RESOLUTION ACCEPTING THE 2016 GENERAL PLAN ANNUAL REPORT FOR SUBMISSION TO THE GOVERNOR’S OFFICE OF PLANNING AND RESEARCH AND TO THE CALIFORNIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT

WHEREAS, California Government Code Section 65400(a)(2) requires that local governments prepare an annual progress report regarding General Plan implementation, including matters related to meeting the applicable share of regional housing needs (California Government Code Section 65584), and

WHEREAS, on July 17, 2017, the City of Modesto Planning Commission voted to recommend that the Council of the City of Modesto accept the 2016 General Plan Annual Report for submission to the Governor’s Office of Planning and Research and to the California Department of Housing and Community Development.

NOW, THEREFORE, BE IT RESOLVED by the Council of the City of Modesto that it hereby accepts the 2016 General Plan Annual Report

BE IT FURTHER RESOLVED that the Clerk is hereby directed to submit the 2016 General Plan Annual Report to the Governor’s Office of Planning and Research and to the California Department of Housing and Community Development.
The foregoing resolution was introduced at a regular meeting of the Council of the City of Modesto held on the 5th day of September, 2017, by Councilmember Kenoyer, who moved its adoption, which motion being duly seconded by Councilmember Grewal, was upon roll call carried and the resolution adopted by the following vote:

AYES: Councilmembers: Ah You, Grewal, Kenoyer, Madrigal, Ridenour, Zoslocki, Mayor Brandvold

NOES: Councilmembers: None

ABSENT: Councilmembers: None

ATTEST: 

STEPHANIE LOPEZ, City Clerk

(SEAL)

APPROVED AS TO FORM:

By: ADAM U. LINDGREN, City Attorney
RESOLUTION AMENDING THE FISCAL YEAR 2016-2017 AND FISCAL YEAR 2017-2018 ANNUAL OPERATING AND CAPITAL IMPROVEMENT BUDGETS

WHEREAS, a financial analysis has been completed and it has been determined that a budget adjustment is required to the Annual and Capital Improvement Budgets of the City of Modesto for Fiscal Year 2016-17 and Fiscal Year 2017-18,

NOW, THEREFORE, BE IT RESOLVED by the Council of the City of Modesto that it hereby approves amending the Fiscal Year 2016-17 and Fiscal Year 2017-18 Annual Operating and Capital Improvement budgets as shown in Exhibit A, which is attached hereto and incorporated by reference herein.

BE IT FURTHER RESOLVED that the Interim City Manager, or his designee, is hereby authorized to take the necessary steps to implement the provisions of this resolution.
The foregoing resolution was introduced at a regular meeting of the Council of the City of Modesto held on the 5th day of September, 2017, by Councilmember Kenoyer, who moved its adoption, which motion being duly seconded by Councilmember Grewal, was upon roll call carried and the resolution adopted by the following votes:

**AYES:** Councilmembers: Ah You, Grewal, Kenoyer, Madrigal, Ridenour, Zoslocki, Mayor Brandvold

**NOES:** Councilmembers: None

**ABSENT:** Councilmembers: None

ATTEST:  

STEFANIE LOPEZ, City Clerk

(SEAL)

APPROVED AS TO FORM:

By:  

ADAM U. LINDGREN, City Attorney
EXHIBIT A
FISCAL YEAR 2016-17

COMMUNITY & ECONOMIC DEVELOPMENT
A budget adjustment is necessary to recognize $963,723 of unbudgeted Special Assessment revenue in various Capital Facilities District Funds; North Beyer #2 CFD Fund-Capital, Coffee Claratina CFD Fund and Village One #2 CFD Fund.

A budget adjustment is necessary to recognize $512,000 of unbudgeted revenue from the State Department of Transportation in the Air Quality Facility Fees Fund, Fund 3430; and reduce the Construction account in the Capital Improvement Project #100882, Connect Modesto Junior College Bike Path to Virginia Corridor, in the amount of $100,000 based on an updated E-76 report.

HUMAN RESOURCES
A budget adjustment is necessary to appropriate $504,933 from the Worker’s Compensation Fund, 5320, fund balance, to their discretionary expense budget for costs associated with claim payments in the amount of $489,807, and increase the Salary and Benefits budget for cost associated with payment of annual physical examinations in the amount of $15,126.

POLICE DEPARTMENT
On December 8, 2015 the Council of the City of Modesto adopted by Resolution #2015-461 a transfer in the amount of $1,455,316 from General Fund Reserves to the Special Fund-Capital Outlay Fund, Fund 3120, to establish Capital Improvement Project #100919, Radio Purchase for Modesto Police Department. A budget adjustment is necessary to close the radio project for the Police Department, and establish a transfer from the General Fund to the Special Fund for Capital Outlay, in the amount of $148,520, as this fund does not have reserves and all expenses surrounding this project have been incurred/encumbered.

PUBLIC WORKS
A budget adjustment is necessary to increase the FY 2016-17 10th Street JPA Allocation from various City funds for the assessment that was approved by the 10th Street JPA Board on June 6, 2016. At that time, the assessment included a $125,000 credit related to the board chambers upgrade and security enhancements. However, work on the board chambers project did not begin during the fiscal year and the credit will not be included. Once the chambers project begins, the total costs will be reviewed and a credit to the FY 17-18 assessment will be applied. Additionally, the City confirmed they will not be charged for secured roll tax this fiscal year which was previously included in the budget for $2,797. The increase of $122,201 has been split amongst a number of funds of which the breakdown can be seen below:

<table>
<thead>
<tr>
<th>Fund Name</th>
<th>Fund</th>
<th>Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Fund</td>
<td>0100</td>
<td>$ 68,283</td>
</tr>
<tr>
<td>Grants - CDBG Direct Program</td>
<td>1130</td>
<td>$ 2,573</td>
</tr>
<tr>
<td>Capital Improvement Support</td>
<td>1300</td>
<td>$ 10,811</td>
</tr>
<tr>
<td>Surface Transportation Fund</td>
<td>1700</td>
<td>$ 3,838</td>
</tr>
<tr>
<td>Infrastructure Financing Program Administration</td>
<td>3220</td>
<td>$ 3,602</td>
</tr>
<tr>
<td>Water Fund</td>
<td>4100</td>
<td>$ 15,118</td>
</tr>
<tr>
<td>Sewer Operations Fund</td>
<td>4210</td>
<td>$ 2,035</td>
</tr>
</tbody>
</table>
Bus Fixed Route Max Operations Fund 4540 $ 3,673
Solid Waste Fund 4891 $ 3,181
Mail Services ISF 5120 $ 313
Information Technology Fund 5230 $ 7,704
Insurance - Administration Fund 5310 $ 609
Employee Benefits Management Fund 5510 $ 461
Total $ 122,201

This adjustment will also increase/(decrease) the revenue and expenses in the 10th Street JPA Fund by the amounts below in the following accounts:

<table>
<thead>
<tr>
<th>Account</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>5810-52310-42405 (City of Modesto Contribution)</td>
<td>$122,201</td>
</tr>
<tr>
<td>5810-52310-53505 (Intergovernmental Services – Other)</td>
<td>$ 24,998</td>
</tr>
<tr>
<td>5810-52310-54300 (Taxes and Assessments)</td>
<td>($ 2,797)</td>
</tr>
</tbody>
</table>

A budget adjustment is necessary to transfer $92,000 from Building Services Reserves to Cost Center 52120, Building Maintenance, for unanticipated legal expenses, a significant upsurge in electrical repairs and to balance the budget for Fiscal Year 2016-17.

A budget adjustment is necessary to establish a transfer in the amount of $16,110 from CDBG Direct Program Fleet Replacement Fund 1139 to Fleet Replacement Fund 5409 for purchases made in FY16/17: (1) Mid-size Sedan.

A budget adjustment is necessary to establish a transfer in the amount of $18,298 from Surface Transportation Fleet Replacement Fund 1709 to Fleet Replacement Fund 5409 for purchases made in FY16/17: (2) Concrete Grinder, (2) Concrete Push Truck Grinder.

A budget adjustment is necessary to establish a transfer in the amount of $42,172 from Water Fleet Replacement Fund 4109 to Fleet Replacement Fund 5409 for purchases made in FY16/17: (1) Trailer for Chlorine, (1) 3/4 Ton Utility Truck.

A budget adjustment is necessary to establish a transfer in the amount of $6,648 from Wastewater Fleet Replacement Fund 4219 to Fleet Replacement Fund 5409 for purchases made in FY16/17: (1) Loader with Claw Attachment.

A budget adjustment is necessary to establish a transfer in the amount of $14,218 from Solid Waste Fleet Replacement Fund 4899 to Fleet Replacement Fund 5409 for purchases made in FY16/17: (1) Mid-size Sedan.

A budget adjustment is necessary to establish a transfer in the amount of $14,974 from Mail Services ISF Fleet Replacement Fund 5129 to Fleet Replacement Fund 5409 for purchases made in FY16/17: (1) Sedan Compact Wagon.

A budget adjustment is necessary to establish a transfer in the amount of $198,543 from Fleet Equipment Replacement Fund 5410 to Fleet Replacement Fund 5409 for purchases made in FY16/17: (10) Investigation Sedan Vehicles, (2) Investigation SUV.
UTILITIES
A budget adjustment is necessary to appropriate $218,732 from the Wastewater PCE Mitigation Fund, 4212, fund balance, to their discretionary expense budget for Professional Services costs associated with the mitigation of Capital Improvement Project #100668, Waste Water PCE Mitigation.
FISCAL YEAR 2017-18

COMMUNITY & ECONOMIC DEVELOPMENT
A budget adjustment is necessary to recognize $254,000 of unbudgeted revenue from the State Department of Transportation in the Capital Grants – Streets CIP Fund, Fund 3160, and reallocate to Capital Improvement Project #100728, Right Turn Lane West Bound D Street, Construction, Contingency, Construction Administration and Engineering Design/Administration accounts.

A budget adjustment is necessary to recognize $260,000 of unbudgeted revenue from the State Department of Transportation in the Capital Grants – Streets CIP Fund, Fund 3160, and reallocate to Capital Improvement Project #100633, Right Turn Lane – Prescott & Plaza Parkway, Construction, Contingency, Construction Administration and Engineering Design/Administration accounts.

A budget adjustment is necessary to increase an existing transfer in the amount of $345,000 from the Bus Fixed Route Fund, Fund 4150, to the Capital Grants-CIP Fund, Fund 3160, due to an increase in construction costs associated with the South Bound Dale Road Bus Turnout Capital Improvement Project, #100727.

FIRE
A budget adjustment is necessary to clean-up the non-capital budget for Project 100960 (MFD-AMR Contract Revenue & Otłšer Misc EMS Revenue) to properly account for revenues that have been received since the establishment of this project. An increase in the revenue budget in the amount of $192,092 ($187,265 in account 43335 – American Medical Response Contract and $4,827 in account 47005 – Miscellaneous Revenue) is required to account for the additional revenue that has been received. In addition, expenditures in the amount of $192,092 need to be appropriated to give the department the ability to spend the funds received on future planned EMS-system radio communication systems, field equipment and training. The adjustment essentially accounts for the revenue received and then appropriates that revenue for expenditure in the amount of $192,092 in project 100960.

HUMAN RESOURCES
A budget adjustment is necessary to recognize savings achieved by paying the PERS Unfunded Accrued Liability (UAL) in a lump sum payment rather than monthly payments. As a result, the City of Modesto will save $491,262 across all funds. Below is a breakdown of how the savings will be recognized in each fund. Also, included in the figures is an increase to Building Services (Fund 5800) due to the TSP JPA (Fund 5810) budget which was adopted with half of the amount of PERS UAL since one of the two allocated positions was absorbed by the County.
### Budget Increase/(Decrease)

<table>
<thead>
<tr>
<th>Fund Name</th>
<th>Fund</th>
<th>Budget Increase/(Decrease)</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Fund</td>
<td>0100</td>
<td>$(361,505)</td>
</tr>
<tr>
<td>Grants - CDGB Direct Program</td>
<td>1130</td>
<td>$(1,647)</td>
</tr>
<tr>
<td>Capital Improvement Support</td>
<td>1300</td>
<td>$(3,381)</td>
</tr>
<tr>
<td>Traffic Offender Fund</td>
<td>1610</td>
<td>$(671)</td>
</tr>
<tr>
<td>Surface Transportation Fund</td>
<td>1700</td>
<td>$(11,067)</td>
</tr>
<tr>
<td>Infrastructure Financing Program Administration</td>
<td>3220</td>
<td>$(1,440)</td>
</tr>
<tr>
<td>Parking Fund</td>
<td>4000</td>
<td>$(1,064)</td>
</tr>
<tr>
<td>Water Fund</td>
<td>4100</td>
<td>$(30,092)</td>
</tr>
<tr>
<td>Sewer Operations Fund</td>
<td>4210</td>
<td>$(35,630)</td>
</tr>
<tr>
<td>Airport Operating Fund</td>
<td>4310</td>
<td>$(1,270)</td>
</tr>
<tr>
<td>Storm Drainage Fund</td>
<td>4480</td>
<td>$(1,736)</td>
</tr>
<tr>
<td>Bus Fixed Route Max Operations Fund</td>
<td>4540</td>
<td>$(5,045)</td>
</tr>
<tr>
<td>Community Center Operations Fund</td>
<td>4700</td>
<td>$(1,279)</td>
</tr>
<tr>
<td>Compost Fund</td>
<td>4890</td>
<td>$(1,918)</td>
</tr>
<tr>
<td>Solid Waste Fund</td>
<td>4891</td>
<td>$(2,097)</td>
</tr>
<tr>
<td>Green Waste Fund</td>
<td>4892</td>
<td>$(9,179)</td>
</tr>
<tr>
<td>Mail Services ISF Fund</td>
<td>5120</td>
<td>$(240)</td>
</tr>
<tr>
<td>Information Technology Fund</td>
<td>5230</td>
<td>$(9,085)</td>
</tr>
<tr>
<td>Insurance - Administration Fund</td>
<td>5310</td>
<td>$(1,053)</td>
</tr>
<tr>
<td>Fleet Management Fund</td>
<td>5400</td>
<td>$(5,390)</td>
</tr>
<tr>
<td>Employee Benefits Administration Fund</td>
<td>5520</td>
<td>$(655)</td>
</tr>
<tr>
<td>P/R Building Services Fund</td>
<td>5800</td>
<td>$3,487</td>
</tr>
<tr>
<td>10th Street Place Building Services</td>
<td>5810</td>
<td>$(4,971)</td>
</tr>
<tr>
<td>JPA Stanislaus Drug Enforcement Agency</td>
<td>6600</td>
<td>$(4,334)</td>
</tr>
<tr>
<td>Grand Total</td>
<td></td>
<td>$(491,262)</td>
</tr>
</tbody>
</table>

### POLICE DEPARTMENT

A budget adjustment is necessary to recognize $231,173 in unbudgeted revenue in the Police Grants Fund, Fund 1342, and reallocate to discretionary accounts within Project #100901, 2016-17 Supplemental Law Enforcement Services Fund (SLESF).

### PUBLIC WORKS

Effective July 1, 2017, the fleet maintenance operations within the Compost and Fleet Divisions merged into one division. Due to the merger, the Equipment Mechanic housed in Compost, Fund 4890, has moved to Fleet, Fund 5400. Moving this allocation from the Compost Division to the Fleet Division will result in cost savings to the Compost Division, and provide oversight and guidance to the Equipment Mechanic working on the Compost equipment. A budget adjustment is necessary to move the salary and benefits totaling $81,037 from the Compost Fund to the Fleet Fund.

A budget adjustment is necessary to appropriate $304,439 from Surface Transportation Reserves, Fund 1700, to Cost Center 53130, Streets Maintenance, and Cost Center 53142,
Curbs, Gutters and Sidewalks, discretionary accounts which were inadvertently not entered into the CGI budgeting software system.

A budget adjustment is necessary to recognize unbudgeted revenue in the amount of $517,500 for Capital Improvement Project #100884, Emergency Vehicle Pre-Emption, within Fund 3160, Capital Grants-Streets CIP Projects, as additional funding was recently awarded by the Department of Transportation (Caltrans), and reallocate to discretionary accounts within the project.

A budget adjustment is necessary to establish the revenue budget for aircraft taxes in the County Aircraft Tax Fund - 4330. The anticipated revenue for FY 2018 is $180,000 and will be budgeted in account #42301 – Intergov-County Contribution/Reimbursement.

A budget adjustment is necessary to increase the FY 2017-18 10th Street JPA Allocation from various City funds for the assessment that was approved by the 10th Street JPA Board on May 18, 2017, of which, the additional City’s portion is $152,236. This assessment of $152,236 has been split amongst a number of funds of which the breakdown can be seen below:

<table>
<thead>
<tr>
<th>Fund Name</th>
<th>Fund Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Fund</td>
<td>0100 $90,434</td>
</tr>
<tr>
<td>Grants - CDBG Direct Program</td>
<td>1130 $1,182</td>
</tr>
<tr>
<td>Capital Improvement Support</td>
<td>1300 $2,025</td>
</tr>
<tr>
<td>Surface Transportation Fund</td>
<td>1700 $4,781</td>
</tr>
<tr>
<td>Water Fund</td>
<td>4100 $21,575</td>
</tr>
<tr>
<td>Sewer Operations Fund</td>
<td>4210 $12,378</td>
</tr>
<tr>
<td>Bus Fixed Route Max Operations Fund</td>
<td>4540 $4,575</td>
</tr>
<tr>
<td>Solid Waste Fund</td>
<td>4891 $3,962</td>
</tr>
<tr>
<td>Mail Services ISF</td>
<td>5120 $390</td>
</tr>
<tr>
<td>Information Technology Fund</td>
<td>5230 $9,600</td>
</tr>
<tr>
<td>Insurance - Administration Fund</td>
<td>5310 $759</td>
</tr>
<tr>
<td>Employee Benefits Management Fund</td>
<td>5510 $575</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$152,236</strong></td>
</tr>
</tbody>
</table>

This adjustment will also increase the revenue and expenses in the 10th Street JPA Fund by the amounts below in the following accounts:

<table>
<thead>
<tr>
<th>Account</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>5810-52310-42405 (City of Modesto Contribution)</td>
<td>$152,236</td>
</tr>
<tr>
<td>5810-52310-53505 (Intergovernmental Services – Other)</td>
<td>$152,236</td>
</tr>
</tbody>
</table>

A budget adjustment is necessary to recognize unbudgeted revenue in the amount of $159,000 for Capital Improvement Project #100720 - Traffic Signals 13 (Pres/Mt. Vrm) within Fund 3160, Capital Grants-Streets CIP Projects as additional funding was recently awarded by the Department of Transportation (Caltrans). And reallocate to discretionary accounts within the project.
RESOLUTION ACCEPTING DONATION OF 1919 SEAGRAVE PUMPER FROM MR. AND MRS. BILL SPIDELL AND AUTHORIZING THE INTERIM CITY MANAGER, OR HIS DESIGNEE TO EXECUTE THE DONATION AGREEMENT

WHEREAS, in August of 1919, the City purchased a 1919 Seagrave pumper and placed it into service in downtown Modesto, and

WHEREAS, in 2001, Bill Spidell and his wife Alma found and purchased the pumper from a private party in Northern California to restore, and

WHEREAS, Mr. and Mrs. Spidell recognize the historical relevance to the City of Modesto and wish to donate the pumper to the Modesto Fire Department, and

WHEREAS, by accepting the donation of the 1919 Seagrave Pumper (Truck), the City agrees to following; a) store or display the Truck within the City, b) maintain the Truck in similar condition to the condition it was received and c) to not sell, donate or convey the Truck to any other individual or entity, and

WHEREAS, the pumper will be on display for public viewing at Fire Station 1, and

WHEREAS, the donation of the 1919 Seagrave Pumper will be used solely for the purposes of historical education and preservation by the City of Modesto and the Modesto Fire Department, and

WHEREAS, the estimated fair market value of the pumper is $128,500, and

WHEREAS, annual maintenance and repair costs are estimated at less than $2,500 and will be absorbed within existing operation budgets.
NOW, THEREFORE, BE IT RESOLVED by the Council of the City of Modesto that it hereby accepts the donation of the 1919 Seagrave Pumper from Mr. and Mrs. Bill Spidell.

BE IT FURTHER RESOLVED, that the Interim City Manager, or his designee is hereby authorized to execute the donation agreement, in a form approved by the City Attorney.

The foregoing resolution was introduced at a regular meeting of the Council of the City of Modesto held on the 5th day of September, 2017, by Councilmember Kenoyer, who moved its adoption, which motion being duly seconded by Councilmember Grewal, was upon roll call carried and the resolution adopted by the following vote:

AYES: Councilmembers: Ah You, Grewal, Kenoyer, Madrigal, Ridenour, Zoslocki, Mayor Brandvold

NOES: Councilmembers: None

ABSENT: Councilmembers: None

ATTEST: [Signature]

SEAL

APPROVED AS TO FORM:

By: [Signature]

ADAM U. LINDGREN, City Attorney
MODESTO CITY COUNCIL
RESOLUTION NO. 2017-340

RESOLUTION AUTHORIZING THE INTERIM CITY MANAGER, OR HIS DESIGNEE, TO ISSUE PAYMENT TO PACIFIC GAS AND ELECTRIC (PG&E), SACRAMENTO, CA FOR EMERGENCY WORK PERFORMED ON THE STATE ROUTE 99 / PELANDALE AVENUE INTERCHANGE RECONSTRUCTION PROJECT, CONTRACT ID #1207145, FOR AN AMOUNT OF $56,179

WHEREAS, the State Route 99 / Pelandale Avenue Interchange Reconstruction Project is a project to increase safety, relieve congestion, and enhance traffic operations within the Interchange and along the adjacent streets, and

WHEREAS, State Route 99/Pelandale Avenue Intersection Reconstruction Project funds were programmed in accordance with California Department of Transportation’s (Caltrans) Project Development Procedures Manual, and

WHEREAS, on March 4, 2016, the State Route 99/Pelandale Avenue Intersection Reconstruction Project encountered a break to the City’s existing water main causing Pacific Gas & Electric (PG&E) to perform emergency work to repair an existing gas line, and

WHEREAS, on February 25, 2014, by Resolution No. 2014-72, City Council, authorized the City Engineer to issue changes in the construction contract with Teichert/MCM, a Joint Venture, Fowler, California via written change orders for the State Route 99 / Pelandale Avenue Interchange Reconstruction Project for an amount of all such change orders do not exceed 6% of the original contract, and

WHEREAS, on July 14, 2015, by Resolution No. 2015-249, City Council approved transferring authority from City Engineer to the Director of Public Works to issue changes in the construction contract via written change orders for the State Route
WHEREAS, on August 3, 2016, City Council, by Resolution 2016-322, increased the Public Works Director’s authority to issue change orders to the construction contract with Teichert/MCM (a joint venture) only, and

WHEREAS, on April 25, 2017, City Council, by Resolution 2017-154, accepted the State Route 99 / Pelandale Avenue Interchange Reconstruction Project improvements as complete, and

WHEREAS, per Municipal Code 8-3.102 “Contracting Authority,” the Public Works Director is unable to authorize payment to PG&E.

NOW, THEREFORE, BE IT RESOLVED by the Council of the City of Modesto that it hereby authorizes the Interim City Manager, or his designee, to issue payment to PG&E, Sacramento, CA for emergency work performed on the State Route 99 / Pelandale Avenue Interchange Reconstruction Project, contract ID #1207145, for an amount of $56,179.
The foregoing resolution was introduced at a regular meeting of the Council of the City of Modesto held on the 5th day of September, 2017, by Councilmember Kenoyer, who moved its adoption, which motion being duly seconded by Councilmember Grewal, was upon roll call carried and the resolution adopted by the following vote:

**AYES:** Councilmembers: Ah You, Grewal, Kenoyer, Madrigal, Ridenour, Zoslocki, Mayor Brandvold

**NOES:** Councilmembers: None

**ABSENT:** Councilmembers: None

(Seal)

ATTEST: [Signature]

STEPHANIE LOPEZ, City Clerk

(SEAL)

APPROVED AS TO FORM:

By: [Signature]

ADAM U. LINDGREN, City Attorney
RESOLUTION APPROVING A FOURTH AMENDMENT TO THE AGREEMENT WITH SCS ENGINEERS, INC. FOR MITIGATION SITE WORK, MONITORING, AND REPORTING FOR THE CARPENTER ROAD LANDFILL IN ACCORDANCE WITH THE CENTRAL VALLEY REGIONAL WATER QUALITY CONTROL BOARD (CVRWQCB) COMPLIANCE ABATEMENT ORDER R5-2015-0700, IN AN AMOUNT NOT TO EXCEED $92,349 THROUGH DECEMBER 31, 2018, AND FOR A TOTAL AGREEMENT AMOUNT OF $924,349 FROM JUNE 2007 THROUGH DECEMBER 2018, AND AUTHORIZING THE INTERIM CITY MANAGER, OR HIS DESIGNEE, TO EXECUTE THE AGREEMENT

WHEREAS, the City of Modesto owned and operated the Carpenter Road Landfill from 1956 to 1968, and the landfill includes fill sites on both the east and west sides of Carpenter Road, along the Tuolumne River, and

WHEREAS, the City is required by State law to perform post closure landfill maintenance, monitoring, and reporting for the landfill site, and

WHEREAS, in December 2005, it appeared that methane gas levels at the landfill’s Northern boundary exceeded the maximum limits, and the California Integrated Waste Management Board (CIWMB) required the City to determine the cause and develop a Mitigation and Monitoring Plan, and

WHEREAS, the Central Valley Regional Water Quality Control Board (CVRWQCB) subsequently required the City to assess the potential for groundwater impacts, and

WHEREAS, in June 2007 by Resolution No. 2007-341, the Council authorized a Professional Services Agreement with SCS Engineers, Inc. in an amount not to exceed $299,500 to assess the landfill and recommend corrective action, and
WHEREAS, after the initial site assessment, Resolution No. 2007-728 authorized a no-cost Letter Amendment to shift the focus of the work to installation of gas probes, design and installation of groundwater monitoring wells, and ongoing monitoring and reporting of methane gas and groundwater, and

WHEREAS, the assessment determined that migration of methane gas past the boundaries of the landfill was not a problem, but that a groundwater monitoring event determined that the landfill had experienced a “release” that could potentially have affected groundwater, and

WHEREAS, an engineering feasibility study had to be completed and the CVRWQCB required the City to submit a Corrective Action Plan (CAP), and

WHEREAS, in May 2009 by Resolution 2009-199, the Council approved a Second Amendment to the Agreement with SCS Engineers, Inc. to further evaluate the site, develop the CAP, and provide ongoing monitoring and reporting services in an amount not to exceed $242,000, and

WHEREAS, in November 2010, after conducting 12 hydro punch borings to sample groundwater and analyzing them for Volatile Organic Compounds (VOC’s), SCS submitted the CAP to the CVRWQCB proposing to use an injection of a hydrogen releasing compound to remediate any groundwater impacts, and

WHEREAS, subsequently, the VOC concentrations began to consistently decline, and City staff and SCS Engineers, Inc. determined that the proposed CAP needed to be re-evaluated, and

WHEREAS, in August 2013 by Resolution No. 2013-277, the Council approved a Third Amendment to the Agreement with SCS Engineers, Inc. for ongoing monitoring,
lab analysis, compliance reports, corrective action monitoring and maintenance, and re-evaluating and implementing the CAP in a cost not to exceed $290,500, and

WHEREAS, in October 2014, a revised CAP and post closure maintenance plan was submitted to the CVRWQCB and in March 2015, the CVRWQCB issued the City a Cleanup and Abatement Order (CAO R5-2015-0700) requiring the City to clean close the Eastern Fill, move all the waste to the Western Fill, install a final cover atop the Western Fill, and construct a storm water retention basin, and

WHEREAS, in April 2015, SCS Engineers, Inc. submitted the plans and drawings to address the CAO and it was conditionally approved by the CVRWQCB in July 2016, with mitigation to be completed by October 2017, and

WHEREAS, the Central Valley experienced a significant wet winter at the end of 2016 and into the beginning of 2017, with the Tuolumne River above flood stage and not expected to completely recede until September or mid-October 2017, and

WHEREAS, the City petitioned the CVRWQCB in June 2017 for an extension to the CAO due to the groundwater elevation being higher than that of the waste to be excavated, and

WHEREAS, in mid-July the CVRWQCB approved the City’s request to postpone the execution of the Clean Closure Work Plan with the condition that the approved background soil assessment would be completed and submitted to the water board by October 20, 2017 and the Final Construction and Completion Report for the CAO would be submitted no later than October 31, 2018, and

WHEREAS, the requested Fourth Amendment will complete these tasks and carry the project through December 31, 2018, and
WHEREAS, funds are collected in the garbage rate for the mitigation project, estimated to cost $2.6 million, and to date the Carpenter Road Landfill Fund (Fund 4893-56016) has $1.7 million.

NOW THEREFORE BE IT RESOLVED by the Council of the City of Modesto that it hereby approves the Fourth Amendment to the Agreement with SCS Engineers, Inc. for mitigation site work, monitoring, and reporting for the Carpenter Road Landfill in accordance with the Central Valley Regional Water Quality Control Board Compliance Abatement Order R5-2015-0700, in an amount not to exceed $92,349 through December 31, 2018, and for a total Agreement amount of $924,349 from June 2007 through December 2018.

BE IT FURTHER RESOLVED that the Interim City Manager, or his designee, is hereby authorized to execute the Fourth Amendment to the Agreement, in a form approved by the City Attorney.
The foregoing resolution was introduced at a regular meeting of the Council of the City of Modesto held on the 5th day of September, 2017, by Councilmember Kenoyer, who moved its adoption, which motion being duly seconded by Councilmember Grewal, was upon roll call carried and the resolution adopted by the following vote:

AYES: Councilmembers: Ah You, Grewal, Kenoyer, Madrigal, Ridenour, Zoslocki, Mayor Brandvold

NOES: Councilmembers: None

ABSENT: Councilmembers: None

ATTEST: [Signature]

STEPHANIE LOPEZ, City Clerk

(SEAL)

APPROVED AS TO FORM:

By: [Signature]

ADAM U. LINDGREN, City Attorney
RESOLUTION APPROVING THE AWARD OF BID FOR BIO-SOLIDS REMOVAL AND LAND APPLICATION SERVICES TO JIM BRISCO ENTERPRISES, INC., ATWATER, CA, FOR A TWO-YEAR AGREEMENT WITH THREE ONE-YEAR EXTENSION OPTIONS, FOR AN ESTIMATED ANNUAL COST OF $145,600, OR A TOTAL OF UP TO $728,000 OVER FIVE YEARS, AND AUTHORIZING THE INTERIM CITY MANAGER, OR HIS DESIGNEE, TO ISSUE A PURCHASE AGREEMENT

WHEREAS, during the primary treatment process at the City’s Sutter Wastewater Treatment Plant, solids are removed from the wastewater, and

WHEREAS, the solids are separated at the clarifier by removing Fats, Oil and Grease from the top and sludge from the bottom and sent to the digester where it is biologically broken down; the digested sludge is then pumped to the drying beds to be dried out, and

WHEREAS, the City uses an outside bidder to remove the dried sludge (bio-solids) from the drying beds which are then transported to the City’s Jennings Wastewater Treatment Plant for land application to the City’s ranch, and

WHEREAS, this process is regulated by the City’s National Pollutant Discharge Elimination System Permit, and

WHEREAS, the City Manager’s Office authorized the Purchasing Division to issue a Request for Bids (RFB) for Bio-Solids Removal and Land Application on May 11, 2017, and

WHEREAS, on July 25, 2017, the Purchasing Division issued RFB No. 1718-01 for the purchase of Bio-Solids Removal and Land Application on the City’s website, and
WHEREAS, prospective bidders were notified online of the bid opportunity and eleven companies choose to download the RFB document, none of which was local companies, and

WHEREAS, five companies were present at the mandatory site visit, and

WHEREAS, on August 15, 2017, bids were formally opened in the City Clerk’s Office with two companies choosing to respond and all provided responsive and responsible bids, and

WHEREAS, based on providing the overall lowest responsive and responsible bid, staff recommends the award of bid for Bio-Solids Removal and Land Application to Jim Brisco Enterprises, Inc., Atwater, CA, at an annual cost of $145,600, or a total of up to $728,000 over five years, and

WHEREAS, Modesto Municipal Code Section 8-3.203 generally requires all purchases, which meet or exceed $50,000 for material, equipment or contractual services to be formally bid therefore the award of bid for the furnishing of Bio-Solids Removal and Land Application conforms to Modesto Municipal Code Section 8-3.203.

NOW, THEREFORE, BE IT RESOLVED by the Council of the City of Modesto that it hereby approves the award of bid for the furnishing of Bio-Solids Removal and Land Application to Jim Brisco Enterprises, Inc., Atwater, CA, for a two-year agreement with three one-year extension options for an estimated annual cost of $145,600, or a total of up to $728,000 over five years.

BE IT FURTHER RESOLVED, that the Interim City Manager or his designee is hereby authorized to execute the agreement in a form approved by the City Attorney.
The foregoing resolution was introduced at a regular meeting of the Council of the City of Modesto held on the 5th day of September, 2017, by Councilmember Kenoyer, who moved its adoption, which motion being duly seconded by Councilmember Grewal, was upon roll call carried and the resolution adopted by the following vote:

AYES: Councilmembers: Ah You, Grewal, Kenoyer, Madrigal, Ridenour, Zoslocki, Mayor Brandvold

NOES: Councilmembers: None

ABSENT: Councilmembers: None

(Seal)

APPROVED AS TO FORM:

By: ADAM U. LINDGREN, City Attorney

(Seal)

ATTEST: STEPHANIE LOPEZ, City Clerk
RESOLUTION APPROVING THE AWARD OF BID FOR THE PURCHASE OF SODIUM HYPOCHLORITE – LIQUID CHLORINE TO OLIN ALKALI, TRACY, CA, FOR A TWO-YEAR AGREEMENT WITH THREE ONE-YEAR EXTENSION OPTIONS AT THE SOLE DISCRETION OF THE CITY, FOR AN INITIAL ANNUAL COST OF $39,397, OR A TOTAL OF UP TO $225,000 OVER FIVE YEARS, AND AUTHORIZING THE INTERIM CITY MANAGER, OR HIS DESIGNEE, TO ISSUE A PURCHASING AGREEMENT

WHEREAS, the Interim City Manager authorizes the Purchasing Manager to issue formal Request for Bids (RFB) for the purchase of sodium hypochlorite – liquid chlorine, and

WHEREAS, on February 21, 2017, the Purchasing Division issued RFB No. 1617-38 for the purchase of Sodium Hypochlorite-Liquid Chlorine on the City’s website under the commodity codes for chemicals and solvents commercial (in bulk), and water and wastewater treatment chemicals, and

WHEREAS, on May 9, 2017, bids were formally opened in the City Clerk’s Office. Three (3) companies chose to respond, and only one was a local vendor. All companies provided responsive and responsible bids, and

WHEREAS, based on the bids received, City staff recommends the award of bid for sodium hypochlorite – liquid chlorine to Olin Alkali, Tracy, CA, and

WHEREAS, Modesto Municipal Code Section 8-3.203 generally requires all purchases, which meet or exceed $50,000 for material, equipment or contractual services to be formally bid. The award of bid for the purchase of sodium hypochlorite – liquid chlorine to Olin Alkali, Tracy, CA, conforms to the Modesto Municipal Code, and
WHEREAS, the cost for these services will be covered by the Water funds through existing budget in the following cost center and project: 4100-45050-52190 Chemical and Lab Supplies

NOW, THEREFORE, BE IT RESOLVED by the Council of the City of Modesto that it hereby approves the award of bid for Sodium Hypochlorite – Liquid Chlorine to Olin Alkali, Tracy, CA.

BE IT FURTHER RESOLVED that the Interim City Manager, or his designee, is hereby authorized to issue a purchasing agreement for an initial annual cost of $39,397, or a total of up to $225,000 over five years.

The foregoing resolution was introduced at a regular meeting of the Council of the City of Modesto held on the 5th day of September, 2017, by Councilmember Kenoyer, who moved its adoption, which motion being duly seconded by Councilmember Grewal, was upon roll call carried and the resolution adopted by the following vote:

AYES: Councilmembers: Ah You, Grewal, Kenoyer, Madrigal, Ridenour, Zoslocki, Mayor Brandvold

NOES: Councilmembers: None

ABSENT: Councilmembers: None

ATTEST: [Signature]

APPROVED AS TO FORM:

By: [Signature]

ADAM U. LINDGREN, City Attorney
RESOLUTION NO. 2017-344

RESOLUTION APPROVING THE PLANS AND SPECIFICATIONS FOR THE AIRPORT HANGAR 1-S ROOF REPLACEMENT PROJECT, ACCEPTING THE BID, AND AWARDING A CONSTRUCTION CONTRACT TO BEST CONTRACTING SERVICES, INC. OF GARDENA, CA, IN THE AMOUNT OF $353,631, AND AUTHORIZING THE INTERIM CITY MANAGER, OR DESIGNEE, TO EXECUTE THE CONTRACT

WHEREAS, Contract Documents have been prepared for the Airport Hangar 1-S Roof Replacement Project, and the Interim City Manager authorized City staff to solicit the Project for bids, and

WHEREAS, City staff solicited the Project in conformance of Section 1307 and MMC 8-3.403 of the City’s Charter, and

WHEREAS, the bids received for the Airport Hangar 1-S Roof Replacement Project were publicly opened at 11:00 a.m. on August 15, 2017, and

WHEREAS, the Interim City Manager recommends the bid of $353,631.00 received from Best Contracting Services, Inc., of Gardena, CA, be accepted as the lowest responsible bidder and responsive bid and the contract be awarded to Best Contracting Services, Inc.

NOW, THEREFORE, BE IT RESOLVED by the Council of the City of Modesto that it hereby approves the Plans and Specifications for the Airport Hangar 1-S Roof Replacement Project, accepts the bid and awards the construction contract to Best Contracting Services, Inc., of Gardena, Ca, in the amount of $353,631.00.

BE IT FURTHER RESOLVED that the Interim City Manager, or designee, is hereby authorized to execute the contract in a form approved by the City Attorney.
The foregoing resolution was introduced at a regular meeting of the Council of the City of Modesto held on the 5th day of September, 2017, by Councilmember Kenoyer, who moved its adoption, which motion being duly seconded by Councilmember Grewal, was upon roll call carried and the resolution adopted by the following vote:

AYES: Councilmembers: Ah You, Grewal, Kenoyer, Madrigal, Ridenour, Zoslocki, Mayor Brandvold

NOES: Councilmembers: None

ABSENT: Councilmembers: None

ATTEST: [Signature]

APPROVED AS TO FORM:
By: [Signature]

ADAM U. LINDGREN, City Attorney
RESOLUTION AMENDING THE FISCAL YEAR 2017-18 CAPITAL IMPROVEMENT PROGRAM BUDGET IN THE AMOUNT OF $454,955 OF WHICH $92,557 WILL BE FROM THE EXISTING ENCUMBRANCE AND THE REMAINING FROM COUNTY AIRCRAFT TAX FUND RESERVES TO FULLY FUND THE CONSTRUCTION, CONTINGENCY, CONSTRUCTION ADMINISTRATION, AND DESIGN SUPPORT DURING CONSTRUCTION FOR THE AIRPORT HANGAR 1S ROOF REPLACEMENT PROJECT #100985

WHEREAS, certain budgetary transactions are necessary in the amount of $454,955, in order to fund construction, contingency, construction administration, design support during construction for the Airport Hangar 1-S Roof Replacement Project, and

WHEREAS, the Fiscal Year 2017-2018 Capital Improvement Program Budget must be amended as shown in Exhibit A, which is incorporated by reference herein and attached hereto.

NOW, THEREFORE, BE IT RESOLVED by the Council of the City of Modesto that it hereby approves the amendment of the Fiscal Year 2017-2018 Capital Improvement Program Budget as shown in Exhibit A, attached hereto.

BE IT FURTHER RESOLVED that the Interim City Manager, or his designee, is hereby authorized to implement the provisions of this resolution.
The foregoing resolution was introduced at a regular meeting of the Council of the City of Modesto held on the 5th day of September, 2017, by Councilmember Kenoyer, who moved its adoption, which motion being duly seconded by Councilmember Grewal, was upon roll call carried and the resolution adopted by the following vote:

AYES: Councilmembers: Ah You, Grewal, Kenoyer, Madrigal, Ridenour, Zoslocki, Mayor Brandvold

NOES: Councilmembers: None

ABSENT: Councilmembers: None

ATTEST: [Signature]

SEAL

APPROVED AS TO FORM:

By: [Signature]

ADAM U. LINDGREN, City Attorney
Exhibit A

Due to construction costs being higher than initially budgeted for the project, line item increases/decreases are necessary for CIP Account #100985 "Airport Hangar 1S Roof Replacement", and the total project costs need to be increased by $431,430. This would be done by adjusting Construction by $353,631, Construction Administration by $35,363, Contingency by $35,363, and Eng/Design/Admin by $7,073.

To fund the above account, $454,955 will be transferred from County Aircraft Tax Fund Reserves into CIP Project 100985 for the Airport Hangar 1S Roof Replacement Project.
RESOLUTION AWARDING NON-EXCLUSIVE NON-CONSENSUAL FRANCHISE TOWING SERVICE CONTRACTS TO TEN (10) TOWING COMPANIES PURSUANT TO MODESTO MUNICIPAL CODE SECTIONS 11-2.01 ET SEQ, AND AUTHORIZING THE INTERIM CITY MANAGER, OR HIS DESIGNEE, TO EXECUTE THE CONTRACTS

WHEREAS, in April 2014, City Council awarded Non-Exclusive Non-Consensual Franchise Towing Services contracts to sixteen (16) applicants, and

WHEREAS, this contract was due to expire on April 13, 2017, and

WHEREAS, on April 4, 2017, City Council approved a 6-month extension of the Non-Exclusive Non-Consensual Franchise Towing Services contract to allow staff time to complete a new Request for Application process, and

WHEREAS, on May 23, 2017, the Purchasing Manager solicited Request for Applications (RFA) No. 1617-37, for City generated Non-Exclusive Non-Consensual Franchise Towing Services, and

WHEREAS, on June 22, 2017, applications were opened in the City Clerk’s office, and

WHEREAS, a total of eleven (11) applications were received, and eight (8) met the requirements of the application process with three (3) pending completion of the required background and/or Department of Justice fingerprint process, and

WHEREAS, on August 8, 2017, City Council, by motion, unanimously approved staff’s recommendation for award of City of Modesto Non-Exclusive Non-Consensual Franchise Towing Services to the eleven (11) applicants listed in Attachment A, pending completion of the required background and/or Department of Justice fingerprint process,
as noted on the Applicant List with an asterisk, and referring staff’s recommendation for award of contracts to the City Manager for recommendation and report, and

WHEREAS, on August 8, 2017, City Council, by Resolution No. 2017-320, accepted the Interim City Manager’s recommendation to award Non-Exclusive Non-Consensual Franchise Towing Services contracts and schedule a public hearing in accordance with Modesto Municipal Code Section 11-2.01 et seq., and

WHEREAS, prior to the public hearing, one applicant did not complete the background/DOJ fingerprinting process and were removed from the recommendation award list, leaving ten (10) applicants on the approved tow list who had passed all required background/DOJ fingerprint requirements, and

WHEREAS, the anticipated start date of the towing contracts is September 6, 2017.

NOW, THEREFORE, BE IT RESOLVED by the Council of the City of Modesto that it hereby awards Non-Exclusive Non-Consensual Franchise Towing Services contracts to the ten (10) towing companies listed in Attachment B to this Resolution.

BE IT FURTHER RESOLVED that the Interim City Manager, or his designee, is hereby authorized to execute the contracts, in a form approved by the City Attorney.
The foregoing resolution was introduced at a regular meeting of the Council of
the City of Modesto held on the 5th day of September, 2017, by Councilmember
Ridenour, who moved its adoption, which motion being duly seconded by
Councilmember Zoslocki, was upon roll call carried and the resolution adopted by the
following vote:

AYES: Councilmembers: Ah You, Grewal, Kenoyer, Madrigal, Ridenour,
Zoslocki, Mayor Brandvold

NOES: Councilmembers: None

ABSENT: Councilmembers: None

(SEAL)

APPROVED AS TO FORM:

By: ADAM U. LINDGREN, City Attorney

ATTEST: STEPHANIE LOPEZ, City Clerk
Non-Exclusive Non-Consensual Franchise Towing Services Applicants
(RFA 1617-37)

1. Anderson's Tow, Ceres, California
2. Central Valley Tow, Ceres, California
3. Ceres Pro Tow, Ceres, California
4. Dizney & Wise, Modesto, California *
5. E-Tow, Modesto, California
6. Four Star Recovery, Modesto, California
7. Myers Towing, Modesto, California *
8. Ramont's Tow, Modesto, California
9. Scenic Tow, Modesto, California
10. Stanislaus Tow, Modesto
11. Tow One, Modesto, California

*Pending background and/or DOJ fingerprint processing
Non-Exclusive Non-Consensual Franchise Towing Services Applicants
(RFA 1617-37)

1. Anderson’s Tow, Ceres, California
2. Central Valley Tow, Ceres, California
3. Ceres Pro Tow, Ceres, California
4. Dizney & Wise, Modesto, California
5. E-Tow, Modesto, California
6. Four Star Recovery, Modesto, California
7. Myers Towing, Modesto, California
8. Ramon’s Tow, Modesto, California
9. Scenic Tow, Modesto, California
10. Tow One, Modesto, California
MODESTO CITY COUNCIL
RESOLUTION NO. 2017-347

RESOLUTION CERTIFYING THE ENVIRONMENTAL IMPACT REPORT FOR THE DEL RIO TANK AND WELLS PROJECT (SCH # 2015072055) IN ACCORDANCE WITH THE CALIFORNIA ENVIRONMENTAL QUALITY ACT; ALONG WITH MAKING CERTAIN FINDINGS REGARDING SIGNIFICANT IMPACTS, FINDINGS SUPPORTING REJECTION OF ALTERNATIVES, ADOPTING A STATEMENT OF OVERRIDING CONSIDERATIONS, AND ADOPTING A MITIGATION MONITORING AND REPORTING PROGRAM, AND APPROVING THE DEL RIO TANK AND WELLS PROJECT

WHEREAS, the City’s Utilities Department (“City”) on July 21, 2015, published a Notice of Preparation for the Del Rio Tank and Wells Project, which identified potentially significant environmental impacts attributable to the improvements included in the proposed project, on which the City determined that an Environmental Impact Report (“EIR”) was required, and

WHEREAS, the Del Rio Tank and Wells Project is fully described in the Project Description Chapter of the EIR and includes the construction and operation of a new storage tank, pump station, new well, a replacement well, and associated distribution facilities at two sites, Site A (southeast of the intersection of Ladd Road and St. John Road on APNs 004-077-018 and 004-077-019) and Site B (the northwest corner of McHenry Avenue and Stewart Road on the southeastern-most portion of APN 004-102-003). The Proposed Project would develop a total of approximately 4.4 acres (approximately 190,000 square feet). The City intends to decommission one of its Del Rio water system wells (Well 271) when the new replacement well is brought online. These activities are collectively referred to herein as the “Proposed Project” or “Project”, and;
WHEREAS, the City published and distributed a Draft EIR dated November, 2016 for the Del Rio Tank and Wells Project (SCH#2015072055) for public comment on November 7, 2016, in accordance with Section 15087 of the California Environmental Quality Act (“CEQA Guidelines”), and

WHEREAS, the Draft EIR was available for public comment for a period of 45 days as required by Section 21091 of CEQA, the close of the public comment period being December 22, 2016, and

WHEREAS, during the 45-day public comment period the City received ten letters commenting on the Draft EIR, and

WHEREAS, the City prepared written responses to all written comments received on the Draft EIR, said responses being contained in a Final EIR for the Del Rio Tank and Wells Project (SCH#2015072055) (“Final EIR”) prepared pursuant to Section 15088 of the CEQA Guidelines. The Draft and Final EIR are collectively referred to herein as the “EIR”, and

WHEREAS, the Final EIR was published and distributed on July 12, 2017, and consists of the Draft EIR, a list of commenter’s, copies of written comments received, and responses to those comments that raise environmental issues, revisions to the text of the Draft EIR, as required by Section 15132 of the CEQA Guidelines, and

WHEREAS, CEQA requires that, in connection with the approval of a project for which an EIR has been prepared which identifies one or more significant environmental effects the lead agency make certain findings regarding those effects, and

WHEREAS, the City Council has received and considered the EIR that analyzed the potential environmental effects of the proposed Project.
NOW, THEREFORE BE IT RESOLVED by the City Council that it hereby has reviewed and analyzed the EIR and other information in the record, and has taken such other actions as are necessary and appropriate to make the following findings in respect to the EIR, and makes said findings:

1. That the EIR has been completed in compliance with CEQA; that the City Council has reviewed and analyzed the EIR and other information in the record and has considered the information contained therein, including the written and oral comments received at the public hearings on the EIR and the Project, prior to acting upon or approving the Project; and that the EIR represents the independent judgment of the City of Modesto; and

2. That the Findings and recommendations set forth in Exhibit A, attached hereto and incorporated herein by reference, are made by the City Council as the City’s findings under the California Environmental Quality Act (“CEQA”) (Pub. Resources Code § 21000 et seq.) and the CEQA Guidelines (Cal. Code Regs., title 14 § 15000 et seq.) relating to the Project. The Findings provide the written analysis and conclusions of the City Council regarding the Project’s environmental impacts and mitigation measures to the Project; and

3. That pursuant to Public Resources Code Section 21081 and CEQA Guidelines Section 15093, the City Council of Modesto adopts and makes the following statement of overriding considerations regarding the remaining unavoidable impacts of the Project and the anticipated economic, social and other benefits of the Project.

   a. Significant Unavoidable Impacts

      With respect to the foregoing findings, as set forth in Exhibit A, and in recognition of those facts which are included in the record, the City has determined the following:

      i. that the Project will contribute to significant and unavoidable cumulative impacts to Air Quality, Climate Change, and Groundwater, as described in Exhibit B, attached hereto and incorporated herein by reference.

These impacts cannot be avoided or substantially reduced by feasible changes, alterations or mitigations to the Project, other than the changes, alterations or mitigations already adopted.
b. Overriding Considerations

The City Council specifically adopts and makes this Statement of Overriding Considerations that this Project includes all feasible measures that would eliminate or substantially lessen the significant impacts of the Project on the environment, and that the remaining significant, unavoidable impacts of the Project are acceptable in light of the environmental, economic, social, and other considerations set forth herein because the benefits of the Project outweigh the significant and adverse impacts of the Project. The City Council finds that each of the overriding considerations set forth below, and each of the overriding considerations set forth in Exhibit B, constitutes a separate and independent ground for finding that the benefits of the Project outweigh its significant adverse environmental impacts and sets forth an overriding consideration warranting approval of the Project. These matters are supported by evidence in the record.

c. Benefits of the Proposed Project

The City Council has considered the EIR, the public record of proceedings on the proposed Project and other written materials presented to the City as well as oral and written testimony at all public hearings related to the Project, and does hereby determine that implementation of the Project as specifically provided in the Project documents would result in the substantial public benefits set forth below and in Exhibit B.

i. The Proposed Project will correct existing deficiencies in the Del Rio water system to meet design pressure and volume storage requirements identified in the City of Modesto 2010 Water System Engineer’s Report;

ii. Ensure sufficient system pressure to provide firefighting flow capacity; and

iii. Improve water system operational flexibility and reliability

The City Council has weighed the benefits of the proposed Project against its unavoidable environmental risks and adverse environmental effects identified in the EIR and hereby determines that any one of those benefits outweigh the risks and adverse environmental effects and, therefore, further determines that these risks and adverse environmental effects are acceptable.

4. That the City Council finds that the EIR describes a range of reasonable alternatives to the project. However, the City Council declines to adopt any of the alternatives identified in the EIR for the reasons set forth in Exhibit B because the alternatives are infeasible based on specific economic, legal, social, technological,
or other considerations, fail to meet the Project objectives and/or would not avoid or substantially lessen the significant impacts of the project. The City Council finds and determines that these significant and unavoidable adverse impacts are acceptable and that the Project may be approved despite these impacts for the reasons specified in the Statement of Overriding Considerations. The City Council further finds that there are no additional feasible alternatives that the City Council could adopt at this time that would reduce the impacts summarized in Exhibit B to a less than significant level.

5. The City Council does hereby designate the Director of Utilities Department of the City of Modesto, at his office at 1010 Tenth Street, Modesto, California 95354, as the custodian of documents and the record of proceedings on which the decision is based; and

6. The City Council does hereby make the foregoing findings with respect to the significant effects on the environment of such Project, as identified in the EIR, with the stipulations that all information in these findings is intended as a summary of the full administrative record supporting the EIR, which full administrative record should be consulted for the full details supporting these findings, and that any mitigation measures and/or alternatives that were suggested by commenter’s to the Draft EIR and were not adopted as part of the EIR are hereby expressly rejected for the reasons stated in the findings and elsewhere in the record, including the EIR.

7. In compliance with the California Environmental Quality Act (CEQA Guidelines Section 15097), if the City Council has made findings required under paragraph (1) of subdivision (a) of Section 15091 as set forth in Exhibit B, where mitigation measures are required to avoid, substantially lessen, or reduce to a less-than-significant level the environmental effects of certain elements of the Project, as identified in the EIR, the lead agency must adopt a Mitigation Monitoring and Reporting Program to ensure that the Project mitigation measures identified in the EIR are implemented and the party responsible for their implementation is identified.

BE IT FURTHER RESOLVED, by the City Council that it hereby certifies the Environmental Impact Report for the Del Rio Tank and Wells Project (SCH#2015072055), attached hereto as Exhibit C1, C2 & C3; adopts the associated Mitigation Monitoring and Reporting Program, attached hereto as Exhibit D;

BE IT FURTHER RESOLVED by the City Council that it hereby approves the Del Rio Tank and Wells Project and directs staff to file a Notice of Determination.
The foregoing resolution was introduced at a regular meeting of the Council of the City of Modesto held on the 5th day of September, 2017, by Councilmember Ridenour, who moved its adoption, which motion being duly seconded by Councilmember Madrigal, was upon roll call carried and the resolution adopted by the following vote:

AYES: Councilmembers: Ah You, Grewal, Kenoyer, Madrigal, Ridenour, Zoslocki, Mayor Brandvold

NOES: Councilmembers: None

ABSENT: Councilmembers: None

ATTEST: [Signature]

STEPHANIE LOPEZ, City Clerk

(SEAL)

APPROVED AS TO FORM:

By: [Signature]

ADAM U. LINDGREN, City Attorney
EXHIBIT "A"

STATEMENT OF FINDINGS OF SIGNIFICANT IMPACTS
STATEMENT OF FINDINGS OF SIGNIFICANT IMPACTS AND REJECTION OF ALTERNATIVES

Pursuant to Public Resources Code Section 21081 and Section 15091 of the State CEQA Guidelines (14 California Code of Regulations 15000, et seq.), the City of Modesto cannot approve a project for which an Environmental Impact Report (EIR) has been certified which identifies significant effects on the environment unless it adopts findings with respect to each significant effect. Prior to approving the project, the City of Modesto (City) must also find that there are specific considerations that make infeasible the project alternatives identified in the EIR.

In Section A below, the City will make the one or more of the following finding for each of the significant effects identified in the EIR, pursuant to Section 15091 of the State CEQA Guidelines:

1. Changes or alterations have been incorporated into the project which avoid or substantially lessen the significant effect on the environment.
2. Such changes or alterations are within the responsibility of another public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency.
3. Specific economic, legal, social, technological, or other considerations, including considerations for the provision of employment opportunities for highly trained workers, make infeasible the mitigation measures identified in the EIR.

In Section B below, the City will make the following finding regarding each of the alternatives identified in the EIR:

The City will specify one or more of the following grounds for rejecting an alternative: (1) specific economic, legal, social, technological, or other considerations, including considerations for the provision of employment opportunities for highly trained workers, make the alternative infeasible; (2) the alternative does not meet the project objectives; and/or (3) the alternative will not avoid or substantially lessen the significant environmental effects of the Project.
SECTION A. FINDINGS REGARDING SIGNIFICANT IMPACTS

AESTHETICS

Impact AES-1: Substantial Degradation of the Visual Character or Quality of the Site and its Surroundings from Project Construction

Finding:
Overall construction is expected to last approximately 15 months. Throughout this period, construction activities at Sites A and B, pipeline installation work along St. John Road, and materials and equipment in staging areas would be visible from St. John Road, Ladd Road, and McHenry Avenue. Nearby residents and any pedestrians or bicyclists using these public roads would have views of the work areas throughout the 15-month construction period. While these views would be primarily limited to adjacent residents and recreationists and would not affect any designated scenic resources, the visual character of the two sites and the surrounding areas would be substantially degraded during the construction period. While CEQA does not consider impacts on private views to be significant, given that publicly accessible views from nearby roads would be temporarily degraded, this impact is considered potentially significant.

Implementation of Mitigation Measures AES-1 (Locate Staging Areas Away from Public Areas) and AES-2 (Screen Staging and Construction Areas), which have been modified from mitigation measures identified in the Program EIR, would reduce this impact to a less-than-significant level.

As such, the City finds that changes or alterations have been incorporated into the project which avoid or substantially lessen the significant effect on the environment.

Supporting Evidence:
The potentially significant effects listed above can be reduced to a less-than-significant level by incorporating the following mitigation measures identified in the EIR:

Mitigation Measure AES-1: Locate Staging Areas Away from Public Areas
Construction staging areas for equipment, personal vehicle parking, and material storage shall be sited as far as possible from residences, major roadways, and public areas. The City contract specifications shall require that staging areas be identified in the documents prepared by construction contractors and subject to approval by the City. The City shall not approve staging areas that are not sited as described above.

Mitigation Measure AES-2: Screen Staging and Construction Areas
The construction contract shall specify that staging areas be located where opportunities for screening with existing topography and vegetation will be maximized. Security fencing placed around staging and construction areas shall include slats or other screening sufficient to hide the area from the passing public. Screens used for this purpose shall be of an earth tone or other appropriate neutral color.

AIR QUALITY

Impact AIR-7: Cumulative Impact on Air Quality
Finding:
The SJVAB is currently designated as a nonattainment area for federal and state ozone and PM2.5 standards, and state PM10 standards. Past, present, and probable future projects would have a significant cumulative impact on air quality in the project area. No single project would be sufficient in size, by itself, to result in nonattainment of the regional air quality standards. Construction of the Proposed Project would result in emissions of ozone precursors (ROG and NOX), PM2.5, and PM10 below the significance thresholds for project-level impacts established by SJVAPCD. The Program EIR acknowledged that cumulative impacts of construction-related emissions of PM10 and ozone precursors would be significant and unavoidable, and the Proposed Project would contribute to this impact, albeit minimally. Although, given the low emissions, short duration, and intermittent operation during construction, SJVAPCD thresholds indicate that the level of air pollutants emitted by the Proposed Project would not cause any new violations, the Proposed Project could contribute to an existing violation when combined with other projects in the area. Therefore, the Proposed Project's contribution to construction-related emissions would be cumulatively considerable and this impact would be significant and unavoidable.

Operation of the Proposed Project's standby emergency generators and maintenance-related vehicle trips would result in a net increase in emissions of ROG, NOX, and PM10. Given that these emissions are estimated to be substantially lower than SJVAPCD's thresholds of significance, and would be consistent with existing growth plans and new source review permits, the emissions are unlikely to contribute to any new violations or contribute substantially to any air quality violation. The standby emergency generators would be used for a limited amount of time (up to 1 hour a day for 20 days per year), and health impacts associated with TACs would be below the thresholds of significance as required during permitting. Because impacts from TACs are localized, the thresholds of significance for TACs have been established at such a conservative level, and the risks would be below this level, they are not considered to be cumulatively significant. Sources permitted consistent with requirements of SJVAPCD's New Source Review (e.g., emergency generators) are considered to not be individually significant and are not cumulatively significant. While the non-permitted operational emissions are minimal from occasional maintenance vehicle trips, the vehicle trips may combine with other increased trips in the area and other Program activities to result in an increase in pollutants and was concluded as such in the Program EIR. Given the low emissions and intermittent operation of the generators and maintenance trips, SJVAPCD thresholds indicate that the level of air pollutants emitted by the Proposed Project would not cause any new violations. In addition, the Project will be subject to Mitigation Measures AIR-1, AIR-2 and AIR-3 in the Program EIR which will reduce Project emissions. The Proposed Project could, however, contribute to an existing violation when combined with other projects in the area. Therefore, the incremental contribution of the Proposed Project would be cumulatively considerable, and this impact would be significant and unavoidable.

Because some level of air emissions associated with the project are unavoidable, the City finds that due to specific technological and financial considerations, no feasible additional mitigation measures beyond those included for the Project, exist which could avoid or substantially lessen the significant effect on the environment.

Supporting Evidence:
The project sites are located in the SJVAB, where air quality conditions are regulated by SJVAPCD. The SJVAPCD assumes air emissions to be cumulatively significant if, with mitigation,
there remains any increase in a pollutant for which the SJVAB is classified as a non-attainment area. The SJVAB is in non-attainment for ozone and PM$_{10}$.

Operation of the equipment at proposed improvements is not anticipated to result in an increase in ozone precursor (NO$_x$) emissions above the SJVAPCD thresholds of 10 tons per year, as the majority of the equipment is powered by electric engines. Operation of emergency generators would result in a net increase in emissions of ROG, NO$_x$ and PM$_{10}$. Emissions of PM$_{10}$, ROG, and NO$_x$ associated with operations will be reduced by the use of electric engines and emission control devices for back-up generators and Mitigation Measure AIR-3 (see above). Back-up generators must, by their nature, provide sufficient power to operate the wells and other components of the water system independent of the power grid at times when electric power is not available. It is infeasible to design a system without back-up generators because the system would not operate when electrical power is interrupted. This would lead to insufficient supply to meet customer needs and insufficient supply and pressure to serve fire fighting needs.

BIOLOGICAL RESOURCES

Impact BIO-1: Construction-related Loss of Occupied Burrowing Owl Habitat

Finding:
Annual grasslands in the study area provide potentially suitable habitat for Burrowing Owl. Although some burrows were observed at Site A, no evidence of use by Burrowing Owls (e.g., whitewash, feathers) was observed; however, there is the potential for this species to occupy the site or for individuals to occur as transients. No burrows were identified at Site B, so this site is not anticipated to support Burrowing Owls. If Burrowing Owls are present at or within 250 feet of Site A, construction during the breeding season could result in the incidental loss of eggs or nestlings, or otherwise lead to nest abandonment. Raptors, including owls and their nests, are protected under both federal and state laws and regulations, including the MBTA and Fish and Game Code Section 3503.5. The loss, directly or indirectly through nest abandonment or reproductive suppression, of occupied Burrowing Owl habitat (or habitat known to have been occupied by owls during the nesting season within the past 3 years) or reductions in the number of this rare species within Stanislaus County would constitute a significant impact.

The Program EIR identified impacts on Burrowing Owl as potentially significant and identified Mitigation Measure BIO-8: Avoid and Protect Burrowing Owls and Mitigation Measure BIO-9: Compensate for Loss of Burrowing Owl Habitat to reduce impacts to Burrowing Owls to less than significant. These mitigation measures have been modified to reflect site conditions for the Proposed Project. With implementation of Mitigation Measures BIO-1 (Avoid and Protect Burrowing Owls at Site A) and BIO-2 (Compensate for Loss of Burrowing Owl Habitat at Site A), the potential for loss of Burrowing Owls would be less than significant.

As such, the City finds that changes or alterations have been incorporated into the project which avoid or substantially lessen the significant effect on the environment.

Supporting Evidence:
Incorporating the following mitigation measures, identified in the Project EIR, will reduce these potentially significant effects to less-than significant levels:
Mitigation Measure BIO-1: Avoid and Protect Burrowing Owls at Site A
Because some burrows that could be used by Burrowing Owls were noted during field surveys at Site A, and in conformance with federal and state regulations regarding the protection of raptors, the City shall hire a qualified biologist to conduct a preconstruction survey(s) for Burrowing Owls within a 250-foot buffer around the project site, in conformance with protocols established in the Staff Report on Burrowing Owl Mitigation (CDFG 2012 or current version), and prior to the start of construction. If no Burrowing Owls are located during these surveys, no additional action is warranted. However, if breeding or resident owls are located on or within 250 feet of Site A, the following measures shall be implemented.

- No Burrowing Owls will be evicted from burrows during the nesting season (February 1 through August 31). Eviction outside the nesting season may be permitted following evaluation of eviction plans and receipt of formal written approval from CDFW authorizing the eviction.

- A 250-foot buffer, within which no new activity is permissible, shall be maintained between project activities and nesting Burrowing Owls. This protected area will remain in effect until August 31 or, at CDFW’s discretion (based upon monitoring evidence), until the young owls are foraging independently.

Mitigation Measure BIO-2: Compensate for Loss of Burrowing Owl Habitat at Site A
If a preconstruction survey finds that Burrowing Owls occupy Site A, and avoiding construction in occupied areas is not feasible, then the City shall implement habitat compensation on off-site mitigation lands, or shall purchase mitigation bank credits from a mitigation bank approved by CDFW. If mitigation credits are not purchased, habitat management lands comprising existing Burrowing Owl foraging and breeding habitat will be acquired and preserved. An area of 6.5 acres (the amount of land found to be necessary to sustain a pair or an individual owl) will be secured for each pair of owls or for an individual, in the case of an odd number of birds. Relocation of owls shall only be implemented during the non-breeding season. As part of an agreement with CDFW, the City shall provide CDFW with security for the performance of its mitigation duties in the form of funds that will:

- allow for the acquisition and preservation of 6.5 acres of habitat management lands for each pair of owls or unpaired resident single owl;

- provide initial protection and enhancement activities on the habitat management lands, potentially including such measures as fencing, trash cleanup, artificial burrow creation, grazing or mowing, and any habitat restoration deemed necessary by CDFW;

- establish an endowment for the long-term management of the habitat management lands; and

- reimburse CDFW for reasonable expenses incurred as a result of the approval and implementation of this agreement.
Impact BIO-2: Construction-Related Loss of Swainson’s Hawk Foraging Habitat

Finding:
Swainson’s Hawks are known to nest within 1.1 miles of Site B (within 1.8 miles of Site A) (CDFW 2016). The fallow field at Site A and the grassland at Site B provide potentially suitable foraging habitat for Swainson’s Hawks. Project-related construction would result in the loss of up to 1.3 acres of potentially suitable foraging habitat at Site A and 0.1 acre of potentially suitable foraging habitat at Site B, resulting in a significant adverse effect on this state-designated threatened species through habitat modification.

The Program EIR identified loss of Swainson’s Hawk foraging habitat as potentially significant and identified Mitigation Measure BIO-10: Compensate for Loss of Swainson’s Hawk Foraging Habitat to reduce impacts to less than significant. This mitigation measure has been modified to reflect site condition for the Proposed Project. Implementation of Mitigation Measure BIO-3 (Compensate for Loss of Swainson’s Hawk Foraging Habitat) would reduce this impact to a level that is less than significant.

As such, the City finds that changes or alterations have been incorporated into the project which avoid or substantially lessen the significant effect on the environment.

Supporting Evidence:
This potentially significant effect can be reduced to a less-than-significant level by incorporating the following mitigation measure identified in the EIR:

Mitigation Measure BIO-3: Compensate for Loss of Swainson’s Hawk Foraging Habitat
To mitigate for the loss of potential Swainson’s Hawk foraging habitat, the City shall provide off-site habitat management lands, as described in the CDFW protocol for the mitigation of impacts on Swainson’s hawks in the Central Valley (CDFG 1994), or by purchasing credits at a CDFW-approved Swainson’s Hawk foraging habitat mitigation bank that covers the Proposed Project area, such as the Dutchman Creek Conservation Bank.

The City shall determine the final acreage of off-site management lands or mitigation bank credits to be provided based on the distance between the project area and the nearest active nest site, as stated in the CDFW protocol (CDFG 1994). Mitigation credits would follow the same ratio guidelines as off-site management lands. Prior to the grading of any site with potential foraging habitat, the City shall hire a qualified biologist to conduct protocol-level surveys to determine the location of the nearest active nest. Based on these surveys, the City shall compensate for losses in compliance with the protocol for the mitigation of impacts on Swainson’s hawks in the Central Valley (CDFG 1994), as follows:

Projects within one mile of an active nest tree shall provide:

- One acre of Habitat Management land (at least 10% of the Habitat Management land requirements shall be met by fee title acquisition or a conservation easement allowing for the active management of the habitat, with the remaining 90% of the Habitat Management lands protected by a conservation easement [acceptable to the DFG] on agricultural lands or other suitable habitats that provide foraging habitat for Swainson’s Hawk) for each acre of development authorized (1:1 ratio); or
- One-half acre of Habitat Management land (all of the Habitat Management land requirements shall be met by fee title acquisition or a conservation easement [acceptable to the DFG] which allows for the active management of the habitat for prey production on the Habitat Management lands) for each acre of development authorized (0.5:1 ratio).

Projects within 5 miles of an active nest tree but greater than 1 mile from the nest tree shall provide 0.75 acres of Habitat Management land for each acre of urban development authorized (0.75:1 ratio). All Habitat Management lands protected under this requirement may be protected through fee title acquisition or conservation easement on agricultural lands or other suitable habitats that provide foraging habitat for Swainson’s Hawks.

Projects within 10 miles of an active nest tree but greater than 5 miles from an active nest tree shall provide 0.5 acres of Habitat Management land for each acre of urban development authorized (0.5:1 ratio). All Habitat Management lands protected under this requirement may be protected through fee title acquisition or conservation easement (acceptable to the DFG) on agricultural lands or other suitable habitats that provide foraging habitat for Swainson’s Hawks.

Management Authorization holders/project sponsors shall provide for the long-term management of the habitat management lands by funding a management endowment (the interest on which shall be used for managing the habitat management lands). If mitigation credits are purchased, long term management would be the responsibility of the mitigation bank.

**Impact BIO-3: Construction-Related Impacts on Nesting Swainson’s Hawks**

**Finding:**
Two CNDDB occurrences of Swainson’s Hawk are known within 5 miles of the study area (CDFW 2016). Mature trees within 0.5 mile of the study area provide potentially suitable nesting habitat for Swainson’s Hawk. Construction activities occurring within 1 mile of an active nest could result in sufficient disturbance to cause Swainson’s hawk breeding pairs to abandon their nest or could otherwise harm eggs or nestlings. Because Swainson’s Hawk is a state-listed threatened species, disturbance that causes Swainson’s hawks to abandon their nest or results in the loss of reproductive effort would constitute a significant impact.

The Program EIR identified impacts to Swainson’s Hawk as potentially significant and identified Mitigation Measure BIO-11: Conduct Preconstruction Surveys for Swainson’s Hawk Nests to reduce impacts to less than significant. This mitigation measure has been modified to reflect site condition for the Proposed Project. Implementation of Mitigation Measure BIO-4 (Conduct Preconstruction Surveys for Swainson’s Hawk Nests) would reduce this impact to a level that is less than significant.

As such, the City finds that changes or alterations have been incorporated into the project which avoid or substantially lessen the significant effect on the environment.

**Supporting Evidence:**
This potentially significant effect listed above can be reduced to a less-than-significant level by incorporating the following mitigation measure identified in the Project EIR:

**Mitigation Measure BIO-4: Conduct Preconstruction Surveys for Swainson’s Hawk Nests**
To ensure that nesting Swainson's Hawks will not be disturbed by construction activities, the City will hire a qualified ornithologist to conduct preconstruction surveys of the Proposed Project sites and adjacent areas within 1 mile of Sites A and B. No fewer than three surveys will be completed in at least each of the two survey periods immediately prior to project initiation, according to this schedule, based on Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley (Swainson's Hawk Technical Advisory Committee 2000):

- Survey Period I occurs from January 1 to March 20;
- Period II from March 20 to April 5;
- Period III from April 5 to April 20;
- Period IV from April 21 to June 10 (surveys are not recommended during this period because identification is difficult, as the adults tend to remain within the nest for longer periods of time); and
- Period V from June 10 to July 30.

If a nest site is found, no construction work shall commence until after the City engages in consultation with CDFW and CDFW-approved measures are implemented. As a performance standard, the measures implemented shall ensure that project initiation will not result in nest disturbance.

**Impact BIO-4: Construction Disturbance of Bald Eagle, Tricolored Blackbird, and Other Migratory Birds, Including Raptors**

*Finding:*

Table 6-2 of the Project EIR lists the special-status bird species known to occur in the vicinity of the study area, and Figure 6-1 of the Project EIR shows the CNDDDB occurrences of special-status wildlife species within a 5-mile radius of the study area. The study area is unlikely to support nesting of special-status passerines because suitable habitat is lacking for special-status passerine species known to occur near the study area, although Tricolored Blackbirds may potentially nest near Site A (Table 6-2 of the Project EIR).

Many other migratory birds, including raptors, have the potential to nest in the vicinity of the Proposed Project sites. Raptors (e.g., kites, hawks, and owls) and other migratory birds and their nests are protected under both California Fish and Game Code Section 3503 (active bird nests) and the MBTA. Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or could otherwise lead to nest abandonment. Trees in the study area, including those proposed for removal at Site A, could provide nesting habitat for birds protected under the MBTA. Loss of raptor and other migratory birds' eggs or nests, or any activities resulting in nest abandonment, would constitute a significant impact.

The Program EIR identified impacts to nesting birds as potentially significant and identified Mitigation Measure BIO-12: Conduct Preconstruction Surveys for Nesting Birds and Mitigation Measure BIO-13: Avoid and Minimize Impacts on Nesting Raptors and Other Migratory Birds to reduce impacts to less than significant. These mitigation measures have been modified adjusted
to reflect site condition for the Proposed Project. Implementation of Mitigation Measures BIO-5 (Conduct Preconstruction Surveys for Nesting Birds) and BIO-6 (Avoid and Minimize Impacts on Nesting Raptors and Other Migratory Birds) would reduce this impact to a level of less than significant.

As such, the City finds that changes or alterations have been incorporated into the project which avoid or substantially lessen the significant effect on the environment.

Supporting Evidence:
This potentially significant effect can be reduced to a less-than-significant level by incorporating the following mitigation measures identified in the Project EIR:

Mitigation Measure BIO-5: Conduct Preconstruction Surveys for Nesting Birds
The City shall require that construction will be avoided during the nesting season (generally between February 1 and August 31), where practical. If construction activities cannot be avoided during the nesting season, a qualified biologist will conduct a preconstruction survey within 500 feet of the construction area to determine whether active nests are present on the site. The survey will be conducted no more than 30 days prior to construction. If the biologist determines that the area surveyed does not contain any active nests, then construction activities can commence without any further mitigation. If active nests are found, CDFW and USFWS will be notified and Mitigation Measure BIO-6 will be implemented.

Mitigation Measure BIO-6: Avoid and Minimize Impacts on Nesting Raptors and Other Migratory Birds
To avoid disturbing any active migratory bird nests, the City shall require that construction activities will be conducted during the non-breeding season for these species (generally between September 1 and January 31). If active nests are present on or adjacent to either of the Proposed Project sites, CDFW and USFWS will be notified. If active migratory bird nests are present and construction cannot be avoided during the breeding season, construction will not occur within 500 feet of an active nest until the young have fledged, as determined by a qualified biologist, or until the project applicant receives written authorization from CDFW and USFWS to proceed.

Impact BIO-5: Disturbance of Roosting Areas for Bats, including Special-status Bat Species
Finding:
The four largest existing trees at Site A would be retained for the Proposed Project. Existing trees to be removed through construction of the Proposed Project provide marginally suitable roosting habitat for western red bat (California Species of Special Concern) and hoary bats (Lasiurus cinereus) (no listing status). The western red bat is strongly associated with mature riparian forests, although it has been detected roosting in orchards (Pierson et al. 2006). The hoary bat generally roosts in medium to large trees (Harris 1990), and only smaller trees would be removed at Site A. Due to the lack of their preferred habitat, western red bat and hoary bat are not expected to roost in trees at Site A. No trees would be removed from Site B.

Proposed construction activities would remove buildings at Site A that provide possible day and/or night roosts for non-special-status bats such as Brazilian free-tailed bat (Tadarida brasiliensis) and Yuma myotis (Myotis yumanensis). Townsend's big-eared bat is not expected to roost in the buildings, as this species is very sensitive to human disturbance and may
abandon roost sites after a single human visit (Pierson and Rainey 1998) and the buildings at Site A have not been vacant for an extended period of time. No extensive survey of bat activity in the buildings at Site A was conducted; however, if bats are present, impacts from the removal of structures occupied by bats would be potentially significant.

Implementation of Mitigation Measure BIO-7 (Protect Bat Colonies), which requires seasonal work periods in active bat habitat and avoidance and minimization of disturbance, would reduce this impact to a level that is less than significant with mitigation.

As such, the City finds that changes or alterations have been incorporated into the project which avoid or substantially lessen the significant effect on the environment.

Supporting Evidence:
This potentially significant effect can be reduced to a less-than-significant level by incorporating the following mitigation measures identified in the Project EIR:

Mitigation Measure BIO-7: Protect Bat Colonies.
The following measures shall be implemented to avoid and minimize impacts on bats:

• Prior to removal of structures, the City shall hire a qualified bat biologist familiar with bat biology and ecology to assess structures to be removed for potential, active bat habitat. If the biologist determines that bats are not actively occupying the structures based on professional opinion following appropriate survey protocols, then the structures may be removed.

• For structures identified by the qualified biologist to be actively occupied by bats, removal of the structures shall not occur between April 15 and August 31 to avoid the bat maternity season,

• Demolition of structures shall be preceded by either humane eviction, phased dismantling, and/or deterrent methods to prevent direct mortality.

Impact BIO-7: Interfere with Wildlife Movement, Established Wildlife Corridors, or the Use of Native Wildlife Nursery Sites

Finding:
The Proposed Project would be constructed primarily on disturbed and developed lands that do not function as important wildlife movement corridors. Disruption of nesting or breeding of special-status species would be minimized by conducting appropriate pre-construction surveys (as described in Impacts BIO-1 through BIO-5 and Mitigation Measures BIO-1 and BIO-4 through BIO-7). Therefore, impacts on wildlife movement would be less than significant.

As such, the City finds that changes or alterations have been incorporated into the project which avoid or substantially lessen the significant effect on the environment.
Impact BIO-8: Conflict with Local Policies or Ordinances Protecting Biological Resources

Finding:

The Stanislaus County General Plan 2015 Conservation/Open Space Element (Stanislaus County 2016) establishes several policies (notably Goal One, Policies Three and Four, and Goal Ten, Policy Twenty-nine) to protect sensitive species, along with habitats such as vernal pools, riparian habitats, and oak woodlands. The Proposed Project does not conflict with any local policies protecting biological resources because no vernal pools, riparian habitats, or oak woodlands are present in the study area, based on field surveys conducted by a qualified biologist on May 4, 2016. Impacts of the Proposed Project on sensitive (i.e., special-status) species are discussed in Impacts BIO-1 through BIO-5 above. With implementation of Mitigation Measures BIO-1 through BIO-7, impacts on sensitive species would be less than significant.

As such, the City finds that changes or alterations have been incorporated into the project which avoid or substantially lessen the significant effect on the environment.

Impact BIO-9: Cumulative Biological Resource Impacts

Finding:

Native plant and wildlife species in the Central Valley are at risk from competition with non-native species, ongoing loss of habitat, and other human activities. Habitat in the Central Valley has largely been converted to agriculture or other human uses, resulting in the local extirpation of several species that rely on sensitive habitats no longer present. Species that persist in this altered landscape (e.g., Swainson’s Hawk, Tricolored Blackbird, and Burrowing Owl) are still at risk from cumulative impacts. The collective implementation of projects in the vicinity of the Proposed Project could degrade habitat and species viability from consequences such as disruption of wildlife migration corridors, displacement and fragmentation of habitats and species populations, and the introduction or promotion of non-native predators and competitors. This is a significant cumulative impact.

As described in Impacts BIO-1 through BIO-5, construction of the Proposed Project has the potential to adversely affect special-status wildlife species and/or their habitat. The Proposed Project’s impacts on special-status wildlife would be reduced with implementation of Mitigation Measures BIO-1 and BIO-4 through BIO-7. These measures would require preconstruction surveys, avoidance and minimization measures, and other protective measures that would reduce construction-related disturbances on special-status species. Impacts due to loss of Burrowing Owl and Swainson’s Hawk foraging habitat would be reduced with implementation of Mitigation Measures BIO-2 and BIO-3. Implementation of these measures would ensure that the Proposed Project’s contribution to cumulative impacts on special-status species would not be considerable. With implementation of Mitigation Measures BIO-1 through BIO-7, the Proposed Project’s contribution to this cumulative impact on biological resources would be reduced to a level that is less than significant.

As such, the City finds that changes or alterations have been incorporated into the project which avoid or substantially lessen the significant effect on the environment.
Impact CUL-2: Potential for a Substantial Adverse Impact on Archaeological Resources from Construction

Finding:
An archaeological survey was conducted of the Proposed Project site, and no archaeological resources were found; however, archaeological remains could be buried with no surface manifestation. Drilling of the production and monitoring wells, installation of water pipelines, construction of structures to house the wells and pumps at Sites A and B, or excavation of the stormwater detention basin at Site A could uncover buried archaeological deposits. Should a previously undiscovered resource be found during construction and be determined eligible for inclusion in the CRHR, and should Proposed Project activities have the potential to render the resource ineligible for inclusion in the CRHR, the impact would be potentially significant.

Implementation of Mitigation Measure CR-1 (Suspend Construction Immediately if Cultural Resources Are Discovered, Evaluate All Identified Cultural Resources for CRHR Eligibility, and Implement Appropriate Mitigation Measures for Eligible Resources) would reduce any impacts on CRHR-eligible archaeological sites accidentally uncovered during construction to a level that is less than significant.

As such, the City finds that changes or alterations have been incorporated into the project which avoid or substantially lessen the significant effect on the environment.

Supporting Evidence:
This potentially significant effect can be reduced to a less-than-significant level by incorporating the following mitigation measures identified in the Project EIR:

Mitigation Measure CR-1: Suspend Construction Immediately if Cultural Resources Are Discovered, Evaluate All Identified Cultural Resources for CRHR Eligibility, and Implement Appropriate Mitigation Measures for Eligible Resources.

Not all cultural resources are visible on the ground surface. As a result, before initiation of ground-disturbing activities, the City or its designee shall arrange for construction crews to receive training about the kinds of archaeological materials that could be present at the Proposed Project site and the protocols to be followed should any such materials be uncovered during construction. Training shall be conducted by an archaeologist who meets the U.S. Secretary of the Interior’s professional standards. Training shall be required during each phase of construction to educate new construction personnel.

If any cultural resources, including structural features, unusual amounts of bone or shell, flaked or ground stone artifacts, historic-era artifacts, human remains, or architectural remains, are encountered during Proposed Project construction activities, work shall be suspended immediately at the location of the find and within a radius of at least 50 feet and the City will be contacted.

All cultural resources uncovered during construction within the Proposed Project site shall be evaluated for eligibility for inclusion in CRHR. Resource evaluations shall be conducted by individuals who meet the U.S. Secretary of the Interior’s professional standards in archaeology, history, or architectural history, as appropriate. If any of the resources meet the eligibility criteria identified in PRC Section 5024.1 or CEQA Guidelines Section 21083.2(g), mitigation
measures will be developed and implemented in accordance with CEQA Guidelines Section 15126.4(b) before construction resumes.

For a TCR or any resources eligible for listing in the CRHR that would be significantly adversely affected by the Proposed Project construction, additional mitigation measures shall be implemented. Mitigation measures for archaeological resources may include (but are not limited to) avoidance; incorporation of sites within parks, greenspace, or other open space; capping the site; deeding the site into a permanent conservation easement; or data recovery excavation. Mitigation measures for archaeological resources shall be developed in consultation with responsible agencies and, as appropriate, interested parties such as Native American tribes. Native American consultation is required if an archaeological site is determined to be a TCR. Implementation of the approved mitigation is required before resuming any construction activities with the potential to affect identified eligible resources at the site.

Impact CUL-3: Potential to Directly or Indirectly Destroy a Unique Paleontological Resource or Site, or Unique Geological Feature (Less than Significant with Mitigation)

Finding:
Production and monitoring wells excavated for the Proposed Project would reach depths of up to 600 feet deep. Research indicates that the alluvial soils that underlie the site have the potential to contain terrestrial and marine fossils; the deeper Mehrten Formation could also contain fossils. As a result, it is possible that fossils could be encountered during construction. Should fossils be discovered during construction and be determined to be a unique paleontological resource or site, and should Proposed Project activities have the potential to destroy the resource, the impact would be potentially significant. Implementation of Mitigation Measure CR-2 (Suspend Construction Immediately if Paleontological Resources Are Discovered, Evaluate the Significance of the Resources, and Implement Appropriate Mitigation Measures as Necessary) would reduce any impacts on unique paleontological resources or sites accidentally uncovered during construction to a level that is less than significant.

As such, the City finds that changes or alterations have been incorporated into the project which avoid or substantially lessen the significant effect on the environment.

Supporting Evidence:
This potentially significant effect can be reduced to a less-than-significant level by incorporating the following mitigation measures identified in the Project EIR:

Mitigation Measure CR-2: Suspend Construction Immediately if Paleontological Resources Are Discovered, Evaluate the Significance of the Resources, and Implement Appropriate Mitigation Measures as Necessary.

Paleontological resources are not necessarily visible on the ground surface. As a result, before initiation of ground-disturbing activities, construction crews shall receive training about the kinds of paleontological materials that could be present at the Proposed Project site and the protocols to be followed should such materials be uncovered during construction. Training shall be conducted by a professional paleontologist. Training shall be required during each phase of construction to educate new construction personnel.
If any items of paleontological interest are discovered during construction, work shall be suspended immediately within 50 feet of the discovery site, or to the extent needed to protect the site, and the City shall be notified.

Any discovery of paleontological resources during construction shall be evaluated by the qualified paleontologist. If it is determined that the Proposed Project could damage a unique paleontological resource, mitigation shall be implemented in accordance with PRC Section 21083.2 and CEQA Guidelines Section 15126.4. If avoidance is not feasible, the paleontologist shall develop a treatment plan in consultation with the City. Work shall not be resumed until authorization is received from the City and any recommendations received from the qualified paleontologist are implemented.

Impact CUL-4: Potential for Disturbance of Human Remains, including Those Interred Outside of Dedicated Cemeteries (Less than Significant with Mitigation)

Finding:
No human remains were identified at the Proposed Project site as a result of background research or the field survey. The potential for human remains to be identified on the site during construction is considered low, although their presence cannot be entirely discounted. Implementation of Mitigation Measure CR-3 (Halt Construction Immediately if Human Remains Are Discovered and Implement Applicable Provisions of the California Health and Safety Code) would reduce impacts on any human remains discovered during construction to a level that is less than significant.

As such, the City finds that changes or alterations have been incorporated into the project which avoid or substantially lessen the significant effect on the environment.

Supporting Evidence:
This potentially significant effect can be reduced to a less-than-significant level by incorporating the following mitigation measures identified in the Project EIR:

If human remains are discovered during construction activities, the requirements of Section 7050.5 of the California Health and Safety Code shall be followed. Potentially damaging excavation shall halt on the Proposed Project site within a minimum radius of 100 feet of the remains and the County Coroner shall be notified. The Coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or state lands (Health and Safety Code Section 7050.5[b]). If the Coroner determines that the remains are those of a Native American, he or she must contact the NAHC by phone within 24 hours of making that determination (Health and Safety Code Section 7050[c]). In accordance with the provisions of PRC Section 5097.98, the NAHC shall identify a Most Likely Descendent (MLD). The MLD designated by the NAHC shall have at least 48 hours to inspect the site and propose treatment and disposition of the remains and any associated grave goods. The City or its designee shall work with the MLD to ensure that the remains are removed to a protected location and treated with dignity and respect.
Impact CUL-5: Potential to Cause a Substantial Adverse Change in the Significance of a Tribal Cultural Resource (Less than Significant with Mitigation)

Finding:
No TCRs have been identified in the Proposed Project study area to date. However, archaeological sites that are buried and discovered during construction have the potential to be TCRs. Should an archaeological site be discovered that is determined to be a TCR, Mitigation Measure CR-1 would be implemented and would result in a less-than-significant impact.

Although no Native American tribes responded to the City’s project notification letter within the 30-day period prescribed under PRC Section 21080.3.1(b)(2), tribes will have the opportunity to comment on this DEIR through the public comment period. As a result, it is possible that TCRs may yet be identified. If TCRs are identified, the City will work with the tribe(s) to avoid or mitigate any impacts that might affect TCRs. If TCRs are identified within the Proposed Project study area, implementation of Mitigation Measure CR-1 and Mitigation Measure CR-4 (Prepare and Implement Treatment Plans for any TCRs Identified in the Proposed Project Study Area) would reduce any potential impacts to a level that is less than significant.

As such, the City finds that changes or alterations have been incorporated into the project which avoid or substantially lessen the significant effect on the environment.

Supporting Evidence:
This potentially significant effect can be reduced to a less-than-significant level by incorporating the following mitigation measures identified in the Project EIR:

Mitigation Measure CR-4: Prepare and Implement Treatment Plans for any TCRs Identified in the Proposed Project Study Area.
If TCRs are identified in the Proposed Project study area, the City shall consult and work with tribes with a traditional and cultural affiliation to the resource to develop feasible alternatives that will avoid impacts or develop and implement treatment plans that will substantially lessen the impacts on identified TCRs, in accordance with PRC Sections 21083(b)(2) or 21084.3.

Impact CUL-6: Potential to Eliminate Important Examples of the Major Periods of California History or Prehistory (Less than Significant with Mitigation)

Finding:
The 2010 Water System Engineer’s Report Program EIR (City of Modesto 2010) concluded that there would be no cumulative impacts regarding cultural resources. Since publication of that document, no other projects are planned in the immediate vicinity of Sites A or B that could create a significant cumulative impact in combination with the Proposed Project. As such, with implementation of Mitigation Measures CUL-1, CUL-2, CUL-3, and CUL-4, described above, all impacts would be reduced to a less-than-significant level and there would be no cumulative impact to which the Proposed Project could contribute related to cultural resources.

As such, the City finds that changes or alterations have been incorporated into the project which avoid or substantially lessen the significant effect on the environment.

CLIMATE CHANGE
Impact GHG-1: Generate Substantial GHG Emissions, Either Directly or Indirectly, from Project Construction, Land Use Changes, and Operation (Significant and Unavoidable)

Finding:
Construction of the Proposed Project would involve activities that would result in one-time emissions of GHGs. Changes in carbon sequestration due to land use change and tree planting would also result in one-time emissions of GHGs. As shown in Table 8-1 of the Project EIR, combined one-time GHG emissions associated with the Proposed Project's construction and change in carbon sequestration from land use changes would be approximately 536 MT CO2e annually. These emissions are one-time emissions and would not continue to occur once the construction is complete. Amortized over the project life (approximately 30 years), construction and sequestration GHG emissions would be approximately 18 MT CO2e per year.

Operation of the Proposed Project would generate GHG emissions from annual maintenance of emergency generators, worker vehicle trips, and, primarily, from the pumps' electricity use at the Proposed Project sites. Approximately one worker vehicle trip would occur daily during the week. The Proposed Project's operation would generate approximately 374 MT CO2e per year in 2019. Electricity use makes up 363 MT CO2e per year of these emissions. Combining the operation emissions with the amortized one-time emissions, the total annualized emissions are 392 MT CO2e per year.

SJVAPCD, the local air district with jurisdiction over the Proposed Project, has determined that GHG emissions are best controlled through implementation of BPS or demonstration of a 29-percent reduction from 2002-2004 conditions. The renewable portfolio standard requires Modesto Irrigation District, the Proposed Project's electricity provider, to increase its renewable electricity portfolio to 33 percent by 2020, as mandated by Senate Bill X1-2 (adopted in 2011). Under BAU conditions in the 2002-2004 timeframe, Modesto Irrigation District had essentially zero renewable energy sources according to the 2013 Renewable Portfolio Standard report (Modesto Irrigation District 2013). By 2012, Modesto Irrigation District was meeting approximately 25 percent of its retail energy sales from eligible renewable energy resources (Modesto Irrigation District 2013). Applying the renewable portfolio standard's mandatory 33-percent reduction in carbon intensity to the Proposed Project's 363 MT CO2e per year from electricity results in a projected reduction of 120 MT CO2e per year. This results in a 30-percent reduction to the total annualized emissions compared to BAU conditions. This is greater than the SJVAPCD's required 29-percent energy reduction from BAU conditions. This reduction is also consistent with the most recent AB 32 Scoping Plan's level of reductions for 2020, which estimate a 15-percent reduction from BAU projections.

In addition to the GHG emission reductions related to using renewable energy to meet the project's electricity demands, the proposed project would include drought-tolerant landscaping to reduce water use, which is also consistent with the AB 32 Scoping Plan's water use reduction measures. Even though this analysis could support a less-than-significant impact conclusion, the City has determined to find the impact significant and unavoidable for the following reasons: The main reductions in GHG emissions are outside the control of the City and depend on changes to operations by electricity providers. In addition, the Program EIR analysis for GHG emissions found the impact for the entire program significant and unavoidable even with implementation of Mitigation Measure CUM-1. Although this EIR contains Mitigation Measure GHG-1 (Implement Greenhouse Gas Emissions Reduction Measures for Operation) to implement Mitigation Measure CUM-1, the feasibility of some measures is unknown. Therefore,
to be conservative in its analysis, the Proposed Project's GHG emissions would be **significant and unavoidable**.

As such, the City finds that specific economic, legal, social, technological, or other considerations, including considerations for the provision of employment opportunities for highly trained workers, **potentially** make infeasible the mitigation measures identified in the EIR. Therefore, to be conservative in its analysis, the Proposed Project’s GHG emissions would be significant and unavoidable.

**Supporting Evidence:**

**Mitigation Measure GHG-1: Implement Greenhouse Gas Emissions Reduction Measures for Operation.**

The City of Modesto or its contractor(s) shall implement the following measures to the extent feasible and prepare a report that analyzes the feasibility of mitigation measures, details the extent of GHG emission reductions, and determines the basis for feasibility, with a goal of net zero emissions:

- Implement energy efficiency improvements of pumps through design, construction, and refurbishment methods.
- Investigate and implement, if feasible, opportunities for renewable energy development at the facilities subject to safety, emergency, and environmental considerations.
- Participate in local utility green energy and/or carbon offset programs to the extent feasible.
- Implement BMPs for vegetation management activities at Site A, which include using fuel-efficient landscaping equipment; shutting down equipment when not in use after 5 minutes; using spot application of herbicides; controlling nonnative weed species as soon as populations are found; planning and scheduling vegetation maintenance activities to minimize driving time and return trips to the site; using native or drought-resistant landscaping around facilities; and encouraging landscaping contractors to use manual techniques to the extent possible to reduce use of gas-powered equipment.
- Utilize electrically powered landscape equipment and outdoor electrical outlets.
- Utilize alternatively fueled construction equipment to the extent feasible. This could include equipment that uses electricity, hybrid, propane, or biodiesel fuels.
- Require shutting down of construction equipment when not in use after 5 minutes.
- Implement a construction worker commute strategy to minimize GHG emissions from workers commuting to the site. This may include encouraging use of carpools, vanpools, and public transportation.
Impact GHG-2: Potential to Conflict with Applicable Plans, Policies, or Regulations Adopted for the Purpose of Reducing Emissions of GHGs (Significant and Unavoidable)

Finding:

SJVAPCD, the local air district with jurisdiction over the Proposed Project, has determined that GHG emissions are best controlled through implementation of BPS or demonstration of a 29-percent reduction from 2002-2004 conditions. The Renewable Portfolio Standard would reduce GHG emissions compared to BAU and would result in the Proposed Project having more than a 29-percent reduction. This is consistent with the goal of AB 32, as well as the policies/actions described in CARB’s Scoping Plan and SJVAPCD’s Climate Change Action Plan. Although the project is not subject to any other action measures that are outlined in Scoping Plan, the project would include drought-tolerant landscaping that is generally consistent with water reduction goals identified in the Scoping Plan.

In addition, the Proposed Project would comply with the RST’s regional CAP goals, strategies, and policies, as well as the County’s applicable general plan policies related to reduced energy use for water supply/distribution activities and conserving water. Specifically, the Proposed Project would have an energy-efficient design, utilize Modesto Irrigation District’s increased renewable energy sources, and have an efficient irrigation system and drought-tolerant landscaping to minimize on-site water consumption at Site A.

The Proposed Project would achieve GHG emission reductions in its design, as discussed above, and, with implementation of Mitigation Measure GHG-1, would minimize GHG emissions to the maximum extent economically feasible. Therefore, the Proposed Project would comply with all applicable plans, policies, and regulations, including AB 32, and as well as the policies/actions described in CARB’s Scoping Plan and SJVAPCD’s Climate Change Action Plan. However, as discussed above, the main reductions in GHG emissions are outside the control of the City and depend on changes to operations by electricity providers. In addition, the Program EIR analysis for GHG emissions found the impact for the entire program significant and unavoidable even with the implementation of Mitigation Measure CUM-1 from the Program EIR. Although this EIR contains Mitigation Measure GHG-1 to implement Mitigation Measure CUM-1, the feasibility of some measures is unknown. Therefore, to be conservative in its analysis, the Proposed Project impact would be significant and unavoidable.

As such, the City finds that specific economic, legal, social, technological, or other considerations, including considerations for the provision of employment opportunities for highly trained workers, potentially make infeasible the mitigation measures identified in the EIR. Therefore, to be conservative in its analysis, the Proposed Project’s GHG emissions would be significant and unavoidable.
Impact GHG-3: Cumulative GHG Impact (Significant and Unavoidable)

Finding:
It is widely recognized that no single project could generate enough GHG emissions to noticeably change the global climate. However, the combination of GHG emissions from the Proposed Project in combination with past, present, and future projects could contribute substantially to global climate change. Thus, the Proposed Project's GHG emissions should be evaluated in terms of whether or not they would result in a considerable contribution to global climate change. The analysis in this chapter is essentially a cumulative impacts analysis. Based on the analysis provided above, even with implementation of Mitigation Measure GHG-1, the Proposed Project would result in a cumulatively considerable contribution to a significant cumulative impact.

As such, the City finds that specific economic, legal, social, technological, or other considerations, including considerations for the provision of employment opportunities for highly trained workers, potentially make infeasible the mitigation measures identified in the EIR. Therefore, even with implementation of Mitigation Measure GHG-1, the Proposed Project would result in a cumulatively considerable contribution to a significant cumulative impact.

The City finds that due to specific technological, financial and other considerations, no feasible additional mitigation measures beyond those included for the Project, exist which could avoid or substantially lessen the Project's cumulatively considerable contribution to a significant cumulative impact due to GHG emission.

GROUNDWATER

Impact GRW-4: Cumulative Contribution to Chronic Overdraft of Groundwater Subbasin
(Significant and Unavoidable)

Finding:
The Proposed Project is not anticipated to substantially reduce local groundwater levels in a way that would have a significant adverse impact on nearby shallow wells. However, operation of the proposed wells could cumulatively contribute to overdraft conditions in the Modesto Subbasin.

Supporting Evidence:
DWR has estimated that more groundwater is withdrawn from the subbasin than is recharged on an average annual basis. While the 2014 DWR Final Basin Prioritization results did not specifically note the Modesto Subbasin as being in overdraft (DWR 2014), overpumping in the Modesto Subbasin has historically led to declines in groundwater levels (DWR 2004).

The City estimated the total operational yield within its service area to be 53,500 AFY, with 48,286 AFY of that occurring in the Modesto Subbasin. Given that the proposed wells were
designed to be operated within the City's operational yield, they would not be anticipated to substantially reduce groundwater levels within the City's service area. The expected total annual average production of the proposed wells is 350 million gallons, or approximately 1,701 AF; however, because the City would decommission its existing Well 271 (which currently produces approximately 323 AFY), the proposed wells would only increase groundwater production by approximately 1,378 AFY beyond existing conditions. The most readily available data indicate that the City extracts an average of 38,145 AFY of groundwater from the Modesto Subbasin (City of Modesto 2010a). Adding the Proposed Project’s total estimated additional production of 1,378 AFY to the average Modesto Subbasin production of 38,145 AFY would equal 39,523 AFY. This amount would be below the City’s preliminary operational yield for the Modesto Subbasin of 48,286 AFY, and therefore is not anticipated to reduce groundwater elevations within the City's service area below 40 feet above msl.

With respect to groundwater use and drawdown in the Modesto Subbasin as a whole, in light of other groundwater users in the subbasin, the proposed wells would represent a relatively small but potentially considerable contribution to overall groundwater extractions. A number of entities operate public water supply wells in the Modesto Subbasin, in addition to many private wells. Recent data were not available at the time of publication on overall groundwater extractions in the subbasin, but DWR has estimated urban and agricultural extractions at 81,000 and 145,000 AFY, respectively (DWR 2004). By contrast, DWR estimated natural and applied irrigation water recharge at 86,000 AFY and 92,000 AFY, respectively. Relative to total urban and agricultural extractions in the subbasin (226,000 AFY), the Proposed Project’s contribution of 1,378 AFY would represent 0.6 percent of the total extractions in the subbasin. This would seem to be a small contribution, but given that the basin is already in a relatively chronic state of overdraft, as indicated by the deficit in recharge estimated by DWR and by historically declining water levels, each additional large capacity well could exacerbate the overdraft situation.

While the SGMA requires that all high- and medium-priority basins have sustainable groundwater management plans in place by 2022, and that overdrafted basins have plans in place by 2020, it does not impose limitations on groundwater resource development prior to those dates. Stanislaus County has enacted a Groundwater Ordinance, which requires entities applying for a Well Construction Permit after November 25, 2014, to demonstrate, based on substantial evidence, that extraction of groundwater from the proposed well will not constitute unsustainable extraction of groundwater. This ordinance is expected to limit future unsustainable groundwater extractions, but nevertheless, may not reverse the effects of past overpumping or completely prevent cumulative drawdown.

Climate change could also exacerbate the cumulative effects of groundwater pumping in the Modesto Subbasin. Under typical annual hydrological fluctuations, groundwater storage may be replenished in wet years. However, the added prospect of altered long-term precipitation patterns and hydrology in California due to climate change could reduce the potential for groundwater recharge.

In light of all of the above factors, the overdraft of the Modesto Subbasin is considered to be a significant cumulative impact, and the Proposed Project’s contribution would be considerable. The City is already implementing all available measures to ensure that its groundwater extraction does not exacerbate this situation, and is an active participant in regional groundwater management with a goal of ensuring sustainable management of the subbasin. Additional measures may exist that others could take to reduce pumping in the basin (e.g.,
water conservation), but such measures would be outside of the City's jurisdiction to implement or require. As such, no additional feasible measures exist and this impact is considered **significant and unavoidable**.

As such, the City finds that additional potentially feasible changes, alterations or mitigation measures beyond those actions already implemented by the City to address groundwater overdraft are within the responsibility of another public agency and not the City which is the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency to address the significant cumulative impact due to overdraft conditions in the Modesto Subbasin.

**NOISE**

**Impact NOISE-1: Substantial Temporary or Periodic Increase in Ambient Noise Levels (Less than Significant with Mitigation)**

**Finding:**

Construction and maintenance activities for the Proposed Project would generate short-term, temporary, and intermittent noise at adjacent noise-sensitive receptors. Noise levels generated during construction and maintenance would fluctuate depending on the particular type, number, and duration of use of various pieces of equipment. Noise from construction and maintenance activities is typically considered point-source noise. Noise levels drop off at a rate of 6 dBA per doubling of distance over hard site surfaces such as streets and parking lots, and at approximately 7.5 dBA per doubling of distance over soft site surfaces such as grass fields and open terrain with vegetation (FTA 2006).

Equipment required for construction and maintenance activities for the Proposed Project would likely consist of a paver, backhoe, bulldozer, tractor, well drilling equipment, and various trucks. The maximum noise levels produced by one of these types of equipment, at a distance of 50 feet and without noise controls, could range from 80 to 85 dBA Lmax. Noise levels vary for individual pieces of equipment because equipment comes in different sizes and with different engines. Noise levels also vary as a function of the activity level or duty cycle. Typical construction projects, with equipment moving from one point to another, including work breaks and idle time, have long-term noise averages that are lower than many short-term noise events. In addition, because of the dynamic nature of a construction site, noise levels are calculated from the center of the activity. Using these parameters, project-related construction noise was estimated using the FHWA Roadway Construction Noise Model (FHWA 2006), including simultaneous operation of multiple pieces of equipment, with the results shown in Table 11-11 of the Project EIR.

Construction equipment noise levels at 50 feet would be as high as 87 dBA Leq during the varying construction phase activities. Assuming standard spherical spreading loss (a reduction of 6 dB per doubling of distance) and the highest unmitigated construction noise level of 87 dBA Leq at 50 feet, the Proposed Project construction noise levels are estimated to range between 67 and 87 dBA Leq at the nearest noise-sensitive uses, as shown in Table 11-12 of the Project EIR. These results represent the worst-case, conservative noise exposure because they do not consider noise attenuation associated with intervening structures and atmospheric absorption. Therefore, actual construction equipment noise levels at the nearest residences could be lower.
Construction activities are not expected to occur on weekends or legal holidays, nor would nighttime work be conducted.

Table 11-12 of the Project EIR shows that the resulting predicted interior noise levels at the closest noise-sensitive receptor could be as high as 62 dBA at residential uses west of Site B, specifically the residence at 117 Stewart Road. Stanislaus County Municipal Code Specific Noise Source Standards Subsection E (Section 10.46.060, "Construction Equipment") and the City of Modesto Code Ordinances (Section 4-9.103, "Enumeration") were used for this analysis. Project-related construction noise at exterior uses of residential properties (buildings) in the project vicinity would be considered significant if it would exceed 75 dBA during weekday nighttime hours of 7 p.m. to 7 a.m. These are the most restrictive criteria established by the County and City and provide the most conservative assessment of noise impacts at existing noise-sensitive uses in the project vicinity.

Construction noise associated with the Proposed Project is predicted to dominate the existing noise environment at adjacent receptors during all construction phases. Construction activities would be exempt from noise standards when operating during allowable daytime hours outlined above. However, because noise levels would increase by 3 dB or more, there is the potential for noise impacts at the residential uses adjacent to the Proposed Project due to project-related construction noise.

The Program EIR identified construction noise as less than significant if no nighttime work is proposed, and identified Mitigation Measures NOISE-1: Employ Noise-reducing Construction Practices and NOISE-2: Limit Nighttime Construction Noise to reduce project-related construction impacts to a less-than-significant level. Mitigation Measure NOISE-2: Limit Nighttime Construction Noise was identified in the Program EIR but is not applicable to the Proposed Project because nighttime work is not proposed. Mitigation Measure NOISE-1 has been modified to ensure that construction activities associated with the Proposed Project would comply with the County's Municipal Code and the City's Code of Ordinances noise standards. Furthermore, the measure has been modified because nighttime construction work is not anticipated for this project, eliminating the potential for sleep disturbances, and noise level standards do not apply to construction noise that occurs between the daytime hours of 7 a.m. and 7 p.m. Therefore, with implementation of Mitigation Measure NOISE-1 (Employ Noise-Reducing Construction Practices) as modified below from the Program EIR, temporary, short-term project-generated construction noise would be considered less than significant.

As such, the City finds that changes or alterations have been incorporated into the project which avoid or substantially lessen the significant effect on the environment.

Supporting Evidence:

This potentially significant effect can be reduced to a less-than-significant level by incorporating the following mitigation measures identified in the Program EIR:

**Mitigation Measure NOISE-1: Employ Noise-reducing Construction Practices.**

The following measures shall be implemented by the City or its contractor to reduce adverse effects from construction noise:

- At least two weeks prior to the start of construction, provide written notification to the potentially affected property owners and residents within 500 feet of the project site,
identifying the type, duration, and frequency of construction activities to residences directly exposed to the project noise. Notification of heavy construction activities shall include anticipated dates and hours during which construction activities are anticipated to occur. Notification materials shall also identify a mechanism for residents to register complaints with the City through contact information, including a daytime telephone number, for the project representative to be contacted in the event that construction noise levels are deemed excessive, overly intrusive or construction occurs outside the permitted hours. Recommendations to assist noise-sensitive land uses in reducing interior noise levels (e.g., closing windows and doors) shall be included in the notification.

- Designate a disturbance coordinator and conspicuously post this person’s number around the project sites, in adjacent public spaces, and in construction notifications. The disturbance coordinator shall be responsible for responding to any complaints about construction activities. The disturbance coordinator shall receive all public complaints about construction disturbances and be responsible for determining the cause of the complaint and implementation of feasible measures to be taken to alleviate the problem.

- Locate stationary or fixed construction equipment (e.g., compressors and generators), construction staging and stockpiling areas, and construction vehicle routes as far as feasible from noise-sensitive receptors.

- Prohibit the start-up of machines or equipment before 7 a.m. and after 7 p.m. Monday through Saturday and before 9 a.m. and after 5 p.m. on Sunday.

- Prohibit use of materials and equipment deliveries before 7 a.m. and after 7 p.m., Monday through Saturday and before 9 a.m. and after 5 p.m. on Sunday.

- Restrict the use of bells, whistles, alarms, and horns to safety-warning purposes.

- Equip all construction equipment with noise-reduction devices such as mufflers to minimize construction noise and operate all internal combustion engines with exhaust and intake silencers.

- Use noise-reducing enclosures around stationary noise generating equipment.

- To the extent feasible, the simultaneous operation of multiple construction equipment shall be limited.

- Install temporary barrier between noise sources and noise sensitive receptors, or the use of intervening structures (i.e.; on-site construction trailer, stockpiles).

**Impact NOISE-3: Substantial Permanent Increase in Ambient Noise Levels (Less than Significant with Mitigation)**

**Finding:**

Long-term operation of the Proposed Project would result in the operation of new noise-generating stationary equipment. The Proposed Project would include the long-term operation
of water wells and pumps, standby generators, and booster pump stations at Site A and Site B. Pumping frequency and duration would vary throughout the year depending upon need and based upon system pressure or tank level, ranging from as much as 20 hours per day during the summer months to as few as 2 hours per day in the winter. Pumping is expected to occur for an annual average of 8 hours per day.

**Site A: Ladd Road**

Site A would consist of an aboveground groundwater storage tank, water well and pump, standby generator, and booster pump station. The pump station building would be a masonry block building housing the production well, booster pumps, disinfection equipment, ancillary valves and flow meters, and electrical equipment.

The pump station building would have various sound attenuation features, including wall panels, fans, and louvers to reduce noise related to removing heat generated within the pump and electrical rooms. Metal wall panels would achieve a noise reduction coefficient of approximately 0.90. The pump station building would be ventilated by one side-wall-mounted exhaust fan with a capacity of 4,500 cubic feet per minute. Exhaust fans would have the lowest possible noise measurement unit. Ducting in the building would be designed to minimize noise. The intake and exhaust pump station louvers would be sized to minimize air flow noise.

Production well pumping would vary as previously described. The Proposed Project includes up to four 60-hp electric pumps. Two pumps would be on-duty, one would be for standby, and the fourth pump is intended for future buildout. The well and booster pumps would be housed inside the pump station building.

A standby diesel generator and an aboveground diesel storage tank would be installed on a concrete pad. The generator would be equipped with critical grade mufflers for the exhaust system and level 2 sound housing to achieve an approximate sound level of 75 dB within 30 feet of the unit.

Operational noise generated at Site A is assumed to be similar to operational noise at Well 315 (AEC 2012). Therefore, operational noise at Site A, including future use of a fourth pump, would be reduced through site design, specifically building materials of the fully enclosed pump station building, surface treatments, and acoustically designed louvers, which would reduce noise levels from 71 dBA at 23 feet to 46 dBA at 30 feet, which would achieve and not exceed the City’s noise thresholds. Project-related operational noise at Site A would be considered exempt from Stanislaus County noise regulations because the Proposed Project is a public utility. However, with the incorporated site design features, operational noise would comply with the County’s Municipal Code and the City’s Code of Ordinances noise standards. Thus, the project would not result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. As a result, project-generated operational noise levels for Site A would be less than significant.

**Site B: McHenry Avenue**

Site B would encompass approximately 0.4 acre. The facilities at this site would consist of a production well and pump, standby generator, disinfection facilities, connecting lines to the City’s existing distribution system down McHenry Avenue, and space for a future treatment unit and treatment filters. These facilities would be fully enclosed by a 12-foot-tall concrete block...
wall with a 24-foot-wide gate; there would be no roof over these facilities. Equipment at the site would consist of an aboveground pump motor, engine generator, controls, chlorinator, and associated plumbing and equipment.

The production well pump and standby generator are the two main sources of operational noise associated with the well. The analysis assumed an aboveground pump. To evaluate potential effects of the Proposed Project, noise levels from an existing City well (Well 62 at Freedom Park) with similar equipment were evaluated (AEC 2012). Well 62 uses a Goulds (ITT Corporation) pump with a 200-hp Emerson motor and a 300-kW standby diesel generator inside a Quiet Site Level II enclosure by Cummins. Noise levels from the Cummins generator measured 71 dBA at a distance of 23 feet diagonally from the air intake of the unit. The pump noise measured 72 dBA at a distance of 18 feet from the motor (70 dBA at 23 feet), with a sound spectrum in the higher frequencies. The generator at Well 62 dominated the existing background noise levels, while the pump-only operational noise was much less noticeable, raising noise levels by 1 dBA. Subjectively, pump "whine" noise was barely audible over background noise levels (AEC 2012). Similar noise levels were assumed to be generated by the Proposed Project at Site B.

Based on the proposed site plan for Site B, the nearest adjacent residential property, at 117 Stewart Road, is approximately 30 feet west of the proposed location of the pump motor. The topography of the site is such that the pump, generator, and 12-foot-tall block wall would be at ground level, 7 feet below the grade of the house pad for the residence at 117 Stewart Road. It was assumed that the ground level of the residential property is 7 feet above the pump grade at a distance of approximately 70 feet from the property line.

Evaluation of the proposed facilities at Site B was conducted using an identical generator set and enclosure to those at Well 62 (300-kW standby diesel generator inside a Quiet Site Level II enclosure by Cummins). Noise levels are predicted to reach 48 dBA during daytime and nighttime at the property line of 117 Stewart Road, based on data from the 200-hp well pump described above (AEC 2012) and in consideration of the proposed 12-foot-tall block wall around the well facility. Noise levels are expected to be reduced to 39 dBA at the nearest residential building façade, an additional 70 feet from the property line, and therefore would not disturb sleep patterns within the sleeping areas of the residence. The results indicate that sound levels could reach 58 dBA within the residential property line of 117 Stewart Road, adjacent to Site B, if unmitigated.

These noise sources would be considered exempt from Stanislaus County noise regulations because the Proposed Project is a public utility. However, local noise regulations were evaluated as well to determine the significance of potential noise impacts generated by the Proposed Project.

When the pump operates during nighttime hours, it is expected to exceed the County's noise standard of 45 dBA at the property line of 117 Stewart Road. Daytime operation of the pump is predicted to be less than the County's 55 dBA noise standards. Subjectively, the pump would be barely audible over background sources (ambient 58 dBA Leq) during daytime hours, with the source becoming more audible as background levels drop during nighttime hours (ambient 55 dBA Leq).

Routine testing of the generator set would occur one to two times per month. During these tests, sound levels would exceed the local noise regulations. However, the generator is exempt
from noise regulations when providing emergency power to the pump station and during short-
term testing periods.

Operational noise associated with the Proposed Project (58 dBA unmitigated) is predicted to
dominate the existing noise environment when background levels are low (nighttime) at the
residential property at 117 Stewart Road. Operational activities are considered exempt from
noise standards when operating a public utility or under emergency circumstances. However,
the increase in noise would be noticeable (3 dBA) and would create the potential for nighttime
noise impacts (ambient 55 dBA Leq nighttime) at the 117 Stewart Road residence west of the
Proposed Project site. Thus, the project would result in a substantial permanent increase in
ambient noise levels in the project vicinity above levels existing without the project and would
exceed nighttime stationary noise level standards. As a result, project-generated operational
noise levels for Site B would be significant.

The Program EIR prescribed Mitigation Measure NOISE-3: Employ Noise-reducing Methods
during Operations to reduce impacts to a less-than-significant level. This mitigation measure has
been modified to ensure that operational impacts associated with the Proposed Project would
comply with the County’s Municipal Code and the City’s Code of Ordinances noise standards,
reducing unmitigated noise levels from 71 dBA at 23 feet to 48 dBA at 30 feet. Therefore, with
implementation of Mitigation Measure NOISE-2 (Employ Noise-reducing Methods during
Operations at Site B), this impact would be less than significant. This measure would not
apply to Site A, where project impacts would be less than significant.

As such, the City finds that changes or alterations have been incorporated into the project which
avoid or substantially lessen the significant effect on the environment.

Supporting Evidence:
This potentially significant effect can be reduced to a less-than-significant level by incorporating
the following mitigation measures identified in the Program EIR:

Mitigation Measure NOISE-2: Employ Noise-reducing Methods during Operations at Site B.
The City shall implement noise-reducing methods so that noise from well operations at Site B,
located at the corner of McHenry Avenue and Stewart Road, does not exceed County noise-level
standards at adjacent residences. Measures to be implemented shall include the following:

Generator

1. Project specifications shall include generator sound level limits of 73 dBA at 23 feet, similar
to those at the City’s Well 62 facility.

2. Noise control specifications for the generator set shall include a sound-attenuated enclosure
for the pump and a sound wall within the facility wall. Specifications for the pump enclosure
and sound wall are prescribed in item 5 below.

3. Routine testing of the generator shall be performed during daytime hours, between 10 a.m.
and 5 p.m., when background sound levels are highest, to minimize potential noise impacts.

4. Obtain the services of a qualified acoustical consultant to conduct project-related
operational noise measurements at sensitive receptor locations adjacent to the Proposed
Project site to ensure that noise-reducing measures comply with applicable codes. If noise
measurements do not comply with applicable codes, additional noise reduction measures should be designed and incorporated.

With these measures, no additional sound reduction would be required to reduce sound levels due to the generator set.

**Pump Enclosure and Sound Wall**

5. The pump enclosure shall be designed to the following specifications to ensure operational sound levels are reduced below County standards:

   a. Install a modular sound wall with an optional removable roof adjacent to the pump. The sound-absorptive modular barrier system shall be installed along the west edge of the pump base to a height of at least 10 feet above grade. The barrier system will wrap around the north and south sides of the pump to create a three-walled system with integrated sound absorption. In general, acoustical barriers perform best when close to the noise source. Acceptable products include the following or an approved equivalent: Kinetics Noiseblock Barrier Panel System, Noise Barriers LLC QuietLine Barrier Walls, Sound Fighter Systems LSE.

   b. Include an insulated sheet metal shroud around the pump motor and shaft. Construct the sheet metal shroud to block the line of sight to the motor ventilation openings. Construction materials shall include exterior-grade sheet metal used for heating, ventilation, and air conditioning (HVAC) ducts and acoustical duct liner.

   c. If the above measures cannot be employed for the pump, one of the following measures will be implemented to meet the County's nighttime noise threshold of 45 dBA:

      i. Install a submersible pump that would place the motor under water and virtually eliminate the sound source.

      ii. Increase the height of the equipment yard sound wall above 12 feet. Based on the noise analysis, increasing the equipment yard wall height to 13 feet would result in an additional 2 dBA of attenuation and a predicted sound level of 45 dBA. A 14-foot-tall wall could reduce sound levels by an additional 1 dBA.

      iii. Construct a barrier adjacent to the motor with a removable roof barrier directly over the motor. This secondary barrier directly adjacent to the pump motor on the west side would effectively reduce sound levels below the nighttime noise threshold. The detachable roof would still provide access to the motor for servicing and removal.

The barrier adjacent to the motor shall be designed to the following specifications to ensure operational sound levels would be reduced below County standards:

- The barrier shall be constructed around the equipment within the wall surrounding the facility.
• The barrier shall weigh a minimum of 4 pounds per square foot. Painted and sealed concrete block easily meets this weight requirement.

• The barrier shall be continuous along its length and width with no gaps in the construction, including at the ground. The equipment yard pad shall be sloped such that weeping holes are only needed on the north and east sides of the facility.

iv. Construct an insulated sheet metal shroud around the motor and shaft. This metal shroud would accommodate air circulation requirements for the motor, but would divert sound energy away from the motor openings and base near the shaft. Sound energy would be attenuated by sound-absorbing material within the metal shroud.
B. FINDINGS SUPPORTING REJECTION OF ALTERNATIVES

The final Project EIR discussed and evaluated a range of alternatives as required by CEQA Guidelines section 15126.6. In order to reject an alternative, the City must find one or more of the following. Only one grounds is needed to support rejection of each alternative. This is a summary of the grounds for rejecting the alternatives. The evidence supporting these findings is found in the record as a whole:

(1) specific economic, legal, social, technological, or other considerations, including considerations for the provision of employment opportunities for highly trained workers, make the alternative infeasible; (2) the alternative does not meet the project objectives; and/or (3) the alternative will not avoid or substantially lessen the significant environmental effects of the Project.

Following are the findings supporting rejection of each of the alternatives.

No Program Alternative.
CEQA requires analysis of the No Project Alternative. Under this alternative, no new water supply infrastructure would be constructed.

Finding for rejection:
This alternative fails to meet the basic objectives of the proposed Project.

Supporting Evidence:
Under this alternative, existing system deficiencies would continue to exist, and new development would be constrained by lack of water supply infrastructure. This alternative would not meet the basic objectives of the Proposed Project, namely, to correct existing deficiencies in the Del Rio water system to meet design pressure and volume storage requirements identified in the 2010 Water System Engineer's Report; ensure sufficient system pressure to provide firefighting flow capacity; and improve water system operational flexibility and reliability in the Del Rio service area. For these reasons, this alternative is rejected.

Alternative 1 – Construct at Existing City Well Locations.
The City currently owns property and operates groundwater wells at three locations in the Del Rio service area:
• Well 289 located on Beltis Drive on the east side of Del Rio,
• Well 271 located on Country Club Drive and Del Rio Avenue on the southwest side of Del Rio, and
• Well 282 on Hillcrest Drive on the west side of Del Rio.

Under this alternative, in lieu of purchasing new property for the proposed wells and tank, the City would design the proposed new facilities to fit within their existing well properties.

Finding for rejection:
Specific economic, legal, social, technological, or other considerations make infeasible this alternative. Specifically, size and location of existing well sites are not large enough to safely and reliably accommodate a replacement well and tank of a size sufficient to meet Project objectives. This alternative would not meet the objectives of the Project. In addition, this alternative would result in greater aesthetics, noise and air quality impacts because more residential sensitive receptors are located adjacent to the existing well sites compared to the sites in the Proposed Project. For these reasons, this alternative is rejected.
Supporting Evidence:
The alternative would not accommodate system pressure demands and supply reliability needs for firefighting and operational reliability. Existing Well 271 is located on a parcel that is not large enough to install a replacement well.

The Del Rio water system has limited water supply, so Well 271 needs to remain operational until its replacement is constructed and permitted. This alternative requires Well 271 to be non-operational for a period of time which would create unacceptable deficiencies in providing needed water supply by exacerbate existing deficiencies. The City has considered relocating the well to a nearby parcel, but no land was available for sale in that area. Well 289 is on a small, irregularly shaped parcel, which would limit the diameter of the proposed tank and the resulting tank would be too small to meet the project objectives of reliability and flexibility of water supply. Alternative 1 would also expose more residential sensitive receptors to aesthetic, air quality and noise-related impacts than the Proposed Project.

Alternative 3. Connect to the City's Supply System
Under this alternative, the City would construct a 3-mile pipeline to directly connect the Del Rio community to the City's water supply system. The pipeline would extend along the existing railroad track easement from the northern border of the City's limits north to St. John Road and Ladd Road, where the pipeline would connect to existing transmission pipes that serve the Del Rio community. The pipeline would cross two Modesto Irrigation District canals and two streets. Booster pump stations may be needed to transfer water from the City's system north to Del Rio.

Finding for rejection:
Specific economic, legal, social, technological, or other considerations make infeasible this alternative. This alternative would not meet project objectives. This alternative could also result in greater environmental impacts than the proposed Project. Specifically, more residential sensitive receptors would be exposed to construction-related noise impacts, biological resources, water supply and cultural resources impacts could be greater than the Proposed Project. This alternative would also not meet the basic project objectives to correct existing water system deficiencies, which could be significantly delayed during the approvals, permitting and property/easement acquisition process. For these reasons, this alternative is rejected.

Supporting Evidence:
The ability of the City to obtain the necessary approvals, including approval the Modesto Irrigation District and Stanislaus County, and acquire the necessary encroachment agreements and/or property and/or right-of-way is central to the feasibility of this alternative. The economic, legal and other constraints on obtaining these approvals and agreements make this alternative infeasible. The lengthy timeframe and uncertainty of obtaining the approvals from other agencies required for this alternative creates an unacceptable delay in addressing existing deficiencies and creates a very high likelihood that the project objectives will not be successfully accomplished. The costs of this alternative are substantially more expensive than the proposed Project and, therefore, it is economically infeasible.

This alternative also would not meet project objectives because it would not reduce water supply impacts and deficiencies, but rather would displace them elsewhere within the service area. The alternative also would not substantially reduce some of the significant impacts associated with the project. Similar amounts of GHG emissions would be generated compared
to the Proposed Project, more residential sensitive receptors near the pipeline alignment would be exposed to construction-related noise impacts, and other environmental impacts, such as biological resources, water supply, and cultural resources could be greater than the Proposed Project.

Furthermore, obtaining the necessary property/easements and agreements and permits to implement this alternative would potentially delay the improvements described in the project. Such delay is unacceptable when the specific legal considerations and existing system deficiencies are considered. For all these reasons, this alternative is rejected.

2852216.1
EXHIBIT "B"

STATEMENT OF OVER RIDING CONSIDERATIONS
STATEMENT OF OVERRIDING CONSIDERATIONS

Pursuant to Public Resources Code Section 21081 and Section 15093 of the State CEQA Guidelines (14 California Code of Regulations 15000, et seq.), the City of Modesto cannot approve a project for which an Environmental Impact Report (EIR) has been certified which identifies significant effects on the environment unless it adopts a statement of overriding considerations that finds that specific overriding economic, legal, social, technological, or other benefits of the project outweigh its significant effects on the environment. The City finds that any one of the benefits identified below are sufficient to outweigh the significant environmental effects of the Project.

A. SIGNIFICANT AND UNAVOIDABLE IMPACTS

The following significant impacts have been identified for which no mitigation is available that would reduce the impact to a less-than-significant level:

- Impact AIR-7: Cumulative Impact on Air Quality
- Impact GHG-1: Generate Substantial GHG Emissions, Either Directly or Indirectly, from Project Construction, Land Use Changes, and Operation
- Impact GHG-2: Potential for Conflict with Applicable Plans, Policies or Regulations Adopted for the Purpose of Reducing Emissions of GHGs
- Impact GHG-3: Cumulative GHG Impact
- Impact GRW-4: Cumulative Contribution to Chronic Overdraft of Groundwater Subbasin

The following impacts relevant to the Del Rio Tank and Wells Project were previously identified as significant and unavoidable in the Program EIR (City of Modesto 2010):

- Impact CUM-3: Emissions of Greenhouse Gases
- Impact CUM-4: Result in a Cumulatively Considerable Net Increase of Any Criteria Pollutant for which the Program Region is in Nonattainment under an Applicable Federal or State Ambient Air Quality Standard

B. STATEMENT OF OVERRIDING CONSIDERATIONS

The City Council has determined that the Del Rio Tank and Wells Project EIR should be approved and that any remaining unmitigated environmental impacts attributable to the Proposed Project are outweighed by the following specific benefits:

i. The Proposed Project will correct existing deficiencies in the Del Rio water system to meet design pressure and volume storage requirements identified in the City of Modesto 2010 Water System Engineer’s Report;

ii. Ensure sufficient system pressure to provide firefighting flow capacity;

iii. Improve water system operational flexibility and reliability; and

iv. The Project accomplishes the benefits identified in Items i, ii and iii above at a cost which is within budgetary constraints and acceptable to the City.
City of Modesto Utilities Department

Draft Environmental Impact Report
Del Rio Tank and Wells Project
Stanislaus County, California

Volume 1: Draft EIR Chapters 1-14

November 2016

State Clearinghouse Number: 2015072055; EA/UTL No. 2015-05
City of Modesto Utilities Department

Draft Environmental Impact Report
Del Rio Tank and Wells Project
Stanislaus County, California

Volume 1: Draft EIR Chapters 1-14

State Clearinghouse Number: 2015072055
EA/UTL No. 2015-05

Prepared for: City of Modesto Utilities Department
P.O. Box 642 (1010 Tenth Street)
Modesto, CA 95353

Prepared by: Horizon Water and Environment, LLC
180 Grand Avenue, Suite 1405
Oakland CA 94612

Contact: Michael Stevenson
(510) 986-1852

November 2016
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<th>Full Form</th>
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<tbody>
<tr>
<td>AB</td>
<td>Assembly Bill</td>
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<tr>
<td>ADT</td>
<td>average daily traffic</td>
</tr>
<tr>
<td>AEC</td>
<td>Acoustical Engineering Consultants</td>
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<tr>
<td>AFY</td>
<td>acre-feet per year</td>
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<tr>
<td>AQAP</td>
<td>Air Quality Attainment Plan</td>
</tr>
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<td>ATCM</td>
<td>airborne toxic control measure</td>
</tr>
<tr>
<td>AWWA</td>
<td>American Water Works Association</td>
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<td>BACT</td>
<td>Best Available Control Technology</td>
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<td>Basin</td>
<td>San Joaquin Valley Air Basin</td>
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<td>Water Quality Control Plan</td>
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<td>BAU</td>
<td>business as usual</td>
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<tr>
<td>bgs</td>
<td>below ground surface</td>
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<td>BMO</td>
<td>basin management objective</td>
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<td>Biological Opinion</td>
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<td>B.P.</td>
<td>Before Present</td>
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<td>Best Performance Standards</td>
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<td>California Emission Estimator Model</td>
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<td>CAP</td>
<td>climate action plan</td>
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<td>California Air Resources Board</td>
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<td>Central California Information Center</td>
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<td>California Department of Fish and Game</td>
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<td>CDFW</td>
<td>California Department of Fish and Wildlife</td>
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<tr>
<td>CDP</td>
<td>census-designated place</td>
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<td>CEQA</td>
<td>California Environmental Quality Act</td>
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<tr>
<td>CESA</td>
<td>California Endangered Species Act</td>
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<td>City</td>
<td>City of Modesto</td>
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<td>CFR</td>
<td>Code of Federal Regulations</td>
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<td>CHABA</td>
<td>Committee of Hearing, Bio Acoustics, and Bio Mechanics</td>
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<td>CNDBDB</td>
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<td>CNEL</td>
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<td>CNPS</td>
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<td>CO</td>
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<td>CO₂e</td>
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### Acronyms and Abbreviations

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<td>California Register of Historical Resources</td>
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<td>CRPR</td>
<td>California Rare Plant Rank</td>
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<td>CWA</td>
<td>Clean Water Act</td>
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<tr>
<td>D</td>
<td>decibels</td>
</tr>
<tr>
<td>dB</td>
<td>A-weighted decibels</td>
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<tr>
<td>dBA</td>
<td>draft environmental impact report</td>
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<td>DEIR</td>
<td>diesel particulate matter</td>
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<td>DPM</td>
<td>California Department of Parks and Recreation</td>
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<td>DPR</td>
<td>distinct population segment</td>
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<td>DPS</td>
<td>California Department of Water Resources</td>
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<td>environmental impact report</td>
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<td>G</td>
<td>Greenhouse gas</td>
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<tr>
<td>GHG</td>
<td>Groundwater Information Center</td>
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<tr>
<td>GIC</td>
<td>gallons per minute</td>
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<td>gpm</td>
<td>Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA, prepared by San Joaquin Valley Air Pollution Control District</td>
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<tr>
<td>H</td>
<td>hydrogen sulfide</td>
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<td>H,S</td>
<td>habitat conservation plan</td>
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<tr>
<td>HCP</td>
<td>horsepower</td>
</tr>
<tr>
<td>hp</td>
<td>hour</td>
</tr>
<tr>
<td>hr</td>
<td>heating, ventilation, and air conditioning</td>
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<tr>
<td>HVAC</td>
<td>inches per second</td>
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<tr>
<td>in/sec</td>
<td>Information for Planning and Conservation</td>
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<td>IPaC</td>
<td>Integrated Regional Groundwater Management Plan</td>
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<tr>
<td>IRGMP</td>
<td>horizontal hydraulic conductivity</td>
</tr>
<tr>
<td>K</td>
<td>kilovolt-ampere</td>
</tr>
<tr>
<td>kVA</td>
<td>kilowatt</td>
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<td>kW</td>
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Del Rio Tank and Wells Project Draft Environmental Impact Report
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<tr>
<th>Acronym</th>
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<tbody>
<tr>
<td>LDL</td>
<td>Larson Davis Laboratories</td>
</tr>
<tr>
<td>Ld_{dn}</td>
<td>day-night average sound level</td>
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<tr>
<td>LED</td>
<td>light-emitting diode</td>
</tr>
<tr>
<td>L_{eq}</td>
<td>average noise level</td>
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<tr>
<td>LID</td>
<td>low impact development</td>
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<tr>
<td>L_{max}</td>
<td>minimum instantaneous noise level</td>
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<tr>
<td>L_{min}</td>
<td>peak noise level</td>
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<tr>
<td>L_{n}</td>
<td>noise level exceeded n percent of a specific period of time</td>
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<tr>
<td>MAC</td>
<td>Municipal Advisory Council</td>
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<tr>
<td>MBTA</td>
<td>Migratory Bird Treaty Act</td>
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<tr>
<td>MEI</td>
<td>Maximally Exposed Individual</td>
</tr>
<tr>
<td>MLD</td>
<td>Most Likely Descendent</td>
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<tr>
<td>MMRP</td>
<td>Mitigation Monitoring and Reporting Program</td>
</tr>
<tr>
<td>mm/sec</td>
<td>millimeters per second</td>
</tr>
<tr>
<td>msl</td>
<td>mean sea level</td>
</tr>
<tr>
<td>MT CO_{2}e</td>
<td>metric tons of carbon dioxide equivalent</td>
</tr>
<tr>
<td>NAAQS</td>
<td>National Ambient Air Quality Standards</td>
</tr>
<tr>
<td>NAHC</td>
<td>Native American Heritage Commission</td>
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<tr>
<td>NHPA</td>
<td>National Historic Preservation Act</td>
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<td>National Highway Traffic Safety Administration</td>
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<td>NMFS</td>
<td>National Marine Fisheries Service</td>
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<td>NO_{2}</td>
<td>nitrogen dioxide</td>
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<tr>
<td>NOP</td>
<td>Notice of Preparation</td>
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<tr>
<td>NO_{x}</td>
<td>oxides of nitrogen</td>
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<td>NPDES</td>
<td>National Pollutant Discharge Elimination System</td>
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<td>NRHP</td>
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<td>O_{3}</td>
<td>ozone</td>
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<td>OBD</td>
<td>on-board diagnostic</td>
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<td>Governor's Office of Planning and Research</td>
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<td>Occupational Safety and Health Administration</td>
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<td>PERP</td>
<td>Portable Equipment Registration Program</td>
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<td>PL</td>
<td>Public Law</td>
</tr>
<tr>
<td>PM</td>
<td>particulate matter</td>
</tr>
<tr>
<td>PM_{2.5}</td>
<td>fine particulate matter less than 2.5 micrometers in diameter</td>
</tr>
<tr>
<td>PM_{10}</td>
<td>particulate matter less than 10 micrometers in diameter</td>
</tr>
<tr>
<td>ppm</td>
<td>parts per million</td>
</tr>
<tr>
<td>PPV</td>
<td>peak particle velocity</td>
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<td>PRC</td>
<td>Public Resources Code</td>
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<td>Acronym</td>
<td>Definition</td>
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<td>Program EIR</td>
<td>City of Modesto 2010 Water Service Engineer’s Report Program EIR</td>
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<td>Proposed Project</td>
<td>City of Modesto Del Rio Tank and Wells Project</td>
</tr>
<tr>
<td>PST</td>
<td>Pacific Standard Time</td>
</tr>
<tr>
<td>PVC</td>
<td>polyvinyl chloride</td>
</tr>
<tr>
<td>R</td>
<td>root mean square</td>
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<td>RMS</td>
<td>root mean square</td>
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EXECUTIVE SUMMARY

Introduction

This Proposed Project was previously identified in the City’s Water System Engineer’s Report (WSER) Program EIR (State Clearinghouse No. 2008092095) (City of Modesto 2010). The WSER Program EIR is incorporated into this document by reference and is available for review at the City’s Public Works Department Office located at 1010 Tenth Street #4600, Modesto, CA 95354. This DEIR is tiered from the Program EIR, pursuant to California Environmental Quality Act (CEQA) Guidelines Sections 15168 and 15152, as described further in Section 1.1.1, below. This document was prepared pursuant to the requirements of CEQA (Public Resources Code [PRC] Section 21000 et seq., as amended) and the CEQA Guidelines (Title 14 California Code of Regulations [CCR] Section 15000 et seq.).

Proposed Project Purpose and Objectives

The City of Modesto provides water service to the community of Del Rio. The Del Rio water system currently requires a new storage tank (and associated pump station), well, replacement well, backup generators, and pipelines to correct existing supply deficiencies. The existing Del Rio water system does not meet certain design pressure and storage volume requirements identified in the 2010 Water System Engineer’s Report for water supply and fire-flow demand. The existing Del Rio water system also is not sufficient to supply anticipated future growth in the Del Rio area. The City intends to decommission one of its Del Rio water system wells (Well 271) when the new replacement well is brought online. The future Del Rio service area will include additional acreage to the north, east, and southwest. According to the Del Rio Community Plan, “future planned development land use” is proposed for the northwestern and eastern portions of the service area, while development in the southwestern area will be residential (Stanislaus County 1992). Full buildout of the service area will require additional pipelines and pumping capacity, as identified for the Proposed Project, to provide adequate water service to meet the anticipated demand.

The objectives of the Proposed Project are as follows:

- Correct existing deficiencies in the Del Rio water system to meet design pressure and volume storage requirements identified in the 2010 Water System Engineer’s Report;
- Ensure sufficient system pressure to provide firefighting flow capacity;
- Improve water system operational flexibility and reliability; and
- Allow for additional water supply and storage volume to accommodate anticipated future growth in the Del Rio area.
Proposed Project Location

The Proposed Project is located in the census-designated place of Del Rio in Stanislaus County. Del Rio is located approximately 2 miles north of the City’s sphere-of-influence boundary. The Proposed Project would involve activities at two separate sites within Del Rio: (1) Site A, southeast of the intersection of Ladd Road and St. John Road on APNs 004-077-018 and 004-077-019, and (2) Site B, at the northwest corner of McHenry Avenue and Stewart Road on the southeastern-most portion of APN 004-102-003. Figure ES-1 shows the locations of the Proposed Project sites.

Site A consists of two parcels owned by the City of Modesto, totaling approximately 4.0 acres. The site is bounded by a Modesto Irrigation District canal on the south, agricultural and residential sites on the east, and Union Pacific railroad tracks on the west. The northern portion of the site fronts Ladd Road. The site is currently occupied by a single-family residence, garage, and out-buildings. The remainder of the site consists of mostly open land with a few trees, weeds, and grass. The residence has a water well and septic system. All structures on the site, as well as the well and septic system, are to be abandoned and removed. Four existing trees would be retained on site. Figure ES-2 shows the proposed facilities at Site A.

Site B encompasses 0.4 acre on APN 004-102-003, currently owned by a private landowner (Arnold W. Setliff et al. Trust). The City is in the process of acquiring approximately 0.52 acre of the much larger 82.4-acre parcel, and would dedicate 0.12 acre to Stanislaus County as right-of-way for McHenry Avenue. The surrounding land uses adjacent to this parcel include single-family residences and outbuildings to the west and south, agricultural parcels to the north and east, and a fruit stand to the southeast. The site is currently vacant and undeveloped except for a few power and communication poles, a large oak tree, and a few shrubs. The oak tree would be retained on site. Figure ES-3 shows the proposed facilities at Site B.
Figure ES-1: Project Location

Source: Horizon Water and Environment, Google Earth
Figure ES-2: Proposed Site A Facilities

Source: Northstar Engineering Group, Inc.; Google Earth
Figure ES-3: Proposed Site B Facilities
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Proposed Project

The Proposed Project involves the construction and operation of water wells, a storage tank, and associated distribution facilities. The Proposed Project would develop a total of approximately 4.4 acres (approximately 190,000 square feet).

Site A – Ladd Road Tank and Well

The 2010 Program EIR included evaluation of a proposed tank and pump station on a large parcel of land north of McHenry Avenue and Stewart Road. As the project developed, no land was available for sale in that area. The City then considered alternate locations, one of which was 6520 Carver Road, but was unable to complete the purchase of land in those alternate locations. On March 13, 2012, by Resolution 2012-101, City Council approved the purchase of two parcels at 718 Ladd Road.

Site A, located at 718 Ladd Road, would encompass approximately 4 acres. The project facilities at Site A would consist of an above-ground water storage tank, production water well and pump, monitoring well, standby generator, and booster pump station. Site improvements would include a small parking and access area, fencing (1-inch chain-link fencing), a retention basin, and low-maintenance landscaping. In addition, a 2,500-foot-long, 16-inch-diameter transmission main would be installed to connect the proposed well to the City’s existing water distribution system. Figure ES-2 provides a site plan of the Site A facilities.

Water Storage Tank: As proposed, the water tank would store approximately 250,000 gallons (0.25 million gallons) of water. The purpose of the tank is to store sufficient water to meet peak hour and fire flow demands. The tank would stand a maximum of 20 feet above grade and would be approximately 55 feet in diameter. The footprint area of the tank would be approximately 173 square feet. The welded steel water tank would have a non-reflective, painted, earth-tone exterior and a sloped roof. The tank would be constructed on a circular concrete pad. The tank would be constructed in accordance with the current California Building Code and American Water Works Association standards.

Pump Station Building: The pump station building would house the production well, booster pumps, disinfection equipment, ancillary valves and flow meters, and electrical equipment. The building would include three separate rooms: a pump station room, an electrical room, and a calcium hypochlorite room. The building would be constructed of masonry blocks and would be approximately 40 feet wide by 50.5 feet long and 21 feet tall. The pump station building would have stucco finish and an earth-tone exterior.

The building would have various sound attenuation features, including wall panels, fans, and louvers to reduce noise related to the operation of equipment removing heat generated within the pump and electrical rooms. Metal wall panels would achieve a noise reduction coefficient of approximately 0.90. The pump station building would be ventilated by one sidewall-mounted exhaust fan with a capacity of 4,500 cubic feet per minute. Exhaust fans would have the lowest possible exhaust fan noise measurement unit (called a sone). Ducting in the building would also be designed to minimize noise. Sound caused by an operating louver is proportional to the air velocity through the louver; the intake and exhaust pump station louvers would be sized to minimize air flow noise.
**Production Well:** The production groundwater well would be drilled to a minimum depth of 300 feet and a maximum depth of 600 feet deep, and would have a maximum yield of 1,000 gallons per minute (gpm). The well is expected to operate during off-peak demand periods to fill the proposed adjacent storage tank and during maximum demand conditions (typically a 1- to 2-hour diurnal pattern). While the theoretical annual maximum yield of the new well would be 525.6 million gallons (based on operations of 1,000 gpm, 24 hours per day, 365 days per year), this theoretical maximum exceeds the annual production for the entire Del Rio service area of approximately 207 million gallons for the previous 5 years. The well pump would be sized to meet peak demand conditions; however, pumping is expected to occur for an annual average of 8 hours per day (not 24 hours per day), with an anticipated maximum annual yield of about 175 million gallons, which is substantially less than the theoretical annual maximum yield of the new well. The well would be housed inside the pump station building.

**Monitoring Well:** A monitoring well would be installed on site to monitor groundwater levels in relation to operation of the production well and to calibrate the City's groundwater flow model. The monitoring well would be installed within a 50-foot radius of the production well and would be drilled to a similar depth (i.e., 600 feet deep). The monitoring well would include three separate "nested" wells installed to different depths within the same borehole. Each nested well would be equipped with a pressure transducer to monitor the groundwater level. The three nested wells would be installed to measure groundwater levels in the shallow (100-265 feet deep), intermediate (265-360 feet deep), and deep (360-600 feet deep) zones of the aquifer. The monitoring well would not produce any water and would only be used to collect data on groundwater levels.

**Booster Pumps:** The Proposed Project includes up to four 60-horsepower (hp) electric booster pumps. Two booster pumps would be on duty, one would be on standby, and the fourth would be available to serve future buildout demand. The pump capacity for each of these booster pumps would be 850 gpm, with firm capacity of 1,700 gpm. The booster pumps would be housed inside the pump station building.

During normal operation, the well pump would fill the storage tank at a maximum rate of 1,000 gpm, controlled by a variable-frequency drive and sensors in the tank. The booster pumps would be separate from the well pump and would be designed to provide a maximum flow from the storage tank to the distribution system of 1,700 gpm. The booster pumps would deliver supply to the distribution system to meet peak-hour and fire-flow demands. The booster pumps would be designed and operated to discharge water from the tank at a much faster rate than the well can fill the tank to meet peak and fire-flow demands, as needed. When the booster pumps are running at maximum flow, water from the production well may simultaneously fill the storage tank. The tank, when full, would drain in less than 6 hours (357 minutes) under maximum flow conditions.

An additional booster pump would be installed in the pump station at full buildout. This fourth booster pump would deliver an additional 700 gpm of flow from the storage tank to the transmission pipelines. The additional booster pump would increase the total delivery of stored water from the tank to the distribution lines to 2,400 gpm in order to meet the estimated peak-hour rate and fire-flow demands for Del Rio's buildout condition. This fourth pump would not result in increased groundwater extraction, only increased flow from the...
storage tank to the transmission pipelines. The impact analysis presented in this EIR includes evaluation of all four booster pumps operating under the full buildout condition.

**Transmission Main:** A 16-inch-diameter transmission main would be constructed from the pump station building on Ladd Road, north along St. John Road, and terminating at the intersection of St. John Road and Country Club Drive. The transmission main would extend for approximately 2,500 linear feet and would be installed in accordance with Stanislaus County Department of Public Works trenching requirements, which would include a 36-inch-wide trench and a 60-inch-wide trench patch. A portion of the transmission main (approximately 65 feet) would be installed by jack and bore underneath an existing rail crossing on Ladd Road, just east of St. John Road.

**Stormwater Retention Basin:** Site runoff would be captured in an on-site retention basin that would be designed to contain the 50-year storm event and the full capacity of the storage tank, in the event of a tank rupture. The retention basin would be located on the southern portion of the parcel and would encompass approximately 1.3 acres with a 1.4-acre-foot holding capacity. The basin would be designed to hold water for a maximum of 48 hours based on the assumed percolation rate of 0.6 gallon/square foot per hour.

Surface runoff north to Ladd Road would be limited to the entrance driveway. Rock-lined drainage swales with shallow rock wells at one end would be installed within the Ladd Road right-of-way to collect runoff from the northern portion of Site A. A drainage swale with periodic inlets would be installed down the center of the site to convey surface runoff to the retention basin. The site would be graded to slope toward the swale and retention basin. The stormwater collection system would also convey tank overflow, drain water, and well wastewater to the retention basin. Slopes would be stabilized with hydroseeding or planted with drought-tolerant plants.

**Site Security and Access:** The entire site (i.e., within the parcel boundary) would be enclosed within an 8-foot-tall concrete masonry wall or wrought-iron fence topped with no-climb points and three strands of barbed wire along the Ladd Road frontage. Ladd Road frontage would include 9-foot-tall vehicular and pedestrian access gates. The rest of the site would be enclosed by 8-foot-tall, 1-inch chain-link fence with security wire. The wrought-iron fencing would be placed approximately 65 feet from the right-of-way line.

A new 25-foot-wide driveway on Ladd Road would provide site access. The driveway would have a 20-foot-wide, motorized sliding gate with an electronic key card reader or keypad for access. A 3-foot-wide metal pedestrian gate would be provided alongside the sliding vehicular gate.

Vehicular access (driveway) and parking areas within the site would be paved with Portland cement concrete or asphaltic concrete. Other portions of the site would be covered with low-maintenance landscaping or gravel.

Security lighting would be installed throughout the site. Exterior lighting would be elevated on poles using light-emitting diodes (LEDs) and would be directed toward the interior of the site rather than off site, to the extent feasible, to reduce light or glare. Lights on the poles would be equipped with motion sensors and would turn on only if motion were detected in
the vicinity of the building and tank. Security cameras and building alarms would also be installed on site.

**Landscaping:** Landscaping at Site A would include vegetation to screen the fence, tank, and other facilities from views from adjacent properties and from Ladd Road. The plant selections would be arranged in a tiered format with low, ground-hugging shrubs in the foreground, smaller shrubs in the middle tier, and taller screening trees for the backdrop. Plant selections would be chosen based on their proven drought tolerance, survivability, hardiness, and ease of maintenance. The trees would be a mixture of screening conifers, evergreen broadleaf, and smaller flowering deciduous broadleaf. Approximately 70 trees would be planted within an approximately 0.24-acre irrigated area. A vegetated, undulating soil berm on the east side of the site would contribute to a natural aesthetic appeal. An automatic irrigation system for the landscaping would be designed and would adhere to applicable water conserving ordinances. A rain/freeze/thaw shut-off switch for the irrigation system would be installed. The slopes surrounding the stormwater retention basin would also be hydroseeded or planted with drought-tolerant plants to prevent erosion.

**Electricity:** Site A has immediate access to nearby electrical lines served by the local utility provider, Modesto Irrigation District. The total new electrical connected load for the proposed facilities would be approximately 502 kilovolt-amperes (kVA) when all equipment is running (or approximately 755 amperes at 480 volts, 3 phase). However, the average electrical demand load would vary with the number of pumps running and related output with a maximum anticipated connected load of approximately 566 kVA. The project site would include an underground electrical utility extension to connect to the existing Modesto Irrigation District infrastructure.

**Standby Generator:** A standby diesel generator and an above-ground diesel storage tank would be installed on a 10-foot by 20-foot concrete pad within the site. The standby generator would be used as an alternate power source for the Proposed Project facilities as necessary. The estimated capacity of the generator would be approximately 450 kilowatts (kW). The generator would be equipped with critical grade mufflers for the exhaust system and level 2 sound housing to achieve an approximate sound level attenuation to 75 decibels within 30 feet of the unit.

The generator would include a belly tank (an above-ground diesel fuel tank built into the frame of the generator support as part of a packaged unit) that would hold approximately 24 hours of generator fuel supply, which equates to approximately 775 gallons. The diesel storage tank would be housed in accordance with City of Modesto Fire Prevention Department requirements and would comply with Stanislaus County standards, including Spill Prevention, Control and Countermeasures (SPCC), the Uniform Fire Code (UFC), and Occupational Safety and Health Administration (OSHA) requirements, including secondary containment requirements.

**Site B – McHenry Avenue Well**

Site B, located on McHenry Avenue, would encompass approximately 0.4 acre. The facilities at this site would consist of a production well and pump, standby generator, disinfection facilities, monitoring well, transmission pipelines connecting to the City’s existing distribution system down McHenry Avenue, and space for a future treatment unit and
treatment filters. These facilities would be fully enclosed by a 12-foot-tall concrete block wall with a 24-foot-wide vehicular access gate. The site would be accessed from a new driveway off McHenry Avenue; no site access would be provided from Stewart Road. Site improvements would include a concrete pad and paved driveway, well and associated piping, controls, treatment facilities, generator, and appurtenances. Runoff from new impervious surfaces at Site B would be retained on site. Figure 2-3 provides a site plan of the Site B facilities.

**Well and Pump:** The Site B groundwater well would replace the City’s existing Well 271 located on the west side of the Del Rio service area. This well is past its operational life and would be decommissioned upon completion of the Site B well. The new Site B well would be drilled to a minimum depth of 300 feet and a maximum depth of 600 feet, with a maximum yield of 1,000 gpm. Similar to the Site A production well, the Site B well would have a theoretical annual maximum yield of 525.6 million gallons (based on operations of 1,000 gpm, 24 hours per day, 365 days per year); however, the well would not be operated to its full capacity. The well pump would be sized to meet peak demand conditions, with pumping expected to vary throughout the year depending upon system pressure needs. While pumping may vary from as much as 20 hours per day during the summer to as little as 2 hours per day in the winter, pumping is expected to occur for an annual average of 10.8 hours per day, with an anticipated maximum annual yield of approximately 237 million gallons, which is substantially less than the theoretical annual maximum yield of the new well. The well pump would be approximately 200 hp or less and powered by electricity. The pump would require a 300-kW backup generator with a sound-attenuating enclosure. No booster pumps are expected to be needed at Site B. A geotechnical investigation of the site would be completed during the design process.

**Monitoring Well:** Similar to Site A, a monitoring well would be installed at Site B to measure changes in groundwater levels that could occur from operation of the production well. The monitoring well would be installed within a 50-foot radius of the production well and would be drilled to a similar depth (i.e., 600 feet deep). The monitoring well would include three separate “nested” wells installed to different depths within the same borehole. Each nested well would be equipped with a pressure transducer to monitor the groundwater level. The three nested wells would be installed to measure groundwater levels in the shallow (100-265 feet deep), intermediate (265-360 feet deep), and deep (360-600 feet deep) zones of the aquifer. The monitoring well would not produce any water and would only be used to monitor groundwater levels.

**Stormwater Retention Basin:** Site runoff would be captured in a 50-foot by 40-foot temporary retention basin that would be designed to contain the 100-year, 24-hour storm event. The retention basin would be located north of the proposed well site on an adjacent parcel that is currently in private ownership. The basin would encompass approximately 0.15 acre with an 0.08-acre-foot holding capacity. It would be designed to hold water for a maximum of 48 hours, based on the assumed percolation rate of 0.3 gallon/square foot per hour.

Surface runoff east to McHenry Avenue would be limited to the area within the right-of-way. Grading within the right-of-way would include drainage to an existing storm drain inlet. The site would be graded to slope toward the north and the retention basin. The stormwater collection system would also convey well wastewater to the retention basin. Slopes would be stabilized with hydroseeding or planted with drought-tolerant plants.
Transmission Pipeline: A 12-inch-diameter transmission pipeline would be constructed from the well along McHenry Road to connect with existing City distribution pipelines along Stewart Road. The transmission pipeline would run from the well site south for approximately 190 feet under McHenry Road, then west for approximately 760 feet along Stewart Road, terminating at the intersection of Stewart Road and Grove Pointe Way. The pipeline would be installed beneath the road, within the road right-of-way, and in accordance with Stanislaus County Department of Public Works trenching requirements, which would include a 32-inch-wide trench and a 56-inch-wide trench patch.

Standby Generator: A standby diesel generator with a belly tank (an above-ground diesel fuel tank built into the frame of the generator support as part of a packaged unit) would be installed on a 10-foot by 20-foot concrete pad within Site B. The standby generator would be used as an alternate power source for the Proposed Project facilities as necessary. The estimated capacity of the generator would be approximately 450kW. The generator would be equipped with critical grade mufflers for the exhaust system and level 2 sound housing to achieve an approximate sound level attenuation to 75 dB within 30 feet of the unit. The belly tank would hold approximately 24 hours of generator fuel supply, which equates to approximately 775 gallons. The diesel storage tank would be housed in accordance with City of Modesto Fire Prevention Department requirements. Similar to Site A, the generator would include a fuel tank with secondary containment.

Site Security: Security lighting would be installed throughout the site. Exterior lighting would be on poles using LEDs and directed toward the interior of the site, to the extent feasible, to reduce light or glare. Lights on the poles would be equipped with motion sensors and would turn on only if motion were detected in the vicinity of the building and tank. Security cameras and alarms would also be installed on site.

Existing trees, electrical, and communication poles at Site B would remain on site and undisturbed.

Project Construction

Construction Methods

Construction activities for the Proposed Project would include several construction phases, shown in Chapter 2. Additional descriptions of these phases and pieces of equipment are provided below and in Appendix C, Air Quality and Global Climate Change Impacts Evaluation Supporting Documentation. All other phases are assumed not to overlap.

The Proposed Project would be constructed in accordance with standard protocols of the Clean Water Act Section 402 General Construction Permit (State Water Resource Control Board Order No. 2009-0009-DWQ).

Site Preparation and Earthwork: Site preparation activities would include clearing and grubbing; demolition of existing buildings and associated features at Site A; excavation, import, and placement of fill; and compaction. Clearing and grubbing would be conducted using standard excavators, bulldozers, and hand labor.
Demolition activities would be performed at Site A to abandon and remove the existing house, garage, shed, out-buildings, well, and septic system. Abatement of asbestos-containing materials and lead-based materials, if needed, during demolition of existing buildings would be supervised by a contractor certified by the California Occupational Safety and Health Administration and would be conducted in a manner compliant with federal, state, and local regulations. Removal or abandonment of the septic system would be conducted in accordance with local and state regulations to prevent any potential release of or worker exposure to waste material or contaminated soils. The estimated demolition area would be approximately 3,460 square feet. All demolished material and debris, including any hazardous waste, would be disposed of off site at an appropriate location selected by the construction contractor. For the purposes of this analysis, the disposal site is assumed to be located within 20 miles (maximum 1 hour of travel time) from Site A.

To the extent feasible, excavated soil would be reused on site. If required, fill would be delivered to the project sites by conventional haul trucks with a capacity of up to 20 cubic yards per load. Fill material would be placed with an excavator and compacted with a compactor/roller. Site preparation activities at Sites A and B are divided into three phases in Chapter 2 (demolition, site preparation, and grading) for the purpose of estimating worker trips and construction-related trips.

**Pipelines:** New pipelines would be installed beneath existing streets and within the project sites. The general process for pipeline installation involves digging a trench, installing the pipe, and backfilling the trench ("cut and cover"). In existing streets, the cut-and-cover method involves removing the asphalt, roadway base, and underlying soil; all materials are replaced at the completion of the process. The depth and width of the trenches would vary depending on the size of the pipe and in consideration of other existing utility lines; however, it is anticipated that the minimum depth for the transmission main would be 42 inches. Construction crews may close one lane of traffic temporarily during pipeline installation. In general, the maximum length of an open trench would be the distance necessary to accommodate the amount of pipe that can be laid in one day, typically 200-400 feet. The approximate width of the construction area for installation of the pipeline would be 20 feet and would be within the road right-of-way boundaries.

In addition to the cut-and-cover method, approximately 65 feet of the Site A transmission main would be installed by the jack-and-bore method. The jack-and-bore method involves directional drilling to reduce disturbance to the ground surface and disruption to other facilities or surface features. The jack-and-bore method involves use of cutting heads or hydraulic jacks to install pipe from a launch (bore) pit to a receiving pit. Slurry, typically bentonite (inert clay) and water, is used as a lubricant for tunneling and pipe installation.

**Buildings and Structures:** Construction of buildings and structures would generally include the following activities:

- concrete delivery, forming, and placement and rebar placement;
- structural steel work (assembly and welding);
- installation of electrical/instrumentation equipment;
- masonry concrete wall construction; and
installation of mechanical equipment and accessories.

Following construction of the buildings, architectural coating of the building/structures, and final site restoration (shown as paving in Table 2-1) would be performed. The final step in the construction process is to restore the ground surface, which generally involves paving, installing landscaping, or installing erosion controls, as necessary.

**Staging Areas:** Staging areas would be needed to store pipe, construction equipment, and other construction-related materials. Staging areas would likely be established at Sites A and B or along the pipeline routes where space is available within the road right-of-way or in vacant lots. Staging areas would avoid areas of sensitive biological habitat. The City would reserve the authority to approve the locations of the staging areas as part of the contracts for construction of the facilities.

**Construction Schedule**

Construction of the Proposed Project is anticipated to last for up to approximately 15 months, beginning in 2016 and completing in 2017. Within this timeframe, the majority of construction work that involves use of operating equipment would occur within a 10-month period. Construction activities would generally occur Monday through Friday between 7:00 a.m. and 5:00 p.m., excluding City-observed holidays.

**Project Operations**

Operation of the Proposed Project would primarily involve the operation, inspection, and maintenance of the facilities. The pump stations, storage tank, and wells would be controlled remotely through a Supervisory Control and Data Acquisition (SCADA) system. The facilities would be inspected at least once a week to verify instrument readings, check on the condition of the sites, and maintain equipment.

The City would inspect the water system on an annual basis to determine whether maintenance was needed. Maintenance activities for the storage tank would include periodic cleaning of the tank's interior (with the use of a vacuum system) to maintain capacity and function and occasional recoating of the tank, as needed. Maintenance activities for the wells would include various mechanical tests and meter calibration (with equipment specific to those activities) and general maintenance of treatment systems (e.g., treatment system flushing or regeneration). The City would inspect the wells and pump stations on a regular basis (numerous times during the wet months and less frequently during the remainder of the year) to ensure optimal performance. Maintenance of the pump stations and pipelines would be performed on an as-needed basis.

**Public Involvement Process**

**Scoping Comment Period**

Scoping refers to the process to determine the scope, focus, content, and extent of an EIR. The scoping comment period offers an important opportunity for the public and agencies to review and comment during the early phases of the environmental compliance process. Scoping is initiated when the lead agency issues a Notice of Preparation of an EIR (NOP) announcing the beginning of the EIR process.
A Notice of Preparation (NOP) for the Proposed Project was prepared pursuant to CEQA Guidelines Section 15082 and circulated to the Governor's Office of Planning and Research State Clearinghouse on July 28, 2015. The scoping period continued for 30 days and concluded on August 28, 2015. The NOP presented general background information on the Proposed Project, the scoping process, and the environmental issues to be addressed in the EIR. Approximately 120 copies of the NOP were mailed to a broad range of stakeholders, including state, federal, and local regulatory agencies, jurisdictions, and nonprofit organizations. The NOP is included in this DEIR in Appendix A, Scoping Summary Report.

The City accepted written comments during the 30-day scoping period, July 28 to August 28, 2015. During the scoping period, 11 comment letters were received. These comments were considered in the environmental impact evaluation. Copies of comment letters received during the scoping period are included in Appendix A, Scoping Summary.

**Draft EIR Public Comment Period**

The City has prepared this DEIR, as informed by public and agency input received during the scoping period, to disclose potentially significant environmental impacts associated with the Proposed Project. Where any such impacts are significant, feasible mitigation measures and potentially feasible alternatives that would substantially lessen or avoid such effects are identified and discussed. The public review period provides the public an opportunity to provide input to the lead agency on the DEIR.

The DEIR is currently undergoing public review for a 45-day period. The dates of this period are specified in the Notice of Availability (NOA) of the DEIR. The City will hold a public meeting during the review period; the date, time, and location are also provided in the NOA.

**Submittal of Written Comments**

The City is circulating this DEIR for public review and comment for the period specified in the NOA. As discussed above, the City will host a public meeting during this period. The purpose of public circulation is to provide agencies and interested individuals with opportunities to comment on or express concerns regarding the contents of this DEIR. The date, time, and location for the meeting is provided in the NOA.

Written comments concerning this DEIR can be submitted at the public meeting described above or at any time during the DEIR public review period. All comments must be received by 5:00 p.m. on the final date of public review as identified in the NOA, and directed to the name and address listed below:

Tamorah Bryant, Senior Civil Engineer  
City of Modesto Utilities Department  
P.O. Box 642 (1010 Tenth Street)  
Modesto, CA 95353  
tbryant@modestogov.com

Submittal of written comments via e-mail (Microsoft Word or Adobe PDF format) is preferred. Written comments received in response to this DEIR during the public review period will be addressed in a Response to Comments section of the Final EIR.
Areas of Known Controversy and Issues to Be Resolved

State CEQA Guidelines Section 15123(b) requires that an Executive Summary identify “areas of controversy known to a lead agency including issues raised by agencies and the public.” To date, the following issues have been raised regarding the Proposed Project that may be considered controversial:

- Construction-related impacts on the oak tree at Stewart Road and McHenry Avenue;
- Potential for conflicts with existing irrigation facilities at Sites A and B;
- Concerns about aesthetic impacts on surrounding land uses;
- Impacts on groundwater and existing domestic water wells; and
- Potential growth inducement.

Significant Impacts

This section presents the significant impacts that were identified in the DEIR. This is not a comprehensive discussion of impacts of the Proposed Project; the reader is directed to Table ES-1, Summary of Impacts and Mitigation Measures, at the end of this chapter for additional information. Environmental resource topics with the potential for significant environmental impacts (i.e., those that require mitigation) and that are evaluated in detail in this DEIR are as follows:

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Global Climate Change
- Groundwater
- Land Use
- Noise

Chapters 4 through 11 of this DEIR address each of these environmental resource topics and the impacts of the Proposed Project in more detail.

Significant and Unavoidable Impacts

The following significant impacts have been identified for which no mitigation is available that would reduce the impact to a less-than-significant level:
Executive Summary

- Impact AIR-7: Cumulative Impact on Air Quality
- Impact GHG-2: Potential for Conflict with Applicable Plans, Policies or Regulations Adopted for the Purpose of Reducing Emissions of GHGs
- Impact GRW-4: Cumulative Contribution to Chronic Overdraft of Groundwater Subbasin

The following impacts relevant to the Del Rio Tank and Wells Project were previously identified as significant and unavoidable in the Program EIR (City of Modesto 2010):

- Impact CUM-3: Emissions of Greenhouse Gases
- Impact CUM-4: Result in a Cumulatively Considerable Net Increase of Any Criteria Pollutant for which the Program Region is in Nonattainment under an Applicable Federal or State Ambient Air Quality Standard

Alternatives Considered

The purpose of the alternatives analysis in an EIR is to describe a range of reasonable alternatives to the Proposed Project that could attain most of the objectives of the Proposed Project while reducing or eliminating one or more of the Proposed Project’s significant effects. The alternatives considered must be feasible, meaning that they could be accomplished in a successful manner considering economic, environmental, social, technological, and legal factors.

The following alternatives were considered for the Proposed Project:

- No Project Alternative
- Alternative 1 – Construct at Existing City Well Locations
- Alternative 2 – Connect to the City’s Supply System

In addition, additional alternatives were considered but ultimately dismissed from further analysis for one or more of the following reasons: (1) they would not sufficiently meet the Proposed Project objectives; (2) they were determined to be infeasible; or (3) they would not avoid or substantially reduce one or more significant impacts of the Proposed Project. Refer to Section 12.4, Alternatives Considered and Dismissed, in Chapter 12, Alternatives, for a description of these alternatives.

No Project Alternative

CEQA requires analysis of the No Project Alternative. Under this alternative, no new water supply infrastructure would be constructed. Existing system deficiencies would continue to exist, and new development would be constrained by lack of water supply infrastructure. Where alternative sources of potable water are available, new development might still occur. This alternative would not meet the basic objective of the Proposed Project, namely, to construct capital improvements needed to provide and maintain reliable water service to existing and future customers in the Del Rio service area.
Alternative 1 – Construct at Existing City Well Locations

The City currently owns property and operates groundwater wells at three locations in the Del Rio service area:

- Well 289 located on Beltis Drive on the east side of Del Rio,
- Well 271 on Country Club Drive and Del Rio Avenue on the southwest side of Del Rio, and
- Well 282 on Hillcrest Drive on the west side of Del Rio.

Under this alternative, in lieu of purchasing new property for the proposed wells and tank, the City would design the proposed new facilities to fit within their existing well properties.

Well 271 is located near the country club golf course in a residential area, but the property adjacent to Well 271 is vacant, and additional land could be secured to accommodate a new well and storage tank. Well 271 is currently operating at 50 percent capacity due to the well’s old age. Under this alternative, this well would be replaced onsite with a new well.

Well 289 is located in a residential neighborhood and adjacent to railroad tracks. If additional property could not be secured adjacent to Well 271, the property at Well 289 could accommodate a 0.25-million-gallon storage tank, and the existing well on site could be expanded to meet the City’s pumping needs. The proposed storage tank at this site would likely be smaller in diameter and taller than the tank in the Proposed Project.

Well 282 is located in a residential neighborhood.

This alternative would not require transmission pipelines, because the well sites would already be connected to the existing water distribution system. This alternative would meet all of the project objectives.

Alternative 2 – Connect to the City’s Supply System

Under this alternative, the City would construct a 3-mile pipeline to directly connect the Del Rio community to the City’s water supply system. The pipeline would extend along the existing railroad track easement from the northern border of the City’s limits north to St. John Road and Ladd Road, where the pipeline would connect to existing transmission pipes that serve the Del Rio community. The pipeline would cross two Modesto Irrigation District canals and two streets. Booster pump stations may be needed to transfer water from the City’s system north to Del Rio.

Together with the City’s existing groundwater wells, the new pipeline connection would meet the Proposed Project objectives related to water system pressure and operational flexibility, and would improve water supply reliability particularly during prolonged drought years when groundwater is less reliable. This alternative would utilize the City’s existing water supply sources, including surface water supplies purchased from other water right holders, such as Modesto Irrigation District.
Environmentally Superior Alternative

Because each of the alternatives has fundamentally different characteristics, comparison of their environmental impacts and benefits is not simple. Considering all aspects on balance, the No Project Alternative is considered the environmentally superior alternative as it would avoid all of the environmental impacts associated with implementing the Proposed Project. The CEQA Guidelines require that, if the No Project Alternative is the environmentally superior alternative, the EIR must also identify an environmentally superior alternative among the other alternatives.

Among the other alternatives considered, Alternative 1: Construct at Existing City Well Locations is considered the environmentally superior alternative. This alternative would achieve all the project objectives to a similar degree as the Proposed Project. As described above, more sensitive receptors (residents) are located near the existing City well sites; therefore, this alternative would result in increased impacts on aesthetics, operation-related noise, and air quality because of the greater number of sensitive receptors near the well sites. However, less GHG emissions and construction-related noise impacts would occur because no pipelines would be constructed under this alternative. In summary, Alternative 1 would result in the most reductions in environmental impacts among the alternatives considered.

Summary of Impacts and Levels of Significance

The impacts of the Proposed Project, proposed mitigation, and significance conclusions before and after mitigation are discussed in detail in Chapters 4 through 11 of this DEIR. Table ES-1 summarizes the impacts, mitigation measures, and levels of significance identified in this document.
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## Table ES-1. Summary of Potential Impacts and Mitigation Measures

<table>
<thead>
<tr>
<th>Impact</th>
<th>Level of Significance</th>
<th>Mitigation Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Aesthetics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impact AES-1: Substantial Degradation of the Visual Character or Quality of the Site and its Surroundings from Project Construction</td>
<td>Less than Significant with Mitigation</td>
<td>▪ Mitigation Measure AES-1: Locate Staging Areas Away from Public Areas. ▪ Mitigation Measure AES-2: Screen Staging and Construction Areas.</td>
</tr>
<tr>
<td>Impact AES-2: Long-term Adverse Effects on the Visual Character or Quality of the Site and its Surroundings during Operation</td>
<td>Less than Significant</td>
<td>None required</td>
</tr>
<tr>
<td>Impact AES-3: Permanent Sources of Substantial Light or Glare</td>
<td>Less than Significant</td>
<td>None required</td>
</tr>
<tr>
<td>Impact AES-4: Cumulative Aesthetic Impacts</td>
<td>Less than Significant</td>
<td>None required</td>
</tr>
<tr>
<td><strong>Air Quality</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impact AIR-1: Construction Emissions of Criteria Pollutants and Precursors</td>
<td>Less than Significant</td>
<td>None required</td>
</tr>
<tr>
<td>Impact AIR-2: Local Community Risks and Hazards During Construction</td>
<td>Less than Significant</td>
<td>None required</td>
</tr>
<tr>
<td>Impact AIR-3: Operational Emissions of Criteria Pollutants and Precursors</td>
<td>Less than Significant</td>
<td>None required</td>
</tr>
<tr>
<td>Impact AIR-4: Local Community Risks and Hazards During Operation</td>
<td>Less than Significant</td>
<td>None required</td>
</tr>
<tr>
<td>Impact AIR-5: Odor Emission Generation</td>
<td>Less than Significant</td>
<td>None required</td>
</tr>
<tr>
<td>Impact AIR-6: Consistency with Applicable Air Quality Plans</td>
<td>Less than Significant</td>
<td>None required</td>
</tr>
<tr>
<td>Impact AIR-7: Cumulative Impact on Air Quality</td>
<td>Significant and Unavoidable</td>
<td>None available</td>
</tr>
<tr>
<td><strong>Biological Resources</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impact BIO-1: Construction-related Loss of Occupied Burrowing Owl Habitat</td>
<td>Less than Significant with Mitigation</td>
<td>▪ Mitigation Measure BIO-1: Avoid and Protect Burrowing Owls at Site A.  ▪ Mitigation Measure BIO-2: Compensate for Loss of Burrowing Owl Habitat at Site A.</td>
</tr>
</tbody>
</table>
### Mitigation Measures

<table>
<thead>
<tr>
<th>Impact</th>
<th>Level of Significance</th>
<th>Mitigation Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impact BIO-2: Construction-related Loss of Swainson's Hawk Foraging Habitat</td>
<td>Less than Significant with Mitigation</td>
<td>• Mitigation Measure BIO-3: Compensate for Loss of Swainson's Hawk Foraging Habitat.</td>
</tr>
<tr>
<td>Impact BIO-3: Construction-related Impacts on Nesting Swainson's Hawks</td>
<td>Less than Significant with Mitigation</td>
<td>• Mitigation Measure BIO-4: Conduct Preconstruction Surveys for Swainson's Hawk Nests.</td>
</tr>
</tbody>
</table>
| Impact BIO-4: Construction Disturbance of Tricolored Blackbird and Other Migratory Birds, Including Raptors | Less than Significant with Mitigation | • Mitigation Measure BIO-5: Conduct Preconstruction Surveys for Nesting Birds.  
• Mitigation Measure BIO-6: Avoid and Minimize Impacts on Nesting Raptors and Other Migratory Birds. |
| Impact BIO-5: Disturbance of Roosting Areas for Bats, including Special-status Bat Species | Less than Significant with Mitigation | • Mitigation Measure BIO-7: Protect Bat Colonies. |
| Impact BIO-6: Disturbance to or Displacement of Wildlife from Site Operations | Less than Significant | None required |
| Impact BIO-7: Interference with Wildlife Movement, Established Wildlife Corridors, or the Use of Native Wildlife Nursery Sites | Less than Significant with Mitigation | • Mitigation Measure BIO-1: Avoid and Protect Burrowing Owls at Site A.  
• Mitigation Measure BIO-4: Conduct Preconstruction Surveys for Swainson's Hawk Nests.  
• Mitigation Measure BIO-5: Conduct Preconstruction Surveys for Nesting Birds.  
• Mitigation Measure BIO-6: Avoid and Minimize Impacts on Nesting Raptors and Other Migratory Birds.  
• Mitigation Measure BIO-7: Protect Bat Colonies. |
| Impact BIO-8: Conflict with Local Policies or Ordinances Protecting Biological Resources | Less than Significant with Mitigation | • Mitigation Measure BIO-1: Avoid and Protect Burrowing Owls at Site A.  
• Mitigation Measure BIO-2: Compensate for Loss of Burrowing Owl Habitat at Site A.  
• Mitigation Measure BIO-3: Compensate for Loss of Swainson's Hawk Foraging Habitat.  
• Mitigation Measure BIO-4: Conduct Preconstruction Surveys for Swainson's Hawk Nests. |
## Impact

<table>
<thead>
<tr>
<th>Impact</th>
<th>Level of Significance</th>
<th>Mitigation Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impact BIO-9: Cumulative Biological Resource Impacts</td>
<td>Less than Significant with Mitigation</td>
<td>- Mitigation Measure BIO-1&lt;br&gt;- Mitigation Measure BIO-2&lt;br&gt;- Mitigation Measure BIO-3&lt;br&gt;- Mitigation Measure BIO-4&lt;br&gt;- Mitigation Measure BIO-5&lt;br&gt;- Mitigation Measure BIO-6&lt;br&gt;- Mitigation Measure BIO-7</td>
</tr>
</tbody>
</table>

## Cultural Resources

<table>
<thead>
<tr>
<th>Impact</th>
<th>Level of Significance</th>
<th>Mitigation Measures</th>
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</thead>
<tbody>
<tr>
<td>Impact CUL-1: Potential for a Substantial Adverse Impact on Historical Resources</td>
<td>No Impact</td>
<td>None required</td>
</tr>
<tr>
<td>Impact CUL-2: Potential for a Substantial Adverse Impact on Archaeological Resources from Construction</td>
<td>Less than Significant with Mitigation</td>
<td>Mitigation Measure CR-1: Suspend Construction Immediately if Cultural Resources Are Discovered, Evaluate All Identified Cultural Resources for CRHR Eligibility, and Implement Appropriate Mitigation Measures for Eligible Resources.</td>
</tr>
<tr>
<td>Impact CUL-3: Potential to Directly or Indirectly Destroy a Unique Paleontological Resource or Site, or Unique Geological Feature</td>
<td>Less than Significant with Mitigation</td>
<td>Mitigation Measure CR-2: Suspend Construction Immediately if Paleontological Resources Are Discovered, Evaluate the Significance of the Resources, and Implement Appropriate Mitigation Measures as Necessary.</td>
</tr>
<tr>
<td>Impact</td>
<td>Level of Significance</td>
<td>Mitigation Measures</td>
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<tr>
<td>Impact CUL-5: Potential to Cause a Substantial Adverse Change in the</td>
<td>Less than Significant with Mitigation</td>
<td>• Mitigation Measure CR-4: Prepare and Implement Treatment Plans for any TCRs Identified in the Proposed Project Study Area.</td>
</tr>
<tr>
<td>significance of a Tribal Cultural Resource</td>
<td></td>
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<tr>
<td>Impact CUL-6: Potential to Eliminate Important Examples of the Major</td>
<td>Less than Significant with Mitigation</td>
<td>• Mitigation Measure CR-1</td>
</tr>
<tr>
<td>Periods of California History or Prehistory</td>
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<td>• Mitigation Measure CR-2</td>
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<td></td>
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<td>• Mitigation Measure CR-3</td>
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<td></td>
<td></td>
<td>• Mitigation Measure CR-4</td>
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<tr>
<td><strong>Geology, Soils and Seismicity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental Checklist Section VI.a.iii: Expose people or structures</td>
<td>Less than Significant</td>
<td>• Mitigation Measure P-GEO-1: Conduct project-specific geotechnical investigation prior to construction.</td>
</tr>
<tr>
<td>to potential substantial adverse effects, including the risk of loss,</td>
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<td>injury, or death involving seismic-related ground failure, including</td>
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<tr>
<td>liquefaction</td>
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<tr>
<td>Environmental Checklist Section VI.a.iv: Expose people or structures</td>
<td>No Impact</td>
<td>• Mitigation Measure P-GEO-1: Conduct project-specific geotechnical investigation prior to construction.</td>
</tr>
<tr>
<td>to potential substantial adverse effects, including the risk of loss,</td>
<td></td>
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<tr>
<td>injury, or death involving landslides</td>
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<td></td>
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<tr>
<td>Environmental Checklist Section VI.d: Location on expansive soil,</td>
<td>No Impact</td>
<td>• Mitigation Measure P-GEO-1: Conduct project-specific geotechnical investigation prior to construction.</td>
</tr>
<tr>
<td>creating substantial risks to life or property</td>
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<tr>
<td><strong>Global Climate Change</strong></td>
<td></td>
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<tr>
<td>Impact GHG-1: Generate Substantial GHG Emissions, Either Directly or</td>
<td>Significant and Unavoidable</td>
<td>• Mitigation Measure GHG-1: Implement greenhouse gas emissions reduction measures for operation.</td>
</tr>
<tr>
<td>Indirectly, from Project Construction, Land Use Changes, and Operation</td>
<td></td>
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</tr>
<tr>
<td>Impact GHG-2: Potential to Conflict with Applicable Plans, Policies,</td>
<td>Significant and Unavoidable</td>
<td>• Mitigation Measure GHG-1: Implement greenhouse gas emissions reduction measures for operation.</td>
</tr>
<tr>
<td>or Regulations Adopted for the Purpose of Reducing Emissions of GHGs</td>
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</tr>
<tr>
<td>Impact GHG-3: Cumulative GHG Impact</td>
<td>Significant and Unavoidable</td>
<td>• Mitigation Measure GHG-1: Implement greenhouse gas emissions reduction measures for operation.</td>
</tr>
<tr>
<td><strong>Groundwater</strong></td>
<td></td>
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<tr>
<td>Impact GRW-1: Potential to Lower the Groundwater Table and Adversely</td>
<td>Less than Significant</td>
<td>None required</td>
</tr>
<tr>
<td>Affect Nearby Existing Wells</td>
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City of Modesto

Del Rio Tank and Wells Project
Draft Environmental Impact Report

ES-26
November 2016
### City of Modesto

#### Executive Summary

<table>
<thead>
<tr>
<th>Impact</th>
<th>Level of Significance</th>
<th>Mitigation Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impact GRW-2: Potential to Reduce or Interfere with Groundwater Recharge</td>
<td>Less than Significant</td>
<td>None required</td>
</tr>
<tr>
<td>Impact GRW-3: Potential to Result in Land Subsidence</td>
<td>Less than Significant</td>
<td>None required</td>
</tr>
<tr>
<td>Impact GRW-4: Cumulative Contribution to Chronic Overdraft of Groundwater Subbasin</td>
<td>Significant and Unavoidable</td>
<td>None available</td>
</tr>
</tbody>
</table>
| **Hazards and Hazardous Materials** | **Environmental Checklist Section VIII.d:** Located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code section 65962.5 and, as a result, create a significant hazard to the public or the environment | Less than Significant | • Program EIR Mitigation Measure HAZ-1: Prepare a risk assessment prior to construction activity.  
• Program EIR Mitigation Measure HAZ-2: Control contamination resulting from previously unidentified hazardous waste materials. |
| **Land Use and Planning** | **Impact LU-1:** Physically Divide a Community | Less than Significant | None required |
| Impact LU-2: Conflict with Land Use Plans, Policies, or Regulations | Less than Significant | None required |
| Impact LU-3: Conflict with Habitat Conservation Plans or Other Land Conservation Plans | No Impact | None required |
| Impact LU-4: Cumulative Land Use Impacts | Less than Significant | None required |
| **Noise** | **Impact NOISE-1:** Substantial Temporary or Periodic Increase in Ambient Noise Levels | Less than Significant with Mitigation | • Mitigation Measure NOISE-1: Employ Noise-reducing Construction Practices. |
| Impact NOISE-2: Exposure of Persons to, or Generation of, Excessive Groundborne Vibration or Groundborne Noise Levels during Project Construction | Less than Significant | None required |
| Impact NOISE-3: Substantial Permanent Increase in Ambient Noise Levels | Less than Significant with Mitigation | • Mitigation Measure NOISE-2: Employ Noise-reducing Methods during Operations at Site B. |
| Impact NOISE-4: Substantial Permanent Increase in Ambient Traffic Noise Levels | Less than Significant | None required |
| Impact NOISE-5: Cumulative Noise Impacts | Less than Significant | None required |
Chapter 1
Introduction

The City of Modesto (City) has prepared this Draft Environmental Impact Report (DEIR) to provide the public, responsible agencies, and trustee agencies with information about the potential environmental effects of implementation of the proposed Del Rio Tank and Wells Project (Proposed Project). This Proposed Project was previously identified in the City's Water System Engineer's Report (WSER) Program EIR (State Clearinghouse No. 2008092095) (City of Modesto 2010). The WSER Program EIR is incorporated into this document by reference and is available for review at the City's Public Works Department Office located at 1010 Tenth Street #4600, Modesto, CA 95354. This DEIR is tiered from the Program EIR, pursuant to California Environmental Quality Act (CEQA) Guidelines Sections 15168 and 15152, as described further in Section 1.1.1, below. This document was prepared pursuant to the requirements of CEQA (Public Resources Code [PRC] Section 21000 et seq., as amended) and the CEQA Guidelines (Title 14 California Code of Regulations [CCR] Section 15000 et seq.).

1.1 Overview of CEQA Requirements

CEQA's basic purposes are to:

- Inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities.
- Identify the ways that environmental damage can be avoided or significantly reduced.
- Prevent significant, avoidable damage to the environment by requiring implementation of feasible mitigation measures or project alternatives that would substantially lessen any significant effects that a project would have on the environment.
- Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

With certain strictly limited exceptions, CEQA requires all state and local government agencies to consider the environmental consequences of projects over which they have discretionary authority before approving or carrying out projects. CEQA establishes both procedural and substantive requirements that agencies must satisfy to meet CEQA's objectives. For example, the agency with principal responsibility for approving or carrying out a project (the lead agency) must first assess whether a proposed project would result in significant environmental impacts. If there is substantial evidence that the project would result in significant environmental impacts, CEQA requires that the agency prepare an EIR, analyzing both the proposed project and a reasonable range of potentially feasible alternatives.
As described in CEQA Guidelines Section 15121(a), an EIR is an informational document that assesses potential environmental effects of a proposed project, and identifies mitigation measures and alternatives to the project that could reduce or avoid potentially significant environmental impacts. Other key CEQA requirements include developing a plan for implementing and monitoring the success of the identified mitigation measures and carrying out specific public notice and distribution steps to facilitate public involvement in the environmental review process. As an informational document used in the planning and decision-making process, an EIR's purpose is not to recommend either approval or denial of a project. Note that an EIR does not expand or otherwise provide independent authority of the lead agency to impose mitigation measures or avoid project-related significant environmental impacts beyond the authority already within the lead agency's jurisdiction.

1.1.1 Intent and Scope of this Document

Agencies are encouraged to tier the environmental analyses that they prepare for separate but related projects to eliminate repetitive discussions of the same issues and focus the later EIR on the actual issues ripe for decision at each level of environmental review (CEQA Guidelines Section 15152). In proposing to conduct the various activities identified in Chapter 2 of this DEIR, the City of Modesto is proposing to carry out and approve a discretionary project subject to CEQA that was previously identified in the City's WSER Program EIR (CEQA Guidelines Section 15168). Accordingly, this DEIR is tiered from the WSER Program EIR, in accordance with CEQA Guidelines Sections 15168 and 15152.

Section 15168(c) of the CEQA Guidelines states that a program EIR may be used with later activities:

**Use with Later Activities:** Subsequent activities in the program must be examined in the light of the program EIR to determine whether an additional environmental document must be prepared.

1. If a later activity would have effects that were not examined in the program EIR, a new initial study would need to be prepared leading to either an EIR or a negative declaration.

2. If the agency finds that pursuant to Section 15162, no new effects could occur or no new mitigation measures would be required, the agency can approve the activity as being within the scope of the project covered by the program EIR, and no new environmental document would be required.

3. An agency shall incorporate feasible mitigation measures and alternatives developed in the program EIR into subsequent actions in the program.

4. Where the subsequent activities involve site specific operations, the agency should use a written checklist or similar device to document the evaluation of the site and the activity to determine whether the environmental effects of the operation were covered in the program EIR.

5. A program EIR will be most helpful in dealing with subsequent activities if it deals with the effects of the program as specifically and comprehensively as possible. With a good and detailed analysis of the program, many subsequent
activities could be found to be within the scope of the project described in the program EIR, and no further environmental documents would be required.

Section 15168(d) of the CEQA Guidelines states that a program EIR may be used with Subsequent EIRs and Negative Declarations:

A program EIR can be used to simplify the task of preparing environmental documents on later parts of the program. The program EIR can:

1. Provide the basis in an initial study for determining whether the later activity may have any significant effects.

2. Be incorporated by reference to deal with regional influences, secondary effects, cumulative impacts, broad alternatives, and other factors that apply to the program as a whole.

3. Focus an EIR on a subsequent project to permit discussion solely on new effects which had not been considered before.

Section 15152 of the CEQA Guidelines allows an EIR to tier from the environmental analysis of an earlier EIR. Section 15152(a) of the CEQA Guidelines explains the concept of tiering:

'Tiering' refers to using the analysis of general matters contained in a broader EIR (such as one prepared for a general plan or policy statement) with later EIRs and negative declarations on narrower projects; incorporating by reference the general discussions from the broader EIR; and concentrating the later EIR or negative declaration solely on the issues specific to the later project.

Section 15152(d) of the CEQA Guidelines states that the lead agency for a later project pursuant to or consistent with the program should limit the subsequent EIR as follows:

Where an EIR has been prepared and certified for a program, plan, policy, or ordinance consistent with the requirements of this section, any lead agency for a later project pursuant to or consistent with the program, plan, policy, or ordinance should limit the EIR or negative declaration on the later project to effects which:

1. Were not examined as significant effects on the environment in the prior EIR; or

2. Are susceptible to substantial reduction or avoidance by the choice of specific revisions in the project, by the imposition of conditions, or other means.

This EIR was prepared to disclose further details and changes to the Proposed Project, as well as the potentially significant effects of the proposed project on the environment which were not examined in the prior Program EIR. This EIR is tiered from the WSER Program EIR and incorporates the Program EIR by reference, and all applicable mitigation measures from the Program EIR (as described in Chapter 3, Introduction to the Environmental Analysis) are incorporated into this EIR. The City will use the analyses presented in the Program EIR, this DEIR, public comments on the DEIR, and the whole of the administrative record, to evaluate the Proposed Project's environmental impacts and to further modify, approve, or deny approval of the Proposed Project.
1.2 CEQA Process

1.2.1 Notice of Preparation

A Notice of Preparation (NOP) for the Proposed Project was prepared pursuant to CEQA Guidelines Section 15082 and circulated to the Governor's Office of Planning and Research State Clearinghouse on July 28, 2015. The scoping period continued for 30 days and concluded on August 28, 2015. The NOP presented general background information on the Proposed Project, the scoping process, and the environmental issues to be addressed in the EIR. Approximately 120 copies of the NOP were mailed to a broad range of stakeholders, including state, federal, and local regulatory agencies, jurisdictions, and nonprofit organizations. The NOP is included in this DEIR in Appendix A, Scoping Summary.

1.2.2 Scoping Comments and Meetings

The City accepted written comments during the 30-day scoping period, July 28 to August 28, 2015. During the scoping period, 11 comment letters were received. These comments were considered in the environmental impact evaluation. Copies of comment letters received during the scoping period are included in Appendix A, Scoping Summary.

1.2.3 Draft EIR

The City has prepared this DEIR, as informed by public and agency input received during the scoping period, to disclose potentially significant environmental impacts associated with the Proposed Project. Where any such impacts are significant, feasible mitigation measures and potentially feasible alternatives that would substantially lessen or avoid such effects are identified and discussed. The public review period provides the public an opportunity to provide input to the lead agency on the DEIR.

1.2.4 Public Review and Meetings

The DEIR is currently undergoing public review for a 45-day period. The dates of this period are specified in the Notice of Availability (NOA) of the DEIR. The City will hold a public meeting during the review period; the date, time, and location are also provided in the NOA.

1.2.5 Final EIR

Written and oral comments received in response to the DEIR will be addressed in a Response to Comments document which, together with the DEIR and any related changes to the substantive discussion in the DEIR, will constitute the Final EIR. The Final EIR, in turn, will inform the City's exercise of its discretion as a lead agency under CEQA in deciding whether or how to approve the Proposed Project.
1.3 Organization of this DEIR

This DEIR contains the following components:

Executive Summary. A summary of the Proposed Project, a description of the issues of concern, Project alternatives, and a summary of environmental impacts and mitigation measures are provided in this chapter.

Chapter 1, Introduction. This chapter describes the purpose and organization of the EIR and its preparation, review, and certification process.

Chapter 2, Project Description. This chapter summarizes the Proposed Project, including a description of the Project purpose and objectives, a brief description of the Project area, and proposed actions that would be taken under the Proposed Project.

Chapter 3, Introduction to the Environmental Analysis. This chapter is an introduction to the impact analysis conducted in this DEIR. This chapter also identifies resource topic areas determined not to be affected by the Proposed Project, or resource topics for which the Proposed Project is consistent with the Program EIR, and which therefore have been dismissed from further analysis in this DEIR. All applicable mitigation measures from the Program EIR are identified in this chapter.

Chapters 4-11 describe the environmental resources and potential environmental impacts of the Proposed Project. Each chapter describes the existing setting and background information for the resource topic area under consideration to aid the reader in understanding the conditions that could be affected by the Proposed Project. In addition, each chapter includes a discussion of the criteria used in determining the significance levels of the Proposed Project's environmental impacts. Each chapter also provides mitigation measures to reduce, where possible, the adverse effects of potentially significant impacts.

Chapter 12, Alternatives Analysis. This chapter describes the process by which alternatives to the Proposed Project were developed and screened, evaluates their likely environmental impacts, and identifies the environmentally superior alternative.

Chapter 13, Report Preparation, lists the individuals involved in preparing this DEIR.

Chapter 14, References, provides a bibliography of printed references, websites, and personal communications used in preparing this DEIR.

Appendix A, Scoping Summary. This appendix contains the NOP issued by the City, materials from the scoping process, a summary of comments received during the scoping period, and copies of all comments submitted.

Appendix B, Environmental Checklist. This appendix contains the City's Initial Study CEQA checklist document prepared for the Proposed Project.

Appendix C contains supporting documentation for the air quality and greenhouse gas emissions impacts evaluation.
Appendix D contains supporting documentation for the biological resource impacts evaluation.

Appendix E contains supporting documentation for the cultural resource impacts evaluation.

Appendix F contains supporting documentation for the groundwater impacts evaluation.

Appendix G contains supporting documentation for the noise and vibrations impacts evaluations.

Appendix H contains the Mitigation Monitoring and Reporting Program.

1.4 Impact Terminology and Use of Language in CEQA

This DEIR uses the following terminology to describe environmental effects of the Proposed Project:

- A finding of no impact is made when the analysis concludes that the Proposed project would not affect the particular environmental resource or issue.

- An impact is considered less than significant if the analysis concludes that there would be no substantial adverse change in the environment and that no mitigation is needed.

- An impact is considered significant or potentially significant if the analysis concludes that there could be a substantial adverse effect on the environment.

- An impact is considered less than significant with mitigation if the analysis concludes that there would be no substantial adverse change in the environment with the inclusion of the mitigation measures described.

- An impact is considered significant and unavoidable if the analysis concludes that there could be a substantial adverse effect on the environment and no feasible mitigation measures are available to reduce the impact to a less than significant level.

- Mitigation refers to specific measures or activities adopted to avoid, minimize, rectify, reduce, eliminate, or compensate for an impact.

- A cumulative impact can result when a change in the environment results from the incremental impact of a project when added to other related past, present, or reasonably foreseeable future projects. Significant cumulative impacts may result from individually minor but collectively significant projects. The cumulative impacts analysis in this DEIR focuses on whether the Proposed Project's incremental contribution to other significant cumulative impacts caused by past, present, or probable future projects is cumulatively considerable (i.e., significant).

- Because the term "significant" has a specific usage in evaluating impacts under CEQA, it is used only to describe the significance of impacts and is not used in other contexts.
within this document. Synonyms such as "substantial" have been used when not discussing the significance of an environmental impact.

1.5 Submittal of Comments

The City is circulating this DEIR for public review and comment for the period specified in the NOA. As discussed above, the City will host a public meeting during this period. The purpose of public circulation is to provide agencies and interested individuals with opportunities to comment on or express concerns regarding the contents of this DEIR. The date, time, and location for the meeting is provided in the NOA.

Written comments concerning this DEIR can be submitted at the public meeting described above or at any time during the DEIR public review period. All comments must be received by 5:00 p.m. on the final date of public review as identified in the NOA, and directed to the name and address listed below:

Tamorah Bryant, Senior Civil Engineer
City of Modesto Utilities Department
P.O. Box 642 (1010 Tenth Street)
Modesto, CA 95353
tbryant@modestogov.com

Submittal of written comments via e-mail (Microsoft Word or Adobe PDF format) is preferred. Written comments received in response to this DEIR during the public review period will be addressed in a Response to Comments section of the Final EIR.
2.1 Overview

This chapter describes the Proposed Project and discusses its purpose and objectives, location, proposed actions, and necessary permits and approvals.

2.2 Proposed Project Purpose and Objectives

The City of Modesto provides water service to the community of Del Rio. The Del Rio water system currently requires a new storage tank (and associated pump station), well, replacement well, backup generators, and pipelines to correct existing supply deficiencies. The existing Del Rio water system does not meet certain design pressure and storage volume requirements identified in the 2010 Water System Engineer's Report for water supply and fire-flow demand. The existing Del Rio water system also is not sufficient to supply anticipated future growth in the Del Rio area. The City intends to decommission one of its Del Rio water system wells (Well 271) when the new replacement well is brought online. The future Del Rio service area will include additional acreage to the north, east, and southwest. According to the Del Rio Community Plan, "future planned development land use" is proposed for the northwestern and eastern portions of the service area, while development in the southwestern area will be residential (Stanislaus County 1992). Full buildout of the service area will require additional pipelines and pumping capacity, as identified for the Proposed Project, to provide adequate water service to meet the anticipated demand.

The objectives of the Proposed Project are as follows:

- Correct existing deficiencies in the Del Rio water system to meet design pressure and volume storage requirements identified in the 2010 Water System Engineer's Report;
- Ensure sufficient system pressure to provide firefighting flow capacity;
- Improve water system operational flexibility and reliability; and
- Allow for additional water supply and storage volume to accommodate anticipated future growth in the Del Rio area.

2.3 Proposed Project Location and Setting

The Proposed Project is located in the census-designated place of Del Rio in Stanislaus County. Del Rio is located approximately 2 miles north of the City's sphere-of-influence boundary. The Proposed Project would involve activities at two separate sites within Del Rio: (1) Site A, southeast of the intersection of Ladd Road and St. John Road on APNs 004-077-018 and 004-077-019, and (2) Site B, at the northwest corner of McHenry Avenue and Stewart
Road on the southeastern-most portion of APN 004-102-003. **Figure 2-1** shows the locations of the Proposed Project sites.

Site A consists of two parcels owned by the City of Modesto, totaling approximately 4.0 acres. The site is bounded by a Modesto Irrigation District canal on the south, agricultural and residential sites on the east, and Union Pacific railroad tracks on the west. The northern portion of the site fronts Ladd Road. The site is currently occupied by a single-family residence, garage, and out-buildings. The remainder of the site consists of mostly open land with a few trees, weeds, and grass. The residence has a water well and septic system. All structures on the site, as well as the well and septic system, are to be abandoned and removed. Four existing trees would be retained on site. **Figure 2-2** shows the proposed facilities at Site A.

Site B encompasses 0.4 acre on APN 004-102-003, currently owned by a private landowner (Arnold W. Setliff et al. Trust). The City is in the process of acquiring approximately 0.52 acre of the much larger 82.4-acre parcel, and would dedicate 0.12 acre to Stanislaus County as right-of-way for McHenry Avenue. The surrounding land uses adjacent to this parcel include single-family residences and outbuildings to the west and south, agricultural parcels to the north and east, and a fruit stand to the southeast. The site is currently vacant and undeveloped except for a few power and communication poles, a large oak tree, and a few shrubs. The oak tree would be retained on site. **Figure 2-3** shows the proposed facilities at Site B.

Water transmission pipelines would be installed at Site A and Site B to connect the wells to the City’s existing distribution system. An approximately 2,500-linear-foot, 16-inch-diameter transmission main would be constructed at Site A from the well at Ladd Road, north under St. John Road to the intersection of St. John Road and Country Club Drive. At Site B, a 12-inch-diameter transmission main would be constructed from the well at McHenry Road south for 190 feet under McHenry Road, then west for 760 feet along Stewart Road, terminating at the intersection of Stewart Road and Grove Pointe Way. These transmission pipelines would be installed under the road, within the road right-of-way. The transmission pipeline alignments are shown in Figures 2-1, 2-2, and 2-3.
Figure 2-1: Project Location

Source: Horizon Water and Environment; Google Earth
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2.4 Proposed Project Characteristics

The Proposed Project involves the construction and operation of water wells, a storage tank, and associated distribution facilities. This section provides a discussion of the Proposed Project facilities at each site (Section 2.4.1), construction methods (Section 2.4.2), and facility operations (Section 2.4.3). Figures 2-2 and 2-3 show the conceptual locations of proposed structures on the two sites. The Proposed Project would develop a total of approximately 4.4 acres (approximately 190,000 square feet).

2.4.1 Proposed Project Facilities

Site A – Ladd Road Tank and Well

The 2010 Program EIR included evaluation of a proposed tank and pump station on a large parcel of land north of McHenry Avenue and Stewart Road. As the project developed, no land was available for sale in that area. The City then considered alternate locations, one of which was 6520 Carver Road, but was unable to complete the purchase of land in those alternate locations. On March 13, 2012, by Resolution 2012-101, City Council approved the purchase of two parcels at 718 Ladd Road.

Site A, located at 718 Ladd Road, would encompass approximately 4 acres. The project facilities at Site A would consist of an above-ground water storage tank, production water well and pump, monitoring well, standby generator, and booster pump station. Site improvements would include a small parking and access area, fencing (1-inch chain-link fencing), a retention basin, and low-maintenance landscaping. In addition, a 2,500-foot-long, 16-inch-diameter transmission main would be installed to connect the proposed well to the City's existing water distribution system. Figure 2-2 provides a site plan of the Site A facilities.

Water Storage Tank: As proposed, the water tank would store approximately 250,000 gallons (0.25 million gallons) of water. The purpose of the tank is to store sufficient water to meet peak hour and fire flow demands. The tank would stand a maximum of 20 feet above grade and would be approximately 55 feet in diameter. The footprint area of the tank would be approximately 173 square feet. The welded steel water tank would have a non-reflective, painted, earth-tone exterior and a sloped roof. The tank would be constructed on a circular concrete pad. The tank would be constructed in accordance with the current California Building Code and American Water Works Association (AWWA) standards.

Pump Station Building: The pump station building would house the production well, booster pumps, disinfection equipment, ancillary valves and flow meters, and electrical equipment. The building would include three separate rooms: a pump station room, an electrical room, and a calcium hypochlorite room. The building would be constructed of masonry blocks and would be approximately 40 feet wide by 50.5 feet long and 21 feet tall. The pump station building would have stucco finish and an earth-tone exterior.

The building would have various sound attenuation features, including wall panels, fans, and louvers to reduce noise related to the operation of equipment removing heat generated within the pump and electrical rooms. Metal wall panels would achieve a noise reduction coefficient of approximately 0.90. The pump station building would be ventilated by one sidewall-mounted exhaust fan with a capacity of 4,500 cubic feet per minute. Exhaust fans would
have the lowest possible exhaust fan noise measurement unit (called a sone). Ducting in the building would also be designed to minimize noise. Sound caused by an operating louver is proportional to the air velocity through the louver; the intake and exhaust pump station louvers would be sized to minimize air flow noise.

**Production Well:** The production groundwater well would be drilled to a minimum depth of 300 feet and a maximum depth of 600 feet deep, and would have a maximum yield of 1,000 gallons per minute (gpm). The well is expected to operate during off-peak demand periods to fill the proposed adjacent storage tank and during maximum demand conditions (typically a 1- to 2-hour diurnal pattern). While the theoretical annual maximum yield of the new well would be 525.6 million gallons (based on operations of 1,000 gpm, 24 hours per day, 365 days per year), this theoretical maximum exceeds the annual production for the entire Del Rio service area of approximately 207 million gallons for the previous 5 years. The well pump would be sized to meet peak demand conditions; however, pumping is expected to occur for an annual average of 8 hours per day (not 24 hours per day), with an anticipated maximum annual yield of about 175 million gallons, which is substantially less than the theoretical annual maximum yield of the new well. The well would be housed inside the pump station building.

**Monitoring Well:** A monitoring well would be installed on site to monitor groundwater levels in relation to operation of the production well and to calibrate the City's groundwater flow model. The monitoring well would be installed within a 50-foot radius of the production well and would be drilled to a similar depth (i.e., 600 feet deep). The monitoring well would include three separate "nested" wells installed to different depths within the same borehole. Each nested well would be equipped with a pressure transducer to monitor the groundwater level. The three nested wells would be installed to measure groundwater levels in the shallow (100-265 feet deep), intermediate (265-360 feet deep), and deep (360-600 feet deep) zones of the aquifer. The monitoring well would not produce any water and would only be used to collect data on groundwater levels.

**Booster Pumps:** The Proposed Project includes up to four 60-horsepower (hp) electric booster pumps. Two booster pumps would be on duty, one would be on standby, and the fourth would be available to serve future buildout demand. The pump capacity for each of these booster pumps would be 850 gpm, with firm capacity of 1,700 gpm. The booster pumps would be housed inside the pump station building.

During normal operation, the well pump would fill the storage tank at a maximum rate of 1,000 gpm, controlled by a variable-frequency drive and sensors in the tank. The booster pumps would be separate from the well pump and would be designed to provide a maximum flow from the storage tank to the distribution system of 1,700 gpm. The booster pumps would deliver supply to the distribution system to meet peak-hour and fire-flow demands. The booster pumps would be designed and operated to discharge water from the tank at a much faster rate than the well can fill the tank to meet peak and fire-flow demands, as needed. When the booster pumps are running at maximum flow, water from the production well may simultaneously fill the storage tank. The tank, when full, would drain in less than 6 hours (357 minutes) under maximum flow conditions.

An additional booster pump would be installed in the pump station at full buildout. This fourth booster pump would deliver an additional 700 gpm of flow from the storage tank to
the transmission pipelines. The additional booster pump would increase the total delivery of stored water from the tank to the distribution lines to 2,400 gpm in order to meet the estimated peak-hour rate and fire-flow demands for Del Rio’s buildout condition. This fourth pump would not result in increased groundwater extraction, only increased flow from the storage tank to the transmission pipelines. The impact analysis presented in this EIR includes evaluation of all four booster pumps operating under the full buildout condition.

**Transmission Main:** A 16-inch-diameter transmission main would be constructed from the pump station building on Ladd Road, north along St. John Road, and terminating at the intersection of St. John Road and Country Club Drive. The transmission main would extend for approximately 2,500 linear feet and would be installed in accordance with Stanislaus County Department of Public Works trenching requirements, which would include a 36-inch-wide trench and a 60-inch-wide trench patch. A portion of the transmission main (approximately 65 feet) would be installed by jack and bore underneath an existing rail crossing on Ladd Road, just east of St. John Road.

**Stormwater Retention Basin:** Site runoff would be captured in an on-site retention basin that would be designed to contain the 50-year storm event and the full capacity of the storage tank, in the event of a tank rupture. The retention basin would be located on the southern portion of the parcel and would encompass approximately 1.3 acres with a 1.4-acre-foot holding capacity. The basin would be designed to hold water for a maximum of 48 hours based on the assumed percolation rate of 0.6 gallon/square foot per hour.

Surface runoff north to Ladd Road would be limited to the entrance driveway. Rock-lined drainage swales with shallow rock wells at one end would be installed within the Ladd Road right-of-way to collect runoff from the northern portion of Site A. A drainage swale with periodic inlets would be installed down the center of the site to convey surface runoff to the retention basin. The site would be graded to slope toward the swale and retention basin. The stormwater collection system would also convey tank overflow, drain water, and well wastewater to the retention basin. Slopes would be stabilized with hydroseeding or planted with drought-tolerant plants.

**Site Security and Access:** The entire site (i.e., within the parcel boundary) would be enclosed within an 8-foot-tall concrete masonry wall or wrought-iron fence topped with no-climb points and three strands of barbed wire along the Ladd Road frontage. Ladd Road frontage would include 9-foot-tall vehicular and pedestrian access gates. The rest of the site would be enclosed by 8-foot-tall, 1-inch chain-link fence with security wire. The wrought-iron fencing would be placed approximately 65 feet from the right-of-way line.

A new 25-foot-wide driveway on Ladd Road would provide site access. The driveway would have a 20-foot-wide, motorized sliding gate with an electronic key card reader or keypad for access. A 3-foot-wide metal pedestrian gate would be provided alongside the sliding vehicular gate.

Vehicular access (driveway) and parking areas within the site would be paved with Portland cement concrete or asphaltic concrete. Other portions of the site would be covered with low-maintenance landscaping or gravel.

Security lighting would be installed throughout the site. Exterior lighting would be elevated on poles using light-emitting diodes (LEDs) and would be directed toward the interior of the
site rather than off site, to the extent feasible, to reduce light or glare. Lights on the poles would be equipped with motion sensors and would turn on only if motion were detected in the vicinity of the building and tank. Security cameras and building alarms would also be installed on site.

**Landscaping:** Landscaping at Site A would include vegetation to screen the fence, tank, and other facilities from views from adjacent properties and from Ladd Road. The plant selections would be arranged in a tiered format with low, ground-hugging shrubs in the foreground, smaller shrubs in the middle tier, and taller screening trees for the backdrop. Plant selections would be chosen based on their proven drought tolerance, survivability, hardiness, and ease of maintenance. The trees would be a mixture of screening conifers, evergreen broadleaf, and smaller flowering deciduous broadleaf. Approximately 70 trees would be planted within an approximately 0.24-acre irrigated area. A vegetated, undulating soil berm on the east side of the site would contribute to a natural aesthetic appeal. An automatic irrigation system for the landscaping would be designed and would adhere to applicable water conserving ordinances. A rain/freeze/thaw shut-off switch for the irrigation system would be installed. The slopes surrounding the stormwater retention basin would also be hydroseeded or planted with drought-tolerant plants to prevent erosion.

**Electricity:** Site A has immediate access to nearby electrical lines served by the local utility provider, Modesto Irrigation District. The total new electrical connected load for the proposed facilities would be approximately 502 kilovolt-amperes (kVA) when all equipment is running (or approximately 755 amperes at 480 volts, 3 phase). However, the average electrical demand load would vary with the number of pumps running and related output with a maximum anticipated connected load of approximately 566 kVA. The project site would include an underground electrical utility extension to connect to the existing Modesto Irrigation District infrastructure.

**Standby Generator:** A standby diesel generator and an above-ground diesel storage tank would be installed on a 10-foot by 20-foot concrete pad within the site. The standby generator would be used as an alternate power source for the Proposed Project facilities as necessary. The estimated capacity of the generator would be approximately 450 kilowatts (kW). The generator would be equipped with critical grade mufflers for the exhaust system and level 2 sound housing to achieve an approximate sound level attenuation to 75 decibels within 30 feet of the unit.

The generator would include a belly tank (an above-ground diesel fuel tank built into the frame of the generator support as part of a packaged unit) that would hold approximately 24 hours of generator fuel supply, which equates to approximately 775 gallons. The diesel storage tank would be housed in accordance with City of Modesto Fire Prevention Department requirements and would comply with Stanislaus County standards, including Spill Prevention, Control and Countermeasures (SPCC), the Uniform Fire Code (UFC), and Occupational Safety and Health Administration (OSHA) requirements, including secondary containment requirements.

**Site B – McHenry Avenue Well**

Site B, located on McHenry Avenue, would encompass approximately 0.4 acre. The facilities at this site would consist of a production well and pump, standby generator, disinfection
facilities, monitoring well, transmission pipelines connecting to the City's existing
distribution system down McHenry Avenue, and space for a future treatment unit and
treatment filters. These facilities would be fully enclosed by a 12-foot-tall concrete block wall
with a 24-foot-wide vehicular access gate. The site would be accessed from a new driveway
off McHenry Avenue; no site access would be provided from Stewart Road. Site improvements
would include a concrete pad and paved driveway, well and associated piping, controls,
treatment facilities, generator, and appurtenances. Runoff from new impervious surfaces at
Site B would be retained on site. Figure 2-3 provides a site plan of the Site B facilities.

Well and Pump: The Site B groundwater well would replace the City's existing Well 271
located on the west side of the Del Rio service area. This well is past its operational life and
would be decommissioned upon completion of the Site B well. The new Site B well would be
drilled to a minimum depth of 300 feet and a maximum depth of 600 feet, with a maximum
yield of 1,000 gpm. Similar to the Site A production well, the Site B well would have a
theoretical annual maximum yield of 525.6 million gallons (based on operations of 1,000
gpm, 24 hours per day, 365 days per year); however, the well would not be operated to its
full capacity. The well pump would be sized to meet peak demand conditions, with pumping
expected to vary throughout the year depending upon system pressure needs. While
pumping may vary from as much as 20 hours per day during the summer to as little as 2 hours
per day in the winter, pumping is expected to occur for an annual average of 10.8 hours per
day, with an anticipated maximum annual yield of approximately 237 million gallons, which
is substantially less than the theoretical annual maximum yield of the new well. The well
pump would be approximately 200 hp or less and powered by electricity. The pump would
require a 300-kW backup generator with a sound-attenuating enclosure. No booster pumps
are expected to be needed at Site B. A geotechnical investigation of the site would be
completed during the design process.

Monitoring Well: Similar to Site A, a monitoring well would be installed at Site B to
measure changes in groundwater levels that could occur from operation of the production
well. The monitoring well would be installed within a 50-foot radius of the production well
and would be drilled to a similar depth (i.e., 600 feet deep). The monitoring well would
include three separate "nested" wells installed to different depths within the same borehole.
Each nested well would be equipped with a pressure transducer to monitor the groundwater
level. The three nested wells would be installed to measure groundwater levels in the shallow
(100-265 feet deep), intermediate (265-360 feet deep), and deep (360-600 feet deep) zones
of the aquifer. The monitoring well would not produce any water and would only be used to
monitor groundwater levels.

Stormwater Retention Basin: Site runoff would be captured in a 50-foot by 40-foot
temporary retention basin that would be designed to contain the 100-year, 24-hour storm
event. The retention basin would be located north of the proposed well site on an adjacent
parcel that is currently in private ownership. The basin would encompass approximately 0.15
acre with an 0.08-acre-foot holding capacity. It would be designed to hold water for a
maximum of 48 hours, based on the assumed percolation rate of 0.3 gallon/square foot per
hour.

Surface runoff east to McHenry Avenue would be limited to the area within the right-of-way.
Grading within the right-of-way would include drainage to an existing storm drain inlet. The
site would be graded to slope toward the north and the retention basin. The stormwater
collection system would also convey well wastewater to the retention basin. Slopes would be stabilized with hydroseeding or planted with drought-tolerant plants.

**Transmission Pipeline:** A 12-inch-diameter transmission pipeline would be constructed from the well along McHenry Road to connect with existing City distribution pipelines along Stewart Road. The transmission pipeline would run from the well site south for approximately 190 feet under McHenry Road, then west for approximately 760 feet along Stewart Road, terminating at the intersection of Stewart Road and Grove Pointe Way. The pipeline would be installed beneath the road, within the road right-of-way, and in accordance with Stanislaus County Department of Public Works trenching requirements, which would include a 32-inch-wide trench and a 56-inch-wide trench patch.

**Standby Generator:** A standby diesel generator with a belly tank (an above-ground diesel fuel tank built into the frame of the generator support as part of a packaged unit) would be installed on a 10-foot by 20-foot concrete pad within Site B. The standby generator would be used as an alternate power source for the Proposed Project facilities as necessary. The estimated capacity of the generator would be approximately 450kW. The generator would be equipped with critical grade mufflers for the exhaust system and level 2 sound housing to achieve an approximate sound level attenuation to 75 dB within 30 feet of the unit. The belly tank would hold approximately 24 hours of generator fuel supply, which equates to approximately 775 gallons. The diesel storage tank would be housed in accordance with City of Modesto Fire Prevention Department requirements. Similar to Site A, the generator would include a fuel tank with secondary containment.

**Site Security:** Security lighting would be installed throughout the site. Exterior lighting would be on poles using LEDs and directed toward the interior of the site, to the extent feasible, to reduce light or glare. Lights on the poles would be equipped with motion sensors and would turn on only if motion were detected in the vicinity of the building and tank. Security cameras and alarms would also be installed on site.

Existing trees, electrical, and communication poles at Site B would remain on site and undisturbed.

### 2.4.2 Construction

**Construction Methods**

Construction activities for the Proposed Project would include the construction phases and approximate durations shown in Table 2-1. Additional descriptions of these phases and pieces of equipment are provided below and in Appendix C, Air Quality and Global Climate Change Impacts Evaluation Supporting Documentation. In addition, Table 2-1 indicates the anticipated number of potential worker trips and construction-related trips for the various construction phases. Pipeline construction activities (for both trenching and jack/bore) might overlap with building construction activities. All other phases are assumed not to overlap.
Table 2-1. Construction Activity Summary

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<th>Hauling Trips</th>
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</tbody>
</table>

*Trenching and jack/bore construction phases might overlap to some degree.

The Proposed Project would be constructed in accordance with standard protocols of the Clean Water Act Section 402 General Construction Permit (State Water Resource Control Board Order No. 2009-0009-DWQ).

**Site Preparation and Earthwork:** Site preparation activities would include clearing and grubbing; demolition of existing buildings and associated features at Site A; excavation, import, and placement of fill; and compaction. Clearing and grubbing would be conducted using standard excavators, bulldozers, and hand labor.

Demolition activities would be performed at Site A to abandon and remove the existing house, garage, shed, out-buildings, well, and septic system. Abatement of asbestos-containing materials and lead-based materials, if needed, during demolition of existing buildings would be supervised by a contractor certified by the California Occupational Safety and Health Administration and would be conducted in a manner compliant with federal, state, and local regulations. Removal or abandonment of the septic system would be conducted in accordance with local and state regulations to prevent any potential release of or worker exposure to waste material or contaminated soils. The estimated demolition area would be approximately 3,460 square feet. All demolished material and debris, including any hazardous waste, would be disposed of off site at an appropriate location selected by the construction contractor. For the purposes of this analysis, the disposal site is assumed to be located within 20 miles (maximum 1 hour of travel time) from Site A.
To the extent feasible, excavated soil would be reused on site. If required, fill would be
delivered to the project sites by conventional haul trucks with a capacity of up to 20 cubic
yards per load. Fill material would be placed with an excavator and compacted with a
compactor/roller. Site preparation activities at Sites A and B are divided into three phases in
Table 2-1 (demolition, site preparation, and grading) for the purpose of estimating worker
trips and construction-related trips.

**Pipelines:** New pipelines would be installed beneath existing streets and within the project
sites. The general process for pipeline installation involves digging a trench, installing the
pipe, and backfilling the trench (“cut and cover”). In existing streets, the cut-and-cover
method involves removing the asphalt, roadway base, and underlying soil; all materials are
replaced at the completion of the process. The depth and width of the trenches would vary
depending on the size of the pipe and in consideration of other existing utility lines; however,
it is anticipated that the minimum depth for the transmission main would be 42 inches.
Construction crews may close one lane of traffic temporarily during pipeline installation. In
general, the maximum length of an open trench would be the distance necessary to
accommodate the amount of pipe that can be laid in one day, typically 200-400 feet. The
approximate width of the construction area for installation of the pipeline would be 20 feet
and would be within the road right-of-way boundaries.

In addition to the cut-and-cover method, approximately 65 feet of the Site A transmission
main would be installed by the jack-and-bore method. The jack-and-bore method involves
directional drilling to reduce disturbance to the ground surface and disruption to other
facilities or surface features. The jack-and-bore method involves use of cutting heads or
hydraulic jacks to install pipe from a launch (bore) pit to a receiving pit. Slurry, typically
bentonite (inert clay) and water, is used as a lubricant for tunneling and pipe installation.

**Buildings and Structures:** Construction of buildings and structures would generally
include the following activities:

- concrete delivery, forming, and placement and rebar placement;
- structural steel work (assembly and welding);
- installation of electrical/instrumentation equipment;
- masonry concrete wall construction; and
- installation of mechanical equipment and accessories.

Following construction of the buildings, architectural coating of the building/structures, and
final site restoration (shown as paving in Table 2-1) would be performed. The final step in
the construction process is to restore the ground surface, which generally involves paving,
installing landscaping, or installing erosion controls, as necessary.

**Staging Areas:** Staging areas would be needed to store pipe, construction equipment, and
other construction-related materials. Staging areas would likely be established at Sites A and
B or along the pipeline routes where space is available within the road right-of-way or in
vacant lots. Staging areas would avoid areas of sensitive biological habitat. The City would
reserve the authority to approve the locations of the staging areas as part of the contracts for
construction of the facilities.
Construction Equipment

In general, the main pieces of equipment that may be used during construction activities are:

- well drilling equipment
- rollers
- pavers
- bulldozer
- backhoe
- welders
- track-mounted excavator
- front-end loader
- crane
- compactor
- end dump truck
- forklift
- ten-wheel dump truck
- compressors/jack hammers
- paving equipment
- water truck
- flat-bed delivery truck
- boom truck
- concrete truck
- cement and mortar mixers
- grader
- mowing equipment (e.g., weed eaters, commercial lawn mowers)
- generator sets

Specific construction equipment assumptions are provided in Appendix C, Air Quality and Global Climate Change Impacts Evaluation Supporting Documentation.

Construction Schedule

Construction of the Proposed Project is anticipated to last for up to approximately 15 months, beginning in 2016 and completing in 2017. Within this timeframe, the majority of construction work that involves use of operating equipment would occur within a 10-month period. Construction activities would generally occur Monday through Friday between 7:00 a.m. and 5:00 p.m., excluding City-observed holidays.

2.4.3 Project Operations

Operation of the Proposed Project would primarily involve the operation, inspection, and maintenance of the facilities. The pump stations, storage tank, and wells would be controlled remotely through a Supervisory Control and Data Acquisition (SCADA) system. The facilities would be inspected at least once a week to verify instrument readings, check on the condition of the sites, and maintain equipment.

The City would inspect the water system on an annual basis to determine whether maintenance was needed. Maintenance activities for the storage tank would include periodic cleaning of the tank’s interior (with the use of a vacuum system) to maintain capacity and function and occasional recoating of the tank, as needed. Maintenance activities for the wells would include various mechanical tests and meter calibration (with equipment specific to those activities) and general maintenance of treatment systems (e.g., treatment system flushing or regeneration). The City would inspect the wells and pump stations on a regular basis (numerous times during the wet months and less frequently during the remainder of the year) to ensure optimal performance. Maintenance of the pump stations and pipelines would be performed on an as-needed basis.
## 2.5 Permits and Approvals

The permits and regulatory compliance requirements for the Proposed Project are described by permitting agency in **Table 2-2**.

### Table 2-2. Applicable Permit and Regulatory Requirements

<table>
<thead>
<tr>
<th>Regulatory Agency</th>
<th>Law/Regulation</th>
<th>Purpose</th>
<th>Permit/Authorization Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Valley Regional Water Quality Control Board</td>
<td>Clean Water Act (CWA) Section 402</td>
<td>National Pollutant Discharge Elimination System (NPDES) program regulates discharges of pollutants</td>
<td>NPDES General Permit Construction Permit Notification</td>
</tr>
<tr>
<td>California Health and Safety Code (Chapter 7)</td>
<td>Approval of County well permit</td>
<td>Permit Approval</td>
<td></td>
</tr>
<tr>
<td>Stanislaus County Department of Environmental Resources</td>
<td>County Municipal Code (Title 9 Health and Safety, Section 9.36)</td>
<td>Well construction approval</td>
<td>Well Construction Permit</td>
</tr>
<tr>
<td>Stanislaus County</td>
<td>County policies and requirements</td>
<td>Compliance with County right-of-way policies</td>
<td>Encroachment Permit</td>
</tr>
<tr>
<td>Stanislaus County Planning Commission</td>
<td>Stanislaus County Zoning Ordinance (Chapters 21.20.030 and 21.96.050)</td>
<td>Approval of proposed facilities at Site B</td>
<td>Use Permit</td>
</tr>
<tr>
<td></td>
<td>Stanislaus County Zoning Ordinance (Chapter 21.40.040)</td>
<td>Approval of proposed facilities at Site B</td>
<td>Development Plan Approval</td>
</tr>
<tr>
<td>California Department of Public Health</td>
<td>Safe Drinking Water Act, California Health and Safety Code (Title 17, Title 22)</td>
<td>Compliance with public health water quality requirements</td>
<td>Use Permit for Well Water</td>
</tr>
<tr>
<td>San Joaquin Valley Air Pollution Control District</td>
<td>Rule 2010 permits required</td>
<td>District permitting for any constructed or operated source that emits or may emit air pollutants</td>
<td>Authority to Construct, Permit to Operate</td>
</tr>
<tr>
<td>Modesto Irrigation District</td>
<td>District policies and requirements</td>
<td>Compliance with utility district policies</td>
<td>Construction Permit</td>
</tr>
</tbody>
</table>
3.1 Overview

Chapters 4 through 11 of this DEIR describe the environmental resources and potential environmental impacts of the Proposed Project. Each chapter describes the existing setting and background information for the particular resource topic to help the reader understand the conditions that could be affected by the Proposed Project. In addition, each chapter includes a discussion of the criteria used in determining the significance levels of the Proposed Project’s environmental impacts. Finally, each chapter recommends mitigation measures to reduce, where possible, the adverse effects of significant impacts, including applicable mitigation measures from the Program EIR.

3.2 Significance of Environmental Impacts

According to CEQA, an EIR should define the thresholds of significance and explain the criteria used to determine whether an impact is above or below that threshold. Significance criteria are identified for each environmental resource topic to determine whether implementation of the project would result in a significant environmental impact when evaluated against the baseline conditions as described in the environmental setting. The significance criteria vary depending on the environmental resource topic. In general, effects can be either significant (above threshold) or less than significant (below threshold). In some cases, a significant impact will be identified as significant and unavoidable if no feasible mitigation measure(s) is/are available to reduce the impact to a less-than-significant level. If a project is subsequently adopted despite identified significant impacts that would result from the project, CEQA requires the lead agency to prepare and adopt a statement of overriding considerations describing the social, economic, and other reasons for moving forward with the project despite its significant impact(s).

3.3 Baseline Conditions

Under CEQA, the environmental setting or “baseline” serves as a gauge to assess changes to existing physical conditions that would occur as a result of a proposed project. In accordance with CEQA Guidelines Section 15125, for purposes of this DEIR, the environmental setting is the existing physical conditions at the time the NOP was published (July 28, 2015).

3.4 Tiering from the WSER Program DEIR

As described in Section 1.1.1, this DEIR is tiered from the City’s 2010 Water Service Engineer’s Report (WSER) Program EIR (Program EIR) (City of Modesto 2010), in accordance with CEQA Guidelines Sections 15168 and 15152. CEQA Guidelines Section 15168(d) states: “A program EIR can be used to simplify the task of preparing environmental documents on
later parts of the program. The program EIR can: "[f]ocus an EIR on a subsequent project to permit discussion solely on new effects which had not been considered before."

CEQA Guidelines Section 15152(d) states:

"Any lead agency for a later project pursuant to or consistent with the program, plan, policy, or ordinance should limit the EIR or negative declaration on the later project to effects which:

1. Were not examined as significant effects on the environment in the prior EIR; or
2. Are susceptible to substantial reduction or avoidance by the choice of specific revisions in the project, by the imposition of conditions, or other means.

CEQA Guidelines Section 15168(c)(4) states that a program EIR may be used with later activities. Section 15168(c)(4) states:

Where the subsequent activities involve site specific operations, the agency should use a written checklist or similar device to document the evaluation of the site and the activity to determine whether the environmental effects of the operation were covered in the program EIR.

Accordingly, the City prepared an Environmental Checklist (Appendix B) to identify environmental issues that fall within the scope of the Proposed Project and need not be reevaluated in this EIR. Eight resource issues were not analyzed further in this EIR because they either were fully within the scope of the Program EIR or had no potentially significant impacts. The rationale for eliminating these issues from further analysis is provided in Section 3.5. As a result, this EIR analyzes environmental issues that were found to have the potential for significant impacts on the environment and were not fully considered in the Program EIR.

3.5 Sections Eliminated from Further Analysis

Eight CEQA checklist resource topics have been eliminated from further analysis based on the nature and scope of the Proposed Project activities, either because of the absence of any potentially significant environmental impacts or because the Proposed Project would be consistent with previous evaluations under the Program EIR. Where appropriate, the Environmental Checklist identifies applicable mitigation measures from the Program EIR that would apply to the various environmental topics; these mitigation measures are also listed in Section 3.6 of this DEIR.

Based on the Environmental Checklist prepared for the Proposed Project (Appendix B) and supporting environmental analysis, and in accordance with Section 15168 and 15162 of the CEQA Guidelines, the City has determined, on the basis of substantial evidence in the light of the whole record, that the Proposed Project is consistent with the project described and analyzed in the Program EIR. With implementation of the mitigation measures identified in this DEIR, no new or additional significant impacts related to these environmental resources would occur, compared to impacts disclosed in the Program EIR.
The Environmental Checklist is included in Appendix B. A brief summary and description of the resource topics dismissed from further evaluation is provided below.

3.5.1 Agriculture and Forestry Resources

There are no Williamson Act contracts on the Proposed Project sites.

According to the California Department of Conservation’s map, “Stanislaus County Important Farmland 2010,” the Site A property is designated Rural Residential and the Site B property is designated as Urban and Built-Up (California Department of Conservation 2015). Therefore, no Prime Farmland, Unique Farmland, or Farmland of Statewide Importance would be converted to nonagricultural use for this project.

Site A is zoned as A-2-40 (General Agriculture District), which permits various uses, including (but not limited to) agricultural uses, single-family dwellings, mobile homes, buildings and appurtenances that are incidental or related to farming purposes, garage sales, and temporary agricultural service airports. According to Section 21.20.030 of the Stanislaus County Code, the A-2 district allows “Tier Three” uses that are not directly related to agriculture but may be necessary to serve the A-2 district. Specifically, public buildings and facilities for public utilities may be permitted on parcels zoned A-2, subject to permit approval by the Stanislaus County Planning Commission. The proposed facilities would likely meet the “Tier Three” criteria of a permitted use. As required by County Code, the City would apply for a use permit from Stanislaus County.

Site B is zoned as P-D (Planned Development) and therefore would not conflict with zoning for agricultural use. The Site A and Site B pipelines would be installed within road rights-of-way and therefore would not conflict with zoning for agricultural uses.

Therefore, the Proposed Project would not result in farmland conversion.

3.5.2 Geology, Soils, and Mineral Resources

As described in Section VI of the Environmental Checklist, the Proposed Project sites are underlain with soils suitable for the proposed tank and wells. The sites have sandy loam and loamy sand soils and a relatively low water table; thus, seismic-induced differential settlement, ground failure, or liquefaction would not be expected. There are no known faults in the project area. The project area lies within the central portion of Stanislaus County and is considered to be at “Moderate” risk for earthquake shaking potential. The Proposed Project would be required to comply with the most recent California Building Code seismic standards for construction.

Site A is underlain by soils with moderate susceptibility to erosion. Soils at site B have low to moderate susceptibility to erosion. The Proposed Project would reduce erosion and sedimentation potential to a less-than-significant level with the implementation of construction best management practices required as part of the permitting process for the National Pollutant Discharge Elimination System.

The proposed infrastructure would have no significant impact on the recoverability of any mineral deposits in the vicinity of the project sites.
The Proposed Project sites are located in an area that is relatively flat with only minor changes in topography; landslides and lateral spreading are not likely to occur on either of the proposed sites. Construction-related ground-disturbing or excavation activities could alter the soil stability at the construction locations. Excavation and trenching for the transmission pipelines may create unstable slopes during construction. The City would implement Mitigation Measure GEO-1 from the Program EIR to reduce these impacts to a less-than-significant level.

The Proposed Project includes the installation of production wells and extraction of groundwater resources. Groundwater withdrawal has the potential to result in subsidence and/or collapse during a seismic event and may be potentially significant. Analysis of groundwater resources and the Proposed Project's potential risk of land subsidence or collapse are addressed in detail in Chapter 9, Groundwater, of the DEIR.

### 3.5.3 Hazards and Hazardous Materials

At Sites A and B, most of the equipment to be installed would be electrical, but may contain small amounts of oils, lubricants, or other hazardous substances. Backup generators on site would use diesel fuel, which would be transported to the site, stored on site, and disposed of from time to time. On-site containment is required for the chlorinator and in case of diesel fuel spills and would be implemented as part of project design.

Phase I Environmental Site Assessments were conducted at Site A and Site B in 2012 (ATC Associates 2012a, 2012b). Three underground storage tank (UST) sites were reported in the vicinity of Site A, none of which are reported as having impacts on Site A. Other potential sources of hazardous materials at Site A include asbestos-containing materials and lead-based paint within the residential buildings. Abatement of asbestos-containing materials and lead-based materials during any demolition of existing buildings would be supervised by a contractor certified by the California Occupational Safety and Health Administration and would be conducted in a manner compliant with federal, state, and local regulations. The homestead is served by an existing septic tank and leach lines located just south of the main residence. Removal or abandonment of the treatment system would be conducted in accordance with local and state regulations to prevent any potential release of or worker exposure to waste material or contaminated soils.

At Site B, a database query reported one 1,000-gallon gasoline UST and one 500-gallon gasoline UST at the property for agricultural uses. No files, reports of releases, or violations were identified at the property or addresses near Site B. There are no records of hazardous materials sites or hazardous cleanup sites along St. John Road and the proposed pipeline alignment.

In summary, Phase I Environmental Site Assessments conducted at Sites A and B did not identify any documented hazardous materials storage areas, hazardous materials cleanup sites, or leaking USTs that may affect the project sites. Demolition of existing buildings and wastewater treatment systems would be conducted in accordance with local and state regulations. However, the Proposed Project could result in direct and indirect impacts from a release of hazardous materials at a known contaminated site.

There are no public or public-use airports near the project sites. Additionally, there are no wildlands near the site. Therefore, there is no impact on wildfires.
Installation of distribution pipelines may require temporary lane closures in the vicinity of the sites. Implementation of a traffic management plan would be included as part of the City’s Standard Construction Procedures.

In conclusion, the Proposed Project could result in direct and indirect impacts from a release of hazardous materials at a known contaminated site. The City would implement Mitigation Measures HAZ-1 and HAZ-2 from the Program EIR to reduce this impact to a less-than-significant level.

### 3.5.4 Hydrology and Water Quality

Several topics in Section IX of the Environmental Checklist were dismissed, as summarized below; however, the Proposed Project’s potential impacts on groundwater are fully evaluated in the EIR.

Water quality could be affected by construction of the tank, pipelines, and water wells or by a possible accident involving fuel spills, but secondary containment and the location of the site away from the Stanislaus River and other water bodies would reduce the potential for water quality impacts, as compared to the impacts analyzed in the Program EIR.

The Proposed Project would not alter the course of any stream or river, but would change the existing drainage patterns at the project sites. Proposed facilities at Site A would result in an increase of impervious surfaces and could, therefore, increase the amount of runoff or otherwise change patterns of drainage and infiltration. Site A includes construction of a stormwater retention basin to capture and infiltrate stormwater runoff from the project site. The basin would be designed with the appropriate capacity to receive rainfall runoff and water from the water storage tank, if it were to fail. Runoff from new impervious surfaces proposed at Site B would be retained on site.

The Proposed Project would involve grading, excavation, trenching, and other construction-related activities that leave soils exposed to erosion. During construction, runoff at the sites would be controlled through implementation of a stormwater pollution prevention plan as required under the National Pollutant Discharge Elimination System; after construction, the project sites would be flat, and loss of topsoil and soil erosion would not be substantial. At Site A, the proposed stormwater retention basin and berm slopes may be susceptible to erosion; however, the Proposed Project includes planting vegetation on the berms and stabilizing the slopes of the retention basin with hydroseeding or planted with drought-tolerant plants.

The Proposed Project does not involve the construction of housing and the site does not lie within the 100-year floodplain.

The Proposed Project would occur outside the 100-year floodplain, so risk of flood damage to the proposed infrastructure is consistent with the degree of risk assumed in the Program EIR. Furthermore, there would be no change in the risk of flooding from dam failure as compared to the risk throughout the area. Finally, the Proposed Project would not substantially alter any existing drainage pattern or change a watercourse such that flood hazards are increased, and is consistent with the degree of risk analyzed in the Program EIR.
3.5.5 Population and Housing

At Sites A and B, the proposed wells and tank in the Del Rio area would increase the local water supply and water pressure, which would, in turn, allow greater development in the Del Rio plan area, which has not yet been fully built out. The new facilities are proposed to address existing deficiencies in the water delivery system; the amount of water that would be produced by these wells is not expected to facilitate growth greater than that anticipated to occur with the development of the Del Rio planning area. This impact was disclosed in the Program EIR and no mitigation was proposed to reduce the impact; the impact of this specific project is consistent with the impact disclosed in the Program EIR. Because population growth induced by the Proposed Project would occur only within the bounds of planned growth, the Proposed Project would not contribute to unplanned growth. All growth would be consistent with that contemplated in the Program EIR, and therefore this issue is considered less than significant.

No people or housing would be displaced as a result of construction or operation of the proposed well and tank.

3.5.6 Public Services

The Proposed Project would have no significant impacts on public services. The Program EIR did not identify an impact and thus did not identify mitigation measures. No new or additional significant impacts have been identified for the Proposed Project relative to this topic.

Construction of the Proposed Project would employ construction workers at the project sites, who would likely come from the regional labor force. While some construction workers could temporarily relocate from other areas, the project would not result in a substantial increase in the local population. During construction, potential incidents could require the involvement of local law enforcement, fire protection, or emergency services. However, such increases in incidents are not anticipated to be of a magnitude that would adversely affect response times or other performance objectives of these public services. No need for additional schools or public facilities or physical modifications to schools or other public facilities would result from the Proposed Project.

Furthermore, during the EIR scoping period, the Stanislaus Union School District submitted a comment letter stating that the school district had no comments or concerns with the Proposed Project (Stanislaus Union School District 2015). The Pacific Gas and Electric Company submitted a comment letter during the scoping period stating that the agency had no comments or concerns regarding the Proposed Project (Pacific Gas and Electric Company 2015). Therefore, the Proposed Project is anticipated to have a less-than-significant impact on public services.

3.5.7 Recreation

No significant impacts on recreation were identified in the Program EIR; therefore, it contained no mitigation measures.

Construction and operation of the proposed wells and tank are not expected to have any impact on the use or quality of parks. Furthermore, this project would create no demand for new or expanded parks or other recreational facilities.
3.5.8 Transportation and Traffic

At Sites A and B, a maximum of 31 daily one-way vehicle trips (worker commute trips, haul trips, and vendor trips) would occur during trenching, the most traffic-intensive phase of construction on the individual projects (see Table 2-1 in Chapter 2, Project Description). If trenching and jack/bore activities take place simultaneously, a total of 48 daily, one-way vehicle trips could result for that 20-day period. During operation of the wells and tank, City staff would visit the facilities once each week-day (i.e., five round trips each week) for inspection and maintenance.

At Site A, construction activities would temporarily increase emergency response times due to lane narrowing or lane closures to allow the installation of approximately 2,500 linear feet of water transmission pipeline in St. John Road from the site to the intersection with Country Club Drive. At Site B, construction activities would temporarily increase emergency response times due to lane narrowing or lane closures to allow the installation of approximately 500 linear feet of water transmission pipeline in McHenry Avenue and Stewart Road to the intersection with Grove Pointe Drive. However, these impacts were disclosed in the Program EIR and no greater impacts would be expected to occur as a result of the Proposed Project. The City's Standard Construction Procedures would be implemented during construction; these include preparing a traffic control plan, public notification, and preconstruction meetings. Adherence to the City's Standard Construction Procedures would ensure a less-than-significant impact, consistent with the Program EIR.

At Sites A and B, there would be no continuous demand for parking for maintenance staff. Any needed parking would be accommodated on site.

Neither Site A nor Site B is located near any airport or airstrip or the infrastructure that would have an effect on air traffic due to any of its features. This is consistent with the analysis in the Program EIR. Furthermore, the construction of the tank, wells, and associated infrastructure would result in no significant changes to the affected roadways or traffic on them after construction is complete. The project does not conflict with plans or policies for non-automobile transportation.

The Program EIR did not identify an impact and thus did not identify mitigation measures. No new or additional significant impacts have been identified for the Proposed Project relative to this topic.

3.5.9 Utilities and Service Systems

The purpose of the Proposed Project is to extract groundwater supplies. Both Sites A and B would help diversify water supply and improve reliability, consistent with the Program EIR. The Proposed Project would not directly affect surface water supplies or surface water rights. The potential impact of the Proposed Project on groundwater supplies is fully evaluated in Chapter 9, Groundwater, of this DEIR. Aside from the issue of groundwater supply, other topics in Section XVII of the Environmental Checklist are less than significant, as described below.

The proposed new water supply infrastructure at Sites A and B would not directly result in a substantial increase in the demand for stormwater drainage or wastewater treatment facilities. Surface runoff is expected to be minimal, as noted in the discussion of hydrology.
and water quality. Impacts from this project are expected to be consistent with those disclosed in the Program EIR.

Any solid waste resulting from construction and maintenance of the proposed well and tank would be disposed of at the Fink Road Landfill, if it cannot be recycled, as disclosed in the Program EIR. The Fink Road Landfill is expected to have adequate capacity to serve the very limited need expected to result from this project and no significant impact is anticipated.

All relevant federal, state, and local statutes and regulations would be complied with and no impact is expected to occur.

No new or additional significant impacts have been identified for the Proposed Project relative to this topic.

3.6 Program EIR Mitigation Measures Applied to the Project

CEQA Guidelines Section 15168(c)(3) states that "[a]n agency shall incorporate feasible mitigation measures and alternatives developed in the program EIR into subsequent actions in the program." In compliance with this requirement, all appropriate mitigation measures from the Program EIR shall be incorporated into the Proposed Project. Urban Area General Plan policies and Master EIR mitigation measures shall be made part of the Proposed Project prior to approval by means of conditions of project approval or incorporation into the appropriate document or plan. Applicable mitigation measures are listed below for those topics not evaluated in detail in this DEIR, as referenced above, and for topics receiving detailed evaluation in this DEIR; applicable mitigation measures from the Program EIR are also included in the relevant topical chapter of this DEIR. These mitigation measures are also listed in the Mitigation Monitoring and Reporting Program (MMRP) included with this DEIR (Appendix H).

3.6.1 Agriculture and Forestry Resources

None.

3.6.2 Geology, Soils, and Mineral Resources

Sites A and B

Mitigation Measure GEO-1: Conduct project-specific geotechnical investigation prior to construction.

During project design, project-specific geotechnical investigations and reports will be prepared by registered engineers to detect site conditions that could result in liquefaction, construction on expansive soils, or other potential hazards and to identify appropriate design requirements that would prevent damage to structures. Site-specific geological data and recommendations by a registered engineer will be incorporated into project design, thereby reducing any impacts due to liquefaction.
3.6.3 Hazards and Hazardous Materials

Sites A and B

**Mitigation Measure HAZ-1:** Prepare a risk assessment prior to construction activity.

Prior to the commencement of construction activities, the City or its contractor will prepare a risk assessment and establish procedures to address the identification, excavation, handling, and disposal of hazardous materials in accordance with ASTM Standard 1527-05, “Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process” and the EPA “All Appropriate Inquiries” standards and practices (40 CFR 312). An environmental database search of regulatory-listed hazardous materials sites contained in local, regional, state, and federal databases for the program site and within a 0.5-mile radius of the site will be performed by a qualified professional as part of this assessment. If contaminated soil or groundwater is encountered, the City will notify the appropriate local environmental management agencies and local fire departments. The City will ensure that any identified environmental site conditions that may represent a risk to public health and safety will be remediated in accordance with federal, state, and local environmental laws and regulations. All recommendations in the risk assessment will be implemented by the City and all its representatives, including contractors and earthwork construction workers, such that people are not exposed to adverse conditions on the program site as a result of discovering existing sources of contamination.

**Mitigation Measure HAZ-2:** Control contamination resulting from previously unidentified hazardous waste materials.

Prior to the onset of construction, all construction workers will be trained in the identification of potentially contaminated soil and water, including the characteristics of potential contamination, such as discolored soil, oils or sheens on water, and unusual odors. In the event that hazardous materials are encountered during construction, all construction activities in the area of the discovery will stop, and the City or its contractors will conduct hazardous materials investigations to identify the nature and extent of contamination and evaluate potential impacts on program construction. If necessary, the City or its contractors will implement remediation measures consistent with all applicable local, state, and federal codes and regulations. Construction will not resume until remediation is complete. If waste disposal is necessary, the City will ensure that all hazardous materials removed during construction are handled and disposed of by a licensed waste-disposal contractor and are transported by a licensed hauler to an appropriately-licensed and permitted disposal or recycling facility, in accordance with local, state, and federal requirements.

3.6.4 Hydrology and Water Quality

None.
3.6.5 Population and Housing

None.

3.6.6 Public Services

None.

3.6.7 Recreation

None.

3.6.8 Transportation and Traffic

None.

3.6.9 Utilities and Service Systems

None.
4.1 Overview

This chapter describes the existing visual and aesthetic resources within the potentially affected area and pertinent local, state, and federal plans and policies regarding the protection of visual and scenic resources. The potential impacts on scenic resources, public views of scenic vistas, visual character of the potentially affected area, and light and glare effects from construction and operation of the Proposed Project are evaluated. Mitigation measures are proposed to address the impacts found to be significant.

Visual character, visual quality, and visual sensitivity are three terms used throughout this chapter. Visual character is the unique set of landscape features that combines to make a view, including native landforms, water, and vegetation patterns, as well as built features such as buildings, roads, and other structures. Visual quality is the intrinsic appeal of a landscape or scene due to the combination of natural and built features in the landscape. Natural and built features combine to form unique perspectives with varying degrees of visual quality, which is rated in this analysis as high, moderate, or low. Visual sensitivity reflects the level of interest or concern that viewers have for a particular visual resource with visual quality taken into account. Visual sensitivity is a measure of how noticeable proposed changes might be in a particular setting and is determined based on the distance from a viewer, the contrast of the proposed changes, and the duration that a particular view would be available to viewers. For example, areas such as scenic vistas, parks, trails, and scenic roadways typically have a high visual quality and visual sensitivity because these locales are publicly protected and appear natural, view durations are typically long, and close-up views are more commonly available.

4.2 Regulatory Setting

No federal regulations are applicable to aesthetics in relation to the Proposed Project.

4.2.1 State Laws, Regulations, and Policies

California Scenic Highway Program

In 1963, the California State Legislature established the California Scenic Highway Program, a provision of the Streets and Highways Code, to preserve and enhance the natural beauty of California (California Department of Transportation [Caltrans] 2015). The state highway system includes designated scenic highways and those that are eligible for designation as scenic highways. There are no state-designated scenic highways near the Proposed Project site.
4.2.2 Local Laws, Regulations, and Policies

Stanislaus County General Plan 2015

The Stanislaus County General Plan 2015 Conservation/Open Space Element (2016) acknowledges the scenic value of the county’s open space lands and need for preserving these lands for scenic purposes. The general plan includes the following goal, policy, and implementation measure concerning protection of scenic views or aesthetic resources:

**Goal One:** Encourage the protection and preservation of natural and scenic areas throughout the County.

**Policy Two:** Assure compatibility between natural areas and development.

Del Rio Community Plan

The Del Rio Community Plan (Stanislaus County 1992), which was incorporated in the Stanislaus County General Plan, does not identify specific policies or regulations related to preservation of scenic views or aesthetic resources.

4.3 Environmental Setting

4.3.1 Regional Setting

The community of Del Rio is characterized by agricultural uses, open space, residential development, the Del Rio Golf and Country Club, and the Stanislaus River, which borders the community to the north. The Stanislaus River is the primary body of water in Del Rio. Numerous riparian trees and shrubs line the river corridor. The overhead electrical power lines and poles located along roads in Del Rio also contribute to the region’s visual character. The topography of Del Rio, including the Proposed Project site, is relatively flat.

4.3.2 Project Vicinity

**Visual Character and Quality of the Proposed Project Site**

Site A is situated in the southern part of Del Rio and Site B is located in the eastern part of the community. The visual character and quality of both sites are described in the following paragraphs. Figure 4-1 provides a key to photographs of Sites A and B and the project vicinity from several vantage points. Photographs presented in Figures 4-2 and 4-3 show the agricultural and residential character of the sites and surrounding areas. Photographs of the existing sites are also presented in the top images of Figures 4-4, 4-5, and 4-6.

Site A is located immediately southeast of the Ladd Road/St. John Road intersection. The approximately 4-acre site is bounded by a Modesto Irrigation District canal to the south, Union Pacific Railroad tracks to the west, and agricultural uses and residential uses to the north and east (see Figure 4-2, Photo 3). The northeastern portion of Site A that fronts Ladd Road is currently occupied by a single-family residence, which consists of a house, garage, and outbuildings (see Figure 4-2, Photos 1 and 2; Figure 4-4, Photo 7). Approximately 22 trees are present on the site. The remaining portion of the site is undeveloped land covered with
Figure 4-1
Vantage Points for Photos and Simulations
Chapter 4. Aesthetics

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Photo 1: View of Site A looking southeast from the St. John Road and Ladd Road intersection.

Photo 2: View of Site A looking southeast from northwestern corner of site (near St. John Road and Ladd Road intersection).

Photo 3: View of land uses east of Site A from Ladd Road.

Figure 4-2: Views of Site A and Surrounding Area
Photo 4:
View of Site B looking south from McHenry Avenue.

Photo 5:
View of Site B looking west from McHenry Avenue.

Photo 6:
View of McHenry Avenue and Stewart Road intersection looking west.

Figure 4-3
Views of Site B and Surrounding Area
Figure 4-4: Existing and Simulated Views of Site A in the Short Term

Photo 7. Existing view of Site A looking southwest from Ladd Road.

Simulated view of Site A looking southwest from Ladd Road shortly after construction is complete.

Source: ICF, 2015
Figure 4-5: Existing and Simulated Views of Site A in the Long Term

Photo 7. Existing view of Site A looking southwest from Ladd Road.

Simulated view of Site A looking southwest from Ladd Road in the long-term.

Source: ICF, 2015
Simulated view of Site B looking west from McHenry Avenue.

Source: ICF, 2015

Figure 4-6: Existing and Simulated Views of Site B
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grasses and ruderal vegetation. Mature trees border the western side of the site and overhead electrical transmission lines and wooden utility poles are located along the northern side of Site A and Ladd Road. Site A is largely characterized by the surrounding fallow fields and orchards and single-family homes. Aside from the trees present on the northeastern corner of the site, there are no features of special visual concern. However, given that most of the site is undeveloped and given the openness of surrounding land uses, the visual quality is considered moderate.

Site B is located at the northwest corner of the McHenry Avenue/Stewart Road intersection. The site encompasses approximately 0.4 acre. Land uses surrounding Site B include single-family residences and outbuildings to the west and south, agricultural lands used to grow grains and orchards to the north and east, and a fruit stand to the southeast. The site is currently vacant and undeveloped, with the exception of a few overhead power lines and utility poles (see Figure 4-3, Photos 4 and 5; Figure 4-5, Photo 8). Similar to Site A, Site B is largely characterized by the nearby agricultural fields and residential development to the west. As shown in Figure 4-3 (Photos 5 and 6) and Figure 4-6, mature trees (including an oak tree) are situated to the south and west of Site B. While there are no particular features of visual interest present on the site, because of the site's undeveloped condition and openness, and the agricultural nature of the surrounding lands to the east, the visual quality of Site B is considered moderate.

Light and Glare

Nighttime lighting is sometimes necessary to provide and maintain safe, secure, and attractive environments. Light that falls beyond the intended area of illumination is referred to as "light trespass." The most common cause of light trespass is spillover light, which occurs when a lighting source illuminates surfaces beyond the intended area, such as when building security lighting or parking lot lights shine onto neighboring properties. During nighttime hours, spillover light can adversely affect light-sensitive uses such as residences. Both light intensity and fixtures can affect the amount of any light spillover. Modern, energy-efficient fixtures that face downward, such as shielded light fixtures, are typically less obtrusive than older, upward-facing light fixtures.

Glare is caused by light reflections from pavement, vehicles, and building materials such as reflective glass, polished surfaces, or metallic architectural features. During daylight hours, the amount of glare depends on the intensity and direction of sunlight.

Existing lighting is sparse on and around Sites A and B. The sparse lighting on the two sites is largely due to the fact that both sites are mostly undeveloped and surrounded by agricultural and residential land uses. The most notable lighting source nearby is from the subdivisions north of Site A and the subdivision west of Site B. There are no significant sources of glare in the vicinity of Sites A and B.

Scenic Vistas, Highways, and Corridors

A scenic vista is generally defined as a viewpoint that provides expansive views of a highly valued landscape for the benefit of the general public. There are no scenic vistas or state-designated scenic highways or scenic corridors in the vicinity of Sites A and B.
Viewer Sensitivity

Viewer sensitivity is another consideration in assessing the effects of visual change. Sensitivity is a function of factors such as the visibility of resources in the landscape, proximity of viewers to the visual resource, elevation of viewers relative to the visual resource, frequency and duration of views, number of viewers, and types and expectations of individuals and viewer groups.

Viewer Groups

Viewer groups in the vicinity of the project site and their sensitivity to visual changes are described below. Viewer groups with visual access to the project site include residents and recreationists.

Resident

In general, as a viewer group, residents have a heightened sensitivity to the surrounding viewshed because their views are of high frequency and long duration. Residents also have an expectation of a consistent setting around their properties.

Site A is immediately visible from several residences bordering the site to the west, northeast, and east on Ladd Road. Photo 7 in Figure 4-4 is a representative view of Site A from the residence northeast of the site. As previously described, existing views of Site A from the residences adjacent to Site A include the single-family home, outbuildings, trees, and grass-covered land north of the buildings.

Site B is partially visible from the adjacent property on Stewart Road south of the site. The residence at this property may have partial views of Site B from the backyard, although the mature trees and fencing likely screen views of the site.

Recreationists

Other viewers of the Proposed Project site include pedestrians and bicyclists, who typically have a heightened sensitivity to the surrounding viewshed. Although these roads are not expected to be highly used by pedestrians and bicyclists, this viewer group cannot be discounted entirely. Views from the perspective of recreationists would be moderately short. This viewer group is likely accustomed to the working agricultural landscape, residential uses, and open space that are present throughout the Del Rio area. For these reasons, this viewer group is expected to have a moderate visual sensitivity to views in the vicinity of Sites A and B.

4.4 Impact Analysis

4.4.1 Methodology

This section evaluates potential impacts on visual resources that could occur during construction and operation of the Proposed Project. The visual analysis is based on review of maps and evaluations of aerial and ground-level photographs of the Proposed Project sites.
Visual effects of the Proposed Project were assessed based on the Proposed Project's potential to substantially alter scenic resources or to degrade the visual character of the sites. The evaluation of temporary or short-term visual impacts considers whether construction activities could substantially degrade the existing visual character or quality of the sites or surrounding areas, as well as the duration over which any such changes would occur. Because of their short-term nature, construction activities occurring in an area for less than 1 year are typically considered to have a less-than-significant effect on visual quality. However, activities occurring in an area for more than 1 year have been evaluated for potentially significant visual impacts.

Because construction activities would be limited to daytime hours (between 7:00 a.m. and 5:00 p.m.), no nighttime construction or associated lighting would be required. As such, no effects related to nighttime construction lighting would occur. The impact analysis below focuses instead on evaluating permanent effects associated with new sources of light or glare.

Actions with long-term visual effects, such as constructing new or altered structures, grading roads, removing trees, and introducing new sources of light and glare, could permanently alter the landscape in a manner that could affect the visual character or quality of the area, depending on the perspective of the viewer. To determine impact potential, the assessment considers the visual sensitivity of the Proposed Project sites and surrounding areas.

4.4.2 Criteria for Determining Significance

Based on Appendix G of the CEQA Guidelines and professional expertise, it was determined that the Proposed Project would result in a significant impact on aesthetics if it would:

- Have a substantial adverse effect on a scenic vista;
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;
- Substantially degrade the existing visual character or quality of the site and its surroundings; or
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

The Proposed Project would not be visible from any known nearby scenic vistas. Therefore, construction and operation of the Proposed Project would not have a substantial effect on a scenic vista.

As described in Section 4.4.1, the Proposed Project facilities would not be located near any state-designated scenic highway or scenic corridor. Therefore, there would be no impact on scenic resources located along a scenic highway or corridor.
4.4.3 Environmental Impacts

Impact AES-1: Substantial Degradation of the Visual Character or Quality of the Site and its Surroundings from Project Construction (Less than Significant with Mitigation)

Site A Construction Activities

At Site A, construction activities associated with the water storage tank, pump station building housing a production well and booster pumps, pipeline installation, stormwater retention basin, security fencing, landscaping, and other ancillary improvements would be visible from Ladd Road and the Ladd Road/St. John Road intersection. In general, construction activities at this site would include clearing and grubbing, demolition of the existing house and outbuildings, excavation, import and placement of fill, pipeline installation, backfilling, placement of concrete foundation, and tank and building construction. Large equipment such as bulldozers, backhoes, cranes, excavators, graders, pavers and rollers, and well drilling equipment would be required for various project components within the site.

Pipeline installation work would extend from the St. John Road/Country Club Drive intersection to the St. John Road/Ladd Road intersection, totaling approximately 2,500 linear feet. Although the exact location of staging areas has not yet been determined, it is anticipated that staging areas would be accommodated within Site A and within the right-of-way or in vacant lots.

Direct views of construction activities for the water tank, pump station building, and other proposed components at Site A would be available from Ladd Road and the Ladd Road/St. John Road intersection (see Figure 4-2, Photos 1 and 2). Residences located northeast and east of the site on Ladd Road would have views of Site A construction activities throughout the approximately 15-month construction period. These residences would notice the operation of construction equipment and the presence of staging materials, construction vehicles, and construction workers. Any pedestrians and bicyclists using these roads would also have short-duration views of these construction activities.

Site B Construction Activities

At Site B, construction activities associated with the production well and pump, facility walls and gate, and transmission pipeline would be visible from McHenry Avenue. As with Site A, large equipment, including bulldozers, backhoes, cranes, excavators, graders, and pavers, would be used at Site B, and this equipment would be visible from McHenry Avenue. Pipeline installation work would extend from the well to the existing City distribution pipelines along McHenry Avenue (approximately 190 feet), then extend west for 760 feet along Stewart Road, terminating at the intersection of Stewart Road and Grove Pointe Way.

Residences adjacent to Site B may have partial close-up views of construction activity throughout the duration of the construction period; however, the property's existing fence and mature trees would largely screen views of the construction activities.
Conclusion

Overall construction is expected to last approximately 15 months. Throughout this period, construction activities at Sites A and B, pipeline installation work along St. John Road, and materials and equipment in staging areas would be visible from St. John Road, Ladd Road, and McHenry Avenue. Nearby residents and any pedestrians or bicyclists using these public roads would have views of the work areas throughout the 15-month construction period. While these views would be primarily limited to adjacent residents and recreationists and would not affect any designated scenic resources, the visual character of the two sites and the surrounding areas would be substantially degraded during the construction period. While CEQA does not consider impacts on private views to be significant, given that publicly accessible views from nearby roads would be temporarily degraded, this impact is considered potentially significant. Implementation of Mitigation Measures AES-1 (Locate Staging Areas Away from Public Areas) and AES-2 (Screen Staging and Construction Areas), which have been modified from mitigation measures identified in the Program EIR, would reduce this impact to a less-than-significant level.

Mitigation Measure AES-1: Locate Staging Areas Away from Public Areas.

Construction staging areas for equipment, personal vehicle parking, and material storage shall be sited as far as possible from residences, major roadways, and public areas. The City contract specifications shall require that staging areas be identified in the documents prepared by construction contractors and subject to approval by the City. The City shall not approve staging areas that are not sited as described above.

Mitigation Measure AES-2: Screen Staging and Construction Areas.

The construction contract shall specify that staging areas be located where opportunities for screening with existing topography and vegetation will be maximized. Security fencing placed around staging and construction areas shall include slats or other screening sufficient to hide the area from the passing public. Screens used for this purpose shall be of an earth tone or other appropriate neutral color.

Impact AES-2: Long-term Adverse Effects on the Visual Character or Quality of the Site and its Surroundings during Operation (Less than Significant)

Once constructed, the Proposed Project pipelines and wells at Sites A and B would be underground and would not be visible. These project components would not be visible and would have no impact on the visual character or quality of the site and surrounding area. However, other structures would be built on the site, such as the proposed water storage tank, pump station building, and other ancillary improvements. The impacts of these structures are described below.

Site A

Figure 4-4 presents an existing image of Site A looking southwest from Ladd Road and a simulated image that depicts the proposed water storage tank, pump station building, and other ancillary improvements shortly after project construction is complete. Figure 4-5
shows the same existing image of Site A as presented in Figure 4-4 and includes a simulated image of the proposed facilities in the long term (approximately 10-12 years after construction is complete).

As shown in the bottom images of Figures 4-4 and 4-5, the water storage tank would be set back from Ladd Road near the central portion of the site, and the pump station building would be located near the northwestern corner of the site but also set back from the roadway edge; the Ladd Road frontage would consist of the paved driveway, fencing, and landscaping. An approximately 2-foot-high undulating berm would be constructed on the west and east sides of the site. Coast redwoods would be planted on top of the berms to help screen views of the site from adjacent residences. Over time, landscaping along the western, eastern, and northern sides of the site would screen views of the tank and building.

Proposed Project components that would be publicly visible include the following:

- **Water storage tank** – The water storage tank would be up to 20 feet tall (above ground) and approximately 55 feet in diameter. The exterior of the tank would consist of non-reflective earth tones and have a sloped roof.

- **Pump station building** – The pump station building would be approximately 40 feet wide by 50.5 feet long and 21 feet tall. The pump station building would have a stucco finish and an earth tone exterior.

- **Other ancillary features** – Site A would have 8-foot-tall concrete masonry or wrought-iron fencing topped with no-climb points and three strands of barbed wire along the Ladd Road frontage. Ladd Road frontage would include 9-foot-tall vehicular and pedestrian access gates. The rest of the site would be enclosed by an 8-foot-tall, 1-inch chain-link fence with security wire.

- **Landscaping** would be installed along the Ladd Road frontage to screen views of the tank from this roadway. Landscaping would be tiered such that the low ground shrubs would be planted in the foreground (closest to Ladd Road), with medium-sized shrubs and taller screening trees in the backdrop in front of the wrought-iron gate. Based on the draft landscaping plan developed for the Proposed Project (North Star Engineering Group 2013), trees that may be planted on the site include Chinese tallow, coast redwoods, and cherry laurel trees. Note that this selection of plants is preliminary; plants would be chosen based on their proven drought tolerance. The groundcover depicted in the bottom image of Figure 4-5 also includes cotoneaster and floral shrubs that would provide low-level screening. Vegetated undulating soil berms would be constructed on the eastern and western sides of the site, and screening trees would be planted along these berms. Slopes of the stormwater retention basin would be hydroseeded or planted with drought-tolerant plants.

**Interim Effects**

Shortly after project construction is complete, primary views of Proposed facilities at Site A would be available from Ladd Road and the southern end of St. John Road. The Proposed Project would replace an existing house, outbuilding, and approximately 15 trees, introducing quasi-industrial uses to a predominantly agricultural and residential area. More specifically, the proposed water storage tank, pump station building, retention basin, and berms would convert vacant portions of the site to quasi-industrial facilities. Fencing and
landscaping would be installed where the existing house currently resides. As proposed, landscaping trees would take time to grow and mature. Shortly after construction is complete, the water storage tank, pump station building, and fencing would be visible to adjacent residents and any recreationists passing by the site (see bottom image of Figure 4-4). Four existing trees (12- to 18-inch diameter) would remain on site and, as shown in Figure 4-4, would partially screen views of the tank from Ladd Road. The berms on the east and west sides of the property would also partially screen views of the tank from adjacent residences. As such, the proposed tank and building would constitute a substantial visual change in comparison to existing conditions and the surrounding agricultural and residential land uses. Given the site’s moderate visual quality and general lack of any prominent scenic resources on site, and because the proposed berms and trees left on site would help screen views of the new facilities, the Proposed Project’s interim effects on the site and surrounding area’s visual character and visual quality would be less than significant.

**Long-term Effects**

Over time, the proposed shrubs and trees would grow and mature and the visual conditions at Site A would incrementally improve compared to the site’s appearance immediately after construction. The photosimulation shown in Figure 4-5 presents visual conditions approximately 10-12 years after planting of the floral shrubs, cotoneaster, Chinese tallow, coast redwoods, and cherry laurel trees. The tree and plant species selected for the landscaping plan have relatively fast growth rates and require low maintenance. Coast redwood trees, for instance, have relatively fast growth rates with height increases of sometimes more than 24 inches per year (Arbor Day Foundation 2015). As such, within the first 5-6 years after project construction, the coast redwoods planted along the berms on the western and eastern sides of Site A would screen adjacent residential views of the lower portions of the tank and building. Within this same timeframe, other trees and shrubs planted along the site’s frontage would also screen the lower portions of the new facilities. In the long term (approximately 10 years after construction), these trees and shrubs would screen the majority of the water storage tank and pump station building from Ladd Road. Given that the existing site is mostly vacant (with the exception of the existing house, garage, and outbuilding) and that the Proposed Project involves establishing many more trees and shrubs than are currently present, the Proposed Project would result in a beneficial effect on the visual character and quality of the site.

**Site B**

Figure 4-6 shows an existing view and a simulated view of the proposed 12-foot-tall concrete wall and 24-foot-wide gate surrounding the well and pump facilities at Site B from McHenry Avenue. The facility wall would be constructed of concrete blocks painted in an earth-tone tan color. The wall would be approximately 75 feet long and 65 feet wide. LED lighting, security cameras, and alarms would be installed outside of the building. A paved driveway connecting to McHenry Avenue would also be visible from McHenry Avenue. No trees would be removed and no landscaping is proposed at the site, aside from hydroseeding or planting of the retention basin slopes.

**Interim Effects**

Once construction at Site B is complete, the facility wall and gate would introduce a quasi-industrial facility on the currently vacant site and into a rural and residential setting. Any bicyclists or recreationists traveling on McHenry Avenue would have short-duration views of
the facility. The residence west of the site may have partial views of the new building, but the presence of mature trees south and west of the site would largely screen views of the new facility. Given the site's moderate visual quality and the lack of any prominent scenic resources on or near the site, the proposed building would not result in an adverse effect on the visual character of the site or surrounding area. The interim effect would be less than significant.

**Long-term Effects**

The long-term effects on the site and the surrounding area's visual character and visual quality would be similar to those described above under "Interim Effects." This impact would be less than significant.

**Impact AES-3: Permanent Sources of Substantial Light or Glare (Less than Significant)**

As described in Chapter 2, Project Description, the buildings at both sites would be constructed of concrete block material with an earth tone exterior and the tank at Site A would have a non-reflective paint on the outside. As such, the Proposed Project would not generate any substantial permanent sources of glare.

**Site A**

Currently, the house on Site A has an outdoor porch light near the front entrance. Once project construction is complete, outdoor security lighting would be installed throughout the site. Exterior lighting would be on poles using full cut-off LED fixtures and downward and internally directed, to the extent feasible, to reduce excess light or glare. Lights on poles would be equipped with motion sensors and would turn on only if motion is detected in the vicinity of the buildings and water storage tank. Outdoor lighting near the tank would have different control settings (e.g., Hi and Low). The lowest light setting would be used most of the time to minimize light trespass on adjacent properties; during periods of nighttime maintenance and repair work, the City may activate the high setting to achieve illumination levels necessary to complete maintenance/repair work safely. When outdoor lighting is active, these lights may be partially visible to nearby residents and from Ladd Road and St. John Road. Over time, landscaping at Site A would help screen views of lighting at the site.

**Site B**

There is no existing lighting on Site B. Similar to Site A, outdoor security lighting would be installed throughout Site B. Exterior lighting would be on poles using full cut-off LED fixtures and downward and internally directed, to the extent feasible, to reduce excess light or glare. Lights on poles would be equipped with motion sensors and would turn on only if motion is detected in the vicinity of the buildings. When outdoor lighting is active, these lights may be partially and temporarily visible to nearby residents to the south. The mature trees south and west of the site would largely screen views from adjacent residents.

**Conclusion**

At both sites, trees and vegetation would help screen views of any outdoor lighting when activated. In addition, exterior lighting would be directed downward, would operate only
when motion is detected, and would not generate a substantial source of light. Therefore, visual impacts related to permanent sources of light or glare would be less than significant.

### 4.4.4 Cumulative Impacts

**Impact AES-4: Cumulative Aesthetic Impacts (Less than Significant)**

The Program EIR (City of Modesto 2010) concluded that there would be no cumulative impacts regarding aesthetics. Since publication of that document and based on a current review of Stanislaus County Planning Department’s website, no other projects are planned in the immediate vicinity of Sites A or B that could create a significant cumulative impact related to aesthetics in combination with the Proposed Project. As such, consistent with the conclusions disclosed in the Program EIR, there would be no cumulative aesthetic impact to which the Proposed Project could contribute.
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5.1 Overview

This chapter describes the existing setting for air quality emissions in the project area, which is located in the San Joaquin Valley Air Basin (SJVAB). This chapter also describes federal, state, and local laws, regulations, and policies relevant to protection of air quality as they relate to the Proposed Project. The potential impacts on air quality as a result of construction and operation of the Proposed Project are evaluated.

5.2 Regulatory Setting

The Proposed Project is subject to air quality regulations developed and implemented at the federal, state, and local levels. Plans, policies, and regulations that pertain to air quality are discussed in this section.

5.2.1 Federal Laws, Regulations, and Policies

Clean Air Act

At the federal level, the Clean Air Act (CAA) governs air quality in the United States and is implemented by the U.S. Environmental Protection Agency (USEPA). USEPA is responsible for setting and enforcing the National Ambient Air Quality Standards (NAAQS) for atmospheric pollutants. It regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, non-road engines, and certain types of locomotives. USEPA also has jurisdiction over emissions sources outside state waters (outer continental shelf) and establishes various emissions standards for vehicles sold in states other than California; California has received a waiver to establish emission standards lower than the federal standards. As part of its enforcement responsibilities, USEPA requires each state with “nonattainment” areas to prepare and submit a state implementation plan (SIP) that demonstrates the means to attain the NAAQS before the deadline mandated by USEPA. The SIP must integrate federal, state, and local plan components and regulations and identify specific measures to reduce pollution, using a combination of performance standards and market-based programs, within the timeframe identified in the SIP. A maintenance plan must be prepared for each former nonattainment area that subsequently demonstrates compliance with the standards.

The CAA also contains regulations dealing with operating permits for large industrial and commercial sources that release pollutants into the air. Operating permits contain...
information on which pollutants are being released, the quantity that may be released, and what kinds of steps the source’s owner or operator must take to reduce pollution.

**Non-road Emission Regulations**

USEPA has adopted emissions standards for different types of non-road engines, equipment, and vehicles. For non-road diesel engines, USEPA has adopted multiple tiers of emission standards.

USEPA signed a final rule on May 11, 2004, introducing the Tier 4 emission standards, to be phased in between 2008 and 2015 (69 CFR 3957–39273, June 29, 2004). The Tier 4 standards require that emissions of particulate matter (PM) and oxides of nitrogen (NOx) be further reduced by about 90 percent. Such emission reductions can be achieved through the use of control technologies, including advanced exhaust gas after-treatment. To enable sulfur-sensitive control technologies in Tier 4 engines, USEPA also mandated reductions in sulfur content in non-road diesel fuels. In most cases, federal non-road regulations also apply in California, which has only limited authority to set emission standards for new non-road engines. The CAA preempts California’s authority to control emissions from new farm and construction equipment less than 175 horsepower (CAA Section 209[e][1][A]) and requires California to receive authorization from USEPA for controls over other off-road sources (CAA Section 209[e][2][A]).

5.2.2 State Laws, Regulations, and Policies

**California Clean Air Act**

Responsibility for attaining and maintaining air quality standards in California is divided between the California Air Resources Board (CARB) and regional air quality districts. Areas of control for the regional districts are set by CARB, which divides the state into air basins. The California Clean Air Act (CCAA) requires nonattainment areas to achieve and maintain the health-based California Ambient Air Quality Standards (CAAQS) by the earliest practicable date. The act is administered by CARB at the state level and by local air quality management districts at the regional level; the air districts are required to develop plans and control programs for attaining the state standards. Unlike the federal CAA, the CCAA does not set precise attainment deadlines. Instead, the CCAA establishes increasingly stringent requirements for areas that will require more time to achieve the standards.

CARB is responsible for ensuring implementation of the CCAA, meeting state requirements of the federal CAA, and establishing the CAAQS. The state standards are generally more stringent than the federal standards and incorporate additional standards for sulfate (SO4), hydrogen sulfide (H2S), vinyl chloride, and visibility-reducing particles. CARB sets emission standards for vehicles sold in California and for other emission sources, such as consumer products and certain off-road equipment. CARB also establishes passenger vehicle fuel specifications.

**Statewide Truck and Bus Regulations**

On December 12, 2008, CARB approved a new regulation to substantially reduce emissions of diesel particulate matter (DPM), NOx, and other pollutants from existing on-road diesel vehicles operating in California. The regulation requires affected trucks and buses to meet
performance standards and requirements between 2011 and 2023. Affected vehicles included on-road, heavy-duty, diesel-fueled vehicles with a gross vehicle weight rating greater than 14,000 pounds. The regulation was updated in 2011 and 2014 with revisions that provide more compliance flexibility and reflect the impact of the economic recession on vehicle activity and emissions. Heavy-duty trucks used in Proposed Project activities would be required to comply with this regulation.

In-use, Off-road Diesel Vehicle Regulation

In 2007, CARB adopted a regulation to reduce DPM and NO\textsubscript{X} emissions from in-use, off-road, heavy-duty diesel vehicles in California. The regulation imposes limits on vehicle idling and requires fleets to reduce emissions by retiring, replacing, repowering, or installing exhaust retrofits to older engines. In December 2010, major amendments were made to the regulation, including modifications to the compliance dates for performance standards and establishing requirements for compliance with verified diesel emission control strategy technologies that reduce PM and/or NO\textsubscript{X} emissions.

Heavy-duty Vehicle Inspection Program

The heavy-duty vehicle inspection program requires heavy-duty trucks and buses to be inspected for excessive smoke and tampering and for compliance with engine certification labels. Any heavy-duty vehicle (i.e., a vehicle with a gross vehicle weight rating greater than 6,000 pounds) traveling in California, including vehicles registered in other states and foreign countries, may be tested. Tests are performed by CARB inspection teams at border crossings, California Highway Patrol weigh stations, fleet facilities, and randomly selected roadside locations. Owners of trucks and buses found to be in violation are subject to penalties starting at $300 per violation. Heavy-duty trucks used for Proposed Project activities would be subject to the inspection program.

Heavy-duty On-board Diagnostic System Regulations

In 2004, CARB adopted regulations requiring on-board diagnostic (OBD) systems on all 2007 and later model year heavy-duty engines and vehicles (i.e., vehicles with a gross vehicle weight rating greater than 14,000 pounds) in California. CARB subsequently adopted a comprehensive OBD regulation for heavy-duty vehicles model years 2010 and beyond. The heavy-duty OBD regulations were updated in 2010, 2013, and 2016 with revisions to enforcement requirements, testing requirements, and implementation schedules. Heavy-duty trucks used for Proposed Project activities would be required to comply with the heavy-duty OBD regulatory requirements.

California Standards for Diesel Fuel Regulations

State regulations require diesel fuel with sulfur content of 15 parts per million (ppm) or less (by weight) to be used for all diesel-fueled vehicles that are operated in California. The standard also applies to non-vehicular diesel fuel, except for diesel fuel used solely in locomotives or marine vessels. The regulations also contain standards for the aromatic hydrocarbon content and lubricity of diesel fuels.
Airborne Toxic Control Measures

CARB regulates toxic air contaminants (TACs) by requiring implementation of various airborne toxic control measures (ATCMs), which are intended to reduce emissions associated with toxic substances.

ATCM to Limit Diesel-fueled Commercial Motor Vehicle Idling

On October 20, 2005, CARB approved an ATCM to limit idling of diesel-fueled commercial motor vehicles. This regulation, which followed previous idling ATCMs, consists of new engine and in-use truck requirements, as well as idling emission performance standards. The regulation requires 2008 and newer model year heavy-duty diesel engines to be equipped with a nonprogrammable engine shutdown system that automatically shuts down the engine after 5 minutes of idling or, optionally, meets a stringent NOx idling emission standard (30 grams per hour). The regulation also is applicable to the operation of in-use trucks, requiring operators of sleeper berth–equipped trucks with both in-state and out-of-state registration to shut down their engines manually when idling more than 5 minutes at any location within California, beginning in 2008. Vehicles subject to this regulation are diesel-fueled commercial vehicles with a gross vehicle weight rating greater than 10,000 pounds. There are exceptions to this regulation; for example, ready-mix concrete trucks, which require the engine to be on in order to operate, are not required to comply with this regulation. Trucks used for vendor delivery of materials for Proposed Project activities would be required to comply with the commercial vehicle idling regulatory requirements.

Portable Engine ATCM

The California Portable Engine ATCM is designed to reduce the PM emissions from portable diesel-fueled engines rated at 50 brake horsepower or larger. This regulation requires that an owner's fleet of portable engines meet emission standards that reduce the amount of PM emissions over time.

Portable Equipment Registration Program

The statewide Portable Equipment Registration Program (PERP) establishes a system to uniformly regulate portable engines and portable engine-driven equipment units. After being registered in this program, engines and equipment units may operate throughout the state without the need to obtain permits from individual air districts. Owners or operators of portable engines and certain types of equipment can voluntarily register their units under this program. Operation of registered portable engines may still be subject to certain district requirements for reporting and notification. Engines with less than 50 brake horsepower are exempt from this program. Some of the engines used for the Proposed Project may operate under PERP.

TAC Regulations

In addition to ATCMs, TACs are controlled under several different regulations in California, including the Tanner Air Toxics Act, Air Toxics Hot Spots Information Act, and AB 2588: Air Toxics "Hot Spots" Information and Assessment Act. In addition, Proposition 65 (the Safe Water and Toxic Enforcement Act of 1996) requires the state to publish a list of chemicals known to cause cancer or birth defects or other reproductive harm. Proposition 65 requires
businesses to notify Californians about substantial amounts of chemicals in the products they purchase or that are released into the environment.

5.2.3 Local Laws, Regulations, and Policies

At the local level, responsibilities of air quality districts include overseeing stationary-source emissions, approving permits, maintaining emissions inventories, maintaining air quality monitoring stations, overseeing agricultural burning permits, and reviewing air quality-related sections of environmental documents under CEQA. The air quality districts are also responsible for establishing and enforcing local air quality rules and regulations that address the requirements of federal and state air quality laws, as well as for ensuring that the NAAQS and CAAQS are met.

Local governments are essential partners in the effort to reduce air pollutant emissions. The local governments have influence through their planning and permitting processes, local ordinances, outreach and education efforts, and municipal operations.

San Joaquin Valley Air Pollution Control District

SJVAPCD has local air quality jurisdiction over the Proposed Project and in other counties under its jurisdiction. SJVAPCD’s recommended CEQA thresholds are outlined in its Guidance for Assessing and Mitigating Air Quality Impacts (SJVAPCD 2015a). SJVAPCD has adopted attainment plans to address ozone and PM.

1-Hour Ozone

Although USEPA revoked its 1979 1-hour ozone standard in June 2005, many planning requirements remain in place, and the SJVAB must still attain this standard before CAA Section 185 fees (which are required when attainment is not reached) can be rescinded. SJVAPCD’s most recent 1-hour ozone plan, the 2013 Plan for the Revoked 1-hour Ozone Standard (SJVAPCD 2013), demonstrated attainment of the 1-hour ozone standard by 2017. In July 2016, USEPA made a final determination that the SJVAB has attained the 1-hour ozone NAAQS based on the most recent 3-year data period (2012–2014) of sufficient, quality-assured, and certified data (SJVAPCD 2016a). For the SJVAB to be officially designated as an attainment area, SJVAPCD must verify that attainment is due to permanent and enforceable emission reductions and prepare a maintenance plan.

8-Hour Ozone

SJVAPCD’s far-reaching 2007 Ozone Plan demonstrates attainment of USEPA’s 1997 8-hour ozone standard by 2023. USEPA approved the 2007 Ozone Plan effective April 30, 2012. The district has prepared a 2016 Ozone Plan to address USEPA’s 2008 8-hour ozone standard, which the SJVAB must attain by 2032 (SJVAPCD 2016b). This extremely stringent standard is nearing the SJVAB’s naturally occurring background concentrations of ozone. The 2016 plan identifies that, without mobile sources transitioning to near-zero emission levels through the implementation of transformative measures such as ultra-low tailpipe emissions standards (which SJVAPCD does not have the authority to implement), attainment of the federal standards is not possible (SJVAPCD 2016b).
PM\textsubscript{10}

PM is a complex mixture of extremely small particles and liquid droplets, made up of multiple components, including acids, organic chemicals, metals, and soil or dust particles. Particles that are smaller than 10 micrometers in diameter (PM\textsubscript{10}) are typically found near roadways and around dusty industrial sites. Based on PM\textsubscript{10} measurements from 2003-2006, USEPA found that the SJVAB has reached attainment of federal PM\textsubscript{10} standards. On September 21, 2007, the SJVAPCD Governing Board adopted the 2007 PM\textsubscript{10} Maintenance Plan and Request for Redesignation, which demonstrates that the SJVAB will continue to meet the PM\textsubscript{10} standard. USEPA approved the document and, on September 25, 2008, the SJVAB was redesignated to attainment/maintenance (SJVAPCD 2016c).

PM\textsubscript{2.5}

Fine particles (PM\textsubscript{2.5}) are less than 2.5 micrometers in diameter and are found in smoke and haze. Changes in the federal PM\textsubscript{2.5} air quality standard (in 1997, 2006, and 2012) and recent drought conditions in California have resulted in the development of multiple PM\textsubscript{2.5} air quality plans by SJVAPCD. The 2008 and 2015 PM\textsubscript{2.5} Plans have been prepared to achieve attainment of USEPA's first PM\textsubscript{2.5} standard, set in 1997. The attainment deadline for the 1997 standard has been delayed to 2020 (SJVAPCD 2015b).

USEPA lowered the PM\textsubscript{2.5} standard in 2006. Although SJVAPCD's 2012 PM\textsubscript{2.5} Plan showed attainment of this standard by 2019, USEPA reclassified SJVAPCD to serious nonattainment for the 2006 PM\textsubscript{2.5} standard in January 2015, and SJVAPCD must prepare a revised plan to address this nonattainment. In addition, SJVAPCD must prepare a separate plan to address another PM\textsubscript{2.5} standard issued by USEPA in 2012 and USEPA's determination that the SJVAB is a moderate nonattainment area for the 2012 federal PM\textsubscript{2.5} standard. SJVAPCD continues to work with USEPA on issues surrounding these plans, including USEPA implementation updates (SJVAPCD 2015b).

SJVAPCD Rules

The Proposed Project may be subject to the following district rules. These rules have been adopted by SJVAPCD to reduce emissions throughout the SJVAB:

- **Rule 2201 – New and Modified Stationary-Source Review Rule** applies to all new stationary sources and all modifications to existing stationary sources subject to SJVAPCD permit requirements that, after construction, emit or may emit one or more pollutants regulated by the rule.

- **Rule 3135 – Dust Control Plan Fees** requires the applicant to submit a fee in addition to a dust control plan. The purpose of this rule is to recover SJVAPCD’s cost for reviewing these plans and conducting compliance inspections.

- **Rule 4101 – Visible Emissions** prohibits emissions of visible air contaminants into the atmosphere and applies to any source operation that emits or may emit air contaminants.

- **Rule 4102 – Nuisance** applies to any source operation that emits or may emit air contaminants or other materials. In the event that the project or construction of the
project creates a public nuisance, it could be in violation of this rule and subject to SJVAPCD enforcement action.

- **Rule 4641 - Cutback, Slow-Cure, and Emulsified Asphalt, Paving, and Maintenance Operations** applies to the manufacture and use of cutback asphalt, slow-cure asphalt, and emulsified asphalt for paving and maintenance operations.

- **Rule 4701 - Internal Combustion Engines—Phase 1** limits the emissions of NOx, carbon monoxide (CO), and volatile organic compounds (VOCs) from internal combustion engines. These limits are not applicable to standby engines as long as they are used fewer than 200 hours per year (e.g., for testing during non-emergencies).

- **Rule 4702 - Internal Combustion Engines—Phase 2** limits the emissions of NOx, CO, and VOCs from spark-ignited internal combustion engines.

- **Regulation VIII - Fugitive PM10 Prohibitions** is a series of rules (Rules 8011–8081) designed to reduce PM10 emissions (predominantly dust/dirt) generated by human activity, including construction, road construction, bulk materials storage, landfill operations, and other activities.

- **Rule 9510 - Indirect Source Review** is intended to reduce a project's impact from indirect sources such as on-road and off-road vehicles on air quality through project design elements or mitigation by payments of applicable off-site mitigation fees. Compliance with Rule 9510 is designed to reduce construction exhaust NOx and PM10 emissions by 20 percent and 45 percent, respectively. Compliance with Rule 9510 is designed to reduce operational emissions of NOx and PM10 emissions by 33.3 percent and 50 percent, respectively. This rule is only applicable to certain development projects that exceed size requirements at buildout (e.g., 25,000 square feet of light industrial space).

- **Rule 9410 - Employer-Based Trip Reduction** requires large employers to establish an Employer Trip Reduction Implementation Plan, which is a set of measures that encourages employees to use alternative transportation and ridesharing for their commutes.

**Fugitive Dust Measures (Regulation VIII)**

The Proposed Project would also be required to implement the mandatory control measures listed in Table 2 of the SJVAPCD’s Mitigation Measures guidance document (SJVAPCD 2016d) to reduce fugitive dust emissions. These measures are not considered mitigation measures under CEQA because they are required by law.

The Regulation VIII requirements (some of which are not applicable to the Proposed Project) are listed below:

- All disturbed areas, including storage piles, which are not being actively used for construction purposes, will be effectively stabilized for dust emissions using water or a chemical stabilizer/suppressant, or covered with a tarp or other suitable cover or vegetative ground cover.
• All on-site unpaved roads and off-site unpaved access roads will be effectively stabilized for dust emissions using water or a chemical stabilizer/suppressant.

• All land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities will be effectively controlled of fugitive dust emissions by utilizing an application of water or by presoaking.

• With the demolition of buildings up to six stories in height, all exterior surfaces of the building will be wetted during demolition.

• All materials transported off site will be covered or effectively wetted to limit visible dust emissions, and at least 6 inches of freeboard space from the top of the container will be maintained.

• All operations will limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at the end of each workday. The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. Use of blower devices is expressly forbidden.

• Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, piles will be effectively stabilized to prevent fugitive dust emissions utilizing sufficient water or a chemical stabilizer/suppressant.

• Within urban areas, trackout will be immediately removed when it extends 50 or more feet from the site and at the end of each workday.

• Any site with 150 or more vehicle trips per day will prevent carryout and trackout.

**Stanislaus County General Plan 2015**

The *Stanislaus County General Plan 2015* Conservation/Open Space Element (2016) identifies air quality-related goals and policies. These would contribute to reduced criteria pollutant emissions and improved regional air quality by requiring all development projects to include reasonable air quality mitigation measures, reducing motor vehicle emissions, and increasing public awareness of air quality problems and solutions.

**Del Rio Community Plan**

The *Del Rio Community Plan* includes goals and policies related to preventing adverse impacts on air quality through development-related policies for the protection of air resources (Stanislaus County 1992). Specifically, Goal 3 of the Community Plan would be relevant to the Proposed Project:

**Goal Three:** Further development in the Del Rio area should be planned to ensure that adverse impacts on services and utilities, schools, transportation and circulation, agriculture, water, and air quality are appropriately mitigated.
5.3  Environmental Setting

5.3.1 Regional Setting

San Joaquin Valley Air Basin

The SJVAB is the southern half of California’s Central Valley and is approximately 250 miles long and averages 35 miles wide. The SJVAB is bounded by the Sierra Nevada to the east, the Coast Ranges to the west, and the Tehachapi Mountains to the south. The SJVAB contains all of San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, and Tulare Counties, as well as a portion of Kern County.

The area has an inland Mediterranean climate that is characterized by warm, dry summers and cool winters. Summer high temperatures often exceed 100 degrees Fahrenheit (°F), averaging in the low 90s in the northern valley and the high 90s in the southern portion.

Although marine air generally flows into the basin from the Bay-Delta region, the surrounding mountain ranges restrict air movement through and out of the valley. Wind speed and direction influence the dispersion and transportation of pollutants; the greater the wind flow, the lower the accumulation. The vertical dispersion of air pollutants in the SJVAB is limited by the presence of persistent temperature inversion, leading to higher concentrations of emitted pollutants (SJVAPCD 2015a).

Precipitation and fog tend to reduce pollutant concentrations. Ozone (O₃) is formed when chemical compounds such as VOCs and NOₓ (collectively known as ozone precursors) react with sunlight. Clouds and fog block the solar radiation for the ozone-forming reaction. Annual precipitation in the San Joaquin Valley decreases from north to south, averaging approximately 20 inches in the north, 10 inches in the central portion, and less than 6 inches in the south (SJVAPCD 2002). In the Del Rio/Modesto area of the SJVAB, the average annual precipitation is approximately 12 inches (Western Regional Climate Center 2016).

5.3.2 Project Vicinity

The project sites are located within the jurisdiction of SJVAPCD. Land uses immediately adjacent to Site A include residential sites and agricultural lands to the east, Union Pacific railroad tracks, a Modesto Irrigation District canal, and Ladd Road. At Site B, adjacent land uses include single-family residences, a fruit stand, and agricultural parcels.

5.3.3 Air Pollutants

Carbon Monoxide

CO is an odorless, colorless gas that is highly toxic. CO is formed by the incomplete combustion of fuels and is emitted directly into the air. Ambient CO concentrations normally are considered a localized effect and typically correspond closely to the spatial and temporal distributions of vehicular traffic, forming pollutant “hot spots.” CO concentrations are also influenced by wind speed and atmospheric mixing. Under inversion conditions, CO concentrations may be distributed more uniformly over an area to some distance from vehicular sources. CO binds with hemoglobin, the oxygen-carrying protein in blood, and
reduces the blood’s capacity for carrying oxygen to the heart, brain, and other parts of the body. At high concentrations, CO can cause heart difficulties in people with chronic diseases, impair mental abilities, and cause death.

**Nitrogen Oxides**

NOx is a family of gaseous nitrogen compounds and are precursors to the formation of ozone and PM. The major component of NOx, nitrogen dioxide (NO2), is a reddish-brown gas that is toxic at high concentrations. NOx results primarily from the combustion of fossil fuels under high temperature and pressure. Fuel combustion, primarily from on-road and off-road motor vehicles and industrial sources, is the major source of this air pollutant.

**Volatile Organic Compounds**

VOCs are hydrocarbon compounds that exist in the ambient air. VOCs contribute to the formation of smog and/or may themselves be toxic. VOC emissions are a major precursor to the formation of ozone.

**Ozone**

Ozone is a reactive gas consisting of three oxygen atoms. In the troposphere (the lowest region of the atmosphere), it is produced by a photochemical process involving the sun’s energy. It is a secondary pollutant that is formed when NOx and VOC (known as ozone precursors) react in the presence of sunlight. Ozone at the earth’s surface causes numerous adverse health effects and is a pollutant regulated by state and federal air quality agencies. It is a major component of smog. In the stratosphere, however, ozone exists naturally and shields the Earth from harmful incoming ultraviolet radiation. High concentrations of ground-level ozone can adversely affect the human respiratory system and aggravate cardiovascular disease and many respiratory ailments. Ozone also damages natural ecosystems such as forests and foothill communities, agricultural crops, and human-made materials such as rubber and plastics.

**Particulate Matter**

PM is a complex mixture of extremely small particles and liquid droplets. PM is made up of multiple components, including acids, organic chemicals, metals, and soil or dust particles. The size of particles in PM is directly linked to the particles’ potential for causing health problems. PM_{10} is of concern because these particles pass through the throat and nose and are deposited in the thoracic region of the lungs. Once inhaled, these particles can affect the heart and lungs and cause serious health effects. PM_{2.5} penetrates even more deeply into the thoracic and alveolar regions of the lungs.

**Sulfur Dioxide**

Sulfur dioxide (SO2) is a colorless, irritating gas with a “rotten egg” smell formed primarily by the combustion of sulfur-containing fossil fuels. Suspended SO2 particles contribute to the poor visibility that occurs in the SJVAB and are a component of PM_{10}.
Lead

Lead (Pb) is a metal found naturally in the environment as well as in manufactured products. The major sources of lead emissions have historically been mobile and industrial sources. The health effects of lead poisoning include loss of appetite, weakness, apathy, and miscarriage. Lead poisoning can also cause lesions of the neuromuscular system, circulatory system, brain, and gastrointestinal tract.

In the past, gasoline-powered automobile engines were a major source of airborne lead through the use of leaded fuels. Since the use of leaded fuel has been mostly phased out, ambient concentrations of lead have decreased dramatically.

Hydrogen Sulfide

Hydrogen sulfide (H$_2$S) is associated with geothermal activity, oil and gas production and refining, sewage treatment plants, and confined animal feeding operations. H$_2$S is extremely hazardous in high concentrations and can cause death.

Sulfates

Sulfates are the fully oxidized, ionic form of sulfur. Sulfates occur in combination with metal and/or hydrogen ions. In California, emissions of sulfur compounds result primarily from the combustion of petroleum-derived fuels (e.g., gasoline and diesel fuel) that contain sulfur. This sulfur is oxidized to SO$_2$ during the combustion process and subsequently converted to sulfate compounds in the atmosphere. The conversion of SO$_2$ to sulfates is comparatively rapid and complete in urban areas of California due to regional meteorological features.

CARB's sulfate standard is designed to prevent aggravation of respiratory symptoms. Effects of sulfate exposure at levels that exceed the standard include decreased ventilatory function, aggravation of asthmatic symptoms, and increased risk of cardiopulmonary disease. Sulfates are particularly effective in degrading visibility and, because they are usually acidic, can harm ecosystems and damage materials and property.

Vinyl Chloride

Vinyl chloride is a colorless gas that does not occur naturally; it is formed when substances such as trichloroethane, trichloroethylene, and tetrachloroethylene are broken down. Vinyl chloride is used to make polyvinyl chloride (PVC), which is used in plastic products such as pipes, wire and cable coatings, and packaging materials.

Toxic Air Contaminants

TACs are air pollutants that may lead to serious illness or increased mortality, even when present in relatively low concentrations. Hundreds of different types of TACs exist, with varying degrees of toxicity. Many TACs are confirmed or suspected carcinogens or are known or suspected to cause birth defects or neurological damage. For some chemicals, such as carcinogens, no thresholds exist below which exposure can be considered risk free. Examples of TAC sources associated with the Proposed Project are fossil fuel combustion sources.

Sources of TACs include stationary sources, area-wide sources, and mobile sources. USEPA maintains a list of 187 TACs, also known as hazardous air pollutants. These hazardous air
pollutants are included on CARB's list of TACs along with additional chemicals identified as TACs in California (CARB 2016a). According to the California Almanac of Emissions and Air Quality (CARB 2013), many researchers consider diesel PM (DPM) to be a primary contributor to health risk from TACs because particles in the exhaust carry many harmful organics and metals, rather than being a single substance, as are other TACs. Unlike many TACs, outdoor DPM is not monitored by CARB because no routine measurement method exists. Using the CARB emission inventory's PM10 database, ambient PM10 monitoring data, and results from several studies, CARB has made preliminary estimates of DPM concentrations throughout the state (CARB 2016b).

5.3.4 Existing Air Quality Conditions

Air Monitoring Data

USEPA, CARB, and local air districts operate an extensive air monitoring network to measure progress toward attainment of the NAAQS and CAAQS. The closest air monitoring station to the project area is the Modesto 14th Street station. Data are also provided from the next closest station, the Turlock S. Minaret Street station, for pollutants that were not measured at the Modesto 14th Street station. Table 5-1 shows the most recent 3 years (2013-2015) of available data.

Table 5-1. Air Monitoring Data for 2013-2015

<table>
<thead>
<tr>
<th>Monitoring Station</th>
<th>Pollutant</th>
<th>Standard</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Concentration</td>
<td>Concentration</td>
<td>Concentration</td>
</tr>
<tr>
<td>Modesto 14th</td>
<td>Ozone</td>
<td>1-hr</td>
<td>0/0</td>
<td>0.088 ppm</td>
<td>0/1</td>
</tr>
<tr>
<td>Modesto 14th</td>
<td>Ozone</td>
<td>8-hr</td>
<td>2/13</td>
<td>0.082 ppm</td>
<td>12/24</td>
</tr>
<tr>
<td>Turlock S. Minaret Street</td>
<td>NO2</td>
<td>1-hr</td>
<td>0/0</td>
<td>54 ppb</td>
<td>0/0</td>
</tr>
<tr>
<td>Turlock S. Minaret Street</td>
<td>NO2</td>
<td>Annual</td>
<td></td>
<td>11</td>
<td></td>
</tr>
<tr>
<td></td>
<td>NO2</td>
<td>Annual</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Modesto 14th</td>
<td>PM10</td>
<td>24-hr</td>
<td>0/57.71</td>
<td>98.8 µg/m³</td>
<td>0/37.6</td>
</tr>
<tr>
<td>Modesto 14th</td>
<td>PM10</td>
<td>Annual</td>
<td></td>
<td>30.9 µg/m³</td>
<td></td>
</tr>
<tr>
<td>Modesto 14th</td>
<td>PM2.5</td>
<td>24-hr</td>
<td>37.6/-</td>
<td>83.2 µg/m³</td>
<td>17/-</td>
</tr>
<tr>
<td>Modesto 14th</td>
<td>PM2.5</td>
<td>Annual</td>
<td></td>
<td>14.3 µg/m³</td>
<td></td>
</tr>
</tbody>
</table>

Notes: hr = hour; NA = not available (insufficient or no data available); ppb = parts per billion; ppm = parts per million; µg/m³ = micrograms per cubic meter

*The first value represents the number of days on which the federal standard was exceeded. The second number represents the number of days on which the state standard was exceeded. No data were available in Stanislaus County during 2013-2015 for carbon monoxide, sulfur dioxide, and hydrogen sulfide.

Source: CARB 2016c
TACs in the Project Vicinity

In the project vicinity, the primary source of TACs is combustion of fossil fuels, in particular gasoline and diesel fuel, from both on-road and off-road vehicles.

Attainment Status

CARB and USEPA have established the CAAQS and NAAQS, respectively, in an effort to protect human health and welfare. Geographic areas are deemed to be in attainment if these standards are met or in nonattainment if they are not met. “Unclassified” areas are areas that cannot be classified on the basis of available information as meeting or not meeting the primary or secondary NAAQS for the pollutant. Nonattainment status is classified by the severity of the nonattainment problem. For ozone, these classifications are marginal, moderate, serious, severe, and extreme nonattainment. Nonattainment classifications for PM range from marginal to serious. Table 5-2 shows the current attainment status for the NAAQS and CAAQS. The area is designated as nonattainment for federal and state ozone and PM2.5 standards and as nonattainment for the state PM10 standard.

Table 5-2. Attainment Status of the State and Federal Ambient Air Quality Standards

<table>
<thead>
<tr>
<th>Contaminant</th>
<th>Averaging Time</th>
<th>Concentration</th>
<th>State Standards Attainment Status</th>
<th>Federal Standards Attainment Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ozone (O3)</td>
<td>1-hour</td>
<td>0.09 ppm</td>
<td>N</td>
<td>See footnote 3</td>
</tr>
<tr>
<td></td>
<td>8-hour</td>
<td>0.070 ppm</td>
<td>N</td>
<td>N, see footnote 3</td>
</tr>
<tr>
<td>Carbon Monoxide (CO)</td>
<td>1-hour</td>
<td>20 ppm</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>35 ppm</td>
<td></td>
<td>U/A</td>
</tr>
<tr>
<td></td>
<td>8-hour</td>
<td>9.0 ppm</td>
<td>A</td>
<td>U/A</td>
</tr>
<tr>
<td>Nitrogen Dioxide (NO2)</td>
<td>1-hour</td>
<td>0.18 ppm</td>
<td>A</td>
<td>U/A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.100 ppm</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Annual arithmetic mean</td>
<td>0.030 ppm</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.053 ppm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sulfur Dioxide (SO2)</td>
<td>1-hour</td>
<td>0.25 ppm</td>
<td>A</td>
<td>U/A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.075 ppm</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>24-hour</td>
<td>0.04 ppm</td>
<td>A</td>
<td>U/A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.14 ppm</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Annual arithmetic mean</td>
<td>0.030 ppm</td>
<td>A</td>
<td>U/A</td>
</tr>
<tr>
<td>Particulate Matter (PM10)</td>
<td>24-hour</td>
<td>50 µg/m³</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>150 µg/m³</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Annual arithmetic mean</td>
<td>20 µg/m³</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td></td>
<td>24-hour</td>
<td>35 µg/m³</td>
<td></td>
<td>N</td>
</tr>
</tbody>
</table>
### Contaminant Standards

<table>
<thead>
<tr>
<th>Contaminant</th>
<th>Averaging Time</th>
<th>Concentration</th>
<th>State Standards</th>
<th>Federal Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fine Particulate Matter (PM$_{1.0}$)</td>
<td>Annual arithmetic mean</td>
<td>12 µg/m$^3$</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Sulfates</td>
<td>24-hour</td>
<td>25 µg/m$^3$</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>Lead$^2$</td>
<td>30-day average</td>
<td>1.5 µg/m$^3$</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Calendar quarter</td>
<td>1.5 µg/m$^3$</td>
<td>A</td>
<td>U/A</td>
</tr>
<tr>
<td></td>
<td>Rolling 3-month average</td>
<td>0.15 µg/m$^3$</td>
<td></td>
<td>U/A</td>
</tr>
<tr>
<td>Hydrogen Sulfide (H$_2$S)</td>
<td>1-hour</td>
<td>0.03 ppm</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Vinyl Chloride$^5$</td>
<td>24-hour</td>
<td>0.010 ppm</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>Visibility-reducing Particles</td>
<td>8 hour (10:00 to 18:00 PST)</td>
<td>See footnote 6</td>
<td></td>
<td>U</td>
</tr>
</tbody>
</table>

**Notes:**

1. California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1-hour and 24-hour), nitrogen dioxide, suspended particulate matter – PM$_{10}$, and visibility-reducing particles are values that are not to be exceeded. The standards for sulfates, Lake Tahoe carbon monoxide, lead, hydrogen sulfide, and vinyl chloride are not to be equaled or exceeded. If the standard is for a 1-hour, 8-hour, or 24-hour average (i.e., all standards except for lead and the PM$_{10}$ annual standard), then some measurements may be excluded. In particular, measurements are excluded that CARB determines would occur less than once per year on the average. The Lake Tahoe carbon monoxide standard is 6.0 ppm, one-half the national standard and two-thirds the state standard.

2. National standards shown are the primary standards designed to protect public health. National air quality standards are set by USEPA at levels determined to be protective of public health with an adequate margin of safety. National standards other than for ozone, particulates, and those based on annual averages are not to be exceeded more than once per year. The 1-hour ozone standard is attained if, during the most recent three-year period, the average number of days per year with maximum hourly concentrations above the standard is equal to or less than one. The 8-hour ozone standard is attained when the three-year average of the 4th highest daily concentrations is 0.075 ppm (75 parts per billion) or less. The 24-hour PM$_{10}$ standard is attained when the three-year average of the 99th percentile of monitored concentrations is less than 150 µg/m$^3$. The 24-hour PM$_{10}$ standard is attained when the three-year average of 98th percentiles is less than 35 µg/m$^3$. Except for the national particulate standards, annual standards are met if the annual average falls below the standard at every site. The national annual particulate standard for PM$_{10}$ is met if the three-year average falls below the standard at every site. The annual PM$_{2.5}$ standard is met if the three-year average of annual averages spatially averaged across officially designed clusters of sites falls below the standard.

3. The national 1-hour ozone standard was revoked by USEPA on June 15, 2005. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm. However, the attainment status has not yet been updated based on this revised 8-hour standard. It is likely that the region will remain in nonattainment.

4. To attain this standard, the three-year average of the 98th percentile of the daily maximum 1-hour average at each monitoring station within an area must not exceed 0.100 ppm (effective January 22, 2010).

5. CARB has identified lead and vinyl chloride as toxic air contaminants with no threshold level of exposure below which there are no adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

6. Statewide Visibility-Reducing Particle Standard (except Lake Tahoe Air Basin): Particles in sufficient amount to produce an extinction coefficient of 0.23 per kilometer when the relative humidity is less than 70 percent. This standard is intended to limit the frequency and severity of visibility impairment due to regional haze and is equivalent to a 10-mile nominal visual range.

**Sources:** CARB 2016d, USEPA 2016, SJVAPCD 2012
5.3.5 Sensitive Receptors

Sensitive receptors are those segments of the population most susceptible to poor air quality: children, the elderly, and individuals with serious pre-existing health problems affected by air quality (e.g., asthma) (CARB 2005). Examples of locations that contain sensitive receptors are residences, schools and school yards, parks and playgrounds, daycare centers, nursing homes, and medical facilities. Residences include houses, apartments, and senior living complexes. Medical facilities can include hospitals, convalescent homes, and health clinics. Playgrounds include play areas associated with parks or community centers.

Sites A and B are generally surrounded by agricultural lands and residences. Apart from residences, other sensitive receptors are located more than a mile from the project sites. The nearest schools to the project sites are Stanislaus Elementary School, 1.9 miles southwest of Site A and 2.75 miles southwest of Site B; and Rio Altura Elementary School, 3.0 miles east of Site A and 2.3 miles southeast of Site B. The nearest medical facilities to Sites A and B include Valley Wound Healing Center Inc. (approximately 1.9 miles south of Site A) and the Riverbank Community Health Center (approximately 2.6 miles southeast of Site B). The daycare and assisted living facilities nearest to the sites are Cia's Day Care (approximately 1.1 miles [Site A] and 2.1 miles [Site B]) and Graceful Living at Riverbank (approximately 2.7 miles [Site A] and 2.6 miles [Site B]). There are no parks in the Del Rio area; Safreno Park, approximately 2.3 and 2.6 miles southeast of Sites A and B, respectively, is the nearest park to the project sites.

5.4 Impact Analysis

5.4.1 Methodology

This section evaluates whether construction and operation of the Proposed Project and its actions would result in significant impacts related to air quality and odors, and if the Proposed Project would comply with applicable air quality plans.

As recommended by SJVAPCD, the California Emission Estimator Model (CalEEMod), version 2013.2.2, was used to quantify criteria pollutant emissions from the Proposed Project's construction and operation activities. CalEEMod incorporates numerous default assumptions and CARB emission factors for on-road and off-road vehicles (EMFAC 2013 and In-Use Off-Road Equipment Inventory Model 2011, respectively). Below is a brief summary of the CalEEMod site-specific inputs used to estimate emissions from the Proposed Project. Further CalEEMod inputs and outputs are available in Appendix C. Worker trips were assumed to be the default of 16.8 miles one-way, and material hauling trips were assumed to be 20 miles one way. An exception to the material hauling trip distances was for the pipeline construction activities, which were assumed to only require material hauling of 2 miles one way from staging sites. Material exported was assumed to be 88 cubic yards for the site preparation phase and 264 cubic yards for the grading phase.

The Proposed Project is assumed to take approximately 15 months to construct, beginning in 2017 and completed in 2018. The anticipated duration of each project construction phase and the anticipated number of potential worker and construction-related trips are provided in Table 2-1 in Chapter 2, Project Description. It was assumed that pipeline construction...
activities (for both trenching and jack/bore) could overlap with building construction activities. All other phases were assumed to be sequential rather than overlapping.

The equipment anticipated to be used during each construction phase is detailed in Appendix C and summarized in Chapter 2. The equipment was mapped to an appropriate CalEEMod equipment type and default horsepower and load factors were utilized.

Regarding operational emissions, vehicle trips to the site would be limited to those needed for maintenance and inspection of the project facilities. It was assumed that one (round-trip) worker trip would be required per weekday. The pumps would be electricity-driven, and electricity was assumed to be supplied by Modesto Irrigation District. No criteria pollutants are associated with electricity use. Emissions from the two emergency generators were estimated using CalEEMod based on an assumed use of 1 hour per day for 20 days per year.

Odor-related impacts were evaluated qualitatively by considering potential project-related odor sources, potential duration of any odor emissions, and the proximity of odor sources to sensitive receptors.

To determine whether the Proposed Project is consistent with existing air quality plans, the analysis examines whether the Proposed Project is consistent with relevant general or specific plans upon which the air quality plans are based and any specific measures contained in the air quality plans that may relate to the Proposed Project.

5.4.2 Criteria for Determining Significance

Based on Appendix G of the CEQA Guidelines, the Proposed Project would have a significant impact with regard to air quality if it would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard established by USEPA or CARB, or contribute substantially to an existing or projected air quality violation;
- Expose sensitive receptors to substantial air pollutant concentrations; or
- Create objectionable odors affecting a substantial number of people.

SJVAPCD Thresholds of Significance

SJVAPCD has developed thresholds of significance for criteria pollutants based on the mass emissions generated during construction, operation of stationary sources, and operation of non-stationary sources. Those projects with mass emissions less than the thresholds of significance would not create additional violations of pollutants and are considered to be consistent with the applicable air quality plans. Table 5-3 shows the mass emission thresholds applicable to activities in the SJVAB.
Table 5-3. SJVAPCD CEQA Significance Thresholds

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Construction Emissions</th>
<th>Operational Emissions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Emissions (tons per year)</td>
<td>Permitted Equipment and Activities</td>
</tr>
<tr>
<td>CO</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>NOX</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>VOC</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>SOX</td>
<td>27</td>
<td>27</td>
</tr>
<tr>
<td>PM10</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>PM2.5</td>
<td>15</td>
<td>15</td>
</tr>
</tbody>
</table>

Source: SJVAPCD 2016e.

According to SJVAPCD’s guidance, impacts of operational and construction emissions are considered to be less than significant if fugitive dust \( (PM_{10} \text{ and } PM_{2.5}) \) emissions are below the significance levels listed above. In addition, SJVAPCD Regulation VIII requires all projects that involve earthmoving or travel on unpaved roads to implement fugitive dust control measures. Implementation of these control measures would be sufficient to reduce \( PM_{10} \) and \( PM_{2.5} \) impacts to a level considered less than significant.

The following quantitative TAC thresholds of significance are identified in the *Guidance for Assessing and Mitigating Air Quality Impacts* (SJVAPCD 2015a), with implementation of the latest revisions to SJVAPCD’s risk management policy (SJVAPCD 2016f) also serving as revisions to the CEQA thresholds:

- Probability of contracting cancer for the Maximally Exposed Individual (MEI) exceeds 20 in 1 million, or
- Ground-level concentrations of non-carcinogenic TACs result in a Hazard Index greater than 1 for the MEI.

Due to the variable nature of construction activity, the generation of TAC emissions in most cases would be temporary, especially considering the short amount of time such equipment is typically operating within an influential distance that would result in the exposure of sensitive receptors to substantial concentrations. Chronic and cancer-related health effects estimated over short periods are uncertain. Cancer potency factors are based on animal lifetime studies or studies of workers with long-term exposure to the carcinogenic agent. There is considerable uncertainty in trying to evaluate the cancer risk from exposure that would last only a small fraction of a lifetime. Some studies indicate that the dose rate may change the potency of a given dose of a carcinogenic chemical. In others words, a dose delivered over a short period may have a different potency than the same dose delivered over a lifetime (Office of Environmental Health Hazard Assessment [OEHHA] 2015). Given that the construction period for the Proposed Project, which is approximately 15 months, would not involve the use of substantial quantities of construction equipment, a qualitative analysis was determined to be the appropriate level of detail required to determine the impact of potential TAC emissions. For operational TAC emissions, the facility is required to be below the health
effects quantitative thresholds in order to obtain the required operating permits consistent with SJVAPCD regulations regarding permitted sources. For construction and operation, health risks from TACs were evaluated by identifying the Proposed Project's potential to generate TAC emissions and determining whether sensitive receptors could be affected by those emissions.

**Small Project Analysis Level**

SJVAPCD has established screening levels based on project types (land use) and sizes (e.g., square footage, housing units). Projects below these sizes are considered to have emissions below the numeric thresholds of significance for criteria pollutants. The Proposed Project is categorized as General Light Industrial Land Use. Projects that are at or below these criteria would result in less-than-significant impacts:

- Industrial land uses: result in vehicle trips of 1,506 trips/day;
- General light industrial land uses: construct 510,000 square feet.

As stated in Chapter 2, Project Description, the Proposed Project would construct less than 510,000 square feet (or approximately 11.7 acres) of general light industrial land uses, and, therefore, falls within SJVAPCD's screening criteria for a small project. Although not required by SJVAPCD due to the project's small size, estimated construction- and operation-related emissions are provided in this chapter because they were readily available from modeling performed for Chapter 8, *Global Climate Change*.

**5.4.3 Environmental Impacts**

**Impact AIR-1: Construction Emissions of Criteria Pollutants and Precursors (Less than Significant)**

The Proposed Project's construction activities would emit criteria pollutants from the combustion of fossil fuels by heavy equipment, worker vehicles, vendor vehicles, and haul trucks. In addition, ground-disturbing activities could potentially emit particulate matter. Construction emissions associated with the Proposed Project were estimated using CalEEMod with the assumptions specified above and in Appendix C. These emissions are compared to the CEQA significance thresholds shown in Table 5-4.
Table 5-4. Estimated Project Construction Emissions

<table>
<thead>
<tr>
<th>Year</th>
<th>CO</th>
<th>NOx</th>
<th>VOC</th>
<th>SOx</th>
<th>Exhaust PM10</th>
<th>Fugitive PM10</th>
<th>Exhaust PM2.5</th>
<th>Fugitive PM2.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>3.77</td>
<td>5.42</td>
<td>0.59</td>
<td>0.0057</td>
<td>0.32</td>
<td>0.17</td>
<td>0.30</td>
<td>0.083</td>
</tr>
<tr>
<td>2018</td>
<td>0.36</td>
<td>0.47</td>
<td>0.068</td>
<td>0.0006</td>
<td>0.03</td>
<td>0.0063</td>
<td>0.028</td>
<td>0.0017</td>
</tr>
<tr>
<td>Total</td>
<td>4.13</td>
<td>5.89</td>
<td>0.66</td>
<td>0.0063</td>
<td>0.35</td>
<td>0.18</td>
<td>0.33</td>
<td>0.085</td>
</tr>
</tbody>
</table>

SJVAPCD Significance Threshold: 100 10 10 27 15 15

| Exceed Threshold? | No | No | No | No | No | No |

Based on comparison to the significance thresholds, all pollutants are well below the construction emission thresholds. As explained above, those projects with mass emissions less than the thresholds of significance would not create additional violations of pollutants. In addition, the Proposed Project would be required to implement all dust control measures needed to meet SJVAPCD requirements, so fugitive dust emissions of PM10 and PM2.5 are considered less than significant. Compliance with SJVAPCD’s required dust control measures would not be considered a mitigation measure under CEQA because implementation of these measures is required under Regulation VIII. Implementation of these measures, as well as the enhanced control measures, is already required under the Program EIR. Therefore, this impact would be less than significant.

Impact AIR-2: Local Community Risks and Hazards During Construction (Less than Significant)

The closest sensitive receptors to the Proposed Project’s construction activities consist of several single-family residences located adjacent to the roadways along the pipeline alignments or adjacent to the project sites. The pollutants of concern that would affect sensitive receptors are PM10 and PM2.5 contained in fugitive dust and DPM from construction equipment. The control of particulates and fugitive dust is discussed above in Impact AIR-1, and SJVAPCD Regulation VIII would be implemented during construction activities to minimize exposure to fugitive dust. The construction period for the Proposed Project, which is approximately 15 months, would not involve the use of substantial quantities of construction equipment and thus would not emit substantial quantities of DPM. Given the uncertainty of estimating chronic health effects over a short period described in the methodology section, health effects from construction were not quantified. Implementation of best management practices would reduce the amount of construction emissions to the extent feasible through a combination of use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such become available. These construction practices would ensure that health effects from construction of the Proposed Project are minimized for nearby sensitive receptors. Thus, the Proposed Project would not pose long-term or substantial health risks to nearby residents and workers in the vicinity of...
the project sites. The impact on sensitive receptors from fugitive dust and other pollutants would be less than significant.

**Impact AIR-3: Operational Emissions of Criteria Pollutants and Precursors (Less than Significant)**

The Proposed Project would emit criteria pollutants during its operation from inspection- and maintenance-related worker vehicle trips, assumed to be limited to one round-trip per weekday, and the periodic operation of each site's standby emergency generator during maintenance and testing. SJVAPCD's small project analysis level guidance states that general industrial activities generating fewer than 1,506 trips per day are assumed to have a less-than-significant impact on air quality, and criteria pollutant emissions associated with these activities would not need to be quantified. The Proposed Project's activities would result in a fraction of this truck trip significance threshold, and these limited maintenance trips would not be expected to conflict with or obstruct implementation of the local air district's air quality plans or increase criteria pollutant emissions above the significant thresholds. In addition, although not necessary to be quantified, the Proposed Project's emissions were estimated using CalEEMod (Table 5-5) and would be substantially less than SJVAPCD's operational significance thresholds. Therefore, this impact would be less than significant.

### Table 5-5. Estimated Project Operational Emissions

<table>
<thead>
<tr>
<th>Emissions (tons per year)</th>
<th>CO</th>
<th>NOX</th>
<th>VOC</th>
<th>SOX</th>
<th>Exhaust PM10</th>
<th>Fugitive PM10</th>
<th>Exhaust PM2.5</th>
<th>Fugitive PM2.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Emissions</td>
<td>0.025</td>
<td>0.048</td>
<td>0.014</td>
<td>0.00011</td>
<td>0.0014</td>
<td>0.00065</td>
<td>0.0014</td>
<td>0.00017</td>
</tr>
<tr>
<td>SJVAPCD Significance Threshold</td>
<td>100</td>
<td>10</td>
<td>10</td>
<td>27</td>
<td>15</td>
<td>15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exceed Threshold?</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

**Impact AIR-4: Local Community Risks and Hazards During Operation (Less than Significant)**

DPM from worker vehicle or truck exhaust and each site's standby emergency generator represents the primary health risk from operation of the Proposed Project. Truck exhaust would only be emitted during maintenance and pipeline inspection activities, which are anticipated to be minimal. Given the small number of operation-related trips and because CARB regulations limit diesel truck idling to 5 minutes or less, the Proposed Project would not expose any nearby residents or other sensitive receptors to substantial health risks from truck exhaust during Proposed Project operation. The standby emergency generators would operate only under emergency situations and for periodic testing (up to an assumed 1 hour, 20 days per year). The emergency generators would be a permitted source under SJVAPCD regulations, which require implementation of Best Available Control Technology (BACT) standards and require that health risks are minimized such that sensitive receptors are not
exposed to substantial health risks. The permit approval process for the standby emergency generators ensures that risk to nearby sensitive receptors is less than the threshold of significance of 20 in a million. Given the minimal number of truck trips and permit requirements for the emergency generators with respect to health risks, the impacts to the health of sensitive receptors would be less than significant.

**Impact AIR-5: Odor Emission Generation (Less than Significant)**

Construction activities for the Proposed Project would not result in the generation of permanent or long-term objectionable odors. Odors associated with the intermittent operation of diesel-powered equipment might be detected by nearby sensitive receptors, but these odors would be of short duration and would not affect a substantial number of people. Soil excavated or brought up from well construction activities may contain organic material that is decaying, which may create an objectionable odor. The intensity of the odor perceived by a receptor depends on the distance of the receptor from the construction activity and the amount and quality of the exposed soil material. The locations of the construction activities would be limited and in a rural area not located near a large number of receptors. Exposed soil would be either quickly reused on-site or hauled and disposed of properly off-site. Thus, any odor that could be produced would be short-term and temporary. Therefore, this impact would be less than significant.

**Impact AIR-6: Consistency with Applicable Air Quality Plans (Less than Significant)**

The Proposed Project is located in the SJVAB, which is currently designated as a nonattainment area for federal and state ozone and PM$_{2.5}$ standards and state PM$_{10}$ standards. SJVAPCD has developed Air Quality Attainment Plans (AQAPs) and prepares associated triennial updates. AQAPs present comprehensive strategies to reduce VOCs, NO$_x$, PM$_{10}$, and PM$_{2.5}$ emissions from stationary, area, mobile, and indirect sources. VOC and NO$_x$ are the principal precursor pollutants that cause the formation of ozone, the nonattainment pollutant commonly known as smog. Strategies in the AQAPs include the adoption of rules and regulations; enhancement of CEQA participation; implementation of a new and modified indirect source review program; adoption of local air quality plans; and stationary, mobile, and indirect-source control measures. The Proposed Project is consistent with all strategies outlined in the AQAPs and would not impede implementation of the plans. The Proposed Project would not modify land uses from those anticipated in the Stanislaus County General Plan or the SJVAPCD AQAPs for long-range air quality planning and would not directly facilitate further growth. The Proposed Project would result in construction of pipelines, water tanks, groundwater wells, and a pump station building to the extent necessary to meet current growth projections incorporated into the plans. Specific air quality impacts related to criteria pollutants are discussed in impacts AIR-1 and AIR-3. The Proposed Project would comply with SJVAPCD regulations. Therefore, the Proposed Project would not conflict with or obstruct the SJVAPCD AQAPs and the impact would be less than significant.
5.5.1 Cumulative Impacts

Impact AIR-7: Cumulative Impact on Air Quality (Significant and Unavoidable)

The SJVAB is currently designated as a nonattainment area for federal and state ozone and PM$_{2.5}$ standards, and state PM$_{10}$ standards. Past, present, and probable future projects would have a significant cumulative impact on air quality in the project area. No single project would be sufficient in size, by itself, to result in nonattainment of the regional air quality standards. Construction of the Proposed Project would result in emissions of ozone precursors (ROG and NO$_X$), PM$_{2.5}$, and PM$_{10}$ below the significance thresholds for project-level impacts established by SJVAPCD. The Program EIR acknowledged that cumulative impacts of construction-related emissions of PM$_{10}$ and ozone precursors would be significant and unavoidable, and the Proposed Project would contribute to this impact, albeit minimally. Although, given the low emissions, short duration, and intermittent operation during construction, SJVAPCD thresholds indicate that the level of air pollutants emitted by the Proposed Project would not cause any new violations, the Proposed Project could contribute to an existing violation when combined with other projects in the area. Therefore, the Proposed Project's contribution to construction-related emissions would be cumulatively considerable and this impact would be significant and unavoidable.

Operation of the Proposed Project's standby emergency generators and maintenance-related vehicle trips would result in a net increase in emissions of ROG, NO$_X$, and PM$_{10}$. Given that these emissions are estimated to be substantially lower than SJVAPCD's thresholds of significance, and would be consistent with existing growth plans and new source review permits, the emissions are unlikely to contribute to any new violations or contribute substantially to any air quality violation. The standby emergency generators would be used for a limited amount of time (up to 1 hour a day for 20 days per year), and health impacts associated with TACs would be below the thresholds of significance as required during permitting. Because impacts from TACs are localized, the thresholds of significance for TACs have been established at such a conservative level, and the risks would be below this level, they are not considered to be cumulatively significant. Sources permitted consistent with requirements of SJVAPCD's New Source Review (e.g., emergency generators) are considered to not be individually significant and are not cumulatively significant. While the non-permitted operational emissions are minimal from occasional maintenance vehicle trips, the vehicle trips may combine with other increased trips in the area and other Program activities to result in an increase in pollutants and was concluded as such in the Program EIR. Given the low emissions and intermittent operation of the generators and maintenance trips, SJVAPCD thresholds indicate that the level of air pollutants emitted by the Proposed Project would not cause any new violations. The Proposed Project could, however, contribute to an existing violation when combined with other projects in the area. Therefore, the incremental contribution of the Proposed Project would be cumulatively considerable, and this impact would be significant and unavoidable.
Chapter 6
Biological Resources

6.1 Overview

This chapter discusses the potential for the Proposed Project to affect biological resources and natural communities, and the special-status plant and wildlife species that may utilize these habitats. Specifically, this section: (1) discusses federal, state, and local regulations relevant to vegetation and wildlife resources that may be affected by the Proposed Project; (2) describes the existing environmental setting in the Proposed Project area; (3) identifies plant and wildlife species potentially affected by the Proposed Project; and (4) proposes avoidance, minimization, and compensation measures to reduce potentially significant impacts to satisfy the requirements of CEQA.

6.2 Regulatory Setting

This section describes laws and regulations at the federal, state, and local level that may apply to the Proposed Project.

6.2.1 Federal Laws, Regulations, and Policies

Clean Water Act Section 404

The Clean Water Act (CWA) is the primary federal law that protects the quality of the nation’s aquatic habitats involving surface waters, including lakes, rivers, and coastal wetlands.

CWA Section 404 regulates the discharge of dredged and fill materials into waters of the United States (waters of the U.S.), which include all navigable waters, their tributaries, and some isolated waters, as well as some wetlands adjacent to the aforementioned waters (33 CFR Section 328.3). Areas typically not considered jurisdictional waters include non-tidal drainages, irrigation ditches excavated on dry land, artificially irrigated areas, artificial lakes or ponds used for irrigation or stock watering, small artificial water bodies such as swimming pools, and water-filled depressions (33 CFR Part 328). Activities involving placement of fill into jurisdictional waters of the U.S. are regulated by the U.S. Army Corps of Engineers (USACE) through permit requirements, which also require state water quality certification in compliance with Section 401 of the CWA.

Endangered Species Act

The Endangered Species Act (ESA) of 1973 (16 USC Sections 1531-1544) provides for conservation of species that are endangered or threatened throughout all or a significant portion of their range, as well as the protection of habitats on which they depend. The U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) share responsibility for implementing the ESA. In general, USFWS manages land and freshwater species, whereas NMFS manages marine and anadromous species. As defined by Section 3 of
the ESA, “endangered” refers to species that are “in danger of extinction within the foreseeable future throughout all or a significant portion of its range,” whereas “threatened” refers to “those animals and plants likely to become endangered within the foreseeable future throughout all or a significant portion of their ranges.”

**Section 7**

ESA Section 7 requires federal agencies to consult with USFWS or NMFS, or both, before performing any action (e.g., funding a program or issuing a permit) to ensure that federal actions do not jeopardize the continued existence of a species or destroy or adversely modify critical habitat (defined below). Authorization to take (also defined below) an endangered or threatened species can be obtained through Section 7 consultation. USFWS and/or NMFS may issue a Biological Opinion (BO) with an incidental take statement to the federal agency issuing a permit or approval for a Proposed Project. The federal consulting agency then incorporates the BO and incidental take statement into any authorization or permits.

**Section 10**

ESA Section 10 provides a process by which nonfederal entities may obtain an incidental take permit from USFWS or NMFS for otherwise lawful activities that incidentally may result in “take” of endangered or threatened species, subject to specific conditions. A habitat conservation plan must accompany an application for an incidental take permit.

**Critical Habitat**

When a species is proposed for listing as endangered or threatened under the ESA, USFWS or NMFS must consider whether there are areas of habitat that are essential to the species’ conservation. Those areas may be proposed for designation as “critical habitat.” Under CWA Section 7, all federal agencies must ensure that any actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of a listed species or destroy or adversely modify its designated critical habitat. These requirements apply only to federal agency actions, and only to habitat that has been designated. Critical habitat requirements do not apply to citizens engaged in activities on private land that do not involve a federal agency. For experimental populations designated pursuant to CWA Section 10(j), critical habitat may be designated for “essential” experimental populations, but may not be designated for “nonessential” experimental populations.

**Take**

Section 9 of the ESA and its implementing regulations prohibit the “take” of any fish or wildlife species listed under the ESA as endangered or threatened, unless otherwise authorized by federal regulations. The ESA defines the term “take” to mean “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct” (16 USC Section 1532).

**Migratory Bird Treaty Act**

The Migratory Bird Treaty Act (MBTA) of 1918 (16 USC Part 703) enacts the provisions of treaties between the United States, Great Britain, Mexico, Japan, and the Soviet Union (now Russia) and authorizes the U.S. Secretary of the Interior to protect and regulate the taking of migratory birds. It establishes seasons and bag limits for hunted species and protects
migratory birds, their occupied nests, and their eggs (16 USC 703, 50 CFR 21, 50 CFR 10). Most actions that result in taking of, or the permanent or temporary possession of, a protected species constitute violations of the MBTA. The act also prohibits destruction of occupied nests. The Migratory Bird Permit Memorandum, dated April 15, 2003, clarifies that destruction of most unoccupied bird nests (without eggs or nestlings) is permissible under the MBTA; exceptions include nests of federally listed threatened or endangered migratory birds, bald eagles (*Haliaeetus leucocephalus*), and golden eagles (*Aquila chrysaetos*). USFWS is responsible for overseeing compliance with the MBTA.

On December 8, 2004, the U.S. Congress passed the Migratory Bird Treaty Reform Act (Division E, Title I, Section 143 of the Consolidated Appropriations Act, 2005, PL 108-447), which excludes all migratory birds non-native or human-introduced to the U.S. or its territories. It defines a native migratory bird as a species present within the U.S. and its territories as a result of natural biological or ecological processes. USFWS published a list of the bird species excluded from the MBTA on March 15, 2005 (70 FR 12710).

**Executive Order 13112: Invasive Species**

Executive Order (EO) 13112 directs all federal agencies to prevent and control introductions of invasive non-native species in a cost-effective and environmentally sound manner to minimize their impacts on economics, ecology, and human health. As directed by this EO, a national invasive species management plan guides federal actions to prevent, control, and minimize invasive species and their impacts (National Invasive Species Council 2008). To support implementation of this plan, USACE released a memorandum describing the U.S. Army Corps of Engineers Invasive Species Policy (USACE 2009). This policy includes addressing invasive species effects in the impact analyses for civil works projects.

### 6.2.2 State Laws, Regulations, and Policies

**California Environmental Quality Act and CEQA Guidelines**

CEQA (PRC Section 21000 et seq.) and the CEQA Guidelines (PRC Section 15000 et seq.) regulate environmental review in California. CEQA Guidelines Section 15065 requires that a lead agency shall determine whether a project may have a significant effect on the environment and shall require an EIR to be prepared for the project if there is substantial evidence, in light of the whole record, that the project has the potential to substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, and/or substantially reduce the number or restrict the range of an endangered, rare, or threatened species.

CEQA Guidelines Section 15380 defines the terms "species," "endangered," "rare," and "threatened" as they pertain to CEQA. Section 15380 also provides a greater level of consideration for state-listed or federally listed species, and for any species that can be shown to meet the criteria for listing but has not yet been listed. The criteria for considering a species endangered, rare, or threatened under CEQA are as follows:

- When its survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, disease, or other factors; or
- Although not presently threatened with extinction, the species is existing in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens; or

- The species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered "threatened" as defined in the ESA.

Species that meet the criteria listed above are often considered Species of Special Concern by the California Department of Fish and Wildlife (CDFW). The designation “Species of Special Concern” is administrative and carries no formal legal status. Generally, Species of Special Concern should be included in an analysis of project impacts if they can be shown to meet the criteria of sensitivity outlined in CEQA Guidelines Section 15380. That said, some older lists of Species of Special Concern were not developed using criteria relevant to CEQA, and the information used in generating those lists is out of date. Therefore, the current circumstances of each unlisted Species of Special Concern must be considered in the context of Section 15380 criteria, and these species should not automatically be assumed to be rare, threatened, or endangered.

**California Fish and Game Code**

The California Fish and Game Code (Fish & G. Code) establishes CDFW (Fish & G. Code Section 700) and states that the fish and wildlife resources of the state are held in trust for the people of the state by and through CDFW (Fish & G. Code Section 711.7[a]). Fish and Game Code Section 1802 states that CDFW has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and the habitat necessary for biologically sustainable populations of those species. All licenses, permits, tag reservations, and other entitlements for the take of fish and game authorized by the Fish and Game Code are prepared and issued by CDFW (Fish & G. Code Section 1050[a]).

Other sections of the Fish and Game Code describe protection for specific types of wildlife. For example, Fish and Game Code Sections 3503, 3513, and 3800 (and other sections and subsections) protect native birds, including their active or inactive nests and eggs, from all forms of take. Raptors (i.e., eagles, falcons, hawks, and owls) and their nests are specifically protected in California under Fish and Game Code Section 3503.5, which states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Certain species are designated as fully protected under Fish and Game Code Sections 3511 (birds), 5515 (fish), 4700 (mammals), and 5050 (amphibians), and it is illegal to take these species. Non-game mammals are also protected by Fish and Game Code Section 4150.

**Sections 1900-1913 – Native Plant Protection Act**

The Native Plant Protection Act (NPPA) of 1977 (Fish & G. Code Sections 1900-1913) directs CDFW to carry out the California State Legislature’s intent to “preserve, protect and enhance rare and endangered plants in this state.” The NPPA authorizes the California Fish and Game Commission to designate plants as “endangered” or “rare” and prohibits “take” of any such plants, except as authorized in limited circumstances.
CDFW and the California Native Plant Society (CNPS), a non-governmental organization, jointly maintain California Rare Plant Rank (CRPR) lists. These lists include plant species of concern in California. Vascular plants included on these lists are defined as follows:

**List 1:** Plants considered extinct or extirpated in California

**List 1B:** Plants that are rare, threatened, or endangered in California and elsewhere

**List 2:** Plants that are rare, threatened, or endangered in California, but more common elsewhere

**List 3:** Plants about which more information is needed – review list

**List 4:** Plants of limited distribution – watch list

Plants appearing on Lists 1 and 2 are, in general, considered to meet the CEQA Guidelines Section 15380(b) criteria, and adverse effects on these species may be considered significant. Impacts on plants that are on Lists 3 and 4 are also considered during CEQA review; however, because these species are typically not as rare as those on Lists 1 and 2, impacts on them are less frequently considered potentially significant.

**Sections 2050 -2098 – California Endangered Species Act**

The California Endangered Species Act (CESA) (Fish & G. Code Sections 2050–2098) prohibits state agencies from approving a project that would jeopardize the continued existence of a species listed under the CESA as endangered or threatened, or that would result in the destruction or adverse modification of habitat essential to the continued existence of those species, if reasonable and prudent alternatives are available that would avoid a jeopardy finding.

Section 2080 of the Fish and Game Code prohibits the take of any species that is state listed as endangered or threatened, or designated as a candidate for such listing. “Take” is defined by Section 86 of the Fish and Game Code as to “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill” an individual of a listed species. Under the CESA, CDFW may issue an incidental take permit authorizing the take of listed and candidate species when that activity is incidental to an otherwise lawful activity, subject to specified conditions.

### 6.2.3 Local Laws, Regulations, and Policies

#### Stanislaus County General Plan 2015

Stanislaus County has identified the following goals and policies in the Conservation/Open Space Element of the *Stanislaus County General Plan 2015* (2016) that are relevant to the Proposed Project:

**Goal One:** Encourage the protection and preservation of natural and scenic areas throughout the County.

**Policy Three:** Areas of sensitive wildlife and plant life (e.g., vernal pools, riparian habitats, flyways and other waterfowl habitats, etc.) including habitats and plant species
listed in the General Plan Support Document or by state or federal agencies shall be protected from development and/or disturbance.

**Policy Four:** Protect and enhance oak woodlands and other native hardwood habitat.

**Goal Ten:** Protect fish and wildlife species of the County.

**Policy Twenty-nine:** Habitats of rare and endangered fish and wildlife species, including special status wildlife and plants, shall be protected.

Stanislaus County does not have a tree protection ordinance, and the Del Rio community plan does not identify any tree protection/replacement requirements.

### 6.3 Environmental Setting

The following sections describe the environmental setting for biological resources near the Proposed Project sites. For the purposes of this chapter, the study area includes Sites A and B, as well as their respective proposed pipelines (Figure 2-1). Adjacent areas outside of the study area are also described when Proposed Project activities could potentially impact biological resources in these areas. A reconnaissance-level biological survey and investigation for the presence of jurisdictional waters in the study area was conducted by Horizon Water and Environment on May 4, 2016. This survey consisted of walking the entirety of Sites A and B, walking their associated pipeline alignments, and observing adjacent habitats, which could provide potential habitat for sensitive wildlife. The USFWS IPaC Report and CNDDB results are provided in Appendix D.

#### 6.3.1 Regional Setting

The study area is situated in the northwestern portion of the San Joaquin Valley, in Stanislaus County, near the community of Del Rio. Terrain in the study area is flat or very gently sloped, with elevations approximately 100-110 feet above mean sea level (msl).

Land uses in the vicinity of the study area are primarily residential, agricultural, transportation, and recreational (e.g., Del Rio Golf and Country Club). The Stanislaus River is approximately 0.75 mile north of Site B and 1.3 miles north of Site A.

#### 6.3.2 Project Vicinity

The following section provides descriptions of biological communities in the study area. Wildlife typically associated with these biological communities is also described below.

**Site A and Proposed Pipeline Alignment**

Site A consists of a fallow field with a residence, outbuildings clustered on the north end of the property, and a paved driveway (Figure 2-2). Land uses surrounding Site A include residences to the east and north, an abandoned railroad line and residences to the west, and an irrigation canal on the southern border of the property.
The proposed alignment of the Site A pipeline is confined to the existing road right-of-way of Ladd Road and St. John Road (Figure 2-1). Several houses are located in proximity to the pipeline alignment along Ladd Road at the southern end of the alignment. St. John Road is surrounded by almond (Prunus dulcis) orchards to the west and an abandoned railroad line and hayfields to the east. Residences are located at the intersection of St. John Road and Country Club Drive, the northern extent of the proposed pipeline, and a hayfield is located to the east of the intersection.

Biological communities present include annual grassland, developed/ruderal, orchard, and hayfields, which are described in the following sections. A Modesto Irrigation District canal runs along the south boundary of the site but is not within Site A.

**Annual Grassland**

The vast majority of Site A is a fallow field composed of various annual grass and forb species. Non-native grasses present include rip-gut brome (Bromus diandrus), Italian rye grass (Festuca perennis), foxtail barley (Hordeum murinum), and rattlefescue (Festuca myuros).

Wildlife that could potentially use this habitat include California vole (Microtus californicus), California ground squirrel (Otospermophilus beecheyi), pocket gopher (Thomomys spp.), western fence lizard (Sceloporus occidentalis), common garter snake (Thamnophis sirtalis), and Burrowing Owl (Athene cunicularia). Raptors may forage in this area. Several small burrows were observed in the field, but no evidence of use by Burrowing Owls (e.g., whitewash, feathers) was observed.

**Developed/Ruderal**

Developed upland habitat at Site A includes a residence with a garage, outbuildings, and a paved driveway. Some non-native annual grasses, such as rip-gut brome, are present. Forbs present include cudweed (Pseudognaphalium luteoalbum). Several fruit trees, as well as an ornamental tree and several ornamental shrubs, are planted around the house and outbuildings. Small fan palms (Washingtonia sp.) are sprouting in pavement cracks behind the house. Several trees, including five large sycamores (Platanus sp.), overhang the fence from the adjacent property east of Site A. Native oaks are present in several locations on the site. Two interior live oaks (Quercus wislizeni) are present between the outbuildings, and smaller saplings are scattered along the fence lines. Two small coast live oaks (Quercus agrifolia) are located along the west fence line. Trees in the study area may provide nesting habitat for various passerines and possibly raptors. Although oaks are present on the site, the habitat does not have the landscape character or biological integrity of an oak woodland that would require its protection as a sensitive natural community.

Most of the residential parcels bordering the Proposed Project have trees that may be suitable for bird nesting.

Along the Site A pipeline alignment, immediately to the east of St. John Road, is a planted line of trees and railroad tracks between the road and adjacent hayfields. Planted trees include a mix of native and non-native species, such as coast live oak, valley oak (Quercus lobata), coast redwood (Sequoia sempervirens), fan palm, Chinese pistachio (Pistacia chinensis), maple (Acer sp.), and weeping willow (Salix babylonica). This planted area has been mulched, and the understory consists of planted African daisy (Osteospermum sp.) at the base of some trees, as
well as sparse herbaceous weeds such as prickly lettuce (*Lactuca serriola*) and sow thistle (*Sonchus oleraceus*).

Developed/ruderal habitat in the study area provides relatively limited habitat value for special-status wildlife, with the exception of large trees on adjacent parcels. These trees could provide nesting habitat for raptors. However, urban/suburban-adapted bird species, such as House Finch (*Haemorhous mexicanus*), Dark-eyed Junco (*Junco hyemalis*), and House Sparrow (*Passer domesticus*), could use this habitat. Bats could roost in structures that have exterior openings, such as the garage or shed.

**Orchard**

St. John Road is bordered by an almond orchard to the west. The understory of the almond orchard is largely devoid of vegetation, except for small patches of Bermuda grass (*Cynodon dactylon*). Species such as American crow (*Corvus brachyrhynchos*) and side-blotched lizard (*Uta stansburiana*) can occur in this habitat type.

**Hayfields**

Cultivated hayfields are present to the east of St. John Road. Hayfields provide seasonal resources for wildlife such as Red-winged Blackbird (*Agelaius phoeniceus*), gopher, and gopher snake (*Pituophis catenifer*) (California Department of Fish and Game [CDFG] 1988). Raptors may forage in these areas.

**Site B and Proposed Pipeline Alignment**

Site B is located approximately 0.8 mile northeast of Site A (Figure 2-1). The site is adjacent to residential development and orchards (Figure 2-1). Natural communities present on the Site B property include annual grassland and native and ornamental trees and shrubs.

The proposed alignment of the Site B pipeline is confined to the existing road right-of-way of McHenry Avenue and Stewart Road. Along the proposed pipeline alignment, a developed residential community and ornamental plantings are dominant, with orchards to the east.

**Annual Grassland**

The eastern portion of Site B is largely flat and consists of a grassland composed of the non-native grasses foxtail barley, Italian rye grass, rattail fescue, and rescue grass (*Bromus catharticus*). The non-native forb broad leaf filaree (*Erodium botrys*) and the native forbs common fiddleneck (*Amsinckia intermedia*) and bedstraw (*Galium aparine*) are also present. Wildlife species that may use this area are similar to those identified for the annual grassland habitat in Site A.

**Native and Ornamental Trees and Shrubs**

As the land slopes up to the west, the habitat type changes. Loquat trees (*Eriobotrya japonica*) line the fence on the western boundary of the site. The area bordering the fence is fairly disturbed and supports understory species such as English ivy (*Hedera helix*), periwinkle (*Vinca major*), miner’s lettuce (*Claytonia perfoliata*), and ornamental poppies (*Papaver somniferum*). A small brush pile in the western portion of the site could provide cover for various passerines and small mammals. A very large live oak is present to the south of the
site, and an incense cedar (*Calocedrus decurrens*) is adjacent to the property. These trees could provide bird nesting habitat.

**Orchard**

East of the proposed pipeline alignment along McHenry Avenue is an almond orchard, with similar habitat as that described for the almond orchard along the Site A pipeline alignment.

**Developed**

Developed habitat dominates the Site B proposed pipeline alignment. At the intersection of McHenry Avenue and Stewart Road are a variety of ornamental shrub plantings. Small ornamental trees have been planted along the road. Residential properties are located to the north and south of Stewart Road up to the proposed pipeline's terminus at Grove Point Way, and these properties have a variety of landscape plantings. Many of these properties have large trees, including California sycamore (*Platanus racemosa*), Peruvian pepper tree (*Schinus molle*), several conifers, and various oaks, which could provide nesting habitat for various passerines and possibly urban-adapted raptors.

### 6.3.3 Special-status Species

Special-status plant and wildlife species refers to those species that meet one or more of the following criteria:

- Species that are listed as threatened or endangered under the ESA (50 CFR Section 17.12 for listed plants, 50 CFR Section 17.11 for listed animals);
- Species that are candidates for possible future listing as threatened or endangered under the ESA (76 FR 66370);
- Species that are listed or proposed for listing by the State of California as threatened or endangered under the CESA (14 CCR Section 670.5);
- Plants listed as rare under the California Native Plant Protection Act of 1977 (Fish & G. Code Section 1900 et seq.);
- CRPR List 1 and 2 species;
- Species that meet the definitions of rare or endangered under CEQA (CEQA Guidelines Section 15380); or
- Animals fully protected in California (Fish & G. Code Sections 3511 [birds], 4700 [mammals], and 5050 [reptiles and amphibians]).

Background information on special-status plant and wildlife species with the potential to occur in the study area was compiled from numerous sources, including, but not limited to, the following:

- USFWS Information for Planning and Conservation (IPaC) report for the study area (USFWS 2016) and
California Natural Diversity Database (CNDDB) query for the twelve U.S. Geological Survey (USGS) 7.5-minute quadrangles within and adjoining the Proposed Project, including Avena, Brush Lake, Ceres, Denair, Escalon, Manteca, Oakdale, Ripon, Riverbank, Salida, Waterford, and Westley (CDFW 2016).

Tables 6-1 and 6-2 list the special-status plant and wildlife species known to occur in the vicinity of the study area, and Figure 6-1 shows the CNDDB occurrences of special-status plants and animals and designated critical habitat within a 5-mile radius of the study area.

The potential for special-status species to occur in the vicinity of the study area was evaluated according to the following criteria:

None: The area contains a complete lack of suitable habitat, the local range for the species is restricted, and/or the species is extirpated in this region.

Not expected: Suitable habitat or key habitat elements may be present but may be of poor quality or isolated from the nearest extant occurrences. Habitat suitability refers to factors such as elevation, soil chemistry and type, vegetation communities, microhabitats, and degraded/significantly altered habitats.

Possible: Suitable habitat or key habitat elements that potentially support the species are present.

Present: The species was observed directly or its presence was confirmed by diagnostic signs (e.g., tracks, scat, burrows, carcasses, castings, prey remains) during field investigations or in previous studies in the area.

Special-status Plants

No special-status plants or special-status plant habitat were observed during the reconnaissance survey. Based on site conditions and previous records of occurrences, no special-status plant species are anticipated to occur within the study area (Table 6-1). An extirpated CNDDB occurrence of Greene's tuctoria (Tuctoria greenei) is documented within 5 miles of the study area (Figure 6-1); however, this species occurs only in vernal pools, and no vernal pool habitat is present in the study area. Thus, this species would not occur in the study area.

Special-status Wildlife

Special-status bird species with the potential to occur at the two Proposed Project sites, are Tricolored Blackbird (Agelaius tricolor), Burrowing Owl (Athene cunicularia), and Swainson's Hawk (Buteo swainsoni). The reconnaissance survey did not observe these species in either the Site A or Site B study areas. These species are not known to occur at the project sites and are not expected to nest at the sites; however, they could potentially nest near the study area.
### Table 6-1. Special-status Plant Species

<table>
<thead>
<tr>
<th>Scientific/Common Name</th>
<th>Status (Federal/State/CRPR)</th>
<th>Habitat</th>
<th>Potential to Occur in the Project Area</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Atriplex cordulata var. cordulata</em> heartscale</td>
<td>-/-/1B.2</td>
<td>Chenopod scrub, valley and foothill grassland, meadows. Alkaline flats and scalds in the Central Valley, sandy soils. 0-560 meters. Blooms April to October.</td>
<td>None. The sites lack suitable habitat for this species.</td>
</tr>
<tr>
<td><em>Atriplex minuscula</em> lesser salt scale</td>
<td>-/-/1B.1</td>
<td>Chenopod scrub, playas, valley and foothill grassland. In alkali sink and grassland in sandy, alkaline soils. 20-100 meters. Blooms June to October.</td>
<td>None. The sites lack suitable habitat for this species.</td>
</tr>
<tr>
<td><em>Atriplex subtilis</em> subtle orache</td>
<td>-/-/1B.2</td>
<td>Valley and foothill grassland. Alkaline soils. 40-100 meters. Blooms June to October.</td>
<td>None. The sites lack suitable habitat for this species.</td>
</tr>
<tr>
<td><em>Blepharizonia plumosa</em> big tar plant</td>
<td>-/-/1B.1</td>
<td>Valley and foothill grassland. Dry hills and plains in annual grassland. Clay to clay-loam soils; usually on slopes and often in burned areas. 30-505 meters. Blooms July to October.</td>
<td>None. The sites lack suitable habitat for this species.</td>
</tr>
<tr>
<td><em>California macrophylla</em> round-leaved filaree</td>
<td>-/-/1B.2</td>
<td>Cismontane woodland, valley and foothill grassland. Clay soils. 15-1,200 meters. Blooms March to May.</td>
<td>None. The sites lack suitable habitat for this species.</td>
</tr>
<tr>
<td><em>Caulanthus femmonii</em> Lemmon's jewelflower</td>
<td>-/-/1B.2</td>
<td>Pinyon and juniper woodland, valley and foothill grassland. 75-1,585 meters. Blooms February to May.</td>
<td>Not expected. The estimated natural range for this species does not include the Proposed Project area (CNP 2016).</td>
</tr>
<tr>
<td><em>Clarkia rostrata</em> beaked clarkia</td>
<td>-/-/1B.3</td>
<td>Cismontane woodland, valley and foothill grassland. North-facing slopes; sometimes on sandstone. 60-500 meters. Blooms April to May.</td>
<td>None. The sites lack suitable habitat for this species.</td>
</tr>
<tr>
<td><em>Eryngium racemosum</em> Delta button-celery</td>
<td>/SE/1B.1</td>
<td>Riparian scrub. Seasonally inundated floodplain on clay. 3-75 meters. Blooms June to October.</td>
<td>None. The sites lack suitable habitat for this species.</td>
</tr>
<tr>
<td><em>Eschscholzia rhombipetala</em> diamond-petaled California poppy</td>
<td>-/-/1B.1</td>
<td>Valley and foothill grassland. Alkaline, clay slopes and flats. 30-625 meters. Blooms March to April.</td>
<td>None. The sites lack suitable habitat for this species.</td>
</tr>
<tr>
<td><em>Legenere limosa</em> legenere</td>
<td>-/-/1B.1</td>
<td>Vernal pools. In beds of vernal pools. 1-880 meters. Blooms April to June.</td>
<td>None. The sites lack suitable habitat for this species.</td>
</tr>
<tr>
<td>Scientific/Common Name</td>
<td>Status (Federal/State/CRPR)</td>
<td>Habitat</td>
<td>Potential to Occur in the Project Area</td>
</tr>
<tr>
<td>--------------------------------</td>
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</tr>
<tr>
<td>Neostapfia colusana Colusa grass</td>
<td>FT/SE/1B.1</td>
<td>Vernal pools. Usually in the bottoms of large or deep vernal pools; adobe soils. 5-125 meters. Blooms May to August.</td>
<td>None. The sites lack suitable habitat for this species.</td>
</tr>
<tr>
<td>Orcuttia inaequalis San Joaquin Valley Orcutt grass</td>
<td>FT/SE/1B.1</td>
<td>Vernal pools. 10-755 meters. Blooms April to September.</td>
<td>None. The sites lack suitable habitat for this species.</td>
</tr>
<tr>
<td>Puccinellia simplex California alkali grass</td>
<td>-/1B.2</td>
<td>Meadows and seeps, chenopod scrub, valley and foothill grasslands, vernal pools. Alkaline, vernaly mesic. Sinks, flats, and lake margins. 1-915 meters. Blooms March to May</td>
<td>None. The sites lack suitable habitat for this species.</td>
</tr>
<tr>
<td>Sphenopholis obtusata prairie wedge grass</td>
<td>-/2B.2</td>
<td>Cismontane woodland, meadows and seeps. Open moist sites, along rivers and springs, alkaline desert seeps. 300-2,000 meters. Blooms April to July.</td>
<td>None. The sites lack suitable habitat for this species.</td>
</tr>
<tr>
<td>Tuctoria greenei Greene's tuctoria</td>
<td>FE/SR/1B.1</td>
<td>Vernal pools. Dry bottoms of vernal pools in open grasslands. 30-1,070 meters. Blooms May to September.</td>
<td>None. The sites lack suitable habitat for this species.</td>
</tr>
</tbody>
</table>

**Status Legend**

**Federal:**
- FE = federally listed as endangered
- FT = federally listed as threatened
- - = no listing status

**State:**
- SE = state listed as endangered
- SR = state designated as rare

**CRPR (California Rare Plant Rank):**
- 1B = Plants Rare, Threatened, or Endangered in California and Elsewhere
- 2B = Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere

**Threat Ranks:**
- 0.1 = Seriously threatened in California
- 0.2 = Moderately threatened in California
### Table 6-2. Special-status Animal Species

<table>
<thead>
<tr>
<th>Scientific/Common Name</th>
<th>Status (Federal/ State)</th>
<th>Habitat</th>
<th>Potential to Occur in the Project Area</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Invertebrates</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Branchinecta conservatio</em> Conservancy fairy shrimp</td>
<td>FE/-</td>
<td>Endemic to the grasslands of the northern two-thirds of the Central Valley; found in large, turbid pools. Inhabit astatic pools located in swales formed by old, braided alluvium; filled by winter/spring rains, last until June.</td>
<td>None. The sites lack suitable habitat for this species.</td>
</tr>
<tr>
<td><em>Branchinecta lynchii</em> vernal pool fairy shrimp</td>
<td>FT/-</td>
<td>Endemic to the grasslands of the Central Valley, Central Coast mountains, and South Coast mountains, in astatic rain-filled pools. Inhabit small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools.</td>
<td>None. The sites lack suitable habitat for this species.</td>
</tr>
<tr>
<td><em>Desmocerus californicus dimorphus</em> valley elderberry longhorn beetle</td>
<td>FT/-</td>
<td>Occurs only in the Central Valley of California, in association with blue elderberry (<em>Sambucus mexicana</em>). Prefers to lay eggs in elderberries 2-8 inches in diameter; some preference shown for &quot;stressed&quot; elderberries.</td>
<td>None. The sites lack suitable habitat for this species.</td>
</tr>
<tr>
<td><em>Lepidurus packardi</em> vernal pool tadpole shrimp</td>
<td>FE/-</td>
<td>Inhabit vernal pools and swales in the Sacramento Valley containing clear to highly turbid water. Pools commonly found in grass-bottomed swales of unplowed grasslands. Some pools are mud-bottomed and highly turbid.</td>
<td>None. The sites lack suitable habitat for this species.</td>
</tr>
<tr>
<td><strong>Amphibians and Reptiles</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Ambystoma californiense</em> California tiger salamander</td>
<td>FT/ST, SSC</td>
<td>Central Valley distinct population segment (DPS) federally listed as threatened. Santa Barbara and Sonoma County DPS federally listed as endangered. Need underground refuges, especially ground squirrel burrows, and vernal pools or other seasonal water sources for breeding.</td>
<td>None. Site A provides suitable upland habitat. Site B lacks suitable habitat for this species. The closest extant CNDDB occurrence is 15 kilometers (9.3 miles) northeast of Site B and 16.1 kilometers (10 miles) northeast of Site A. Analysis of historical aerial imagery did not identify suitable aquatic habitat.</td>
</tr>
</tbody>
</table>
### City of Modesto

#### Scientific/Common Name

<table>
<thead>
<tr>
<th>Scientific/Common Name</th>
<th>Status (Federal/ State)</th>
<th>Habitat</th>
<th>Potential to Occur in the Project Area</th>
</tr>
</thead>
<tbody>
<tr>
<td><em><strong>Emys marmorata</strong></em></td>
<td>/SSC</td>
<td>A thoroughly aquatic turtle of ponds, marshes, rivers, streams, and irrigation ditches, usually with aquatic vegetation, below 1,830 meters elevation. Need basking sites and suitable upland habitat (sandy banks or grassy open fields) up to 0.5 kilometer from water for egg-laying.</td>
<td>None. Site A lacks suitable habitat for this species. The irrigation canal south of Site A is not anticipated to provide suitable habitat, as it is concrete lined and lacks basking sites. Site B lacks suitable habitat.</td>
</tr>
<tr>
<td><em><strong>Rana draytonii</strong></em></td>
<td>FT/SSC</td>
<td>Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat.</td>
<td>None. Species has been extirpated from Central Valley floor (USFWS 2002).</td>
</tr>
<tr>
<td><em><strong>Thamnophis gigas</strong></em></td>
<td>FT/ST</td>
<td>Prefers freshwater marsh and low-gradient streams. Has adapted to drainage canals and irrigation ditches. This is the most aquatic of the garter snakes in California.</td>
<td>None. The sites lack suitable habitat for this species.</td>
</tr>
<tr>
<td><strong>Birds</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em><strong>Agelaius tricolor</strong></em></td>
<td>/SC, SSC</td>
<td>Highly colonial species, most numerous in Central Valley and vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few kilometers of the colony.</td>
<td>Possible. This species may forage in nearby agricultural fields, but is not anticipated to nest in the study area, although it may nest nearby. Colonies have been observed approximately 5.6 kilometers (3.5 miles) north of Site B (6.9 kilometers [4.3 miles] north of Site A) and 10.5 kilometers (6.5 miles) east of Site B (10.9 kilometers [6.8 miles] east of Site A) (UC Davis 2016).</td>
</tr>
<tr>
<td>Scientific/Common Name</td>
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<td>Habitat</td>
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</tr>
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</tr>
<tr>
<td><strong>Athene cunicularia</strong> Burrowing Owl</td>
<td>-/SSC</td>
<td>Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably the California ground squirrel.</td>
<td>Possible. Potentially suitable habitat is present at Site A, and there are two CNDDB occurrences within 8 kilometers (5 miles) of the sites (CDFW 2016). Site B is not anticipated to provide suitable habitat due to the lack of burrows observed at the site.</td>
</tr>
<tr>
<td><strong>Buteo swainsoni</strong> Swainson's Hawk</td>
<td>-/ST</td>
<td>Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannas, and agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.</td>
<td>Possible. Potentially suitable foraging habitat is present at both sites, and there is a CNDDB occurrence within 1.8 kilometers (1.1 miles of Site B) (within 2.9 kilometers (1.8 miles) of Site A) (CDFW 2016). This species is not anticipated to nest at the sites, but may nest in the vicinity.</td>
</tr>
<tr>
<td><strong>Coccyzus americanus occidentalis</strong> Western Yellow-billed Cuckoo</td>
<td>FT/SE</td>
<td>Riparian forest nester along the broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.</td>
<td>None. The sites lack suitable habitat for this species.</td>
</tr>
<tr>
<td><strong>Icteria virens</strong> Yellow-breasted Chat</td>
<td>-/SSC</td>
<td>Summer resident; inhabits riparian thickets of willow and other brushy tangles near watercourses. Nests in low, dense riparian, consisting of willow, blackberry, wild grape; forages and nests within 3 meters (10 feet) of ground.</td>
<td>None. The sites lack suitable habitat for this species.</td>
</tr>
<tr>
<td><strong>Melospiza melodia</strong> Song Sparrow (&quot;Modesto&quot; population)</td>
<td>-/SSC</td>
<td>Emergent freshwater marshes, riparian willow thickets, riparian forests, and vegetated irrigation. Inhabits cattails (Typha spp.), bulrush (Schoenoplectus spp.) and other sedges; also known to frequent tangles bordering sloughs.</td>
<td>None. The sites lack suitable habitat for this species.</td>
</tr>
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<tr>
<td>Vireo bellulus pusillus - Least Bell’s Vireo</td>
<td>FE/SE</td>
<td>Summer resident of Southern California in low riparian in vicinity of water or in dry river bottoms; below 610 meters (2,000 feet). Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, Baccharis, mesquite.</td>
<td>None. The sites lack suitable habitat for this species.</td>
</tr>
<tr>
<td>Hypomesus transpacificus - Delta smelt</td>
<td>FT/SE</td>
<td>Sacramento–San Joaquin River Delta. Seasonally in Suisun Bay, Carquinez Strait and San Pablo Bay. Seldom found at salinities &gt; 10 parts per thousand; most often at salinities &lt; 2 parts per thousand.</td>
<td>None. Study area is out of range of the species.</td>
</tr>
<tr>
<td>Mylopharodon conocephalus - hardhead</td>
<td>-/SSC</td>
<td>Low to mid-elevation streams in the Sacramento–San Joaquin River drainage. Also present in the Russian River. Clear, deep pools with sand-gravel-boulder bottoms and slow water velocity. Not found where exotic centrarchids predominate.</td>
<td>None. The sites lack suitable habitat for this species.</td>
</tr>
<tr>
<td>Oncorhynchus mykiss irideus - steelhead - Central Valley DPS</td>
<td>FT/-</td>
<td>Populations in the Sacramento and San Joaquin Rivers and their tributaries.</td>
<td>None. The sites lack suitable habitat for this species.</td>
</tr>
<tr>
<td>Corynorhinus townsendii - Townsend’s big-eared bat</td>
<td>-/CS, SSC</td>
<td>Throughout California in a wide variety of habitats. Most common in mesic sites. Roosts in the open, hanging from walls and ceilings. This species generally roosts in caves, abandoned mines, and occasionally buildings and is extremely sensitive to human disturbance (Pierson and Rainey 1998).</td>
<td>Not expected. Buildings at Site A provide marginally suitable habitat for this species; as this species is so sensitive to human disturbance, it is not anticipated to roost in these buildings. Site B lacks suitable habitat. The closest CNNDDB occurrence is 15 kilometers (9.3 miles) southeast of Site A (15.8 kilometers [9.8 miles] southeast of Site B), in the Tuolumne River riparian corridor.</td>
</tr>
<tr>
<td>Scientific/Common Name</td>
<td>Status (Federal/State)</td>
<td>Habitat</td>
<td>Potential to Occur in the Project Area</td>
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</tbody>
</table>
| *Eumops perotis californicus*  
western mastiff bat | FE/SSC | Many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, and chaparral. Roosts in crevices in cliff faces, high buildings, trees, and tunnels. | Not expected. Marginally suitable habitat is present in the study area. |
| *Lasiurus blossevillii*  
western red bat | FE/SSC | Roosts primarily in trees, 0.6-12 meters (2-40 feet) above ground, from sea level up through mixed conifer forests. Prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging. | Not expected. Marginally suitable habitat is present in the study area. In the Central Valley, this species is strongly associated with riparian areas, especially with mature cottonwoods (*Populus* spp.) and sycamores (*Platanus racemosa*) (Pierson et al. 2006). The closest riparian areas are 1.9 kilometers (1.2 miles) from Site A and 1.1 kilometers (0.7 mile) from Site B. |
| *Neotoma fuscipes riparia*  
riparian (=San Joaquin Valley) woodrat | FE/SSC | Riparian areas along the San Joaquin, Stanislaus, and Tuolumne Rivers. Needs areas with mix of brush and trees. Needs suitable nesting sites in trees, snags, or logs. | None. The sites lack suitable habitat for this species. |
| *Sylvilagus bachmani riparius*  
riparian brush rabbit | FE/SE | Riparian areas on the San Joaquin River in northern Stanislaus County. Dense thickets of wild rose, willows, and blackberries. | None. The sites lack suitable habitat for this species. |
| *Vulpes macrotis mutica*  
San Joaquin kit fox | FE/ST | Annual grasslands or grassy open stages with scattered shrubby vegetation. Needs loose-textured sandy soils for burrowing and suitable prey base. | None. The sites lack suitable habitat for this species. |

**Status Legend**

**Federal:**
- FE = federally listed as endangered
- FT = federally listed as threatened

**State:**
- SC = state candidate for listing as threatened or endangered
- SE = state listed as endangered
- SSC = California species of special concern
- ST = state listed as threatened
Figure 6-1
Special Status Species Occurrences and Critical Habitat

Data sources: California Natural Diversity Database, May 2010 update and NMFS 2005

Project Site
Proposed Pipeline
1- and 5-mile buffers
Critical Habitat
Central Valley Steelhead

- California tiger salamander
- Greene's tuctoria
- Swainson's hawk
- burrowing owl
- steelhead - Central Valley DPS
- vernal pool fairy shrimp
- vernal pool tadpole shrimp
- valley elderberry longhorn beetle
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6.4 Impact Analysis

6.4.1 Methodology

The Proposed Project may affect biological resources through direct or indirect disturbance, modification, or destruction of habitat that results in death, injury, or harassment of individuals or populations of plant or animal species, or that impedes or prevents the dispersal of individuals or populations of special-status species. Potential impacts on existing biological resources were evaluated by comparing the quantity and quality of habitats present in the study area under baseline conditions to anticipated conditions after implementation of the project activities. Direct and indirect impacts on special-status species were assessed based on the potential for the species or their habitat to be disturbed or enhanced by implementation of the Proposed Project.

In general, once construction is complete, operation and maintenance of the Proposed Project, as described in Chapter 2, would not disturb biological resources. Unless otherwise stated below, impacts associated with operation and maintenance are considered unlikely or less than significant, and are not discussed further.

Impacts on riparian habitat, federally protected wetlands, and wildlife corridors and potential conflicts with local policies or ordinances were evaluated in the Environmental Checklist (Appendix B) and found to be less than significant or to have no impact. These issues are not evaluated further in this EIR.

6.4.2 Criteria for Determining Significance

Based on Appendix G of the CEQA Guidelines, the Proposed Project would result in a significant impact on biological resources if it would:

- Have a substantial or potential adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS;

- Have a substantial or potential adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFW or USFWS;

- Have a substantial or potential adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, and coastal) through direct removal, filling, hydrological interruption, or other means;

- Interfere substantially or potentially with the movement of any wildlife species or with established wildlife corridors, or impede the use of native wildlife nursery sites; or

- Conflict with local policies or ordinances protecting biological resources, or conflict with the provisions of an adopted Habitat Conservation Plan (HCP) or Natural Community Conservation Plan.

The analysis considers both species and their habitats. A less than significant impact generally refers to a situation where there is a measurable impact, but the impact is not likely to result
in an adverse outcome for the survival or fitness of a particular species, or a widespread or long-lasting adverse effect on a natural community. Conversely, an impact would be considered potentially significant if it may substantially decrease the likelihood of survival or fitness of a particular species (e.g., substantial decrease in a local population size or extirpation), or result in widespread or long-lasting adverse effects on a natural community. For impacts found to be "potentially significant", mitigation measures are proposed. Any impact that remains significant after application of all feasible mitigation is considered significant and unavoidable.

6.4.3 Environmental Impacts

Impact BIO-1: Construction-related Loss of Occupied Burrowing Owl Habitat (Less than Significant with Mitigation)

Annual grasslands in the study area provide potentially suitable habitat for Burrowing Owl. Although some burrows were observed at Site A, no evidence of use by Burrowing Owls (e.g., whitewash, feathers) was observed; however, there is the potential for this species to occupy the site or for individuals to occur as transients. No burrows were identified at Site B, so this site is not anticipated to support Burrowing Owls. If Burrowing Owls are present at or within 250 feet of Site A, construction during the breeding season could result in the incidental loss of eggs or nestlings, or otherwise lead to nest abandonment. Raptors, including owls and their nests, are protected under both federal and state laws and regulations, including the MBTA and Fish and Game Code Section 3503.5. The loss, directly or indirectly through nest abandonment or reproductive suppression, of occupied Burrowing Owl habitat (or habitat known to have been occupied by owls during the nesting season within the past 3 years) or reductions in the number of this rare species within Stanislaus County would constitute a significant impact.

The Program EIR identified impacts on Burrowing Owl as potentially significant and identified Mitigation Measure BIO-8: Avoid and Protect Burrowing Owls and Mitigation Measure BIO-9: Compensate for Loss of Burrowing Owl Habitat to reduce impacts to Burrowing Owls to less than significant. These mitigation measures have been modified to reflect site conditions for the Proposed Project. With implementation of Mitigation Measures BIO-1 (Avoid and Protect Burrowing Owls at Site A) and BIO-2 (Compensate for Loss of Burrowing Owl Habitat at Site A), the potential for loss of Burrowing Owls would be less than significant.

Mitigation Measure BIO-1: Avoid and Protect Burrowing Owls at Site A.

Because some burrows that could be used by Burrowing Owls were noted during field surveys at Site A, and in conformance with federal and state regulations regarding the protection of raptors, the City shall hire a qualified biologist to conduct a preconstruction survey(s) for Burrowing Owls within a 250-foot buffer around the project site, in conformance with accordance with protocols established in the Staff Report on Burrowing Owl Mitigation (CDFG 2012 or current version), and prior to the start of construction. If no Burrowing Owls are located during these surveys, no additional action is warranted. However, if breeding or resident owls are located on or within 250 feet of Site A, the following measures shall be implemented.
• No Burrowing Owls will be evicted from burrows during the nesting season (February 1 through August 31). Eviction outside the nesting season may be permitted following evaluation of eviction plans and receipt of formal written approval from CDFW authorizing the eviction.

• A 250-foot buffer, within which no new activity is permissible, shall be maintained between project activities and nesting Burrowing Owls. This protected area will remain in effect until August 31 or, at CDFW’s discretion (based upon monitoring evidence), until the young owls are foraging independently.

Mitigation Measure BIO-2: Compensate for Loss of Burrowing Owl Habitat at Site A.

If a preconstruction survey finds that Burrowing Owls occupy Site A, and avoiding construction in occupied areas is not feasible, then the City shall implement habitat compensation on off-site mitigation lands, or shall purchase mitigation bank credits from a mitigation bank approved by CDFW. If mitigation credits are not purchased, habitat management lands comprising existing Burrowing Owl foraging and breeding habitat will be acquired and preserved. An area of 6.5 acres (the amount of land found to be necessary to sustain a pair or an individual owl) will be secured for each pair of owls or for an individual, in the case of an odd number of birds. Relocation of owls shall only be implemented during the non-breeding season. As part of an agreement with CDFW, the City shall provide CDFW with security for the performance of its mitigation duties in the form of funds that will:

• allow for the acquisition and preservation of 6.5 acres of habitat management lands for each pair of owls or unpaired resident single owl;

• provide initial protection and enhancement activities on the habitat management lands, potentially including such measures as fencing, trash cleanup, artificial burrow creation, grazing or mowing, and any habitat restoration deemed necessary by CDFW;

• establish an endowment for the long-term management of the habitat management lands; and

• reimburse CDFW for reasonable expenses incurred as a result of the approval and implementation of this agreement.

Impact BIO-2: Construction-related Loss of Swainson’s Hawk Foraging Habitat (Less than Significant with Mitigation)

Swainson’s Hawks are known to nest within 1.1 miles of Site B (within 1.8 miles of Site A) (CDFW 2016). The fallow field at Site A and the grassland at Site B provide potentially suitable foraging habitat for Swainson’s Hawks. Project-related construction would result in the loss of up to 1.3 acres of potentially suitable foraging habitat at Site A and 0.1 acre of potentially suitable foraging habitat at Site B, resulting in a significant adverse effect on this state-designated threatened species through habitat modification.
The Program EIR identified loss of Swainson’s Hawk foraging habitat as potentially significant and identified Mitigation Measure BIO-10: Compensate for Loss of Swainson’s Hawk Foraging Habitat to reduce impacts to less than significant. This mitigation measure has been modified to reflect site condition for the Proposed Project. Implementation of Mitigation Measure BIO-3 (Compensate for Loss of Swainson’s Hawk Foraging Habitat) would reduce this impact to a level that is less than significant.

Mitigation Measure BIO-3: Compensate for Loss of Swainson’s Hawk Foraging Habitat.

To mitigate for the loss of potential Swainson’s Hawk foraging habitat, the City shall provide off-site habitat management lands, as described in the CDFW protocol for the mitigation of impacts on Swainson’s hawks in the Central Valley (CDFG 1994), or by purchasing credits at a CDFW-approved Swainson’s Hawk foraging habitat mitigation bank that covers the Proposed Project area, such as the Dutchman Creek Conservation Bank.

The City shall determine the final acreage of off-site management lands or mitigation bank credits to be provided based on the distance between the project area and the nearest active nest site, as stated in the CDFW protocol (CDFG 1994). Mitigation credits would follow the same ratio guidelines as off-site management lands. Prior to the grading of any site with potential foraging habitat, the City shall hire a qualified biologist to conduct protocol-level surveys to determine the location of the nearest active nest. Based on these surveys, the City shall compensate for losses in compliance with the protocol for the mitigation of impacts on Swainson’s hawks in the Central Valley (CDFG 1994), as follows:

* Projects within 1 mile of an active nest tree shall provide:
  - 1 acre of habitat management land for each acre of development authorized (1:1 ratio), at least 10% of which shall be met by fee title acquisition or a conservation easement allowing for the active management of the habitat, with the remaining 90% protected by a conservation easement acceptable to CDFW on agricultural lands or other suitable habitats that provide foraging habitat for Swainson’s Hawk; or
  - 0.5 acre of habitat management land for each acre of development authorized (0.5:1 ratio), all of which shall be met by fee title acquisition or a conservation easement acceptable to CDFW that allows for the active management of the habitat for prey production on the habitat management lands.

* Projects within 5 miles of an active nest tree but greater than 1 mile from the nest tree shall provide 0.75 acre of habitat management land for each acre of urban development authorized (0.75:1 ratio). All habitat management lands protected under this requirement may be protected through fee title acquisition or conservation easement on agricultural lands or other suitable habitats that provide foraging habitat for Swainson’s Hawks.
- Projects within 10 miles of an active nest tree but greater than 5 miles from an active nest tree shall provide 0.5 acre of habitat management land for each acre of urban development authorized (0.5:1 ratio). All habitat management lands protected under this requirement may be protected through fee title acquisition or conservation easement acceptable to CDFW on agricultural lands or other suitable habitats that provide foraging habitat for Swainson's Hawks.

Management Authorization holders/project sponsors shall provide for the long-term management of the habitat management lands by funding a management endowment (the interest on which shall be used for managing the habitat management lands). If mitigation credits are purchased, long term management would be the responsibility of the mitigation bank.

Impact BIO-3: Construction-related Impacts on Nesting Swainson’s Hawks (Less than Significant with Mitigation)

Two CNDDB occurrences of Swainson's Hawk are known within 5 miles of the study area (CDFW 2016). Mature trees within 0.5 mile of the study area provide potentially suitable nesting habitat for Swainson's Hawk. Construction activities occurring within 1 mile of an active nest could result in sufficient disturbance to cause Swainson’s hawk breeding pairs to abandon their nest or could otherwise harm eggs or nestlings. Because Swainson’s Hawk is a state-listed threatened species, disturbance that causes Swainson’s hawks to abandon their nest or results in the loss of reproductive effort would constitute a significant impact.

The Program EIR identified impacts to Swainson's Hawk as potentially significant and identified Mitigation Measure BIO-11: Conduct Preconstruction Surveys for Swainson's Hawk Nests to reduce impacts to less than significant. This mitigation measure has been modified to reflect site condition for the Proposed Project. Implementation of Mitigation Measure BIO-4 (Conduct Preconstruction Surveys for Swainson's Hawk Nests) would reduce this impact to a level that is less than significant.

Mitigation Measure BIO-4: Conduct Preconstruction Surveys for Swainson’s Hawk Nests.

To ensure that nesting Swainson's Hawks will not be disturbed by construction activities, the City will hire a qualified ornithologist to conduct preconstruction surveys of the Proposed Project sites and adjacent areas within 1 mile of Sites A and B. No fewer than three surveys will be completed in at least each of the two survey periods immediately prior to project initiation, according to this schedule, based on Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley (Swainson's Hawk Technical Advisory Committee 2000):

- Survey Period I occurs from January 1 to March 20;
- Period II from March 20 to April 5;
- Period III from April 5 to April 20;
• Period IV from April 21 to June 10 (surveys are not recommended during this period because identification is difficult, as the adults tend to remain within the nest for longer periods of time); and

• Period V from June 10 to July 30.

If a nest site is found, no construction work shall commence until after the City engages in consultation with CDFW and CDFW-approved measures are implemented. As a performance standard, the measures implemented shall ensure that project initiation will not result in nest disturbance.

Impact BIO-4: Construction Disturbance of Tricolored Blackbird and Other Migratory Birds, Including Raptors (Less than Significant with Mitigation)

Table 6-2 lists the special-status bird species known to occur in the vicinity of the study area, and Figure 6-1 shows the CNDDB occurrences of special-status wildlife species within a 5-mile radius of the study area. The study area is unlikely to support nesting of special-status passerines because suitable habitat is lacking for special-status passerine species known to occur near the study area, although Tricolored Blackbirds may potentially nest near Site A (Table 6-2).

Many other migratory birds, including raptors, have the potential to nest in the vicinity of the Proposed Project sites. Raptors (e.g., kites, hawks, and owls) and other migratory birds and their nests are protected under both California Fish and Game Code Section 3503 (active bird nests) and the MBTA. Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or could otherwise lead to nest abandonment. Trees in the study area, including those proposed for removal at Site A, could provide nesting habitat for birds protected under the MBTA. Loss of raptor and other migratory birds' eggs or nests, or any activities resulting in nest abandonment, would constitute a significant impact.

The Program EIR identified impacts to nesting birds as potentially significant and identified Mitigation Measure BIO-12: Conduct Preconstruction Surveys for Nesting Birds and Mitigation Measure BIO-13: Avoid and Minimize Impacts on Nesting Raptors and Other Migratory Birds to reduce impacts to less than significant. These mitigation measures have been modified adjusted to reflect site condition for the Proposed Project. Implementation of Mitigation Measures BIO-5 (Conduct Preconstruction Surveys for Nesting Birds) and BIO-6 (Avoid and Minimize Impacts on Nesting Raptors and Other Migratory Birds) would reduce this impact to a level of less than significant.

Mitigation Measure BIO-5: Conduct Preconstruction Surveys for Nesting Birds.

The City shall require that construction will be avoided during the nesting season (generally between February 1 and August 31), where practical. If construction activities cannot be avoided during the nesting season, a qualified biologist will conduct a preconstruction survey within 500 feet of the construction area to determine whether active nests are present on the site. The survey will be conducted no more than 30 days prior to construction. If the biologist determines that the area surveyed does not contain any active nests, then construction activities can
commence without any further mitigation. If active nests are found, CDFW and USFWS will be notified and Mitigation Measure BIO-6 will be implemented.

**Mitigation Measure BIO-6: Avoid and Minimize Impacts on Nesting Raptors and Other Migratory Birds.**

To avoid disturbing any active migratory bird nests, the City shall require that construction activities will be conducted during the non-breeding season for these species (generally between September 1 and January 31). If active nests are present on or adjacent to either of the Proposed Project sites, CDFW and USFWS will be notified. If active migratory bird nests are present and construction cannot be avoided during the breeding season, construction will not occur within 500 feet of an active nest until the young have fledged, as determined by a qualified biologist, or until the project applicant receives written authorization from CDFW and USFWS to proceed.

**Impact BIO-5: Disturbance of Roosting Areas for Bats, including Special-status Bat Species (Less than Significant with Mitigation)**

The four largest existing trees at Site A would be retained for the Proposed Project. Existing trees to be removed through construction of the Proposed Project provide marginally suitable roosting habitat for western red bat (California Species of Special Concern) and hoary bats (*Lasiurus cinereus*) (no listing status). The western red bat is strongly associated with mature riparian forests, although it has been detected roosting in orchards (Pierson et al. 2006). The hoary bat generally roosts in medium to large trees (Harris 1990), and only smaller trees would be removed at Site A. Due to the lack of their preferred habitat, western red bat and hoary bat are not expected to roost in trees at Site A. No trees would be removed from Site B.

Proposed construction activities would remove buildings at Site A that provide possible day and/or night roosts for non-special-status bats such as Brazilian free-tailed bat (*Tadarida brasiliensis*) and Yuma myotis (*Myotis yumanensis*). Townsend’s big-eared bat is not expected to roost in the buildings, as this species is very sensitive to human disturbance and may abandon roost sites after a single human visit (Pierson and Rainey 1998) and the buildings at Site A have not been vacant for an extended period of time. No extensive survey of bat activity in the buildings at Site A was conducted; however, if bats are present, impacts from the removal of structures occupied by bats would be potentially significant.

Implementation of Mitigation Measure BIO-7 (Protect Bat Colonies), which requires seasonal work periods in active bat habitat and avoidance and minimization of disturbance, would reduce this impact to a level that is less than significant with mitigation.

**Mitigation Measure BIO-7: Protect Bat Colonies.**

The following measures shall be implemented to avoid and minimize impacts on bats:

- Prior to removal of structures, the City shall hire a qualified bat biologist familiar with bat biology and ecology to assess structures to be removed for potential, active bat habitat. If the biologist determines that bats are not actively occupying
the structures based on professional opinion following appropriate survey protocols, then the structures may be removed.

- For structures identified by the qualified biologist to be actively occupied by bats, removal of the structures shall not occur between April 15 and August 31 to avoid the bat maternity season,
- Demolition of structures shall be preceded by either humane eviction, phased dismantling, and/or deterrent methods to prevent direct mortality.

**Impact BIO-6: Disturbance to or Displacement of Wildlife from Site Operations (Less than Significant)**

Operation of the Proposed Project would generate noise, light, and an increased level of human activity at Sites A and B. Noise-generating pumps may operate during day and evening hours. Site A pumps would be housed in an enclosed building, which would reduce noise; Site B pumps would be surrounded by a wall, but no roof would be present, so noise levels may be higher than at Site A. (See Chapter 11, Noise, for further discussion of potential noise impacts and identified mitigation.) Sites A and B would have outside lighting in use at all times to provide security; however, impacts of lighting are anticipated to be less than significant. (See Chapter 4, Aesthetics, for further discussion of potential lighting impacts.) Operations are not anticipated to displace individuals from occupied habitat, however, or result in substantial adverse effects on special-status wildlife species with the potential to occur at the site; therefore, the impacts associated with noise, light, and human activity would be **less than significant**.

**Impact BIO-7: Interfere with Wildlife Movement, Established Wildlife Corridors, or the Use of Native Wildlife Nursery Sites (Less than Significant with Mitigation)**

The Proposed Project would be constructed primarily on disturbed and developed lands that do not function as important wildlife movement corridors. Disruption of nesting or breeding of special-status species would be minimized by conducting appropriate pre-construction surveys (as described in Impacts BIO-1 through BIO-5 and Mitigation Measures BIO-1 and BIO-4 through BIO-7). Therefore, impacts on wildlife movement would be **less than significant**.

**Impact BIO-8: Conflict with Local Policies or Ordinances Protecting Biological Resources (Less than Significant with Mitigation)**

The Stanislaus County General Plan 2015 Conservation/Open Space Element (Stanislaus County 2016) establishes several policies (notably Goal One, Policies Three and Four, and Goal Ten, Policy Twenty-nine) to protect sensitive species, along with habitats such as vernal pools, riparian habitats, and oak woodlands. The Proposed Project does not conflict with any local policies protecting biological resources because no vernal pools, riparian habitats, or oak woodlands are present in the study area, based on field surveys conducted by a qualified biologist on May 4, 2016. Impacts of the Proposed Project on sensitive (i.e., special-status) species are discussed in Impacts BIO-1 through BIO-5 above. With implementation of
Mitigation Measures BIO-1 through BIO-7, impacts on sensitive species would be less than significant.

6.4.4 Cumulative Impacts

Impact BIO-9: Cumulative Biological Resource Impacts (Less than Significant with Mitigation)

Native plant and wildlife species in the Central Valley are at risk from competition with non-native species, ongoing loss of habitat, and other human activities. Habitat in the Central Valley has largely been converted to agriculture or other human uses, resulting in the local extirpation of several species that rely on sensitive habitats no longer present. Species that persist in this altered landscape (e.g., Swainson’s Hawk, Tricolored Blackbird, and Burrowing Owl) are still at risk from cumulative impacts. The collective implementation of projects in the vicinity of the Proposed Project could degrade habitat and species viability from consequences such as disruption of wildlife migration corridors, displacement and fragmentation of habitats and species populations, and the introduction or promotion of non-native predators and competitors. This is a significant cumulative impact.

As described in Impacts BIO-1 through BIO-5, construction of the Proposed Project has the potential to adversely affect special-status wildlife species and/or their habitat. The Proposed Project’s impacts on special-status wildlife would be reduced with implementation of Mitigation Measures BIO-1 and BIO-4 through BIO-7. These measures would require preconstruction surveys, avoidance and minimization measures, and other protective measures that would reduce construction-related disturbances on special-status species. Impacts due to loss of Burrowing Owl and Swainson’s Hawk foraging habitat would be reduced with implementation of Mitigation Measures BIO-2 and BIO-3. Implementation of these measures would ensure that the Proposed Project’s contribution to cumulative impacts on special-status species would not be considerable. With implementation of Mitigation Measures BIO-1 through BIO-7, the Proposed Project’s contribution to this cumulative impact on biological resources would be reduced to a level that is less than significant.
Chapter 7
Cultural Resources

7.1 Overview

This chapter describes potential impacts of the Proposed Project related to cultural and paleontological resources. Cultural resources include prehistoric and historic-era archaeological sites; tribal cultural resources (TCRs) or Traditional Cultural Properties (TCPs); and historic-era buildings, structures, landscapes, districts, and linear features. Prehistoric archaeological sites are places where Native Americans lived or carried out activities during the prehistoric period, which is generally defined as before the early 1800s in the Proposed Project area. Historic-era archaeological sites reflect the activities of people after initial exploration and settlement in the region during the early 1800s. Native American sites can also reflect the historic era. Prehistoric and historic-era sites may contain artifacts, cultural features, subsistence remains, and/or human burials. TCRs are sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe.

Paleontological resources are the fossil remains of prehistoric flora and fauna, or traces of evidence of the existence of prehistoric flora and fauna. This chapter addresses the occurrence of paleontological resources within the Proposed Project area and the potential impact that construction activities and operation of the Proposed Project would have on scientifically important fossil remains, as identified in the CEQA Guidelines. The analysis presented in this chapter conforms to the Society of Vertebrate Paleontology criteria.

This chapter describes the regulatory setting associated with cultural and paleontological resources, the affected environment for these resources, project-related impacts on cultural and paleontological resources, and mitigation measures that would reduce these impacts.

7.2 Regulatory Setting

7.2.1 Federal Laws, Regulations, and Policies

The Proposed Project does not require any federal permits, and it is not located on federal lands; therefore, federal laws do not apply to the Proposed Project. The following laws are provided for context only.

National Historic Preservation Act

Projects that require federal permits, receive federal funding, or are located on federal lands must comply with 54 USC 306108, formally and more commonly known as Section 106 of the National Historic Preservation Act (NHPA). To comply with Section 106, a federal agency must "take into account the effect of the undertaking on any district, site, building, structure, or object that is included in or eligible for inclusion in the National Register of Historic Places.
Chapter 7. Cultural Resources

The implementing regulations for Section 106 are found in 36 CFR Part 800, as amended (2004).

The implementing regulations of the NHPA require that cultural resources be evaluated for NRHP eligibility if they cannot be avoided by an undertaking or project. To determine if a site, district, structure, object, and/or building is significant, the NRHP Criteria for Evaluation are applied. A resource is significant and considered a historic property when it:

A. Is associated with events that have made a significant contribution to the broad patterns of our history; or
B. Is associated with the lives of persons significant in our past; or
C. Embodies the distinctive characteristics of a type, period, or method of construction, or that represents the work of a master, or that possesses high artistic values, or that represents a significant and distinguishable entity whose components may lack individual distinction; or
D. Yields, or may be likely to yield, information important in prehistory or history.

In addition, 36 CFR Section 60.4 requires that, to be considered significant and historic, resources must also exhibit the quality of significance in American history, architecture, archaeology, engineering, or culture and must possess integrity of location, design, setting, materials, workmanship, feeling, and association.

Other “criteria considerations” need to be applied to religious properties, properties that are less than 50 years old, a resource no longer situated in its original location, a birthplace or grave of a historical figure, a cemetery, a reconstructed building, and commemorative properties. These types of properties are typically not eligible for NRHP inclusion unless the criteria for evaluation and criteria considerations are met.

For archaeological sites evaluated under criterion D, “integrity” requires that the site remain sufficiently intact to convey the expected information to address specific important research questions.

TCPs are locations of cultural value that are historic properties. A place of cultural value is eligible as a TCP “because of its association with cultural practices or beliefs of a living community that (a) are rooted in that community’s history, and (b) are important in maintaining the continuing cultural identity of the community” (Parker and King 1990, rev. 1998). A TCP must be a tangible property, meaning that it must be a place with a referenced location, and it must have been continually a part of the community’s cultural practices and beliefs for the past 50 years or more.

7.2.2 State Laws, Regulations, and Policies

CEQA and CEQA Guidelines

Historical Resources

California cultural resources laws and regulations are embodied in CEQA (PRC Section 21000 et seq.) and the CEQA Guidelines (PRC Section 15000 et seq.), as well as other portions of the
Public Resources Code. CEQA requires that lead agencies determine whether their projects would have a significant effect on a unique archaeological resource or a historical resource under Sections 21083.2 and 21084.1, respectively. Section 15064.5(b) of the CEQA Guidelines notes that “a project with an effect that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment.” Lead agencies are expected to identify potentially feasible measures to mitigate significant adverse changes in the significance of a historical resource before they approve such projects.

Historical resources are those that are:

- listed in, or determined to be eligible for listing in, the California Register of Historical Resources (CRHR) (PRC Code Section 5024.1[d]);
- included in a local register of historical resources (PRC Section 5020.1[k]) or identified as significant in an historical resource survey meeting the requirements of Section 5024.1(g); or
- determined by a lead state agency to be historically significant.

Eligibility criteria for CRHR are set forth in PRC Section 5024.1(c). A resource is eligible for CRHR listing if it:

1. is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage;
2. is associated with the life of a person important in our past;
3. embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
4. has yielded, or may be likely to yield, information important in prehistory or history.

CEQA Guidelines Section 15064.5 also applies to unique archaeological resources, as defined in CEQA Section 21083.2(g). A unique archaeological resource implies an archaeological artifact, object, or site for which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets one of the following criteria:

- Contains information needed to answer important scientific research questions, and there is a demonstrable public interest in that information; or
- Has a special and particular quality, such as being oldest of its type or the best available example of its type; or
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

A non-unique archaeological resource is an archaeological artifact, object, or site that does not meet the above criteria. Impacts on non-unique archaeological resources and resources that do not qualify as historical resources receive no further consideration under CEQA.
Under CEQA Guidelines Section 15064.5, a project potentially would have significant impacts if it would cause substantial adverse change in the significance of one of the following:

- a historical resource (i.e., a cultural resource eligible for CRHR listing);
- an archaeological resource (i.e., a unique archaeological resource that does not meet CRHR listing criteria); or
- human remains (i.e., where the project would disturb or destroy burials).

Section 15064.5 of the CEQA Guidelines also assigns special importance to human remains and specifies procedures to be used when Native American remains are discovered. These procedures are detailed in PRC Section 5097.98.

**Paleontological Resources**

No state or local agency has specific jurisdiction over paleontological resources on private lands. A paleontological collecting permit is not required by any state or local agency to allow for the recovery of fossil remains discovered as a result of construction-related activities on state or private land in the project area; however, if a state agency were to acquire ownership of project lands, PRC Chapter 1.7 Archaeological, Paleontological, and Historical Sites, Section 5097.3, would apply. This section of the code specifies that surveys, excavations, or other operations as necessary on state lands may be undertaken to preserve or record paleontological resources.

As noted above, CEQA Section 21083.2 and CEQA Guidelines Section 15064.5 provide specific guidance on historical and unique archaeological resources and, under CEQA, resources called “historical resources” can be of historic or prehistoric age. It is possible that a paleontological resource could be determined to be a historical resource. Although CEQA does not define what constitutes “a unique paleontological resource,” the criteria defining a unique archaeological resource could be applied to define a unique paleontological resource.

**Tribal Cultural Resources**

AB 52 was approved in September 2014 and went effect on July 1, 2015. This bill requires that state lead agencies consult with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of a proposed project, if so requested by the tribe. The bill, chaptered in CEQA Section 21084.2, specifies that a project that may cause a substantial adverse change in the significance of a TCR might have a significant effect on the environment. Also under AB 52, revisions to the CEQA Guidelines Appendix G Environmental Checklist went into effect on July 1, 2016, to include a consideration of substantial adverse change to TCRs.

TCRs are defined in CEQA Section 21074:

(a) “Tribal cultural resources” are either of the following:

1. Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:

(a) Included or determined to be eligible for inclusion in the California Register of Historical Resources.
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(b) Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.

2. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

(b) A cultural landscape that meets the criteria of subdivision (a) is a TCR to the extent that the landscape is geographically defined in terms of the size and scope of the landscape; and

(c) A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a "nonunique archaeological resource" as defined in subdivision (h) of Section 21083.2 may also be a tribal cultural resource if it conforms with the criteria of subdivision (a).

Mitigation measures for TCRs will be developed in consultation with the affected California Native American tribe pursuant to newly chaptered Section 21080.3.2, or according to Section 21084.3. Section 21084.3 identifies mitigation measures that include avoidance and preservation of TCRs, and treating TCRs with "culturally appropriate dignity taking into account the tribal cultural values and meaning of the resource...."

7.2.3 Local Laws, Regulations, and Policies

Stanislaus County General Plan 2015

Cultural resources are addressed in the Stanislaus County General Plan 2015 (2016) in Chapter 3, the Conservation/Open Space Element. The policies and implementation measures pertinent to the Proposed Project are listed below.

Goal Eight: Preserve areas of national, state, regional and local historical importance.

Policy Twenty-four: The County will support the preservation of Stanislaus County's cultural legacy of archeological, historical, and paleontological resources for future generations.

3. The County shall work with the County Historical Society, and other organizations and interested individuals to study, identify and inventory archeological resources and historical sites, structures, buildings and objects.

4. The County will cooperate with the State Historical [sic] Preservation Officer to identify and nominate historical structures, objects, buildings and sites for inclusion under the [National] Historical [sic] Preservation Act.

5. The County shall utilize the California Environmental Quality Act (CEQA) process to protect archaeological, historic, or paleontological resources. Most discretionary projects require review for compliance with CEQA. As part of this review, potential impacts must be identified and mitigated.
6. The County shall make referrals to the Office of Historic Preservation and the Central California Information Center as required to meet CEQA requirements.

7. The County will work with all interested individuals and organizations to protect and preserve the mining heritage of Stanislaus County.

Policy Twenty-five: “Qualified Historical Buildings” as defined by the State Building Code shall be preserved.

1. Whenever possible, the County Building Permits Division shall utilize the provisions of the State Building Code that allow historical buildings to be restored without damaging the historical character of the building.

Del Rio Community Plan

The Del Rio Community Plan is a focused planning policy and land use planning document that is part of the Stanislaus County General Plan (Stanislaus County 1992). The Del Rio Community Plan contains no specific goals or policies related to cultural or paleontological resources.

7.3 Environmental Setting

7.3.1 Prehistoric Setting

Very little archaeological work has been conducted in the Modesto area or in the San Joaquin Valley in general; therefore, the archaeology of the project area is understood within the prehistoric context developed for the Central Valley as a whole. Since the early 1930s, various schemes have been set forth by researchers to organize the archaeological data of California into a chronological framework. The Central Valley sequence established by Lillard, Heizer, and Fenenga in 1939 is particularly notable. Based on archaeological investigations in the lower Sacramento Valley, Lillard and colleagues divided human prehistory into three broad cultural horizons: Early, Middle, and Late. This chronology was first known as the Delta sequence and later became the basis of Richard Beardsley’s Central California Taxonomic System (CCTS) (Moratto 1984:181). The system relies on the identification of characteristics such as burial patterns, shell bead types, stone tools, and the types of locations where the sites tend to occur. These traits and characteristics are used to identify an archaeological resource as belonging to a specific time period.

The CCTS has continued to undergo significant refinement but remains the framework within which California archaeologists explain cultural change. The general system is still widely used by archaeologists, but it has been expanded and revised to include economic and technological strategies, socio-politics, trade networks, population density, and variations of artifact types to differentiate between cultural periods. The current chronology (Rosenthal et al. 2010:150) for central California archaeology includes:

- Paleo-Indian: 11,550–8550 B.C.
- Lower Archaic: 8550–5550 B.C.
- Middle Archaic: 5550–550 B.C.
• Upper Archaic: 550 B.C to 1100 A.D.
• Emergent: 1100 A.D. to Historic

The Paleo-Indian Period (11,550–8,550 B.C.) is generally characterized by big-game hunters occupying broad geographic areas. Archaeological deposits from the Paleo-Indian period are rarely found in the Central Valley, however, and those that have been identified have largely been discovered at the south end of the San Joaquin Valley near Tulare Lake. Post-depositional processes, mainly glacial outwash occurring at the end of the Pleistocene Epoch, either destroyed or deeply buried much of the existing evidence of human activity in the region from this period. As result, little is known about Paleo-Indian lifeways in the region (Moratto 1984:214).

Similar to the preceding period, the Lower Archaic Period (8550–5550 B.C.) is presumed to reflect a mobile population that continued to hunt big game. Few localities in the Central Valley are associated with this period, and those that have been found are largely isolated artifacts consisting of large wide-stemmed and leaf-shaped projectile points, along with flaked stone crescents. Only two sites with associated deposits of faunal and shell remains have been identified for the Lower Archaic Period, one at Buena Vista Lake in the southern San Joaquin Valley (Rosenthal et al. 2010:151-152) and one in Sacramento (Tremaine 2008). Some sites in the Sierra Nevada foothills from this period, however, indicate the use of milling equipment (hand stones and milling stones) to process seeds and nuts.

The Middle Archaic Period (5550–550 B.C.) indicates a shift to a more settled way of life that is reflected by substantial, though often deeply buried, archaeological sites with artifacts that are more elaborate in design, imply a more diverse subsistence regime, and indicate interregional trade. Sites are often situated along the major rivers and streams within the Central Valley, emphasizing a focus on riverine and marsh habitats. The Windmiller Tradition or Pattern, which was first identified in sites around the Sacramento–San Joaquin River Delta, is often considered representative of this period. Characteristic artifacts from this period include a variety of fish hooks and spears; large stemmed and leaf-shaped projectile points of obsidian and chert; shaped charmstones of alabaster, steatite, or marble; and a variety of Haliotis and Olivella shell ornaments and beads, respectively. Mortars and pestles, associated with acorn preparation, became commonplace by the middle of the period. The presence of ventrally and dorsally extended burials with a western orientation is particularly indicative of the Windmiller Pattern.

Increased sedentism and technological specialization are evidenced during the Upper Archaic Period (550 B.C to 1100 A.D.), as populations exploited more diverse resources and established trade relationships. Mortars and pestles became the primary ground stone implements, suggesting that acorns had become a more important dietary staple. Regional diversity in artifact styles, such as Haliotis shell ornaments, bone tools, and ground charmstones or plummetts, became more pronounced; burial postures also varied.

Archaeological sites from the Emergent Period (A.D. 1100 to the historic period) indicate increased social complexity and the development of large, central villages with resident political leaders and specialized activity sites. Enhanced regional diversity in terms of artifact styles, housing, and interment methods is evident in the archaeological record. Artifacts associated with the period include the bow and arrow, small corner-notched projectile points, and a variety of shell and stone beads and ornaments.
7.3.2 Ethnographic Setting

The Modesto area lies within the ancestral territory of the Northern Valley Yokuts. "Yokuts" is a term applied to a large and diverse group of people inhabiting the San Joaquin Valley and Sierra Nevada foothills of central California. The Northern Valley Yokuts inhabited a 40- to 60-mile-wide area straddling the San Joaquin River, south of the Mokelumne River, east of the Diablo Range, and north of the sharp bend that the San Joaquin River takes to the east-northeast near Mendota in Fresno County. The Southern Valley Yokuts inhabited the San Joaquin Valley south of the bend in the river. Although they were divided geographically and ecologically, the two groups have a common linguistic heritage (Wallace 1978:462).

The Northern Valley tribes closely resembled the Yokuts groups to the south, although there were some cultural differences. The northerners had greater access to salmon and acorns, two important dietary resources, and some of their religious practices reflected the influences of groups to their north, such as the Miwok. While inhumation was the usual practice in the southern valley, the Northern Valley Yokuts either cremated their dead or buried them in a flexed position (Wallace 1978:464, 468). A chief headed the tribal villages, which averaged around 300 people. Family houses were round or oval, sunken, with a conically shaped pole frame, and covered with tule mats. Each village also had a lodge for dances and other community functions, as well as a sweathouse (Wallace 1978:462-464).

The Northern Valley Yokuts built their riverside villages on elevated areas along the water's edge to avoid the spring floods, which were a result of heavy Sierra Nevada snow melts. Living beside rivers and streams provided plentiful river perch, Sacramento pike, salmon, and sturgeon. Hunting provided waterfowl such as geese and ducks, as well as terrestrial animals such as antelope, elk, and brown bear, although by all indications, fish constituted most of their diet. The surrounding woodland, grasslands, and marshes provided acorns, tule root, and seeds.

The Northern Valley Yokuts used bone harpoon tips for fishing, stone sinkers for nets, chert projectile points for hunting, mortars and pestles, scrapers, knives, and bone awl tools to procure and process food. Marine shells, procured from coastal tribes, were used for necklaces and other adornments, and marine shell beads sometimes accompanied the deceased. The Yokuts used tule reed rafts to navigate the waterways for fishing and fowling. They also manufactured intricate baskets for a variety of purposes, including storing, cooking, eating, winnowing, hopper mortars, the transport of food materials, and ritual. Very little is known of the Northern Valley Yokuts' clothing, but drawings of their tattoos show that they served not only as a decoration but also as a form of identity (Wallace 1978:464).

Initially, the Diablo Range served as a natural barrier against heavy recruitment of Native Californians by the Spanish, who established missions along the coast. By the early 19th century, however, Spanish and (later) Mexican missionaries began to explore the inner valleys in search of potential neophytes. The Yokuts resisted recruitment and California Indians from a variety of tribes sought refuge among the Yokuts after fleeing the missions. Introduced diseases, destruction of traditional resources from cattle grazing, and forced relocation took a heavy toll on the Northern Yokuts. Despite decades of hardship, many individuals who can trace their ancestry to the Northern Valley Yokuts continue to live and thrive in the Central Valley and throughout California and the United States.
7.3.3 Historic Setting

The historic era began in Stanislaus County when the first Spanish expedition entered the San Joaquin Valley in 1806 under the leadership of Gabriel Moraga. Traveling north and northwest through the region in search of possible mission sites, Moraga's party explored along what came to be known as the Stanislaus River. Moraga visited the area again in 1808 and 1810 (Kyle et al. 2002:516-517).

After Mexico gained its independence from Spain in 1822, two additional expedition forces entered the area; however, the purposes of their campaigns were no longer exploratory. Soldiers were sent into the Central Valley to recover stolen animals and punish hostile Indians in order to reduce the attacks upon coastal towns, missions, and ranchos.

Americans also began to enter the region during the Mexican period. In 1827 and 1828, Jedediah Smith entered the San Joaquin Valley through the Tejon Pass and trapped beavers along the San Joaquin, Kings, and other rivers and streams that flowed from the Sierra. Smith was followed by fellow trappers such as Peter Ogden, Ewing Young, Kit Carson, and Joseph Walker.

The first permanent European settlement may have occurred in Stanislaus County when two land grants were issued by the Mexican government in 1843. The first was the Rancho El Pescadero on the west side of the San Joaquin River near the border of what would eventually become San Joaquin County. The second was the Rancheria del Rio de Estanislao located north of the Stanislaus River bordering Tuolumne County. Two additional land grants were issued the following year. These were the Rancho del Puerto and Rancho Orestimba, both of which were on the west side of Tuolumne County near Rancho Pescadero (eReferenceDesk 2016).

The City of Modesto came into being in 1870 when the Central Pacific Railroad announced that the location would be the end point of the next extension of the rail line as it progressed south through the Central Valley (Kyle et al. 2002:521). By the time the tracks were completed in November of that year, a viable town had already been established by entrepreneurs (City of Modesto 2016). Modesto residents were among California’s first irrigation advocates, and by 1904 a system of canals had been constructed to allow more productive agriculture. During the 19th century, grain-growing was Stanislaus County’s dominant agricultural activity. Stock-raising, dairy farming, fruit and nut orchards, and vegetable farming all became more important over time. When Prohibition ended in 1933, the Gallo brothers came to Modesto, bringing the wine business to the area on an industrial scale. In the 20th century, almonds and walnuts are the most lucrative local crops, although fruit, vegetables, livestock, and other agricultural products remain important. Modesto is still the most important town in the region and is the Stanislaus County seat.

The Del Rio area is a census-designated place in Stanislaus County that receives services from the City of Modesto. Until the mid-1940s, the area supported scattered farms and orchards. The Del Rio Country Club was founded along on south bank of the Stanislaus River in 1946 (Del Rio Country Club 2016). After this time, the area slowly began to grow as housing tracts were established west of the golf course, along Country Club Drive on the south side of the golf course, and east of St. John Road, which borders the country club on the east (USGS 2016). The current level of development in the Del Rio area was completed around 2002 (NETR Online 2016).


7.4 Impact Analysis

7.4.1 Methodology

All aspects of the cultural resources study for the Proposed Project were conducted in accordance with the U.S. Secretary of the Interior’s Standards and Guidelines for Identification of Cultural Resources (48 CFR Parts 44720-44723). The cultural resources study for the Proposed Project study area included archival research, Native American outreach and consultation, a field study, and the evaluation of identified cultural resources to determine their eligibility for listing on the NRHP and CRHR.

The Proposed Project study area is comprised of the 4-acre parcel located at 718 Ladd Road (Site A), the 0.4-acre parcel located at the northwest corner of McHenry Avenue and Stewart Road (Site B), and the new transmission pipeline and connections planned for Ladd Road, St. John Road, Stewart Road, and McHenry Avenue, as depicted in Figure 2-1 in Chapter 2, Project Description.

Archival Research

A records search for the Proposed Project study area was conducted by the Central California Information Center (CCIC) of the California Historical Resources Information System at California State University, Stanislaus, before initiating the field study. The purpose of the records search was to determine if the study area had previously been surveyed for cultural resources, and to identify any previously recorded cultural resources in, or within ½ mile of, the Proposed Project study area. The CCIC archival research included review of the California Inventory of Historic Resources, local historical inventories, historical literature, and historical maps including USGS topographic maps, General Land Office maps, and Rancho Plat Maps.

The records search indicated that two previous studies had included portions of the Proposed Project study area. These studies are listed in Table 7-1; another three studies had been conducted within the ½ mile search area. One of the studies, 07171, is listed in Table 7-1 because it directly borders the Proposed Project study area along St. John Road. The remaining two studies are farther removed from the study area and are not included.

The records search identified one previously recorded cultural resource immediately south of the Site A parcel. This resource, P-50-002155, is the Dr. Moore Canal. Constructed in 1911, the Dr. Moore Canal is a small, concrete-lined branch canal that diverts water from the Modesto Irrigation District Main Canal for local agricultural purposes before reconnecting with the Main Canal downstream (Morlet 2006). The site record for the Dr. Moore Canal evaluated the resource as being not eligible for listing in the NRHP or CRHR.
Table 7-1. Previously Conducted Cultural Studies That Included the Proposed Project Study Area

<table>
<thead>
<tr>
<th>CCIC Report No.</th>
<th>Author</th>
<th>Date</th>
<th>Title</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>06802</td>
<td>S. Davis-King</td>
<td>2008</td>
<td>Negative Historical Resource Survey Report, McHenry Road Widening, Phase I – Ladd Road to Hogue Road, Stanislaus County, California</td>
<td>Linear survey along McHenry Avenue and adjacent to Site B</td>
</tr>
<tr>
<td>07171</td>
<td>C. K. Graham</td>
<td>2009</td>
<td>Proposed Abandonment of the McHenry Industrial Lead from Milepost 21.25 near Escalon to Milepost 26.43 near McHenry, a total distance of 5.18 miles in San Joaquin and Stanislaus counties, California.</td>
<td>Linear survey along the abandoned Union Pacific Railroad line east of St. John Road, adjacent to the study area</td>
</tr>
<tr>
<td>07244</td>
<td>S. Waechter and M. Bunse</td>
<td>2007</td>
<td>North County Corridor Environmental Constraints Analysis: Cultural Resources</td>
<td>Literature search that included the area of Site A</td>
</tr>
</tbody>
</table>

The supporting documentation for the Stanislaus County General Plan (Stanislaus County 1987:3-51) does not identify any historical areas or points of historical interest in the Proposed Project study area.

A review of soils information (Natural Resources Conservation Service 2016) and geoarchaeological data (Rosenthal et al. 2004:76; 78-79) indicates that the soils within the project area (Delhi loamy sand, Hanford sandy loam, and Tujunga loamy sand) date from the late Pleistocene through the Holocene Epoch. These soils are considered to have moderate, high, and very high sensitivity ratings, respectively, for buried archaeological remains (Rosenthal et al. 2004:104). Proximity to the Stanislaus River increases the potential for buried resources.

Native American Coordination

A request was made to the California Native American Heritage Commission (NAHC) on April 20, 2016, to review its files for the presence of sacred sites at or near the Proposed Project study area. At the same time, requests were made for a list of individuals who might have concerns or have knowledge of traditional sites in the vicinity of the Project and for a separate list of tribes that have a traditional and cultural affiliation with the Proposed Project area for the purpose of consultation with regard to TCRs under PRC Section 21080.3.1. The NAHC responded on April 21, 2016, noting that no sacred sites are known to exist in the vicinity of the Proposed Project and providing a list of tribes for the purposes of PRC Section 21080.3.a consultation. After additional communication with the NAHC requesting a broader list of individuals who might have knowledge about the project area, the NAHC stated that the list provided for Section 21080.3.1 consultation was adequate. As a result, letters requesting information were sent to the individuals identified in Table 7-2. These individuals were contacted first by mail, then by phone. To date, those contacted have not voiced any concerns about the project.
Table 7-2. Native American Consultation

<table>
<thead>
<tr>
<th>Contact</th>
<th>Tribe</th>
<th>Letter Date</th>
<th>Telephone Follow-up Date</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lois Martin, Chairperson</td>
<td>Southern Sierra Miwok Nation</td>
<td>June 10, 2016</td>
<td>June 27, 2016</td>
<td>Chairperson Martin noted that the project was out of their usual area of concern and she did not know of any resources in the project area. She noted, however, that work should stop if any cultural resources were discovered during construction.</td>
</tr>
<tr>
<td>Katherine Erolinda Perez, Chairperson</td>
<td>North Valley Yokuts Tribe</td>
<td>June 10, 2016</td>
<td>June 27, 2016</td>
<td>Left message on answering machine</td>
</tr>
<tr>
<td>Neil Peyron, Chairperson</td>
<td>Tule River Indian Tribe</td>
<td>June 10, 2016</td>
<td>June 27, 2016</td>
<td>Operator could not find letter in the mail log; Chairperson Peyron said it might have gone to the environmental coordinator and he would follow up with that person.</td>
</tr>
</tbody>
</table>

The City of Modesto also sent notification letters about the project, in accordance with PRC Section 21080.3.1(d), to the individuals listed in Table 7-2 on May 12, 2016. None of the contacted tribes requested consultation within the 30-day period prescribed under PRC Section 21080.3.1(b)(2).

All communications and correspondence with NAHC and Native American tribes are provided in Appendix E.

Field Studies

The Proposed Project study area was subjected to an intensive archaeological pedestrian survey on May 4, 2016, by a qualified archaeologist who meets the U.S. Secretary of the Interior’s professional standards in archaeology ((48 FR 44738-44739; Appendix A to 36 CFR 61). During the pedestrian survey, the study area was inspected for the presence of archaeological materials, including prehistoric and historic-era habitation debris (e.g., stone tools or tool-manufacturing debris, glass fragments, tin cans), prehistoric features (e.g., hearths, house pits), and historic-era structural remains (e.g., house foundations, wells). Site A was surveyed in transects spaced at approximate 40-foot intervals. The much smaller Site B was surveyed at about 15-foot intervals. Although grasses covered much of both parcels, ground surface visibility ranged from fair to excellent. Both shoulders of St. John Road were surveyed to a distance of approximately 25 feet from the edge of pavement, where possible; ground surface visibility was excellent. The survey width along approximately the northern
1,200 feet of the west shoulder on St. John Road, the northern shoulder of Ladd Road, both sides of Stewart Road, and the west shoulder of McHenry Avenue was restricted by fencing, landscaping, and concrete sidewalks; however, the ground surface was examined wherever possible.

The architectural history field survey of Site A was performed by a qualified architectural historian who meets the U.S. Secretary of the Interior's professional standards in architectural history on May 4, 2016. Each building and structure of the farm complex on the property was examined and photographed. The buildings were recorded on California Department Parks and Recreation (DPR) 523 series forms.

The cultural resources technical report for the Proposed Project is included as Appendix E of this DEIR.

Results

Archaeological Resources

No archaeological resources were identified within the Proposed Project study area as the result of the archaeological field study.

Built Environment Resources

One rural property, consisting of a single-family home, a detached garage, a metal barn, and several outbuildings in disrepair, was identified within the Proposed Project study area and recorded on DPR forms (see Appendix E, Attachment 3). The resource is at 718 Ladd Road on the 4-acre parcel identified as Site A, which is the proposed location for a water storage tank and a pump station building (see Chapter 2, Project Description).

Research discovered that the house was constructed in 1946 by Joe Moreno, whose family continued to own the parcel until it was sold to the City of Modesto around 2010. Like many of his neighbors, Joe maintained a small orchard on his property until the early 2000s. Today the parcel is grass covered, with ornamental trees growing around the house and outbuildings.

The rectangular-plan house is 1,264 square feet with its main façade on Ladd Road. Its composition shingle roof is side-gabled with shed sections at the front and rear. It has the minimal eave overhang and exposed rafter tails of the Minimal Traditional style, a style that was popular for inexpensive houses beginning in the Great Depression and extending until about 1950. Cladding is stucco, and windows of several sizes are fitted with vinyl replacement sash. The projecting partial porch is supported by three square brick columns. The front door is near the center of the main elevation. It is sheltered by the porch roof and accessed by a set of concrete steps that lead from the driveway to the east side of the house. It is fitted with a metal screen security door. A brick chimney is present on the east elevation. A secondary entrance at the rear is fitted with a partially glazed wood door and accessed by a set of concrete steps. An awning at the southeast corner of the house appears to have been removed, and the door is sheltered by a few inches of eave overhang. A smaller wood-panel door west of the rear entrance is at grade and appears to house a water heater.

The rear yard has areas paved in concrete and asphalt as well as bare dirt. The garage is southeast of the house, and is also side-gabled and clad in stucco. Its single-vehicle opening
has a metal roll-up door. A similar, single-vehicle door to the west has been partially enclosed, and a partially glazed wood-panel door has been installed. A secondary personnel entrance is present on the east elevations, and aluminum slider windows are visible at the east, south, and west. Photographs of the structures are included in the DPR forms in Appendix E.

The Moreno property was evaluated for eligibility for listing in the NRHP and the CRHP, as follows:

- Criterion A/1: 718 Ladd Road is not associated with events that have made a significant contribution to the broad patterns of local, regional, or national history. Therefore, the building is not eligible to the NRHP or CRHR under Criterion 1/A.
- Criterion B/2: 718 Ladd Road is not associated with the lives of persons important to local, state, or national history, and therefore is not eligible to the NRHP or CRHR under Criterion B/2.
- Criterion C/3: 718 Ladd Road is a common example of dwelling constructed in the 1940s. It lacks architectural significance and is therefore not eligible to the NRHP or CRHR under Criterion C/3.
- Criterion D/4: In rare instances, buildings themselves can serve as sources of important information about historic construction materials or technologies and be significant under Criterion D/4. 718 Ladd Road does not appear to be a principal source of important information in this regard.

In sum, the property at 718 Ladd Road does not appear to be eligible for listing on either the NRHP or the CRHR.

**Tribal Cultural Resources**

Outreach to local Native American tribes for general information and concerns about the Proposed Project has not identified any TCRs. Similarly, consultation under PRC Section 21080.3 has not revealed the presence of TCRs in the Proposed Project study area.

**Paleontological Resources**

As noted in Chapter 9, *Groundwater*, the Proposed Project area is underlain by Pleistocene alluvial deposits consisting of poorly sorted gravel, sand, silt, and clay that are more than 400 feet thick. These materials in the Central Valley are known to contain a variety of fossils, including extinct horses, mammoths, and giant ground sloth. Other animals noted are marine-living animals such as marine turtles, shark teeth, and sea urchins (Sierra College 2016).

Directly below the alluvial deposits is the Mehrten Formation, which was deposited during the Miocene to Pliocene Epochs. The Mehrten Formation is composed of sandstone, breccia, conglomerate, tuff, siltstone, and claystone, some of which are known to contain both botanical and vertebrate fossils (Marchand and Wagner 1980). Fossils of giant tortoise have been found in Mehrten Formation deposits at Turlock and Modesto Reservoirs located southeast of the Project site (Biewer et al. 2016).
7.4.2 Criteria for Determining Significance

Based on Appendix G of the CEQA Guidelines, the Proposed Project would result in a significant impact on cultural resources if it would:

- Cause a substantial adverse change in the significance of a historical resource as defined in State CEQA Guidelines section 15064.5;
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to State CEQA Guidelines section 15064.5;
- Directly or indirectly destroy a unique paleontological resource or site or unique geological feature; or
- Disturb any human remains, including those interred outside of dedicated cemeteries.
- Cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:
  - Listed or eligible for listing in the CRHR, or in a local register of historical resources as defined in PRC Section 5020(k), or
  - A resource determined by the lead agency, in its discretion, and supported by substantial evidence, to be significant pursuant to criteria set forth in PRC Section 5024.1(c). In applying the criteria set forth in PRC Section 5024.1(c), the lead agency shall consider the significance of the resource to a California Native American tribe.

CEQA does not establish criteria for determining the significance of paleontological resources. Appendix G of the State CEQA Guidelines and the standard guidelines for assessment and mitigation of adverse impacts on paleontological resources set forth by the Society of Vertebrate Paleontology (2010) were used to establish three categories of sensitivity: high, low, and undetermined. Areas that consist of rock units that have yielded vertebrate or significant invertebrate, plant, or trace fossils are considered to have a high potential for containing paleontological resources.

7.4.3 Environmental Impacts

Impact CUL-1: Potential for a Substantial Adverse Impact on Historical Resources (No Impact)

No cultural resource within the Proposed Project study area has been determined to be eligible for inclusion in the CRHR or otherwise eligible as a significant historic resource under CEQA standards, and, thus, defined as an historical resource. As a result, there would be no impact on historical resources.
Impact CUL-2: Potential for a Substantial Adverse Impact on Archaeological Resources from Construction (Less than Significant with Mitigation)

An archaeological survey was conducted of the Proposed Project site, and no archaeological resources were found; however, archaeological remains could be buried with no surface manifestation. Drilling of the production and monitoring wells, installation of water pipelines, construction of structures to house the wells and pumps at Sites A and B, or excavation of the stormwater detention basin at Site A could uncover buried archaeological deposits. Should a previously undiscovered resource be found during construction and be determined eligible for inclusion in the CRHR, and should Proposed Project activities have the potential to render the resource ineligible for inclusion in the CRHR, the impact would be potentially significant. Implementation of Mitigation Measure CR-1 (Suspend Construction Immediately if Cultural Resources Are Discovered, Evaluate All Identified Cultural Resources for CRHR Eligibility, and Implement Appropriate Mitigation Measures for Eligible Resources) would reduce any impacts on CRHR-eligible archaeological sites accidentally uncovered during construction to a level that is less than significant.

Mitigation Measure CR-1: Suspend Construction Immediately if Cultural Resources Are Discovered, Evaluate All Identified Cultural Resources for CRHR Eligibility, and Implement Appropriate Mitigation Measures for Eligible Resources.

Not all cultural resources are visible on the ground surface. As a result, before initiation of ground-disturbing activities, the City or its designee shall arrange for construction crews to receive training about the kinds of archaeological materials that could be present at the Proposed Project site and the protocols to be followed should any such materials be uncovered during construction. Training shall be conducted by an archaeologist who meets the U.S. Secretary of the Interior's professional standards. Training shall be required during each phase of construction to educate new construction personnel.

If any cultural resources, including structural features, unusual amounts of bone or shell, flaked or ground stone artifacts, historic-era artifacts, human remains, or architectural remains, are encountered during Proposed Project construction activities, work shall be suspended immediately at the location of the find and within a radius of at least 50 feet and the City will be contacted.

All cultural resources uncovered during construction within the Proposed Project site shall be evaluated for eligibility for inclusion in CRHR. Resource evaluations shall be conducted by individuals who meet the U.S. Secretary of the Interior's professional standards in archaeology, history, or architectural history, as appropriate. If any of the resources meet the eligibility criteria identified in PRC Section 5024.1 or CEQA Guidelines Section 21083.2(g), mitigation measures will be developed and implemented in accordance with CEQA Guidelines Section 15126.4(b) before construction resumes.

For a TCR or any resources eligible for listing in the CRHR that would be significantly adversely affected by the Proposed Project construction, additional mitigation
measures shall be implemented. Mitigation measures for archaeological resources may include (but are not limited to) avoidance; incorporation of sites within parks, greenspace, or other open space; capping the site; deeding the site into a permanent conservation easement; or data recovery excavation. Mitigation measures for archaeological resources shall be developed in consultation with responsible agencies and, as appropriate, interested parties such as Native American tribes. Native American consultation is required if an archaeological site is determined to be a TCR. Implementation of the approved mitigation is required before resuming any construction activities with the potential to affect identified eligible resources at the site.

**Impact CUL-3: Potential to Directly or Indirectly Destroy a Unique Paleontological Resource or Site, or Unique Geological Feature (Less than Significant with Mitigation)**

Production and monitoring wells excavated for the Proposed Project would reach depths of up to 600 feet deep. Research indicates that the alluvial soils that underlie the site have the potential to contain terrestrial and marine fossils; the deeper Mehrten Formation could also contain fossils. As a result, it is possible that fossils could be encountered during construction. Should fossils be discovered during construction and be determined to be a unique paleontological resource or site, and should Proposed Project activities have the potential to destroy the resource, the impact would be potentially significant. Implementation of **Mitigation Measure CR-2 (Suspend Construction Immediately if Paleontological Resources Are Discovered, Evaluate the Significance of the Resources, and Implement Appropriate Mitigation Measures as Necessary)** would reduce any impacts on unique paleontological resources or sites accidentally uncovered during construction to a level that is less than significant.

**Mitigation Measure CR-2: Suspend Construction Immediately if Paleontological Resources Are Discovered, Evaluate the Significance of the Resources, and Implement Appropriate Mitigation Measures as Necessary.**

Paleontological resources are not necessarily visible on the ground surface. As a result, before initiation of ground-disturbing activities, construction crews shall receive training about the kinds of paleontological materials that could be present at the Proposed Project site and the protocols to be followed should such materials be uncovered during construction. Training shall be conducted by a professional paleontologist. Training shall be required during each phase of construction to educate new construction personnel.

If any items of paleontological interest are discovered during construction, work shall be suspended immediately within 50 feet of the discovery site, or to the extent needed to protect the site, and the City shall be notified.

Any discovery of paleontological resources during construction shall be evaluated by the qualified paleontologist. If it is determined that the Proposed Project could damage a unique paleontological resource, mitigation shall be implemented in accordance with PRC Section 21083.2 and CEQA Guidelines Section 15126.4. If avoidance is not feasible, the paleontologist shall develop a treatment plan in consultation with the City. Work shall not be resumed until authorization is received.
from the City and any recommendations received from the qualified paleontologist are implemented.

**Impact CUL-4: Potential for Disturbance of Human Remains, including Those Interred Outside of Dedicated Cemeteries (Less than Significant with Mitigation)**

No human remains were identified at the Proposed Project site as a result of background research or the field survey. The potential for human remains to be identified on the site during construction is considered low, although their presence cannot be entirely discounted. Implementation of Mitigation Measure CR-3 (Halt Construction Immediately if Human Remains Are Discovered and Implement Applicable Provisions of the California Health and Safety Code) would reduce impacts on any human remains discovered during construction to a level that is less than significant.

**Mitigation Measure CR-3: Halt Construction Immediately if Human Remains Are Discovered and Implement Applicable Provisions of the California Health and Safety Code.**

If human remains are discovered during construction activities, the requirements of Section 7050.5 of the California Health and Safety Code shall be followed. Potentially damaging excavation shall halt on the Proposed Project site within a minimum radius of 100 feet of the remains and the County Coroner shall be notified. The Coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or state lands (Health and Safety Code Section 7050.5[b]). If the Coroner determines that the remains are those of a Native American, he or she must contact the NAHC by phone within 24 hours of making that determination (Health and Safety Code Section 7050[c]). In accordance with the provisions of PRC Section 5097.98, the NAHC shall identify a Most Likely Descendent (MLD). The MLD designated by the NAHC shall have at least 48 hours to inspect the site and propose treatment and disposition of the remains and any associated grave goods. The City or its designee shall work with the MLD to ensure that the remains are removed to a protected location and treated with dignity and respect.

**Impact CUL-5: Potential to Cause a Substantial Adverse Change in the Significance of a Tribal Cultural Resource (Less than Significant with Mitigation)**

No TCRs have been identified in the Proposed Project study area to date. However, archaeological sites that are buried and discovered during construction have the potential to be TCRs. Should an archaeological site be discovered that is determined to be a TCR, Mitigation Measure CR-1 would be implemented and would result in a less-than-significant impact.

Although no Native American tribes responded to the City's project notification letter within the 30-day period prescribed under PRC Section 21080.3.1(b)(2), tribes will have the opportunity to comment on this DEIR through the public comment period. As a result, it is possible that TCRs may yet be identified. If TCRs are identified, the City will work with the tribe(s) to avoid or mitigate any impacts that might affect TCRs. If TCRs are identified within
Mitigation Measure CR-1 and Mitigation Measure CR-4 (Prepare and Implement Treatment Plans for any TCRs Identified in the Proposed Project Study Area) would reduce any potential impacts to a level that is less than significant.

Mitigation Measure CR-4: Prepare and Implement Treatment Plans for any TCRs Identified in the Proposed Project Study Area.

If TCRs are identified in the Proposed Project study area, the City shall consult and work with tribes with a traditional and cultural affiliation to the resource to develop feasible alternatives that will avoid impacts or develop and implement treatment plans that will substantially lessen the impacts on identified TCRs, in accordance with PRC Sections 21083(b)(2) or 21084.3.

7.4.4 Cumulative Impacts

Impact CUL-6: Potential to Eliminate Important Examples of the Major Periods of California History or Prehistory (Less than Significant with Mitigation)

The 2010 Water System Engineer’s Report Program EIR (City of Modesto 2010) concluded that there would be no cumulative impacts regarding cultural resources. Since publication of that document, no other projects are planned in the immediate vicinity of Sites A or B that could create a significant cumulative impact in combination with the Proposed Project. As such, with implementation of Mitigation Measures CUL-1, CUL-2, CUL-3, and CUL-4, described above, all impacts would be reduced to a less-than-significant level and there would be no cumulative impact to which the Proposed Project could contribute related to cultural resources.
Chapter 8
Global Climate Change

8.1 Overview

This chapter describes the regulatory and environmental setting related to global climate change and greenhouse gases (GHGs) and then evaluates impacts related to the Proposed Project's forecasted GHG emissions. The impact evaluation begins by describing the methodology used to evaluate significance and the GHG significance criteria, and then presents the impact evaluation. Mitigation measures are identified for impacts that are determined to be significant.

8.2 Regulatory Setting

8.2.1 Federal Laws, Regulations, and Policies

At the federal level, USEPA has developed regulations to reduce GHG emissions from motor vehicles and has developed permitting requirements for large stationary emitters of GHGs. On April 1, 2010, USEPA and the National Highway Traffic Safety Administration (NHTSA) established a program to reduce GHG emissions and improve fuel economy standards for new model year 2012-2016 cars and light trucks. On August 9, 2011, USEPA and the NHTSA announced standards to reduce GHG emissions and improve fuel efficiency for heavy-duty trucks and buses.

8.2.2 State Laws, Regulations, and Policies

In recent years, California has enacted a number of policies and plans to address GHG emissions and climate change. In 2006, the California State Legislature enacted Assembly Bill (AB) 32, the Global Warming Solutions Act, which set the overall goals for reducing California's GHG emissions to 1990 levels by 2020. Two executive orders, EO S-3-05 and EO B-16-2012, further extend this goal to 80 percent below 1990 levels by 2050. EO B-18-12 requires California state agencies and departments to take immediate steps to "green" the state's buildings, reduce GHG emissions, and improve energy efficiency. In April 2015, Governor Brown issued EO B-30-15, setting an interim target to cut California's greenhouse gas emissions to 40 percent below 1990 levels by 2030, to help the state meet the 80 percent emissions reduction goal for 2050 set in EO S-03-05.

CARB has completed rulemaking to implement several GHG emission reduction regulations and continues to investigate the feasibility of implementing additional regulations. These include the low carbon fuel standard, which reduces GHG emissions associated with fuel usage, and the renewable portfolio standard, which requires electricity suppliers to increase the amount of electricity generated from renewable sources to 33 percent by 2020. The California Building Code (CBC) (Title 24 of the CCR) governs construction of buildings in
California. Parts 6 and 11 of Title 24 are relevant for energy use and green building standards, which reduce the amount of indirect GHG emissions associated with buildings.

CARB approved the First Update to the AB 32 Scoping Plan on May 22, 2014 (CARB 2014). This update defines climate change priorities for 5 years and also sets the groundwork to reach long-term goals set forth in EO S-3-05 and EO B-16-2012. The update also highlights California’s progress toward meeting the near-term 2020 GHG emission reduction goals and evaluates how to align the state’s longer term GHG reduction strategies with other state policy priorities for water, waste, natural resources, clean energy, transportation, and land use. The update identifies that GHG emissions from the water sector come primarily from the energy used to pump, convey, treat, and heat water (CARB 2014). As a result, key recommended actions by state agencies for the water sector include implementing new water-related energy conservation measures and efficiency standards, modifying state and regional water board policies to achieve conservation, and developing a comprehensive groundwater management strategy.

### 8.2.3 Local Laws, Regulations, and Policies

#### San Joaquin Valley Air Pollution Control District

The SJVAPCD’s *Climate Change Action Plan* (CCAP), adopted in 2008, directed the District Air Pollution Control Officer to develop guidance to assist lead agencies, project proponents, permit applicants, and interested parties in assessing and reducing the impacts of project-specific GHG emissions on global climate change (SJVAPCD 2008, 2015a). On December 17, 2009, the SJVAPCD adopted *Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA* (Guidance) (SJVAPCD 2009). The Guidance establishes a streamlined process that can be used to evaluate the significance of project-specific GHG emission impacts on global climate change, based on the use of Best Performance Standards (BPS) (SJVAPCD 2009); the streamlined evaluation process is designed to meet the reduction goals of AB 32. The SJVAPCD defines BPS as “the most effective achieved-in-practice means of reducing or limiting GHG emissions from a GHG emissions source.” Types of BPS include equipment type, equipment design, operational and maintenance practices, measures that improve energy efficiency, and measures that reduce vehicle miles traveled (SJVAPCD 2009). If BPS are not available, SJVAPCD encourages users to demonstrate at least a 29-percent reduction from business as usual (BAU). Based on CARB’s AB 32 Scoping Plan document (CARB 2014), the SJVAPCD considers BAU to be the emissions occurring in 2020 via the application of unit-of-activity emission factors from the 2002-2004 period multiplied by the activity expected to occur in 2020. These 2020 BAU emissions represent the potential emissions if GHG emission reduction measures were not implemented (SJVAPCD 2009).

#### Stanislaus County Regional Sustainability Toolbox

Stanislaus County, in collaboration with the nine cities within the County, completed the Stanislaus Regional Sustainability Toolbox (RST). The RST includes multiple planning tools to achieve regional GHG reductions. The planning tools include an example climate action plan (CAP) with regional CAP strategies and low impact development (LID) standards and specifications. Relevant regional strategies from this model CAP that are related to water-related infrastructure projects like the Proposed Project include the following (ESA 2013):

*Goal E.1: Increase Building and Equipment Efficiency Community-Wide*
**Strategy E.1.5:** Industrial Equipment Energy Efficiency Promotion. Promote understanding of San Joaquin Valley Air Pollution Control District Industrial Equipment Energy Efficiency Best Performance Standards.

**Action E.15a:** Make information available regarding the San Joaquin Valley Air Pollution Control District Best Performance Standards for industrial energy efficiency.

**Goal E.3:** Increase Energy Efficiency and Renewable Energy Generation and Use in Municipal Operations

**Strategy E.3.1:** Municipal Energy Efficiency. Increase energy efficiency in government operations, including City buildings and facilities.

**Strategy E.3.2:** Municipal On-site Renewable Energy Sources. Increase on-site renewable energy systems at City facilities.

**Goal W.2:** Reduce Municipal Operations Water Consumption

**Strategy W.2:** Decrease Municipal Operations Water Consumption. Reduce municipal operations water consumption by 20% by 2020.

**Stanislaus County General Plan 2015**

The *Stanislaus County General Plan 2015 Conservation/Open Space Element* (2016) identifies water conservation-related goals and policies that would contribute to reduced GHG emissions by conserving water resources and reducing related energy use for water supply/distribution activities. The following goal, policies, and implementation measures also apply to the Proposed Project:

**Goal Six:** Improve air quality.

**Policy Nineteen:** The County will strive to accurately determine and fairly mitigate the local and regional air quality impacts of proposed projects.

**Implementation Measure 1.** Require all development proposals, where appropriate, to include reasonable air quality mitigation measures.

**Implementation Measure 2.** Minimize case-by-case analysis of air quality impacts through the use of standard criteria for determining significant environmental effects, a uniform method of calculating project emissions, and standard mitigation methods to reduce air quality impacts.

**Policy Twenty:** The County shall strive to reduce motor vehicle emissions by reducing vehicle trips and vehicle miles traveled and increasing average vehicle ridership.

**Del Rio Community Plan**

The *Del Rio Community Plan* includes goals and policies indirectly related to reducing GHG emissions through development-related policies for the protection of air and water resources.
8.3 Environmental Setting

Climate change results from the accumulation in the atmosphere of GHGs, which are produced primarily by the burning of fossil fuels for energy. Because GHGs (primarily carbon dioxide \([\text{CO}_2]\), methane, and nitrous oxide) persist and mix in the atmosphere, emissions anywhere in the world affect the climate everywhere in the world. GHG emissions are typically reported in terms of carbon dioxide equivalents \((\text{CO}_2\text{e})\), which convert all GHGs to an equivalent basis taking into account their global warming potential compared to \(\text{CO}_2\).

Anthropogenic (human-caused) emissions of GHGs are widely accepted in the scientific community as contributing to global warming. Temperature increases associated with climate change are expected to adversely affect plant and animal species, cause ocean acidification and sea level rise, affect water supplies, affect agriculture, and harm public health.

Global climate change is already affecting ecosystems and societies throughout the world. Climate change adaptation refers to the efforts undertaken by societies and ecosystems to adjust to and prepare for current and future climate change, thereby reducing vulnerability to those changes. Human adaptation has occurred naturally over history; people move to more suitable living locations, adjust food sources, and more recently, change energy sources. Similarly, plant and animal species also adapt over time to changing conditions; they migrate or alter behaviors in accordance with changing climates, food sources, and predators.

Many national, as well as local and regional, governments are implementing adaptive practices to address changes in climate, as well as planning for expected future impacts from climate change. Adaptations that are already in practice or under consideration include conserving water and minimizing runoff with climate-appropriate landscaping, capturing excess rainfall to minimize flooding and maintain a constant water supply through dry spells and droughts, protecting valuable resources and infrastructure from flood damage and sea level rise, and using water-efficient appliances. Managed water resources can assist with minimizing the effects of changes in streamflow, water temperature changes, and changes in salinity (USEPA 2015a, 2015b).

In 2013, total California GHG emissions were approximately 459 million metric tons of carbon dioxide equivalents (million MT \(\text{CO}_2\text{e}\)). This represents a 0.3-percent decrease in total annual GHG emissions from 2012. From 2000 to 2013, annual GHG emissions decreased by approximately 2.0 percent; the peak year for annual emissions was 2004 (CARB 2015a, 2015b).

In 2013, the transportation sector was the largest source of emissions, accounting for approximately 37 percent of total emissions. On-road vehicles accounted for more than 90 percent of emissions in the transportation sector. The industrial sector accounted for...
approximately 23 percent of total emissions. Emissions from electricity generation were about 20 percent of total emissions (CARB 2015b).

Per capita emissions in California decreased by 12 percent from 2000 to 2013, even though population increased by approximately 12 percent during this period (CARB 2015b, California Department of Finance 2014). Per capita emissions from in-state electricity generation declined by approximately 24 percent from 2000 to 2013 (CARB 2015a, California Department of Finance 2014). These declines resulted from the state's move toward more efficient and renewable in-state and imported energy (electricity) sources.

8.3.1 Stanislaus County Regional Inventory

A baseline inventory was conducted of GHG emissions in Stanislaus County, including the nine cities within the county, during 2005 (ICF International 2013). Total 2005 GHG emissions from the Stanislaus County region were approximately 6.042 million MT CO₂e (specifically, 6,042,232 MT CO₂e), which does not include stationary-source emissions (658,692 MT CO₂e). Stationary sources, including landfills, were not included because they are regulated by separate federal and state regulations. The greatest regional GHG emission sources were building energy (a combined electricity and natural gas contribution of 40 percent), on-road transportation (27 percent), and agriculture (24 percent). Water-related emissions were approximately 0.5 percent. Per capita GHG emissions for Stanislaus County were 10.2 MT CO₂e, which was less than the 2005 statewide per capita GHG emission rate (12.5 MT CO₂e) but similar to the per capita emission rate of other counties (e.g., Sacramento County, 11.0 MT CO₂e; San Diego County, 10.0 MT CO₂e) (ICF International 2013).

8.4 Impact Analysis

8.4.1 Methodology

Construction and operational emissions were estimated using CalEEMod version 2013.2.2. CalEEMod is an emissions model that estimates GHG emissions for land use development projects. It contains reasonable default assumptions that can be replaced if site-specific information is available. CalEEMod incorporates both CARB's EMFAC for vehicles and current off-road in-use engine emissions modeled for construction equipment. Modeling for the Proposed Project assumed a potential overlap in the building construction and pipeline construction (trenching and jack/bore) phases. Detailed CalEEMod output, including relevant input parameters, is contained in Appendix C, Air Quality and Global Climate Change Impacts Evaluation Supporting Documentation. In general, CalEEMod default numbers were used for construction phases and equipment, construction duration, and quantity of construction workers for each phase, with exceptions noted below and/or in Appendix C. Some of these construction details are also provided in Chapter 2, Project Description.

The use of equipment and materials such as concrete and steel require energy and, therefore, indirectly result in GHG emissions. These indirect GHG emissions associated with building materials are referred to as “embodied energy” and are based on life-cycle GHG emission analyses of individual materials. The embodied energy from building materials has not been estimated for this analysis, as detailed specifications and estimates of building materials are not available. For a typical building construction project, the materials that have some of the largest amounts of embodied energy are cement and steel.
Project-specific inputs into CalEEMod included estimated soil export quantities for the pipeline and project site construction activities, estimated landscaping-related water use, change in carbon sequestration by vegetation added or removed, and use of City-provided assumptions for the project's pipeline construction activities. The estimated soil export quantities and landscaping-related water use calculations are provided in Appendix C. In general, it was assumed that soils would be kept within the Proposed Project work area. The equipment assumptions for all construction phases can also be found in Appendix C. It was assumed that Sites A and B (4.4 total acres) would be converted from grassland to unvegetated hardscape, except for the addition of approximately 70 new trees at Site A. These values were considered in the carbon sequestration calculations as a one-time change in GHG emissions and included in the construction-related emissions. Equipment assumptions and construction durations for well-drilling activities at the sites and the pipeline construction-related jack-and-bore activities were provided by the City and included in the construction emission analysis.

Operational-related trips to the project sites assumed 1 worker per week-day. Estimated energy intensity associated with pumps at Site A and Site B (as described in Chapter 2, Project Description) assumed pumping usage of 8 hours per day year round (Appendix C).

Projected changes in climate associated with global warming may have related effects on other resources in the future, including effects on the Proposed Project (such as changed weather patterns). Anticipated potential worldwide climate change effects include coastal erosion, sea level rise, melting glaciers, atmospheric temperature warming, increased wildfire risk, ocean warming, food production issues (e.g., decreased crop yields), effects on terrestrial and marine ecosystems, flooding and/or drought conditions, and altered hydrologic patterns such as changes in river flows or lake levels (Intergovernmental Panel on Climate Change 2014). California-specific climate change effects and indicators of climate change are similar to those that may be experienced globally and are discussed in Indicators of Climate Change in California, a report prepared by the California Environmental Protection Agency's Office of Environmental Health Hazard Assessment in 2013 (OEHHA 2013). The evaluation of such effects on the Proposed Project is beyond the scope of this GHG analysis.

### 8.4.2 Criteria for Determining Significance

Based on Appendix G of the CEQA Guidelines and professional expertise, it was determined that the Proposed Project would result in a cumulatively considerable contribution to the significant cumulative impact related to GHG emissions if it would:

- Generate a substantial amount of GHG emissions; or
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing emissions of GHGs.

With regard to the first significance criterion ("substantial amount of GHG emissions"), SJVAPCD has adopted a BPS threshold for GHG emissions based on an achievable-in-practice analysis of improvement over a BAU scenario or a 29-percent reduction in GHG emissions from the BAU scenario. However, at this time there is not an approved BPS for this type of project or for construction equipment. Therefore, the published California air district mass emissions thresholds were reviewed and considered in developing an appropriate threshold to address this significance criterion for the Proposed Project's operational activities.
The Proposed Project has been evaluated to determine if a 29-percent reduction in GHG emissions from the BAU scenario could be achieved. For determination of this reduction, one-time emissions from construction and land use change have been amortized over 30 years and combined with the annual operational emissions. Using this methodology, GHG emissions could be considered less than significant for cumulative impacts if the generated GHG emissions compared to BAU would be reduced by 29 percent. This level of reduction is greater than the estimated average percent reduction needed to meet the 2020 goal of AB 32 compared to the projected BAU scenario for 2020. The most recent Scoping Plan estimates that a 15-percent reduction from BAU would be required to reach the goal of AB 32.

For the second significance criterion ("conflict with applicable plan, policy, or regulation"), the applicable plans and policies for operational-related emissions were determined to be CARB's Scoping Plan and its policies. Specifically, if a project activity does not conflict with CARB's GHG emission reduction policies, it would have a less-than-significant impact. In addition, the Proposed Project's operations were reviewed for compliance with Stanislaus County's regional CAP strategies and the County's applicable general plan policies.

8.4.3 Environmental Impacts

Impact GHG-1: Generate Substantial GHG Emissions, Either Directly or Indirectly, from Project Construction, Land Use Changes, and Operation (Significant and Unavoidable)

Construction of the Proposed Project would involve activities that would result in one-time emissions of GHG. Changes in carbon sequestration due to land use change and tree planting would also result in one-time emissions of GHG. As shown in Table 8-1, combined one-time GHG emissions associated with the Proposed Project's construction and change in carbon sequestration from land use changes would be approximately 536 MT CO₂e annually. These emissions are one-time emissions and would not continue to occur once the construction is complete. Amortized over the project life (approximately 30 years), construction and sequestration GHG emissions would be approximately 18 MT CO₂e per year.

Operation of the Proposed Project would generate GHG emissions from annual maintenance of emergency generators, worker vehicle trips, and, primarily, from the pumps' electricity use at the Proposed Project sites. Approximately one worker vehicle trip would occur daily during the week. The Proposed Project's operation would generate approximately 374 MT CO₂e per year in 2019. Electricity use makes up 363 MT CO₂e per year of these emissions. Combining the operation emissions with the amortized one-time emissions, the total annualized emissions are 392 MT CO₂e per year.
Table 8-1. Proposed Project Construction-related and Operational GHG Emissions

<table>
<thead>
<tr>
<th>Emissions Source</th>
<th>MT CO₂e</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction 2017</td>
<td>517</td>
</tr>
<tr>
<td>Construction 2018</td>
<td>49</td>
</tr>
<tr>
<td>Sequestration Change</td>
<td>-30</td>
</tr>
<tr>
<td>Total One-time (Construction and Sequestration)</td>
<td>536</td>
</tr>
<tr>
<td>One-time Annualized (30-year Amortization)</td>
<td>18</td>
</tr>
<tr>
<td>Operation Annual</td>
<td>502</td>
</tr>
<tr>
<td>Total Annualized Emissions</td>
<td>520</td>
</tr>
<tr>
<td>Renewable Portfolio Standard Reduction from Business as Usual</td>
<td>161.7</td>
</tr>
<tr>
<td>Percent Reduction Compared to Business as Usual</td>
<td>31%</td>
</tr>
</tbody>
</table>

Notes:
Construction, carbon sequestration, and operation emissions based on CalEEMod modelling results. Amortization over 30 years based on the Proposed Project facility’s anticipated lifetime (SJVAPCD 2015b).

SJVAPCD, the local air district with jurisdiction over the Proposed Project, has determined that GHG emissions are best controlled through implementation of BPS or demonstration of a 29-percent reduction from 2002-2004 conditions. The renewable portfolio standard requires Modesto Irrigation District, the Proposed Project’s electricity provider, to increase its renewable electricity portfolio to 33 percent by 2020, as mandated by Senate Bill X1-2 (adopted in 2011). Under BAU conditions in the 2002-2004 timeframe, Modesto Irrigation District had essentially zero renewable energy sources according to the 2013 Renewable Portfolio Standard report (Modesto Irrigation District 2013). By 2012, Modesto Irrigation District was meeting approximately 25 percent of its retail energy sales from eligible renewable energy resources (Modesto Irrigation District 2013). Applying the renewable portfolio standard’s mandatory 33-percent reduction in carbon intensity to the Proposed Project’s 363 MT CO₂e per year from electricity results in a projected reduction of 120 MT CO₂e per year. This results in a 30-percent reduction to the total annualized emissions compared to BAU conditions. This is greater than the SJVAPCD’s required 29-percent energy reduction from BAU conditions. This reduction is also consistent with the most recent AB 32 Scoping Plan’s level of reductions for 2020, which estimate a 15-percent reduction from BAU projections.

In addition to the GHG emission reductions related to using renewable energy to meet the project’s electricity demands, the proposed project would include drought-tolerant landscaping to reduce water use, which is also consistent with the AB 32 Scoping Plan’s water use reduction measures. Even though this analysis could support a less-than-significant impact conclusion, the City has determined to find the impact significant and unavoidable for the following reasons: The main reductions in GHG emissions are outside the control of the City and depend on changes to operations by electricity providers. In addition, the Program EIR analysis for GHG emissions found the impact for the entire program significant and unavoidable even with implementation of Mitigation Measure CUM-1. Although this EIR contains Mitigation Measure GHG-1 (Implement Greenhouse Gas Emissions Reduction Measures for Operation) to implement Mitigation Measure CUM-1, the feasibility of some
measures is unknown. Therefore, to be conservative in its analysis, the Proposed Project's GHG emissions would be significant and unavoidable.


The City of Modesto or its contractor(s) shall implement the following measures to the extent feasible and prepare a report that analyzes the feasibility of mitigation measures, details the extent of GHG emission reductions, and determines the basis for feasibility, with a goal of net zero emissions:

- Implement energy efficiency improvements of pumps through design, construction, and refurbishment methods.
- Investigate and implement, if feasible, opportunities for renewable energy development at the facilities subject to safety, emergency, and environmental considerations.
- Participate in local utility green energy and/or carbon offset programs to the extent feasible.
- Implement BMPs for vegetation management activities at Site A, which include using fuel-efficient landscaping equipment; shutting down equipment when not in use after 5 minutes; using spot application of herbicides; controlling nonnative weed species as soon as populations are found; planning and scheduling vegetation maintenance activities to minimize driving time and return trips to the site; using native or drought-resistant landscaping around facilities; and encouraging landscaping contractors to use manual techniques to the extent possible to reduce use of gas-powered equipment.
- Utilize electrically powered landscape equipment and outdoor electrical outlets.
- Utilize alternatively fueled construction equipment to the extent feasible. This could include equipment that uses electricity, hybrid, propane, or biodiesel fuels.
- Require shutting down of construction equipment when not in use after 5 minutes.
- Implement a construction worker commute strategy to minimize GHG emissions from workers commuting to the site. This may include encouraging use of carpool, vanpool, and public transportation.

Impact GHG-2: Potential to Conflict with Applicable Plans, Policies, or Regulations Adopted for the Purpose of Reducing Emissions of GHGs (Significant and Unavoidable)

SJVAPCD, the local air district with jurisdiction over the Proposed Project, has determined that GHG emissions are best controlled through implementation of BPS or demonstration of a 29-percent reduction from 2002-2004 conditions. The Renewable Portfolio Standard would reduce GHG emissions compared to BAU and would result in the Proposed Project having more than a 29-percent reduction. This is consistent with the goal of AB 32, as well as the policies/actions described in CARB's Scoping Plan and SJVAPCD's Climate Change Action Plan. Although the project is not subject to any other action measures that are outlined in the
The Proposed Project would achieve GHG emission reductions in its design, as discussed above, and, with implementation of Mitigation Measure GHG-I, would minimize GHG emissions to the maximum extent economically feasible. Therefore, the Proposed Project would comply with all applicable plans, policies, and regulations, including AB 32, and as well as the policies/actions described in CARB's Scoping Plan and SJVAPCD's Climate Change Action Plan. However, as discussed above, the main reductions in GHG emissions are outside the control of the City and depend on changes to operations by electricity providers. In addition, the Program EIR analysis for GHG emissions found the impact for the entire program significant and unavoidable even with the implementation of Mitigation Measure CUM-I from the Program EIR. Although this EIR contains Mitigation Measure GHG-I to implement Mitigation Measure CUM-1, the feasibility of some measures is unknown. Therefore, to be conservative in its analysis, the Proposed Project impact would be significant and unavoidable.

8.4.4 Cumulative Impacts

Impact GHG-3: Cumulative GHG Impact (Significant and Unavoidable)

It is widely recognized that no single project could generate enough GHG emissions to noticeably change the global climate. However, the combination of GHG emissions from the Proposed Project in combination with past, present, and future projects could contribute substantially to global climate change. Thus, the Proposed Project's GHG emissions should be evaluated in terms of whether or not they would result in a considerable contribution to global climate change. The analysis in this chapter is essentially a cumulative impacts analysis. Based on the analysis provided above, even with implementation of Mitigation Measure GHG-I, the Proposed Project would result in a cumulatively considerable contribution to a significant cumulative impact.
9.1 Overview

This chapter describes the regulatory and environmental setting and potential impacts of the Proposed Project as they relate to groundwater. Key data sources used to prepare this section include the following:

- California Department of Water Resources' (DWR's) Bulletin 118 - San Joaquin Valley Groundwater Basin, Modesto Subbasin (DWR 2004);
- City of Modesto's 2010 Water System Engineer's Report (City of Modesto 2010a);
- City of Modesto's 2010 Water System Engineer's Report Final Program Environmental Impact Report, referred to herein as the Program EIR (City of Modesto 2010b);
- Stanislaus and Tuolumne Rivers Groundwater Basin Association's (STRGBA's) Final Draft - Integrated Regional Groundwater Management Plan for the Modesto Subbasin (STRGBA 2005);
- URS Corporation's Draft Well Impact Analysis for the Del Rio Water System's Upgrade (URS 2015a, 2015b), included in Appendix F of this DEIR; and

9.2 Regulatory Setting

9.2.1 Federal Laws, Regulations and Policies

There are no federal laws, regulations, or policies specifically pertaining to groundwater resources.

9.2.2 State Laws, Regulations, and Policies

Sustainable Groundwater Management Act

On September 16, 2014, Governor Edmund G. Brown, Jr., signed the Sustainable Groundwater Management Act (SGMA), comprised of three separate bills: AB 1739, SB 1319, and SB 1168. A central feature of SGMA is that it allows local agencies to customize groundwater sustainability plans to their regional economic and environmental conditions and needs (State of California 2015). Among other things, SGMA requires that a groundwater...
sustainability plan be adopted for high- and medium-priority groundwater basins (127 out of 515 basins and subbasins) in California. SGMA defines sustainable groundwater management as the "use of groundwater in a manner that can be maintained during the planning and implementation horizon without causing undesirable results," defined as the following (State of California 2015):

- Chronic lowering of groundwater levels (not including overdraft during a drought if a basin is otherwise managed);
- Significant and unreasonable reduction of groundwater storage;
- Significant and unreasonable seawater intrusion;
- Significant and unreasonable degraded water quality, including the migration of contaminant plumes that impair water supplies;
- Significant and unreasonable land subsidence that substantially interferes with surface land uses; or
- Depletions of interconnected surface water that have significant and unreasonable adverse impacts on beneficial uses of the surface water.

SGMA outlines the following timetable for adoption of groundwater sustainability plans (State of California 2015):

- By 2017, local groundwater sustainability agencies must be identified.
- By 2020, overdrafted basins must be covered by a groundwater sustainability plan; other high- and medium-priority basins not in overdraft must have plans by 2022.
- By 2040, each high- and medium-priority basin must achieve sustainability, although this deadline can be extended 10 years for good cause.

**CASGEM Basin Prioritization**

In 2009, the California State Legislature amended the California Water Code with SBx7-6, which mandates a statewide groundwater elevation monitoring program to track seasonal and long-term trends in groundwater elevations in California (DWR 2015). Pursuant to this amendment, DWR established the California Statewide Groundwater Elevation Monitoring (CASGEM) Program. The CASGEM Program establishes the framework for regular, systematic, and locally managed monitoring in all of California's groundwater basins (DWR 2015). To facilitate implementation of the CASGEM Program and focus limited resources, as required by the California Water Code, DWR ranked all of California's basins by priority: high, medium, low, and very low based on the following factors (DWR 2015):

1. Population overlying the basin;
2. Rate of current and projected growth of the population overlying the basin;
3. Number of public supply wells that draw from the basin;
4. Total number of wells that draw from the basin;

5. Irrigated acreage overlying the basin;

6. Degree to which persons overlying the basin rely on groundwater as their primary source of water;

7. Any documented impacts on the groundwater within the basin, including overdraft, subsidence, saline intrusion, and other water quality degradation; and

8. Any other information determined to be relevant by DWR.

As mentioned above, DWR’s Final CASGEM Basin Prioritization (2014) results indicated that 127 of California’s 515 groundwater basins and subbasins are high and medium priority. The Modesto Subbasin is classified as a high-priority basin, with noted impacts of “water quality degradation due to industrial and agricultural practices” (DWR 2014). The Modesto Subbasin is not specifically noted as being in overdraft.

**DWR Water Well Standards (Bulletins 74-81 & 74-90 combined)**

DWR’s well standards, contained in Bulletin 74-81 together with the well standards in the supplement Bulletin 74-90, are recommended minimum statewide standards for the protection of groundwater quality (DWR No Date). The construction standards contained in Bulletins 74-81 and 74-90 apply to all water wells and cover such topics as well location with respect to contaminants and pollutants, sealing the upper annular space (i.e., space between the well casing and wall of the drilled hole), and surface construction features. The well standards require that the surface portions of wells be adequately sealed such that contaminated water cannot enter through the well and into the groundwater.

**9.2.3 Local Laws, Regulations, and Policies**

**Stanislaus County General Plan 2015**

The *Stanislaus County General Plan 2015* (2016) guides land use decisions and outlines goals and policies for land use in Stanislaus County. The Conservation and Open Space Element contains the following goals and policies related to groundwater:

**Goal Two:** Conserve water resources and protect water quality in the County.

**Policy Five:** Protect groundwater aquifers and recharge areas, particularly those critical for the replenishment of reservoirs and aquifers.

**Implementation Measure 1:** Proposals for urbanization in groundwater recharge areas shall be reviewed to ensure that (1) as much water as possible is returned to the recharge area, (2) the development will not cause discharge of materials detrimental to the quality of the water, and (3) the development will not result in significant groundwater overdrafting or deterioration in quality. The Department of Environmental Resources shall require:
A. In those areas where groundwaters are susceptible to overdrafting, the project proponent shall perform a hydrogeological analysis and include appropriate mitigation measures in the proposal.

B. In those areas where groundwater quality is susceptible to deterioration or is already of reduced quality, the level of wastewater treatment shall be such that it will not cause further quality deterioration.

**Del Rio Community Plan**

The Del Rio Community Plan is a focused planning policy and land use planning document that is part of the Stanislaus County General Plan (Stanislaus County 1992). The Del Rio Community Plan contains no specific goals or policies related to groundwater; however, it contains the following goals and policies that may be applicable to the Proposed Project with respect to groundwater.

**Goal 5:** Future development shall be served by adequate public infrastructure.

**Policy A:** All future development in Del Rio shall require underground utilities and facilities for community-wide secondary sewage treatment and water supply systems.

**Goal 6:** Significant natural resources in the community shall be preserved.

**Integrated Regional Groundwater Management Plan for the Modesto Subbasin**

The Integrated Regional Groundwater Management Plan for the Modesto Subbasin (IRGMP) (STRGBA 2005) was developed by the STRGBA, which is an association of the following six agencies:

- City of Modesto
- Modesto Irrigation District
- City of Oakdale
- Oakdale Irrigation District
- City of Riverbank
- Stanislaus County

The STRGBA was formed in 1994 and has since been actively engaged in management of the subbasin (STRGBA 2005). The IRGMP was developed in compliance with the Groundwater Management Planning Act of 2002 (SB 1938) and the Integrated Regional Water Management Planning Act of 2002 (SB 1672). The overarching goal of the IRGMP is:

\[\text{to provide for the integrated use of groundwater and surface water within the basin to ensure the reliability of a long-term water supply to meet current and future beneficial uses including agricultural, industrial, and municipal water requirements while protecting the environment.}\]

Consistent with SB 1938, the IRGMP contains basin management objectives (BMOs) to meet the purpose and goals of the groundwater management plan. BMOs that may be applicable to the Proposed Project include the following:
• Maintain groundwater levels
  • Identification and mapping of the basin's natural recharge areas
  • Development of a water budget to determine if the basin is in overdraft and, if so, to determine the amount of overdraft
• Control degradation of groundwater quality
  • Maintaining groundwater levels to control the movement of poor quality water into and within the basin. Groundwater pumping that results in the lowering of groundwater levels in part of the basin could alter the natural groundwater flow direction in the basin. In the area with groundwater contamination, this change could result in the movement of poor quality water in the basin. The City of Modesto has reduced groundwater pumping in some parts of the basin, augmenting its groundwater with surface water deliveries to its customers. Other actions may include implementing the actions summarized for the groundwater level BMOs listed above.
• Protect against potential inelastic land surface subsidence
• Groundwater monitoring and assessment

Stanislaus County Groundwater Ordinance

The Stanislaus County Groundwater Ordinance requires that all applications for a Well Construction Permit filed after November 25, 2014, shall demonstrate, based on substantial evidence, that either (1) one or more of the exemptions set forth in Section 9.37.050 apply, or (2) extraction of groundwater from the proposed well will not constitute unsustainable extraction of groundwater. The ordinance notes that the above conditions do not apply to a well designed to replace an existing well that has been permitted under Chapter 9.36 prior to November 25, 2014, if the replacement well has no greater capacity than the well it is replacing.

The exemptions set forth in Section 9.37.050, referenced above, include the following:

Water resources management practices of public water agencies that have jurisdictional authority within the County, and their water rate payers, that are in compliance with and included in groundwater management plans and policies adopted by that agency in accordance with applicable state law and regulations, as may be amended, including but not limited to the California Groundwater Management Act (Water Code Sections 10750 et seq.), or that are in compliance with an approved Groundwater Sustainability Plan.
9.3 Environmental Setting

9.3.1 Regional Setting

The Proposed Project is located in the San Joaquin Valley, overlying the Modesto Groundwater Subbasin. The Modesto Subbasin lies between the Stanislaus River to the north and the Tuolumne River to the south, and between the San Joaquin River on the west and crystalline basement rock of the Sierra Nevada foothills on the east (see Figure 9-1) (DWR 2004). The northern, western, and southern boundaries are shared with the Eastern San Joaquin Valley, Delta-Mendota, and Turlock Groundwater Subbasins, respectively (DWR 2004). The community of Del Rio and the Proposed Project are located in the northern portion of the subbasin, as shown in Figure 9-1.

9.3.2 Hydrogeology

Geology

The Modesto Subbasin includes both consolidated and unconsolidated sedimentary deposits (DWR 2004). The consolidated deposits lie in the eastern portion of the subbasin and include the Lone Formation of Miocene age, the Valley Springs Formation of Eocene age, and the Mehrten Formation, which was deposited during the Miocene to Pliocene Epochs. In general, consolidated deposits yield small quantities of water to wells; however, the Mehrten Formation may yield substantial quantities of water and is an important aquifer. The Mehrten Formation is composed of sandstone, breccia, conglomerate, tuff, siltstone, and claystone and is approximately 800 feet thick. The Mehrten Formation may lie as shallow as 400 feet beneath the City of Modesto (STRGBA 2005).

Unconsolidated deposits in the subbasin include continental deposits (i.e., deposited in a freshwater environment), lacustrine and marsh deposits (i.e., pertaining to lakes), older alluvium, younger alluvium, and flood-subbasin deposits. The continental deposits consist of poorly sorted gravel, sand, silt, and clay of varying thickness. They occur from 0 to 450 feet below ground surface (bgs) on the eastern side of the subbasin and range to more than 400 feet deep in the western portion (DWR 2004). The older alluvium consists of gravel, sand, silt, and clay with some hardpan. This alluvium is up to 400 feet thick and is generally present near or at the surface of the western half of the subbasin. The continental deposits and older alluvium are the main water-yielding units in the unconsolidated deposits (DWR 2004). The lacustrine and marsh deposits and the flood-subbasin deposits yield little water to wells, and the younger alluvium in most places probably yields only moderate quantities of water to wells (DWR 2004).

In the western portion of the subbasin, upper and lower layers of deposits are separated by a clay layer, known as the Corcoran clay (STRGBA 2005). The Corcoran clay is present at a depth of about 200 feet bgs and is 20–60 feet thick (STRGBA 2005). The approximate eastern extent of the Corcoran clay parallels Highway 99, running just northeast of the highway, and is shown in Figure 9-2.
Figure 9-1: Modesto Subbasin
Figure 9-2: Corcoran Clay Extent
Aquifers

The western portion of the subbasin has two principal aquifers: one above and one below the Corcoran clay (STRGBA 2005). East of the Corcoran clay, the aquifer is generally unconfined; however, there may be localized clay lenses, or thin layers of clay, that restrict downward movement of groundwater. Underlying all aquifers is the confined aquifer of the Mehrten Formation (STRGBA 2005). DWR estimated the total storage capacity of the Modesto Subbasin to be 6,500,000 AF to a depth of 300 feet (DWR 2004).

Groundwater Flows and Recharge

Groundwater generally flows from east to west-southwest in the Modesto Subbasin; however, well pumping and recharge may affect the localized groundwater flow direction (STRGBA 2005). Groundwater contours suggest that groundwater is discharged to the San Joaquin and Tuolumne Rivers along most reaches of the rivers. Contours suggest that groundwater does not discharge to the Stanislaus River, nor does the river recharge groundwater (STRGBA 2005).

Groundwater recharge in the subbasin occurs primarily from percolation of applied irrigation water, as well as seepage from the Modesto Reservoir and irrigation canals (DWR 2004). Lesser recharge occurs from subsurface flows originating in the mountains and foothills along the east side of the subbasin and percolation of direct precipitation (DWR 2004). Groundwater recharge to the deeper aquifers can occur from seepage through unconfined aquifers or across the Corcoran clay, or from horizontal movement of water from the eastern portion of the subbasin (STRGBA 2005). Groundwater recharges to the Mehrten Formation’s confined aquifers from areas between the eastern and western exposures of the formation. In general, groundwater recharge areas are in the eastern and central portions of the subbasin, between the Stanislaus and Tuolumne Rivers (STRGBA 2005).

DWR estimated overall natural recharge into the subbasin at 86,000 acre-feet per year (AFY) (DWR 2004). Applied irrigation water recharge was estimated to be 92,000 AFY, bringing total annual recharge to 178,000 AFY (although artificial recharge and subsurface inflow values were not determined) (DWR 2004). Annual urban and agricultural extractions were estimated to be 81,000 AFY and 145,000 AFY, respectively, for a total of 226,000 AFY.

Groundwater Levels

In general, groundwater elevations (i.e., feet above mean sea level) increase from west to east in the Modesto Subbasin, following the general topography of the land (WRIME 2007). Depth to groundwater (i.e., level of the water table below ground surface) similarly increases from west to east (WRIME 2007). Figure 9-3 shows depth to groundwater in the subbasin.

Historically, the groundwater level in the Modesto Subbasin has declined over the past decades. On average across the region, the subbasin water level declined nearly 15 feet from 1970 through 2000 (DWR 2004). Groundwater levels were locally depressed beneath and around the Modesto urban area, but completion of the Modesto Regional Water Treatment Plant in 1994 and subsequent importation of surface water supplies from the Modesto Irrigation District caused groundwater levels to rebound to some degree (STRGBA 2005).
To obtain more site-specific information for the Proposed Project, the City conducted a baseline investigation to determine groundwater levels in the immediate vicinity of the Proposed Project wells (URS 2015a). The study gathered data by first identifying local well owners in the Del Rio area and requesting permission to install water level monitoring devices in their wells. A number of wells were identified in the vicinity of the Proposed Project (see Figure 9-4 and Figure 9-5). Of these, two private well owners granted access to the City to install monitoring devices in their wells on properties located at 706 Ladd Road, close to Site A, and 201 Stewart Road, close to Site B (URS 2015a).

In addition to the two private well owners, the City also placed a water level monitoring device in the City-owned well at 718 Ladd Road (Site A) and monitored groundwater levels over a period of 6 months, from August 2014 to February 2015. Table 9-1 shows the summary results of the study and the change in groundwater levels at the three wells monitored. See Appendix F for the complete study results and discussion.

Table 9-1. Nearby Groundwater Levels, August 2014 to February 2015

<table>
<thead>
<tr>
<th>Groundwater Level Statistics</th>
<th>Study Well Location</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>718 Ladd Road</td>
</tr>
<tr>
<td>Average Depth to Water (feet)</td>
<td>44.00</td>
</tr>
<tr>
<td>Maximum Depth to Water (feet)</td>
<td>47.20</td>
</tr>
<tr>
<td>Minimum Depth to Water (feet)</td>
<td>43.61</td>
</tr>
<tr>
<td>Difference (minimum - maximum, feet)</td>
<td>4.59</td>
</tr>
<tr>
<td>Change (over period of record, feet)</td>
<td>3.02</td>
</tr>
<tr>
<td>Change (daily, feet)</td>
<td>0.20</td>
</tr>
</tbody>
</table>

Source: URS 2015a

The findings summarized in Table 9-1 show that groundwater levels fluctuated to some degree over the 6-month course of the investigation. Groundwater levels did increase in the three wells studied (see "Change (over period of record, feet)"), but this is expected because of seasonal fluctuations. The monitoring commenced when water levels would be anticipated to be at their annual low point (August), and ceased when they would be anticipated to be at their annual high. The findings are generally consistent with groundwater monitoring conducted in the area by USGS, which has reported average seasonal water level fluctuations in the Modesto urban area of 1, 3, and 18 feet in shallow, intermediate, and deep zone wells (URS 2015a; USGS 2007).
Figure 9-3: Depth to Groundwater
As described in the City’s baseline groundwater level report (URS 2015a) and in Section 9.3.3, “Groundwater Supply and Use, Private Domestic and Agricultural Well Owners,” below, data from the DWR private well database collected during the study suggests that most private wells located within the Del Rio area are completed in the shallow zone. All three wells monitored in the City’s study were completed in the shallow zone, and therefore, are considered to be representative of most private wells located in the area.

Subsidence

Subsidence is the lowering of the land surface elevation as a result of the compression, compaction, or consolidation of underlying soils, sediment, or rock. These processes are exacerbated under increased loading (e.g., additional sediment deposition or construction of structures, including fills) or the withdrawal of groundwater. Compaction and compression generally occur within unconsolidated granular soils or sediment over a relatively short timeframe. Consolidation usually occurs over a longer period (sometimes many years) in saturated, finer grained material as pore water (i.e., water within the spaces between sediment grains) is removed through groundwater pumping. Subsidence can cause the development of cracks or fissures in the ground surface. When subsidence is non-uniform or uneven, differential settlement results, potentially inducing stress to structures.

The Proposed Project area is not located within any recent or historical large areas of subsidence (DWR 2016a), and historically, land surface subsidence within the basin has not been substantial (STRGBA 2005). DWR’s Groundwater Information Center (GIC) mapping system shows the Modesto Subbasin as being in a medium to high area for estimated potential subsidence (DWR 2016b).

9.3.3 Groundwater Supply and Use

Water Suppliers

Major water suppliers in the Modesto Subbasin include the Modesto and Oakdale Irrigation Districts, the Cities of Oakdale and Riverbank, and the City of Modesto (STRGBA 2005).

Annual groundwater use data for these service providers was not available at the time of publication.

City of Modesto

The City of Modesto provides domestic water service within its incorporated boundaries and to several other areas previously served by the Del Este Water Company (acquired by the City in the mid-1990s), including portions of the Cities of Ceres and Turlock and the communities of Salida, Empire, Del Rio, and Grayson. The City of Modesto operates a total of 118 groundwater wells, 108 of which are located within the Modesto Subbasin, including three in the Del Rio area. In addition to groundwater extracted from the subbasin, the City obtains treated surface water from the Modesto Irrigation District (STRGBA 2005).
Del Rio Service Area

As described above, the City of Modesto has been supplying water to the community of Del Rio since the 1990s. The City manages, operates, and maintains water service in Del Rio as an independent satellite system (Appendix H in City of Modesto 2010a).

The City’s Del Rio water system is solely supplied by groundwater (Appendix H in City of Modesto 2010a). The system currently includes three operational wells, which are described in Table 9-2.

Table 9-2. Existing Del Rio Water System Groundwater Wells

<table>
<thead>
<tr>
<th>Well Number</th>
<th>Location/Address</th>
<th>Year Drilled</th>
<th>Rated Pump Capacity (gpm)</th>
<th>Measured Flow (gpm)</th>
<th>Casing Depth (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>271</td>
<td>1260 Country Club</td>
<td>1956</td>
<td>395</td>
<td>200</td>
<td>284</td>
</tr>
<tr>
<td>282</td>
<td>7312 Hillcrest Drive</td>
<td>1980</td>
<td>1,080</td>
<td>1,000</td>
<td>275</td>
</tr>
<tr>
<td>289</td>
<td>7119 Beltis Drive</td>
<td>1987/91</td>
<td>1,090</td>
<td>800</td>
<td>360</td>
</tr>
</tbody>
</table>

Source: Appendix H in City of Modesto 2010a

The “measured flow” shown in Table 9-2 indicates the actual groundwater production of each well observed during well pump tests. As shown in Table 9-2, Well 271 is currently operating at approximately 50 percent of its 395-gpm rated pump capacity, producing 200 gpm (Appendix H in City of Modesto 2010a).

The Del Rio service area is located approximately 4 miles north of the City’s boundary. In 2008, the Del Rio water system served 343 residential dwelling units and encompassed an area of approximately 350 acres (Appendix H in City of Modesto 2010a). Based on the Del Rio Community Plan (Stanislaus County 1992), future buildout of the Del Rio service area will include approximately 590 acres. Land uses in the service area are currently primarily residential with a large golf course in the middle of the service area. While the City provides water service to much of the Del Rio community, a number of parcels not served by the City, including the golf course, are served by private wells.

Water use in the Del Rio service area was 577 AF in 2015 (City of Modesto 2016).

Private Wells

A number of parcels in the Del Rio service area are supplied by private groundwater wells. The City conducted a groundwater well inventory of private wells within a 1-mile radius of the proposed new wells at Site A and Site B. Figure 9-4 shows the locations of existing groundwater wells near the proposed new well at Site A. Figure 9-5 shows locations of existing groundwater wells near the proposed well at Site B.

The City’s groundwater well inventory, which queried DWR’s well database, suggested that most private wells located within the Del Rio area are completed in the shallow aquifer zone (i.e., less than 265 feet bgs) (URS 2015a). The database indicated that very few domestic wells in the area are completed in the deep zone of the aquifer (i.e., 400-600 feet bgs), and no wells are completed at this depth within 1,000 feet of the Proposed Project new wells (URS 2015a).
Figure 9-4: Well Inventory Map – Site A
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Legend

- Del Rio Well #1
- Wells from DWR Well Database
- One Mile Radius from Well
- Section Boundary
- DWR Department of Water Resources

Source: URS. 2015a. Letter to Kris Ohlson, PE, City of Modesto Utility Planning & Projects Department.
re: Draft Well Impact Analysis for the Del Rio Water Systems Upgrade: Groundwater Well Inventory, Baseline Transducer Investigation, City of Modesto, CA.

Figure 9-5: Well Inventory Map – Site B
The City was unable to obtain data on historical pumping rates of existing domestic wells in the Proposed Project area or verify the results of the well database search in the field. The City contacted landowners in the area, but landowners generally did not provide information or cooperate with the City's investigation (URS 2015a).

In general, most private wells in the Proposed Project vicinity are domestic wells. Irrigation wells may also be active in the area, most likely located west of Site A, but agricultural water users in the project vicinity likely obtain irrigation water from Modesto Irrigation District irrigation canals in the area.

### 9.3.4 Groundwater Basin Operational Yield

The 2010 WSER identified deficiencies in system supply and pressure requirements in the Del Rio service area, along with improvements to correct those deficiencies, including the proposed wells (City of Modesto 2010a). As part of the WSER analysis, the City estimated the preliminary operational yield for the three groundwater subbasins that underlie its service area (Modesto, Turlock, and Delta-Mendota Subbasins). The City estimated the total operational yield within its service area to be 53,500 AFY, 48,286 AFY of which occurs in the Modesto Subbasin (City of Modesto 2010a; Appendix F).

The 2010 WSER operational yield analysis was based on historical groundwater pumping by the City and was developed to maintain a minimum average groundwater elevation of 40 feet above mean sea level (msl) within and near the City's contiguous service area (City of Modesto 2010a). Essentially, the City's analysis concluded that if its total, long-term average groundwater pumping was held at or below 53,500 AFY (48,286 AFY for the Modesto Subbasin), then groundwater levels would remain stable at around 40 feet above msl. The City's concept of operational yield is similar to "sustainable yield," defined as the average annual amount of groundwater that can be extracted from a groundwater basin while maintaining a non-overdraft condition (City of Modesto and Modesto Irrigation District 2011). The key difference between operational yield and sustainable yield is that operational yield pertains to a specific location or localized aquifer (e.g., the portion of the Modesto Subbasin underlying the City of Modesto's service area) and a specific entity (e.g., City of Modesto), while sustainable yield pertains to the entire groundwater basin or subbasin and all of the entities pumping from it as a whole (City of Modesto 2010a). While the City has estimated the operational yield of the portion of the Modesto Subbasin underlying its service area, the sustainable yield of the Modesto Subbasin is not currently known (City of Modesto and Modesto Irrigation District 2011).
9.4 Impact Analysis

9.4.1 Methodology

Potential impacts on groundwater from the Proposed Project were assessed qualitatively and quantitatively, based on the degree to which the Proposed Project could lower the water table and adversely affect existing nearby wells, interfere with groundwater recharge, or cumulatively contribute to groundwater level drawdown or reduction in aquifer storage volume in the Modesto Subbasin as a whole. The analysis is based on the well impacts analysis conducted in 2015 by URS Corporation (URS 2015a, 2015b), which is included as Appendix F. The 2015 analysis was based on, and improved on, the prior analysis completed in 2012 in several significant ways:

1. **Number of production wells.** The previous investigation was conducted using only one of the two proposed production wells. The updated 2015 analysis considered possible effects from pumping at each of the two wells proposed as part of the Proposed Project, both separately and in combination.

2. **Simulation run times.** The previous analysis only simulated 30 days of pumping, and therefore did not account for potential long-term impacts on the aquifer. The updated 2015 analysis simulated 3,650 days (10 years) of pumping.

3. **Operational pumping rates.** The original analysis assumed an operational pumping rate of 1,280 gpm and operational times of 8 hours per day over the 30-day model period. The updated 2015 analysis used site-specific and monthly pumping rates, developed in coordination with the City, for both proposed wells. The flow information contained in the updated analysis more accurately reflects the pumping rates that may occur with the Proposed Project due to monthly variations in water demand.

4. **Sensitivity analysis.** In its updated analysis, URS quantified uncertainty in the model by conducting a sensitivity analysis on horizontal hydraulic conductivity (K), the hydraulic parameter used to predict water-level drawdown.

For the study, URS developed a numerical flow model based on the USGS Northeastern San Joaquin Valley Groundwater Numerical Flow Model. Appendix F further explains the methodology used for the updated well impacts analysis.

9.4.2 Criteria for Determining Significance

Based on Appendix G of the CEQA Guidelines and professional expertise, the Proposed Project would result in a significant impact related to groundwater if it would:

- Substantially deplete groundwater supplies or interfere with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level; or

- Result in substantial land subsidence as a result of the Proposed Project.
Other criteria in Appendix G of the CEQA Guidelines related to hydrology, flooding, and surface water quality and groundwater quality were adequately addressed in the Program EIR (City of Modesto 2010b: pp. 3.8-17–3.8-22) and evaluated in the Environmental Checklist (Appendix B), and the Proposed Project would not result in new or more adverse impacts than previously identified in the Program EIR. Impacts related to landslide, lateral spreading, liquefaction, or collapse are addressed in the Environmental Checklist (Appendix B) findings. These topics were not considered further in this analysis.

9.4.3 Environmental Impacts

Impact GRW-1: Potential to Lower the Groundwater Table and Adversely Affect Nearby Existing Wells (Less than Significant)

As described in Chapter 2, Project Description, the Proposed Project would involve installation of a new well at Ladd Road (Site A) and a replacement well at McHenry Avenue (Site B) (see Figure 2-1). The Site B well would replace the City's existing Well 271 (see Table 9-2). Both proposed wells would be drilled to a minimum of 300 feet and a maximum of 600 feet deep and would have a maximum yield of approximately 1,000 gpm. The wells would be operated at varying rates/times throughout the year depending on need, but would be expected to operate for an annual average of 10.8 hours per day. Each well would be expected to yield an annual average of 237 million gallons (726 acre-feet).

To assess potential effects of the proposed pumping on neighboring wells, the City conducted a well impact analysis (URS 2015b; Appendix F). The City’s analysis used the USGS Northeastern San Joaquin Valley Groundwater Numerical Flow Model to model changes in water level that would occur from operation of the proposed wells. The USGS regional model covers the northeastern San Joaquin Valley extending from north of the Stanislaus River to south of the Merced River, bounded on the northeast by the Sierra Nevada foothills and on the southwest by the San Joaquin River. The regional model has 16 layers, each representing a separate subsurface lithology. Figure 9-6 shows the model layers. The model simulation looked at drawdown impacts on existing wells located within 125 feet and a 1,000-foot radius from the proposed wells, and modeled changes in water level for shallow (100–265 feet bgs), intermediate (265–360 feet bgs), and deep (360–600 feet bgs) zone wells over a period of 10 years. The well pumping rates used in the model simulation were estimated as the maximum rate at which the wells would be operated. Note: the existing well pumping at Well 271 was not included in the baseline for the model. Therefore, the City's model takes a conservative approach by considering the total amount of new well pumping from the project rather than merely the incremental pumping above existing conditions.

Table 9- shows the results of the well impact analysis model simulation. The model results indicate that proposed pumping would cause limited (0.1-0.26 foot) additional drawdown in wells screened in the shallow zone of the aquifer.
Table 9-3. Simulated Maximum Drawdown from Operation of the Proposed Project Wells

<table>
<thead>
<tr>
<th>Production Well</th>
<th>Distance from Well (feet)</th>
<th>Wells Pumping</th>
<th>Maximum Drawdown (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Shallow Zone</td>
<td>Intermediate Zone</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(100–265 feet deep)</td>
<td>(265–360 feet deep)</td>
</tr>
<tr>
<td>Site A – New Well at Ladd Road</td>
<td>125</td>
<td>Site A Only</td>
<td>0.17</td>
</tr>
<tr>
<td></td>
<td>1,000</td>
<td>Site A and B</td>
<td>0.25</td>
</tr>
<tr>
<td>Site B – Replacement Well at McHenry Road</td>
<td>125</td>
<td>Site B Only</td>
<td>0.1</td>
</tr>
<tr>
<td></td>
<td>1,000</td>
<td>Site A and B</td>
<td>0.21</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Site A Only</td>
<td>0.16</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sites A and B</td>
<td>0.26</td>
</tr>
</tbody>
</table>

Source: URS 2015b

The largest simulated change in groundwater levels (20 feet of drawdown) occurred in the deep zone 125 feet away from Site A, with simulated pumping at both the proposed wells. The maximum simulated drawdown in the shallow zone was 0.26 foot, while the maximum simulated drawdown in the intermediate zone was 2.1 feet. In general, simulated reductions in groundwater levels were greatest close to the Proposed Project wells (i.e., at 125 feet rather than 1,000 feet) and when both wells were operating.

The simulated changes in groundwater levels were generally within the range of seasonal variation observed in the City's investigation (0.2–3.7 feet) (see Table 9-1), and within the level of seasonal variation observed by USGS monitoring wells (1–18 feet) (USGS 2007). Modeled differences in drawdown and water level change between shallow, intermediate, and deep aquifer zones can be attributed to differences in hydraulic conductivity between soil layers and are consistent with changes observed by the USGS.
Figure 9-6: USGS Model Domain Cross-Section
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As described in Section 9.3.3, “Groundwater Supply and Use,” the DWR well database indicated that no wells are completed in the deep zone of the aquifer within 1,000 feet of the proposed wells. To the City’s knowledge, all existing wells within 1,000 feet of the proposed wells are completed in the shallow zone of the aquifer. Therefore, based on the City’s modeling results, groundwater levels at existing wells in the shallow zone would experience a maximum drawdown of 0.26 foot from operation of both proposed wells, which is within the normal range of seasonal variation in water levels in the region. This amount would not be anticipated to result in a significant adverse effect on existing wells. Additionally, because the Site B well would replace an existing well (Well 271, currently operating at 200 gpm in the shallow zone), the incremental drawdown caused by the Proposed Project above the existing drawdown rate is anticipated to be less than that modeled at Site B.

Based on the modeling analysis, the real-world groundwater level reductions that could occur from the Proposed Project are expected to be less than significant. The groundwater levels in the vicinity of the new wells are not expected to drop below the long-term average level of variation as a result of the Proposed Project. As described in Chapter 2, Project Description, the City would install a groundwater monitoring well at each proposed well site. The monitoring wells would be equipped to monitor groundwater levels at three depths (i.e., shallow, intermediate, and deep aquifer zones). Data from the wells would be used to monitor groundwater levels in the various aquifer zones.

Modeling indicates that, with operation of both wells, drawdown on wells in the vicinity of the Proposed Project is anticipated to be within the seasonal variation of groundwater levels (maximum 0.26 feet). In addition, a groundwater monitoring well would be installed at each proposed well site to monitor groundwater levels in the shallow, intermediate, and deep aquifer zones. For these reasons, this impact would be less than significant.

Impact GRW-2: Potential to Reduce or Interfere with Groundwater Recharge (Less than Significant)

As described in Chapter 2, Project Description, the Proposed Project would develop approximately 4.4 acres total at Sites A and B (4 acres at Site A and 0.4 acre at Site B). Both sites are largely undeveloped, with limited amounts of impervious surfaces. Site A currently contains a single-family home and a few outbuildings, and the remainder of the 4-acre site is fallow, unirrigated grassland that was formerly used for agricultural purposes. Existing impervious surface at Site A is estimated at 0.24 acre. The 0.4-acre Site B is currently undeveloped with no existing impervious surfaces or irrigated agriculture.

Proposed new impervious features at the Proposed Project sites would include the water storage tank and pump station building at Site A and the concrete pad and driveway at Site B. New impervious surface at Site A is estimated at 1.11 acres. Because all of the existing impervious surfaces (i.e., existing house, driveway, and outbuildings) at Site A would be removed, only 0.87 acre of this estimated amount would be additional impervious beyond existing conditions. New impervious surface at Site B is estimated at 0.03 acre. Site A would also include a stormwater retention basin designed to contain the 50-year storm event and the full capacity of water stored in the storage tank in the event of a tank rupture. The stormwater retention basin at Site A would be designed to capture stormwater runoff from impervious surfaces and allow that water to percolate into the aquifer below.
Given that the Proposed Project would not involve a substantial amount of new impervious surface area resulting from the Site A and Site B facilities (approximately 0.90 acre) and would not displace irrigated farmland, the Proposed Project would not substantially reduce or interfere with groundwater recharge. Additionally, the proposed retention basin at Site A may serve to recharge groundwater. Therefore, this impact would be less than significant.

**Impact GRW-3: Potential to Result in Land Subsidence (Less than Significant)**

As described in Section 9.3.2, "Hydrogeology," subsidence is the lowering of the land-surface elevation, which typically occurs following excessive groundwater withdrawal. Subsidence can result in differential settlement and potentially damage buildings and infrastructure. Historical rates of subsidence in the Modesto area have not been substantial. DWR identifies the Modesto Subbasin as having a medium to high potential for subsidence, however, and DWR's groundwater budget for the Modesto Subbasin from 1970 through 2000 showed that extractions were exceeding recharge (DWR 2004).

As described in Impact GRW-1, the Proposed Project wells are not anticipated to substantially lower existing local shallow (i.e., 100 to 265 feet bgs) or intermediate (i.e., 265 to 360 feet bgs) groundwater levels, with modeled maximum drawdown under all scenarios of 0.26 feet and 2.1 feet, respectively. Modeled maximum drawdown for the deep aquifer (i.e., 360 to 600 feet) ranges from 6.6 to 20 feet bgs, dependent upon the modeled scenario. However, regional water bearing geologic units maintain their elasticity despite observed seasonal variations of groundwater levels ranging from 1 to 18 feet with (USGS 2007). Under all scenarios, the proposed project's modeled maximum drawdown is comparable to regional seasonal variations in groundwater levels. Furthermore, site preparation and foundations for surface structures (e.g., pump station and water tank) would be built to California Building Code specifications, reducing the potential effects of differential settlement to a less-than-significant level. The Proposed Project would not substantially affect shallow, intermediate, or deep groundwater levels. Therefore, the Proposed Project is not expected to result in subsidence. This impact would be less than significant.

**9.4.4 Cumulative Impacts**

**Impact GRW-4: Cumulative Contribution to Chronic Overdraft of Groundwater Subbasin (Significant and Unavoidable)**

As described under Impact GRW-1, the Proposed Project is not anticipated to substantially reduce local groundwater levels in a way that would have a significant adverse impact on nearby shallow wells. However, operation of the proposed wells could cumulatively contribute to overdraft conditions in the Modesto Subbasin.

As described in the Section 9.3.2, "Hydrogeology," DWR has estimated that more groundwater is withdrawn from the subbasin than is recharged on an average annual basis. While the 2014 DWR Final Basin Prioritization results did not specifically note the Modesto Subbasin as being in overdraft (DWR 2014), overpumping in the Modesto Subbasin has historically led to declines in groundwater levels (DWR 2004).
As described in Section 9.3.3, "Groundwater Basin Operational Yield," the City estimated the total operational yield within its service area to be 53,500 AFY, with 48,286 AFY of that occurring in the Modesto Subbasin. Given that the proposed wells were designed to be operated within the City's operational yield, they would not be anticipated to substantially reduce groundwater levels within the City's service area. The expected total annual average production of the proposed wells is 350 million gallons, or approximately 1,701 AF; however, because the City would decommission its existing Well 271 (which currently produces approximately 323 AFY), the proposed wells would only increase groundwater production by approximately 1,378 AFY beyond existing conditions. As shown in Error! Reference source not found., the most readily available data indicate that the City extracts an average of 38,145 AFY of groundwater from the Modesto Subbasin (City of Modesto 2010a). Adding the Proposed Project's total estimated additional production of 1,378 AFY to the average Modesto Subbasin production of 38,145 AFY would equal 39,523 AFY. This amount would be below the City's preliminary operational yield for the Modesto Subbasin of 48,286 AFY, and therefore is not anticipated to reduce groundwater elevations within the City's service area below 40 feet above msl.

With respect to groundwater use and drawdown in the Modesto Subbasin as a whole, in light of other groundwater users in the subbasin, the proposed wells would represent a relatively small but potentially considerable contribution to overall groundwater extractions. As shown in Error! Reference source not found., a number of entities operate public water supply wells in the Modesto Subbasin, in addition to many private wells. Recent data were not available at the time of publication on overall groundwater extractions in the subbasin, but DWR has estimated urban and agricultural extractions at 81,000 and 145,000 AFY, respectively (DWR 2004). By contrast, DWR estimated natural and applied irrigation water recharge at 86,000 AFY and 92,000 AFY, respectively. Relative to total urban and agricultural extractions in the subbasin (226,000 AFY), the Proposed Project's contribution of 1,378 AFY would represent 0.6 percent of the total extractions in the subbasin. This would seem to be a small contribution, but given that the basin is already in a relatively chronic state of overdraft, as indicated by the deficit in recharge estimated by DWR and by historically declining water levels, each additional large capacity well could exacerbate the overdraft situation.

While the SGMA requires that all high- and medium-priority basins have sustainable groundwater management plans in place by 2022, and that overdrafted basins have plans in place by 2020, it does not impose limitations on groundwater resource development prior to those dates. Stanislaus County has enacted a Groundwater Ordinance, which requires entities applying for a Well Construction Permit after November 25, 2014, to demonstrate, based on substantial evidence, that extraction of groundwater from the proposed well will not constitute unsustainable extraction of groundwater (see Section 9.2.3, "Local Laws, Regulations, and Policies"). This ordinance is expected to limit future unsustainable groundwater extractions, but nevertheless, may not reverse the effects of past overpumping or completely prevent cumulative drawdown.

Climate change could also exacerbate the cumulative effects of groundwater pumping in the Modesto Subbasin. Under typical annual hydrological fluctuations, groundwater storage may be replenished in wet years. However, the added prospect of altered long-term precipitation patterns and hydrology in California due to climate change could reduce the potential for groundwater recharge.
In light of all of the above factors, the overdraft of the Modesto Subbasin is considered to be a significant cumulative impact, and the Proposed Project's contribution would be considerable. The City is already implementing all available measures to ensure that its groundwater extraction does not exacerbate this situation, and is an active participant in regional groundwater management with a goal of ensuring sustainable management of the subbasin. Additional measures may exist that others could take to reduce pumping in the basin (e.g., water conservation), but such measures would be outside of the City's jurisdiction to implement or require. As such, no additional feasible measures exist and this impact is considered significant and unavoidable.
10.1 Overview

This chapter describes the setting and potential impacts of the Proposed Project related to land use and planning.

10.2 Regulatory Setting

The following section discusses the policies and regulations that are relevant to the analysis of land use impacts of the Proposed Project. No specific federal or state land use regulations apply to the land use resources associated with the Proposed Project.

Stanislaus County General Plan 2015

The following policies contained in the Land Use Element of the Stanislaus County General Plan 2015 (Stanislaus County 2016) are applicable to the Proposed Project:

Goal One: Provide for diverse land use needs by designating patterns which are responsive to the physical characteristics of the land as well as to environmental, economic, and social concerns of the residents of Stanislaus County.

Policy Two: Land designated Agriculture shall be restricted to uses that are compatible with agricultural practices, including natural resources management, open space, outdoor recreation and enjoyment of scenic beauty.

Policy Six: Preserve and encourage upgrading of existing unincorporated urban communities.

Goal Two: Ensure compatibility between land uses.

Policy Fourteen: Uses shall not be permitted to intrude into or be located adjacent to an agricultural area if they are detrimental to continued agricultural usage of the surrounding area.

Policy Sixteen: Outdoor lighting shall be designed to be compatible with other uses.

Goal Three: Foster stable economic growth through appropriate land use policies.

Policy Sixteen: Agriculture, as the primary industry of the County, shall be promoted and protected.

Goal Four: Ensure that an effective level of public service is provided in unincorporated areas.
Policy Twenty-four: Future growth shall not exceed the capabilities/capacity of the provider of services such as sewer, water, public safety, solid waste management, road systems, schools, health care facilities, etc.

Policy Twenty-six: Development, other than agricultural uses and churches, which requires discretionary approval and is within the sphere of influence of cities or in areas of specific designation created by agreement (e.g., Sperry Avenue and East Las Palmas Corridors), shall not be approved unless first approved by the city within whose sphere of influence it lies or by the city for which areas of specific designation were agreed. Development requests within the spheres of influence or areas of specific designation of any incorporated city shall not be approved unless the development is consistent with agreements with the cities which are in effect at the time of project consideration. Such development must meet the applicable development standards of the affected city as well as any public facilities fee collection agreement in effect at the time of project consideration. (Comment: This policy refers to those development standards that are transferable, such as street improvement standards, landscaping, or setbacks. It does not always apply to standards that require connection to a sanitary sewer system, for example, as that is not always feasible.)

Policy Twenty-seven: Development which requires discretionary approval and is outside the sphere of influence of cities, but located within one mile of a city's adopted sphere of influence and within a city's adopted general plan area, shall be referred out to the city for consideration. However, the County reserves the right for final discretionary action.

Goal Six: Promote and protect healthy living environments.

Policy Twenty-nine: Support the development of a built environment that is responsive to decreasing air and water pollution, reducing the consumption of natural resources and energy, increasing the reliability of local water supplies, and reduces vehicle miles traveled by facilitating alternative modes of transportation, and promoting active living (integration of physical activities, such as biking and walking, into everyday routines) opportunities.

Spheres of Influence

Policy: Whenever an application is to be considered which includes property within the sphere of influence of a city or special district (e.g., sewer, water, community services) or areas of specific designation created by agreement between County and City, the following procedures should be followed:

1. Development, other than agricultural uses and churches, which requires discretionary approval shall be referred to that city for preliminary approval. The project shall not be approved by the County unless written communication is received from the city memorializing their approval. If approved by the city, the city should specify what conditions are necessary to ensure that development will comply with city development standards. Requested conditions for such things as sewer service in an area where none is available shall not be imposed. Approval from a city does not preclude the...
County decision-making body from exercising discretion, and it may either approve or deny the project.

2. Agricultural uses and churches which require discretionary approval should be referred to that city for comment. The County Planning Commission and Board of Supervisors shall consider the responses of the cities in the permit process. If the County finds that a project is inconsistent with the city's general plan designation, it shall not be approved. Agricultural use and churches shall not be considered inconsistent if the only inconsistency is with a statement that a development within the urban transition area or sphere of influence shall be discouraged (or similar sweeping statement). The city shall be asked to respond to the following questions:

A. Is the proposed project inconsistent with the land use designation on the city's general plan? If so, please include a copy of the map (or that portion which includes the subject property) and the text describing uses permitted for the general plan designation. All findings of inconsistency must include supporting documentation.

B. If the project is approved, specifically what type of conditions would be necessary to ensure the development will comply with city development standards such as street improvements, setbacks and landscaping?

In the case of a proposed project within the sphere of influence of a sanitary sewer district, domestic water district or community services district, the proposal shall be forwarded to the district board for comment regarding the ability of the district to provide services. If the district serves an unincorporated community with a Municipal Advisory Council (MAC), the proposal shall also be referred to the MAC for comment.

**Del Rio Community Plan**

Stanislaus County prepared the *Del Rio Community Plan*, which was adopted by the Stanislaus County Board of Supervisors in 1992. The community plan designates land uses in two development areas. The northern portion (Area I) of Del Rio is designated as low-intensity residential and agriculture, while the southern portion (Area II) is designated as agriculture and future-specific planning. The Community Plan proposed to develop Del Rio as a mixed residential, recreational, and agricultural community with natural open space/recreational uses. Goals of the Del Rio Community Plan that relate to land use and planning for the Proposed Project include the following:

**Goal 1:** Future development should occur in an orderly manner to meet the needs of existing and future residents.

**Policy A:** Until the plan is updated, future development for Del Rio shall be in accordance with the Community Plan.
Goal 2: Prime agricultural land in the Del Rio vicinity should be preserved in areas where incompatibility impacts between agricultural and residential uses can be minimized.

Goal 3: Further development in the Del Rio area should be planned to ensure that adverse impacts on services and utilities, schools, transportation and circulation, agriculture, water and air quality are appropriately mitigated.

Policy A: All future developments in Del Rio shall be Planned Developments and, in Area II, approved only after specific plan and EIR are prepared for Area II which address cumulative development impacts on the entire Del Rio area, Community Plan conformance, and methods of plan implementation.

Goal 5: Future development shall be served by adequate public infrastructure.

Policy A: All future development in Del Rio shall require underground utilities and facilities for community-wide secondary sewage treatment and water supply systems.

Stanislaus County Zoning Ordinance

According to the Stanislaus County Zoning Ordinance, Site A is zoned A-2-40 Agriculture (Stanislaus County 2015). Permitted uses for A-2 districts include agricultural uses, single-family dwelling(s) on parcels less than 20 acres in size; two single-family dwellings on parcels 20 acres or more in size; mobile homes; buildings, appurtenances, and uses such as custom contract harvesting or land preparation; home occupations; garage sales; temporary agricultural service airports; detached accessory buildings, the use of which are incidental to, and reasonably related to, a main building on the same lot or to the primary use of the property as determined by the director of planning and community development; lagoons or ponds for the storage of animal wastes; Christmas tree sales lots and Halloween pumpkin sales lots; fireworks stands; and small family day cares and large family care homes. According to Section 21.20.030 of the Stanislaus County Code, this district allows development of certain uses that are not directly related to agriculture but may be necessary to serve the A-2 district. For example, development of facilities for public utilities qualifies as a "Tier Three" use that may be allowed if the Stanislaus County Planning Commission concludes that the use would not be substantially detrimental to or conflict with agricultural use of other property in the vicinity, and the parcel on which such use is requested is not located in one of the county's "most productive agricultural areas," as this term is used in the general plan; or if the character of the use that is requested is such that the land may reasonably be returned to agricultural use in the future.

Site B is zone P-D (189) Planned Development (Stanislaus County 2015). The P-D district permits all uses consistent with the general plan but is subject to the approval of the development plan by the County's Planning Commission.

10.3 Environmental Setting

Del Rio is an unincorporated census-designated place (CDP) in central Stanislaus County. Del Rio has a population of approximately 1,270 and encompasses 2.1 square miles, with approximately 1.8 square miles being residential and the remaining space being utilized as a
golf course, open space, and water (U.S. Census Bureau 2010). The Stanislaus River runs along
the northern edge of Del Rio, and the community is bounded by McHenry Avenue to the east,
Ladd Road to the south, and Carver Road to the west. State Route 99 is approximately 5.8
miles west of Del Rio. Nearby cities include Escalon, Manteca, Modesto, and Riverbank.

Del Rio began with the development of a golf and country club in the 1940s, and residential
lots were constructed soon afterward to finance a portion of the country club. Del Rio is an
entirely residential community (Stanislaus County 1987).

The Proposed Project would involve activities at two separate sites within Del Rio. Site A
consists of two parcels totaling approximately 4.0 acres that are owned by the City of
Modesto. Site A is southeast of the intersection of Ladd Road and St. John Road on APNs 004-
077-018 and 004-077-019. The site is bounded by a Modesto Irrigation District canal on the
south, agricultural and residential sites on the east, and Union Pacific Railroad tracks on the
west. The northern portion of Site A fronts Ladd Road. The site is currently occupied by a
single-family dwelling, which consists of a house, garage, and outbuildings. The remainder
of the site consists mostly of fallow, unirrigated grassland that was formerly used for
agricultural purposes. Site A is located in Area II of the Del Rio Community Plan.

Site B is located on the northwest corner of McHenry Avenue and Stewart Road on the
southeastern-most portion of APN 004-102-003 and is 0.4 acre. Site B is surrounded by
single-family residences and outbuildings to the west and south, agricultural parcels to the
north and east, and a fruit stand to the southeast. The site is currently vacant and
undeveloped, except for a few power and communication poles, a large oak tree, and shrubs.
Site B is located in Area I of the Del Rio Community Plan.

10.4 Impact Analysis

10.4.1 Methodology

The analysis of land use and planning is qualitative and includes consideration of applicable
land use policies, plans, and programs. Inconsistencies with land use policies are considered
a significant impact only if those inconsistencies would result in significant adverse effects
on the physical environment. Physical impacts on the environment that could result from
inconsistency with land use plans or policies are addressed in other resource chapters
(Chapters 4 through 9 and 11). General consistency of the Proposed Project with local plans
and, policies are discussed in Impact LU-2.

10.4.2 Criteria for Determining Significance

Based on Appendix G of the CEQA Guidelines and professional expertise, the Proposed Project
would result in a significant impact related to land use and planning if it would:

- Physically divide an established community;
- Conflict with any applicable land use plan, policy, or regulation of an agency with
jurisdiction over the project (including a general plan, specific plan, local coastal
program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an
environmental effect; or
• Conflict with any applicable habitat conservation plan or natural community conservation plan.

10.4.3 Environmental Impacts

Impact LU-1: Physically Divide a Community (Less than Significant)

The Proposed Project would improve existing water pressure and volume storage deficiencies, ensure that system pressure is sufficient for firefighting, improve water system flexibility and reliability, and provide additional water supply and storage to accommodate the anticipated growth of the Del Rio community in accordance with the Del Rio Community Plan and the Stanislaus County General Plan 2015. As a result, the Proposed Project would improve the development of Del Rio, not divide it.

The construction of facilities within or adjacent to existing road rights-of-way would not physically divide established communities but could temporarily disrupt neighborhood land uses during construction. The Proposed Project does not propose any physical elements that, if constructed, would restrict access within an established community. Construction vehicles may cause short-term delays on access roads, but their presence would be temporary and would not substantially conflict with the performance of these roadways.

This impact is therefore considered less than significant.

Impact LU-2: Conflict with Land Use Plans, Policies, or Regulations (Less than Significant)

Applicable land use plans include the Del Rio Community Plan and the Stanislaus County General Plan 2015. Construction of the pipelines, storage tank, and groundwater wells would be consistent with these adopted plans. Construction of the Proposed Project would improve water supply, pressure, and fire safety in the community of Del Rio. No conflict with these plans would result from installation of pipelines, and no habitable facilities would be constructed.

As noted in Section 10.1, "Regulatory Setting," Site A is zoned A-2-40 Agriculture and Site B is zoned P-D (189) Planned Development (Stanislaus County 2015). The proposed water storage tank, pump station building, transmission pipeline, and other associated facilities proposed at Site A would constitute facilities for public utilities and, therefore, qualify as a "Tier Three" use that is allowed within the A-2 district, subject to the approval of the Stanislaus County Planning Commission. Consistent with the zoning ordinance, the City would apply for a use permit. There is no Williamson Act contract on Site A (Stanislaus County 2015) and, given that the site is currently used for residential rather than agricultural purposes, the proposed facilities likely meet the criteria of a permitted use. As such, the proposed facilities at Site A would not result in a conflict with the County's zoning district.

With respect to Site B, the P-D zoning district permits all uses that are consistent with the general plan but is subject to the approval of the development plan by the County's Planning Commission. Consistent with the zoning ordinance, and as indicated in Table 2-2 of Chapter 2, Project Description, the City would request approval from the Stanislaus County Planning Commission for development of the groundwater well and other associated facilities at Site
B. There is no Williamson Act contract on Site B and the site is currently vacant; therefore, there would be no conflict with the County's zoning district at Site B.

In conclusion, this impact regarding conflicts with applicable land use plans, policies, and regulations would be less than significant.

**Impact LU-3: Conflict with Habitat Conservation Plans or Other Land Conservation Plans (No Impact)**

The Proposed Project would not conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan because the project area does not occur within an area covered by any of these types of plans. Therefore, there would be no impact.

**10.4.4 Cumulative Impacts**

**Impact LU-4: Cumulative Land Use Impact (Less than Significant)**

The Proposed Project would not result in any significant land use impacts. There is not a significant cumulative impact due to land use in the County. Land use and planning projects are subject to planning, environmental review, and a permitting process. Through these processes, inconsistencies with relevant plans and policies would be resolved before project implementation, thereby addressing consistency with local plans and policies. Furthermore, no significant cumulative impacts were identified in the Program EIR (City of Modesto 2010). Therefore, there are no significant cumulative land use impacts, and the Proposed Project in conjunction with other past, present, and future projects would not result in a significant cumulative impact.
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11.1 Overview

This chapter describes the existing noise environment in the vicinity of the Proposed Project area, presents relevant noise and vibration regulations, identifies sensitive noise and vibration receptors that could be affected by the Proposed Project, and evaluates the potential noise and vibration impacts of the Proposed Project. Mitigation measures to avoid or reduce impacts are identified, as appropriate, including mitigation measures from the Program EIR. Additional technical information related to the noise and vibration analysis is provided in Appendix G.

11.2 Overview of Noise and Vibration Concepts and Terminology

11.2.1 Noise

In the CEQA context, noise can be defined as unwanted sound. Sound is characterized by various parameters, including the rate of oscillation of sound waves (frequency), the speed of propagation, and the pressure level or energy content (amplitude). In particular, the sound pressure level is the most common descriptor used to characterize the loudness of an ambient sound level, or sound intensity. The decibel (dB) scale is used to quantify sound intensity. Because sound pressure can vary enormously within the range of human hearing, a logarithmic scale is used to keep sound intensity numbers at a convenient and manageable level. The human ear is not equally sensitive to all frequencies in the spectrum, so noise measurements are weighted more heavily for frequencies to which humans are sensitive, creating the A-weighted decibel (dBA) scale.

The selection of a proper noise descriptor for a specific source depends on the spatial and temporal distribution, duration, and fluctuation of the noise. The noise descriptors most often encountered when dealing with traffic, community, and environmental noise are defined below (California Department of Transportation [Caltrans] 2011).

- $L_{\text{max}}$ (maximum noise level): The maximum instantaneous noise level during a specific period of time. The $L_{\text{max}}$ may also be referred to as the "peak (noise) level."

- $L_{\text{min}}$ (minimum noise level): The minimum instantaneous noise level during a specific period of time.

- $L_n$ (Statistical Descriptor): The noise level exceeded n percent of a specific period of time, generally accepted as an hourly statistic. An $L_{10}$ would be the noise level exceeded 10 percent of the measurement period.
- **L\textsubscript{eq} (equivalent noise level):** The energy mean (or average) noise level. The instantaneous noise levels during a specific period of time in dBA are converted to relative energy values. From the sum of the relative energy values, an average energy value is calculated, which is then converted back to dBA to determine the L\textsubscript{eq}. In noise environments that are determined by major noise events, such as aircraft overflights, the L\textsubscript{eq} value is heavily influenced by the magnitude and number of single events that produce the high noise levels.

- **L\textsubscript{dn} (day-night average noise level):** The 24-hour L\textsubscript{eq} with a 10-dBA "penalty" for noise events that occur during the noise-sensitive hours between 10:00 p.m. and 7:00 a.m. In other words, 10 dBA is "added" to noise events that occur in the nighttime hours, and this generates a higher reported noise level when determining compliance with noise standards. The L\textsubscript{dn} attempts to account for the fact that noise during this specific period of time is a potential source of disturbance with respect to normal sleeping hours.

- **CNEL (Community Noise Equivalent Level):** Similar to the L\textsubscript{dn} described above, but with an additional 5-dBA "penalty" added to noise events that occur during the noiselensitive hours between 7:00 p.m. and 10:00 p.m., which are typically reserved for relaxation, conversation, reading, and television. When the same 24-hour noise data are used, the reported CNEL is typically approximately 0.5 dBA higher than the L\textsubscript{dn}.

- **SENL (single-event [impulsive] noise level):** A receiver's cumulative noise exposure from a single impulsive noise event, which is defined as an acoustical event of short duration and involves a change in sound pressure above some reference value. SENLs typically represent the noise events used to calculate the L\textsubscript{eq}, L\textsubscript{dn}, and CNEL.

Community noise is commonly described in terms of the ambient noise level, which is defined as the all-encompassing noise level associated with a given noise environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level, L\textsubscript{eq}, which corresponds to a steady-state A-weighted sound level containing the same total energy as a time-varying signal over a given period (usually 1 hour). The L\textsubscript{eq} is the foundation of composite noise descriptors such as L\textsubscript{dn} and CNEL, as defined above, and correlates well with community response to noise.

In general, human sound perception is such that a change in sound level of 3 dB is barely noticeable, a change of 5 dB is clearly noticeable, and a change of 10 dB is perceived as doubling or halving the sound level. Table 11-1 presents approximate noise levels for common noise sources, measured adjacent to the source.
### Table 11-1. Examples of Common Noise Levels

<table>
<thead>
<tr>
<th>Common Outdoor Activities</th>
<th>Noise Level (dBA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jet flyover at 1,000 feet</td>
<td>110</td>
</tr>
<tr>
<td>Gas lawnmower at 3 feet</td>
<td>100</td>
</tr>
<tr>
<td>Diesel truck at 50 feet traveling 50 miles per hour</td>
<td>90</td>
</tr>
<tr>
<td>Noisy urban area, daytime</td>
<td>80</td>
</tr>
<tr>
<td>Gas lawnmower at 100 feet, commercial area</td>
<td>70</td>
</tr>
<tr>
<td>Heavy traffic at 300 feet</td>
<td>60</td>
</tr>
<tr>
<td>Quiet urban area, daytime</td>
<td>50</td>
</tr>
<tr>
<td>Quiet urban area, nighttime</td>
<td>40</td>
</tr>
<tr>
<td>Quiet suburban area, nighttime</td>
<td>30</td>
</tr>
<tr>
<td>Quiet rural area, nighttime</td>
<td>20</td>
</tr>
</tbody>
</table>

*Source: Caltrans 2009*

### 11.2.2 Vibration

Vibration is the periodic oscillation of a medium or object. The rumbling sound caused by the vibration of room surfaces is called structure-borne noise. Sources of groundborne vibrations include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) or human-made causes (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous, such as operating factory machinery, or transient, such as explosions. As is the case with airborne sound, groundborne vibrations may be described by amplitude and frequency.

Vibration amplitudes are usually expressed in peak particle velocity (PPV) or root mean square (RMS), as in RMS vibration velocity. PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal. PPV is often used in monitoring of blasting vibration because it is related to the stresses that are experienced by buildings (Federal Transit Administration [FTA] 2006). PPV and RMS are normally described in inches per second (in/sec).

Human and structural response to different vibration levels is influenced by various factors, including ground type, distance between source and receptor, duration, and the number of perceived vibration events. Table 11-2, developed by Caltrans, shows the vibration levels that would normally be required to result in damage to structures.
Table 11-2. Effects of Various Vibration Levels on People and Buildings

<table>
<thead>
<tr>
<th>Peak Particle Velocity</th>
<th>Human Reaction</th>
<th>Effect on Buildings</th>
</tr>
</thead>
<tbody>
<tr>
<td>inches/second</td>
<td>mm/second</td>
<td></td>
</tr>
<tr>
<td>0.006-0.019</td>
<td>0.15-0.30</td>
<td>Threshold of perception; possibility of intrusion</td>
</tr>
<tr>
<td>0.08</td>
<td>2.0</td>
<td>Vibrations readily perceptible</td>
</tr>
<tr>
<td>0.10</td>
<td>2.5</td>
<td>Level at which continuous vibrations begin to annoy people</td>
</tr>
<tr>
<td>0.20</td>
<td>5.0</td>
<td>Vibrations annoying to people in buildings</td>
</tr>
<tr>
<td>0.4-0.6</td>
<td>10-15</td>
<td>Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges</td>
</tr>
</tbody>
</table>

Notes: in/sec= inches per second; mm/sec= millimeters per second; PPV=peak particle velocity

Source: Caltrans 2013

Although PPV is appropriate for evaluating the potential for building damage, it is not always suitable for evaluating human response. It takes some time for the human body to respond to vibration signals. In a sense, the human body responds to average vibration amplitude. The RMS of a signal is the average of the squared amplitude of the signal, typically calculated over a period of 1 second. Like airborne sound, the RMS velocity is often expressed in decibel notation, as vibration decibels (VdB), which serves to compress the range of numbers required to describe vibration (FTA 2006). This is based on a reference value of 1 microinch per second (μin/sec).

The background vibration-velocity level in residential areas is usually approximately 50 VdB. Groundborne vibration is normally perceptible to humans at approximately 65 VdB. For most people, a vibration-velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels (FTA 2006).

Typical outdoor sources of perceptible groundborne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the groundborne vibration is rarely perceptible. The range of interest is from approximately 50 VdB, which is the typical background vibration-velocity level, to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings. Construction activities can generate...
groundborne vibrations, which can pose a risk to nearby structures. Constant or transient vibrations can weaken structures, crack façades, and disturb occupants (FTA 2006).

Construction vibrations can be transient, random, or continuous. Transient construction vibrations are generated by blasting, impact pile driving, and wrecking balls. Continuous vibrations result from vibratory pile drivers, large pumps, horizontal directional drilling, and compressors. Random vibration can result from jackhammers, pavement breakers, and heavy construction equipment. Table 11-3 describes the general human response to different levels of groundborne vibration-velocity levels.

Table 11-3. Human Response to Groundborne Vibration Levels

<table>
<thead>
<tr>
<th>Vibration Velocity (Vibration Decibels)</th>
<th>Human Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>65</td>
<td>Approximate threshold of perception for many humans</td>
</tr>
<tr>
<td>75</td>
<td>Approximate dividing line between barely perceptible and distinctly perceptible</td>
</tr>
<tr>
<td>85</td>
<td>Vibration acceptable only for a small number of events per day</td>
</tr>
</tbody>
</table>

Source: FTA 2006

11.3 Regulatory Setting

11.3.1 Federal Laws, Regulations, and Policies

USEPA's Office of Noise Abatement and Control was originally established to coordinate federal noise control activities. After its inception, the Office of Noise Abatement and Control issued the Federal Noise Control Act of 1972, establishing programs and guidelines to identify and address the effects of noise on public health, welfare, and the environment. In 1981, USEPA administrators determined that subjective issues such as noise would be better addressed at lower levels of government. Consequently, in 1982 responsibilities for regulating noise control policies were transferred to state and local governments. However, noise control guidelines and regulations contained in USEPA rulings before 1982 remain in place as promulgated by designated federal agencies, thereby allowing more individualized control for specific issues by designated federal, state, and local government agencies.

To address the human response to groundborne vibration, FTA (a division of the U.S. Department of Transportation) has set forth guidelines for maximum-acceptable-vibration criteria for different types of land uses. These include 65 VdB referenced to 1 μm/sec and based on RMS velocity amplitude for land uses where low ambient vibration is essential for interior operations (e.g., hospitals, high-tech manufacturing, laboratory facilities); 80 VdB for residential uses and buildings where people normally sleep; and 83 VdB for institutional land uses with primarily daytime operations (e.g., schools, churches, clinics, offices) (FTA 2006).

Standards have also been established to address the potential for groundborne vibration to cause structural damage to buildings. These standards were developed by the Committee of Hearing, Bio Acoustics, and Bio Mechanics (CHABA) at the request of USEPA. For fragile structures, CHABA recommends a maximum limit of 0.25 in/sec PPV (FTA 2006).
11.3.2 State Laws, Regulations, and Policies

Governor's Office of Planning and Research

The Governor's Office of Planning and Research (OPR) published the *State of California General Plan Guidelines* (OPR 2003), which provide guidance for the acceptability of projects within specific $L_{dn}$ contours. Table 11-4 summarizes acceptable and unacceptable CNEL criteria for various land use categories. Generally, residential uses (e.g., homes, mobile homes) are considered to be acceptable in areas where exterior noise levels do not exceed 60 dBA $L_{dn}$. Residential uses are normally unacceptable in areas exceeding 70 dBA $L_{dn}$ and conditionally acceptable within 55–70 dBA $L_{dn}$. Schools are normally acceptable in areas up to 70 dBA $L_{dn}$ and normally unacceptable in areas exceeding 70 dBA $L_{dn}$. Commercial uses are normally acceptable in areas up to 70 dBA CNEL. Between 67.5 and 77.5 dBA $L_{dn}$, commercial uses are conditionally acceptable, depending on the noise insulation features and the noise reduction requirements.

The guidelines also present adjustment factors that may be used to arrive at noise acceptability standards reflecting the noise control goals of the community, the particular community's sensitivity to noise, and the community's assessment of the relative importance of noise pollution. In addition, Title 24 of the California Code of Regulations establishes standards governing interior noise levels that apply to all new single-family and multifamily residential units in California. These standards require that acoustical studies be performed before construction at building locations where the existing $L_{dn}$ exceeds 60 dBA. Such acoustical studies must establish mitigation measures that will limit maximum noise levels to 45 dBA $L_{dn}$ in any habitable room. Although there are no generally applicable interior noise standards pertinent to all uses, many communities in California have adopted 45 dBA $L_{dn}$ as an upper limit on interior noise in all residential units.

California Department of Transportation

For the protection of fragile, historic, and residential structures, Caltrans recommends a more conservative threshold of 0.2 in/sec PPV for normal residential buildings and 0.08 in/sec PPV for old or historically significant structures (Caltrans 2013). These standards are more stringent than the federal standard established by CHABA, presented above.
### Table 11-4. Summary of Land Use Noise Compatibility Guidelines

<table>
<thead>
<tr>
<th>Land Use Category</th>
<th>Normally Acceptable&lt;sup&gt;1&lt;/sup&gt;</th>
<th>Conditionally Acceptable&lt;sup&gt;2&lt;/sup&gt;</th>
<th>Normally Unacceptable&lt;sup&gt;3&lt;/sup&gt;</th>
<th>Clearly Unacceptable&lt;sup&gt;4&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential—Low-Density</td>
<td>&lt;60</td>
<td>55–70</td>
<td>70–75</td>
<td>75+</td>
</tr>
<tr>
<td>Single-Family, Duplex, Mobile</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Home</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residential—Multifamily</td>
<td>&lt;65</td>
<td>60–70</td>
<td>70–75</td>
<td>75+</td>
</tr>
<tr>
<td>Transient Lodging—Motel, Hotel</td>
<td>&lt;65</td>
<td>60–70</td>
<td>70–80</td>
<td>80+</td>
</tr>
<tr>
<td>Schools, Libraries, Churches,</td>
<td>&lt;70</td>
<td>60–70</td>
<td>70–80</td>
<td>80+</td>
</tr>
<tr>
<td>Hospitals, Nursing Homes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Auditoriums, Concert Halls,</td>
<td>&lt;70</td>
<td>60–70</td>
<td>70–80</td>
<td>80+</td>
</tr>
<tr>
<td>Amphitheaters</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sports Arena, Outdoor</td>
<td>&lt;75</td>
<td>70+</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spectator Sports</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Playgrounds, Neighborhood</td>
<td>&lt;70</td>
<td>67.5–75</td>
<td>72.5+</td>
<td></td>
</tr>
<tr>
<td>Parks</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Golf Courses, Riding Stables,</td>
<td>&lt;75</td>
<td>70–80</td>
<td>80+</td>
<td></td>
</tr>
<tr>
<td>Water Recreation, Cemeteries</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Office Building, Business</td>
<td>&lt;70</td>
<td>67.5–77.5</td>
<td>75+</td>
<td></td>
</tr>
<tr>
<td>Commercial, and Professional</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industrial, Manufacturing,</td>
<td>&lt;75</td>
<td>70–80</td>
<td>75+</td>
<td></td>
</tr>
<tr>
<td>Utilities, Agriculture</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes:

dBA = A-weighted decibels; L<sub>dn</sub> = day-night average noise level

1. Specified land use is satisfactory, based on the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.
2. New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning, will normally suffice.
3. New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design. Outdoor areas must be shielded.
4. New construction or development should generally not be undertaken.

Source: OPR 2003
11.3.3 Local Plans, Policies, Regulations, and Ordinances

Stanislaus County General Plan 2015

Stanislaus County addresses noise impacts through its General Plan and Municipal Code. The Noise Element of the Stanislaus County General Plan 2015 (Stanislaus County 2016) utilizes noise exposure information to identify existing and potential noise conflicts through the Land Use Planning and Project Review processes. The Noise Element establishes exterior noise level standards and maximum allowable noise exposure from stationary noise sources at noise-sensitive land uses.

**Goal Two:** Protect the citizens of Stanislaus County from the harmful effects of exposure to excessive noise.

**Policy Two:** It is the policy of Stanislaus County to develop and implement effective measures to abate and avoid excessive noise exposure in the unincorporated areas of the County by requiring that effective noise mitigation measures be incorporated into the design of new noise generating and new noise sensitive land uses.

**Implementation Measure 1:** New development of noise-sensitive land uses will not be permitted in noise-impacted areas unless effective mitigation measures are incorporated into the project design to reduce noise levels to the following levels:

- a) For transportation noise sources such as traffic on public roadways, railroads, and airports, 60 [dBA] Ldn (or CNEL) or less in outdoor activity areas of single family residences, 65 [dBA] Ldn (or CNEL) or less in community outdoor space for multi-family residences, and 45 [dBA] Ldn (or CNEL) or less within noise sensitive interior spaces. Where it is not possible to reduce exterior noise due to these sources to the prescribed level using a practical application of the best available noise-reduction technology, an exterior noise level of up to 65 Ldn (or CNEL) will be allowed. Under no circumstances will interior noise levels be allowed to exceed 45 Ldn (or CNEL) with the windows and doors closed in residential uses.

- b) For other noise sources such as local industries or other stationary noise sources, noise levels shall not exceed the performance standards contained within Table IV-24 [reprinted as Table 11-5 below].

**Implementation Measure 2:** New development of industrial, commercial or other noise generating land uses will not be permitted if resulting noise levels will exceed 60 [dBA] Ldn (or CNEL) in noise-sensitive areas. Additionally, the development of new noise-generating land uses which are not preempted from local noise regulation will not be permitted if resulting noise levels will exceed the performance standards contained within Table IV-24 [Table 11-5 below] in areas containing residential or other noise sensitive land uses.
Table 11-5. Maximum Allowable Noise Exposure from Stationary Noise Sources

<table>
<thead>
<tr>
<th></th>
<th>Daytime 7a.m. to 10 p.m.</th>
<th>Nighttime 10 p.m. to 7 a.m.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hourly L_{eq}, dBA</td>
<td>55</td>
<td>45</td>
</tr>
<tr>
<td>Maximum level, dBA</td>
<td>75</td>
<td>65</td>
</tr>
</tbody>
</table>

Note:
Each of the noise level standards specified in Table IV-24 shall be reduced by five (5) dBA for pure tone noises, noise consisting primarily of speech or music, or for recurring impulsive noises. The standards in Table IV-24 should be applied at a residential or other noise-sensitive land use and not on the property of a noise-generating land use. Where measured ambient noise levels exceed the standards, the standards shall be increased to the ambient levels.

Source: Stanislaus County General Plan, Noise Element, Table IV-24 (2016)

Policy Three: It is the objective of Stanislaus County to protect areas of the County where noise-sensitive land uses are located.

Implementation Measure 1: Require the evaluation of mitigation measures for projects that would cause the Ldn at noise-sensitive uses to increase by 3 dBA or more and exceed the "normally acceptable" level, cause the Ldn at noise-sensitive uses to increase 5 dBA or more and remain normally acceptable, or cause new noise levels to exceed the noise ordinance limits (after adoption).

Stanislaus County Municipal Code

Noise generating sources in Stanislaus County are also regulated under the Municipal Code, Chapter 10.46 (Noise Control). Property line and construction noise limits are established in this ordinance. Property line noise limits apply to noise generation from one property to an adjacent property with the existence of a sensitive receptor (if no receptor, an exception or variance to the standards may be appropriate). These standards do not apply to construction noise that occurs between 7 a.m. and 7 p.m. The following are the applicable portions of the Stanislaus County Noise Control Ordinance, and Tables 11-6 and 11-7 (reprinting Tables A and B of the ordinance) highlight the applicable noise limits.

Section 10.46.050 Exterior Noise Level Standards

A. It is unlawful for any person at any location within the unincorporated area of the county to create any noise or to allow the creation of any noise which causes the exterior noise level when measured at any property situated in either the incorporated or unincorporated area of the county to exceed the noise level standards as set forth below:

1. Unless otherwise provided herein, the following exterior noise level standards shall apply to all properties within the designated noise zone:
Table 11-6. Exterior Noise Level Standards

<table>
<thead>
<tr>
<th>Land Use Zone</th>
<th>Maximum A-Weighted Sound Level as Measured on a Sound Level Meter (L_{\text{eq}})</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>7:00 a.m. to 9:59 p.m.</td>
</tr>
<tr>
<td>Noise Sensitive</td>
<td>45</td>
</tr>
<tr>
<td>Residential</td>
<td>50</td>
</tr>
<tr>
<td>Commercial</td>
<td>60</td>
</tr>
<tr>
<td>Industrial</td>
<td>75</td>
</tr>
</tbody>
</table>

Source: Stanislaus County Code, Chapter 10, Table A.

2. Exterior noise levels shall not exceed the following cumulative duration allowance standards:

Table 11-7. Cumulative Duration Allowance Standards

<table>
<thead>
<tr>
<th>Cumulative Duration</th>
<th>Allowance Decibels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equal to or greater than 30 minutes per hour</td>
<td>Table 6 plus 0 dBA</td>
</tr>
<tr>
<td>Equal to or greater than 15 minutes per hour</td>
<td>Table 6 plus 5 dBA</td>
</tr>
<tr>
<td>Equal to or greater than 5 minutes per hour</td>
<td>Table 6 plus 10 dBA</td>
</tr>
<tr>
<td>Equal to or greater than 1 minute per hour</td>
<td>Table 6 plus 15 dBA</td>
</tr>
<tr>
<td>Less than 1 minute per hour</td>
<td>Table 6 plus 20 dBA</td>
</tr>
</tbody>
</table>

Source: Stanislaus County Code, Chapter 10, Table B.

3. Pure Tone Noise, Speech and Music. The exterior noise level standards set forth in Table A [Table 11-6] shall be reduced by five dBA for pure tone noises, noises consisting primarily of speech or music, or reoccurring impulsive noise.

4. In the event the measured ambient noise level exceeds the applicable noise level standard above, the ambient noise level shall become the applicable exterior noise level standard.

Section 10.46.060 Specific Noise Source Standards

E. Construction Equipment. No person shall operate any construction equipment so as to cause at or beyond the property line of any property upon which a dwelling unit is located an average sound level greater than seventy-five decibels between the hours of seven p.m. and seven a.m.

Section 10.46.070 Vibration. Operating or permitting the operation of any device that creates vibration that is above the vibration perception threshold of any individual at or beyond the property boundary of the source if on private property, or at one hundred fifty feet from the source if on a public space or public right-of-way is prohibited. For the
purpose of this section, “vibration perception threshold” means the minimum ground-borne or structure-borne vibration motion necessary to cause a reasonable person to be aware of the vibration by such direct means as, but not limited to, sensation by touch or visual observation of moving objects, or a measured motion velocity of 0.01 in/sec over the range of one to one hundred Hertz.

Section 10.46.080 Exemptions. The following sources are exempt from the provisions of this chapter:

J. Public Entity or Public Utility Activity. This chapter shall not apply to construction or maintenance activities performed by or at the direction of any public entity or public utility.

City of Modesto Urban Area General Plan

The following policies of Chapter VII, “Environmental Resources and Open Spaces,” of the City of Modesto Urban Area General Plan (City of Modesto 2008) are applicable to the Proposed Project:

3. Noise Mitigation Policies – Baseline Developed Area

All development projects located within the Baseline Developed Area (and Redevelopment Area) shall be required to incorporate the following measures into the project.

a. The City of Modesto shall require construction activities to comply with the City’s noise ordinance (Title 4, Chapter 9), and noise-reducing construction practices to be implemented as conditions of approval for development projects where substantial construction-related noise impacts would be likely to occur (e.g., where construction would include extended periods of pile driving, where construction would occur over an unusually long period, or where noise-sensitive uses like homes and schools would be in the immediate vicinity, etc.). The City should consider potential mitigation measures, including, but not limited to, the following:

1. Construction equipment and vehicles should be equipped with properly operating mufflers according to the manufacturers’ recommendations. Air compressors and pneumatic equipment should be equipped with mufflers, and impact tools should be equipped with shrouds or shields.

2. Equipment that is quieter than standard equipment should be utilized.

3. Haul routes that affect the fewest number of people should be selected.

b. During City review of a proposed project consistent with the updated General Plan, the City of Modesto shall use the following guidelines to decide whether to require additional study and/or mitigation for outdoor activity areas typically defined as common outdoor recreational areas, as discussed below:

1. Single-family Residential uses: the noise would exceed 65 dBA, Ldn at outdoor activity areas. Outdoor activity areas for single-family residential uses are defined as backyards.
2. Other proposed uses: the noise/land compatibility guidelines (i.e., those noise levels that are "conditionally acceptable," "normally unacceptable," or "clearly unacceptable") shown on Table VII-2. For multi-family residential uses, the exterior noise level standard shall be applied at the common outdoor recreation area, such as pools, play areas, or tennis courts. Where such areas are not provided in multi-family residential uses, the standards shall be applied at individual patios and balconies of the development. Outdoor activity areas of transient lodging facilities include swimming pool and picnic areas.

e. For proposed non-residential uses, where noise mitigation is deemed necessary for new developments to meet the exterior noise land use compatibility guidelines (Table VII-2), the City of Modesto shall require developers to demonstrate that the proposed development will incorporate measures to reduce noise impacts to a less-than-significant level, as follows:

1. Where feasible and consistent with General Plan policy, incorporate setbacks and/or locate less-sensitive uses between a noise source and noise-sensitive uses.

2. Provide (to the extent feasible and consistent with General Plan policy) berms, barriers, or other techniques to shield noise-sensitive uses from noise sources.

3. Incorporate construction techniques to achieve specified interior noise limits. One source that can be used for such specifications is the Noise Control Manual for Residential Buildings (Builder's Guide) by David A. Harris (1997).

h. The City of Modesto shall limit trucking to specific routes, times, and speeds that minimize adverse effects to sensitive land uses such as schools and residential areas.

City of Modesto Code of Ordinances

See Appendix G for a complete list of applicable City ordinances related to noise and vibration.

11.4 Environmental Setting

Sensitive land uses generally are defined as those uses where exposure to noise and vibration would result in adverse effects, as well as uses where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both noise levels (interior and exterior) and vibration levels. Other sensitive land uses include schools, hospitals, convalescent facilities, parks, hotels, places of worship, libraries, and other uses where low noise and vibration levels are essential.

The land uses in the immediate vicinity of the project sites are residential and agricultural. Existing nearby sensitive receptors include rural residential dwellings south of Ladd Road, adjacent to Site A, and a single residential dwelling located west of McHenry Avenue, adjacent
to Site B. Refer to Figures 11-1 and 11-2 for the general locations of existing sensitive receptors with respect to the project sites.

**Existing Noise and Vibration Sources**

The existing dominant noise sources in the vicinity of the project sites are influenced by surface transportation noise emanating from roadway vehicle traffic on Ladd Road and McHenry Avenue. Noise from agricultural uses adjacent to both project sites and from outdoor activities (e.g., people talking, dogs barking, operation of landscaping and agricultural equipment) also contributes to the existing noise environment. Refer to Figures 2-2 and 2-3 in Chapter 2, *Project Description*, for general locations of existing land uses and their respective locations relative to noise sources (i.e., Ladd Road and McHenry Avenue).

Existing vehicle traffic noise levels were modeled using the Federal Highway Administration (FHWA) Traffic Noise Model and traffic data obtained from traffic counts in Google Earth (Google Earth 2015). Additional input data included day/night percentages of autos, medium and heavy trucks, vehicle speeds, ground attenuation factors, and roadway widths. Table 11-8 summarizes the modeled hourly $L_{eq}$ noise levels at 100 feet from the roadway centerline and distance from the roadway centerline to the 60-, 65-, and 70-dBA $L_{eq}$ contours for existing average daily traffic (ADT) volumes from Google Earth.

An ambient-noise survey was conducted September 23-29, 2015, to document the existing noise conditions at various locations in the vicinity of the project sites. The 24-hour continuous long-term noise-level measurements were taken in accordance with the American National Standards Institute’s acoustic standards at two locations, one at Site A in the front yard of 816 Ladd Road and one at Site B near the pool in the backyard of 117 Stewart Road. Short-term (15-minute) ambient noise measurements were also conducted at various locations near both sites. Instrumentation consisted of a Larson Davis Laboratories (LDL) Model 820 and Model 824 precision integrating sound-level meter. The systems were calibrated before and after use with an LDL CAL200 acoustical calibrator to ensure that measurements would be accurate. Refer to Figures 11-1 and 11-2 for ambient-noise monitoring locations.

**Table 11-8. Modeled Noise Levels for Existing Traffic in the Project Area**

<table>
<thead>
<tr>
<th>Roadway</th>
<th>Segment</th>
<th>$L_{eq}$ 100 Feet from Roadway Centerline (dBA)</th>
<th>Distance (feet) from Roadway Centerline to $L_{eq}$ Contour</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>From</td>
<td>To</td>
<td>70 dBA</td>
</tr>
<tr>
<td>Ladd Road</td>
<td>Tully Road</td>
<td>St. John Road</td>
<td>67</td>
</tr>
<tr>
<td></td>
<td>St. John Road</td>
<td>McHenry Avenue</td>
<td>66</td>
</tr>
<tr>
<td>McHenry Avenue</td>
<td>Ladd Road</td>
<td>Stewart Road</td>
<td>67</td>
</tr>
<tr>
<td></td>
<td>Stewart Road</td>
<td>Hogue Road</td>
<td>67</td>
</tr>
<tr>
<td>Stewart Road</td>
<td>McHenry Avenue</td>
<td>Del Cielo Way</td>
<td>56</td>
</tr>
</tbody>
</table>

Notes: dBA = A-weighted decibels; $L_{dn}$ = day-night average noise level.

Source: Modeled by AECOM in 2015
Atmospheric conditions were observed during long-term noise-level measurement sessions. Wind speeds typically ranged from 3 to 12 miles per hour. Temperatures averaged from 62°F to 89°F, with average humidity of 46 percent. These atmospheric conditions were verified using historical data from the Weather Underground website (www.wunderground.com).

The $L_{dn}$, $L_{eq}$, and values for each ambient-noise measurement location are summarized in Table 11-9. Refer to Appendix G for a complete listing of hourly noise levels and modeled $L_{dn}$ for each noise measurement location. Table 11-10 summarizes the short-term ambient noise measurements.

The noise levels shown in Table 11-9 indicate medium ambient noise levels at Site A and medium to high ambient noise levels at Site B. Most of the noise levels at Sites A and B result from roadway vehicle traffic along Ladd Road and McHenry Avenue, respectively. The noise levels shown in Table 11-10 were utilized for calibrating the FHWA Traffic Noise Model.

### 11.4.1 Criteria for Determining Significance

The significance criteria for this analysis are based on the environmental checklist in Appendix G of the CEQA Guidelines and applicable jurisdictional noise standards. The Proposed Project would have a significant effect related to noise if it would:

- Expose persons to or generation of noise levels in excess of standards established in a local general plan or noise ordinance or in the applicable standards of other agencies;

- Expose persons to or generation of excessive ground-borne vibration or ground-borne noise levels;

- Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;

- Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;

- For a project located within an airport land use plan area, or, where such a plan has not been adopted, within two miles of a public airport or public-use airport, would the project expose people residing or working in the project area to excessive noise levels; or

- For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels.

The Proposed Project sites (Sites A and B) would not be located within an airport compatibility land use plan with an adopted 60 dBA $L_{dn}$ noise contour. The Proposed Project would not expose new receptors or workers on the project site to excessive airport noise levels. Therefore, these issues are not evaluated further.
Figure 11-1. Site A, Ambient Noise Monitoring Locations
Figure 11-2. Site B, Ambient Noise Monitoring Locations
Table 11-9. **Summary of Measured Long-term 24-hour Ambient Noise Survey Levels**

<table>
<thead>
<tr>
<th>Date</th>
<th>L&lt;sub&gt;dn&lt;/sub&gt;</th>
<th>L&lt;sub&gt;eq&lt;/sub&gt;</th>
<th>L&lt;sub&gt;max&lt;/sub&gt;</th>
<th>L&lt;sub&gt;eq&lt;/sub&gt;</th>
<th>L&lt;sub&gt;max&lt;/sub&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Site A - Front yard of 816 Ladd Road</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>September 23-24, 2015</td>
<td>56</td>
<td>51</td>
<td>69</td>
<td>49</td>
<td>64</td>
</tr>
<tr>
<td>September 24-25, 2015</td>
<td>57</td>
<td>51</td>
<td>72</td>
<td>50</td>
<td>65</td>
</tr>
<tr>
<td>September 25-26, 2015</td>
<td>54</td>
<td>50</td>
<td>72</td>
<td>48</td>
<td>69</td>
</tr>
<tr>
<td>September 26-27, 2015</td>
<td>55</td>
<td>52</td>
<td>77</td>
<td>47</td>
<td>66</td>
</tr>
<tr>
<td>September 27-28, 2015</td>
<td>55</td>
<td>50</td>
<td>69</td>
<td>49</td>
<td>71</td>
</tr>
<tr>
<td>September 28-29, 2015</td>
<td>54</td>
<td>50</td>
<td>73</td>
<td>46</td>
<td>67</td>
</tr>
<tr>
<td>September 29-30, 2015</td>
<td>54</td>
<td>50</td>
<td>67</td>
<td>47</td>
<td>71</td>
</tr>
<tr>
<td><strong>Site B - Backyard of 117 Stewart Road</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>September 23-24, 2015</td>
<td>62</td>
<td>58</td>
<td>75</td>
<td>55</td>
<td>70</td>
</tr>
<tr>
<td>September 24-25, 2015</td>
<td>63</td>
<td>58</td>
<td>77</td>
<td>56</td>
<td>79</td>
</tr>
<tr>
<td>September 25-26, 2015</td>
<td>63</td>
<td>58</td>
<td>87</td>
<td>56</td>
<td>79</td>
</tr>
<tr>
<td>September 26-27, 2015</td>
<td>62</td>
<td>57</td>
<td>79</td>
<td>55</td>
<td>76</td>
</tr>
<tr>
<td>September 27-28, 2015</td>
<td>62</td>
<td>58</td>
<td>78</td>
<td>56</td>
<td>73</td>
</tr>
<tr>
<td>September 28-29, 2015</td>
<td>62</td>
<td>58</td>
<td>80</td>
<td>55</td>
<td>73</td>
</tr>
<tr>
<td>September 29-30, 2015</td>
<td>62</td>
<td>58</td>
<td>77</td>
<td>55</td>
<td>73</td>
</tr>
</tbody>
</table>

**Notes:** dB = A-weighted decibels; L<sub>dn</sub> = day-night average noise level; L<sub>eq</sub> = the equivalent hourly average noise level; L<sub>max</sub> = maximum noise level.

Monitoring locations correspond to those depicted in Figures 11-1 and 11-2.

*Source: Data collected by AECOM in 2015*
Table 11-10. Short-term Ambient Noise Levels Monitored during Daytime

<table>
<thead>
<tr>
<th>Site</th>
<th>Location</th>
<th>Date/Time</th>
<th>Noise Sources</th>
<th>A-weighted Sound Level (dBA)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Leq</td>
</tr>
<tr>
<td>Site A Ladd Road</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Backyard of 706 Ladd Road</td>
<td>September 30, 2015</td>
<td>Traffic on Ladd Road</td>
<td>61</td>
</tr>
<tr>
<td>2</td>
<td>Behind 625 Ladd Road</td>
<td>September 30, 2015</td>
<td>Traffic on Ladd Road</td>
<td>68</td>
</tr>
<tr>
<td>Site B McHenry Avenue</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>7008 Hartley Court (vacant land)</td>
<td>September 30, 2015</td>
<td>Traffic on McHenry Avenue</td>
<td>60</td>
</tr>
<tr>
<td>4</td>
<td>Front yard of 201 Stewart Road</td>
<td>September 30, 2015</td>
<td>Traffic on McHenry Avenue</td>
<td>62</td>
</tr>
</tbody>
</table>

Notes: dB = A-weighted decibels; Leq = the equivalent hourly average noise level; Lmax = maximum noise level. Monitoring locations correspond to those depicted in Figures 11-1 and 11-2.

Source: Data collected by AECOM in 2015

Generally, a project may have a significant effect on the environment if it would substantially increase the ambient noise levels for adjoining areas or expose people to severe noise levels. In practice, more specific professional standards have been implemented. These standards state that a noise impact would be significant if it would generate noise that would conflict with local planning criteria or ordinances or substantially increase noise levels at noise-sensitive land uses.

For the Proposed Project, the significance of anticipated noise effects is based on a comparison between predicted noise levels and noise criteria defined by Stanislaus County (Site A) or the City of Modesto (Site B). For this project, noise impacts would be significant if existing or proposed noise-sensitive land uses would be exposed to noise levels in excess of the County of Stanislaus General Plan Noise Element (Stanislaus County 2016), Stanislaus County Municipal Code standards, City of Modesto General Plan Noise Element (City of Modesto 2008), or City of Modesto Noise Ordinance standards described in Section 11.3, "Regulatory Setting," or if implementing the Proposed Project would increase ambient noise levels at noise-sensitive land uses in excess of those described above.

As stated in Stanislaus County Code Section 10.46.050, Exterior Noise Level Standards, in the event the measured ambient noise level exceeds the applicable noise level standard identified above, the ambient noise level shall become the applicable exterior noise level standard. For Site A, the measured ambient daytime hourly Leq is 50 dBA and the nighttime hourly Leq is 46 dBA. For Site B, the measured ambient daytime hourly Leq is 57 dBA and the nighttime hourly Leq is 55 dBA. These standards do not apply to construction noise that occurs between 7 a.m. and 7 p.m.
Unless otherwise stated, standards for interior noise levels would not be exceeded if exterior noise-level standards are achieved.

The following considerations apply to the first four significance thresholds:

- **Noise impacts from operation of Proposed Project facilities:** For all affected noise-sensitive uses, noise that would be generated by operation of Proposed Project facilities would be significant if it would cause the overall exterior noise level to exceed the "normally acceptable" noise standard compatible with exterior land uses (i.e., at Site A - 50 dBA $L_{eq}$ daytime or 46 dBA $L_{eq}$ nighttime at the noise-sensitive receptor property line; at Site B - 57 dBA $L_{eq}$ daytime or 55 dBA $L_{eq}$ nighttime at the noise-sensitive receptor property line) or if it would result in an increase of ambient noise levels by 3 dBA.

- **Noise impacts from increased daily traffic:** For all affected noise-sensitive uses, noise generated by an increase in daily traffic volumes caused by the Proposed Project would be significant if it would cause the overall exterior noise level to exceed the "normally acceptable" noise standard compatible with exterior land uses (i.e., 60 dBA $L_{dn}/CNE$ at outdoor activity areas), exceed the interior noise standard (i.e., 45 dBA $L_{dn}/CNE$ in any inhabitable room), or result in an increase of ambient noise levels by 3 dBA.

- **Exposure of sensitive receptors to, or generation of, excessive vibration levels:** Short- and long-term vibration impacts would be significant if project construction or operation would result in the exposure of sensitive receptors to, or would generate, vibration levels that exceed Caltrans' recommended standard of 0.2 in/sec PPV for the prevention of structural damage to normal buildings or the FTA's maximum acceptable vibration standard of 80 VdB regarding human response for residential uses (i.e., annoyance) at any nearby existing sensitive land uses.

- **Temporary, short-term noise impacts from construction:** Temporary, short-term noise impacts caused by construction would be significant if construction-generated noise levels exceed the Stanislaus County Municipal Code Specific Noise Source Standards Subsection E (Section 10.46.060, "Construction Equipment") and the City of Modesto Code Ordinances (Section 4-9.103, "Enumeration"). Project-related construction noise at exterior uses of residential properties (buildings) in the project vicinity would be considered significant if it would exceed 75 dBA during weekday nighttime hours of 7 p.m. to 7 a.m.

### 11.4.2 Methodology

Project details and observations during on-site noise monitoring were used to determine potential locations of sensitive receptors and potential noise-generating land uses on the project sites. Noise-sensitive land uses and major noise sources near the project sites were identified based on existing documentation (e.g., equipment noise levels and attenuation rates) and site reconnaissance data. Potential noise impacts from proposed stationary noise sources were assessed based on existing documentation (e.g., a noise impact assessment of Well 315 conducted by Acoustical Engineering Consultants in 2012) and site reconnaissance data.
To assess the impacts of potential short-term construction noise on sensitive receptors, the sensitive receptors and their relative exposure (considering intervening building façades and distance) were identified to assess the impacts of potential short-term construction noise on sensitive receptors. The construction noise that would be generated by the Proposed Project was predicted by using the Federal Transit Noise and Vibration Impact Assessment methodology (FTA 2006). The emission noise levels referenced and the usage factors were based on the FHWA Roadway Construction Noise Model. The noise levels of the specific construction equipment that would be used and the resulting noise levels where sensitive receptors are located were calculated.

Traffic noise modeling was conducted based on average daily traffic volumes obtained from traffic counts in Google Earth (2015). The FHWA Highway Traffic Noise Prediction Model (FHWA RD 77-108) was used to calculate traffic noise levels along affected roadways based on the trip distribution estimates from the field-counted traffic volumes available in Google Earth Pro from 2007 (Google Earth 2015). The project's contribution to the existing traffic noise levels along area roadways was determined by comparing the predicted noise levels at a reference distance of 100 feet from the roadway centerline for cumulative conditions with and without project-generated traffic.

Potential noise impacts from long-term (operation-related) stationary sources were assessed based on existing documentation (e.g., a noise impact assessment of Well 315 conducted by Acoustical Engineering Consultants in 2012) and site reconnaissance data. This analysis also includes an evaluation of the proposed noise-generating uses that could affect noise-sensitive receptors near the project site.

To assess the land use compatibility of the Proposed Project with on-site noise levels, predicted operational noise contours were used to determine whether development of the Proposed Project would exceed the applicable noise criteria.

Groundborne vibration impacts were qualitatively assessed based on existing documentation (e.g., vibration levels produced by specific construction equipment operations) and the distance of sensitive receptors from the given source.

11.4.3 Environmental Impacts

Impact NOISE-1: Substantial Temporary or Periodic Increase in Ambient Noise Levels (Less than Significant with Mitigation)

Construction and maintenance activities for the Proposed Project would generate short-term, temporary, and intermittent noise at adjacent noise-sensitive receptors. Noise levels generated during construction and maintenance would fluctuate depending on the particular type, number, and duration of use of various pieces of equipment. Noise from construction and maintenance activities is typically considered point-source noise. Noise levels drop off at a rate of 6 dBA per doubling of distance over hard site surfaces such as streets and parking lots, and at approximately 7.5 dBA per doubling of distance over soft site surfaces such as grass fields and open terrain with vegetation (FTA 2006).

Equipment required for construction and maintenance activities for the Proposed Project would likely consist of a paver, backhoe, bulldozer, tractor, well drilling equipment, and various trucks. The maximum noise levels produced by one of these types of equipment, at a
distance of 50 feet and without noise controls, could range from 80 to 85 dBA $L_{eq}$ (Table 11-11). Noise levels vary for individual pieces of equipment because equipment comes in different sizes and with different engines. Noise levels also vary as a function of the activity level or duty cycle. Typical construction projects, with equipment moving from one point to another, including work breaks and idle time, have long-term noise averages that are lower than many short-term noise events. In addition, because of the dynamic nature of a construction site, noise levels are calculated from the center of the activity. Using these parameters, project-related construction noise was estimated using the FHWA Roadway Construction Noise Model (FHWA 2006), including simultaneous operation of multiple pieces of equipment, with the results shown in Table 11-11.

Construction equipment noise levels at 50 feet would be as high as 87 dBA $L_{eq}$ during the varying construction phase activities (Table 11-11). Assuming standard spherical spreading loss (a reduction of 6 dB per doubling of distance) and the highest unmitigated construction noise level of 87 dBA $L_{eq}$ at 50 feet, the Proposed Project construction noise levels are estimated to range between 67 and 87 dBA $L_{eq}$ at the nearest noise-sensitive uses, as shown in Table 11-12. These results represent the worst-case, conservative noise exposure because they do not consider noise attenuation associated with intervening structures and atmospheric absorption. Therefore, actual construction equipment noise levels at the nearest residences could be lower. Construction activities are not expected to occur on weekends or legal holidays, nor would nighttime work be conducted.

Table 11-12 shows that the resulting predicted interior noise levels at the closest noise-sensitive receptor could be as high as 62 dBA at residential uses west of Site B, specifically the residence at 117 Stewart Road. Stanislaus County Municipal Code Specific Noise Source Standards Subsection E (Section 10.46.060, "Construction Equipment") and the City of Modesto Code Ordinances (Section 4-9.103, "Enumeration") were used for this analysis. Project-related construction noise at exterior uses of residential properties (buildings) in the project vicinity would be considered significant if it would exceed 75 dBA during weekday nighttime hours of 7 p.m. to 7 a.m. These are the most restrictive criteria established by the County and City and provide the most conservative assessment of noise impacts at existing noise-sensitive uses in the project vicinity.

Construction noise associated with the Proposed Project is predicted to dominate the existing noise environment at adjacent receptors during all construction phases. Construction activities would be exempt from noise standards when operating during allowable daytime hours outlined above. However, because noise levels would increase by 3 dB or more, there is the potential for noise impacts at the residential uses adjacent to the Proposed Project due to projected-related construction noise.
Table 11-11. Construction Phases and Calculated Noise Levels

<table>
<thead>
<tr>
<th>Phase</th>
<th>Equipment Type</th>
<th>Noise Level at 50 Feet</th>
<th>Lmax dBA</th>
<th>Leq dBA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site Preparation Phase</td>
<td>Excavator</td>
<td></td>
<td>85</td>
<td>81</td>
</tr>
<tr>
<td></td>
<td>Dump Truck</td>
<td></td>
<td>84</td>
<td>80</td>
</tr>
<tr>
<td></td>
<td>Dozer</td>
<td></td>
<td>85</td>
<td>81</td>
</tr>
<tr>
<td>Maximum and Combined Noise Level</td>
<td></td>
<td></td>
<td>85</td>
<td>87</td>
</tr>
<tr>
<td>Well Drilling</td>
<td>Drill Rig Truck</td>
<td></td>
<td>84</td>
<td>77</td>
</tr>
<tr>
<td></td>
<td>Jack Hammer</td>
<td></td>
<td>85</td>
<td>78</td>
</tr>
<tr>
<td></td>
<td>Generator</td>
<td></td>
<td>82</td>
<td>79</td>
</tr>
<tr>
<td>Maximum and Combined Noise Level</td>
<td></td>
<td></td>
<td>85</td>
<td>86</td>
</tr>
<tr>
<td>Pipeline</td>
<td>Excavator</td>
<td></td>
<td>85</td>
<td>81</td>
</tr>
<tr>
<td></td>
<td>Crane</td>
<td></td>
<td>85</td>
<td>77</td>
</tr>
<tr>
<td></td>
<td>Dozer</td>
<td></td>
<td>85</td>
<td>81</td>
</tr>
<tr>
<td>Maximum and Combined Noise Level</td>
<td></td>
<td></td>
<td>85</td>
<td>87</td>
</tr>
<tr>
<td>Site Restoration</td>
<td>Paver</td>
<td></td>
<td>85</td>
<td>82</td>
</tr>
<tr>
<td></td>
<td>Concrete Mix Truck</td>
<td></td>
<td>85</td>
<td>81</td>
</tr>
<tr>
<td></td>
<td>Man Lift</td>
<td></td>
<td>85</td>
<td>78</td>
</tr>
<tr>
<td>Maximum and Combined Noise Level</td>
<td></td>
<td></td>
<td>85</td>
<td>87</td>
</tr>
</tbody>
</table>

Notes: dB = decibels; Leq = equivalent sound level (the sound energy averaged over a continuous 15-minute to 1-hour period); Lmax = maximum instantaneous sound level

Source: Data compiled by AECOM in 2015
Table 11-12. Construction Equipment Noise Levels at the Nearest Noise-sensitive Uses

<table>
<thead>
<tr>
<th>Receiver</th>
<th>Location</th>
<th>Shortest Distance (feet) between Noise-Sensitive Uses and Proposed Construction Area</th>
<th>Noise Level, dBA Leq</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Exterior</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Interior</td>
</tr>
<tr>
<td>LT-01</td>
<td>Front yard of 816 Ladd Road</td>
<td>130</td>
<td>50</td>
</tr>
<tr>
<td>LT-02</td>
<td>Beside pool in backyard of 117 Stewart Road</td>
<td>50</td>
<td>57</td>
</tr>
<tr>
<td>ST-01</td>
<td>Backyard of 706 Ladd Road</td>
<td>100</td>
<td>61</td>
</tr>
<tr>
<td>ST-02</td>
<td>Behind 625 Ladd Road</td>
<td>500</td>
<td>68</td>
</tr>
<tr>
<td>ST-03</td>
<td>7008 Hartley Court (vacant land)</td>
<td>100</td>
<td>60</td>
</tr>
<tr>
<td>ST-04</td>
<td>Front yard of 201 Stewart Road</td>
<td>300</td>
<td>62</td>
</tr>
</tbody>
</table>

Notes: dBA = A-weighted decibels; Leq = equivalent sound level (the sound energy averaged over a continuous 13-minute to 1-hour period); NA = Not Applicable.

1. 15 dB reduction for interior noise level with doors/windows open (USEPA 1974)
2. 25 dB reduction for interior noise level with doors/windows closed (USEPA 1974)

Source: Data compiled by AECOM in 2015

The Program EIR identified construction noise as less than significant if no nighttime work is proposed, and identified Mitigation Measures NOISE-1: Employ Noise-reducing Construction Practices and NOISE-2: Limit Nighttime Construction Noise to reduce project-related construction impacts to a less-than-significant level. Mitigation Measure NOISE-2: Limit Nighttime Construction Noise was identified in the Program EIR but is not applicable to the Proposed Project because nighttime work is not proposed. Mitigation Measure NOISE-1 has been modified to ensure that construction activities associated with the Proposed Project would comply with the County’s Municipal Code and the City’s Code of Ordinances noise standards. Furthermore, the measure has been modified because nighttime construction work is not anticipated for this project, eliminating the potential for sleep disturbances, and noise level standards do not apply to construction noise that occurs between the daytime hours of 7 a.m. and 7 p.m. Therefore, with implementation of Mitigation Measure NOISE-1 (Employ Noise-Reducing Construction Practices) as modified below from the Program EIR, temporary, short-term project-generated construction noise would be considered less than significant.
Mitigation Measure NOISE-1: Employ Noise-reducing Construction Practices.

The following measures shall be implemented by the City or its contractor to reduce adverse effects from construction noise:

- At least two weeks prior to the start of construction, provide written notification to the potentially affected property owners and residents within 500 feet of the project site, identifying the type, duration, and frequency of construction activities to residences directly exposed to the project noise. Notification of heavy construction activities shall include anticipated dates and hours during which construction activities are anticipated to occur. Notification materials shall also identify a mechanism for residents to register complaints with the City through contact information, including a daytime telephone number, for the project representative to be contacted in the event that construction noise levels are deemed excessive, overly intrusive or construction occurs outside the permitted hours. Recommendations to assist noise-sensitive land uses in reducing interior noise levels (e.g., closing windows and doors) shall be included in the notification.

- Designate a disturbance coordinator and conspicuously post this person's number around the project sites, in adjacent public spaces, and in construction notifications. The disturbance coordinator shall be responsible for responding to any complaints about construction activities. The disturbance coordinator shall receive all public complaints about construction disturbances and be responsible for determining the cause of the complaint and implementation of feasible measures to be taken to alleviate the problem.

- Locate stationary or fixed construction equipment (e.g., compressors and generators), construction staging and stockpiling areas, and construction vehicle routes as far as feasible from noise-sensitive receptors.

- Prohibit the start-up of machines or equipment before 7 a.m. and after 7 p.m. Monday through Saturday and before 9 a.m. and after 5 p.m. on Sunday.

- Prohibit use of materials and equipment deliveries before 7 a.m. and after 7 p.m., Monday through Saturday and before 9 a.m. and after 5 p.m. on Sunday.

- Restrict the use of bells, whistles, alarms, and horns to safety-warning purposes.

- Equip all construction equipment with noise-reduction devices such as mufflers to minimize construction noise and operate all internal combustion engines with exhaust and intake silencers.

- Use noise-reducing enclosures around stationary noise generating equipment.

- To the extent feasible, the simultaneous operation of multiple construction equipment shall be limited.
• Install temporary barrier between noise sources and noise sensitive receptors, or the use of intervening structures (i.e.; on-site construction trailer, stockpiles).

**Impact NOISE-2: Exposure of Persons to, or Generation of, Excessive Groundborne Vibration or Groundborne Noise Levels during Project Construction (Less than Significant)**

Caltrans vibration standards state that new development should minimize vibration impacts to adjacent uses during demolition and construction activities. A vibration limit of 0.20 in/sec PPV was used to evaluate the potential for cosmetic damage to buildings of normal, conventional construction. A vibration level of 85 VdB was used to evaluate human response to groundborne vibration levels, as shown in Table 11-3 above.

Groundborne vibration would occur during construction of the Proposed Project due to equipment operation and transport of construction equipment and materials to and from the project sites. Table 11-13 shows the results of the construction vibration analysis related to the Proposed Project.

**Table 11-13. Project Construction Vibration Levels at Closest Sensitive Receptors**

<table>
<thead>
<tr>
<th>Receiver</th>
<th>Location</th>
<th>Shortest Distance (feet) Between Noise-Sensitive Uses and Proposed Construction Areas</th>
<th>Project Vibration Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>LT-01</td>
<td>Front yard of 816 Ladd Road</td>
<td>130</td>
<td>0.008</td>
</tr>
<tr>
<td>LT-02</td>
<td>Beside pool in backyard of 117 Stewart Road</td>
<td>50</td>
<td>0.031</td>
</tr>
<tr>
<td>ST-01</td>
<td>Backyard of 706 Ladd Road</td>
<td>100</td>
<td>0.011</td>
</tr>
<tr>
<td>ST-02</td>
<td>Behind 625 Ladd Road</td>
<td>500</td>
<td>0.001</td>
</tr>
<tr>
<td>ST-03</td>
<td>7008 Hartley Court (vacant land)</td>
<td>100</td>
<td>0.011</td>
</tr>
<tr>
<td>ST-04</td>
<td>Front yard of 201 Stewart Road</td>
<td>300</td>
<td>0.002</td>
</tr>
</tbody>
</table>

*Notes: PPV = Peak particle velocity; VdB = velocity level in decibels and based on the root mean square velocity amplitude.
Source: FTA 2006

Operation of heavy-duty construction equipment would produce groundborne vibrations measuring approximately 87 VdB (0.089 in/sec PPV) at a distance of 25 feet (FTA 2006; Caltrans 2004). For Site A, the distance between proposed construction activities and the closest acoustically sensitive use (706 Ladd Road residence) would be approximately 100 feet (Table 11-13). Assuming a standard reduction of 9 VdB per doubling of distance (FTA 2006), the project-related construction vibration level at 706 Ladd Road would be approximately 69 VdB (0.011 in/sec PPV). This level of vibration is well below the Caltrans vibration standard of 0.2 in/sec PPV for residential buildings. Thus, construction activities at Site A would not expose persons to, or generate, excessive groundborne vibration or...
groundborne noise levels. As a result, project-generated vibration levels at Site A would be less than significant.

For Site B, the distance between proposed construction activities and the closest acoustically sensitive uses (117 Stewart Road residence) would be approximately 50 feet (Table 11-13). Assuming a standard reduction of 9 VdB per doubling of distance (FTA 2006), the project-related construction vibration level at 117 Stewart Road would be approximately 78 VdB (0.03 in/sec PPV). This level of vibration is well below the Caltrans vibration standard of 0.2 in/sec PPV for residential buildings. Thus, construction activities at Site B would not expose persons to, or generate, excessive groundborne vibration or groundborne noise levels. As a result, project-generated vibration levels at Site B would be less than significant.

**Impact NOISE-3: Substantial Permanent Increase in Ambient Noise Levels (Less than Significant with Mitigation)**

Long-term operation of the Proposed Project would result in the operation of new noise-generating stationary equipment. The Proposed Project would include the long-term operation of water wells and pumps, standby generators, and booster pump stations at Site A and Site B. Pumping frequency and duration would vary throughout the year depending upon need and based upon system pressure or tank level, ranging from as much as 20 hours per day during the summer months to as few as 2 hours per day in the winter. Pumping is expected to occur for an annual average of 8 hours per day.

**Site A: Ladd Road**

Site A would consist of an aboveground groundwater storage tank, water well and pump, standby generator, and booster pump station. The pump station building would be a masonry block building housing the production well, booster pumps, disinfection equipment, ancillary valves and flow meters, and electrical equipment.

The pump station building would have various sound attenuation features, including wall panels, fans, and louvers to reduce noise related to removing heat generated within the pump and electrical rooms. Metal wall panels would achieve a noise reduction coefficient of approximately 0.90. The pump station building would be ventilated by one side-wall-mounted exhaust fan with a capacity of 4,500 cubic feet per minute. Exhaust fans would have the lowest possible noise measurement unit. Ducting in the building would be designed to minimize noise. The intake and exhaust pump station louvers would be sized to minimize airflow noise.

Production well pumping would vary as previously described. The Proposed Project includes up to four 60-hp electric pumps. Two pumps would be on-duty, one would be for standby, and the fourth pump is intended for future buildout. The well and booster pumps would be housed inside the pump station building.

A standby diesel generator and an aboveground diesel storage tank would be installed on a concrete pad. The generator would be equipped with critical grade mufflers for the exhaust system and level 2 sound housing to achieve an approximate sound level of 75 dB within 30 feet of the unit.
Operational noise generated at Site A is assumed to be similar to operational noise at Well 315 (AEC 2012). Therefore, operational noise at Site A, including future use of a fourth pump, would be reduced through site design, specifically building materials of the fully enclosed pump station building, surface treatments, and acoustically designed louvers, which would reduce noise levels from 71 dBA at 23 feet to 46 dBA at 30 feet, which would achieve and not exceed the City’s noise thresholds. Project-related operational noise at Site A would be considered exempt from Stanislaus County noise regulations because the Proposed Project is a public utility. However, with the incorporated site design features, operational noise would comply with the County's Municipal Code and the City's Code of Ordinances noise standards. Thus, the project would not result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. As a result, project-generated operational noise levels for Site A would be less than significant.

Site B: McHenry Avenue

Site B would encompass approximately 0.4 acre. The facilities at this site would consist of a production well and pump, standby generator, disinfection facilities, connecting lines to the City’s existing distribution system down McHenry Avenue, and space for a future treatment unit and treatment filters. These facilities would be fully enclosed by a 12-foot-tall concrete block wall with a 24-foot-wide gate; there would be no roof over these facilities. Equipment at the site would consist of an aboveground pump motor, engine generator, controls, chlorinator, and associated plumbing and equipment.

The production well pump and standby generator are the two main sources of operational noise associated with the well. The analysis assumed an aboveground pump. To evaluate potential effects of the Proposed Project, noise levels from an existing City well (Well 62 at Freedom Park) with similar equipment were evaluated (AEC 2012). Well 62 uses a Goulds (ITT Corporation) pump with a 200-hp Emerson motor and a 300-kW standby diesel generator inside a Quiet Site Level II enclosure by Cummins. Noise levels from the Cummins generator measured 71 dBA at a distance of 23 feet diagonally from the air intake of the unit. The pump noise measured 72 dBA at a distance of 18 feet from the motor (70 dBA at 23 feet), with a sound spectrum in the higher frequencies. The generator at Well 62 dominated the existing background noise levels, while the pump-only operational noise was much less noticeable, raising noise levels by 1 dBA. Subjectively, pump "whine" noise was barely audible over background noise levels (AEC 2012). Similar noise levels were assumed to be generated by the Proposed Project at Site B.

Based on the proposed site plan for Site B, the nearest adjacent residential property, at 117 Stewart Road, is approximately 30 feet west of the proposed location of the pump motor. The topography of the site is such that the pump, generator, and 12-foot-tall block wall would be at ground level, 7 feet below the grade of the house pad for the residence at 117 Stewart Road. It was assumed that the ground level of the residential property is 7 feet above the pump grade at a distance of approximately 70 feet from the property line.

Evaluation of the proposed facilities at Site B was conducted using an identical generator set and enclosure to those at Well 62 (300-kW standby diesel generator inside a Quiet Site Level II enclosure by Cummins). Noise levels are predicted to reach 48 dBA during daytime and nighttime at the property line of 117 Stewart Road, based on data from the 200-hp well pump described above (AEC 2012) and in consideration of the proposed 12-foot-tall block wall around the well facility. Noise levels are expected to be reduced to 39 dBA at the nearest
residential building façade, an additional 70 feet from the property line, and therefore would not disturb sleep patterns within the sleeping areas of the residence. The results indicate that sound levels could reach 58 dBA within the residential property line of 117 Stewart Road, adjacent to Site B, if unmitigated.

These noise sources would be considered exempt from Stanislaus County noise regulations because the Proposed Project is a public utility. However, local noise regulations were evaluated as well to determine the significance of potential noise impacts generated by the Proposed Project.

When the pump operates during nighttime hours, it is expected to exceed the County’s noise standard of 45 dBA at the property line of 117 Stewart Road. Daytime operation of the pump is predicted to be less than the County’s 55 dBA noise standards. Subjectively, the pump would be barely audible over background sources (ambient 58 dBA L_{eq}) during daytime hours, with the source becoming more audible as background levels drop during nighttime hours (ambient 55 dBA L_{eq}).

Routine testing of the generator set would occur one to two times per month. During these tests, sound levels would exceed the local noise regulations. However, the generator is exempt from noise regulations when providing emergency power to the pump station and during short-term testing periods.

Operational noise associated with the Proposed Project (58 dBA unmitigated) is predicted to dominate the existing noise environment when background levels are low (nighttime) at the residential property at 117 Stewart Road. Operational activities are considered exempt from noise standards when operating a public utility or under emergency circumstances. However, the increase in noise would be noticeable (3 dBA) and would create the potential for nighttime noise impacts (ambient 55 dBA L_{eq} nighttime) at the 117 Stewart Road residence west of the Proposed Project site. Thus, the project would result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project and would exceed nighttime stationary noise level standards. As a result, project-generated operational noise levels for Site B would be significant.

The Program EIR prescribed Mitigation Measure NOISE-3: Employ Noise-reducing Methods during Operations to reduce impacts to a less-than-significant level. This mitigation measure has been modified to ensure that operational impacts associated with the Proposed Project would comply with the County’s Municipal Code and the City’s Code of Ordinances noise standards, reducing unmitigated noise levels from 71 dBA at 23 feet to 48 dBA at 30 feet. Therefore, with implementation of Mitigation Measure NOISE-2 (Employ Noise-reducing Methods during Operations at Site B), this impact would be less than significant. This measure would not apply to Site A, where project impacts would be less than significant.

**Mitigation Measure NOISE-2: Employ Noise-reducing Methods during Operations at Site B.**

The City shall implement noise-reducing methods so that noise from well operations at Site B, located at the corner of McHenry Avenue and Stewart Road, does not exceed County noise-level standards at adjacent residences. Measures to be implemented shall include the following:
Generator

1. Project specifications shall include generator sound level limits of 73 dBA at 23 feet, similar to those at the City's Well 62 facility.

2. Noise control specifications for the generator set shall include a sound-attenuated enclosure for the pump and a sound wall within the facility wall. Specifications for the pump enclosure and sound wall are prescribed in item 5 below.

3. Routine testing of the generator shall be performed during daytime hours, between 10 a.m. and 5 p.m., when background sound levels are highest, to minimize potential noise impacts.

4. Obtain the services of a qualified acoustical consultant to conduct project-related operational noise measurements at sensitive receptor locations adjacent to the Proposed Project site to ensure that noise-reducing measures comply with applicable codes. If noise measurements do not comply with applicable codes, additional noise reduction measures should be designed and incorporated.

With these measures, no additional sound reduction would be required to reduce sound levels due to the generator set.

Pump Enclosure and Sound Wall

5. The pump enclosure shall be designed to the following specifications to ensure operational sound levels are reduced below County standards:

   (a) Install a modular sound wall with an optional removable roof adjacent to the pump. The sound-absorptive modular barrier system shall be installed along the west edge of the pump base to a height of at least 10 feet above grade. The barrier system will wrap around the north and south sides of the pump to create a three-walled system with integrated sound absorption. In general, acoustical barriers perform best when close to the noise source. Acceptable products include the following or an approved equivalent: Kinetics Noiseblock Barrier Panel System, Noise Barriers LLC QuietLine Barrier Walls, Sound Fighter Systems LSE.

   (b) Include an insulated sheet metal shroud around the pump motor and shaft. Construct the sheet metal shroud to block the line of sight to the motor ventilation openings. Construction materials shall include exterior-grade sheet metal used for heating, ventilation, and air conditioning (HVAC) ducts and acoustical duct liner.

   (c) If the above measures cannot be employed for the pump, one of the following measures will be implemented to meet the County's nighttime noise threshold of 45 dBA:

      i. Install a submersible pump that would place the motor under water and virtually eliminate the sound source.
ii. Increase the height of the equipment yard sound wall above 12 feet. Based on the noise analysis, increasing the equipment yard wall height to 13 feet would result in an additional 2 dBA of attenuation and a predicted sound level of 45 dBA. A 14-foot-tall wall could reduce sound levels by an additional 1 dBA.

iii. Construct a barrier adjacent to the motor with a removable roof barrier directly over the motor. This secondary barrier directly adjacent to the pump motor on the west side would effectively reduce sound levels below the nighttime noise threshold. The detachable roof would still provide access to the motor for servicing and removal.

The barrier adjacent to the motor shall be designed to the following specifications to ensure operational sound levels would be reduced below County standards:

- The barrier shall be constructed around the equipment within the wall surrounding the facility.
- The barrier shall weigh a minimum of 4 pounds per square foot. Painted and sealed concrete block easily meets this weight requirement.
- The barrier shall be continuous along its length and width with no gaps in the construction, including at the ground. The equipment yard pad shall be sloped such that weeping holes are only needed on the north and east sides of the facility.

iv. Construct an insulated sheet metal shroud around the motor and shaft. This metal shroud would accommodate air circulation requirements for the motor, but would divert sound energy away from the motor openings and base near the shaft. Sound energy would be attenuated by sound-absorbing material within the metal shroud.

**Impact NOISE-4: Substantial Permanent Increase in Ambient Traffic Noise Levels (Less than Significant)**

Implementation of the Proposed Project would result in an increase of traffic volumes due to the addition of construction-generated traffic and long-term operation. Construction-generated traffic on the local roadway network was analyzed based on the construction haul truck requirements presented in Table 2-1 provided in Chapter 2, Project Description. As such, all materials would be transported over designated haul routes on the local roadway network, thus increasing traffic volumes along affected roadway segments. Long-term operation-related traffic volume increases would be considerably less than construction-related traffic volume increases.

To examine the effect of project-generated traffic increases, traffic noise levels associated with the Proposed Project were calculated for roadway segments in the project area using the FHWA Highway Noise Prediction Model (FHWA-RD-77-108). Traffic noise levels were modeled under existing conditions, with and without implementation of the Proposed
Project's construction-related traffic and operational traffic. ADT volumes and the distribution thereof were obtained from traffic counts in Google Earth (based on historical traffic data) (Google Earth 2015). Vehicle speeds and truck volumes on local area roadways were determined based on field observations and posted vehicle speed limits. Table 11-14 summarizes the modeled traffic noise levels at 100 feet from the centerline of affected roadway segments. Additional input data included day/night percentages of automobiles, medium and heavy trucks, vehicle speeds, ground attenuation factors, and roadway widths. Refer to Appendix G for complete modeling inputs and results.

Table 11-14. Predicted Traffic Noise Levels

<table>
<thead>
<tr>
<th>Roadway</th>
<th>Segment</th>
<th>Ldn at 100 Feet, dBA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>From</td>
<td>To</td>
</tr>
<tr>
<td>Ladd Road</td>
<td>Tully Road</td>
<td>St. John Road</td>
</tr>
<tr>
<td></td>
<td>St. John Road</td>
<td>McHenry Avenue</td>
</tr>
<tr>
<td>McHenry</td>
<td>Ladd Road</td>
<td>Stewart Road</td>
</tr>
<tr>
<td>Road</td>
<td>Stewart Road</td>
<td>Hogue Road</td>
</tr>
<tr>
<td>Stewart</td>
<td>McHenry Avenue</td>
<td>Del Cielo Way</td>
</tr>
</tbody>
</table>

Notes: dB = A-weighted decibels; Ldn = day-night average noise level; U.S. 50 = U.S. Highway 50.
Traffic noise levels are predicted at a standard distance of 100 feet from the roadway centerline and do not account for shielding from existing noise barriers or intervening structures. Traffic noise levels may vary depending on actual setback distances and localized shielding.
"Net change" for both construction-related ("plus construction") and operational ("plus project") conditions is calculated from the no-project condition.
Source: Data modeled by AECOM in 2015, using ADT volumes in Google Earth (2015).

The modeling shows that implementing the Proposed Project would not result in substantial increases in traffic noise levels compared to noise levels without the project. Based on volume, trip generation, and distribution data to model future traffic noise levels with and without the project, project-generated traffic noise increases would range from 0 to 2 dBA Ldn, as shown in Table 11-14. A project-related noise level increase of 5 dBA or greater would be significant where ambient noise levels are less than 60 dBA Ldn/CNEL; an increase of +3 dBA would be significant where ambient noise levels exceed 60 dBA Ldn/CNEL. Thus, short- and long-term noise levels from project-generated traffic sources would not result in a substantial permanent increase in ambient noise levels (3 dBA or greater) or exceed applicable transportation noise standards at sensitive receptors. As a result, project-generated construction-related and operational traffic noise levels would be less than significant.
11.4.4 Cumulative Impacts

**Impact NOISE-5: Cumulative Noise Impacts (Less than Significant)**

Noise is a localized occurrence and attenuates rapidly with distance. Therefore, only future cumulative development projects in the direct vicinity of the project site would have the potential to add to anticipated project-generated stationary-source noise levels, resulting in cumulative noise impacts.

Project implementation would result in significant noise impacts associated with construction activities and noise generated by on-site stationary equipment. Noise impacts from construction activities and on-site stationary sources would be reduced to less-than-significant levels with implementation of Mitigation Measure NOISE-1 (Employ Noise-reducing Construction Practices) for Sites A and B for construction activities and Mitigation Measure NOISE-2 (Employ Noise-reducing Methods during Operations at Site B) for Site B relative to stationary-source noise, thus complying with the City’s and County’s maximum allowable noise standards.

Stationary-source noise associated with the Proposed Project could potentially result in exceedance of the City’s noise regulations at sensitive receptors. The noise from any stationary noise sources would be controlled at the source (by means of noise walls, enclosures, louvers, and site planning) in accordance with City and County standards, but there is no guarantee that all foreseeable future projects would include such noise controls as part of their proposals. Therefore, significant cumulative noise impacts associated with stationary noise sources could occur. As mentioned above, implementation of Mitigation Measure NOISE-2 for Site B would reduce project-generated stationary-source noise impacts to a less-than-significant level; thus, project implementation would not result in a considerable contribution to significant cumulative stationary-source noise impacts.

The City’s noise regulations limit construction activities to daytime hours. There are no other planned construction projects anticipated in the area of the Proposed Project. Therefore, significant cumulative noise impacts associated with construction activities would not occur. Implementation of Mitigation Measure NOISE-1 for construction activities at Sites A and B would reduce project-related construction-noise impacts to a less-than-significant level. Coupled with the fact that noise diminishes with distance, project-related construction would not result in a considerable contribution to any significant cumulative noise impacts.

Construction noise and stationary-source noise can be controlled on site at the point of origin; however, traffic noise may extend beyond a project site along existing and proposed off-site and on-site roadways, resulting in significant traffic noise impacts on sensitive uses along these roadways. Because full buildout of the Proposed Project would not result in a perceptible increase in traffic noise on project-area roadways, the Proposed Project would not result in a considerable contribution to a significant cumulative impact. Thus, the traffic noise impacts from the Proposed Project are considered cumulatively less than significant.
12.1 Introduction

This chapter describes the alternatives considered for the Proposed Project and evaluates their environmental impacts as compared with those of the Proposed Project. The chapter then describes the alternative development process, alternatives that were considered, and those that were considered but dismissed. The chapter closes with a discussion regarding the environmentally superior alternative.

The purpose of the alternatives analysis in an EIR is to describe a range of reasonable, potentially feasible alternatives to the project that would feasibly attain most of the identified project objectives, but would reduce or avoid one or more of the project’s significant impacts. A more detailed description of the CEQA regulatory requirements for alternatives analysis is provided in Section 12.1.1 below.

12.1.1 Regulatory Requirements

CEQA requires that an EIR evaluate a reasonable range of potentially feasible alternatives to the Proposed Project, including a No Project Alternative. The No Project Alternative allows decision makers to compare the impacts of approving the action against the impacts of not approving the action. While there is no clear rule for determining a reasonable range of alternatives to the Proposed Project, CEQA provides guidance that can be used to define the range of alternatives for consideration in the environmental document.

The alternatives described in an EIR must feasibly accomplish most of the basic project objectives, should reduce or eliminate one or more of the significant impacts of the Proposed Project (although the alternative could have greater impacts overall), and must be potentially feasible (CEQA Guidelines Section 15126.6[a]). In determining whether alternatives are potentially feasible, Lead Agencies are guided by the general definition of feasibility found in CEQA Guidelines Section 15364: “capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors.” In accordance with CEQA Guidelines Section 15126.6 (f), the Lead Agency should consider site suitability, economic viability, availability of infrastructure, general plan consistency, other regulatory limitations, and jurisdictional boundaries in determining the feasibility of alternatives to be evaluated in an EIR.

An EIR must briefly describe the rationale for selection or rejection of alternatives and the information that the Lead Agency relied on in making the selection. The EIR also should identify any alternatives that were considered by the Lead Agency but were rejected as infeasible during the scoping process, along with a brief explanation of the reasons for their exclusion (CEQA Guidelines Section 15126.6[c]).
An EIR's analysis of alternatives is required to identify the environmentally superior alternative among all those considered (CEQA Guidelines Sections 15126.6(a) and 15126.6(e)(2). If the No Project Alternative is identified as the environmentally superior alternative, then the EIR must also identify an environmentally superior alternative among the other alternatives.

These guidelines were used in developing and evaluating the alternatives to the Proposed Project, as described below.

12.2 Alternatives Development Process

The Proposed Project's purpose and objectives, as well as its potentially significant environmental impacts as described in Chapters 4 through 11 of this DEIR, were considered while developing alternatives. Alternatives were developed to achieve most of the basic objectives of the Proposed Project, although the selected alternatives may reach these objectives to a greater or lesser extent than the Proposed Project. The alternatives also were selected to reduce the significance of anticipated adverse environmental impacts associated with the Proposed Project. A reasonable range of potentially feasible alternatives is presented in Section 12.3, "Alternatives Considered," describing their potential impacts as well as benefits.

12.2.1 Project Goals and Objectives

The objectives of the Proposed Project are as follows:

- Correct existing deficiencies in the Del Rio water system to meet design pressure and volume storage requirements;
- Ensure sufficient system pressure to provide firefighting flow capacity;
- Improve water system operational flexibility and reliability; and
- Allow for additional water supply and storage volume to accommodate anticipated future growth in the Del Rio area.

12.2.2 Significant Environmental Impacts of the Proposed Project Reduced to a Less-than-Significant Level with Mitigation

Several impacts have been identified as significant, but would be mitigated to a less-than-significant level through implementation of mitigation measures. These impacts are listed below and in Table ES-1 in the Executive Summary of this DEIR:

- Impact AES-1: Substantial Degradation of the Visual Character or Quality of the Site and its Surroundings from Project Construction
- Impact BIO-1: Construction-related Loss of Occupied Burrowing Owl Habitat
- Impact BIO-2: Construction-related Loss of Swainson’s Hawk Foraging Habitat
• Impact BIO-3: Construction-related Impacts on Nesting Swainson's Hawks

• Impact BIO-4: Construction Disturbance of Tricolored Blackbird and Other Migratory Birds, Including Raptors

• Impact BIO-5: Disturbance of Roosting Areas for Bats, including Special-status Bat Species

• Impact BIO-7: Interference with Wildlife Movement, Established Wildlife Corridors, or the Use of Native Wildlife Nursery Sites

• Impact BIO-8: Conflict with Local Policies or Ordinances Protecting Biological Resources

• Impact BIO-9: Cumulative Biological Resource Impacts

• Impact CUL-2: Potential for a Substantial Adverse Impact on Archaeological Resources from Construction

• Impact CUL-3: Potential to Directly or Indirectly Destroy a Unique Paleontological Resource or Site, or Unique Geological Feature

• Impact CUL-4: Potential for Disturbance of Human Remains, including Those Interred Outside of Dedicated Cemeteries

• Impact CUL-5: Potential to Cause a Substantial Adverse Change in the Significance of a Tribal Cultural Resource

• Impact CUL-6: Potential to Eliminate Important Examples of the Major Periods of California History or Prehistory

• Environmental Checklist Section VI.a.iii: Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction

• Environmental Checklist Section VI.a.iv: Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides

• Environmental Checklist Section VI.d: Location on expansive soil, creating substantial risks to life or property

• Impact GHG-1: Generate Substantial GHG Emissions, Either Directly or Indirectly, from Project Construction, Land Use Changes, and Operation

• Impact GHG-2: Potential to Conflict with Applicable Plans, Policies, or Regulations Adopted for the Purpose of Reducing Emissions of GHGs

• Impact GHG-3: Cumulative GHG Impact
• Environmental Checklist Section VIII.d: Located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code section 65962.5 and, as a result, create a significant hazard to the public or the environment

• Impact GRW-1: Potential to Lower the Groundwater Table and Adversely Affect Nearby Existing Wells

• Impact NOISE-1: Substantial Temporary or Periodic Increase in Ambient Noise Levels

• Impact NOISE-3: Substantial Permanent Increase in Ambient Noise Levels

12.2.3 Significant and Unavoidable Environmental Impacts of the Proposed Project

The following impacts have been identified as significant and unavoidable in this EIR:

• Impact AIR-7: Cumulative Impact on Air Quality

• Impact GHG-2: Potential for Conflict with Applicable Plans, Policies or Regulations Adopted for the Purpose of Reducing Emissions of GHGs

• Impact GRW-4: Cumulative Contribution to Chronic Overdraft of Groundwater Subbasin

The following impacts relevant to the Del Rio Tank and Wells Project were previously identified as significant and unavoidable in the Program EIR (City of Modesto 2010):

• Impact CUM-3: Emissions of Greenhouse Gases

• Impact CUM-4: Result in a Cumulatively Considerable Net Increase of Any Criteria Pollutant for which the Program Region is in Nonattainment under an Applicable Federal or State Ambient Air Quality Standard

12.3 Alternatives Considered

The No Project Alternative is considered in this EIR, as required by CEQA, to allow decision makers to compare the potential impacts of implementing the Proposed Project against the impacts of not implementing it. In addition, the following alternatives were considered because they meet most of the Proposed Project's objectives, are feasible, and avoid or substantially reduce one or more significant impacts of the Proposed Project:

• Alternative 1 – Construct at Existing City Well Locations

• Alternative 2 – Connect to the City's Supply System
12.3.1 No Project Alternative

Characteristics of this Alternative

CEQA requires analysis of the No Project Alternative. Under this alternative, no new water supply infrastructure would be constructed. Existing system deficiencies would continue to exist, and new development would be constrained by lack of water supply infrastructure. Where alternative sources of potable water are available, new development might still occur. This alternative would not meet the basic objective of the Proposed Project, namely, to construct capital improvements needed to provide and maintain reliable water service to existing and future customers in the Del Rio service area.

Impact Analysis

Aesthetics – Because no new physical structures would be built, there would be no impact on visual resources under this alternative.

Air Quality – Because no new construction would occur, there would be no construction or operational air pollutant emissions generated under this alternative.

Biological Resources – Since no new facilities would be built, there would be no construction-related or operational effects on biological resources.

Cultural Resources – As no new facilities would be constructed, there would be no impacts on cultural resources.

Global Climate Change – Because no new facilities would be built, there would be no construction-related or operational emissions, and therefore no impacts on GHG emissions.

Groundwater – No new facilities would be constructed that could cause impacts on groundwater levels or quality. However, existing system deficiencies in the Del Rio water system would not be corrected; as such, these existing adverse conditions would continue. This alternative, by constraining planned development, would eliminate the increase in demand for groundwater.

Land Use and Planning – This alternative would not result in any development that would have potential to physically divide an established community or potentially conflict with relevant general plans by failing to provide the necessary infrastructure to support the development envisioned in those plans.

Noise – No new facilities would be constructed; thus, new sources of noise would not be generated by construction or operation. As such, there would be no impact.

12.3.2 Alternative 1 – Construct at Existing City Well Locations

Characteristics of this Alternative

The City currently owns property and operates groundwater wells at three locations in the Del Rio service area:
• Well 289 located on Beltis Drive on the east side of Del Rio,

• Well 271 on Country Club Drive and Del Rio Avenue on the southwest side of Del Rio, and

• Well 282 on Hillcrest Drive on the west side of Del Rio.

Under this alternative, in lieu of purchasing new property for the proposed wells and tank, the City would design the proposed new facilities to fit within their existing well properties.

Well 271 is located near the country club golf course in a residential area, but the property adjacent to Well 271 is vacant, and additional land could be secured to accommodate a new well and storage tank. Well 271 is currently operating at 50 percent capacity due to the well's old age. Under this alternative, this well would be replaced onsite with a new well.

Well 289 is located in a residential neighborhood and adjacent to railroad tracks. If additional property could not be secured adjacent to Well 271, the property at Well 289 could accommodate a 0.25-million-gallon storage tank, and the existing well on site could be expanded to meet the City's pumping needs. The proposed storage tank at this site would likely be smaller in diameter and taller than the tank in the Proposed Project.

Well 282 is located in a residential neighborhood.

This alternative would not require transmission pipelines, because the well sites would already be connected to the existing water distribution system. This alternative would meet all of the project objectives.

Impact Analysis

Aesthetics – Under this alternative, new aboveground facilities would be constructed that could have adverse effects on visual resources. The existing sites currently support water supply facilities, and these features would be expanded under this alternative. These impacts would occur in different locations but, similar to the Proposed Project, would generally affect nearby residential uses. Since this alternative includes expansion of existing water supply infrastructure and may not incorporate landscaping or berms for screening purposes, this alternative could result in greater aesthetic impacts than those of the Proposed Project.

Air Quality – Construction-related and operational emissions of air pollutants under this alternative would be similar to those for the Proposed Project; nearby sensitive receptors would be similar in nature but greater in number.

Biological Resources – Similar to the Proposed Project, the sites proposed under this alternative are in residential areas with vacant land adjacent or nearby; impacts would be similar.

Cultural Resources – Impacts on historic, archaeological, and paleontological resources would be similar to those of the Proposed Project. No demolition of existing structures would be required.

Global Climate Change – Under this alternative, facilities would be constructed and operated in a similar manner to the Proposed Project. Construction and operation-related
emissions would be similar to the Proposed Project, though to a lesser extent due to the reduced need for pipeline construction activities.

**Groundwater** – This alternative proposes to install wells with similar capacity and operational characteristics as the Proposed Project. Therefore, impacts on groundwater level drawdown and the potential for related subsidence would be similar to those of the Proposed Project.

**Land Use and Planning** – The alternative would involve construction on property currently utilized for water supply and would not result in any development that would physically divide an established community.

**Noise** – Under this alternative, new sources of noise would be generated by construction and operation of additional facilities on sites currently supporting similar facilities. Operational noise generated by the additional pumps at the sites could increase compared to existing site conditions. These impacts would be similar to or greater than those of the Proposed Project because more residential sensitive receptors are located adjacent to the existing well sites compared to the sites in the Proposed Project.

### 12.3.3 Alternative 2 – Connect to the City’s Supply System

**Characteristics of this Alternative**

Under this alternative, the City would construct a 3-mile pipeline to directly connect the Del Rio community to the City’s water supply system. The pipeline would extend along the existing railroad track easement from the northern border of the City’s limits north to St. John Road and Ladd Road, where the pipeline would connect to existing transmission pipes that serve the Del Rio community. The pipeline would cross two Modesto Irrigation District canals and two streets. Booster pump stations may be needed to transfer water from the City’s system north to Del Rio.

Together with the City’s existing groundwater wells, the new pipeline connection would meet the Proposed Project objectives related to water system pressure and operational flexibility, and would improve water supply reliability particularly during prolonged drought years when groundwater is less reliable. This alternative would utilize the City’s existing water supply sources, including surface water supplies purchased from other water right holders, such as Modesto Irrigation District.

**Impact Analysis**

**Aesthetics** – Under this alternative, construction of the pipeline would have adverse effects on visual resources. However, the pipeline would be underground and would not be visible once construction is completed. Construction impacts would occur in different locations but at a similar level of effect compared to the Proposed Project. Permanent impacts of this alternative would be similar to those of the Proposed Project because no aboveground well facilities or tanks would be constructed, but pump stations would be constructed and operated.

**Biological Resources** – Compared to the Proposed Project, the pipelines proposed under this alternative would have less impact on biological resources because fewer facility
operations would take place. However, pipeline crossings of Modesto Irrigation District canals would have the potential to result in impacts on aquatic resources.

**Cultural Resources** – Impacts on historic, archaeological, and paleontological resources would be similar to those of the Proposed Project. No demolition of existing structures would be required; excavation would extend for a greater distance, expanding the area of potential effects.

**Global Climate Change** – Under this alternative, fewer facilities would be constructed and operated compared to the Proposed Project. Construction emissions would be similar to the Proposed Project, although to a lesser extent due to the reduced need for construction of a storage tank. Operational emissions would be similar to the Proposed Project due to the booster pump stations, which would be similar to the pump facilities included in the Proposed Project.

**Groundwater** – Impacts related to groundwater drawdown and the related potential for subsidence would be reduced under this alternative because the expansion of water capacity would originate in Modesto Irrigation District's surface water supply rather than groundwater wells.

**Land Use and Planning** – This alternative would not result in any development that would have potential to physically divide an established community. This alternative would not conflict with relevant general plans and would provide the necessary infrastructure to support the development envisioned in those plans.

**Noise** – Under this alternative, new sources of noise would be generated by construction and operation of facilities on a former railroad track and adjacent to farmland and single-family residences as a result of pipeline construction and operation of the pump stations. If pump stations are located in close proximity to sensitive receptors (residences), operational impacts would be similar to those of the Proposed Project.
### Table 12-1. Summary of Alternatives and Comparison to the Proposed Project

<table>
<thead>
<tr>
<th>Alternative</th>
<th>Characteristics</th>
<th>Relationship to Project Objectives</th>
<th>Impacts Compared to the Proposed Project</th>
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<tbody>
<tr>
<td>No Project Alternative</td>
<td>▪ No construction of new wells or storage tank</td>
<td>▪ Would not meet project objectives</td>
<td>▪ All impacts related to Proposed Project construction and operation would be avoided</td>
</tr>
<tr>
<td></td>
<td>▪ Existing service deficiencies would continue and future growth would be constrained</td>
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<td></td>
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<tr>
<td>Construct at Existing City Well Locations</td>
<td>▪ Construction of new wells and tank at existing City-owned property with operating wells</td>
<td>▪ Would meet project objectives</td>
<td>▪ Could result in increased aesthetic impacts</td>
</tr>
<tr>
<td></td>
<td>▪ Transmission pipelines to connect the new wells to the existing system would not be necessary</td>
<td></td>
<td>▪ Less GHG emissions would be generated due to not constructing transmission pipelines</td>
</tr>
<tr>
<td>Connect to the City's Supply System</td>
<td>▪ Construct a 3-mile pipeline to connect the Del Rio water supply system to the City's system</td>
<td>▪ Would meet project objectives</td>
<td>▪ More residential sensitive receptors near the sites would be exposed to noise-related impacts.</td>
</tr>
<tr>
<td></td>
<td>▪ Encroachment approvals would be needed from Modesto Irrigation District to cross their canals</td>
<td></td>
<td>▪ All other environmental impacts would be similar to the Proposed Project</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>▪ Could result in reduced aesthetic impacts because the pipeline would be underground</td>
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<td></td>
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<td>▪ Similar amount of GHG emissions would be generated compared to the Proposed Project</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>▪ More residential sensitive receptors near the pipeline alignment would be exposed to construction-related noise impacts</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>▪ Other environmental impacts, such as biological resources, water supply, and cultural resources,</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>could be greater than the Proposed Project</td>
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</table>
12.4 Alternatives Considered and Dismissed

The following alternatives were considered but ultimately dismissed from further analysis for one or more of the following reasons: (1) they would not sufficiently meet most of the Proposed Project objectives; (2) they were determined to be infeasible; or (3) they would not avoid or substantially reduce one or more significant impacts of the Proposed Project.

- **Site A Well Only Alternative:** Under this alternative, only the proposed well at Site A would be constructed, and not the water storage tank. This alternative would reduce aesthetic impacts at Site A, avoid all impacts at Site B, and reduce GHG emissions overall. However, this alternative would not meet most of the Proposed Project objectives. With only one well, the City could not accommodate system pressure demands and supply reliability needs for firefighting and operational reliability. Furthermore, without the storage tank and additional supply from a second well, the City could not accommodate anticipated future growth in Del Rio.

- **Reduced Potable Demand Alternative:** The City could increase water conservation mandates and require Del Rio customers to reduce demands on potable water supply by restricting swimming pool filling, assessing fines, and other methods. To meet the project objectives, a substantial reduction in demand would be needed. There is no guarantee that demand reductions would be realized to a level where system pressures would improve through conservation efforts alone. Furthermore, such demand reduction measures have already been implemented during the current statewide drought, and water users are less willing to reduce demands during non-drought years. To meet project objectives, water demand reductions would need to occur in all years, and such reductions are not believed to be feasible or likely. This alternative would not meet supply reliability objectives or future buildout goals.

- **Partnership with the Del Rio Golf and Country Club Alternative:** The Del Rio Golf and Country Club operates its own groundwater wells. The City could provide the country club recycled water for use in irrigating the golf course in exchange for its groundwater supplies. This would involve establishing a formal agreement between the two parties. Costs would be incurred by both parties for the water exchange. Environmental impacts would be generated through construction of a 7-mile-long recycled water pipeline from the City’s wastewater treatment plant to the country club, and for connections between the country club’s supply system and the Del Rio supply system. These impacts would likely be similar to, but more costly than, the Proposed Project. The City has previously initiated discussions with the country club related to a water exchange but the parties have not reached agreement. This alternative was determined to be infeasible because of cost and because the quantity of groundwater replaced would not be sufficient to achieve reliability objectives or buildout goals.

- **Partially Buried Tank Alternative.** Under this alternative, the City would construct a new partially buried concrete tank at Site A to reduce adverse aesthetic impacts. This alternative would, however, require more excavation work and thereby result in substantially greater air quality, GHG, and noise impacts. This alternative would also generate more truck trips to off-haul and dispose of excavated soil. According to a tank materials evaluation that was conducted by the City, a buried concrete tank
would present operation-related difficulties with respect to inspection and repair due to confined entry space (City of Modesto 2012). Typically, tanks of the size proposed are manufactured of steel, but buried tanks are typically made of concrete to avoid corrosion and accessibility issues. Concrete tanks are more costly than steel tanks. Thus, while this alternative would reduce aesthetic impacts relative to the Proposed Project, for the various reasons described above, this alternative was dismissed from further analysis.

12.5 Environmentally Superior Alternative

Because each of the alternatives has fundamentally different characteristics, comparison of their environmental impacts and benefits is not simple. Considering all aspects on balance, the No Project Alternative is considered the environmentally superior alternative as it would avoid all of the environmental impacts associated with implementing the Proposed Project. The CEQA Guidelines require that, if the No Project Alternative is the environmentally superior alternative, the EIR must also identify an environmentally superior alternative among the other alternatives.

Among the other alternatives considered, Alternative 1: Construct at Existing City Well Locations is considered the environmentally superior alternative. This alternative would achieve all the project objectives to a similar degree as the Proposed Project. As described above, more sensitive receptors (residents) are located near the existing City well sites; therefore, this alternative would result in increased impacts on aesthetics, operation-related noise, and air quality because of the greater number of sensitive receptors near the well sites. However, less GHG emissions and construction-related noise impacts would occur because no pipelines would be constructed under this alternative. In summary, Alternative 1 would result in the most reductions in environmental impacts among the alternatives considered.

The other alternatives were not selected as the environmentally superior alternative for the following reasons:

- **Proposed Project.** The Proposed Project is, by definition, not an alternative, and therefore cannot be considered the environmentally superior alternative.

- **Alternative 2.** Connect to the City's Supply System. This alternative was not considered environmentally superior because it would not substantially reduce GHG emissions and would generate similar noise-related impacts on sensitive receptors. This alternative would also generate significant impacts on the City's water system and water supply sources, such as increased demand for groundwater pumping in other areas to meet demands of the Del Rio community. The cost to construct pipelines connecting the community to the City's supply system would be greater than the cost of the other alternatives. Regulatory and permitting requirements for crossing Modesto Irrigation District canals and construction within railroad track easements would also add to the complexity and impacts of this alternative.
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Chapter 13
Report Preparation

City of Modesto Utilities Department
1010 Tenth Street
Modesto, CA 95353
(209) 577-5205

William Wong
Tamorah Bryant
Engineering Division Manager
Senior Civil Engineer

Horizon Water and Environment, LLC
180 Grand Ave, Suite 1405
Oakland, CA 94612
(510) 986-1850

Michael Stevenson
Debra Lilly
Jill Sunahara
Megan Giglini
Allison Chan
Victoria Holland
Patrick Donaldson
Paul Glendening
Kari Holmquist
Ron Teitel
Lorrie Jo Williams
Principal-in-Charge
Project Manager
Project Manager
Senior Associate
Senior Associate
Associate
Associate
Geographer
Editor
Graphic Artist
Graphic Artist
ICF International – Visual Simulations
630 K Street, Suite 400
Sacramento CA 95814
916-737-3000
Jen Stock
Tim Messick

Visual Resource Specialist
Senior Graphic Designer

AECOM – Noise Analysis
2020 L Street, Suite 400
Sacramento CA 95811
916-414-5800

Chris Shields
Mohammad Issa Mahmodi

Senior Noise Analyst
Noise Analyst
Chapter 14
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Executive Summary


Chapter 1. Introduction


Chapter 2. Project Description


Chapter 3. Introduction to the Environmental Analysis

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Chapter 4. Aesthetics


Caltrans. See California Department of Transportation.


Chapter 5. Air Quality


CARB. See California Air Resources Board.

OEHHA. See Office of Environmental Health Hazard Assessment.


SJVAPCD. See San Joaquin Valley Air Pollution Control District.


USEPA. See U.S. Environmental Protection Agency.


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Chapter 7. Cultural Resources


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**Chapter 8. Global Climate Change**


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SJVAPCD. *See San Joaquin Valley Air Pollution Control District.*


USEPA. *See U.S. Environmental Protection Agency.*

**Chapter 9. Groundwater**


DWR. See California Department of Water Resources.


USGS. See U.S. Geologic Survey.


WRIME. See Water Resources & Information Management Engineering, Inc.

Chapter 10. Land Use and Planning


Chapter 11. Noise


AEC. See Acoustical Engineering Consultants.


Caltrans. See California Department of Transportation.


FHWA. See Federal Highway Administration.

FTA. See Federal Transit Administration.


OPR. See Governor's Office of Planning and Research.


USEPA. See U.S. Environmental Protection Agency.
Chapter 12. Alternatives


Chapter 13. Report Preparers

None.
City of Modesto Utilities Department

Draft Environmental Impact Report
Del Rio Tank and Wells Project
Stanislaus County, California
Volume 2: Appendices A-H
November 2016

State Clearinghouse Number: 2015072055; EA/UTL No. 2015-05
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City of Modesto Utilities Department

Del Rio Tank and Wells Project

State Clearinghouse Number: 2015072055

Del Rio, California

CEQA Scoping Summary

Prepared for:
City of Modesto, Utilities Department
P.O. Box 642 (1010 Tenth Street)
Modesto, CA 95353

Prepared by:
Horizon Water and Environment, LLC
180 Grand Avenue, Suite 1405
Oakland, California 94612
Contact: Michael Stevenson
(510) 986-1852

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<td>Comments on Project Permits and Approvals</td>
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**Attachment A:** Notice of Preparation and Distribution List  
**Attachment B:** State Clearinghouse Notice of Preparation Posting  
**Attachment C:** Public Comments Received
Background and Purpose

Scoping refers to the process to determine the scope, focus, content, and extent of an environmental impact report (EIR). A key feature of the scoping process is to engage the public and public agencies for feedback regarding the proposed project. The scoping comment period offers an important opportunity for the public and agencies to review and comment during the early phases of the environmental compliance process. Scoping helps identify and select an appropriate range of alternatives to be considered in the EIR. Scoping also helps define analysis methods, initially identify potential environmental effects to be considered in detail, and consider mitigation measures to avoid or compensate for adverse effects. In some cases, it may also identify issues that the public feels do not warrant analysis.

This report documents the scoping process undertaken by the City of Modesto Utilities Department (City) for the Del Rio Tank and Wells Project (Proposed Project) to comply with Section 15082 of the California Environmental Quality Act (CEQA) Guidelines. This report also summarizes comments received from agencies consistent with Section 15082(b) of the CEQA Guidelines. Comments are reproduced in their entirety in the appendices to this report.

Proposed Project Scoping Process

Scoping is initiated when the lead agency issues a Notice of Preparation (NOP) announcing the beginning of the EIR process. In accordance with Section 15082 of the CEQA Guidelines, a NOP was developed that provided information on the background, goals, and objectives of the Proposed Project. The NOP announced the EIR’s preparation and requested public and agency comment on the Proposed Project. A copy of the NOP is included in Attachment A.

The NOP was distributed for review and comment to numerous federal and state agencies; departmental and public services agencies within Stanislaus County, interested parties, and landowners within a 500-foot radius of the project sites. A copy of the mailing list is included in Attachment A. The City did not publish advertisements or post on the City’s website to announce EIR scoping. The City did not hold a public scoping meeting for the Proposed Project.

The NOP for the Project was received by the State Office of Planning and Research, State Clearinghouse on July 28, 2015, which initiated the public scoping period. The State Clearinghouse Number for this project is 2015072055 and a copy of the State Clearinghouse posting can be found in Attachment B.

The public scoping comment period officially ended on August 28, 2015.

Comments Received

Eleven comment letters were received during the scoping period from the following parties:

- Tuolumne Me-Wuk Tribal Council July 13, 2015
- Central Valley Regional Water Quality Control Board (CVRWQCB) August 19, 2015
• Stanislaus County Environmental Review Committee (Stanislaus County) August 27, 2015
• Stanislaus Union School District (SUSD) August 10, 2015- No comment to project
• Pacific Gas and Electric (PG&E) July 30, 2015- No comment as no gas lines in the area.
• Modesto Irrigation District (MID) August 20, 2015
• Del Rio Property Owners Association (Del Rio POA) August 11, 2015
• North Modesto Groundwater Alliance (NMGA) August 26, 2015
• Dale Denlinger August 14, 2015
• Jim and Joani Matthews August 27, 2015
• Richard A. McCullough August 6, 2015

Copies of the comment letters are included in Attachment C of this report and summarized below.

**Comment Summary by Topic**

The comments received and concerns described during the scoping period involved the project description, alternatives, and project impacts. These comments are summarized below, and the commenter is identified. All comments received will be addressed in the EIR.

**Comments on Project Description and Elements**

• The NOP is deficient in not referencing the litigation between the Del Rio POA and the City of Modesto regarding the requirements the City has to make to improve the Del Rio Water System. (Del Rio POA).

• The "Draft EIR, Background and Need” section should be updated to address the July 15, 2005 Settlement Agreement as the Del Rio POA is concerned that only two of the five specific improvements have been addressed. (Del Rio POA)

• The Settlement Agreement of 2005 specifies the improvements to the water supply is for “existing City customers”. However, the NOP states it addresses “future growth” needs. Concern regarding project capacity and the scope should change to insure that the improvements required by the Agreement of 2005 are met. (Del Rio POA)

• Concern for the 275 year old Heritage Oak Tree located at Stewart and McHenry Avenue. A certified arborist should be involved in the proposed development. (Matthews)

• The proposed water transmission pipelines at Site B should be routed adjacent to and parallel with McHenry Ave. (Matthews)

• Limit work activity around the 275 year old Oak Tree. Provide assurance in writing that no harm will come to the tree. (Matthews)

• Clarify whether the project sites will include the installation of a wall or a fence around the completed project. (NMGA)

• More details requested on landscaping around completed project (trees, brush, etc.) and request for a landscaping plan in the Draft EIR. (NMGA)
• Evaluate potential conflicts with existing irrigation facilities at Proposed Site A (Ladd Road) and Proposed Site B (McHenry/Stewart Rd), including the following conditions:
  o No encroachments are allowed within MIDs existing 60-foot right of way on the Dr. Moore Lateral
  o Existing pipelines are protected by a 15 foot irrigation easement. Otherwise, consultation with those served by the private pipelines is recommended
  o If the existing private pipeline at St. Johns/Ladd Road would be impacted, MID recommends a consultation with those served by the pipeline.
  o A review of MID’s irrigation requirements is recommended. (MID)

Comments on Alternatives

• Suggestion to install the well and water tank to the northeast of the Del Rio Country Club ¾ mile away from the proposed project site. (Denlinger)

• Rezone property that was changed to residential in 1995 back to agricultural land so it will not be developed. (Matthews)

• Limit growth in the area. (Matthews)

• Consider a “no project” alternative to compare completing the project and its impacts and not completing the project and its impacts. (NMGA)

• Consider alternative locations as the citizens of the Del Rio subdivision receive the benefits of the project, yet none of the construction activities or final project aesthetics will be on Del Rio subdivision property. (NMGA)

• Consider a “Reduced intensity alternative” for one well instead of two wells, or smaller wells with less capacity. (NMGA)

• Analyze if surface water from the MID water treatment plant can be used to serve the Del Rio subdivision instead of using groundwater. (NMGA)

• Evaluate whether a combined use of surface water and groundwater be used to supply the Del Rio subdivision to reduce groundwater usage in the area in order to sustain growth in the area. (NMGA)
Comments on Impacts

Aesthetics

- Concern over the appearance of a “huge tank” adjacent to a residential home. (Denlinger)
- Prepare artist rendering of the end result of the project with respect to a possible chain link fence, parking area, and landscaping near the residence at 117 Stewart Road, in particular as it relates to the existing east wall of the residence and the 275 year old Heritage Oak Tree. (Matthews)
- Include information regarding aesthetic impacts to surrounding land uses in the EIR. (Stanislaus County)
- Mitigation measures requested related to the 250,000 gallon storage tank to lessen the vertical profile. (NMGA)
- Request for the Draft EIR to have specific descriptions of all aesthetic mitigation measures so the public can accurately comment on the proposed project. (NMGA)

Cultural Resources

- Contact the Tuolumne Me-Wuk Tribal Council if discoveries are made during the project construction. (Tribal Council)

Hydrology, Hydraulics, and Water Quality

- Concern related to running water tables down at the Country Club as opposed to near farmland and residential properties (Denlinger)
- Clarification requested to what happens to the groundwater under residential properties when the project begins to pump 175 million gallons per year. What will the negative impacts be to residential properties? Inferior water quality? Lower levels of water? Decline in property values? (Matthews)
- Additional study requested before the approval of expansion on existing wells out of concern for the shallow aquifer below residential properties on Stewart Road. (McCullough)
- Studies related to the effects of the project wells on groundwater quantity, quality, availability and levels should be studied at the maximum capacity of 24 hours a day/7 days a week prior to construction. (NMGA)
- What is the actual (not estimated) sustainable yield of the aquifer at the 2 project well locations? (NMGA)
- Are the aquifers under the Proposed Project interconnected? Specifically the EIR should include:
- Subsurface lithology should be accurately characterized with vertical and lateral extent
- Conclude with certainty which aquifer(s) the project wells will draw from
- Conclude with certainty if the proposed wells will draw from additional aquifers (NMGA)

- Will the project cause groundwater to migrate away from shallow wells not related to the project when water is being extracted from the project wells? (NMGA)
- How will the City’s groundwater management or mitigation plan prevent overdraft of groundwater in the vicinity of the project wells? (NMGA)
- Analyze impacts of potential water treatment options. (Stanislaus County)
- Consider the impacts of the project to existing domestic water wells, including withdrawal rate and usage patterns. (Stanislaus County)

Land Use
- Consider the projects' compatibility with surrounding land uses. (Stanislaus County)

Noise
- Evaluate the use of submersible pumps at “Site B” adjacent to the residential property at 117 Stewart Road. Noise concerns related to the starting and operation noise from vertical shaft pumps noted. (Matthews)
- Confirmation requested that a submersible pump will be used as opposed to a vertical shaft assembly as an effort to reduce noise. If confirmation to commit to submersible pump is not received, a request of anticipated decibel levels of the daily operations of the pump should be outlined in the NOP. Mitigation measures for the noise also requested. (Matthews)
- Analyze the specific decibel level the proposed wellheads and pump stations will produce during regular operation. (NMGA)
- Provide the mitigation measures to reduce the noise produced during regular operation. (NMGA)
- Analyze noise impacts of the project. (Stanislaus County)

Cumulative Impacts
- CEQA Guideline Section 15126.2(d) requires the EIR to include a detailed statement regarding the anticipated growth-inducing impacts this project will have on Projects service area. (NMGA)
- Cumulative impact studies should be completed on the effects of sustainable yields of the Modesto and Turlock-sub basins, groundwater overdraft, and the depletion of water levels of nearby shallow, domestic wells. (NMGA)

- The EIR should analyze impacts on global climate change from the project by the extent to which the project reduces groundwater and redirects to the atmosphere, the extent to which the project will extend the reliance on groundwater during the drought, and how the project might contribute to uncontrolled groundwater development and contamination. (NMGA)

- What are the growth inducing impacts of this project? (Stanislaus County)

Comments on Project Permits and Approvals

- A Construction General Permit and implementation of Storm Water Pollution Prevention Plan may be required if one or more acres of soil or disruption (including clearing, grading, grubbing, etc.) of a larger community occurs during the project. (CVRWQCB)

- Phase I and II MS4 permit may be required to reduce pollutants and runoff flows. Best Management Practices (BMPs) must be used and specific designs for low impact development and post-construction BMPs. (CVRWQCB)

- Storm water discharges association with industrial sites must comply with the Industrial Storm Water General Permit Order No. 2014-0057-DWQ. (CVRWQCB)

- Section 404 Guidelines of the Clean Water Act prohibit all discharges of fill material into navigable waters or wetlands, without a permit and confirmation that the discharge does not violate water quality standards. (CVRWQCB)

- The Department of Fish and Game shall be contacted in the project requires surface water drainage realignment. (CVRWQCB)

- A Water Quality Certification must be obtained by the CVRWQCB if a federal permit is required due to water disturbances. (CVRWQCB)

- A Waster Discharge Requirement (WDR) will be required if non-jurisdictional waters of the State are present in the project area. (CVRWQCB)

- Irrigated Lands Regulatory Program compliance is required if the property is used for commercial irrigated agriculture. (CVRWQCB)

- If the proposed project includes construction dewatering into groundwater of the United States, coverage under a National Pollutant Discharge Elimination System (NPDES) permit is required. Applications must be submitted to the CVRWQCB. (CVRWQCB)

- Existing overhead and underground electrical lines shall be protected or relocated per the District’s Electrical Engineering Department. (MID)

- Costs for relocation of existing electrical facilities will be the responsibility of the requesting party. (MID)
• MID must review the following:
  o If there are no plans to irrigate the project properties, a Sign-Off of Irrigation Facilities form must be submitted to MID for review.
  o Draft improvement plans for Proposed Site B must be submitted to MID’s Irrigation Operation Division for review prior to construction. (MID)
Attachment A:
Notice of Preparation and Distribution List
Notice of Preparation

To: Responsible, Federal and Trustee Agencies
   (Agency)
   (Address)

From: City of Modesto Utilities Department
   (Agency)
   P.O. Box 642 (1010 Tenth Street)
   (Address)
   Modesto, CA 95355

Subject: Notice of Preparation of a Draft Environmental Impact Report for the Del Rio Tank and Wells Project

The City of Modesto Utilities Department will be the lead agency and will prepare an environmental impact report (EIR) for the project identified below. We are requesting the views of your agency as to the scope and content of the environmental information that is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency may need to use the EIR prepared by our agency when considering your permit or other approval for the project.

The project description, location, and potential environmental effects are contained in the attached materials. A copy of the initial study [☐ is ☒ is not] attached. Pursuant to State CEQA Guidelines Section 15063(a), the City has opted to forgo preparation of an initial study and proceed directly to the draft EIR.

Because of the time limits mandated by state law, your response must be sent at the earliest possible date but not later than 30 days after receipt of this notice.

Please send your response to Tamara Bryant at the address shown above. Please include your name or the name of a contact person in your agency.

Project Title: Del Rio Tank and Wells

Project Applicant, if any:

Date: 7-21-201 x

Signature: [Signature]

Title: Acting Senior Civil Engineer

Telephone: (209) 577-5205

Email: tbryant@modestogov.com

Reference: California Code of Regulations, Title 14, (CEQA) A-Guidance Section 15062(a), 15103, 15370.
Notice of Preparation

of a

Draft Environmental Impact Report

for the

Del Rio Tanks and Wells Project

Prepared for:

City of Modesto
P.O. Box 642 (1010 Tenth Street)
Modesto, CA 95353
Contact: Tamorah Bryant
209/577-5205

Prepared by:

Horizon Water and Environment, LLC.
180 Grand Avenue, Suite 1405
Oakland, CA 94612
Contact: Jill Sunahara
510/986-1854

July 2015
Purpose of the NOP

The City of Modesto (City) is the lead agency for preparation and review of an environmental impact report (EIR) for the Del Rio Tank and Wells project (Proposed Project). The Proposed Project involves construction of a water storage tank, booster pump station, and two domestic water wells, which will provide additional storage volume water supply and pressure for the existing water system serving the Del Rio area. The City's 2008 Water System Engineer's Report Program Environmental Impact Report (Water System PEIR) evaluated the Proposed Project at a program level of detail.

This Notice of Preparation (NOP) presents general background information on the scoping process, the environmental issues to be addressed in the EIR, and the anticipated uses of the EIR. It also describes the Proposed Project as currently envisioned. The project description is subject to refinement during the process of preparing the draft EIR, depending on, among other things, input received in comments responding to this NOP and revisions to the Proposed Project. The City has prepared this NOP pursuant to Section 15082 of the State California Environmental Quality Act (CEQA) Guidelines.

Scope of the EIR

The EIR will be a project-level document which will build on the program-level analysis conducted in the Water System PEIR. The Water System PEIR provided a foundation for any necessary future environmental review documents that focus on individual CIP projects or programs. This project-level EIR will evaluate site-specific impacts and incorporate feasible mitigation measures and alternatives developed in the Water System PEIR as appropriate (CEQA Guidelines, Section 15168[c]).

The following is a preliminary list of potential environmental issues to be addressed in the EIR. The issues to be addressed will be finalized after comments on the NOP are received. The analysis in the draft EIR ultimately will determine whether these impacts actually could occur, will determine their level of significance, and will propose feasible mitigation measures to reduce significant impacts. Thresholds for determining significant impacts will be based on applicable sections of the State CEQA Guidelines, regulatory agency standards, and the judgment of the City of Modesto.

- Aesthetics
- Global Climate Change
- Noise
- Cumulative Impacts
- Groundwater
- Land Use
- Growth-Inducing Impacts
- Alternatives
Public Involvement

The City is soliciting the views of interested persons and agencies on the scope and content of the environmental information that is germane to the Proposed Project. Agencies may use the EIR prepared under the direction of the City when considering permits or other approvals for the Proposed Project. Because of the time limits mandated by state law, your written comments on the scope and content of the EIR must be **received no later than the 30 calendar days following the date of posting of this notice.** Please send written comments to the City of Modesto, to the attention of Tamorah Bryant, Associate Civil Engineer, at the address provided on the title page of this document. Please include the name and phone number of the contact person for your agency, if applicable.

The City will ensure that adequate public review and input will be available for the EIR. Public input will be solicited at the following points in the process:

- **Scoping comment period:** The City will receive public comments during a 30-calender day period beginning from the date of posting of this notice to solicit public input on the scope of the EIR.
- **Draft EIR comment period:** The City will provide a standard 45-day review and comment period for the draft EIR.
- **Final EIR comment period:** The City will certify the final EIR at a public meeting, during which the public and agencies can provide additional comments.
PROJECT DESCRIPTION

Background and Need

The City provides domestic water service within its incorporated boundaries and to several other areas previously served by the Del Este Water Company (acquired by the City in the mid-1990’s), including portions of the cities of Ceres and Turlock, the communities of Salida, Empire, Del Rio, and Grayson. The Del Rio service area includes approximately 41,000 linear feet of City-owned distribution pipeline, ranging from 4 to 10 inches in diameter.

The Del Rio water system currently requires a new storage tank (and associated pump station), well, replacement well, backup generators, and pipelines to correct existing supply deficiencies. The existing Del Rio water system does not meet certain design pressure and storage volume requirements for water supply and fire-flow demand. The existing Del Rio water system also is not sufficient to supply anticipated future growth in the Del Rio area. The future Del Rio service area will include additional acreage that will expand the service area to the north, east, and southwest. According to the Del Rio Community Plan, ‘future planned development land use’ is proposed for the northwest and eastern portions of the service area, while development in the southwestern area will be residential. Full buildout of the service area will require additional pipelines and pumping capacity, as recommended, to provide adequate water service to meet the anticipated demand.

Project Location

The Proposed Project is located in the census-designated place of Del Rio in Stanislaus County. Del Rio is located approximately two miles north of the City’s sphere of influence boundary. The Proposed Project would involve activities at two separate sites within Del Rio: (1) Site A: APNs 004-077-018 and 004-077-019, Ladd Road, and (2) Site B: APN 004-102-003, Stewart Road. Figure 1 shows the locations of the Proposed Project sites.
Legend

- Project Facility Location

Site Details Map
Modesto, California

Figure 1
Project Objectives

The objectives of the Proposed Project are as follows:

• Correct existing deficiencies in the Del Rio water system to meet design pressure and volume storage requirements;
• Ensure sufficient system pressure to provide firefighting flow capacity;
• Improve water system operational flexibility and reliability; and
• Provide additional water supply and storage volume to accommodate anticipated future growth in the Del Rio area.

Proposed Project Facilities

Site A - Tank and Well

The project facilities at this site will consist of an above ground water storage tank, water well and motor, a booster pump station, stand-by generator, and motor control center. Site improvements will include a small parking and access area, fencing or walls, a retention basin, and low-maintenance landscaping. Landscaping will include trees to help screen the tank from adjacent properties and from Ladd Road. As proposed, the water tank would store at least 250,000 gallons of water. The tank will stand a maximum 20 feet above grade and be approximately 70 feet in diameter. The footprint area of the tank will be approximately 3,900 square feet. The booster pump station will be enclosed within a masonry building approximately 2,100 square feet standing a maximum of 22 feet tall.

The site will be enclosed within an eight-foot-tall security wall or fence constructed of either concrete masonry or wrought iron topped with no-climb points. Portions of the site may also include a no-climb chain link fence. The specific type of wall or fence will be determined during the final design. Vehicular access and parking areas within the site will be paved either with Portland cement concrete or asphaltic concrete. Other portions of the site will be covered either with low-maintenance landscaping or gravel.

The water well will be drilled a maximum of 600 feet deep with a desired minimum yield of 1,000 gallons per minute. It is intended to primarily draw water from the confined aquifer below the Corcoran clay layer, which is typically 150 feet to 250 feet below ground. While 1,000 gallons per minute is the desired yield, pumping will vary throughout the year depending upon need, based upon system pressure or tank level, ranging from as much as 20 hours per day during the summer months to as few as two hours per day in the winter. Pumping is expected to occur for an annual average of eight hours per day, with an annual yield of about 175 million gallons.

Additionally, a transmission main will be constructed within St. John’s Road from the tank site. The transmission main will run from the tank site northerly for a distance of
approximately 2,500 feet and will connect to the existing distribution system near the intersection of St. John's Road and Country Club Drive.

Site B - Well

The facilities at this site will consist of a water well and motor, stand-by generator, and motor control center. Site improvements will include paved surfaces around the wellhead, fencing or walls, a small retention basin, and low-maintenance landscaping. Landscaping will be designed to minimize the aesthetic effects of the wall and provide some screening for the well site facilities from adjacent roads.

The water well will be a maximum of 600 feet deep with a desired minimum yield of 1,000 gallons per minute. It is intended to primarily draw water from the confined aquifer below the Corcoran clay layer, which is typically 150 feet to 250 feet below ground. While 1,000 gallons per minute is the desired yield, pumping will vary throughout the year depending upon need, based upon system pressure or tank level, ranging from as much as 20 hours per day during the summer months to as few as two hours per day in the winter. Pumping is expected to occur for an annual average of eight hours per day, with an annual yield of about 175 million gallons.

The site will be enclosed with an eight-to-12-foot-tall security wall or fence constructed either of concrete masonry block or wrought iron topped with no-climb points. The specific type of wall will be determined during the final design. The retention basin may be enclosed with a chain link fence depending on the final layout, but will be screened from view from adjacent residents. The area surrounding the wellhead will be paved with Portland cement concrete. A gravel access road will be constructed around the proposed retention basin.

A transmission main will be constructed within Stewart Road from the well site. The transmission main will run from the well site westerly approximately 500 feet and will connect to the existing distribution system near the intersection of Stewart Road and Grove Point Drive.
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<td>Sera</td>
<td>P.O. Box 945</td>
<td>Zipper Dr, NV</td>
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*These parties are interested in Del Rio Tank and Wells Project and are listed in the Notice of Preparation Distribution List for July 2015.*
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**Interested Parties from City's Planning List**

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Attachment B:
State Clearinghouse
Notice of Preparation Posting
Del Rio Tanks and Wells Project

SCH Number: 2015072055
Document Type: NOP - Notice of Preparation
Project Lead Agency: Modesto, City of

Project Description
The City of Modesto is the lead agency for preparation and review of an environmental impact report for the Del Rio Tank and Wells project (Proposed Project). The Proposed Project involves construction of a water storage tank, booster pump station, and two domestic water wells, which will provide additional storage volume water supply and pressure for the existing water system serving the Del Rio area. The City's 2008 Water System Engineer's Report Program Environmental Impact Report (Water System PEIR) evaluated the Proposed Project at a program level of detail.

Contact Information
Primary Contact:
Tamorah Bryant
City of Modesto
209-577-5205
P.O. Box 642
1010 Tenth Street
Modesto, CA 95353

Project Location
County: Stanislaus
City: Modesto
Region:
Cross Streets: Site A: Ladd Road at St. John Road; Site B: Stewart Road at McHenry Avenue
Latitude/Longitude: 37° 43' 56.6" / 121° 0' 15.1" Map
Parcel No: 004-007-018, 004-102-003
Township: 2S
Range: 9E
Section: 29
Base: MDB&M
Other Location Info:

Proximity To
Highways: Hwy 108; 219
Airports:
Railways:
Waterways: Stanislaus River
Schools: Stanislaus ES
Land Use: Stanislaus County Sphere of Influence

Development Type
Water Facilities

Local Action
Other Action (Amendment)

Project Issues
Aesthetic/Visual, Air Quality, Noise, Water Supply, Growth Inducing, Landuse, Cumulative Effects

Reviewing Agencies (Agencies in Bold Type submitted comment letters to the State Clearinghouse)
Attachment C:
Public Comments Received
July 31, 2015

Tamorah Bryant
City of Modesto Utilities Dept
P.O. Box 642
Modesto, CA 95353

Dear Tamorah Bryant,

Subject: NOP of Draft EIR for Del Rio Tank & Wells Project

We are in receipt of your letter concerning the Draft Environmental Impact Report for the Del Rio Tank and Wells Project. At this time we have no concerns as long as no cultural resources will be damaged during this project. We would like to be contacted if there are any inadvertent discoveries during project implementation.

Thank you for sending us the information concerning this project.

Respectfully,

Stanley R. Cox
Cultural Director
 COMMENTS TO REQUEST FOR REVIEW FOR THE DRAFT ENVIRONMENTAL IMPACT REPORT, DEL RIO TANKS AND WELLS PROJECT, SCH# 2015072055, STANISLAUS COUNTY

Pursuant to the State Clearinghouse's 28 July 2015 request, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) has reviewed the Request for Review for the Draft Environment Impact Report for the Del Rio Tanks and Wells Project, located in Stanislaus County.

Our agency is delegated with the responsibility of protecting the quality of surface and groundwaters of the state; therefore our comments will address concerns surrounding those issues.

I. Regulatory Setting

Basin Plan
The Central Valley Water Board is required to formulate and adopt Basin Plans for all areas within the Central Valley region under Section 13240 of the Porter-Cologne Water Quality Control Act. Each Basin Plan must contain water quality objectives to ensure the reasonable protection of beneficial uses, as well as a program of implementation for achieving water quality objectives with the Basin Plans. Federal regulations require each state to adopt water quality standards to protect the public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act. In California, the beneficial uses, water quality objectives, and the Antidegradation Policy are the State's water quality standards. Water quality standards are also contained in the National Toxics Rule, 40 CFR Section 131.36, and the California Toxics Rule, 40 CFR Section 131.38.

The Basin Plan is subject to modification as necessary, considering applicable laws, policies, technologies, water quality conditions and priorities. The original Basin Plans were adopted in 1975, and have been updated and revised periodically as required, using Basin Plan amendments. Once the Central Valley Water Board has adopted a Basin Plan amendment in noticed public hearings, it must be approved by the State Water Resources Control Board (State Water Board), Office of Administrative Law (OAL) and in some cases,
the United States Environmental Protection Agency (USEPA). Basin Plan amendments only become effective after they have been approved by the OAL and in some cases, the USEPA. Every three (3) years, a review of the Basin Plan is completed that assesses the appropriateness of existing standards and evaluates and prioritizes Basin Planning issues.

For more information on the Water Quality Control Plan for the Sacramento and San Joaquin River Basins, please visit our website:
http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/.

II. Permitting Requirements

Construction Storm Water General Permit
Dischargers whose project disturb one or more acres of soil or where projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Storm Water Discharges Associated with Construction Activities (Construction General Permit), Construction General Permit Order No. 2009-009-DWQ. Construction activity subject to this permit includes clearing, grading, grubbing, disturbances to the ground, such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP).

For more information on the Construction General Permit, visit the State Water Resources Control Board website at:

Phase I and II Municipal Separate Storm Sewer System (MS4) Permits
The Phase I and II MS4 permits require the Permittees reduce pollutants and runoff flows from new development and redevelopment using Best Management Practices (BMPs) to the maximum extent practicable (MEP). MS4 Permittees have their own development standards, also known as Low Impact Development (LID)/post-construction standards that include a hydromodification component. The MS4 permits also require specific design concepts for LID/post-construction BMPs in the early stages of a project during the entitlement and CEQA process and the development plan review process.

For more information on which Phase I MS4 Permit this project applies to, visit the Central Valley Water Board website at:

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1 Municipal Permits = The Phase I Municipal Separate Storm Water System (MS4) Permit covers medium sized Municipalities (serving between 100,000 and 250,000 people) and large sized municipalities (serving over 250,000 people). The Phase II MS4 provides coverage for small municipalities, including non-traditional Small MS4s, which include military bases, public campuses, prisons and hospitals.
For more information on the Phase II MS4 permit and who it applies to, visit the State Water Resources Control Board at:

**Industrial Storm Water General Permit**
Storm water discharges associated with industrial sites must comply with the regulations contained in the Industrial Storm Water General Permit Order No. 2014-0057-DWQ.

For more information on the industrial Storm Water General Permit, visit the Central Valley Water Board website at:

**Clean Water Act Section 404 Permit**
If the project will involve the discharge of dredged or fill material in navigable waters or wetlands, a permit pursuant to Section 404 of the Clean Water Act may be needed from the United States Army Corps of Engineers (USACOE). If a Section 404 permit is required by the USACOE, the Central Valley Water Board will review the permit application to ensure that discharge will not violate water quality standards. If the project requires surface water drainage realignment, the applicant is advised to contact the Department of Fish and Game for information on Streambed Alteration Permit requirements.

If you have any questions regarding the Clean Water Act Section 404 permits, please contact the Regulatory Division of the Sacramento District of USACOE at (916) 557-5250.

**Clean Water Act Section 401 Permit – Water Quality Certification**
If an USACOE permit (e.g., Non-Reporting Nationwide Permit, Nationwide Permit, Letter of Permission, Individual Permit, Regional General Permit, Programmatic General Permit), or any other federal permit (e.g., Section 10 of the Rivers and Harbors Act or Section 9 from the United States Coast Guard), is required for this project due to the disturbance of waters of the United States (such as streams and wetlands), then a Water Quality Certification must be obtained from the Central Valley Water Board prior to initiation of project activities. There are no waivers for 401 Water Quality Certifications.

**Waste Discharge Requirements – Discharges to Waters of the State**
If USACOE determines that only non-jurisdictional waters of the State (i.e., "non-federal" waters of the State) are present in the proposed project area, the proposed project may require a Waste Discharge Requirement (WDR) permit to be issued by Central Valley Water Board. Under the California Porter-Cologne Water Quality Control Act, discharges to all waters of the State, including all wetlands and other waters of the State including, but not limited to, isolated wetlands, are subject to State regulation.
For more information on the Water Quality Certification and WDR processes, visit the Central Valley Water Board website at:

Regulatory Compliance for Commercially Irrigated Agriculture

If the property will be used for commercial irrigated agricultural, the discharger will be required to obtain regulatory coverage under the Irrigated Lands Regulatory Program. There are two options to comply:

1. Obtain Coverage Under a Coalition Group. Join the local Coalition Group that supports land owners with the implementation of the Irrigated Lands Regulatory Program. The Coalition Group conducts water quality monitoring and reporting to the Central Valley Water Board on behalf of its growers. The Coalition Groups charge an annual membership fee, which varies by Coalition Group. To find the Coalition Group in your area, visit the Central Valley Water Board's website at: http://www.waterboards.ca.gov/centralvalley/water_issues/irrigated_lands/app_approval/index.shtml; or contact water board staff at (916) 464-4611 or via email at IrrLands@waterboards.ca.gov.

2. Obtain Coverage Under the General Waste Discharge Requirements for Individual Growers, General Order R5-2013-0100. Dischargers not participating in a third-party group (Coalition) are regulated individually. Depending on the specific site conditions, growers may be required to monitor runoff from their property, install monitoring wells, and submit a notice of intent, farm plan, and other action plans regarding their actions to comply with their General Order. Yearly costs would include State administrative fees (for example, annual fees for farm sizes from 10-100 acres are currently $1,084 + $6.70/acre); the cost to prepare annual monitoring reports; and water quality monitoring costs. To enroll as an Individual Discharger under the Irrigated Lands Regulatory Program, call the Central Valley Water Board phone line at (916) 464-4611 or e-mail board staff at IrrLands@waterboards.ca.gov.

Low or Limited Threat General NPDES Permit

If the proposed project includes construction dewatering and it is necessary to discharge the groundwater to waters of the United States, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. Dewatering discharges are typically considered a low or limited threat to water quality and may be covered under the General Order for Dewatering and Other Low Threat Discharges to Surface Waters (Low Threat General Order) or the General Order for Limited Threat Discharges of Treated/Untreated Groundwater from Cleanup Sites, Wastewater from Superchlorination Projects, and Other Limited Threat Wastewaters to Surface Water (Limited Threat General Order). A complete application must be submitted to the Central Valley Water Board to obtain coverage under these General NPDES permits.
For more information regarding the Low Threat General Order and the application process, visit the Central Valley Water Board website at:

For more information regarding the Limited Threat General Order and the application process, visit the Central Valley Water Board website at:

If you have questions regarding these comments, please contact me at (916) 464-4684 or tcleak@waterboards.ca.gov.

Trevor Cleak
Environmental Scientist

cc: State Clearinghouse unit, Governor's Office of Planning and Research, Sacramento
STANISLAUS COUNTY ENVIRONMENTAL REVIEW COMMITTEE

August 27, 2015

Tamorah Bryant, Acting Senior Civil Engineer
City of Modesto, Utilities Department
PO Box 642 / 1010 Tenth Street
Modesto, CA 95353

SUBJECT: ENVIRONMENTAL REFERRAL - CITY OF MODESTO - NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT - THE DEL RIO TANK AND WELLS PROJECT

Ms. Bryant:

Thank you for the opportunity to review the above-referenced project.

The Stanislaus County Environmental Review Committee (ERC) has reviewed the subject project and asks the City of Modesto to consider including the following information in its environmental impact report:

1. Aesthetic impacts to surrounding land uses;
2. The project's compatibility to surrounding land uses;
3. Growth-inducing impacts;
4. Noise impacts;
5. Impacts of potential water treatment options; and
6. The City should consider proper analysis to ensure no adverse impacts occur to existing groundwater users such as domestic wells. This analysis should include, but not be limited to, a drawdown interference analysis based upon the proposed pump(s) withdrawal rate and usage pattern.

The ERC appreciates the opportunity to comment on this project.

Sincerely,

Patrick Cavanah, Management Consultant
Environmental Review Committee

cc: ERC Members
Ms. Bryant,

The purpose of this communication is to advise you that the Stanislaus Union School District has no comment nor any concerns with the proposed project. This communication shall serve as our formal response to the matter.

Best Regards,

Britta M. Skavdahl, Ed.D.

Britta M. Skavdahl, Ed.D.
Superintendent
Tamorah Bryant

From: Pacheco, Wayne T <WTP1@pge.com>
Sent: Thursday, July 30, 2015 3:54 PM
To: Tamorah Bryant
Subject: Del Rio Tank & Well project

Tamorah,

I have reviewed this project and have no comments or changes to the document. Pacific Gas & Electric does have gas lines in the area but there are no other concerns from the utility. If you have any questions you can call me at 209-576-6532.

Thanks
Wayne Pacheco
Senior Environmental Field Specialist
Pacific Gas & Electric Company
209-576-6532
August 20, 2015

City Of Modesto – C&ED/Planning Division
Attention: Tamorah Bryant, Acting Senior Civil Engineer
PO Box 642
Modesto, CA 95353-0642

RE: Del Rio tank & Wells
APN’s: 004-077-018, 019 & 004-102-003 (Ladd Road & Stewart Road)

Thank you for the opportunity to comment on this referral. Following are the recommendations from our Risk & Property, Electrical, Irrigation, and Domestic Water Divisions:

Irrigation
Proposed Site A - Ladd Road
• There are potential conflicts with existing irrigation facilities within the proposed Site A project area, as shown on the attached project site map. Modesto Irrigation District (MID) has the following conditions of approval for the proposed project:

  ➤ No encroachments are allowed within MID’s existing sixty-foot (60) right-of-way for the Dr. Moore Lateral.
  ➤ There is an existing private pipeline that lies along the southern property line of APNs 004-077-018 and 004-077-019. The existing private pipeline is protected by a fifteen (15) foot private irrigation easement (Inst. No. 16603 dated October 1975). Should the proposed project impact or otherwise alter the existing private infrastructure, MID recommends the City of Modesto (City) consult with those who are served by the existing private pipeline.
  ➤ If the City doesn’t plan to irrigate APNs 004-077-018 and 004-077-019 and wants to be removed from irrigation billing, a Sign-Off of Irrigation Facilities form must be completed and submitted to MID for review.
  ➤ There is an existing private pipeline that crosses St. Johns Rd. approximately 200 feet north of Ladd Rd. Should the proposed transmission main impact or otherwise alter the existing private infrastructure, MID recommends the City consult with those who are served by the existing private pipeline.
Proposed Site B - McHenry Road at Stewart Road
- There are existing Improvement District (ID No. 125 – Langdon Merle ID) facilities located within APN 004-102-003.
  ▶ Draft improvement plans for proposed Site B project area must be submitted to MID’s Irrigation Operation Division for review prior to the start of construction.
  ▶ Irrigation Operations staff recommends a pre-consultation meeting to discuss MID irrigation requirements. MID irrigation standard details will be provided upon request.

**Domestic Water**
- No comments at this time.

**Electrical**
- The attached maps show the approximate location of the District’s existing electrical facilities.
  - In conjunction with related project requirements, existing overhead and underground electric facilities within or adjacent to the proposed projects shall be protected or relocated as required by the District’s Electric Engineering Department.
  - Costs for relocation and/or undergrounding the District’s existing electrical facilities at the request of others will be borne by the requesting party. Estimates for relocating or undergrounding existing facilities will be supplied upon request.
  - Please contact the District’s Electric Engineering Design Department, attention Linh Nguyen at (209) 526-7437 in order to coordinate project requirements. Project cost estimates will be supplied upon request.

The Modesto Irrigation District reserves its future rights to utilize its property, including its canal and electrical easements and rights-of-way, in a manner it deems necessary for the installation and maintenance of electric, irrigation, agricultural and urban drainage, domestic water and telecommunication facilities. These needs, which have not yet been determined, may consist of poles, crossarms, wires, cables, braces, insulators, transformers, service lines, open channels, pipelines, control structures and any necessary appurtenances, as may, in District’s opinion, be necessary or desirable.

If you have any questions, please contact me at 526-7433.

Sincerely,

[Celia Aceves's signature]

Celia Aceves
Risk & Property Analyst

Copy: File
City of Modesto
Utilities Department
P.O. Box 642
Modesto, California 95353

Dear Utilities Department:

We are in receipt of your “Notice of Preparation of a Draft Environmental Impact Report for the Del Rio Tank and Wells Project,” together with an invitation to respond.

As an association, we are in support of the Wells Project. However, we believe that your Notice is deficient in that it does not reference the litigation between our association and the City of Modesto, nor the settlement agreement (the “Agreement”) in that case which requires the City to make improvements to the Del Rio water system, including those specified in the Tank and Wells Project.

By way of background, in 2004, our organization, the Del Rio Community Association, now called the Del Rio Property Owners Association (“DRPOA”), brought suit against the City of Modesto alleging, inter alia, that the proposed rate increase violated California law in that it far exceeded the cost of providing the service. During that litigation, the City disclosed the West-Yosh Technical Memorandum which specified several improvements that were deemed critical to the Del Rio water system, and which needed to be done immediately at a very significant cost. Based upon that report, the litigation was settled with the City committing in the Agreement to complete all of the West-Yosh critical improvements within eight years of the July 15, 2005 date of that Agreement. Thus, the improvements were all to be in place not later than July 15, 2013.

In spite of this commitment, and its legal obligations to provide adequate water, to date, the City has completed work on only two of these “critical” improvements. We believe that the “Draft EIR, Background and Need” section, must necessarily address the July 15, 2005 Settlement Agreement and the City’s obligations under it. For example, it is most concerning to us and our community that of the 5 specific improvements cited in the report, only 2 have been completed, and that there is a possibility that the City is somehow going to be prevented from performing its obligations under the Settlement with us.

The DRPOA and City engineering staff have stayed in communication about these improvements and the DRPOA has given multiple time extensions. However, our position is that the City is still bound by this agreement and must provide the necessary improvements to guarantee sufficient water pressure to assure the safety and supply of the Del Rio community. We make one other point: The initiating cause (i.e. the 1/28/2005 Settlement Agreement)
of the Del Rio Tanks and Wells Project specifies that the City will make such “improvements and repairs ... as necessary to continue to provide water service to existing City customers in the Del Rio Community.” It did not, nor did it intend to, address anticipated future growth as cited in the “Background and Need” section of the Notice. It is the position of the DRPOA that if the size and scope of the project plan includes capacity to provide for future growth and that such provision makes the project unacceptable or infeasible for whatever reason, the obligations undertaken by the City in the Agreement would require the City to scale back the project to only the needs of the current Del Rio Community so that the improvements required by the Agreement can be completed.

If you have further questions, or need copies of the Report or the Settlement Agreement, please contact our board.

Very truly yours,

[Signature]

Bret de St. Jeor, President
Del Rio Property Owners Association
Via E-mail and Federal Express

City of Modesto Utilities Department
C/o Tamorah Bryant
1010 Tenth Street, 4th Floor
P.O. Box 642
Modesto, CA 95353

RE: Notice of Preparation of Draft EIR for the Del Rio Tank and Wells Project
Comments Regarding Scope and Content of Draft EIR

Dear Ms. Bryant:

I represent the North Modesto Groundwater Alliance ("the Alliance"). The Alliance is an unincorporated association formed in 2012 and comprised of residents and property owners whose collective goal is to ensure that the environmental effects and impacts to the North Modesto area from the Del Rio Tank and Wells Project ("Project") are analyzed, reviewed and reported in full compliance with the California Environmental Quality Act ("CEQA").

Pursuant to CEQA Guidelines Section 15082, I submit the following response on behalf of the Alliance to the Notice of Preparation of Draft EIR for the Del Rio Tanks and Wells Project ("NOP") dated July 21, 2015. The following are significant environmental issues and reasonable alternatives and mitigation measures that the Alliance believes that the City of Modesto Utilities Department ("City") needs to explore and thoroughly study in its draft EIR:

1. **Groundwater.**

   A. **Sustainable yield of aquifer.**

      i) In the City’s analysis of the effects that the Project wells will have on groundwater quantity, quality, availability and levels in the region where the Project’s wells will be located, the Project wells need to be studied on the basis of operation at their maximum capacity 24 hours per day, seven days per week. The rationale for this requirement is that the City will not be regulated or limited in terms of the quantity of water it will be allowed to pump from the two Project wells over any time period, and with growing demand on the Project wells from buildout of the Del Rio Community Plan and other land uses, the City will only be limited in the amount of water it pumps based upon a) demand for water, and b) the maximum capacity of the wells’ pumps. Therefore, the impacts of the two Project wells on regional groundwater availability must be studied as if the wells will operate at maximum capacity, 24 hours per day, seven days per week.
ii) The sustainable yield of an aquifer (layer of groundwater) is defined as the average annual amount of groundwater that can be extracted from a groundwater basin while maintaining a non-overdraft condition. What is the actual (not estimated) sustainable yield of the aquifer in the immediate location of the two proposed Project wells?

iii) Are the aquifers underlying the proposed Project site hydrologically interconnected? The NOP project description for Site A (Ladd Road) states that the Site A well “is intended to primarily draw water from the confined aquifer below the Corcoran clay layer, which is typically 150 feet to 250 feet below ground.” Words such as “intended”, “primarily” and “typically” are qualifiers that imply that the well may also draw water from other aquifers (Webster’s Ninth New Collegiate Dictionary defines “primarily” as “for the most part” or “chiefly”) and are inherently vague and ambiguous. Furthermore, it is the Alliance’s understanding from discussions with expert geologists who are very familiar with the geology of North Modesto that the Corcoran clay layer terminates west of the proposed Project well sites, and does not extend as far east as the Site A well. Therefore, contrary to the statement in the NOP, the aquifer where the wells will be screened is not confined. It is critically important to Alliance members that the EIR: a) comprehensively and accurately characterize the subsurface lithology, including its vertical and lateral extent, in the area of the proposed Project wells, b) state unambiguously and with certainty and precision which aquifer(s) each of the proposed Project wells will draw from, c) state whether the proposed wells will in fact draw from other aquifers too, and if they will, d) state which other aquifers they will draw from. There are many people, including but certainly not limited to the members of the Alliance, who must have this information because their own wells are at risk because of the proposed Project.

iv) When groundwater is extracted from the aquifer in which the proposed Project wells will be screened, will such extraction draw groundwater from shallower aquifers in the vicinity of the Project wells or cause groundwater to migrate away from wells that are not as deep as the Project wells?

B. Groundwater Management and/or Mitigation Plan.

i) What is the City’s groundwater management and/or mitigation plan to prevent an overdraft condition in the vicinity of the Project wells?

2. Growth-inducing Impacts.

How will the proposed Project foster economic or population growth, or the construction of additional housing, either directly or indirectly in the proposed Project’s service area? CEQA Guideline Section 15126.2(d) requires an EIR to include a detailed statement of the proposed project’s anticipated growth-inducing impacts in the North Modesto area.
3. **Noise.**

What levels of noise, in terms of specific decibel levels, will the engines at the proposed wellheads and pump stations produce during operation? What specific measures or mitigation will the City definitely install at the Project site to reduce such noise to acceptable residential levels?

4. **Aesthetics.**

The City must fully analyze the aesthetic impacts of the Project on the neighborhood in the immediate vicinity of the proposed Project. What specifically does the City intend to do to mitigate the permanent degradation of the visual character and quality of the nearby neighborhood caused by the Project? Will the 250,000 gallon storage tank be partially set below-grade to lessen its vertical profile? If so, specifically in a measurement of feet how deep will the tank be set?

What specific type of fencing or wall (height, type, and material) will surround the Project? The NOP repeatedly states that the City will install “an eight-foot-tall security wall or fence” without committing to one or the other. Instead, it procrastinates making such commitment by stating that “The specific type of wall or fence will be determined during the final design.” The proposed Project was originally approved by the City Council 3½ years ago on March 13, 2012. Certainly, the City must know by now whether it plans to install a fence or a wall. Unless the specific visual mitigation measure is stated in the Draft EIR, with a full description of height, type, material and finish, the public will be unable to comment on whether or not such measure is adequate.

What specific type of landscaping will be used to mitigate the visual blight caused by the Project? How much landscaping will be used (i.e. number and type of trees, shrubs, etc.). How will the landscaping be maintained? Will the landscaping plan be in the Draft EIR?

The City’s Program EIR and the Finding of Conformance were both hopelessly vague and ambiguous in discussing these aesthetic mitigation issues. As a result, the public was left guessing exactly what the City would do to mitigate the visual degradation and blight caused by the proposed Project, and the City maintained complete discretion right up to the moment of installation as to what measures it would ultimately employ. The Draft EIR must contain a specific description of all aesthetic mitigation measures that it will definitely install.

5. **Analysis of Alternatives to the Project.**

CEQA Guidelines Section 15126.6(a) requires that an EIR describe a range of reasonable alternatives to the proposed Project.

A. “No-project” Alternative.

The purpose of describing and analyzing a “no project” alternative is to allow decision
makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project. The City has always represented that the purpose of the Project is limited to upgrading the quality of water being delivered to the existing Del Rio subdivision and to increase pressure within the fire suppression water lines for better fire protection. The City has also consistently denied that the Project is being constructed to serve the build-out of the Del Rio Community Plan. If the City is correctly representing the true purpose of the Project, why are two wells with such high capacity for pumping and delivering groundwater necessary?

The City needs to discuss the existing conditions at the time the Notice of Preparation was published, and also analyze and discuss whether upgrades to the existing wells serving the existing Del Rio subdivision, such as abandonment/closure of the existing shallow well and re-drilling a larger and deeper well in the same location, could supply a higher quality water and simultaneously better water pressure for the fire suppression system to the existing Del Rio subdivision in lieu of the Project.

B. Alternative Location.

The key question and first step in this analysis is whether any of the significant effects of the Project would be avoided or substantially lessened by putting the project in another location. The Project is being constructed for the exclusive use and benefit of the Del Rio subdivision, yet with the exception of the Stewart Road well, not one part of the proposed Project – the Site A well, the storage tank, or the masonry building enclosing the pump station – will be constructed on Del Rio property. Based upon the current Project design, Del Rio residents living west of St. John’s Road will receive all of the benefits of the Project with none of the burdens, and Petitioner’s members will shoulder all of the burdens with none of the benefits. What alternative sites within the Del Rio subdivision west of St. John’s Road that will be served by the Project are being analyzed by the City for construction of the Project?

C. Alternatives to the Project.

Depending upon how much groundwater is available on a sustained basis for the proposed Project (which can only be determined by analyzing the sustainable yield of the aquifer being used to deliver water to the Project) and how much impact the Project wells will have on the aquifers and existing nearby wells, the EIR should consider a “reduced intensity alternative” of only one well instead of two, or smaller wells with less capacity.

Two other alternatives to the Project that need to be thoroughly analyzed are 1) the use of surface water from the MID water treatment plant to serve the Del Rio community instead of groundwater, and 2) a conjunctive use of surface water and groundwater to supply the Del Rio community, which is the same combination that the City uses to serve residents within the City limits. This latter alternative would result in a reduction of the amount of groundwater needed for Del Rio, and in the Alliance’s view is the best alternative because it is the only sustainable option that will serve the needs of the Del Rio area as growth continues and simultaneously maintain water quality and long-term aquifer viability.
6. Cumulative Impacts.

Pursuant to CEQA Guidelines Section 15130, the City should analyze in the EIR the cumulative impacts of the Project created as a result of the combination of the Project with other City and MID groundwater projects causing related impacts. As defined in CEQA Guidelines Section 15355, a cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts. The City derives approximately 60% of its water from groundwater wells from its other projects, so it needs to study the cumulative impact associated with the Project’s incremental effect and the effects of other projects on the sustainable yields of the Modesto and Turlock sub-basins, the cumulative impact of the Project on the creation of a condition of groundwater overdraft, and the cumulative impact of the Project on the depletion of water levels of nearby shallow domestic and agricultural wells.

7. Project Impact on Global Climate Change.

The City should analyze in the EIR the Project’s potential impact on global climate change, including:

a) The extent to which the Project reduces the amount of stored water deep underground and redirects it to the more active hydrologic system at the land-surface, where it evaporates into the atmosphere and ultimately falls as precipitation into the ocean or elsewhere;

b) The extent to which the prolonged drought in California is increasing dependence on groundwater for agriculture, and the impact that the Project will have on exacerbating that condition; and

c) The extent to which the Project contributes to uncontrolled groundwater development, overexploitation of groundwater and contamination of groundwater.

The Alliance looks forward to reviewing the Draft EIR.

Sincerely,

[Signature]
Daniel W. Smith
forgot to add name  dale denlinger

we are very much against the well being dug and put on the property next to us. It makes no sense to pump water and pipe it 1/2 mile to the country club. They have property right to the north east of the del Rio club. no one would see the huge tank and it would be right there. let them run their water tables down, not ours. farmers in this area are very upset. this is farm land not country club property.
Tamorah Bryant  
Acting Civil Engineer  
City of Modesto-Utilities  

Dear Ms. Bryant:

We have received a Notice of Preparation (NOP) concerning the formulation of the Draft Environmental Impact Report for the Del Rio Tanks and wells project. As the adjacent property (117 Stewart Rd.) of the proposed Site "B" Facility, there will be of course, not only consequential impacts to our lives and property-but also direct impacts which we expect the City of Modesto to mitigate to the best of their ability. We would like to address some of these concerns as listed in the Introduction to the NOP and outlined by Horizon Water and Environment, 2015, in sequence as listed.

AESTHETICS:

Aesthetics should be an integral part in the planning of any project. Too often, a utilitarian mindset prevails when planning such a project as the well development. This is always a short-sighted approach which leads to the substantial lack of pride in the completed project and an incremental loss of pride in the community as a whole. The description of the proposed site development unfortunately leaves a lot of latitude in this respect; "portions of the site may also include a no-climb chain link fence"; "parking areas within the site will be paved either with Portland Cement Concrete or asphaltic concrete"; ----either low-maintenance landscaping or gravel." The end result of such a project under these parameters could be pretty much anything. We would like to request an artist's rendering of the proposed site, including its proximity to our existing east wall and the 275 year old Heritage Oak Tree on the corner lot. With this in hand, we will be able to offer a more considered opinion.

GLOBAL CLIMATE CHANGE:

Past my paygrade.
NOISE:

Noise is of course one of several factors that will directly impact both the quiet enjoyment of our property and its resale value in a negative fashion. In our previous discussions with civil engineer, Robert Christensen, we expressed our concern about this matter and were assured that this would be looked into. The main area of concern of course are the vertical shaft pumps that are unfortunately the primary choice for such projects. The starting and operational noise from this style of pump can have a substantial impact to adjacent properties. With this in mind, we would request that the use of submersible pumps be thoroughly evaluated and not just dismissed off-hand. There are any number of manufacturers that have developed pumps that are ready, willing and able to handle the requirements as outlined in the NOP with efficiency and reliability, such as the Grundfos-SP Series Model 1100S, capable of 220-1,400 G.P.M. and heads up to 1,200 ft. If we would receive a commitment in writing that the well adjacent to our property will be submersible, we will consider this matter to be resolved. If we do not receive such a commitment we will by necessity assume that the pump will be of the conventional vertical shaft assembly with all of the inherent issues of noise involved. In this regard we would request the anticipated decibel levels of the operational facility such as outlined in the NOP, along with the measures proposed by the city to eliminate or mitigate these noises.

CUMULATIVE IMPACTS:

No statement.

GROUNDWATER:

As we are all aware, the groundwater issue has become a major issue for Valley Residents and a deep concern of ours especially in the context of this proposed development. Our home was built in 1929, and as far as I know, we are using the original well and pump house. Though I have changed out the conventional well pump to a submersible, we have had zero issues with our well. Groundwater level when I changed out our conventional (1996) was at 40 feet, and I set our pump at 60 feet (consistent with the old pump). When this new well starts pumping out 1,000 G.P.M. From under our house, what will happen? The projected annual average of 175 million gallons a year is a staggering number. Is our well and our neighbors wells going to be immune to this water grab underneath our property, or will it suffer the fate of so many small wells in the
foot-hills that have gone dry. As per the Modesto Bee article of May 10, 2015, by retired U.S. Geological Hydrologist, Vance Kennedy, we would be naive not to be concerned. We would like to know what the City of Modesto proposes to do for us and the residents of our community who might start having water issues, coincidental, or not, with the proposed development. What is meant by the statement that the water will be “primarily” drawn from the confined aquifer below the Corcoran clay level? While we believe the goal to be 100% what is the projected actual? 90%? 99%? 99.9%? Unknown? Even at a 99% effective rate, that would mean an annual projected loss of 1.75 million gallons a year from our groundwater supply. In its attempt to regulate groundwater resources, the Stanislaus County Board of Supervisors has submitted a draft resolution (Draft CS-Section 9.37.020) in which it sights several concerns about the effects of drafting (overdrafting) groundwater resources. Among its concerns, it sights the fact that mining of groundwater resources can lead to impacts ranging from movement of inferior quality water, lower levels of water, and groundwater degradation. It goes on to state that mining of groundwater resources could have adverse economic impacts including, but not limited to, loss of arable land, “a decline in property values”, increased pumping costs, replacement of wells, etc. These findings are in the context of limiting the export of groundwater to third parties outside of Stanislaus County. That does not however, change the fact that groundwater over drafting can and does lead to negative impacts. I would venture to say that 175 million gallons/year times two equals potential troubles for all concerned.

LANDUSE:
No statement.

GROWTH INDUCING IMPACTS:
Obviously this falls under the category “If you build it, they will come.”

ALTERNATIVES:
1. Rezone property that was changed from agricultural to residential in 1995, back to its proper designation of agricultural. The properties involved in this rezoning have not been developed, nor should they be.
2. Limit growth in the area.
ADDITIONAL CONCERN:

Another issue that has been previously addressed with Mr. Christensen was the health and welfare of the Heritage Oak Tree that lives on the corner of Stewart and McHenry. This Heritage Oak is some 275 years old and has been the subject of a Modesto Bee Article and a item of concern of the noted late arborist author and columnist, John Haller. Mr. Haller once referred to this Heritage Oak, as quote: "One of the premier specimens of a valley oak." This coming from someone who devoted his career to the understanding and care of trees and author of the book Tree Care, by Audel Publishing John Haller c. 1997. We need to acknowledge and respect not only the beauty and heritage of this tree, but also take any and all measures to protect this tree in all phases of the proposed development, including, but not limited to:

1. Recognition of the status of this Heritage Oak and a commitment to its continued health and welfare; including the guidance of a certified arborist in all phases of the proposed development to make sure that no harm comes its way.

2. Routing of water pipe west to Stewart Rd. Water main needs to be kept away by running it adjacent to and parallel with McHenry Ave.

3. Limited Activity Around Oak. We were assured by Mr. Christensen that the city would take all necessary measures to insure that no harm comes to this tree, we would like to see such assurance in writing.

Sincerely Yours,

Jim and Joani Matthews
117 Stewart Rd.
Modesto, Ca. 95356
To: Tamorah Bryant  
City of Modesto Utilities Department  
P.O. Box 642 (1010 Tenth Street)  
Modesto, CA 95353  

From: Richard A. McCullough  
7024 Walnut Woods Drive (Del Rio)  
Modesto, CA 95356  (209)524-7667  

Subject: Response to Draft Environment Impact Report for the Del Rio Tank and Well Project

I went to a meeting several years ago sponsored by The City of Modesto and at that meeting we were told that a deep well would not affect the more shallow aquifer in our area. Later I read in The Modesto Bee another expert who wrote that was untrue.

In The Modesto Bee August 2, 2015 “Well data base faces a drought of user data?” In that article I saw a very real lack of data for the Del Rio area. With this in mind, I believe more study should be done before any approval of any expansion of existing wells or adding of a new well to site B: APN004-102-003 on Stewart Road. There are a number of private homes off of Stewart that have always been on shallow private wells.

I am sending a copy of this letter to Mr. Dick Monteith, District 4 Representative on the Stanislaus County Board of Supervisors asking for his help to ensure we are not harmed by this proposal.
Appendix B

Environmental Checklist
B. Environmental Checklist

Project Title: Del Rio Tank and Wells Project

Lead Agency Name and Address: City of Modesto Utilities Department
P.O. Box 642 (1010 Tenth Street)
Modesto, CA 95353

Contact Person and Phone Number: Tamorah Bryant, Senior Civil Engineer
(209) 577-5205

Project Location: Unincorporated Stanislaus County
Site A: APN 004-077-018 and 004-077-019 (718 Ladd Road), southeast of the intersection of Ladd Road and St. John Road
Site B: APN 004-102-003, northwest of the intersection of McHenry Avenue and Stewart Road (portion near Stewart Road)

County General Plan Designation: Site A: AG, Agriculture
Site B: PD, Planned Development

County Zoning Classifications: Site A: A-2-40, 40-acre lot Agriculture
Site B: PD, Planned Development

Description of Project: See EIR Chapter 2, Project Description

Surrounding Land Uses and Setting: Site A: vacant on the west parcel, 1 single-family house and accessory buildings on the east parcel
Site B: vacant land, formerly agriculture

Other Public Agencies whose Approval or Input May Be Needed:
- California State Water Resources Control Board
- Central Valley Regional Water Quality Control Board
- California Department of Public Health
- San Joaquin Valley Air Pollution Control District
- Stanislaus County
- Modesto Irrigation District
1. **Environmental Factors Potentially Affected**

In accordance with Section 15168 of the California Code of Regulations, this Initial Study discloses whether the proposed project described in Chapter 2 may cause any project-specific significant effect on the environment that was not examined in the Final Program Environmental Impact Report (Program EIR) for the Water System Engineer’s Report (City of Modesto 2010) and whether new or additional mitigation measures or alternatives may be required as a result. The Initial Study thereby documents whether or not the Proposed Project is “within the scope” of the Program EIR. Topics fully evaluated in the EIR for the Proposed Project were chosen because this IS identified the potential for a significant impact beyond that identified and analyzed in the Program EIR. Applicable mitigation measures identified in the Program EIR and additional project-specific mitigation measures identified in the Proposed Project EIR would be applied to the Proposed Project as necessary to reduce impacts to a level that is less than significant.

The environmental factors checked below would potentially be affected by this Proposed Project (i.e., the Project would involve at least one impact that is a “Potentially Significant Impact”), as indicated by the checklist on the following pages.

- [X] Aesthetics
- [ ] Agricultural and Forestry Resources
- [X] Air Quality
- [X] Biological Resources
- [X] Cultural Resources
- [X] Geology / Soils
- [X] Greenhouse Gas Emissions
- [ ] Hazards and Hazardous Materials
- [X] Hydrology / Water Quality
- [X] Land Use & Planning
- [ ] Mineral Resources
- [X] Noise
- [ ] Population & Housing
- [ ] Public Services
- [ ] Recreation
- [ ] Transportation/Traffic
- [ ] Utilities & Service Systems
- [ ] Mandatory Findings of Significance

2. **Evaluation of Environmental Impacts**

The degree of change from existing conditions resulting from implementation of the Proposed Project is compared to the impact evaluation criteria to determine if the change is significant. Where it is determined that one or more significant impacts could result from implementation of the Proposed Project that was not examined in Program EIR, the topic is carried forward for analysis in the EIR. Existing conditions serve as a baseline for evaluating the impacts of the Proposed Project.

The following terminology is used in this document to describe the various levels of environmental impacts associated with the Proposed Project:

- **A finding of no impact is identified if the analysis concludes that the Proposed Project would not affect a particular environmental topical area in any way.**
• An impact is considered *less than significant* if the analysis concludes that the Proposed Project would not cause a substantial adverse change in the environment.

• An impact would be considered to have *potentially significant issues* if the analysis concludes that the Proposed Project could cause a significant environmental impact. A program that potentially produces significant impact(s) warrants a greater level of analysis and consideration provided by an EIR.
3. **CEQA Environmental Checklist**

<table>
<thead>
<tr>
<th>AESTHETICS: Would the project:</th>
<th>Potentially Significant Issues</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Have a substantial adverse effect on a scenic vista?</td>
<td>X</td>
<td></td>
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<tr>
<td>b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a designated scenic highway?</td>
<td>X</td>
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<tr>
<td>c) Substantially degrade the existing visual character or quality of the site and its surroundings?</td>
<td>X</td>
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<tr>
<td>d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?</td>
<td>X</td>
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</table>

The Proposed Project would involve construction and operation of quasi-industrial uses (water storage tank, wells, pump station building, security lighting) in an area that is currently occupied by and surrounded by open space, agricultural fields, and residential uses. In addition, the Program EIR identified potentially significant impacts and mitigation measures to reduce those impacts to a less-than-significant level (City of Modesto 2010: pp. 3.1-9–3.1-11). The potential exists for the Proposed Project to result in significant impacts. Therefore, a full analysis of the Proposed Project's potential effects on aesthetic resources is provided in the EIR.
II. AGRICULTURAL AND FORESTRY RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the State’s inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:

<table>
<thead>
<tr>
<th>a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?</th>
<th>Potentially Significant Issues</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in PRC section 12220(g)), timberland (as defined by PRC section 4526), or timberland zoned Timberland Protection (as defined by Government Code section 51104(g))?</td>
<td>X</td>
<td></td>
<td></td>
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<tr>
<td>d) Result in the loss of forest land or conversion of forest land to non-forest use?</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?</td>
<td>X</td>
<td></td>
<td></td>
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</tbody>
</table>

Explanations

Based on the below supporting environmental analysis derived from the Program EIR (City of Modesto 2010: pp. 3.2-5–3.2-8), and pursuant to Sections 15168 and 15162 of the CEQA Guidelines, the City has determined, on the basis of substantial evidence in the light of the whole record, that the Proposed Project is consistent with the project described and analyzed in the Program EIR. No new or additional significant impacts related to agricultural and forestry resources have been identified for the Proposed Project. Therefore, no further review for this impact is required under CEQA.
a) **Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use – No Impact**

According to the California Department of Conservation’s map, “Stanislaus County Important Farmland 2014,” Site A is designated Rural Residential and Site B is designated as Urban and Built-Up (California Department of Conservation 2015). The pipeline connecting Site A to an existing pipeline at Country Club Drive would be installed fully within the right-of-way of St. John Road and Ladd Road. The pipeline connecting Site B to an existing pipeline on Stewart Road at Grove Point Way would be installed fully within the right-of-way of McHenry Avenue. Therefore, no Prime Farmland, Unique Farmland, or Farmland of Statewide Importance would be converted to non-agricultural use for this project. No additional impact on Prime Agricultural land is anticipated, compared to the Program EIR. There would be no impact.

Note that the Program EIR identified this impact as significant and unavoidable because other projects would adversely affect Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. However, this Project does not adversely affect any Prime Agricultural land.

b) **Conflict with existing zoning for agricultural use, or a Williamson Act contract – No Impact**

According to the California Department of Conservation, no Williamson Act contracts are in effect on the project sites (California Department of Conservation 2012). Therefore, the Proposed Project would not conflict with a Williamson Act contract.

Site B is zoned as P-D (Planned Development) and therefore would not conflict with zoning for agricultural use. The Site A and Site B pipelines would be installed within road rights-of-way and therefore would not conflict with zoning for agricultural uses.

Site A is zoned as A-2-40 (General Agriculture District), which permits various uses, including (but not limited to) agricultural uses, single-family dwellings, mobile homes, buildings and appurtenances that are incidental or related to farming purposes, garage sales, and temporary agricultural service airports. According to Section 21.20.030 of the Stanislaus County Code, the A-2 district allows “Tier Three” uses that are not directly related to agriculture but may be necessary to serve the A-2 district. Specifically, public buildings and facilities for public utilities may be permitted on parcels zoned A-2, but such uses are subject to permit approval by the Stanislaus County Planning Commission. In addition, the Agricultural Element of the Stanislaus County General Plan 2015 includes buffer setback guidelines for new or expanding uses in or adjacent to parcels zoned A-2, requiring that all projects incorporate a minimum 150-foot-wide buffer setback (Stanislaus County 2016a). Uses permitted within the buffer area include utilities, drainage facilities, landscaping, parking lots, and similar low-intensity uses.

The proposed facilities would likely meet the “Tier Three” criteria of a permitted use. Although agricultural uses are located immediately east of Site A, a berm and retention basin would be constructed within the 150-foot-wide buffer setback, both of which qualify as permitted buffer uses. As required by County Code, the City would apply for a use permit from Stanislaus County. In addition, Site A is currently occupied by a residence and is not used for agricultural
purposes. For these reasons, the Proposed Project would not result in a conflict with the County’s zoning district. There would be no impact.

c) Conflict with existing zoning for forest land or timberland – No impact

The Proposed Project would not conflict with zoning for forest land. No zoning for forest land or timberland is identified in the project area (Stanislaus County 2015) and Stanislaus County does not classify land as Timberland Protection Zones. There would be no impact.

d) Cause a loss of forest lands – No impact

The Proposed Project would not result in the loss of forest lands or the conversion of forest land to non-forest use. No zoning for forest land is identified in the project area (Stanislaus County 2015). There would be no impact on forest lands.

e) Cause changes to the existing environment due to conversion of agricultural or forest lands – No impact

As mentioned in items (a) and (b) above, the Proposed Project would not directly or indirectly lead to changes in the existing environment that could have adverse effects on agricultural land. Therefore, the Proposed Project would not result in conversion of farmland to non-agricultural use or conversion of forest land to non-forest use. There would be no impact.
### III. AIR QUALITY:

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:

<table>
<thead>
<tr>
<th>Potential Significant Issues</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Conflict with or obstruct implementation of applicable air quality plans?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?</td>
<td>X</td>
<td></td>
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<tr>
<td>d) Expose sensitive receptors to substantial pollutant concentrations?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>e) Create objectionable odors affecting a substantial number of people?</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

**Explanations**

**a-d) Conflict with air quality plans, violate air quality standards, result in cumulatively considerable increase of criteria pollutants, expose sensitive receptors to substantial pollutant concentrations – Potentially Significant Issues**

The Proposed Project would be located in Stanislaus County, which is one of eight counties that comprise the San Joaquin Valley Air Pollution Control District (SJVAPCD) and the San Joaquin Valley Air Basin (Basin). The County’s portion of the Basin has been designated as nonattainment for the federal and state standards for ozone and particulate matter less than 2.5 microns in diameter (PM2.5), as well as for the state standard for particulate matter less than 10 microns in diameter (CARB 2016, USEPA 2016). The portion of the Basin within Stanislaus County is in attainment or unclassified for all other criteria pollutants. The SJVAPCD has developed air quality plans for ozone and PM$_{2.5}$, as required under the Clean Air Act.

The Proposed Project would have the potential to emit PM from ground-disturbing construction activities and to emit ozone precursor pollutants (i.e., reactive organic gases and nitrogen oxides) from fuel combustion by construction equipment, materials delivery and fill hauling vehicles, and construction worker vehicle trips. In addition, diesel PM, a toxic air contaminant, would be emitted from equipment and vehicles using diesel as a fuel source. These construction-related emissions could occur near or adjacent to sensitive receptors. These impacts would be potentially significant. This issue is investigated further in the Proposed Project EIR.
The project area is not within an area identified as likely to contain naturally occurring asbestos (NOA), which is a toxic air contaminant. Therefore, it is unlikely that the Proposed Project’s ground-disturbing activities would result in any NOA emissions.

e) Create objectionable odors affecting a substantial number of people – Potentially Significant Issue

Construction of the Proposed Project components could generate objectionable odors through emissions of diesel particulate matter by construction equipment and through the use of diesel emergency backup generators during project operations. These impacts would be potentially significant and are investigated further in the EIR.
### IV. BIOLOGICAL RESOURCES: Would the project:

<table>
<thead>
<tr>
<th>Potential Issues</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>d) Interfere substantially with the movement of any native resident or migratory species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan?</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

### Explanations

**a) Substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species - Potentially Significant Issues**

Potential impacts on candidate, sensitive, or special-status species could occur from direct impacts due to construction of Project components, or from Project-related modification of potential habitat. These impacts would be potentially significant. The EIR evaluates the potential for candidate, sensitive, or special-status species to occur in proposed improvement locations based on known occurrences and habitat requirements of these species.
b) Substantial adverse effect on any riparian habitat or other sensitive natural community – No Impact

Riparian habitat occurs in the vicinity of the project area along the Stanislaus River. Other sensitive natural communities may also be present in the project area. Potential impacts on these habitats or communities could occur as a result of construction and/or operation of the proposed wells and tank and proposed transmission pipelines at both project sites.

A field survey of Sites A and B was conducted by a trained biologist on May 4, 2016. No riparian habitat or other sensitive natural communities are present within the study area. Thus, no impact would result to these habitats or communities.

c) Substantial adverse effects on federally protected wetlands – No Impact

Federally protected wetlands and waters and other surface waters or wetland features may be present in the project area. Activities associated with the Proposed Project could result in the disturbance or loss of jurisdictional wetland and aquatic communities. A field survey of the Site A and Site B study areas was conducted by a trained biologist on May 4, 2016. No waters of the United States (waters of the U.S.) are present within the study area. The study area was surveyed for the presence of hydrophytic vegetation, hydric soils, and wetland hydrology. None of these wetland indicators were present in the study area. The Modesto Irrigation District canal immediately south of Site A would not be affected by Proposed Project activities, based on City compliance with construction-related and operational drainage requirements as described in Chapter 2, Project Description, of the EIR and in Section IX, “Hydrology,” of this Environmental Checklist. There would be no impact.

d) Substantial interference with wildlife movement, established wildlife corridors, or the use of native wildlife nursery sites – Potentially Significant Issues

The Proposed Project could interfere with breeding or migration of wildlife species. Specifically, if construction of project components occurs during the breeding season for migratory species, impacts on these species could result. These impacts would be potentially significant and are evaluated in the EIR.

e) Conflict with local policies or ordinances protecting biological resources – Potentially Significant Issues

The Stanislaus County General Plan 2015 Conservation/Open Space Element (Stanislaus County 2016a) establishes several policies (notably Goal One, Policies Three and Four, and Goal Ten, Policy Twenty-nine) to protect sensitive species, along with habitats such as vernal pools, riparian habitats, and oak woodlands. The Proposed Project does not conflict with any local policies protecting biological resources because no vernal pools, riparian habitats, or oak woodlands are present in the study area, based on field surveys conducted by a qualified biologist on May 4, 2016. As indicated in item (a) above, impacts on sensitive species are potentially significant issues and are evaluated in Chapter 6, Biological Resources, of the DEIR.
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State Habitat Conservation Plan – *No Impact*

The PG&E San Joaquin Valley Operation & Maintenance Habitat Conservation Plan (PG&E O&M HCP) (PG&E 2006) covers specific PG&E activities throughout nine counties in the San Joaquin Valley, including Stanislaus County. The PG&E O&M HCP complies with the federal and state ESAs and addresses multiple species and critical habitats. The PG&E O&M HCP outlines steps to minimize, avoid, and compensate for possible direct, indirect, and cumulative adverse effects on threatened and endangered species that could result from PG&E operation and maintenance activities in the San Joaquin Valley. The Proposed Project is within the PG&E O&M HCP boundaries but is not within PG&E's service area and is not a covered activity under the PG&E O&M HCP.

Wildlife species covered by the PG&E O&M HCP with the potential to be affected by the Proposed Project are Swainson's Hawk and Burrowing Owl. There is no overlap between the Proposed Project and PG&E's San Joaquin Valley O&M activities, as the Proposed Project is not located within a PG&E service area. The Proposed Project would not conflict with implementation of the HCP's conservation strategy for these species because the project is not within a PG&E service area. Therefore, there would be no impact. In any event, the EIR for the Proposed Project includes mitigation measures to address any impacts on Burrowing Owls and Swainson's Hawk.
V. CULTURAL RESOURCES: Would the project:

<table>
<thead>
<tr>
<th>Would the project:</th>
<th>Potentially Significant Issues</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d) Disturb any human remains, including those interred outside of formal cemeteries?</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e) Cause a substantial adverse change in the significance of a tribal cultural resource as defined in §21074?</td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Explanations

a-b) **Adverse change in the significance of a historical resource or an archaeological resource – Potentially Significant issues**

Historical resources, as defined in Public Resources Code (PRC) Section 15064.5, include, but are not limited to, any resource that is listed, or is eligible for listing, in the California Register of Historical Resources (CRHR); any resource that is included in a local register of historical resources; or any object, building, structure, site, area, place, record, or manuscript determined to be historically significant by a lead agency. Furthermore, historical resources, as defined under PRC Section 5024.1, include resources listed, or eligible for listing, in the National Register of Historical Places; State Historical Landmarks; and points of historical interest.

There is potential for the discovery of new historical resources of an archaeological nature within the project area. Potential impacts on historical resources would occur if these resources are present and would be physically disturbed by project-related construction activities (e.g., direct ground disturbance or vibration from ground disturbance). Impacts that result in de-listing of a resource from the CRHR, or render the resource ineligible for listing in the CRHR, would also be considered significant. These impacts would be potentially significant.

The EIR compares the locations of currently known or newly identified historical resources with the activities that make up the Proposed Project to evaluate potential effects to those resources.
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature – Potentially Significant Issues

The Proposed Project area is underlain by Pleistocene alluvial deposits consisting of poorly sorted gravel, sand, silt, and clay that are more than 400 feet thick. These materials in the Central Valley are known to contain a variety of fossils, including extinct horses, mammoths, and giant ground sloth. Other animals noted are marine-living animals such as marine turtles, shark teeth, and sea urchins (Sierra College 2016).

Directly below the alluvial deposits is the Mehrten Formation, which was deposited during the Miocene to Pliocene Epochs. The Mehrten Formation is composed of sandstone, breccia, conglomerate, tuff, siltstone, and claystone and is approximately 800 feet thick and may lie as shallow as 400 feet beneath the City of Modesto (Stanislaus and Tuolumne Rivers Groundwater Basin Association 2005). The Mehrten Formation is not known for containing fossils; however, there is a possibility that fossils could be encountered during project construction; which would constitute a potentially significant impact. This topic is evaluated further in the EIR.

d) Disturbance of any human remains, including those interred outside of formal cemeteries – Potentially Significant Issues

Human remains are not currently known to exist at the project sites; however, they may be present without any surface manifestation and, as a result, could be disturbed by the Proposed Project’s activities. This impact would be potentially significant. The EIR addresses the potential presence of and impacts on human remains during construction.

e) Adverse change in the significance of a tribal cultural resource as defined in PRC 21074 – Potentially Significant Issues

The Proposed Project is within a geographic area associated with the Northern Valley Yokuts tribes, which have a traditional and cultural affiliation with the region. Assembly Bill 52, which was enacted on May 12, 2016, requires that a state lead agency consult with California Native American tribes that have a traditional and cultural affiliation to a project area to determine if any tribal cultural resources (TCRs) would be affected by the proposed project. PRC Section 21074 defines TCRs as resources that are historical resources under California Code of Regulations (CCR) Section 15064.5; cultural landscapes that meet the criteria of CCR Section 15064.5; and as unique archaeological sites under PRC Section 21083.2. There is the potential for TCRs to be located in the project area and for the Proposed Project to have an adverse change to any such resources.

The City will consult with local tribes about the presence of TCRs within the project area and, should any be identified, the protection of TCRs from project-related actions. The consultation efforts and the identification of TCRs, if present, are analyzed in the EIR.
**VI. GEOLOGY AND SOILS**: Would the project:

<table>
<thead>
<tr>
<th>Potential &amp; Significant Issues</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death related to:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>ii) Strong seismic ground shaking?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>iii) Seismic-related ground failure, including liquefaction?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>iv) Landslides?</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td><strong>b) Result in substantial soil erosion or the loss of topsoil?</strong></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?</strong></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?</strong></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td><strong>e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of wastewater?</strong></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

**Explanations**

Based on the below supporting environmental analysis derived from the Program EIR (City of Modesto 2010: pp. 3.6-9–3.6-10), and pursuant to Sections 15168 and 15162 of the CEQA Guidelines, the City has determined, on the basis of substantial evidence in the light of the whole record, that, with the exception of Checklist item (c), the Proposed Project is consistent with the project described and analyzed in the Program EIR. No new or additional significant impacts related to geology or soils have been identified for the Proposed Project. Therefore, no further review of impacts is required under CEQA except for Checklist item (c). Information presented below is based on the geotechnical investigation conducted at Site A (Blackburn Consultants 2012), Phase I Environmental Site Assessments conducted at Site A (ATC Del Rio Tank and Wells Project Draft Environmental Impact Report November 2016 Appendix B).
A geotechnical study would be completed at Site B as part of the design process.

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) **Seismic-related rupture of a known earthquake fault – No Impact**

   The Proposed Project is not located within an Alquist-Priolo designated hazard zone. The nearest active faults are the Carnegie Fault (approximately 29 miles west), Greenville Fault (approximately 33 miles west), and Ortigalita Fault (approximately 36 miles southwest) (California Geological Survey 2010). Since there are no known faults in the project area, there would be no impact from fault rupture.

ii) **Strong seismic ground shaking – Less than Significant**

   As analyzed in the Program EIR (City of Modesto 2010: p. 3.6-5), the Central Valley generally experiences lower levels of more infrequent ground shaking than many other regions of California due to the substantial distance to active faults and the underlying geologic and soil conditions. In Stanislaus County, the level of seismic ground shaking ranges from "High" risk along the western border of the County and the foothills of the Diablo Range, to "Moderate" risk in the central part of the County, to "Low" risk in the eastern portion (California Geological Survey 2008). The project area lies within the Central portion of the County and is considered to be at "Moderate" risk for earthquake shaking potential. The Proposed Project would be required to comply with the most recent California Building Code seismic standards for construction, ensuring that any adverse effects to structures or people would be less than significant.

iii) **Seismic-related ground failure, including liquefaction – Less Than Significant**

   Settlement is the lowering of the land-surface elevation as a result of the compression, compaction, or consolidation of underlying soils, sediment, or rock. These processes are exacerbated under increased loading (e.g., additional sediment deposition or construction of structures, including fills) or the withdrawal of subsurface water. Soils consisting of fine-grained silts and clays with a high water table are more susceptible to differential settlement. Liquefaction is the temporary transformation of soils that are saturated and have very low cohesion, or are cohesionless, into a viscous liquid as a result of ground shaking. Liquefaction may occur in water-saturated soils during moderate to severe earthquakes. The potential for liquefaction to occur depends on soil composition, soil saturation levels, and the intensity and duration of seismic ground shaking.

   The Program EIR (City of Modesto 2010: pp. 3.6-9–3.6-10) noted that there may be potentially significant impacts from liquefaction if individual projects were constructed on expansive soils. Pursuant to Mitigation Measure GEO-1 in the Program EIR, the City hired a registered engineer to conduct a project-specific geotechnical investigation at Site A; a geotechnical investigation would be conducted at Site B as part of the design process.
Site A is underlain by Hanford soils generally have a sandy loam texture (Natural Resources Conservation Service [NRCS] 2016). A geotechnical study for Site A (Blackburn Consulting 2012) identified loose to very dense silty sand to approximately 8 feet below ground surface (bgs), loose to medium-dense poorly graded sand to about 13–20 feet bgs, and hard elastic silt with sand to hard sandy silt at greater depths. Groundwater was encountered at 40 feet bgs. Based on the subsurface soil and groundwater conditions and the estimated magnitude and duration of ground shaking at Site A, the potential for liquefaction is considered very low.

Site B is predominantly underlain by Delhi sand with some Oakdale sandy loam (NRCS 2016). Delhi sands generally consist of sand up to 44 inches bgs with loamy fine sand at greater depths. Estimated depth to groundwater ranges between 50 and 60 feet bgs (California Department of Water Resources 2016). Based on the subsurface groundwater conditions and the estimated magnitude and duration of ground shaking at Site B, the potential for liquefaction is considered low. A geotechnical investigation would be conducted at Site B as part of the design process, to confirm the understanding of these conditions.

The proposed transmission lines connecting the new wells at Site A and Site B to the City's existing distribution system would be installed under St. John Road, McHenry Avenue, and Stewart Road. Existing soils under the roadways would be excavated and the new transmission lines constructed using suitable backfill soils and levels of compaction to meet engineering specifications.

Due to the existence of sandy loam and loamy sand soils and a relatively low water table, seismic-induced differential settlement, ground failure, or liquefaction would not be expected. Therefore, potential impacts would be less than significant.

The Proposed Project includes the installation of production wells and extraction of groundwater resources. Groundwater withdrawal has the potential to result in subsidence and/or collapse during a seismic event and may be potentially significant. Analysis of groundwater resources and the Proposed Project's potential risk of land subsidence or collapse will be addressed in detail in Chapter 9, Groundwater, of the EIR.

iv) Landslides – No Impact

As described in the Program EIR (City of Modesto 2010: pp. 3.6-9–3.6-10), and pursuant to Mitigation Measure GEO-1 in the Program EIR, the City hired a registered engineer to conduct project-specific geotechnical investigation at Site A; a geotechnical investigation would be conducted at Site B as part of the design process. Landslides are not likely to occur on or near the project sites. Landslides are downward movement of a slope, generally increasing in occurrence in relation to steepening slope angles, following precipitation events or saturation of soils, wildfires, and/or human disturbance. Similar to landslides but typically on gentler slopes, lateral spreading or lateral flow can occur where saturated soils lose cohesion and have a rapid, fluid-like movement.

The floor of the Central Valley where the Proposed Project is located is relatively flat, with only minor changes in topography. The Proposed Project does not include any features that would
increase the exposure of people to landslide hazards. Therefore, there would be no impact related to landslide effects.

b) Substantial soil erosion or the loss of topsoil – Less Than Significant

Site A is underlain by Hanford sandy loam (Blackburn Consultants 2012, NRCS 2016). Hanford sandy loam has moderate infiltration rates, and is deep and well drained with moderately coarse texture. This unit has a moderate susceptibility to erosion. Site B is predominately underlain by Delhi sand with some Oakdale sandy loam (NRCS 2016). Delhi sand and Oakdale sandy loam have high infiltration rates, and are deep and well drained to excessively drained sands and gravels (NRCS 2016). Delhi sand and Oakdale sandy loam have low to moderate susceptibility to erosion.

The Proposed Project may include grading, excavation, trenching, or other construction-related activities that leave soils exposed to erosion; however, after construction, the project sites would be flat, and loss of topsoil and soil erosion would not be substantial. Compliance with statutory regulations governing discharges from construction activities, as discussed in Chapter 2 of the EIR and Section IX, "Hydrology," of this Environmental Checklist, would reduce the potential for erosion and topsoil impacts to a less-than-significant level. During facility operations at Site A, the proposed stormwater retention basin and berm slopes may be susceptible to erosion. As stated in the Project Description, however, the Proposed Project includes planting vegetation on the berms and stabilizing the slopes of the retention basin by hydroseeding or planting with drought-tolerant plants. At Site B, the wells, pipeline, and standby generator would be installed on level ground and the site would connect to the City’s storm drainage system in McHenry Avenue. Therefore, these impacts are considered less than significant.

c) Location on a geologic unit or soil that is unstable or that would become unstable as a result of the Proposed Project and potentially result in an on-site or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse – Potentially Significant Issue

Pursuant to the site-specific geotechnical investigations, and as described above in item a) iv), the project sites are located in an area that is relatively flat with only minor changes in topography; landslides and lateral spreading are not likely to occur on either of the proposed sites. Construction-related ground-disturbing or excavation activities could alter the soil stability at the construction locations. Excavation and trenching for the transmission pipelines may create unstable slopes during construction; however, open trenches and excavation would be conducted according to California Building Code standards and engineering plan specifications, ensuring the risk of localized slope failure would be less than significant.

As discussed in item a) iii) above, soil and groundwater characteristics for the proposed sites are not conducive to the effects of liquefaction. Impacts related to liquefaction would be less than significant.

Soil collapse occurs when the land surface is saturated at depths greater than those reached by typical rain events, effectively eliminating the clay bonds holding the soil grains together. Collapsible soils generally consist of loose, dry, low-density, low-plasticity, silt- to fine-sand-
sized materials that compact under the addition of water or excessive loading. Collapse typically occurs in areas underlain by young alluvial fans, debris flow sediments, and loess (wind-blown sediment) deposits. Similar to expansive soils, collapsible soils result in structural damage such as cracking of the foundation, floors, and walls in response to differential settlement. A geotechnical investigation conducted at Site A did not identify geologic or soil conditions susceptible to collapse (Blackburn Consultants 2012). Similar geologic and soil conditions underlie Site B and the pipeline alignment. Impacts related to collapse are considered less than significant.

The Proposed Project includes the installation of production wells and extraction of groundwater resources. Groundwater withdrawal has the potential to result in subsidence and/or collapse and may be potentially significant. Analysis of groundwater resources and the Proposed Project's potential risk of land subsidence or collapse will be addressed in detail in Chapter 9, Groundwater, of the EIR.

d) Location on expansive soil, creating substantial risks to life or property – Less Than Significant

Pursuant to Mitigation Measure GEO-1 in the Program EIR, the City conducted a geotechnical investigation at Site A. The geotechnical investigation at Site A indicated that the soils at these sites do not contain a relatively high percentage of clay minerals. Clay minerals have the potential to shrink and swell with changing moisture conditions. Extensive shrinking/swelling can fracture building foundations and damage infrastructure. Instead, Site A is underlain by Hanford soils (NRCS 2016), which are loose to very dense silty sand to approximately 8 feet bgs, loose to medium-dense poorly graded sand to about 13–20 feet bgs, and hard elastic silt with sand to hard sandy silt at greater depths (Blackburn Consulting 2012).

A geotechnical investigation would be conducted at Site B as part of the design process. Site B is predominantly underlain by Delhi sand with some Oakdale sandy loam (NRCS 2016). Delhi sands generally consist of sand up to 44 inches bgs with loamy fine sand at greater depths. Estimated depth to groundwater ranges between 50 and 60 feet bgs (California Department of Water Resources 2016). Soils on the Hanford sandy loam, Delhi sand, and Oakdale sandy have a low plasticity rating (NRCS 2016). These soils are not considered expansive and would not be susceptible to frequent shrinking/swelling. Impacts related to expansive soils are therefore less than significant.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater – No Impact

The Proposed Project does not involve construction of septic tanks or alternative wastewater disposal systems. Therefore, there would be no impact related to the suitability of soils to support septic tanks or alternative disposal systems.
### VII. GREENHOUSE GAS EMISSIONS: Would the project:

<table>
<thead>
<tr>
<th></th>
<th>Potentially Significant Issues</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Generate greenhouse gas (GHG) emissions, either directly or indirectly, that may have a significant impact on the environment?</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs?</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) Encourage activities that result in the use of substantial amounts of fuel or energy, or use these resources in a wasteful manner?</td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The Proposed Project would involve construction activities, including truck trips, worker vehicle trips, and operation of heavy equipment; all of these activities would result in GHG emissions. Operation-related emissions would result as well, including standby generators, use of electricity, and worker vehicle trips. The potential exists for the Proposed Project to have a significant impact with regard to GHG emissions. Therefore, a full analysis of the Proposed Project’s potential effects on greenhouse gas emissions and energy resources is provided in the EIR.
### VIII. HAZARDS AND HAZARDOUS MATERIALS: Would the project:

<table>
<thead>
<tr>
<th>Description</th>
<th>Potentially Significant Issues</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Create a significant hazard to the public or the environment through the routine transport, use, storage or disposal of hazardous materials?</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>e) Be located within an airport land use plan area or, where such a plan has not been adopted, be within 2 miles of a public airport or public use airport and result in a safety hazard for people residing or working in the study area?</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>f) Be located within the vicinity of a private airstrip and result in a safety hazard for people residing or working in the study area?</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?</td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

### Explanations

Based on the below supporting environmental analysis derived from the Program EIR (City of Modesto 2010: pp. 3.7-8–3.7-11), and pursuant to Sections 15168 and 15162 of the CEQA Guidelines, the City has determined, on the basis of substantial evidence in the light of the whole record, that the Proposed Project is consistent with the project described and analyzed in the Program EIR. No new or additional significant impacts related to hazards and hazardous materials have been identified for the Proposed Project. Therefore, no further review for this impact is required under CEQA.
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials – Less Than Significant

Construction of the Proposed Project would involve use of heavy equipment that uses hazardous materials, such as fuel and lubricants. Consistent with the analysis and finding in the Program EIR (City of Modesto 2010: p. 3.7-8), compliance with existing, standard federal, state, and local regulations regarding hazardous waste handling and disposal would be sufficient to prevent a significant impact from transport, use, or disposal of such hazardous materials.

Once construction is complete, continued maintenance of the proposed groundwater well and water storage facilities at Sites A and B would require routine transport and use of hazardous materials. In addition, backup generators would require diesel fuel (at both sites) and calcium hypochlorite (at Site A only), which would be stored onsite; diesel fuel and calcium hypochlorite are considered hazardous materials. Routine transport of diesel and calcium hypochlorite to the project sites would be required to maintain project operations. Transport and handling of hazardous materials would be conducted in accordance with applicable federal, state, and local regulations. Such regulations would include accidental spill handling and notification procedures such as those issued by City of Modesto Fire Prevention Department; Stanislaus County SPCC standards; and Occupational Safety and Health Administration (OSHA) requirements. Therefore, this impact is considered less than significant.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment – Less Than Significant

As described in item (a) above, construction of the Proposed Project would require use and storage of hazardous materials such as fuel and lubricants. As described in the Program EIR (City of Modesto 2010: p. 3.7-9), compliance with existing, standard federal, state, and local regulations regarding hazardous waste handling and disposal would be sufficient to prevent and address release of hazardous materials to the environment.

The Proposed Project would include storage of hazardous materials, including diesel fuel (at both sites) and calcium hypochlorite (at Site A only). Storage and use of such hazardous materials could create a significant hazard to the public or the environment through upset and accident conditions (e.g., if storage containers were to leak or rupture, or hazardous materials were to otherwise spill), resulting in a significant impact. Further, as described in Chapter 2, Project Description, of the EIR, the Proposed Project sites would be designed according to applicable federal, state, and local regulations, including providing secondary containment for all chemical storage and fuel storage, and compliance with City of Modesto Fire Prevention Department requirements, Stanislaus County SPCC standards, the Uniform Fire Code (UFC), and OSHA requirements. Therefore, this impact is considered less than significant.
c) **Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school – No Impact**

No portion of the Proposed Project would take place within 0.25 mile of an existing or proposed school. The nearest schools to the project sites are Stanislaus Elementary School, 1.9 miles southwest of Site A and 2.75 miles southwest of Site B; and Rio Altura Elementary School, 3.0 miles east of Site A and 2.3 miles southeast of Site B. The Proposed Project would have no impact on schools.

d) **Located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code section 65962.5 and, as a result, create a significant hazard to the public or the environment – Less Than Significant**

As analyzed in the Program EIR (City of Modesto 2010: pp. 3.7-9–3.7-10), construction would disturb and excavate soils within existing roadways and undeveloped areas for installation of storage tanks, pipelines, and groundwater wells. However, because the exact locations of these facilities were not finalized at the time the Program EIR was certified, it was not known whether areas of known hazardous material contamination existed within specific project sites. Mitigation Measure HAZ-1 in the Program EIR required that, prior to the commencement of construction activities, the City prepare a risk assessment in accordance with ASTM Standard 1527-05, “Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process.”

Pursuant to Mitigation Measure HAZ-1, the City conducted Phase I Environmental Site Assessments at Site A and Site B in 2012 (ATC Associates 2012a, 2012b). Site A currently supports a single-family residence and occupied buildings on the east portion of the project site. Historical land uses for Site A (ATC Associates 2012a) consisted of undeveloped land, residential, and agricultural uses. Evidence of large-scale use or disposal of pesticides, herbicides, or fertilizers (such as mixing tanks, chemical storage areas, sprayers, or stressed vegetation) was not observed in aerial photographs, topographic mapping, or a site visit of the property. Database queries of the State and Tribal Registered Underground Storage Tanks (UST, INDIAN UST) list, Historical UST (HIST UST) list, California Facility Manifest Database (CA FID UST), and Statewide Environmental Evaluation and Planning System (SWEEPS UST) reported three underground storage tank (UST) sites:

- A 500-gallon diesel fuel UST is located west of Site A beyond the Union Pacific Railroad track. There is no evidence of soil or groundwater contamination related to this UST and no impacts on Site A.

- An Open-inactive cleanup site listed by the Central Valley Regional Water Quality Control Board is located 446 feet west of Site A. Contamination consists of pesticide or herbicide releases to soils only; groundwater was not affected. There is no evidence of migration of contamination offsite and no impacts on Site A.
- An active 390-gallon gasoline UST for agricultural uses is located 606 feet east of Site A. There are no reports and no evidence of soil or groundwater contamination related to this UST and no impacts on Site A.

Other potential sources of hazardous materials at Site A include asbestos-containing materials and lead-based paint within the residential buildings (ATC Associates 2012a). Although the presence of these hazards was not confirmed in the Phase I Environmental Site Assessment, building materials used at the time of construction of the homestead (circa 1946) commonly contained asbestos-containing materials and/or lead-based paint. Abatement of asbestos-containing materials and lead-based materials during any demolition of existing buildings would be supervised by a contractor certified by the California Occupational Safety and Health Administration and would be conducted in a manner compliant with federal, state, and local regulations. These regulations would protect construction workers by requiring the use of personal protective equipment, and would protect the public by implementing dust-control procedures or other means to prevent the release of airborne particulates.

The homestead is served by an existing septic tank and leach lines located just south of the main residence. Removal or abandonment of the treatment system would be conducted in accordance with local and state regulations to prevent any potential release of or worker exposure to waste material or contaminated soils.

Historical land uses for Site B (ATC Associates 2012b) consist of an agricultural field or undeveloped land. Evidence of large-scale use or disposal of pesticides, herbicides, or fertilizers (such as mixing tanks, chemical storage areas, sprayers, or stressed vegetation) was not observed in aerial photographs, topographic mapping, or a site visit of the property. A database query of the UST and INDIAN UST list reported one 1,000-gallon gasoline UST and one 500-gallon gasoline UST at the property for agricultural uses. Further investigation of county and state resources could not confirm the presence of these USTs, however, and no files, reports of releases, or violations were identified with the property or addresses near Site B.

There are no records of hazardous materials sites or hazardous cleanup sites along St. John Road and the proposed pipeline alignment.

In summary, Phase I Environmental Site Assessments conducted at Sites A and B did not identify any documented hazardous materials storage areas, hazardous materials cleanup sites, or leaking USTs that may affect the project sites. Demolition of existing buildings and wastewater treatment systems would be conducted in accordance with local and state regulations. In addition, the Program EIR included Mitigation Measure HAZ-2, which specifies worker training and mandates City remediation for any unanticipated hazardous waste materials encountered during construction activities. By following regulatory requirements and implementing Mitigation Measure HAZ-2, the potential for hazardous materials to create a significant hazard to the public or the environment is considered less than significant.
e) Located within an airport land use plan area, or where such a plan has not been adopted, or be within 2 miles of a private or public airport and result in a safety hazard for people residing or working in the study area – No Impact

The Proposed Project is not located within an airport land use plan area or within 2 miles of a public or private airport. The nearest airport or private airstrip is the Modesto City-County Airport, approximately 7.2 miles south of the project sites. As such, there would be no impact.

f) Create a safety hazard for people working in the area due to the presence of a private airstrip – No Impact

The Proposed Project is not located within an airport land use plan area or within 2 miles of a public or private airport. The nearest airport or private airstrip is the Modesto City-County Airport, approximately 7.2 miles south of the project sites. As such, there would be no impact on safety hazards for people due to presence of a private airstrip.

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan – Less Than Significant

Consistent with the analysis in the Program EIR (City of Modesto 2010: p. 3.7-11), the majority of the Proposed Project’s facilities would be located underground or within the public right-of-way. As such, when fully constructed, the Proposed Project would have no impact on the implementation of, or physical interference with, an adopted emergency response plan or emergency evacuation plan. However, the Proposed Project would include installation of pipelines within the public right-of-way and other facilities that may require temporary closure of at least one lane of traffic during construction. Depending on the specific location of the proposed facilities and the construction activities required, effects on roads or building ingress and egress could impede the movement of emergency response vehicles or otherwise interfere with an emergency response plan or emergency evacuation plan. Project facilities would be constructed in accordance with the City’s Standard Construction Procedures; these include preparing and implementing a traffic control plan, public notification, and preconstruction meetings. Once constructed, the Proposed Project would not affect implementation of emergency response plans. Consistent with the finding in the Program EIR, this impact is considered less than significant.

h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands – No Impact

The Proposed Project would be located in a rural area surrounded by agricultural lands. Consistent with the analysis and finding in the Program EIR (City of Modesto 2010: p. 3.7-11), there are no wildlands in the project area and, therefore, there is no potential for people or structures to be exposed to a significant risk of loss, injury, or death involving wildland fires. There would be no impact.
### IX. HYDROLOGY: Would the project:

<table>
<thead>
<tr>
<th></th>
<th>Potentially Significant Issues</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a)</td>
<td>Violate any water quality standards or waste discharge requirements?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>b)</td>
<td>Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local ground water table level (for example, the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>c)</td>
<td>Substantially alter the existing drainage patterns of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>d)</td>
<td>Substantially alter the existing drainage patterns of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>e)</td>
<td>Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>f)</td>
<td>Otherwise substantially degrade water quality?</td>
<td>X</td>
<td></td>
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<tr>
<td>g)</td>
<td>Place housing within a 100-year flood-hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>h)</td>
<td>Place within a 100-year flood-hazard area structures which would impede or redirect flood flows?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>i)</td>
<td>Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>j)</td>
<td>Inundation by seiche, tsunami, or mudflow?</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>
Explanations

Based on the below supporting environmental analysis derived from the Program EIR (City of Modesto 2010: pp. 3.8-17-3.8-22), and pursuant to Sections 15168 and 15162 of the CEQA Guidelines, the City has determined, on the basis of substantial evidence in the light of the whole record, that, with the exception of item (b), the Proposed Project is consistent with the project described and analyzed in the Program EIR. No new or additional significant impacts related to geology or soils have been identified for the Proposed Project. Therefore, no further review for this impact is required under CEQA except for item (b).

a) Violate any water quality standards or waste discharge requirements – Less Than Significant

Construction of proposed facilities and improvements would involve excavation, grading, and use of heavy construction equipment, all of which would have the potential to cause water quality degradation in local waterways. Use and storage of hazardous materials during construction could also result in water contamination (e.g., from leaks or spills) without adequate safeguards. Because the project sites cover more than 1 acre, project construction would be conducted according to standard protocols of the Clean Water Act Section 402 General Construction Permit (State Water Resource Control Board Order No. 2009-0009-DWQ). As required under the National Pollutant Discharge Elimination System, a stormwater pollution prevention plan would be implemented for the sites. Proposed storage tanks for diesel fuel (at both sites) and calcium hypochlorite (at Site A only) would be operated and maintained according to federal, state, and local protocols, as discussed in Section VIII, "Hazards and Hazardous Materials," of the Program EIR. With implementation of standard construction and operational procedures, this impact would be less than significant.

b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in a net deficit in aquifer volume or lowering of the local groundwater table level – Potentially Significant Issue

The purpose of the Proposed Project is to extract groundwater supplies. The Proposed Project has the potential to interfere with groundwater supplies and recharge to some degree by increasing impervious surface area (e.g., from pump buildings and storage tanks). These impacts are considered potentially significant and are evaluated in the EIR.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, resulting in substantial erosion or siltation on-site or off-site, or create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff – Less Than Significant

The Program EIR evaluated the potential for projects to affect water quality through changes in drainage patterns and found it to be less than significant (City of Modesto 2010: 3.8-20). The Proposed Project would not alter the course of any stream or river, but would change the existing drainage patterns at the project sites. As described in Chapter 2, Project Description, of
the EIR, proposed facilities at Site A would result in an increase of impervious surfaces and could, therefore, increase the amount of runoff or otherwise change patterns of drainage and infiltration. Site A includes construction of a stormwater retention basin to capture and infiltrate stormwater runoff from the project site. The basin would be designed with the appropriate capacity to receive rainfall runoff and water from the water storage tank, if it were to fail. Runoff from new impervious surfaces proposed at Site B would be retained onsite.

The Proposed Project would involve grading, excavation, trenching, and other construction-related activities that leave soils exposed to erosion. During construction, runoff at the sites would be controlled through implementation of a stormwater pollution prevention plan as required under the National Pollutant Discharge Elimination System; after construction, the project sites would be flat, and loss of topsoil and soil erosion would not be substantial. At Site A, the proposed stormwater retention basin and berm slopes may be susceptible to erosion; however, as stated in Chapter 2, Project Description, of the EIR, the Proposed Project includes planting vegetation on the berms and stabilizing the slopes of the retention basin with hydroseeding or planting with drought-tolerant plants.

As described in Section VIII, "Hazards and Hazardous Materials," of this Environmental Checklist, potential water quality pollutants, including diesel fuel and calcium hypochlorite, would be handled according to standard federal, state, and local regulations. The Proposed Project would not result in substantial erosion or siltation, exceed the capacity of existing or planned stormwater drainage systems, or generate substantial new sources of polluted runoff. This impact would be less than significant.

d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff resulting in flooding on-site or off-site – Less Than Significant

As described in item (c) above, the Proposed Project would alter the existing drainage patterns through addition of impervious surfaces, although these effects are not anticipated to be significant. The amount of increased surface runoff generated from both project sites would be captured and allowed to percolate to groundwater onsite; increased surface runoff generated at the project sites would not be sufficient to result in flooding, either onsite or offsite. This impact is considered less than significant.

e) Create runoff that would exceed the existing stormwater systems – Less Than Significant

As described in items (c) and (d) above, the Proposed Project would include construction of impervious surfaces that could increase the amount of surface runoff generated at the project sites. Runoff generated at Sites A and B would be captured in onsite retention basins. This impact is considered less than significant.
f) **Substantially degrade water quality – Less Than Significant**

Apart from the potential construction-related water quality impacts discussed in item (a) above, the Proposed Project would not substantially degrade water quality. Operation of the Proposed Project facilities would not involve direct discharges to surface waters; stormwater runoff at both sites would be captured and infiltrated to groundwater. Onsite safety measures would be implemented to prevent spills of hazardous materials. Groundwater quality around the well location could be degraded during the well drilling process; however, any turbidity or suspended solids around the well would be flushed out while preparing the well system for operation. This impact is considered less than significant.

g) **Place housing within a 100-year flood hazard area, as mapped on a federal flood hazard boundary or flood insurance map or other flood hazard delineation map - No Impact**

The Proposed Project would not involve placement of housing within a flood hazard area. **No impact** would occur.

h) **Place structures within a 100-year flood hazard area resulting in impeding or redirect flood flows – No Impact**

The Proposed Project is not located within a 100-year flood hazard area. According to the Federal Emergency Management Agency’s Flood Insurance Rate Map for the area, Sites A and B are located in Zone X (unshaded) or “areas determined to be outside the 0.2% annual chance flood plain” (ATC Associates 2012a, 2012b). **No impact** would occur.

i) **Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding resulting from the failure of a levee or dam – No Impact**

According to the dam inundation map included in the Stanislaus County General Plan 2015 (2016a), the Proposed Project is not located in a dam inundation area and is therefore not subject to significant loss due to flooding if an upstream dam were to fail. **No impact** would occur.

j) **Contribute to inundation by seiche, tsunami, or mudflow – No Impact**

The Proposed Project would be located in the Central Valley of California and is not near any lakes or other large bodies of water. There is no potential for seiche or tsunami in the project area. The topography of the area is generally flat, and mudflow is not a noted hazard in the area. **No impact** would occur.
**X. LAND USE AND PLANNING: Would the project:**

<table>
<thead>
<tr>
<th></th>
<th>Potentially Significant Issues</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Physically divide an established community?</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?</td>
<td>X</td>
<td></td>
<td></td>
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<tr>
<td>c) Conflict with any applicable habitat conservation plan or natural community conservation plan?</td>
<td>X</td>
<td></td>
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</tbody>
</table>

**Explanations**

**a) Physically divide an established community – Less Than Significant**

The Proposed Project is expected to improve water system flexibility and reliability and provide additional water supply and storage to accommodate anticipated growth in the Del Rio community. As a result, the Proposed Project would improve development of Del Rio, rather than divide it. During the construction phase, however, the Proposed Project could temporarily disrupt surrounding land uses. Construction vehicles may cause short-term delays on access roads. This issue is considered **potentially significant** and is evaluated further in the EIR.

**b) Conflict with an applicable land use plan, policy, or regulation with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect – Potentially Significant Issue**

Although the Proposed Project would improve water system flexibility and reliability for the Del Rio community, construction and operation of the Proposed Project could conflict with policies contained in the *Del Rio Community Plan* (Stanislaus County 1992) and *Stanislaus County General Plan 2015* (Stanislaus County 2016a). This impact is considered **potentially significant** and is evaluated further in the EIR.

**c) Conflict with an applicable habitat conservation plan or natural community conservation plan – Potentially Significant Issue**

As described in Section IV, "Biological Resources," above, the Proposed Project could conflict with an adopted habitat conservation plan or natural community conservation plans. This issue is considered **potentially significant** and is evaluated further in the EIR.
XI. MINERAL RESOURCES: Would the project:

<table>
<thead>
<tr>
<th>Potential Issues</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?</td>
<td>X</td>
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</tbody>
</table>

Explanation

Based on the below supporting environmental analysis derived from the Program EIR (City of Modesto 2010: p. 3.6-10), and pursuant to Sections 15168 and 15162 of the CEQA Guidelines, the City has determined, on the basis of substantial evidence in the light of the whole record, that the Proposed Project is consistent with the project described and analyzed in the Program EIR. No new or additional significant impacts related to mineral resources have been identified for the Proposed Project. Therefore, no further review for this impact is required under CEQA.

a-b) Loss of availability of mineral resources – No Impact

The Program EIR found that the proposed infrastructure would have no effect on the availability of sand and gravel operations in the area. Based on review of the Stanislaus County General Plan 2015 (2016a) and California Department of Conservation Surface Mining and Reclamation Act Mineral Lands Classification mapping (California Department of Conservation 1993), there are no known mineral resource zones or historic or active mines or quarries within the project area. In addition, construction and operation of the Proposed Project would not directly affect mineral production sites or prevent future availability of mineral resources. As a result, the Proposed Project would have no impact on mineral resources.
### XII. NOISE: Would the project:

<table>
<thead>
<tr>
<th></th>
<th>Potentially Significant Issues</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?</td>
<td>X</td>
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<tr>
<td>b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?</td>
<td>X</td>
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<tr>
<td>c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?</td>
<td>X</td>
<td></td>
<td></td>
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<tr>
<td>d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above existing levels without the project?</td>
<td>X</td>
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<tr>
<td>e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?</td>
<td>X</td>
<td></td>
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</tr>
<tr>
<td>f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?</td>
<td>X</td>
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</table>

The Program EIR identified several noise-related impacts as significant (City of Modesto 2010: pp. 3.10-8–3.10-12). Construction activities for the Proposed Project would involve operation of heavy machinery during an approximately 15-month construction period, in the vicinity of residential uses that would be defined as sensitive receptors. Operation of the Proposed Project would involve pumps running an average of 8 hours per day, occasional use of standby generators, and other noise-producing activities. These activities have the potential to result in noise impacts on nearby sensitive receptors. Therefore, a full analysis of the Proposed Project’s potential effects on noise is provided in the EIR.
<table>
<thead>
<tr>
<th>XIII. POPULATION AND HOUSING: Would the project:</th>
<th>Potentially Significant Issues</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Induce substantial growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?</td>
<td>X</td>
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<tr>
<td>b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?</td>
<td>X</td>
<td></td>
<td></td>
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<tr>
<td>c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?</td>
<td>X</td>
<td></td>
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</table>

Explanations

Based on the below supporting environmental analysis derived from the Program EIR (City of Modesto 2010: pp. 3.11-7–3.11-11), and pursuant to Sections 15168 and 15162 of the CEQA Guidelines, the City has determined, on the basis of substantial evidence in the light of the whole record, that the Proposed Project is consistent with the project described and analyzed in the Program EIR. No new or additional significant impacts related to population and housing have been identified for the Proposed Project. Therefore, no further review for this impact is required under CEQA.

a) **Induce population growth, either directly or indirectly – Less Than Significant**

The Program EIR evaluated the potential to induce substantial population growth and found it to be a significant and unavoidable impact (City of Modesto 2010: pp. 3.11-8–3.11-11). This conclusion was primarily based on the determination (p. 3.11-8) that

> [E]xpansion of and upgrades to the water system to provide new service to currently undeveloped parcels within the communities of North Ceres, Turlock, and Waterford, and the planned urbanizing areas of Del Rio, Grayson, Hickman, and Modesto (including the contiguous service area), would remove an obstacle to population growth.

This is not the case with the Proposed Project. The Proposed Project would improve existing water pressure and volume storage deficiencies, ensure that system pressure is sufficient for firefighting, improve water system flexibility and reliability, and provide additional water supply and storage to accommodate the anticipated growth of the Del Rio community in accordance with the Del Rio Community Plan and the Stanislaus County General Plan 2015.

Throughout the Proposed Project’s construction phases, workers would be temporarily employed at project sites. It is anticipated that regional labor could meet the project’s construction workforce requirements. While some workers might temporarily relocate from other areas, the increase would likely be minor and short term. It is anticipated that existing City staff
would operate and maintain the project facilities in the long term. The Proposed Project would not result in the construction of new homes. No new long-term employment opportunities or substantial population growth would occur in the project area due to construction of the Proposed Project.

One of the primary objectives of the Proposed Project is to ensure that adequate water supply and appropriate water pressure for fire-fighting services are available to the City's Del Rio service area. The City is also committed to providing water supply to meet the buildout population growth projected by the Del Rio Community Plan (Stanislaus County 1992). As such, although the Proposed Project would not include any residential housing or businesses, it would remove potential obstacles to growth in the Del Rio community, and thereby could have an indirect effect on population growth within the Program area. However, because population growth induced by the Proposed Project would occur only within the bounds of planned growth; the Proposed Project would not contribute to unplanned growth. All growth would be consistent with that contemplated in the Program EIR, and therefore this issue is considered less than significant.

b) Displace existing housing – No Impact

The Program EIR identified no impact with regard to displacement of housing or people (City of Modesto 2010: pp. 3.11-7–3.11-8). The Proposed Project would be constructed within the public right-of-way and on parcels owned by the City. The Proposed Project would not displace existing housing. No impact would occur.

c) Displace existing populations – No Impact

The Program EIR identified no impact with regard to displacement of housing or people (City of Modesto 2010: pp. 3.11-7–3.11-8). As described in item (b) above, the proposed facilities would be constructed within the public right-of-way and would not displace substantial numbers of people, necessitating the construction of replacement housing elsewhere. No impact would occur.
XIV. PUBLIC SERVICES: Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services?

<table>
<thead>
<tr>
<th></th>
<th>Potentially Significant Issues</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Fire protection?</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) Police protection?</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) Schools?</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d) Parks?</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e) Other public facilities?</td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Explanations

Based on the below supporting environmental analysis derived from the Program EIR (City of Modesto 2010: p. 3.12-9), and pursuant to Sections 15168 and 15162 of the CEQA Guidelines, the City has determined, on the basis of substantial evidence in the light of the whole record, that the Proposed Project is consistent with the project described and analyzed in the Program EIR. No new or additional significant impacts related to public services have been identified for the Proposed Project. Therefore, no further review for this impact is required under CEQA.

a-b) Need for additional or physically altered fire and police services – Less than Significant

The Program EIR evaluated impacts on fire and police services and found them to be less than significant (City of Modesto 2010: p. 3.12-9). As noted in Section XIII, "Population and Housing," of this Environmental Checklist, construction of the Proposed Project would employ construction workers at the project sites, which would likely come from the regional labor force. While some construction workers could temporarily relocate from other areas, the project would not result in a substantial increase in the local population. During construction, potential incidents could require the involvement of local law enforcement, fire protection, or emergency services. However, such increases in incidents are not anticipated to be of a magnitude that would adversely affect response times or other performance objectives of these public services. The Proposed Project's impacts on fire and police services would be less than significant. Potential conflicts with emergency response plans are addressed in Section IX, "Hazards and Hazardous Materials," and construction-related effects on emergency access are described in Section XVI, "Transportation and Traffic," of this Environmental Checklist.
c-e) Need for additional or physically altered schools, parks, or other public facilities – Less than Significant

The Program EIR evaluated impacts on schools, parks, and other public services and found them to be less than significant (City of Modesto 2010: p. 3.12-9). As described in items (a-b) above, construction of the Proposed Project would employ construction workers who would likely originate from the regional labor force. While some construction workers could temporarily relocate from other areas, the project would not result in a substantial increase in the local population. In addition, project operations following implementation of the Proposed Project would be similar to existing conditions. No need for additional schools or public facilities or physical modifications to schools or other public facilities would result from the Proposed Project.

Furthermore, during the EIR scoping period, the Stanislaus Union School District submitted a comment letter stating that the school district had no comments or concerns with the Proposed Project (Stanislaus Union School District 2015). The Pacific Gas and Electric Company submitted a comment letter during the scoping period stating that the agency had no comments or concerns regarding the Proposed Project (Pacific Gas and Electric Company 2015).

The project’s impacts on local schools, parks, and other public facilities would be less than significant. Potential effects on parks are evaluated in Section XV, “Recreation,” of this Environmental Checklist.
XV. RECREATION: Would the project:

<table>
<thead>
<tr>
<th>Potentially Significant Issues</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Explanations

Based on the below supporting environmental analysis derived from the Program EIR (City of Modesto 2010: p. 3.13-9), and pursuant to Sections 15168 and 15162 of the CEQA Guidelines, the City has determined, on the basis of substantial evidence in the light of the whole record, that the Proposed Project is consistent with the project described and analyzed in the Program EIR. No new or additional significant impacts related to recreation have been identified for the Proposed Project. Therefore, no further review for this impact is required under CEQA.

a) Increase use of existing parks or recreational facilities – Less than Significant

The Program EIR determined that there would be no impact on parks and recreational facilities (City of Modesto 2010: p. 3.13-9). The Proposed Project would not directly generate increased demand for recreational facilities. Potential increased demand for parks or recreation facilities due to potential population growth is addressed in Section XIII, “Population and Housing,” of this Environmental Checklist. There are no parks or recreational facilities in the vicinity of the project sites. The Proposed Project would not substantially increase the use of any existing parks or recreational facilities such that physical deterioration of those facilities would occur or be accelerated. This impact would be less than significant.

b) Creation of new or altered recreational facilities – No Impact

The Program EIR determined that there would be no impact on recreational facilities (City of Modesto 2010: p. 3.13-9). The Proposed Project does not include recreational facilities and would not directly require the construction or alteration of any such facilities. Potential increased needs for new or altered parks or recreation facilities due to potential population growth are addressed in Section XIII, “Population and Housing,” of this Environmental Checklist. There would be no impact.
### XVI. TRANSPORTATION/TRAFFIC: Would the project:

<table>
<thead>
<tr>
<th></th>
<th>Potentially Significant Issues</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation, including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>e) Result in inadequate emergency access?</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?</td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

### Explanations

Based on the below supporting environmental analysis derived from the Program EIR (City of Modesto 2010: pp. 3.14-15–3.14-19), and pursuant to Sections 15168 and 15162 of the CEQA Guidelines, the City has determined, on the basis of substantial evidence in the light of the whole record, that the Proposed Project is consistent with the project described and analyzed in the Program EIR. No new or additional significant impacts related to transportation and traffic have been identified for the Proposed Project. Therefore, no further review for this impact is required under CEQA.
a-b) Conflict with applicable circulation plans, ordinances or policies or conflict with an applicable congestion management program – *Less Than Significant*

The Program EIR determined that traffic impacts related to conflicts with plans, ordinances, policies, or congestion management plans were less than significant (City of Modesto 2010: p. 3.14-17–3.14-18) because the “minor amount of new trips would not cause a noticeable increase in traffic on adjacent streets.” Project construction activities at Sites A and B would result in an estimated 48-52 vehicle trips (refer to Table 2-1 in Chapter 2, *Project Description*). Construction trips would result from the conveyance of equipment to the site and from construction workers arriving and departing the site.

Operation of the wells and tank would result in occasional visits to the site, primarily for maintenance purposes. Operation-related trips to the project sites are estimated to be worker per day.

The Proposed Project would involve no continuous demand for parking for maintenance staff. Any needed parking would be accommodated onsite.

Construction of the Proposed Project would result in a temporary increase in roadway traffic in the project area and potentially in the broader area of Modesto and Stanislaus County. In addition, construction of some improvements may require temporary road or lane closures and would be conducted within the road right-of-way. These activities could conflict with applicable circulation plans, ordinances, or policies or congestion management plans. These impacts were disclosed in the Program EIR, however, and no greater impacts would be expected to occur as a result of the Proposed Project. The City's Standard Construction Procedures would be implemented during construction; these include preparing a traffic control plan, public notification, and preconstruction meetings. Adherence to the City's Standard Construction Procedures would ensure a *less-than-significant impact*, consistent with the Program EIR.

c) Change in air traffic patterns – *No Impact*

The Program EIR determined that impacts related to air traffic patterns were not pertinent to the analysis (City of Modesto 2010: p. 3.14-16) because no elements of the program would affect air traffic. Neither Site A nor Site B is located near any airport or airstrip, or the infrastructure that would have an effect on air traffic, due to any of its features. This is consistent with the analysis in the Program EIR. Furthermore, the construction of the tank, wells, and associated infrastructure would result in no substantial changes to the affected roadways or traffic on them, after construction is complete. The Proposed Project would not conflict with plans or policies for non-automobile transportation. There would be no impact.

d-e) Increased hazards due to design features and inadequate emergency access – *Less Than Significant*

The Program EIR determined that impacts related to hazards due to design features and emergency access were not pertinent to the analysis (City of Modesto 2010: p. 3.14-16) because no program features that would obstruct or change the design of any roadway. At Site A, construction activities would temporarily increase emergency response times due to lane
narrowing or lane closures to allow the installation of approximately 2,500 linear feet of water transmission pipeline in St. John Road from the Site A parcels on Ladd Road to the intersection with Country Club Drive.

At Site B, construction activities would temporarily increase emergency response times due to lane narrowing or lane closures to allow the installation of approximately 500 linear feet of water transmission pipeline from the Site B parcel on McHenry Avenue to the intersection of Stewart Road and Grove Point Drive.

These temporary construction-related impacts were disclosed in the Program EIR, and no greater impacts would be expected to occur as a result of the Proposed Project. The City’s Standard Construction Procedures would be implemented during construction; these include preparing a traffic control plan, public notification, and preconstruction meetings. Adherence to the City’s Standard Construction Procedures would ensure a less-than-significant impact, consistent with the Program EIR.

f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities – Less Than Significant

The Program EIR determined that impacts related to alternative transportation were not pertinent to the analysis (City of Modesto 2010: p. 3.14-16) because “The program would not generate any substantial traffic and would not place any above-surface facilities within road rights-of-way. Therefore, it would not affect the provision of alternative transportation.” The Proposed Project’s construction activities, including construction activities to install pipelines within the public right-of-way, could conflict with adopted non-motorized transportation plans, including the Stanislaus Council of Government’s Non-Motorized Transportation Master Plan (2013). No existing paths or bicycle routes have been identified in the project area. Pedestrian sidewalks, where present, would be closed temporarily during construction. The City’s Standard Construction Procedures would be implemented during construction; these include preparing a traffic control plan, public notification, and preconstruction meetings. Adherence to the City’s Standard Construction Procedures would ensure a less-than-significant impact, consistent with the Program EIR.

The Stanislaus Council of Government’s Non-Motorized Transportation Master Plan (2013) identifies a future Class 3 bicycle route along McHenry Avenue adjacent to Site B. There are no immediate plans to develop this route, however, and implementation of the bicycle route will depend on available funding. If and when the bicycle route along McHenry Avenue near Site B is implemented, the Site B facilities within the right-of-way (pipeline installed beneath McHenry Avenue) would already be in place and would not impede use of the bicycle lanes. Operational impacts of the Proposed Project on non-motorized transportation would be less than significant.
## XVII. UTILITIES AND SERVICE SYSTEMS: Would the project:

<table>
<thead>
<tr>
<th>Potentially Significant Issues</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Exceed wastewater treatment requirements of the applicable RWQCB?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project’s projected demand in addition to the provider’s existing commitments?</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>f) Be served by a landfill with sufficient permitted capacity to accommodate the project’s solid waste disposal needs?</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>g) Comply with federal, State, and local statutes and regulations related to solid waste?</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

### Explanations

Based on the below environmental analysis derived from the Program EIR (City of Modesto 2010: pp. 3.15-12–3.15-13), and pursuant to Sections 15168 and 15162 of the CEQA Guidelines, the City has determined, on the basis of substantial evidence in the light of the whole record, that, with the exception of Checklist item (d), the proposed project is consistent with the project described and analyzed in the Program EIR. No new or additional significant impacts on wastewater treatment demands have been identified for the Proposed Project. Therefore, no further review for this impact is required under CEQA except for Checklist item (d).

**a,b,e** Exceed or require new or expanded wastewater treatment facilities or exceed wastewater treatment requirements of the RWQCB – Less Than Significant

The proposed new water supply infrastructure at Sites A and B would not directly result in a substantial increase in the demand for wastewater treatment facilities. The Proposed Project...
would serve planned growth in the project area, as described in Section XIII, “Population and Housing,” of this Environmental Checklist.

This impact is considered less than significant.

c) Require the construction of new stormwater drainage facilities or expansion of existing facilities – Less Than Significant

The proposed new water supply infrastructure at Sites A and B would not directly result in a substantial increase in the demand for stormwater drainage facilities. The Proposed Project would serve planned growth in the project area, as described in Section XIII, “Population and Housing,” of this Environmental Checklist.

The Proposed Project would result in increased impervious surfaces and subsequent stormwater runoff. However, as described in Section IX, “Hydrology and Water Quality,” of this Environmental Checklist, stormwater runoff generated at Sites A and B would be retained and infiltrated onsite.

Based on this evaluation, and pursuant to Sections 15168 and 15162 of the CEQA Guidelines, the City has determined, on the basis of substantial evidence in the light of the whole record, that the proposed project is consistent with the project described and analyzed in the Program EIR. No new or additional significant impacts on stormwater drainage demands have been identified for the Proposed Project. Therefore, no further review for this impact is required under CEQA. This impact is considered less than significant.

d) Have sufficient water supplies available to serve the project from existing entitlements and resources – Potentially Significant Issues

The purpose of the Proposed Project is to extract groundwater supplies. The Proposed Project would not directly affect surface water supplies or surface water rights. The potential impact of the Proposed Project on groundwater supplies is fully evaluated in the EIR.

f, g) Have available landfill capacity to accommodate the project’s solid waste disposal needs and comply with federal, State, and local statutes and regulations related to solid waste – Less Than Significant

The Program EIR evaluated impacts of the program with regard to landfill capacity and determined that they were less than significant (City of Modesto 2010: pp. 3.15-13–3.15-14) because

generation of construction waste …would not require existing disposal facilities or conveyance transfer and haul systems to be expanded. The proposed program would not result in the creation of additional solid waste once proposed facilities are operational.

Construction-related activities for the Proposed Project would generate waste material during demolition of existing structures at Site A, excavation of soils, and installation of new infrastructure. Disposal of all solid waste material would comply with all federal, state, and local
statutes and regulations. Where feasible, the excavated soil and demolition debris would be recycled, reused, and/or disposed of onsite. Excess material may be transported to the Fink Road Sanitary Landfill, located near Crows Landing in Stanislaus County (Stanislaus County 2016b) or other nearby solid waste facilities for disposal. The Fink Road Sanitary Landfill has a remaining capacity of 8 million cubic yards and is not anticipated to reach full capacity until 2023 (California Department of Resources Recycling and Recovery 2016).

Once construction is completed, no solid waste would be generated at the project sites. There would be less than significant impacts on landfill capacity and compliance on solid waste disposal regulations.
XVIII. MANDATORY FINDINGS OF SIGNIFICANCE:

<table>
<thead>
<tr>
<th>Does the project:</th>
<th>Potentially Significant Issues</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) Have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of the past projects, the effects of other current projects, and the effects of probable future projects.)</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?</td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Explanations

a) Effects on environmental quality, fish or wildlife, and historic resources – Potentially Significant Issues

Construction activities associated with the various proposed improvements could result in potentially significant impacts on special-status plant and animal species as well as cultural and historical resources. These issues are evaluated in Chapter 6, Biological Resources, and Chapter 7, Cultural Resources, of the EIR.

b) Cumulative Impacts – Potentially Significant Issues

The degree to which project effects would contribute to a significant cumulative impact are evaluated in an EIR. To meet the adequacy standard established by CEQA Guidelines Section 15130, the EIR identifies past, present, and reasonably probable future projects and programs producing related or cumulative impacts.

Stanislaus County adopted its General Plan Update on August 23, 2016. The update is limited to revisions to the land use, circulation, conservation/open space, noise, safety, and agricultural elements but does not change specific land uses in the County. The Del Rio Community Plan Map will be updated to reflect amendments approved since 1992, but the remainder of the plan has not changed. The General Plan Update Draft EIR was circulated for public review between...
April 19 and June 3, 2016. The General Plan Update Final EIR was also certified on August 23, 2016.

For the purposes of this initial study, cumulative impacts related to aesthetics, air quality, biology, cultural resources, global climate change, groundwater supply, land use, and noise, are considered potentially significant and are evaluated in the EIR. The potential for cumulatively significant contributions to aesthetics and land use impacts are also evaluated in the EIR.

The following impacts are also considered cumulatively significant in the context of the Proposed Project, and are evaluated below to determine whether the Proposed Project’s contribution would be considerable:

- Traffic—Automobile traffic congestion is already a severe problem in the County, particularly within cities. Provisions for adequate automotive transportation networks and reducing automobile traffic by providing alternative means of transportation are identified as key issues to be addressed in general plans. Traffic conditions may worsen as development in the County continues.

- Utilities and Service Systems—Similar to transportation infrastructure, provisions for adequate water, wastewater, stormwater, and solid waste infrastructure are key issues as the County continues to grow.

**Cumulative Impacts due to Disruption to Automobile Traffic Patterns (Less than Significant)** Construction related to the Proposed Project would generate traffic in the form of construction vehicles, deliveries of construction materials, and worker trips. In addition, construction activities may result in temporary lane or road closures. As part of the Proposed Project, however, standard practices would be employed to minimize effects on traffic, including scheduling of work, implementation of a public information program, coordination with appropriate agencies, and implementation of a traffic control plan. In addition, traffic effects in any given location would be short term and affected roadways are not areas where traffic problems exist. Therefore, the Proposed Project is not anticipated to make a considerable contribution to cumulative impacts related to traffic.

**Cumulative Effects on Utilities and Service Systems (Beneficial)** During construction, standard measures such as notification to public service providers and surveys to locate existing underground utilities would be implemented to avoid any interruptions to utilities and service systems. Over the long term, the Proposed Project would not generate the need for additional stormwater or wastewater infrastructure or increased solid waste disposal needs. The Proposed Project would not generate wastewater or solid waste. Stormwater runoff generated at Sites A and B would be captured and infiltrated onsite. Additionally, the Proposed Project would provide necessary water supply infrastructure to support planned development identified in the Del Rio Community Plan (Stanislaus County 1992). As such, the Proposed Project is anticipated to be beneficial from the standpoint of cumulative impacts related to utilities and service systems.
c) Effects on Human Beings – Potentially Significant Issues

Construction activities could result in temporary adverse impacts on people due to effects such as air pollutant and GHG emissions, noise disturbances, and increased traffic on local roads. Project operation could result in permanent increases in air pollutant and GHG emissions and noise disturbances. Such impacts are considered potentially significant and are evaluated in the EIR in Chapter 4, Aesthetics; Chapter 5, Air Quality; Chapter 8, Global Climate Change; Chapter 10, Land Use; and Chapter 11, Noise, of the EIR.
C. Determination

On the basis of this initial evaluation:

<table>
<thead>
<tr>
<th>I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.</th>
</tr>
</thead>
<tbody>
<tr>
<td>I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions to the project have been made by or agreed to by the Project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.</td>
</tr>
<tr>
<td>X</td>
</tr>
<tr>
<td>I find that the proposed project MAY have an impact on the environment that is &quot;potentially significant&quot; or &quot;potentially significant unless mitigated&quot; but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards and (2) has been addressed by mitigation measures based on the earlier analysis, as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.</td>
</tr>
<tr>
<td>I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the Project, nothing further is required.</td>
</tr>
</tbody>
</table>

City of Modesto

[Signature]

Tamorah Bryant
Senior Civil Engineer

11.3.2016

Date
D. References

ATC Associates. 2012a (February 15). Phase I Environmental Site Assessment of 718 Ladd Road, Modesto, California 95356. ATC Project No. 54.42606.0002. Prepared for City of Modesto.

____ _. 2012b (February). Phase I Environmental Site Assessment of APN 004-102-003 McHenry Avenue and Stewart Road, Modesto, California 95356. ATC Project No. 54.42606.0001. Prepared for City of Modesto.


_______. 2015. Comment letter from Wayne T. Pacheco, Senior Environmental Field Specialist, to Tamorah Bryant, City of Modesto, on July 30, 2015, regarding the Notice of Preparation.


Stanislaus Union School District. 2015. Comment letter from Britta M. Skavdahl, Ed.D., Superintendent, to Tamorah Bryant, City of Modesto, on August 10, 2015, regarding the Notice of Preparation.

Appendix C

Air Quality and Global Climate Change Impacts Evaluation
Supporting Documentation
### Table Appx-1. Pump Energy Use Calculations

<table>
<thead>
<tr>
<th>Pumps</th>
<th>Pump Size (hp)</th>
<th>Pump Size (KW)</th>
<th>Average use per year (assuming 8 hours use per day)</th>
<th>Energy Intensity (KWhr/year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site A- Pump 1</td>
<td>60</td>
<td>44.8</td>
<td>3942</td>
<td>176,444</td>
</tr>
<tr>
<td>Site A- Pump 2</td>
<td>60</td>
<td>44.8</td>
<td>3942</td>
<td>176,444</td>
</tr>
<tr>
<td>Site A- Pump 3</td>
<td>60</td>
<td>44.8</td>
<td>3942</td>
<td>176,444</td>
</tr>
<tr>
<td>Site A- Pump 4</td>
<td>60</td>
<td>44.8</td>
<td>3942</td>
<td>176,444</td>
</tr>
<tr>
<td>Site B Pump</td>
<td>200</td>
<td>149.2</td>
<td>3942</td>
<td>588,146</td>
</tr>
</tbody>
</table>

**TOTAL** 1,293,922 (KWh/Year)

**TOTAL** 640.6 qft

(assuming project building = 2020 sf)

### Table Appx-2. Proposed Building Calculations:

- Pump Station Building: 2020 sqft
- Tank: 173 sqft

### Table Appx-3. Landscaping Water Use Calculations

<table>
<thead>
<tr>
<th>Landscaping Area (Sqft)</th>
<th>Landscaping Area (acres)</th>
<th>Water Use Factor (for City Park from CALEEMOD User Guide Appendix D)</th>
<th>Water Use (gallons/acre/year)</th>
<th>(gallons/year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10522</td>
<td>0.2416</td>
<td>Table 9-1</td>
<td>1191481</td>
<td>287862</td>
</tr>
</tbody>
</table>
### Table Appx-4. Hauling Truck Trip Estimates for Soils Generated during Pipeline Activities

Pipeline (combined) = 3000 linear feet (approx. 0.57 miles)
Disturbance area width = 20 feet
Total area disturbed = 60000 sf (1.38 acres)
Assume install approximately 200 feet of pipeline/day then add 1 week for buffer = 4 weeks (20 days) to install pipelines
Maximum area disturbed daily = 8000 square feet
Estimate trench depth of 6 feet, trench width of 6 feet, estimate approximately 90% of excavated soil is returned to trench.

<table>
<thead>
<tr>
<th>Volume disposed of per day (assuming 200 linear sf disturbed each day)</th>
<th>900 cubic feet</th>
<th>33 cubic yards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total excavated volume =</td>
<td>180000 cubic feet</td>
<td>6667 cubic yards</td>
</tr>
<tr>
<td>Total spoils to be disposed of =</td>
<td>18000 cubic feet</td>
<td>667 cubic yards</td>
</tr>
</tbody>
</table>

Assume each hauling truck can carry 20 cubic yards. That would result in approx. 2 roundtrip truck trips (4 one-way trips) per day for pipeline trenching to carry the approximately 33 cubic yards requiring disposal. It was assumed pipeline jack and bore trips would be about half of the trenching. Trips would be to Site A and an assumed distance of 2 miles per roundtrip for all pipeline activities. These values were used for CALEEMOD's Trips and VMT section.

### Table Appx-5. Soil Export Calculations (Project Sites)

Total area disturbed Site A + Site B = 190,000 sf (4.4 acres)
Assume entire site acreage will require exported soil for a 0.5-ft depth

| Site Prep Soil Export Volume | 2375 cubic feet | 88 cubic yards |
| Grading Soil Export Volume   | 7125 cubic feet | 264 cubic yards |

Assume only 10% needs to be exported. Assume 25% is exported during site preparation and 75% exported during grading. These cubic yard values were used in CALEEMOD's Grading section for the Site Preparation and Grading construction phases.
Modesto Del Rio
Stanislaus County, Annual

1.0 Project Characteristics

1.1 Land Usage

<table>
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</table>

1.2 Other Project Characteristics

- Urbanization: Rural
- Wind Speed (m/s): 2.2
- Precipitation Freq (Days): 46
- Climate Zone: 3
- Operational Year: 2018
- Utility Company: Modesto Irrigation District
- CO2 Intensity (lb/MWhr): 833.46
- CH4 Intensity (lb/MWhr): 0.029
- N2O Intensity (lb/MWhr): 0.006

1.3 User Entered Comments & Non-Default Data
Project Characteristics -
Land Use - Lot acreage reflects actual acreage of the combined Site A and Site B parcels (4.4 acres). Square feet = pump station building (2,020 sf).

Construction Phase - Pipe duration = 3000 total ft of pipe / install 200 ft pipe/day = 15 days + 5 for issues. Duration of well drilling activities and jack/bore based on City input.

Off-road Equipment -
Off-road Equipment -
Off-road Equipment -
Off-road Equipment - Used RoadMod equipment assumptions from its drainage/subgrade phase.

Off-road Equipment -
Off-road Equipment - Specific equipment details, including 475 hp of drilling rig, were provided by City.

Off-road Equipment - Equipment list based on Sacramento Roadmod equipment defaults for trenching activities.

Off-road Equipment -
Off-road Equipment - Specifics of well drilling equipment, including 475 horsepower of drilling rig, were provided by City.

Trips and VMT - Estimated worker trips using ~2.5 trips/worker and estimated bldg const (10 workers), well drill (5), and jack/bore (6). Adjusted vendor to 2 per day. Arch. coating workers ~20% of bldng const. Pipe hauling assumed to be 2 miles roundtrip to Site A.

Demolition - Estimated square footages of 5 structures to be removed at Site A based on aerial images. 5 structures include a house (1828 square feet), garage (465sf), pump house (37sf), shed (363sf), and shop (768sf).

Grading - Updated acres disturbed to match total Site A+Site B for Grading/Site Prep, and estimated pipe disturbed area. Well Drilling area is based on an assumed disturbance area of 100 feet by 100 feet (approx. 0.23 acres).

Vehicle Trips - Assume an average of 1 daily trip for facility maintenance/operation.

Energy Use - Sum of the Site A + Site B pump energy intensities.

Water And Wastewater - Based on 60 percent design, 10,522 square feet (approx. 0.241 acres) would be irrigated. Matched CALEEMOD City Park use.

Land Use Change - Assume grassland replaced by mulch or paved areas. Sequestration notes indicate new trees.

Sequestration - Trees quantity/type from 60 percent design (16 crabapple, 6 Chinese Tallow, and 48 Coast Redwood).

Water Mitigation -

Operational Off-Road Equipment - Site A + Site B each have 1 generator with the same 450 kw (603hp) size. Assumed that they each would be run for approximately 20 hours annually for routine maintenance.

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### 2.0 Emissions Summary
2.1 Overall Construction

**Unmitigated Construction**

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<th>Exhaust PM10</th>
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<th>Fugitive PM2.5</th>
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<th>NBio-CO2</th>
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**Mitigated Construction**

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<th>Bio-CO2</th>
<th>NBio-CO2</th>
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**Percent Reduction**

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**Note:** The table details the emissions and mitigation strategies for unmitigated and mitigated construction projects, including ROG, NOx, CO, SO2, PM10, PM2.5, Bio-CO2, NBio-CO2, and CO2e. Percent reduction calculations are also provided.
### 2.2 Overall Operational

#### Unmitigated Operational

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### 2.2 Overall Operational

**Mitigated Operational**

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2.3 Vegetation

Vegetation

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3.0 Construction Detail

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Acres of Grading (Site Preparation Phase): 1.4
Acres of Grading (Grading Phase): 4

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 3,030; Non-Residential Outdoor: 1,010 (Architectural Coating – sqft)

**OffRoad Equipment**

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### 3.1 Mitigation Measures Construction

### 3.2 Demolition - 2016

**Unmitigated Construction On-Site**

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## 3.2 Demolition - 2016

### Unmitigated Construction Off-Site

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### Mitigated Construction On-Site

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### 3.2 Demolition - 2016

**Mitigated Construction Off-Site**

| Category        | ROG | NOx  | CO  | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio-CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|-----------------|-----|------|-----|-----|---------------|--------------|------------|---------------|---------------|------------|----------|---------|----------|----------|-----|-----|-----|
| Hauling         | 1.000e-04 | 2.150e-03 | 1.030e-03 | 1.060e-05 | 1.400e-04 | 3.050e-05 | 1.700e-05 | 4.000e-05 | 3.000e-05 | 7.000e-05 | 0.0000   | 0.5454  | 0.5454    | 0.0000 | 0.0000 | 0.5455 |
| Vendor          | 0.0000  | 0.0000  | 0.0000  | 0.0000  | 0.0000      | 0.0000       | 0.0000     | 0.0000       | 0.0000       | 0.0000     | 0.0000   | 0.0000  | 0.0000    | 0.0000 | 0.0000 | 0.0000 |
| Worker          | 6.600e-04 | 9.700e-03 | 6.700e-03 | 2.000e-05 | 1.860e-04 | 1.000e-05 | 1.860e-04 | 5.000e-05 | 1.000e-05 | 5.100e-04 | 0.0000   | 1.8570  | 1.5570    | 9.0000e-03 | 0.0000 | 1.6888 |
| Total           | 8.200e-04 | 3.100e-03 | 3.000e-05 | 3.000e-05 | 2.600e-03 | 4.000e-05 | 2.600e-03 | 5.400e-05 | 5.600e-04 | 0.0000     | 2.2023   | 2.2323  | 9.0000e-05 | 0.0000 | 0.0000 | 2.2042 |

### 3.3 Site Preparation - 2016

**Unmitigated Construction On-Site**

| Category       | ROG | NOx  | CO  | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio-CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------------|-----|------|-----|-----|---------------|--------------|------------|---------------|---------------|------------|----------|---------|----------|----------|-----|-----|-----|
| Fugitive Dust  | 0.0459 | 0.0000 | 0.0459 | 0.0249 | 0.0000       | 0.0249       | 0.0000     | 0.0000       | 0.0000       | 0.0000     | 0.0000   | 0.0000  | 0.0000    | 0.0000 | 0.0000 | 0.0000 |
| Off-Road       | 0.0127 | 0.1368 | 0.1028 | 1.000e-04 | 7.350e-03 | 7.350e-03 | 7.350e-03 | 6.760e-03 | 6.700e-03 | 6.700e-03 | 0.0000   | 9.2193  | 9.2193    | 2.7800e-03 | 0.0000 | 9.2777 |
| Total          | 0.0127 | 0.1368 | 0.1028 | 1.000e-04 | 7.380e-03 | 0.0533     | 0.0249     | 6.760e-03 | 0.0317       | 0.0600     | 9.2193   | 9.2193   | 2.7800e-03 | 0.0000 | 9.2777 |
### 3.3 Site Preparation - 2016

#### Unmitigated Construction Off-Site

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#### Mitigated Construction On-Site

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### 3.3 Site Preparation - 2016

**Mitigated Construction Off-Site**

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### 3.4 Grading - 2016

**Unmitigated Construction On-Site**

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### 3.4 Grading - 2016

#### Unmitigated Construction Off-Site

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#### Mitigated Construction On-Site

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### 3.4 Grading - 2016

**Mitigated Construction Off-Site**

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### 3.5 Well Construction (Drilling) - 2016

**Unmitigated Construction On-Site**

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### 3.5 Well Construction (Drilling) - 2016

#### Unmitigated Construction Off-Site

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#### Mitigated Construction On-Site

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### 3.5 Well Construction (Drilling) - 2016

#### Mitigated Construction Off-Site

| Category | ROG | NOx | CO  | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio-CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------|-----|-----|-----|-----|--------------|-------------|------------|---------------|---------------|------------|----------|---------|----------|--------|-----|-----|------|
| Hauling  | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor   | 9.2000e-04 | 9.2000e-04 | 1.2900e-03 | 1.2900e-03 | 6.0000e-06 | 2.0000e-05 | 7.0000e-05 | 2.0000e-05 | 1.0000e-05 | 3.0000e-05 | 0.0000 | 0.1967 | 0.1967 | 0.0000 | 0.0000 | 0.1967 |
| Worker   | 1.3200e-03 | 8.4000e-04 | 8.4100e-03 | 2.0000e-05 | 1.6300e-03 | 1.0000e-05 | 1.6300e-03 | 4.3000e-04 | 1.0000e-05 | 4.4000e-04 | 0.0000 | 1.4300 | 1.4300 | 0.0000 | 0.0000 | 1.4300 |
| Total    | 6.8000e-04 | 1.7600e-03 | 9.7300e-03 | 2.9600e-05 | 1.6800e-03 | 3.0000e-05 | 1.7000e-03 | 4.8000e-04 | 2.2000e-05 | 4.7000e-04 | 0.0000 | 1.6327 | 1.6327 | 0.0000 | 0.0000 | 1.6343 |

### 3.6 Pipeline Construction (Jack/Bore) - 2016

#### Unmitigated Construction On-Site

| Category | ROG | NOx | CO  | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio-CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|----------|-----|-----|-----|-----|--------------|-------------|------------|---------------|---------------|------------|----------|---------|----------|--------|-----|-----|------|
| Fugitive Dust | 0.0002 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road  | 0.0602 | 0.6782 | 0.4157 | 0.9000e-04 | 0.0000 | 0.0342 | 0.0000 | 0.0331 | 0.0000 | 0.0331 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Total     | 0.0602 | 0.6782 | 0.4157 | 0.9000e-04 | 0.0000 | 0.0342 | 0.0000 | 0.0331 | 0.0000 | 0.0331 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 65.3933 |
3.6 Pipeline Construction (Jack/Bore) - 2016

Unmitigated Construction Off-Site

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Mitigated Construction On-Site

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### 3.6 Pipeline Construction (Jack/Bore) - 2016

#### Mitigated Construction Off-Site

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### 3.7 Pipeline Construction (Trenching) - 2016

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#### Mitigated Construction On-Site

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3.7 Pipeline Construction (Trenching) - 2016

Mitigated Construction Off-Site

| Category     | ROG | NOx | CO  | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio-CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|-----|-----|-----|-----|---------------|--------------|------------|---------------|---------------|------------|----------|---------|-----------|--------|-----|-----|------|
| Hauling      | 4.10e-04 | 1.79e-03 | 6.99e-03 | 0.0000 | 7.00e-05 | 2.00e-05 | 9.00e-05 | 2.00e-05 | 4.00e-05 | 0.0000 | 9.3298 | 0.3298 | 0.0000 | 0.0000 | 0.3299 |
| Vendor       | 1.10e-04 | 9.20e-03 | 1.32e-03 | 0.0000 | 6.00e-05 | 2.00e-05 | 2.00e-05 | 1.20e-05 | 3.00e-05 | 0.0000 | 5.1967 | 0.1967 | 0.0000 | 0.0000 | 0.1967 |
| Worker       | 1.31e-03 | 1.50e-03 | 0.0194 | 4.00e-03 | 3.75e-03 | 3.00e-05 | 3.76e-03 | 3.00e-05 | 1.02e-05 | 0.0000 | 3.3139 | 3.3139 | 1.70e-04 | 0.0000 | 3.3175 |
| Total        | 1.83e-03 | 4.68e-03 | 0.0277 | 4.00e-03 | 3.86e-03 | 7.00e-05 | 3.92e-03 | 1.63e-03 | 6.00e-05 | 1.09e-03 | 0.0000 | 3.8404 | 3.8404 | 1.70e-04 | 0.0000 | 3.8441 |

3.8 Building Construction - 2016

Unmitigated Construction On-Site

| Category     | ROG | NOx | CO  | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio-CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|--------------|-----|-----|-----|-----|---------------|--------------|------------|---------------|---------------|------------|----------|---------|-----------|--------|-----|-----|------|
| Off-Road     | 0.3543 | 2.98e-07 | 1.62e-07 | 2.79e-005 | 0.20e-05 | 0.20e-05 | 0.19e-05 | 0.19e-05 | 0.19e-05 | 0.0000 | 251.8397 | 251.8397 | 0.0625 | 0.0000 | 253.1514 |
| Total        | 0.3543 | 2.98e-07 | 1.62e-07 | 2.79e-005 | 0.20e-05 | 0.20e-05 | 0.19e-05 | 0.19e-05 | 0.19e-05 | 0.0000 | 251.8397 | 251.8397 | 0.0625 | 0.0000 | 253.1514 |
### 3.8 Building Construction - 2016

**Unmitigated Construction Off-Site**

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**Mitigated Construction On-Site**

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### 3.8 Building Construction - 2017

**Unmitigated Construction On-Site**

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### 3.8 Building Construction - 2017

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### 3.9 Paving - 2017

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### 3.9 Paving - 2017

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### 3.10 Architectural Coating - 2017

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### 3.10 Architectural Coating - 2017

#### Mitigated Construction Off-Site

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<th>SO2</th>
<th>Fugitive PM10</th>
<th>Exhaust PM10</th>
<th>PM10 Total</th>
<th>Fugitive PM2.5</th>
<th>Exhaust PM2.5</th>
<th>PM2.5 Total</th>
<th>Bio-CO2</th>
<th>NBio-CO2</th>
<th>Total CO2</th>
<th>CH4</th>
<th>N2O</th>
<th>CO2e</th>
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### 4.0 Operational Detail - Mobile

#### 4.1 Mitigation Measures Mobile

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<th>ROG</th>
<th>NOx</th>
<th>CO</th>
<th>SO2</th>
<th>Fugitive PM10</th>
<th>Exhaust PM10</th>
<th>PM10 Total</th>
<th>Fugitive PM2.5</th>
<th>Exhaust PM2.5</th>
<th>PM2.5 Total</th>
<th>Bio-CO2</th>
<th>NBio-CO2</th>
<th>Total CO2</th>
<th>CH4</th>
<th>N2O</th>
<th>CO2e</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mitigated</td>
<td>4.8000e-004</td>
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<td>1.0000e-005</td>
<td>6.5000e-004</td>
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<td>1.7000e-004</td>
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4.2 Trip Summary Information

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<th>Average Daily Trip Rate</th>
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<th>Mitigated</th>
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<td>User Defined Industrial</td>
<td>1.00</td>
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4.3 Trip Type Information

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<th>H-S or C-C</th>
<th>H-O or C-NW</th>
<th>H-W or C-W</th>
<th>H-S or C-C</th>
<th>H-O or C-NW</th>
<th>Primary</th>
<th>Diverted</th>
<th>Pass-by</th>
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5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy
### ROG, NOx, CO, SO\textsubscript{2} Exhaust, PM\textsubscript{10}, Fugitive PM\textsubscript{10}, PM\textsubscript{2.5}, Fugitive PM\textsubscript{2.5}, Exhaust PM\textsubscript{2.5}, Bio-CO\textsubscript{2}, NBio-CO\textsubscript{2}, Total CO\textsubscript{2}, CH\textsubscript{4}, N\textsubscript{2}O, CO\textsubscript{2e}

<table>
<thead>
<tr>
<th>Category</th>
<th>ROG</th>
<th>NO\textsubscript{x}</th>
<th>CO</th>
<th>SO\textsubscript{2}</th>
<th>Fugitive PM\textsubscript{10}</th>
<th>Exhaust PM\textsubscript{10}</th>
<th>PM\textsubscript{10} Total</th>
<th>Fugitive PM\textsubscript{2.5}</th>
<th>Exhaust PM\textsubscript{2.5}</th>
<th>PM\textsubscript{2.5} Total</th>
<th>Bio-CO\textsubscript{2}</th>
<th>NBio-CO\textsubscript{2}</th>
<th>Total CO\textsubscript{2}</th>
<th>CH\textsubscript{4}</th>
<th>N\textsubscript{2}O</th>
<th>CO\textsubscript{2e}</th>
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<td>0.0000</td>
<td>0.0000</td>
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<td>0.0000</td>
</tr>
<tr>
<td>Electricity Unmitigated</td>
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<td>0.0000</td>
<td>0.0000</td>
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<td>0.0000</td>
<td>0.0000</td>
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<tr>
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<td>0.0000</td>
<td>0.0000</td>
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### 5.2 Energy by Land Use - NaturalGas

#### Unmitigated

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<th>NaturalGas Use</th>
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<th>NO\textsubscript{x}</th>
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<th>SO\textsubscript{2}</th>
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<th>Exhaust PM\textsubscript{10}</th>
<th>PM\textsubscript{10} Total</th>
<th>Fugitive PM\textsubscript{2.5}</th>
<th>Exhaust PM\textsubscript{2.5}</th>
<th>PM\textsubscript{2.5} Total</th>
<th>Bio-CO\textsubscript{2}</th>
<th>NBio-CO\textsubscript{2}</th>
<th>Total CO\textsubscript{2}</th>
<th>CH\textsubscript{4}</th>
<th>N\textsubscript{2}O</th>
<th>CO\textsubscript{2e}</th>
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</thead>
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<tr>
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5.2 Energy by Land Use - NaturalGas

Mitigated

| NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio+ CO2 | NBio+ CO2 | Total CO2 | CH4 | N2O | CO2e |
|---------------|-----|-----|----|-----|--------------|--------------|------------|---------------|--------------|------------|----------|----------|----------|--------|-----|-----|-----|
| Land Use      |      |     |    |     |              |              |            |               |              |            |          |          |          |       |     |     |
| User Defined  | 0    | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |     |    |    |
| Industrial    |      |     |    |     |              |              |            |               |              |            |          |          |          |       |     |     |
| Total         |      | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |     |    |    |

5.3 Energy by Land Use - Electricity

Unmitigated

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<th>Electricity Use</th>
<th>Total CO2</th>
<th>CH4</th>
<th>N2O</th>
<th>CO2e</th>
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<tbody>
<tr>
<td>Land Use</td>
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<tr>
<td>User Defined</td>
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<tr>
<td>Industrial</td>
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5.3 Energy by Land Use - Electricity

**Mitigated**

<table>
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<th>CO2e</th>
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6.0 Area Detail

6.1 Mitigation Measures Area

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<th>CO</th>
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<th>Fugitive PM10</th>
<th>Exhaust PM10</th>
<th>PM10 Total</th>
<th>Fugitive PM2.5</th>
<th>Exhaust PM2.5</th>
<th>PM2.5 Total</th>
<th>Bio-CO2</th>
<th>NSBio-CO2</th>
<th>Total CO2</th>
<th>CH4</th>
<th>N2O</th>
<th>CO2e</th>
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### 6.2 Area by SubCategory

#### Unmitigated

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<th>PM2.5 Total</th>
<th>Bio- CO2</th>
<th>NBio-CO2</th>
<th>Total CO2</th>
<th>CH4</th>
<th>N2O</th>
<th>CO2e</th>
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#### Mitigated

<table>
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<th>SO2</th>
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<th>Exhaust PM10</th>
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<th>Fugitive PM2.5</th>
<th>Exhaust PM2.5</th>
<th>PM2.5 Total</th>
<th>Bio- CO2</th>
<th>NBio-CO2</th>
<th>Total CO2</th>
<th>CH4</th>
<th>N2O</th>
<th>CO2e</th>
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### 7.0 Water Detail
7.1 Mitigation Measures Water

Use Water Efficient Irrigation System

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7.2 Water by Land Use

**Unmitigated**

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<tr>
<th>Land Use</th>
<th>Indoor/Outdoor Use</th>
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<th>N2O</th>
<th>CO2e</th>
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### 7.2 Water by Land Use

**Mitigated**

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<th>CO2e</th>
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### 8.0 Waste Detail

#### 8.1 Mitigation Measures Waste

**Category/Year**

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8.2 Waste by Land Use

### Unmitigated

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<td>0.0000</td>
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### Mitigated

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9.0 Operational Offroad
### Equipment Type

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<th>Number</th>
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<th>Days/Year</th>
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<tr>
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#### UnMitigated/Mitigated

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<th>CO</th>
<th>SO2</th>
<th>Fugitive PM10</th>
<th>Exhaust PM10</th>
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<th>Bio-CO2</th>
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### 10.0 Vegetation

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10.1 Vegetation Land Change

**Vegetation Type**

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10.2 Net New Trees

**Species Class**

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Appendix D

Biological Resources Impacts Evaluation
Supporting Documentation
This report is for informational purposes only and should not be used for planning or analyzing project level impacts. For project reviews that require U.S. Fish & Wildlife Service review or concurrence, please return to the IPaC website and request an official species list from the Regulatory Documents page.
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<th>Section</th>
<th>Page</th>
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<td>IPaC Trust Resources Report</td>
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<td>Project Description</td>
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<td>Endangered Species</td>
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<td>Migratory Birds</td>
<td>4</td>
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<td>Refuges &amp; Hatcheries</td>
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<td>Wetlands</td>
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U.S. Fish & Wildlife Service
IPaC Trust Resources Report

NAME
Del Rio Tank and Wells Project

LOCATION
Stanislaus County, California

IPAC LINK
https://ecos.fws.gov/ipac/project/
FJFXC-2NKV-HXV8H-XDTXV-GNRVEM

U.S. Fish & Wildlife Service Contact Information
Trust resources in this location are managed by:

Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-6600
Endangered Species

Proposed, candidate, threatened, and endangered species are managed by the Endangered Species Program of the U.S. Fish & Wildlife Service.

This USFWS trust resource report is for informational purposes only and should not be used for planning or analyzing project level impacts.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list from the Regulatory Documents section.

Section 7 of the Endangered Species Act requires Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency.

A letter from the local office and a species list which fulfills this requirement can only be obtained by requesting an official species list either from the Regulatory Documents section in IPaC or from the local field office directly.

The list of species below are those that may occur or could potentially be affected by activities in this location:

Amphibians

**California Red-legged Frog** Rana draytonii  
**CRITICAL HABITAT**  
There is final critical habitat designated for this species.  

**California Tiger Salamander** Ambystoma californiense  
**CRITICAL HABITAT**  
There is final critical habitat designated for this species.  
**Crustaceans**

**Vernal Pool Fairy Shrimp**  Branchinecta lynchii  
**CRITICAL HABITAT**
There is final critical habitat designated for this species.
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=K03G

**Vernal Pool Tadpole Shrimp**  Lepidurus packardi  
**CRITICAL HABITAT**
There is final critical habitat designated for this species.

**Fishes**

**Delta Smelt**  Hypomesus transpacificus  
**CRITICAL HABITAT**
There is final critical habitat designated for this species.

**Steelhead**  Oncorhynchus (=Salmo) mykiss  
**CRITICAL HABITAT**
There is final critical habitat designated for this species.
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=E08D

**Insects**

**Valley Elderberry Longhorn Beetle**  Desmocerus californicus dimorphus  
**CRITICAL HABITAT**
There is final critical habitat designated for this species.
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=I01L

**Reptiles**

**Giant Garter Snake**  Thamnophis gigas  
**CRITICAL HABITAT**
No critical habitat has been designated for this species.
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=C067

**Critical Habitats**

There are no critical habitats in this location
Migratory Birds

Birds are protected by the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act.

Any activity that results in the take of migratory birds or eagles is prohibited unless authorized by the U.S. Fish & Wildlife Service. There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured.

Any person or organization who plans or conducts activities that may result in the take of migratory birds is responsible for complying with the appropriate regulations and implementing appropriate conservation measures.

1. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

Additional information can be found using the following links:

- Birds of Conservation Concern

- Conservation measures for birds

- Year-round bird occurrence data
  [http://www.birdscanada.org/birdmon/default/datasummaries.jsp](http://www.birdscanada.org/birdmon/default/datasummaries.jsp)

The following species of migratory birds could potentially be affected by activities in this location:

**Bald Eagle** *Haliaeetus leucocephalus*
- Year-round

**Black Rail** *Laterallus jamaicensis*
- Season: Breeding

**Burrowing Owl** *Athene cunicularia*
- Year-round

**Fox Sparrow** *Passerella iliaca*
- Season: Wintering

Bird of conservation concern
<table>
<thead>
<tr>
<th><strong>Lesser Yellowlegs</strong></th>
<th><em>Tringa flavipes</em></th>
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Williamson's Sapsucker  Sphyrapicus thyroideus  
Year-round  
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=BQEX

Yellow-billed Magpie  Pica nuttalli  
Year-round  
Wildlife refuges and fish hatcheries

Refuge and fish hatchery data is unavailable at this time.
Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

DATA LIMITATIONS
The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

DATA EXCLUSIONS
Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberificid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

DATA PRECAUTIONS
Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

There are no wetlands in this location
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### Selected Elements by Scientific Name

**California Department of Fish and Wildlife**

**California Natural Diversity Database**

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<td>G5T2</td>
<td>S2</td>
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<td>AMAJA03041</td>
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<td>G4T2</td>
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Record Count: 63
Appendix E

Cultural Resources Impacts Evaluation
Supporting Documentation
CULTURAL RESOURCES ASSESSMENT REPORT
City of Modesto Del Rio Tank and Wells Project
Stanislaus County, California
September 2016

Prepared for:
City of Modesto Utilities Department
1010 Tenth Street / P.O. Box 642
Modesto, CA 95353
Contact: Tamorah Bryant, Acting Senior Civil Engineer

Prepared by:
Horizon

P.O. Box 2727
Oakland, CA 94612
Janis Offermann, MA, RPA
Cultural Resources Practice Lead
Limitations

This report contains confidential cultural resources location information; report distribution should be restricted to those with a need to know. Cultural resources are non-renewable, and their scientific, cultural, and aesthetic values can be significantly impaired by disturbance. To deter vandalism, artifact hunting, and other activities that can damage cultural resources, the locations of cultural resources should be kept confidential. The legal authority to restrict cultural resources information is provided in California Government Code Section 6254.1 and the National Historic Preservation Act of 1966, as amended, Section 304.
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## List of Acronyms

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<th>Acronym</th>
<th>Full Form</th>
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<td>amsl</td>
<td>Above mean sea level</td>
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<tr>
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<td>Area of Potential Effects</td>
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Executive Summary

The City of Modesto (City) is proposing the Del Rio Tank and Wells Project (Proposed Project) to improve the water system in the community of Del Rio by constructing a new water storage tank, pump station, backup generators, and new water conveyance; installing two wells; and decommissioning one well. The Proposed Project is located in an unincorporated area in northern Stanislaus County about 2 miles north of the City's sphere of influence. This document reports the findings of a cultural resources assessment for the Proposed Project. The City retained Horizon Water and Environment, LLC (Horizon) to complete the cultural resources assessment in support of the project.

This report documents cultural resources inventory methods and results as required for compliance with federal and California regulations. The study consisted of a literature review to identify any previously recorded cultural resources that could be affected by the Proposed Project and a field survey to locate any archaeological sites that may exist but have not yet been recorded. The study also included a survey of the built environment, which resulted in the recordation of an abandoned home and outbuildings on Ladd Road (Site A). The structures were evaluated for listing in the National Register of Historic Places (NRHP) and the California Register of Historical Resources (CRHR).

No archaeological resources were identified during the course of the field survey, and the recorded buildings on Ladd Road do not appear eligible for NRHP/CRHR listing. As a result, the Proposed Project would not have an impact on significant cultural resources.

This report has been prepared based on certain key assumptions made by Horizon that substantially affect its conclusions and recommendations: (a) that the information gathered during the record search is up to date and accurate, and (b) that the field survey results accurately identified the presence or absence of archaeological resources visible on the ground surface. These assumptions, although believed to be reasonable and appropriate, may not prove to be true in the future. Horizon's conclusions and recommendations are conditioned upon these assumptions.

The archaeological inventory was performed based upon information obtained at the Central California Information Center of the California Historical Resources Information System, direct observation of site conditions, and other information that is generally applicable as of August 2016, when the inventory was performed. The conclusions and recommendations herein are therefore based on information available up to that time. Further information may come to light in the future that could substantially change the conclusions found herein.

Information obtained from these sources in this timeframe is assumed to be correct and complete. Horizon does not assume any liability for findings or lack of findings based upon misrepresentation of information presented to Horizon or for items that are not visible, made visible, accessible, or present at the time of the project area inventory.
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1 Introduction

1.1 Location and Setting

The Proposed Project consists of two sites situated in northern Stanislaus County, 0.75–1.2 miles south of the Stanislaus River and the Stanislaus/San Joaquin County line and approximately 2 miles north of the City of Modesto (Figure 1). The Modesto region is on the east side of the northern San Joaquin Valley.

The project location is depicted within the Salida and Riverbank U.S. Geological Survey (USGS) 7.5-minute topographic quadrangles (Figure 2). The area immediately adjacent to the two project locations is flat and largely rural. The Del Rio Golf and Country Club is located west of St. John Road near its intersection with Stewart Road (near Site A), and some housing development is present on both sides of Stewart Road between St. John Road and McHenry Avenue (near Site B) and around the golf course.

1.2 Project Description and Area of Potential Effects

The City of Modesto Utilities Department proposes to construct an above ground water storage tank, water well, and booster pump station, along with several other appurtenant features and landscape improvements, on property located at 718 Ladd Road near its intersection with St. John Road (Site A). Additionally, a water transmission main would be constructed within St. John Road to convey water north from the tank site to connect with the existing distribution system near the intersection of St. John Road and Country Club Drive. A second water well would be constructed at a parcel on McHenry Avenue near its intersection with Stewart Road (Site B). This well would connect directly with an existing water main under McHenry Avenue and extend south to Stewart Road; additional pipeline would be installed along Stewart Road west from the junction with McHenry Avenue to approximately the intersection with Grove Pointe Way (Figure 3).

Construction activities would include both trenching and jack-and-bore methods for water main installation; demolition of existing buildings and associated features (e.g., well and septic systems) at Site A; clearing of some vegetation; grubbing and placement of fill; and compaction of soils. New structures (i.e., storage tank, pump station buildings to house wells and pumps, standby generator) and a standby generator would be constructed on concrete slabs. In addition, a 1.3-acre stormwater detention basin would be constructed at Site A.

The area of potential effects (APE) for the Proposed Project consists of the 4-acre parcel on Ladd Road (Site A) and the 0.4-acre parcel on McHenry Avenue (Site B). The APE also includes 25 feet to both sides of the roads that would receive new pipeline: approximately 2,500 feet along St. John Road, 190 feet along McHenry Road, and 760 feet along Stewart Road. This is a total of 4.4 acres and 3,450 linear feet (0.65 mile). The depth of disturbance within the APE (known as the vertical APE) is expected to be about 42 inches (3.5 feet) for water main/pipeline construction, XXXX feet for building/facility construction, and 8 feet for the Site A stormwater detention basin. The wells would be excavated to a minimum depth of 300 feet and a maximum depth of 600 feet.
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Figure 1
Project Vicinity Map

Del Rio Tank and Wells Project
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Site A and Pipeline
County: Stanislaus
7.5' Quad Map: Salida
Township: 2 S
Range: 9 E
Section: 29
UTM Coordinates (Zone 10N, NAD83)
Easting Northing
675601 4177960

Site B
County: Stanislaus
7.5' Quad Map: Riverbank
Township: 2 S
Range: 9 E
Section: 21
UTM Coordinates (Zone 10N, NAD83)
Easting Northing
678689 4179185

Figure 2
Project Location Map
Del Rio Tank and Wells Project
Figure 3
Area of Potential Effects

Del Rio Tank and Wells Project
1.3 Regulatory Setting and Need for Study

1.3.1 State of California Regulations

CEQA and State CEQA Guidelines

The Proposed Project must comply with California Environmental Quality Act (CEQA) (Public Resources Code [PRC] Section 21000 et seq.) and the CEQA Guidelines (California Code of Regulations [CCR], Title 14, Chapter 3), which determine, in part, whether the project would have a significant effect on a unique archaeological resource (PRC Section 21083.2) or a historical resource (PRC Section 21084.1).

CEQA Guidelines Section 15064.5 notes that “a project with an effect that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment.” Lead agencies are required to identify potentially feasible measures or alternatives to avoid or mitigate significant adverse changes in the significance of a historical resource before they approve such projects. According to the CEQA Guidelines, a historical resource meets any of the following criteria:

- Listed in, or determined to be eligible for listing in, the California Register of Historical Resources (CRHR) (PRC Section 5024.1(k));
- Included in a local register of historical resources (PRC Section 5020.1) or identified as significant in a historical resource survey that meets the requirements of PRC Section 5024.1(g); or
- Determined by a lead state agency to be historically significant.

CEQA Guidelines Section 15064.5 also applies to unique archaeological resources as defined in PRC Section 21084.1.

Assembly Bill 52 (codified as PRC Section 21080.3.1), which went into effect on July 1, 2015, requires that CEQA lead agencies consult with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of a proposed project, if so requested by the tribe, and if the agency intends to release a negative declaration, mitigated negative declaration, or environmental impact report for the project. Under the same bill PRC Section 21084.2 also specifies that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource (TCR) is a project that may have a significant effect on the environment. This latter language will be added to the CEQA checklist in the near future, but the regulation itself officially took effect on July 1, 2016. The City, as the project’s CEQA lead agency, will consult with Native American tribes as required under PRC Section 21080.3.1.

As defined in PRC Section 21074(a), TCRs are:

(1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:

a. Included or determined to be eligible for inclusion in the CRHR; or
b. Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.

(2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

In addition to Section 21074(a) above, TCRs are further defined under Section 21074(b) and (c) as follows:

(b) A cultural landscape that meets the criteria of subdivision (a) is a TCR to the extent that the landscape is geographically defined in terms of the size and scope of the landscape; and

(c) A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a "nonunique archaeological resource" as defined in subdivision (b) of Section 21083.2 may also be a tribal cultural resource if it conforms to the criteria of subdivision (a) [of Section 21074].

Mitigation measures for TCRs must be developed in consultation with the affected California Native American tribe in accordance with the newly chaptered Section 21080.3.2 or Section 21084.3. The latter section identifies mitigation measures that include avoidance and preservation of TCRs and treating TCRs with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource.

California Register of Historical Resources

PRC Section 5024.1 establishes the CRHR. The register lists all California properties considered to be significant historical resources. The CRHR incorporates all properties listed as or determined to be eligible for listing in the National Register of Historic Places (NRHP), including properties evaluated under Section 106 of the National Historic Preservation Act (NHPA). The criteria for listing, which are similar to those of the NRHP, include resources that:

(1) Are associated with the events that have made a significant contribution to the broad patterns of California’s history and cultural heritage;

(2) Are associated with the lives of persons important in our past;

(3) Embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of an important creative individual, or possess high artistic values; or

(4) Have yielded, or may be likely to yield, information important in prehistory or history.

PRC Section 5024.1 sets forth the criteria for eligibility as well as guidelines for assessing historical integrity and resources that have special considerations.

1.3.2 Federal Regulations

Construction of the Proposed Project by the City of Modesto would require a Clean Water Act Section 402 permit from the Central Valley Regional Water Quality Control Board. As a result, the
project constitutes a federal undertaking as defined by 54 U.S. Code (USC) Section 300101 of the NHPA and mandates compliance with 54 USC Section 306108, commonly known as Section 106 of the NHPA and its implementing regulations, found in 36 Code of Federal Regulations (CFR) Section 800, as amended in 2001. To comply with Section 106, the project proponent must “take into account the effect of the undertaking on any district, site, building, structure, or object that is included in or eligible for inclusion in the National Register.”

The implementing regulations of the NHPA require that cultural resources be evaluated for NRHP eligibility if they cannot be avoided by an undertaking. To determine site significance through application of NRHP criteria, several levels of potential significance must be considered that reflect different (although not necessarily mutually exclusive) values. As provided in 36 CFR Section 60.4, “the quality of significance in American history, architecture, archaeology, and culture [that] is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association” must be considered within its historic context. To meet eligibility criteria of the NRHP, resources must also be at least 50 years old, except in rare cases, and must:

(A) Be associated with events that have made a significant contribution to the broad patterns of our history; or

(B) Be associated with the lives of persons significant in our past; or

(C) Embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or that possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction; or

(D) Have yielded, or be likely to yield, information important in prehistory or history.

For archaeological sites evaluated under Criterion D, integrity requires that the site remain sufficiently intact to convey the expected information to address specific important research questions.

Cultural resources also may be considered separately under the National Environmental Policy Act in accordance with 42 USC Sections 4321-4327. These sections require federal agencies to consider potential environmental impacts and appropriate mitigation measures for projects with federal involvement.

1.4 Personnel

Field work, analysis, and reporting were carried out by the professionals identified below, all of whom meet the U.S. Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation (48 CFR Section 44716, as amended in 1983). Procedures followed in conducting the analysis complied with NHPA Section 106 as set forth in 36 CFR Section 800.

- Janis Offermann, Registered Professional Archaeologist, acted as Principal Investigator for the project, conducted the archaeological field survey, and prepared this report. She has a Bachelor’s degree in Anthropology from Sonoma State University in Rohnert Park, California, and a Master’s degree in Anthropology from the University of California at Davis. She has more than 40 years of experience in California archaeology and cultural resource management. Ms. Offermann is the cultural resources practice leader with Horizon.
Kara Brunzell, MA, conducted the built environment field survey, completed recordation of the Ladd Road buildings, and evaluated the structures for NRHP/CRHR eligibility. She has a Bachelor's degree in History from the University of California at Los Angeles and a Master's degree in History/Public History from California State University, Sacramento. She has 9 years of experience in architectural history and has worked throughout California.
2  Project Context

2.1  Environmental Setting

The Proposed Project is located near the east side of the northern San Joaquin Valley. The area is generally flat and has an elevation of approximately 100 feet above mean sea level (amsl); this reflects the elevation of Site A and the pipeline on St. John Road. The location of the Del Rio Country Club, on an east/west-trending "ridge" just south of the Stanislaus River, is somewhat higher, with a maximum elevation of 128 feet amsl. Site B, at the east end of this ridge, has an elevation of approximately 112 feet amsl.

Orchards border the APE along the west side of St. John Road and east of McHenry Avenue. Although the Ladd Road parcel (Site A) once contained a small orchard, it is now covered with low-growing grasses. Site B is similarly covered with weedy grasses and forbs, as is the east side of St. John Road. Houses line both sides of Stewart Road adjacent the APE.

Because archaeological resources may be buried with no surface manifestation, precluding their observation during pedestrian survey, the potential for buried archaeological resources within a given project area requires assessment. The probability that a buried archaeological resource is present in a project area is governed by several factors: (1) the presence of a buried, "stable land surface" called a paleosol; (2) the age of this paleosol; (3) the relative availability of a subsistence base required for human sustenance near the buried paleosol; and (4) the presence or absence of known archaeological resources in the area. Assessments that evaluate the potential for buried resources are commonly referred to as "geoarchaeological studies."

A review of soils information (Natural Resources Conservation Service 2016) and geoarchaeological data (Rosenthal et al. 2004:76, 78-79) indicates that the soils within the project area (Delhi loamy sand, Hanford sandy loam, and Tujunga loamy sand) date from the late Pleistocene through the Holocene Epoch. These soils are considered to have moderate, high, and very high sensitivity ratings, respectively, for buried archaeological remains (Rosenthal et al. 2004:104). Proximity to the Stanislaus River increases the potential for buried resources.

2.2  Prehistoric Context

Very little archaeological work has been conducted in the Modesto area or in the San Joaquin Valley in general; therefore, the archaeology of the project area is understood within the prehistoric context developed for the Central Valley as a whole. Since the early 1930s, various schemes have been set forth by researchers to organize the archaeological data of California into a chronological framework. The Central Valley sequence established by Lillard, Heizer, and Fenenga in 1939 is particularly notable. Based on archaeological investigations in the lower Sacramento Valley, Lillard and colleagues divided human prehistory into three broad cultural horizons: Early, Middle, and Late. This chronology was first known as the Delta sequence and later became the basis of Richard Beardsley's Central California Taxonomic System (CCTS) (Moratto 1984:181). The system relies on the identification of characteristics such as burial patterns, shell bead types, stone tools, and the types of locations where the sites tend to occur. These traits and characteristics are used to identify an archaeological resource as belonging to a specific time period.
The CCTS has continued to undergo significant refinement but remains the framework within which California archaeologists explain cultural change. The general system is still widely used by archaeologists, but it has been expanded and revised to include economic and technological strategies, socio-politics, trade networks, population density, and variations of artifact types to differentiate between cultural periods. The current chronology (Rosenthal et al. 2010:150) for central California archaeology includes:

- Paleo-Indian: 11,550-8550 B.C.
- Lower Archaic: 8550-5550 B.C.
- Middle Archaic: 5550-550 B.C.
- Upper Archaic: 550 B.C to 1100 A.D.
- Emergent: 1100 A.D. to Historic

The Paleo-Indian Period (11,550-8,550 B.C.) is generally characterized by big-game hunters occupying broad geographic areas. Archaeological deposits from the Paleo-Indian period are rarely found in the Central Valley, however, and those that have been identified have largely been discovered at the south end of the San Joaquin Valley near Tulare Lake. Post-depositional processes, mainly glacial outwash occurring at the end of the Pleistocene Epoch, either destroyed or deeply buried much of the existing evidence of human activity in the region from this period. As result, little is known about Paleo-Indian lifeways in the region (Moratto 1984:214).

Similar to the preceding period, the Lower Archaic Period (8550-5550 B.C.) is presumed to reflect a mobile population that continued to hunt big game. Few localities in the Central Valley are associated with this period, and those that have been found are largely isolated artifacts consisting of large wide-stemmed and leaf-shaped projectile points, along with flaked stone crescents. Only two sites with associated deposits of faunal and shell remains have been identified for the Lower Archaic Period, one at Buena Vista Lake in the southern San Joaquin Valley (Rosenthal et al. 2010:151-152) and one in Sacramento (Tremaine 2008). Some sites in the Sierra Nevada foothills from this period, however, indicate the use of milling equipment (hand stones and milling stones) to process seeds and nuts.

The Middle Archaic Period (5550-550 B.C.) indicates a shift to a more settled way of life that is reflected by substantial, though often deeply buried, archaeological sites with artifacts that are more elaborate in design, imply a more diverse subsistence regime, and indicate interregional trade. Sites are often situated along the major rivers and streams within the Central Valley, emphasizing a focus on riverine and marsh habitats. The Windmiller Tradition or Pattern, which was first identified in sites around the Sacramento–San Joaquin River Delta, is often considered representative of this period. Characteristic artifacts from this period include a variety of fish hooks and spears; large stemmed and leaf-shaped projectile points of obsidian and chert; shaped charmstones of alabaster, steatite, or marble; and a variety of Haliotis and Olivella shell ornaments and beads, respectively. Mortars and pestles, associated with acorn preparation, became commonplace by the middle of the period. The presence of ventrally and dorsally extended burials with a western orientation is particularly indicative of the Windmiller Pattern.

Increased sedentism and technological specialization are evidenced during the Upper Archaic Period (550 B.C to 1100 A.D.), as populations exploited more diverse resources and established trade relationships. Mortars and pestles became the primary ground stone implements, suggesting that acorns had become a more important dietary staple. Regional diversity in artifact styles, such as Haliotis shell ornaments, bone tools, and ground charmstones or plummets, became more pronounced; burial postures also varied.
Archaeological sites from the Emergent Period (A.D. 1100 to the historic period) indicate increased social complexity and the development of large, central villages with resident political leaders and specialized activity sites. Enhanced regional diversity in terms of artifact styles, housing, and interment methods is evident in the archaeological record. Artifacts associated with the period include the bow and arrow, small corner-notched projectile points, and a variety of shell and stone beads and ornaments.

2.3 Ethnohistoric Context

The Modesto area lies within the ancestral territory of the Northern Valley Yokuts. The term “Yokuts” is applied to a large and diverse group of people inhabiting the San Joaquin Valley and Sierra Nevada foothills of central California. The Northern Valley Yokuts inhabited a 40- to 60-mile-wide area straddling the San Joaquin River, south of the Mokelumne River, east of the Diablo Range, and north of the sharp bend that the San Joaquin River takes to the east-northeast near Mendota in Fresno County. The Southern Valley Yokuts occupied the San Joaquin Valley south of the bend in the river. Although they were divided geographically and ecologically, the two Yokuts divisions have a common linguistic heritage (Wallace 1978:462).

The Northern Valley tribes closely resembled the Yokuts groups to the south, although there were some cultural differences. The northerners had greater access to salmon and acorns, two important dietary resources, compared to the Southern Yokuts, and some of their religious practices reflected the influences of groups to their north, such as the Miwok. While inhumation was the usual practice in the southern valley, the Northern Valley Yokuts either cremated their dead or buried them in a flexed position (Wallace 1978:464, 468). A chief headed the tribal villages, which averaged around 300 people. Family houses were round or oval in shape, sunken, with a cone-shaped pole frame, and covered with tule mats. Each village also had a lodge for dances and other community functions, as well as a sweathouse (Wallace 1978:462-464).

The Northern Valley Yokuts built their riverside villages on elevated areas along the water’s edge to avoid the spring floods, which were a result of heavy Sierra Nevada snow melts. Living beside rivers and streams provided plentiful river perch, Sacramento pike, salmon, and sturgeon. Hunting provided waterfowl such as geese and ducks as well as terrestrial animals such as antelope, elk, and brown bear, although by all indications, fish constituted a majority of the diet. The surrounding woodland, grasslands, and marshes provided acorns, tule root, and seeds.

The Northern Valley Yokuts used bone harpoon tips for fishing, stone sinkers for nets, chert projectile points for hunting, and mortars and pestles, scrapers, knives, and bone awl tools to procure and process food. Marine shells, procured from coastal tribes, were used for necklaces and other adornments, and marine shell beads sometimes accompanied the deceased. The northern tribes used tule reed rafts to navigate the waterways for fishing and hunting fowl. The Yokuts also manufactured intricate baskets for a variety of purposes, including storing, cooking, eating, winnowing, hopper mortars, the transport of food materials, and rituals. Very little is known of the Northern Valley Yokuts’ clothing, but drawings of their tattoos show that they served not only as a decoration but also as a form of identity (Wallace 1978:464).
Initially, the Diablo Range served as a natural barrier against heavy recruitment of Native Californians by the Spanish, who established missions along the coast; however, by the early 19th century, Spanish—and later, Mexican—missionaries began to explore the inner valleys in search of potential neophytes, or converts to Catholicism. The Yokuts resisted recruitment and California Indians from various tribes sought refuge among the Yokuts after fleeing the missions. Introduced diseases, destruction of traditional resources from cattle grazing, and forced relocation took a heavy toll on the Northern Yokuts. Despite decades of hardship, many individuals who can trace their ancestry to the Northern Valley Yokuts continue to live and thrive in the Central Valley, as well as throughout California and the United States.

2.4 Historic-era Context

The historic era began in Stanislaus County when the first Spanish expedition entered the San Joaquin Valley in 1806 under the leadership of Gabriel Moraga. Traveling north and northwest through the region in search of possible mission sites, Moraga’s party explored up what came to be known as the Stanislaus River. Moraga visited the area again in 1808 and 1810 (Kyle et al. 2002:516-517).

After Mexico gained its independence from Spain in 1822, two additional expedition forces entered the area; however, the purposes of their campaigns were no longer exploratory. Soldiers were sent into the Central Valley to recover stolen animals and punish rebellious Indians in an attempt to reduce attacks upon coastal towns, missions, and ranchos.

Americans also began to enter the region during the Mexican period. In 1827 and 1828, Jedediah Smith entered the San Joaquin Valley through the Tejon Pass and trapped beavers along the San Joaquin, Kings, and other rivers and streams that flowed from the Sierra. Smith was followed by fellow trappers such as Peter Ogden, Ewing Young, Kit Carson, and Joseph Walker.

The first permanent European settlement in Stanislaus County may have been established when two land grants were issued by the Mexican government in 1843. The first was the Rancho El Pescadero on the west side of the San Joaquin River near the border of what would eventually become San Joaquin County. The second was the Rancheria del Rio de Estanislao located north of the Stanislaus River bordering Tuolumne County. Two additional land grants were issued the following year. These were the Ranchos del Puerto and Orestimba, both of which were on the west side of the county near Rancho Pescadero (Tinkham 1921).

The City of Modesto came into being in 1870 when the Central Pacific Railroad announced the location would be the end point of the next extension of the rail line as it progressed south through the Central Valley (Kyle et al. 2002:521). By the time the tracks were completed in November of that year, entrepreneurs had already established a viable town (City of Modesto 2016). Modesto residents were among California’s first irrigation advocates, and by 1904 a system of canals had been constructed to allow more productive agriculture. During the 19th century, grain growing was Stanislaus County’s dominant agricultural activity. Stock raising, dairy farming, fruit and nut orchards, and vegetable farms all became more important over time. When Prohibition ended in 1933, the Gallo brothers came to Modesto, bringing the wine business to the area on an industrial scale. In the 21st century, almonds and walnuts are the most lucrative local crops, although fruits, vegetables, livestock, and other agricultural products remain important. Modesto is still the most important town in the region and is the Stanislaus County seat.
The Del Rio area is a census-designated place in Stanislaus County that receives services from the City of Modesto. Until the mid-1940s, the area supported scattered farms and orchards. The Del Rio Country Club was founded along on south bank of the Stanislaus River in 1946 (Del Rio Country Club 2016). After this time, the area slowly began to grow as housing tracts were established west of the golf course, along Country Club Drive on the south side of the golf course, and east of St. John Road, which borders the country club on the east (USGS 2016). The current level of development in the Del Rio area was completed around 2002 (NETR Online 2016).
3 Native American Consultation and Archival Research

In accordance with the U.S. Secretary of the Interior’s Standards and Guidelines for Archaeology and Historic Preservation (48 CFR Section 44716, amended 1983), the goals of this archaeological inventory were to identify and completely document the location, qualities, and condition of any potential historic properties in the Proposed Project’s APE. Methods employed to achieve these goals are described below.

3.1 Native American Consultation

A request was made to the Native American Heritage Commission (NAHC) on April 20, 2016, to review its files for the presence of sacred sites at or near the project location. At the same time, requests were made for a list of individuals who might have concerns or have knowledge of traditional sites in the vicinity of the project site and for a separate list of tribes that have a traditional and cultural affiliation with the project area for the purpose of consultation as required by PRC Section 21080.3.1. The NAHC responded on April 21, 2016, noting that no sacred sites are known to exist in the vicinity of the Proposed Project, and with a list of tribes for the purposes of PRC Section 21080.3.1 consultation. After additional communication with the NAHC requesting a broader list of individuals who might have knowledge about the project area, the NAHC stated that the list provided for Section 21080.3.1 consultation was adequate. As a result, letters requesting information were sent to the individuals identified in Table 1. These individuals were contacted first by mail, then by phone. To date, those contacted have not voiced any concerns about the Proposed Project.

The City of Modesto also sent notification letters about the Proposed Project, in accordance with PRC Section 21080.3.1(d), to the individuals listed in Table 1 on May 12, 2016. None of the contacted tribes requested consultation within the 30-day period prescribed under PRC Section 21080.3.1(b)(2).

All communications and correspondence with the NAHC and Native American tribes conducted by Horizon are provided in Attachment 1.
3.2 Archival Research

A records search was conducted by the Central California Information Center (CCIC) of the California Historical Resources Information System at California State University, Stanislaus for the Proposed Project prior to initiating the field study. The purpose of the records search was to determine if the study area had previously been surveyed for cultural resources, and to identify any previously recorded cultural resources in or within ½ mile of the project site. The archival research included review of the California Inventory of Historic Resources, local historical inventories, historical literature, and historical maps, including USGS topographic maps, General Land Office maps, and Rancho Plat Maps. The results of the record search are included in Attachment 2.

The records search indicated that two previous studies had been conducted that included portions of the study area. These studies are listed in Table 2; another three studies had been conducted within the ½-mile search area. One of these studies, No. 07171, is listed in Table 2 because it is directly adjacent to the study area along St. John Road. The remaining two studies are farther removed from the project site.

Table 1. Native American Consultation

<table>
<thead>
<tr>
<th>Contact</th>
<th>Tribe</th>
<th>Letter Date</th>
<th>Telephone Follow-up Date</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lois Martin, Chairperson</td>
<td>Southern Sierra Miwok Nation</td>
<td>June 10, 2016</td>
<td>June 27, 2016</td>
<td>Chairperson Martin noted that the project was outside of the tribe's usual area of concern and she did not know of any resources in the project area. She noted, however, that work should stop if any cultural resources were discovered during construction.</td>
</tr>
<tr>
<td>Katherine Erolinda Perez, Chairperson</td>
<td>North Valley Yokuts Tribe</td>
<td>June 10, 2016</td>
<td>June 27, 2016</td>
<td>Left message on answering machine</td>
</tr>
<tr>
<td>Neil Peyron, Chairperson</td>
<td>Tule River Indian Tribe</td>
<td>June 10, 2016</td>
<td>June 27, 2016</td>
<td>Operator could not find letter in the mail log; Chairperson Peyron said it might have gone to the environmental coordinator and he would follow up with that person.</td>
</tr>
</tbody>
</table>
Table 2. Cultural Studies Previously Conducted Entirely or Partially in the Project Area

<table>
<thead>
<tr>
<th>CCIC Report No.</th>
<th>Author</th>
<th>Date</th>
<th>Title</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>06802</td>
<td>S. Davis-King</td>
<td>2008</td>
<td>Negative Historical Resource Survey Report McHenry Road Widening Phase I Ladd Road to Hogue Road Stanislaus County, California</td>
<td>Linear survey along McHenry Avenue and adjacent to Site B</td>
</tr>
<tr>
<td>07171</td>
<td>C. K. Graham</td>
<td>2009</td>
<td>Proposed Abandonment of the McHenry Industrial Lead from Milepost 21.25 near Escalon to Milepost 26.43 near McHenry, a total distance of 5.18 miles in San Joaquin and Stanislaus counties, California.</td>
<td>Linear survey along the abandoned Union Pacific Railroad line east of St. John Road, adjacent the study area</td>
</tr>
<tr>
<td>07244</td>
<td>S. Waechter and M. Bunse</td>
<td>2007</td>
<td>North County Corridor Environmental Constraints Analysis: Cultural Resources</td>
<td>Literature search that included the area of Site A</td>
</tr>
</tbody>
</table>

Note: CCIC = Central California Information Center

The records search identified one previously recorded cultural resource immediately south of the Site A parcel. This resource, P-50-002155, is the Dr. Moore Canal. Constructed in 1911, the Dr. Moore Canal is a small, concrete-lined branch canal that diverts water from the Modesto Irrigation District Main Canal for local agricultural purposes before reconnecting with the Main Canal downstream (Morlet 2006). The site record for the Dr. Moore Canal evaluated the resource as being not eligible for listing in the NRHP or CRHR.

The supporting documentation for the Stanislaus County General Plan does not identify any historical areas or points of historical interest in the study area (Stanislaus County 1994).
4 Inventory Methods and Results

4.1 Pedestrian Survey

The study area was subjected to an intensive archaeological pedestrian survey on May 4, 2016, by a qualified archaeologist who meets the U.S. Secretary of the Interior’s professional standards in archaeology (48 Federal Register 44738-44739; Appendix A to 36 CFR 61). During the pedestrian survey, the study area was inspected for the presence of archaeological materials, including prehistoric and historic-era habitation debris (e.g., stone tools or tool manufacturing debris, glass fragments, tin cans), prehistoric features (e.g., hearths, house pits), and historic-era structural remains (e.g., house foundations, wells). The Site A parcel was surveyed in transects spaced at approximate 40-foot intervals. The much smaller Site B parcel was surveyed at about 15-foot intervals. Although grasses covered much of both parcels, ground surface visibility ranged from fair to excellent. Both shoulders of St. John Road were surveyed to a distance of approximately 25 feet from the edge of pavement, where possible; ground surface visibility was excellent. Along approximately the northern 1,200 feet of the west shoulder on St. John Road, the north shoulder of Ladd Road, both sides of Stewart Road, and the west shoulder of McHenry Avenue, the survey width was restricted by fencing, landscaping, and concrete sidewalks; however, the ground surface was examined wherever possible.

The architectural history field survey of the Site A parcel was performed on May 4, 2016, by a qualified architectural historian who meets the U.S. Secretary of the Interior’s professional standards in architectural history. Each building and structure of the farm complex on the property was examined and photographed. The buildings were recorded on California Department of Parks and Recreation (DPR) 523 series forms (Attachment 3).

4.2 Survey Results

4.2.1 Archaeological Resources

No archaeological resources were identified within the study area as a result of the archaeological field survey.

4.2.2 Built Environment Resources

One rural property, consisting of a single-family home, a detached garage, a metal barn, and several outbuildings in disrepair, was identified within the APE and recorded on DPR forms (Attachment 3). The resource is at 718 Ladd Road on the 4-acre parcel identified, for the purposes of this Proposed Project, as Site A, which is the proposed location for a water storage tank, a pump station building, and a stormwater detention basin.

Research indicated that the house was constructed in 1946 by Joe Moreno, whose family continued to own the parcel until it was sold to the City of Modesto around 2010. Like many of his neighbors, Joe maintained a small orchard on his property until the early 2000s. Additional information about the history of the property is provided in Attachment 3. Today the parcel is grass-covered with ornamental trees growing around the house and outbuildings.
The rectangular-plan house covers 1,264 square feet with its main façade on Ladd Road. Its composition shingle roof is side-gabled with shed sections at the front and rear. It has the minimal eave overhang and exposed rafter tails of the Minimal Traditional style, a style that was popular for inexpensive houses beginning in the Great Depression up until about 1950. Cladding is stucco, and windows of several sizes are fitted with vinyl replacement sash. The projecting partial porch is supported by three square brick columns. The front door is near the center of the main elevation. It is sheltered by the porch roof and accessed by a set of concrete steps that lead from the driveway to the east of the house. It is fitted with a metal security screen door. There is a brick chimney on the east elevation. A secondary entrance at the rear is fitted with a partially glazed wood door and accessed by a set of concrete steps. An awning appears to have been removed at the southeast corner of the house, and the door is sheltered only by a few inches of eave overhang. A smaller wood panel door west of the rear entrance is at grade and appears to house a water heater.

The rear yard has areas paved in concrete and asphalt as well as areas of bare dirt. The detached garage is southeast of the house and is also side-gabled and clad in stucco. Its single vehicle opening has a metal roll-up door. A similar single vehicle door to the west has been partially enclosed, and a partially glazed wood-panel door installed. There is a secondary personnel entrance on the east elevation and aluminum slider windows at the east, south, and west. Photographs of the structures are included in the DPR forms in Attachment 3.

The Moreno property was evaluated for eligibility for listing in the NRHP and the CRHP, as follows:

**Criterion A/1:** 718 Ladd Road is not associated with events that have made a significant contribution to the broad patterns of local, regional, or national history. Therefore, the building is not eligible to the NRHP or CRHR under NRHP Criterion 1 or CRHR Criterion A.

**Criterion B/2:** 718 Ladd Road is not associated with the lives of persons important to local, state, or national history and is therefore not eligible to the NRHP or CRHR under Criterion B/2.

**Criterion C/3:** 718 Ladd Road is a common example of dwellings constructed in the 1940s. It lacks architectural significance and is therefore not eligible to the NRHP or CRHR under Criterion C/3.

**Criterion D/4:** In rare instances, buildings themselves can serve as sources of important information about historic construction materials or technologies and may be significant under Criterion D/4. 718 Ladd Road does not appear to be a principal source of important information in this regard.

In sum, the property at 718 Ladd Road does not appear to be eligible for listing on either the NRHP or the CRHR.

### 4.2.3 Tribal Cultural Resources

Outreach to local Native American tribes for general information and concerns about the Proposed Project have not identified any TCRs. Similarly, consultation by the City under PRC Section 21080.3 has not revealed the presence of TCRs in the study area.
5 Summary and Recommendations

The City of Modesto is proposing to improve the water system of the community of Del Rio by constructing two new wells and appurtenant facilities at two different locations (Site A on Ladd Road and Site B on McHenry Avenue) and installing new water conveyance pipelines to connect the wells to the City’s water distribution system. Archival research and pedestrian surveys did not identify any archaeological resources within the APE. A single-family house and associated outbuildings located at 718 Ladd Road were recorded and evaluated for NRHP/CRHR eligibility by a qualified architectural historian. It was determined that the structures do not appear eligible for listing on the NRHP or CRHR.

Although no archaeological sites were identified by the archaeological inventory, archaeological sites may be buried with no surface manifestation. Furthermore, as noted in Section 2.1, the soils that underlie the sites have a moderate to very high sensitivity for the presence of buried archaeological remains. If prehistoric or historic-era materials are encountered, all work in the vicinity should halt until a qualified archaeologist can evaluate the discovery and make recommendations in accordance with 36 CFR Section 800.13(b). Prehistoric materials would most likely include obsidian and chert flaked-stone tools (e.g., projectile points, knives, choppers), tool-making debris, or milling equipment such as mortars and pestles. Historic-era materials might include remains of agricultural implements; stone or concrete footings and walls; and deposits of metal, glass, and/or ceramic refuse.

The possibility of encountering human remains cannot be discounted. Under Section 7050.5 of the California Health and Safety Code, it is a misdemeanor to knowingly disturb a human burial. If human remains are encountered, work must halt in the vicinity of the remains and, as required by law, the Stanislaus County coroner should be notified immediately. An archaeologist should also be contacted to evaluate the find. If human remains are determined to be of Native American origin, the coroner must notify the NAHC within 24 hours of that determination. In accordance with PRC Section 5097.98, the NAHC, in turn, will immediately contact an individual who is most likely descended from the remains (i.e., the Most Likely Descendant). The Most Likely Descendant has 48 hours to inspect the site and recommend treatment of the remains. The landowner is obligated to work with the Most Likely Descendant in good faith to find a respectful resolution to the situation and entertain all reasonable options regarding the Most Likely Descendant’s preferences for treatment.
6 References


Morlet, A. 2006. Site record for the Dr. Moore Canal, P-50-002155. On file at the Central California Information Center of the California Historical Resources Information System, California State University, Stanislaus, Turlock, CA.


Tremaine, K. 2008. Archaeological site record update for CA-SAC-38. Site record on file at the North Central Information Center of the California Historical Resources Information System, California State University, Sacramento.


USGS. *See* U.S. Geological Survey.
Attachment 1
Native American Correspondence
This page intentionally left blank.
Sacred Lands File & Native American Contacts List Request

Native American Heritage Commission
1550 Harbor Blvd, Suite 100
West Sacramento, CA 95691
916-373-3710
916-373-5471 – Fax
nahc@nahc.ca.gov

Information Below is Required for a Sacred Lands File Search

Project: Modesto Dell Rio Well

County: Stanislaus

USGS Quadrangle Name: Salida and Riverbank 7.5'

Township: ______ Range: ______ Section(s): ______

Company/Firm/Agency: Horizon Water and Environment, LLC

Street Address: 555 Capitol Mall, Suite 800

City: Sacramento, CA Zip: 95814

Phone: 916.553.4923

Fax: 916.443.9017

Email: janis@horizonh2o.com

Project Description: The City of Modesto is proposing to construct a new well and above-ground storage tank at separate locations. New pipeline will also be installed to connect the storage tank to existing infrastructure. Please see the attached map for the project locations.
### Site A and Pipeline

**County:** Stanislaus  
**7.5' Quad Map:** Salida  
**Township:** 2 S  
**Range:** 9 E  
**Section:** 29  

**UTM Coordinates (Zone 10N, NAD83)**

<table>
<thead>
<tr>
<th>Easting</th>
<th>Northing</th>
</tr>
</thead>
<tbody>
<tr>
<td>675901</td>
<td>4177960</td>
</tr>
</tbody>
</table>

---

### Site B

**County:** Stanislaus  
**7.5' Quad Map:** Riverbank  
**Township:** 2 S  
**Range:** 9 E  
**Section:** 21  

**UTM Coordinates (Zone 10N, NAD83)**

<table>
<thead>
<tr>
<th>Easting</th>
<th>Northing</th>
</tr>
</thead>
<tbody>
<tr>
<td>676589</td>
<td>4179185</td>
</tr>
</tbody>
</table>

---

**Project Location**

- **Project Site**
- **Proposed Pipeline**
April 21, 2016

Janis Offermann
Horizon Water and Environment

Sent by e-mail: Janis@horizonh2o.com
Number of Pages: 2

RE: Proposed Modesto Del Rio Well Project, City of Modesto, Salida and Riverbank USGS Quadrangles, Stanislaus County, California

Dear Ms. Offermann:

Attached is a consultation list of tribes with traditional lands or cultural places located within the boundaries of the above referenced counties. Please note that the intent above reference codes is to mitigate impacts to tribal cultural resources, as defined, for California Environmental Quality Act (CEQA) projects.

As of July 1, 2015, Public Resources Code Sections 21080.3.1 and 21080.3.2 require public agencies to consult with California Native American tribes identified by the Native American Heritage Commission (NAHC) for the purpose mitigating impacts to tribal cultural resources:

Within 14 days of determining that an application for a project is complete or a decision by a public agency to undertake a project, the lead agency shall provide formal notification to the designated contact of, or a tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, which shall be accomplished by means of at least one written notification that includes a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation pursuant to this section. (Public Resources Code Section 21080.3.1(d))

The law does not preclude agencies from initiating consultation with the tribes that are culturally and traditionally affiliated with their jurisdictions. The NAHC believes that in fact that this is the best practice to ensure that tribes are consulted commensurate with the intent of the law.

In accordance with Public Resources Code Section 21080.3.1(d), formal notification must include a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation. The NAHC believes that agencies should also include with their notification letters information regarding any cultural resources assessment that has been completed on the APE, such as:

1. The results of any record search that may have been conducted at an Information Center of the California Historical Resources Information System (CHRIS), including, but not limited to:
   - A listing of any and all known cultural resources have already been recorded on or adjacent to the APE;
   - Copies of any and all cultural resource records and study reports that may have been provided by the Information Center as part of the records search response;
   - If the probability is low, moderate, or high that cultural resources are located in the APE.
   - Whether the records search indicates a low, moderate or high probability that unrecorded cultural resources are located in the potential APE; and
   - If a survey is recommended by the Information Center to determine whether previously unrecorded cultural resources are present.
2. The results of any archaeological inventory survey that was conducted, including:
   - Any report that may contain site forms, site significance, and suggested mitigation measures.
   - All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure in accordance with Government Code Section 6254.10.

3. The results of any Sacred Lands File (SFL) check conducted through Native American Heritage Commission. A search of the SFL was completed for the USGS quadrangle information provided with negative results.

4. Any ethnographic studies conducted for any area including all or part of the potential APE; and

5. Any geotechnical reports regarding all or part of the potential APE.

Lead agencies should be aware that records maintained by the NAHC and CHRIS is not exhaustive, and a negative response to these searches does not preclude the existence of a cultural place. A tribe may be the only source of information regarding the existence of a tribal cultural resource.

This information will aid tribes in determining whether to request formal consultation. In the case that they do, having the information beforehand will help to facilitate the consultation process.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance we are able to assure that our consultation list contains current information.

If you have any questions, please contact me at my email address: gayle.totton@nahc.ca.gov.

Sincerely,

Gayle Totton, M.A., PhD.
Associate Governmental Program Analyst
Native American Heritage Commission
Tribal Consultation List
Stanislaus County
April 21, 2016

Tule River Indian Tribe
Neil Peyron, Chairperson
P.O. Box 589
Porterville , CA 93258
chairman@tulerivertribe-nsn.gov
(559) 781-4271

North Valley Yokuts Tribe
Katherine Erolinda Perez, Chairperson
P.O. Box 717
Linden , CA 95236
canutes@verizon.net
(209) 887-3415

Southern Sierra Miwuk Nation
Lois Martin, Chairperson
P.O. Box 186
Mariposa , CA 95338
(209) 742-6867 Office

This list is current only as of the date of this document and is based on the information available to the Commission on the date it was produced. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list applicable only for consultation with Native American tribes under Public Resources Code Sections 21080.3.1 for the proposed Modesto Del Rio Well Project, City of Modesto, Salida and Riverbank USGS Quadrangles, Stanislaus County, California.
June 10, 2016

Ms. Lois Martin, Chairperson
Southern Sierra Miwok Nation
P.O. Box 196
Mariposa, CA 95338

Subject: City of Modesto Utilities Department Del Rio Well Project

Dear Chairperson Martin,

The City of Modesto Utilities Department is proposing to upgrade their facilities to correct existing supply deficiencies. The project proposes to construct an above ground water storage tank, a water well, and a booster pump station, along with several other appurtenant features and landscape improvements at a site on Ladd Road near the intersection with St. John's Road. Additionally, a transmission main will be constructed within St. John's Road from the tank site on Ladd Road. The transmission main will run from the tank site northerly for a distance of approximately 2,500 feet, and will connect to the existing distribution system near the intersection of St. John's Road and Country Club Drive. A second water well will be constructed at a parcel on McHenry Avenue near the intersection of Stewart Road. This well will connect directly with an existing water main under Stewart Road. The transmission main will run from the well site on McHenry Avenue for approximately 190 feet, then west under Stewart Road for approximately 760 feet to the intersection with Grove Point Way. The attached maps depict the project location.

The Native American Heritage Commission has identified you as an individual who might have concerns about, or additional knowledge of, ancestral cultural resources in the project area. Please notify me if you are aware of any areas of concern within or in close proximity to the project area. Please note that the purpose of this letter is early identification of Native American cultural resources in order ensure their consideration during the project planning phase; this letter is not consultation pursuant to Public Resources Code 21080.3.1 (AB 52). If you have concerns, please respond within 30 days of receipt of this letter.

You may contact me directly at 916-553-4923 or janis@horizonh2o.com, or by mail at the address listed above. Thank you for your time in considering this request.

Sincerely,

[Signature]

Jani S Offermann
Cultural Resources Practice Lead
June 19, 2016

Ms. Katherine Erolinda Perez, Chairperson
North Valley Yokuts Tribe
P.O. Box 717
Linden, CA 95236

Subject: City of Modesto Utilities Department Del Rio Well Project

Dear Chairperson Perez,

The City of Modesto Utilities Department is proposing to upgrade their facilities to correct existing supply deficiencies. The project proposes to construct an above ground water storage tank, a water well, and a booster pump station, along with several other appurtenant features and landscape improvements at a site on Ladd Road near the intersection with St. John’s Road. Additionally, a transmission main will be constructed within St. John’s Road from the tank site on Ladd Road. The transmission main will run from the tank site northerly for a distance of approximately 2,500 feet, and will connect to the existing distribution system near the intersection of St. John’s Road and Country Club Drive. A second water well will be constructed at a parcel on McHenry Avenue near the intersection of Stewart Road. This well will connect directly with an existing water main under Stewart Road. The transmission main will run from the well site on McHenry Avenue for approximately 190 feet, then west under Stewart Road for approximately 760 feet to the intersection with Grove Point Way. The attached maps depict the project location.

The Native American Heritage Commission has identified you as an individual who might have concerns about, or additional knowledge of, ancestral cultural resources in the project area. Please notify me if you are aware of any areas of concern within or in close proximity to the project area. Please note that the purpose of this letter is early identification of Native American cultural resources in order ensure their consideration during the project planning phase; this letter is not consultation pursuant to Public Resources Code 21090.3.1 (Alt 52). If you have concerns, please respond within 30 days of receipt of this letter.

You may contact me directly at 916-553-1923 or janis@horizonh2o.com, or by mail at the address listed above. Thank you for your time in considering this request.

Sincerely,

Janis Offermann
Cultural Resources Practice Lead
June 10, 2016

Mr. Neil Peyron, Chairperson
Tule River Indian Tribe
P.O. Box 589
Porterville, CA 93258

Subject: City of Modesto Utilities Department Del Rio Well Project

Dear Chairperson Peyron,

The City of Modesto Utilities Department is proposing to upgrade their facilities to correct existing supply deficiencies. The project proposes to construct an above ground water storage tank, a water well, and a booster pump station, along with several other appurtenant features and landscape improvements at a site on Ladd Road near the intersection with St. John's Road. Additionally, a transmission main will be constructed within St. John's Road from the tank site on Ladd Road. The transmission main will run from the tank site northerly for a distance of approximately 2,500 feet, and will connect to the existing distribution system near the intersection of St. John's Road and Country Club Drive. A second water well will be constructed at a parcel on McHenry Avenue near the intersection of Stewart Road. This well will connect directly with an existing water main under Stewart Road. The transmission main will run from the well site on McHenry Avenue for approximately 150 feet, then west under Stewart Road for approximately 750 feet to the intersection with Grove Point Way. The attached maps depict the project location.

The Native American Heritage Commission has identified you as an individual who might have concerns about, or additional knowledge of, ancestral cultural resources in the project area. Please notify me if you are aware of any areas of concern within or in close proximity to the project area. Please note that the purpose of this letter is early identification of Native American cultural resources in order ensure their consideration during the project planning phase; this letter is not consultation pursuant to Public Resources Code 21080.3.1 (AB 52). If you have concerns, please respond within 30 days of receipt of this letter.

You may contact me directly at 916-533-4923 or janis@horizon2o.com, or by mail at the address listed above. Thank you for your time in considering this request.

Sincerely

Janis Offermann
Cultural Resources Practice Lead
Attachment 2
CHRIS Central California Information Center Results
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CHRIS Data Request Form

ACCESS AND USE AGREEMENT NO.: 412 IC FILE NO.:_____________________

To: Central California Information Center

Print Name: Janis Offermann Date: 04/20/16

Affiliation: Horizon Water and Environment

Address: 555 Capitol Mall, Suite 800

City: Sacramento State: CA Zip: 95814

Phone: (916) 553-4923 Fax: (916) 443-9017 Email: janis@horizonh2o.com

Billing Address (if different than above): ________________________________

Project Name / Reference: ________________________________

Project Street Address: ____________________________________________

County: Stanislaus

Township/Range/UTMs: See attached map

USGS 7.5' Quad(s): Location A: Salida; Location B: Riverbank

PRIORITY RESPONSE (Additional Fee): yes☐ no☐

TOTAL FEE NOT TO EXCEED: $250.00

Special Instructions:

If the record search is more than $250.00, please give me a call: we may be able to accommodate more.

Information Center Use Only

Date of CHRIS Data Provided for this Request: ____________________________

Confidential Data Included in Response: yes☐ no☐

Notes: ________________________________________________________________

1 of 3

8-8-13 Version
California Historical Resources Information System

CHRIS Data Request Form

Include the following information (mark as necessary) for the records search area(s) shown on the attached map(s) or included in the associated shapefiles. Shapefiles are the current CHRIS standard format for digital spatial data products.

NOTE: All digital data products are subject to availability - check with the appropriate Information Center.

1. Map Type Desired: Digital map products will be provided only if they are available at the time of this request. Regardless of what is requested, only hard copy hand-drawn maps will be provided for any part of the requested search area for which digital map products are not available at the time of this request. There is an additional charge for shapefiles, whether they are provided with or without Custom GIS Maps.

Mark one map choice only
Custom GIS Maps ☐ Shapefiles ☐ Custom GIS Maps and Shapefiles ☐ Hard Copy Hand-Drawn Maps only ☐

Any selection below left unmarked will be considered a "no."

2a. Within project area Within 1/4 radius

ARCHAEOLOGICAL Resource Locations* yes ☐ no ☐ yes ☐ no ☐
NON-ARCHAEOLOGICAL Resource Locations yes ☐ no ☐ yes ☐ no ☐
Report Locations* yes ☐ no ☐ yes ☐ no ☐
Resource Database Printout* (list) yes ☐ no ☐ yes ☐ no ☐
Resource Database Printout* (detail) yes ☐ no ☐ yes ☐ no ☐
Resource Digital Database Records (spreadsheet)* yes ☐ no ☐ yes ☐ no ☐
Report Database Printout* (list) yes ☐ no ☐ yes ☐ no ☐
Report Database Printout* (detail) yes ☐ no ☐ yes ☐ no ☐
Report Digital Database Records (spreadsheet)* yes ☐ no ☐ yes ☐ no ☐
ARCHAEOLOGICAL Resource Record copies* PDF ☐/ Hard Copy ☐ yes ☐ no ☐
NON-ARCHAEOLOGICAL Resource Record copies* PDF ☐/ Hard Copy ☐ yes ☐ no ☐
Report copies**: PDF ☐/ Hard Copy ☐ yes ☐ no ☐

OHP Historic Properties Directory** within project area yes ☐ no ☐ yes ☐/ no ☐
within 1/4 _________ mi radius yes ☐ no ☐ yes ☐/ no ☐
OHP Archaeological Determinations of Eligibility* within project area yes ☐ no ☐ yes ☐/ no ☐
within 1/4 _________ mi radius yes ☐ no ☐ yes ☐/ no ☐
California Inventory of Historical Resources (1976): within project area yes ☐ no ☐ yes ☐/ no ☐
within 1/4 _________ mi radius yes ☐ no ☐ yes ☐/ no ☐

* In order to receive archaeological information, requestor must meet qualifications as specified in Section III of the current version of the California Historical Resources Information System Information Center Rules of Operation Manual and be identified as an Authorized User under an active CHRIS Access and Use Agreement.

* These documents may be supplied as PDF files, if available

** Includes, but is not limited to, information regarding National Register of Historic Places, California Register of Historical Resources, California State Historical Landmarks, California State Points of Historical Interest, and historic building surveys.
2b. Listed below are sources of additional information that may be available at the Information Center. Indicate if a review and documentation of any of the following types of information is requested.

<table>
<thead>
<tr>
<th>Source</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caltrans Bridge Survey</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>Ethnographic Information</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>Historical Literature</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>Historical Maps</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>Local Inventories</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>GLO and/or Rancho Plat Maps</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>Shipwreck Inventory</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>Soil Survey Maps</td>
<td>yes</td>
<td>no</td>
</tr>
</tbody>
</table>
Site A and Pipeline
County: Stanislaus
7.5' Quad Map: Salida
Township: 2 S
Range: 9 E
Section: 29
UTM Coordinates (Zone 10N, NAD83)
Easting Northing
675901 4177960

Site B
County: Stanislaus
7.5' Quad Map: Riverbank
Township: 2 S
Range: 9 E
Section: 21
UTM Coordinates (Zone 10N, NAD83)
Easting Northing
676589 4179185

Cultural Resources
Record Search Map

- Project Site
- Proposed Pipeline
- 1/4-Mile Radius
Date: 4/21/2016

Records Search File No.: 9729N
Access Agreement: 412
Project: Modesto Del Rio Well Project, Sites A and B

Janis Offermann
Horizon Water and Environment
555 Capitol Mall, Suite 800
Sacramento, CA 95814

Dear Ms. Offermann:

The Central California Information Center received your record search request for the project area referenced above, located on the Riverbank and Salida ISGS quadrangles in Stanislaus County. The following reflects the results of the records search for the project study areas and radius:

As per data currently available at the CCaIC, the locations of resources/reports are provided in the following format: ☐ custom GIS maps ☐ shapefiles ☐ hand-drawn maps

Summary Data:

| Resources within project areas: | 10 |
| Resources within 1/4 mi radius: | Site A: 1.P-50-0021.55 (Dr. Moore Canal); Site B: 0 |
| Reports within project areas: | 0 |
| Reports within 1/4 mi radius: | B: ST-06802, 7171, 7734, 7341, 8284 |

Resource Database Printout (list): ☐ enclosed ☐ not requested ☐ nothing listed
Resource Database Printout (details): ☐ enclosed ☐ not requested ☐ nothing listed
Resource Digital Database Records: ☐ enclosed ☐ not requested ☐ nothing listed
Report Database Printout (list): ☐ enclosed ☐ not requested ☐ nothing listed
Report Database Printout (details): ☐ enclosed ☐ not requested ☐ nothing listed
Report Digital Database Records: ☐ enclosed ☐ not requested ☐ nothing listed
Resource Record Copies: □ enclosed □ not requested □ nothing listed
Report Copies: □ enclosed □ not requested □ nothing listed
NHP Historic Properties Directory: □ enclosed □ not requested □ nothing listed

Note: P-50-002155 is immediately adjacent to the south of Site A (see HPDF 03-20-14h)

Archaeological Determinations of Eligibility: □ enclosed □ not requested □ nothing listed
CA Inventory of Historic Resources (1976): □ enclosed □ not requested □ nothing listed
Caltrans Bridge Survey: □ enclosed □ not requested □ nothing listed
Ethnographic Information: □ enclosed □ not requested □ nothing listed
Historical Literature: □ enclosed □ not requested □ nothing listed
Historic Setting from ST-07341

Historical Maps:
Official Map of the County of Stanislaus, California (1906)
Modesto West 1:62500-scale (1941)
Salida 7.5' (1953)
Riverbank 7.5' (1969)
Local Inventories: □ enclosed □ not requested □ nothing listed
GLO and/or Rancho Plat Maps:
12S R9E, Sheet 44-114, dated 1853-1854

Shipwreck Inventory: □ not available at CCIC; please go to
http://shipwreck-ccic.coa.ca.us/Shipwrecks/Shipwrecks_Portal.html
Soil Survey Maps:
□ not available at CCIC; please go to

Resources known to have value to local cultural groups: None have been formally reported to the CCIC.

Please forward a copy of any resulting reports from this project to the office as soon as possible. Due to the sensitive nature of archaeological site location data, we ask that you do not include resource location maps and resource location descriptions in your report if the report is for public distribution. If you have any questions regarding the results presented herein, please contact the office at the phone number listed above.

The provision of CHRIS Data via this records search response does not in any way constitute public disclosure of records otherwise exempt from disclosure under the California Public
Records Act or any other law, including, but not limited to, records related to archaeological site information maintained by or on behalf of, or in the possession of, the State of California, Department of Parks and Recreation, State Historic Preservation Officer, Office of Historic Preservation, or the State Historical Resources Commission.

Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the Office of Historic Preservation are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area. Additionally, Native American tribes have historical resource information not in the CHRIS Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

Should you require any additional information for the above referenced project, reference the record search number listed above when making inquiries. Requests made after initial invoicing will result in the preparation of a separate invoice.

Thank you for using the California Historical Resources Information System (CHRIS).

Note: Billing will be transmitted separately via email by our Financial Services office *(2325.30)*, payable within 60 days of receipt of the invoice.

Sincerely,

[Signature]

E. A. Greathouse, Coordinator
Central California Information Center
California Historical Resources Information System

* Invoice Request sent to: Laurie Marroquin, CSU Stanislaus Financial Services
Site A and Pipeline

County: Stanislaus
7.5' Quad Map: Salida
Township: 2 S
Range: 9 E
Section: 29

UTM Coordinates (Zone 10N, NAD83)
Easting  Northing
675901   4177960

Site B

County: Stanislaus
7.5' Quad Map: Riverbank
Township: 2 S
Range: 9 E
Section: 21

UTM Coordinates (Zone 10N, NAD83)
Easting  Northing
676589   4179185

Cultural Resource Locations Map

- Project Site
- Proposed Pipeline
- 1/2-Mile Radius
- Cultural Resources
Site A and Pipeline
County: Stanislaus
7.5' Quad Map: Salida
Township: 2 S
Range: 9 E
Section: 29
UTM Coordinates (Zone 10N, NAD83)
Easting Northing
675601 4177960

Site B
County: Stanislaus
7.5' Quad Map: Riverbank
Township: 2 S
Range: 9 E
Section: 21
UTM Coordinates (Zone 10N, NAD83)
Easting Northing
676589 4179185

Cultural Resources
Previously Conducted Studies
- Project Site
- Proposed Pipeline
- 1/2-Mile Radius

Previously Conducted Studies Map
- ST-07341 - ST-07244
- ST-06802 - ST-08284
- ST-07171
Report Detail: ST-06802

Identifiers

Report No.: ST-06802
Other IDs: Type Name
NADB-R 1367088

Cross-refs:

Citation information

Author(s): Davis-King, S.
Year: 2008
Title: Negative Historical Resource Survey Report McHenry Road Widening Phase I Ladd Road to Hogue Road Stanislaus County, California
Affiliation: Davis-King & Associates
No. pages: 8
No. maps:
Attributes: Archaeological, Architectural/Historical, Field study
Inventory size: 5900 Feet
Disclosure: Not for publication
Collections: No

General notes

Associated resources

No. resources: 0
Has informals: No

Location information

County(ies): Stanislaus
USGS quad(s): Riverbank
Address:
PLSS:

Database record metadata

Date User
Entered: 10/2/2013 jay
Last modified: 4/20/2016 EGreathouse

IC actions

Date User Action taken
10/2/2013 jay Appended records from CCIC NADB database
4/20/2016 EGreathouse eg

Record status:
Report Detail: ST-07171

Identifiers

- Report No.: ST-07171
- Other IDs: Type, Name
  - NADB-R, 1367496

Citation information

- Author(s): Graham, C. K.
- Year: 2009
- Title: Proposed Abandonment of the McHenry Industrial Lead from Milepost 21.25 near Escalon to Milepost 26.43 near McHenry, a total distance of 5.18 miles in San Joaquin and Stanislaus Counties, California; STB Docket No. AB-33 (Sub-No. 278X)
- Affiliation: Union Pacific Railroad
- No. pages: 15
- No. maps: 15
- Attributes: Management/planning
- Inventory size: 5.18 Miles
- Disclosure: Not for publication
- Collections: No

General notes

- Associated resources

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<tr>
<th>Primary No.</th>
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<tbody>
<tr>
<td>P-39-000015</td>
<td>CA-SJO-000256H</td>
<td>Tidewater Southern Railway</td>
</tr>
<tr>
<td>P-50-000083</td>
<td>CA-STA-000425H</td>
<td>Tidewater-Southern Railroad line</td>
</tr>
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  No. resources: 2
  Has attachments: No

Location information

- County(ies): Stanislaus
- USGS quad(s): Avena, Escalon, Salida
- Address:
  - PLSS:

Database record metadata

- Date Entered: 10/2/2013
- User: jay
- Last modified: 4/20/2016
- User: EGreathouse

IC actions

- Date: 10/2/2013
- User: jay
- Action taken: Appended records from CCIC NADB database

- Date: 4/20/2016
- User: EGreathouse
- Action taken: 

Record status:
Report Detail: ST-07244

Identifiers

Report No.: ST-07244
Other IDs: Type Name
NADB-R 1367567

Citation information

Author(s): Waechter, S. and M. Bunse
Year: 2007 (Mar)
Title: North County Corridor Environmental Constraints Analysis: Cultural Resources.
Affiliation: Far Western A.R.G, Inc. & JRP Historical Consulting
No. pages: 145
No. maps:
Attributes: Literature search, Management/planning, Other research

Inventory size: 26 Miles
Disclosure: Not for publication
Collections: No

General notes
Some reconnaissance survey and windshield survey

Associated resources

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<td>CA-CAL-501423H</td>
<td>Southern Pacific Railroad line</td>
</tr>
<tr>
<td>P-50-00001</td>
<td>CA-STA-000350H</td>
<td>OBP-2, Kumite Place Mining Cl</td>
</tr>
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<td>P-50-000506</td>
<td>CA-STA-000349H</td>
<td>Mootz Drain, Oakdale Irrigation</td>
</tr>
<tr>
<td>P-50-000506</td>
<td></td>
<td>Potts Drain, Oakdale Irrigation D</td>
</tr>
<tr>
<td>P-50-000510</td>
<td></td>
<td>Keeley Drain, Oakdale Irrigation</td>
</tr>
<tr>
<td>P-50-000511</td>
<td></td>
<td>Cawile Drain, Oakdale Irrigation</td>
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<td>P-50-000512</td>
<td></td>
<td>Albers 2</td>
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<td>P-50-001726</td>
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<td>Press Room 8</td>
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<td>P-50-001740</td>
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<td>P-50-001741</td>
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<td>Autodrin Building 162</td>
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<tr>
<td>P-50-001744</td>
<td></td>
<td>Washroom &amp; Dispensary Building</td>
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<tr>
<td>P-50-001745</td>
<td></td>
<td>Paint &amp; Oil Storage Building 11</td>
</tr>
<tr>
<td>P-50-001746</td>
<td></td>
<td>Production Line No. 7</td>
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<td>P-50-001747</td>
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<td>Riverbank Army Ammunition Pla</td>
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<tr>
<td>P-50-001925</td>
<td></td>
<td>Chappell Ditch; lateral of MID</td>
</tr>
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</table>

No. resources: 17
Has Informals: No

Location information

County(ies): Stanislaus
USGS quad(s): Knights Ferry, Paulsell, Riverbank, Salida, Waterford
Address: 
PLSS:

Database record metadata

Date User
Entered: 10/2/2013 jay
Last modified: 5/28/2015 Anthro

IG actions: Date User Action taken
10/2/2013 jay Appended records from CCIC NADB database

Record status:

Page 3 of 5
Report Detail: ST-07341

Identifiers

Report No.: ST-07341
Other IDs: Type Name
NADB-R 1367688

Citation information

Author(s): Koenig, H. and K. Anderson
Year: 2011
Title: SunPower Solar PV Modesto Project, Riverbank, Stanislaus County, California Cultural Survey Report
Affiliation: Environmental Science Associates
No. pages: 
No. maps: 
Attributes: Archaeological, Architectural/Historical, Field study
Inventory size: 157 Acres
Disclosure: Not for publication
Collections: No

General notes

Associated resources
No. resources: 0
Has informats: No

Location information

County(ies): Stanislaus
USGS quad(s): Riverbank
Address: 
PLSS: 

Database record metadata

Date User
Entered: 10/2/2013 jay
Last modified: 4/20/2016 EGreathouse

IC actions

Date User Action taken
10/2/2013 jay Appended records from CCIC NADB database

Record status:
Report Detail: ST-08284

Identifiers
- Report No.: ST-08284
- Other IDs:
  - Cross-ref: Extends into another county as TO-08284
  - Extends into another county as ME-08284
  - Extends into another county as SJ-08284
  - Extends into another county as CA-08284

Citation information
- Author(s): AECOM
- Year: 2011 (Aug)
- Title: Cultural Resources Inventory Report for the Central Valley Independent Network Fiber Optic Communications Network Project, California (Calaveras, Merced, San Joaquin, Stanislaus and Tuolumne Counties in the CCalC Area of Responsibility)
- Affiliation: AECOM
- No. pages: 311
- No. maps: 40
- Attributes: Archaeological, Architectural/Historical, Field study
- Inventory size: 723 miles in all
- Disclosure: Not for publication
- Collections: No

General notes
- No resources recorded in Stanislaus County; report filed in CAL Co., Calaveritas quad

Associated resources
- No. resources: 0
- Has informals: No

Location information
- County(ies): Stanislaus
- USGS quad(s): Ceres, Denair, Escalon, Riverbank, Salida, Turlock
- Address:
  - PLSS:

Database record metadata
- Date Entered: 2/16/2016 EGreathouse
- Last modified: 3/8/2016 EGreathouse
- IC actions: Date  User  Action taken
  - 2/16/2016 EGreathous eg
- Record status:
Resource Detail: P-50-002155

Identifying information
Primary No.: P-50-002155
Trinomial:
Name: Modesto Irrigation District (MID) Canal, Dr. Moore
Other IDs:
OHP Property Num: 187906
OHP PRN: FWHA070319E
Resource Name: Modesto Irrigation District (MID) Canal, Dr. Moore

Cross-refs:

Attributes
Resource type: Structure
Age: Historic
Information base: Survey
Attribute codes: HP20 (Canal/aqueduct) - Canal/aqueduct
Disclosure: Unrestricted
Collections: No
Accession no(s):
Facility:

General notes

Recording events
Date  Recorder(s)  Affiliation  Notes
12/27/2006  Morlet, Aubrie  Caltrans Distric 6

Associated reports
Report No.  Year  Title  Affiliation
ST-07963  2007  Historic Property Survey Reprot SR 108 Signal Installations At McHenry Avenue and Patterson Road, Stanislaus County, California, 10-STA-108. P.M. 28.7/29.3, E.A. 10-0N440  Central Region Cultural Resource Branch  California Department of Transportation- Distric 6, Fresno, CA

Location information
County: Stanislaus
USGS quad(s): Riverbank
Address: Route 108 at PM 28.903
City: Modesto
Assessor's parcel no.: N/A
Zip code: 95356

PLSS: T2S R9E Sec. 28 MDBM
UTMs:

Management status

Database record metadata
Date  User
Entered: 9/9/2014  Anthro
Last modified: 11/24/2014  Anthro

IC actions: Date  User  Action taken
9/9/2014  Anthro  YP

Record status:
State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

*Resource Name or #:  Modesto Irrigation District (MID) Canal, Dr. Moore

P1. Other Identifiers: County/Route/Postmile: 10-STA-108; FM 28.903; EA-10-0N440

*P2. Location:
   a. County: Stanislaus
   b. Address: Route 108 at FM 28.903
      City: Modesto
      Zip: 95356
   c. USGS 7.5' Quad: Riverbank
      Date: 1969; Photographed: 1997
      T: 25; R: 95; Sec: 28
      M.D.B. & M.
   d. Other Locational Data (APN #):  

*P3a. Description:

The Dr. Moore Canal is a small branch canal that diverts from the Modesto Irrigation District Main Canal to irrigate the surrounding area and returns to the Main Canal further west from the project area. The concrete lined canal enters the project area at PM 28.903 and is approximately thirty feet wide. The canal was built for and continues to be used for agricultural irrigation. The Modesto Irrigation District built the canal in 1911. The MID main canal and its many laterals deliver water from the Tuolumne River to the agricultural lands within the county. Caltrans installed the existing culvert in 1963 when State Route 108 was improved. The culvert is located along the east side of State Route 108 where it carries the irrigation water under the road to the west side of the Route.

P3b. Resource Attributes: HP20 Canal/Aqueduct

*P4. Resources Present: Structure

P5. Photograph

McHenry Avenue and Patterson Road, Stanislaus County. 10-STA-108; FM 28.903; EA-10-0N440.

*Attachments: ■ Building, Structure, and Object Record

Caltrans DPR 8220 (1194)

*Required Information
**State of California — The Resources Agency**

**DEPARTMENT OF PARKS AND RECREATION**

**BUILDING, STRUCTURE, AND OBJECT RECORD**

---

**Resource Identifier:** Modesto Irrigation District (MID) Canal, Dr. Moore

<table>
<thead>
<tr>
<th>B1. Historic Name: Dr. Moore</th>
<th>B3. Architectural Style: concrete lined canal with culvert</th>
</tr>
</thead>
<tbody>
<tr>
<td>B2. Common Name: Dr. Moore</td>
<td>B6. Construction History: According to the MID, the concrete lined canal was constructed in 1911 by the Modesto Irrigation District. Caltrans constructed the culvert in 1983 by Construction Agreement 10-058. The culvert is cleaned out annually to prevent clogging of the waterway. No other changes have been made.</td>
</tr>
<tr>
<td>B4. Present Use: Irrigation Canal</td>
<td></td>
</tr>
<tr>
<td>B5. County/Route/Postmile: 10-STA-108; PM 28,029.25; EA-10-05840</td>
<td></td>
</tr>
</tbody>
</table>

---

**Map Reference No.: 1**

---

**NRHP Status Code:**

---

**B7. Moved?** No **B8. Related Features:** There are no related features.

---

**B9a. Architect:** N/A **B9b. Builder:** N/A

---

**B10. Significance: Theme:** NA **B10. Property Type:** NA

---

**B11. Additional Resource Attributes:** NA

---

**B12. References:**


---

**B13. Remarks:** NA

---

**B14. Evaluator:** Kelly Hobbs

---

**Principal Architectural Historian**

Caltrans District 6

2015 E. Shields Ave., Ste. 100

Fresno, CA 93726

(559) 243-8309

(This space reserved for official comments.)
Attachment 3
California Department of Parks and Recreation
Form 523
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The house is sited on a rural property of just under four acres in Stanislaus County. Ladd Road is about a half mile south of the Stanislaus River in the greater Modesto area. The agricultural neighborhood is dominated by fruit cultivation. Many farms also have single-family dwellings. The Moreno House is south of Ladd Road and is bounded by the Union Pacific railroad tracks on the west and the Dr. Moore canal on the south. There is another domestic farm immediately to the east. The Moreno property is characterized by dry grass, except for the area around the house and garage where there are overgrown shrubs and a handful of mature walnut and ornamental trees. The house fronts onto Ladd Road at the northeast corner of the property, with a pump house and single garage to the rear (see photos 1 and 2). A metal barn and some dilapidated sheds are located farther south behind the garage (continued p. 3).

**P3b. Resource Attributes:** (List attributes and codes) HP2: Single-family property

**P4. Resources Present:** ☑ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

**P5b. Description of Photo:** (View, date, accession #) Photograph 1: East and north (main) elevations of building, camera facing southwest, photograph taken May 7, 2016.

**P6. Data Constructed/Age and Sources:** ☑ Historic ☐ Prehistoric ☐ Both 1946, Stanislaus County Recorder

**P7. Owner and Address:**
City of Modesto
1010 10th Street
Modesto, California 95354

**P8. Recorded by:** (Name, affiliation, address)
Kara Brunzell
1613 B Street
Napa, California 94559

**P9. Date Recorded:**
May 7, 2016

**P10. Survey Type:** (Describe) Intensive

**P11. Report Citation:** (Cite survey report and other sources, or enter "none.") None

**Attachments:** NONE ☑ Location Map X

Sketch Map ☑ Continuation Sheet ☑ Building, Structure, and Object Record ☑ Archaeological Record
☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record ☐ Artifact Record ☑ Photograph Record
☐ Other (list) ___________________________

*Required Information*
B1. Historic Name: Moreno House
B2. Common Name: 718 Ladd Road
*B5. Architectural Style: Minimal Traditional
*B6. Construction History: (Construction date, alteration, and date of alterations)  
Original construction, 1946
1970s, garage remodeled for ancillary dwelling
1990s, windows on house replaced, corrugated barn constructed

*B7. Moved?  □ No  □ Yes  □ Unknown  Date: ____________ Original Location: ____________
*B8. Related Features:  pump house, garage, barn, sheds
*B10. Significance: Theme n/a  Area n/a
   Period of Significance n/a  Property Type n/a  Applicable Criteria n/a
   (Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

The building does not meet the criteria for listing on the National Register of Historic Places (NRHP) or the California Register of Historical Resources (CRHR) (see continuation sheet).

B11. Additional Resource Attributes: (List attributes and codes)
*B12. References:
(See Footnotes)

B13. Remarks:

*B14. Evaluator: Kara Brunzell

*Date of Evaluation: May 7, 2016
   (This space reserved for official comments.)
The rectangular-plan house is 1,264 square feet with its main façade on Ladd Road. Its compositions shingle roof is side-gabled with shed sections at the front and rear. It has the minimal eave overhang and exposed rafter tails of the Minimal Traditional style, a style that was popular for inexpensive houses beginning in the Great Depression up until about 1950. Cladding is stucco, and windows of several sizes are fitted with vinyl replacement sash (see photo 1). The projecting partial porch is supported by three square brick columns. The front door is near the center of the main elevation. It is sheltered by the porch roof and accessed via a set of concrete steps that lead from the driveway to the east of the house. It is fitted with a metal security screen door (see photo 3). There is a brick chimney on the east elevation (see photo 1). A secondary entrance at the rear is fitted with a partially glazed wood door and accessed via a set of concrete steps. An awning appears to have been removed at the southeast corner of the house, and the door is sheltered only by a few inches of eave overhang. A smaller wood panel door west of the rear entrance is at grade and appears to house a water heater (see photo 4).

The rear yard has areas paved in concrete and asphalt as well as bare dirt. The garage is southeast of the house, and also side-gabled and clad in stucco. Its single vehicle opening has a metal roll-up door. A similar single vehicle door to the west has been partially enclosed, and a partially glazed wood-panel door installed (see photo 5). There is a secondary personnel entrance on the east elevations, and aluminum slider windows at the east, south, and west (see photo 7).
A concrete path leads from the rear door to a diminutive building that houses the well pump. It is front-gabled with exposed rafter tails and stucco cladding like the house (see photo 6). There is a front-gabled corrugated metal barn south of the domestic buildings. It has two large vehicle openings fitted with metal roll-up doors on its east elevation and a personnel door on the north (see photo 8). Immediately south of the barn there is a grouping of dilapidated sheds. They have gabled and shed roofs and are constructed of a combination of unpainted wood and metal (see photo 9).

Photograph 6: Rear yard with paved path and pump house, camera looking southwest, May 7, 2016

Photograph 7: Garage with house in background, camera looking northwest, May 7, 2016.

Photograph 8: Metal barn, camera looking southwest, May 7, 2016.


B10. Significance (continued):

Modesto
The Central Pacific Railroad laid out the village of Modesto in 1870 when it extended its tracks through Stanislaus County. Modesto residents were among California's first irrigation advocates, and by 1904 a system of canals had been constructed in order to allow more productive agriculture. During the nineteenth century grain-growing was Stanislaus County's dominant agricultural activity. Stock-raising, dairying, fruit and nut orchards, and vegetable farms all became more important over time. When Prohibition ended in 1933, the Gallo brothers came to Modesto, bringing the wine business to the area on an industrial scale. In the twenty-first century, almonds and
walnuts are the most lucrative local crops, although fruit, vegetables, livestock, and other agricultural products remain important. Modesto is still the most important commercial center in the region as well as the county seat.³

718 Ladd Road
Mamie Barcelona was born in California in 1908, the daughter of Italian immigrants. One of nine children, she grew up in San Jose and worked in canneries as a young adult. In the early 1940s, she married Joseph Perry (Perez) Moreno. Joe P. Moreno was born in 1907, to Spanish parents aboard a ship en route to Hawaii. Mamie and Joe married in the early 1940s. In 1943, they had a daughter named Maria. By 1945, the year their daughter Sandra was born, they owned the property on Ladd Road. They owned two adjacent parcels (each just under two acres) that were bounded by Ladd Road on the north and the Dr. Moore Canal (a branch of the Modesto Irrigation Canal) on the south. The western parcel was adjacent to the Union Pacific railroad tracks. The Morenos built the house on the eastern parcel the following year, and apparently moved in shortly thereafter. The two outbuildings behind the house to the south appear to have been built about the same time. Joe worked as a custodian for the local school district, and farmed the property and hunted pheasants in his spare time. Based on historic aerial photographs, the Morenos had a small fruit orchard planted on their land, as most of their neighbors did during this era. The Morenos were members of St. Frances of Rome Catholic Church in Riverbank, a small community about four miles east of their farm.²

Maria Moreno married Gary Crawshaw in 1963, and the couple later moved to Columbia, California. In 1964, Sandra Moreno was working as a bank teller and living in the house. In 1966, Sandra married Robert Meagher at the age of 21, and moved out of her parents' house. Mamie and Joe lived in the house together until her death in 1993. Joe then deeded the property to his daughter, but continued to live in the house until he had to move into assisted living as his health declined. The orchards were removed from the property in the early 2000s. Joe Moreno died in 2004, and his daughters inherited the house and land. They later sold the property to the City of Modesto.³

Evaluation:
The National Register of Historic Places (NRHP) requires that a significance criterion for A-D be met for a resource to be eligible; the California Register of Historical Resources (CRHR) requires that a significance criterion from 1-4 be met for a resource to be eligible.

Criterion A/1: 718 Ladd Road is not associated with events that have made a significant contribution to the broad patterns of local, regional, or national history. Therefore, the building is not eligible to the NRHP or CRHR under Criterion A/1.

Criterion B/2: 718 Ladd Road is not associated with the lives of persons important to local, state, or national history, and therefore is not eligible to the NRHP or CRHR under Criterion B/2.

Criterion C/3: 718 Ladd Road is a common example of dwelling constructed in the 1940s. It lacks architectural significance and is therefore not eligible to the NRHP or CRHR under Criterion C/3.

Criterion D/4: In rare instances, buildings themselves can serve as sources of important information about historic construction materials or technologies and be significant under Criterion D/4. 718 Ladd Road does not appear to be a principal source of important information in this regard.

It has been assigned a Historic Resource Status Code of 6Z, and therefore does not qualify as a historic resource under CEQA.

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² U.S. Census Records, Santa Clara County, 1930, 1940; Modesto Bee, Deeds on file with the Stanislaus County Recorder's Office; "Obituary – Joe P. Moreno," 29 Feb 2004;
³ California Marriage Index, 1963, 1966; Certificate of Death, Joseph Perry Moreno, Stanislaus County.
Resource Name or # (Assigned by recorder): Moreno House

Map Name: Salida  Scale: 1:24,000  Date of map: 1987
Appendix F

Groundwater Impacts Evaluation
Supporting Documentation
May 15, 2015

Mr. Kris Ohlson, PE,
Utility Planning & Projects Department
City of Modesto
1010 Tenth Street, Suite 4600
Modesto, California 95353

1) Re: Draft Well Impact Analysis for the Del Rio Water Systems Upgrade:
Groundwater Well Inventory, Baseline Transducer Investigation, City of Modesto, California

Dear Mr. Ohlson:

This letter report is the first of two deliverables, and provides all data collected under task one of the contract agreement between URS and the City of Modesto, California. The data and analysis provided in this text have been prepared to document the results of a domestic groundwater well inventory and a baseline groundwater level investigation conducted in the Del Rio area of Modesto. The purpose of this project was to provide more site-specific baseline hydrogeological information and to further assess the potential effect pumping the Del Rio New and Replacement wells may have on domestic, agricultural, and ranch wells in the surrounding area of the proposed Del Rio well sites. Because the proposed wells will be located within an active pumping area, the City of Modesto has chosen to conduct the analysis to determine impacts to groundwater that may result from pumping the proposed wells.

INTRODUCTION

The purpose of this project was to provide more site-specific baseline hydrogeological information and to further assess the potential effect pumping the Del Rio New and Replacement wells may have on domestic, agricultural, and ranch wells in the surrounding area of the proposed Del Rio well sites (Figure 1). In an effort to achieve this goal, URS conducted a baseline transducer monitoring investigation. This technical memorandum summarizes field work, site inventory, and groundwater level data gathered from the transducer investigation as outlined in Task 1 of the scope of work (URS, 2014).

Task 1 involved two phases, the first of which involved working with the City of Modesto staff to identify local well owners in the Del Rio area (Figure 1). During this phase, URS attempted to contact the landowners to ascertain historic pumping rates and water level data, and also determine periods of groundwater demand. Several attempts to contact landowners were made by City of Modesto and URS personnel; many landowners were hesitant and resistant to the request by either not replying to requests for contact, or denied access. Because landowners were resistant to well monitoring efforts, no data on historical pumping and water level behavior was obtained. The first phase effort yielded access from the wells of only two private land owners who granted URS access for water level monitoring with pressure transducers.
The second phase of Task 1 involved the placement of pressure transducers in three groundwater wells and monitoring of groundwater levels for a period of six months. Transducers were installed on August 08, 2014; water-levels were measured at 15 minute intervals until February 17, 2015. The objective of this Tech Memo is to provide all data gathered during this investigation and provide an interpretation of water-level trends during the period of record.

PRIVATE WELL INVENTORY

A well inventory map is plotted on an aerial image (Figure 2) to illustrate the locations of existing domestic wells within a one mile radius of the Proposed Del Rio New Well location. Domestic well data were gathered from the California Department of Water Resources (CA DWR) well registry database. URS compiled all drillers’ logs CA DWR provided in a well database. The database contains well information (well diameter, top and bottom of well screen, and lithology data). This information was used to help refine the list of wells to include for water-level monitoring and installation of transducers. Historic water-level and water usage data was unable to be obtained.

Initially, only three private land owners returned URS attempts for contact, and out of the initial effort, URS was able to perform initial site inventories on four wells. Figure 1 provides the locations for these wells. Table 1 shows site details and well-specific data for these sites. Attachment A provides wellhead pictures gathered during the field inventory. Out of the four wells initially inventoried, URS was granted permission to monitor water levels in only two of the domestic wells with transducers for six months (Setliff Property and Denlinger Property at 718 Ladd Rd), and was denied access to the other two (Table 1). Because of the resistance by landowners to this monitoring, URS installed a third transducer at a City of Modesto Well at 718 Ladd Rd, a well located at the proposed location for the Del Rio New Well (Figure 1).

MONITORING WELL AND GROUNDWATER LEVEL DATA

The proposed Del Rio production wells are expected to be screened from 400 feet to 600 feet below ground surface in the deep alluvial aquifer. URS was unable to obtain access to wells completed in that aquifer. A review of the DWR well inventory database suggests that very few wells are completed at this depth, and of those, none are located within 1,000 feet of the proposed well locations. Most domestic wells in the Del Rio area are completed in the shallow aquifer (100-265 feet below ground surface). Well completion records that were obtained (Table 1) indicate that the wells monitored for this investigation are screened at depths less than 200 feet below ground surface (shallow aquifer), and are representative of the large majority of domestic wells in the area. The data presented in this tech memo provides a representative baseline dataset for the majority of domestic wells located in the Del Rio area.

Hydrographs compiled from transducer data from the three shallow groundwater wells monitored from August 08, 2014 to February 17, 2015 are presented in Figures 3, 4, and 5. Two wells (Ladd Rd wells, Figures 3 and 4) are located proximally to the chosen location for Del Rio New Well and one well is located proximally to the chosen location for the Del Rio Replacement Well (Setliff Well, Figure 5). For purposes of this tech memo, the term “proximally located” is used to refer to wells within 1,000 feet of proposed production well location.
Upward trends in groundwater levels are evident in all figures throughout the six month record. The upward trend displayed over the six month time period was probably influenced by seasonal fluctuations in the regional aquifer. Monitoring commenced in August when water levels were expected to be at their annual low point; monitoring ceased in February during the expected annual high. Statistical evaluation provided in insets on each figure show that water levels increased over the period of record by 3.02, 1.90, and 1.31 feet in figures 3, 4 and 5, respectively. Seasonal trends observed in long-term historical records from groundwater monitoring conducted by the USGS are consistent with the fluctuations observed during this investigation (USGS, 2007). Average seasonal water level fluctuations reported by USGS in shallow (100-265 feet), intermediate (265-360 feet), and deep (360-600 feet) zone wells have been 1, 3, and 18 feet, respectively.

Frequently occurring, short-duration (less than one-hour duration), high-magnitude (1-4 feet) decreases in water levels followed by a rapid recovery in water levels are observed throughout the period of record in Figures 4 and 5; this water level behavior is similar to the drawdown curve produced by a well that is pumped for a short time period, shut off, and allowed to recover. To illustrate the influence of domestic localized pumping to the aquifer, an amplification of the hydrograph (Figure 5) is provided in Inset 1 of Figure 5. The pumping drawdown curves in the hydrograph (Inset 1, Figure 5) are not consistent with pumping of municipal wells (municipal pumping lasts for 2-4 hours), and are most likely the result of local domestic groundwater usage. The lack of interest and willingness by private well owners prevented URS from obtaining pertinent private well operational data, hindering further analysis.

CONCLUSIONS

Based the results of the groundwater well inventory and baseline water-level monitoring, the following conclusions were drawn:

- The DWR Private well database suggests that the majority of private wells located within the Del Rio area of Modesto, CA are completed in the shallow zone (less than 265 feet below ground).
- Data gathered during the course of this groundwater level investigation were collected from wells completed in the shallow zone, and therefore, are representative of the majority of private domestic wells located in the area, and are expected to provide representative baseline for the majority of private wells in the Del Rio area.
- There are few private wells completed at the depth that the proposed Del Rio wells are expected to be completed, and none are located within 1,000 feet of the proposed locations.
- A gradual increase in water-levels observed throughout the course of this investigation of 0.3 to 3.02 feet was probably the result of normal seasonal changes for the aquifer.
- Short-duration, high magnitude decreases in groundwater-levels followed by recovery were observed in water levels of two wells throughout the period of record. These impacts to groundwater levels are greater than the observed seasonal fluctuation, and are attributed to local domestic pumping for groundwater usage.
- Local domestic groundwater pumping and usage is currently impacting the water levels in the shallow zone by 1-4 feet.
Determining hydrogeological characteristics and aquifer properties were ultimately hindered by the lack of interest and willingness of private land owners to assist in this effort by allowing access and provide historic usage information.

RECOMMENDATIONS

• It is recommended that groundwater levels be periodically monitored in proximally located wells where access is allowed when the Del Rio wells are on-line. It is recommended that water levels are monitored in all three zones (shallow, intermediate, and deep) of the alluvial aquifer.

URS appreciates this opportunity to provide hydrogeologic consulting services to the City of Modesto. Please contact the undersigned at (916) 717-1628 if you have any questions.

Sincerely,

Eddy Teasdale, PG. (#7791), C.HG. (#926)  
Project Hydrogeologist

Nicholas J. Tucci  
Geologist

Attachments:

Table 1. Initial Site Inventory
Figure 1. Site Details Map
Figure 2. Well Inventory Map
Figure 3. Six month groundwater-level trend for site located at 718 Ladd Road. Water-level statistics provided in inset.
Figure 4. Six month groundwater-level trend for site located at 706 Ladd Road. Water-level statistics provided in inset.
Figure 5. Six month groundwater-level trend for site located at 201 Stewart Rd. (Setliff Property). Magnification of the water level trend (Inset 1) enhances the detail of the impacts of localized pumping. Water-level statistics provided in inset.
Attachment A. Field Photographs
| TABLES |
Table 1: Initial Site Inventory

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<th>Property Owner</th>
<th>Property Address</th>
<th>Latitude</th>
<th>Longitude</th>
<th>Tagged Total Depth (ft)</th>
<th>Static Water Level</th>
<th>Casing Diameter</th>
<th>Permission to Install Transducer</th>
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<td>201 Stewart Rd</td>
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<td>Denlinger Property</td>
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<td>Denlinger Property</td>
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</table>

NA Not applicable, NR Not recorded

*Well highlighted in red show wells that were implemented with transducer and monitored for water levels*
FIGURES
Figure 3. Six month groundwater-level trend for site located at 718 Ladd Road. Water-level statistics provided in inset.

706 Ladd Road (Denlinger Rental)

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Figure 4. Six month groundwater-level trend for site located at 706 Ladd Road. Water-level statistics provided in inset.
Figure 5. Six month groundwater-level trend for site located at 201 Stewart Rd. (Setliff Property). Magnification of the water level trend (Inset 1) enhances the detail of the impacts of localized pumping. Water-level statistics provided in inset.
ATTACHMENT A: FIELD PHOTOGRAPHS
Well inside pump house

Close-up of 6-inch Well head

Measuring water-level and downloading transducer

706 Ladd Road

Appendix A
Field photographs of groundwater well inventory
City of Modesto, CA Task 1

URS

A-1
Appendix A
Field photographs of groundwater well inventory
City of Modesto, CA Task 1
May 15, 2015

Mr. Kris Ohlson, PE,
Utility Planning & Projects Department
City of Modesto
1010 Tenth Street, Suite 4600
Modesto, California 95353


Dear Mr. Ohlson:

This letter report has been prepared to document the results of drawdown analysis conducted at the two proposed Del Rio Well locations. The purpose of the analysis was to re-evaluate the potential impacts of pumping the Del Rio New Well and the Del Rio Replacement well on local groundwater levels in the area. Because these wells will be located within an active pumping area, the City of Modesto has chosen to conduct the analysis to determine impacts to groundwater that may result from pumping the proposed wells. This letter report presents a determination of the estimated maximum groundwater drawdown expected in wells at 125 feet and 1,000 feet radii in each of three depth zones by pumping of the one proposed well or both proposed wells.

1.0 INTRODUCTION

An aerial photo showing the two proposed location of the Del Rio production wells and surface features in the area is presented on Figure 1. URS conducted an initial drawdown analysis in 2012, and submitted the findings in a letter report submitted to the City of Modesto on June 26, 2012 (URS, 2012). The current work builds upon the previous analysis providing more in-depth, accurate and detailed modeling results in the following ways:

1) The previous investigation was conducted using only one of the two proposed production wells. Because there are two proposed production wells anticipated, two evaluations were conducted, one for each production well location. This was done to account for the impacts of both proposed wells. Model simulations were conducted accounting for the pumping of each proposed Del Rio production well separately, and then combined.

2) Simulation Run Times: In the previous analysis (URS, 2012) 30 days of pumping were simulated with the model, and the simulations did not account for long-term impacts to the aquifer. The simulated pumping time evaluated for this report was 3,650 days (10 years).

3) Del Rio production well flow rates: The original Del Rio model assumed an operational pumping rate of 1,280 gallons per minute (gpm), and operational times of 8 hours a day over a 30-day period. For the revised model, URS coordinated with City of Modesto staff to derive both site-specific operational pumping rates (flow information) and operational time information. The flow rates for both Del Rio production wells were updated to more accurately simulate the hydraulic effects of anticipated pumping rates, which will vary over the course of a year because of anticipated monthly variations in water demand.

4) Sensitivity Analysis: URS quantified uncertainty in the model by conducting a sensitivity analysis on horizontal hydraulic conductivity (K), the hydraulic parameter used to predict water-level drawdown.
To complete the drawdown analysis efficiently, URS developed a numerical groundwater flow model based on the United States Geological Survey (USGS) Northeastern San Joaquin Valley Groundwater Numerical Flow Model (USGS, 2007). The computer code selected to model groundwater flow was MODFLOW. MODFLOW is a three-dimensional, cell-centered, finite difference, saturated flow model developed by the USGS (McDonald and Harbaugh, 1998). MODFLOW is widely accepted in the professional hydrologic community and is recognized as a valid numerical model to simulate groundwater flow. The area covered by the regional USGS groundwater model includes the northeastern San Joaquin Valley extending from north of the Stanislaus River to the south of the Merced River and bounded on the northeast by the Sierra Nevada foothills and the southwest by the San Joaquin River. The area included in the USGS model domain is shown on Figure 2. The regional model has 16 model layers, each layer representing a separate subsurface lithology. The total model thickness varies from approximately 900 to 1,200 feet thick. A cross-section view of the USGS model is presented in Figure 3.

For the drawdown analysis, the regional USGS groundwater flow model was converted into a local-scale, transient-state groundwater flow model using Telescope Mesh Refinement (TMR) techniques with Groundwater Modeling System (GMS). GMS was developed by Aquaveo (Aquaveo, 2011) and is a comprehensive graphical user interface for performing groundwater simulations. TMR (also called grid zooming) is the technique for creating a more refined model from a portion of the larger model (i.e., the Regional Scale USGS model) to more accurately simulate hydraulic stresses in the Del Rio Well “area of interest”; the refined model grid retains the directional orientation of the regional model. The TMR model is not linked to the larger model; rather, it is a separate model but it uses the hydrogeologic properties (i.e., hydraulic conductivity/ transmissivity, storativity coefficient, etc.) of the larger model. The northern boundary of the TMR model is the Stanislaus River and the southern boundary is an east-west line approximately 2 to 3 miles south from the river. The active area of the local model is about 11 mi² (7,200 acres). The horizontal TMR model grid and its 16 vertical layers are shown on Figure 4. These layers were assigned the same hydraulic properties and thickness as the layers in the regional model.

2.0 DRAWDOWN ANALYSIS

2.1 Drawdown Analysis Assumptions and Inputs

In the model, hydraulic conductivity parameters vary according to depth and layer; groups of cells within each layer have their own unique value. Variations in hydraulic conductivity within and between layers are illustrated for shallow, intermediate, and deep zones in Figure 5. Based on anticipated water supply demand, City of Modesto staff calculated monthly pumping rates and well burden estimates for both proposed Del Rio wells; the estimated pumping rates updated for the new simulations are shown for each well and each month of the water year in Figure 6. The monthly pumping rates were estimated from expected operational pumping rates (1,000 gpm) and estimated monthly operation periods. The estimated operational times were variable (4-18 hours) based on expected demand; however, operational times used for the estimates are conservative because the majority of the current municipal wells operate between 2 and 4 hours per day. The model simulation time was 3,650 days (10 years). The proposed Del Rio Wells will be screened in the deep zone from 400 to 600 feet below ground surface (bgs).
2.2 Drawdown Analysis Results

To assess the possible drawdown impacts from pumping, two separate evaluations were conducted (one for Del Rio New Well and one for Del Rio Replacement Well), and four scenarios were simulated for each evaluation. Scenario 1 assumed one well was operational and simulated effects on groundwater levels at wells within a 125-foot radius of the proposed well location. Scenario 2 assumed both proposed Del Rio Wells were in operation and simulated effects on groundwater levels at wells within a 125-foot radius of the proposed well location. Scenario 3 assumed one well was operational and simulated effects on groundwater levels at wells within a 125-foot radius of the proposed well location. Scenario 4 assumed both wells in operation, and simulated effects on groundwater levels at wells within a 1,000-foot radius of the proposed well location. The groundwater model simulation matrix is summarized in Table 1.

The TMR model domain for Del Rio Wells consists of 16 individual model layers and existing wells were grouped by depth as the following:

- Shallow Aquifer - Layers 1 to 8 and wells screened from 100 to 265 feet deep
- Intermediate Aquifer - Layers 9 and wells screened from 265 to 360 feet deep
- Deep Aquifer - Layer 10 through 12 and wells screened from 360 to 600 feet deep

Maximum simulated drawdown at the maximum pumping rate (751 gpm) for both models are summarized in Table 2. A more thorough discussion of drawdown is provided below.

2.2.1 Drawdown Analysis Results for evaluation 1, Del Rio New Well

Evaluation 1 was conducted for the purpose of estimating drawdown in the Del Rio New Well near Ladd Rd (Figure 1). This section discusses the drawdown estimated by the evaluation.

2.2.1.1 Evaluation 1, Scenario 1, One pump operational (125-foot radius)
Temporal analysis of drawdown for Evaluation 1, scenario 1 in all zones is provided in Figure 7. For comparative purposes, operational pumping rates are provided on the figure (Figure 7, dashed lines). Drawdown was consistent with well demand, as demand increased (i.e. increased pumping rates) during the higher demand periods, drawdown increased and then recovered after the high demand period in each year. The following bullets summarize maximum drawdown predicted at the maximum anticipated monthly flow rate of 751 gpm anticipated for the month of July.

- Shallow aquifer drawdown is predicted to be 0.17 ft. (Table 2, Figure 7)
- Intermediate aquifer drawdown is predicted to be 1.1 ft. (Table 2, Figure 7)
- Deep aquifer drawdown is predicted to be 19 ft. (Table 2, Figure 7)

2.2.1.2 Evaluation 1, Scenario 2, Both pumps operational (125-foot radius)
Temporal analysis of drawdown for Evaluation 1, scenarios 2 in all zones is provided in Figure 8. For comparative purposes, simulated drawdown when both wells are operational is compared with simulated drawdown when only one well is operational (Figure 8, dashed lines). Drawdown was consistent with well demand, as demand increased (i.e. increased pumping rates), drawdown increased. The following
bullets summarize maximum drawdown observed at the maximum anticipated monthly flow rate of 751 gpm anticipated for the month of July.

- In the shallow aquifer is predicted to be 0.25 ft. (Table 2, Figure 8)
- In the intermediate aquifer is predicted to be 1.5 ft. (Table 2, Figure 8)
- In the deep aquifer is predicted to be 20 ft. (Table 2, Figure 8)

2.2.1.3 Evaluation 1, Scenario 3, One pump operational (1,000-foot radius)
Temporal analysis of drawdown for Evaluation 1, scenarios 3 in all zones is provided in Figure 9. For comparative purposes, operational pumping rates are provided on the figure (Figure 9, dashed lines). Drawdown was consistent with well demand, as demand increased (i.e. increased pumping rates), drawdown increased. The following bullets summarize maximum drawdown observed at the maximum anticipated monthly flow rate of 751 gpm anticipated for the month of July:

- In the shallow aquifer is predicted to be 0.21 ft. (Table 2, Figure 9)
- In the intermediate aquifer is predicted to be 1 ft. (Table 2, Figure 9)
- In the deep aquifer is predicted to be 7 ft. (Table 2, Figure 9)

2.2.1.4 Evaluation 1, Scenario 4, Both pumps operational (1,000-foot radius)
Temporal analysis of drawdown for Evaluation 1, scenarios 4 in all zones is provided in Figure 10. For comparative purposes, simulated drawdown when both wells are operational is compared with simulated drawdown when only one well is operational (Figure 10, dashed lines). Drawdown was consistent with well demand, as demand increased (i.e. increased pumping rates), drawdown increased. To satisfy the objectives of this investigation, the following discussion summarizes maximum drawdown observed at the maximum anticipated monthly flow rate of 751 gpm anticipated for the month of July:

- In the shallow aquifer is predicted to be 0.26 ft. (Table 2, Figure 10)
- In the intermediate aquifer is predicted to be 1.4 ft. (Table 2, Figure 10)
- In the deep aquifer is predicted to be 8 ft. (Table 2, Figure 10)

2.2.2 Drawdown Analysis Results for Evaluation 2, Del Rio Replacement Well
Evaluation 2 was conducted for the purpose of estimating drawdown in the Del Rio Replacement Well located near the intersection of McHenry Ave and Stewart Rd. (Figure 1). This section discusses the drawdown predicted at two radial distances by the evaluation.

2.2.2.1 Evaluation 2, Scenario 1, One pump operational (125-foot radius)
Temporal analysis of drawdown for Evaluation 2, scenarios 1 in all zones is provided in Figure 11. For comparative purposes, operational pumping rates are provided on the figure (Figure 11, dashed lines). Drawdown was consistent with well demand, as demand increased (i.e. increased pumping rates), drawdown increased. The following discussion summarizes maximum drawdown observed at the maximum anticipated monthly flow rate of 751 gpm anticipated for the month of July:

- In the shallow aquifer is predicted to be 0.1 ft. (Table 2, Figure 11)
- In the intermediate aquifer is predicted to be 1.6 ft. (Table 2, Figure 11)
- In the deep aquifer is predicted to be 17 ft. (Table 2, Figure 11)
2.2.2.2 Evaluation 2, Scenario 2, Both pumps operational (125-foot radius)
Temporal analysis of drawdown for Evaluation 2, scenarios 2 in all zones is provided in Figure 12. For comparative purposes, simulated drawdown when both wells are operational is compared with simulated drawdown when only one well is operational (Figure 12, dashed lines). Drawdown was consistent with well demand, as demand increased (i.e. increased pumping rates), drawdown increased. The following discussion summarizes maximum drawdown observed at the maximum anticipated monthly flow rate of 751 gpm anticipated for the month of July:
- In the shallow aquifer is predicted to be 0.21 ft. (Table 2, Figure 12)
- In the intermediate aquifer is predicted to be 2.1 ft. (Table 2, Figure 12)
- In the deep aquifer is predicted to be 18.2 ft. (Table 2, Figure 12)

2.2.2.3 Evaluation 2, Scenario 3, One pump operational (1,000-foot radius)
Temporal analysis of drawdown for Evaluation 2, scenarios 3 in all zones is provided in Figure 13. For comparative purposes, operational pumping rates are provided on the figure (Figure 13, dashed lines). Drawdown was consistent with well demand, as demand increased (i.e. increased pumping rates), drawdown increased. The following discussion summarizes maximum drawdown observed at the maximum anticipated monthly flow rate of 751 gpm anticipated for the month of July:
- In the shallow aquifer is predicted to be 0.1 ft. (Table 2, Figure 13)
- In the intermediate aquifer is predicted to be 1.2 ft. (Table 2, Figure 13)
- In the deep aquifer is predicted to be 6.6 ft. (Table 2, Figure 13)

2.2.2.4 Evaluation 2, Scenario 4, Both pumps operational (1,000-foot radius)
Temporal analysis of drawdown for Evaluation 2, scenarios 4 in all zones is provided in Figure 14. For comparative purposes, simulated drawdown when both wells are operational is compared with simulated drawdown when only one well is operational (Figure 14, dashed lines). Drawdown was consistent with well demand, as demand increased (i.e. increased pumping rates), drawdown increased. The following discussion summarizes maximum drawdown observed at the maximum anticipated monthly flow rate of 751 gpm anticipated for the month of July:
- In the shallow aquifer is predicted to be 0.18 ft. (Table 2, Figure 14)
- In the intermediate aquifer is predicted to be 1.6 ft. (Table 2, Figure 14)
- In the deep aquifer is predicted to be 7.5 ft. (Table 2, Figure 14)

3.0 SENSITIVITY ANALYSIS AND QUANTIFICATION OF UNCERTAINTY
Other than pumping rates and distance from the pumping well, hydraulic conductivity is the predominant variable that determines drawdown. In order to quantify uncertainty associated with input parameters, a sensitivity analysis was conducted on hydraulic conductivity values assigned to model layers. The sensitivity of drawdown to hydraulic conductivity was evaluated between a low end limit and an upper end limit. To provide the low end member, the models original hydraulic conductivity values were decreased by 50% in all cells in all layers within the model. To provide the upper end member for the uncertainty analysis, the model’s original hydraulic conductivity values were increased by 50% in all cells in all layers within the model. The scenarios with both proposed Del Rio Wells pumping were re-
simulated with the lower and upper end member values substitutions. This was done to provide conservative estimates for both upper and lower end members. Figure 15 provides the temporal analysis of modelled drawdown for the sensitivity analysis conducted in the shallow (in red), intermediate (in blue), and deep (in green) zones. The drawdowns at radial distances of 125-feet (Figure 15, top), and 1,000-feet (Figure 15, bottom) are shown for original hydraulic conductivity, 0.5 times hydraulic conductivity, and 1.5 times hydraulic conductivity. The 1.5 times hydraulic conductivity value substitution resulted in less drawdown in shallow, intermediate and deep zone wells, and the 0.5 times hydraulic conductivity value substitution resulted in increased drawdown in the three zone’s wells.

Table 3 summarizes sensitivity analysis results and compares them to the values obtained with original hydraulic conductivity values (highlighted in yellow). Drawdowns for the three hydraulic conductivities predicted for two flow rates (198 and 751 gpm) and two radial distances from the pumping well (125 and 1,000 feet from the pumping well) are compared in Table 3. The two flow rates provided in Table 3 are representative of periods of low demand (198 gpm) and periods of high demand (751 gpm). On average, a 50 percent reduction in hydraulic conductivity resulted in a 48% more drawdown in shallow wells, 35% more drawdown in Intermediate wells, and 35% more drawdown in deep wells. A 50 percent increase in hydraulic conductivity resulted in average of 68 percent less drawdown in shallow wells, 55 percent less drawdown in intermediate wells, and 35 percent less drawdown in deep wells.

### 4.0 SUMMARY AND CONCLUSIONS

Based on the model-predicted drawdown analysis, the impacts from pumping the proposed Del Rio wells at monthly rates estimated for varying demand will not significantly impact surrounding wells screened in the shallow and intermediate aquifers, in which all of the domestic wells in the Del Rio area are screened. Based on model simulations, pumping could cause between 0.1 and 1.6 feet of additional drawdown in wells screened from 100 to 360 feet bgs. In an effort to gather site-specific water-level data in the Del Rio area of Modesto, CA, data gathered by URS personnel between August 2014 and February 2015 show that natural annual seasonal fluctuations are between 1 to 3 feet in shallow wells (URS, 2015). These findings and observations are supported by data published by USGS in wells in the Modesto urban area, which indicate that natural seasonal groundwater fluctuations are generally less than 3 feet in the shallow (water table) aquifer (USGS, 2007).

Based on the drawdown analysis, the impacts from pumping the proposed two Del Rio wells could cause between 6.6 and 20 feet of drawdown in wells screened from 360 to 600 feet bgs within 1,000 feet of the proposed well location. However, DWR well survey data indicate that there are no wells within a 2,500-foot radius of either proposed Del Rio Wells that are screened in that depth interval. Data from USGS wells in the Modesto urban area indicate that seasonal fluctuations are approximately 18 feet in the deeper wells (USGS, 2007).

### 4.0 MODEL USE, LIMITATIONS, AND USEABILITY

This groundwater model can be a powerful tool, if used appropriately, to assist in making management decisions. Use of this model is subject to some limitations; like any computer model, it has inherent uncertainty. This does not, however, preclude its use to help make groundwater management decisions.
To the contrary, this model should be used whenever possible as a tool to assess current operations and to help implement response actions.

Groundwater models are simplifications of the natural environment and, therefore, have recognized limitations. Hence, some uncertainty exists in the ability of this model to predict groundwater flow. During the development of the USGS model, considerable effort was expended to minimize model uncertainty by using real-world values as model input whenever available and by conducting numerous model simulations to calibrate and verify the model. Uncertainty of the model output reflects uncertainties in the conceptual model, the input parameters, and the ability of the mathematical model to simulate real-world conditions adequately. The model was developed based on USGS steady-state flow conditions. Because flow conditions change over time, the average conditions that the calibrated steady-state model simulates may not always match real conditions closely; this may affect the uncertainty of this model. The resulting uncertainty is therefore variable, depending on the degree to which actual conditions differ from the calibrated steady-state model.

5.0 RECOMMENDATIONS

URS recommends the installation of nested groundwater wells that are proximally located (within 1,000 feet of the pumping location) to each Del Rio location. Observed water-level data can be coupled with the modelling data to determine if pumping of the Del Rio municipal wells are impacting the surrounding aquifer after well installation. Water-levels should be monitored at regular intervals (i.e. daily, weekly, monthly), or through the use of transducers. The data could be used for long term monitoring purposes, and would be useful in calibrating the current Modesto groundwater model.

6.0 REFERENCES


URS appreciates this opportunity to provide hydrogeologic consulting services to the City of Modesto. Please contact the undersigned at (916) 717-1628 if you have any questions.

Sincerely,

Eddy Teasdale, PG. (#7791), C.HG. (#926)  
Project Hydrogeologist

Nicholas J. Tucci  
Geologist

Attachments:
Table 1 – Groundwater Modelling Simulation Matrix
Table 2 – Simulated Maximum Drawdown Results at Maximum Pumping Rate (751 gpm)
Table 3 – Hydraulic Conductivity Sensitivity Analysis
Figure 1 – Well Location Map
Figure 2 – USGS Model Domain
Figure 3 – USGS Model Domain Cross-Section
Figure 4 – Project Site Model Domain, Grid, and Layer Information
Figure 5 – Hydraulic Conductivity in Shallow, Intermediate, and Deep Zones
Figure 6 – Estimated Del Rio Production Well Monthly Pumping Rates
Figure 7 – Simulation Results for Model 1, Simulation 1
Figure 8 – Simulation Results for Model 1, Simulation 2
Figure 9 – Simulation Results for Model 1, Simulation 3
Figure 10 – Simulation Results for Model 1, Simulation 4
Figure 11 – Simulation Results for Model 2, Simulation 1
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Figure 13 – Simulation Results for Model 2, Simulation 3
Figure 14 – Simulation Results for Model 2, Simulation 4
Figure 15 – Sensitivity Analysis Vs Drawdown Results
Table 1. Groundwater Modeling Simulation Matrix

<table>
<thead>
<tr>
<th>Evaluation</th>
<th>Simulation</th>
<th>Production Well</th>
<th>Monitoring Well Distance from Production Well (feet)</th>
<th>Pumping Wells</th>
<th>Pumping Rates</th>
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<td>125 (S, I, and D)</td>
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<td>NW only</td>
<td>NW only</td>
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<tr>
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<td>B Del Rio New Well</td>
<td>125 (S, I, and D)</td>
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<td>NW &amp; RW</td>
<td>NW &amp; RW</td>
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<tr>
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<td>C Del Rio New Well</td>
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<td>NW only</td>
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<td>D Del Rio New Well</td>
<td>1000 (S, I, and D)</td>
<td>NW &amp; RW</td>
<td>NW &amp; RW</td>
<td>NW &amp; RW</td>
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<td>2</td>
<td>A Del Rio Replacement Well</td>
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<td>RW only</td>
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<td>B Del Rio Replacement Well</td>
<td>125 (S, I, and D)</td>
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<td>RW only</td>
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<td></td>
<td>D Del Rio Replacement Well</td>
<td>1000 (S, I, and D)</td>
<td>NW @ RW</td>
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*S = Shallow Zone, I = Intermediate Zone, and D = Deep Zone monitoring wells.

Table 2. Simulated maximum drawdown at 751 gpm

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<th>Evaluation</th>
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<th>Distance from Well (feet)</th>
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<th>Maximum Drawdown (feet)</th>
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*Numbers highlighted in yellow denote values that are less than observed historical annual seasonal fluctuations in groundwater levels (USGS, 2007).
Table 3. Hydraulic Conductivity Sensitivity Analysis

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<td>751</td>
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*Original K values (highlighted in yellow) were hydraulic conductivity values used during all actual simulations (USGS, 2007).

*Low K value = True K * 0.5
*High K value = True K * 1.5
Project Site Model Domain, Grid, and Layer Information
Modesto, California

Figure 4
Estimated Average Monthly Pumping Rates and Daily Pump Operational Times

- Del Rio New Well
- Del Rio Replacement Well
- Daily Operational Time (Hrs.)

Anticipated Del Rio Production Well Monthly Pumping Rates
Modesto, California

Figure 6
Del Rio New Well Simulated Drawdown Analysis
125-feet from Pumping Well (One Production Wells)

Simulation Results: Model 1, Simulation 1
Modesto, California
Figure 7
Del Rio New Well Simulated Drawdown Analysis
125-feet from Pumping Well (Two Production Wells)

Simulation Results: Model 1, Simulation 2
Modesto, California

Figure 8
Del Rio New Well Simulated Drawdown Analysis
1,000-feet from Pumping Well (One Extraction Wells)

Simulation Results: Model 1, Simulation 3
Modesto, California
Del Rio New Well Simulated Drawdown Analysis
1,000-feet from Pumping Well (Two Production Wells)

Simulation Results: Model 1, Simulation 4
Modesto, California
Del Rio Replacement Well Simulated Drawdown Analysis
125-feet from Pumping Well (One Production Well)

Simulation Results: Model 2, Simulation 1
Modesto, California

Figure 11
Del Rio Replacement Well Simulated Drawdown Analysis
125-feet from Pumping Well (Both Wells vs One Well Pumping)

Simulation Results: Model 2, Simulation 3
Modesto, California
Del Rio Replacement Well Simulated Drawdown Analysis
125-feet from Pumping Well (Both Wells vs One Well Pumping)

Simulation Results: Model 2, Simulation 3
Modesto, California

Figure 13
Del Rio Replacement Well Simulated Drawdown Analysis
1,000-feet from Pumping Well (Both Wells vs One Well Pumping)

Simulation Results: Model 2, Simulation 4
Modesto, California
Del Rio New Well Model Sensitivity Analysis
Drawdown 125' from Pumping Well (K vs. 0.5K vs. 1.5 K)

Del Rio New Well Model Sensitivity Analysis
Drawdown 1000' from Pumping Well (K vs. 0.5K vs. 1.5 K)

Sensitivity Analysis Vs. Drawdown Results
Modesto, California

Figure 15
Appendix G

Noise and Vibration Impacts Evaluation
Supporting Documentation
City of Modesto Del Rio Well and Tanks CEQA Compliance

Prepared for:
Horizon Water and Environment, LLC
180 Grand Avenue, Suite 1405
Oakland, CA 94612

On Behalf of:
The City of Modesto
Utility Planning & Projects Department

Contact:
Michael Stevenson, M.S.
Principal
510/986-1850

Prepared by:
AECOM
2020 L Street, Suite 400
Sacramento, CA 95811

Contact:
Chris Shields
Noise Analyst
916/414-5800

AECOM
October 2015
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<td>AEC</td>
<td>Acoustical Engineering Consultants</td>
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<tr>
<td>dBA</td>
<td>A-weighted decibels</td>
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<tr>
<td>lbs/sq.ft</td>
<td>Pound per square foot</td>
</tr>
<tr>
<td>RD</td>
<td>Road</td>
</tr>
<tr>
<td>RCNM</td>
<td>Roadway Construction Noise Model</td>
</tr>
<tr>
<td>RMS</td>
<td>Root Mean Square</td>
</tr>
<tr>
<td>SENL</td>
<td>Single-Event [Impulsive] Noise Level</td>
</tr>
<tr>
<td>SCADA</td>
<td>Supervisory Control and Data Acquisition</td>
</tr>
<tr>
<td>Lv</td>
<td>Velocity Level in decibels</td>
</tr>
<tr>
<td>VdB</td>
<td>Vibration decibels</td>
</tr>
</tbody>
</table>
INTRODUCTION

This Technical Report includes a summary of applicable regulations and a description of the existing noise sensitive uses in the vicinity of the two proposed sites for the Del Rio Well project area. Typical noise levels for various non-transportation noise sources are included in this analysis pertaining to construction activities associated with the project. This Technical Report also provides quantitative noise levels for transportation noise sources associated with major roadways in the analysis area. Calculated and predicted operational noise levels associated with the project will be analyzed at sensitive receptors in close proximity to project sites, and mitigation measures are discussed where applicable.
2 PROJECT DESCRIPTION

The Del Rio Tank and Wells project sites are located in the community of Del Rio in Stanislaus County, California. Site A is located at the southeast intersection of Ladd Road and St. John’s Road on APNs 004-077-018 and 004-077-019, Ladd Road. Site B is located at the northwest corner of McHenry Avenue and Stewart Road on the southeastern-most portion of APN 004-102-003. Exhibit 2-1 shows the locations of the proposed project sites.

The Del Rio water system currently requires a new storage tank (and associated pump station), well, replacement well, backup generators, and pipelines to correct existing supply deficiencies. The existing Del Rio water system does not meet certain design pressure and storage volume requirements for water supply and fire-flow demand. The existing Del Rio water system also is not sufficient to supply anticipated future growth in the Del Rio area. The proposed project involves the construction and operation of water wells, a storage tank, and associated distribution facilities.

2.1 SITE A – LADD ROAD TANK AND WELL

Site A, located on Ladd Road, would encompass approximately four acres and is owned by the City of Modesto. The project facilities at Site A would consist of an above ground water storage tank, water well and pump, a stand-by generator, and a booster pump station. Site improvements would include a small parking and access area, fencing or walls, a retention basin, and low-maintenance landscaping. In addition, a 2,500-foot-long, 16-inch diameter transmission main would be installed to connect the proposed well to the City’s existing water distribution system. Exhibit 2-2 provides a site plan of the Site A facilities.

The water tank would store at least 250,000 gallons (0.25 million gallons) of water. The tank would stand a maximum 20 feet above grade and would be approximately 55 feet in diameter. The footprint area of the tank would be approximately 173 square feet. The tank would be constructed on a circular concrete pad. The pump station building will house the production well, booster pumps, disinfection equipment, ancillary valves and flow meters, and electrical equipment. A masonry building will include three separate rooms: a pump station room, an electrical room, and calcium hypochlorite room.

The production groundwater well would be drilled a maximum of 600 feet deep with a minimum yield of 1,000 gallons per minute (gpm), 1,000 gpm is the desired yield. Pumping will vary throughout the year depending upon need, based upon system pressure or tank level, ranging from as much as 20 hours per day during the summer months to as few as two hours per day in the winter. Pumping is expected to occur for an annual average of eight hours per day. The well would be housed inside the pump station building. The proposed project includes up to four 60-horsepower (hp) electric pumps. Two pumps would be on-duty, one is for standby, and the fourth pump is for future buildout. The booster pumps would be housed inside the pump station building.

A 16-inch diameter transmission main would be constructed from the pump station building to the intersection of St. John’s Road and Country Club Drive. The transmission main would extend for a distance of approximately 2,500 linear feet, and would be installed in accordance with Stanislaus County Department of Public Works Trenching requirements, which would include a 36-inch trench and a 60-inch trench patch. A portion of the transmission main (approximately 65 feet) would be installed by jack and bore underneath an existing rail crossing on Ladd Road, just east of St. John Road.
A standby diesel generator and an above-ground diesel storage tank would be installed on a 10-foot by 20-foot concrete pad within the project site. The standby generator would be used as an alternate power source to the proposed project facilities as necessary. The generator would be equipped with critical grade mufflers for the exhaust system and level 2 sound housing in order to achieve an approximate sound level of 75 decibels (dB) within 30 feet of the unit.

2.2 SITE B – MCHENRY AVENUE WELL

Site B, located on McHenry Avenue, would encompass approximately 0.4 acres that the City is in negotiations to acquire. The facilities at this site would consist of a production well and pump, stand-by generator, disinfection facilities, connecting lines to the City’s existing distribution system down McHenry Avenue, and space for a future treatment unit and treatment filters. These facilities would be fully enclosed by a 12-foot tall concrete block wall with a 24-foot wide gate. The site would be accessed from a new driveway off McHenry Avenue; there would be no site access from Stewart Road. Site improvements would include a concrete pad and paved driveway, well and associated piping, controls, treatment, generator and appurtenances. Exhibit 2-3 provides a site plan of the Site B facilities.

The Site B groundwater well would be drilled to a maximum of 600 feet deep with a desired minimum yield of 1,000 gallons per minute. While 1,000 gallons per minute is the desired yield, pumping will vary throughout the year depending upon need, based upon system pressure or tank level, ranging from as much as 20 hours per day during the summer months to as few as two hours per day in the winter. Pumping is expected to occur for an annual average of eight hours per day. The pump will be powered by electricity and would have a size of approximately 200 hp.

A 12-inch transmission pipeline would be constructed from the well to existing City distribution pipelines along McHenry Avenue. The transmission main would run from the well site easterly approximately 500 feet and would be installed in accordance with Stanislaus County Department of Public Works trenching requirements, which would include a 32-inch trench and a 56-inch trench patch.

A standby diesel generator and an above-ground diesel storage tank would be installed on a 10-foot by 20-foot concrete pad within the project site. The standby generator would be used as an alternate power source to the proposed project facilities as necessary. The generator would be equipped with critical grade mufflers for the exhaust system and level 2 sound housing in order to achieve an approximate sound level of 75 dBA within 30 feet of the unit.

2.3 CONSTRUCTION METHODS

Site preparation would include clearing and grubbing; excavation, import, and placement of fill; and compaction. Clearing and grubbing would be conducted using standard excavators, bulldozers, and hand labor.

To the extent feasible, excavated soil would be reused on-site. If required, fill would be delivered to the project sites by conventional haul trucks (approximately 15 cubic yards [cy] per load). Fill material would be placed with an excavator and compacted with a compactor/roller. The installation of new water transmission pipelines would occur beneath existing streets, and within the project sites. The construction method for new water transmission pipelines would include “jack and bore” with “sending/receiving pits.” This method reduces disturbance to the ground surface and disruption to other facilities or surface features. The directional drilling involves use of cutting
Exhibit 2.2. Site A Facilities
Exhibit 2-3. Site B Facilities
heads or hydraulic jacks to install pipe from a launch (bore) pit to a receiving pit, and the microtunneling technique uses a small tunneling machine. Slurry, typically bentonite (inert clay) and water, is used as a lubricant for tunneling and pipe installation for both methods. Construction crews would spend 3 to 4 weeks excavating the launch and receiving pits. The actual tunneling work would take 3 to 5 days. Staging areas would be needed to store pipe, construction equipment, and other construction-related material. Staging areas would likely be established at Sites A and B, along the pipeline routes where space is available within the road right-of-way, or in vacant lots. The final step in the construction process is to restore the ground surface. Site restoration would generally involve paving, installing landscaping, or installing erosion controls, as necessary.

The main pieces of equipment that may be used are:

- well drilling equipment
- track-mounted excavator
- small crane
- end dump truck
- ten-wheel dump truck
- paving equipment
- flat-bed delivery truck
- concrete truck
- grader
- bulldozer
- backhoe
- front-end loader
- compactor
- forklift
- compressors/jack hammers
- water truck
- boom truck
- mowing equipment (e.g., weed eaters, commercial lawnmowers)

2.4 CONSTRUCTION SCHEDULE

Construction of the Proposed Project is anticipated to last for up to approximately 15 months, beginning in 2016, and completed in 2017. Within this timeframe, the majority of construction work that involves use of operating equipment would occur within a 10-month period. Construction activities would generally occur Monday through Friday between 7:00 a.m. and 5:00 p.m., excluding weekends and State or Federal observed holidays.

2.5 PROJECT OPERATIONS

Operation of the proposed project would primarily involve the operation, inspection, and maintenance of the facilities. The pump stations, storage tank, and wells would be remotely controlled through a Supervisory Control and Data Acquisition (SCADA) system. The facilities would be inspected at least once a week to verify instrument readings, check on the condition of the site, and maintain equipment.

The City would inspect the water system on an annual basis to determine whether maintenance was needed. Maintenance activities for the storage tank would include the periodic cleaning of the tank's inside (with the use
of a vacuum system) to maintain capacity and functioning and occasional recoating of the tank, as needed. Maintenance activities of the wells would include various mechanical tests and meter calibration (with equipment specific to those activities) and general maintenance of treatment systems (e.g., treatment system flushing or regeneration). The City would inspect the wells and pump stations on a regular basis (numerous times during the wet months and less frequently the remainder of the year) to ensure optimal performance. Maintenance of the pump stations and pipelines would be performed on an as-needed basis.

2.6 ACOUSTIC FUNDAMENTALS

Noise is generally defined as sound that is loud, disagreeable, unexpected, or unwanted. Sound, as described in more detail below, is mechanical energy transmitted in the form of a wave because of a disturbance or vibration, and as any pressure variation in air that the human ear can detect.

2.6.1 SOUND PROPERTIES

A sound wave is introduced into a medium (air) by a vibrating object. The vibrating object (e.g., vocal cords, the string and sound board of a guitar, the diaphragm of a radio speaker) is the source of the disturbance that moves through the medium. Regardless of the type of source that creates the sound wave, the particles of the medium through which the sound moves are vibrating in a back-and-forth motion at a given frequency (pitch). The frequency of a wave refers to how often the particles vibrate when a wave passes through the medium. The frequency of a wave is measured as the number of complete back-and-forth vibrations of a particle per unit of time. If a particle of air undergoes 1,000 longitudinal vibrations in 2 seconds, then the frequency of the wave would be 500 vibrations per second. A commonly used unit for frequency is cycles per second, called hertz (Hz).

Each particle vibrates as a result of the motion of its nearest neighbor. For example, the first particle of the medium begins vibrating at 500 Hz and sets the second particle of the medium into motion at the same frequency (500 Hz). The second particle begins vibrating at 500 Hz and sets the third particle into motion at 500 Hz. The process continues throughout the medium; hence each particle vibrates at the same frequency, which is the frequency of the original source. A guitar string vibrating at 500 Hz will set the air particles in the room vibrating at the same frequency (500 Hz), which carries a sound signal to the ear of a listener that is detected as a 500-Hz sound wave.

The back-and-forth vibration motion of the particles of the medium would not be the only observable phenomenon occurring at a given frequency. Because a sound wave is a pressure wave, a detector could be used to detect oscillations in pressure from high to low, and back to high pressure. As the compression (high-pressure) and rarefaction (low-pressure) disturbances move through the medium, they would reach the detector at a given frequency. For example, a compression would reach the detector 500 times per second if the frequency of the wave were 500 Hz. Similarly, a rarefaction would reach the detector 500 times per second if the frequency of the wave were 500 Hz. Thus, the frequency of a sound wave refers not only to the number of back-and-forth vibrations of the particles per unit of time, but also to the number of compression or rarefaction disturbances that pass a given point per unit of time.

A detector could be used to detect the frequency of these pressure oscillations over a given period of time. The period of the sound wave can be found by measuring the time between successive high-pressure points (corresponding to the compressions) or the time between successive low-pressure points (corresponding to the
rarefactions). The frequency is simply the reciprocal of the period; thus, an inverse relationship exists so that as frequency increases, the period decreases, and vice versa.

A wave is an energy transport phenomenon that transports energy along a medium. The amount of energy carried by a wave is related to the amplitude (loudness) of the wave. A high-energy wave is characterized by high amplitude; a low-energy wave is characterized by low amplitude. The amplitude of a wave refers to the maximum amount of displacement of a particle from its rest position. The energy transported by a wave is directly proportional to the square of the amplitude of the wave. This means that a doubling of the amplitude of a wave is indicative of a quadrupling of the energy transported by the wave.

### 2.6.2 Sound and the Human Ear

Because of the ability of the human ear to detect a wide range of sound-pressure fluctuations, sound-pressure levels are expressed in logarithmic units called decibels (dB) to avoid a very large and awkward range in numbers. The sound-pressure level in decibels is calculated by taking the log of the ratio between the actual sound pressure and the reference sound pressure squared. The reference sound pressure is considered the absolute hearing threshold (Caltrans 2011). Use of this logarithmic scale reveals that the total sound from two individual sources, each measured at 65 A-weighted decibels (dBA), is 68 dBA, not 130 dBA; that is, doubling the source strength increases the sound pressure by 3 dBA.

Because the human ear is not equally sensitive to all sound frequencies, a specific frequency-dependent rating scale was devised to relate noise to human sensitivity. A dBA scale performs this compensation by discriminating against frequencies in a manner approximating the sensitivity of the human ear. The basis for compensation is the faintest sound audible to the average ear at the frequency of maximum sensitivity. This dBA scale has been chosen by most authorities to regulate environmental noise. Typical indoor and outdoor noise levels are presented in Exhibit 2-4.

With respect to how humans perceive and react to changes in noise levels, a 1-dBA increase is imperceptible, a 3-dBA increase is barely perceptible, a 6-dBA increase is clearly noticeable, and a 10-dBA increase is subjectively perceived as approximately twice as loud (Egan 1988), as presented in Table 2-1. Table 2-1 was developed on the basis of the reactions of test subjects to changes in the levels of steady-state pure tones or broadband noise and to changes in levels of a given noise source. It is probably most applicable to noise levels in the range of 50–70 dBA, as this is the usual range of voice and interior noise levels.

<table>
<thead>
<tr>
<th>Change in Level, dBA</th>
<th>Subjective Reaction</th>
<th>Factor Change in Acoustical Energy</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Imperceptible (except for tones)</td>
<td>1.3</td>
</tr>
<tr>
<td>3</td>
<td>Just barely perceptible</td>
<td>2.0</td>
</tr>
<tr>
<td>6</td>
<td>Clearly noticeable</td>
<td>4.0</td>
</tr>
<tr>
<td>10</td>
<td>About twice (or half) as loud</td>
<td>10.0</td>
</tr>
</tbody>
</table>

Note: dBA = A-weighted decibels

Source: Egan 1988
### EXAMPLES

<table>
<thead>
<tr>
<th>Noise Source</th>
<th>DECIBELS (dB)*</th>
<th>SUBJECTIVE EVALUATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Near jet engine</td>
<td>140</td>
<td>Deafening</td>
</tr>
<tr>
<td>Threshold of pain</td>
<td>130</td>
<td></td>
</tr>
<tr>
<td>Rock band</td>
<td>120</td>
<td></td>
</tr>
<tr>
<td>Accelerating motorcycle a few feet away</td>
<td>110</td>
<td></td>
</tr>
<tr>
<td>Noisy urban street/freeway city traffic</td>
<td>100</td>
<td>Very Loud</td>
</tr>
<tr>
<td>Gas lawn mower at 3 feet</td>
<td>90</td>
<td>Moderately Loud</td>
</tr>
<tr>
<td>Garbage disposal at 3 feet</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>Vacuum cleaner at 3 feet</td>
<td>70</td>
<td>Quiet</td>
</tr>
<tr>
<td>Busy restaurant</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>Near freeway auto traffic</td>
<td>50</td>
<td>Faint</td>
</tr>
<tr>
<td>Window air conditioner at 3 feet</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>Business office</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Soft whisper at 5 feet</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Quiet urban nighttime</td>
<td>10</td>
<td>Very Faint</td>
</tr>
<tr>
<td>Quiet rural nighttime</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

* dB are average values as measured on the A-scale of a sound-level meter.

Source: Data compiled by AECOM 2010

Exhibit 2-4. Typical Noise Levels

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AECOM Project Description

City of Modesto Del Rio Well and Tanks CEQA Compliance

Horizon Water and Environment
2.6.3  **Sound Propagation and Attenuation**

As sound (noise) propagates from the source to the receptor, the attenuation, or manner of noise reduction in relation to distance, is dependent on surface characteristics, atmospheric conditions, and the presence of physical barriers. The inverse-square law describes the attenuation caused by the pattern in which sound travels from the source to the receptor. Sound travels uniformly outward from a point source in a spherical pattern with an attenuation rate of 6 dBA per doubling of distance (dBA/DD). However, from a line source (e.g., a road), sound travels uniformly outward in a cylindrical pattern with an attenuation rate of 3 dBA/DD. The characteristics of the surface between the source and the receptor may result in additional sound absorption and/or reflection.

Atmospheric conditions such as wind speed, temperature, and humidity may affect noise levels. The presence of a barrier between the source and the receptor may also attenuate noise levels. The actual amount of attenuation depends on the size of the barrier and the frequency of the noise. A noise barrier may be any natural or human-made feature such as a hill, tree, building, wall, or berm (Caltrans 2011).

All buildings provide some exterior-to-interior noise reduction. A building constructed with a wood frame and a stucco or wood sheathing exterior typically provides a minimum exterior-to-interior noise reduction of 25 dBA with its windows closed; by contrast, a building constructed of a steel or concrete frame, a curtain wall or masonry exterior wall, and fixed plate glass windows of one-quarter-inch thickness typically provides an exterior-to-interior noise reduction of 30–40 dBA when its windows are closed (Paul S. Veneklasen & Associates 1973, cited in Caltrans 2002).

2.6.4  **Noise Descriptors**

The selection of a proper noise descriptor for a specific source depends on the spatial and temporal distribution, duration, and fluctuation of the noise. The noise descriptors most often encountered when dealing with traffic, community, and environmental noise are defined below (Caltrans 2011).

- **L_{max}** (Maximum Noise Level): The maximum instantaneous noise level during a specific period of time. The L_{max} may also be referred to as the “peak (noise) level.”

- **L_{min}** (Minimum Noise Level): The minimum instantaneous noise level during a specific period of time.

- **L_{eq}** (Equivalent Noise Level): The energy mean (average) noise level. The instantaneous noise levels during a specific period of time in dBA are converted to relative energy values. From the sum of the relative energy values, an average energy value is calculated, which is then converted back to dBA to determine the L_{eq}. In noise environments that are determined by major noise events, such as aircraft overflights, the L_{eq} value is heavily influenced by the magnitude and number of single events that produce the high noise levels.

- **L_{dn}** (Day-Night Noise Level): The 24-hour L_{eq} with a 10-dBA “penalty” for noise events that occur during the noise-sensitive hours between 10:00 p.m. and 7:00 a.m. In other words, 10 dBA is “added” to noise events that occur in the nighttime hours, and this generates a higher reported noise level when determining compliance with noise standards. The L_{dn} attempts to account for the fact that noise during this specific period of time is a potential source of disturbance with respect to normal sleeping hours.
AECOM Project Description

2-12

City of Modesto Del Rio Well and Tanks CEQA Compliance Horizon Water and Environment

- **CNEL (Community Noise Equivalent Level):** Similar to the $L_{dn}$ described above, but with an additional 5 dBA "penalty" added to noise events that occur during the noise-sensitive hours between 7:00 p.m. and 10:00 p.m., which are typically reserved for relaxation, conversation, reading, and television. When the same 24 hour noise data are used, the reported CNEL is typically approximately 0.5 dBA higher than the $L_{dn}$.

- **SENL (Single-Event [Impulsive] Noise Level):** A receiver’s cumulative noise exposure from a single impulsive noise event, which is defined as an acoustical event of short duration and involves a change in sound pressure above some reference value. SENLs typically represent the noise events used to calculate the $L_{eq}$, $L_{dn}$, and CNEL.

Community noise is commonly described in terms of the ambient noise level, which is defined as the all-encompassing noise level associated with a given noise environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level $L_{eq}$, which corresponds to a steady-state A-weighted sound level containing the same total energy as a time-varying signal over a given time period (usually 1 hour). The $L_{eq}$ is the foundation of the composite noise descriptors such as $L_{dn}$ and CNEL, as defined above, and correlates well with community response to noise.

### 2.6.5 Negative Effects of Noise on Humans

Negative effects of noise exposure include physical damage to the human auditory system, interference, and disease. Exposure to noise may result in physical damage to the auditory system, which may lead to gradual or traumatic hearing loss. Gradual hearing loss is caused by sustained exposure to moderately high noise levels over a period of time; traumatic hearing loss is caused by sudden exposure to extremely high noise levels over a short period. Gradual and traumatic hearing loss both may result in permanent hearing damage. In addition, noise may interfere with or interrupt sleep, relaxation, recreation, and communication. Although most interference may be classified as annoying, the inability to hear a warning signal may be considered dangerous. Noise may also be a contributor to diseases associated with stress, such as hypertension, anxiety, and heart disease. The degree to which noise contributes to such diseases depends on the frequency, bandwidth, and level of the noise, and the exposure time (Caltrans 2011).

### Fundamental Noise Control Options

Any noise problem is generally composed of three basic elements: the noise source, a transmission path, and a receiver. The appropriate acoustical treatment for a given project should consider the nature of the noise source and the sensitivity of the receiver. The problem should be defined in terms of appropriate criteria ($L_{dn}$, $L_{eq}$, or $L_{max}$); the location of the sensitive receiver (inside or outside); and the time that the problem occurs (daytime or nighttime). Noise control techniques should then be selected to provide an acceptable noise environment for the receiving property while remaining consistent with local aesthetic standards and practical structural and economic limits. Fundamental noise control options are described below.

#### Setbacks

Noise exposure may be reduced by increasing the distance between the noise source and the receiving use. Setback areas can, for example, take the form of open space, frontage roads, recreational areas, and storage yards. The available noise attenuation from this technique is limited by the characteristics of the noise source, but is generally about 4–6 dBA.
Barriers

Shielding by barriers can be obtained by placing walls, berms, or other structures (such as buildings) between the noise source and the receiver. The effectiveness of a barrier depends on blocking the line of sight between the source and receiver; effectiveness is improved when the sound must travel a longer distance to pass over the barrier than if it were traveling in a straight line from source to receiver. The difference between the distance over a barrier and a straight line between source and receiver is called the "path length difference," and is the basis for calculating barrier noise reduction.

Barrier effectiveness depends upon the relative heights of the source, barrier, and receiver. In general, barriers are most effective when placed close to either the receiver or the source. An intermediate barrier location yields a smaller path length difference for a given increase in barrier height than does a location closer to either source or receiver.

For maximum effectiveness, barriers must be continuous and relatively airtight along their length and height. To ensure that sound transmission through the barrier is insignificant, barrier mass should be about 4 pounds per square foot, although a lesser mass may be acceptable if the barrier material provides sufficient transmission loss. Satisfaction of the above criteria requires substantial and well-fitted barrier materials, placed to intercept the line of sight to all significant noise sources. Earth, in the form of berms or the face of a depressed area, is also an effective barrier material.

There are practical limits to the noise reduction provided by barriers. For vehicle traffic or railroad noise, a noise reduction of 5-10 dBA may often be reasonably attained. A 15-dBA noise reduction is sometimes possible, but a 20-dBA noise reduction is extremely difficult to achieve. Barriers usually are provided in the form of walls, berms, or berm/wall combinations. The use of an earth berm in lieu of a solid wall may provide up to 3 dBA additional attenuation over that attained by a solid wall alone, because of the absorption provided by the earth. Bem/wall combinations offer slightly better acoustical performance than solid walls alone, and they are often preferred for aesthetic reasons.

Site Design

Buildings can be placed on a project site to shield other structures or areas from areas affected by noise, and to prevent an increase in noise level caused by reflections. The use of one building to shield another can significantly reduce a project's overall noise control costs, particularly if the shielding structure is insensitive to noise.

Site design should guard against creating reflecting surfaces that may increase on-site noise levels. For example, two buildings placed at an angle facing a noise source may cause noise levels within that angle to increase by up to 3 dBA. The open end of U-shaped buildings should point away from noise sources for the same reason. Landscaping walls or noise barriers located within a development may inadvertently reflect noise back to a noise-sensitive area unless located carefully. Avoidance of these problems while attaining an aesthetic site design requires close coordination between local agencies, the project engineer and architect, and the noise consultant.

Building Façades

When interior noise levels are of concern in a noisy environment, noise reduction may be obtained through acoustical design of building façades. Standard construction practices provide a noise reduction of 10-15 dBA for building façades with open windows and a noise reduction of approximately 25 dBA when windows are closed.
Thus, an exterior-to-interior noise reduction of 25 dBA can be obtained by requiring that building design include adequate ventilation systems, which allows windows on a noise-affected façade to remain closed under any weather condition.

Where greater noise reduction is required, acoustical treatment of the building façade is necessary. Reducing relative window area is the most effective control technique, followed by providing acoustical glazing (thicker glass or increased air space between panes) in frames with low air infiltration rates, using fixed (nonmovable) acoustical glazing, or eliminating windows. Noise transmitted through walls can be reduced by increasing wall mass (using stucco or brick in lieu of wood siding), isolating wall members by using double or staggered stud walls, or mounting interior walls on resilient channels. Noise control for exterior doorways is provided by reducing door area, using solid-core doors, and by acoustically sealing door perimeters with suitable gaskets. Roof treatments may include the use of plywood sheathing under roofing materials.

Vegetation

Trees and other vegetation are often thought to provide significant noise attenuation. However, approximately 100 feet of dense foliage (so that no visual path extends through the foliage) is required to achieve a 5-dBA attenuation of traffic noise. Thus, the use of vegetation as a noise barrier should not be considered a practical method of noise control unless large tracts of dense foliage are part of the existing landscape.

Vegetation can be used to acoustically "soften" intervening ground between a noise source and a receiver, increasing ground absorption of sound and thus increasing the attenuation of sound with distance. Planting trees and shrubs also offers aesthetic and psychological value, and it may reduce adverse public reaction to a noise source by removing the source from view, even though noise levels will be largely unaffected. However, trees planted on the top of a noise-control berm can slightly degrade the acoustical performance of the barrier. This effect can occur when high-frequency sounds are diffracted (bent) by foliage and directed downward over a barrier.

The effects of vegetation on noise transmission are minor, and are primarily limited to increased absorption of high-frequency sounds and to reducing adverse public reaction to the noise by providing aesthetic benefits.

2.6.6 Vibration

Vibration is the periodic oscillation of a medium or object. The rumbling sound caused by the vibration of room surfaces is called structureborne noise. Sources of groundborne vibrations include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) or human-made causes (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous, such as operating factory machinery, or transient, such as explosions. As is the case with airborne sound, groundborne vibrations may be described by amplitude and frequency.

Vibration amplitudes are usually expressed in peak particle velocity (PPV) or root mean square (RMS), as in RMS vibration velocity. PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal. PPV is often used in monitoring of blasting vibration because it is related to the stresses that are experienced by buildings (Federal Transit Administration [FTA] 2006). PPV and RMS are normally described in inches per second (in/sec).
Human and structural response to different vibration levels is influenced by a number of factors, including ground type, distance between source and receptor, duration, and the number of perceived vibration events. Table 2-2, which was developed by Caltrans, shows the vibration levels which would normally be required to result in damage to structures. The vibration levels are presented in terms of peak particle velocity in inches per second.

<table>
<thead>
<tr>
<th>Peak Particle Velocity</th>
<th>Human Reaction</th>
<th>Effect on Buildings</th>
</tr>
</thead>
<tbody>
<tr>
<td>inches/second</td>
<td>mm/second</td>
<td></td>
</tr>
<tr>
<td>0.006-0.019</td>
<td>0.15-0.30</td>
<td>Threshold of perception; possibility of intrusion</td>
</tr>
<tr>
<td>0.08</td>
<td>2.0</td>
<td>Vibrations readily perceptible</td>
</tr>
<tr>
<td>0.10</td>
<td>2.5</td>
<td>Level at which continuous vibrations begin to annoy people</td>
</tr>
<tr>
<td>0.20</td>
<td>5.0</td>
<td>Vibrations annoying to people in buildings</td>
</tr>
<tr>
<td>0.4-0.6</td>
<td>10-15</td>
<td>Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges</td>
</tr>
</tbody>
</table>

Table 2-2. Effects of Various Vibration Levels on People and Buildings

Notes: PPV=peak particle velocity; In/sec=inchess per second; mm/sec=millimeters per second
Source: Caltrans 2013

Although PPV is appropriate for evaluating the potential for building damage, it is not always suitable for evaluating human response. It takes some time for the human body to respond to vibration signals. In a sense, the human body responds to average vibration amplitude. The RMS of a signal is the average of the squared amplitude of the signal, typically calculated over a period of 1 second. Like airborne sound, the RMS velocity is often expressed in decibel notation, as vibration decibels (VdB), which serves to compress the range of numbers required to describe vibration (FTA 2006). This is based on a reference value of 1 microinch per second (μin/sec).

The background vibration-velocity level in residential areas is usually approximately 50 VdB. Groundborne vibration is normally perceptible to humans at approximately 65 VdB. For most people, a vibration-velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels (FTA 2006).

Typical outdoor sources of perceptible groundborne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the groundborne vibration is rarely perceptible. The range of interest is from approximately 50 VdB, which is the typical background vibration-velocity level, to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings. Construction activities can generate groundborne vibrations, which can pose a risk to nearby structures. Constant or transient vibrations can weaken structures, crack facades, and disturb occupants (FTA 2006).

Construction vibrations can be transient, random, or continuous. Transient construction vibrations are generated by blasting, impact pile driving, and wrecking balls. Continuous vibrations result from vibratory pile drivers, large pumps, horizontal directional drilling, and compressors. Random vibration can result from jackhammers,
pavement breakers, and heavy construction equipment. Table 2-3 describes the general human response to different levels of groundborne vibration-velocity levels.

<table>
<thead>
<tr>
<th>Vibration Velocity (Vibration Decibels)</th>
<th>Human Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>65</td>
<td>Approximate threshold of perception for many humans.</td>
</tr>
<tr>
<td>75</td>
<td>Approximate dividing line between barely perceptible and distinctly perceptible.</td>
</tr>
<tr>
<td>85</td>
<td>Vibration acceptable only if there is a small number of events per day.</td>
</tr>
</tbody>
</table>

Source: FTA 2006
3 REGULATORY SETTING

3.1 FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

The U.S. Environmental Protection Agency's (EPA's) Office of Noise Abatement and Control was originally established to coordinate Federal noise control activities. After its inception, EPA's Office of Noise Abatement and Control issued the Federal Noise Control Act of 1972, establishing programs and guidelines to identify and address the effects of noise on public health, welfare, and the environment. In 1981, EPA administrators determined that subjective issues such as noise would be better addressed at lower levels of government. Consequently, in 1982 responsibilities for regulating noise control policies were transferred to state and local governments. However, noise control guidelines and regulations contained in EPA rulings in prior years remain in place by designated Federal agencies, thereby allowing more individualized control for specific issues by designated Federal, state, and local government agencies.

To address the human response to groundborne vibration, the FTA of the U.S. Department of Transportation has set forth guidelines for maximum-acceptable-vibration criteria for different types of land uses. These include 65 VdB referenced to 1 μin/sec and based on RMS velocity amplitude for land uses where low ambient vibration is essential for interior operations (e.g., hospitals, high-tech manufacturing, laboratory facilities); 80 VdB for residential uses and buildings where people normally sleep; and 83 VdB for institutional land uses with primarily daytime operations (e.g., schools, churches, clinics, offices) (FTA 2006).

Standards have also been established to address the potential for groundborne vibration to cause structural damage to buildings. These standards were developed by the Committee of Hearing, Bio Acoustics, and Bio Mechanics (CHABA) at the request of the U.S. Environmental Protection Agency (FTA 2006). For fragile structures, CHABA recommends a maximum limit of 0.25 in/sec PPV (FTA 2006).

3.2 STATE PLANS, POLICIES, REGULATIONS, AND LAWS

3.2.1 GOVERNOR'S OFFICE OF PLANNING AND RESEARCH

The State of California, Governor’s Office of Planning and Research (OPR), published the State of California General Plan Guidelines (OPR 2003), which provide guidance for the acceptability of projects within specific L_{dn} contours. Table 3-1 summarizes acceptable and unacceptable community noise-exposure limits for various land use categories. Generally, residential uses (e.g., mobile homes) are considered to be acceptable in areas where exterior noise levels do not exceed 60 dBA L_{dn}. Residential uses are normally unacceptable in areas exceeding 70 dBA L_{dn} and conditionally acceptable within 55–70 dBA L_{dn}. Schools are normally acceptable in areas up to 70 dBA L_{dn} and normally unacceptable in areas exceeding 70 dBA L_{dn}. Commercial uses are normally acceptable in areas up to 70 dBA CNEL. Between 67.5 and 77.5 dBA L_{dn}, commercial uses are conditionally acceptable, depending on the noise insulation features and the noise reduction requirements. The guidelines also present adjustment factors that may be used to arrive at noise acceptability standards reflecting the noise control goals of the community, the particular community's sensitivity to noise, and the community's assessment of the relative importance of noise pollution. In addition, Title 24 of the California Code of Regulations establishes standards governing interior noise levels that apply to all new single-family and multifamily residential units in California. These standards require that acoustical studies be performed before construction at building locations where the existing L_{dn} exceeds 60 dBA. Such acoustical studies must establish mitigation measures that will limit maximum...
Table 3-1. Summary of Land Use Noise Compatibility Guidelines

<table>
<thead>
<tr>
<th>Land Use Category</th>
<th>Community Noise Exposure (dBA Ldn)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Normally Acceptable&lt;1</td>
</tr>
<tr>
<td>Residential—Low-Density Single-Family, Duplex, Mobile Home</td>
<td>&lt;60</td>
</tr>
<tr>
<td>Residential—Multifamily</td>
<td>&lt;65</td>
</tr>
<tr>
<td>Transient Lodging—Motel, Hotel</td>
<td>&lt;65</td>
</tr>
<tr>
<td>Schools, Libraries, Churches, Hospitals, Nursing Homes</td>
<td>&lt;70</td>
</tr>
<tr>
<td>Auditoriums, Concert Halls, Amphitheaters</td>
<td>&lt;70</td>
</tr>
<tr>
<td>Sports Arena, Outdoor Spectator Sports</td>
<td>&lt;75</td>
</tr>
<tr>
<td>Playgrounds, Neighborhood Parks</td>
<td>&lt;70</td>
</tr>
<tr>
<td>Golf Courses, Riding Stables, Water Recreation, Cemeteries</td>
<td>&lt;75</td>
</tr>
<tr>
<td>Office Building, Business Commercial, and Professional</td>
<td>&lt;70</td>
</tr>
<tr>
<td>Industrial, Manufacturing, Utilities, Agriculture</td>
<td>&lt;75</td>
</tr>
</tbody>
</table>

Notes: dBA = A-weighted decibels; Ldn = day-night average noise level
<1 Specified land use is satisfactory, based on the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.
<2 New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning, will normally suffice.
<3 New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design. Outdoor areas must be shielded.
<4 New construction or development should generally not be undertaken.

Source: OPR 2003

Ldn levels to 45 dBA in any habitable room. Although there are no generally applicable interior noise standards pertinent to all uses, many communities in California have adopted an Ldn of 45 dBA as an upper limit on interior noise in all residential units.

3.2.2 CALIFORNIA DEPARTMENT OF TRANSPORTATION

For the protection of fragile, historic, and residential structures, Caltrans recommends a more conservative threshold of 0.2 in/sec PPV for normal residential buildings and 0.08 in/sec PPV for old or historically significant structures (Caltrans 2013). These standards are more stringent than the federal standard established by CHABA, presented above.

3.3 LOCAL PLANS, POLICIES, REGULATIONS, AND ORDINANCES

3.3.1 STANISLAUS COUNTY GENERAL PLAN

Stanislaus County addresses noise impacts through its General Plan and Municipal Code. The Noise Element of the Stanislaus County General Plan utilizes noise exposure information to identify existing and potential noise
conflicts through the Land Use Planning and Project Review processes. The Noise Element establishes exterior noise level standards and maximum allowable noise exposure from stationary noise sources at noise-sensitive land uses. For transportation noise sources (e.g., traffic, railroads, airports), the Noise Element establishes 60 dBA \( L_{dn} \) or less in outdoor activity areas of single family residences, 65 dBA \( L_{dn} \) or less in community outdoor space for multi-family residences, and 45 dBA \( L_{dn} \) or less within noise sensitive interior spaces (Policy Two, Implementation Measure 1(a)). For stationary noise sources, new development of industrial, commercial, or other noise generating land uses are not permitted if resulting noise levels will exceed 60 dBA \( L_{dn} \) in noise-sensitive areas. Additionally, development of new noise-generating land uses which are not preempted from local noise regulation will not be permitted if resulting noise levels will exceed the performance standards shown in Table 3-2 in residential areas or other noise sensitive land uses.

### Table 3-2. Maximum Allowable Noise Exposure from Stationary Noise Sources

<table>
<thead>
<tr>
<th></th>
<th>Daytime 7 a.m. to 10 p.m.</th>
<th>Nighttime 10 p.m. to 7 a.m.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hourly ( L_{eq} ), dBA</td>
<td>55</td>
<td>45</td>
</tr>
<tr>
<td>Maximum level, dBA</td>
<td>75</td>
<td>65</td>
</tr>
</tbody>
</table>

Note: 
As determined at the property line of the receiving land use. When determining the effectiveness of noise mitigation measures, the standards may be applied on the receptor side of noise barriers or other property line noise mitigation measures.

Source: Stanislaus County General Plan, Noise Element, Table 3-1

Lastly, the Stanislaus County Noise Element requires evaluation of mitigation measures for projects that would cause the \( L_{dn} \) at noise-sensitive uses to increase by 3 dBA or more and exceed the "normally acceptable" level, cause the \( L_{dn} \) at noise-sensitive uses to increase 5 dBA or more and remain "normally acceptable," or cause new noise levels to exceed the noise ordinance limits (Policy Three, Implementation Measure 1).

### 3.3.2 Stanislaus County Municipal Code

Noise generating sources in Stanislaus County are also regulated under the Municipal Code, Chapter 10.46 (Noise Control). Property line and construction noise limits are established in this ordinance. Property line noise limits apply to noise generation from one property to an adjacent property with the existence of a sensitive receptor (if no receptor, an exception or variance to the standards may be appropriate). These standards do not apply to construction noise that occurs between 7 a.m. and 7 p.m. The following is the applicable portions of the Stanislaus County Noise Control Ordinance and Tables 3-3 and 3-4 highlight the applicable noise limits related to the ordinance.
Table 3-3. Exterior Noise Level Standards

<table>
<thead>
<tr>
<th>Land Use Zone</th>
<th>7 a.m. to 9:59 p.m.</th>
<th>10 p.m. to 6:59 a.m.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Noise Sensitive</td>
<td>45</td>
<td>45</td>
</tr>
<tr>
<td>Residential</td>
<td>50</td>
<td>45</td>
</tr>
<tr>
<td>Commercial</td>
<td>60</td>
<td>55</td>
</tr>
<tr>
<td>Industrial</td>
<td>75</td>
<td>75</td>
</tr>
</tbody>
</table>

Source: Stanislaus County Code, Chapter 10, Table A.

Table 3-4. Cumulative Duration Allowance Standards

<table>
<thead>
<tr>
<th>Cumulative Duration</th>
<th>Allowance Decibels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equal to or greater than 30 minutes per hour</td>
<td>Table 6 plus 0 dBA</td>
</tr>
<tr>
<td>Equal to or greater than 15 minutes per hour</td>
<td>Table 6 plus 5 dBA</td>
</tr>
<tr>
<td>Equal to or greater than 5 minutes per hour</td>
<td>Table 6 plus 10 dBA</td>
</tr>
<tr>
<td>Equal to or greater than 1 minute per hour</td>
<td>Table 6 plus 15 dBA</td>
</tr>
<tr>
<td>Less than 1 minute per hour</td>
<td>Table 6 plus 20 dBA</td>
</tr>
</tbody>
</table>

Source: Stanislaus County Code, Chapter 10, Table B.

Section 10.46.050 Exterior Noise Level Standards. It is unlawful for any person at any location within the unincorporated area of the county to create any noise or to allow the creation of any noise which causes the exterior noise level when measured at any property situated in either the incorporated or unincorporated area of the county to exceed the noise level standards as set forth below:

1. Unless otherwise provided herein, the following exterior noise level standards shall apply to all properties within the designated noise zone: of Imperial on or beyond the boundaries of the property on which the noise is produced.”

2. Exterior noise levels shall not exceed the following cumulative duration allowance standards: Pure Tone Noise, Speech and Music. The exterior noise level standards set forth in Table 6 shall be reduced by five dBA for pure tone noises, noises consisting primarily of speech or music, or reoccurring impulsive noise.

3. In the event the measured ambient noise level exceeds the applicable noise level standard above, the ambient noise level shall become the applicable exterior noise level standard.

Section 10.46.060 Specific Noise Source Standards, Subsection E. Construction Equipment. No person shall operate any construction equipment so as to cause at or beyond the property line of any property upon which a dwelling unit is located an average sound level greater than seventy-five decibels (75 dBA) between the hours of seven p.m. and seven a.m. (7:00 p.m. to 7:00 a.m.)
Section 10.46.070 Vibration. Operating or permitting the operation of any device that creates vibration that is above the vibration perception threshold of any individual at or beyond the property boundary of the source if on private property, or at one hundred fifty feet from the source if on a public space or public right-of-way is prohibited. For the purpose of this section, “vibration perception threshold” means the minimum ground-borne or structure-borne vibration motion necessary to cause a reasonable person to be aware of the vibration by such direct means as, but not limited to, sensation by touch or visual observation of moving objects, or a measured motion velocity of 0.01 in/sec over the range of one to one hundred Hertz.

Section 10.46.080 Exemptions. The following sources are exempt from the provisions of this chapter:

J. Public Entity or Public Utility Activity. This chapter shall not apply to construction or maintenance activities performed by or at the direction of any public entity or public utility.

3.3.3 CITY OF MODESTO URBAN AREA GENERAL PLAN

All development projects located within the Baseline Developed Area (and Redevelopment Area) shall be required to incorporate the following measures into the project.

a. The City of Modesto shall require construction activities to comply with the City’s noise ordinance (Title 4, Chapter 9), and noise-reducing construction practices to be implemented as conditions of approval for development projects where substantial construction-related noise impacts would be likely to occur (e.g., where construction would include extended periods of pile driving, where construction would occur over an unusually long period, or where noise-sensitive uses like homes and schools would be in the immediate vicinity, etc.). The City should consider potential mitigation measures, including, but not limited to, the following:

1. Construction equipment and vehicles should be equipped with properly operating mufflers according to the manufacturers’ recommendations. Air compressors and pneumatic equipment should be equipped with mufflers, and impact tools should be equipped with shrouds or shields.

2. Equipment that is quieter than standard equipment should be utilized.

3. Haul routes that affect the fewest number of people should be selected.

b. During City review of a proposed project consistent with the updated General Plan, the City of Modesto shall use the following guidelines to decide whether to require additional study and/or mitigation for outdoor activity areas typically defined as common outdoor recreational areas, as discussed below:

1. Single-family Residential uses: the noise would exceed 65 dBA, Ldn at outdoor activity areas. Outdoor activity areas for single-family residential uses are defined as backyards.

2. Other proposed uses: the noise/land compatibility guidelines (i.e., those noise levels that are “conditionally acceptable,” “normally unacceptable,” or “clearly unacceptable”) shown on Table VII-2. For multi-family residential uses, the exterior noise level standard shall be
applied at the common outdoor recreation area, such as pools, play areas, or tennis courts. Where such areas are not provided in multi-family residential uses, the standards shall be applied at individual patios and balconies of the development. Outdoor activity areas of transient lodging facilities include swimming pool and picnic areas.

c. For new single-family residential development within the 65 dBA, Ldn contour, new multifamily residential development within the 65 dBA Ldn contour (Figure VII-2), and other land uses located within the "Normally Acceptable" contour distances indicated in Table VII-2 and Figure VII-2, the City of Modesto shall require developers to demonstrate that the proposed development will incorporate measures to reduce noise impacts to a less-than significant level, as follows:

1. Incorporate construction techniques to achieve an interior noise limit of 45 Ldn (these potential techniques are presented in CCR Title 24 standards).

2. Where feasible and consistent with General Plan policy, incorporate setbacks and/or locate less-sensitive uses between a noise source and noise-sensitive uses.

3. Provide (to the extent feasible and consistent with General Plan policy) berms, barriers, or other techniques to shield noise-sensitive uses. This policy is appropriate for more suburban, less densely populated areas of the City. More urban areas of the City would more likely require policies VII-G.3 [c.1] and [c.2], above.

d. The City of Modesto shall use the most recent noise contour map to implement the requirements of Noise Insulation Standards contained in Title 24 of the California Code of Regulations. (Title 24 applies to multi-family housing, not single-family.) Title 24 also specifies minimum values for the sound insulation afforded by interior partitions separating different dwelling units from each other and from interior common space.

e. For proposed non-residential uses, where noise mitigation is deemed necessary for new developments to meet the exterior noise land use compatibility guidelines (Table VII-2), the City of Modesto shall require developers to demonstrate that the proposed development will incorporate measures to reduce noise impacts to a less-than-significant level, as follows:

1. Where feasible and consistent with General Plan policy, incorporate setbacks and/or locate less-sensitive uses between a noise source and noise-sensitive uses.

2. Provide (to the extent feasible and consistent with General Plan policy) berms, barriers, or other techniques to shield noise-sensitive uses from noise sources.

3. Incorporate construction techniques to achieve specified interior noise limits. One source that can be used for such specifications is the Noise Control Manual for Residential Buildings (Builder's Guide) by David A. Harris (1997).

f. With road extension, widening, and upgrade projects, the City of Modesto shall implement, as feasible, techniques to minimize noise impacts on adjacent uses. Potentially available techniques may include:
1. Widened right-of-way
2. Depressed roadway alignments
3. Earthen berms or earthen/wall combination
4. Walls
5. Acoustical retrofitting to affected parties

g. In recognition of the conservative methodology used to develop the noise contours shown on Figure VII-2, builders, developers (for private development projects), and the City (for Capital projects) shall be allowed to demonstrate that detailed noise studies and/or mitigation are not necessary because future noise levels would be substantially less than depicted on Figure VII-2 due to, for example, natural shielding (e.g. from intervening topographical features or man-made structures) of a site or inapplicability of assumptions (shown on Table 3-3 of the Master Environmental Impact Report) used to develop the contours.

h. The City of Modesto shall limit trucking to specific routes, times, and speeds that minimize adverse effects to sensitive land uses such as schools and residential areas.

i. Airport and aircraft noise analysis will be conducted in accordance with the Modesto City–County Airport’s Master Plan mitigation measure in the approved plan and Federal Aviation Regulation (FAR) Part 150. Mitigation will be required for new construction as necessary to meet the noise compatibility standards of the UAGP. As airport operations increase, mitigation will be provided to existing residential and other sensitive uses, either through operations or direct property improvements, in order to meet Title 14 Code of Federal Regulations Part 150 land use compatibility guidelines.

j. Proponents of new heliports where projected noise impacts from helicopter operations would exceed 65 Ldn at the nearest residential uses should utilize the latest FAA helicopter modeling tools and noise assessment criteria.

3.3.4 CITY OF MODESTO CODE OF ORDINANCES

ARTICLE 1. - GENERAL NOISE REGULATIONS

4-9.101 - Declaration of Policy.

It is hereby declared to be the policy of the City of Modesto that the peace, health, safety, and welfare of its citizens require protection from loud and raucous noises from any and all sources in the community.

(Added by Ord. 2752-C.S., § 1, effective 3-27-91)

4-9.102 - Prohibited Generally.

It shall be unlawful for any person to willfully or knowingly make, continue, or cause to be made or continued any loud and raucous noise.
The term "loud and raucous noise" shall mean any sound which, because of its volume level, duration, or character, annoys, disturbs, injures, or endangers the comfort, health, peace, or safety of a reasonable person of ordinary sensibility within the limits of the City of Modesto.

The term "loud and raucous noise" specifically includes, but is not limited to, the kinds of noise generated by the activities enumerated in Section 4-9.103. The term "loud and raucous noise" specifically excludes the kinds of noise generated by the activities described in Section 4-9.104.

For any kind of noise not enumerated in Section 4-9.103, the factors which may be considered in determining whether a violation of the provisions of this section exists may include, but shall not be limited to, the following:

(a) The volume of the noise;
(b) Whether the nature of the noise is usual or unusual;
(c) Whether the origin of the noise is natural or unnatural;
(d) The volume and intensity of the background noise, if any;
(e) The proximity of the noise to residential sleeping facilities;
(f) The nature and zoning of the area within which the noise emanates;
(g) The density of the inhabitants of the area within which the noise emanates;
(h) The time of the day or night the noise occurs;
(i) The day of the week the noise occurs;
(j) The duration of the noise;
(k) Whether the noise is recurrent, intermittent, or constant; and
(l) Whether the noise is produced by a commercial or noncommercial activity.

(Added by Ord. 2752-C.S., § 1, effective 3-27-91)

4-9.103 - Enumeration.

The following specific acts, subject to the exemptions provided in Section 4-9.104, are declared to be public nuisances in violation of Section 4-9.102, namely:

(a) The loud and raucous discharge into the open air of the steam of any steam equipment or exhaust from any stationary internal-combustion engine.

(b) The loud and raucous operation or use of any of the following before 7:00 a.m. or after 9:00 p.m. daily (except Saturday and Sunday and State or federal holidays, when the prohibited time shall be before 9:00 a.m. and after 9:00 p.m.):
(1) A hammer, or any other device or implement used to pound or strike an object.

(2) An impact wrench, or other tool or equipment powered by compressed air.

(3) A hand-powered saw.

(4) Any tool or piece of equipment powered by an internal-combustion engine such as, but not limited to, chain saw, backpack blower, and lawn mower. Except as included in subsection (a)(6) below, motor vehicles, powered by an internal-combustion engine and subject to the California Vehicle Code, are excluded from this prohibition.

(5) Any electrically powered (whether by alternating current electricity or by direct current electricity) tool or piece of equipment used for cutting, drilling, or shaping wood, plastic, metal, or other materials or objects, such as, but not limited to, a saw, drill, lathe, or router.

(6) Any of the following: heavy equipment (such as but not limited to bulldozer, steam shovel, road grader, back hoe), ground drilling and boring equipment (such as but not limited to derrick or dredge), hydraulic crane and boom equipment, portable power generator or pump, pavement equipment (such as but not limited to pneumatic hammer, pavement breaker, tamper, compacting equipment), pile-driving equipment, vibrating roller, sand blaster, gunite machine, trencher, concrete truck, and hot kettle pump.

(7) Any construction, demolition, excavation, erection, alteration, or repair activity.

In the case of urgent necessity and in the interest of public health and safety, the Chief Building Official may issue a permit for exemption from the requirements within subsection (b) of this section. Such period shall not exceed three (3) working days in length while the emergency continues but may be renewed for successive periods of three (3) days or less while the emergency continues. The Chief Building Official may limit such permit as to time of use and/or permitted action, depending upon the nature of the emergency and the type of action requested.

(e) The loud and raucous use or operation of any radio, amplifier, phonograph, stereo, compact disc or tape player, loudspeaker, bullhorn, megaphone, or other device for the producing or reproducing of sound.

(d) Loud and raucous yelling, shouting, talking, whistling, or singing between the hours of 10:00 p.m. and 7:00 a.m. on any day.

(e) The owning, possessing, controlling, harboring, or keeping of any dog, cat, or other animal or fowl which by howling, yelping, whining, barking, or otherwise causes a loud and raucous noise.

(f) The loud and raucous use of any drum, guitar, horn, or other musical instrument or device.

(Added by Ord. 2752-C.S., § 1, effective 3-27-91)
4-9.104 - Exemptions.

The term "loud and raucous noise" as used in this chapter does not include noise or sound generated by the following:

(a) Cries for emergency assistance and warning calls.

(b) Radios, sirens, horns, and bells on police, fire, and other emergency response vehicles.

(c) Parades, fireworks displays, and other special events for which a permit has been obtained from the City are exempted provided there is compliance with all conditions which have been noted in writing on the permit. That loud and raucous noise produced as a result of noncompliance with any condition specified on the permit is not exempted from the requirements of this chapter.

(d) Activities on or in publicly owned property and facilities, or by public employees while in the authorized discharge of their responsibilities, are exempt provided that such activities have been authorized by the owner of such property or facilities or its agent or by the employing authority.

(e) Religious worship activities, including but not limited to, bells, organs, singing, and preaching.

(f) Locomotives and other railroad equipment, and aircraft.

(g) The collection of solid waste is exempted to the extent that the noise of such collection is regulated by Section 5-5.15 (Collection Equipment). That noise not covered by Section 5-5.15 is not exempted from the requirements of this chapter.

(Added by Ord. 2752-C.S., § 1, effective 3-27-91)

4-9.105 - Persons Responsible.

Any person, owner, agent, manager, or supervisor in charge of operating, ordering, directing, or allowing the operation or maintenance of any device, object, machine, or animal creating a noise as prohibited in this chapter, shall be deemed guilty of violating this chapter.

(Added by Ord. 2752-C.S., § 1, effective 3-27-91)
4 EXISTING CONDITIONS

4.1 EXISTING NOISE- AND VIBRATION-SENSITIVE RECEPTORS

Sensitive land uses generally include those uses where exposure to noise and vibration would result in adverse effects, as well as uses where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both noise levels (interior and exterior) and vibration levels. Other sensitive land uses include schools, hospitals, convalescent facilities, parks, hotels, places of worship, libraries, and other uses where low noise and vibration levels are essential.

The land uses in the immediate vicinity of the project sites include residential and agricultural. Existing nearby sensitive receptors include rural residential dwellings south of Ladd Road adjacent to project Site A and single subdivision residential dwellings located west of McHenry Avenue, adjacent to project Site B. Refer to Exhibit 4-1 for the general locations of existing sensitive receptors with respect to the project sites.

4.2 EXISTING NOISE AND VIBRATION SOURCES

The existing dominant noise source in the vicinity of the project sites are influenced by surface transportation noise emanating from roadway vehicle traffic on Ladd Road and McHenry Avenue. Noise from agricultural uses adjacent to both project sites, in addition to noise from outdoor activities (e.g., people talking, dogs barking, operation of landscaping and agricultural equipment) also contributes to the existing noise environment. Refer to Exhibit 4-1 for general locations of existing land uses and their respective location to noise sources (i.e., Ladd Road and McHenry Avenue).

4.2.1 ROADWAY VEHICLE TRAFFIC

As mentioned above, one of the noise sources in the study area is roadway vehicle traffic along McHenry Avenue and Ladd Road. Existing vehicle traffic noise levels were modeled using the Federal Highway Administration (FHWA) Traffic Noise Model and traffic data obtained from the traffic counts in Google Earth. Additional input data included day/night percentages of autos, medium and heavy trucks, vehicle speeds, ground attenuation factors, and roadway widths. Table 4-1 summarizes the modeled hourly $L_{eq}$ noise levels at 100 feet from the roadway centerline and distance from the roadway centerline to the 60-, 65-, and 70-dBA $L_{eq}$ contours for existing average daily traffic volume.

4.3 AMBIENT-NOISE SURVEY

An ambient-noise survey was conducted September 23-29, 2015, to document the existing noise conditions at various locations in the vicinity of the project sites. The 24-hour continuous long-term noise-level measurements were taken in accordance with the American National Standards Institute’s acoustic standards at two locations, one at Site A in the front yard of 816 Ladd Road and one at Site B near the pool in the backyard of 117 Stewart Road. Short term 15 minute ambient noise measurements were also conducted at various locations near both sites. Instrumentation consisted of a Larson Davis Laboratories (LDL) Model 820 and Model 824 precision integrating sound-level meter. The systems were calibrated before and after use with a LDL CAL200 acoustical calibrator to ensure that measurements would be accurate, (refer to Exhibits 4-1 and 4-2 for ambient-noise monitoring locations).
Exhibit 4-1. Site A, Ambient Noise Monitoring Locations

Source: Data adapted by AECOM 2015
Exhibit 4-2. Site B, Ambient Noise Monitoring Locations

Source: Data adapted by AECOM 2015
Table 4-1. Modeled Noise Levels for Existing Traffic in the Project Area

<table>
<thead>
<tr>
<th>Roadway</th>
<th>From</th>
<th>To</th>
<th>L_{dn} 100 Feet from Roadway Centerline (dBA)</th>
<th>Distance (feet) from Roadway Centerline to L_{dn} Contour</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ladd Road</td>
<td>Tully Road</td>
<td>Saint John Road</td>
<td>70 dBA</td>
<td>70 dBA 65 dBA 60 dBA</td>
</tr>
<tr>
<td></td>
<td>Saint John Road</td>
<td>McHenry Avenue</td>
<td>66 dBA</td>
<td>66 dBA 65 dBA 60 dBA</td>
</tr>
<tr>
<td>McHenry Avenue</td>
<td>Ladd Road</td>
<td>Stewart Road</td>
<td>67 dBA</td>
<td>67 dBA 65 dBA 60 dBA</td>
</tr>
<tr>
<td></td>
<td>Stewart Road</td>
<td>Hogue Road</td>
<td>67 dBA</td>
<td>67 dBA 65 dBA 60 dBA</td>
</tr>
<tr>
<td>Stewart Road</td>
<td>McHenry Avenue</td>
<td>Del Cielo Way</td>
<td>56 dBA</td>
<td>56 dBA 65 dBA 60 dBA</td>
</tr>
</tbody>
</table>

Notes: dBA = A-weighted decibels; L_{dn} = day-night average noise level.
Source: Modeled by AECOM in 2015

Atmospheric conditions were observed during long-term noise-level measurement sessions. Wind speeds typically ranged from 3 to 12 miles per hour. Temperatures averaged from 62°F to 89°F, with average humidity of 46 percent. These atmospheric conditions were verified using historical data from the Weather Underground website (www.wunderground.com).

The L_{dn}, L_{90}, and values for each ambient-noise measurement location are summarized in Table 4-2. Refer to Appendix A for a complete listing of hourly noise levels and modeled L_{dn} for each noise measurement location. Table 4-3 summarizes the short term ambient noise measurements.

The noise levels shown in Table 9 indicate medium ambient noise levels at the Site A and medium to high ambient noise levels at the Site B. The majority of the noise levels result from roadway vehicle traffic along Ladd Road and McHenry Avenue, respectively. The noise levels shown in Table 10 where utilized for calibrating the FHWA Traffic Noise Model.

4.3.1 METHODS AND ASSUMPTIONS

Project details and observations during on-site noise monitoring were used to determine potential locations of sensitive receptors and potential noise generating land uses on the project sites. Noise-sensitive land uses and major noise sources near the project sites were identified based on existing documentation (e.g., equipment noise levels and attenuation rates) and site reconnaissance data.

To assess the impacts of potential short-term construction noise on sensitive receptors, the sensitive receptors and their relative exposure to the impacts (considering intervening building façades and distance) were identified to assess the impacts of potential short-term construction noise on sensitive receptors. The construction noise that would be generated by the proposed project was predicted by using the Federal Transit Noise and Vibration Impact Assessment methodology (FTA 2006). The emission noise levels referenced and the usage factors were based on the FHWA Roadway Construction Noise Model. The noise levels of the specific construction equipment that would be used and the resulting noise levels where sensitive receptors are located were calculated.
Table 4-2. Summary of Measured Long Term 24-hour Ambient Noise Survey Levels

<table>
<thead>
<tr>
<th>Date</th>
<th>Daytime (7 a.m.-10 p.m.)</th>
<th>Nighttime (10 p.m.-7 a.m.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>L&lt;sub&gt;dn&lt;/sub&gt;</td>
<td>L&lt;sub&gt;eq&lt;/sub&gt;</td>
</tr>
<tr>
<td>Site A - Front yard of 816 Ladd Road</td>
<td></td>
<td></td>
</tr>
<tr>
<td>September 23-24, 2015</td>
<td>56</td>
<td>51</td>
</tr>
<tr>
<td>September 24-25, 2015</td>
<td>57</td>
<td>51</td>
</tr>
<tr>
<td>September 25-26 2015</td>
<td>54</td>
<td>50</td>
</tr>
<tr>
<td>September 26-27, 2015</td>
<td>55</td>
<td>52</td>
</tr>
<tr>
<td>September 27-28, 2015</td>
<td>55</td>
<td>50</td>
</tr>
<tr>
<td>September 28-29, 2015</td>
<td>54</td>
<td>50</td>
</tr>
<tr>
<td>September 29-30, 2015</td>
<td>54</td>
<td>50</td>
</tr>
<tr>
<td>Site B - Backyard of 117 Stewart Road</td>
<td></td>
<td></td>
</tr>
<tr>
<td>September 23-24, 2015</td>
<td>62</td>
<td>58</td>
</tr>
<tr>
<td>September 24-25, 2015</td>
<td>63</td>
<td>58</td>
</tr>
<tr>
<td>September 25-26 2015</td>
<td>63</td>
<td>58</td>
</tr>
<tr>
<td>September 26-27, 2015</td>
<td>62</td>
<td>57</td>
</tr>
<tr>
<td>September 27-28, 2015</td>
<td>62</td>
<td>58</td>
</tr>
<tr>
<td>September 28-29, 2015</td>
<td>62</td>
<td>58</td>
</tr>
<tr>
<td>September 29-30, 2015</td>
<td>62</td>
<td>58</td>
</tr>
</tbody>
</table>

Monitoring locations correspond to those depicted in Exhibits 4-1, and 4-2.

Notes: dB = A-weighted decibels; L<sub>dn</sub> = day-night average noise level; L<sub>eq</sub> = the equivalent hourly average noise level; L<sub>max</sub> = maximum noise level.

Source: Data collected by AECOM, 2015

Table 4-3. Short-Term Ambient Noise Levels Monitored during the Daytime

<table>
<thead>
<tr>
<th>Site</th>
<th>Location</th>
<th>Date/Time</th>
<th>Noise Sources</th>
<th>A-Weighted Sound Level (dBA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site A</td>
<td>Backyard of 706 Ladd Road</td>
<td>September 30, 2015</td>
<td>Traffic on Ladd Road</td>
<td>L&lt;sub&gt;eq&lt;/sub&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3:58-4:13 pm</td>
<td></td>
<td>61</td>
</tr>
<tr>
<td></td>
<td></td>
<td>September 30, 2015</td>
<td>Traffic on Ladd Road</td>
<td>68</td>
</tr>
<tr>
<td>Site B</td>
<td>7008 Hartley Court (vacant land)</td>
<td>September 30, 2015</td>
<td>Traffic on McHenry Avenue</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4:38-4:52 pm</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Front yard of 201 Stewart Road</td>
<td>September 30, 2015</td>
<td>Traffic on McHenry Avenue</td>
<td>62</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4:56-5:11 pm</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Monitoring locations correspond to those depicted in Exhibits 5, and 6.

Notes: dB = A-weighted decibels; L<sub>eq</sub> = the equivalent hourly average noise level; L<sub>max</sub> = maximum noise level.

Source: Data collected by AECOM in 2015
Traffic noise modeling was conducted based on average daily traffic volumes obtained from the traffic counts in Google Earth. The FHWA Highway Traffic Noise Prediction Model (FHWA RD 77-108) was used to calculate traffic noise levels along affected roadways based on the trip distribution estimates from the field counted traffic volumes. The project’s contribution to the existing traffic noise levels along area roadways was determined by comparing the predicted noise levels at a reference distance of 100 feet from the roadway centerline for the cumulative conditions with and without project-generated traffic.

Potential noise impacts from long-term (operation-related) stationary sources were assessed based on existing documentation (e.g., AEC noise impact assessment of Well #315) and site reconnaissance data. This analysis also includes an evaluation of the proposed noise-generating uses that could affect noise-sensitive receptors near the project site.

To assess the land use compatibility of the proposed project with on-site noise levels, predicted operational noise contours were used to determine whether development of the proposed project would exceed the applicable noise criteria.

Groundborne vibration impacts were qualitatively assessed based on existing documentation (e.g., vibration levels produced by specific construction equipment operations) and the distance of sensitive receptors from the given source.

The standards of significance applied in this analysis address the exterior noise standards established by Stanislaus County and/or the City of Modesto. Unless otherwise stated, standards for interior noise levels would not be exceeded if exterior noise-level standards are achieved.

### 4.3.2 Criteria for Determining Significance of Effects

The significance criteria for this analysis are based on the environmental checklist in Appendix G of the State CEQA Guidelines and applicable jurisdictional noise standards. The proposed project under consideration was determined to result in a significant impact related to noise if it would:

- Expose persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies
- Result in a substantial temporary, periodic or permanent increase in ambient noise levels in the project vicinity above levels existing without the project;
- Exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels;
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels; or

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For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels.

The proposed project sites (Sites A and B) would not be located within an airport compatibility land use plan with an adopted 60 dBA $L_{an}$ noise contour. The project would not result in locating new receptors or workers on the project site to excessive airport noise levels. Therefore, these issues are not evaluated further.

The following considerations apply to the first four significance thresholds:

- **Noise impacts from operation of project facilities**: For all affected noise sensitive uses, noise that would be generated by operation of project facilities would be significant if it would cause the overall exterior noise level to exceed the “normally acceptable” noise standard compatible with exterior land uses (i.e., 50 dBA $L_{eq}$ daytime or 45 dBA $L_{eq}$ nighttime at the noise sensitive receptor property line), or would result in an increase of ambient noise levels by 5 dBA.

- **Noise impacts from increased daily traffic**: For all affected noise sensitive uses, noise that would be generated by an increase in daily traffic volumes caused by the project would be significant if it would cause the overall exterior noise level to exceed the “normally acceptable” noise standard compatible with exterior land uses (i.e., 60 dBA $L_{eq}$/CNEL at outdoor activity areas), exceed the interior noise standard (i.e., 45 dBA $L_{eq}$/CNEL in any inhabitable room), or would result in an increase of ambient noise levels by 5 dBA.

- **Exposure of sensitive receptors to, or generation of, excessive vibration levels**: Short- and long-term vibration impacts would be significant if project construction or operation would result in the exposure of sensitive receptors to, or would generate, vibration levels that exceed Caltrans’ recommended standard of 0.2 in/sec PPV regarding the prevention of structural damage for normal buildings or the FTA’s maximum acceptable vibration standard of 80 VdB regarding human response for residential uses (i.e., annoyance) at any nearby existing sensitive land uses.

- **Temporary, short-term noise impacts from construction**: Temporary, short-term noise impacts caused by construction would be significant if construction-generated noise levels exceed the Stanislaus County Municipal Code Specific Noise Source Standards Subsection E (Section 10.46.060, “Construction Equipment”) and the City of Modesto Code Ordinances (Section 4-9.103, “Enumeration”). Project-related construction noise at exterior uses of residential properties (buildings) in the project vicinity would be considered significant if it would exceed 75 dBA during weekday daytime hours of 7 p.m. to 7 a.m.

Generally, a project may have a significant effect on the environment if it would substantially increase the ambient noise levels for adjoining areas or expose people to severe noise levels. In practice, more specific professional standards have been implemented. These standards state that a noise impact would be significant if it would generate noise that would conflict with local planning criteria or ordinances or substantially increase noise levels at noise-sensitive land uses.

For the proposed project, the significance of anticipated noise effects is based on a comparison between predicted noise levels and noise criteria defined by Stanislaus County (Site A) or the City of Modesto (Site B). For this project, noise impacts would be significant if existing or proposed noise-sensitive land uses would be exposed to noise levels in excess of the County of Stanislaus General Plan Noise Element, Stanislaus County Municipal Code standards, City of Modesto General Plan Noise Element, or City of Modesto Noise Ordinance standards as
described above (see “Regulatory Setting”), or if implementing the proposed project would result in increasing ambient noise levels at noise sensitive land uses in excess of those described above.

4.4 IMPACTS AND MITIGATION DISCUSSION

4.4.1 OPERATIONAL NOISE

Would the project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

Long-term operation of the proposed project would result in the operation of new noise-generating stationary equipment. The proposed project would include the long-term operation of water well and pump, a stand-by generator, and a booster pump station. Pumping will vary throughout the year depending upon need, based upon system pressure or tank level, ranging from as much as 20 hours per day during the summer months to as few as two hours per day in the winter. Pumping is expected to occur for an annual average of eight hours per day.

4.4.2 SITE A: LADD ROAD

Site A, located on Ladd Road, would encompass approximately four acres. The project facilities at Site A would consist of an above ground water storage tank, water well and pump, a stand-by generator, and a booster pump station. The pump station building will house the production well, booster pumps, disinfection equipment, ancillary valves and flow meters, and electrical equipment. The masonry block building will include three separate rooms: a pump station room, an electrical room, and calcium hypochlorite room.

The building would have various sound attenuation features including wall panels, fans, and louvers to reduce noise related to removing heat generated within the pump and electrical rooms. Metal wall panels would achieve a noise reduction coefficient of approximately 0.90. The pump station building would be ventilated by one side-wall mounted exhaust fan with a capacity of 4,500 cubic feet per minute. Exhaust fans would have the lowest possible exhaust fan noise measurement unit. Ducting in the building would be designed to minimize noise. The intake and exhaust pump station louvers would be sized to minimize air flow noise.

Production well pumping will vary throughout the year depending upon need, based upon system pressure or tank level, ranging from as much as 20 hours per day during the summer months to as few as two hours per day in the winter. Pumping is expected to occur for an annual average of eight hours per day. The proposed project includes up to four 60- hp) electric pumps. Two pumps would be on-duty, one is for standby, and the fourth pump is for future buildout. The well and booster pumps would be housed inside the pump station building.

A standby diesel generator and an above-ground diesel storage tank would be installed on a 10 foot by 20 foot concrete pad within the project site. The standby generator would be used as an alternate power source to the proposed project facilities. The generator would be equipped with critical grade mufflers for the exhaust system and level 2 sound housing in order to achieve an approximate sound level of 75 dB within 30 feet of the unit.

Based on the proposed site plan for Site A, operational noise would be reduced through site design, specifically building materials, surface treatments and acoustically designed louvers, to achieve and not exceed the City’s noise thresholds. Project related operation noise at Site A would be considered exempt from Stanislaus County noise regulations because the project is a public utility. However, with the incorporated site design features
operational noise would comply with the County’s Municipal Code and the City’s Code of Ordinances noise standards. Thus, the project would not result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. As a result, project generated operational noise levels for Site A would be less than significant.

4.4.3 SITE B: MCHENRY AVENUE

Site B would encompass approximately 0.4 acres. The facilities at this site would consist of a production well and pump, stand-by generator, disinfection facilities, connecting lines to the City’s existing distribution system down McHenry Avenue, and space for a future treatment unit and treatment filters. These facilities would be fully enclosed by a 12-foot tall concrete block wall with a 24-foot wide gate; there would be no roof over these facilities. Equipment at the site would consist of an above ground pump motor, engine generator, controls, chlorinator, and associated plumbing and equipment.

The production well and pump, stand-by generator are the two main sources of noise associated with the well. The analysis assumed an above-ground pump. Noise levels were measured at an existing well site where similar equipment to the proposed Del Rio well would be installed. Well 62 at Freedom Park uses a Goulds (ITT Corporation) pump with a 200 HP Emerson motor and a 300kW standby diesel generator inside a Quiet Site Level II enclosure by Cummins. The Cummins generator measured 71 dBA at a distance of 23 feet diagonally from the air intake of the unit. The pump measured 72 dBA at a distance of 18 feet from the motor (70 dBA at 23 feet), with a sound spectrum in the higher frequencies. The generator dominated the existing background noise levels, while the pump-only operational noise was much less noticeable, raising noise levels 1 dBA. Subjectively, pump “whine” noise was barely audible over background noise levels.

Based on the proposed site plan for Site B, the nearest adjacent residential property, 117 Stewart Road, is approximately 30 feet west of the proposed location of the pump motor. The topography of the site is such that the pump, generator, and 12-foot-tall block wall would be at a ground level, 7 feet below the grade of the house pad for the residence to the west. It was assumed that the ground level on the residential property is 7 feet above the pump grade at a distance of approximately 20 feet from the property line. Noise levels are predicted to reach 48 dBA within the residential backyard of 117 Stewart Road based on the 200HP well pump data described above, and in consideration of the proposed 12-foot tall wall around the well facility. Noise levels are expected to drop down to 39 dBA at the nearest facade of the existing residence. Using an identical generator set and enclosure (300kW standby diesel generator inside a Quiet Site Level II enclosure by Cummins), unmitigated sound levels are expected to reach 58 dBA within the adjacent residential property at Site B.

These noise sources could be considered exempt from Stanislaus County noise regulations because the project is a public utility. However, local noise regulations were evaluated to determine the significance of potential noise impacts.

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The pump operating during nighttime hours is expected to exceed the County’s noise standard of 45 dBA. Daytime operation of the pump is predicted to be less than the County’s 50 to 55 dBA noise standard. Subjectively, the pump would be barely audible over background sources during daytime hours with the source becoming more audible as background levels drop during nighttime hours. Routine testing of the generator set would occur one to two times per month. During these tests, sound levels would technically exceed the local noise regulations. The generator is exempt from noise regulations when providing emergency power to the pump station and during short term testing periods.

Operational noise associated with the proposed project is predicted to dominate the existing noise environment when background levels are low (nighttime) at the adjacent receptor to the west of the project site. Operational activities could be considered exempt from noise standards when operating as a public utility or for emergency purposes. However, there is the potential for perceived noise impacts at 117 Stewart Road residence west of the proposed project site. Thus, the project would result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. As a result, project generated operational noise levels for Site B would be less than significant with mitigation incorporated.

**Mitigation Measures for Site B:**

- Project specifications should include generator sound level limits similar to those used for the Freedom well site (i.e., 73 dBA at 23 feet).
- Noise control for the generator set will include a sound attenuated enclosure and the equipment yard sound wall. No additional sound reduction is recommended for the generator set.

**Equipment Yard Sound Wall Details**

- Construct a sound wall around the equipment within the yard.
- The wall shall weigh a minimum of 4 lbs/sq.ft. Painted and sealed concrete block easily meets the weight requirement.
- The sound wall must be continuous along its length and width with no gaps in the construction, including at the ground. Slope the equipment yard pad such that weeping holes are only needed on the north and east sides of the structure.
- The wall height on the west and western half of the south sides shall be increased to a minimum of 13 feet above grade.

**Generator Set Sound Enclosure Details**

- Install a modular sound wall with an optional removable roof adjacent to the pump.
- Install a sound absorptive modular barrier system along the west edge of the pump base to a height of at least 10 feet above grade. The barrier system would wrap around the north and south sides of the pump to create a three-walled system with integrated sound absorption. In general, acoustical barriers perform best when close to the noise source. Acceptable products include the following or an approved equal: Kinetics Noiseblock
Barrier Panel System, Noise Barriers LLC QuietLine Barrier Walls, Sound Fighter Systems LSE.

- Include an insulated sheet metal shroud
- Construct a sheet metal shroud to block the line of sight to the motor ventilation openings.
- Construction materials would likely include exterior grade sheet metal used for HVAC ducts and acoustical duct liner. Additional details and requirements would be developed if this option is used.
- Care must be taken to retain adequate ventilation for the pump motor.
- Optional: For additional noise reduction, install a removable solid roof system over the top of the pump motor. The removable roof must weigh a minimum of 3 lbs/sq.ft. and have no holes or gaps on the exterior surface. Neoprene gaskets should be used to provide a seal against the supporting walls.

- Routine testing should be performed during daytime hours, between 10 am and 5 pm, when background sound levels are highest to minimize potential noise impacts.

Additional noise reduction to meet the County's nighttime noise threshold of 45 dBA is possible for the pump through a variety of options:

- A submersible pump would place the motor under water and virtually eliminate the sound source.

- Reducing sound levels for the proposed above-ground pump motor can be accomplished by increasing the height of the equipment yard sound wall above 12 feet. Based on the analysis, increasing the equipment yard wall height to 13 feet would result in an additional 2 dBA of attenuation and a predicted sound level of 45 dBA. A 14-foot-tall wall could reduce sound levels by an additional 1 dBA.

- Sound levels could be reduced by constructing a barrier adjacent to the motor with an optional removable roof barrier directly over the motor. Placing a secondary barrier directly adjacent to the pump motor on the west side with an optional removable roof structure would be much more effective. The detachable roof would still provide access to the motor for servicing and removal.

- Another option for pump noise control would be to construct an insulated sheet metal shroud around the motor and shaft while still allowing the required air circulation through the motor. Sound radiates primarily from the motor openings and at the base of the motor where the shaft is visible. The shroud would divert sound energy from these openings through a path lined with sound absorbing material. Care must be taken using this method to ensure adequate ventilation is provided and motor warranties are not voided.
The proposed project, with the implementation of the above mitigation measures, would ensure that operational
associated with the proposed project would comply with the County’s Municipal Code and the City’s Code of
Ordinances noise standards.

4.4.4 CONSTRUCTION AND OPERATION GENERATED TRAFFIC

Would the project result in a substantial permanent increase in ambient traffic noise levels in the project vicinity above levels
existing without the project?

Implementation of the proposed project would result in an increase of traffic volumes due to the addition of
construction-generated traffic and long term operation. Construction-generated traffic on the local roadway
network was analyzed based on the two material supply scenarios presented in the traffic section. As such, all
materials would be transported over designated haul routes on the local roadway network, thus increasing traffic
volumes along affected roadway segments. Long term operation related traffic volume increases would be
considerably less than construction related traffic volume increases.

To examine the effect of project-generated traffic increases, traffic noise levels associated with the proposed
project were calculated for roadway segments in the project study area using the FHWA Highway Noise
Prediction Model (FHWA-RD-77-108). Traffic noise levels were modeled under existing conditions, with and
without implementation of the proposed project’s construction traffic and operational traffic. Average Daily
Traffic (ADT) volumes and the distribution thereof were obtained from the traffic counts in Google Earth.
Vehicle speeds and truck volumes on local area roadways were determined based on field observations and
vehicle counts conducted. Table 4-4 summarizes the modeled traffic noise levels at 100 feet from the centerline of
affected roadway segments. Additional input data included day/night percentages of autos, medium and heavy
trucks, vehicle speeds, ground attenuation factors, and roadway widths. Refer to Appendix B for complete
modeling inputs and results.

<table>
<thead>
<tr>
<th>Roadway</th>
<th>Segment From To</th>
<th>Ldn at 100 Feet, dBA</th>
<th>No Project</th>
<th>Plus Construction</th>
<th>Net Change</th>
<th>Plus Project</th>
<th>Net Change</th>
<th>Significant Impact?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ladd Road</td>
<td>Tully Road to Saint John Road</td>
<td>67</td>
<td>67</td>
<td>1</td>
<td>68</td>
<td>1</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Saint John Road to McHenry Avenue</td>
<td>66</td>
<td>67</td>
<td>1</td>
<td>67</td>
<td>1</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>McHenry Road</td>
<td>Ladd Road to Stewart Road</td>
<td>67</td>
<td>67</td>
<td>1</td>
<td>67</td>
<td>1</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Stewart Road to Hogue Road</td>
<td>67</td>
<td>67</td>
<td>1</td>
<td>67</td>
<td>1</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Stewart Road</td>
<td>McHenry Avenue to Del Cielo Way</td>
<td>56</td>
<td>58</td>
<td>2</td>
<td>58</td>
<td>2</td>
<td>No</td>
<td></td>
</tr>
</tbody>
</table>

Notes: dB = A-weighted decibels; Ldn = day-night average noise level; U.S. 50 = U.S. Highway 50.
Traffic noise levels are predicted at a standard distance of 100 feet from the roadway centerline and do not account for shielding from existing
noise barriers or intervening structures. Traffic noise levels may vary depending on actual setback distances and localized shielding.
Source: Data modeled by AECOM in 2015, using Average Daily Traffic (ADT) Volumes in Google Earth.

The modeling conducted shows that implementing the proposed project would not result in substantial traffic
noise level increases compared to noise levels without the project. Based on volume, trip generation and
distribution data, future traffic noise levels with and without the project, project generated traffic noise increases
would range from less than +0 dBA to +2 dBA $L_{day}$ as shown in Table 4-4. A project-related noise level increase of +5 dBA or greater would be significant where ambient noise levels are less than 60 dBA $L_{day}/CNE$L; +3 dBA where ambient noise levels exceed 60 dBA $L_{day}/CNE$L. Thus, short- and long-term noise levels from project-generated traffic source increases would not result in a substantial permanent increase in ambient noise levels (+3 dBA or greater) or exceed applicable transportation noise standards at sensitive receptors. As a result, project generated construction traffic noise levels would be less-than-significant. No mitigation is required.

### 4.4.5 CONSTRUCTION VIBRATION

Would the project exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels

Construction vibration would occur during construction of the proposed project during equipment operation on the project site and during the transport of construction equipment and materials to and from the site. New development should minimize vibration impacts to adjacent uses during demolition and construction based on Caltrans vibration standards. For sensitive historic structures, a vibration limit of 0.08 in/sec PPV (peak particle velocity) will be used to minimize the potential for cosmetic damage to a building. A vibration limit of 0.20 in/sec PPV will be used to minimize the potential for cosmetic damage at buildings of normal conventional construction. A vibration level of 85 VdB will be used to evaluate human response to groundborne vibration levels, as shown in Table 4-3 above. Table 4-5 shows the results of the construction vibration related to the proposed project.

<table>
<thead>
<tr>
<th>Receiver</th>
<th>Location</th>
<th>Shortest Distance (ft) Between Noise Sensitive Uses and Proposed Construction Areas</th>
<th>Project, Vibration Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>LT-01</td>
<td>Front Yard of 816 Ladd Road</td>
<td>130</td>
<td>0.008</td>
</tr>
<tr>
<td>LT-02</td>
<td>By the Pool in Backyard of 117 Stewart Road</td>
<td>50</td>
<td>0.031</td>
</tr>
<tr>
<td>ST-01</td>
<td>Backyard of 706 Ladd Road</td>
<td>100</td>
<td>0.011</td>
</tr>
<tr>
<td>ST-02</td>
<td>Behind 625 Ladd Road</td>
<td>500</td>
<td>0.001</td>
</tr>
<tr>
<td>ST-03</td>
<td>7008 Hartley Court (Vacant Land)</td>
<td>100</td>
<td>0.011</td>
</tr>
<tr>
<td>ST-04</td>
<td>Front Yard of 201 Stewart Road</td>
<td>300</td>
<td>0.002</td>
</tr>
</tbody>
</table>

Notes:
1. Where PPV is the peak particle velocity.
2. Where $L_v$ is the velocity level in decibels and based on the root mean square velocity amplitude.

Source: FTA 2006

Operation of heavy duty construction equipment would produce ground borne vibrations measuring approximately 87 VdB (0.089 in/sec PPV) at a distance of 25 feet (FTA 2006; Caltrans 2004). The distance between proposed construction activities and the closest acoustically sensitive uses would be approximately 50 feet (Table 4-5). Assuming a standard reduction of 9 VdB per doubling of distance (FTA 2006), the project-related construction vibration level at the nearest receivers would be approximately 78 VdB (0.03 in/sec PPV). This level of vibration is well below the Caltrans’s vibration standards of 0.08 in/sec PPV residential buildings. Thus, the project would not expose persons to, or generation of, excessive groundborne vibration or groundborne noise levels. As a result, project generated vibration levels would be less than significant.
4.4.6 CONSTRUCTION NOISE

Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;

Construction and maintenance activities for the proposed project would generate short-term, temporary, and intermittent noise at adjacent noise-sensitive receptors. Noise levels generated during construction and maintenance would fluctuate depending on the particular type, number, and duration of use of various pieces of equipment. Noise from construction and maintenance activities is typically considered point-source noise. Noise levels drop off at a rate of 6 dBA per doubling of distance over hard site surfaces such as streets and parking lots, and approximately 7.5 dBA per doubling of distance over soft site surfaces such as grass fields and open terrain with vegetation (FTA 2006).

Equipment required for construction and maintenance activities for the proposed project would likely consist of a paver, backhoe, bulldozer, tractor, well drilling equipment, and various trucks. The maximum noise levels produced by one of these types of equipment, at a distance of 50 feet and without noise controls, could range from 80 to 85 dBA $L_{max}$ (Table 4-6). Noise levels vary for individual pieces of equipment because equipment comes in different sizes and with different engines. Noise levels also vary as a function of the activity level or duty cycle. Typical construction projects, with equipment moving from one point to another, including work breaks and idle time, have long-term noise averages that are lower than many short-term noise events. In addition, because of the dynamic nature of a construction site, noise levels are calculated from the center of the activity. Using these parameters, project-related construction noise was estimated using the Federal Highway Administration (FHWA) Roadway Construction Noise Model (FHWA 2006), including simultaneous operation of multiple pieces of equipment, were modeled with the results shown in Table 4-6 (Appendix B).

Construction equipment noise levels at 50 feet would be as high as 87 dBA $L_{eq}$ during the varying construction phase activities (Table 4-6). Assuming the standard spherical spreading loss (-6 dB per doubling of distance) and the highest unmitigated construction noise level of 87 dBA $L_{eq}$ at 50 feet, the project construction noise levels are estimated to range between 67 and 87 dBA $L_{eq}$ at the nearest noise-sensitive uses to the proposed project, as shown in Table 4-7. These results represent the worst-case, conservative noise exposure because they do not consider noise attenuation associated with intervening structures and atmospheric absorption. Therefore, actual construction equipment noise levels at the nearest residences could be lower. Construction activities are not expected to occur on weekends or legal holidays, nor would nighttime work be conducted.

Table 14 shows the resulting predicted interior noise levels at the closest noise sensitive receptor could be as high as 62 dBA at residential uses to the west of the proposed project site, specifically the residence at 117 Stewart Road. The Stanislaus County Municipal Code Specific Noise Source Standards Subsection E (Section 10.46.060, “Construction Equipment”) and the City of Modesto Code Ordinances (Section 4-9.103, “Enumeration”) were used for this analysis. Project-related construction noise at exterior uses of residential properties (buildings) in the project vicinity would be considered significant if it would exceed 75 dBA during weekday daytime hours of 7 p.m. to 7 a.m. These are the most restrictive criteria established by the County and City and provide the most conservative assessment of construction noise impacts at existing noise-sensitive uses in the project vicinity.
### Table 4-6. Construction Phases, Equipment, Anticipated Duration of Use, and Calculated Noise Levels

<table>
<thead>
<tr>
<th>Phase</th>
<th>Anticipated Number and Type of Equipment that May Be Utilized by the Contractor</th>
<th>Noise Level at 50 Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>$L_{\text{max}}$, dBA</td>
</tr>
<tr>
<td>Site Preparation Phase</td>
<td>Excavator</td>
<td>85</td>
</tr>
<tr>
<td></td>
<td>Dump Truck</td>
<td>84</td>
</tr>
<tr>
<td></td>
<td>Dozer</td>
<td>85</td>
</tr>
<tr>
<td>Maximum and Combined Noise Level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Well Drilling</td>
<td>Drill Rig Truck</td>
<td>84</td>
</tr>
<tr>
<td></td>
<td>Jack Hammer</td>
<td>85</td>
</tr>
<tr>
<td></td>
<td>Generator</td>
<td>82</td>
</tr>
<tr>
<td>Maximum and Combined Noise Level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pipeline</td>
<td>Excavator</td>
<td>85</td>
</tr>
<tr>
<td></td>
<td>Crane</td>
<td>85</td>
</tr>
<tr>
<td></td>
<td>Dozer</td>
<td>85</td>
</tr>
<tr>
<td>Maximum and Combined Noise Level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Site Restoration</td>
<td>Paver</td>
<td>85</td>
</tr>
<tr>
<td></td>
<td>Concrete Mix Truck</td>
<td>85</td>
</tr>
<tr>
<td></td>
<td>Man Lift</td>
<td>85</td>
</tr>
<tr>
<td>Maximum and Combined Noise Level</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: $dB =$ decibels; $L_{\text{eq}} =$ equivalent sound level (the sound energy averaged over a continuous 15-minute to 1-hour period); $L_{\text{max}} =$ maximum instantaneous sound level

Source: Data compiled by AECOM in 2015

### Table 4-7. Construction Equipment Noise Levels at the Nearest Noise-Sensitive Uses in the Project Area

<table>
<thead>
<tr>
<th>Receiver</th>
<th>Location</th>
<th>Shortest Distance (feet) between Noise-Sensitive Uses and Proposed Construction Area</th>
<th>Noise Level, dBA $L_{eq}$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Ambient Noise</td>
<td>Project Construction Noise</td>
</tr>
<tr>
<td>LT-01</td>
<td>Front Yard of 816 Ladd Road</td>
<td>130</td>
<td>50</td>
</tr>
<tr>
<td>LT-02</td>
<td>By the Pool in Backyard of 117 Stewart Road</td>
<td>50</td>
<td>57</td>
</tr>
<tr>
<td>ST-01</td>
<td>Backyard of 706 Ladd Road</td>
<td>100</td>
<td>61</td>
</tr>
<tr>
<td>ST-02</td>
<td>Behind 625 Ladd Road</td>
<td>500</td>
<td>68</td>
</tr>
<tr>
<td>ST-03</td>
<td>7008 Hartley Court (Vacant Land)</td>
<td>100</td>
<td>60</td>
</tr>
<tr>
<td>ST-04</td>
<td>Front Yard of 201 Stewart Road</td>
<td>300</td>
<td>62</td>
</tr>
</tbody>
</table>

City of Modesto Del Río Well and Tanks CEQA Compliance
Horizon Water and Environment
Existing Conditions
Table 4-7. Construction Equipment Noise Levels at the Nearest Noise-Sensitive Uses in the Project Area

<table>
<thead>
<tr>
<th>Receiver Location</th>
<th>Shortest Distance (feet) between Noise-Sensitive Uses and Proposed Construction Area</th>
<th>Noise Level, dBA $L_{eq}$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Exterior</td>
<td>Interior</td>
</tr>
<tr>
<td></td>
<td>Ambient Noise</td>
<td>Project Noise, Doors/Windows Open$^1$</td>
</tr>
</tbody>
</table>

Notes: $dBA = A$-weighted decibels; $L_{eq} = $ equivalent sound level (the sound energy averaged over a continuous 15-minute to 1-hour period); NA = Not Applicable.

$^1$ 15 dB reduction for doors/windows open (EPA 1974)

$^2$ 25 dB reduction for doors/windows closed (EPA 1974)

* Conservatively assumed 50 feet from the proposed construction activities.

Source: Data compiled by AECOM in 2015

Construction noise associated with the proposed project is predicted to dominate to the existing noise environment at adjacent receptors during all construction phases. Construction activities would be exempt from noise standards when operating during allowable daytime hours outlined above. However, there is the potential for perceived noise impacts at the residential uses adjacent to the proposed project due to projected related construction noise. As a result, temporary, short term project generated construction noise would be considered less than significant with mitigation incorporated.

The City shall ensure the following mitigation measures are implemented prior to and throughout the duration of project construction:

- At least two weeks prior to the start of construction, provide written notification to the potentially affected property owners and residents within 500 feet of the project site, identifying the type, duration, and frequency of construction activities to residences directly exposed to the project noise. Notification of heavy construction activities shall include anticipated dates and hours during which construction activities are anticipated to occur. Notification materials shall also identify a mechanism for residents to register complaints with the City through contact information, including a daytime telephone number, for the project representative to be contacted in the event that construction noise levels are deemed excessive, overly intrusive or construction occurs outside the permitted hours. Recommendations to assist noise-sensitive land uses in reducing interior noise levels (e.g., closing windows and doors) shall be included in the notification.

- Prohibit the start-up of machines or equipment before 7 a.m. and after 7 p.m. Monday through Saturday and before 9 a.m. and after 5 p.m.

- Prohibit use of materials and equipment deliveries before 7 a.m. and after 7 p.m., Monday through Saturday and before 9 a.m. and after 5 p.m. on Sunday.

- Restrict the use of bells, whistles, alarms, and horns to safety-warning purposes.

- Equip all construction equipment with noise-reduction devices such as mufflers to minimize construction noise and operate all internal combustion engines with exhaust and intake silencers.

- To the extent feasible, the simultaneous operation of multiple construction equipment shall be limited.
• Locate fixed construction equipment (e.g., compressors and generators), construction staging and stockpiling areas, and construction vehicle routes as far as feasible from noise-sensitive receptors.

• Use noise-reducing enclosures around stationary noise generating equipment.

• Install temporary barrier between noise sources and noise sensitive receptors, or the use of intervening structures (i.e., on-site construction trailer, stockpiles).

• Designate a disturbance coordinator and conspicuously post this person's number around the project sites, in adjacent public spaces, and in construction notifications. The disturbance coordinator shall be responsible for responding to any complaints about construction activities. The disturbance coordinator shall receive all public complaints about construction disturbances and be responsible for determining the cause of the complaint and implementation of feasible measures to be taken to alleviate the problem.

The proposed project, with the implementation of the above mitigation measures, would ensure that construction activities associated with the proposed project would comply with the County’s Municipal Code and the City’s Code of Ordinances noise standards.

4.4.7 CUMULATIVE NOISE IMPACTS

Project implementation would result in significant noise impacts associated with construction activities and noise generated by on-site stationary equipment. Noise impacts from construction activities and on-site stationary sources would be reduced to less-than-significant levels with implementation of Mitigation Measures for Site B relative to stationary-source noise and mitigation for construction activities, thus complying with the City’s and County’s maximum allowable noise standards.

Noise is a localized occurrence and attenuates rapidly with distance. Therefore, only future cumulative development projects in the direct vicinity of the project site would have the potential to add to anticipated project-generated stationary-source noise, thus resulting in cumulative noise impacts.

Stationary-source noise associated with the Del Rio Well project and the related projects could potentially result in exceedance of the City’s noise regulations at sensitive receptors. The noise from any stationary noise sources associated with the related projects would be controlled at the source (by means of noise walls, enclosures, louvers and site planning), but there is no guarantee that all the relatable projects would include such noise controls as part of their proposals. Therefore, significant cumulative noise impacts associated with stationary noise sources could occur. As mentioned above, implementation of Mitigation Measures for Site B would reduce project-generated stationary-source noise impacts to a less-than-significant level; thus, project implementation would not result in a cumulatively considerable incremental contribution to significant cumulative stationary-source noise impacts.

The City’s noise regulations limit construction activities to daytime hours. There are no other planned construction projects anticipated in the area of the Del Rio Well project. Therefore, significant cumulative noise impacts associated with construction activities would not occur. Implementation of Mitigation Measures for construction activities would reduce project-related construction-noise impacts to a less-than-significant level. Coupled with the fact that noise diminishes with distance, project construction would not result in a cumulatively considerable incremental contribution to any significant cumulative noise impacts.
Construction noise and stationary-source noise can be controlled on-site at the point of origin; however, traffic noise may extend beyond a project site along existing and proposed off-site and on-site roadways, resulting in significant traffic noise impacts on sensitive uses along these roadways. Because full buildout of the Del Rio Well project would not result in a perceptible increase in traffic noise on project area roadways, the project would not incrementally contribute to a cumulative impact. Thus, the traffic noise impacts from Del Rio Well project are considered cumulatively less than significant.
5 REFERENCES


Caltrans. See California Department of Transportation.

City of Modesto Urban Area General Plan

City of Modesto code of Ordinances

EPA. See U.S. Environmental Protection Agency.


FHWA. See Federal Highway Administration.

FTA. See Federal Transit Administration.


OPR. See Governor's Office of Planning and Research.


Stanislaus County Code, Chapter 10

Stanislaus County General Plan, Noise Element

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APPENDIX A

Fundamentals of Acoustics and Environmental Noise
Appendix A

1. Fundamentals of Acoustics and Environmental Noise

1.1 Sound, Noise, and Acoustics

Sound can be described as the mechanical energy of a vibrating object transmitted by pressure waves through a liquid or gaseous medium (e.g., air). Noise is generally defined as unwanted sound (i.e., loud, unexpected, or annoying sound). Acoustics is defined as the physics of sound. In acoustics, the fundamental scientific model consists of a sound (or noise) source, a receiver, and the propagation path between the two. The loudness of the noise source and obstructions or atmospheric factors affecting the propagation path to the receiver determines the sound level and characteristics of the noise perceived by the receiver. Acoustics addresses primarily the propagation and control of sound.

1.2 Frequency

The number of sound pressure peaks travelling past a given point in a single second is referred to as the frequency, expressed in cycles per second or Hertz (Hz). A given sound may consist of energy at a single frequency (pure tone) or in many frequencies over a broad frequency range (or band). Human hearing is generally affected by sound frequencies between 20 Hz and 20,000 Hz (20 kHz).

Sound having a high concentration of energy in a relatively narrow frequency band may be considered "tonal" in character. Sources of noise that may tonal noise include fans, motors, transformers, and compressors. These sources generally have moving parts that rotate, oscillate, or vibrate at a given speed, producing a distinct tonal noise output directly related to that speed.

1.3 Amplitude

The amplitude of pressure waves generated by a sound source determines the perceived loudness of that source. Sound pressure amplitude is measured in micro-Pascals (µPa). One µPa is approximately one hundred billionths (0.00000000001) of normal atmospheric pressure. Sound pressure amplitudes for different kinds of noise environments can range from less than 100 µPa to 100,000,000 µPa. Because of this huge range of values, sound is rarely expressed in terms of pressure. Instead, a logarithmic scale is used to describe sound pressure level (SPL) in terms of decibels (dB). The threshold of human hearing (near total silence) is approximately 0 dB which corresponds to 20 µPa.

1.4 Addition of Decibels

Because decibels are logarithmic units, SPL cannot be added or subtracted through ordinary arithmetic means. Under the decibel scale, a doubling of sound energy corresponds to a 3 dB increase. In other words, when two sources are each producing sound of the same loudness, the resulting sound level at a given distance would be approximately 3 dB higher than one of the sources under the same conditions. For example, if one automobile produces an SPL of 70 dB when it passes an observer, two cars passing simultaneously would not produce 140 dB –
rather they would combine to produce 73 dB. Under the decibel scale, three sources of equal loudness together produce a sound level of approximately 5 dB louder than one source, and ten sources of equal loudness together produce a sound level of approximately 10 dB louder than the single source.

1.5 A-Weighted Decibels

Figure A illustrates sound levels associated with common sound sources. The perceived loudness of sounds is dependent on many factors, including sound pressure level and frequency content. However, within the usual range of environmental sound levels, perception of loudness is relatively predictable, and can be approximated by frequency filtering using the standardized A-weighting network. There is a strong correlation between A-weighted sound levels (expressed as dBA) and community response to noise. For this reason, the A-weighted sound level has become the standard descriptor for environmental noise assessment. All noise levels reported in this report are A-weighted.

1.6 Human Response to Changes in Noise Levels

As discussed above, doubling sound energy results in a 3 dB increase in sound level. However, given a sound level change measured with precise instrumentation, the subjective human perception of a doubling of loudness will usually be different than what is measured.

Under controlled conditions in a laboratory setting, the trained, healthy human ear is able to discern 1 dB changes in sound levels when exposed to steady, single-frequency ("pure-tone") signals in the mid-frequency range (1,000 Hz–8,000 Hz). In typical noisy environments, changes in noise of 1 to 2 dB are generally not perceptible. However, it is widely accepted that people are able to begin to detect sound level increases of 3 dB in typical noisy environments. Further, a 5 dB increase is generally perceived as a distinctly noticeable increase, and a 10 dB increase is generally perceived as a doubling of loudness. Therefore, a doubling of sound energy that would result in a 3 dB increase in sound pressure level would generally be perceived as barely detectable. Please refer to Table A.

1.7 Noise Sensitive Land Uses

Noise-sensitive land uses are generally defined as locations where people reside or where the presence of unwanted sound could adversely affect the use of the land. Noise-sensitive land uses typically include residences, hospitals, schools, transient lodging, libraries, and certain types of recreational uses. Noise-sensitive, residential receivers are found throughout the study area.
Figure A
Decibel Scale and Common Noise Sources

Table A
Approximate Relationship Between Increases in Environmental Noise Level and Human Perception

<table>
<thead>
<tr>
<th>Noise Level Increase, dB</th>
<th>Human Perception (Typical)</th>
</tr>
</thead>
<tbody>
<tr>
<td>up to about 3</td>
<td>not perceptible</td>
</tr>
<tr>
<td>about 3</td>
<td>barely perceptible</td>
</tr>
<tr>
<td>about 5</td>
<td>distinctly noticeable</td>
</tr>
<tr>
<td>about 10</td>
<td>twice as loud</td>
</tr>
<tr>
<td>about 20</td>
<td>four times as loud</td>
</tr>
</tbody>
</table>

SOURCE: Egan, 1988

1 ICF Jones & Stokes, Caltrans Technical Noise Supplement (TeNS), November 2009.
1.8 Noise Descriptors

Noise in our daily environments fluctuates over time. Some fluctuations are minor, but some are substantial. Some noise levels occur in regular patterns, but others are random. Some noise levels fluctuate rapidly, but others slowly. Some noise levels vary widely, but others are relatively constant. Various noise descriptors have been developed to describe time-varying noise levels. The following are the noise descriptors most commonly used in environmental noise analysis, and may be applicable to this study:

- **Equivalent Sound Level (Leq):** The Leq represents an average of the sound energy occurring over a specified time period. In effect, the Leq is the steady-state sound level containing the same acoustical energy as the time-varying sound that actually occurs during the same period. The 1-hour, A-weighted equivalent sound level (Leq[h]) is the energy average of A-weighted sound levels occurring during a 1-hour period, and is the basis for noise abatement criteria (NAC) used by Caltrans and the FHWA.

- **Percentile-Exceeded Sound Level (L_n):** The L_n represents the sound level exceeded “n” percentage of a specified period (e.g., L_{10} is the sound level exceeded 10 percent of the time, and L_{90} is the sound level exceeded 90 percent of the time).

- **Maximum Sound Level (L_{max}):** The L_{max} is the highest instantaneous sound level measured during a specified period.

- **Day-Night Average Sound Level (L_{dn}):** The L_{dn} is the energy-average of A-weighted sound levels occurring over a 24-hour period, with a 10 dB penalty applied to A-weighted sound levels occurring during nighttime hours (10 p.m.-7 a.m.). The L_{dn} is often noted as the DNL.

- **Community Noise Equivalent Level (CNEL):** Similar to L_{dn}, CNEL is the energy-average of the A-weighted sound levels occurring over a 24-hour period, with a 10 dB penalty applied to A-weighted sound levels occurring during the nighttime hours (10 p.m.-7 a.m.), and a 5 dB penalty applied to the A-weighted sound levels occurring during evening hours (7 p.m.-10 p.m.). The CNEL is usually within 1 dB of the L_{dn}, and for all intents and purposes, the two are interchangeable. As it is easier to compute and of more common use, the L_{dn} is used as the long-term noise measure in this study.

1.9 Sound Propagation/Geometric Spreading

Sound from a localized source (i.e., point source) propagates uniformly outward in a spherical pattern; therefore, this type of propagation is called *spherical spreading*. The sound level attenuates (or decreases) at a rate of 6 dB for each doubling of distance from a point/stationary source as its energy is continuously spread out over a spherical surface (see Figure B).
Figure B
Point Source Spreading with Distance
Continuous Measured Hourly Noise Levels, and Noise Level Calculations
**Long-Term 24 Hour Continuous Noise Monitoring**

**Model Input Sheet**

**Project:** City of Modesto's Del Rio Project  
**Date:** Wednesday, September 23, 2015  
**Site:** Front Yard of 816 Ladd Road

<table>
<thead>
<tr>
<th>Hour</th>
<th>Leq</th>
<th>Lmax</th>
<th>L50</th>
<th>L90</th>
<th>Averages</th>
<th>Leq</th>
<th>Lmax</th>
<th>L50</th>
<th>L90</th>
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</thead>
<tbody>
<tr>
<td>19:00</td>
<td>53.6</td>
<td>68.5</td>
<td>52.2</td>
<td>49.3</td>
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<td></td>
</tr>
<tr>
<td>20:00</td>
<td>51.8</td>
<td>63.7</td>
<td>50.9</td>
<td>48.1</td>
<td>Daytime (7 a.m. - 10 p.m.)</td>
<td>51.1</td>
<td>63.5</td>
<td>49.8</td>
<td>47.5</td>
</tr>
<tr>
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<td>50.7</td>
<td>61.5</td>
<td>50.0</td>
<td>47.4</td>
<td>Nighttime (10 p.m. - 7 a.m.)</td>
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<td>60.6</td>
<td>46.3</td>
<td>44.0</td>
</tr>
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<td>60.6</td>
<td>46.5</td>
<td>43.5</td>
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<td>57.0</td>
<td>43.6</td>
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<td>46.1</td>
<td>58.5</td>
<td>43.8</td>
<td>42.5</td>
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<td></td>
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</tr>
<tr>
<td>3:00</td>
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<td>64.2</td>
<td>45.4</td>
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</tr>
<tr>
<td>4:00</td>
<td>50.0</td>
<td>63.2</td>
<td>46.0</td>
<td>44.5</td>
<td>Daytime (7 a.m. - 10 p.m.)</td>
<td>54.3</td>
<td>68.8</td>
<td>53.7</td>
<td>51.7</td>
</tr>
<tr>
<td>5:00</td>
<td>50.3</td>
<td>62.5</td>
<td>49.5</td>
<td>46.4</td>
<td>Nighttime (10 p.m. - 7 a.m.)</td>
<td>52.5</td>
<td>64.2</td>
<td>52.0</td>
<td>48.9</td>
</tr>
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**Percentage of Energy**

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**Calculated L_de, dBA**

55.6
## Long-Term 24 Hour Continuous Noise Monitoring

### Model Input Sheet

**Project:** City of Modesto's Del Rio Project  
**Date:** Thursday, September 24, 2015  
**Site:** Front Yard of 816 Ladd Road

### Results

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### Percentage of Energy

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### Calculated $L_{den}$ dBA

56.8
Long-Term 24 Hour Continuous Noise Monitoring
Model Input Sheet

Project: City of Modesto's Del Rio Project
Date: Friday, September 25, 2015  Saturday, September 26, 2015
Site: Front Yard of 816 Ladd Road

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**Average Values**

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**Uppermost-Level**

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**Percentage of Energy**

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**Calculated L_{eq}, dBA**

54.4
# Long-Term 24 Hour Continuous Noise Monitoring

**Model Input Sheet**

- **Project:** City of Modesto's Del Rio Project
- **Date:** Saturday, September 26, 2015  
  Sunday, September 27, 2015
- **Site:** Front Yard of 816 Ladd Road

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**Long-Term 24 Hour Continuous Noise Monitoring**

**Model Input Sheet**

**Project:** City of Modesto’s Del Rio Project

**Date:** Sunday, September 27, 2015

**Monday, September 28, 2015**

**Site:** Front Yard of 816 Ladd Road

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**Averages**

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**Uppermost-Level**

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**Percentage of Energy**

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<td>30%</td>
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**Calculated L_{dn}, dBA**

55.4
## Long-Term 24 Hour Continuous Noise Monitoring
### Model Input Sheet

**Project:** City of Modesto's Del Rio Project  
**Date:** Monday, September 28, 2015  
**Site:** Front Yard of 816 Ladd Road

### Hourly Noise Levels

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### Averages

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### Uppermost-Level

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### Percentage of Energy

- **Daytime:** 78%
- **Nighttime:** 22%

### Calculated \( L_{dn} \), dBA

- 53.6
# Long-Term 24 Hour Continuous Noise Monitoring

**Modellinpul Sheet**

**Project:** City of Modesto's Del Rio Project  
**Date:** Tuesday, September 29, 2015  
**Site:** Front Yard of 816 Ladd Road

### Hour Leq Lmax L50 L90

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### Averages

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<td>48.8</td>
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### Uppermost-Level

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### Percentage of Energy

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### Calculated $L_{eq}$, dBA

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## Long-Term 24 Hour Continuous Noise Monitoring
### Model Input Sheet

**Project:** City of Modesto's Del Rio Project  
**Date:** Wednesday, September 23, 2015  
**Site:** By the Pool in Backyard of 117 Stewart Road

### Hourly Noise Levels

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### Uppermost-Level

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### Percentage of Energy

- **Daytime:** 73%
- **Nighttime:** 27%

### Calculated $L_{dn}$ dBA

- 62.2
Long-Term 24 Hour Continuous Noise Monitoring
Model Input Sheet

Project: City of Modesto's Del Rio Project
Date: Thursday, September 24, 2015  Friday, September 25, 2015
Site: By the Pool in Backyard of 117 Stewart Road

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Percentage of Energy

Daytime 72%
Nighttime 28%

Calculated $L_{eq}$, dBA

62.8
Long-Term 24 Hour Continuous Noise Monitoring
Model Input Sheet

Project: City of Modesto’s Del Rio Project
Date: Friday, September 25, 2015       Saturday, September 26, 2015
Site: By the Pool in Backyard of 117 Stewart Road

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**Averages**

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**Uppermost-Level**

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**Percentage of Energy**

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**Calculated \( L_{day} \), dBA**

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## Long-Term 24 Hour Continuous Noise Monitoring
### Model Input Sheet

**Project:** City of Modesto's Del Rio Project  
**Date:** Saturday, September 26, 2015 - Sunday, September 27, 2015  
**Site:** By the Pool in Backyard of 117 Stewart Road

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### Averages

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### Uppermost-Level

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### Percentage of Energy

| Daytime | 73% |
| Nighttime | 27% |

### Calculated $L_{dn}$, dBA

| 61.7 |
# Long-Term 24 Hour Continuous Noise Monitoring

**Project:** City of Modesto's Del Rio Project  
**Date:** Sunday, September 27, 2015  
**Site:** By the Pool in Backyard of 117 Stewart Road

### Hourly Averages

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### Uppermost-Level Averages

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### Percentage of Energy

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### Calculated $L_{dn}$ dBA

|                  | 62.4 |
## Long-Term 24 Hour Continuous Noise Monitoring

**Model Input Sheet**

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**Averages**

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**Uppermost-Level**

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**Percentage of Energy**

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**Calculated L_{eq}, dBA**

62.1
### Long-Term 24 Hour Continuous Noise Monitoring

#### Model Input Sheet

**Project:** City of Modesto's Del Rio Project  
**Date:** Tuesday, September 29, 2015  
**Site:** By the Pool in Backyard of 117 Stewart Road

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<td>54.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Uppermost-Level

| Hour | Leq | Lmax | L50  | L90  | Daytime (7 a.m. - 10 p.m.) | 61.2 | 77.4 | 59.6 | 55.2 |
|------|-----|------|------|------| Nighttime (10 p.m. - 7 a.m.) | 58.9 | 72.5 | 58.3 | 53.7 |

### Percentage of Energy

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Daytime</td>
<td>78%</td>
</tr>
<tr>
<td>Nighttime</td>
<td>22%</td>
</tr>
</tbody>
</table>

### Calculated L_{dn} dBA

<p>| |</p>
<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>62.1</td>
</tr>
</tbody>
</table>
# Project-Generated Construction Source Noise Prediction Model

Del Rio Project - City of Modesto

<table>
<thead>
<tr>
<th>Location</th>
<th>Distance to Nearest Receiver in feet</th>
<th>Combined Predicted Noise Level (L_{eq} dBA)</th>
<th>Assumptions:</th>
<th>Noise Levels (L_{eq}) at 50 feet</th>
<th>Usage Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Threshold*</td>
<td>1,140</td>
<td>60</td>
<td>Excavator</td>
<td>85</td>
<td>0.4</td>
</tr>
<tr>
<td>LT-01-01</td>
<td>130</td>
<td>79</td>
<td>Dump Truck</td>
<td>84</td>
<td>0.4</td>
</tr>
<tr>
<td>ST-01</td>
<td>100</td>
<td>81</td>
<td>Dozer</td>
<td>85</td>
<td>0.4</td>
</tr>
<tr>
<td>ST-02</td>
<td>500</td>
<td>67</td>
<td>Grader</td>
<td>85</td>
<td>0.4</td>
</tr>
<tr>
<td>ST-03</td>
<td>100</td>
<td>81</td>
<td>Pickup Truck</td>
<td>55</td>
<td>0.4</td>
</tr>
<tr>
<td>ST-04</td>
<td>300</td>
<td>72</td>
<td>Backhoe</td>
<td>80</td>
<td>0.4</td>
</tr>
</tbody>
</table>

**Assumptions:**

- Excavator
- Dump Truck
- Dozer
- Grader
- Pickup Truck
- Backhoe

**Ground Type:** Hard

**Ground Factor:** 0.00

**Predicted Noise Level**

<table>
<thead>
<tr>
<th>Equipment</th>
<th>L_{eq} dBA at 50 feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excavator</td>
<td>81.0</td>
</tr>
<tr>
<td>Dump Truck</td>
<td>80.0</td>
</tr>
<tr>
<td>Dozer</td>
<td>81.0</td>
</tr>
<tr>
<td>Grader</td>
<td>81.0</td>
</tr>
<tr>
<td>Pickup Truck</td>
<td>51.0</td>
</tr>
<tr>
<td>Backhoe</td>
<td>76.0</td>
</tr>
</tbody>
</table>

**Combined Predicted Noise Level**

<table>
<thead>
<tr>
<th>L_{eq} dBA at 50 feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>87.2</td>
</tr>
</tbody>
</table>

**Sources:**

1 Obtained from the FHWA Roadway Construction Noise Model.
2 Based on the following from the Federal Transit Noise and Vibration Model:

\[ L_{eq}(\text{equip}) = E.L. - 10 \cdot \log (U.F.) + 20 \cdot \log (D/50) + 10 \cdot G \cdot \log (D/50) \]

Where:
- E.L. = Emission Level;
- U.F. = Usage Factor;
- G = Constant that accounts for topography and ground effects; and
- D = Distance from source to receiver.

*Project specific threshold
## Project-Generated Construction Source Noise Prediction Model

**Del Rio Project - City of Modesto**

<table>
<thead>
<tr>
<th>Location</th>
<th>Distance to Nearest Receiver in feet</th>
<th>Combined Predicted Noise Level (Leq dBA)</th>
<th>Assumptions:</th>
<th>Reference Emission Noise Levels (I_{ref}) at 50 feet</th>
<th>Usage Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Threshold*</td>
<td>1,027</td>
<td>60</td>
<td></td>
<td>Drill Rig Truck</td>
<td>84</td>
</tr>
<tr>
<td>LT-01-01</td>
<td>50</td>
<td>86</td>
<td></td>
<td>Compressor (air)</td>
<td>80</td>
</tr>
<tr>
<td>ST-01</td>
<td>130</td>
<td>80</td>
<td></td>
<td>Jackhammer</td>
<td>85</td>
</tr>
<tr>
<td>ST-02</td>
<td>500</td>
<td>66</td>
<td></td>
<td>Dump Truck</td>
<td>84</td>
</tr>
<tr>
<td>ST-03</td>
<td>100</td>
<td>80</td>
<td></td>
<td>Man Lift</td>
<td>85</td>
</tr>
<tr>
<td>ST-04</td>
<td>300</td>
<td>71</td>
<td></td>
<td>Generator</td>
<td>82</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Pickup Truck</td>
<td>55</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Pumps</td>
<td>77</td>
</tr>
</tbody>
</table>

**Ground Type**
- Hard

**Ground Factor**
- 0.00

**Predicted Noise Level**

<table>
<thead>
<tr>
<th>Source</th>
<th>Predicated Noise Level (Leq dBA at 50 feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drill Rig Truck</td>
<td>77.0</td>
</tr>
<tr>
<td>Compressor (air)</td>
<td>76.0</td>
</tr>
<tr>
<td>Jackhammer</td>
<td>78.0</td>
</tr>
<tr>
<td>Dump Truck</td>
<td>80.0</td>
</tr>
<tr>
<td>Man Lift</td>
<td>78.0</td>
</tr>
<tr>
<td>Generator</td>
<td>79.0</td>
</tr>
<tr>
<td>Pickup Truck</td>
<td>51.0</td>
</tr>
<tr>
<td>Pumps</td>
<td>74.0</td>
</tr>
</tbody>
</table>

**Combined Predicted Noise Level (Leq dBA at 50 feet)***
- 86.2

---

**Sources:**
- Obtained from the FHWA Roadway Construction Noise Model.
- Based on the following from the Federal Transit Noise and Vibration Model:
  \[ L_{eq}(source) = E.L + 10\log(U.F.) - 20\log(D/50) - 10\log(G) \]

**Where:**
- E.L = Emission Level
- U.F. = Usage Factor
- G = Constant that accounts for topography and ground effects
- D = Distance from source to receiver
- *Project specific threshold

---

**Note:** The figures and formulas provided in the text are for illustrative purposes and should be cross-referenced with the actual data provided in the source.
# Project-Generated Construction Source Noise Prediction Model

**Del Rio Project - City of Modesto**

<table>
<thead>
<tr>
<th>Location</th>
<th>Distance to Nearest Receiver in feet</th>
<th>Combined Predicted Noise Level (L_{eq} dBA)</th>
<th>Assumptions:</th>
<th>Reference Maximum Noise Levels (L_{max}) at 50 feet¹</th>
<th>Usage Factor¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Threshold</td>
<td>1,081</td>
<td>60</td>
<td>Excavator</td>
<td>85</td>
<td>0.4</td>
</tr>
<tr>
<td>LT-01-01</td>
<td>50</td>
<td>87</td>
<td>Dozer</td>
<td>85</td>
<td>0.4</td>
</tr>
<tr>
<td>ST-01</td>
<td>130</td>
<td>78</td>
<td>Flat Bed Truck</td>
<td>84</td>
<td>0.4</td>
</tr>
<tr>
<td>ST-02</td>
<td>100</td>
<td>81</td>
<td>Crane</td>
<td>85</td>
<td>0.16</td>
</tr>
<tr>
<td>ST-03</td>
<td>500</td>
<td>67</td>
<td>Man Lift</td>
<td>85</td>
<td>0.2</td>
</tr>
<tr>
<td>ST-04</td>
<td>300</td>
<td>71</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Ground Type: Hard  
Ground Factor: 0.00

<table>
<thead>
<tr>
<th>Predicted Noise Level ²</th>
<th>L_{eq} dBA at 50 feet³</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excavator</td>
<td>81.0</td>
</tr>
<tr>
<td>Dozer</td>
<td>81.0</td>
</tr>
<tr>
<td>Flat Bed Truck</td>
<td>80.0</td>
</tr>
<tr>
<td>Crane</td>
<td>77.0</td>
</tr>
<tr>
<td>Man Lift</td>
<td>78.0</td>
</tr>
</tbody>
</table>

Combined Predicted Noise Level (L_{eq} dBA at 50 feet) 86.7

---

**Sources:**

1. Obtained from the FHWA Roadway Construction Noise Model.
2. Based on the following from the Federal Transit Noise and Vibration Model:
   \[L_{eq}(\text{eq}) = E.L. + 10\log(U.F.) - 20\log(D/50) - 10\log(G/50)\]

Where:
- E.L. = Emission Level
- U.F. = Usage Factor
- G = Constant that accounts for topography and ground effects
- D = Distance from source to receiver

*Project specific threshold
## Project-Generated Construction Source Noise Prediction Model

**Del Rio Project - City of Modesto**

<table>
<thead>
<tr>
<th>Location</th>
<th>Distance to Nearest Receiver in feet</th>
<th>Combined Predicted Noise Level (L_{eq} dBA)</th>
<th>Assumptions:</th>
<th>Usage Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Threshold*</td>
<td>1,112</td>
<td>60</td>
<td>Paver</td>
<td>0.5</td>
</tr>
<tr>
<td></td>
<td>50</td>
<td>87</td>
<td>Concrete Mixer Truck</td>
<td>0.4</td>
</tr>
<tr>
<td>LT-01-01</td>
<td>130</td>
<td>79</td>
<td>Man Lift</td>
<td>0.2</td>
</tr>
<tr>
<td>ST-01</td>
<td>100</td>
<td>81</td>
<td>Compactor (ground)</td>
<td>0.2</td>
</tr>
<tr>
<td>ST-02</td>
<td>500</td>
<td>67</td>
<td>Concrete Mixer Truck</td>
<td>0.4</td>
</tr>
<tr>
<td>ST-03</td>
<td>100</td>
<td>81</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ST-04</td>
<td>300</td>
<td>71</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Ground Type**
- Hard

**Ground Factor**
- 0.00

**Predicted Noise Level**

<table>
<thead>
<tr>
<th>Usage Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paver</td>
</tr>
<tr>
<td>Concrete Mixer Truck</td>
</tr>
<tr>
<td>Man Lift</td>
</tr>
<tr>
<td>Compactor (ground)</td>
</tr>
<tr>
<td>Concrete Mixer Truck</td>
</tr>
</tbody>
</table>

**Combined Predicted Noise Level (L_{eq} dBA at 50 feet)**

- 86.9

---

**Sources:**

1. Obtained from the FHWA Roadway Construction Noise Model.
2. Based on the following from the Federal TransitNoise and Vibration Model:
   \[ L_{eq} = E.L. + 10\log(U.F.) - 20\log(D/50) - 10\log(G) \]

Where:
- E.L. = Emission Level;
- U.F. = Usage Factor;
- G = Constant that accounts for topography and ground effects; and
- D = Distance from source to receiver.

*Project specific threshold
Appendix H

Mitigation Monitoring and Reporting Program
MITIGATION MONITORING AND REPORTING PROGRAM SUMMARY TABLE

The following mitigation monitoring and reporting program (MMRP) summary table includes the mitigation measures identified in the City of Modesto’s (City’s) Del Rio Tank and Wells Project Draft Environmental Impact Report (DEIR) and the Final Program Environmental Impact Report (Program EIR) for the Water System Engineer’s Report (City of Modesto 2010). Mitigation measures from the Program EIR are designated with “P-.” For each mitigation measure, this table identifies monitoring and reporting actions that shall be carried out and the monitoring schedule. This table also includes a column where responsible parties can check off monitoring and reporting actions as they are completed.

As lead agency, the City will be responsible for ensuring that mitigation measures identified in this EIR are fully implemented. However, some mitigation measures would be implemented by the contractor(s) on behalf of the City. Contract documents for the proposed project will identify the obligations of the contractor, including relevant mitigation measures. The City will require that the contractor provide the City with documentation that it has adequately implemented its contractual obligations, including applicable mitigation measures.

Thus, in the descriptions of the mitigation measures provided in the table which follows, while the City may be the only party referenced in implementing a mitigation measure (i.e., where the measure states “the District shall”), this is intended to be inclusive of the contractor’s role in implementing certain mitigation measures during construction or as part of design.

ACRONYMS AND ABBREVIATIONS USED IN APPENDIX H

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASTM</td>
<td>American Society for Testing Materials</td>
</tr>
<tr>
<td>CDFG</td>
<td>California Department of Fish and Game</td>
</tr>
<tr>
<td>CDFW</td>
<td>California Department of Fish and Wildlife</td>
</tr>
<tr>
<td>CEQA</td>
<td>California Environmental Quality Act</td>
</tr>
<tr>
<td>City</td>
<td>City of Modesto</td>
</tr>
<tr>
<td>CRHR</td>
<td>California Register of Historical Resources</td>
</tr>
<tr>
<td>dBA</td>
<td>A-weighted decibels</td>
</tr>
<tr>
<td>DEIR</td>
<td>draft environmental impact report</td>
</tr>
<tr>
<td>EIR</td>
<td>environmental impact report</td>
</tr>
<tr>
<td>EPA</td>
<td>Environmental Protection Agency</td>
</tr>
<tr>
<td>MLD</td>
<td>Most Likely Descendant</td>
</tr>
<tr>
<td>MMRP</td>
<td>mitigation monitoring and reporting program</td>
</tr>
<tr>
<td>NAHC</td>
<td>Native American Heritage Commission</td>
</tr>
<tr>
<td>PRC</td>
<td>Public Resources Code</td>
</tr>
<tr>
<td>TCR</td>
<td>tribal cultural resource</td>
</tr>
<tr>
<td>USFWS</td>
<td>U.S. Fish and Wildlife Service</td>
</tr>
<tr>
<td>Mitigation Measure</td>
<td>Monitoring and Reporting Action</td>
</tr>
<tr>
<td>--------------------</td>
<td>--------------------------------</td>
</tr>
<tr>
<td><strong>Aesthetics</strong></td>
<td></td>
</tr>
</tbody>
</table>
| AES-1, Locate Staging Areas Away from Public Areas. | Confirm that construction staging area requirements are incorporated into the contract specifications  
Designate location of staging areas in contract specifications  
Confirm that screening requirements are implemented properly. | During preparation of contract specifications  
Before construction begins |                      |
| AES-2, Screen Staging and Construction Areas. | Confirm that staging area screening requirements are incorporated into the construction specifications  
Confirm that screening requirements are implemented properly. | Before construction begins  
During construction |                      |
| **Air Quality**    |                                 |                     |                            |
| None               |                                 |                     |                            |
| **Biological Resources** |                             |                     |                            |
| BIO-1, Avoid and Protect Burrowing Owls at Site A. | Retain qualified biologist to conduct survey.  
Confirm that preconstruction survey is | Before construction  
Before construction |                      |

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the protection of raptors, the City shall hire a qualified biologist to conduct a preconstruction survey(s) for Burrowing Owls within a 250-foot buffer around the project site, in conformance with protocols established in the Staff Report on Burrowing Owl Mitigation (CDFG 2012 or current version), and prior to the start of construction. If no Burrowing Owls are located during these surveys, no additional action is warranted. However, if breeding or resident owls are located on or within 250 feet of Site A, the following measures shall be implemented.

- No Burrowing Owls will be evicted from burrows during the nesting season (February 1 through August 31). Eviction outside the nesting season may be permitted following evaluation of eviction plans and receipt of formal written approval from CDFW authorizing the eviction.
- A 250-foot buffer, within which no new activity is permissible, shall be maintained between project activities and nesting Burrowing Owls. This protected area will remain in effect until August 31 or, at CDFW’s discretion (based upon monitoring evidence), until the young owls are foraging independently.

BIO-2  Compensate for Loss of Burrowing Owl Habitat at Site A.

If a preconstruction survey finds that Burrowing Owls occupy Site A, and avoiding construction in occupied areas is not feasible, then the City shall implement habitat compensation on off-site mitigation lands, or shall purchase mitigation bank credits from a mitigation bank approved by CDFW. If mitigation credits are not purchased, habitat management

<table>
<thead>
<tr>
<th>Mitigation Measure</th>
<th>Monitoring and Reporting Action</th>
<th>Monitoring Schedule</th>
<th>Completion Date and Initials</th>
</tr>
</thead>
<tbody>
<tr>
<td>the protection of raptors, the City shall hire a qualified biologist to conduct a preconstruction survey(s) for Burrowing Owls within a 250-foot buffer around the project site, in conformance with protocols established in the Staff Report on Burrowing Owl Mitigation (CDFG 2012 or current version), and prior to the start of construction. If no Burrowing Owls are located during these surveys, no additional action is warranted. However, if breeding or resident owls are located on or within 250 feet of Site A, the following measures shall be implemented. - No Burrowing Owls will be evicted from burrows during the nesting season (February 1 through August 31). Eviction outside the nesting season may be permitted following evaluation of eviction plans and receipt of formal written approval from CDFW authorizing the eviction. - A 250-foot buffer, within which no new activity is permissible, shall be maintained between project activities and nesting Burrowing Owls. This protected area will remain in effect until August 31 or, at CDFW’s discretion (based upon monitoring evidence), until the young owls are foraging independently.</td>
<td>conducted in accordance with this mitigation measure. - If Burrowing Owls are found within 250 feet of Site A, establish buffer and avoid new activity in the area.</td>
<td>During construction as necessary</td>
<td></td>
</tr>
<tr>
<td>Mitigation Measure</td>
<td>Monitoring and Reporting Action</td>
<td>Monitoring Schedule</td>
<td>Completion Date and Initials</td>
</tr>
<tr>
<td>--------------------</td>
<td>--------------------------------</td>
<td>---------------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td>lands comprising existing Burrowing Owl foraging and breeding habitat will be acquired and preserved. An area of 6.5 acres (the amount of land found to be necessary to sustain a pair or an individual owl) will be secured for each pair of owls or for an individual, in the case of an odd number of birds. Relocation of owls shall only be implemented during the non-breeding season. As part of an agreement with CDFW, the City shall provide CDFW with security for the performance of its mitigation duties in the form of funds that will:</td>
<td>agreement with CDFW regarding the appropriate amount of funds that should be set aside for the project’s mitigation. Submit appropriate funds to CDFW consistent with the agreement made with CDFW</td>
<td>* Before or during construction, as necessary</td>
<td></td>
</tr>
<tr>
<td>• allow for the acquisition and preservation of 6.5 acres of habitat management lands for each pair of owls or unpaired resident single owl;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• provide initial protection and enhancement activities on the habitat management lands, potentially including such measures as fencing, trash cleanup, artificial burrow creation, grazing or mowing, and any habitat restoration deemed necessary by CDFW;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• establish an endowment for the long-term management of the habitat management lands; and</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• reimburse CDFW for reasonable expenses incurred as a result of the approval and implementation of this agreement.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Mitigation Measure

**Compensate for Loss of Swainson’s Hawk Foraging Habitat.**

To mitigate for the loss of potential Swainson’s Hawk foraging habitat, the City shall provide off-site habitat management lands, as described in the CDFW protocol for the mitigation of impacts on Swainson’s hawks in the Central Valley (CDFG 1994), or by purchasing credits at a CDFW-approved Swainson’s Hawk foraging habitat mitigation bank that covers the Proposed Project area, such as the Dutchman Creek Conservation Bank.

The City shall determine the final acreage of off-site management lands or mitigation bank credits to be provided based on the distance between the project area and the nearest active nest site, as stated in the CDFW protocol (CDFG 1994). Mitigation credits would follow the same ratio guidelines as off-site management lands. Prior to the grading of any site with potential foraging habitat, the City shall hire a qualified biologist to conduct protocol-level surveys to determine the location of the nearest active nest. Based on these surveys, the City shall compensate for losses in compliance with the protocol for the mitigation of impacts on Swainson’s hawks in the Central Valley (CDFG 1994), as follows:

- Projects within 1 mile of an active nest tree shall provide:
  - 1 acre of habitat management land for each acre of development authorized (1:1 ratio), at least 10% of which shall be met by fee title acquisition or a conservation easement allowing for the active management of the habitat, with the remaining 90% protected by a conservation easement acceptable to

### Monitoring and Reporting Action

- Consult with CDFW and confirm whether purchasing mitigation bank credits or off-site mitigation option shall be pursued.
- If mitigation credits are available and acceptable to CDFW, purchase the appropriate number of credits from the mitigation bank in accordance with the CDFW protocol.
- If off-site management lands are pursued, hire a qualified biologist to conduct protocol-level surveys for Swainson’s hawk nests in the project vicinity.
- If off-site management lands are pursued, mitigate for those losses consistent with the ratios stated in the mitigation measure and through consultation with CDFW. Protect habitat management lands by acquiring a fee title or establishing a conservation easement.

### Monitoring Schedule

- Before construction
- Before or during construction, as necessary
- Before or during construction, as necessary
- Before or during construction, as necessary

---

**Del Rio Tank and Wells Project**

**Draft Environmental Impact Report**

**H-5**

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Mitigation Measure

- CDFW on agricultural lands or other suitable habitats that provide foraging habitat for Swainson’s Hawk; or
  - 0.5 acre of habitat management land for each acre of development authorized (0.5:1 ratio), all of which shall be met by fee title acquisition or a conservation easement acceptable to CDFW that allows for the active management of the habitat for prey production on the habitat management lands.
  
- Projects within 5 miles of an active nest tree but greater than 1 mile from the nest tree shall provide 0.75 acre of habitat management land for each acre of urban development authorized (0.75:1 ratio). All habitat management lands protected under this requirement may be protected through fee title acquisition or conservation easement on agricultural lands or other suitable habitats that provide foraging habitat for Swainson’s Hawks.

- Projects within 10 miles of an active nest tree but greater than 5 miles from an active nest tree shall provide 0.5 acre of habitat management land for each acre of urban development authorized (0.5:1 ratio). All habitat management lands protected under this requirement may be protected through fee title acquisition or conservation easement acceptable to CDFW on agricultural lands or other suitable habitats that provide foraging habitat for Swainson’s Hawks.
Management Authorization holders/project sponsors shall provide for the long-term management of the habitat management lands by funding a management endowment (the interest on which shall be used for managing the habitat management lands). If mitigation credits are purchased, long term management would be the responsibility of the mitigation bank.

**BIO-4  Conduct Preconstruction Surveys for Swainson’s Hawk Nests.**

To ensure that nesting Swainson’s Hawks will not be disturbed by construction activities, the City will hire a qualified ornithologist to conduct preconstruction surveys of the Proposed Project sites and adjacent areas within 1 mile of Sites A and B. No fewer than three surveys will be completed in at least each of the two survey periods immediately prior to project initiation, according to this schedule, based on Recommended Timing and Methodology for Swainson’s Hawk Nesting Surveys in California’s Central Valley (Swainson’s Hawk Technical Advisory Committee 2000):

- Survey Period I occurs from January 1 to March 20;
- Period II from March 20 to April 5;
- Period III from April 5 to April 20;
- Period IV from April 21 to June 10 (surveys are not recommended during this period because identification is difficult, as the adults tend to remain within the nest for longer periods of time); and

- Retain a qualified ornithologist to conduct preconstruction surveys.
- Complete preconstruction surveys within the time period outlined in the mitigation measure.
- In the event that nest is found, halt construction and contact CDFW to confirm how to proceed.
### Mitigation Measure

**Mitigation Measure**

- Period V from June 10 to July 30.

If a nest site is found, no construction work shall commence until after the City engages in consultation with CDFW and CDFW-approved measures are implemented. As a performance standard, the measures implemented shall ensure that project initiation will not result in nest disturbance.

**BIO-5**

**Conduct Preconstruction Surveys for Nesting Birds.**

The City shall require that construction will be avoided during the nesting season (generally between February 1 and August 31), where practical. If construction activities cannot be avoided during the nesting season, a qualified biologist will conduct a preconstruction survey within 500 feet of the construction area to determine whether active nests are present on the site. The survey will be conducted no more than 30 days prior to construction. If the biologist determines that the area surveyed does not contain any active nests, then construction activities can commence without any further mitigation. If active nests are found, CDFW and USFWS will be notified and Mitigation Measure BIO-6 will be implemented.

**BIO-6**

**Avoid and Minimize Impacts on Nesting Raptors and Other Migratory Birds.**

To avoid disturbing any active migratory bird nests, the City shall require that construction activities will be conducted during the non-breeding season for these species (generally between September 1 and January 31). If active nests are present on or adjacent to either of the Proposed Project

<table>
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<tr>
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</thead>
</table>
| Period V from June 10 to July 30. | - Retain a qualified biologist to conduct preconstruction surveys.  
- Complete surveys at least 30 days before construction.  
- If active nests are found during the surveys, contact CDFW and USFWS | - Before construction  
- Before construction  
- Before construction | |
### Protect Bat Colonies

The following measures shall be implemented to avoid and minimize impacts on bats:

- Prior to removal of structures, the City shall hire a qualified bat biologist familiar with bat biology and ecology to assess structures to be removed for potential, active bat habitat. If the biologist determines that bats are not actively occupying the structures based on professional opinion following appropriate survey protocols, then the structures may be removed.

- For structures identified by the qualified biologist to be actively occupied by bats, removal of the structures shall not occur between April 15 and August 31 to avoid the bat maternity season,

- Demolition of structures shall be preceded by either humane eviction, phased dismantling, and/or deterrent methods to prevent direct mortality.

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</table>
| **BIO-7**          | • Contact CDFW and USFWS if active nests are present on or near construction work areas.  
                   | • If active nests are present and cannot be avoided during the breeding season (February 1 to August 31), establish 500-foot buffer around active nest.  
                   | • Retain a qualified bat biologist to conduct surveys prior to removal of structures at Site A.  
                   | • Bat biologist shall conduct surveys of structures.  
                   | • If structures are occupied, ensure that removal of structures occur between September 1 and April 14 (outside of bat maternity season).  
                   | • Ensure demolition activities take place consistent with Mitigation Measure BIO-7.  
                   | • Before construction  
                   | • Prior to removal of structures  
                   | • During construction  
                   | • During construction  
                   | • During construction  

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Mitigation Measure | Monitoring and Reporting Action | Monitoring Schedule | Completion Date and Initials
---|---|---|---
CR-1 | Suspend Construction Immediately if Cultural Resources Are Discovered, Evaluate All Identified Cultural Resources for CRHR Eligibility, and Implement Appropriate Mitigation Measures for Eligible Resources. Not all cultural resources are visible on the ground surface. As a result, before initiation of ground-disturbing activities, the City or its designee shall arrange for construction crews to receive training about the kinds of archaeological materials that could be present at the Proposed Project site and the protocols to be followed should any such materials be uncovered during construction. Training shall be conducted by an archaeologist who meets the U.S. Secretary of the Interior's professional standards. Training shall be required during each phase of construction to educate new construction personnel. If any cultural resources, including structural features, unusual amounts of bone or shell, flaked or ground stone artifacts, historic-era artifacts, human remains, or architectural remains, are encountered during Proposed Project construction activities, work shall be suspended immediately at the location of the find and within a radius of at least 50 feet and the City will be contacted. All cultural resources uncovered during construction within the Proposed Project site shall be evaluated for eligibility for inclusion in CRHR. Resource evaluations shall be conducted by individuals who meet the U.S. Secretary of the Interior’s professional standards in archaeology, history, or architectural history, as appropriate. If any of the resources | Retain qualified archaeologist or City staff person to conduct worker training. Halt construction activities in the event any cultural resources are encountered. If cultural resources are uncovered, retain a qualified individual who meets the U.S. Secretary of the Interior’s standards to conduct resource evaluations. If uncovered resources meet eligibility criteria, implement mitigation measures consistent with Guidelines Section 15126.4(b). If TCR or any other resources eligible for listing in the CRHR are encountered, implement additional measures in accordance with Mitigation Measure CR-1. | Prior to construction | During construction | During construction | During construction | During construction | November 2016
City of Modesto

### Mitigation Measure

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</table>
| meet the eligibility criteria identified in PRC Section 5024.1 or CEQA Guidelines Section 21083.2(g), mitigation measures will be developed and implemented in accordance with CEQA Guidelines Section 15126.4(b) before construction resumes. For a TCR or any resources eligible for listing in the CRHR that would be significantly adversely affected by the Proposed Project construction, additional mitigation measures shall be implemented. Mitigation measures for archaeological resources may include (but are not limited to) avoidance; incorporation of sites within parks, greenspace, or other open space; capping the site; deeding the site into a permanent conservation easement; or data recovery excavation. Mitigation measures for archaeological resources shall be developed in consultation with responsible agencies and, as appropriate, interested parties such as Native American tribes. Native American consultation is required if an archaeological site is determined to be a TCR. Implementation of the approved mitigation is required before resuming any construction activities with the potential to affect identified eligible resources at the site. | ▪ Retain a qualified paleontologist to conduct worker training.  
▪ In the event a paleontological item is discovered, halt construction activities within 50 feet of discovery site and notify the City. | prior to construction  
▪ during construction  
▪ during construction | |
| CR-2 Suspend Construction Immediately if Paleontological Resources Are Discovered, Evaluate the Significance of the Resources, and Implement Appropriate Mitigation Measures as Necessary. Paleontological resources are not necessarily visible on the ground surface. As a result, before initiation of ground-disturbing activities, construction crews shall receive training about the kinds of paleontological materials that could be present at the Proposed Project site and the protocols to be followed should such materials be uncovered during | | |

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<th>Monitoring and Reporting Action</th>
<th>Monitoring Schedule</th>
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<tr>
<td>construction. Training shall be conducted by a professional paleontologist. Training shall be required during each phase of construction to educate new construction personnel. If any items of paleontological interest are discovered during construction, work shall be suspended immediately within 50 feet of the discovery site, or to the extent needed to protect the site, and the City shall be notified. Any discovery of paleontological resources during construction shall be evaluated by the qualified paleontologist. If it is determined that the Proposed Project could damage a unique paleontological resource, mitigation shall be implemented in accordance with PRC Section 21083.2 and CEQA Guidelines Section 15126.4. If avoidance is not feasible, the paleontologist shall develop a treatment plan in consultation with the City. Work shall not be resumed until authorization is received from the City and any recommendations received from the qualified paleontologist are implemented.</td>
<td>• Ensure that qualified paleontologist evaluates the discovery and, in the event the project could damage the resource, implement mitigation in accordance with Mitigation Measure CR-2 and consult with the City as necessary.</td>
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<td>CR-3 Halt Construction Immediately if Human Remains Are Discovered and Implement Applicable Provisions of the California Health and Safety Code. If human remains are discovered during construction activities, the requirements of Section 7050.5 of the California Health and Safety Code shall be followed. Potentially damaging excavation shall halt on the Proposed Project site within a minimum radius of 100 feet of the remains and the County Coroner shall be notified. The Coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on Del Rio Tank and Wells Project Draft Environmental Impact Report</td>
<td>• Confirm that measure is included in project plans and specifications. • In the event that human remains are encountered, halt work and contact the Stanislaus County Coroner. • Confirm that any discoveries of human remains are</td>
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<td></td>
<td>• During preparation of plans and specifications • During construction • During construction</td>
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### Mitigation Measure

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<tr>
<th>CR-4</th>
<th>Prepare and Implement Treatment Plans for any TCRs Identified in the Proposed Project Study Area.</th>
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<tbody>
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<td></td>
<td>If TCRs are identified in the Proposed Project study area, the City shall consult and work with tribes with a traditional and cultural affiliation to the resource to develop feasible alternatives that will avoid impacts or develop and implement treatment plans that will substantially lessen the impacts on identified TCRs, in accordance with PRC Sections 21083(b)(2) or 21084.3.</td>
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<th>Monitoring and Reporting Action</th>
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<th>Completion Date and Initials</th>
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<td>evaluated and addressed properly.</td>
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### Geology, Soils, and Seismicity

<table>
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<tr>
<th>P-GEO-1</th>
<th>Conduct project-specific geotechnical investigation prior to construction.</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>During project design, project-specific geotechnical investigations and reports will be prepared by registered engineers to detect site conditions that could result in</td>
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<th>Monitoring and Reporting Action</th>
<th>Monitoring Schedule</th>
<th>Completion Date and Initials</th>
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<tr>
<td>Retain a registered engineer to prepare a geotechnical</td>
<td>During the initial design phase</td>
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<td>During</td>
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<td>preparation of</td>
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<td></td>
<td>construct</td>
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<td>Monitoring Schedule</td>
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<tr>
<td>liquefaction, construction on expansive soils, or other potential hazards and to identify appropriate design requirements that would prevent damage to structures. Site-specific geological data and recommendations by a registered engineer will be incorporated into project design, thereby reducing any impacts due to liquefaction.</td>
<td>investigation and report for the project. - Incorporate site-specific data and recommendations from the report into project design to minimize impacts related to liquefaction.</td>
<td>plans and specifications</td>
</tr>
</tbody>
</table>

**Global Climate Change**

None

**Groundwater**

None

**Hazards and Hazardous Materials**

P-HA2-1 - Prepare a risk assessment prior to construction activity. Prior to the commencement of construction activities, the City or its contractor will prepare a risk assessment and establish procedures to address the identification, excavation, handling, and disposal of hazardous materials in accordance with ASTM Standard 1527-05, “Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process” and the EPA “All Appropriate Inquiries” standards and practices (40 CFR 312). An environmental database search of regulatory-listed hazardous materials sites contained in local, regional, state, and federal databases for the program site and within a 0.5-mile radius of the site will be performed by a qualified professional as part of this assessment. If contaminated soil

- Retain a qualified contractor to conduct a Phase I environmental site assessment.
- Incorporate recommendations from the Phase I report in the project plans and specifications.
- Ensure that the contractor implements risk assessment recommendations and ensure corrective action if necessary.

- Prior to construction
- During preparation of plans and specifications
- During construction
- During construction

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or groundwater is encountered, the City will notify the appropriate local environmental management agencies and local fire departments. The City will ensure that any identified environmental site conditions that may represent a risk to public health and safety will be remediated in accordance with federal, state, and local environmental laws and regulations. All recommendations in the risk assessment will be implemented by the City and all its representatives, including contractors and earthwork construction workers, such that people are not exposed to adverse conditions on the program site as a result of discovering existing sources of contamination.

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<tr>
<td>P-HAZ-2 Control contamination resulting from previously unidentified hazardous waste materials.</td>
<td>- Notify appropriate local environmental agencies fire departments in the event that contaminated soil or groundwater is encountered and remediate in accordance with federal, state and local laws and regulations.</td>
<td>- Confirm that measure is included in project plans and specifications. - Conduct worker training. - Halt construction in the event that hazardous materials are encountered. - As necessary, implement remediation measures and transport hazardous materials to an appropriately-licensed and permitted facility.</td>
<td>- During preparation of plans and specifications - Prior to construction - During construction</td>
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Prior to the onset of construction, all construction workers will be trained in the identification of potentially contaminated soil and water, including the characteristics of potential contamination, such as discolored soil, oils or sheens on water, and unusual odors. In the event that hazardous materials are encountered during construction, all construction activities in the area of the discovery will stop, and the City or its contractors will conduct hazardous materials investigations to identify the nature and extent of contamination and evaluate potential impacts on program construction. If necessary, the City or its contractors will implement remediation measures consistent with all applicable local, state, and federal codes and regulations. Construction will not resume until remediation is complete. If waste disposal is necessary, the City will ensure that all hazardous materials removed during construction are disposed of in accordance with federal, state, and local regulations.
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Mitigation Measure

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<td>handled and disposed of by a licensed waste-disposal contractor and are transported by a licensed hauler to an appropriately-licensed and permitted disposal or recycling facility, in accordance with local, state, and federal requirements.</td>
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Land Use and Planning
None

Noise and Vibration

**NOISE-1 Employ Noise-reducing Construction Practices.**

The following measures shall be implemented by the City or its contractor to reduce adverse effects from construction noise:

- At least two weeks prior to the start of construction, provide written notification to the potentially affected property owners and residents within 500 feet of the project site, identifying the type, duration, and frequency of construction activities to residences directly exposed to the project noise. Notification of heavy construction activities shall include anticipated dates and hours during which construction activities are anticipated to occur. Notification materials shall also identify a mechanism for residents to register complaints with the City through contact information, including a daytime telephone number, for the project representative to be contacted in the event that construction noise levels are deemed excessive, overly intrusive or construction occurs outside the permitted hours. Recommendations to assist noise-sensitive land uses in reducing interior noise levels (e.g.,

- Confirm that measure is included in project plans and specifications.
- Notify property owners and residents within 500 feet of project site about construction activities and schedule.
- Design a noise disturbance coordinator and ensure that this person’s contact information is posted around the project site.
- Comply with noise minimization measures

- During preparation of plans and specifications
- At least 2 weeks prior to construction
- During construction
- During construction
- During construction
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<tr>
<td>closing windows and doors) shall be included in the notification.</td>
<td>outlined in Mitigation Measure NOISE-1.</td>
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<td>• Designate a disturbance coordinator and conspicuously post this person's number</td>
<td>• Ensure corrective action as necessary.</td>
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<td>around the construction sites, in adjacent public spaces, and in construction</td>
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<td>notifications. The disturbance coordinator shall be responsible for responding</td>
<td></td>
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<td>to any complaints about construction activities. The disturbance coordinator</td>
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<td>shall receive all public complaints about construction disturbances and be</td>
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<td>responsible for determining the cause of the complaint and implementation of</td>
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<td>feasible measures to be taken to alleviate the problem.</td>
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<td>• Locate stationary or fixed construction equipment (e.g., compressors and</td>
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<td>generators), construction staging and stockpiling areas, and construction</td>
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<td>vehicle routes as far as feasible from noise-sensitive receptors.</td>
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<td>• Prohibit the start-up of machines or equipment before 7 a.m. and after 7 p.m.</td>
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<tr>
<td>Monday through Saturday and before 9 a.m. and after 5 p.m. on Sunday.</td>
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<tr>
<td>• Prohibit use of materials and equipment deliveries before 7 a.m. and after 7 p.m.</td>
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<tr>
<td>Monday through Saturday and before 9 a.m. and after 5 p.m. on Sunday.</td>
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<tr>
<td>• Restrict the use of bells, whistles, alarms, and horns to safety-warning</td>
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<td>purposes.</td>
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<td>• Equip all construction equipment with noise-reduction devices such as mufflers</td>
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<td>to minimize construction noise and operate all internal combustion engines with</td>
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<td>exhaust and intake silencers.</td>
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<tr>
<td>• Use noise-reducing enclosures around stationary noise generating equipment.</td>
<td>• Incorporate noise-reducing measures into the project's generator and pump enclosure design</td>
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<td>• To the extent feasible, the simultaneous operation of multiple construction</td>
<td>requirements.</td>
</tr>
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<td>equipment shall be limited.</td>
<td>• Retain a qualified acoustical consultant to assist with preparing the project's generator</td>
</tr>
<tr>
<td>• Install temporary barrier between noise sources and noise sensitive receptors,</td>
<td>and pump enclosure and sound wall specifications.</td>
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<td>or the use of intervening structures (i.e.; on-site construction trailer,</td>
<td>• Ensure that well pumps and generator are designed consistent with Mitigation Measure NOISE-2.</td>
</tr>
<tr>
<td>stockpiles).</td>
<td>• Confirm that noise-reducing methods are included in project plans and specifications.</td>
</tr>
<tr>
<td><strong>NOISE-2 Employ Noise-reducing Methods during Operations at Site B.</strong></td>
<td></td>
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<tr>
<td>The City shall implement noise-reducing methods so that noise from well operations</td>
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<td>at Site B, located at the corner of McHenry Avenue and Stewart Road, does not</td>
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<td>exceed County noise-level standards at adjacent residences. Measures to be</td>
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<td>implemented shall include the following:</td>
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<tr>
<td><strong>Generator</strong></td>
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<tr>
<td>1. Project specifications shall include generator sound level limits of 73</td>
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<td>dBA at 23 feet, similar to those at the City's Well 62 facility.</td>
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<tr>
<td>2. Noise control specifications for the generator set shall include a sound-</td>
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<td>attenuated enclosure for the pump and a sound wall within the facility wall.</td>
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<td>Specifications for the pump enclosure and sound wall are prescribed in item 5</td>
<td></td>
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<td>below.</td>
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<td>3. Routine testing of the generator shall be performed during daytime hours,</td>
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<td>between 10 a.m. and 5 p.m.,</td>
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<td>when background sound levels are highest, to minimize potential noise impacts.</td>
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<tr>
<td>4. Obtain the services of a qualified acoustical consultant to conduct project-related operational noise measurements at sensitive receptor locations adjacent to the Proposed Project site to ensure that noise-reducing measures comply with applicable codes. If noise measurements do not comply with applicable codes, additional noise reduction measures should be designed and incorporated.</td>
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<tr>
<td>With these measures, no additional sound reduction would be required to reduce sound levels due to the generator set.</td>
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<tr>
<td><strong>Pump Enclosure and Sound Wall</strong></td>
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<tr>
<td>5. The pump enclosure shall be designed to the following specifications to ensure operational sound levels are reduced below County standards:</td>
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<td>(a) Install a modular sound wall with an optional removable roof adjacent to the pump. The sound-absorptive modular barrier system shall be installed along the west edge of the pump base to a height of at least 10 feet above grade. The barrier system will wrap around the north and south sides of the pump to create a three-walled system with integrated sound absorption. In general, acoustical barriers perform best when close to the noise source. Acceptable products include the following or an approved equivalent: Kinetics Noiseblock Barrier</td>
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<td>Mitigation Measure</td>
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<td>-----------------------------------------------------------------------------------</td>
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<tr>
<td>Panel System, Noise Barriers LLC QuietLine Barrier Walls, Sound Fighter Systems LSE.</td>
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</table>

(b) Include an insulated sheet metal shroud around the pump motor and shaft. Construct the sheet metal shroud to block the line of sight to the motor ventilation openings. Construction materials shall include exterior-grade sheet metal used for heating, ventilation, and air conditioning (HVAC) ducts and acoustical duct liner.

(c) If the above measures cannot be employed for the pump, one of the following measures will be implemented to meet the County's nighttime noise threshold of 45 dBA:

i. Install a submersible pump that would place the motor under water and virtually eliminate the sound source.

ii. Increase the height of the equipment yard sound wall above 12 feet. Based on the noise analysis, increasing the equipment yard wall height to 13 feet would result in an additional 2 dBA of attenuation and a predicted sound level of 45 dBA. A 14-foot-tall wall could reduce sound levels by an additional 1 dBA.

iii. Construct a barrier adjacent to the motor with a removable roof barrier directly over the motor. This secondary barrier directly adjacent to the pump motor on the west side would effectively...
reduce sound levels below the nighttime noise threshold. The detachable roof would still provide access to the motor for servicing and removal.

The barrier adjacent to the motor shall be designed to the following specifications to ensure operational sound levels would be reduced below County standards:

- The barrier shall be constructed around the equipment within the wall surrounding the facility.
- The barrier shall weigh a minimum of 4 pounds per square foot. Painted and sealed concrete block easily meets this weight requirement.
- The barrier shall be continuous along its length and width with no gaps in the construction, including at the ground. The equipment yard pad shall be sloped such that weeping holes are only needed on the north and east sides of the facility.

iv. Construct an insulated sheet metal shroud around the motor and shaft. This metal shroud would accommodate air circulation requirements for the motor, but would divert sound energy away from the motor openings and base near the shaft. Sound energy would
be attenuated by sound-absorbing material within the metal shroud.
City of Modesto Utilities Department

Final Environmental Impact Report
Del Rio Tank and Wells Project
Stanislaus County, California

July 2017

State Clearinghouse Number: 2015072055; EA/UTL No. 2015-05
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City of Modesto Utilities Department

Final Environmental Impact Report
Del Rio Tank and Wells Project
Stanislaus County, California

State Clearinghouse Number: 2015072055
EA/UTL No. 2015-05

Prepared for: City of Modesto Utilities Department
P.O. Box 642 (1010 Tenth Street)
Modesto, CA 95353

Prepared by: Horizon Water and Environment, LLC
266 Grand Avenue, Suite 210
Oakland CA 94610

Contact: Michael Stevenson
(510) 986-1852

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# Acronyms and Abbreviations

<table>
<thead>
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<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CASGEM</td>
<td>California Statewide Groundwater Elevation Monitoring</td>
</tr>
<tr>
<td>CCR</td>
<td>California Code of Regulations</td>
</tr>
<tr>
<td>CEQA</td>
<td>California Environmental Quality Act</td>
</tr>
<tr>
<td>City</td>
<td>City of Modesto</td>
</tr>
<tr>
<td>DEIR</td>
<td>draft environmental impact report</td>
</tr>
<tr>
<td>EIR</td>
<td>environmental impact report</td>
</tr>
<tr>
<td>FEIR</td>
<td>final environmental impact report</td>
</tr>
<tr>
<td>gpm</td>
<td>gallons per minute</td>
</tr>
<tr>
<td>IRGMP</td>
<td>Integrated Regional Groundwater Management Plan</td>
</tr>
<tr>
<td>NOA</td>
<td>Notice of Availability</td>
</tr>
<tr>
<td>NOP</td>
<td>Notice of Preparation</td>
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<tr>
<td>NOx</td>
<td>oxides of nitrogen</td>
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<td>NPDES</td>
<td>National Pollutant Discharge Elimination System</td>
</tr>
<tr>
<td>NPPA</td>
<td>Native Plant Protection Act</td>
</tr>
<tr>
<td>NRHP</td>
<td>National Register of Historic Places</td>
</tr>
<tr>
<td>OPR</td>
<td>Governor’s Office of Planning and Research</td>
</tr>
<tr>
<td>RWQCB</td>
<td>Regional Water Quality Control Board</td>
</tr>
<tr>
<td>STRGBA</td>
<td>Stanislaus and Tuolumne Rivers Groundwater Basin Association</td>
</tr>
</tbody>
</table>
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Chapter 1

INTRODUCTION

The City of Modesto (City) as the lead agency has prepared this Final Environmental Impact Report (FEIR) to provide other responsible agencies and the public with information about the potential environmental effects of the proposed Del Rio Tank and Wells Project (Proposed Project). This FEIR was prepared in compliance with the California Environmental Quality Act (CEQA) of 1970 (as amended) and the CEQA Guidelines (Title 14 California Code of Regulations [CCR] Section 15000 et seq.).

1.1 FEIR Context

The City of Modesto provides water service to the community of Del Rio. The Del Rio water system currently requires a new storage tank (and associated pump station), well, replacement well, backup generators, and pipelines to correct existing supply deficiencies. The Proposed Project was evaluated in a draft environmental impact report (DEIR) in accordance with CEQA and the CEQA Guidelines, and was circulated for a 45-day public review period.

CEQA requires the lead agency to prepare an FEIR, addressing all substantive comments received on the DEIR, before approving a project. The FEIR must include a list of all individuals, organizations, and agencies that provided comments on the DEIR, and must contain copies of all comments received during the public review period along with the lead agency’s responses.

The FEIR will be distributed to public agencies that provided comments 10 days prior to certifying the FEIR. At the close of the 10-day public agency review period, City staff will recommend to the Modesto City Council whether or not to certify the FEIR. This governing body then will review the FEIR, consider City staff recommendations and public testimony, and decide whether to certify the FEIR.

For significant impacts identified in the EIR that cannot be mitigated, a statement of overriding considerations must be included in the record of the Proposed Project and mentioned in the Notice of Determination, to be filed with the Governor’s Office of Planning and Research (OPR) and at the office of the County Clerk (14 CCR Section 15093[c]).

1.2 Comments on the DEIR

The DEIR for the Proposed Project was submitted to OPR’s State Clearinghouse for distribution to state agencies and was available to agencies and the public for review and comment for 45 days from November 7, 2016, to December 22, 2016. Comment letters were received from federal, state, and local agencies; organizations and businesses; and individuals. Chapters 2 and 3 of this FEIR provide detailed summaries of the public participation process and comments received.
1.3 Organization and Contents of the FEIR

The FEIR contains the following components, in addition to the DEIR and its appendices:

Chapter 1, Introduction, presents the FEIR context, summarizes the public review period for the DEIR, and describes the organization and contents of the FEIR.

Chapter 2, Summary of Public Participation, summarizes the environmental and public review process, in accordance with CEQA.

Chapter 3, Responses to Comments, lists and assigns identifiers to each individual or group that commented on the DEIR during the public review process. Written comments received during the public review period are reproduced and a response is provided for each comment that addresses the environmental analysis.

Chapter 4, Revisions to the DEIR, identifies changes to the text of the DEIR made in response to the public review and comment process.

Chapter 5, Report Preparation, lists the individuals responsible for preparing the FEIR.

Chapter 6, References, provides information about all printed or electronic references and persons consulted during the preparation of this FEIR.
Chapter 2

SUMMARY OF PUBLIC PARTICIPATION

Public disclosure and informed decision making are priorities under CEQA. CEQA mandates two periods during the EIR process when citizen and public agency comments on the impacts of a proposed program are solicited: (1) during the scoping comment period, and (2) for a DEIR, during the public review period. This chapter summarizes the City’s efforts to comply with CEQA mandates for public disclosure.

2.1 Notice of Preparation and Public Scoping

Scoping refers to the public outreach process used under CEQA to determine the coverage and content of an EIR. The scoping comment period offers an important early opportunity for public review and comment on the focus of the CEQA analysis. The scoping process for an EIR is initiated by publication of the Notice of Preparation (NOP), as required by CEQA, which provides formal notice to the public and to interested agencies and organizations that a DEIR is in preparation. Additionally, the NOP informs responsible agencies and the public whether the Proposed Project could have significant effects on the environment and to solicit their comments so that any concerns raised could be considered during the preparation of the DEIR. During the scoping period, agencies and the public are invited to comment on the project, the approach to environmental analysis, and any issues of concern to be discussed in the DEIR. Scoping also can assist the lead agency with identification of project alternatives and mitigation measures. CEQA does not require public meetings during the scoping phase.

In accordance with CEQA Guidelines Sections 15082(a), 15103, and 15375, the City circulated an NOP for the Proposed Project on July 28, 2016. The NOP was circulated to the public; local, state, and federal agencies; and other interested parties. A copy of the NOP was included in Appendix A, Scoping Summary, of the DEIR. Comment letters received in response to the NOP were also compiled in the scoping summary and were considered during preparation of the DEIR.

2.2 Notice of Availability of the DEIR and Public Review

Upon completion of the DEIR, the City issued a Notice of Availability (NOA), providing agencies and the public with formal notification that the document was available for review. The notice was sent to OPR’s State Clearinghouse, all responsible and trustee agencies, persons and organizations that requested a copy, and the Stanislaus County Clerk’s office for posting. Notices were also published in local newspapers.

These actions triggered a 45-day public review period, which began on November 7, 2016, and concluded on December 22, 2016.

During the review period for the DEIR, all documents related to the Proposed Project were available for review on City business days, between the hours of 8 a.m. and 5 p.m., at the following location:
In addition, an electronic copy of the DEIR was available for review and download from the City's website (www.modestogov.com), and CD copies of the DEIR were also available by contacting Tamorah Bryant, Senior Civil Engineer.

2.3 Comments on the DEIR

Written comments or questions concerning the DEIR were accepted during the public review period at the name and address listed below. Submittal of written comments via email was encouraged; however, many commenters elected to mail comments to the address below.

Tamorah Bryant, Senior Civil Engineer
City of Modesto Utilities Department
P.O. Box 642
Modesto, CA 95353
Email: tbryant@modestogov.com

A total of 10 comment submittals (letters and emails) were received during the public review period. Chapter 3 provides additional information about comments received on the DEIR.

2.4 Certification of the FEIR and Public Hearing

CEQA requires the lead agency to prepare a FEIR, addressing all substantive comments received on the DEIR. The FEIR must include a list of all individuals, organizations, and agencies that provided comments on the DEIR, and must contain copies of all comments received during the public review period, along with the lead agency's responses. Accordingly, Chapter 3 of this FEIR includes a list of commenters, copies of all comments received, and responses to those comments. Together with the DEIR, this FEIR constitutes the entire EIR for the purposes of compliance with CEQA. (See generally 14 CCR Section 15132.)

The FEIR will be distributed to public agencies that provided comments, 10 days prior to a public hearing hosted by the City as lead agency. At the public hearing, the City will review the EIR, consider staff recommendations, accept public testimony, and decide whether to certify the EIR.

The EIR certification hearing will be held at 5:30 p.m. on August 2, 2017, at the Modesto City Council Chambers, 1010 Tenth Street, Lower Level, Modesto, CA 95353.
Chapter 3
COMMENTS ON THE DEIR AND RESPONSES

3.1 Introduction

CEQA requires the lead agency to prepare a FEIR, addressing all substantive comments received on the DEIR. The FEIR must include a list of all individuals, organizations, and agencies that provided comments on the DEIR, and must contain copies of all comments received during the public review period, along with the lead agency's responses.

This chapter provides a list of comments received, copies of the comments, and responses to those comments that address environmental issues.

Individual comments within each submittal are marked and numbered in the margin of the comment letter. The marked individual comments correspond to the responses to those comments. For example, Comment A-3 from Letter A corresponds to the response to Comment A-3.

3.2 List of Comments Received

The City received 10 comment submittals, including letters and emails, during the public review period. Table 3-1 lists the identifier for each submittal; the name and affiliation of the individual who submitted each comment; and the date the comment was received.

<table>
<thead>
<tr>
<th>Comment Letter</th>
<th>Commenter Name and Affiliation</th>
<th>Date Received</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Stephanie Tadlock, Central Valley Regional Water Quality Control Board</td>
<td>December 19, 2016</td>
</tr>
<tr>
<td>B</td>
<td>Patrick Cavanah, Stanislaus County Environmental Review Committee</td>
<td>December 22, 2017</td>
</tr>
<tr>
<td>C</td>
<td>Scott Morgan, Governor's Office of Planning and Research State Clearinghouse and Planning Unit</td>
<td>December 27, 2016</td>
</tr>
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### 3. Responses to Comments

<table>
<thead>
<tr>
<th>Comment Letter</th>
<th>Commenter Name and Affiliation</th>
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</tr>
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<tbody>
<tr>
<td><strong>Organizations</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>Joyce Parker, Del Rio Property Owners Association</td>
<td>December 8, 2016</td>
</tr>
<tr>
<td>F</td>
<td>Greg Young, Tully &amp; Young, representing North Modesto Groundwater Alliance</td>
<td>December 21, 2016</td>
</tr>
<tr>
<td><strong>Businesses and Individuals</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G</td>
<td>Richard Michelotti</td>
<td>December 20, 2016</td>
</tr>
<tr>
<td>H</td>
<td>Gary Darpinian, K. Darpinian and Sons</td>
<td>December 20, 2016</td>
</tr>
<tr>
<td>I</td>
<td>Cheri Barnes</td>
<td>December 20, 2016</td>
</tr>
<tr>
<td>J</td>
<td>Jim and Joani Matthews</td>
<td>December 20, 2016</td>
</tr>
</tbody>
</table>

### 3.3 Comments and Responses

This section contains a copy of each comment letter or email received during the DEIR review period. Following each submittal are the City’s responses to each comment that addresses an environmental issue.
Comment Letter A – Stephanie Tadlock, Central Valley Regional Water Quality Control Board

14 December 2016

Tamra Bryant
City of Modesto
P.O. Box 642
Modesto, CA 95353

Comments to Request for Review for the Draft Environmental Impact Report, Del Rio Tank and Wells Project, SCE# 2015072055, Stanislaus County

Pursuant to the State Clearinghouse on 7 November 2016 request, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) has reviewed the Request for Review for the Draft Environmental Impact Report for the Del Rio Tank and Wells Project, located in Stanislaus County.

Our agency is dedicated to the responsibility of protecting the quality of surface and groundwater of the state; therefore, our comments will address concerns surrounding those issues.

1. Regulatory Setting

Basin Plan

The Central Valley Water Board is required to formulate and adopt Basin Plans for all areas within the Central Valley region under Section 13260 of the Porter-Cologne Water Quality Control Act. Each Basin Plan must contain water quality objectives to ensure the reasonable protection of beneficial uses, as well as a program of implementation for achieving water quality objectives with the Basin Plans. Federal regulations require each state to adopt water quality standards to protect the public health and welfare, enhance the quality of water and serve the purposes of the Clean Water Act. In California, the beneficial uses, water quality objectives, and the Ambient Viability Policy are the State’s water quality standards. Water quality standards are also specified in the National Toxics Rule, 40 CFR Section 131.36, and the California Toxics Rule, 40 CFR Section 131.38.

The Basin Plan is subject to modification as necessary, considering applicable laws, policies, technologies, water quality conditions and priorities. The original Basin Plans were adopted in 1975, and have been updated and revised periodically as required, using Basin Plan amendments. Once the Central Valley Water Board has adopted a Basin Plan amendment in noticed public hearings, it must be approved by the State Water Resources Control Board (State Water Board), Office of Administrative Law (OAL) and in some cases,
3. Responses to Comments

Antidegradation Considerations

All wastewater discharges must comply with the Antidegradation Policy (State Water Board Resolution 08-18) and the Antidegradation Implementation Policy contained in the Basin Plan. The Antidegradation Policy is available on page IV.6.01 at:
http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/plan/pdf

In part it states:

Any discharge of wastes to high quality waters must apply best practicable treatment or controls not only to prevent a condition of pollution or nuisance from occurring, but also to maintain the highest water quality possible consistent with the maximum benefit to the people of the State.

This information must be presented in an analysis of the impacts and potential impacts of the discharge on water quality, as measured by background concentrations and applicable water quality objectives.

The antidegradation analysis is a mandatory element in the National Pollutant Discharge Elimination System and state discharge Wastewater Discharge Requirements (WDRs) permitting processes. The environmental review document should evaluate potential impacts to both surface and groundwater quality.

B. Permitting Requirements

Construction Storm Water General Permit

Dischargers whose project disturbs one or more acres of soil on whose projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Storm Water Dischargers Associated with Construction Activities (Construction General Permit), Construction General Permit Order No. 2009-009-CWQ. Construction activity subject to this permit includes clearing, grading, grubbing, disturbance to the ground, such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original soil grade, or capacity of the facility. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan.
For more information on the Construction General Permit, visit the State Water Resources Control Board website at:

Phase I and II Municipal Separate Storm Sewer System (MS4) Permits
The Phase I and II MS4 permits require the Permittees reduce pollutants and runoff flows from new development and redevelopment using Best Management Practices (BMPs) to the maximum extent practicable (MEP). MS4 Permittees have their own development standards, also known as Low Impact Development (LID) post-construction standards that include a hydrostitution component. The MS4 permittees also require specific design concepts for LID post-construction BMPs in the early stages of a project during the entitlement and CEQA process and the development plan review process.

For more information on the Phase I MS4 Permit, visit the Central Valley Water Board website at:

Industrial Storm Water General Permit
Storm water discharges associated with industrial sites must comply with the regulations contained in the Industrial Storm Water General Permit Order No. 2014-0607-CVQ.

For more information on the Industrial Storm Water General Permit, visit the Central Valley Water Board website at:

Clean Water Act Section 404 Permit
If the project will involve the discharge of dredged or fill material in navigable waters or wetlands, a permit pursuant to Section 404 of the Clean Water Act may be needed from the United States Army Corps of Engineers (USACE). If a Section 404 permit is required by the USACE, the Central Valley Water Board will review the permit application to ensure that discharge will not violate water quality standards. If the project requires surface water discharge, a Section 404 permit may be necessary.
3. Responses to Comments

Del Rio Tank and Wells Project
Stanislaus County

14 December 2016

3. Responses to Comments

If you have any questions regarding the Clean Water Act Section 401 permits, please contact the Regulatory Division of the Sacramento District of USACE at (916) 557-6240.

Clean Water Act Section 401 Permit – Water Quality Certification

If USACE issues a permit (e.g., Non-Reporting Major/Minor Permit, Nationwide Permit, Individual Permit, Regional General Permit, Programmatic General Permit), or any other federal permit (e.g., Section 10 of the Rivers and Harbors Act or Section 9 from the United States Coast Guard), it is required for this project due to the discharge of wastes from the United States (such as streams and wetlands). Therefore, a Water Quality Certification must be obtained from the Central Valley Water Board prior to initiation of project activities. There are no waivers for 401 Water Quality Certifications.

Waste Discharge Requirements – Discharges to Waters of the State

If USACE determines that only non-jurisdictional waters of the State (i.e., “non-federal” waters of the State) are present in the proposed project area, the proposed project may require a Waste Discharge Requirement (WDR) permit to be issued by the Central Valley Water Board. Under the California Porter-Cologne Water Quality Control Act, discharges to all waters of the State, including all wetlands and other waters of the State, including, but not limited to, isolated wetlands, are subject to State regulation.

For more information on the Water Quality Certification and WDR processes, visit the Central Valley Water Board website at:

Dewatering Permit

If the proposed project involves construction or groundwater dewatering to be discharged to land, the proponent may apply for coverage under State Water Board General Water Quality Order (Low Risk General Order) 2003-00003 or the Central Valley Water Board’s Water of Shore or Waste Discharge and Waste Discharge Requirements (Low Risk Waiver) HS-2014-00145. Small temporary construction dewatering projects are projects that discharge groundwater to land from excavation activities or dewatering of underground utility vaults. Dischargers seeking coverage under the General Order or Waiver must file a Notice of Intent with the Central Valley Water Board prior to beginning discharge.

For more information regarding the Low Risk General Order and the application process, visit the Central Valley Water Board website at:

For more information regarding the Low Risk Waiver and the application process, visit the Central Valley Water Board website at:
3. Responses to Comments

Regulatory Compliance for Commercially Irrigated Agriculture

If the property will be used for commercial irrigation agriculture, the discharge will be required to obtain regulatory coverage under the Irrigated Lands Regulatory Program. There are two options to comply:

1. Obtain Coverage Under a Coalition Group. Join the local Coalition Group that supports land retorno with the implementation of the Irrigated Lands Regulatory Program. The Coalition Group conducts water quality monitoring and reporting to the Central Valley Water Board on behalf of its growers. The Coalition Groups charge an annual membership fee, which varies by Coalition Group. To find the Coalition Group in your area, visit the Central Valley Water Board’s website at http://www.waterboards.ca.gov/cvvalleywater/irrigated/landscape/index.shtml, contact water board staff at (916) 464-4611 or via email at irlands@waterboards.ca.gov.

2. Obtain Coverage Under the General Waste Discharge Requirements for Individual Growers. General Order 8-2013-0180. Dischargers not participating in a third-party group (Coalition) are regulated individually. Depending on the specific site conditions, growers may be required to monitor runoff from their property, install monitoring wells, and submit a notice of intent, farm plan, and other action plans regarding their actions to comply with their General Order. Yearly costs would include State administrative fees (for example, annual fees for farm sizes from 10 to 102 acres are currently $1,000 = $4.70/acre), the cost to prepare annual monitoring reports, and water quality monitoring costs. To enroll as an individual discharger under the Irrigated Lands Regulatory Program, call the Central Valley Water Board’s phone line at (916) 464-4611 or via board staff at irlands@waterboards.ca.gov.

Low or Limited Threat General NPDES Permit

If the proposed project includes construction dewatering and it is necessary to discharge the groundwater to waters of the United States, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. Dewatering discharges are typically considered a low or limited threat to water quality and may be covered under the General Order for Dewatering and Other Low Threat Discharges to Surface Waters (Low Threat General Order) or the General Order for Limited Threat Discharges of Friable/Unconsolidated Groundwater from Cleanup Sites, Wastewater from Superfund Site Projects, and Other Limited Threat Wastewaters to Surface Water (Limited Threat General Order). A complete application must be submitted to the Central Valley Water Board to obtain coverage under these General NPDES permits.
For more information regarding the Low Threat General Order and the application process, visit the Central Valley Water Board website at

For more information regarding the Limited Threat General Order and the application process, visit the Central Valley Water Board website at

NPDES Permit

If the proposed project discharges waste that could affect the quality of the waters of the State, other than into a community sewer system, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. A complete Report of Waste Discharge must be submitted with the Central Valley Water Board to obtain a NPDES Permit.

For more information regarding the NPDES Permit and the application process, visit the Central Valley Water Board website at:

If you have questions regarding these comments, please contact me at (916) 484-4644 or Stephanie.Tarbuck@waterboards.ca.gov.

Stephanie Tarbuck
Environmental Specialist

cc: State Clearinghouse Unit, Governor’s Office of Planning and Research, Sacramento
Response to Comment A-1

The City acknowledges and appreciates the Central Valley Regional Water Quality Control's (RWQCB's) review and comments on the DEIR, and its input regarding the various regulatory permitting requirements that may apply to the Proposed Project. The permitting requirements stated in the Central Valley RWQCB's letter are described in Chapter 9, *Groundwater*, of the DEIR and in Section IX, Hydrology, of Appendix B, *Environmental Checklist*. The Proposed Project would comply with the regulatory requirements described in the letter as applicable.

Response to Comment A-2

The comment does not state a specific concern or question regarding the environmental impact analysis in the DEIR. The comment generally describes regulatory requirements. The Proposed Project will comply with all applicable regulatory requirements. Therefore, no further response to this comment is provided.

Response to Comment A-3 – A-32

See the response to Comment A-2.
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Comment Letter B – Patrick Cavanah, Stanislaus County Environmental Review Committee

Del Rio Tank and Wells Project
Final Environmental Impact Report

December 22, 2016

Dear Mr. Bryant,

Thank you for the opportunity to review the Draft Environmental Impact Report for the above-referenced project.

The Stanislaus County Environmental Review Committee (ERC) has reviewed the subject project and has identified areas that need to be clarified or expanded upon as part of the final environmental impact report. First, the environmental assessment should identify projected water volumes from the proposed wells and whether this water supply will be available to serve both Area I and Area II of the Del Rio Community Plan in terms of water supply, quality, and pressure. Additionally, please clarify whether the anticipated growth includes Area II of the Del Rio Community Plan, and if the wells are sized to serve Area II, the cumulative effects of growth need to be analyzed.

The identified alternative to connect to the existing City water system, approximately two miles south on Mountain Avenue of the project site should be better studied. The analysis for this alternative should include a cost-benefit analysis, schedule of delivery, reliability analysis, and a comparison of environmental impacts. In addition, the report should consider and evaluate the potential of incorporating a private or public well site at the Del Rio High development located in Area I along the westlode of Denver Road.

The ERC appreciates the opportunity to comment on this project.

Yours sincerely,

[Signature]

Fernando Bryant, Senior Civil Engineer
City of Modesto
Utilities Department
P.O. Box 542
Modesto, CA 95353

ENVIRONMENTAL REFERRAL - CITY OF MODESTO - UTILITIES DEPARTMENT -- NOTICE OF AVAILABILITY OF THE DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE DEL RIO TANK AND WELLS PROJECT (SCH #2015072011)
December 22, 2016
Page 2

Sincerely,

Patrick Cavanah
Management Consultant
Environmental Review Committee

cc: ERC Members
Response to Comment B-1

The comment does not state a specific concern or question regarding the environmental impact analysis in the DEIR. Therefore, no further response to this comment is provided.

Response to Comment B-2

Several commenters raised questions about the water volumes and improvements of the Del Rio Tank and Wells Project (Proposed Project) and its relationship to Area I and Area II of the Del Rio Community Plan (Stanislaus County 1992). This response addresses that issue. In addition, this response addresses related issues raised in other comment letters, including the objectives of the Proposed Project, the water yield of the Proposed Project, the areas served by the Proposed Project, and the water system improvements anticipated for future Del Rio buildout that are not included as part of the Proposed Project.

The Proposed Project is based on the findings of the City of Modesto's 2010 Water System Engineer's Report, specifically Appendix H, City of Modesto’s 2010 Water System Engineer’s Report Evaluation of the Existing Buildout Water System for the Del Rio Outlying Service Area (2010 WSER). The 2010 WSER evaluates and identifies improvements needed for (1) the existing Del Rio water system to address existing deficiencies and (2) future buildout of the Del Rio water system needed to address future development within the Del Rio Community Plan area. The Proposed Project analyzed in the DEIR only includes the system improvements needed to address existing deficiencies. It does not include the improvements necessary to meet future buildout needs. Section 8.1, Existing System Recommendations, of the 2010 WSER lists recommended improvements for the existing water system, the boundaries of which are shown in Figure 1 of the 2010 WSER. Recommended improvements include replacement of Well 271, new delivery pipeline, a new production well, and a new storage tank. These components are included in the Proposed Project. The recommended improvements necessary for the buildout system, identified in Section 8.2 of the 2010 WSER, are not included in the Proposed Project.

As discussed in the 2010 WSER and the DEIR, the existing three wells are not sufficient to meet existing peak-hour and maximum-day demands plus fire flow conditions. The replacement of Well 271 and a new well are required to meet existing system demands. As discussed in Chapter 2, Project Description, of the DEIR, the wells for the Proposed Project are sized to meet the high-demand conditions. They are expected to operate during off-peak demand periods to fill the proposed adjacent storage tank, which stores water to meet peak-hour and fire flow demands. It is reasonable to assume that the anticipated yield for both the replacement well and the new proposed well would be substantially lower than the maximum theoretical yield because, as explained in Chapter 2 and Chapter 9, Groundwater, of the DEIR, the theoretical maximum annual yield is more than double the annual average yield over the past 5 years for the entire Del Rio service area. The Proposed Project does not address future growth in the Del Rio Community Plan area and would not double the water capacity for the Del Rio area at this time, or in the near future, as alleged by some commenters. The Proposed Project would correct existing deficiencies in the Del Rio water system, ensure sufficient pressure to provide firefighting flow capacity, and improve operational flexibility and reliability.

The 2010 WSER includes recommended improvements required to meet future buildout needs. The water system buildout area is shown in Figure 7 and is consistent with Area 1 as
shown in the Del Rio Community Plan. Buildout system recommendations are identified in Section 8.2 of the 2010 WSER and are not included in the Proposed Project. The Proposed Project improvements are not sufficient to meet buildout system requirements. The Proposed Project includes booster pumps capable of providing 1.0 million gallons per day (mgd) of pumping capacity. To meet buildout needs, the pump station would need to be expanded to provide an additional 1.0 mgd (total of 2.0 mgd) of pumping capacity. The new well and backup generator are needed to meet existing system requirements. To meet buildout system requirements, further improvements to these systems are needed.

In summary, the Proposed Project includes recommended improvements for the existing water system identified in the 2010 WSER. It does not include the recommended improvements necessary for the buildout water system identified in the 2010 WSER. Improvements for the buildout water system are not included in the Proposed Project and would be subject to separate environmental review under CEQA.

Response to Comment B-3

This comment and several other commenters raised questions over the adequacy of the alternatives analysis for the Proposed Project. This response addresses various comments relating to alternatives. The following discussion addresses the potential project sites that have been previously explored and the reasonable range of alternatives analyzed for the Proposed Project.

The City has been pursuing a solution to the water issues in the Del Rio community since 2005. As explained in Section 2.4.1 on page 2-9 of the DEIR, the 2010 WSER Program EIR included evaluation of a proposed tank and pump station on a large parcel of land north of McHenry Avenue and Stewart Road. As the project developed, no land was available for sale in that area. The City then considered alternative locations but was unable to complete the purchase of land in those alternative locations. In general, the City does not evaluate sites that would require eminent domain proceedings and, as such, has limited its consideration to willing sellers. The Site A Well Only Alternative was initially considered, as described in Chapter 12 of the DEIR, but was dismissed from consideration in the EIR because the City determined that, with only one well, it would be unable to accommodate system pressure demands and supply reliability needs for firefighting and operational reliability (page 12-10). Existing Well 271 is located on a parcel that is not large enough to install a replacement well. The Del Rio water system has limited water supply, so Well 271 needs to remain operational until its replacement is constructed and permitted. The City has considered relocating the well to a nearby parcel, but no land was available for sale in that area. Well 289 is on a small, irregularly shaped parcel, which would limit the diameter of the proposed tank. Alternative 1 would also expose more residential sensitive receptors to noise-related impacts than the Proposed Project.

The DEIR also evaluated the impacts of Alternative 2, “Connect to the City’s Supply System,” and determined that it would not reduce water supply impacts on the City’s system, but rather would displace them elsewhere within the service area. The DEIR also explained that Alternative 2 would be substantially more expensive than the Proposed Project (page 12-11). The DEIR further explained that Alternative 2 would have greater environmental impacts on biological, cultural, and hydrologic resources and expose more residential sensitive receptors near the pipeline alignment to construction-related noise impacts than the Proposed Project.
The types of analysis requested by some commenters—such as cost-benefit analysis, schedule of delivery, and reliability analysis—are not required for analysis of alternatives under CEQA. The environmental impacts of Alternatives 1 and 2 are compared to those of the Proposed Project in Table 12-1 of the DEIR in full compliance with CEQA.

Several alternative locations, including one at the Del Rio Golf Course and Country Club (see page 12-10) near the Del Rio Lago development, were also considered and dismissed from further evaluation because they were infeasible or failed to meet some or all of the project objectives:

- The City initially considered sites north of McHenry Avenue and Steward Road. As the project developed, no land was available for sale in that area. The City then considered several alternative locations, including a site at 6520 Carver Road, but was unable to complete the purchase of land at any of those locations.

- No land was available for sale in the Del Rio Lago development. Further, the well site associated with the development (lot "D" created by Subdivision Map 43M85 and as shown on the Stanislaus County Assessor’s Parcel Map) is large enough for a well site but is not large enough for a well, tank, and pump station.

- Relying on only the well at Site A was infeasible because, with only one well, the City could not accommodate system pressure demands and supply reliability needs for firefighting and operational reliability.

- A water exchange between the City and the Del Rio Golf and Country Club would involve using the country club's groundwater wells to supply Del Rio with water in exchange for recycled water from the City’s wastewater treatment plant. This alternative was found to be infeasible because of cost and because the quantity of groundwater replaced would not be sufficient to achieve the Proposed Project’s reliability objective and goals.

- The 2010 Program EIR included evaluation of a proposed tank and pump station on a large parcel of land north of McHenry Avenue and Stewart Road. As the project developed, no land was available for sale in that area. The City then considered alternative locations, including River Nine Drive and 6520 Carver Road, but was unable to find willing sellers or complete the purchase of land in those alternative locations. On March 13, 2012, by Resolution 2012-101, the City Council approved the purchase of two parcels at 718 Ladd Road.

CEQA does not require the adoption of the environmentally superior alternative. Modesto’s City Council is the ultimate decision maker as to what project or alternative to approve. The City Council will make the decision and required findings on adoption of a project and rejection of any alternatives.

Response to Comment 8-4

The comment does not state a specific concern or question regarding the environmental impact analysis in the DEIR. Therefore, no further response to this comment is provided.
Comment Letter C – Scott Morgan, Governor’s Office of Planning and Research, State Clearinghouse

Del Rio Tank and Wells Project
Final Environmental Impact Report
# 3. Responses to Comments

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### Document Details Report
State Clearinghouse Data Base

**Project Title**: Del Rio Tank and Wells Project

**Lead Agency**: Modesto, City V

**Type**: EIR - Draft

**Description**: The City of Modesto is the lead agency for preparation and review of an environmental impact report for the Del Rio Tank and Wells Project (Proposed Project). The Proposed Project includes construction of a water storage tank, booster pump station, and two domestic water wells which will provide additional storage capacity, water supply, and pressure to the existing water system serving the City's residents. The City's Water/Wastewater System's Regional Program Environmental Impact Report (WEIRP) identified the Project as a potentially significant impact. Modesto, City V is identified as the Responsible Agency for this project.

### Lead Agency Contact
- **Name**: [Name]
- **Agency**: City of Modesto
- **Phone**: [Number]
- **Email**: [Email]
- **Address**: P.O. Box 1640, Modesto, CA 95352
- **City**: Modesto
- **State**: CA
- **Zip**: 95352

### Project Location
- **County**: Stanislaus
- **City**: Modesto

### Project Map
- **Location**: [Coordinates]

### Proximity
- **Highways**: [Highways]
- **Airports**: [Airports]
- **Railroads**: [Railroads]
- **Waterways**: [Waterways]
- **Schools**: [Schools]
- **Land Use**: [Land Use]

### Project Agencies
- **Recreation Agency**: [Agency]
- **Reclamation Agency**: [Agency]
- **Regional Agency**: [Agency]
- **State Agency**: [Agency]

### Document Details
- **Date Submitted**: 1/11/2017
- **Type of Review**: Draft
- **End of Review**: 1/11/2017
- **End of Record**: 2/21/2017
3. Responses to Comments

COMMENTS TO REQUEST FOR REVIEW FOR THE DRAFT ENVIRONMENTAL IMPACT REPORT, DEL RIO TANK AND WELLS PROJECT, SCHW 2015072056, STANISLAUS COUNTY

Pursuant to the State Clearinghouse's 7 November 2014 request, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) has reviewed the Request for Review for the Draft Environmental Impact Report for the Del Rio Tank and Wells Project, located in Stanislaus County.

Our agency is delegated with the responsibility of protecting the quality of surface and groundwater resources of the State. Therefore, our comments will address concerns surrounding these issues.

I. Regulatory Setting

Basin Plan
The Central Valley Water Board is required to formulate and adopt Basin Plans for all areas within the Central Valley region under Section 15240 of the Porter-Cologne Water Quality Control Act. Each Basin Plan must contain water quality objectives to ensure the reasonable protection of beneficial uses, as well as a program of implementation for achieving water quality standards with the Basin Plans. Federal regulations require each state to adopt water quality standards to protect the public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act. In California, the beneficial uses, water quality objectives, and the Antidegradation Policy are the State's water quality standards. Water quality standards are also contained in the National Toxics Rule, 40 CFR Section 131.36, and the California Toxics Rule, 40 CFR Section 131.96.

The Basin Plan is subject to modification as necessary, considering applicable laws, policies, technologies, water quality conditions and priorities. The original Basin Plans were adopted in 1975 and have been updated and revised periodically as required, using Basin Plan amendments. Once the Central Valley Water Board has adopted a Basin Plan amendment, in reduced public hearings, it must be approved by the State Water Resources Control Board (State Water Board), Office of Administrative Law (OAL) and in some cases,
3. Responses to Comments

The United States Environmental Protection Agency (USEPA) requires amendments only become effective when they have been approved by the DWA, and in some cases, the USEPA. Every five (5) years, a review of the Basin Plan is completed that reassesses the appropriateness of existing standards and evaluates and prioritizes Basin Planning issues.

For more information on the Water Quality Control Plan for the Sacramento and San Joaquin River Basins, please visit our website: http://www.waterboards.ca.gov/centralvalley/water_quality_plan.aspx.

Adjudication Considerations

All wastewater discharges must comply with the Adjudication Policy (State Water Board Resolution 98-15) and the Adjudication Implementation Policy contained in the Basin Plan. The Adjudication Policy is available at page IV-45.01 at http://www.waterboards.ca.gov/centralvalley/water_quality_plan.aspx.

In public areas:

Any discharge of waste to high quality waters must comply with the Adjudication Policy (State Water Board Resolution 98-15) and the Adjudication Implementation Policy contained in the Basin Plan. The Adjudication Policy is available at page IV-45.01 at http://www.waterboards.ca.gov/centralvalley/water_quality_plan.aspx.

The Adjudication analysis is a mandatory element in the National Pollutant Discharge Elimination System and Land discharge Water Discharge Requirements (NDPs) permitting processes. The environmental review document should evaluate potential impacts to both surface and groundwater quality.

K. Permitting Requirements

Construction Storm Water General Permit

Discharges from projects disturb one or more acres of land or where projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Storm Water Discharges Associated with Construction Activities (Construction General Permit) Construction General Permit Order No. 2009-090-000). Construction activity subject to this permit includes clearing, grading, grubbing, disturbances to the ground, such as staking, paving, or excavation, but does not include regular maintenance activities performed to restore the original land, grade, or capacity of the facility. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan.
Responses to Comments

C-14 cont.

C-15

C-16

C-17

C-18

C-19

C-20

C-21
3. Responses to Comments

The City of Modesto is required to obtain the approval of the City and County for any action on the Del Rio Tank and Wells Project.

If you have any questions regarding the Del Rio Tank and Wells Project, please contact the Del Rio Tank and Wells Project Team at (209) 575-5821.

The City of Modesto is required to obtain the approval of the City and County for any action on the Del Rio Tank and Wells Project.

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http://www.cityofmodesto.gov/docs/2/14/13/10/215857.pdf

Regulatory Compliance for Commercially Integrated Agriculture

If the property will be used for commercial integrated agriculture, the discharger will be required to obtain regulatory coverage under the Impacted Lands Regulatory Program. There are two options to comply:

1. Obtain Coverage Under a Coalition Group. Join the local Coalition Group that supports landowners with the implementation of the Impacted Lands Regulatory Program. The Coalition Group conducts water quality monitoring and reporting to the Central Valley Water Board on behalf of its growers. The Coalition Group charge an annual membership fee, which covers the Coalition Group's costs. To find the Coalition Group in your area, visit the Central Valley Water Board's website at http://www.waterboards.ca.gov/centralvalleywater_board/coalitiongroups/index.html or contact the Coalition Group at (916) 444-4311 or via email at CoalitionWaterboards.ca.gov.

2. Obtain Coverage Under the General Waste Discharge Requirements for Individual Growers. General Order No. 3-2013-0140. Dischargers not participating in a coalition group (Coalition) are regulated individually. Depending on the specific site conditions, growers may be required to monitor their land, install monitoring wells, and submit a notice of intent, farm plan, and other action plans regarding their actions to comply with their General Order. The annual fees include State administrative fees (for example, renewal fees for farm sites from 10-50 acres are currently $1,000 × $6.70/acre). The cost to prepare and present annual monitoring reports and water quality monitoring sites is covered as an individual discharger under the Impacted Lands Regulatory Program, contact the Central Valley Water Board at (916) 444-4311 or via email at CoalitionWaterboards.ca.gov.

Largely Limited Threat General NPDES Permit

If the proposed project includes construction dewatering and it is necessary to discharge the groundwater to waters of the United States, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. Discharging discharges are typically considered a low or limited threat to water quality, and may be covered under the General Order for Construction and Other Low Threat Discharges to Surface Waters (Low Threat General Order) or the General Order for Limited Threat Discharges of Groundwater from Construction Sites, Wastewater from Superfund Projects, and Other Limited Threat Wastewaters to Surface Water (Limited Threat General Order). A complete application must be submitted to the Central Valley Water Board to obtain coverage under these General NPDES permits.
For more information regarding the Limited Threat General Order and the application process, visit the Central Valley Water Board website at: http://www.waterboards.ca.gov/centralvalley/limited/threatgeneral_ordergeneral.aspx

For more information regarding the Limited Threat General Order and the application process, visit the Central Valley Water Board website at: http://www.waterboards.ca.gov/centralvalley/limited/threatgeneral_ordergeneral.aspx

NPDES Permit

If the proposed project discharges waste that could affect the quality of the waters of the State, other than into a community sewer system, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. A complete Report of Waste Discharge must be submitted with the Central Valley Water Board to obtain a NPDES Permit.

For more information regarding the NPDES Permit and the application process, visit the Central Valley Water Board website at: http://www.waterboards.ca.gov/centralvalley/npdes/npdeshelp/form3.ashx

If you have questions regarding these comments, please contact me at (209) 464-4644 or Stephanie.Tafolla@waterboards.ca.gov.

Stephanie Tafolla
Environmental Scientist
Response to Comment C-1

The comment does not state a specific concern or question regarding the environmental impact analysis in the DEIR. Therefore, no further response to this comment is provided.

Response to Comment C-2

The comment does not state a specific concern or question regarding the environmental impact analysis in the DEIR. Therefore, no further response to this comment is provided.

Response to Comment C-3

The comment does not state a specific concern or question regarding the environmental impact analysis in the DEIR. Therefore, no further response to this comment is provided.

Response to Comment C-4

The City appreciates the State Clearinghouse acknowledgement of completion of the public review period for the DEIR.

Response to Comment C-5

The comment does not state a specific concern or question regarding the environmental impact analysis in the DEIR. Therefore, no further response to this comment is provided.

Response to Comment C-6 – C-37

[Note that the Central Valley RWQCB letter transmitted by the State Clearinghouse was also received separately and is also addressed above as Comment Letter A of this FEIR.]

The City acknowledges and appreciates the Central Valley RWQCB’s review and comments on the DEIR, and its input regarding the various regulatory permitting requirements that may apply to the Proposed Project. The permitting requirements stated in the Central Valley RWQCB’s letter are described in Chapter 9, Groundwater, of the DEIR and in Section IX, Hydrology, of Appendix B, Environmental Checklist. The Proposed Project would comply with the regulatory requirements described in the letter as applicable.
Comment Letter D – Joyce Parker, Del Rio Property Owners Association

December 2, 2017

Concerned
City of Modesto
1222 North Street
Modesto, CA 95354

June Draft Environmental Impact Report Del Rio Tank and Wells Project, November 2016

Dear Ms. Bryant:

On behalf of the Del Rio Property Owners Association, we submit the following comments and concerns with the Del Rio Tank and Wells project as published in the November 2016 Draft EIR.

1. The 2015 Settlement Agreement between the City of Modesto and the Del Rio Homeowners Association (also known as the Del Rio Property Owners Association) explicitly specified improvements to the water system necessary for existing Del Rio residents would be constructed within 8 years, with no increase in rates. Since 2005, the specified system improvements have been ignored and delayed, resulting in complications due to the California drought, widely regarded to have begun in 2011-12.

Since 2005, there were approximately 474 Del Rio water customers (py estimation). Since 2000, an additional 37 homes have been built. There are currently another 16 homes approved for construction. All 476 homes will receive water from the 3 existing Del Rio system wells, which have a total capacity of 4,000 gallons per minute (per 2005 West Yoa Technical Memorandum). This capacity is not adequate for the existing water customers. Residents frequently complain of a lack of water pressure for common activities such as watering or lawn watering. Sufficient water pressure for fire safety is an important concern as well.

The City's proposed addition of new 2 wells, each with a 1,000 gallon per minute capacity, is considered more than is reasonable for the existing Del Rio community. This additional capacity only makes sense when considering development of the 530 acres of "prime" farmland surrounding the existing Del Rio community. (Attachment 6-1 & 2: 2013-04-15 City General Plan Amendment Workshop, page 29, shows Ag land at Sanglass/McHenry/River (10% acres) and east St. johns/Country Club (266 acres) as "prime farmland") The current Del Rio community covers approximately 330 acres.

Since the Del Rio community has only increased about 10% since 2005, it seems unrealistic to assume a growth of almost 100% in the next decades, especially in light of California housing policies discouraging sprawl and encouraging higher density housing situated close to schools, shopping, medical facilities, transportation hubs and employment opportunities.
3. Responses to Comments

Piram should there be pressure for the Del Rio community to grow significantly, environmental factors of any proposed growth would need to be taken into consideration and CEQA studies done. Therefore, it is our opinion that doubling the water capacity for the Del Rio area, at this time or in the near future, is both unnecessary, unrealistic and counter to California housing policies.

The cumulative impact of both the new wells, and the new development they would serve, would significantly impact all facets of life for the Del Rio and surrounding community.

2. In the Draft EIR the City has defined an alternative, "Alternative 1", that meets all of the project objectives and does not require additional transmission pipelines. Per the Draft EIR:
   "Under this alternative, in lieu of purchasing new property for the proposed wells and tank, the City would design the proposed new facilities to fit within their existing well properties."

From the November 2016 Draft EIR, page E-21: "Among the other alternatives considered, Alternative 1: Construct at Existing City well locations is considered the environmentally superior alternative. This alternative would achieve all the project objectives to a similar degree as the Proposed Project. As described above, more sensitive receptors (residents) are located near the existing City well sites; therefore, this alternative would result in increased impacts on aesthetics, operation related noise, and air quality because of the greater number of sensitive receptors near the well sites. However, less GHG emissions and construction-related noise impacts would occur because no new wells would be constructed under this alternative. In summary, Alternative 1 would result in the most reductions in environmental impacts among the alternatives considered."

This alternative should be started immediately to relieve existing Del Rio customers water pressure problems and provide adequate fire protection.

Sincerely,

[Signature]

[Name]
Del Rio Resident
Del Rio Property Owners Association Board
Ground Rules

Trust the Process
- Everyone will have an opportunity to be heard
- All questions, comments, concerns & suggestions will be recorded

Be Respectful
- Only one speaker at a time
- Do not interrupt / Be courteous
- Listen

Focus on the General Plan Amendment
- This is the primary purpose of the meeting
- Other issues will be recorded, but may not be addressed now
- They will be forwarded to the appropriate parties

Agenda
- What is a General Plan?
- Background
- Land Use Element Amendment
- Circulation Element Amendment
- Workshop #1 recap
- Hearing from you
- Next Steps
Overview

What is a General Plan?

- Guidebook for development and growth

THE GENERAL PLAN
3. Responses to Comments

General Plan Elements

- Economic Development
- Open Space
- Conservation
- Housing
- Health
- Safety
- Air Quality

Background

- General Plan Comprehensive Update in 1995
- Incremental amendments since 1995
- City Council/Planning Commission workshop in 2008 to kick-off; recession and cutbacks halted effort
- Attempted land use amendment after 2009 Urban Growth Review; terminated due to budget reductions
Why Update the General Plan?

- Reflect community's goals
- Adjust land uses and future growth patterns
- Establish viable business and job-generating areas
- Align General plan with infrastructure planning programs (CFF, CIP, RTP)

Why Update the General Plan?

- Implement State law: improve air quality (AB332); reduce VMT (SB375); complete streets (AB1358)
- Prioritize infrastructure projects
- Facilitate economic development
- A more livable community
Major Themes

- **Alignment**
- **Viable Job Growth**
- **Realistic**

General Plan Amendment

Land Use Element

- Change land use designations to facilitate mixed-use, higher-density development
- Revitalize commercial corridors through policies that promote infill development
- Acknowledge existing development and areas unlikely to change
General Plan Amendment

Land Use Element

- Update land use designations within the Redevelopment Planning District
- Expand business park and economic development opportunities
- Introduce new "Agriculture" designation
- Increase commercial services on east side
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3. Responses to Comments
3. Responses to Comments

Downtown Complete Streets Cross Section

Alignment & Visibility for Corridor 1 - Recent
3. Responses to Comments

July 2017
City of Modesto

Del Rio Tank and Wells Project
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General Plan Amendment

Circulation Element

- One of the seven mandated GP Elements
- Comprehensive plan for circulation of people, goods & services
- Public access to existing & future land uses
- Link with surrounding jurisdictions
- Direct relationship with Land Use Element
General Plan Amendment

Circulation Element

- Realistic, consistent with Land Use designations
- "Complete streets" to accommodate all modes
- Alignment with Capital Improvement Program, Regional Transportation Plan & funding

Alignment of three types of streets: Expressway, Arterial street, Collector street.
City of Modesto

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3/18/13 Workshop #1 Recap

General Comments

Land Use Comments

Transportation Comments

Other / Misc. Comments
Public Comments / Questions

Planning Commission Input
Next Steps

- Public Workshop #3 – Monday June 3
  (King-Kennedy Center, Mellis Park)
- General plan Master EIR update
  late 2013 and 2014
- Public Review Draft General Plan
  Amendment & Master EIR late 2014
- Adoption early 2015

Questions?

For project documents and resources, go to:
https://www.modesto.ca.us/modesto-masters-plan-amendment.doc
Response to Comment D-1

The comment does not state a specific concern or question regarding the environmental impact analysis in the DEIR. Therefore, no further response to this comment is provided.

Response to Comment D-2

The DEIR for the Proposed Project has studied and is now addressing the existing deficiencies. The commenter's question about the timing of or delay in addressing these deficiencies is not a CEQA issue; therefore, no further response to this comment is provided.

Response to Comment D-3

See the response to Comment D-2.

Response to Comment D-4

See the response to Comment D-2.

Response to Comment D-5

See the response to Comment B-2 for a discussion of the areas served by the Proposed Project, the water yield of the Proposed Project, and the water system improvements anticipated for future Del Rio buildout that are not included as part of the Proposed Project.

Response to Comment D-6

See the response to Comment B-2 for a discussion of the basis of the Proposed Project, the areas served by the Proposed Project, and the exclusion of the water system improvements anticipated for future buildout from the Proposed Project. As stated in response to Comment D-2, the purpose and need for the Proposed Project is to address the existing deficiency in water capacity.

Response to Comment D-7

See the response to Comment B-2 for a discussion of the water volumes and improvements included in the Proposed Project, the water yield of the Proposed Project, the areas served by the Proposed Project, and the water system improvements anticipated for future Del Rio buildout that are not included as part of the Proposed Project.

Response to Comment D-8

See the response to Comment B-3 for a discussion of the analysis of alternatives for the Proposed Project.

Response to Comment D-9

See the response to Comment B-3 for a discussion of the analysis of alternatives for the Proposed Project.
Response to Comment D-10

See the response to Comment B-3 for a discussion of potential sites previously explored and the analysis of alternatives for the Proposed Project.
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3. Responses to Comments


December 21, 2016

City of Modesto
Utilities Department
1100 Teall Street, Suite 4003
Modesto, CA 95353

Re: Comments to Draft EIR for the Del Rio Tank and Wells Project

Dear Ms. Bryant:

I represent the North Modesto Groundwater Alliance ("the Alliance"). The Alliance is an incorporated association formed in 2002. It is comprised of residents and property owners living or having land located near the proposed location of the Del Rio Tank and Wells Project ("Project"). The objective of all Alliance members is to ensure that the environmental effects and impacts to the North Modesto area from the Project are analyzed, reviewed, reported and mitigated in full compliance with the California Environmental Quality Act ("CEQA"). Pursuant to CEQA, Guidelines Sections 15100 and 15068, I submit the following comments to the Del Rio Tank and Wells Project Draft Environmental Impact Report (draft EIR) herein referred to as "DEIR" on behalf of the Alliance.

A. Project Purpose and Location

Comment No. 1: The project analyzed in the DEIR is an entirely different project from the project analyzed and recommended in the City's 2010 Water System Engineer's Report.

In Section 1.1.1 of the DEIR, the City states the following:

"In preparing to conduct the same activities identified in Chapter 2 of this DEIR, the City of Modesto is proposing to carry out and approve a discretionary project subject to CEQA that was previously identified in the City's WSRP Program EIR (CEQA Guidelines Section 15168). Accordingly, this DEIR is revised from the WSRP Program EIR in accordance with CEQA Guidelines Sections 15158 and 15162."

These statements are very misleading in respect to the DEIR. Both statements imply that the project analyzed in the DEIR is the same project that was analyzed in the 2010 Program EIR.
3. Responses to Comments

The project identified in the DEIR, however, is not the project recommended and analyzed in the WYA Report. The project identified and discussed in the DEIR is located entirely outside of the Del Rio Community service area, with wells, tanks, and booster pump locations that were not recommended by, or studied in, the WYA Report. The DEIR does not contain any hydraulic analysis to demonstrate that this new project design and location will resolve the current Del Rio system deficiencies. Without such a hydraulic analysis, the City is unable to demonstrate that the project it is proposing in the DEIR can fulfill the Project's primary objectives identified in the DEIR.

Furthermore, the DEIR is not "filing from the WSYE Program EIR" as the City claims it is in Section 3.1.1. In applying for the use of filing, Public Resources Code Section 21094(e) states that four prerequisites:

1. Be consistent with the program, plan, policy, or ordinance for which an environmental impact report has been prepared and certified;
2. Be consistent with applicable local land use plans and zoning of the city, county, or city and county in which the later project would be located, and
3. Not impede the need for a subsequent EIR or supplement to an EIR.

As set forth above, the project proposed in the DEIR is not consistent at all with the project recommended and analyzed in the WSYE Program EIR. The DEIR fails to include sufficient information for the City to conclude that the project proposed in the DEIR will solve the hydraulic deficiencies in the current Del Rio water supply system identified in the WYA Report. Because of this failure, the Alliance believes that approval of the DEIR by the City Council is a final EIR would constitute an abuse of discretion.

Comment No. 3. The project proposed and discussed in the DEIR is located outside of the Del Rio Community Plan Area.

In Section 3.1 of the DEIR, the City states that "The Proposed Project is located in
3. Responses to Comments

The City of Modesto
December 21, 2010
Page 3

City of Modesto

November 2010

The city designates the Del Rio as the first water source. This statement is in disapproval and is also very misleading. The eastern boundary of the Del Rio Community Plan Area is 2nd Street. This is the location of the majority of the proposed project infrastructure. One of the two proposed wells, a pump, an above-ground storage tank, and a booster pump, is south of 2nd Street and outside the Del Rio community.

B. Groundwater Impact Analysis.

Comment No. 1: In arriving at its conclusion that the Project wells will have a “less than significant impact” on lowering the groundwater table and adversely affecting nearby wells, the City failed to state in the FEIR whether its conclusion is based upon the volume of water it will pump to serve the existing Del Rio subdivision, or whether its conclusion is based upon the volume of water it will pump to the existing subdivision and to future growth in the Del Rio area.

In Section 2.3 of the FEIR, the City states the following four objectives for the Project:

1. Correct existing deficiencies in the Del Rio water system to meet design pressure and volume storage requirements identified in the 2010 Water System Engineer's Report;
2. Ensure sufficient system pressure to provide flushing flow capacity;
3. Improve water system operational flexibility and reliability;
4. Allow for additional water supply and storage volume to accommodate anticipated future growth in the Del Rio area.

The City concludes in the FEIR that operation of the Project wells will have a “less than significant impact” on lowering the groundwater table and adversely affecting nearby wells. However, in Chapter 9 the City fails to reveal or even discuss whether the simulation run times and pumped pumping rates for the Project wells, and thereby the conclusion about impact of each well on surrounding wells are based only on serving the existing Del Rio subdivision, or whether it assessed the impact on surrounding wells during simultaneous operation of the Project wells for the existing Del Rio subdivision and the anticipated future growth of the Del Rio area.

In other words, did the City compute the volume of water that it will need to pump to simultaneously serve all four of its stated objectives for the Project and then model the pumping of that volume of water over the 30-day simulation run time to determine what level of impact such pumping will have on surrounding wells? It is entirely unclear in Chapter 9 of the volume of water that the City estimates that the Project will pump is to be used solely to meet the first three objectives listed above, or whether the volume of water that will be pumped will meet the fourth objective as well.
3. Responses to Comments

Comment No. 2: The DEIR concludes that the cumulative impact to groundwater overdraft would be "significant and unavoidable." (DEIR, p. 8-38) The DEIR places the responsibility for mitigation of this impact on the project sponsor, a Groundwater Sustainability Agency (GSA). The GSA must develop a management plan including specific actions to essentially limit continued reductions in groundwater elevation to those permitted by 2025, or otherwise improve groundwater levels and overall groundwater sustainability. This plan - a Groundwater Sustainability Plan (GSP) - must be prepared by 2022, with sustainability objectives achieved by 2042. (See California Code of Regulations, Title 23, Division 2 - Department of Water Resources, Chapter 1.5 - Groundwater Management, Subchapter 2 - Groundwater Sustainability Plans and Alternatives). The DEIR should not allow implementation for the overdraft impact of future demands from the old Rio Community Pumps to be delayed for a future-defined entity that will develop an unknown set of actions that may not be required to fully address overdraft until 2042.

c. Alternatives to the Project

Comment No. 1: Of the alternatives to the Project that were considered, the City concluded that Alternative 1 is the environmentally superior alternative. The customers that will be served by the Project - the members of the Del Rio Properties Owner's Association - agree that Alternative 1 is environmentally and economically superior to the Project proposed in the DEIR and should be constructed.

In the Superior Court's Judgment in North Modesto Groundwater Alliance v. City of Modesto et al. the Court ordered the City and City Council "to adopt, with CEQA Guidelines in mind, replacing the Project." 

CEQA Guidelines Section 15021 establishes a duty for the City to minimize environmental impacts and balance competing public objectives when considering the approval of a project subject to CEQA:

(a) CEQA establishes a duty for public agencies to avoid or minimize environmental damage where feasible.
(b) In regulating public or private activities, agencies are required to use matrix contributions to prevent environmental damage.
(c) A public agency should not approve a project as proposed if there are viable alternatives or mitigation measures available that would substantially lessen any significant adverse effects that the project would have on the environment.
(d) In developing whether changes in a project are feasible, agencies must consider specific features, environmental, legal, social, and technological impacts.
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(b) The duty to prevent or minimize environmental damage is implement through the findings required by Section 15061.

(c) CEQA recognizes that to determine whether and how a project should be approved, a public agency has an obligation to balance a variety of public objectives, including economic, environmental, and social factors, and in particular the goal of providing a decent home and satisfying living environmental conditions for everyone. An agency shall prepare a statement of overreaching considerations as described in Section 15061 to reflect the ultimate balancing of competing public objectives where the agency decides to approve a project that will cause one or more significant effects to the environment.

In addition to the "No Project Alternative," the City considered two other alternatives - Alternative 1 and Alternative 2 - in the DEIR. Under Alternative 1, the City recognized the ULR that it owns property and operates groundwater wells at these locations in the Del Rio service area. It also recognized that unlike this alternative, in lieu of purchasing new property for the proposed wells and tanks, the City would use the property to fill within the existing well properties. The City concluded that "this alternative would not require new water pipeline, because the well sites would already be connected to the existing water distribution system. This alternative would meet all of the project objectives." (Emphasis added)

In Chapter 12, Section 12.8, the City concluded that Alternative 1 is the environmentally superior alternative: "Among the other alternatives considered, Alternative 1, Construct an Existing City Well Location is considered the environmentally superior alternative. This alternative would achieve all the project objectives to a similar degree as the Proposed Project. As described above, more sensitive receptors are located near the existing City well sites; therefore, this alternative would result in increased impacts on aesthetics, operation-related noise, and air quality because of the greater number of sensitive receptors near the well sites. However, less CHC emissions and construction-related noise impacts would occur because no pipes would be constructed under this alternative. In summary, Alternative 1 would result in the most reductions in environmental impacts among the alternatives considered.

Constructing Alternative 1 avoids the following problems and costs associated with the project proposed in the DEIR:

1. Alternative 1 is consistent with the recommendations in the WYA Report and the project that was hydrologically analyzed in the WSNR Program EIR and should resolve the existing Del Rio service deficiencies. This avoids the problems and uncertainties that are inherent in proceeding with the project proposed in the DEIR - which has not been hydrologically analyzed as noted above - and whether that project will solve such service deficiencies. It also avoids the problem of failing to comply with CEQA Guidelines.
3. Responses to Comments

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2. Alternative 1 avoids the cost of constructing a 7,000-foot-long pipeline from Site A to the Del Rio subdivision, and a 2,900-foot-long, 12-inch-diameter transmission line from the Site B well to the Del Rio subdivision.

3. Alternative 1 avoids the cost of constructing a 2,800,000-gallon storage tank, pump house, and transfer pump at Site A.

4. Alternative 1 avoids the cost of landscaping Site A.

Constructing Alternative 1 also minimizes environmental damage and balances competing public objectives in compliance with CEQA Guidelines Section 15061. The project proposed in the DWR, which is located outside of the Del Rio area, places all of the environmental burdens of the Project on Alliance members and other residents and customers living near Sites A and B while not providing any of the benefits of the Project to such residents. These citizens will not be served by the Project at all. In contrast, the victims of the existing Del Rio water main would suddenly receive all of the benefits of the Project without any of the environmental burdens.

Alternative 1 balances these concerns and eliminates this inequality by placing the costs and benefits on the people who will be served by the Project instead of on those who will not. A portion of the considerable costs that would be saved by implementing Alternative 1 instead of the proposed Project could be allocated towards better landscaping and noise reduction for the residents of the existing neighborhood.

As stated in CEQA Guidelines Section 15061.1(c): "A public agency should not approve a project as proposed if there are feasible alternatives or mitigation measures that would substantially lessen any significant adverse environmental impact that the project would have." The City identified a feasible alternative in Alternative 1 and concluded in the DWR that it "would achieve all the project objectives" while simultaneously "resulting in the most reductions in environmental impacts among the alternatives considered."

In their comments regarding the DWR submitted in a letter to the City dated December 2, 2016, the Del Rio Project Owners' Association stated that Alternative 1 "should be studied immediately to achieve existing Del Rio customers' water pressure goals and provide adequate fire protection." The Alliance likewise believes that if improvements to the Del Rio water supply system are needed, then Alternative 1, which is substantially the same as the improvements recommended in the WYA Report, should be installed.

Sincerely,

[Signature]

Daniel W. Smith
Response to Comment E-1

The comment does not state a specific concern or question regarding the environmental impact analysis in the DEIR. Therefore, no further response to this comment is provided.

Response to Comment E-2

The following discussion addresses the consistency of the Proposed Project with the 2010 WSER Program EIR (Stanislaus County 2010).

The Proposed Project includes the recommended improvements for existing system deficiencies identified by the 2010 WSER and is consistent with the project identified in the 2010 Program EIR (Stanislaus County 2010). The primary difference between the project described in the Program EIR and the Proposed Project is one of the well locations. While the 2010 WSER (2010 Program EIR, Appendix H) recommended that the new well be located in the northwest portion of the Del Rio service area, the report also states that "the locations of the proposed facilities are for planning purposes only and should be developed further in future pre-design studies" (2010 WSER: page 17).

As discussed in the response to Comment B-2, the 2010 Program EIR included evaluation of a proposed tank and pump station on a large parcel of land north of McHenry Avenue and Stewart Road. As the project developed, no land was available for sale in that area. The City then considered alternative locations, including River Nine Drive and 6520 Carver Road, but was unable to find willing sellers or complete the purchase of land in those alternative locations. On March 13, 2012, by Resolution 2012-101, the City Council approved the purchase of two parcels at 718 Ladd Road.

After considering the feasibility of suitable sites within the northwest portion of the Del Rio service area, including whether the City could reasonably acquire control of suitable sites and the economic implications of doing so, the City selected Site A for the Proposed Project, in part because it was more cost effective, given the fact that the City already owns this property and it is immediately adjacent to the community that the Proposed Project is intended to serve.

A hydraulic assessment of the Del Rio water system was conducted as part of the 2010 WSER, discussed in Appendix H of the 2010 WSER. The hydraulic assessment indicated that the existing supply wells cannot maintain the minimum system pressure needed during maximum existing demand conditions. The 2010 WSER provided recommended improvements to the existing Del Rio water system to correct these existing system deficiencies. The WSER focused on the type and size of improvements needed. The location of the improvements was identified as proposed and subject to change.

The Proposed Project would construct the same storage tank and well improvements listed in the 2010 WSER, Section 1.3 and Table 7, Recommended CIP Program for Existing Del Rio Water System, and in the 2010 WSER Program EIR in Table ES-4, Proposed Outlying Service Area Capital Improvement Projects, to correct existing deficiencies in the Del Rio water system and meet design pressure and volume storage requirements. Accordingly, the Proposed Project is consistent with the project information identified in the 2010 WSER Program EIR and appropriately tiers from the 2010 WSER Program EIR. The new proposed location for one well would meet the objectives analyzed and recommended in the 2010 WSER and
Program EIR. Furthermore, the DEIR meets CEQA’s disclosure requirements by fully describing project-specific and site-specific impacts of the project. As such, no new hydraulic analysis was necessary to support the DEIR.

Response to Comment E-3

The comment does not state a specific concern or question regarding the environmental impact analysis in the DEIR. Therefore, no further response to this comment is provided.

Response to Comment E-4

See the response to Comment E-2 for discussion regarding the Proposed Project’s consistency with the 2010 WSER and Program EIR. The commenter has provided no evidence to support the assertion that the prior hydraulic analysis is deficient.

Response to Comment E-5

See the response to Comment E-2 for discussion regarding the Proposed Project’s consistency with the 2010 WSER and Program EIR and its hydraulic assessment.

Response to Comment E-6

The following discussion addresses comments regarding the use of the 2010 WSER Program EIR (Stanislaus County 2010) for the Proposed Project under CEQA’s Program EIR and tiering provisions.

As discussed in Section 1.1.1 of the DEIR,

"In proposing to conduct the various activities identified in Chapter 2 of this DEIR, the City of Modesto is proposing to carry out and approve a discretionary project subject to CEQA that was previously identified in the City’s WSER Program EIR (CEQA Guidelines Section 15168). Accordingly, this DEIR is tiered from the WSER Program EIR, in accordance with CEQA Guidelines Sections 15168 and 15152."

"This EIR was prepared to disclose further details and changes to the Proposed Project, as well as the potentially significant effects of the proposed project on the environment which were not examined in the prior Program EIR. This EIR is tiered from the WSER Program EIR and incorporates the Program EIR by reference, and all applicable mitigation measures from the Program EIR (as described in Chapter 3, Introduction to the Environmental Analysis) are incorporated into this EIR. The City will use the analyses presented in the Program EIR, this DEIR, public comments on the DEIR, and the whole of the administrative record, to evaluate the Proposed Project’s environmental impacts and to further modify, approve, or deny approval of the Proposed Project."

Agencies are encouraged to tier the environmental analyses that they prepare for separate but related projects to eliminate repetitive discussions of the same issues and focus the later EIR on the actual issues ripe for decision at each level of environmental review (CEQA Guidelines Section 15152).
The response to Comment E-2 discusses how the proposed Del Rio Tank and Wells Project includes the recommended improvements identified by the 2010 Program EIR and Appendix H (2010 WSER), and is consistent with the project identified and analyzed in those documents.

If the Proposed Project being evaluated were identical to the project identified in the first-tier EIR, no additional review would be necessary. As indicated in the response to Comment E-2 above, the Proposed Project is indeed consistent with the project identified in the 2010 WSER Program EIR and its hydraulic assessment. The Proposed Project also is consistent with applicable local land use plans and zoning. The change in the potential location of one of the new wells as discussed in the Program EIR does not trigger the need for a subsequent EIR or supplement to an EIR pursuant to Public Resources Code (PRC) Section 21166. Thus, it is appropriate for the City to tier the analysis of the Proposed Project from the previous analysis in the 2010 WSER Program EIR, in accordance with PRC Section 21094(b) and to analyze project-specific impacts not already analyzed at the Program level.

Response to Comment E-7

See the response to Comment E-2 for discussion regarding the Proposed Project’s consistency with the 2010 WSER and Program EIR. The commenter has provided no evidence to support the assertion that the prior hydraulic analysis is deficient.

Response to Comment E-8

See the response to Comment B-3 for a discussion of potential sites previously explored and the location of the project site in relation to the Del Rio Community Plan area. Note that the use of the term “census-designated place” is factually correct and is not misleading; it is a legitimate description of an area that is not officially incorporated and does not have an independent local government.

Response to Comment E-9

See the response to Comment B-2 for a discussion of the basis of the Proposed Project, the areas served by the Proposed Project, and the fact that the Proposed Project does not include water system improvements anticipated for future buildout.

Response to Comment E-10

The comment does not state a specific concern or question regarding the environmental impact analysis in the DEIR. Therefore, no further response to this comment is provided.

Response to Comment E-11

Refer to the Response to Comment B-2 for a discussion of the basis of the Proposed Project, the areas serviced by the Proposed Project and the fact that the Proposed Project does not include the water system improvements anticipated for future buildout.

Response to Comment E-12

The comment does not state a specific concern or question regarding the environmental impact analysis in the DEIR. Therefore, no further response to this comment is provided.
Response to Comment E-13

Refer to the Response to Comment B-2 for a discussion of the basis of the Proposed Project, the areas serviced by the Proposed Project and the fact that the Proposed Project does not include the water system improvements anticipated for future buildout.

Response to Comment E-14

Refer to the Response to Comment B-2 for a discussion of the basis of the Proposed Project, the areas serviced by the Proposed Project and the fact that the Proposed Project does not include the water system improvements anticipated for future buildout.

Response to Comment E-15

The following is a discussion of impacts of the Proposed Project on groundwater, including cumulative impacts.

Chapter 9 of the DEIR evaluates impacts of the Proposed Project on groundwater, including cumulative impacts. The City of Modesto, along with five other water agencies and local jurisdictions, formed the Stanislaus and Tuolumne Rivers Groundwater Basin Association (STRGBA), which developed the Integrated Regional Groundwater Management Plan for the Modesto Subbasin (IRGMP).

In 2009, the California State Legislature also enacted the California Statewide Groundwater Elevation Monitoring (CASGEM) Program; the Modesto Subbasin is classified as a high-priority basin, although it is not specifically noted as being in overdraft (see DEIR page 9-3). In 2016, the legislature also enacted a series of laws known as the Sustainable Groundwater Management Act (SGMA), to begin organizing and regulating the management of groundwater basins throughout the state.

All of these laws and regulations require coordination among the various agencies and jurisdictions that use and manage groundwater throughout California. The City, in its capacity as a water service provider and a user of groundwater, participates in these joint management efforts. Because the City is not the only decision maker involved in managing groundwater in the project area, the City cannot unilaterally resolve issues related to groundwater overdraft. For this reason, the cumulative impact (by definition, the impact of the Proposed Project in combination with other past, present, and reasonably foreseeable future projects) on groundwater overdraft cannot be mitigated by the City alone. Because the City does not control what actions would be taken to mitigate the identified significant cumulative impact, the impact would remain significant and unavoidable until such time as actions of the various responsible entities are known.

CEQA requires that an EIR evaluate the intended operations of a project, rather than speculate on an operational approach that is not currently planned. As explained in the response to Comment B-2, the City has identified the theoretical maximum annual yield of the proposed wells; however, the evaluation in the EIR is based on the anticipated maximum annual yield based on the manner in which the Proposed Project would be operated to address existing deficiencies. As explained on page 2-10 of the DEIR, the theoretical maximum yield would exceed the annual production for the entire Del Rio service area for the previous 5 years by more than double; basing the EIR analysis on this calculation would
result in a gross overstatement of the potential environmental impacts of the Proposed Project. This level of pumping would not occur under the Proposed Project.

As discussed in Chapter 9, Section 9.4.4, "Cumulative Impacts of the DEIR," the City is already implementing all available measures to ensure that its groundwater extraction does not exacerbate this situation and is an active participant in regional groundwater management with a goal of ensuring sustainable management of the subbasin. However, the EIR conservatively concludes that the Proposed Project would have a significant and unavoidable cumulative impact due to its cumulatively considerable contribution to the existing significant cumulative impact on groundwater in the region.

Response to Comment E-16

See the response to Comment B-3 for a discussion of alternatives for the Proposed Project.

Response to Comment E-17

The comment does not state a specific concern or question regarding the environmental impact analysis in the DEIR. Therefore, no further response to this comment is provided.

Response to Comment E-18

The comment does not state a specific concern or question regarding the environmental impact analysis in the DEIR. Therefore, no further response to this comment is provided.

Response to Comment E-19

The comment does not state a specific concern or question regarding the environmental impact analysis in the DEIR. Therefore, no further response to this comment is provided.

Response to Comment E-20

The comment does not state a specific concern or question regarding the environmental impact analysis in the DEIR. Therefore, no further response to this comment is provided.

Response to Comment E-21

The comment does not state a specific concern or question regarding the environmental impact analysis in the DEIR. Therefore, no further response to this comment is provided.

Response to Comment E-22

See the response to Comment B-3 for a discussion of alternatives for the Proposed Project.

Response to Comment E-23

See the response to Comment B-3 for a discussion of alternatives for the Proposed Project.
Response to Comment E-24

The comment does not state a specific concern or question regarding the environmental impact analysis in the DEIR. Therefore, no further response to this comment is provided.

Response to Comment E-25

The comment does not state a specific concern or question regarding the environmental impact analysis in the DEIR. Therefore, no further response to this comment is provided.
Comment Letter F – Greg Young, Tully & Young, representing North Modesto Groundwater Alliance

December 19, 2016

City of Modesto
Department
1100 North First Street
Modesto, CA 95351


Dear Mr. Hoyt:

Tully & Young was retained by the North Modesto Groundwater Alliance ("Alliance") to review the November 3, 2016 Del Rio Tank and Wells Project Draft EIR prepared by the City of Modesto's Planning Department under the "Project EIR". The need for the Alliance, Tully & Young to submit the following comments regarding the Project EIR pursuant to CEQA Guidelines Sections 15061 and 15062.

In our opinion, your initial review lends itself to the following:

5. Project Purpose:  The proposed wells and tank described and analyzed in the Project EIR are not consistent with the requirements of the City’s 2016 Water Supply Engineer’s Report and therefore may not meet the City's stated objective.  The entire analysis may be irrelevant to the project’s primary purpose.

6. Cumulative Environmental Impact:  The Project EIR concludes that cumulative impact on groundwater resources would be 'significant and unavoidable.'  The Project EIR places the responsibility for mitigation of this impact on the future efforts of the consortium (Modesto City, Stanislaus County, CSWA and/or CNAM).  The EIR should not allow mitigation actions for the overall impact of future demands from the Del Rio Community Plan to be deferred to the defined entity that will develop an emission set of actions that are required to fully address regulations until 2062.

The objection to this conclusion is discussed further below.

1. Project Purpose:  The most concerning conclusion from my review was that the project analysis in the EIR did not match the project scenario recommended in the City’s 2016 Water Supply Engineer's Report.  In my opinion, this is a glaring mistake and would reasonably lead to a conclusion that the entire Project EIR analysis is misleading, and should not be used by the City.

I understand that there might be other conclusions, it is important to understand various comments from the Project EIR, as well as other relevant documents.
3. Responses to Comments

The City of Modesto is proposing the following activities in the Del Rio Tank and Wells Project: Final Environmental Impact Report (EIR). The project includes the installation of new wells and tanks to provide water for the Del Rio neighborhood. The EIR was prepared to respond to comments received during the EIR process.

1. "The City of Modesto is proposing the installation of new wells and tanks in the Del Rio neighborhood. The project is intended to provide water for the Del Rio neighborhood. The EIR was prepared to respond to comments received during the EIR process." (Project EIR, p. 1-1)

2. "The City of Modesto is proposing the installation of new wells and tanks in the Del Rio neighborhood. The project is intended to provide water for the Del Rio neighborhood. The EIR was prepared to respond to comments received during the EIR process." (Project EIR, p. 1-1)

3. "The City of Modesto is proposing the installation of new wells and tanks in the Del Rio neighborhood. The project is intended to provide water for the Del Rio neighborhood. The EIR was prepared to respond to comments received during the EIR process." (Project EIR, p. 1-1)

4. "The City of Modesto is proposing the installation of new wells and tanks in the Del Rio neighborhood. The project is intended to provide water for the Del Rio neighborhood. The EIR was prepared to respond to comments received during the EIR process." (Project EIR, p. 1-1)

5. "The City of Modesto is proposing the installation of new wells and tanks in the Del Rio neighborhood. The project is intended to provide water for the Del Rio neighborhood. The EIR was prepared to respond to comments received during the EIR process." (Project EIR, p. 1-1)
3. Responses to Comments

The proposed project would consist of the following elements: (1) construction of the intersection of Del Rio Road and St. John Road at the northwestern corner of 196th Street; and 2) construction of a 10-inch diameter transmission main extending southeast from the proposed Del Rio Tank site to the northwestern corner of 196th Street and St. John Road. This proposed main would be constructed west along Del Rio Road to the intersection of St. John Road and Conway Club Drive, then north along St. John Road to the intersection of St. John Road and Conway Club Drive. Finally, this proposed main would extend south along St. John Road and then west along 196th Street, terminating at the intersection of 196th Street and Conway Club Drive (Project 1.9 at 2-1). This new transmission main will connect the existing Del Rio storage system to the City's distribution system at important points.
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considering the comments from the public, including analysis in the 2016 Water Project Report. Report regarding where the wells should be located to receive pressure and flow issues in the existing and anticipated future water distribution system.

Here are critical statements from the City's May 2016 Water System Engineer's Report - Option A (Modesto Reservoir Project Report):

1. The purpose of this Engineer's Report (Appendix A) is to develop a capital improvement program (CIP), which will address and justify the various improvements needed to provide and maintain reliable water service in existing and future expansion. The CIP addresses system deficiencies and future needs based on the hydraulic analyses performed for the candidate and existing facility areas as discussed in Appendix A through the 2016 Report, p. 11. This clearly indicates that a very comprehensive CIP was developed detailing the location, test requirements, and other important distribution system improvements to improve system hydraulic performance.

2. The proposed improvements benefit existing and future facilities for providing water service and main water pressure requirements as described in the Modesto Regional Reservoir Project, Appendix A. The City's existing facilities are discussed in this report. The City's existing facility areas described in this report should be reviewed by the City's future planning and design team as well as future facility needs.

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3. Responses to Comments

Based on the analysis detailed above, WWA recommends that the City proceed with construction of the straw well in the right-of-way of the future pipeline to be fed from the well and used for backfilling and future construction, and applying the pumping capacity of the straw well to meet a demand of 2.0 mgd WWA Report p. 131. This is an important consideration in planning well locations in relation to existing and anticipated demand, as well as the existing infrastructure and its ability to adequately convey irrigation flow and pressure throughout the distribution system. As clearly indicated in this report, a well with a capacity recommended in the modified portion of the service area. Instead, the Project LWR selects one well located in a well field and east of the location, with no indication that such a location can address the pressure and flow problems that exist.
3. Responses to Comments

A map of Modesto.

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The location of the project facilities are depicted on Figure 10
and shown in Figure 17. Figure 17 is from the WYA Report.

As clearly indicated, the recommendations to accommodate the existing and future
Del Rio demands include a new well in the continental portion replacement of Well 22 at the
same location as the existing well, and a new tank and booster pump in the central service area.

Annotate later, this figure matches the project Figure from the programmatic EIR completed in
1990, from which the Project EIR stems. Again, the Project EIR indicates the presence in the
1990’s, a “New Program EIR” (Project EIR, p. F.1). It is very apparent that the “Program
identified” project was the represented in Figure 17 from the WYA Report.
3. Responses to Comments

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There are critical statements within the City's 2012 Del Rio Well Field and Storage Tank Project Environmental Impact Report supporting the "2012 Design Report."41

41. A Technical Memorandum dated March 28, 2013, to the City Engineer by consultant engineer Dr. Thomas Karre, author of the City's Technical Memorandum (TM) for the Del Rio Well Field and Storage Tank Project, states: "The project consists of a new 5 Million Gallon per Day (MGPD) pumping station and construction of approximately 5,700 linear feet of new pipeline to meet existing system demands." (2013 Design Report, p. 41). The technical memorandum clearly recognizes the recommendations of the 2010 Report and WYA Report, and even quotes the recommendations for the proposed location of wells, tanks, and service pumps. However, as indicated in the statement below, there is a significant variance with the herein provided designs.

The Del Rio Well Field and Storage Tank Project, with its proposed well and service pump station to meet the water needs of the City and to help meet the recommendations of the 2010 Environmental Impact Report and Technical Memorandum, is located at field level above the 500-foot elevation of the Del Rio community and is modeled for an approximate area. The Technical Memorandum, p. 41. Apparent, as the 2010 Report FDR, which reflects the 2010 Report, which used the WYA Report as the basis for the proposed 5 Million Gallon per Day (MGPD) pumping station, the location of wells, tanks, and service pump stations. There is no explanation provided in the 2012 Design Report nor the Project FDR to explain the change. There is also a representation "from pre-design studies" (2010 Report, p. 151) in the WYA Report indicating the recommendation of the proposed locations for the WYA Report. Almost identical with the revised design shown to show the location in the project report and the problems identified in the WYA Report, the new proposed location should be expanded to get from the effective analysis and recommendations in the 2010 Report.

When reviewing the cited statements above, it is obvious that the 2010 Report FDR emphasized the project as addressed in the 2010 Report FDR. Figure 4, which reflects the recommended FDR that was based upon the use of the WYA Report. Therefore, despite the obvious similarities, there is no reason for concern that the systems proposed in this version of the existing Del Rio distribution system. The WYA Report's recommended facilities are necessary to resolve the water system problems, and include specific, modeled scenarios. How this is proposed

The location of the Project FDR's 5 Million Gallon per Day (MGPD) pumping station, which are very different from the WYA Report recommendations. It is very concerning whether the ability for the Project FDR's proposed locations to resolve any existing or future problems in the Del Rio community.

Without additional technical analysis, I cannot conclude that the Project FDR analysis is a project that will comply and meet the objectives is intended to meet - which the Project FDR clearly states as a common objective (Project FDR, p. 21).
3. Responses to Comments

The Project EIR concludes that no adverse impact to groundwater would be "significant and unavoidable." (Project EIR, p. 5.20). The Project EIR notes the responsibility for mitigation of the impact on the groundwater of the California Water Quality Act (CWA). Under CWA, a project developer a management plan — including specific actions — to ensure that the groundwater recharge to groundwater levels to those reflected in 2013, and that the impacts groundwater levels and overall groundwater sustainability. This plan — a Groundwater Sustainability Plan (GSP) — must be included by 2022, with implementation objectives achieved by 2042 and continued every 10 years. (Division 2 — Department of Water Resources, Chapter 1.5 — Groundwater Management, Subdivision 2 — Groundwater Sustainability Plans and Alternatives). The EIR should not allow construction actions for the overall region of future demands from the Del Rio Community Plan to be developed in a final plan that is to be adopted for any projects that are not required to fully address groundwater by 2042.
Response to Comment F-1

The comment does not state a specific concern or question regarding the environmental impact analysis in the DEIR. Therefore, no further response to this comment is provided.

Response to Comment F-2

See the response to Comment E-2 for discussion of the consistency of the Proposed Project with the 2010 WSER Program EIR (Stanislaus County 2010) and its hydrologic analysis.

Response to Comment F-3

See the response to Comment E-15 for a discussion of Proposed Project impacts on groundwater, including cumulative impacts.

Response to Comment F-4

See the response to Comment E-2 for discussion of the consistency of the Proposed Project with the 2010 WSER Program EIR (Stanislaus County 2010).

Response to Comment F-5

The comment does not state a specific concern or question regarding the environmental impact analysis in the DEIR. Therefore, no further response to this comment is provided.

Response to Comment F-6

See the response to Comment E-2 for discussion of the consistency of the Proposed Project with the 2010 WSER Program EIR (Stanislaus County 2010).

Response to Comment F-7

See the response to Comment E-2 for discussion of the consistency of the Proposed Project with the 2010 WSER Program EIR (Stanislaus County 2010).

Response to Comment F-8

The commenter incorrectly states that “there is never any discussion in the Project Description or elsewhere of any proposed change from what was assessed in the 2010 programmatic EIR.” Appendix B of the DEIR contains the Initial Study, which discusses the Proposed Project and analyzes whether the Proposed Project may cause any significant effect on the environment that was not examined in the 2010 WSER Program EIR, and whether new or additional mitigation measures or alternatives may be required as a result. The Initial Study thereby documents whether or not the Proposed Project is “within the scope” of the Program EIR. Topics fully evaluated in the DEIR for the Proposed Project were chosen because the Initial Study identified the potential for a significant impact beyond that identified and analyzed in the Program EIR. Applicable programmatic mitigation measures identified in the Program EIR and additional project-specific mitigation measures identified in the Proposed Project DEIR are applied to the Proposed Project as necessary to reduce impacts to a level that is less than significant. Also see the response to Comment E-2 for
discussion of the tiering of the Proposed Project from the 2010 WSER Program EIR (Stanislaus County 2010).

**Response to Comment F-9**

See the response to Comment E-2 for discussion of the consistency of the Proposed Project with the 2010 WSER Program EIR (Stanislaus County 2010).

**Response to Comment F-10**

See the response to Comment E-2 for discussion of the consistency of the Proposed Project with the 2010 WSER Program EIR (Stanislaus County 2010).

**Response to Comment F-11**

See the response to Comment E-2 for discussion of the consistency of the Proposed Project with the 2010 WSER Program EIR (Stanislaus County 2010).

**Response to Comment F-12**

See the response to Comment E-2 for discussion of the consistency of the Proposed Project with the 2010 WSER Program EIR (Stanislaus County 2010).

**Response to Comment F-13**

See the response to Comment E-2 for discussion of the consistency of the Proposed Project with the 2010 WSER Program EIR (Stanislaus County 2010).

**Response to Comment F-14**

See the response to Comment E-2 for discussion of the consistency of the Proposed Project with the 2010 WSER Program EIR (Stanislaus County 2010).

**Response to Comment F-15**

See the response to Comment B-3 for a discussion of potential sites previously explored and the analysis of alternatives for the Proposed Project.

See the response to Comment E-2 for discussion of the consistency of the Proposed Project with the 2010 WSER Program EIR and 2010 WSER hydrologic analysis (Stanislaus County 2010).

**Response to Comment F-16**

See the response to Comment B-3 for a discussion of potential sites previously explored and the analysis of alternatives for the Proposed Project.

See the response to Comment E-2 for discussion of the consistency of the Proposed Project with the 2010 WSER Program EIR (Stanislaus County 2010) and its hydrologic analysis.
3. Responses to Comments

Response to Comment F-17

See the response to Comment F-2 for discussion of the consistency of the Proposed Project with the 2010 WSER Program EIR (Stanislaus County 2010).

Response to Comment F-18

The comment does not state a specific concern or question regarding the environmental impact analysis in the DEIR. Therefore, no further response to this comment is provided.

Response to Comment F-19

See the response to Comment B-3 for a discussion of potential sites previously explored and the analysis of alternatives for the Proposed Project.

See the response to Comment E-2 for discussion of the consistency of the Proposed Project with the 2010 WSER Program EIR (Stanislaus County 2010).

Response to Comment F-20

See the response to Comment B-3 for a discussion of potential sites previously explored and the analysis of alternatives for the Proposed Project.

See the response to Comment E-2 for discussion of the consistency of the Proposed Project with the 2010 WSER Program EIR (Stanislaus County 2010).

Response to Comment F-21

See the response to Comment B-3 for a discussion of potential sites previously explored and the analysis of alternatives for the Proposed Project.

See the response to Comment E-2 for discussion of the consistency of the Proposed Project with the 2010 WSER Program EIR (Stanislaus County 2010) and discussion of the hydraulic analysis for the Proposed Project.

Response to Comment F-22

See the response to Comment B-3 for a discussion of potential sites previously explored and the analysis of alternatives for the Proposed Project.

See the response to Comment E-2 for discussion of the consistency of the Proposed Project with the 2010 WSER Program EIR (Stanislaus County 2010).

Response to Comment F-23

See the response to Comment B-3 for a discussion of potential sites previously explored and the analysis of alternatives for the Proposed Project.

See the response to Comment E-2 for discussion of the consistency of the Proposed Project with the 2010 WSER Program EIR (Stanislaus County 2010) and discussion of the hydraulic analysis for the Proposed Project.
In addition, it is important to note that the Program EIR, hydraulic analyses, and all documents referenced or relied upon were made available throughout the entire public comment period.

Response to Comment F-24

See the response to Comment B-3 for a discussion of potential sites previously explored and the analysis of alternatives for the Proposed Project.

See the response to Comment E-2 for discussion of the consistency of the Proposed Project with the 2010 WSER Program EIR (Stanislaus County 2010) and discussion of the hydraulic analysis for the Proposed Project.

Response to Comment F-25

See the response to Comment B-3 for a discussion of potential sites previously explored and the analysis of alternatives for the Proposed Project.

See the response to Comment E-2 for discussion of the consistency of the Proposed Project with the 2010 WSER Program EIR (Stanislaus County 2010) and discussion of the hydraulic analysis for the Proposed Project.

Response to Comment F-26

See the response to Comment E-15 for a discussion of Proposed Project impacts on groundwater, including cumulative impacts.
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Comment Letter G – Richard Michelotti

June 15, 2017

Dear Mr. Del Rio,

I am writing to express my concern regarding the proposed Del Rio Tank and Wells Project. As a resident of Modesto, I have observed the impact of the city’s growth and development on our community. I believe that the project will have a significant negative effect on the environment and quality of life in the area.

The project is intended to provide water for the city’s future growth, but I believe that there are more sustainable alternatives that should be considered. The project is located in an area that is already heavily developed, and the construction and operation of the tanks and wells will likely have a negative impact on local wildlife and natural habitats.

I urge the city to consider alternative solutions that do not require the construction of new water infrastructure. These could include reusing existing water sources or implementing water conservation measures. I believe that these alternatives would be more environmentally friendly and cost-effective in the long run.

Thank you for considering my concerns.

Sincerely,

Richard Michelotti
3. Responses to Comments

Although the project will benefit many property owners and users, it is the responsibility of the City to ensure that the project is conducted in an environmentally sound manner. The City has a duty to protect the environment and ensure that the project will not cause significant adverse environmental impacts.

The City's response to the comments received is as follows:

- G-6: The City agrees to conduct further studies to address the concerns raised.
- G-7: The City will consider the comments and make necessary adjustments to the project.
- G-8: The City will conduct a follow-up study to verify the findings of the initial study.

The City will continue to work with the stakeholders and the public to ensure that the project is conducted in an environmentally sound manner.

City of Modesto

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Response to Comment G-1

See the response to Comment B-3 for a discussion of potential sites previously explored and the analysis of alternatives for the Proposed Project. See the response to Comment B-2 for a discussion of the basis of the Proposed Project, the areas served by the Proposed Project, and the exclusion of the water system improvements anticipated for future buildout from the Proposed Project.

The purpose and objectives of the Proposed Project are identified in Chapter 2 of the DEIR. These objectives include correcting the existing deficiencies in the Del Rio water system and preventing the possibility of future deficiencies that could result with development in the Del Rio community.

Response to Comment G-2

The comment does not state a specific concern or question regarding the environmental impact analysis in the DEIR. Therefore, no further response to this comment is provided.

Response to Comment G-3

The comment does not state a specific concern or question regarding the environmental impact analysis in the DEIR. Therefore, no further response to this comment is provided.

Response to Comment G-4

The purpose and objectives of the Proposed Project are described on page 2-1 of the DEIR; any other use of the project facilities would require additional environmental review. The City cannot "transfer water" to other portions of the service area without (1) evaluating the environmental impacts of that new project and (2) preparing additional CEQA documentation, to the extent that it is necessary. The hypothetical actions described by the commenter are not included as part of this Proposed Project.

See the response to Comment B-2 for a discussion of the basis of the Proposed Project, the areas served by the Proposed Project, and the exclusion of the water system improvements anticipated for future buildout from the Proposed Project.

See the response to Comment E-15 for a discussion of Proposed Project impacts on groundwater, including cumulative impacts.

Response to Comment G-5

The City notice for the DEIR complied with all applicable legal requirements. For the DEIR, the City sent a Notice of Availability to all property owners within 500 feet of the Proposed Project (both Sites A and B), as well as all interested parties that requested notification. The City also posted a notice in the Modesto Bee newspaper on November 7, 2016, and filed a Notice of Availability with the Stanislaus County Clerk-Recorder on November 4, 2017.

Regarding the commenter's concerns about the Walnut Woods area, the City's technical analysis (as described in Chapter 9 of the DEIR and provided in Appendix H of the WSER
Program EIR indicates that the Proposed Project would not have a substantial effect on the wells and property in this area, which is located a quarter-mile to a half-mile west of Site B.

Response to Comment G-6

Refer to the Response to Comment B-2 for a discussion of the basis of the Proposed Project, the areas served by the Proposed Project, and the exclusion of the water system improvements anticipated for future buildout from the Proposed Project.

Refer to the Response to Comment E-15 for a discussion of Proposed Project impacts on groundwater, including cumulative impacts.

Response to Comment G-7

The comment does not state a specific concern or question regarding the environmental impact analysis in the DEIR. Therefore, no further response to this comment is provided.

Response to Comment G-8

Comment Letter G is included in this FEIR, as requested by the commenter and as required by CEQA.
Comment Letter H – Gary Darpinian, K. Darpinian and Sons

October 9, 2017
City of Modesto
Utilities Department
P.O. Box 642
Modesto, CA 95352

Dear Tom:

My name is Gary Darpinian. I am President of K. Darpinian and Sons, Inc., a family farming company. The purpose of this letter is to voice our company’s objections to the City of Modesto’s Del Rio Tank and Wells Project and to serve as our official response in response to the Draft Environmental Impact Report now out for public review and comment. Please incorporate this letter into the final EIR document. We have spent a lot of time and money in developing the proposed site and are very excited about it.

Our first objection is the fact that the City of Modesto proposes to build the tank and one of the project’s wells outside of the Del Rio Plan area as designated by the County of Stanislaus. During the 1980’s, the County approved the Del Rio Community Plan which established Land Planning in the southern part of the City. The plan is a comprehensive attempt to preserve the area from further development and protect the water resources of the Del Rio area and its water table. The plan has been approved by the Planning Commission and the City Council. The proposed tank and well site is located completely outside the Del Rio Community Plan area. It is important to note that the Del Rio Plan area is a heavily farmed area. The Del Rio Plan area includes most of the farmland in the surrounding area and is a critical area for agriculture. The plan is designed to protect the agricultural land and the water table. The plan also includes a number of specific regulations that are intended to protect the water resources of the area.

The DEIR document implies that this fact is not a problem. In fact, it suggests that the proposed project is consistent with the Del Rio Plan area. This statement is misleading and incorrect. The proposed tank and well site is located completely outside the Del Rio Plan area. The plan is designed to protect the agricultural land and the water table. The plan includes a number of specific regulations that are intended to protect the water resources of the area. The proposed project is not consistent with the Del Rio Plan area.

In fact, the City’s staff was well aware years ago of the legal agricultural community in question. In fact, the City’s staff recognized the need to protect the agricultural land and the water table. The proposed project is not consistent with the Del Rio Plan area. The City’s staff was well aware of the need to protect the agricultural land and the water table. The proposed project is not consistent with the Del Rio Plan area.

Sincerely,

Gary Darpinian
K. Darpinian and Sons, Inc.
Furthermore, the DIF will not address the off-site and on-site ways to mitigate the potential harm to surrounding neighborhoods and wetland ecosystems, which would be to locate the portion of the project in the area that will ultimately be served by its completion. Thus, the close proximity of the project will enjoy more of the benefits. Hopefully, at the Mayor and City Council will direct City Staff to act in a manner more consistent with County policy in an area completely out of the City of Modesto jurisdiction. The lack of consideration for this off-site mitigation must be substantiated in a final DIF, or the document will be subject to CEQA guidelines.

Currently, the DIF also ignores the potential to mitigate the project’s impact on the aquifer by locating the wells closer to the groundwater. The Del Rio Community Plan area is bordered on the north by the Tuolumne River, and locating the wells in closer proximity to a natural recharge source would greatly increase the potential to adversely affect the many domestic wells already serving residents in the Del Rio area as well as the many agricultural wells already in use. These alternatives must be studied before any credible level DIF can be approved.

Third, the DIF fails to meet criteria or account for the significant amount of agricultural well pumping in the Lodi aquifer, McNary Avenue and Cerrito Road areas. For example, the Modesto Irrigation District has a deep well 2 miles south of the proposed tank site which operates almost daily during the irrigation season, usually March through October. This well removes thousands of gallons per minute from the local aquifer at a rate that would coincide with peak demands for the project. The “Well Inventory Map” does not accurately illustrate this well and shows several other large agricultural wells within the Del Rio Plan area in the surrounding area. Any credible analysis must factor in the impacts of these wells and the many others in the area to accurately assess the impact that will be done to domestic wells and agricultural wells in the area. Without an accurate model as to location and shape of these wells, a valid analysis of the impact of the DIF will be impossible. These already existing areas must be factored into the proposed DIF for the project.

The additional analysis of the proposed project are not wholly unrelated to each other or even close. Unfortunately, in the DIF, alternative projects are not given equal consideration. Clearly the City of Modesto is attempting to justify a very poor choice of a fixed purchase for the tank and well site by producing a very slipshod DIF. Neighboring residents should not be penalized for the poor judgment of City of Modesto officers who do not have a responsibility to represent them or to protect their interests and for whom these residents can not vote. A fresh look at the project is in order.

Thank you for the opportunity to express our concerns and comments to the DIF process. More than few issues it is about time.

Sincerely,

[Signature]

[Name]
President
[Company Name]
Response to Comment H-1

The comment does not state a specific concern or question regarding the environmental impact analysis in the DEIR. Therefore, no further response to this comment is provided.

Response to Comment H-2

See the response to Comment B-2 for a discussion of the basis of the Proposed Project, the areas served by the Proposed Project, and the exclusion of the water system improvements anticipated for future buildout from the Proposed Project.

See the response to Comment B-3 for a discussion of potential sites previously explored and the analysis of alternatives for the Proposed Project.

See the Response to Comment H-4 below for a discussion of County zoning rules and regulations.

Response to Comment H-3

See the response to Comment B-3 for a discussion of potential sites previously explored and the analysis of alternatives for the Proposed Project.

Response to Comment H-4

As explained in the DEIR in Impact LU-2, "Conflict with Land Use Plans, Policies, or Regulations," although the City is not subject to County zoning requirements, public facilities are a "Tier Three" use permitted in the A-2 district. The DEIR's land use analysis (Chapter 10, Land Use and Planning) indicates that the Proposed Project would be consistent with Stanislaus County land use plans, policies, and regulations, and makes clear that the Proposed Project is not "violating the intent and the spirit of the zoning ordinances of Stanislaus County."

Response to Comment H-5

See the response to Comment G-5 for a discussion of the City's compliance with the requirements for public notification under CEQA.

No residents, either in the Del Rio community or in nearby areas of the county, would "bear the burden of this project" and "enjoy none of the benefit." All project level environmental impacts would be reduced to a less-than-significant level, as explained in the response to Comment B-3. Moving the project facilities from one side of Ladd Road to the other would not increase or reduce any of the identified impacts of the Proposed Project.

See to the Response to Comment B-3 for a discussion of potential sites previously explored and the analysis of alternatives for the Proposed Project.

Response to Comment H-6

The hydrogeologic nature of groundwater basins is a very complex subject. Any recharge provided by the Stanislaus River benefits the entire Modesto Subbasin (essentially a large underground river), not a specific well site or piece of property. More importantly, the
groundwater basin does not begin or end at any boundary line established by a particular land use jurisdiction. As explained in Section 9.2, "Regulatory Setting," in Chapter 9 of the DEIR, groundwater in the Modesto Subbasin of the San Joaquin Valley Groundwater Basin is managed by the Stanislaus and Tuolumne Rivers Groundwater Management Agency, a group of six jurisdictions that are affected by and jointly work to manage that water source. Chapter 9 and Appendix F in the DEIR provides information about the Proposed Project's effects on other groundwater wells in the area and supports the conclusion that those effects would be less than significant.

See the response to Comment B-3 for a discussion of potential sites previously explored and the analysis of alternatives for the Proposed Project.

**Response to Comment H-7**

During initial development of the Proposed Project and preparation of the DEIR, the City requested that well owners provide information about pumping levels and locations of their wells. The Well Inventory Maps, provided as Figures 9-4 and 9-5 of the DEIR, were created by the City's hydrogeological consultants based on publicly available information from the California Department of Water Resources' (DWR's) well database, which provides data on locations but not historical pumping rates. As explained on page 9-21 of the DEIR, the City attempted to verify this information, but most landowners were unwilling to cooperate with the City's investigation. CEQA requires the use of the best reasonably available information, and the City made use of such information in creating its maps and analyzing the data provided by DWR.

**Response to Comment H-8**

See the response to Comment B-3 for a discussion of potential sites previously explored and the analysis of alternatives for the Proposed Project.

**Response to Comment H-9**

The comment does not state a specific concern or question regarding the environmental impact analysis in the DEIR. Therefore, no further response to this comment is provided.
Comment Letter I – Cheri Barnes

Dear Ms. Bryant:

The City’s proposed addition of the two wells, each with a 1,000 per minute capacity, is much more than is necessary for the existing Del Rio community. Doubling the water capacity for the Del Rio area is quite unnecessary, considering a doubling of the population growth is highly unlikely due to California housing policies discouraging sprawl. Del Rio’s surrounding property is “prime farmland”, which needs to be considered in regards to outgrowth.

The DEIR has shown impacts on air quality, and gas emissions as well as a possibility for overdraft of the groundwater aquifer. We live on property that relies solely on ground water and the possibility of depleting the groundwater aquifer is quite serious. Vance Kennedy, a well-renowned hydrologist has been studying this issues and has written many articles dealing with this issue in the central valley. Many wells have gone dry from over pumping, not considering the time it takes to replenish the groundwater aquifer.

To meet Del Rio’s fire pressure needs, I believe the wells should be constructed at the originally-designated locations inside the Del Rio neighborhood per the 2016 West Yard report performed by the City’s consultant, which is Alternative 1. Also, the EIR states that “Among the other alternatives considered, Alternative 1, construction at Existing City Well locations is considered the environmentally superior alternative.

Thank you for your consideration.

Cheri Barnes
606 Hartley Dr.
Modesto, CA
95356
Response to Comment 1-1

See the response to Comment B-2 for a discussion of the basis of the Proposed Project, the areas served by the Proposed Project, and the exclusion of the water system improvements anticipated for future buildout from the Proposed Project.

Response to Comment 1-2

See the response to Comment E-15 for a discussion of Proposed Project impacts on groundwater, including cumulative impacts.

Response to Comment 1-3

See the response to Comment B-3 for a discussion of potential sites previously explored and the analysis of alternatives for the Proposed Project.
Comment Letter J – Jim and Joani Matthews

Jim and Joani Matthews
117 Stewart Rd.
Modesto, Ca. 95356
December 30, 2016

Lamorah Bryant
City of Modesto
1010 Tenth Street
Modesto, Ca. 95353

Re: Draft EIR Del Rio Tank and Wells Project

Dear Lamorah,

Please find enclosed some concerns with the Draft EIR on the proposed Del Rio Tank and Wells Project. We are somewhat perplexed that the proposed alternative #1 of the DEIR does not appear to be under serious consideration now, if ever was. We were told that well site #274 (Country Club-Del Rio Avenue) had been eliminated as a viable well site and would be discarded. While there has been a detailed review of existing ground water sources and an analysis of potential ground water impact for the proposed project, contracted and performed by the Sacramento firm URS Corp to the best of their ability; to my knowledge there was no request for analysis of any of the existing well sites and their ability to be upgraded to meet demand requirements, why?

Also, specifically Well Site #271. Why would this site be abandoned without due diligence in analysis of its ability to meet demand requirements if upgraded? The DEIR clearly states that ALT 31 (upgrading existing facilities) is the environmentally superior approach.

While the whole project may be side-lined by the ongoing talks between Mayor Benavidez and the DRPOA for transfer of ownership of the Del Rio Water System, some of the following concerns in the draft DEIR need to be addressed.

(1) Monitoring Wells

Who would collect the data from the three existing monitoring wells proposed at both sites A and B? Would this data be automatically relayed to a central computer? If collected on site, how often? I believe that a report on the date acquired needs to be submitted in written form to the DRPOA within a year of activation either site A or B. and thereafter on an annual basis or any time the data would show a precipitous drop in

Jim and Joani Matthews
117 Stewart Rd.
Modesto, Ca. 95356
December 30, 2016

Lamorah Bryant
City of Modesto
1010 Tenth Street
Modesto, Ca. 95353

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ground water levels at either site. Also, the various reports submitted by URS continue to address the “shallow ground water table” at 100' to 265' below ground level. However, our existing shallow water table level was set by URS (May 15, 2015 report page 6) of their 3 monitoring sites on Ladd Road and Stewart Road report a static water level of approximately 45' to 66.33, 42.09, 44.741. The stated boundaries of our “shallow water zone” need to reflect this and need to be stiped as elevation of approximately 45' below ground level to approximately 265' below ground level.

(J) Aesthetics (go back there and Xing B)

Aesthetics should be an integral part in the planning of any project. Too often, a suburban mindset prevails when planning such a project as well development. This is always a short-sighted approach which leads to a substantial lack of pride in the completed project and an incremental loss of pride in the community as a whole. While there are no particular features on the site, visual quality of Site B is considered moderate. The proposed facility, i.e., “painted concrete blocks,” would surely degrade the visual quality from “moderate” to “pathetic.” Aside from pathetic, it would also be an invitation for taggers. This is not acceptable. Please see attached photographs of the City of Modesto’s existing water facility on Carpenter Road taken on Dec. 16, 2016 shows a city that can spend $750,000 plus to house a traveling group of bikers for one night can do better than that. I believe that the concrete blocks used to construct the wall for MHD Power Facility on Graphite Ave. are still available. Definitely, there is a need for trees to be planted along the front and two sides (north and south) to make this a less attractive target for graffiti taggers. To mitigate the inevitable, the City needs to incorporate natural deterrents. Though I was unable to navigate the City of Modesto’s website as to graffiti abatement, the City of Santa Ana Graffiti Mitigation Guidelines (please see attached) states, “Landscaping should be considered an important design element in the mitigation of graffiti and graffiti related vandalism.” They also go on to say that there are any number of steps that can and should be taken to mitigate graffiti issues, such as design elements and architectural treatments. What the city is proposing at Site B (painted masonry blocks) would leave a stain on our neighborhood and a decrease in our home values. The long term effect of visual quality will only be “less than significant” if steps are taken to make it “less than significant.”

(J) Areas of Known Controversy and Issues to be Resolved

The first item mentioned in this category is the possibility of an adverse impact to the approximately 300 year old Heritage Oak Tree located on the corner of Stewart and

(page 2 of 4)
McHenry. Nowhere though, is there mention of any steps or guidelines to be established assuring this Heritage Oak from damage during the construction and operation of the well facility at Site B. Though I have been personally assured that no harm would come to this magnificent tree, this needs to be addressed in the final EIR.

As a side note, years ago I treated the noted arborist and author, John M. Hagar, to come out and evaluate this magnificent tree. It turns out that he was not only aware of this tree, but had written an article about this tree many years prior that was published in the Modesto Bee, in his words this tree is “One of the premiere specimens of the Valley Oak.” At the time he estimated its age between 350 to 275 years old. This observation came from someone who devoted his life to trees and wrote numerous published articles and the comprehensive book on tree care titled “Tree Care” by Audel Publishing. This Heritage Oak tree has been the subject of paintings by art students and photographers. It deserves acknowledgment and protection in the final EIR. It is interesting to note that the Stanislaus Environmental Review Committee requested that the City of Modesto address the issue of Environmental impact. The DFIR conveniently side-steps any environmental visual impact of the proposed development by rating the existing Site B as “moderate” and ignoring the impact of an industrial eye sore next to this beautiful tree.

0) Noise

While we are little concerned with any temporary noises generated during the construction process at Site B, we are definitely concerned about the potential long-term noise impacts on both the enjoyment of our home and our well being. One area that is especially concerning is the whirling of a 200 h.p., conventional vertical shaft pump, almost in our backyard. This issue can and should be dealt with by the installation of a submerged unit which would “virtually eliminate the sound source” (from I page 11-3 of DFIR). Why would the city pursue an after-the-fact solution to a known problem that can be dealt with effectively beforehand? There are any number of commercial, efficient and reliable submerged pump units that are more than able to operate within the parameters specified under the DFIR such as the Grunauer SP Series Max. 14000 capable of 220-1400 G.P.M. and heads up to 1700 ft. This would be a far superior approach to noise abatement than the noise mitigation proposed. We realize that other sources of potential noise intrusion, such as the stand-by generator, would be mitigated by the proposed installation of sound-absorptive materials and sound-barrier panels. While this is good, we would ask that in all areas an effort be made to attenuate the

(page 3 of 4)
3. Responses to Comments

In addition to the proposed measures for generator sound mitigation, we would hope that the following, along with other measures, be implemented:

- isolation mounts
- primary and secondary exhaust silencers;
- placement of stand-by generator as close to the east wall as feasible;
- sound damping of the masonry blocks.

(3) Growth Inducing Impacts

While this has not been addressed in the DEIR, it obviously falls under the category, "If you build it they will come."

As noted, this entire project might be side-lined by ongoing talks between the DRPOA and Mayor Brandold concerning the transfer of ownership of our water system. We hope though, that if this project should proceed, that it is done with deliberation and consideration for all parties involved.

Sincerely,

Jim and Janet Matthews

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Chapter 17

Graffiti Mitigation Guidelines

17.1 Introduction

The Graffiti Mitigation Guidelines are intended to assist site designers and developers in implementing the City's goals to prevent graffiti and reduce visual blight. The Chapter provides guidance on the development and rehabilitation of all residential, commercial, and industrial sites. Graffiti Mitigation Guidelines should be incorporated into the design phase of a project to ensure a family and graffiti-free development.

17.2 General Design Objectives

The objectives of these guidelines are to encourage well-designed developments that:

- Utilize design features to reduce the opportunity for graffiti and associated vandalism.
- Incorporate graffiti mitigation measures in the design of new and rehabilitated development projects.
- Include graffiti mitigation measures, such as increased landscaping and lighting, that complement the aesthetic character of the site.

17.3 Graffiti Mitigation through Architectural Design

The following building design and site improvements should be considered:

- Building facades should be integrated with architectural elements and details. Vertical and horizontal features should be provided to minimize large blank walls.
- Building walls should be improved with architectural treatments such as window systems, decorative elements, and textured walls and surfaces.
3. Responses to Comments

17.4 LANDSCAPING

Landscaping should be considered an important design element in the integration of graffiti and graffiti-related vandalism.

The following landscape design concepts should be utilized in all project design in order to minimize graffiti:

* Provide landscaping such as trees at regular intervals to screen blank building walls and perimeter fences. This landscaping should be designated to provide substantial coverage of walls within a one-year period after installation.

* Recommended landscape uses include evergreen (Pachysandra procumbens) and Big leaf boxwood (Buxus sempervirens).
3. Responses to Comments

17.5 Security Equipment

The use of security equipment as a graffiti mitigation measure is an important factor in the deterrence of graffiti.

17.5.1 Lighting

* Security lighting should be designed as a part of a comprehensive lighting plan.

* Security lighting should be provided around the perimeter of all buildings and parking areas.

* Security light fixtures and structural supports should be architecturally compatible with the theme of the development.

Figure 17-3: Security lights should complement the architectural design of the building.

17.5.2 Motion Activated Systems

The use of motion activated systems as a means to deter graffiti is highly recommended. Systems include water dispersion mechanisms that sense motion and disperse water from dedicated sprinkler lines.

Figure 17-4: Motion activated systems are recommended in isolated areas in order to deter graffiti.
Response to Comment J-1

See the response to Comment B-3 for a discussion of potential sites previously explored and the analysis of alternatives for the Proposed Project.

Response to Comment J-2

The comment does not state a specific concern or question regarding the environmental impact analysis in the DEIR. Therefore, no further response to this comment is provided.

Response to Comment J-3

The monitoring wells installed as part of the Proposed Project would be maintained and monitored by the City or its designee. Wells would be monitored on a regular basis. After initial quarterly monitoring, the frequency would be reevaluated by the City. This information would be provided to the City Utilities Department and the Stanislaus County Department of Environmental Resources. These agencies would review the information periodically to ensure that no adverse effects of pumping were identified. Information about groundwater wells operated by the City, including groundwater monitoring wells, is publicly available on an annual basis through a report provided to the City Council by the City Utilities Department.

The boundaries of the shallow zone used in the model were determined based on the drill depths of existing wells in the area and the hydrogeological characteristics of the area. While the commenter is correct that the water table was identified at around 45 feet below ground surface during the 2015 study, the City and its hydrogeological consultant determined, based on this information, that a shallow zone from 100 feet is appropriate for representing potential impacts on existing shallow wells that may be screened in the upper geological formations.

Response to Comment J-4

The commenter expresses concern about the aesthetics of the concrete block wall proposed to screen the facilities at Site B from view. The City has met with neighbors of both sites to discuss their concerns regarding aesthetic and noise issues. Landscaping was not proposed for Site B because a substantial amount of vegetation is already present adjacent to the portion of the site visible from the adjacent residence, including an existing tree, which is discussed below.

The City also appreciates the commenter’s suggestion to investigate the material used at the Modesto Irrigation District facility on Graphics Drive.

To further reduce the potential for vandalism and tagging, the City has modified the proposed project design to include the following features:

- During design of the facilities at Site B, the City would consider application of a graffiti overlay coat or other similar material to reduce the potential for vandalism of the concrete block wall.

These features have been added to the project description in the DEIR on page 2-13, “Site B – McHenry Avenue Well”; page 2-14, “Site Security”; and page 4-21, the Site B discussion of Impact AES-2, “Long-term Adverse Effects on the Visual Character or Quality of the Site and...
its Surroundings during Operation." No change to this analysis or the significance of Impact AES-2 results from this addition.

Response to Comment J-5

Stanislaus County does not have a tree ordinance that would provide specific requirements about protection of Heritage trees. The City has a Street Tree Ordinance that applies only to trees along streets and in City-managed areas; this ordinance does not apply to the large live oak adjacent to Site B. Environmental impacts on plants under CEQA focus on potential damage to the survival or propagation of the plant, not on its aesthetic surroundings.

The live oak near Site B could provide bird nesting habitat, as stated in Chapter 6, *Biological Resources*, "Site B and Proposed Pipeline Alignment – Native and Ornamental Trees and Shrubs" (page 6-8) of the DEIR. As such, the tree would be included in Mitigation Measure BIO-5, "Conduct Preconstruction Surveys for Nesting Birds." With this mitigation, impacts of construction and operation of the Proposed Project on nearby plants and wildlife, including the live oak, would be less than significant.

Staging areas at or near Site B would be designated to store pipe, construction equipment, and other construction-related materials. As stated on page 2-16, staging areas would avoid areas of sensitive biological habitat. Construction staging outside of areas owned by the City would require permission of the property owner. To ensure that the live oak would not be adversely affected during project construction, the discussion of staging areas in Chapter 2, *Project Description*, has been revised to specifically exclude the area of the tree’s dripline.

Response to Comment J-6

Chapter 11, *Noise and Vibration*, of the DEIR provides a thorough analysis of both short-term (construction-related) and long-term (operational) noise impacts of the Proposed Project. The commenter is "especially concerned about the whining of a 200 h.p. conventional vertical shaft pump." The City has discussed these concerns with the commenter in the past, and investigated the commenter’s recommendation for the use of a submersible pump. Using a submersible pump would require the City to fully remove the pump in the event of a malfunction, leading to an extended period of nonoperation and a greater cost compared to a conventional pump, which could be inspected and repaired in place. For these reasons, the City determined that the use of a submersible pump was economically infeasible.

The City is committed to ensuring that operational noise levels near Site B are reduced to a less-than-significant level and welcomes additional input regarding methods to achieve this goal. Mitigation Measure NOISE-2 has been revised to include the City’s willingness to meet with residents to discuss and investigate design solutions to reduce noise production at Site B. No change to the analysis or the significance of Impact NOISE-2 results from this addition.

Response to Comment J-7

See the response to Comment B-2 for a discussion of the basis of the Proposed Project, the areas served by the Proposed Project, and the exclusion of the water system improvements anticipated for future buildout from the Proposed Project.
Response to Comment J-8

The comment does not state a specific concern or question regarding the environmental impact analysis in the DEIR. Therefore, no further response to this comment is provided.
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Chapter 4
REVISIONS TO THE DEIR

This chapter presents revisions to the DEIR in response to the public review and comment process. Changes made in response to comments are discussed in FEIR Chapter 3 and indicated below. Text added to the DEIR is underlined, and deleted text is shown in strikeout. DEIR text changes are presented in the order they would appear in the DEIR, and page numbers are provided to assist in identifying the location of the revisions.

Executive Summary

Page ES-27, under Impact NOISE-3:

<table>
<thead>
<tr>
<th>Impact</th>
<th>Level of Significance</th>
<th>Mitigation Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Noise</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impact NOISE-3: Substantial Permanent Increase in Ambient Noise Levels</td>
<td>Less than Significant with Mitigation</td>
<td>* Mitigation Measure NOISE-2: Consider Design Solutions for Noise Reduction and Employ Noise-reducing Methods during Operations at Site B.</td>
</tr>
</tbody>
</table>

Page ES-13, in the paragraph that begins on page ES-12 under the heading “Site B – McHenry Avenue Well”:

Site B – McHenry Avenue Well

Site B, located on McHenry Avenue, would encompass approximately 0.4 acre. The facilities at this site would consist of a production well and pump, standby generator, disinfection facilities, monitoring well, transmission pipelines connecting to the City’s existing distribution system down McHenry Avenue, and space for a future treatment unit and treatment filters. These facilities would be fully enclosed by a 12-foot-tall concrete block wall with a 24-foot-wide vehicular access gate. During design of the facilities, the City would consider application of a graffiti overlay coat or other similar material to reduce the potential for vandalism of the concrete block wall. The site would be accessed from a new driveway off McHenry Avenue; no site access would be provided from Stewart Road. Site improvements would include a concrete pad and paved driveway, well and associated piping, controls, treatment facilities, generator, and appurtenances. Runoff from new impervious surfaces at Site B would be retained on site. Figure 2-3 provides a site plan of the Site B facilities.
Staging Areas: Staging areas would be needed to store pipe, construction equipment, and other construction-related materials. Staging areas would likely be established at Sites A and B or along the pipeline routes where space is available within the road right-of-way or in vacant lots. Staging areas would avoid areas of sensitive biological habitat and would specifically avoid affecting the area within the dripline of the live oak adjacent to Site B. The City would reserve the authority to approve the locations of the staging areas as part of the contracts for construction of the facilities.

Chapter 2, Project Description

Site B – McHenry Avenue Well

Site B, located on McHenry Avenue, would encompass approximately 0.4 acre. The facilities at this site would consist of a production well and pump, standby generator, disinfection facilities, monitoring well, transmission pipelines connecting to the City's existing distribution system down McHenry Avenue, and space for a future treatment unit and treatment filters. These facilities would be fully enclosed by a 12-foot-tall concrete block wall with a 24-foot-wide vehicular access gate. During design of the facilities, the City would consider application of a graffiti overlay coat or other similar material to reduce the potential for vandalism of the concrete block wall. The site would be accessed from a new driveway off McHenry Avenue; no site access would be provided from Stewart Road. Site improvements would include a concrete pad and paved driveway, well and associated piping, controls, treatment facilities, generator, and appurtenances. Runoff from new impervious surfaces at Site B would be retained on site. Figure 2-3 provides a site plan of the Site B facilities.

Staging Areas: Staging areas would be needed to store pipe, construction equipment, and other construction-related materials. Staging areas would likely be established at Sites A and B or along the pipeline routes where space is available within the road right-of-way or in vacant lots. Staging areas would avoid areas of sensitive biological habitat and would specifically avoid affecting the area within the dripline of the live oak adjacent to Site B. The City would reserve the authority to approve the locations of the staging areas as part of the contracts for construction of the facilities.
Chapter 4, Aesthetics

Page 4-21, second full paragraph, under the heading “Site B”:

**Site B**

Figure 4-6 shows an existing view and a simulated view of the proposed 12-foot-tall concrete wall and 24-foot-wide gate surrounding the well and pump facilities at Site B from McHenry Avenue. The facility wall would be constructed of concrete blocks painted in an earth-tone tan color. During design of the facilities, the City would consider application of a graffiti overlay coat or other similar material to reduce the potential for vandalism of the concrete block wall. The wall would be approximately 75 feet long and 65 feet wide. LED lighting, security cameras, and alarms would be installed outside of the building. A paved driveway connecting to McHenry Avenue would also be visible from McHenry Avenue. No trees would be removed and no landscaping is proposed at the site, aside from hydroseeding or planting of the retention basin slopes.

Chapter 11, Noise and Vibration

Page 11-30, fifth paragraph and Mitigation Measure NOISE-2:

The Program EIR prescribed Mitigation Measure NOISE-3: *Employ Noise-reducing Methods during Operations* to reduce impacts to a less-than-significant level. This mitigation measure has been modified to ensure that operational impacts associated with the Proposed Project would comply with the County’s Municipal Code and the City’s Code of Ordinances noise standards, reducing unmitigated noise levels from 71 dBA at 23 feet to 48 dBA at 30 feet. Therefore, with implementation of Mitigation Measure NOISE-2 (*Consider Design Solutions for Noise Reduction and Employ Noise-reducing Methods during Operations at Site B*), this impact would be less than significant. This measure would not apply to Site A, where project impacts would be less than significant.

**Mitigation Measure NOISE-2: Consider Design Solutions for Noise Reduction and Employ Noise-reducing Methods during Operations at Site B.**

Before final design of the pump facility at Site B, the City shall meet with nearby residents to consider possible design solutions for noise reduction and shall consider any such options that are deemed feasible. Design solutions to be considered may include one or more of the following:

- Isolation mounts,
- Primary and secondary exhaust silencers,
- Placement of stand-by generator as close to the east wall as feasible, and
- Sand damping of masonry blocks.

The City shall implement these and/or other noise-reducing methods so that noise from well operations at Site B, located at the corner of McHenry Avenue...
and Stewart Road, does not exceed County noise-level standards at adjacent residences. Measures to be implemented shall include the following: [...]

Appendix H, Mitigation Monitoring and Reporting Plan

Page H-18, Mitigation Measure NOISE-2:

**Mitigation Measure NOISE-2: Consider Design Solutions for Noise Reduction and Employ Noise-reducing Methods during Operations at Site B.**

Before final design of the pump facility at Site B, the City shall meet with nearby residents to consider possible design solutions for noise reduction and shall consider any such options that are deemed feasible. Design solutions to be considered may include one or more of the following:

- Isolation mounts,
- Primary and secondary exhaust silencers,
- Placement of stand-by generator as close to the east wall as feasible, and
- Sand damping of masonry blocks.

The City shall implement these and/or other noise-reducing methods so that noise from well operations at Site B, located at the corner of McHenry Avenue and Stewart Road, does not exceed County noise-level standards at adjacent residences. Measures to be implemented shall include the following: [...]
### Mitigation Measure

**NOISE-2**

**Consider Design Solutions for Noise Reduction and Employ Noise-reducing Methods during Operations at Site B.**

Before final design of the pump facility at Site B, the City shall meet with nearby residents to consider possible design solutions for noise reduction and shall consider any such options that are deemed feasible. Design solutions to be considered may include one or more of the following:

- Isolation mounts.
- Primary and secondary exhaust silencers.
- Placement of stand-by generator as close to the east wall as feasible, and
- Sand damping of masonry blocks.

The City shall implement these and/or other noise-reducing methods so that noise from well operations at Site B, located at the corner of McHenry Avenue and Stewart Road, does not exceed County noise-level standards at adjacent residences. Measures to be implemented shall include the following: [...]

<table>
<thead>
<tr>
<th>Mitigation Measure</th>
<th>Monitoring and Reporting Action</th>
<th>Monitoring Schedule</th>
<th>Completion Date and Initials</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOISE-2</td>
<td>Meet with residents to discuss noise-reducing design solutions.</td>
<td>Before final design of the pump facility.</td>
<td>[...]</td>
</tr>
</tbody>
</table>
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Chapter 5
Report Preparation

City of Modesto Utilities Department
1010 Tenth Street
Modesto, CA 95353
(209) 577-5205

William Wong
Tamorah Bryant

Horizon Water and Environment, LLC
266 Grand Ave, Suite 210
Oakland, CA 94610
(510) 986-1850

Michael Stevenson
Debra Lilly
Patrick Donaldson
Lorrie Jo Williams

Acting Director of Utilities
Senior Civil Engineer
Principal-in-Charge
Project Manager
Associate
Graphic Artist
Chapter 1, Introduction


Chapter 2, Summary of Public Participation

None cited.

Chapter 3, Comments on the DEIR and Responses


Chapter 4, Revisions to the DEIR

None cited.

Chapter 5, Report Preparation

None cited.
EXHIBIT "D"

MITIGATION MONITORING AND REPORTING PROGRAM
MITIGATION MONITORING AND REPORTING PROGRAM SUMMARY TABLE

The following mitigation monitoring and reporting program (MMRP) summary table includes the mitigation measures identified in the City of Modesto’s (City’s) Del Rio Tank and Wells Project Environmental Impact Report (EIR) and the Final Program Environmental Impact Report (Program EIR) for the Water System Engineer’s Report (City of Modesto 2010). Mitigation measures from the Program EIR are designated with "P-". For each mitigation measure, this table identifies monitoring and reporting actions that shall be carried out and the monitoring schedule. This table also includes a column where responsible parties can check off monitoring and reporting actions as they are completed.

As lead agency, the City will be responsible for ensuring that mitigation measures identified in this EIR are fully implemented. However, some mitigation measures would be implemented by the contractor(s) on behalf of the City. Contract documents for the proposed project will identify the obligations of the contractor, including relevant mitigation measures. The City will require that the contractor provide the City with documentation that it has adequately implemented its contractual obligations, including applicable mitigation measures.

Thus, in the descriptions of the mitigation measures provided in the table which follows, while the City may be the only party referenced in implementing a mitigation measure (i.e., where the measure states “the District shall”), this is intended to be inclusive of the contractor’s role in implementing certain mitigation measures during construction or as part of design.

ACRONYMS AND ABBREVIATIONS USED IN MMRP

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASTM</td>
<td>American Society for Testing Materials</td>
</tr>
<tr>
<td>CDFG</td>
<td>California Department of Fish and Game</td>
</tr>
<tr>
<td>CDFW</td>
<td>California Department of Fish and Wildlife</td>
</tr>
<tr>
<td>CEQA</td>
<td>California Environmental Quality Act</td>
</tr>
<tr>
<td>City</td>
<td>City of Modesto</td>
</tr>
<tr>
<td>CRHR</td>
<td>California Register of Historical Resources</td>
</tr>
<tr>
<td>dBA</td>
<td>A-weighted decibels</td>
</tr>
<tr>
<td>DEIR</td>
<td>draft environmental impact report</td>
</tr>
<tr>
<td>EIR</td>
<td>environmental impact report</td>
</tr>
<tr>
<td>EPA</td>
<td>Environmental Protection Agency</td>
</tr>
<tr>
<td>MLD</td>
<td>Most Likely Descendant</td>
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<tr>
<td>MMRP</td>
<td>mitigation monitoring and reporting program</td>
</tr>
<tr>
<td>NAHC</td>
<td>Native American Heritage Commission</td>
</tr>
<tr>
<td>PRC</td>
<td>Public Resources Code</td>
</tr>
<tr>
<td>TCR</td>
<td>tribal cultural resource</td>
</tr>
<tr>
<td>USFWS</td>
<td>U.S. Fish and Wildlife Service</td>
</tr>
<tr>
<td>Mitigation Measure</td>
<td>Monitoring and Reporting Action</td>
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<tr>
<td>--------------------</td>
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</tr>
<tr>
<td><strong>Aesthetics</strong></td>
<td></td>
</tr>
<tr>
<td>AES-1</td>
<td>Locate Staging Areas Away from Public Areas. Construction staging areas for equipment, personal vehicle parking, and material storage shall be sited as far as possible from residences, major roadways, and public areas. The City contract specifications shall require that staging areas be identified in the documents prepared by construction contractors and subject to approval by the City. The City shall not approve staging areas that are not sited as described above.</td>
</tr>
<tr>
<td>AES-2</td>
<td>Screen Staging and Construction Areas. The construction contract shall specify that staging areas be located where opportunities for screening with existing topography and vegetation will be maximized. Security fencing placed around staging and construction areas shall include slats or other screening sufficient to hide the area from the passing public. Screens used for this purpose shall be of an earth tone or other appropriate neutral color.</td>
</tr>
<tr>
<td><strong>Air Quality</strong></td>
<td></td>
</tr>
<tr>
<td>SJVAPCD AIR-1</td>
<td>Note: Impact AIR-1 was deemed less than significant due to required implementation of SJVAPCD Regulation VIII Control Measures for Construction Emissions of PM 10. Implementation of SJVAPCD required dust control measures are required under Regulation VIII. Implementation of these measures, as well as the enhanced control measures, is already required under the Program EIR.</td>
</tr>
</tbody>
</table>
Mitigation Measure | Monitoring and Reporting Action | Monitoring Schedule | Completion Date and Initials
--- | --- | --- | ---
**SJVAPCD AIR-2**<br>Note: Impact AIR-2 was deemed less than significant due to required implementation of SJVAPCD Regulations to control particulates and fugitive dust.<br>Construction practices should control particulates and fugitive dust to minimize exposure. In addition to the PM10 measures discussed in SJVAPCD AIR-1, implementation of best management practices should include use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and or other options. | • Confirm all exterior surfaces of buildings being demolished are wetted during demolition<br>• Confirm trackout is prevented or removed. | • Before construction begins<br>• During construction |  

**SJVAPCD AIR-3**<br>Note: Impact AIR-3 was deemed less than significant due to required implementation of SJVAPCD Regulations to limit operational emissions of criteria pollutants and precursors.<br>Construction practices should limit activities that emit criteria pollutants, such as vehicle trips. The SJVAPCD’s small project level guidance states that activities generating fewer than 1,506 trips per day are assumed to have a less than | • Confirm that planned activities will generate less than 1,506 trips per day | • During construction |
Biological Resources

BIO-1 Avoid and Protect Burrowing Owls at Site A.

Because some burrows that could be used by Burrowing Owls were noted during field surveys at Site A, and in conformance with federal and state regulations regarding the protection of raptors, the City shall hire a qualified biologist to conduct a preconstruction survey(s) for Burrowing Owls within a 250-foot buffer around the project site, in conformance with protocols established in the Staff Report on Burrowing Owl Mitigation (CDFG 2012 or current version), and prior to the start of construction. If no Burrowing Owls are located during these surveys, no additional action is warranted. However, if breeding or resident owls are located on or within 250 feet of Site A, the following measures shall be implemented.

- No Burrowing Owls will be evicted from burrows during the nesting season (February 1 through August 31). Eviction outside the nesting season may be permitted following evaluation of eviction plans and receipt of formal written approval from CDFW authorizing the eviction.
- A 250-foot buffer, within which no new activity is permissible, shall be maintained between project activities and nesting Burrowing Owls. This protected area will remain in effect until August 31 or, at CDFW’s discretion (based upon monitoring evidence), until the young owls are foraging independently.

- Retain qualified biologist to conduct survey.
- Confirm that preconstruction survey is conducted in accordance with this mitigation measure.
- If Burrowing Owls are found within 250 feet of Site A, establish buffer and avoid new activity in the area.

- Before construction
- Before construction
- During construction as necessary
Mitigation Measure | Monitoring and Reporting Action | Monitoring Schedule | Completion Date and Initials
--- | --- | --- | ---
BIO-2 Compensate for Loss of Burrowing Owl Habitat at Site A. If a preconstruction survey finds that Burrowing Owls occupy Site A, and avoiding construction in occupied areas is not feasible, then the City shall implement habitat compensation on off-site mitigation lands, or shall purchase mitigation bank credits from a mitigation bank approved by CDFW. If mitigation credits are not purchased, habitat management lands comprising existing Burrowing Owl foraging and breeding habitat will be acquired and preserved. An area of 6.5 acres (the amount of land found to be necessary to sustain a pair or an individual owl) will be secured for each pair of owls or for an individual, in the case of an odd number of birds. Relocation of owls shall only be implemented during the non-breeding season. As part of an agreement with CDFW, the City shall provide CDFW with security for the performance of its mitigation duties in the form of funds that will:
- allow for the acquisition and preservation of 6.5 acres of habitat management lands for each pair of owls or unpaired resident single owl;
- provide initial protection and enhancement activities on the habitat management lands, potentially including such measures as fencing, trash cleanup, artificial burrow creation, grazing or mowing, and any habitat restoration deemed necessary by CDFW;
- establish an endowment for the long-term management of the habitat management lands; and
- reimburse CDFW for reasonable expenses incurred as a result of the mitigation activities.
- Consult with CDFW and confirm whether purchasing mitigation bank credits or off-site mitigation option shall be pursued.
- If mitigation bank credits are not available, establish an agreement with CDFW regarding the appropriate amount of funds that should be set aside for the project's mitigation.
- Submit appropriate funds to CDFW consistent with the agreement made with CDFW.
- Before construction
- Before or during construction, as necessary
- Before or during construction, as necessary

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<table>
<thead>
<tr>
<th>Mitigation Measure</th>
<th>Monitoring and Reporting Action</th>
<th>Monitoring Schedule</th>
<th>Completion Date and Initials</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO-3 Compensate for Loss of Swainson's Hawk Foraging Habitat.</td>
<td>• Consult with CDFW and confirm whether purchasing mitigation bank credits or off-site mitigation option shall be pursued.</td>
<td></td>
<td>• Before construction</td>
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<td></td>
<td>• If mitigation credits are available and acceptable to CDFW, purchase the appropriate number of credits from the mitigation bank in accordance with the CDFW protocol.</td>
<td></td>
<td>• Before or during construction, as necessary</td>
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<tr>
<td></td>
<td>• If off-site management lands are pursued, hire a qualified biologist to conduct protocol-level surveys for Swainson's hawk nests in the project vicinity.</td>
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<td>• Before or during construction, as necessary</td>
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<td>• If off-site management lands are pursued, mitigate for those losses consistent with the ratios stated in the mitigation measure and through consultation with CDFW. Protect habitat management lands by acquiring a fee title or</td>
<td></td>
<td>• Before or during construction, as necessary</td>
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<td></td>
<td>The City shall determine the final acreage of off-site management lands or mitigation bank credits to be provided based on the distance between the project area and the nearest active nest site, as stated in the CDFW protocol (CDFG 1994). Mitigation credits would follow the same ratio guidelines as off-site management lands. Prior to the grading of any site with potential foraging habitat, the City shall hire a qualified biologist to conduct protocol-level surveys to determine the location of the nearest active nest. Based on these surveys, the City shall compensate for losses in compliance with the protocol for the mitigation of impacts on Swainson's hawks in the Central Valley (CDFG 1994), as follows:</td>
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<tr>
<td>Mitigation Measure</td>
<td>Monitoring and Reporting Action</td>
<td>Monitoring Schedule</td>
<td>Completion Date and Initials</td>
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<tr>
<td>conservation easement allowing for the active management of the habitat, with the remaining 90% protected by a conservation easement acceptable to CDFW on agricultural lands or other suitable habitats that provide foraging habitat for Swainson's Hawk; or</td>
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<tr>
<td>- 0.5 acre of habitat management land for each acre of development authorized (0.5:1 ratio), all of which shall be met by fee title acquisition or a conservation easement acceptable to CDFW that allows for the active management of the habitat for prey production on the habitat management lands.</td>
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<tr>
<td>Projects within 5 miles of an active nest tree but greater than 1 mile from the nest tree shall provide 0.75 acre of habitat management land for each acre of urban development authorized (0.75:1 ratio). All habitat management lands protected under this requirement may be protected through fee title acquisition or conservation easement on agricultural lands or other suitable habitats that provide foraging habitat for Swainson's Hawks.</td>
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<tr>
<td>Projects within 10 miles of an active nest tree but greater than 5 miles from an active nest tree shall provide 0.5 acre of habitat management land for each acre of urban development authorized (0.5:1 ratio). All habitat management lands protected under this requirement may be protected through fee title acquisition or conservation easement acceptable to CDFW on agricultural lands or other suitable habitats that provide foraging habitat for Swainson's Hawks.</td>
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establishing a conservation easement.
<table>
<thead>
<tr>
<th>Mitigation Measure</th>
<th>Monitoring and Reporting Action</th>
<th>Monitoring Schedule</th>
<th>Completion Date and Initials</th>
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<tbody>
<tr>
<td>foraging habitat for Swainson’s Hawks.</td>
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<tr>
<td>Management Authorization holders/project sponsors shall provide for the long-term management of the habitat management lands by funding a management endowment (the interest on which shall be used for managing the habitat management lands). If mitigation credits are purchased, long term management would be the responsibility of the mitigation bank.</td>
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<tr>
<td><strong>BIO-4</strong> Conduct Preconstruction Surveys for Swainson’s Hawk Nests.</td>
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<tr>
<td>To ensure that nesting Swainson’s Hawks will not be disturbed by construction activities, the City will hire a qualified ornithologist to conduct preconstruction surveys of the Proposed Project sites and adjacent areas within 1 mile of Sites A and B. No fewer than three surveys will be completed in at least each of the two survey periods immediately prior to project initiation, according to this schedule, based on Recommended Timing and Methodology for Swainson’s Hawk Nesting Surveys in California’s Central Valley (Swainson’s Hawk Technical Advisory Committee 2000):</td>
<td></td>
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</tr>
<tr>
<td>• Survey Period I occurs from January 1 to March 20;</td>
<td>Retain a qualified ornithologist to conduct preconstruction surveys.</td>
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<tr>
<td>• Period II from March 20 to April 5;</td>
<td>Complete preconstruction surveys within the time period outlined in the mitigation measure.</td>
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<tr>
<td>• Period III from April 5 to April 20;</td>
<td>In the event that nest is found, halt construction and contact CDFW to confirm how to proceed.</td>
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<tr>
<td>• Period IV from April 21 to June 10 (surveys are not recommended during this period because identification</td>
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<tr>
<td>Del Rio Tank and Wells Project Final Environmental Impact Report August 2017</td>
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</tbody>
</table>
### Mitigation Measure

**B10-5 Conduct Preconstruction Surveys for Nesting Birds.**

The City shall require that construction will be avoided during the nesting season (generally between February 1 and August 31), where practical. If construction activities cannot be avoided during the nesting season, a qualified biologist will conduct a preconstruction survey within 500 feet of the construction area to determine whether active nests are present on the site. The survey will be conducted no more than 30 days prior to construction. If the biologist determines that the area surveyed does not contain any active nests, then construction activities can commence without any further mitigation. If active nests are found, CDFW and USFWS will be notified and Mitigation Measure BIO-6 will be implemented.

**BIO-6 Avoid and Minimize Impacts on Nesting Raptors and Other Migratory Birds.**

To avoid disturbing any active migratory bird nests, the City shall require that construction activities will be conducted during the non-breeding season for these species (generally

<table>
<thead>
<tr>
<th>Mitigation Measure</th>
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<th>Monitoring Schedule</th>
<th>Completion Date and Initials</th>
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</thead>
<tbody>
<tr>
<td><strong>B10-5</strong></td>
<td>Retain a qualified biologist to conduct preconstruction surveys.</td>
<td>Before construction</td>
<td></td>
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<td></td>
<td>Complete surveys at least 30 days before construction.</td>
<td>Before construction</td>
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<td>If active nests are found during the surveys, contact CDFW and USFWS</td>
<td>Before construction</td>
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<tr>
<td><strong>BIO-6</strong></td>
<td>If active nests are found during implementation of Mitigation Measure BIO-5, limit construction activities to the general non-breeding</td>
<td>During construction</td>
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Del Rio Tank and Wells Project  
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between September 1 and January 31). If active nests are present on or adjacent to either of the Proposed Project sites, CDFW and USFWS will be notified. If active migratory bird nests are present and construction cannot be avoided during the breeding season, construction will not occur within 500 feet of an active nest until the young have fledged, as determined by a qualified biologist, or until the project applicant receives written authorization from CDFW and USFWS to proceed.

**BIO-7**  
Protect Bat Colonies.

The following measures shall be implemented to avoid and minimize impacts on bats:

- Prior to removal of structures, the City shall hire a qualified bat biologist familiar with bat biology and ecology to assess structures to be removed for potential, active bat habitat. If the biologist determines that bats are not actively occupying the structures based on professional opinion following appropriate survey protocols, then the structures may be removed.
- For structures identified by the qualified biologist to be actively occupied by bats, removal of the structures shall not occur between April 15 and August 31 to avoid the bat maternity season.
- Demolition of structures shall be preceded by either humane eviction, phased dismantling, and/or deterrent

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</table>
| BIO-7              | • Retain a qualified bat biologist to conduct surveys prior to removal of structures at Site A.  
• Bat biologist shall conduct surveys of structures.  
• If structures are occupied, ensure that removal of structures occur between September 1 and April 14 (outside of bat maternity season).  
• Ensure demolition activities take place consistent with Mitigation Measure BIO-7. | • During construction  
• Before construction  
• Prior to removal of structures  
• During construction  
• During construction  
• During construction |
Cultural Resources

Mitigation Measure

<table>
<thead>
<tr>
<th>CR-1</th>
<th>Suspend Construction Immediately if Cultural Resources Are Discovered, Evaluate All Identified Cultural Resources for CRHR Eligibility, and Implement Appropriate Mitigation Measures for Eligible Resources.</th>
</tr>
</thead>
</table>

Not all cultural resources are visible on the ground surface. As a result, before initiation of ground-disturbing activities, the City or its designee shall arrange for construction crews to receive training about the kinds of archaeological materials that could be present at the Proposed Project site and the protocols to be followed should any such materials be uncovered during construction. Training shall be conducted by an archaeologist who meets the U.S. Secretary of the Interior’s professional standards. Training shall be required during each phase of construction to educate new construction personnel.

If any cultural resources, including structural features, unusual amounts of bone or shell, flaked or ground stone artifacts, historic-era artifacts, human remains, or architectural remains, are encountered during Proposed Project construction activities, work shall be suspended immediately at the location of the find and within a radius of at least 50 feet and the City will be contacted.

All cultural resources uncovered during construction within the Proposed Project site shall be evaluated for eligibility for inclusion in CRHR. Resource evaluations shall be conducted by individuals who meet the U.S. Secretary of the Interior’s

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<tr>
<td>Retain qualified archaeologist or City staff person to conduct worker training.</td>
<td>Prior to construction</td>
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<td>Halt construction activities in the event any cultural resources are encountered.</td>
<td>During construction</td>
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<tr>
<td>If cultural resources are uncovered, retain a qualified individual who meets the U.S. Secretary of the Interior’s standards to conduct resource evaluations.</td>
<td>During construction</td>
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<td>If uncovered resources meet eligibility criteria, implement mitigation measures consistent with Guidelines Section 15126.4(b).</td>
<td>During construction</td>
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<tr>
<td>If TCR or any other resources eligible for listing in the CRHR are encountered, implement additional measures in accordance with Mitigation Measure CR-1.</td>
<td>During construction</td>
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professional standards in archaeology, history, or architectural history, as appropriate. If any of the resources meet the eligibility criteria identified in PRC Section 5024.1 or CEQA Guidelines Section 21083.2(g), mitigation measures will be developed and implemented in accordance with CEQA Guidelines Section 15126.4(b) before construction resumes.

For a TCR or any resources eligible for listing in the CRHR that would be significantly adversely affected by the Proposed Project construction, additional mitigation measures shall be implemented. Mitigation measures for archaeological resources may include (but are not limited to) avoidance; incorporation of sites within parks, greenspace, or other open space; capping the site; deeding the site into a permanent conservation easement; or data recovery excavation. Mitigation measures for archaeological resources shall be developed in consultation with responsible agencies and, as appropriate, interested parties such as Native American tribes. Native American consultation is required if an archaeological site is determined to be a TCR. Implementation of the approved mitigation is required before resuming any construction activities with the potential to affect identified eligible resources at the site.

| CR-2 | Suspend Construction Immediately if Paleontological Resources Are Discovered, Evaluate the Significance of the Resources, and Implement Appropriate Mitigation Measures as Necessary. | • Retain a qualified paleontologist to conduct worker training.  
• In the event a paleontological item is discovered, halt construction activities within 50 feet of discovery site and | • Prior to construction  
• During construction  
• During construction |

Paleontological resources are not necessarily visible on the ground surface. As a result, before initiation of ground-disturbing activities, construction crews shall receive training about the kinds of paleontological materials that could be
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<td>present at the Proposed Project site and the protocols to be followed should such materials be uncovered during construction. Training shall be conducted by a professional paleontologist. Training shall be required during each phase of construction to educate new construction personnel. If any items of paleontological interest are discovered during construction, work shall be suspended immediately within 50 feet of the discovery site, or to the extent needed to protect the site, and the City shall be notified. Any discovery of paleontological resources during construction shall be evaluated by the qualified paleontologist. If it is determined that the Proposed Project could damage a unique paleontological resource, mitigation shall be implemented in accordance with PRC Section 21083.2 and CEQA Guidelines Section 15126.4. If avoidance is not feasible, the paleontologist shall develop a treatment plan in consultation with the City. Work shall not be resumed until authorization is received from the City and any recommendations received from the qualified paleontologist are implemented. notify the City. • Ensure that qualified paleontologist evaluates the discovery and, in the event the project could damage the resource, implement mitigation in accordance with Mitigation Measure CR-2 and consult with the City as necessary.</td>
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<td>CR-3 Halt Construction Immediately if Human Remains Are Discovered and Implement Applicable Provisions of the California Health and Safety Code. If human remains are discovered during construction activities, the requirements of Section 7050.5 of the California Health and Safety Code shall be followed. Potentially damaging excavation shall halt on the Proposed Project site within a minimum radius of 100 feet of the remains and the County Coroner shall be notified. The confirm that measure is included in project plans and specifications. • In the event that human remains are encountered, halt work and contact the Stanislaus County Coroner. • Confirm that any discoveries of human remains are</td>
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<td>Coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or state lands (Health and Safety Code Section 7050.5(b)). If the Coroner determines that the remains are those of a Native American, he or she must contact the NAHC by phone within 24 hours of making that determination (Health and Safety Code Section 7050[c]). In accordance with the provisions of PRC Section 5097.98, the NAHC shall identify a Most Likely Descendent (MLD). The MLD designated by the NAHC shall have at least 48 hours to inspect the site and propose treatment and disposition of the remains and any associated grave goods. The City or its designee shall work with the MLD to ensure that the remains are removed to a protected location and treated with dignity and respect.</td>
<td>evaluated and addressed properly.</td>
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<tr>
<td>CR-4</td>
<td>Prepare and Implement Treatment Plans for any TCRs Identified in the Proposed Project Study Area. If TCRs are identified in the Proposed Project study area, the City shall consult and work with tribes with a traditional and cultural affiliation to the resource to develop feasible alternatives that will avoid impacts or develop and implement treatment plans that will substantially lessen the impacts on identified TCRs, in accordance with PRC Sections 21083(b)(2) or 21084.3.</td>
<td>• Confirm that measure is included in project plans and specifications. • In the event that TCRs are identified, consult with tribes with a traditional and cultural affiliation to the resource and implement treatment plans if necessary.</td>
<td>• During preparation of plans and specifications • During construction</td>
</tr>
</tbody>
</table>

**Geology, Soils, and Seismicity**

| P-GEO-1 | Conduct project-specific geotechnical investigation prior to construction. During project design, project-specific geotechnical | Retain a registered engineer to prepare a geotechnical investigation and report for | • During the initial design phase • During |
investigations and reports will be prepared by registered engineers to detect site conditions that could result in liquefaction, construction on expansive soils, or other potential hazards and to identify appropriate design requirements that would prevent damage to structures. Site-specific geological data and recommendations by a registered engineer will be incorporated into project design, thereby reducing any impacts due to liquefaction.

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<td></td>
<td>the project.</td>
<td>preparation of plans and specifications</td>
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<td></td>
<td>Incorporate site-specific data and recommendations from the report into project design to minimize impacts related to liquefaction.</td>
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**Global Climate Change**

None

**Groundwater**

None

**Hazards and Hazardous Materials**

**P-HAZ-1** Prepare a risk assessment prior to construction activity. Prior to the commencement of construction activities, the City or its contractor will prepare a risk assessment and establish procedures to address the identification, excavation, handling, and disposal of hazardous materials in accordance with ASTM Standard 1527-05, “Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process” and the EPA “All Appropriate Inquiries” standards and practices (40 CFR 312). An environmental database search of regulatory-listed hazardous materials sites contained in local, regional, state, and federal databases for the program site and within a 0.5-mile radius of the site will be performed by a qualified contractor.

- Retain a qualified contractor to conduct a Phase I environmental site assessment.
- Incorporate recommendations from the Phase I report in the project plans and specifications.
- Ensure that the contractor implements risk assessment recommendations and ensure corrective action if necessary.
- Prior to construction
- During preparation of plans and specifications
- During construction
- During construction
City of Modesto

Mitigation Measure

Control contamination resulting from previously unidentified hazardous waste materials.

Prior to the onset of construction, all construction workers will be trained in the identification of potentially contaminated soil and water, including the characteristics of potential contamination, such as discolored soil, oils or sheens on water, and unusual odors. In the event that hazardous materials are encountered during construction, all construction activities in the area of the discovery will stop, and the City or its contractors will conduct hazardous materials investigations to identify the nature and extent of contamination and evaluate potential impacts on program construction. If necessary, the City or its contractors will implement remediation measures consistent with all applicable local, state, and federal codes and regulations. Construction will not resume until remediation is complete. If waste disposal is necessary, the City will ensure that all recommendations in the risk assessment will be implemented by the City and all its representatives, including contractors and earthwork construction workers, such that people are not exposed to adverse conditions on the program site as a result of discovering existing sources of contamination.

P-HAZ-2

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<td>professional as part of this assessment. If contaminated soil or groundwater is encountered, the City will notify the appropriate local environmental management agencies and local fire departments. The City will ensure that any identified environmental site conditions that may represent a risk to public health and safety will be remediated in accordance with federal, state, and local environmental laws and regulations. All recommendations in the risk assessment will be implemented by the City and all its representatives, including contractors and earthwork construction workers, such that people are not exposed to adverse conditions on the program site as a result of discovering existing sources of contamination.</td>
<td>Notify appropriate local environmental agencies fire departments in the event that contaminated soil or groundwater is encountered and remediate in accordance with federal, state and local laws and regulations.</td>
<td>▪ Confirm that measure is included in project plans and specifications.</td>
<td>▪ During preparation of plans and specifications</td>
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<td>P-HAZ-2</td>
<td></td>
<td>▪ Conduct worker training.</td>
<td>▪ Prior to construction</td>
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<td>▪ Halt construction in the event that hazardous materials are encountered.</td>
<td>▪ During construction</td>
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<td>▪ As necessary, implement remediation measures and transport hazardous materials to an appropriately-licensed and permitted facility.</td>
<td>▪ During construction</td>
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<td>Hazardous materials removed during construction are handled and disposed of by a licensed waste-disposal contractor and are transported by a licensed hauler to an appropriately-licensed and permitted disposal or recycling facility, in accordance with local, state, and federal requirements.</td>
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**Land Use and Planning**

None

**Noise and Vibration**

**NOISE-1**

**Employ Noise-reducing Construction Practices.**

The following measures shall be implemented by the City or its contractor to reduce adverse effects from construction noise:

- At least two weeks prior to the start of construction, provide written notification to the potentially affected property owners and residents within 500 feet of the project site, identifying the type, duration, and frequency of construction activities to residences directly exposed to the project noise. Notification of heavy construction activities shall include anticipated dates and hours during which construction activities are anticipated to occur. Notification materials shall also identify a mechanism for residents to register complaints with the City through contact information, including a daytime telephone number, for the project representative to be contacted in the event that construction noise levels are deemed excessive, overly intrusive or construction occurs outside the permitted hours. Recommendations to assist noise-

- Confirm that measure is included in project plans and specifications.
- Notify property owners and residents within 500 feet of project site about construction activities and schedule.
- Designate a noise disturbance coordinator and ensure that this person’s contact information is posted around the project site.
- Comply with noise minimization measures outlined in Mitigation Measure NOISE-1.

- During preparation of plans and specifications
- At least 2 weeks prior to construction
- During construction
- During construction
- During construction
City of Modesto

Mitigation Measure

- Designate a disturbance coordinator and conspicuously post this person's number around the project sites, in adjacent public spaces, and in construction notifications. The disturbance coordinator shall be responsible for responding to any complaints about construction activities. The disturbance coordinator shall receive all public complaints about construction disturbances and be responsible for determining the cause of the complaint and implementation of feasible measures to be taken to alleviate the problem.

- Locate stationary or fixed construction equipment (e.g., compressors and generators), construction staging and stockpiling areas, and construction vehicle routes as far as feasible from noise-sensitive receptors.

- Prohibit the start-up of machines or equipment before 7 a.m. and after 7 p.m. Monday through Saturday and before 9 a.m. and after 5 p.m. on Sunday.

- Prohibit use of materials and equipment deliveries before 7 a.m. and after 7 p.m., Monday through Saturday and before 9 a.m. and after 5 p.m. on Sunday.

- Restrict the use of bells, whistles, alarms, and horns to safety-warning purposes.

- Equip all construction equipment with noise-reduction devices such as mufflers to minimize construction noise and operate all internal combustion engines with

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<td>sensitive land uses in reducing interior noise levels (e.g., closing windows and doors) shall be included in the notification.</td>
<td>Ensure corrective action as necessary.</td>
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| exhaust and intake silencers.  
  - Use noise-reducing enclosures around stationary noise generating equipment.
  - To the extent feasible, the simultaneous operation of multiple construction equipment shall be limited.
  - Install temporary barrier between noise sources and noise sensitive receptors, or the use of intervening structures (i.e.; on-site construction trailer, stockpiles). | Meet with residents to discuss noise-reducing design solutions.  
  - Investigate suggestions to identify feasible design options.  
  - Include feasible design options in pump facility design.  
  - Incorporate noise-reducing measures into the project's generator and pump enclosure design requirements.  
  - Retain a qualified acoustical consultant to assist with preparing the project's generator and pump enclosure and sound wall | Before final design of the pump facility.  
  - Before final design of the pump facility.  
  - Before final design of the pump facility.  
  - Before final design of the pump facility.  
  - During the initial design phase  
  - During the initial design phase.  
  - During the design phase. |}

**NOISE-2 Consider Design Solutions for Noise Reduction and Employ Noise-reducing Methods during Operations at Site B.**

Before final design of the pump facility at Site B, the City shall meet with nearby residents to consider possible design solutions for noise reduction and shall consider any such options that are deemed feasible. Design solutions to be considered may include one or more of the following:

- Isolation mounts,
- Primary and secondary exhaust silencers,
- Placement of stand-by generator as close to the east wall as feasible, and
- Sand damping of masonry blocks.

The City shall implement these and/or other noise-reducing methods so that noise from well operations at Site B, located at the corner of McHenry Avenue and Stewart Road, does not exceed County noise-level standards at adjacent residences. Measures to be implemented shall include the
following:

Generator

1. Project specifications shall include generator sound level limits of 73 dBA at 23 feet, similar to those at the City's Well 62 facility.

2. Noise control specifications for the generator set shall include a sound-attenuated enclosure for the pump and a sound wall within the facility wall. Specifications for the pump enclosure and sound wall are prescribed in item 5 below.

3. Routine testing of the generator shall be performed during daytime hours, between 10 a.m. and 5 p.m., when background sound levels are highest, to minimize potential noise impacts.

4. Obtain the services of a qualified acoustical consultant to conduct project-related operational noise measurements at sensitive receptor locations adjacent to the Proposed Project site to ensure that noise-reducing measures comply with applicable codes. If noise measurements do not comply with applicable codes, additional noise reduction measures should be designed and incorporated.

With these measures, no additional sound reduction would be required to reduce sound levels due to the generator set.

Pump Enclosure and Sound Wall

- Ensure that well pumps and generator are designed consistent with Mitigation Measure NOISE-2.
- Confirm that noise-reducing methods are included in project plans and specifications.

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Mitigation Measure

5. The pump enclosure shall be designed to the following specifications to ensure operational sound levels are reduced below County standards:

   (a) Install a modular sound wall with an optional removable roof adjacent to the pump. The sound-absorptive modular barrier system shall be installed along the west edge of the pump base to a height of at least 10 feet above grade. The barrier system will wrap around the north and south sides of the pump to create a three-walled system with integrated sound absorption. In general, acoustical barriers perform best when close to the noise source. Acceptable products include the following or an approved equivalent: Kinetics Noiseblock Barrier Panel System, Noise Barriers LLC QuietLine Barrier Walls, Sound Fighter Systems LSE.

   (b) Include an insulated sheet metal shroud around the pump motor and shaft. Construct the sheet metal shroud to block the line of sight to the motor ventilation openings. Construction materials shall include exterior-grade sheet metal used for heating, ventilation, and air conditioning (HVAC) ducts and acoustical duct liner.

   (c) If the above measures cannot be employed for the pump, one of the following measures will be implemented to meet the County's nighttime noise threshold of 45 dBA:

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<tr>
<td>5. The pump enclosure shall be designed to the following specifications to ensure operational sound levels are reduced below County standards:</td>
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<tr>
<td>(a) Install a modular sound wall with an optional removable roof adjacent to the pump. The sound-absorptive modular barrier system shall be installed along the west edge of the pump base to a height of at least 10 feet above grade. The barrier system will wrap around the north and south sides of the pump to create a three-walled system with integrated sound absorption. In general, acoustical barriers perform best when close to the noise source. Acceptable products include the following or an approved equivalent: Kinetics Noiseblock Barrier Panel System, Noise Barriers LLC QuietLine Barrier Walls, Sound Fighter Systems LSE.</td>
</tr>
<tr>
<td>(b) Include an insulated sheet metal shroud around the pump motor and shaft. Construct the sheet metal shroud to block the line of sight to the motor ventilation openings. Construction materials shall include exterior-grade sheet metal used for heating, ventilation, and air conditioning (HVAC) ducts and acoustical duct liner.</td>
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<tr>
<td>(c) If the above measures cannot be employed for the pump, one of the following measures will be implemented to meet the County's nighttime noise threshold of 45 dBA:</td>
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<tr>
<td>i. Install a submersible pump that would place the motor under water and virtually eliminate the sound source.</td>
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<td>ii. Increase the height of the equipment yard sound wall above 12 feet. Based on the noise analysis, increasing the equipment yard wall height to 13 feet would result in an additional 2 dBA of attenuation and a predicted sound level of 45 dBA. A 14-foot-tall wall could reduce sound levels by an additional 1 dBA.</td>
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<tr>
<td>iii. Construct a barrier adjacent to the motor with a removable roof barrier directly over the motor. This secondary barrier directly adjacent to the pump motor on the west side would effectively reduce sound levels below the nighttime noise threshold. The detachable roof would still provide access to the motor for servicing and removal.</td>
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The barrier adjacent to the motor shall be designed to the following specifications to ensure operational sound levels would be reduced below County standards:

- The barrier shall be constructed around the equipment within the wall surrounding the facility.
- The barrier shall weigh a minimum of 4 pounds per square foot. Painted and sealed
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<td>concrete block easily meets this weight requirement.</td>
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<td>• The barrier shall be continuous along its length and width with no gaps in the construction, including at the ground. The equipment yard pad shall be sloped such that weeping holes are only needed on the north and east sides of the facility.</td>
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<tr>
<td>iv. Construct an insulated sheet metal shroud around the motor and shaft. This metal shroud would accommodate air circulation requirements for the motor, but would divert sound energy away from the motor openings and base near the shaft. Sound energy would be attenuated by sound-absorbing material within the metal shroud.</td>
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RESOLUTION NO. 2017-348

RESOLUTION APPROVING A PURCHASE AND SALE AGREEMENT WITH ESCROW INSTRUCTIONS WITH VICTOR MARTINEZ AND IRIS L. MARTINEZ, TRUSTEES OF THE 2008 MARTINEZ REVOCABLE TRUST UNDER DECLARATION OF TRUST DATED MAY 21, 2008, FOR ACQUISITION OF APPROXIMATELY 2.75 ACRES, LOCATED AT 500 9TH STREET IN MODESTO, CALIFORNIA (APN: 106-044-005), IN THE AMOUNT OF $3,100,000 AND AUTHORIZING THE INTERIM CITY MANAGER, OR HIS DESIGNEE, TO EXECUTE THE AGREEMENT AND ALL RELATED DOCUMENTS REQUIRED TO CLOSE ESCROW

WHEREAS, the City of Modesto has been in search of a site to meet its future growth needs, and

WHEREAS, staff has identified an approximate 2.75 acre parcel, known as “Cook Marketplace”, located at 500 9th Street, in Modesto, California (APN: 106-044-005/Block 52), and

WHEREAS, the property is owned by Victor and Iris L. Martinez, trustees (“Property Owners”), and

WHEREAS, the City considered purchasing this property in 2015 for $2.5 million dollars, but the an agreement on terms was not completed at that time, and

WHEREAS, the City began purchasing negotiations when the property became available for sale again for $3.1 million, and

WHEREAS, the property is centrally located to the Modesto Police Department, Fire Station No. 1, the Regional Transit Center, the City Hall/County Administration building, the Modesto Chamber of Commerce, the Gallo Center for the Arts, Brenden Theaters, and the Doubletree Hotel, as well as the present and future County Courthouse, and
WHEREAS, the property has the potential to play a significant role in the revitalization of the Downtown Core, and

WHEREAS, the property is income producing and can pay back money borrowed from the Fleet Operating Fund Reserves, as well as maintain the property until such time as the City is able to develop the property to meet its future growth needs, and

WHEREAS, a Purchase and Sale Agreement ("Agreement") is needed for the acquisition of the property, and

WHEREAS, the due diligence period is 120 days with the close of escrow to occur within 30 days of the end of the due diligence period, and

WHEREAS, within the first 60 days of the due diligence period, the City shall obtain a qualified appraisal report with an estimated cost of $5,500, and

WHEREAS, if the appraised value is higher than the purchase price, the price shall not change,

WHEREAS, if the appraised value is lower than the purchase price, the City and Property Owners may negotiate a new purchase price, and

WHEREAS, if the City and Property Owners are unable to agree to a revised price, the City may terminate the Agreement, and

WHEREAS, during the due diligence period, the City shall also obtain a Phase 1 Environmental Report with an estimated cost of $5,000, necessary engineering feasibility studies, and review governmental regulations and improvement obligations, and

NOW, THEREFORE, BE IT RESOLVED by the Council of the City of Modesto that it hereby approves the Purchase and Sale Agreement with Victor Martinez and Iris L. Martinez, Trustees of the 2008 Martinez Revocable Trust under Declaration of Trust
dated May 21, 2008, for acquisition of approximately 2.75 acres located at 500 9th Street, in Modesto, California (APN: 106-044-005/Block 52), in the amount of $3,100,000.

BE IT FURTHER RESOLVED that the Interim City Manager, or his designee, is hereby authorized to execute the Agreement, in a form approved by the City Attorney and all related documents required to close escrow, provided that the Interim City Manager and/or designee will report back to Council the results of due diligence prior to closing escrow and may receive further direction at that time.

The foregoing resolution was introduced at a regular meeting of the Council of the City of Modesto held on the 5th day of September, 2017, by Councilmember Ridenour, who moved its adoption, which motion being duly seconded by Councilmember Grewal, was upon roll call carried and the resolution adopted by the following vote:

AYES: Councilmembers: Ah You, Grewal, Kenoyer, Madrigal, Ridenour, Zoslocki

NOES: Councilmembers: Mayor Brandvold

ABSENT: Councilmembers: None

ATTEST: STEPHANIE LOPEZ, City Clerk

(SEAL)

APPROVED AS TO FORM:

By: ADAM U. LINDGREN, City Attorney
RESOLUTION AMENDING THE FISCAL YEAR 2017-2018 CAPITAL IMPROVEMENT BUDGET AND THE MULTI-YEAR OPERATING BUDGET TO APPROPRIATE A $3,000,000 INTERFUND LOAN TRANSFER FROM THE FLEET OPERATING FUND TO THE NEW COOK MARKET PROJECT AND TRANSFER $100,000 FROM THE COURTHOUSE PROJECT 100859 FOR THE REMAINING AMOUNT OF THE PURCHASE PRICE

WHEREAS, the City had originally considered the location of property at 500 9th Street (APN: 106-044-005) in 2015, and

WHEREAS, the City and the owner of the property were not able to come to an agreement at that time, and

WHEREAS, the owner’s broker has approached the City to indicate that the property would again be for sale, and

WHEREAS, the owner has agreed to a 120 day escrow during which time the City can terminate for any reason, and

WHEREAS, the City will undertake due diligence, including but not limited to, building and property inspections, updated environmental and title, obtaining an appraisal, and verification of existing leases with no earnest money deposited, and

WHEREAS, the estimated cost of the appraisal is $5,500 and the cost of the Phase 1 Environmental Report is $5,000 which will be paid from existing funds within the Community and Economic Development Department professional services account 0100-14110-53300, and

WHEREAS, should the City decide to move forward with the approval of the purchase of the property once the due diligence is completed for the price of $3,100,000,
an interfund loan from the Fleet Operating Fund in the amount of $3,000,000 to the Special Fund for Capital Outlay will be made with repayments paid back from rental revenue received from current and future tenants of the property over 20 years will be established, and

WHEREAS, the remaining $100,000 of the purchase price will be paid from excess funds in the Courthouse Project 100859.

NOW, THEREFORE, BE IT RESOLVED by the Council of the City of Modesto that it hereby amends the Fiscal Year 2017-2018 Capital Improvement Budget and Multi-Year Operating Budget to appropriate a $3,000,000 interfund loan transfer from the Fleet Operating Fund to the newly created Cook Market Project, as well as transfer $100,000 in additional funds from the Courthouse Project 100859 to the newly created project for the Cook Market Project.
The foregoing resolution was adopted at a regular meeting of the Council of the City of Modesto held on the 5th day of September, 2017, by Councilmember Ridenour, who moved its adoption, which motion being duly seconded by Councilmember Grewal, was upon roll call carried and the resolution adopted by the following vote:

AYES: Councilmembers: Ah You, Grewal, Kenoyer, Madrigal, Ridenour, Zoslocki

NOES: Councilmembers: Mayor Brandvold

ABSENT: Councilmembers: None

ATTEST: 

APPROVED AS TO FORM:

By: 

ADAM U. LINDGREN, City Attorney
RESOLUTION APPROVING A LOAN OF $3,000,000 FROM THE FLEET OPERATING FUND TO THE SPECIAL FUND FOR CAPITAL OUTLAY FOR THE PROJECT TITLED “COOK MARKET PROJECT” AND ESTABLISHING A REPAYMENT SCHEDULE, AMORTIZED OVER 20 YEARS TO BE PAID BACK FROM FUTURE RENTAL INCOME RECEIVED FROM THE CURRENT AND FUTURE TENANTS OF THE PROPERTY

WHEREAS, the City had originally considered the location of property at 500 9th Street (APN: 106-044-005) in 2015, and

WHEREAS, the City and the owner of the property were not able to come to an agreement at that time, and

WHEREAS, the owner’s broker has approached the City to indicate that the property would again be for sale, and

WHEREAS, the owner has agreed to a 120 day escrow during which time the City can terminate for any reason, and

WHEREAS, the City will undertake due diligence, including but not limited to, building and property inspections, updated environmental and title, obtaining an appraisal, and verification of existing leases with no earnest money deposited, and

WHEREAS, the estimated cost of the appraisal is $5,500 and the cost of the Phase 1 Environmental Report is $5,000 which will be paid from existing funds within the Community and Economic Development Department professional services account 0100-14110-53300, and

WHEREAS, should the City decide to move forward with the approval of the purchase of the property once the due diligence is completed for the price of $3,100,000, and
WHEREAS, an interfund loan from the Fleet Operating Fund in the amount of $3,000,000 to the Special Fund for Capital Outlay will be made with repayments paid back from rental revenue received from current and future tenants of the property, and

WHEREAS, the $3,000,000 loan will be amortized over the next 20 years, and

WHEREAS, the $3,000,000 loan will accrue interest at the City’s average rate of return on its investment pool, and

WHEREAS, the amount of interest will be calculated based on the principal outstanding during the prior fiscal year, and,

WHEREAS, all annual rental income, less operating expenses, will be used to reimburse the Fleet Operating Fund until the loan is paid in full, and

WHEREAS, at least $150,000 of principal plus interest will be paid back each fiscal year through fiscal year 2037-2038, as outlined in Exhibit A, and

WHEREAS, the remaining $100,000 of the purchase price will be paid from additional funds in the Courthouse Project 100859.

NOW, THEREFORE, BE IT RESOLVED by the Council of the City of Modesto that it hereby approves the an interfund loan of $3,000,000 from the Fleet Operating Fund to the General Fund for the project titled Cook Market Project.

BE IT FURTHER RESOLVED that the $3,000,000 loan will be amortized over 20 years and rental revenue received in the “Cook Market Project” will be used to reimburse the Fleet Operating Fund until the loan is paid in full.
The foregoing resolution was adopted at a regular meeting of the Council of the City of Modesto held on the 5th day of September, 2017, by Councilmember Ridenour, who moved its adoption, which motion being duly seconded by Councilmember Grewal, was upon roll call carried and the resolution adopted by the following vote:

AYES: Councilmembers: Ah You, Grewal, Kenoyer, Madrigal, Ridenour, Zoslocki

NOES: Councilmembers: Mayor Brandvold

ABSENT: Councilmembers: None

ATTEST: 

(SEAL)

APPROVED AS TO FORM:

By: 

ADAM U. LINDGREN, City Attorney
Exhibit A
Amortization Schedule

for
Loan from Fleet Operating Fund to Special Fund for Capital Outlay

<table>
<thead>
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<th>Fiscal Year</th>
<th>Average Principal Payment</th>
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