

## **3.6 Geology and Soils**

This section provides an evaluation of the potential geology and soils impacts that would be caused by implementation of the proposed project. The discussion starts with an overview of regulation that is normally applicable to the geology and soils environmental factor, followed by a description of the physical setting of both the site and surrounding lands. An analysis is then provided to determine whether the impact(s) would be less than significant, significant without mitigation, or significant and unavoidable. If an impact is significant and can be reduced with mitigation, then a description of the mitigation measure(s) is provided.

### **3.6.1 REGULATORY SETTING**

#### ***Federal***

##### **UNIFORM BUILDING CODE**

The Uniform Building Code includes development standards for projects to comply with appropriate seismic design criteria, and adequate drainage facility design, and preconstruction soils and grading studies. Seismic design standards have been established to reduce many of the structural problems occurring because of major earthquakes. In 1998, the code was revised as follows:

- Upgrade the level of ground motion used in the seismic design of buildings;
- Add site amplification factors based on local soils conditions; and
- Improve the way ground motion is applied in detailed design.

##### **CLEAN WATER ACT (EROSION CONTROL)**

The Clean Water Act (CWA) (33 USC 1251 et seq.), formerly the Federal Water Pollution Control Act of 1972, was enacted with the intent of restoring and maintaining the chemical, physical, and biological integrity of the waters of the United States. The CWA requires states to set standards to protect, maintain, and restore water quality through the regulation of point source and certain nonpoint source discharges to surface water. Those discharges are regulated by the National Pollutant Discharge Elimination System (NPDES) permit process (CWA Section 402). Projects that disturb one or more acres of land are required to obtain NPDES coverage under the NPDES General Permit for Storm Water Discharges Associated with Construction Activity (General Permit), Order No. 99-08-DWQ. The General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP), which includes Best Management Practices (BMPs) to protect stormwater runoff, including measures to prevent soil erosion.

#### ***State***

##### **INTERNATIONAL BUILDING CODE/CALIFORNIA BUILDING CODE**

The International Building Code (IBC) incorporates data regarding the response of structures to seismic events as a basis for structural design. The IBC considers primary lateral seismic forces and general soil types. The objective of the IBC is to protect the life safety of building occupants

and the public. The IBC provisions are enforced by the City through the building permit process during which plans for proposed structures are examined for compliance with the applicable provisions of the IBC. In large earthquakes, compliance with provisions of the IBC would reduce the risk of complete structural failure, although structural damage may be expected. All new construction must comply with the current version of the IBC.

## **ALQUIST-PRIOLO EARTHQUAKE FAULT ZONING ACT**

The Alquist-Priolo Earthquake Fault Zoning Act (CPRC Division 2, Chapter 7.5) was passed in 1972 in an effort to reduce the potential human safety risks associated with surface faults by preventing the construction of buildings used for human occupancy on the surface trace of active faults. The law only addresses the hazard of surface fault rupture and is not directed toward other earthquake hazards. The act requires the State Geologist to establish regulatory zones (known as Earthquake Fault Zones) around the surface traces of active faults and to issue appropriate maps. The maps are distributed to all affected cities, counties, and state agencies for their use in planning and controlling new or renewed construction. Local agencies must regulate most development projects within the zones. Maps are also available on the agency's website at <http://www.quake.ca.gov/gmaps/WH/regulatorymaps.htm> (State of California, Department of Conservation 2007a).

## **SEISMIC HAZARDS MAPPING ACT**

The Seismic Hazards Mapping Act (SHMA) of 1990 addresses earthquake hazards other than fault rupture, including liquefaction and seismically induced landslides. Seismic hazard zones are to be mapped by the State Geologist to assist local governments in land use planning. The SHMA states that, "It is necessary to identify and map seismic hazard zones in order for cities and counties to adequately prepare the safety element of their general plans and to encourage land use management policies and regulations to reduce and mitigate those hazards to protect public health and safety." Section 2697(a) of the SHMA additionally requires that, "Cities and counties shall require, prior to the approval of a project located in a seismic hazard zone, a geotechnical report defining and delineating any seismic hazard" (State of California, Department of Conservation 2007b).

### ***Local***

## **STANISLAUS COUNTY**

### ***General Plan***

Pursuant to California Code Title 14, Section 65300 the 1994 Stanislaus County General Plan addresses geology and soils in its Safety Element and Housing Element. The plan also includes local, regional, State, and federal programs and regulations as well as a comprehensive set of guiding and implementing policies. These policies include:

LU: Policy Four- Urban development shall be discouraged in areas with growth-limiting factors such as high water table or poor soil percolation, and prohibited in geological fault and hazard areas, flood plains, riparian areas, and airport hazard areas unless measures to mitigate the problems are included as part of the application;

SE: Policy One-The County will adopt (and implement as necessary) plans inclusive of the Multi-Jurisdictional Hazard Mitigation Plan, to minimize the impacts of a natural and man-made disasters;

SE: Policy Three-Development should not be allowed in areas that are particularly susceptible to seismic hazard;

SE: Policy Five-Stanislaus County shall support efforts to identify and rehabilitate structures that are not earthquake resistant;

SE: Policy Six-All new development shall be designed to reduce safety and health hazards;

SE: Policy Fourteen-The County will continue to enforce state-mandated structural Health and Safety Codes, including but not limited to the Uniform Building Code, the Uniform Housing Code, the Uniform Fire Code, the Uniform Plumbing Code, the National Electric Code, and Title 24. (Comment: The Uniform Building Code includes provisions for safe construction under the most current standards. The Uniform Housing Code provides for upgrading of existing dwellings to eliminate health and safety problems without requiring upgrading of non-hazardous conditions.); and

HE: Policy/Program 1-9- Continue to enforce federal and State laws to provide minimum health and safety standards in housing and other structures.

Additional policies related to geology and soils are also included in the County Code. The proposed project must also be in compliance with these regulations which are discussed next.

### ***Stanislaus County Code***

The Stanislaus County Code Title 16, Chapters 16.05 through 16.15 govern certain activities throughout the County that are related to the geology and soils section of this report. The proposed project's construction phases would include building a 180,000 square foot warehouse for the storage of produce. Compliance with the following regulations will be required:

- Title 16, Chapter 16.05 Building Code;
- Title 16, Chapter 16.10 Plumbing Code; and
- Title 16, Chapter 16.15 Electrical Code.

North Washington Road is in the City of Turlock's WISP limits and designated as an expressway in the City's General Plan. Consequently, grading within the North Washington Road right-of-way would be subject to the City of Turlock's WISP.

## **CITY OF TURLOCK**

### ***Westside Industrial Specific Plan***

As previously mentioned, the right-of-way of North Washington Street is in the Turlock city limits so will have to comply with the WISP. The road is classified as an expressway in the Turlock General Plan. In addition to landscape screening for onsite parking areas, frontage

improvements including curb, gutter, and sidewalk will be required along with a right turn lane into the project site. The proposed driveway would be aligned with the new traffic signal into the Blue Diamond facility on North Washington Road. All of these activities are directly related to soils and geology issues. Compliance with the WISP will include the following policies:

R-P 3: Minimize soil erosion and loss of topsoil from land development activities, wind, and water flow.

R-P 4: Comply with the Uniform Building Code (UBC) requirements for specific site development and construction standards for specified soils types.

R-P 5: Comply with the Uniform Building Code (UBC), Chapter 70, regulating grading activities including drainage and erosion control.

R-P 6: Site-specific survey and research shall be completed for proposed development projects, including appropriate mitigation measures for avoiding or reducing erosion, if needed. This requirement may be waived if the City determines that the proposed project area is already sufficiently surveyed.

DS 7: Any constructed drainage swales and catchment/infiltration areas should be stabilized by appropriate soils stabilization measures to prevent erosion.

R-P 37: Soils stabilization is required at all construction sites after normal working hours and on weekends and holidays, as well as on inactive construction areas during phased construction. Methods include short-term water spraying, and long-term dust suppressants and vegetative cover.

Chapter 6 of the WISP plan provides a detailed overview of the specific plan area, including its soil objectives as related to geology and soils (City of Turlock 2006). The plan can be accessed at the City of Turlock's website using the following path:

<http://www.ci.turlock.ca.us/pdflink.asp?pdf=documents/developmentservices/planning/guidelines/WISP.pdf?o=o&title=Westside%20Industrial%20Specific%20Plan>.

### **3.6.2 PHYSICAL SETTING**

#### ***Regional Geology***

Special Report 173, completed by the California Department of Conservation, Division of Mines and Geology in 1993, provides the following information on Stanislaus County which is situated in parts of three geologic provinces. From west to east, these are the Coast Ranges, Great Valley, and Sierra Nevada. The boundary between the Coast Ranges and the Great Valley provinces is interpreted here as the abrupt change in topography from relatively flat plain to hills. The boundary between the Great Valley and Sierra Nevada provinces is more transitional and is interpreted here to approximately coincide with the area where the contacts between older Cenozoic and Jurassic rocks are exposed.

The Coast Ranges Province is the most lithologically diverse and structurally complex part of the county. It is composed dominantly of marine sedimentary rocks with lesser amounts of igneous and nonmarine sedimentary rocks. This province hosts the greatest variety of mineral deposits found in the county.

Flat-lying Cenozoic alluvial sediments formed by the coalescence of successive alluvial fans derived from the Sierra Nevada and Coast Ranges characterize the Great Valley Province. It is host to all current mining in Stanislaus County as well as the rich soils that support the county's extensive agriculture. .

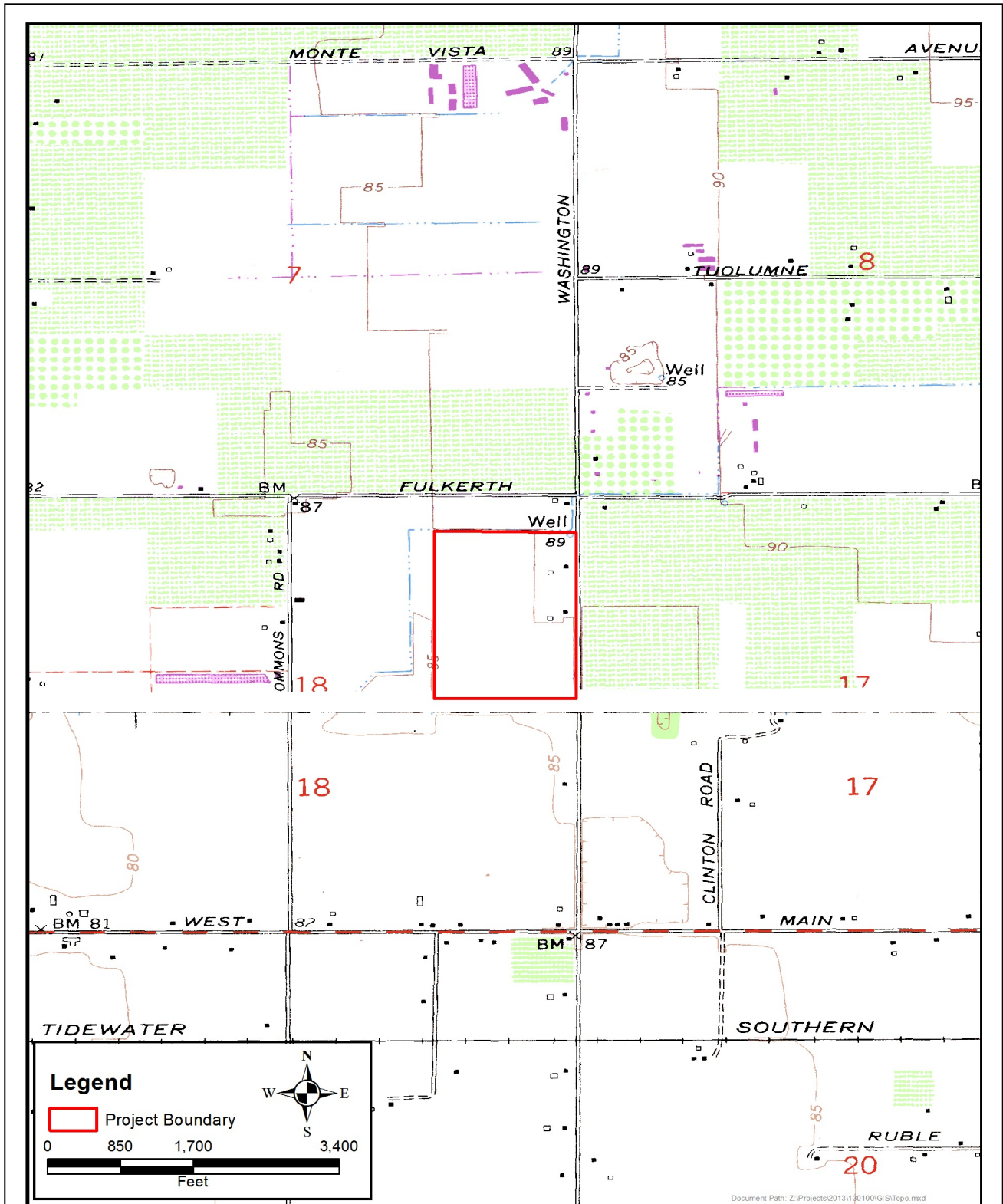
A narrow hilly strip in the north easternmost part of the county forms the Sierra Nevada Province. It is characterized by an irregular pattern of older Cenozoic sedimentary and volcanic rocks that overlie Jurassic metavolcanic and metasedimentary rocks. It has been the ultimate source of most of the metallic and nonmetallic minerals mined in the eastern part of the county.

The regional geologic structure of the county ranges from relatively simple to the east and very complex to the west. The central and eastern parts of the county comprise a relatively stable structural environment, characterized by the successive deposition of Cretaceous and Cenozoic sediments over a gently inclined, eroded crystalline basement. The western part of the county represents an area of intense tectonism, which continues today, as demonstrated by earthquakes and the youthful geomorphology of the Coast Ranges Province. Here, the rocks have been extensively folded and faulted, initially during eastward directed subduction and then during development of the San Andreas Fault System in western California. At present, this part of the county is apparently undergoing northeast-southwest compression and resultant shortening, oriented at right angles to the boundary between the Coast Ranges and Great Valley (Wentworth and Zoback, 1989).

### **Local Geology**

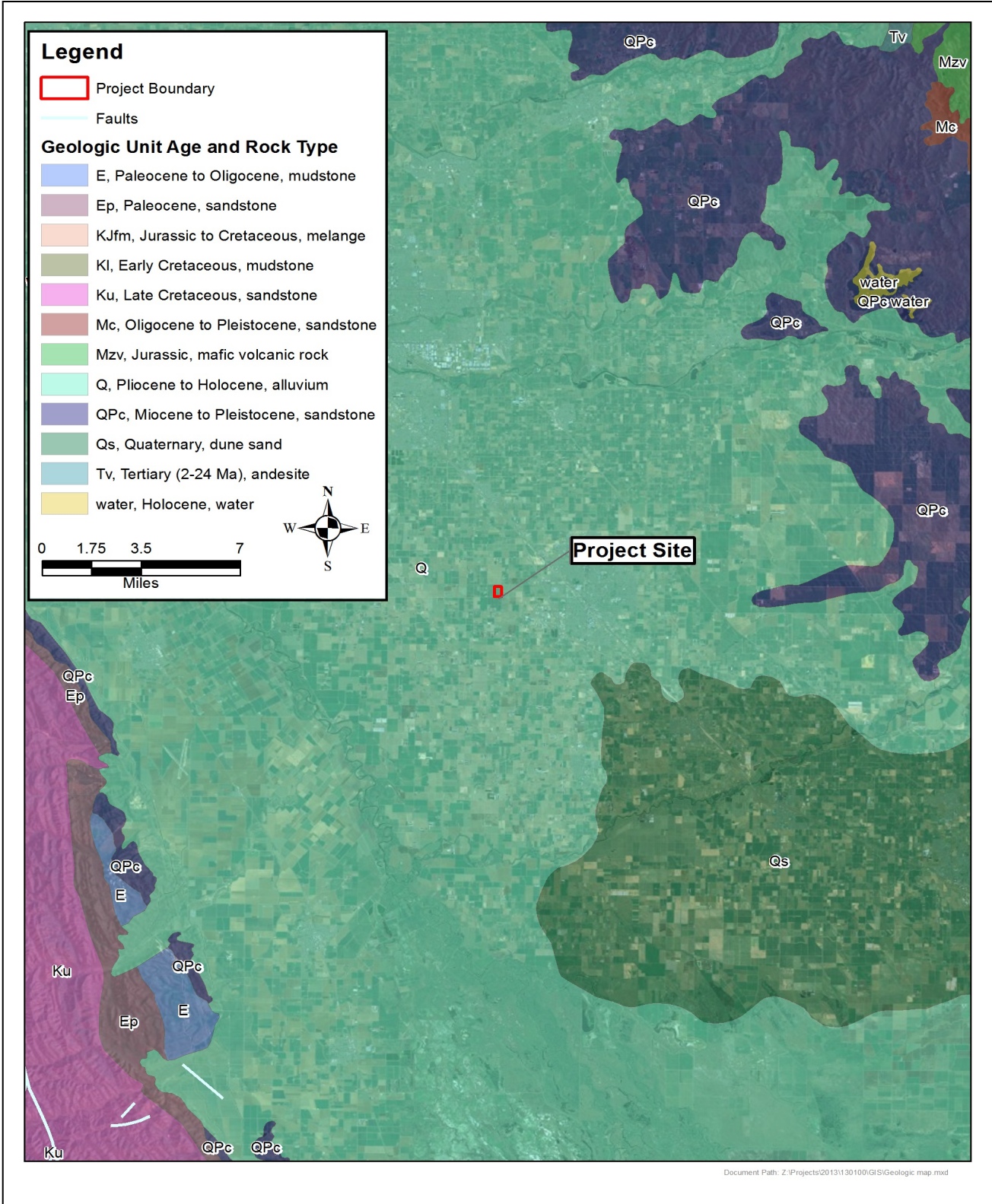
The project site is underlain by Quaternary alluvium derived from the Sierra Nevada. In contrast to the relatively narrow strip of Quaternary alluvium derived from the Coast Ranges, the central and northeastern parts of the county are widely covered by broad alluvial fan, channel, and terrace deposits derived largely from the Sierra Nevada (Marchand and Allwardt; 1981). From oldest to youngest, the components of this unit include the Turlock Lake Formation, Riverbank Formation, Modesto Formation, and post Modesto (Holocene) alluvium.

This unit is mainly arkosic in composition, which reflects the granitic and metamorphic source rocks in the Sierra Nevada to the east. Most sediments were deposited by the present and ancestral Stanislaus and Tuolumne rivers, which provided long transport distances through a terrain of hard basement rocks. This transport allowed for thorough reworking and sorting of the sediments such that they are cleaner and more well-rounded than the alluvial deposits associated with the Coast Ranges. Secondary drainages, such as Dry Creek and those north of Woodward Reservoir, commonly have sediments that are locally derived, such as from metamorphic and Tertiary volcanic rocks (California Department of Conservation, Division of Mines and Geology 1993). Figures 3.6-1 and 3.6-2 provide a topographic map and a geology map of the regional area which includes the proposed project site.



TOPOGRAPHIC MAP

Figure 3.6-1



GEOLOGY MAP

Figure 3.6 - 2

## FAULTS

Faults form in rocks when stresses overcome the internal strength of the rock, resulting in a fracture. Large faults develop in response to large regional stresses operating over a long time, such as those stresses caused by the relative displacement between tectonic plates. According to the elastic rebound theory, these stresses build up in the earth's crust until enough stress has built up to exceed the strength along a fault and cause a brittle failure. The rapid slip between the two stuck plates or coherent blocks generates an earthquake. Following an earthquake, stress will build once again until the occurrence of another earthquake. The magnitude of slip is related to the maximum allowable stress that can be built up along a particular fault segment. The greatest buildup in stress due to the largest relative motion between tectonic plates or fault blocks over the longest period will generally produce the largest earthquakes. The distribution of these earthquakes is a study of much interest for both hazard prediction and the study of active deformation of the earth's crust. Deformation is a complex process and strain caused by tectonic forces is not only accommodated through faulting, but also by folding, uplift, and subsidence, which can be gradual or in direct response to earthquakes.

Faults are mapped to determine earthquake hazards, since they occur where earthquakes tend to recur. A historic plane of weakness is more likely to fail under stress than a previously unbroken block of crust. Faults are, therefore, a prime indicator of past seismic activity, and faults with recent activity are presumed to be the best candidates for future earthquakes. However, since slip is not always accommodated by faults that intersect the surface along traces, and since the orientation of stress and strain in the crust can shift, predicting the location of future earthquakes is complicated. Earthquakes sometimes occur in areas with previously undetected faults or along faults previously thought inactive.

According to the Stanislaus County General Plan Safety Element, there are several faults known to exist within the county. Information and history on these faults comes from the County's General Plan Safety Element that provides the following information:

In the extreme eastern part of the County, the Bear Mountain and Melones faults are found, though believed to have been inactive for the past 150 million years. No faults are currently known to exist within the valley portion of the County. Within the Diablo Range, the most recent movements were along the Tesla-Ortgalita fault approximately five million years ago, although earthquake activity without surface fracturing or faulting is still common. Since 1930, one earthquake activity without surface fracturing or faulting is still common. Since 1930, one earthquake epicenter of a magnitude greater than 4.0 on the Richter Scale was recorded in Stanislaus County. On June 27, 1986, an earthquake with a magnitude of 3.7 on the Richter Scale occurred with an epicenter several miles west of crows Landing. Future earthquakes of similar or greater magnitudes can be expected. Figure 3.6-2 indicates the location of known faults in Stanislaus County.

The State of California Division of Mines and Geology has published proposed maps of an area to be included in an Alquist-Priolo Special Studies Zone. The area is along the Ortgalita Fault in the Diablo Range and extends into Stanislaus County approximately 7 miles. The zone is 1000 feet wide centered on the identified fault. As an Alquist-Priolo Special Study

Zone, development and parcel divisions cannot be approved on land within this zone unless a geological report is completed at the effective on July1, 1986. The text of the Alquist-Priolo Special Studies Zones Act can be found in Section 660 et. seq. of Article 3, Chapter 2, Division 1 of the California Public Resources Code. Guidelines for implementation of the Act are found in Section 3500, Article 3, Subchapter1, Chapter 8, Division 2, Title 14 of the California Administrative Code.

The State of California Division of Mines and Geology has published proposed maps of an area to be included in an Alquist-Priolo Special Studies Zone. The area is along the Ortigalita Fault in the Diablo Range and extends into Stanislaus County approximately 7 miles. The zone is 1000 feet wide centered on the identified fault. As an Alquist-Priolo Special Study Zone, development and parcel divisions cannot be approved on land within this zone unless a geological report is completed at the applicant's expense and reviewed by another geologist hired by the County.

There are no known major or active faults crossing the site or in close proximity to the site. The nearest known active regional fault is the Ortigalita Fault, located west of Gustine, California and approximately 30.5 miles from the proposed project site (State of California, Department of Conservation 2007).

## **SEISMIC HAZARDS**

Seismic hazards pose a substantial danger to property and human safety and are present because of the risk of naturally occurring geologic events and processes affecting human development. Therefore, the hazard risk is equally influenced by the condition and location of human development as by the frequency and distribution of major geologic events. Seismic hazards present in California include ground rupture along faults, strong seismic shaking, liquefaction, ground failure, and slope failure.

## **FAULT RUPTURE**

Fault rupture is a seismic hazard that affects structures sited above an active fault. The hazard from fault rupture is the movement of the ground surface along a fault during an earthquake. Typically, this movement takes place during the short time of an earthquake, but it also can occur slowly over many years in a process known as creep. Most structures and underground utilities cannot accommodate the surface displacements of several inches to several feet commonly associated with fault rupture or creep.

## **GROUND SHAKING**

The severity of ground shaking depends on several variables such as earthquake magnitude, epicenter distance, local geology, thickness, and seismic wave-propagation properties of unconsolidated materials, groundwater conditions, and topographic setting. Ground shaking hazards are most pronounced in areas near faults or with unconsolidated alluvium.

The most common type of damage from ground shaking is structural damage to buildings, which can range from cosmetic cracks to total collapse. The overall level of structural damage from a nearby large earthquake would likely be moderate to heavy, depending on the characteristics of the earthquake, the type of ground, and the condition of the building. Besides damage to buildings, strong ground shaking can cause severe damage from falling objects or broken utility lines. Fire and explosions are also hazards associated with strong ground shaking.

While Richter magnitude provides a useful measure of comparison between earthquakes, the moment magnitude is more widely used for scientific comparison, since it accounts for the actual energy released by the earthquake. Actual damage is due to the propagation of seismic or ground waves as a result of the earthquake and the intensity of shaking are related to earthquake magnitude and distance as well as to the condition of underlying materials. Loose and soft materials tend to amplify long period vibrations, while hard rock can quickly attenuate them, causing little damage to overlying structures. For this reason, the Modified Mercalli Intensity (MMI) Scale provides a useful qualitative assessment of ground shaking. The MMI Scale is a 12-point scale of earthquake intensity that is based on local effects experienced by people, structures, and earth materials. Each succeeding step on the scale describes a progressively greater amount of damage at a given point of observation. The MMI Scale is shown in Table 3.6-1, along with relative ground velocity and acceleration.

According to the Stanislaus County General Plan Safety Element, the eastern half of the County can be expected to have shaking to an intensity of VI or VII, producing minor to moderate damage. The western half of the County can expect to receive shaking to an intensity of VII or VIII Mercalli which can cause considerable damage to ordinary structures. The area around the City of Newman may have shaking intensity of IX or X. This may be considered a major hazard area as shown in Table 3.6-1.

## **GROUND FAILURE**

Ground failure includes liquefaction and the liquefaction-induced phenomena of lateral spreading and lurching.

Liquefaction is a process by which sediments below the water table temporarily lose strength during an earthquake and behave as a viscous liquid rather than a solid. Liquefaction is restricted to certain geologic and hydrologic environments, primarily recently deposited sand and silt in areas with high groundwater levels. The process of liquefaction involves seismic waves passing through saturated granular layers, distorting the granular structure and causing the particles to collapse. This causes the granular layer to behave temporarily as a viscous liquid rather than a solid, resulting in liquefaction. Some soils are more susceptible than others, such as loose, sandy soil or those located at or below sea level.

Soil beneath a structure can lose strength due to liquefaction, which may result in the loss of foundation-bearing capacity, which could cause a structure to settle or tip. Liquefaction can also result in the settlement of large areas due to the densification of the liquefied deposit. Where structures are located within liquefied deposits, the liquefaction can result in the structure to rise as a result of buoyancy.

**Table 3.6-1  
Modified Mercalli Intensity Scale**

<b>Richter Magnitude</b>	<b>Modified Mercalli Intensity</b>	<b>Effects</b>	<b>Average Peak Ground Velocity (centimeters/seconds)</b>	<b>Average Peak Acceleration</b>
0.1–0.9	I	Not felt. Marginal and long-period effects of large earthquakes.	—	—
1.0–2.9	II	Felt by only a few persons at rest, especially on upper floors of building. Delicately suspended objects may swing.	—	—
3.0–3.9	III	Felt quite noticeably in doors, especially on upper floors of building, but many people do not recognize it as an earthquake. Standing cars may rock slightly. Vibration like passing a truck. Duration estimated.	—	0.0035–0.007 g
4.0–4.5	IV	During the day, felt indoors by many, outdoors by few. At night, some awakened. Dishes, windows, doors disturbed; walls make creaking sound. Sensations like heavy truck striking building. Standing cars rocked noticeably.	1–3	0.015–0.035 g
4.6–4.9	V	Felt by nearly everyone, many awakened. Some dishes, windows, broken; cracked plaster in a few places; unstable objects overturned. Disturbances of trees, poles, and other tall objects sometimes noticed. Pendulum clocks may stop.	3–7	0.035–0.07 g
5.0–5.5	VI	Felt by all, many frightened and run outdoors. Some heavy furniture moved; a few instances of falling plaster and damaged chimneys. Damage slight.	7–20	0.07–0.15 g
5.6–6.4	VII	Everyone runs outdoors. Damage negligible in buildings of good design and construction; slight to moderate in well built, ordinary structures; considerable in poorly built or badly designed structures; some chimneys broken. Noticed by persons driving cars.	20–60	0.15–0.35 g
6.5–6.9	VIII	Damage slight in specially designed structures; considerable in ordinary substantial buildings with partial collapse; great in poorly built structures. Panel walls thrown out of frame	60–200	0.35–0.7 g

<b>Richter Magnitude</b>	<b>Modified Mercalli Intensity</b>	<b>Effects</b>	<b>Average Peak Ground Velocity (centimeters/seconds)</b>	<b>Average Peak Acceleration</b>
		structures. Fall of chimneys, factory stacks, columns, monument walls, and heavy furniture overturned. Sand and mud ejected in small amounts. Changes in well water. Persons driving in cars disturbed.		
7.0–7.4	IX	Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb; great in substantial buildings, with partial collapse. Buildings shifted off foundations. Ground cracked conspicuously. Underground pipes broken.	200–500	0.7–1.2 g
7.5–7.9	X	Some well-built structures destroyed; most masonry and frame structures destroyed with foundations; ground badly cracked. Railway lines bent. Landslides considerable from riverbanks and steep slopes. Shifted sand and mud. Water splashed, slopped over banks.	≥ 500	>1.2 g
8.0–8.4	XI	Few, if any masonry structures remain standing. Bridges destroyed. Broad fissures in ground. Underground pipelines completely out of service. Earth slumps and land slips in soft ground. Rails bent greatly.	—	—
≥ 8.5	XII	Total damage. Waves seen on ground. Lines of sight and level distorted. Objects thrown into the air.	—	—

Source: United States Geologic Survey, 1989.

Lateral spreading is lateral ground movement, with some vertical component, as a result of liquefaction. In effect, the soil rides on top of the liquefied layer. Lateral spreading can occur on relatively flat sites with slopes less than 2 percent, under certain circumstances, and can cause ground cracking and settlement.

Lurching is the movement of the ground surface toward an open face when the soil liquefies. An open face could be a graded slope, stream bank, canal face, gully, or other similar feature.

## **LANDSLIDES AND SLOPE FAILURE**

Landslides and other slope failures form in response to the long-term geologic cycle of uplift, mass wasting, and slope disturbance. Mass wasting refers to a variety of erosional processes from gradual downhill soil creep to mudslides, debris flows, landslides, and rock fall. These

processes are commonly triggered by intense precipitation. Seismic activity can also trigger landslides and rockfalls.

Often, various forms of mass wasting are grouped together as landslides, which are generally used to describe the downhill movement of rock and soil. Geologists classify landslides into several different types that reflect differences in the type of material and type of movement. The four most common types of landslides are translational, rotational, earth flow, and rock fall. Debris flows and earth flows are another type of landslide that are characterized by soil and rock particles in suspension with water and which often move with considerable speed. Debris flows often refer to flows that contain coarser soil and rock materials while earth flows frequently refer to slides that are predominantly finer materials. Mudslide is a term that appears in non-technical literature to describe a variety of shallow, rapidly moving earth flows.

### ***Project Site Conditions***

#### **SOILS**

As seismic waves travel through the ground, they travel faster through hard rock than soft soil. As a result, when the waves move from hard rock to soft soil, the amplitude (largeness) of the waves needs to increase to be able to carry the same amount of energy, creating stronger shaking. This same principle accounts for the site effects of sediment thickness. The deeper the sediment above bedrock, the more soft soil there is for seismic waves to travel through, therefore creating stronger amplifications.

The National Earthquake Hazards Reduction Program (NEHRP) has defined six different soil and rock types based on their shear-wave velocity, in order to determine amplification effects:

- Type A, hard rock (igneous rock);
- Type B, rock (volcanic rock);
- Type C, very dense soil and soft rock (sandstone);
- Type D, stiff soil (mud);
- Type E, soft soil (artificial fill); and
- Type F, soils requiring site-specific evaluations.

Type A has the least amplification and Type E the most.

#### **SEISMIC HAZARDS**

As stipulated in the Stanislaus County General Plan Safety Element, new buildings in Stanislaus County are constructed to prevent loss of life as a result of an earthquake. Older buildings, however, especially unreinforced masonry buildings, could collapse causing injury and loss of life. According to a report in 1979 to the California Seismic Safety Committee, a building should be considered hazardous to life in the event of an earthquake if the building:

- A. Was constructed prior to the adoption and enforcement of local building codes requiring the earthquake resistant design of buildings;

- B. Is constructed of unreinforced masonry;
- C. Lacks an effective system for resisting lateral forces; and
- D. Exhibits any one of the following characteristics:
  - 1. Has exterior parapets and ornamentation that may fall on a public way;
  - 2. Is constructed of unreinforced masonry;
  - 3. Has exterior walls of unreinforced masonry that are not anchored to the floors or roof;
  - 4. Has sheathing or roofs that is not capable of withstanding lateral loads or uniformly transferring horizontal loads to walls; or
  - 5. Has large openings in walls that may result in damage due to torsional (twisting) forces.

In order to eliminate these problems, it is necessary to require reconstruction to at least provide for the adequacy of: (a) unreinforced masonry bearing walls, (b) the anchorage of exterior parapets and ornamentation, (c) the anchorage of unreinforced bearing walls to the floors and roof, (d) floor and roof diaphragms, and (e) the development of a complete bracing system to resist horizontal wind and earthquake forces.

### **3.6.3 IMPACT EVALUATION CRITERIA**

#### ***Analysis Methodology***

Methodology for geology and soils relied on a search of government sites to determine whether seismic, soils, or geological features exist in and around the proposed project site. The Department of Conservation's online maps and other State and local resources provided additional information which was referred to determine whether the proposed project would result in significant impacts.

#### ***Thresholds of Significance***

According to Section 15064.5 of the CEQA Guidelines, a project will normally have significant adverse impacts associated with geology and soils if the project would:

- a) *Expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving:*
  - 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.*
  - ii) *Strong seismic ground shaking.*
  - iii) *Seismic-related ground failure, including liquefaction.*
  - iv) *Landslides*
- b) *Result in substantial soil erosion or the loss of topsoil.*

- c) *Be located on a geological 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.*
- 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.*
- e) *Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.*

Using the methodology described before, an analysis will be completed to determine whether the proposed project would exceed the thresholds of significance for geology and soils.

### 3.6.4 IMPACTS AND MITIGATION MEASURES

**Impact #3.6-1 – Exposure of people and structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, ground failure, or landslides.**

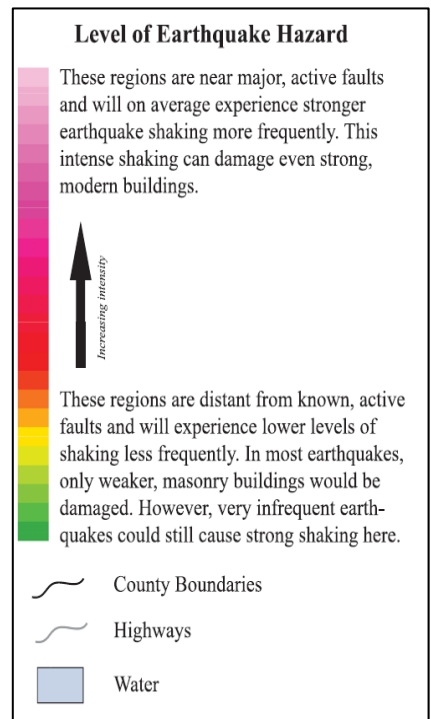
**Impact #3.6-3 – Result in potential hazards due to construction on unstable soils.**

#### ***Fault Rupture***

The project site is not located within a currently designated Alquist-Priolo Earthquake Fault Zone. There are no known major or active faults crossing the site or in close proximity to the site. The nearest known active regional fault is the Ortigalita Fault, located west of Gustine, California and approximately 30.5 miles from the proposed project site (State of California, Department of Conservation 2007). Construction of the warehouse and road improvements would have to comply with Stanislaus County and the City of Turlock’s building and road improvement regulations. Both the County and City’s regulations are based on State codes which have strict building standards in earthquake prone areas.

#### ***Strong Ground Shaking***

The California Geological Survey’s “Earthquake Shaking Potential for California, 2008” includes expected relative intensity of ground shaking and damage in California from anticipated future earthquakes. The shaking potential is calculated as the level of ground motion that has a 2% chance of being exceeded in 50 years, which is the same as the level of ground-shaking with about a 2500 year average repeat time. Conditions for each classification include:



**Illustration 1: Frequency Shaking Potential**

- Low frequency shaking potential: Earthquake shaking at 1.0 second period affects tall, relatively flexible buildings and correlates well with overall earthquake damage. Local soil conditions have greater effect on low frequency shaking, so this map shows more influence of the surface geologic materials map; and
- High frequency shaking potential: Earthquake shaking at 0.2 second period affects short, stiff structures and is also used in estimating future earthquake damage. Local soil conditions have less effect on high frequency shaking, so this map shows less influence of the surface geologic materials map.

According to the “Earthquake Shaking Potential for California, 2008” map, the area in and around Turlock has a low frequency shaking potential which falls in the yellow range. Illustration 1 includes the scale (Branum et al. 2008). As mentioned above, all construction would have to comply with Stanislaus County and the City of Turlock’s building and road improvement regulations.

### ***Seismic Related Ground Failure (including Liquefaction)***

Soil beneath a structure can lose strength due to liquefaction, which may result in the loss of foundation-bearing capacity causing a structure to settle or tip. Liquefaction can also result in the settlement of large areas due to the densification of the liquefied deposit. Where structures are located within liquefied deposits, the liquefaction can result in the structure to rise as a result of buoyancy.

The closest fault to the proposed project site is over 30.5 miles away. According to the report on the site’s soils, depth to the water table is more than 80 inches (U.S. Department of Agriculture, Natural Resources Conservation Service. 2013). The potential for seismic related ground failure (liquefaction, lateral spreading, and lurching) occurring on the project site is therefore minimal due to the absence of high groundwater levels, saturated loose granular soils, and distant to the nearest earthquake.

### ***Landsliding***

There are no substantial slopes on or near the project site. Therefore, the opportunity for slope failure in response to the long-term geologic cycle of uplift, mass wasting, and difference of slopes is unlikely.

**Conclusion:** The potential seismic-related impacts as a result of the project are *less than significant*.

**Mitigation Measures:** No mitigation is necessary.

**Impact #3.6-2 – Result in substantial soil erosion or the loss of topsoil.**

**Impact #3.6-4 – Result in potential hazards due to construction on expansive soils.**

Information from the U.S. Department of Agriculture, Natural Resources Conservation Service’s (NRCS) Web Soil Survey was reviewed to identify soil types present on the proposed project site. According to the NRCS, soil information for Stanislaus County is from the most current data. The Soil Survey identified three soil types. Each soil’s properties are summarized in Table 3.6-2.

**Table 3.6-2  
Soil Descriptions for the Project Site**

Soil Type	Map Symbol	Hydrologic Rating	Drainage Class	Erosion Kf Factor	Percent Clay/Silt/Sand	Approximate Area (acres)
Dinuba sandy loam, 0-1 percent slope	DrA	C	Moderately well drained	0.20	11/23/66	25
Dinuba sandy loam, deep, 0-1 percent slope	DtA	A	Well drained	0.20	11/23/66	32
Hanford sandy loam, 8-15 percent slope	HdC	A	Well drained	0.17	13/20/68	10.1

Source: United States Department of Agriculture, Natural Resources Conservation Service, 2013.

Notes: Hydrologic Rating A-soils with low runoff potential. Soils having high infiltration rates even when thoroughly wetted and consisting chiefly of deep well drained to excessively well-drained sands or gravels.

Hydrologic Rating C - Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

K-Factor = Measurement of soil erodibility: values less than 0.25 indicate low erosion potential; values of 0.25 to 0.40 indicate moderate erosion potential; values ranging from 0.40 to 0.69 indicate high erosion potential.

According to Table 3.6-2, roughly 32 acres of the project site is underlain by soils classified as Dinuba sandy loam, deep. This type of soil has a hydrologic rating of A which results in low runoff potential and a high infiltration rate when thoroughly wetted. Dinuba sandy loam classified soils cover approximately 25 acres of the proposed project site. These soils have a hydrologic rating of C which results in slow infiltration rate when thoroughly wet. Hanford sandy loam covers 10.1 percent of the site. The hydrologic rating for this soil type is also A. The Kf factor for all soil types has a low erosion potential (U.S. Department of Agriculture, Natural Resources Conservation Service 2013).

Construction activities associated with the proposed project would involve grading for the warehouse and improvements along Washington Street. These activities could expose barren soils to sources of wind or water, resulting in the potential for erosion and sedimentation on and off the project site. Soil erosion or loss of topsoil may occur in areas where soil is disturbed. However, all earth moving activities would be required to follow Stanislaus County and City of Turlock regulations for earth moving activities.

**Conclusion:** Development of the proposed project will not create substantial soil erosion or loss of topsoil as the proposed project would have to comply with all applicable regulations. Therefore, potential impacts will be *less than significant*.

**Mitigation Measures:** No mitigation measures are required.

**Impact #3.6-5 – Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.**

No domestic water or wastewater services are proposed. All water would be obtained on site and disposed of on site. Water for processing of produce and other uses (e.g., employee sinks and toilets) would be obtained from private wells on the site. The well will require testing to ensure that it meets standards. A septic leach field system would be used to dispose of wastewater from employee sinks and toilets.

**Conclusion:** A *less than significant* impact would occur.

**Mitigation Measures:** No mitigation measures are required.

## **3.7 Greenhouse Gases**

This section provides an evaluation of the potential greenhouse gas impacts that would be caused by implementation of the proposed project. The discussion starts with an overview of regulation that is normally applicable to the greenhouse gas environmental factor, followed by a description of the physical setting of both the site and surrounding lands. An analysis is then provided to determine whether the impact(s) would be less than significant, significant without mitigation, or significant and unavoidable. If an impact is significant and can be reduced with mitigation, then a description of the mitigation measure(s) is provided. This section is based on the Air Quality and Greenhouse Gas Report, dated January 2013, prepared by Quad Knopf (Appendix B).

### **3.7.1 REGULATORY SETTING**

Greenhouse Gas (GHG) pollutants are regulated at the national, State, and air basin level; each agency has a different degree of control. The United States Environmental Protection Agency (EPA) regulates at the federal level. The California Air Resources Board (ARB) regulates at the State level and SJVAPCD regulates at the air basin level.

#### ***International***

Natural processes and human activities emit GHGs. The presence of GHGs in the atmosphere affects the earth's temperature. Without the natural heat trapping effect of GHG, the earth's surface would be about 34°C cooler (Climate Action Team 2006). As such, climate change is a global issue involving all of the world's population. Therefore, countries such as those discussed below have made an effort to reduce GHGs.

Intergovernmental Panel on Climate Change: In 1988, the United Nations and the World Meteorological Organization established the Intergovernmental Panel on Climate Change to assess the scientific, technical and socio-economic information relevant to understanding the scientific basis of risk of human-induced climate change, its potential impacts, and options for adaptation and mitigation.

United Nations Framework Convention on Climate Change (Convention): On March 21, 1994, the United States joined a number of countries around the world in signing the Convention. Under the Convention, governments gather and share information on greenhouse gas emissions, national policies, and best practices; launch national strategies for addressing greenhouse gas emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries; and cooperate in preparing for adaptation to the impacts of climate change.

Kyoto Protocol: The Kyoto Protocol is an international agreement linked to the United Nations Framework Convention on Climate Change. The major feature of the Kyoto Protocol is that it sets binding targets for 37 industrialized countries and the European community for reducing greenhouse gas emissions at average of 5 percent against 1990 levels over the five-year period 2008-2012. The Convention (as discussed above) encouraged industrialized countries to stabilize emissions; however, the Protocol commits them to do so. Developed countries have contributed

more emissions over the last 150 years; therefore, the Protocol places a heavier burden on developed nations under the principle of “common but differentiated responsibilities.”

The United States has not approved implementation of the Kyoto Protocol. Other countries that have include: Australia, Canada, China, the European Union (Belgium, Denmark, Germany, the Hellenic Republic, Spain, France, Ireland, Italy, Luxembourg, Netherlands, Austria, Portugal, Finland, Sweden, Great Britain, and Northern Ireland), Japan, Mexico, and New Zealand.

### **Federal**

Presented below is case law and findings as heard before the U.S. Supreme Court relating to GHGs and the CAA. A listing of federal regulations pertaining to GHG pollutants then follows.

Greenhouse Gas Endangerment: *Massachusetts v. EPA* (Supreme Court Case 05-1120) was argued before the United States Supreme Court on November 29, 2006, in which it was petitioned that the EPA regulate four GHGs, including carbon dioxide, under Section 202(a)(1) of the Clean Air Act. A decision was made on April 2, 2007, in which the Supreme Court found that GHGs are air pollutants covered by the Clean Air Act. The Court held that the Administrator must determine whether emissions of GHGs from new motor vehicles cause or contribute to air pollution, which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. On December 7, 2009, the EPA Administrator signed two distinct findings regarding GHGs under section 202(a) of the Clean Air Act:

- *Endangerment Finding*: The Administrator finds that the current and projected concentrations of the six key well-mixed GHGs: carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride in the atmosphere threaten the public health and welfare of current and future generations; and
- *Cause or Contribute Finding*: The Administrator finds that the combined emissions of these well-mixed greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas pollution, which threatens public health and welfare.

These findings do not impose requirements on industry or other entities. However, this was a prerequisite for implementing GHG emissions standards for vehicles, as discussed in the section “Clean Vehicles” below.

The EPA denied ten petitions for Reconsideration of the Endangerment and Cause or Contribute Findings in 2010. Some of the petitioners included the Ohio Coal Association, Peabody Energy Company, and the State of Texas.

In September 2011, the EPA Office of Inspector General evaluated the EPA’s compliance with established policy and procedures in the development of the endangerment finding, including processes for ensuring information quality. The evaluation concluded that the technical support document should have had more rigorous EPA peer review.

In June 2012, a federal appeals court rejected a lawsuit by fifteen states against the EPA. The suit alleged that the EPA violated the law by relying almost exclusively on data from the United Nations Intergovernmental Panel on Climate Change rather than doing its own research or testing data according to federal standards. The states include Virginia, Texas, Alabama, Florida, Hawaii, Indiana, Kentucky, Louisiana, Mississippi, Nebraska, North Dakota, Oklahoma, South Carolina, South Dakota, and Utah. Virginia intends to petition the Supreme Court to review the case.

Clean Vehicles: Congress first passed the Corporate Average Fuel Economy law in 1975 to increase the fuel economy of cars and light duty trucks. The law has become more stringent over time. On May 19, 2009, President Obama put in motion a new national policy to increase fuel economy for all new cars and trucks sold in the United States. On April 1, 2010, the EPA and the Department of Transportation's National Highway Safety Administration announced a joint final rule establishing a national program that would reduce greenhouse gas emissions and improve fuel economy for new cars and trucks sold in the United States.

The first phase of the national program would apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. They require these vehicles to meet an estimated combined average emissions level of 250 grams of carbon dioxide per mile, equivalent to 35.5 miles per gallon if the automobile industry were to meet this carbon dioxide level solely through fuel economy improvements. Together, these standards would cut carbon dioxide emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012-2016). The EPA and the National Highway Safety Administration are working on a second-phase joint rulemaking to establish national standards for light-duty vehicles for model years 2017 and beyond.

On October 25, 2010, the EPA and the U.S. Department of Transportation proposed the first national standards to reduce greenhouse gas emissions and improve fuel efficiency of heavy-duty trucks and buses. For combination tractors, the agencies are proposing engine and vehicle standards that begin in the 2014 model year and achieve up to a 20 percent reduction in carbon dioxide emissions and fuel consumption by the 2018 model year. For heavy-duty pickup trucks and vans, the agencies are proposing separate gasoline and diesel truck standards, which phase in starting in the 2014 model year and achieve up to a 10 percent reduction for gasoline vehicles and 15 percent reduction for diesel vehicles by 2018 model year (12 and 17 percent respectively if accounting for air conditioning leakage). Lastly, for vocational vehicles, the agencies are proposing engine and vehicle standards starting in the 2014 model year, which would achieve up to a 10 percent reduction in fuel consumption and carbon dioxide emissions by the 2018 model year.

Mandatory Reporting of GHGs: The Consolidated Appropriations Act of 2008, passed in December 2007, requires the establishment of mandatory greenhouse gas reporting requirements. On September 22, 2009, the EPA issued the Final Mandatory Reporting of Greenhouse Gases Rule. The rule requires reporting of greenhouse gas emissions from large sources and suppliers in the United States, and is intended to collect accurate and timely emissions data to inform future policy decisions. Under the rule, suppliers of fossil fuels or industrial greenhouse gases,

manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of greenhouse gas emissions are required to submit annual reports to the EPA.

New Source Review: The EPA issued a final rule on May 13, 2010 that establishes thresholds for greenhouse gases that define when permits under the New Source Review Prevention of Significant Deterioration and Title V Operating Permit programs are required for new and existing industrial facilities. This final rule “tailors” the requirements of these Clean Air Act permitting programs to limit which facilities will be required to obtain Prevention of Significant Deterioration and Title V permits. In the preamble to the revisions to the federal code of regulations, EPA states:

This rulemaking is necessary because without it the Prevention of Significant Deterioration and Title V requirements would apply, as of January 2, 2011, at the 100 or 250 tons per year levels provided under the Clean Air Act, greatly increasing the number of required permits, imposing undue costs on small sources, overwhelming the resources of permitting authorities, and severely impairing the functioning of the programs. The EPA is relieving these resource burdens by phasing in the applicability of these programs to greenhouse gas sources, starting with the largest greenhouse gas emitters. This rule establishes two initial steps of the phase-in. The rule also commits the agency to take certain actions on future steps addressing smaller sources, but excludes certain smaller sources from Prevention of Significant Deterioration and Title V permitting for greenhouse gas emissions until at least April 30, 2016.

The EPA estimates that facilities responsible for nearly 70 percent of the national greenhouse gas emissions from stationary sources will be subject to permitting requirements under this rule. This includes the nation’s largest greenhouse gas emitters—power plants, refineries, and cement production facilities.

Standards of Performance for GHG Emissions for New Stationary Sources: Electric Utility Generating Units: As required by a settlement agreement, the EPA proposed new performance standards for emissions of carbon dioxide for new affected fossil fuel-fired electric utility generating units on March 27, 2012. New sources greater than 25 megawatt would be required to meet an output-based standard of 1,000 pounds of carbon dioxide per megawatt-hour, based on the performance of widely used natural gas combined cycle technology.

Cap and Trade: Cap and trade refers to a policy tool where emissions are limited to a certain amount and can be traded, or provides flexibility on how the emitter can comply. Successful examples in the United States include the Acid Rain Program and the NO<sub>x</sub> Budget Trading Program in the northeast. There is no federal cap and trade program currently; however, some states have joined to create initiatives to provide a mechanism for cap and trade.

Regional GHG Initiative: An effort to reduce greenhouse gases among the states of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont. Each state caps carbon dioxide emissions from power plants, auctions carbon dioxide emission allowances, and invests the proceeds in strategic energy programs that further reduce emissions, save consumers money, create jobs, and build a clean energy economy. The Initiative began in 2008.

Western Climate Initiative partner: Jurisdictions have developed a comprehensive initiative to reduce regional greenhouse gas emissions to 15 percent below 2005 levels by 2020. The partners are California, British Columbia, Manitoba, Ontario, and Quebec. Its cap-and-trade program is anticipated to be fully implemented in 2015.

## **State**

There has been significant legislative and regulatory activity that affects climate change and GHG in California, as discussed below.

Title 24: Although not originally intended to reduce greenhouse gases, California Code of Regulations Title 24 Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings, was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. The 2008 standards became effective January 1, 2010. The requirement for when the 2008 standards must be followed is dependent on when the application for the building permit is submitted. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases greenhouse gas emissions.

California Green Building Standards: On January 12, 2010, the State Building Standards Commission unanimously adopted updates to the California Green Building Standards Code, which went into effect on January 1, 2011. The Code is a comprehensive and uniform regulatory code for all residential, commercial and K-14 school buildings.

The California Green Building Standards Code does not prevent a local jurisdiction from adopting a more stringent code as state law provides methods for local enhancements. The Code recognizes that many jurisdictions have developed construction and demolition ordinances, and defers to them as the ruling guidance provided they provide a minimum 50 percent diversion requirement. The code also provides exemptions for areas not served by construction and demolition recycling infrastructure. State building code provides the minimum standard that buildings need to meet in order to be certified for occupancy. Enforcement is generally through the local building official.

The California Green Building Standards Code requires:

Water Efficiency and Conservation [Outdoor Water Use (4.304.1)]: Irrigation Controllers. Automatic irrigation system controllers for landscaping provided by the builder and installed at the time of final inspection shall comply with the following:

1. Controllers shall be weather- or soil moisture-based controllers that automatically adjust irrigation in response to changes in plants' watering needs as weather or soil conditions change; and

2. Weather-based controllers without integral rain sensors or communication systems that account for rainfall shall have a separate wired or wireless rain sensor, which connects or communicates with the controller(s).

Construction Waste Reduction of at least 50% (4.408.1): Recycle and/or salvage for reuse a minimum of 50% of the nonhazardous construction and demolition waste in accordance with either Section 4.408.2, 4.408.3 or 4.408.4; OR meet a more stringent local construction and demolition waste management ordinance. Documentation is required per Section 4.408.5. Exceptions:

1. Excavated soil and land-clearing debris;
2. Alternate waste reduction methods developed by working with local enforcing agencies if diversion or recycle facilities capable of compliance with this item do not exist or are not located reasonably close to the jobsite; and
3. The enforcing agency may make exceptions to the requirements of this section when jobsites are located in areas beyond the haul boundaries of the diversion facility.

Materials pollution control (4.504.1 – 4.504.6): Low-pollutant emitting interior finish materials such as paints, carpet, vinyl flooring and particleboard.

Installer and Special Inspector Qualifications (702.1-702.2): Mandatory special installer inspector qualifications for installation and inspection of energy systems (e.g., heat furnace, air conditioner, mechanical equipment).

Pavley Regulations: California AB 1493, enacted on July 22, 2002, required the ARB to develop and adopt regulations that reduce greenhouse gases emitted by passenger vehicles and light duty trucks. The regulation was stalled by automaker lawsuits and by the EPA's denial of an implementation waiver. On January 21, 2009, the ARB requested that the EPA reconsider its previous waiver denial. On January 26, 2009, President Obama directed that the EPA assess whether the denial of the waiver was appropriate. On June 30, 2009, the EPA granted the waiver request, which begins with motor vehicles in the 2009 model year.

The standards phase in during the 2009 through 2016 model years. When fully phased in, the near term (2009-2012) standards will result in about a 22-percent reduction compared with the 2002 fleet, and the mid-term (2013-2016) standards will result in about a 30-percent reduction. Several technologies stand out as providing significant reductions in emissions at favorable costs. These include discrete variable valve lift or camless valve actuation to optimize valve operation rather than relying on fixed valve timing and lift as has historically been done; turbocharging to boost power and allow for engine downsizing; improved multi-speed transmissions; and improved air conditioning systems that operate optimally, leak less, and/or use an alternative refrigerant.

Executive Order S-3-05: California Governor Arnold Schwarzenegger announced on June 1, 2005, through Executive Order S-3-05, the following reduction targets for greenhouse gas emissions:

- By 2010, reduce greenhouse gas emissions to 2000 levels;
- By 2020, reduce greenhouse gas emissions to 1990 levels; and
- By 2050, reduce greenhouse gas emissions to 80 percent below 1990 levels.

The 2050 reduction goal represents what scientists believe is necessary to reach levels that will stabilize the climate. The 2020 goal was established to be an aggressive, but achievable, mid-term target. The Climate Action Team's Report to the Governor in 2006 contains recommendations and strategies to help ensure the 2020 targets in Executive Order S-3-05 are met.

Low Carbon Fuel Standard - Executive Order S-01-07: The Governor signed Executive Order S-01-07 on January 18, 2007. The order mandates that a statewide goal shall be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020. In particular, the executive order established a Low-Carbon Fuel Standard and directed the Secretary for Environmental Protection to coordinate the actions of the California Energy Commission, the ARB, the University of California, and other agencies to develop and propose protocols for measuring the "life-cycle carbon intensity" of transportation fuels. This analysis supporting development of the protocols was included in the State Implementation Plan for alternative fuels (State Alternative Fuels Plan adopted by California Energy Commission on December 24, 2007) and was submitted to ARB for consideration as an "early action" item under AB 32. The ARB adopted the Low Carbon Fuel Standard on April 23, 2009.

SB 1368: In 2006, the State Legislature adopted Senate Bill (SB) 1368, which was subsequently signed into law by the Governor. Senate Bill 1368 directs the California Public Utilities Commission to adopt a performance standard for greenhouse gas emissions for the future power purchases of California utilities. Senate Bill 1368 seeks to limit carbon emissions associated with electrical energy consumed in California by forbidding procurement arrangements for energy longer than 5 years from resources that exceed the emissions of a relatively clean, combined cycle natural gas power plant. Because of the carbon content of its fuel source, a coal-fired plant cannot meet this standard because such plants emit roughly twice as much carbon as natural gas, combined cycle plants. Accordingly, the new law will effectively prevent California's utilities from investing in, otherwise financially supporting, or purchasing power from new coal plants located in or out of the State. Thus, SB 1368 will lead to dramatically lower greenhouse gas emissions associated with California's energy demand, as SB 1368 will effectively prohibit California utilities from purchasing power from out-of-state producers that cannot satisfy the performance standard for greenhouse gas emissions required by SB 1368.

SB 97: Passed in August 2007, SB 97 added Section 21083.05 to the Public Resources Code. The code states "(a) On or before July 1, 2009, the Office of Planning and Research shall prepare, develop, and transmit to the Resources Agency guidelines for the mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions as required by this division, including, but not limited to, effects associated with transportation or energy consumption. (b)

On or before January 1, 2010, the Resources Agency shall certify and adopt guidelines prepared and developed by the Office of Planning and Research pursuant to subdivision (a).” Section 21097 was also added to the Public Resources Code.

On April 13, 2009, OPR submitted to the Secretary for Natural Resources its recommended amendments to the State California Environmental Quality Act (CEQA) Guidelines for addressing greenhouse gas emissions, as required by SB 97. On February 16, 2010, the Office of Administrative Law approved the Amendments, and filed them with the Secretary of State for inclusion in the California Code of Regulations. The CEQA Amendments became effective on March 18, 2010.

AB 32: The California State Legislature enacted AB 32, the California Global Warming Solutions Act of 2006. AB 32 requires that GHGs emitted in California be reduced to 1990 levels by the year 2020. “Greenhouse gases” as defined under AB 32 include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. ARB is the State agency charged with monitoring and regulating sources of GHG. AB 32 states the following:

- Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems;
- The ARB approved the 1990 GHG emissions level of 427 million metric tons of carbon dioxide equivalent (MMTCO<sub>2</sub>e) on December 6, 2007 (California Air Resource Board 2007). Therefore, emissions generated in California in 2020 are required to be equal to or less than 427 MMTCO<sub>2</sub>e. Emissions in 2020 in a “Business as Usual” scenario are estimated to be 596 MMTCO<sub>2</sub>e; and
- Under AB 32, the ARB published its Final Expanded List of Early Action Measures to Reduce GHG Emissions in California (California Air Resource Board 2007). The ARB has 44 early action measures that apply to the transportation, commercial, forestry, agriculture, cement, oil and gas, fire suppression, fuels, education, energy efficiency, electricity, and waste sectors. Of these early action measures, nine are considered discrete early action measures, as they are regulatory and enforceable as of January 1, 2010. The ARB estimates that the 44 recommendations are expected to result in reductions of at least 42 MMTCO<sub>2</sub>e by 2020, representing approximately 25 percent of the 2020 target.

The ARB approved the Climate Change Scoping Plan in December 2008 (California Air Resource Board 2008). The Scoping Plan contains measures designed to reduce the State’s emissions to 1990 levels by the year 2020. The Scoping Plan identifies recommended measures for multiple GHG emission sectors and the associated emission reductions needed to achieve the year 2020 emissions target—each sector has a different emission reduction target. Most of the

measures target the transportation and electricity sectors. As stated in the Scoping Plan, the key elements of the strategy for achieving the 2020 GHG target include:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards;
- Achieving a statewide renewable energy mix of 33 percent;
- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system;
- Establishing targets for transportation-related GHG emissions for regions throughout California and pursuing policies and incentives to achieve those targets;
- Adopting and implementing measures pursuant to existing State laws and policies, including California’s clean car standards, goods movement measures, and the Low Carbon Fuel Standard; and
- Creating targeted fees, including a public goods charge on water use, fees on high global warming potential gases, and a fee to fund the administrative costs of the State’s long-term commitment to AB 32 implementation.

In addition, the Scoping Plan differentiates between “capped” and “uncapped” strategies. “Capped” strategies are subject to the proposed cap-and-trade program. The Scoping Plan states that the inclusion of these emissions within the cap-and-trade program will help ensure that the year 2020 emission targets are met despite some degree of uncertainty in the emission reduction estimates for any individual measure. Implementation of the capped strategies is calculated to achieve a sufficient amount of reductions by 2020 to achieve the emission target contained in AB 32. “Uncapped” strategies that will not be subject to the cap-and-trade emissions caps and requirements are provided as a margin of safety by accounting for additional GHG emission reductions.

SB 375: SB 375 was passed by the Senate on August 30, 2008 and was signed by the Governor on September 30, 2008. According to SB 375, the transportation sector is the largest contributor of GHG emissions, which emits over 40 percent of the total greenhouse gas emissions in California. SB 375 states, “Without improved land use and transportation policy, California will not be able to achieve the goals of AB 32”. Senate Bill 375 does the following: (1) requires metropolitan planning organizations to include sustainable community strategies in their regional transportation plans for reducing greenhouse gas emissions, (2) aligns planning for transportation and housing, and (3) creates specified incentives for the implementation of the strategies. Concerning CEQA, SB 375, section 21159.28 states that CEQA findings determinations for certain projects are not required to reference, describe, or discuss (1) growth inducing impacts or (2) any project-specific or cumulative impacts from cars and light-duty truck trips generated by the project on global warming or the regional transportation network if the project:

1. Is in an area with an approved sustainable communities strategy or an alternative planning strategy that the ARB accepts as achieving the greenhouse gas emission reduction targets;
2. Is consistent with that strategy (in designation, density, building intensity, and applicable policies); or
3. Incorporates the mitigation measures required by an applicable prior environmental document.

Executive Order S-13-08: Executive Order S-13-08 indicates that “climate change in California during the next century is expected to shift precipitation patterns, accelerate sea level rise and increase temperatures, thereby posing a serious threat to California's economy, to the health and welfare of its population and to its natural resources”. Pursuant to the requirements in the order, in December 2009, the California Natural Resources Agency released its 2009 California Climate Adaptation Strategy (California Natural Resources Agency 2009). The Strategy is the “...first statewide, multi-sector, region-specific, and information-based climate change adaptation strategy in the United States.” Objectives include analyzing risks of climate change in California, identifying and exploring strategies to adapt to climate change, and specifying a direction for future research.

SB 1078, SB 107, and Executive Order S-14-08: On September 12, 2002, Governor Gray Davis signed a bill (SB 1078) requiring California to generate 20 percent of its electricity from renewable energy by 2017. SB 107 changed the due date to 2010 instead of 2017. On November 17, 2008, Governor Arnold Schwarzenegger signed Executive Order S-14-08, which established a Renewable Portfolio Standard target for California requiring that all retail sellers of electricity serve 33 percent of their load with renewable energy by 2020.

CEQA Guidelines Update: As required by SB 97, the Governor’s Office of Planning and Research prepared and transmitted recommended Amendments to the CEQA Guidelines for greenhouse gas emissions to the California Natural Resources Agency on April 13, 2009. After a public comment period, the Natural Resources Agency proposed revisions to the text of the Proposed Guidelines Amendments. The Natural Resources Agency provided additional public comment time on the revised text. The Natural Resources Agency adopted the CEQA Guidelines Amendments with minor, non-substantial changes.

The Natural Resources Agency transmitted the Adopted Amendments and the entire rulemaking file to the Office of Administrative Law on December 31, 2009. The Office of Administrative Law reviewed the Adopted Amendments and the Natural Resources Agency’s rulemaking file. The Adopted Amendments were filed with the Secretary of State, and became effective March 18, 2010.

The CEQA Amendments provide guidance to public agencies regarding the analysis and mitigation of the effects of greenhouse gas emissions in draft CEQA documents. The CEQA Amendments fit within the existing CEQA framework by amending existing CEQA Guidelines to reference climate change.

A new section, CEQA Guidelines Section 15064.4, was added to assist agencies in determining the significance of greenhouse gas emissions. The new section allows agencies the discretion to determine whether a quantitative or qualitative analysis is best for a particular project. Importantly, however, little guidance is offered on the crucial next step in this assessment process—how to determine whether the project’s estimated greenhouse gas emissions are significant or cumulatively considerable.

Also amended were CEQA Guidelines Sections 15126.4 and 15130, which address mitigation measures and cumulative impacts respectively. Greenhouse gas mitigation measures are referenced in general terms, but no specific measures are championed. The revision to the cumulative impact discussion requirement (Section 15130) simply directs agencies to analyze greenhouse gas emissions in an EIR when a project’s incremental contribution of emissions may be cumulatively considerable, however it does not answer the question of when emissions are cumulatively considerable.

Section 15183.5 permits programmatic greenhouse gas analysis and later project-specific tiering, as well as the preparation of Greenhouse Gas Reduction Plans. Compliance with such plans can support a determination that a project’s cumulative effect is not cumulatively considerable, according to proposed Section 15183.5(b).

In addition, the amendments revised Appendix F of the CEQA Guidelines, which focuses on Energy Conservation, and Appendix G, which includes the sample Environmental Checklist Form. The Checklist was also amended to include GHG questions, as identified in the Threshold section of this document.

## ***Regional***

### **SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT**

The project is within the San Joaquin Valley Air Basin, which is under the jurisdiction of the SJVAPCD. Currently, the agency has several rules and plans in place that help to guide and reduce impacts from GHG emissions.

#### ***Climate Change Action Plan***

On August 21, 2008, the SJVAPCD Governing Board approved a proposal called the Climate Change Action Plan (CCAP), to begin a public process to bring together stakeholders, land use agencies, environmental groups, and business groups, and conduct public workshops to develop comprehensive policies for CEQA guidelines and a carbon exchange bank, and voluntary GHG emissions mitigation agreements for the Governing Board’s consideration. The Climate Change Action Plan contained the following goals and actions:

#### Goals:

1. Assist local land-use agencies with CEQA issues relative to projects with greenhouse gas emissions increases.

2. Assist Valley businesses in complying with mandates of AB 32 (California Air Resource Board 2006).
3. Ensure that climate protection measures do not cause increases in toxic or criteria pollutants that adversely impact public health or environmental justice communities.

Actions:

1. Authorize the Air Pollution Control Officer to develop greenhouse gas significance threshold(s) or other mechanisms to address CEQA projects with greenhouse gas emissions increases. Begin the requisite public process, including public workshops, and develop recommendations for Governing Board consideration in the spring of 2009.
2. Authorize the Air Pollution Control Officer to develop necessary regulations and instruments for establishment and administration of the San Joaquin Valley Carbon Exchange Bank for voluntary greenhouse gas reductions created in the Valley. Begin the requisite public process, including public workshops, and develop recommendations for Governing Board consideration in spring 2009.
3. Authorize the Air Pollution Control Officer to enhance the SJVAPCD's existing criteria pollutant emissions inventory reporting system to allow businesses subject to AB 32 emission reporting requirements to submit simultaneous streamlined reports to the SJVAPCD and the state of California with minimal duplication.
4. Authorize the Air Pollution Control Officer to develop and administer voluntary greenhouse gas emission reduction agreements to mitigate proposed greenhouse gas increases from new projects.

Direct the Air Pollution Control Officer to support climate protection measures that reduce greenhouse gas emissions as well as toxic and criteria pollutants. Oppose measures that result in a significant increase in toxic or criteria pollutant emissions in already impacted areas.

***SJVAPCD CEQA Greenhouse Gas Guidance***

On December 17, 2009, the SJVAPCD Governing Board adopted: "Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA" and the policy: "District Policy - Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency". The SJVAPCD concluded that the existing science is inadequate to support quantification of the impacts that project-specific GHG emissions have on global climatic change. The SJVAPCD found the effects of project-specific emissions to be cumulative, and without mitigation, that their incremental contribution to global climatic change could be considered cumulatively considerable. The SJVAPCD found that this cumulative impact is best addressed by requiring all projects to reduce their GHG emissions, whether through project design elements or mitigation.

The SJVAPCD's approach is intended to streamline the process of determining if project specific GHG emissions would have a significant effect. Projects exempt from the requirements of CEQA, and projects complying with an approved plan or mitigation program would be determined to have a less than significant cumulative impact. Such plans or programs must be specified in law or adopted by the public agency with jurisdiction over the affected resources and have a certified Final CEQA document.

Best Performance Standards (BPSs) would be established according to performance-based determinations. Projects complying with any SJVAPCD-adopted Best Performance Standards are not to require specific quantification of GHG emissions and thus would be determined to have a less than significant cumulative impact for GHG emissions. Projects not complying with BPSs thus require quantification of GHG emissions and demonstration that GHG emissions have been reduced or mitigated by 29 percent, as targeted by ARB's AB 32 Scoping Plan to be considered to have a less than significant impact on climate change. Furthermore, quantification of GHG emissions are then required for all projects for which the lead agency has determined that an Environmental Impact Report is required, regardless of whether the project incorporates Best Performance Standards.

### ***San Joaquin Valley Carbon Exchange***

The SJVAPCD initiated work on the San Joaquin Valley Carbon Exchange in November 2008. The purpose of the carbon exchange is to quantify, verify, and track voluntary GHG emissions reductions generated within the San Joaquin Valley. To investigate the various issues concerning the development of a mechanism to register GHG emission reductions, the SJVAPCD formed a technical workgroup consisting of SJVAPCD staff, land use agency representatives, industry representatives, agricultural representatives, environmental group representatives, and other interested parties.

According to the SJVAPCD, the differences between the AB 32 cap-and-trade program and a GHG emission reduction registration program is, "A GHG cap and trade program is a method to reduce actual GHG emissions by operating under a declining GHG cap, whereas GHG banking is a method to preserve GHG emission reductions that are in excess of any GHG emission reduction requirement, including a cap and trade program" (San Joaquin Valley Air Pollution Control District 2009).

### ***Rule 2301***

While the Climate Change Action Plan indicated that the greenhouse gas emission reduction program would be called the San Joaquin Valley Carbon Exchange, the SJVAPCD incorporated a method to register voluntary greenhouse gas emission reductions into its existing Rule 2301- Emission Reduction Credit Banking through amendments of the rule. Amendments to the rule were adopted on January 19, 2012. The purposes of the amendments to the rule include the following:

- Provide an administrative mechanism for sources to bank voluntary greenhouse gas emission reductions for later use;

- Provide an administrative mechanism for sources to transfer banked greenhouse gas emission reductions to others for any use; and
- Define eligibility standards, quantitative procedures, and administrative practices to ensure that banked greenhouse gas emission reductions are real, permanent, quantifiable, surplus, and enforceable.

## **STANISLAUS COUNCIL OF GOVERNMENTS (STANCOG)**

The Stanislaus Council of Governments (StanCOG) is the Regional Transportation Planning Agency (RTPA) for the Stanislaus County region. Under federal legislation, it is also designated as the Metropolitan Planning Organization (MPO). Further overview of the agency and its programs and plans as related to criteria pollutants is provided in Section 3.3 Air Quality of this EIR.

### ***Tentative 2014 Regional Transportation Plan and Sustainable Communities Strategy***

As discussed previously, AB 375 requires metropolitan planning organizations to include sustainable community strategies in their regional transportation plans for reducing greenhouse gas emissions. Senate Bill 375 aims to reduce greenhouse gas emissions through development of a Sustainable Communities Strategy (SCS) which integrates land use, housing and transportation planning. A SCS will identify a forecasted development pattern and transportation network that will meet the emission reduction targets set by the ARB. The SCS will lay out a plan for growth for the region while taking into account the transportation, housing, environmental and economic needs of the area. Responses to a request for proposals to prepare the 2014 Regional Transportation Plan and Sustainable Communities Strategy were received on August 29, 2012. A Public Participation Plan was completed in January 2012 for the project (Stanislaus Council of Governments 2012).

### ***2011 Regional Transportation Plan***

The 2011 Regional Transportation Plan (RTP) is the blueprint used to address the many challenges facing the transportation system. This long range plan contains an integrated set of goals, objectives, and actions to maintain, manage, and improve the transportation system in Stanislaus County through the year 2035.

While the 2011 RTP does not have the opportunity to fully comply with SB 375 – as the GHG emission reduction targets had not yet been established at the time the RTP was adopted – StanCOG has incorporated the concepts from these groundbreaking processes and will continue to build on these concepts in subsequent RTP updates (Stanislaus Council of Governments 2011).

Currently, StanCOG is working with the public and other agencies in development of the 2014 RTP and SCS as discussed before.

## ***StanCOG Non-Motorized Transportation Master Plan (2008)***

In order to improve the bicycle and pedestrian network, StanCOG along with other governments and agencies, and the communities of Stanislaus County worked together in development of the Master Plan. “The Plan provides both a countywide understanding of existing conditions and countywide priority bicycle and pedestrian network as well as existing conditions analysis and recommended network for the unincorporated County and each of the nine Stanislaus County cities. The document structure reflects this: Each jurisdiction has a specific stand-alone chapter, which can then be adopted by local agencies”. The plan was developed to:

- Increase Bicycle and Pedestrian Access: Expand bicycle and pedestrian facilities and access in and between neighborhoods, employment centers, shopping areas, schools, and recreational sites, in pursuit of the goal of having 20% of all trips made by walking or biking by 2020;
- Increase Bicycle Use: Make the bicycle an integral part of daily life in Stanislaus County, particularly for trips of less than five miles, by implementing and maintaining a bikeway network, providing end-of-trip facilities, improving bicycle/transit integration, encouraging bicycle use, and making bicycling safer and more convenient; and
- Increase Pedestrian Activity: Encourage walking as a daily form of transportation in Stanislaus County by completing a pedestrian network that services short trips and transit, improving the quality of the pedestrian environment, improving the health of all citizens, and increasing safety, convenience and access opportunities for all users. (Stanislaus Council of Governments 2008).

The Draft 2013 StanCOG Non-Motorized Transportation Master Plan will replace the 2008 StanCOG Non-Motorized Transportation Master Plan.

### ***Local***

#### **STANISLAUS COUNTY**

##### ***General Plan***

Pursuant to California Code Title 14, Section 65300 the 1994 Stanislaus County General Plan addresses greenhouse gases through its goals and policies for air quality in several of its Elements including the Conservation and Open Space Element, Agricultural Element, and its Circulation and Safety Elements. The plan also includes local, regional, State, and federal programs and regulations as well as a comprehensive set of guiding and implementing policies. These policies are listed below:

CON/SE: Policy Nineteen-The County will strive to accurately determine and fairly mitigate the local and regional air quality impacts of proposed projects;

CON/SE: Policy Twenty-The County shall strive to reduce motor vehicle emissions by reducing vehicle trips and vehicle miles traveled and increasing average vehicle ridership;

AGI: Policy 1.21- The County shall continue to work with local, state and federal agencies to ensure the safety of food produced in Stanislaus County and to maintain a local regulatory framework promoting environmental safety while ensuring the economic viability of agriculture;

AGI: Policy 3.1- The County shall continue to coordinate with the San Joaquin Valley Air Pollution Control District;

AGI: Policy 3.3- The County shall encourage the development and use of improved agricultural practices that improve air quality and are economically feasible;

CIR: Policy One- Development will be permitted only when facilities for circulation exist, or will exist as part of the development, to adequately handle increased traffic;

CIR: Policy Two- Circulation systems shall be designed and maintained to promote safety and minimize traffic congestion; and

SAF: Policy Six- All new development shall be designed to reduce safety and health hazards.

All the policies and one goal that are relevant to air quality also cover GHG emissions with the exception of an implementation measure under Policy twenty-one which was only applicable to PM10. This policy is not included.

## **CITY OF TURLOCK**

### ***Westside Industrial Specific Plan***

As previously mentioned, the right-of-way of North Washington Street is in the Turlock city limits. The road is classified as an expressway in the Turlock General Plan. In addition to landscape screening for onsite parking areas, frontage improvements including curb, gutter, and sidewalk will be required along with a right turn lane into the project site. The proposed driveway would be aligned with the new traffic signal into the Blue Diamond facility on North Washington Road. All of these activities would generate pollution and be directly related to air quality issues which includes greenhouse gas emissions. Compliance with the Westside Industrial Specific Plan will include the following policies:

R-P 16: Cooperate with the San Joaquin Valley Air Pollution Control District (SJVAPCD) in its procedures to implement the Air Quality Management Plan (AQMP);

R-P 17: Minimize public exposure to toxic or hazardous air pollutants;

R-P 38: Construction equipment shall be equipped with particulate filters and/or catalysts, or proof shall be provided as to why it is infeasible;

R-P 39: Diesel engines shall be shut off while not in use to reduce emissions from idling. Minimize idling time of all other equipment to 10 minutes maximum; and

R-P 46: Use alternative fuel construction equipment, where feasible.

Chapters 5 and 3 of the WISP provide a detailed overview of the specific plan area including its infrastructure and services and land use objectives as related to greenhouse gas (City of Turlock 2006). The plan can be accessed at the City of Turlock's website using the following path:

<http://www.ci.turlock.ca.us/pdflink.asp?pdf=documents/developmentservices/planning/guidelines/WISP.pdf?o=o&title=Westside%20Industrial%20Specific%20Plan>.

### **3.7.2 PHYSICAL SETTING**

#### ***Greenhouse Gas Emissions and Climate Change***

Constituent gases of the earth's atmosphere called GHGs play a critical role in the earth's radiation budget by trapping infrared radiation emitted from the earth's surface, which would otherwise have escaped into space. This phenomenon, known as the "Greenhouse Effect," is responsible for maintaining a habitable climate. However, it is believed that emissions from human activities, such as electricity production and vehicle use, have elevated the concentration of these gases in the atmosphere beyond the level of naturally occurring concentrations, leading to a trend of unnatural changes to the earth's natural climate, known as global warming or climate change.

Greenhouse gases are global pollutants, unlike ozone, carbon monoxide, particulate matter, and toxic air contaminants, which are pollutants of regional and local concern.

#### **POTENTIAL ENVIRONMENTAL EFFECTS**

The United Nations Intergovernmental Panel on Climate Change (IPCC) has declared that worldwide, average temperatures are likely to increase by approximately 3°F to 7°F by the end of the 21st century. However, a global temperature increase does not translate to a uniform increase in temperature in all locations on the earth. Regional climate changes are dependent on multiple variables, such as topography. One region of the earth may experience increased temperature, increased incidents of drought, and similar warming effects, whereas another region may experience a relative cooling. According to the IPCC's Working Group II Report website, climate change impacts to North America may include diminishing snowpack, increasing evaporation, exacerbated shoreline erosion, exacerbated inundation from sea level rising, increased risk and frequency of wildfire, increased risk of insect outbreaks, increased experiences of heat waves, and rearrangement of ecosystems, as species and ecosystem zones shift northward and to higher elevations.

In California, as discussed in a report prepared by the California Climate Change Center in 2006 and a report by Moser et al (2009), climate change may result in consequences such as the following:

- A reduction in the quality and supply of water to the State from the Sierra snowpack: If heat-trapping emissions continue unabated, more precipitation will fall as rain instead of snow, and the snow that does fall will melt earlier, reducing the Sierra Nevada spring snowpack by as much as 70 to 90 percent. This can lead to challenges in securing adequate water supplies. It can also lead to a potential reduction in hydropower;
- Increased risk of large wildfires: If precipitation increases as temperatures rise, wildfires in the grasslands and chaparral ecosystems of southern California are expected to increase by approximately 30 percent toward the end of the century because more winter rain will stimulate the growth of more plant “fuel” available to burn in the fall. In contrast, a hotter, drier climate could promote up to 90 percent more northern California fires by the end of the century by drying out and increasing the flammability of forest vegetation;
- Reductions in the quality and quantity of certain agricultural products: Crops that are likely to be hard hit include wine grapes, fruit, nuts, and milk;
- Exacerbation of air quality problems: If temperatures rise to the medium warming range, there could be 75 to 85 percent more days with weather conducive to ozone formation in Los Angeles and the San Joaquin Valley, relative to today’s conditions. This is more than twice the increase expected if temperature rises are kept in the lower warming range;
- A rise in sea levels resulting in the displacement of coastal businesses and residences: During the past century, sea levels along California’s coast have risen about 7 inches. If heat-trapping emissions continue unabated and temperatures rise into the higher warming range, sea level is expected to rise an additional 22 to 35 inches by the end of the century. Elevations of this magnitude would inundate coastal areas with salt water, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats;
- Damage to marine ecosystems and the natural environment;
- An increase in: infections, disease, asthma, heat stroke/exhaustion, heart attack, stroke, and other health-related problems; and
- A decrease in: the health and productivity of California’s forests.

Although certain environmental effects are widely accepted to be a potential hazard to certain locations, such as rising sea level for low-lying coastal areas, it is currently infeasible to predict all environmental effects of climate change on any one location.

## GREENHOUSE GAS EMISSIONS INVENTORY AND TRENDS

In 2006, total worldwide greenhouse gas emissions were estimated by the United Nations Framework Convention on Climate Change to be 22,170 million metric tons of carbon dioxide equivalent (MMTCO<sub>2e</sub>). Emissions in the U.S. were estimated to be 7,054.4 MMTCO<sub>2e</sub>.

California is the second-largest contributor in the U.S. of GHGs and the sixteenth largest in the world. In 2009, California produced 456 MMTCO<sub>2e</sub>. The largest source of GHGs in California is transportation, contributing 38 percent of the State's total greenhouse gas emissions. Electricity generation is the second-largest source, contributing 23 percent of the State's greenhouse gas emissions. The inventory for California's greenhouse gas emissions between 2003 and 2010 is presented in Table 3.7-1.

**Table 3.7-1  
California Greenhouse Gas Emissions Inventory 2003-2010**

Main Sector*	Emissions MMTCO <sub>2e</sub>							
	2003	2004	2005	2006	2007	2008	2009	2010
Agriculture	31.48	33.24	33.48	34.59	33.44	34.34	32.81	32.45
Forestry	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
Commercial and Residential Fuel Use	41.47	42.83	41.18	41.85	42.07	42.39	42.61	43.89
Electricity Generation (Imports)	49.09	50.20	46.08	50.87	55.15	55.34	55.53	49.70
Electricity Generation (In State)	64.57	66.05	62.81	54.69	59.81	65.83	48.05	43.59
Industrial and Waste	95.29	96.97	96.04	94.29	91.88	94.32	83.60	85.96
Recycling and Waste	6.39	6.34	6.65	6.75	6.71	6.90	6.94	6.98
High GWP	12.57	13.32	13.90	14.26	14.27	14.44	14.76	15.66
Transportation	179.47	183.46	186.34	186.95	187.38	178.18	173.34	173.18
<b>Total</b>	<b>480.52</b>	<b>492.6</b>	<b>486.67</b>	<b>484.44</b>	<b>490.9</b>	<b>491.93</b>	<b>457.83</b>	<b>451.6</b>

Source: California Air Resources Board, 2011.

According to the results in Table 3.7-1, the transportation sector accounted for the largest majority of GHG emissions followed by industrial, electricity generation, and so on. The total for all sectors has rise and fall from 2003 to 2008, with a decline over the last two years (2009 to 2010).

## GREENHOUSE GASES

Gases that trap heat in the atmosphere are GHGs. The effect is analogous to the way a greenhouse retains heat. Common GHGs include water vapor, carbon dioxide, methane, nitrous oxides, chlorofluorocarbons, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, ozone, and aerosols. Natural processes and human activities emit GHGs. The presence of GHGs in the atmosphere affects the earth's temperature. Without the natural heat trapping effect of GHGs, the earth's surface would be about 34°C cooler. However, it is believed that emissions from

human activities, such as electricity production and vehicle use, have elevated the concentration of these gases in the atmosphere beyond the level of naturally occurring concentrations.

An individual project cannot generate enough greenhouse gas emissions to effect a discernible change in global climate. However, the proposed project may participate in this potential impact by its incremental contribution combined with the cumulative increase of all other sources of GHGs, which when taken together constitute potential influences on global climate change. Because these changes may have serious environmental consequences, this section will evaluate the potential for the proposed project to have a significant effect upon California’s environment as a result of its potential contribution to the enhanced greenhouse effect.

The global warming potential is one type of simplified index based upon radiative properties that can be used to estimate the potential future impacts of emissions of different gases upon the climate system in a relative sense. Global warming potential is based on a number of factors, including the radiative efficiency (heat-absorbing ability) of each gas relative to that of carbon dioxide, as well as the decay rate of each gas (the amount removed from the atmosphere over a given number of years) relative to that of carbon dioxide.

The EPA defines global warming potential as the “cumulative radiative forcing effects of a gas over a specified time horizon resulting from the emission of a unit mass of gas relative to a reference gas”, the reference gas in this case being CO<sub>2</sub>.

The global warming potential of a gas is essentially a measurement of the greenhouse gas compared with the reference gas, carbon dioxide; carbon dioxide has a global warming potential of one. The GHGs of concern from the project are summarized in Table 3.7-2.

**Table 3.7-2  
Greenhouse Gases**

<b>Greenhouse Gas</b>	<b>Description and Physical Properties</b>	<b>Sources</b>
Water vapor	Water vapor is the most abundant, important, and variable greenhouse gas. In the atmosphere, it maintains the climate necessary for life.	Sources include evaporation from the ocean and other water bodies, sublimation of ice and snow, and transpiration from plants.
Ozone (O <sub>3</sub> )	Ozone is a short-lived local greenhouse gas and photochemical pollutant. Tropospheric ozone changes contribute to radiative forcing on a global scale. Global warming potential for short-lived greenhouse gases, such as ozone and aerosols, are not defined by the IPCC.	Ozone is formed from reactions of ozone precursors (nitrogen oxides [NO <sub>x</sub> ] and volatile organic compounds [VOC]) and sunlight in the atmosphere. VOC and NO <sub>x</sub> are emitted from automobiles, solvents, and fuel combustion.
Aerosols	Aerosols are particulate matter suspended in the air. They are short-lived and remain in the atmosphere for about a week. Aerosols warm the atmosphere by absorbing heat and cool the atmosphere by reflecting light, with radiative forcing cooling effects of $-1.2 \text{ Wm}^{-2}$ . There is a low scientific understanding of the radiative forcing of individual aerosols, such as black carbon.	Sulfate aerosols are emitted when fuel containing sulfur is burned. Black carbon (or soot) is emitted during biomass burning and incomplete combustion of fossil fuels (such as diesel fuel).

<b>Greenhouse Gas</b>	<b>Description and Physical Properties</b>	<b>Sources</b>
	Black carbon can cause warming from deposition on snow (+0.1 Wm <sup>-2</sup> ) and from suspensions in air (+0.2 Wm <sup>-2</sup> ). A global warming potential of 761 for black carbon has been identified in a journal article. Global cooling potentials for other aerosols in a metric similar to the global warming potential are not available.	
Methane	Methane (CH <sub>4</sub> ) is a flammable gas and is the main component of natural gas. It has a lifetime of 12 years. Its global warming potential is 21.	Methane is extracted from geological deposits (natural gas fields). Other sources are landfills, fermentation of manure, decay of organic matter, and cattle.
Nitrous oxide	Nitrous oxide is also known as laughing gas and is a colorless greenhouse gas. It has a lifetime of 114 years. Its global warming potential is 310.	Microbial processes in soil and water, fuel combustion, and industrial processes.
Carbon dioxide	Carbon dioxide (CO <sub>2</sub> ) is an odorless, colorless, natural greenhouse gas. Carbon dioxide's global warming potential is 1. The concentration in 2005 was 379 parts per million (ppm), which is an increase of about 1.4 ppm per year since 1960. Carbon dioxide from fossil fuels contributed 81 percent of greenhouse gas emissions in 2004 in California.	Natural sources include decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources are from burning coal, oil, natural gas, and wood.
Chloro-fluorocarbons	These are gases formed synthetically by replacing all hydrogen atoms in methane or ethane with chlorine and/or fluorine atoms. They are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the earth's surface). Global warming potentials range from 3,800 to 8,100.	Chlorofluorocarbons were synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. They destroy stratospheric ozone. The Montreal Protocol on Substances that Deplete the Ozone Layer prohibited their production in 1987.
Hydro-fluorocarbons	Hydrofluorocarbons are a group of greenhouse gases containing carbon, chlorine, and at least one hydrogen atom. Global warming potentials range from 140 to 11,700.	Hydrofluorocarbons are synthetic manmade chemicals used as a substitute for chlorofluorocarbons in applications such as automobile air conditioners and refrigerants.
Per-fluorocarbons	Perfluorocarbons have stable molecular structures and only break down by ultraviolet rays about 60 kilometers above Earth's surface. Because of this, they have long lifetimes, between 10,000 and 50,000 years. Global warming potentials range from 6,500 to 9,200.	Two main sources of perfluorocarbons are primary aluminum production and semiconductor manufacturing.
Sulfur hexafluoride	Sulfur hexafluoride is an inorganic, odorless, colorless, and nontoxic, nonflammable gas. It has a lifetime of 3,200 years. It has a high global warming potential, 23,900.	This gas is manmade and used for insulation in electric power transmission equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas.

Source: California Environmental Protection Agency, 2006; Intergovernmental Panel on Climate Change, 2007.

Individual greenhouse gas compounds have varying global warming potential and atmospheric lifetimes. The calculation of the carbon dioxide equivalent is a consistent methodology for comparing greenhouse gas emissions since it normalizes various emissions to a consistent metric. Methane's warming potential of 21 indicates that methane has a 21 times greater warming effect than carbon dioxide on a molecule per molecule basis. A carbon dioxide equivalent is the mass emissions of an individual greenhouse gas multiplied by its global warming potential.

### ***Water Vapor***

Water vapor (H<sub>2</sub>O) is the most abundant, important, and variable greenhouse gas in the atmosphere. Water vapor is not considered a pollutant; in the atmosphere, it maintains a climate necessary for life. Changes in its concentration are primarily considered to be a result of climate feedbacks related to the warming of the atmosphere rather than a direct result of industrialization. The feedback loop in which water is involved is critically important to projecting future climate change. As the temperature of the atmosphere rises, more water is evaporated from ground storage (rivers, oceans, reservoirs, soil). Because the air is warmer, the relative humidity can be higher (in essence, the air is able to hold more water when it is warmer), leading to more water vapor in the atmosphere. The warmer atmosphere can then hold more water vapor and so on and so on. This is referred to as a positive feedback loop. The extent to which this positive feedback loop will continue is unknown as there are also dynamics that hold the positive feedback loop in check. As an example, when water vapor increases in the atmosphere, more of it will eventually also condense into clouds, which are more able to reflect incoming solar radiation (thus allowing less energy to reach the Earth's surface and heat it up). There are no health effects from water vapor itself; however, when some pollutants come in contact with water vapor, they can dissolve and the water vapor can then act as a pollutant-carrying agent. The main source of water vapor is evaporation from the oceans (approximately 85 percent). Other sources include evaporation from other water bodies, sublimation (change from solid to gas) from sea ice and snow, and transpiration from plant leaves.

### ***Carbon Dioxide***

Carbon dioxide (CO<sub>2</sub>) is an odorless and colorless greenhouse gas. Outdoor levels of carbon dioxide are not high enough to result in negative health effects. Carbon dioxide is emitted from natural and manmade sources. Natural sources include the decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources include the burning of coal, oil, natural gas, and wood. Carbon dioxide is naturally removed from the air by photosynthesis, dissolution into ocean water, transfer to soils and ice caps, and chemical weathering of carbonate rocks. Since the industrial revolution began in the mid-1700s, the sort of human activity that increases greenhouse gas emissions has increased dramatically in scale and distribution. Data from the past 50 years suggests a corollary increase in levels and concentrations. As an example, prior to the industrial revolution, CO concentrations were fairly stable at 280 parts per million (ppm). Today, they are around 370 ppm an increase of more than 30 percent. Left unchecked, the concentration of carbon dioxide in the atmosphere is projected to increase to a minimum of 540 ppm by the year 2100 as a direct result of anthropogenic emission sources.

## ***Methane***

Methane (CH<sub>4</sub>) is an extremely effective absorber of radiation, though its atmospheric concentration is less than carbon dioxide and its lifetime in the atmosphere is brief (10 to 12 years), compared with other GHGs. No health effects are known to occur from exposure to methane. Methane has both natural and anthropogenic sources. It is released as part of the biological processes in low oxygen environments, such as in swamplands or in rice production (at the roots of the plants). Over the last 50 years, human activities such as growing rice, raising cattle, using natural gas, and mining coal have added to the atmospheric concentration of methane. Other anthropocentric sources include fossil fuel combustion and biomass burning.

## ***Nitrous Oxide***

Nitrous oxide (N<sub>2</sub>O), also known as laughing gas, is a colorless greenhouse gas. Nitrous oxide can cause dizziness, euphoria, and sometimes slight hallucinations. In small doses, it is considered harmless. However, in some cases, heavy and extended use can cause Olney's lesions (brain damage). Concentrations of nitrous oxide also began to rise at the beginning of the industrial revolution. In 1998, the global concentration was 314 parts per billion (ppb). Nitrous oxide is produced by microbial processes in soil and water, including those reactions that occur in fertilizer containing nitrogen. In addition, to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load. It is used as an aerosol spray propellant, for instance, in whipped cream bottles. It is also used in potato chip bags to keep chips fresh. It is used in rocket engines and in race cars. Nitrous oxide can be transported into the stratosphere, be deposited on the earth's surface, and be converted to other compounds by chemical reaction.

## ***Chlorofluorocarbons***

Chlorofluorocarbons (CFCs) are gases formed synthetically by replacing all hydrogen atoms in methane or ethane (C<sub>2</sub>H<sub>6</sub>) with chlorine and/or fluorine atoms. The gases are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the earth's surface). Chlorofluorocarbons are no longer being used; therefore, it is not likely that health effects would be experienced. Nonetheless, in confined indoor locations, working with CFC-113 or other CFCs is thought to result in death by cardiac arrhythmia (heart frequency too high or too low) or asphyxiation. Chlorofluorocarbons have no natural source, but were first synthesized in 1928. They were used for refrigerants, aerosol propellants, and cleaning solvents. Because of the discovery that they are able to destroy stratospheric ozone, a global effort to halt their production was undertaken and was extremely successful, so much so that levels of the major CFCs are now remaining steady or declining. However, their long atmospheric lifetimes mean that some of the CFCs will remain in the atmosphere for over 100 years.

## ***Hydrofluorocarbons***

Hydrofluorocarbons (HFCs) are synthetic, man-made chemicals that are used as a substitute for CFCs. Out of all the GHGs, they are one of the three groups with the highest global warming potential. The HFCs with the largest measured atmospheric abundances are, HFC-23 (CHF<sub>3</sub>),

HFC-134a (CF<sub>3</sub>CH<sub>2</sub>F), and HFC-152a (CH<sub>3</sub>CHF<sub>2</sub>). Prior to 1990, the only significant emissions were of HFC-23. The EPA estimates that concentrations of HFC-134a emissions are increasing because of its use as a refrigerant. The EPA also estimates that concentrations of HFC-23 and HFC-134a are now about 10 parts per trillion (ppt) each; and that concentrations of HFC-152a are about 1 ppt. No health effects are known to result from exposure to HFCs, which are man-made for applications such as automobile air conditioners and refrigerants.

### ***Perfluorocarbons***

Perfluorocarbons (PFCs) have stable molecular structures and do not break down through chemical processes in the lower atmosphere. High-energy ultraviolet rays, which occur approximately 60 kilometers (37.5 miles) above Earth's surface, are able to destroy the compounds. Because of this, PFCs have very long lifetimes, between 10,000 and 50,000 years. Two common PFCs are tetrafluoromethane (CF<sub>4</sub>) and hexafluoroethane (C<sub>2</sub>F<sub>6</sub>). The EPA estimates that concentrations of CF<sub>4</sub> in the atmosphere are over 70 ppt. No health effects are known to result from exposure to PFCs. The two main sources of PFCs are primary aluminum production and semiconductor manufacture.

### ***Sulfur Hexafluoride***

Sulfur hexafluoride (SF<sub>6</sub>) is an inorganic, odorless, colorless, nontoxic, nonflammable gas. It also has the highest global warming potential of any gas evaluated (23,900). The EPA indicates that concentrations in the 1990s were about 4 ppt. In high concentrations in confined areas, the gas presents the hazard of suffocation because it displaces the oxygen needed for breathing. Sulfur hexafluoride is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.

## **MODELING PARAMETERS AND ASSUMPTIONS**

### ***Model Selection***

The California Emissions Estimator Model (CalEEMod) was used to quantify project related construction and operational emissions. CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions associated with both construction and operations from a variety of land use projects. The model quantifies direct emissions from construction and operations (including vehicle use), as well as indirect emissions, such as GHG emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use. The model incorporates Pavley standards and Low Carbon Fuel standards into the mobile source emission factors. Further, the model identifies mitigation measures to reduce criteria pollutant and GHG emissions along with calculating the benefits achieved from measures chosen by the user. The SJVAPCD recommends the use of CalEEMod to quantify project impacts.

### 3.7.3 IMPACT EVALUATION CRITERIA

#### ***Analysis Methodology***

Applied methodology comes from the SJVAPCD's "Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA" and the "District Policy - Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency". As discussed previously, projects complying with any SJVAPCD adopted BPSs are not to require specific quantification of GHG emissions and thus would be determined to have a less than significant cumulative impact for GHG emissions. Projects not complying with BPSs thus require quantification of GHG emissions and demonstration that GHG emissions have been reduced or mitigated by 29 percent, as targeted by ARB's AB 32 Scoping Plan to be considered to have a less than significant impact on climate change.

#### ***Thresholds of Significance***

According to the CEQA Guidelines' Appendix G Environmental Checklist, to determine whether greenhouse gas emissions impacts are significant environmental effects, the following questions are analyzed and evaluated. Would the project:

- a) *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?*
- b) *Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?*

Generally, the evaluation of an impact under CEQA requires measuring data from a project against a "threshold of significance". The Office of Planning and Research's amendments to the CEQA Guidelines state that "[w]hen adopting thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence".

However, the CEQA Guideline amendments do not identify a threshold of significance for GHG emissions, nor does it prescribe assessment methodologies or specific mitigation measures. Instead, it calls for a "good faith effort, based on available information, to describe, calculate or estimate the amount of GHG emissions resulting from a project".

Guideline 15064.4(a) states, "...A lead agency shall have discretion to determine, in the context of a particular project, whether to: (1) Use a model or methodology to quantify greenhouse gas emissions resulting from a project, and which model or methodology to use...; or (2) Rely on a qualitative analysis or performance based standards."

The CEQA Guidelines amendments for GHG emissions state that a lead agency may take into account the following three considerations in assessing the significance of impacts from GHG emissions:

Consideration No. 1: The extent to which the project may increase or reduce GHG emissions compared with the existing environmental setting. This discussion could involve a quantification of GHG emissions to the extent feasible;

Consideration No. 2: Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; and

Consideration No. 3: The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. Such regulations or requirements must be adopted by the relevant public agency through a public review process and must include specific requirements that reduce or mitigate the project's incremental contribution of GHG emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project.

In accordance with the SJVAPCD's guidance for addressing GHG emission impacts for new projects under CEQA, a project would be considered to have a less-than-significant individual and cumulative impact on climate change if it were to do at least one of the following:

- Exempt from the requirements of CEQA; or
- Comply with an approved GHG emission reduction plan or GHG mitigation program, which avoids or substantially reduces GHG emissions within the geographic area in which the project is located. Such plans or programs must be specified in law or approved by the lead agency with jurisdiction over the affected resource and supported by a CEQA compliant environmental review document adopted by the lead agency; or
- Implement approved best performance standards; or
- Quantify project GHG emissions and reduce those emissions by at least 29 percent compared to Business as Usual. "Business as Usual" is referenced in ARB's AB 32 Scoping Plan as emissions occurring in 2020 if the average baseline emissions during the 2002–2004 period grew to 2020 levels without additional control. Therefore, 2002–2004 emissions factors, on a unit of activity basis, multiplied by the activity expected to occur in 2020, is an appropriate representation of 2020 Business as Usual. The reductions can be based on any combination of reduction measures, including GHG reductions achieved as a result of changes in building and appliance standards occurring since the 2002–2004 baseline period.

The project is not exempt from CEQA. The Scoping Plan prepared pursuant to AB 32 demonstrates how California would reduce GHG emissions to 1990 levels by the year 2020. However, most of the measures in the Scoping Plan are not applicable to the project. There are no approved best performance standards that would apply to the project. Therefore, the approach used in this analysis is to quantify GHG emissions and reduce the emissions by at least 29 percent compared to Business as Usual.

### 3.7.4 IMPACTS AND MITIGATION MEASURES

#### **Impact #3.7-1 – Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.**

As stated previously, the SJVAPCD has established a menu of performance standards, some of which depend on the existence of an adopted climate action plan or the establishment of Best Performance Standards. This analysis adopts the following alternative threshold provided by the SJVAPCD: whether the project will reduce or mitigate GHG levels by 29 percent from business-as-usual levels. To do so, this the analysis first will quantify project-related GHG emissions under a business-as-usual scenario, and then compare these emissions with those emissions that would occur when all project-related design features are accounted for, and when compliance with new regulatory measures is assumed. The standard and methodology is explained in further detail, below.

This analysis uses the SJVAPCD's thresholds, rather than relying upon thresholds adopted by Air SJVAPCDs in the urban areas of California, or that considered by the SJVAPCD as most appropriate for the Valley, despite criticism thereof by some clean air advocates.

#### **Construction**

An upstream emission source (also known as life cycle emissions) refers to emissions that were generated during the manufacture of products to be used for construction of the project. Upstream emission sources for the project include but are not limited to the following: emissions from the manufacture of cement; emissions from the manufacture of steel; and/or emissions from the transportation of building materials to the seller. The upstream emissions were not estimated because they are not within the control of the project and to do so would be speculative. Additionally, the California Air Pollution Control Officers Association White Paper on CEQA and Climate Change supports this conclusion by stating, “The full life-cycle of GHG [greenhouse gas] emissions from construction activities is not accounted for ... and the information needed to characterize [life-cycle emissions] would be speculative at the CEQA analysis level” (California Air Pollution Control Officers Association 2008). Therefore, pursuant to CEQA Guidelines Sections 15144 and 15145, upstream/life cycle emissions are speculative; no further discussion is necessary.

Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and prevailing weather conditions. Construction emissions result from onsite and offsite activities. Onsite emissions principally consist of exhaust emissions (NO<sub>x</sub>, SO<sub>x</sub>, CO, CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, VOC, PM<sub>10</sub>, and PM<sub>2.5</sub>) from heavy duty construction equipment, motor vehicle operation, and fugitive dust (mainly PM<sub>10</sub>) from disturbed soil. Additionally, paving operations and application of architectural coatings would release VOC emissions. Offsite emissions are caused by motor vehicle exhaust (NO<sub>x</sub>, SO<sub>x</sub>, CO, CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, VOC, PM<sub>10</sub>, and PM<sub>2.5</sub>) from delivery vehicles, worker traffic, and road dust (PM<sub>10</sub> and PM<sub>2.5</sub>).

The proposed project would be constructed in three phases of approximately three to four months each over the course of approximately six years, however to provide a “worst-case” scenario, the project’s construction was conservatively estimated to be built out simultaneously within a year following entitlement approvals. It was assumed that the project’s construction would start in June 2013 and be completed by July 2014 (see Section 3.3 of this EIR). Although this date occurs in the past, it is presented for informational purposes and provides the “worst-case” scenario.

Greenhouse gas emissions generated during construction are shown in Table 3.7-3. The SJVAPCD does not have a recommendation for assessing the significance of construction related emissions. The majority of construction-related emissions would occur prior to the year 2020, which is the year the State is required to reduce its greenhouse gas emissions to 1990 levels. Therefore, any construction-related emissions would be less than significant.

**Table 3.7-3  
Construction Greenhouse Gas Emissions**

Year	Bio-CO2	Nbio-CO2	Total CO2	CH4	N2O	CO2e
2013	-	883.39	883.39	0.09	-	- 885.26
2014	-	430.67	430.67	0.04	-	431.61
<b>Total</b>	-	1,314.06	1,314.06	0.13	-	1,316.87

Source: Avila and Sons, 2013.

Notes: Defaults for the California Emissions Estimator Model 2011 version.

As shown in Table 3.7-4, emissions would be approximately 10,637.65 MTCO<sub>2e</sub> in 2020. As shown, the largest source of emissions is from motor vehicles that would access the project site, contributing approximately 57 percent of the emissions in 2020. The emissions presented account for reductions attributable to regulations that occurred after 2004 (Mobile – Pavley and Low Carbon Fuel Standard as calculated by CalEEMod and Renewable Portfolio Standards requiring a 33 percent renewable portfolio by the year 2020). As shown in Table 3.7-4, the regulations alone would not achieve the required target reduction of 29 percent below business as usual, which is a potentially significant impact.

The proposed project would comply with California Green Building standards requiring indoor water conservation and would also implement mitigation measures to reduce employee vehicle trips through compliance with SJVAPCD Rule 9410. However, these measures would not reduce GHG emissions below 29 percent BAU.

**Conclusion:** Construction emissions would primarily occur prior to 2020, therefore they would be less than significant. Operational emissions would not meet the target thresholds of 29 percent below BAU. Impacts would be *potentially significant*.

**Mitigation Measure #3.7-1:** The applicant shall implement an employer-based trip reduction program in compliance with SJVAPCD Rule 9410. The trip reduction program may include ride-sharing information, carpools, and vanpools.

**Table 3.7-4  
2020 Operational Greenhouse Gas Emissions**

Source	2020 Business as Usual (BAU) CO <sub>2</sub> e	2020 With Regulations CO <sub>2</sub> e	2020 with Regulations and Mitigation Measures CO <sub>2</sub> e
Area	0.00	0.00	0.00
Energy	1,424.66	1,047.46	1,047.46
Employee Vehicles	1,156.96	829.42	767.62
Field Trucks	709.57	643.51	643.51
Shipping Trucks	4,185.90	3,780.51	3,780.51
Waste	884.36	884.36	442.18
Water	2,276.20	1,880.94	1,504.75
<b>Total</b>	<b>10,637.65</b>	<b>9,066.20</b>	<b>8,186.03</b>
Reduction	N/A	15%	23%
Significance Threshold	N/A	29%	29%
Significant?	N/A	Yes	Yes

Source: Quad Knopf, 2013.

Note: Some defaults from the California Emissions Estimator Model, 2011 were applied.

**Effectiveness of Mitigation:** The above mitigation measure would not achieve the required reduction of 29 percent below BAU; therefore, the residual significance of this impact is *significant and unavoidable*.

**Impact #3.7-2 – Conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHG.**

Stanislaus County does not have a greenhouse gas reduction plan or climate action plan. In the absence of a local, regional, or state plan that fully satisfies the requirements of the CEQA Guidelines, the project’s compliance with AB 32 is evaluated through compliance with the applicable measures in the Scoping Plan below.

The ARB Governing Board approved a Climate Change Scoping Plan in December 2008. The Scoping Plan outlines the State’s strategy to achieve the 2020 greenhouse gas emissions limit. The Scoping Plan “proposes a comprehensive set of actions designed to reduce overall greenhouse gas emissions in California, improve our environment, reduce our dependence on oil, diversify our energy sources, save energy, create new jobs, and enhance public health” (California Air Resource Board 2008).

Project consistency with applicable strategies in the Scoping Plan is assessed in Table 3.7-5. As shown, the project is consistent with the applicable strategies in the Scoping Plan.

**Table 3.7-5  
2020 Consistency with Applicable Scoping Plan Reduction Measure**

<b>Scoping Plan Reduction Measure</b>	<b>Project Consistency or Reason Why Not Applicable</b>
1. California Cap-and-Trade Program Linked to Western Climate Initiative. Implement a Broad-based California Cap-and-Trade program to provide a firm limit on emissions. Link the California cap-and-trade program with other Western Climate Initiative Partner programs to create a regional market system to achieve greater benefits for California.	Not Applicable. This cap and trade program began in Fall 2012, products or services (such as electricity) are covered and the cost of the cap-and trade system will be transferred to the consumers.
2. California Light-Duty Vehicle Greenhouse Gas Standards. Implement adopted standards and planned second phase of the program. Align zero emission vehicle, alternative and renewable fuel and vehicle technology programs with long term climate change goals.	Not Applicable. This is a statewide measure that cannot be implemented by a project applicant or lead agency. When this measure is initiated, the standards would be applicable to the light-duty vehicles that would access the project site.
3. Energy Efficiency. Maximize energy efficiency building and appliance standards; pursue additional efficiency including new technologies, policy, and implementation mechanisms. Pursue comparable investment in energy efficiency from all retail providers of electricity in California.	Consistent. This is a measure for the State to increase its energy efficiency standards. However, the project would increase its energy efficiency through project design features (through implementing Title 24 and Green Building Standards).
4. Renewable Portfolio Standard. Achieve 33 percent renewable energy mix statewide. Renewable energy sources include (but are not limited to) wind, solar, geothermal, small hydroelectric, biomass, anaerobic digestion, and landfill gas.	Consistent. TID continues to diversify its power supply portfolio through the incorporation of solar, hydroelectric, wind, and fuel cells.
5. Low Carbon Fuel Standard. Develop and adopt the Low Carbon Fuel Standard.	Not Applicable. This is a statewide measure that cannot be implemented by a project applicant or lead agency. When this measure is initiated, the standard would be applicable to the fuel used by vehicles that would access the project site.
6. Regional Transportation-Related Greenhouse Gas Targets. Develop regional greenhouse gas emissions reduction targets for passenger vehicles. This measure refers to SB 375.	Not Applicable. The project is not related to developing greenhouse gas emission reduction targets.
7. Vehicle Efficiency Measures. Implement light-duty vehicle efficiency measures.	Not Applicable. When this measure is initiated, the standards would be applicable to the light-duty vehicles that would access the project site.
8. Goods Movement. Implement adopted regulations for the use of shore power for ships at berth. Improve efficiency in goods movement activities.	Not Applicable. The project does not propose any changes to maritime, rail, or intermodal facilities or forms of transportation.
9. Million Solar Roofs Program. Install 3,000 MW of solar-electric capacity under California's existing solar programs.	Not Applicable. This measure is being implemented by various agencies throughout California.

Scoping Plan Reduction Measure	Project Consistency or Reason Why Not Applicable
10. Medium/Heavy-Duty Vehicles. Adopt medium and heavy-duty vehicle efficiency measures.	Not Applicable. This is a statewide measure that cannot be implemented by a project applicant or lead agency. When this measure is initiated, the standards would be applicable to vehicles that access the project site.
11. Industrial Emissions. Require assessment of large industrial sources to determine whether individual sources within a facility can cost-effectively reduce greenhouse gas emissions and provide other pollution reduction co-benefits. Reduce greenhouse gas emissions from fugitive emissions from oil and gas extraction and gas transmission. Adopt and implement regulations to control fugitive methane emissions and reduce flaring at refineries.	Not Applicable. The project would not be considered a large industrial source.
12. High Speed Rail. Support implementation of a high-speed rail system.	Not Applicable. This is a statewide measure that cannot be implemented by a project applicant or the City.
13. Green Building Strategy. Expand the use of green building practices to reduce the carbon footprint of California's new and existing inventory of buildings.	Consistent. The State's goal is to increase the use of green building practices. The project would implement comply with California Green-building code.
14. High Global Warming Potential Gases. Adopt measures to reduce high global warming potential gases.	Not Applicable. When this measure is initiated, it would be applicable to those gases that have high global warming potential that would be used by the project (such as in air conditioning and refrigerators).
15. Recycling and Waste. Reduce methane emissions at landfills. Increase waste diversion, composting, and commercial recycling. Move toward zero-waste.	Consistent. The project would not contain a landfill. The State's goal is to help increase waste diversion. The project would participate in the County's recycling program.
16. Sustainable Forests. Preserve forest sequestration and encourage the use of forest biomass for	Not Applicable. The project site is in disturbed condition. No forested lands exist onsite sustainable energy generation.
17. Water. Continue efficiency programs and use cleaner energy sources to move and treat water.	Consistent. This is a measure for state and local agencies. The project would implement water conservation features pursuant to the California Greenbuilding code.
18. Agriculture. In the near-term, encourage investment in manure digesters and at the five year Scoping Plan update determine if the program should be made mandatory by 2020.	Not Applicable. No grazing, feedlot, or other agricultural activities that generate manure occur onsite or are proposed to be implemented by the project.

Source: California Air Resource Board, 2008.

Note: Project consistency or applicability was determined by Quad Knopf.

Although the project would be consistent with applicable Scoping Plan Reduction Measures, the project would not achieve the required 29 percent below BAU reduction that would help the State meet the overall reductions necessary to bring emissions to 1990 levels by 2020.

**Conclusion:** The proposed project may obstruct attainment of the goals established under AB 32. The project would comply with all present and future regulatory measures developed in accordance with AB 32 and ARB's Scoping Plan, and will incorporate a number of measures that would minimize greenhouse gas emissions beyond existing regulatory requirements, however impacts are *potentially significant*.

**Mitigation Measures:** Implement Mitigation Measure #3.7-1.

**Effectiveness of Mitigation:** The above mitigation measure would not achieve the required reduction of 29 percent below BAU; therefore, the residual significance of this impact is *significant and unavoidable*.

### **3.8 Hazards and Hazardous Materials**

This section provides an evaluation of the potential hazards and hazardous materials impacts that would be caused by implementation of the proposed project. The discussion starts with an overview of regulation that is normally applicable to hazards and hazardous materials, followed by a description of the physical setting of both the site and surrounding lands. An analysis is then provided to determine whether the impact(s) would be less than significant, significant without mitigation, or significant and unavoidable. If an impact is significant and can be reduced with mitigation, then a description of the mitigation measure(s) is provided.

This section was prepared in part using a Phase I and II Environmental Site Assessment dated December 2013, prepared by J House Environmental Inc. (Appendix D).

#### **3.8.1 REGULATORY SETTING**

A substance may be considered hazardous due to a number of criteria, including toxicity, ignitability, corrosivity, or reactivity. The term “hazardous material” is defined in law as any material that, because of quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment.

Once a hazardous material becomes ready for discard, it becomes a hazardous waste. A hazardous waste, for the purpose of this report, is any hazardous material that is abandoned, discarded, or (planned to be) recycled. In addition, hazardous wastes may occasionally be generated by actions that change the composition of previously non-hazardous materials. The same criteria (toxicity, ignitability, corrosivity, or reactivity) that render a material hazardous make waste hazardous.

The use of hazardous materials and disposal of hazardous waste are subject to numerous laws and regulations at all levels of government. Below is a brief overview of federal, State, and local laws and regulations.

#### ***Federal***

#### **RESOURCE CONSERVATION AND RECOVERY ACT 42 U.S.C. S/S 6901 ET SEQ. (1976)**

Under the Resource Conservation and Recovery Act (RCRA), individual states may implement their own hazardous waste programs in lieu of RCRA, as long as the state program is at least as stringent as the federal RCRA requirements. The U.S. Environmental Protection Agency (EPA) must approve state programs intended to implement federal regulations. In California, the California Environmental Protection Agency (Cal EPA) and the Department of Toxic Substances Control (DTSC), a department within Cal EPA, regulate the generation, transportation, treatment, storage, and disposal of hazardous waste. In 1992 the EPA approved California’s RCRA program known as the Hazardous Waste Control Law (HWCL). The DTSC has primary hazardous material regulatory responsibility, but can delegate enforcement responsibilities to

local jurisdictions that enter into agreements with the agencies for the generation, transport, and disposal of hazardous materials under the authority of the HWCL.

The hazardous waste regulations establish criteria for identifying, packaging, and labeling hazardous wastes; prescribe the management of hazardous wastes; establish permit requirements for hazardous waste treatment, storage, disposal, and transportation; and identify hazardous wastes that cannot be disposed of in ordinary landfills. A hazardous waste generator must, for a minimum of three years, retain hazardous waste manifests. Hazardous waste manifests provide a description of the waste, its intended destination, and regulatory information about the waste. A copy of each manifest must be filed with the state. The generator must match copies of hazardous waste manifests with receipts from treatment, storage, and disposal facilities.

### **COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT (CERCLA)**

The Comprehensive Environmental Response, Compensation, and Liability Act and associated Superfund Amendments provide EPA with the authority to identify hazardous sites, to require site remediation, and to recover the costs of site remediation from polluters. California has enacted similar laws intended to supplement the federal program. The DTSC is primarily responsible for implementing California's Superfund Law.

### **TOXIC SUBSTANCES CONTROL ACT**

The Toxic Substances Control Act requires the control of new and existing chemical substances that may pose an unreasonable risk to public health or the environment. The legislation establishes provisions for testing of chemical substances, regulation of hazardous chemical substances, manufacture and processing notices, management of imminent hazards, and reporting and recordkeeping requirements.

### **FEDERAL INSECTICIDE, FUNGICIDE AND RODENTICIDE ACT**

The federal Insecticide, Fungicide, and Rodenticide Act establish procedures for regulating the use and sale of pesticides to protect human health and the environment, and it provides federal control of pesticide distribution, sale, and use. The legislation governs the registration and labeling of pesticides and enforcement against banned and unregistered products.

### **U.S. DEPARTMENT OF TRANSPORTATION**

The Hazardous Materials Transportation Act of 1974, as amended, is the basic statute regulating hazardous materials transportation in the United States. This law gives the U.S. Department of Transportation and other agencies the authority to issue and enforce rules and regulations governing the safe transportation of hazardous materials.

State agencies are authorized to designate highways for the transport of hazardous materials. Where highways have not been designated, hazardous materials must be transported on routes that do not go through or near heavily populated areas.

## **State**

### **CALIFORNIA HEALTH AND SAFETY CODE**

The California Environmental Protection Agency has established rules governing the use of hazardous materials and the management of hazardous wastes. California Health and Safety Code Sections 25531, et seq. incorporates the requirements of Superfund Amendments and Reauthorization Act and the Clean Air Act as they pertain to hazardous materials. Health and Safety Code Section 25534 directs facility owners storing or handling acutely hazardous materials in reportable quantities to develop a Risk Management Plan (RMP). The RMP must be submitted to the appropriate local authorities, the designated local administering agency, and the EPA for review and approval.

#### ***California Retail Food Code***

The California Retail Food Code is an excerpt from the California Health and Safety Code, Part 7. California Retail Food Code, effective January 1, 2012. The purpose of the code is to safeguard public health and provide to consumers food that is safe, unadulterated, and honestly presented through adoption of science-based standards. The Legislature finds and declares that the public health interest requires that there be uniform statewide health and sanitation standards for retail food facilities to assure the people of this state that the food will be pure, safe, and unadulterated. Except as provided in Section 113709, it is the intent of the Legislature to occupy the whole field of health and sanitation standards for retail food facilities, and the standards set forth in this part and regulations adopted pursuant to this part shall be exclusive of all local health and sanitation standards relating to retail food facilities.

### **CALIFORNIA CODE OF REGULATIONS, TITLE 22, §66261.20-24**

Soils having concentrations of contaminants higher than certain acceptable levels must be handled and disposed of as hazardous waste when excavated. The California Code of Regulations, Title 22, §66261.20-24 contains technical descriptions of characteristics that would cause a soil to be classified as a hazardous waste.

### **CALIFORNIA HAZARDOUS MATERIALS RELEASE RESPONSE PLANS AND INVENTORY LAW OF 1985 (BUSINESS PLAN ACT)**

The Business Plan Act requires that any business that handles hazardous materials prepare a business plan, which must include the following:

- Details, including floor plans, of the facility and business conducted at the site;
- An inventory of hazardous materials that are handled or stored onsite;
- An emergency response plan; and
- A safety and emergency response training program for new employees with annual refresher course.

## **HAZARDOUS MATERIALS TRANSPORTATION REGULATIONS (26 CCR)**

The State of California has adopted U.S. Department of Transportation (DOT) regulations for the intrastate movement of hazardous materials. State regulations are contained in 26 CCR. In addition, the State of California regulates the transportation of hazardous waste originating in the state and passing through the state (26 CCR). Both regulatory programs apply in California. The two State agencies with primary responsibility for enforcing federal and State regulations and responding to hazardous materials transportation emergencies are the California Highway Patrol (CHP) and the California Department of Transportation (Caltrans).

## **CALIFORNIA VEHICLE CODE §32000**

Common carriers are licensed by the CHP, pursuant to California Vehicle Code §32000. This section requires the licensing of every motor (common) carrier who transports, for a fee, in excess of 500 pounds of hazardous materials at one time, and every carrier, if not for hire, who carries more than 1,000 pounds of hazardous material of the type requiring placards.

## **CALIFORNIA EMERGENCY SERVICES ACT**

Pursuant to the California Emergency Services Act, the State has developed an Emergency Response Plan to coordinate emergency services provided by federal, State, and local governmental agencies and private persons. Response to hazardous materials incidents is one part of this plan. The plan is administered by the State Office of Emergency Services (OES). The OES coordinates the responses of other agencies, including Cal EPA, CHP, the California Department of Fish and Game (CDFG), the Regional Water Quality Control Boards (RWQCB), the local Air Pollution Control Districts, and local agencies.

## **CALIFORNIA ACCIDENTAL RELEASE PREVENTION PROGRAM**

California Accidental Release Prevention Program (CalARP) regulations became effective January 1, 1997, replacing the California Risk Management and Prevention Program. The CalARP was created to prevent the accidental release of regulated substances. It covers businesses that store or handle certain volumes of regulated substances at their facilities. A list of regulated substances is found in §2770.5 of the CalARP regulations. If a business has more than the listed threshold quantity of a substance, an accidental release prevention program must be implemented and a risk management plan may be required. The California Office of Emergency Services is responsible for implementing the provisions of CalARP.

## **PROTECTION OF UNDERGROUND INFRASTRUCTURE [CALIFORNIA GOVERNMENT CODE, SECTION 4216]**

This law requires that an excavator must contact a regional notification center (i.e., Underground Service Alert, URS) at least 2 days prior to excavation of any subsurface installations. An Underground Service Alert will notify the utilities that may have buried lines within 1,000 feet of the excavation. Representatives of the utilities are required to mark the specific location of their

facilities within the work area prior to the start of excavation. The construction contractor is required to probe and expose the underground facilities by hand prior to using power equipment.

## **CEQA AND THE CORTESE LIST**

The Cortese List (Hazardous Waste and Substances Site List) is a planning document used by the State, local agencies, and developers to comply with CEQA requirements to consider Government Code Section 5962.5 in evaluating proposed development projects. Section 65962.5 states that:

The list should contain all hazardous waste facilities subject to corrective action, all hazardous waste property or border zone property designations, all information received on hazardous waste disposals on public land, all hazardous substance release sites listed pursuant to Government Code Section 25356, and all sites that were included in the former Abandonment Site Assessment Program.

The Cortese List is maintained by the State's Department of Natural Resources and available online. The Department of Toxic Substances Control compiles and updates the list annually and submits it to the Secretary for Environmental Protection (California Environmental Protection Agency 2007).

## **CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY (CAL EPA)**

Government Code Section 65962.5 requires the California Environmental Protection Agency (Cal EPA) to develop a Cortese List at least annually. The Department of Toxic Substances Control is responsible for a portion of the information on the list, and other local and State government agencies are required to provide additional information. The Cal EPA operates the Air Resources Board, the Department of Pesticide Regulation, Department of Toxic Substances Control, Integrated Waste Management Board, Office of Environmental Health Hazard Assessment, and the State Water Resources Control Board. The function of each of these six offices is discussed below.

California Air Resources Board (ARB): To promote and protect public health, welfare and ecological resources through the effective and efficient reduction of air pollutants in recognition and consideration of the effects on the economy of the State.

Department of Pesticide Regulation (DPR): Regulates all aspects of pesticide sales and use to protect the public health and the environment for the purpose of evaluating and mitigating impacts of pesticide use, maintaining the safety of the pesticide workplace, ensuring product effectiveness, and encouraging the development and use of reduced risk pest control practices.

Department of Toxic Substances Control (DTSC): The Department's mission is to restore, protect and enhance the environment, to ensure public health, environmental quality and economic vitality, by regulating hazardous waste, conducting and overseeing cleanups, and developing and promoting pollution prevention. DTSC protects residents from exposures to hazardous wastes. DTSC operates programs to:

- Deal with the aftermath of improper hazardous waste management by overseeing site cleanups;
- Prevent releases of hazardous waste by ensuring that those who generate, handle, transport, store and dispose of wastes do so properly;
- Take enforcement actions against those who fail to manage hazardous wastes appropriately;
- Explore and promote means of preventing pollution, and encourage reuse and recycling; and
- Evaluate soil, water and air samples taken at sites, and develop new analytical methods.

Department of Resources Recycling and Recovery (CalRecycle): Protects the public health and safety and the environment through waste prevention, waste diversion, and safe waste processing and disposal. The Integrated Waste Management Board (IWMB) is responsible for managing California's solid waste stream. The Board is helping California divert its waste from landfills by:

- Developing waste reduction programs;
- Providing public education and outreach;
- Assisting local governments and businesses;
- Fostering market development for recyclable materials;
- Encouraging used oil recycling;
- Regulating waste management facilities; and
- Cleaning up abandoned and illegal dump sites.

Office of Environmental Health Hazard Assessment (OEHHA): The OEHHA is responsible for developing and providing risk managers in State and local government agencies with toxicological and medical information relevant to decisions involving public health. OEHHA also works with federal agencies, the scientific community, industry and the general public on issues of environmental as well as public health. Specific examples of OEHHA responsibilities that directly relate to Fresno include:

- Developing health-protective exposure standards for air, water, and land to recommend to regulatory agencies, including ambient air quality standards for the Air Resources Board and drinking water chemical contaminant standards for the Department of Health Services;
- Assessing health risks to the public from air pollution, pesticide and other chemical contamination of food, seafood, drinking water, and consumer products; and
- Providing guidance to local health departments, environmental departments, and other agencies with specific public health problems, including appropriate actions to take in emergencies that may involve chemicals.

State Water Resources Control Board (SWRCB): Preserves and enhances the quality of California's water resources, and ensure their proper allocation and efficient use for the benefit of present and future generations. The SRWQCB maintains the Leaking Underground Storage

Tank Information System (LUTIS) Database, which contains information on registered leaking underground storage tanks (LUSTs) in the State.

California Occupational Safety and Health Agency (CalOSHA): CalOSHA sets and enforces standards that insure safe and healthy working conditions for California's workers. The Division of Occupational Safety & Health is charged with the jurisdiction and supervision over workplaces in California that are not under federal jurisdiction. CalOSHA regulates issues involving unsafe workplace conditions, worker exposure to chemicals, illness due to workplace exposure, or improper training.

### **STATE REGULATORY PROGRAMS DIVISION (SRPD)**

The SRPD oversees the technical implementation of the State's Unified Program; a consolidation of six environmental programs at the local level, and conducts reviews of Unified Program agencies to ensure their programs are consistent statewide, conform to standards, and deliver quality environmental protection at the local level. The State's hazardous waste recycling and resource recovery program is also overseen by the SRPD which is designed to facilitate recycling and reuse of hazardous waste. The SRPD conducts a corrective action oversight program that assures any releases of hazardous constituents at generator facilities that conduct onsite treatment of hazardous waste are safely and effectively remediated, and oversees the hazardous waste generator and onsite waste treatment surveillance and enforcement program carried out by local Unified Programs.

### **CALIFORNIA DEPARTMENT OF TRANSPORTATION (CALTRANS) AND CALIFORNIA HIGHWAY PATROL**

The California Vehicle Code Section 31303 requires that hazardous materials be transported via routes with the least overall travel time, and prohibits the transportation of hazardous materials through residential neighborhoods. In California, the California Highway Patrol (CHP) is authorized to designate and enforce route restrictions for the transportation of hazardous materials. To operate in California, all hazardous waste transporters must be registered with the Department of Toxic Substances Control (DTSC). Unless specifically exempted, hazardous waste transporters must comply with the California Highway Patrol Regulations, the California State Fire Marshal Regulations, and the United States Department of Transportation Regulations. In addition, hazardous waste transporters must comply with Division 20, Chapter 6.5, Article 6 and 13 of the California Health and Safety Code, and the Title 22, Division 4.5, Chapter 13 of the California Code of Regulations, both of which are administered by DTSC.

### **CENTRAL VALLEY REGIONAL WATER QUALITY CONTROL BOARD (RWQCB)**

There are nine Regional Water Quality Control Boards (RWQCBs) throughout the state. The Central Valley RWQCB has jurisdiction over Stanislaus County. Individual RWQCBs function as the lead agencies responsible for identifying, monitoring, and cleaning up LUSTs. Storage of hazardous materials in USTs is regulated by the State Water Resources Control Board (SWRCB), which oversees the nine RWQCBs.

## **Local**

### **STANISLAUS COUNTY**

#### ***General Plan***

As stated in the Stanislaus General Plan the use, transportation and disposal of hazardous materials is becoming an issue of increasing concern. State laws were passed in 1985 that require users of hazardous materials to disclose the type and location of such materials so that emergency response teams can be prepared for potential disasters. Routes are being specified to limit transportation of hazardous material such as nuclear waste.

Pursuant to California Code Title 14, Section 65300 the 1994 Stanislaus County General Plan addresses hazards and hazardous materials in several of its Safety Element policies. The plan also includes local, regional, State, and federal programs and regulations as well as a comprehensive set of guiding and implementing policies, as listed below:

SAF: Policy Seven- Adequate fire and sheriff protection shall be provided;

SAF: Policy Ten-The County shall limit the siting of air strips;

SAF: Policy Eleven- Restrict large communications antennas within the agricultural area with respect to maximum height, markings (lights) and location to provide maximum safety levels;

SAF: Policy Thirteen- The Department of Environmental Resources shall continue to coordinate efforts to identify locations of hazardous materials and prepare and implement plans for management of spilled hazardous materials as required; and

SAF: Policy Fourteen- The County will continue to enforce state-mandated structural Health and Safety Codes, including but not limited to the Uniform Building Code, the Uniform Housing Code, the Uniform Fire Code, the Uniform Plumbing Code, the National Electric Code, and Title 24 (Comment: The Uniform Building Code includes provisions for safe construction under the most current standards. The Uniform Housing Code provides for upgrading of existing dwellings to eliminate health and safety problems without requiring upgrading of non-hazardous conditions).

Hazards and hazardous materials are addressed at the county level through the Stanislaus County Department of Environmental Health which implements the policies listed above. The Uniform Housing Code eliminates health and safety problems including lead hazards.

#### ***Stanislaus County Department of Environmental Resources***

A Certified Unified Program Agency (CUPA) is an agency of a county or city that administers several State programs regulating hazardous materials and hazardous wastes. The Stanislaus County Department of Environmental Resources is the CUPA within Stanislaus County. The

department consists of a team which includes a program manager for each division. The program manager has the following responsibilities under the hazardous materials division.

- Implement Risk Management and Prevention laws to minimize chemical releases in the community;
- Maintain hazardous materials response team to assist public and fire agencies during transportation and industrial accidents involving chemical spills;
- Prepare and implement the County's Area Plan for emergency response to chemical spills in the community;
- Permit and inspect the removal of underground storage tanks;
- Oversee site investigation for soil and groundwater contamination and clean-up;
- Permit and monitor underground storage tanks;
- Inspect hazardous waste generators. Review procedures for storage, treatment and disposal of hazardous wastes;
- Implement the County's Electronic Waste collection program;
- Develop and implement the County's Household Hazardous Waste collection program;
- Inspect medical facilities to ensure compliance with State medical waste management laws; and
- Implement hazardous materials disclosure laws (business plans) to ensure access to information about chemicals handled by businesses. (County of Stanislaus 2013a).

The department works with other agencies around the county in the management of hazardous matters. Starting January 1, 2013, all CUPA businesses were required by Assembly Bill (AB) 2286 to submit business information electronically through the California Environmental Reporting System (CERS) (Stanislaus County 2013b).

### ***Stanislaus Consolidated Fire***

In 1995 the Stanislaus Consolidated Fire Protection District was formed out of four fire agencies in order to reduce costs by combining equipment and staff. Currently there are 51 employees and depending on the needs, approximately 10 volunteers that operate six fire stations. The Fire District is governed by a five-member Board of Directors.

The Fire District coordinates with the Forestry and Fire Protection (CalFire) Department in the County's State Responsible Areas (SRA). While the Fire District is responsible structures for in the SRA, and the CalFire is responsible for land. Portions of Highways 108 and 132 run through

the District as well as the Burlington Northern Santa Fe Railroad. The Stanislaus and Tuolumne rivers also run through portions of the District. The Fire District serves approximately 217 square miles which includes the cities of Waterford and Riverbank, and communities of Empire, Hickman and LaGrange and a large unincorporated area.

The Fire District responds to a variety of needs including: medical aids, extrication, water rescue, structural fires, hazardous materials responses, vegetation fires, and miscellaneous calls such as car fires, trash fires, etc. (Stanislaus Consolidated Fire Protection District 2011).

### ***Multi-Jurisdictional Hazard Mitigation Plan***

The County's Multi-Jurisdictional Hazard Mitigation Plan Updated 2010 replaces the 2006 version, and was submitted to the Chief Executive Officer by the Stanislaus County Board of Supervisors.

On April 14, 2011, the Stanislaus Consolidate Fire Protection District's Board of Directors passed Resolution 2010-03, which authorizes participation in the Local Multi-Jurisdictional Hazard Mitigation Plan (LHMP). According to the District's website:

Stanislaus County's Local Multi-Jurisdictional Hazard Mitigation Plan is a countywide plan that identifies risks posed by disasters, and identifies ways to minimize damage from those disasters. The plan is a comprehensive resource document that serves many purposes, including: enhancing public awareness and understanding, creating a decision tool for management, promoting compliance with State and Federal program requirements, enhancing local policies for hazard mitigation capability, and providing inter-jurisdictional coordination. The SCFPD's plan specifically targets the risks posed to the Fire District (Stanislaus Consolidated Fire Protection District 2013).

All jurisdictions within Stanislaus County are invited to participate in the plan development process and to formally adopt the final plan. In order to be in compliance with the Federal Emergency Management Agency's Disaster Mitigation Act, jurisdictions must adopt the plan or develop their own mitigation plan (2013).

## **CITY OF TURLOCK**

### ***Westside Industrial Specific Plan***

As previously mentioned, the right-of-way of North Washington Street is in the Turlock city limits. The road is classified as an expressway in the Turlock General Plan. In addition to landscape screening for onsite parking areas, frontage improvements including curb, gutter, and sidewalk will be required along with a right turn lane into the project site. The proposed driveway would be aligned with the new traffic signal into the Blue Diamond facility on North Washington Road. All of these activities would generate traffic and be directly related to hazards and hazardous issues. Compliance with the Westside Industrial Specific Plan will include the following policies:

I-P- 49: The City will evaluate the potential detrimental effect, if any, from locating a hazardous waste management site in the Plan Area, and if appropriate, will seek amendment of the Stanislaus County Hazardous Waste Management Plan to eliminate for any future consideration the southwest quadrant of the City as a candidate location of a hazardous waste management facility;

I-P- 50: The City will encourage industrial development that utilizes solid waste material for recycling or co-generation;

I-P- 62: All development is required to meet the fire protection standards established by the City. Typical standards include, but are not limited to hazardous materials plans;

R-P 10: The discharge of oil, gasoline, diesel fuel, or any other petroleum derivative, or any toxic chemical or hazardous water is prohibited; and

R-P 18: Comply with the National Emission Standards for Hazardous Air Pollutants (NESHAPS) and the SJVAPCD Compliance Assistance Bulletin, Asbestos Synopsis, during renovation and/or demolition of existing buildings, specifically as it relates to asbestos.

Chapters 5 and 6 of the WISP plan provide a detailed overview of the specific plan area including its infrastructure and services and land use objectives as related to hazards and hazardous materials. The plan can be accessed at the City of Turlock's website using the following path:

<http://www.ci.turlock.ca.us/pdfink.asp?pdf=documents/developmentservices/planning/guidelines/WISP.pdf?o=o&title=Westside%20Industrial%20Specific%20Plan>.

### ***Turlock Mosquito Abatement District***

The Turlock Mosquito Abatement District was created in 1946 to protect the health of residents of the cities of Ceres, Hughson, Grayson, Newman, Patterson and Turlock from the transmission of mosquito borne viruses and to provide relief from the nuisance of the insects. "Originally, the District was established to control mosquitoes within a 342-square mile area; however, over time the area of service expanded to include all of southern Stanislaus County (south of the Tuolumne River) which covers 966-square miles." The District also provides services to the southern portion of the county.

Pursuant to the Health and Safety Code, Chapter 1, Division 3 the District can perform the following duties:

- Conduct surveillance programs and other appropriate studies of mosquito and mosquito borne diseases;
- Take any and all necessary or proper actions to prevent the occurrence of mosquito and mosquito borne diseases;

- Take any and all necessary actions to abate or control mosquito and mosquito borne diseases; and
- The District may also levy special benefit assessments to raise revenues if there are inadequate revenues to meet the costs of providing facilities, programs, projects, and services (including vector control projects or programs).

The District is governed by an eight member Board of Trustees under the California Mosquito and Vector Control Law (Turlock Mosquito Abatement District 2013).

### **3.8.2 PHYSICAL SETTING**

Hazardous materials are those which, by their nature (chemical, physical, or biological properties), have the potential to cause death or serious illness during the: use/consumption, processing, storage, transport, or when improperly disposed of. Materials may be: flammable, explosive, corrosive, chemically reactive, toxic, carcinogenic, radioactive, infectious, or may harm people through skin contact, inhalation, or pharmaceutical action. Associated risks have generated a great deal of regulation at federal, State, and local levels. Due to this comprehensive definition, almost all land uses may involve these materials. Projects where they are stored and used require identification and special development standards. Sites previously contaminated by hazardous materials are required to be identified and cleaned. Transport of these materials on local, regional, State, and federal roadways is also regulated. The 1994 Stanislaus General Plan Safety Element provides policies intended to keep the County in compliance with existing regulations, and to preserve public health and life safety.

#### ***Geotracker Database***

The California State Water Resources Board’s Geotracker is an online database and geographic information system that is defined by the agency as follows:

“Geotracker” is the State Board’s Internet-accessible database system used by the State Board, regional boards, and local agencies to track and archive compliance data from authorized or unauthorized discharges of waste to land, or unauthorized releases of hazardous substances from underground storage tanks. This system consists of a relational database, on-line compliance reporting features, a geographical information system (GIS) interface and other features that are utilized by the State Board, regional boards, local agencies, regulated industry and the public to input, manage, or access compliance and regulatory tracking data. Geotracker was initially known as the Geographical Environmental Information Management System (GEIMS) database (California Environmental Protection Agency, State Water Resources Control Board 2011).

Table 3.8-1 lists sites within 1 mile of the proposed project site. For each site listed information is also provided on its distance from the proposed project site, the type of contaminant, and status of the cleanup.

**Table 3.8-1  
Hazardous Site Records Within One Mile**

<b>Name</b>	<b>Distance</b>	<b>Potential Contaminants</b>	<b>Cleanup Status</b>
Hammer Residence	0.8	Diesel, Heating Oil/Fuel Oil	Completed/Case Closed 3/19/1996
Fikses Hardware	0.9	Gasoline	Completed/Case Closed 3/6/2006

Source: California Water Boards, 2013.

According to Table 3.8-1, there are two sites within less than a mile from the project site. The first is identified as the Hammer Residence, which is located to the north of the proposed project site. Records indicate that a diesel heating oil/fuel oil spill occurred, and as of 3/19/1996 the clean up was completed and the case closed. The second is identified as Fikses Hardware, which is located to the south of the proposed project site. Records indicate that a gasoline leaked from an underground fuel storage tank, and as of 3/6/2006 the clean up was completed and the case closed.

***Hazardous Materials***

Agriculture facilities that store and transport produce may use various substances, some of which are considered hazardous by federal, State, and local agencies<sup>1</sup>. The most common hazardous materials include:

- Gasoline;
- Diesel;
- Lubricants; and
- Fumigation.

The use, storage, or release of hazardous materials can occur for a variety of reasons. For example, if fuels are stored onsite in aboveground or belowground tanks there could be an accidental leak. There could also be spillage if hauling trucks are fueled or serviced onsite. Other potentially hazardous materials could be released during fumigation of storage facilities for management of rodents and insects. Stanislaus County has an Agricultural Element in its general plan. According to the element, chemicals are regulated by the Agricultural Commission.

**PHYSICAL SAFETY HAZARDS**

Many of the materials discussed above are hazardous if not managed properly and could affect the physical safety of agricultural workers. Some hazardous materials present physical hazards such as the use of gasoline and diesel which are both flammable. In addition to the health hazards already described, some individuals at the project site will be exposed to hazards associated with the equipment they use. For example, large semi trucks will be moving onsite to load produce for transport which could pose vehicle or pedestrian accidents. Other accidents could occur from operating machinery inside of the warehouse.

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<sup>1</sup> Agencies that oversee hazardous materials include the Occupational Safety & Health Administration, California Occupational Safety and Health Regulations, and Agricultural Commission.

## **TURLOCK AIRPARK**

The proposed project site is located approximately 4.8 miles northwest of the Turlock Airpark. According to the Federal Aviation Administration the airport is classified as private use only, with an activation date of July 1946. The runways are 2,075 feet long by 60 feet wide (Federal Aviation Administration 2013).

### **3.8.3 IMPACT EVALUATION CRITERIA**

#### ***Analysis Methodology***

The methodology used to determine whether the proposed project would result in significant impacts related to hazards and hazardous materials relied on a literature review of federal, State, and local regulation. This data provided both qualitative and quantitative information which was applied to the thresholds of significance listed below.

#### ***Thresholds of Significance***

According to the CEQA Guidelines, a project will normally have significant adverse impacts associated with hazards and hazardous materials if the project would:

- a) *Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.*
- 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 or risk of explosion.*
- c) *Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.*
- 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.*
- 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 result in a safety hazard for people residing or working in the project area. (Refer to Initial Study, Appendix A, Found No Impact)*
- f) *For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area. (Refer to Initial Study, Appendix A, Found No Impact)*
- g) *Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. (See Chapter 7, Impacts Found to Be 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. (See Chapter 7, Impacts Found to Be Less Than Significant).*

### **3.8.4 IMPACTS AND MITIGATION MEASURES**

**Impact #3.8-1 – Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.**

**Impact #3.8-2 – 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?**

#### ***Phase I/Phase II Environmental Site Assessments (ESA)***

A Phase I and II ESA was completed by J House Environmental, Inc. at the proposed project site (Appendix D) in conformance with the American Society for Testing and Materials (ASTM [E1527-05]). The purpose of the assessment was to identify if “recognized environmental conditions”, as defined in ASTM E1527-05, or other potential environmental concerns exist at the proposed project site. The Phase I ESA concluded that a Phase II soil sampling should be completed to evaluate whether chemical residues associated with historic site operations are present in soil in concentrations that could pose a health risk. Specifically, the soil sampling was recommended for two potential environmental concerns, as follows:

- The project site has been used for agricultural production since at least 1946. Due to the lengthy period of site use as orchard land and for growing irrigated row crops, organochlorine pesticides (OCPs) and lead and arsenical-based pesticides may have been applied and chemical residues may be present; and
- Two areas in the eastern portion of the site have been used for agricultural support facilities, including dwellings, barns, outbuildings and equipment storage areas, since at least 1946. Support operations conducted during this period may have included farm equipment maintenance and fueling as well as agricultural chemical storage and mixing. Due to the lengthy period of use of this area for support activities, petroleum products, pesticides and other materials may have been released and chemical residues may be present.

The Phase I ESA also recommended that the following concerns be addressed during project development and implementation of the proposed project:

1. The northeastern portion of the project site is presently used for agricultural support operations, including agricultural chemical storage and mixing and farm equipment storage, maintenance, repair, fueling and washing. At the time of the site inspection, the areas where chemicals were being stored and/or handled appeared generally clean and well maintained. With implementation of the warehouse project, storage and use of agricultural chemicals and petroleum products will continue. Activities involving the storage and/or use of agricultural chemicals and petroleum products will need to be conducted in accordance with any

applicable Stanislaus County or State regulatory standards to ensure that operations do not pose a risk of release of hazardous materials; and

2. Due to the age of the structures at the project site, asbestos containing materials (ACMs) and surfaces painted with lead-based paint may be present. Prior to any demolition or renovation activities that could disturb suspect ACMs and painted surfaces, material testing should be conducted to ensure worker safety and confirm proper disposal methods for any demolition debris.

**Concern 1:** The proposed construction activities may involve the use of hazardous materials. These materials might include fuels, oils, mechanical fluids, and other chemicals used during construction. Transportation, storage, use, and disposal of hazardous materials during construction activities would be required to comply with applicable federal, State, and local statutes and regulations. Disposal of these types of hazardous waste would occur at the permanent collection facility located at County Center IV, 1710 Morgan Road, in the city of Modesto.

Operation activities will include refueling of trucks used to haul produce to distribution centers in Los Angeles, northern California, Oregon and Washington. A 500-gallon aboveground fuel storage tank will be installed on the proposed project site. In addition to the fuel tank, fertilizers used to destroy and/or prevent pests, disease, and weeds will also be stored onsite. These activities would be regulated by various federal and State laws regarding hazardous materials. The project will exceed the “55 gallons of a liquid” threshold listed below so would be required to prepare and submit a Hazardous Materials Business Plan (Health and Safety Code 25503.5 and AB 408) to the Stanislaus County Environmental Resources Department which acts as the County’s CUPA:

- 500 pounds of a solid;
- 55 gallons of a liquid;
- 200 cubic feet of a compressed gas at standard temperature and pressure;
- Any amount of hazardous waste; and
- Amounts of radioactive materials requiring an emergency plan pursuant to Parts 30, 40, or 70 of Title 10 Code of Federal Regulations.

Chapter 6.95 of the Health and Safety Code establishes minimum statewide standards for Hazardous Materials Business Plans. Business Plans contain basic information on the location, type, quantity, and health risks of hazardous materials stored, used, or disposed in the state.

**Concern 2:** The proposed project does not include any demolition. Any future demolition would have to comply with the San Joaquin Air Pollution Control District’s regulation for asbestos.

The Phase I and II ESA completed by J House Environmental Inc. concluded the following:

- Soil sampling at the site did not show the presence of chemical residues in concentrations that are considered to pose a significant health risk under the commercial/industrial land use scenario. Samples collected to provide characterization of the former orchard land and crop field areas show no detectable concentrations of OCPs. Samples collected from the support operations area show the presence of two OCPs as well as motor oil range petroleum hydrocarbons; however, reported concentrations are below human health screening levels for commercial/industrial land use. Reported arsenic and lead concentrations in samples collected from the site are below levels that would be considered to pose a significant adverse health risk to workers; and
- Although Phase II ESA sampling does not show the presence of chemical residues in soil in concentrations that are considered to pose a significant health risk under the commercial/industrial land use scenario, as an added precaution, J House Environmental Inc. recommends that the project proponent consider implementing the following risk management measure:
  - Work areas and areas with heavy foot traffic inside the eastern, unpaved portion of the barn/packing shed should be surfaced to reduce worker exposure to dust in this area, where concentrations of 4,4'-DDT (2,600 micrograms per kilogram [ug/kg]) and 4,4'-DDD (240 ug/kg) were detected in soil.

This recommendation will also be incorporated into the proposed project to reduce impacts to less than significant.

### ***Other Considerations***

In addition, large warehouses can have pest problems that include birds nesting inside of structures. This is usually due to large warehouse doors constantly opening and closing or remaining open for long periods of time while workers load trucks. Pest-birds have been linked to transmissible diseases that can be passed on to humans (zoonotic diseases). The Center for Disease Control and other experts have provided extensive literature on this issue. A list of some well known diseases is included in Table 3.8-2. Birds can also damage or compromise the quality of produce by leaving droppings that could lead to sickness. Accidents caused from workers colliding with birds or slipping on bird droppings are also safety issues of concern.

Other pests which are known to frequent agricultural crops and venture into nearby buildings include rats and mice. "Commensal mice and rats pose a significant economic and health risk to people. Worldwide, rats and mice spread over 35 diseases. These diseases can be spread to humans directly, through handling of rodents, through contact with rodent feces, urine, or saliva, or through rodent bites. Diseases carried by rodents can also be spread to humans indirectly, through ticks, mites or fleas that have fed on an infected rodent (Centers for Disease Control and Prevention 2010). Table 3.8-2 includes some of these diseases.

**Table 3.8-2  
Diseases Found in Birds, Rats, Mouse and other Rodents**

Disease Name	Description	Prevention
<b>BIRDS</b>		
<b>Psittacosis (Ornithosis, Chlamydiosis)</b>	Psittacosis is caused by the bacteria <i>Chlamydia psittaci</i> . <i>C. psittaci</i> is common in wild birds and can occur in laboratory bird colonies. Infected birds are highly contagious to other birds and to humans. The organism is spread to humans by aerosolization of respiratory secretions or feces from the infected birds. Typical symptoms in the bird are diarrhea, ocular discharge, and nasal discharge. The infection in humans by <i>C. psittaci</i> , can cause fever, headache, myalgia chills, and upper and lower respiratory disease. Serious complications can occur and include pneumonia, hepatitis, myocarditis, thrombophlebitis and encephalitis. It is responsive to antibiotic therapy but relapses can occur in untreated infections.	<p><i>Prevention:</i> Only disease-free flocks should be allowed into the research facility. Wild-caught birds or birds of unknown status should be treated prophylactically for 45 days with chlortetracycline.</p> <p>Animal Biosafety Level 2 practices are recommended for personnel working with naturally infected birds or experimentally infected birds.</p> <p>Wearing NIOSH certified dust masks should be considered in rooms housing birds of unknown health status.</p>
<b>Newcastle Disease</b>	Newcastle disease is caused by a paramyxovirus and can be seen in birds both wild and domestic. Transmission is mainly by aerosol but contaminated food, water and equipment can also transmit the infection within bird colonies. Pathogenic strains produce anorexia and respiratory disease in adult birds. Young birds often show neurologic signs. In humans the disease is characterized by conjunctivitis, fever, and respiratory symptoms.	<p><i>Prevention:</i> The disease can be prevented by immunizing susceptible birds and obtaining birds from flocks free of infection. Good personal-hygiene practices which include hand washing after handling animals or their waste should be in place.</p>
<b>Salmonellosis</b>	Along with a variety of other species, <i>Salmonella</i> , and other enteric bacteria are capable of causing disease in humans. Salmonellae are transmitted by the fecal-oral route. Infection produces an acute enterocolitis and fever with possible secondary complications such as septicemia.	<p><i>Prevention:</i> Use of protective clothing, personal hygiene which include hand washing after contact with animals or their waste, and sanitation measures prevent the transmission of the disease.</p>
<b>Campylobacter</b>	<i>Campylobacter</i> species can be found in pet and laboratory animal species. Transmission to humans is by the fecal-oral route and can produce an acute enteritis. Symptoms include diarrhea, abdominal pain, fever, nausea, and vomiting.	<p><i>Prevention:</i> Use of personnel protective clothing, good personal hygiene, and sanitation measures will help to prevent the transmission of the disease.</p>

Disease Name	Description	Prevention
<b>RATES AND MICE</b>		
<b>Lymphocytic Choriomeningitis Virus</b>	<p>Lymphocytic choriomeningitis virus infects wild mice world-wide and laboratory animal species including mice, hamsters and guinea pigs.</p> <p>Humans can be infected by inhalation and by contact with tissues or fluids from infected animals. Symptoms include fever, myalgia, headache and malaise. More severe symptoms can occur such as lymphadenopathy, meningoencephalitis and neurologic signs.</p>	<p><i>Prevention:</i> Serologic surveillance of animal colonies at risk and screening of all tumors and cell lines intended for animal passage will help to prevent LCM. Personnel should wear gloves when handling animals and practice appropriate personnel hygiene which includes hand washing.</p>
<b>Hantavirus Pulmonary Syndrome</b>	<p>Hantavirus Pulmonary Syndrome is a virus occurring throughout most of North and South America. The disease spreads through breathing in dust that is contaminated with rodent urine or droppings, direct contact with rodents or their urine and droppings, and bite wounds, although this does not happen frequently. The rodents include Deer mouse (<i>Peromyscus maniculatus</i>), Cotton rat (<i>Sigmodon Hispidus</i>), Rice rat (<i>Oryzomys palustris</i>), White-footed mouse (<i>Peromyscus leucopus</i>).</p>	<p><i>Prevention:</i> eliminate or minimize contact with rodents in your home, workplace, or campsite.</p>
<b>Leptospirosis</b>	<p>Leptospirosis is widely distributed in domestic and wild animals. The possibility of transmission to humans from most animal species maintained in the laboratory should be considered but livestock and dogs would be the most common reservoirs. Transmission of the organism to humans can occur through skin abrasions and mucous membranes by contact with urine or tissues of animals infected with Leptospirosis. Inhalation or ingestion of organisms can also transmit the diseases. Disease can vary from asymptomatic infection to severe disease ranging from flu-like symptoms to liver and kidney failure, encephalitis, and pulmonary involvement.</p>	<p><i>Prevention:</i> Control of this infection in laboratory animal populations along with use of protective clothing and gloves by persons working with and caring for infected animals will help prevent disease.</p>
<b>Rat-Bite Fever</b>	<p>Rat-bite fever is caused by <i>Streptobacillus moniliformis</i> or <i>Spirillum mino.</i>, These organisms are in the respiratory tracts and mouths of rodents, especially rats. Most human infections are the result of a bite wound.</p>	<p><i>Prevention:</i> Animals need to be handled properly to prevent bites.</p>

Disease Name	Description	Prevention
<b>Campylobacter</b>	Symptoms include chills, fever, malaise, headache and muscle pain. A rash can develop along with painful joints, abscesses, endocarditis, pneumonia, hepatitis pyelonephritis, and enteritis.  <i>Campylobacter</i> species can be found in pet and laboratory animal species. Transmission to humans is by the fecal-oral route and can produce an acute enteritis. Symptoms include diarrhea abdominal pain, fever, nausea, and vomiting.	<i>Prevention:</i> Use of personnel protective clothing, good personal hygiene, and sanitation measures will help to prevent the transmission of the disease.

Source: Centers for Disease Control and Prevention, 2011.

In a report released on June 27, 2013 by the Department of Pesticide Regulation (DPR), the California Department of Fish and Wildlife (CDFW) requested that the DPR designate all second generation anticoagulant rodenticides as restricted materials due to secondary poisoning of wildlife (Department of Pesticide Regulation 2013). To reduce impacts to surrounding wildlife, mitigation shall be applied to the proposed project which will require the owner to hire a biologist to complete a Pest Management Plan. The plan shall make recommendations for addressing both pest-birds and rodents.

In addition to mitigation, the proposed project would also be required to comply with the California Health and Safety Code, California Retail Food Code, Part 7. California Retail Food Code, Effective January 1, 2012. The code requires certain safety, building, and food handling predicts. Section 113947.1 will require the owner to become certified as follows:

- a. Food facilities that prepare, handle, or serve non-prepackaged potentially hazardous food, except temporary food facilities, shall have an owner or employee who has successfully passed an approved and accredited food safety certification examination as specified in Sections 113947.2 and 113947.3. There shall be at least one food safety certified owner or employee at each food facility. No certified person at a food facility may serve at any other food facility as the person required to be certified pursuant to this subdivision. The certified owner or employee need not be present at the food facility during all hours of operation.
- b. Food facilities that are not subject to the requirements of subdivision (a) that prepare, handle, or serve non-prepackaged, non-potentially hazardous foods, except temporary food facilities, shall do one of the following:
  1. Have an owner or employee who has successfully passed an approved and accredited food safety certification examination as specified in Sections 113947.2 and 113947.3.
  2. Demonstrate to the enforcement officer that the employees have an adequate knowledge of food safety principles as they relate to the specific operation involved in their assigned duties.

- c. On and after July 1, 2007, temporary food facilities that prepare, handle, or serve non-prepackaged food shall have an owner or person in charge who can demonstrate to the enforcement officer that he or she has an adequate knowledge of food safety principles as they relate to the specific food facility operation.
- d. For the purposes of this section, multiple contiguous food facilities permitted within the same site and under the same management, ownership, or control shall be deemed to be one food facility, notwithstanding the fact that the food facilities may operate under separate permits.
  - 1. This subdivision shall not apply to the premises of a licensed winegrower or brandy manufacturer utilized for wine tastings conducted pursuant to Section 23356.1 of the Business and Professions Code of wine or brandy produced or bottled by, or produced and prepackaged for, that licensee when use is limited to wine tasting.
- e. A food facility that commences operation, changes ownership, or no longer has a certified owner or employee pursuant to this section shall have 60 days to comply with this subdivision.
- f. The responsibilities of a certified owner or employee at a food facility or an owner or person in charge of a temporary food facility described in subdivision (c) shall include the safety of food preparation and service, including ensuring that all employees who handle, or have responsibility for handling, non-prepackaged foods of any kind, have sufficient knowledge to ensure the safe preparation or service of the food, or both. The nature and extent of the knowledge that each employee is required to have may be tailored, as appropriate, to the employee's duties related to food safety issues.
- g. The food safety certificate issued pursuant to Section 113947.3 shall be retained on file at the food facility at all times, and shall be made available for inspection by the enforcement officer.
- h. Certified individuals shall be recertified every five years by passing an approved and accredited food safety certification examination.
- i. A food safety program that was not in effect prior to January 1, 1999, shall not be enacted, adopted, implemented, or enforced, unless the program fully conforms to the requirements of this part.

The owner will also have to follow other safety measures which require compliance with local building codes. The California Retail Food Code can be reviewed by the owner at <http://www.cdph.ca.gov/services/Documents/fdbRFC.pdf>.

**Conclusion:** In summary, the proposed project would have to submit a Hazardous Materials Business Plan to the Stanislaus County Environmental Resources Department for the 500-gallon fuel storage tank. Other chemicals such as fertilizers which exceed the thresholds listed before would also have to be included in the plan. Therefore those impacts would be *less than significant*.

According to the Phase I/Phase II ESA, areas in and around the barn/packing shed need to be resurfaced for health reasons.

Other hazards that could jeopardize the health of workers and consumers who will be purchasing produce (melons and sweet potatoes), could become ill from disease carried by birds and/or rats and mice. However, with Mitigation Measure 3.8-2a and 3.8-2b incorporated, and compliance with the California Retail Food Code, impacts would be *less than significant*.

**Mitigation Measure #3.8-2a:** During construction of the proposed project, work areas and areas with heavy foot traffic inside the eastern, unpaved portion of the barn/packing shed shall be surfaced to reduce worker exposure to dust in this area, where concentrations of 4,4'-DDT (2,600 micrograms per kilogram [ug/kg]) and 4,4'-DDD (240 ug/kg) were detected in soil.

**Mitigation Measure #3.8-2b:** Before building permit issuance, the owner shall hire a biologist to complete a Pest Management Plan which will make recommendations for addressing both pest-birds and rodents inside and around the warehouse. The plan shall be submitted to the Stanislaus County Environmental Health Department and made available to employees at the warehouse.

**Effectiveness of Mitigation:** The above mitigation measures would reduce hazardous health conditions both caused from dust conditions and pest-birds and rodents that may affect workers, consumers, and wildlife. A *less than significant* impact would occur with mitigation applied.

**Impact #3.8-3 – Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.**

The project site is served by the Turlock Unified School District. The nearest school to the project site is John B. Allard School, which is located 2.4 miles southeast of the project's southeastern boundary. Other schools in the vicinity include Cunningham Elementary School, 4.9 miles southeast of the project's southeastern boundary, and Turlock High School, 5.1 miles east of the project's eastern boundary.

**Conclusion:** The proposed project is over 2 miles from the closest school. Impacts would be *less than significant*.

**Mitigation Measures:** No mitigation measures are required.

**Impact #3.8-4 – 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.**

Government Code Section 65962.5 requires the Department of Toxic Substances Control, the State Department of Health Services, the State Water Resources Control Board, and the California Integrated Waste Management Board to compile and annually update lists of hazardous waste sites and land designated as hazardous waste property throughout the state. The Secretary for Environmental Protection consolidates the information (also known as the "Cortese

List”) submitted by these agencies and distributes it to each city and county where sites on the lists are located (California Environmental Protection Agency 2007).

According to the California Department of Toxic Substances Control’s Cortese List, there are 12 hazardous waste and substances sites listed within 5 miles of the proposed project site. Table 3.8-3 includes each site as identified on the Cortese List as well as the status, project type, address, and distance from the proposed project site.

**Table 3.8-3  
List of Hazardous Waste and Substances Sites  
Within 5 Miles of the Proposed Project Site**

<b>Project Name</b>	<b>Status</b>	<b>Project Type</b>	<b>Address</b>	<b>City</b>	<b>Distance From Proposed Project Site</b>
John H. Pitman High School	No Further Action	School Investigation	2631 West Zeering Road	Turlock	1.8
Alternative Education School Site	Inactive-Needs Evaluation	School Investigation	400 Dianne Drive	Turlock	2.2
Banquet Foods	Certified	State Response	107 S Kilroy Road	Turlock	2.5
Turlock Rehab Center	Inactive-Needs Evaluation	Military Evaluation	-	Turlock	3.0
U.S. Rentals	Refer: Other Agency	Evaluation	2800 North Golden State Blvd.	Turlock	3.1
Turlock Cleaners	Refer: RWQCB	Evaluation	429 East Main Street	Turlock	3.6
Durite Cleaners	Refer: Other Agency	Evaluation	141 North Center Street	Turlock	3.7
Snow White Cleaners	Refer: RWQCB	Evaluation	352 East Olive Street	Turlock	3.8
Carr’s Cleaners	Refer: RWQCB	Evaluation	500 East Main Street	Turlock	4.0
So Cal Gas/Turlock	Active	Voluntary Cleanup	650 South Golden State Blvd.	Turlock	4.2
Walnut Elementary 2-Acre Addition	Certified	School Investigation	4219 North Walnut Avenue	Turlock	4.5
Walnut Avenue Elementary	No Further Action	School Investigation	South Walnut Road <sup>1</sup>	Turlock	4.8

Source: California Department of Toxic Substances Control, 2007.

Note: All measurements were taken in a straight line (or “as a crow flies”) from the proposed project site.

Note: - means no address is available.

Note: <sup>1</sup>Street number has been emitted as it does not match Google map.

As shown in the table, the proposed project site is not listed on the Cortese List. John H. Pitman High School, which is located at 2631 West Zeering Road, is the closest listing to the proposed project site (1.8 miles). The status of this site indicates that no further action is being taken. The So Cal Gas/Turlock site is the only site that is currently listed as active. It is located at 650 South Golden State Blvd. and is approximately 4.2 miles from the proposed project site. Two of the sites are inactive but need evaluation while 5 of the sites have been referred to other agencies. The Walnut Elementary 2-Acre Addition is the only site listed as certified.

**Conclusion:** The proposed project site is not on the California Environmental Protection Agency's Cortese List. Out of the 12 sites, the closest to the proposed project site is over a mile away. There would not be a significant hazard to the public or environment. Impacts would be *less than significant*.

**Mitigation Measures:** No mitigation measures are required.

**Impact #3.8-5 – 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 result in a safety hazard for people residing or working in the project area?**

**Impact #3.8-6 – For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?**

Turlock Airpark is located approximately 4.8 miles northwest of the proposed project site. As mentioned in Section 3.8.2 of this Draft EIR, according to the Federal Aviation Administration the airpark is classified as private use only, with an activation date of July 1946. There are two runways identified as Runway 13 and 31 which measure 2,075 feet long by 60 feet wide with amber approach lights. There are no centerline or runway end identifier lights and no traffic control tower (Federal Aviation Administration 2013).

The Airport Land Use Commission Plan of 1978 lists the Turlock Airpark as one of four public and privately owned airports in Stanislaus County. These airports are facilities which the Airport Land Use Commission (ALUC) must: 1) establish airport land use planning boundaries; 2) develop airport land use plans within these boundaries; 3) recommend compatible land use within these boundaries and advise the appropriate jurisdictions on implementation; and, 4) make recommendations for height restrictions and building standards for soundproofing within the planning boundary. Specifically, the following recommendations have been made for the Turlock Airpark:

- Existing land use conflicts surrounding the Turlock Airpark consist of a road right-of-way, Greenway Avenue at the south end of the airport and Freeway 99 at the north end of the airport. Approximately one-third of the planning area is within the city limits of Turlock. Much of this area has been general planned and zoned for commercial, industrial, and low and medium density residential uses. The uses could pose some conflicts due to their close proximity to the airport runway. In addition, there are two schools in the approach patterns of the airport. These schools concentrate large numbers of small children and could also pose some problem to the airpark at a time in the future.
- The County general plan and zoning for the area is industrial, urban transition, and agricultural uses, with approximately one-half of the area within the "Agricultural" designation. It is recommended the "Agricultural" designation remain, as agricultural use tends to be the most compatible use surrounding an airport. It is also recommended the airport encourage the use of landing patterns which approach this airport from the south and patterns which take off towards the south, thereby avoiding the two schools and the existing medium and high density uses to the north.

When determining if a particular type of proposed use will be compatible with the ALUC's planning boundary, it is evaluated with the Airport Land Use Compatibility Listing which is included in the plan. The concept of the list is one delineating distinctive land use areas within the planning area and indicating additional restraints relative to conventional land use regulations, the result of which would be to impose additional restraints to applicable general plans and zoning.

In some areas, such as approach and climb-out extensions, noise and hazard were the primary conditions. In other areas only noise was considered to be a relevant factor. This Airport Land Use Compatibility listing divides the planning area into four separate categories:

1. Airport Building Areas: includes the terminal area, fixed base operator buildings, hangers, tie-down areas, parking areas and areas planned for such future uses;
2. Other Airport Property: land owned by the airport but not in use nor planned for use as building areas;
3. Approach and Transitional Surfaces: that area under the approach and take-off extensions and transitional surfaces as defined by the flight paths in use at the airport and Federal regulations. This area is primarily concerned with safety, but, by virtue of its location, noise can be a consideration; and
4. Other Land Within the Planning Area: lands within the planning areas with possible height and or noise problems envisioned in the future.

The following Airport Land Use Compatibility Listing, for land use areas on the Airport Land Use Compatibility Maps (found on pages 15 through 21) designates uses which are considered: (1) incompatible in a particular area (marked with an X); (2) compatible in a particular area (marked with an O); or, (3) conditionally compatible (marked with a C); where land could, with some conditions attached, be made a compatible land use. Where a C designation is given to a land use, the condition will be found on pages 24 through 29.

The proposed project site is over 2 miles away from the ALUC's planning boundary for the as shown on the Airport Land Use Compatibility Map on page 19 of the Airport Land Use Commission Plan. However, if it were to be the planning boundary, it would have been classified (2) compatible in a particular area (marked with an O) (Stanislaus County Planning Commission 2004).

**Conclusion:** The proposed project site is not within the ALUC's planning boundary. There would not be a significant hazard to the public or environment. Impacts would be *less than significant*.

**Mitigation Measures:** No mitigation measures are required.

**Impact #3.8-7 – Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?**

Responsibility for the day-to-day administration of Stanislaus County's disaster preparedness, mitigation, response, and recovery programs has been assigned to the Office of Emergency Services (OES) Division which is overseen by the Modesto Regional Fire Authority. The OES develops and maintains the Stanislaus County Emergency Operations Plan and its associated annexes. It also coordinates training, planning and exercises for first responders throughout the Stanislaus Operational Area (Modesto Regional Fire Authority 2012).

The OES maintains the Emergency Operations Center (EOC) in Modesto and the Alternate Emergency Operations Center in Ceres in partnership with Ceres Emergency Services. The EOC is the focal point for local coordination during a disaster. Both the Operational Area Council and the Disaster Council are facilitated by the OES.

A hazardous materials response team is also provided by the Modesto Regional Fire Authority (MRFA) which works with the surrounding fire agencies and the Stanislaus County Department of Environmental Resource. All personnel is certified at the Hazardous Materials Specialist level. The team members train monthly as a regional team as well as numerous times throughout the year with specialty classes to include Hazardous Materials Identification, Weapons of Mass Destruction and Nuclear and Biological training. All other companies throughout MRFA are trained to the Hazardous Material First Responder / Decontamination level. Members of the Haz-Mat team provide training and instruction through the Training Division (2012).

The proposed project's construction phase will include improvements along North Washington Road. Traffic signalization improvements will be installed to accommodate access to and from the site onto N. Washington Road. Additionally, the applicant will provide dedication and street improvements along the road as may be required by the City of Turlock. Improvements would include curb, gutter, street re-striping, and road widening to accommodate acceleration and deceleration lanes onto N. Washington Road. These improvements will likely include flag men that will direct traffic. Construction could potentially interfere with emergency response equipment. To lesson this impact, notification of the proposed project and construction dates will be sent to all local responders in the City of Turlock and to the OES.

Operation would have trucks hauling produce from the warehouse to distributors in southern California and in northern California, Oregon, and Washington. However, drivers would have to comply with the motor vehicle code that requires all vehicles to yield to emergency responders.

**Conclusion:** Construction activities that would likely require flagmen to direct traffic may interfere with emergency vehicles. To lesson this impact mitigation will have to be incorporated into the proposed project. With mitigation, impacts would be *less than significant*.

**Mitigation Measure #3.8-7:** The applicant shall notify the City of Turlock's fire, sheriff, and ambulance service which serve the proposed project site, as well as the Office of Emergency Services (OES) Division (Modesto Regional Fire Authority) of the proposed project and construction dates. This notification shall occur two weeks prior to the start of construction.

**Impact #3.8-8 – 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?**

Stanislaus County's Multi-Jurisdictional Hazard Mitigation Plan Updated 2010 addresses and provides mitigation for the following hazards: earthquakes, landslides, dams, floods, and wildfires. According to the plan:

Generally from May to October of each year, Stanislaus County experiences its wildfire season. Most of the fire susceptible areas are located in the extreme eastern and western portion of the County. This is due to the underdeveloped, rugged terrain and the highly flammable, grass and brush covered land. Within Stanislaus County, the areas of potential brush fires are the Diablo Range, generally located west of Interstate 5, and the Sierra Nevada foothills in the eastern portions of the County. The urban areas of Stanislaus County are not normally susceptible to wildfires, however, there is still potential for smaller fires in and around the less developed areas where patches of vegetation are present (Stanislaus County 2006).

The proposed project site is clear of brush and tall grasses which would normally be fuels for fire. If a fire would occur during operation of the proposed project, the closest responder would be the City of Turlock's Fire Station #2. Station #2 is located at 791 South Walnut Road, which is approximately 3.1 miles from the proposed project site. Turlock Rural Fire Department located at 690 West Canal Drive, and Turlock Fire Department located at 156 South Broadway Street is also nearby.

**Conclusion:** Impacts would be *less than significant*.

**Mitigation Measures:** No mitigation measures are required.

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### **3.9 Hydrology/Water Quality**

This section provides an evaluation of the potential hydrology and water quality impacts that would be caused by implementation of the proposed project. The discussion starts with an overview of regulation that is normally applicable to the hydrology and water quality environmental factor, followed by a description of the physical setting of both the site and surrounding lands. An analysis is then provided to determine whether the impact(s) would be less than significant, significant without mitigation, or significant and unavoidable. If an impact is significant and can be reduced with mitigation, then a description of the mitigation measure(s) is provided.

#### **3.9.1 REGULATORY SETTING**

##### ***Federal***

#### **FEDERAL WATER POLLUTION CONTROL ACT**

The federal Water Pollution Control Act also known as the Clean Water Act (CWA) is the principal statute governing water quality. The CWA establishes the basic structure for regulating discharges of pollutants into the waters of the United States and gives the United States Environmental Protection Agency (EPA) the authority to implement pollution control programs, such as setting wastewater standards for industry. The statute's goal is to end all discharges entirely and to restore, maintain, and preserve the integrity of the nation's waters. The CWA regulates both the direct and indirect discharge of pollutants into the nation's waters, sets water quality standards for all contaminants in surface waters, and makes it unlawful for any person to discharge any pollutant from a point source into navigable waters, unless a permit is obtained under its provisions. It mandates permits for wastewater and storm water discharges, requires states to establish site-specific water quality standards for navigable bodies of water, and regulates other activities that affect water quality, such as the dredging and filling of wetlands.

Section 402(p) of the act requires that storm water associated with industrial activity that discharges either directly to surface waters or indirectly through municipal separate storm sewers must be regulated by a National Pollutant Discharge Elimination System (NPDES) permit. On December 8, 1999, the EPA circulated Phase II regulations for non-point sources requiring permits for storm water. Permits are required for discharges from Small Municipal Separate Storm Sewer System (MS4s) operators. In California, the NPDES Program is administered by the State.

#### **SAFE DRINKING WATER ACT**

The federal Safe Drinking Water Act (SDWA) provides regulations for drinking water quality. The SDWA gives the EPA the authority to set drinking water standards, such as the National Primary Drinking Water regulations (NPDWRs or primary standards). The NPDWRs protect drinking water quality by limiting the levels of specific contaminants that are known to occur or have the potential to occur in water and can adversely affect public health. All public water systems that provide service to 25 or more individuals are required to satisfy these legally enforceable standards. Water purveyors must monitor for these contaminants on fixed schedules and report to the EPA when a maximum contaminant level (MCL) has been exceeded. MCL is

the maximum permissible level of a contaminant in water that is delivered to any user of a public water system. Drinking water supplies are tested for a variety of contaminants, including organic and inorganic chemicals (e.g., minerals), carcinogens, radionuclides (e.g., uranium and radon), and microbial contaminants (e.g., coliform and Escherichia coli). Changes to the MCL list are typically made every three years, as the EPA adds new contaminants or, based on new research or new case studies, revised MCLs for some contaminants are issued. The California Department of Health Services, Division of Drinking Water and Environmental Management, is responsible for implementation of the SDWA in California.

## **FEDERAL EMERGENCY MANAGEMENT AGENCY**

Floodplain zones are determined by the Federal Emergency Management Agency (FEMA) and used to create Flood Insurance Rate Maps (FIRMs) designating flood areas. These tools assist cities in mitigating flooding hazards through land use planning and building permit requirements. To address the need for insurance to cover flooding issues, FEMA administers the National Flood Insurance Administration (NFIA) program. The NFIA program provides federal flood insurance and federally financed loans for property owners in flood prone areas. The 100-year floodplain is the area that has a statistical probability of being flooded every 100 years. To qualify for federal flood insurance, a city must identify flood hazard areas and implement a system of protective controls.

### **State**

## **ARTICLE X OF THE CALIFORNIA CONSTITUTION**

This law prohibits the waste and unreasonable use of water. Section 2 of the law specifically states:

It is hereby declared that because of the conditions prevailing in California the general welfare requires that the water resources of the state be put to beneficial use to the fullest extent of which they are capable, and that the waste or unreasonable use or unreasonable method of use of water be prevented, and that the conservation of such waters is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and for the public welfare. The right to water or to the use or flow of water in or from any natural stream or water course in California is and shall be limited to such water as shall be reasonably required for the beneficial use to be served, and such right does not and shall not extend to the waste or unreasonable use or unreasonable method of use or unreasonable method of diversion of water. Riparian rights in a stream or water course attach to, but to no more than so much of the flow thereof as may be required or used consistently with this section, for the purposes for which such lands are, or may be made adaptable, in view of such reasonable and beneficial uses; provided, however, that nothing herein contained shall be construed as depriving any riparian owner of the reasonable use of water of the stream to which the owner's land is riparian under reasonable methods of diversion and use, or as depriving any appropriator of water to which the appropriator is lawfully entitled. This section shall be self-executing, and the Legislature may also enact laws in the furtherance of the policy in this section contained.

## **AGRICULTURAL WATER MANAGEMENT PLANNING ACT**

Under this act, agricultural water suppliers supplying more than 50 thousand acre-feet of water annually were required to submit a report to the Department of Water Resources (DWR) indicating whether a significant opportunity exists to conserve water or reduce the quantity of highly saline or toxic drainage water through improved irrigation water management. The act provides that agricultural water suppliers who indicate that they have an opportunity to conserve water or reduce the quantity of highly saline or toxic water should prepare a water management plan and submit it to the DWR.

## **AGRICULTURAL WATER SUPPLIERS EFFICIENT MANAGEMENT PRACTICES ACT**

The Agricultural Water Suppliers Efficient Management Practices Act, adopted in 1990, requires that DWR establish an advisory committee to review efficient agricultural water management practices. Under the act, DWR is required to offer assistance to agricultural water suppliers seeking to improve the efficiency of their water management practices. The advisory committee developed a Memorandum of Understanding to implement the practices and to establish an Agricultural Water Management Council. The advisory committee adopted the MOU in October 1996. The MOU was declared in effect in May 1997 after 15 agricultural water suppliers, representing 2 million irrigated acres, had signed. The Council was established and held its first meeting in July 1997. The Council consists of members of the agricultural and environmental communities and other interested parties with the expressed goal for water suppliers to voluntarily develop Water Management Plans and implement Efficient Water Management Practices (EWMPs) to further advance water use efficiency while maintaining and enhancing economic, environmental and social viability and sustainability of soil and crop production.

## **AGRICULTURAL WATER CONSERVATION AND MANAGEMENT ACT OF 1992**

This act gives any public agency that supplies water for agricultural use authority to institute water conservation or efficient management programs. The programs can include irrigation management services, providing information about crop water use, providing irrigation consulting services, improving the supplier's delivery system, providing technical and financial assistance to farmers, encouraging conservation through pricing of water, and monitoring (AB3616, Statutes of 1992).

## **WATER RECYCLING ACT OF 1991**

This act describes the environmental benefits and public safety of using recycled water as a reliable and cost-effective method of helping to meet California's water supply needs. It sets a statewide goal to recycle 700 thousand acre-feet per year by the year 2000 and 1 million acre-feet per year by 2010.

## **CALIFORNIA'S WATER CODE SECTION 375**

Allows any public entity that supplies water to adopt and enforce a water-conservation program that requires the installation of water-saving devices.

## **ASSEMBLY BILL 1881**

Assembly Bill 1881 requires water conservation measures associated with development landscaping be implemented by local agencies having responsibility for development approval. Stanislaus County requires a Landscape and Irrigation Plan be submitted as part of an application for a land use entitlement, for new development, and the significant expansion or redevelopment of an existing use as determined by the director. All landscape and irrigation plans shall be prepared in compliance with applicable county or city ordinances regarding water efficient landscaping for new construction and development. (Ord. CS 832 Exh. A, 2003).

According to the Westside Industrial Specific Plan (WISP), the Turlock Zoning Ordinance requires that "All land area within the public right-of-way adjoining all sides of any parcel or building site that is not otherwise covered with a building, structure, paving, or similar impervious surface shall be landscaped and maintained in conjunction with the landscaping installed on the adjoining property as regulated in this Article". (Section 9-2-109 (e)(8)).

These development standards supplement the Zoning Ordinance standards with distinct streetscape features in the Plan Area.

## **REGIONAL WATER QUALITY CONTROL BOARD**

The State's Porter-Cologne Water Quality Control Act outlines the responsibilities of the Regional Water Quality Control Boards (RWQCB) and the procedures for coordinating with the state Water Quality Control Board (SWQCB) to meet federal CWA standards. Stanislaus County falls within the Central Valley Region, which is the largest in California, stretching from the Oregon border south to Los Angeles County. It encompasses 60,000 square miles, or about 40 percent of the State's total area, and includes 38 of California's 58 counties.

The Central Valley Regional Water Quality Control Board (CVRWQCB) headquarters are in Sacramento with branch offices in Fresno and Redding. The CVRWQCB mission is to "preserve and enhance the quality of California's water resources for the benefit of present and future generations." This duty is carried out by formulating and adopting water quality control plans for specific ground and surface water basins and by prescribing and enforcing requirements on waste discharges. As mentioned above, jurisdictions submit various water quality and storm water plans to the regional and State boards for approvals.

## **STATE WATER RESOURCES CONTROL BOARD**

The State Water Resources Control Board (SWRCB) is responsible for implementing the CWA and does so through issuing NPDES permits to cities and counties through regional water quality control boards. Federal regulations allow two permitting options for storm water discharges,

individual permits and general permits. The SWRCB elected to adopt a statewide general permit (Water Quality Order No. 2003-0004-DWQ) for MS4s covered under the CWA to efficiently regulate numerous storm water discharges under a single permit. Permit applicants must meet the requirements in Provision D of the General Permit, which requires development and implementation of a Storm Water Management Plan (SWMP) with the goal of reducing the discharge of pollutants to the maximum extent practicable.

Pursuant to the CWA, in 2001, the SWRCB issued a statewide general NPDES Permit for stormwater discharges from construction sites (NPDES No. CAS000002); it was updated in 2010. Under this Statewide General Construction Activity permit, discharges of stormwater from construction sites with a disturbed area of one or more acres are required to either obtain individual NPDES permits for stormwater discharges or to be covered by the General Permit. Each permit must list Best Management Practices (BMPs) to be implemented on the construction site to protect stormwater runoff and must contain a visual monitoring program, a chemical monitoring program for nonvisible pollutants to be implemented if there is a failure of BMPs; and a monitoring plan if the site discharges directly to a water body listed on the state's 303(d) list of impaired waters. Updated regulations (July, 2010), further define the Board's stormwater discharge permit requirements.

## ***Local***

### **STANISLAUS COUNTY**

#### ***General Plan***

Pursuant to California Code Title 14, Section 65300 the 1994 Stanislaus County General Plan addresses hydrology in several of its elements including its Safety Element, Land Use Element, Conservation and Open Space Element, and Agriculture Element. The plan also includes local, regional, State, and federal programs and regulations as well as a comprehensive set of guiding and implementing policies. The following policies are applicable to the proposed project site:

SE: Policy Two: Development should not be allowed in areas that are within the designated floodway. (Comment: The FEMA has developed floodway maps which identify areas prone to flooding.);

LU: Policy Twenty: Two-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.;

CON/OS: Policy Five: Protect groundwater aquifers and recharge areas, particularly those critical for the replenishment of reservoirs and aquifers;

CON/OS: Policy Seven: New development that does not derive domestic water from pre-existing domestic and public water supply systems shall be required to have a documented water supply that does not adversely impact Stanislaus County water resources;

CON/OS: Policy Nine: The County will investigate additional sources of water for domestic use;

AG: Policy 3.4: The County shall encourage the conservation of water for both agricultural and urban uses; and

AG: Policy 3.5: The County will continue to protect the quality of water necessary for crop production and marketing.

### ***Stanislaus County Code***

The Stanislaus County Code Title 11, Chapters 16.50 and 16.05 govern certain activities throughout the county that are related to the hydrology section of this report. The proposed project's construction phases would include building a 180,000 square foot warehouse for the storage of produce and related infrastructure. Compliance with the following regulations will be required:

Title 16, Chapter 16.50 Flood Damage Prevention; and  
Title 16, Chapter 16.05 Building Code.

North Washington Road is in the City of Turlock's WISP limits and designated as an expressway in the City's General Plan. Consequently, the proposed project will also be subject to the City of Turlock's WISP. The next section provides an overview of applicable regulations.

## **CITY OF TURLOCK**

### ***Westside Industrial Specific Plan***

As previously mentioned, the North Washington Street right-of-way is in the Turlock city limits. The road is classified as an expressway in the Turlock General Plan. In addition to landscape screening for onsite parking areas, frontage improvements including curb, gutter, and sidewalk will be required along with a right turn lane into the project site. The proposed driveway would be aligned with the new traffic signal into the Blue Diamond facility on North Washington Road. All of these activities would generate traffic and be directly related to hydrology issues. Compliance with the WISP will include the following policies:

UD-P 1: Storm water management, (and detention basins, where necessary) shall be included in the site design for each development;

UD-P 3: The use of grassy swales and other best management practices are encouraged to filter storm water;

I-P- 37: New infrastructure systems shall be designed with consideration of life-cycle costs, and shall be innovative in conserving and recycling water and energy;

I-P 40: Encourage potable water conservation in site landscaping and streetscape landscaping;

I-P 46: The incorporation of grassy swales and other best management practices are encouraged to filter storm water;

R-P 5: Comply with the Uniform Building Code (UBC), Chapter 70, regulating grading activities including drainage and erosion control;

R-P 7: Comply with the Regional Water Control Board's regulations and standards to maintain and improve groundwater and surface water quality; and

R-P 10: The discharge of oil, gasoline, diesel fuel, or any other petroleum derivative, or any toxic chemical or hazardous water is prohibited.

Chapters 4, 5, and 6 of the WISP provide a detailed overview of the specific plan area including its infrastructure and services and land use objectives as related to hydrology. The plan can be accessed at the City of Turlock's website using the following path:

<http://www.ci.turlock.ca.us/pdfink.asp?pdf=documents/developmentservices/planning/guidelines/WISP.pdf?o=o&title=Westside%20Industrial%20Specific%20Plan>.

## **TURLOCK IRRIGATION DISTRICT**

The Turlock Irrigation District (TID) owns and maintains more than 250 miles of gravity-fed canals and laterals serving over 4,900 irrigation customers covering approximately 150,000 acres of farmland. Among other services, the TID provides electric retail energy directly to homes, farms, and businesses. The various generating facilities include small and large hydroelectric, natural gas power plants, and wind and solar (Turlock Irrigation District 2013).

## **STANISLAUS COUNTY STORM WATER MANAGEMENT PROGRAM**

According to the Stanislaus County Department of Public Works, the County has prepared a Storm Water Management Program (SWMP) that has been developed to meet the terms of the General Permit. The SWMP consists of the six minimum control measures established by SWRCB for Phase II storm water discharges. Implementation of these control measures are expected to result in significant reductions of pollutants discharged into receiving water bodies. The six control measures contained in the County's SWMP are summarized below.

Each control measure contains BMPs necessary for proper storm water management. The BMPs contain specific tasks to meet the objective of that control measure. This SWMP is intended to be a living document with BMPs added and deleted as new management practices arise and management practices are found not to work. A schedule for implementing each BMP is provided at the end of each section. The following provides a summary of each minimum control measure.

### ***Section One – Public Education and Outreach on Storm Water Impacts Program***

This measure is intended to ensure greater public support for the SWMP and greater compliance through education. An informed public can significantly contribute to the success of the program.

In general, the County is emphasizing education in the SWMP because it is a cost-effective BMP and is proactive in trying to reduce storm water pollutants rather than reactive by treating the storm water pollutants.

### ***Section Two – Public Involvement/Participation Program***

This measure is intended to provide opportunities for the public to play an active role in both the development and implementation of the SWMP. An active community is important to the success of the program. The BMPs in this section not only serve to involve the public, but also function to educate the public on the SWMP and related regulations.

### ***Section Three – Illicit Discharge Detection and Elimination Program***

This measure is intended to minimize illicit discharges into the storm sewer system. Illicit discharges are discharges that are not composed entirely of storm water. Storm sewer systems are not designed to accept process or discharge such non-storm water wastes. Minimizing these discharges can help to prevent high levels of pollutants from entering receiving waters.

### ***Section Four – Construction Site Storm Water Runoff Control Program***

This measure is intended to minimize polluted storm water runoff from construction activities. Construction activities can contribute significant levels of sediment to storm water runoff if erosion and sediment controls are not implemented.

### ***Section Five – Post-Construction Storm Water Management in New Development and Redevelopment Program***

This measure is intended to minimize the impact to storm water quality caused by development and redevelopment. The increase in impervious areas caused by development can cause an increase in the type and quantity of pollutants in storm water runoff. Prior planning and design to minimize pollutants in runoff from these areas is an important component to storm water quality management.

### ***Section Six – Pollution Prevention/Good Housekeeping for Municipal Operations Program***

This measure is intended to ensure a reduction in the amount and type of storm water pollutants by establishing routine activities in the operation and maintenance of municipal operations that address storm water runoff. Setting particular guidelines for source controls and materials management is an important component to storm water quality management.

## **TURLOCK GROUNDWATER MANAGEMENT PLAN**

The Turlock Groundwater Management Plan is intended to provide a flexible, adaptive plan for achieving the overall goal that groundwater will continue to be a reliable, safe, efficient, and cost-effective water supply. The plan presents numerous potential actions that can be undertaken by local water agencies and coordinated through the Turlock Groundwater Basin Association (TGBA). The following measures are proposed as suggested management actions that the local agencies may draw from to achieve the Basin Management Objectives (BMO):

### ***Management Objectives***

1. Protection of natural recharge areas through mapping and identification, education of the public and planning entities, and encouraging the maintenance of land use practices that promote groundwater recharge.
2. Feasibility evaluation of artificial recharge projects, by building upon mapping efforts to protect natural recharge and investigating additional water supplies for percolation, and promoting in-lieu recharge.
3. Management and optimization of well field operations to reduce well interference, control the migration of contaminant plumes, and optimize supply blending programs.
4. Support of public health programs to protect water quality through proper well construction and destruction.
5. Water quality management, beginning with conducting a hydrogeologic assessment to identify contaminant sources and develop strategies to control the migration and movement of poor quality water into or within the Basin.
6. Continue the groundwater monitoring and subsidence monitoring program and evaluate the effectiveness of the groundwater level and quality monitoring programs as well as the database used to store and manipulate the data.
7. Provide a forum for policy assessment and coordination of regional programs with policy implications or requirements.
8. Continue promoting coordination and cooperation between water agencies on regional issues, outreach programs, and actions to implement the BMOs.
9. Identification and feasibility study of conjunctive use projects to increase supply flexibility and promote recharge in years when water is available.

The implementation of several of these recommended actions is contingent upon securing funding. Both grant funding and local funding options will be evaluated. Local funding may be especially important for grant eligibility because of matching or local contribution requirements. Availability of funding for groundwater management activities, as well as future regulatory

requirements, will influence the speed and level to which each of the measures is evaluated and implemented (Turlock Groundwater Basin Association, 2008).

### **3.9.2 PHYSICAL SETTING**

#### ***Water Supply and Groundwater***

No domestic water or wastewater services are proposed. All water will be obtained from wells on site and disposed of on site. Water for processing of produce and other uses (e.g., employee sinks and toilets) will be obtained from private wells on the site. A septic leachfield system will be used to dispose of wastewater from employee sinks and toilets.

According to the 2008 Turlock Groundwater Management Plan, this portion of Stanislaus County draws its groundwater supply from the Turlock Subbasin which is a subunit of the San Joaquin Valley Groundwater Basin. The Turlock Subbasin lies in the eastern portions of Stanislaus and Merced counties and has an aerial extent of approximately 347,000 acres. As described above, the subbasin is bounded by the Tuolumne River to the north, the Merced River to the south, the San Joaquin River to the west, and by crystalline bedrock of the Sierra Nevada foothills to the east. Groundwater supplies municipal, industrial, and agricultural demands of the region. Surface water from the Tuolumne River, and to a lesser extent the Merced River, supplies a large proportion of agricultural irrigation demands within the Turlock Subbasin. The following sections summarize the subbasin hydrogeology, water balance, and water quality issues described in the Groundwater Management Plan.

A water balance study of the Turlock Subbasin was prepared in 2003 and updated in 2007 to estimate the inflows and outflows from the subbasin between 1952 and 2006. Outflows from the subbasin result from municipal, domestic, and agricultural supply and drainage well pumping, discharge to the local rivers, discharges from subsurface agricultural drains, and consumption by riparian vegetation. The estimated average total outflow for the 1997-2006 period is 541,000 af/yr. The majority of outflow comes from estimated agricultural, municipal and rural residential, and drainage well pumping, which collectively averaged 457,000 af/yr for the 1997- 2006 period.

Inflows to the subbasin result primarily from deep percolation of agricultural and landscape irrigation water and infiltration of precipitation. The estimated average total inflow for the 1997-2006 period is 519,000 af/yr. Approximately 72 percent of this quantity occurs on 245,000 irrigated acres of cropland within the subbasin.

Most of the inflows and outflows can be estimated for the Turlock Basin. The net discharge to rivers is an unknown outflow and must be derived through a mass balance calculation of the known inflows, outflows, and storage change in the basin. Storage change is calculated from the groundwater contour maps derived from local monitoring data, and confirmed using the groundwater model.

The contour maps used in the water budget study indicate that estimated groundwater storage decreased by approximately 21,500 af/yr between 1997 and 2006. Recent reductions in the California Department of Water Resources (DWR) monitoring network have introduced uncertainty in the measurement of groundwater levels. Uncertainty in the estimated groundwater

elevation translates into uncertainty in storage estimates. Therefore, the magnitude and direction of changes in groundwater storage cannot be fully characterized through an analysis based solely on the groundwater contours. The Turlock Subbasin groundwater model was used to supplement the analysis and confirm that groundwater storage has decreased slightly in recent years, particularly between 2002 and 2006. The estimated reduction in storage between 2002 and 2006 suggests that the subbasin may no longer be in the equilibrium state that existed in the 1990s. Increases in land use types that rely on groundwater for supply have increased the net discharge from the subbasin. Slight decreases in storage are likely to continue if urban or irrigated land uses are developed in areas dependent upon groundwater.

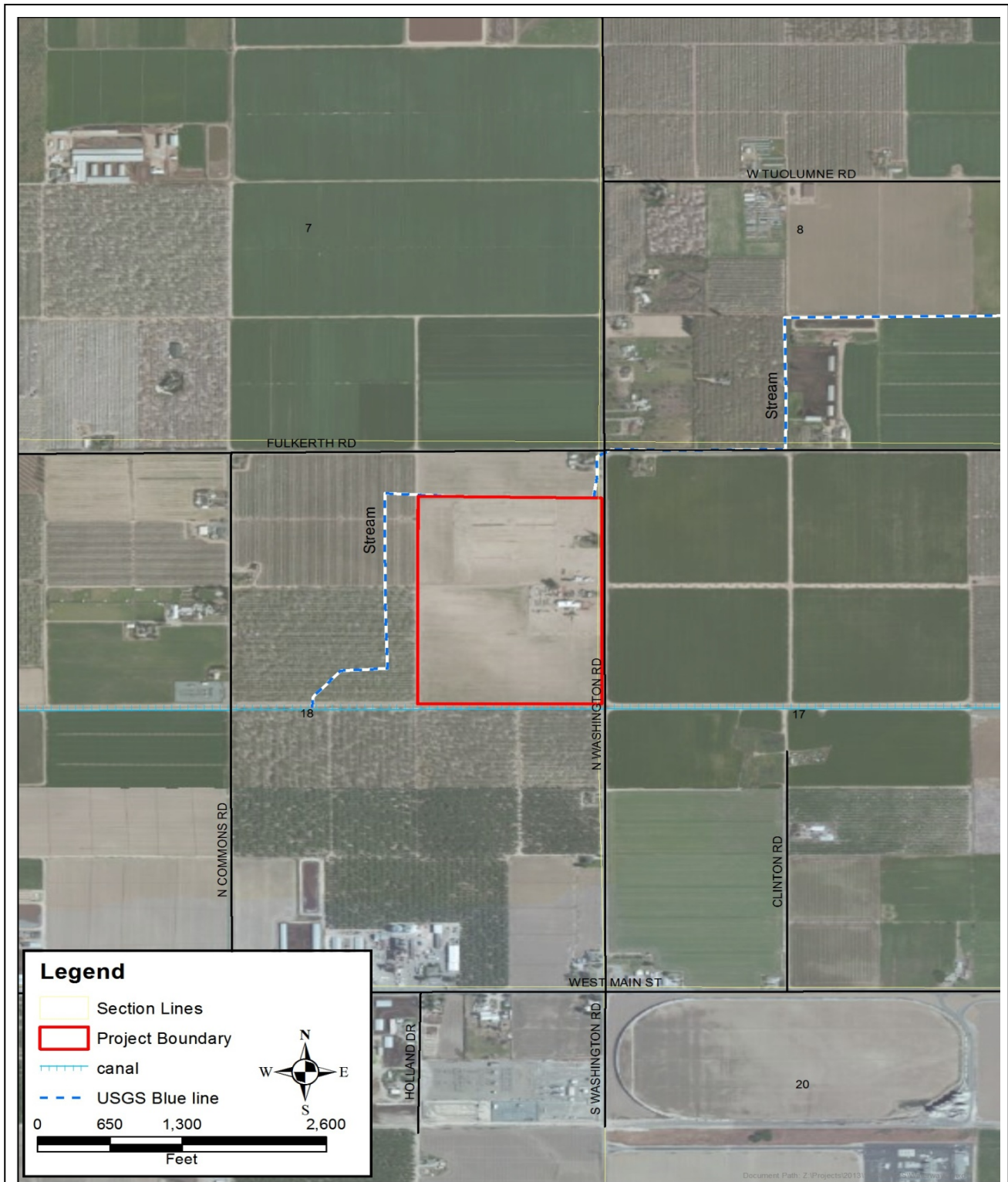
In any groundwater basin, groundwater storage will fluctuate both seasonally and annually, depending upon the water year classification, distribution of rainfall, and numerous other physical and biological factors. Alternating periods of decline and recovery in groundwater levels are a response to this natural variation. Long-term declines in storage without recovery could be a concern and represent net declines in storage. Continued monitoring by the local public agencies will be important for tracking changes in groundwater conditions and evaluating whether additional management actions should be considered. As part of the Association's goals and objectives, the Association should consider the need to evaluate changes in land use patterns to understand the range of potential impacts to the groundwater supply. The TGBA has initiated a study to evaluate future land use change scenarios and the potential impacts to groundwater resources. This study will help the Association understand how groundwater storage may change in the future and what types of management actions may be appropriate for maintaining adequate storage in the groundwater basin.

Deep percolation of irrigation water is the largest inflow to the groundwater basin and plays an important role in maintaining groundwater storage. Surface water from the Turlock Irrigation District, and to a lesser extent, the Merced Irrigation District is used to supply more than half of the total irrigation water applied within the Basin. Hence, under current conditions the continued use of surface water for agricultural irrigation is vital for sustaining recharge in the subbasin. Future changes to inflows or outflows resulting from shifts (Turlock Groundwater Basin Association, 2008).

Waterways surrounding the proposed project site include a canal which runs along its southern boundary, and a United States Geological Survey (USGS) blue line that runs along the northern boundary. The USGS blue line only appears on the map however, as no water is present. Figure 3.9-1 includes an aerial photo with the subject canal and blue line.

### ***Water Quality***

Groundwater quality in the Turlock Subbasin remains high throughout most of the region. Current knowledge indicates that salinity, nitrates, iron and manganese, boron, arsenic, radionuclides, bacteria, pesticides, trichloroethylene, and other trace organics have been found in the Turlock Subbasin. The U.S. Geological Survey, in coordination with numerous State and federal agencies, is conducting an extensive investigation of groundwater quality in the local area through the Groundwater Ambient Monitoring and Assessment Program. This study evaluates a broader range of constituents and will provide additional information on water quality issues in the subbasin.



**WATERWAYS**

**Figure 3.9-1**

Some of the constituents described above and in detail in the Groundwater Management Plan occur naturally, while others have been introduced into groundwater from anthropogenic sources. Where the constituent concentrations have exceeded drinking water limitations, the municipal water purveyors have implemented actions ranging from wellhead protection to well closure to maintain viable supplies.

Protecting water quality is as important to maintaining the local groundwater supply as sustaining groundwater recharge. The Groundwater Management Plan is intended to create a framework for coordinating actions among different agencies with management authority to protect both the quality and quantity of groundwater resources (Turlock Groundwater Basin Association, 2008).

### ***Drainage and Flood Control***

Stormwater collected on site will be conveyed by culverts and surface flow to the runoff basin which is located approximately 130 feet from the proposed warehouse's southwest corner. The basin is shown on the site plan (See Figure 2.3-1). Stormwater would be disposed of through a combination of evaporation and absorption into the soil. In addition, stormwater may be recycled and used for irrigation.

Section 3.8 provides a discussion on the County's Multi-Jurisdictional Hazard Mitigation Plan Updated 2010. According to the plan, the FEMA recognizes that planning for future hazards in Stanislaus County can reduce impacts and thereby result in prevention of injury, loss of life and damage to our homes, businesses, and neighborhoods.

Hazard Mitigation is defined by FEMA as "any sustained action taken to reduce or eliminate the long-term risk to human life and property from hazards. The County's plan will serve as a tool for learning from disasters that have already occurred, so we can deal with them more effectively and efficiently with less expenditure than in the past" (Stanislaus County 2011).

### **3.9.3 IMPACT EVALUATION CRITERIA**

#### ***Analysis Methodology***

The methodology used for determining whether hydrology and water quality would be impacted by the proposed project included completing a literature review of regulation and reviewing online studies and plans from experts. Experts include federal, State, and local agencies and studies from those in the field of hydrology and water quality. This information was used to answer whether each of the thresholds of significance listed in the next paragraph would be exceeded. If impacts occur, then mitigation is applied in an attempt to reduce to less-than-significant levels. Where impacts still exceed thresholds after mitigation is incorporated, a finding of "significant and unavoidable" is concluded.

## **Thresholds of Significance**

According to Appendix G, Environmental Checklist, of the CEQA Guidelines, air quality impacts resulting from the implementation of the proposed project would be considered significant if the project would:

- a) *Violate any water quality standards or waste discharge requirements.*
- b) *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 groundwater table level (e.g., 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).*
- c) *Substantially alter the existing drainage pattern 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.*
- 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 in a manner which would result in flooding on- or off-site.*
- e) *Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.*
- f) *Otherwise substantially degrade water quality.*
- g) *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.*
- h) *Place within a 100-year flood hazard area structures which would impede or redirect flood flows.*
- i) *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.*
- j) *Inundation by seiche, tsunami, or mudflow.*

The next section provides an analysis and conclusions for each of the questions using the methodology listed before. Significant threshold questions may be included together under the same discussion when appropriate.

### 3.9.4 IMPACTS AND MITIGATION MEASURES

#### **Impact #3.9-1 – Violate any water quality standards or waste discharge requirements.**

Constituents found in urban runoff may degrade both surface water quality and eventually groundwater quality. Development of urban uses on the proposed project site would result in alteration in the existing site conditions and the introduction of urban pollutant sources. Urban runoff typically contains oils, grease, fuel, antifreeze, byproducts of combustion (such as lead, cadmium, nickel, and other metals) and other household pollutants. Precipitation early in the rainy season displaces these pollutants into storm water resulting in high pollutant concentrations in initial wet weather runoff. This initial runoff with peak pollutant levels can be referred to as the "first flush" of storm events.

The amount of runoff generated by the proposed project would be greater than the runoff occurring under existing conditions due to a significant increase in impervious surfaces. There would be a corresponding increase in urban runoff pollutants and "first flush" roadway contaminants such as heavy metals, oil, grease, as well as an increase in nutrients (i.e., fertilizers), and other chemicals from landscaped areas. These constituents will result in water quality impacts that have the potential to be significant.

Construction activities will include building a 180,000 square foot warehouse, 111 parking spaces, a milk barn and fruit stand, as well as making improvements along Washington Road. Requirements listed in Section 3.3 Air Quality of this Draft EIR will require additional measures to control onsite dust (Regulation VIII). A total of 33.9 acres would be disturbed. Consequently, the proposed project is subject to the requirements of the NPDES Permit adopted by the SWRCB. In order to be granted coverage, the applicant must submit a Notice of Intent to comply with the general permit along with a site plan map and fee to the SWRCB prior to starting construction. Additionally, as part of the NPDES process, the applicant must prepare a Storm Water Pollution Prevention Plan (SWPPP) according to the latest regulations (effective July 1, 2010) to be retained onsite. The SWPPP must include BMPs that, when implemented, prevent storm water quality degradation to the extent practical by preventing sediments and other pollutants from leaving the project site (United States Environmental Protection Agency 2013).

**Conclusion:** The applicant will be required to submit a SWPPP that will include BMPS for reducing runoff and degradation from polluted storm water run-off. With this requirement, impacts will be reduced to *less than significant*.

**Mitigation Measure:** No mitigation is required.

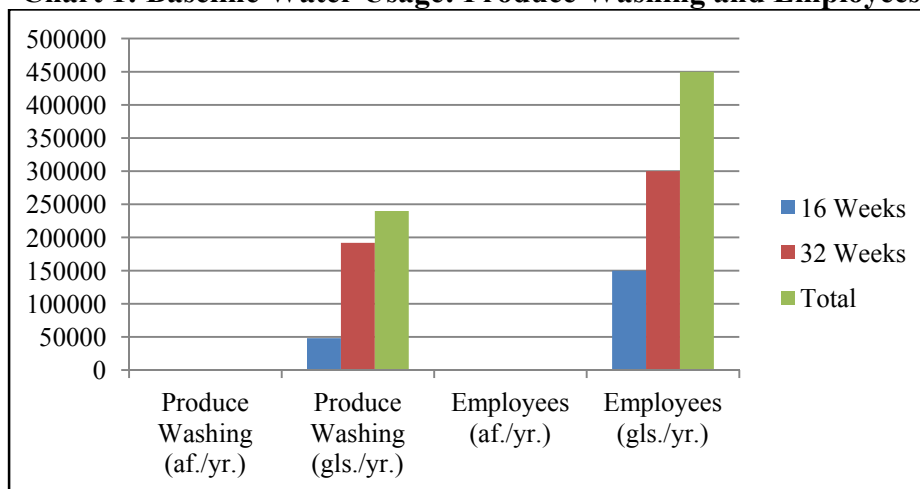
**Impact #3.9-2 – Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).**

**Impact #3.9-6 – Otherwise substantially degrade water quality.**

Water would be obtained from two on-site wells. One well used for irrigation produces approximately 800 gallons per minute (gpm), while the domestic well produces 25 gpm. An enzyme biological agent would likely be added to the wash water. Wastewater from washing operations would be conveyed to the retention basin on the site and allowed to dissipate through evaporation and percolation, or it would be recycled and used for irrigation. No domestic water or wastewater services are proposed. A septic leach field system would be used to dispose of wastewater from employee sinks and toilets.

During summer, up to 3,000 gallons per week of water would be required for washing of produce. During other times of the year up to 6,000 gallons per week would be used. Specifically, water demand for washing produce between the months of June and September (approximately 16 weeks) would equal 48,000 gallons or 0.15 acre feet. During the remaining months from October to May (32 weeks), an additional 192,000 gallons or 0.59 acre feet of water would also be used for washing produce. A maximum of 75 employees would be on site at any given time. Water usage for employees was based on a worksheet for assessing baseline water consumption for factories (North Carolina Department of Natural Resources 2009). Each employee would use approximately 25 gallons of water per day, or 125 gallons per week. A total of 75 employees would use 9,375 gallons per week. Therefore, between the months of June and September (approximately 16 weeks), 150,000 gallons or 0.46 acre feet of water would be used by all 75 employees, and 300,000 gallons or 0.92 acre feet would be used from October to May (32 weeks). This would bring the total water usage from both washing produce and employee usage for 16 weeks to 240,000 gallons or 0.74 acre feet, and 450,000 gallons or 1.38 acre feet for 32 weeks. Therefore the total water usage per year will be 690,000 gallons or 2.12 acre feet. Chart 1 provides a visual representation of the usage for the 16 and 32 week periods.

**Chart 1: Baseline Water Usage: Produce Washing and Employees**



Source: Avila and Sons 2013, North Carolina Department of Natural Resources, 2009.  
Note: af.=acre feet, yr.=year, gls.=gallons.

As mentioned in Section 3.9.2, the 2008 Turlock Groundwater Management Plan, Stanislaus County estimated groundwater storage decreased by approximately 21,500 af/yr between 1997 and 2006 in the Turlock Subbasin. Modeling further confirmed that groundwater storage has

decreased slightly in recent years suggesting that the subbasin may no longer be in the equilibrium state that occurred in the 1990s. This is thought to be linked to land use types that rely on groundwater for supply which have increased the net discharge from the subbasin. Slight decreases in storage are likely to continue if urban or irrigated land uses are developed in areas dependent upon groundwater. However, the plan also notes that groundwater storage will fluctuate both seasonally and annually. Alternating periods of decline and recovery in groundwater levels are a response to this natural variation. Long-term declines in storage without recovery could be a concern and represent net declines in storage. Continued monitoring by the local public agencies will be important for tracking changes in groundwater conditions and evaluating whether additional management actions should be considered.

The largest inflow to the groundwater basin is deep percolation of irrigation water which plays an important role in maintaining groundwater storage. Surface water from the Turlock Irrigation District, and to a lesser extent, the Merced Irrigation District is used to supply more than half of the total irrigation water applied within the basin. Hence, under current conditions the continued use of surface water for agricultural irrigation is vital for sustaining recharge in the subbasin.

**Conclusion:** Water shortage in the Turlock Subbasin remains unsure and local jurisdictions have been advised to continue monitoring to track water levels and conditions. Results from monitoring will determine whether additional management actions should be considered. The proposed project would use approximately 2.12 acre feet of water per year. However, some of this water will be used for agricultural irrigation which will contribute to recharging the subbasin. According to the 2008 Turlock Groundwater Management Plan, this is vital for sustaining recharge in the subbasin. Therefore, potential adverse impact on groundwater due to the proposed project is assumed to be *less than significant*.

**Mitigation Measures:** No mitigation measures are required.

**Impact #3.9-3 – Substantially alter the existing drainage pattern 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.**

**Impact #3.9-4 – 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 in a manner which would result in flooding on- or off-site.**

**Impact #3.9-5 – Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.**

The project site is relatively flat. Runoff from precipitation currently percolates into the ground or drains into neighboring areas and eventually into drainage basins. According to the Natural Resources Conservation Service (NRCS) Web Soil Survey website, the soils on the project site have a ponding frequency class of "none" meaning that ponding is not probable; the chance of ponding is nearly 0 percent in any year. Due to the proposed project site's level terrain, existing

drainage patterns will not be altered in a manner which would result in substantial erosion, siltation or flooding on or off-site and watercourses (streams/rivers) do not exist within, or near, the proposed project site.

Development of the site will result in the addition of impervious surfaces in the form of a warehouse, parking area, and other concrete and asphalted areas. Based on submitted concept plans, the proposed project will result in the creation of up to 33.9 acres of new impervious surfaces. A minimal amount of impervious surfaces would also be constructed along North Washington Road during the road improvements.

As mentioned previously, the site will be graded the minimum amount required to facilitate collection and treatment of the majority of storm water on site. Similarly, proposed concrete and asphalt concrete areas will be graded and constructed to direct all run-off to the retention basin. Storm water collected on site would be conveyed by a combination of surface scales, culverts, and sheet flow to the retention basin. Mitigation Measure #3.9-5 will assure that before entering the retention basin, storm water would be filtered in accordance with BMPs. It will also require that the method of treatment and size of retention basin be determined prior to issuance of grading and building permits. Storm water would be disposed of through a combination of percolation into the soil and evaporation. In addition, storm water may be recycled and used for irrigation.

Storm water runoff along North Washington Road would be drained to the City of Turlock's drainage system. All improvements outside of the proposed site will have to comply with the City's WISP standards for drainage and water quality. The applicant will be required to submit a grading and drainage plan to the City of Turlock for approval which will show that the project will not endanger the structural integrity of underground storm water conveyance pipelines, or result in drainage patterns that will adversely affect the City's drainage system.

**Conclusion:** Compliance with the adopted regulations, which includes submitting a grading and drainage plan to the City of Turlock for improvements along North Washington Road, would reduce impacts to the City's drainage system. Mitigation Measure 3.9-5 would require that the applicant meet with the County for treatment and design of the retention basin. With regulations and mitigation applied, potential impacts associated with storm water drainage will be *less than significant*.

**Mitigation Measure #3.9-5:** Prior to issuance of grading and building permits, the applicant shall meet with the Stanislaus County Public Works Department to determine the appropriate BMPs for filtration of storm water and to determine the best method of treatment and required size of retention basin.

**Impact #3.9-7 – 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.**

**Impact #3.9-8 – Place within a 100-year flood hazard area structures which would impede or redirect flood flows.**

**Impact #3.9-9 – 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.**

According to FEMA FIRM maps, and as shown in Figure 3.9-2, the 100-year Flood Zone is over 5 miles from the proposed project site. The FIRM map number for the site is 06099C0570E. The project site is located in Zone X which corresponds to areas outside the 100-year floodplain, areas of 100-year sheet flow flooding where average depths are less than one foot, areas of 100-year stream flooding where the contributing drainage area is less than one square mile, or areas protected from the 100-year flood by levees.

As mentioned previously, there is a canal which runs along the proposed site's southern boundary, and a USGS blue line that runs along the northern boundary. The USGS blue line only appears on the map however, as no water is present.

**Conclusion:** The proposed project will have no impact with regard to placing housing or structures in a 100-year flood zone. There are no levees or dams in the area. There is *no impact*.

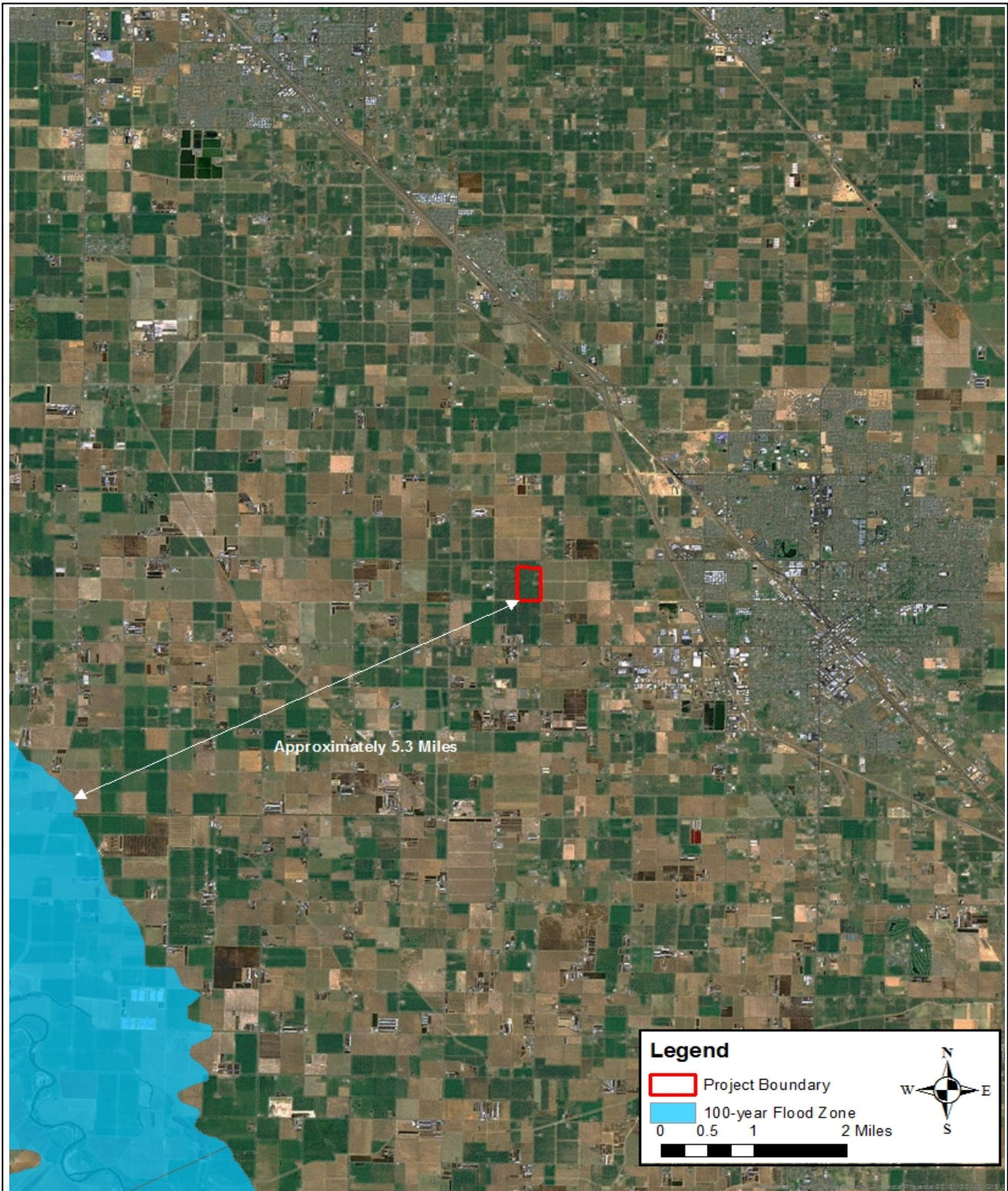
**Mitigation Measures:** No mitigation measures are required.

**Impact #3.9-10 – Inundation by seiche, tsunami, or mudflow.**

A tsunami is a series of ocean waves generated in the ocean by an impulsive disturbance. This disturbance includes earthquakes, submarine or shoreline landslides, volcanic eruptions, and explosions. Tsunamis are not a consideration as the proposed project sites are over 150.0 miles away from the Pacific Ocean, as measured in a straight line over several mountain ranges. The proposed project area is flat, eliminating the possibility of mudflow.

**Conclusion:** There is *no impact*.

**Mitigation Measures:** No mitigation measures are required.



100-YEAR FLOOD ZONE

Figure 3.9- 2

### **3.10 Land Use and Planning**

This section provides an evaluation of the potential land use and planning impacts that would be caused by implementation of the proposed project. The discussion starts with an overview of regulation that is normally applicable to the land use and planning environmental factor, followed by a description of the physical setting of both the site and surrounding lands. An analysis is then provided to determine whether the impact(s) would be less than significant, significant without mitigation, or significant and unavoidable. If an impact is significant and can be reduced with mitigation, then a description of the mitigation measure(s) is provided.

#### **3.10.1 REGULATORY SETTING**

##### ***Federal***

##### **FARMLAND PROTECTION POLICY ACT**

A National Agricultural Land Study conducted in the early 1980s found that millions of acres of farmland were being converted to other uses each year in the United States. As a result, Congress passed the Agriculture and Food Act of 1981, which contained the Farmland Protection Policy Act (FPPA). The purpose of the FPPA is to minimize the extent to which federal programs contribute to the irreversible conversion of farmland to non-agricultural uses, and to ensure that federal programs are administered in a manner that will be compatible with state, local, federal, and private programs and policies to protect farmland.

##### ***State***

##### **CALIFORNIA AIR RESOURCES BOARD**

The California Air Resources Board (ARB) adopted the Air Quality and Land Use Handbook: A Community Health Perspective (Land Use Handbook) in 2005. The Land Use Handbook provides information and guidance on siting sensitive receptors in relation to sources of toxic air contaminants. The sources of toxic air contaminants identified in the Land Use Handbook are high-traffic freeways and roads, distribution centers, rail yards, ports, refineries, chrome plating facilities, dry cleaners, and large gasoline dispensing facilities. If the project involves siting a sensitive receptor or source of toxic air contaminant discussed in the Land Use Handbook, siting mitigation may be added to avoid potential land use conflicts, thereby reducing the potential for health impacts to the sensitive receptors.

##### ***Regional***

##### **STANISLAUS COUNTY LOCAL AGENCY FORMATION COMMISSION**

The Stanislaus County Local Agency Formation Commission (LAFCO) is responsible for developing and updating spheres of influence for each city within the county. Spheres are planning tools used to provide guidance for individual proposals involving jurisdictional changes, and are intended to encourage efficient provision of community services and prevent duplication of service delivery. One of the objectives of LAFCO is to preserve agricultural land

resources by considering the effects that proposals will have on agricultural lands. On September 26, 2012 the Stanislaus LAFCO Agricultural Preservation Policy was adopted. The goals of the policy include:

- Guide development away from agricultural lands where possible and encourage efficient development of existing vacant lands and infill properties within an agency's boundaries prior to conversion of additional agricultural lands;
- Fully consider the impacts a proposal will have on existing agricultural lands;
- Minimize the conversion of agricultural land to other uses; and
- Promote preservation of agricultural lands for continued agricultural uses while balancing the need for planned, orderly development and the efficient provision of services.

Local agencies are encouraged to identify the loss of agricultural land as early in their processes as possible, and to work with applicants to initiate and execute plans to minimize that loss, as soon as feasible. Agencies may also adopt their own agricultural preservation policies, consistent with the Stanislaus LAFCO Agricultural Preservation Policy, in order to better meet their own local circumstances and processes.

## ***Local***

### **STANISLAUS COUNTY**

#### ***General Plan***

Pursuant to California Code Title 14, Section 65300 the 1994 Stanislaus County General Plan addresses air quality in its Land Use Element and Agricultural Element. The plan also includes local, regional, State, and federal programs and regulations as well as a comprehensive set of guiding and implementing policies, as listed below.

LU Policy One: Land will be designated and zoned for agricultural, residential, commercial, industrial, or historical uses when such designations are consistent with other adopted goals and policies of the general plan.

LU Policy Three: Land use designations shall be consistent with the criteria established in this element.

LU Policy Twenty: Two-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.

AG Policy 1.3: Efforts to expand markets for the export of local agricultural products shall be encouraged.

AG Policy 1.6: Processing facilities and storage facilities for agricultural products either grown or processed on the site shall be permissible in agricultural areas.

AG Policy 1.21: The County shall continue to work with local, state and federal agencies to ensure the safety of food produced in Stanislaus County and to maintain a local regulatory framework promoting environmental safety while ensuring the economic viability of agriculture.

AG Policy 2.3: In recognition that unincorporated land within spheres of influence of cities or community services districts and sanitary districts serving unincorporated communities ultimately will be urbanized, the County shall cooperate with cities and unincorporated communities in managing development in sphere of influence areas.

AG Policy 2.3: The County shall ensure all lands enrolled in the Williamson Act are devoted to agricultural and compatible uses supportive of the long-term conservation of agricultural land.

### ***Stanislaus County Code***

The Stanislaus County Code is the County's guideline for regulating land use activities and development within its jurisdiction. There are 24 Titles that make up the code which consists of all the regulatory and penal ordinances and certain administrative ordinances of the county of Stanislaus, California, codified pursuant to the provisions of Sections 50022.1—50022.8 and 50022.10 of the Government Code. Specifically, the code is meant to protect the: public health, safety, peace, morals, comfort, convenience, and general welfare of the inhabitants. The proposed project land use and planning specific activities are governed by the following regulations:

Title 16 Building and Construction regulates the construction of warehouses;

Title 13 Streets, Sidewalks and Public Places, Chapter 13.08 regulates the widening of streets;

Title 20 Zoning, Chapter 21.20 General Agriculture District (A-2) regulates what uses are allowed or conditionally allowed with a permit; and

Title 21.90 Produce Stands and Produce Markets, regulates produce stands.

North Washington Road is in the City of Turlock's WISP limits and designated as an expressway in the City's General Plan. Consequently, the proposed project's right-of-way improvements will also be subject to the City of Turlock's WISP. The next section provides an overview of applicable regulations.

## **CITY OF TURLOCK**

### ***Westside Industrial Specific Plan***

As previously mentioned, the North Washington Street right-of-way is in the Turlock city limits and will have to comply with the WISP. The road is classified as an expressway in the Turlock General Plan. In addition to landscape screening for onsite parking areas, frontage improvements including curb, gutter, and sidewalk will be required along with a right turn lane into the project site. The proposed driveway would be aligned with the new traffic signal into the Blue Diamond facility on North Washington Road. All of these activities are directly related to land use and planning issues. Compliance with the WISP will include the following policies:

LU-P 2: All development shall comply with design standards established in this Specific Plan;

LU-P 4: Land use should be allocated so that the destination for heavy truck traffic is generally located on the west side of the Plan Area with access from Washington Road;

LU-P 8: Development will occur in phases linked to specific infrastructure improvements as defined in Section 5, Implementation; and

LU-15: Where industrial uses are adjacent to non-industrial uses, appropriate buffering techniques such as setbacks, screening, and landscaping need to be provided to mitigate any negative effects of industrial operations.

Chapter 3 of the WISP provides a detailed overview of the plan area including its land use objectives. The plan can be accessed at the City of Turlock's website using the following path:

<http://www.ci.turlock.ca.us/pdflink.asp?pdf=documents/developmentservices/planning/guidelines/WISP.pdf?o=o&title=Westside%20Industrial%20Specific%20Plan>.

### ***Turlock Beautification Master Plan***

The Turlock Beautification Plan was completed in 2011. Specially, the plan was created as a tool to assist in enhancing “the City's visual image and appearance and to establish a unified City identity. It is an opportunity to create a cohesive set of design criteria that will be the unified vision for proposed improvements throughout the project area”.

As required by the City of Turlock's WISP, landscape screening will be required along North Washington Road. According to the WISP:

- The City of Turlock maintains ordinances and standards that apply to development in the Plan Area. These include the Zoning Ordinance and the Beautification Master Plan. The Zoning Ordinance includes City Design Guidelines for high quality commercial and industrial development (Turlock Municipal Code 9-5-1000ART and cross-referenced at Section 9- 3-302 for commercial uses and Section 9-3-304 for industrial uses);

- The Specific Plan applies the Zoning Ordinance and the Beautification Master Plan throughout the Plan Area. However, the Plan Area includes conditions not directly addressed, or that require different standards than those found in these existing City documents. Therefore, the Specific Plan provides regulations that include the permitted land use and development standards associated with each land use category, and Development Standards that apply to private land use development and public improvements. The Urban Design section includes Design Standards that are mandatory for subsequent developments in the Plan Area. The “Design Standards” are identified in the Plan as “DS-“followed by a sequential number. These are to be interpreted as specific requirements for the applicable land use or condition identified in that section of the Plan;
- The WISP Design Standards complement the Zoning Ordinance Design Guidelines. Where the provisions of the WISP Design Standards differ from the Zoning Ordinance, the WISP Design Standards shall apply to development within the Plan Area; and
- The Specific Plan summarizes the essential development standards for each land use category, but project applicants must refer to the Zoning Ordinance development standards, the City Design Guidelines, and the Beautification Master to ensure that all applicable regulations are addressed.

A copy of the City’s Beautification Master Plan can be seen at <http://www.turlock.ca.us/pdflink.asp?pdf=documents/developmentservices/planning/guidelines/BeautificationMasterPlan.pdf>.

### **3.10.2 PHYSICAL SETTING**

#### ***Land Use***

The project site is located near the southwest corner of the intersection of Fulkerth Road and Washington Road, and north of the Turlock Irrigation District (TID) lateral #4 canal in unincorporated Stanislaus County. The site consists of the following two Assessor’s Parcels, totaling 74.69 acres: APN 023-039-017, and 023-039-018. The project site address is 1301 Washington Road.

Washington Road marks the western edge of Turlock’s city limits and is also the western boundary of the WISP<sup>1</sup>. The project site includes several structures, including three dwellings, three barns, an existing frame structure, and a storage structure. The majority of the site is used for growing various fruits and vegetables.

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<sup>1</sup> The Plan Area encompasses 2,615 acres on the west side of the City of Turlock adjacent to Highway (SR) 99, and is partially developed with industrial and commercial uses. Many of the industrial uses process or manufacture agriculture related products.

The WISP proposes the development of a mix of industrial, office and commercial uses in an area that is already partially developed for similar uses. The Plan Area does not contain any Environmental resources or features that require unusual approaches to development (City of Turlock, 2006).

The topography of the project site is essentially flat. Vegetation consists primarily of grown fruits and vegetables. Native trees grow at various locations along the site perimeter, including on the Washington Road frontage.

### ***Surrounding Land Uses***

Land uses surrounding the proposed project site are similar and related to agriculture. On the north, south, east, and west sides there are row crops, disked lands, and agricultural related structures. Specifically, the following uses occur:

North: A parcel developed with a single family home and agriculture crops forms the northern boundary of the project site. This property is also owned by the applicant, but is not part of the proposed project. Further north is Fulkerth Road.

East: North Washington Road forms the eastern boundary of the project site. Immediately east of the roadway lands is the Blue Diamond almond processing facility, which is in operation.

West: A dirt access road and orchards border the proposed project site on the west boundary. There appears to be three single-family residents and several agriculture accessory buildings that surround each home. The closest home is approximately 0.2 miles away.

South: South of the proposed project site are more orchards and a single-family home that fronts North Washington Road. The home is approximately 0.2 miles south of the proposed project's southern boundary. Turlock Irrigation District (TID) lateral #4 canal and power poles line the areas between the two sites.

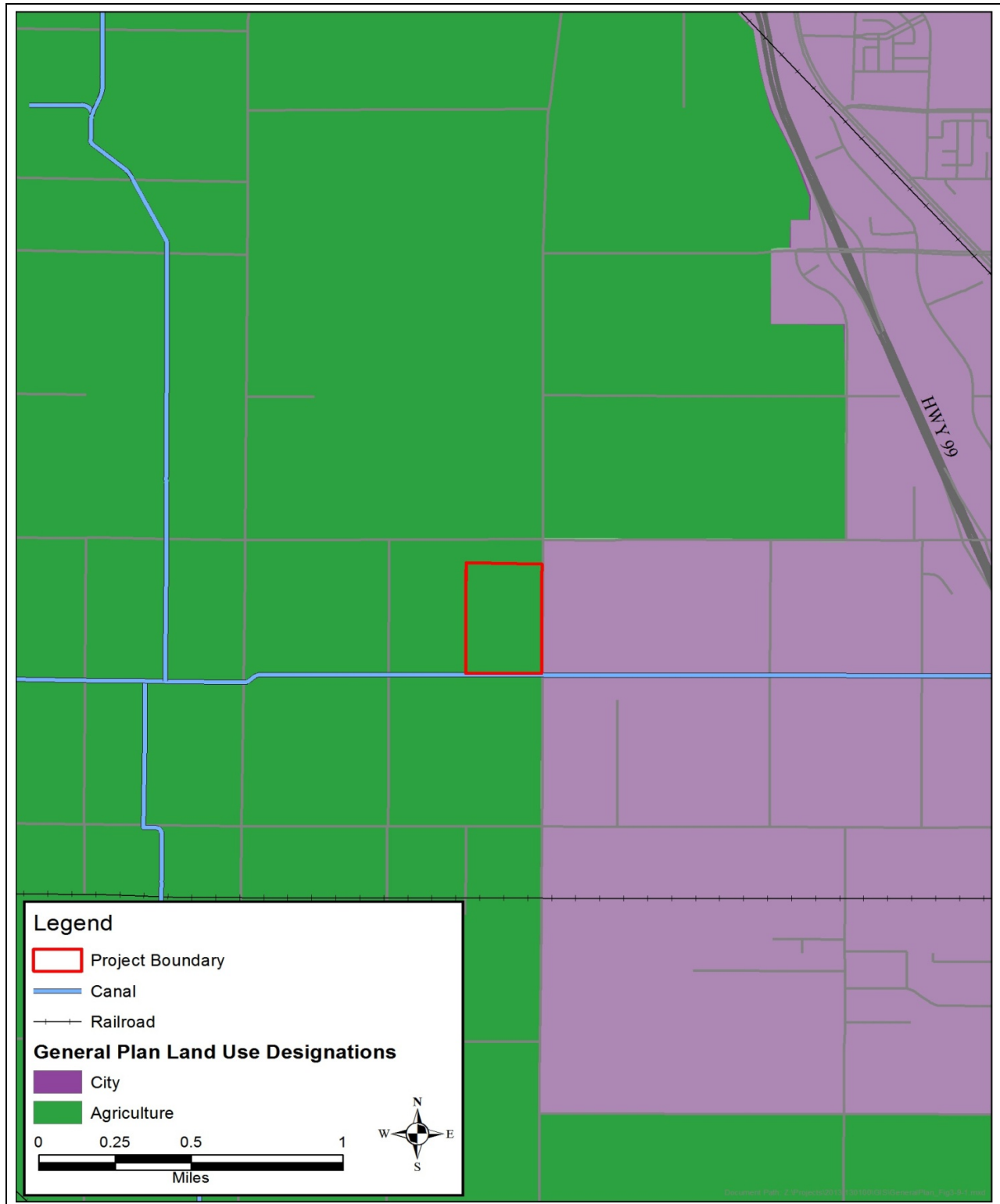
The proposed project is consistent with the surrounding uses which include single family homes, agricultural crops, and businesses related to agriculture. Historically, Stanislaus County is known for its agricultural lands and related uses. As early as 1874, the area of Ceres was referred to as the "Roman goddess of agriculture", because of the fine crops grown there (Santos, 2002). In 1868, historical documentation states that 2,317,652 bushels of wheat was harvested (Tinkham 1921).

### ***Land Use Designations***

#### **PROJECT SITE**

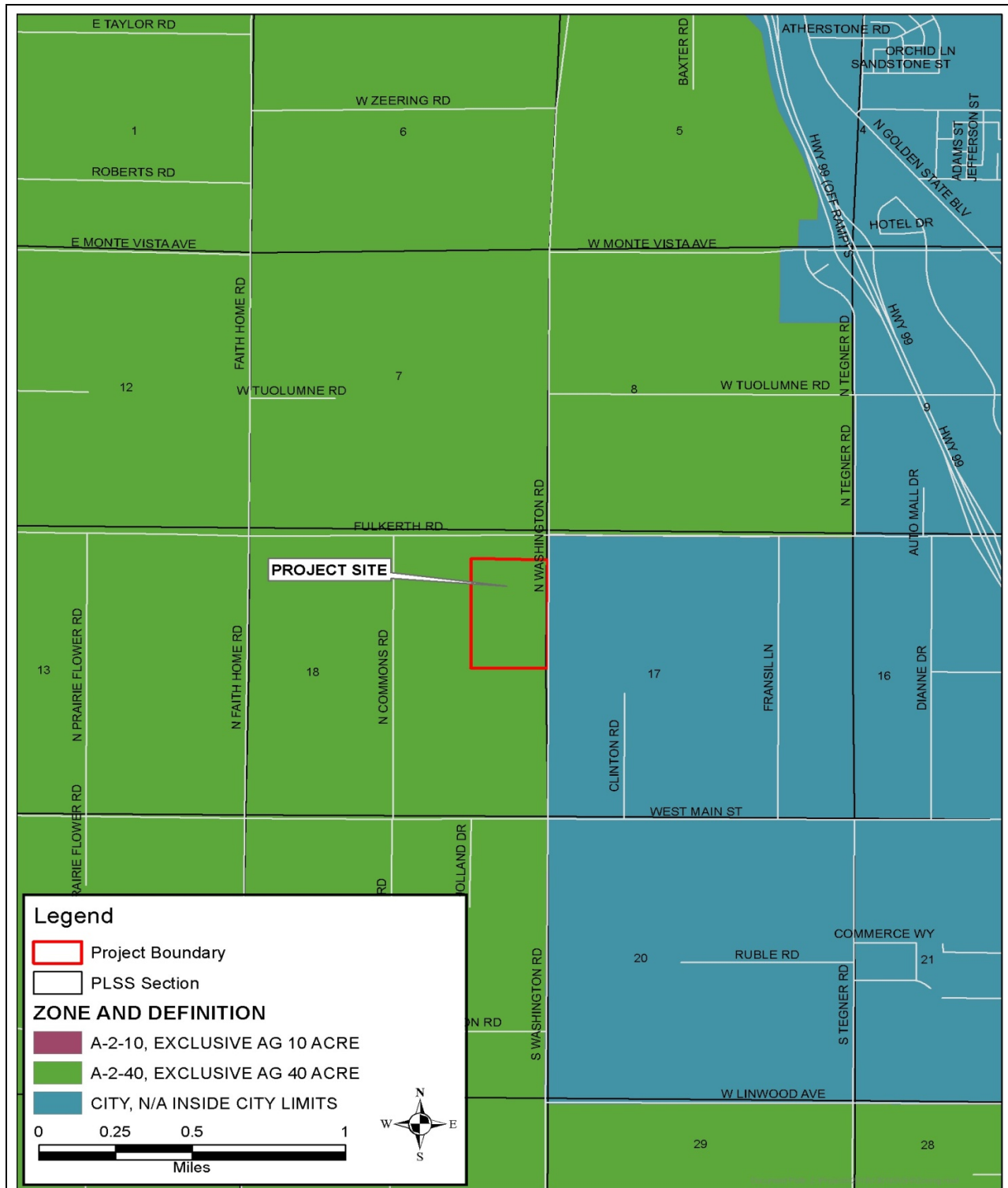
The Stanislaus County General Plan designates the project site "Agriculture", and the Stanislaus County Zoning Ordinance has a designation of "General Agriculture – 40 Acre Minimum (A-2-40)". The following designations comply with both the Stanislaus County General Plan and Zoning Ordinance.

Figures 3.10-1 and 3.10-2 include the existing land use designations and zoning for the proposed project site and surrounding areas. Further discussion of consistency is included in the analysis of impacts in Section 3.10-2.



EXISTING GENERAL PLAN LAND USE DESIGNATIONS

Figure 3.10-1



## EXISTING ZONING

Figure  
3.10-2

### 3.10.3 IMPACT EVALUATION CRITERIA

#### ***Analysis Methodology***

The methodology used for determining whether the proposed project would have significant impacts on land use and planning relied on the 1994 Stanislaus County General Plan (with updates), Stanislaus County Code (current through Ordinance CS 1126 and the April 2013 code supplement), and the City of Turlock's WISP. Agency policies were evaluated and compared to the proposed project's activities to measure consistency.

A literature review of online reports and plans written by experts in the land use planning field and other related fields was also completed. Where applicable, information providing additional thresholds was used to assess impacts.

#### ***Thresholds of Significance***

The CEQA Guidelines set forth criteria for the determination of whether a project will have a significant impact on land use and planning. A project's effect will normally be considered significant if it will:

- a) *Physically divide an established community.*
- 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.*
- c) *Conflict with any applicable habitat conservation plan or natural community conservation plan.*

An analysis to determine whether the proposed project would exceed the thresholds of significance for land use and planning is provided in the next section. Where impacts are significant mitigation is applied. If after applying mitigation impacts still exceed thresholds, a finding of significant and unavoidable is made.

### 3.10.4 IMPACTS AND MITIGATION MEASURES

**Impact #3.10-1 – Physically divide an established community.**

**Impact #3.10-2 – 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.**

For CEQA purposes, to “physically divide” can be defined as to create physical barriers that change the connectivity between areas of a community in which people are separated from one

area to another. Connectivity is often provided by roadways, pedestrian paths, and bicycle paths. Some factors that would contribute to dividing or separating a community include:

- Construction of major highways or roadways;
- Closing bridges or roadways;
- Construction of utility transmission lines;
- Construction of storm channels; and
- Dams and other waterway diversions.

A “community” has a broad set of definitions, but for CEQA purposes is often defined as a region, city or county, or a neighborhood. In regards to the proposed project, the community of Stanislaus County and City of Turlock fits this definition. When considering whether a project would divide an established community, various land use plans, policies, and regulations which have been adopted for the purpose of avoiding or mitigating environmental effects, must be examined for consistency (Perea 2010). The following discussion starts with a consistency analysis of Stanislaus County’s general plan and zoning ordinance and ends with a consistency analysis of the City of Turlock’s WISP. Table 3.10-1 lists the general plan and zoning designations for the proposed project parcels.

**Table 3.10-1  
Stanislaus County General Plan and Zoning by Parcel**

<b>Parcel Number</b>	<b>Acreage</b>	<b>General Plan</b>	<b>Zoning</b>
023-039-017	26.5	A (Agriculture)	A-2-40 (General Agriculture)
023-039-018	35.2	A (Agriculture)	A-2-40 (General Agriculture)
Total	61.7	-	-

Source: Stanislaus County, 2012.

The General Plan designation and zoning for Assessor’s Parcel Numbers (APNs) 023-039-017 and 023-039-018 is A (Agriculture) and A-2-40 for both parcels. Uses allowed in these designations are discussed separately.

**General Plan**

Chapter One, Land Use Element of the 1994 Stanislaus County General Plan states that the intent of the Agriculture designation is to “recognize the value and importance of agriculture by acting to preclude incompatible urban development within agricultural areas. It is intended for areas of land which are presently or potentially desirable for agricultural usage. These are typically areas which possess characteristics with respect to location, topography, parcel size, soil classification, water availability and adjacent usage which, in proper combination, provide a favorable agricultural environment. This designation establishes agriculture as the primary use in land so designated, but allows”:

- dwelling units;
- limited agriculturally related commercial services;
- agriculturally related light industrial uses; and
- other uses which by their unique nature are not compatible with urban uses, provided they do not conflict with the primary use.

“The Agriculture designation is also consistent with areas the overall General Plan has identified as suitable for open space or recreational use and for ranchettes.”

Table 3.10-2 lists the Stanislaus County General Plan Goals and Policies as they pertain to the proposed project. The County’s general plan includes seven mandatory elements which may or may not have goals and policies that are directly related to the proposed project.

**Table 3.10-2  
Stanislaus County General Plan Goals and Policies**

Goals	Policies	Consistency
LU 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 One- Land will be designated and zoned for agricultural, residential, commercial, industrial, or historical uses when such designations are consistent with other adopted goals and policies of the general plan.	<b>Non-Applicable:</b> This is a County function.
	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.	<b>Consistency:</b> The proposed project will include agriculture infrastructure which is in agreement with Policy Two.
	Policy Three- Land use designations shall be consistent with the criteria established in this element.	<b>Consistent:</b> The Land Use Element allows for “limited agriculturally related commercial services”.
LU 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.	<b>Consistent:</b> The proposed project will add 75 jobs to the toward the economic growth of the County.
LU Goal Four: Ensure that an effective level of public service is provided in unincorporated areas.	Policy Twenty-Two-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.	<b>Consistent:</b> The proposed projects capacity related needs have all been evaluated and found to either be less than significant, or less than significant with mitigation applied.
	Policy Twenty- Three- New development shall pay its fair share of the cost of cumulative impacts on circulation and transit systems.	<b>Non-applicable:</b> Road improvements will occur in the City’s right-of-way along Washington Street.
AG Goal One: Strengthen the agricultural sector of our economy.	Policy 1.3: Efforts to expand markets for the export of local agricultural products shall be encouraged.	<b>Consistent:</b> Produce grown locally will be shipped to southern California, and to northern California, Oregon, and Washington.

Goals	Policies	Consistency
	Policy 1.6: Processing facilities and storage facilities for agricultural products either grown or processed on the site shall be permissible in agricultural areas.	<b>Consistent:</b> Produce is grown onsite and will be boxed and shipped from the warehouse.
	Policy 1.21: The County shall continue to work with local, state and federal agencies to ensure the safety of food produced in Stanislaus County and to maintain a local regulatory framework promoting environmental safety while ensuring the economic viability of agriculture.	<b>Non-Applicable:</b> This is a County function.
AG Goal Two: Conserve our agricultural lands for agricultural uses.	Policy 2.3: The County shall ensure all lands enrolled in the Williamson Act are devoted to agricultural and compatible uses supportive of the long-term conservation of agricultural land.	<b>Consistent:</b> All lands are currently under Williamson Act contracts and shall remain so.
Con/OS Goal Two: Conserve water resources and protect water quality in the County.	Policy Six: Preserve vegetation to protect waterways from bank erosion and siltation.	<b>Non-Applicable:</b> There are no waterways except for a canal which is not part of the proposed project site.

Source: County of Stanislaus, 1994.

Table 3.10-2 contains three goals from the Land Use Element, two from the Agricultural Element, and one from the Conservation and Open Space Element. The proposed project is consistent with each one of the six goals and their related policies.

### Zoning Ordinance

Development of the site will include an 180,000 square foot agricultural warehouse for the receiving, storing, packing, and shipping of sweet potatoes and watermelons on approximately 61.7 acres. Other proposed construction will include a milk barn, fruit stand, and improvements along Washington Road which is within the City of Turlock’s right-of-way. The remainder of the project site will be used for farm equipment storage, and growing fields for watermelon and sweet potatoes.

According to the Stanislaus County Code, Title 21 Zoning, the proposed project site is zoned as Agriculture District (A-2-40). Section 21.20.030 A. 1. of the Code allows for the following conditional uses:

- stationary installations such as alfalfa and feed dehydrators;
- commercial viners;
- fuel alcohol stills designed to serve a localized area;
- nut hulling, shelling, and drying;
- agricultural experiment stations;
- warehouses for storage of grain and other farm produce;
- weighing, loading and grading stations;

- wholesale nurseries and landscape contractors when conducted in conjunction with a wholesale nursery;
- agricultural backhoe services;
- sale of firewood; and
- similar agricultural facilities.

In accordance with County requirements, the proposed project applied for Condition Use Permit (CUP) No. PLN2012-0017 on September 25, 2012. This EIR is in support of that entitlement as a result of the air quality/greenhouse gas emissions study which concluded that environmental impacts cannot be mitigated to a level of less than significant.

### ***Westside Industrial Specific Plan***

The proposed project lands along North Washington Road are designated in the WISP as Industrial Reserve (IR) and in the City of Turlock’s General Plan as Urban Reserve (UR). This discussion will focus primarily on the WISP designations as they are required to be consistent with the City of Turlock’s General Plan by implementation of its objectives and policies.

There is currently 535 acres within the WISP. This accounts for 20.5 percent of the total lands within the plan’s boundary. According to the plan, the purpose and intent of the IR designation is to industrialize the area consistent with the WISP, beyond the life of the current General Plan 1992-2012. “Areas designated IR may be suitable for annexation and development upon updating the City’s master infrastructure and urban service plans, that is, a “municipal services review”.” Table 3.10-3 summarizes the proposed project’s consistency with all applicable objectives and policies of WISP.

As shown in the table, the proposed project would be consistent with all applicable land use and planning objectives and policies. Therefore the proposed project is consistent with the City of Turlock’s WISP.

**Conclusion:** The proposed project would not alter the physical arrangement of the surrounding communities in the area as similar uses already exist in this area of Stanislaus County and the City of Turlock. The project is consistent with the County’s and City’s various land use plans, policies, and regulations. This impact would be *less than significant*.

**Mitigation Measures:** No mitigation measures are required.

### **Impact 3.10-3 – Conflict with any applicable habitat conservation plan or natural community conservation plan?**

A search of the United States Fish and Wildlife’s website and the California Department of Fish and Wildlife’s web indicated that neither Stanislaus County nor City of Turlock currently has a habitat conservation plan (HCP) nor a natural community conservation plan (NCCP). Pacific Gas & Electric (PG&E) adopted an Operations and Maintenance (O&M) HCP in 2008 which covers the company’s existing gas and electric infrastructure which includes land from Eureka in the north to Bakersfield in the south. Unlike most HCPs which govern habitat protection for future

land development, PG&E's O&M HCP is the first to be activity-based, addressing protection for existing land uses. Other innovative aspects of the program include the wide range of sensitive species to be covered and the governance of many small-scale operational activities dispersed over a large geographic area (Pacific Gas & Electric 2008).

**Table 3.10-3  
Westside Industrial Specific Plan Consistency Analysis**

<b>Objectives</b>	<b>Policies</b>	<b>Consistency Determination</b>
	Policy LU-P 2: All development shall comply with design standards established in this Specific Plan.	Consistent: The proposed project's landscaping plan is intended to provide visual screening of the development area from passersby on North Washington Road. Landscaping along the road's frontage will be consistent with guidance contained in the WISP. The plan includes a row of Chinese fringe trees along the site frontage in front of a 5-foot high chain link fence. Star jasmine will be planted along the fence and trained to grow upon the fence. In addition, 14 redwood trees are proposed in groups of two and three behind the fence and Chinese fringe trees.
	Policy LU-P 15: Where industrial uses are adjacent to non-industrial uses, appropriate buffering techniques such as setbacks, screening, and landscaping need to be provided to mitigate any negative effects of industrial operations.	
Objective 6: Maintain coordination between land development and expansion of public utilities and streets to ensure that utilities are available in a timely manner.	Policy LU-P 4: Land use should be allocated so that the destination for heavy truck traffic is generally located on the west side of the Plan Area with access from Washington Road.	Consistent: Access to the site is proposed from a single driveway onto North Washington Road aligned with the existing traffic signaled driveway to the Blue Diamond facility. Additional traffic signalization improvements will be installed to accommodate access to and from the site onto North Washington Road.
	Policy LU-P 8: Development will occur in phases linked to specific infrastructure improvements as defined in Section 5, Implementation.	Consistent: Section 5, Implementation I-P-47 requires that site grading shall be designed to create positive drainage throughout the site and to collect the storm water for the storm water drainage system.  The site will be graded the minimum amount required to facilitate collection and treatment of all storm water on site, before being conveyed to an on-site retention basin shown on the site plan.

Source: City of Turlock, 2006.

**Conclusion:** According to both federal and State wildlife agencies, the County and City are not covered by a HCP and/or NCCP. Although PG&E has an O&M HCP, it only covers activities undertaken by the company in the operation and maintenance of gas and electric infrastructure. This impact would be *less than significant*.

**Mitigation Measures:** No mitigation measures are required.

### **3.11 Noise**

This section provides an evaluation of the potential noise impacts that would be caused by implementation of the proposed project. The discussion starts with an overview of regulation that is normally applicable to the noise environmental factor, followed by a description of the physical setting of both the site and surrounding lands. An analysis is then provided to determine whether the impact(s) would be less than significant, significant without mitigation, or significant and unavoidable. If an impact is significant and can be reduced with mitigation, then a description of the mitigation measure(s) is provided. This section is based on the Environmental Noise Analysis, dated November 5, 2013, prepared by Bollard Acoustical Consultants, Inc.

#### **3.11.1 REGULATORY SETTING**

##### ***Federal***

Noise is regulated at the federal, State, and local levels through regulations, policies, plans, and/or local ordinances. Local policies are commonly adaptations of federal and State guidelines, based on prevailing local conditions or special requirements.

##### **FEDERAL HIGHWAY ADMINISTRATION**

The Federal Highway Administration (FHWA) has a noise regulation that applies when a state department of transportation requests federal funding for participation in the project. Although funding sources for proposed roadway work along existing streets are not known at this time, it is not uncommon for federal funds to be used for local roadway projects. Therefore, Public Law 91-605, 84 Stat. 1713 (23 Code of Federal Regulations 772) Procedures of Abatement of Highway Traffic Noise and Construction Noise may apply during roadway construction. This regulation requires the highway agency to investigate traffic noise impacts in areas adjacent to federally-aided highways, for either a highway in a new location or the reconstruction of an existing highway. The regulation requires a three-part approach, including land use planning and control, source control (e.g., controlling major sources of noise), and highway project noise mitigation.

Mitigations require:

- Identification of traffic noise impacts and examination of potential mitigation measures;
- Incorporation of reasonable and feasible noise mitigation measures into the highway project; and
- Coordination with local officials to provide helpful information on compatible land use planning and control.

According to Title 23 CFR Part 772.5 of the FHWA standards, traffic noise impacts occur when the predicted traffic noise level in the design year approaches or exceeds the Noise Abatement

Criteria (NAC) specified by 23 CFR 772 or substantially exceeds the existing noise level. A noise level is considered to approach the NAC for a given activity if it is within 1 dB (A-weighted decibels) of the NAC.

A substantial noise increase occurs when the project’s worst-hour design-year noise level, as defined by the equivalent sound level (Leq), exceeds the existing worst-hour noise level by 12 dB or more.

Table 3.11-1 summarizes NAC corresponding to various land use activity categories. Activity categories and related traffic noise impacts are determined based on the actual land use in a given area.

**Table 3.11–1  
Activity Categories and Noise Abatement Criteria (NAC)**

Activity Category	NAC, Hourly A-Weighted Noise Level (dBA – Leq [h])	Description of Activities
A	57 Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose
B	67 Exterior	Picnic areas, recreation areas, playgrounds, active sport areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals
C	72 Exterior	Developed lands, properties, or activities not included in categories A or B above
D	--	Undeveloped lands
E	52 Interior	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums

Source: U.S. Department of Transportation, Federal Highway Administration. 2011.

In identifying noise impacts, primary consideration is given to exterior areas of frequent human use. In situations where there are no exterior activities, or where the exterior activities are far from the roadway or physically shielded in a manner that prevents an impact on exterior activities, the interior criterion (Activity Category E) is used as the basis for determining a noise impact.

***Noise Abatement Criteria***

Code of Federal Regulations (CFR) Title 23, Part 772 of the FHWA standards and the Caltrans Traffic Noise Analysis Protocol (Protocol) require that noise abatement be considered for projects that are predicted to result in traffic noise impacts. A traffic noise impact is considered to occur when future predicted design-year noise levels with the project “approach or exceed” Noise Abatement Criteria (NAC) defined in CFR Title 23, Part 772 or when the predicted design-year noise levels with the project substantially exceed existing noise levels.

Where traffic noise impacts are identified, noise abatement must be considered for reasonableness and feasibility as required by 23 CFR 772 and the Protocol. The overall reasonableness of noise abatement is determined by considering factors such as cost, absolute predicted noise levels, predicted future increase in noise levels, expected noise abatement benefits, build date of surrounding residential development along the highway, environmental impacts of abatement construction, opinions of affected residents, input from the public and local agencies, and social, legal, and technological factors.

Code of Federal Regulations Title 23, Part 772 states that for noise abatement to be considered acoustically feasible, it must be predicted to provide at least a 5 dB minimum reduction at an impacted receptor. Additionally, 23 CFR 772 now requires an acoustic design goal for abatement. The Caltrans acoustic design goal is that noise abatement must be predicted to provide at least 7 dB of noise reduction at one or more benefited receptors. In addition, barriers should be designed to intercept the line-of-sight from the exhaust stack of a truck to the first tier of receivers, as required by the Highway Design Manual, Chapter 1100. Other factors that affect feasibility include topography, access requirements for driveways and ramps, presence of local cross streets, utility conflicts, other noise sources in the area, and safety considerations.

### ***Construction Noise and Vibration***

There are no Caltrans or FHWA standards for construction noise or vibration. One reference suggesting vibration standards is the Federal Transit Administration (FTA) publication concerning noise and vibration impact assessment from transit activities. Although the FTA guidelines are to be applied to transit activities and construction, they may be reasonably applied to the assessment of the potential for annoyance or structural damage resulting from other activities. To prevent vibration annoyance in residences, a vibration velocity level of 80 VdB or less is suggested when there are fewer than 70 vibration events per day. A level of 100 VdB or less is suggested by the FTA guidelines to prevent damage to fragile buildings.

### ***State***

#### **CALTRANS VIBRATION GUIDANCE**

Construction vibration is regulated in accordance with standards established by the Transportation and Construction-Induced Vibration Guidance Manual, issued by the California Department of Transportation (Caltrans). Table 3.11-2 presents these standards.

**Table 3.11-2  
Groundborne Vibration Exposure Standards**

Structure and Condition	Maximum Peak Particle Velocity (inches/second)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Extremely fragile historic building, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.20	0.10
Historic and older residential structures with plaster walls and ceilings	0.50	0.25
New residential structures with gypsum board walls and ceilings	1.00	0.50
Modern commercial and industrial buildings	2.00	0.50

Source: Jones & Stokes, 2004.

Transient sources create a single, isolated vibration event, such as blasting or drop-ball impacts according to Table 3.11-2. Continuous/frequent intermittent sources include multiple impacts from pile drivers, the use of vibratory compaction equipment, and other construction equipment that creates vibration other than in single events. This Manual applies to Caltrans initiated projects.

**Local**

**STANISLAUS COUNTY**

**General Plan**

Pursuant to California Code Title 14, Section 65300 the 1994 Stanislaus County General Plan addresses noise in its Noise Element. The plan also includes local, regional, State, and federal programs and regulations as well as a comprehensive set of guiding and implementing policies. These policies are listed below:

NOS: Policy One - It is the policy of Stanislaus County to utilize the noise exposure information contained within the General Plan to identify existing and potential noise conflicts through the Land Use Planning and Project Review processes;

NOS: 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;

NOS: Policy Three - It is the objective of Stanislaus County to protect areas of the County where noise-sensitive land uses are located; and

NOS: Policy Four - It is the objective of Stanislaus County to ensure that the Noise Element is consistent with and does not conflict with other elements of the Stanislaus County General Plan.

The Stanislaus County General Plan Noise Element establishes acceptable noise level limits for both transportation and non-transportation noise sources. The primary objective of the Noise Element is to prescribe policies that lead to the preservation and enhancement of the quality of life for the residents of Stanislaus County by securing and maintaining an environment free from excessive noise.

For residential uses affected by transportation noise sources (off-site traffic in this case), the Noise Element identifies 60 dB Ldn (or CNEL) shown in Table 3.11-3. This is consistent with State of California standards recommended for transportation noise sources. Agricultural uses are not considered to be noise sensitive, but for the purposes of this assessment, residential dwellings located on agriculturally designated properties were considered to be sensitive, and the 60 dB Ldn criterion was assumed to be applicable.

**Table 3.11-3  
Maximum Allowable Noise Exposure for Transportation Noise Sources  
Stanislaus County Noise Element of the General Plan**

Land Use Category	Exterior Noise Exposure Ldn or CNEL, dBA	
	Normally Acceptable	Conditionally Acceptable
Residential- Low Density	60	70
Multi Family Residential	65	70
Hotels and Motels	65	70

Source: Bollard Acoustical Consultants, Inc., 2013.

Noise analyses in environmental assessments typically identify a threshold of significance and then compare the project impact to that threshold. For stationary noise sources such as aggregate extraction and processing operations, Stanislaus County regulates the level of noise that may impact adjacent noise-sensitive uses. For this project, the evaluation period is considered to be the worst-case hour during which on-site equipment would be operating. If the proposed project has the potential to exceed the County’s noise exposure limits at the closest noise-sensitive uses, such an impact would likely be considered environmentally significant. The noise exposure limits applicable to this project are summarized in Table 3.11-4.

**Table 3.11-4  
Maximum Allowable Noise Exposure for Stationary Noise Sources  
Stanislaus County Noise Element of the General Plan**

	Daytime Standard (7 a.m.-10 p.m.)	Nighttime Standard (10 p.m.-7 a.m.)
Hourly Leq, dB	55	45
Maximum Level (Lmax), dB	75	65

Source: Bollard Acoustical Consultants, Inc., 2013.

**Stanislaus County Code**

Noise standards for Stanislaus County are contained in the Stanislaus County Code Title 10, Chapter 10.46, Section 10.46.050 which states that 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. The following exterior noise level standards apply to all properties within the designated noise zone.

**Table 3.11-5  
Exterior Noise Level Standards**

Designated Noise Alone	Maximum A-Weighted Sound Level as Measured on a Sound Level Meter (LMAX)	
	7:00 a.m - 9:59 p.m.	10:00 p.m. - 6:59 a.m.
Noise Sensitive	45	45
Residential	50	45
Commercial	60	55
Industrial	75	75
Noise Sensitive	45	45

Source: Stanislaus County, 1994.

The noise zones defined in Table 3.11-5 include:

1. Noise sensitive which is defined as a public or private school, hospital, church, convalescent home, cemetery, sensitive wildlife habitat, or public library regardless of its location within any land use zoning district;
2. Residential consists of all parcels located within a residential land use zoning district;
3. Commercial, defined as parcels located within a commercial or highway frontage land use zoning district;
4. Industrial. Includes all parcels located within an industrial land use zoning district; and
5. The noise zone definition of any parcel not located within a residential, commercial, highway frontage, or industrial land use zoning district shall be determined by the Director of Stanislaus County Planning and Community Development Department, or designee, based on the permitted uses of the land use zoning district in which the parcel is located. (Ord. CS 1070 §2, 2010)

In addition to the above requirements, the County has cumulative duration allowance standards that shall not exceed the following criteria as listed in Table 3.11-6 below.

**Table 3.11-6  
Cumulative Duration Allowance Standards**

Cumulative Duration	Allowance Decibels
Equal to or greater than 30 minutes per hour	Table A plus 0 dB
Equal to or greater than 15 minutes per hour	Table A plus 5 dB
Equal to or greater than 5 minutes per hour	Table A plus 10 dB
Equal to or greater than 1 minute per hour	Table A plus 15 dB
Less than 1 minute per hour	Table A plus 20 dB

Source: Stanislaus County, 1994.

Allowance decibels as listed in the table would not allow noises such as those originating from commercial to exceed 60 dB between the hours of 7:00 a.m.—9:59 p.m. for more than 30 minutes per hour. Residential could not produce a noise of 15 dB from 10:00 p.m.—6:59 a.m. for more than 1 minute per hour. The noise sensitive could only produce 55 dB between the hours of 7:00 a.m.—9:59 p.m. for no more than 5 minutes per hour.

The Stanislaus County Code, Title 9, Chapter 9.32, Sections 9.32.020 through 9.32.080 address nuisance complaints associated with agricultural related activities which includes noise. Pursuant to Section 9.32.020 Findings and policy C., the County requires a transfer disclosure statement where the seller of a piece of land shall disclose all information on the property to prospective buyers including:

If the property is adjacent to or near property used for agricultural operations or on agricultural lands, you may be subject to inconveniences or discomforts arising from such operations, *including but not limited to noise*, odors, fumes, dust, the operation of machinery of any kind during any 24-hour period (including aircraft), the storage and disposal of manure, and the application by spraying or otherwise of chemical fertilizers, soil amendments, herbicides and pesticides. Stanislaus County has determined that inconveniences or discomforts associated with such agricultural operations shall not be considered to be a nuisance if such operations are consistent with accepted customs and standards. Stanislaus County has established a grievance committee to assist in the resolution of any disputes which might arise between residents of this County regarding agricultural operations. If you have any questions concerning this policy or the grievance committee, please contact the Stanislaus County Planning and Community Development Department.

In addition, Section 9.32.050 Right-to-Farm Notice provides all property owners with constructive notice of Stanislaus County’s right-to-farm policy. As a condition of approval for final recorded parcel and subdivision maps involving agricultural lands, or adjacent to such lands, the following note must be included on the map:

All persons purchasing lots within the boundaries of this approved map should be prepared to accept the inconveniences associated with agricultural operations, *such as noise*, odors, flies, dust or fumes. Stanislaus County has determined that such inconveniences shall not be considered to be a nuisance if agricultural operations are consistent with accepted customs and standards.

Failure to comply with any provision in the regulation shall not prevent the recording of any document, nor shall it affect title to real property or any mortgage or deed of trust made in good faith or for value. However, any person who violates any provisions is guilty of an infraction punishable as set forth in Section 1.36.020 of the Stanislaus County Code.

### **Construction Hours**

Stanislaus County Code Title 10, Chapter 10.46, Section 10.46.060 requires the proposed project be subject to the following additional standards. Failure to comply with these additional standards constitutes a separate violation:

B. Power Tools and Equipment. No person shall operate any power tools or equipment between the hours of ten p.m. and seven a.m. such that the power tools or equipment are audible to the human ear inside an inhabited dwelling other than a dwelling in which the power tools or equipment may be located. No person shall operate any power tools or equipment at any other time such that the power tools or equipment are audible to the human ear at a distance greater than one hundred feet from the power tools or equipment; and

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.

The proposed project would include both short and long-term noise that will be generated from construction equipment and truck traffic during operations.

## **CITY OF TURLOCK**

### ***Westside Industrial Specific Plan***

As previously mentioned, the entire right-of-way of North Washington Street along the frontage of the project site is in the Turlock city limits and within the Westside Industrial Park Specific Plan (WISP). The road is classified as an expressway in the Turlock General Plan. In addition to landscape screening for onsite parking areas, frontage improvements including curb, gutter, and sidewalk will be required along with a right turn lane into the project site. The proposed driveway would be aligned with the new traffic signal into the Blue Diamond facility on North Washington Road. All of these activities would generate traffic and be directly related to noise issues. Compliance with the WISP will include the following applicable policies:

R-P 53: Require stationary noise sources proposed in areas adjacent to noise-sensitive uses to be mitigated so as to not exceed the noise level performance standards;

R-P 54: Work in cooperation with the City, Caltrans, and the Union Pacific Railroad to maintain noise level standards for the Plan Area in compliance with noise standards;

R-P 56: Control noise at the source through use of insulation, berms, building design and orientation, buffer space, staggered operating hours, sound walls, enclosing certain noise creating equipment/activities, use of muffling or silencing equipment, as necessary to ensure compliance with the City of Turlock Noise Standards. Use noise barriers to attenuate noise to acceptable levels;

R-P 57: Noise-producing equipment shall be set back from the noise sensitive property line to the maximum practical extent; and

R-P 58: Operation of mechanical refrigeration units on trucks shall be prohibited during loading/unloading in areas adjacent to noise-sensitive uses.

Chapter 6 of the WISP provides a detailed overview of the specific plan area including its infrastructure and services and land use objectives as related to noise. The plan can be accessed at the City of Turlock's website using the following path:

<http://www.ci.turlock.ca.us/pdflink.asp?pdf=documents/developmentservices/planning/guidelines/WISP.pdf?o=o&title=Westside%20Industrial%20Specific%20Plan>.

### **3.11.2 PHYSICAL SETTING**

#### ***Noise Fundamentals***

Noise is often described as unwanted sound. Sound is defined as any pressure variation in air that the human ear can detect. If the pressure variations occur frequently enough (at least 20 times per second), they can be heard, and are called sound. The number of pressure variations per second is called the frequency of sound, and is expressed as cycles per second or Hertz (Hz). Definitions of acoustical terminology used in this report are presented in Appendix E. Appendix E includes the Environmental Noise Analysis, dated November 5, 2013, that was completed for this section of the EIR by Bollard Acoustical Consultants, Inc.

Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale was devised. The decibel scale uses the hearing threshold (20 micropascals of pressure) as a point of reference defined as 0 dB. Other sound pressures are then compared to the reference pressure and the logarithm is taken to keep the numbers in a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB. Another useful aspect of the decibel scale is that changes in decibel levels correspond closely to human perception of relative loudness. Table 3.11-7 illustrates common noise levels associated with various sources.

The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable and can be approximated by weighting the frequency response of a sound level meter by means of 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 tool of environmental noise assessment. All noise levels reported in this section are in terms of A-weighted levels.

**Table 3.11-7  
Typical A-Weighted Sound Levels of Common Noise Sources**

<b>Loudness Ratio</b>	<b>dBA</b>	<b>Description</b>
128	130	Threshold of pain
64	120	Jet aircraft take-off at 100 feet
32	110	Riveting machine at operators position
16	100	Shotgun at 200 feet
8	90	Bulldozer at 50 feet
4	80	Diesel locomotive at 300 feet
2	70	Commercial jet aircraft interior during flight
1	60	Normal conversation speech at 5-10 feet
1/2	50	Open office background level
1/4	40	Background level within a residence
1/8	30	Soft whisper at 2 feet
1/16	20	Interior of recording studio

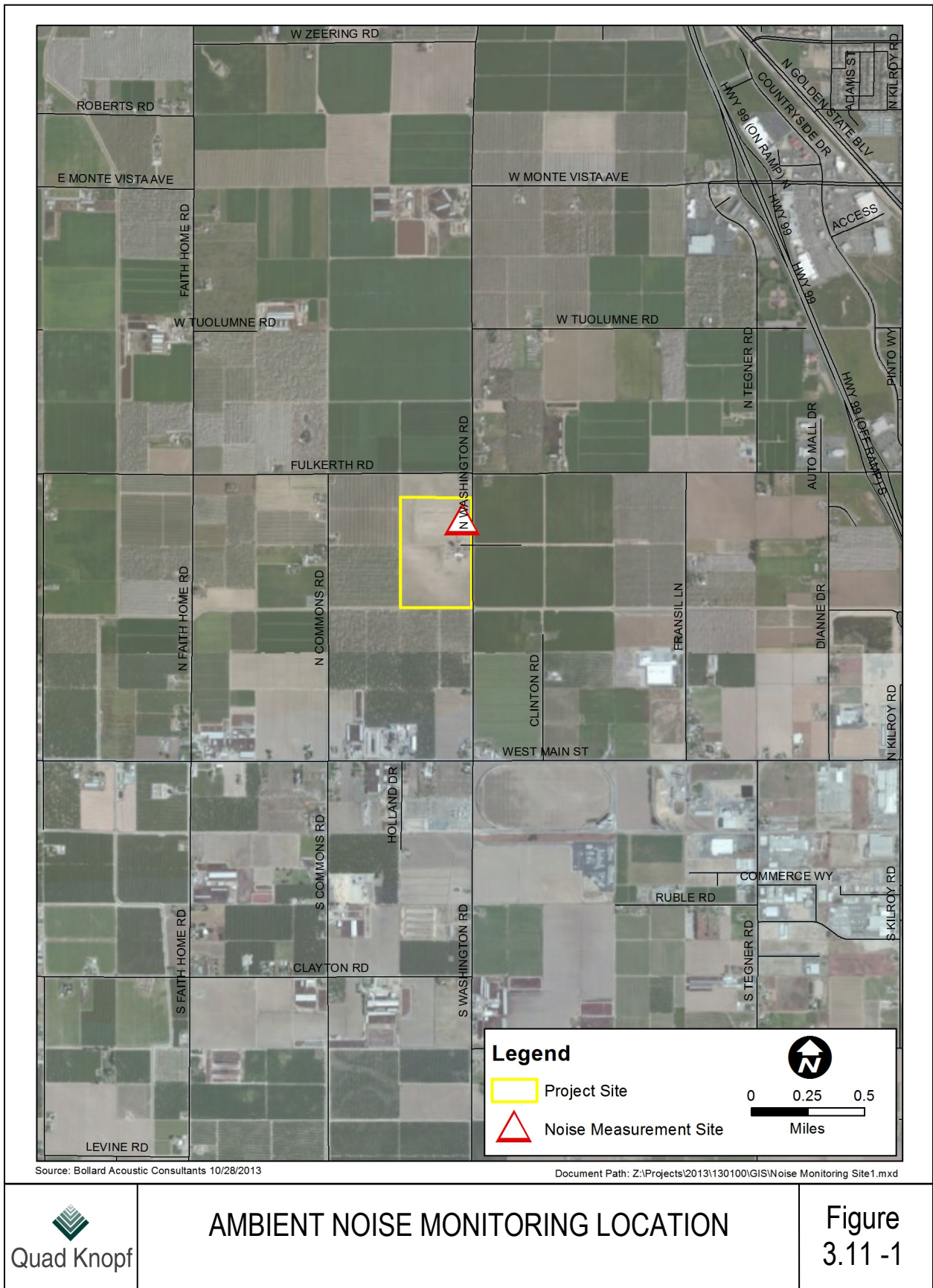
Source: Bollard Acoustical Consultants, Inc., 2013.

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 describe the ambient noise level is the average, or equivalent, sound level (Leq). The Leq is the foundation of the day/night average noise level (Ldn) and shows very good correlation with community response to noise.

Existing acoustical literature and application of accepted noise prediction and sound propagation algorithms were used to predict project related noise levels. Specific noise sources evaluated in this section were onsite noise sources associated with the commercial development. Average Sound Exposure Level (SEL) estimates were used to predict noise levels due to truck circulation on the project site. The SEL noise descriptor is the equivalent sound energy of an acoustical event normalized to one second duration.

***Existing Land Uses in the Project Vicinity***

The project site is bordered by a variety of different land uses. The site is bordered to the west by North Commons Road and agricultural uses (walnut orchards). The project site is bordered to the south by West Main Street and agricultural uses (walnut orchards). The project site is bordered to the east by North Washington Road and agricultural uses including a Blue Diamond almond processing facility. The project site is bordered to the north by Fulkerth Road, agricultural uses (planted row crops) and six single family homes.



### ***Existing General Ambient Noise Environment in the Project Vicinity***

The ambient noise environment in the immediate project vicinity is primarily defined by traffic on North Washington Road and to a lesser extent, Fulkerth Road, as well as by operations at the new Blue Diamond facility on the east side of North Washington Road.

To generally quantify the existing ambient noise environment in the immediate project vicinity, continuous hourly noise level measurements were conducted at the project site on October 5-7, 2013. The noise measurement location is shown on Figure 3.11-1. A Larson-Davis Laboratories (LDL) Model 820 precision integrating sound level meter was used to complete the noise level measurement survey. The meter was calibrated before use with an LDL Model CAL200 acoustical calibrator to ensure the accuracy of the measurements. The equipment used meets all pertinent specifications of the American National Standards Institute for Type 1 sound level meters (ANSI S1.4).

The noise level measurement survey results are summarized below in Table 3.11-8. The detailed results of the ambient noise surveys are contained in Appendix E of this EIR.

**Table 3.11-8  
Summary of Ambient Noise Measurement Results  
Dan Avila & Sons Warehouse Project, Stanislaus County – October 5-7, 2013**

Date	Ldn	Daytime (7 am - 10 pm)		Nighttime (10 pm - 7 am)	
		Leq	Lmax	Leq	Lmax
October 5	58	55	73	51	70
October 6	59	56	73	51	69
October 7	60	58	73	52	69

Source: Bollard Acoustical Consultants, Inc., 2013.

### ***Existing Traffic Noise Environment***

To predict existing noise levels due to traffic, the Federal Highway Administration Highway Traffic Noise Prediction Model (FHWA RD 77 108) was used. The Model uses the Calveno reference noise factors for automobiles, medium trucks, and heavy trucks. The Model considers vehicle volume and speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the sound propagation path.

Table 3.11-9 summarizes the calculated existing traffic noise levels in terms of Ldn at a reference distance of 100 feet from the centerlines of existing project-area roadways. The table also includes the distances to existing traffic noise contours. Appendix E contains the detailed FHWA Model inputs, predicted traffic noise levels, and distances to noise contours.

**Table 3.11-9  
Existing Traffic Noise Levels Dan Avila & Sons Warehouse Project Area Roadways**

Seg.	Intersection	Direction	Ldn @ 100 ft.	Distance to Traffic Noise Contours			
				75	70	65	60
1	Washington & Fulkerth Rds.	North	59	9	19	40	87
2		South	61	11	24	52	112
3	Washington & Main Rds.	East	61	11	24	52	113
4		West	60	10	21	46	99
5		North	61	12	25	54	117
6		South	57	6	13	28	60
7		East	64	17	37	80	172
8		West	63	17	36	77	166

Source: Bollard Acoustical Consultants, Inc., 2013.

The following table was developed by the Federal Interagency Committee on Noise (FICON) as a means of developing thresholds for identifying project-related noise level increases. The rationale for the graduated scales is that test subject's reactions to increases in noise levels varied depending on the starting level of noise. Specifically, with lower ambient noise environments, such as those below 60 dB Ldn, a larger increase in noise levels was required to achieve a negative reaction than was necessary in environments where noise levels were already elevated. Therefore, because the County does not have defined thresholds for what would be considered a substantial increase in noise levels, information from Table 3.11-10 is used.

**Table 3.11-10  
Significance of Changes in Cumulative Noise Exposure**

Ambient Noise Level Without Project, Ldn	Increase Required for Significant Impact
<60 dB	+5.0 dB or more
60-65 dB	+3.0 dB or more
>65 dB	+1.5 dB or more

Source: Bollard Acoustical Consultants, Inc., 2013.

### 3.11.3 IMPACT EVALUATION CRITERIA

#### *Analysis Methodology*

The methodology applied to this section of the EIR consists of using information from the Environmental Noise Analysis that was completed for the proposed project. That analysis focuses on noise generated by project construction, onsite activities (truck movements and mechanical equipment), and off-site increase in traffic noise levels resulting from the proposed project. The analysis of noise impacts also focuses on the noise-sensitive residential uses to the north. A literature review of all applicable federal, State and local noise regulations was also completed.

### **Thresholds of Significance**

According to Appendix G, Environmental Checklist of the CEQA Guidelines, noise impacts resulting from the implementation of the proposed project would be considered significant if the project would cause:

- 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.*
- b) *Exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels.*
- c) *A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.*
- d) *A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.*
- 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.*
- 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.*

### **ENVIRONMENTAL NOISE ANALYSIS THRESHOLDS OF SIGNIFICANCE**

According to the Environmental Noise Analysis that was completed for this project, noise impacts are considered significant if any of the following conditions are met:

- Off-site traffic noise level increases over traffic noise levels present without the project exceed the Table 3.11-10 criteria;
- Noise generated by on-site mechanical equipment exceeds the noise standards contained in Table 3.11-4 or cause a significant increase in ambient noise levels as defined by the Table 3.11-5 criteria;
- Noise generated by project construction activities causes a significant increase in ambient noise levels as defined by the Table 3.11-5 criteria.

To avoid the redundancy of referencing the same source, it should be noted that the majority of information provided in sections 3.11-3 and 3.11-4 of Section 3.11 is taken from the Environmental Noise Analysis.

### 3.11.4 IMPACTS AND MITIGATION MEASURES

**Impact #3.11-1 – 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.**

These impacts address off-site traffic noise, construction noise, onsite truck circulation noise, and mechanical equipment noise. Each topic will be addressed separately in the following analyses.

#### **Off-site Traffic Noise**

To assess noise impacts due to project-related traffic increases on the local roadway network, traffic noise levels are predicted at a representative distance of 100 feet for both existing and future, with project and no-project conditions. Noise impacts are identified at existing noise sensitive areas if the noise level increases that result from project development exceed the FICON Standards included in Table 3.11-10.

To describe existing and projected noise levels due to traffic, the Federal Highway Administration Highway Traffic Noise Prediction Model (FHWA RD 77 108) was used. The model is based upon the Calveno reference noise factors for automobiles, medium trucks and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The FHWA model was developed to predict hourly Leq values for free flowing traffic conditions. To predict traffic noise levels in terms of Ldn, it is necessary to adjust the input volume to account for the day/night distribution of traffic.

Traffic volumes for existing and future (cumulative) conditions, with and without the project scenarios, were obtained from KD Anderson, transportation consultants. Table 3.11-11 shows the estimated Ldn at a standard distance of 100 feet from the centerlines of project area roadways for existing and future, project and no-project conditions, as well as the increases in traffic noise levels which would result from the proposed project.

**Table 3.11-11  
Predicted Traffic Noise Levels and Project-Related Traffic Noise Level Increases  
(Ldn, dB @ 100 feet from C/L) Dan Avila & Sons Warehouse Project EIR**

Seg.	Intersection	Segment Direction	Existing	Existing + Project	Change	Cumulative	Cumulative + Project	Change
1	Washington & Fulkerth	North	59	60	1	60	60	0
2		South	61	62	1	63	64	1
3		East	61	62	1	63	64	1
4		West	60	60	0	61	61	0
5	Washington & Main	North	61	64	3	64	66	2
6		South	57	60	3	62	63	1

Seg.	Intersection	Segment Direction	Existing	Existing + Project	Change	Cumulative	Cumulative + Project	Change
7		East	64	65	1	65	66	1
8		West	63	64	1	65	65	0

Source: Bollard Acoustical Consultants, Inc., 2013.

The Table 3.11-11 data indicate that the project-related increase in traffic noise levels along the nearest roadways to the project site would range from 0 to 3 dB for existing conditions, and from 0 to 2 dB for future (cumulative conditions). The predicted 3 dB increase in traffic noise levels along Washington Road, between the project site and Main Street, is right at the Table 3.11-10 threshold for finding of a significant noise impact based on existing noise levels without the project being in the range of 60-65 dB Ldn.

Development of the project would generally result in increased traffic noise along roadways used by project-generated traffic. Comparison of the table data against the Table 3.11-10 criteria for a significant noise increase indicates that one segment, Washington Road between Main Street and the project site, would be considered significantly impacted by project-generated traffic. It should be noted, however, that the project truck trip generation estimates were based on the ITE trip generation factors for warehouse facilities. Using those figures, a total daily project trip generation of 817 daily trips was computed. Relative to estimates of project-generated traffic provided by the project applicant, the 817 daily trips computed using the ITE factors are believed to be conservative. As a result, the actual increases in off-site traffic noise are expected to be lower than indicated in Table 3.11-11, and below the threshold of significance. Nonetheless, because the future traffic noise levels along this one roadway segment would exceed the project thresholds of significance at existing residences this impact is considered *significant and unavoidable*.

### ***Construction Noise Impact***

During the construction phases of the proposed project, noise from construction activities would add to the noise environment in the immediate project vicinity. Activities involved in typical construction would generate maximum noise levels, as indicated in Table 3.11-12, ranging from 85 to 90 dB at a distance of 50 feet. Construction activities are proposed to occur during normal daytime working hours and would be short-term in nature.

**Table 3.11-12  
Construction Equipment Noise**

Type of Equipment	Maximum Level, dB at 50 feet
Bulldozers	87
Heavy Trucks	88
Backhoe	85
Pneumatic Tools	85
Portable Crushing Plant	90

Source: Bollard Acoustical Consultants, Inc., 2013.

The nearest existing noise-sensitive land uses are located approximately 500 feet north of the main construction area on the project site. At that distance, the construction noise levels shown in Table 3.11-12 would be reduced by approximately 26 dB based on distance alone (assuming 6 dB decreases per doubling of distance from the reference noise source). The resulting noise levels would range from 59-64 dB Lmax at the nearest residences. This range of levels is both below the County's exterior noise level standards shown in Table 3.11-4 as well as below measured existing maximum noise levels shown in Table 3.11-8. As a result, this impact is considered *less than significant*.

### **On-Site Truck Circulation Noise**

According to the traffic study prepared for the project, approximately 114 peak hour trips would be generated during the a.m. peak hour. For purposes of this analysis, it was assumed that approximately 75% of those trips would be trucks and 25% employee vehicles, resulting in approximately 85 heavy truck movements during the peak hour.

To quantify the noise generation of on-site parking lot noise emissions, Bollard Acoustical Consultants, Inc. utilized noise measurement data for slow-moving heavy trucks. The mean sound exposure level (SEL) resulting from these tests was 75 dB SEL at a distance of 50 feet from the effective noise center of the passby area. The peak hour parking lot average noise level (Leq) can be determined using the following formula:

- Peak Hour Leq = 75 + 10 \* (log Neq) - 36, dB where:

Seventy-five is the assumed sound exposure level (SEL) for a typical truck movements, Neq is the number of truck movements during the peak hour, and 36 is 10 times the logarithm of the number seconds in an hour.

Based upon the equation above, the predicted peak hour truck movement noise level at 50 feet would be 58 dB Leq at a distance of 50 feet. At the nearest residences to the on-site truck movement areas, located approximately 500+ feet away, the computed Leq for peak hour truck movements would be approximately 30-35 dB Leq. This level is well within compliance with the County noise standards shown in Table 3.11-4 and well below measured existing average noise levels shown in Table 3.11-8. As a result, this impact is considered *less than significant*.

### **Mechanical Equipment Noise**

The proposed warehouse includes a 5 horsepower evaporative cooler capable of moving 35- 50K cubic feet per minute. BAC file data for evaporative coolers of this size indicate that a sound power level of approximately 105 dB can be expected. After consideration of distance to the nearest residences and shielding provided by the proposed warehouse building, the predicted noise level at the nearest residences would be approximately 40 dB Leq or less. This level complies with the County's exterior noise standards shown in Table 3.11-5 and well below measured existing average noise levels shown in Table 3.11-8. As a result, this impact is considered *less than significant*.

**Conclusion:** The proposed project would not expose people to noise levels in excess of standards established in the County's noise ordinance during construction. Noise impacts from construction would be less than significant. However, because the future traffic noise levels along Washington Road between Main Street and the project site would be considered significantly impacted by project-generated traffic, project thresholds of significance at existing residences would be exceeded. A *significant and unavoidable* impact would occur.

**Mitigation Measure:** No mitigation measures are available. Other development contributions to traffic noise levels on streets affected by project-related traffic contribute, and will contribute, to noise level violations. Because the project contributes only a portion of the noise impact, there is no legal ability for the County to demand full mitigation from the project as a condition of approval to correct traffic-related individual-parcel noise levels emanating from the entire project area. In addition, the County has no fee program in place to address this impact.

**Impact #3.11-2 – Exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels.**

The effects of ground-borne vibration include movement of building floors, rattling of windows, shaking of items on shelves or hanging on walls, and rumbling sounds. In extreme cases, the vibration can cause damage to buildings.

The most common sources of man-made vibration are sonic booms, blasting, pile driving, pavement breaking, demolition, diesel locomotives, and rail-car coupling. None of these sources are anticipated during construction of the project or operation of mechanical equipment after project construction. The primary vibratory source during the construction of the project could be large bulldozers and loaded trucks. Typical bulldozer or loaded truck activities generate an approximate vibration level of 0.076 to 0.089-inch per second peak particle velocity (PPV), and 86-87 Vibration Velocity Level (VdB) at a distance of 25 feet. Typically, vibration levels must exceed 80 VdB before annoyance occurs or 100 VdB before building damage occurs. The Caltrans Transportation and Construction-Induced Vibration Guidance Manual recommends a threshold of 0.25-inch-per-second PPV as the significance level for continuous events, near older residential structures during construction activities. The nearest existing noise-sensitive land uses are located approximately 1,000 feet north of the main construction area on the project site. It is anticipated that the vibration levels caused by a large bulldozer operating on the edge of the area to be disturbed during construction of the proposed project at that nearest structure will be less than 0.089-inch-per-second PPV, and other sensitive land uses located further away would experience even lower vibration levels.

**Conclusion:** This impact would be *less than significant*.

**Mitigation Measures:** No mitigation measures are required.

**Impact #3.11-3 – A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.**

Stanislaus County has developed significance criteria for project-related increases in ambient noise levels which are shown in Table 3.11-3. As mentioned before, activities associated with onsite truck circulation and operation of the proposed evaporative cooler are predicted to be in compliance with both daytime and nighttime noise level standards of Stanislaus County (Table 3.11-4), as well as below measured existing ambient noise levels, at the nearest potentially affected noise-sensitive land uses. As a result, this impact is considered *less than significant*.

Future development within Stanislaus County and neighboring counties, including the proposed project, would incrementally affect the future (cumulative) ambient noise environment. While it is difficult to project exactly how the ambient noise conditions within the area would change, it is known that traffic noise levels would increase slightly due to cumulative development within the region, both with and without the proposed project. Table 3.11-11 shows the projected traffic noise levels at a reference distance of 100 feet from the various roadway centerlines for Cumulative plus Project conditions, and the increases associated with those levels over cumulative conditions without the proposed project.

As noted in the Standards of Significance, a substantial increase in traffic noise levels is defined as 1.5 to 5 dB Ldn, depending on the baseline noise environment without the proposed project. Because the cumulative increase in project-generated traffic would not cause traffic noise levels to increase in excess of the standards shown in Table 3.11-12, the project's contribution to the cumulative noise environment is not considerable, resulting in a finding of *less than significant impact*.

**Conclusion:** The proposed project would not result in a substantial permanent increase in ambient noise levels resulting from onsite truck circulations and operation of the evaporative cooler. Cumulative ambient noise levels are not predicted to reach significant levels. Impacts are expected to be *less than significant*.

**Mitigation Measures:** No mitigation measures are required.

**Impact #3.11-4 – A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.**

Activities associated with construction of the project would be temporary in nature, limited to daytime hours, and would generate noise levels below the County's noise standards and measured existing ambient noise levels.

**Conclusion:** There would be a temporary or periodic increase in ambient noise levels in the project vicinity during construction. However, noise levels would not exceed local regulation and therefore would not be considered substantial. Impacts would be *less than significant*.

**Mitigation Measures:** No mitigation measures are required.

**Impact #3.11-5 – 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.**

**Impact #3.11-6 – 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.**

**Conclusion:** As discussed in Section 3.8, Turlock Airpark is located approximately 4.8 miles northwest of the proposed project site. The proposed project site is over 2 miles away from the ALUC's planning boundary for the as shown on the Airport Land Use Compatibility Map on page 19 and the Airport Land Use Commission Plan. However, if it were to be the planning boundary, it would have been classified (2) compatible in a particular area (marked with an O) (Stanislaus County Planning Commission 2004). There is *no impact*.

**Mitigation Measures:** No mitigation measures are required.

### **3.12 Public Services and Utilities**

This section describes the existing public services and utilities and potential effects from project implementation on the site and its surrounding area. Per Appendix G of the CEQA Guidelines, utilities described and analyzed include water and wastewater treatment and storm drainage facilities. Services addressed in this chapter include fire, emergency services, police, schools, parks and recreational facilities, and libraries. Descriptions and analysis in this section are based on information provided by the Stanislaus Consolidated Fire Protection District, the Stanislaus County Sheriff's Department, the Turlock Irrigation District, and Cal Recycle, as well as other regional, State, and federal sources.

#### **3.12.1 REGULATORY SETTING**

##### ***Federal***

##### **UNIFORM FIRE CODE**

The National Fire Protection Association publishes the Uniform Fire Code with provides standards for fire protection. The nationally recognized standards require that fire departments “have the capability to deploy an initial full alarm assignment within eight (8) minute response time to 90 percent of the incidents.” (NFPA 1710)

##### **CLEAN WATER ACT**

The Clean Water Act (CWA) is the principal federal law that addresses water quality. The primary objectives include the regulation of pollutant discharges to surface water, financial assistance for public wastewater treatment systems, technology development, and non-point source pollution prevention programs. The Clean Water Act also requires that states adopt water quality standards to protect public health and welfare and enhance the quality of water.

##### **SAFE DRINKING WATER ACT**

The Safe Drinking Water Act (SDWA), administered by the U.S. Environmental Protection Agency (EPA) in coordination with the states, is the main federal law that ensures the quality of drinking water. Under the SDWA, EPA sets standards for drinking water quality and oversees the states, localities, and water suppliers who implement those standards. The Department of Public Health administers the regulations contained in the Act in the State of California.

##### **RESOURCE CONSERVATION AND RECOVERY ACT (AMENDED 1986)**

The Resource Conservation and Recovery Act is a federal act regulating the potential health and environmental problems associated with solid waste hazards and non-hazardous wastes. Specific regulations addressing solid waste issues are contained in Title 40, Code of Federal Regulations.

## **State**

### **CALIFORNIA BUILDING STANDARDS CODE**

Title 24 of the California Code of Regulations, also known as the California Building Standards Code, is a compilation of three types of building standards from three different origins:

- Building standards that have been adopted by state agencies without change from building standards contained in national model codes;
- Building standards that have been adopted and adapted from the national model code standards to meet California conditions; and
- Building standards, authorized by the California legislature, that constitute extensive additions not covered by the model codes that have been adopted to address particular California concerns

The California Fire Code is a component of the California Building Standards Code and contains fire safety-related building standards.

### **CALIFORNIA GREEN BUILDING STANDARDS CODE**

The California Green Building Standard Code was adopted January 12, 2009. The purpose of this code is to improve public health, safety, and general welfare by enhancing the design and construction of buildings through the use of building concepts having a positive environmental impact and encouraging sustainable construction practices in the following categories:

- Planning and design;
- Energy efficiency;
- Water efficiency and conservation;
- Material conservation and resource efficiency; and
- Environmental air quality.

The Code addresses exterior envelope, water efficiency, and material conservation components. The aim is to reduce energy usage in non-residential buildings by 20 percent by 2015 and help meet reductions contemplated in AB 32.

### **TITLE 24, CALIFORNIA'S ENERGY EFFICIENCY STANDARDS FOR RESIDENTIAL AND NONRESIDENTIAL BUILDINGS**

Title 24, Part 6, of the California Code of Regulations establishes California's Energy Efficiency Standards for Residential and Nonresidential Buildings. The standards were updated in 2005 and recently amended in 2008. The 2008 standards set a goal of reducing growth in electricity use by 561.2 gigawatt-hours per year (GWh/y) and growth in natural gas use by 19 million therms per year (therms/y).

## **MODEL WATER EFFICIENT LANDSCAPE ORDINANCE**

The Model Water Efficient Landscape Ordinance was adopted by the Office of Administrative Law in September 2009 and requires local agencies to implement water efficiency measures as part of its review of landscaping plans. All local agencies must adopt a water efficient landscape ordinance by January 1, 2010. The local agencies may adopt the state Model Ordinance, or craft an ordinance to fit local conditions. In addition, several local agencies may collaborate and craft a region-wide ordinance. In any case, the adopted ordinance must be as effective as the Model Ordinance in regard to water conservation.

## **CALIFORNIA WATER CODE**

California Water Code (Porter-Cologne Act) establishes a program to protect water quality and beneficial uses of state water resources and addresses groundwater and surface water. The State Water Resources Control Board and the Regional Water Quality Control Boards (RWQCBs) are the principal state agencies responsible for control of water quality.

## **NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)**

The CWA requires local jurisdictions to address the problems of pollutants in stormwater runoff from development. The CWA provides for the control of the discharge of any pollutant into navigable waters from any point sources. To regulate point source pollution, the CWA provides that the EPA may issue NPDES permits. NPDES permits are issued by the EPA or the states under EPA-approved permit programs that incorporate CWA's technological standards. California's NPDES permit program is implemented through the State Water Resources Control Board (SWRCB) and the RWQCBs. Section 402(p) of the CWA establishes a framework for regulating municipal and industrial stormwater discharges under the NPDES program, and requires controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and systems, design and engineering methods.

The RWQCBs implement the CWA's municipal storm water requirements through the State's Municipal Storm Water Permitting Program. While federal regulations allow the permitting options for storm water discharges (individual and general permits), the SWRCB has elected to adopt only one Statewide General Permit. In September 2009, the SWRCB adopted a new NPDES General Permit for the stormwater discharges associated with construction and land disturbance activities (No. 2009-0009-DWQ) that, among other things, requires compliance with certain numeric effluent limitations. This General Permit will become effective on July 1, 2010. It requires development of a site-specific SWPPP that specifies Best Management Practices (BMPs) that will prevent construction pollutants from contacting stormwater with the interest of keeping all products of erosion from moving offsite to receiving waters. This General Permit is implemented and enforced by the nine RWQCBs.

## **WASTE DISCHARGE REQUIREMENTS**

The SWRCB adopted Resolution 68-16 regarding a "Statement of Policy with Respect to Maintaining High Quality of Waters in California." The SWRCB declared in this resolution that

any activity that produces or could produce a waste or increased volume or concentration of waste will be required to meet waste discharge requirements that will result in the best practicable treatment or control of the discharge necessary to ensure a nuisance will not occur and that high water quality will be maintained for the benefit to the people of the state. These waste discharge requirements are administered by the Central Valley Regional Water Quality Control Board through Basin Plan Waste Discharge Requirements and apply to the wastewater treatment plant that will serve the proposed project site.

## **2009 COMPREHENSIVE DELTA/WATER LEGISLATION**

In November 2009, the California legislature passed the comprehensive 2009 Delta/Water Legislation. The package consists of five bills, the content of which reflects the inextricable linkages between the health of the California Delta and California's statewide water supply management practices and policies. Pertinent components of this legislation include:

- Groundwater monitoring: Local water agencies will be required to monitor groundwater elevations throughout the state, and to provide the data to DWR. This bill addresses the need for consistent, reliable data—currently not measured at all, or measured with wide inconsistencies—on groundwater levels;
- Water conservation for urban and agricultural users: Between now and 2020, California must achieve a 20 percent drop in urban per capita water use across the state; and
- Water diversion and use reporting: The legislation sets out new requirements for the water diversion statements that must be filed by DWR.

## **SENATE BILL X7-7**

Senate Bill X7-7 was enacted on November 9, 2009 mandating water conservation targets and efficiency improvements for urban and agricultural water suppliers, respectively. There are 18 actions in this legislation for which the Department of Water Resources (DWR) is assigned as the lead agency. These actions have been designated by DWR as “projects” for implementation of the legislation.

The legislation requires that DWR implement certain provisions of the law through public processes. To meet this requirement, DWR has formed:

- An Urban Stakeholder Committee (USC); and
- An Agricultural Stakeholder Committee (ASC).

In addition, DWR is seeking public input through:

- Holding public workshops;
- Posting information on SB X7-7 Website;

- Convening a Commercial, Industrial, and Institutional (CII) Task Force with public process; and
- Rulemaking process.

### **RENEWABLE PORTFOLIO STANDARD PROGRAM [SENATE BILL 1078]**

This program requires retail sellers of electricity to increase their purchases of electricity generated by renewable sources and establishes a goal of having 20% of California's electricity generated by renewable sources by 2017. In 2010, the California Air Resources Board (CARB) extended this target for renewable energy resource use to 33% of total use by 2020. Increasing California's renewable supplies will diminish the state's heavy dependence on natural gas as a fuel for electric power generation.

### **LOCAL GOVERNMENT CONSTRUCTION AND DEMOLITION (C&D) GUIDE [SENATE BILL 1374]**

This guide seeks to assist jurisdictions with diverting their C&D material, with a primary focus on CalRecycle (formerly California Integrated Waste Management Board) developing and adopting a model C&D diversion ordinance for voluntary use by California jurisdictions.

### **CALIFORNIA DEPARTMENT OF PUBLIC HEALTH**

A major component of the State Department of Public Health, Division of Drinking Water and Environmental Management, is the Drinking Water Program which regulates public water systems. Regulatory responsibilities include the enforcement of the federal and state Safe Drinking Water Acts, the regulatory oversight of public water systems, issuance of water treatment permits, and certification of drinking water treatment and distribution operators. State regulations for potable water are contained primarily within Titles 22 and 17, Chapter 5 of the California Code of Regulations.

The regulations governing recycled water are found in a combination of sources including the Health and Safety Code, Water Code, and Titles 22 and 17 of the California Code of Regulations. Issues related to treatment and distribution of recycled water are generally under the influence of the RWQCB, while issues related to use and quality of recycled water are the responsibility of the California Department of Public Health.

### **SB 610**

Senate Bill 610 (SB 610) became effective January 1, 2002, and requires cities and counties in connection with CEQA review to consider water supply assessments to determine whether projected water supplies can meet the project's anticipated water demand. SB 610 also requires additional factors to be considered in the preparation of urban water management plans and water supply assessments.

SB 610, under Water Code Section 10912(5) identifies a project as a proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.

## **CALIFORNIA INTEGRATED WASTE MANAGEMENT ACT**

To minimize the amount of solid waste that must be disposed of by transformation and land disposal, the State Legislature passed Assembly Bill 939, the California Integrated Waste Management Act of 1989 (AB 939), effective January 1990. The legislation requires each local jurisdiction in California to set diversion requirements of 25 percent in 1995 and 50 percent in 2000; establishes a comprehensive statewide system of permitting, inspections, enforcement, and maintenance for solid waste facilities; and authorizes local jurisdictions to impose fees based on the types or amounts of solid waste generated. In 2007, Senate Bill (SB) 1016, (Wiggins, Chapter 343, Statutes of 2008) introduced a new per capita disposal and goal measurement system which moves the emphasis from an estimated diversion measurement number to using an actual disposal measurement number as a per capita disposal rate factor. As such, the new disposal-based indicator (pounds per person per year) uses only two factors: a jurisdiction's population (or in some cases employment) and its disposal as reported by disposal facilities. The City of Turlock's disposal rate goal is 6.3 pounds per person per day and employment target is 21.2 pounds per employee per day.

## **CALIFORNIA PUBLIC UTILITIES COMMISSION**

The California Public Utilities Commission (CPUC) regulates privately owned telecommunication, electric, natural gas, water, railroad, rail transit, and passenger transportation companies. It is the responsibility of the CPUC to (1) assure California utility customers safe, reliable utility service at reasonable rates; (2) protect utility customers from fraud; and (3) promote a healthy California economy. The Public Utilities Code, adopted by the legislature, defines the jurisdiction of the CPUC.

## **AB 2926 SCHOOL IMPACT FEES**

As of January 1987, State law allows school districts to levy three different levels of development fees directly on new residential, commercial, and industrial development (Government Code Section 65995). Level-one fees cannot exceed \$2.97 per square foot of residential construction and \$0.47 per square foot of commercial/industrial construction for K-12 facilities. Districts set their own fees within this limit based on a nexus study establishing their funding requirements. Since Proposition 1A was passed by the voters and SB 50 was passed by the State Legislature in 1996, school fees generated by new development are deemed legally sufficient mitigation of any impacts based on generation of students on school facilities.

## **SB 50**

The Leroy F. Greene School Facilities Act of 1998 (SB 50) and the bond procedures under Proposition 1A of 1998 regulate school facilities financing and mitigation of land use approvals by setting fee caps, removing entitlement application denial authority from lead agencies, and

setting the CEQA standard for full and complete mitigation for school facilities. Prior to enactment of the legislation, a city or county had the authority to deny or require full mitigation for projects that required an amendment to a General Plan and/or a zone change. State law now prohibits a local agency from either denying approval of a land use project because of inadequate school facilities, or imposing school impact mitigation measures other than the designated fees provided for in the Government Code. Effective subsequent to 2006, if a statewide bond measure fails, SB 50 would again permit a city or county to deny or refuse to approve a development project that requires a legislative act on the basis of the inadequacy of school facilities. However, the city or county will not be able to require a higher fee than provided for in the original legislation.

## **QUIMBY ACT**

Passed in 1975, the Quimby Act (California Government Code Section 66477) authorizes local agencies to establish an ordinance requiring new development to pay an in-lieu fee or dedicate land for park and recreation facilities to serve the subdivision. The required dedication and/or fee is based on the residential density, park land cost and other factors. Public land dedicated and/or fees collected pursuant to the Quimby Act may only be used for the purpose of developing new or rehabilitating existing park or recreational facilities. The dedication and/or fee allowed under State law is equivalent to providing three (3) to five (5) acres maximum of park land per one thousand (1,000) persons.

### ***Local***

## **STANISLAUS COUNTY**

### ***Storm Water Management Program***

Stanislaus County has prepared a Storm Water Management Program developed to meet the term of the General Permit. The Program consists of the six minimum control measures established by the State Water Regional Control Board for Phase II storm water discharges. Implementation of these control measures are expected to result in significant reductions of pollutants discharged into receiving water bodies. Each control measure contains Best Management Practices (BMPs) necessary for proper storm water management. The BMPs contain specific tasks to meet the objective of that control measure. This Program is intended to be a 'living document with BMPs added and deleted as new management practices arise.

The six control measures include public education and outreach, public involvement and a participation program, an illicit discharge detection and elimination program, a construction site storm water runoff control program, a post-construction storm water management program for development and redevelopment projects, and a pollution prevention and good housekeeping for municipal operations program.

### ***Emergency Operations Plan***

The Office of Emergency Services (OES) Division is responsible for the day-to-day administration of Stanislaus County's disaster preparedness, mitigation, response and recovery programs. The Emergency Operations Plan details the roles of police, fire, ambulance and other services in the event of a major emergency. The Plan includes the Multi-Jurisdictional Hazard Mitigation Plan. This countywide Plan identifies risks posed by disasters, and identifies ways to minimize damage from those disasters. It is a comprehensive resource document that serves many purposes, including: enhancing public awareness and understanding, creating a decision tool for management, promoting compliance with State and federal program requirements, enhancing local policies for hazard mitigation capability, and providing inter-jurisdictional coordination.

### ***Library Strategic Plan 2011-2015***

In 2010, the Stanislaus County Board of Supervisors authorized a strategic planning process for the County Library. The Strategic Plan, developed by the Library Strategic Planning Committee in 2011, includes five-year goals with activities under consideration by the Library's management, as well as long term planning.

### ***General Plan***

The Stanislaus County General Plan establishes applicable policies related to public services and utilities that relevant to the project. Plan elements are abbreviated as follows Land Use – LU; Safety – SA; and Conservation – CO.

LU: Policy 22 - 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.

LU: Implementation Measure 22.3 - The County shall limit its approval of discretionary projects in spheres of influence to agricultural uses, churches, and projects recommended for approval by the city unless such projects are exempt from this implementation measure as a result of individual city/county agreements.

LU: SOI Policy - Whenever an application is to be considered which includes property within the sphere of influence (SOI) of a city or special district or areas of specific designation created by agreement between County and City, and when that property is considered for agricultural use which requires discretionary approval, the project should be referred to that city for comment. If the County finds that a project is inconsistent with the city's general plan designation, it shall not be approved. Agricultural use 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.

In the case of a proposed project within the SOI of a sanitary sewer district, domestic water district or community services district, the proposal shall be forwarded to the district board for comment.

SA: Goal 1 - Prevent loss of life and reduce property damage as a result of natural disasters.

SA: Policy 1 - The County will adopt (and implement as necessary) plan inclusive of the Multi-Jurisdictional Hazard Mitigation Plan, to minimize the impacts of natural and man-made disasters.

SA: Implementation Measure 1.2 - The County will follow the policies included in the adopted emergency plan. New development shall not conflict with policies included in that document.

SA: Policy 2 - Development should not be allowed in areas that are within the designated floodway.

SA: Implementation Measure 2.1 - Development within the 100-year flood boundary shall meet the requirements of Chapter 16.40 (Flood Damage Protection) of the County Code and within the designated floodway shall obtain Reclamation Board approval.

SA: Goal 2 - Minimize the effects of hazardous conditions that might cause loss of life and property.

SA: Policy 7 - Adequate fire and sheriff protection shall be provided.

SA: Implementation Measure 7.1 - The County shall continue to implement the funding strategies identified under Policy Twenty-Two of the Land Use Element.

SA: Implementation Measure 7.2 - All discretionary projects in the County shall be referred to the Fire Safety Department and to the appropriate fire district for comment. The comments of these agencies will be used to condition or recommend modifications of the project as it relates to fire safety and rescue issues.

SA: Implementation Measure 7.4 - Discretionary projects outside of fire districts shall be considered for approval only when they are found to include adequate fire protection.

SA: Implementation Measure 7.6 - All discretionary projects shall be referred to the Sheriff's Department for comment. Comments from the Sheriff will be used to either condition or modify the project.

SA: Implementation Measure 7.7 - All building permits and discretionary projects within the State Responsibility Areas, as identified by the California Department of Forestry and Fire Protection, shall meet the minimum development standards included in Article 1-5, Subchapter 2 SRA Fire Safe Regulations, Chapter 7 – Fire Protection, Division 1.5 –

Department of Forestry, Title 14 – Natural Resources, or more stringent specific standards as may be adopted by the Board of Supervisors for this County.

SA: Policy 9 - The County shall support the formation of improvement districts (including flood control districts) to eliminate safety hazards.

SA: Implementation Measure 9.2 - The County will work with the Fire Safety Department, the State Department of Forestry and Fire Protection and local fire districts to ensure that adequate fire suppression measures are provided in areas without access to a public water system. These measures may include restrictions on building materials as well as the provision of adequate access and appropriate facilities for suppressing a fire.

CO: Goal Seven - Support efforts to minimize the disposal of solid waste through source reduction, reuse, recycling, composting, and transformation activities.

CO: Policy 22 - The County will support the solid waste management hierarchy established by the California Public Resources Code, Section 40051, and actively promote the goals and objectives specified in the Countywide Integrated Waste Management Plan.

CO: Implementation Measure 22.5 - Encourage and promote activities, projects, legislation, businesses and industries that cause special wastes (e.g., food processing residue, demolition/construction waste, inert wastes, tires, de-watered sludge, household hazardous wastes, etc.) to be safely diverted from landfills or transformation facilities, including composting and co-composting operations.

### ***Stanislaus County Code***

#### **Solid Waste and Drinking Water**

Title 9 of the Stanislaus County Code includes ordinances regarding health and safety issues, including those for refuse (solid waste) collection (Title 9.02 through 9.10) and water wells (Title 9.36). Title 9.36 is intended to protect groundwater by regulating the location, construction, maintenance, abandonment and destruction of all wells which may affect the quality and potability of underground waters.

#### **Stormwater Management and Discharge Control**

Chapter 14.14 of the Stanislaus County Code contains regulations related to the discharge of non-stormwater discharge into the stormwater conveyance systems of the cities within the County, in order to reduce pollutants in urban stormwater discharges. The ordinances are also intended to assist in the protection and enhancement of water quality of water course, water bodies, and wetlands by reducing pollutants in stormwater discharges and prohibiting non-stormwater discharges into the storm drain systems.

## **Water Efficient Landscape Ordinance**

Stanislaus County recently amended the Landscape Ordinance in compliance with AB 1881. Chapter 21.102 includes ordinances for landscaping and irrigation for structures on lots greater than 2,500 square feet. The ordinance is intended to encourage a reduction in water use for landscaping purposes.

## **TURLOCK GROUNDWATER BASIN DRAFT GROUNDWATER MANAGEMENT PLAN 2008**

The Turlock Groundwater Basin Groundwater Management Plan provides an overview of the local agencies, land uses and status of groundwater resources in the Turlock Subbasin.

## **CITY OF TURLOCK GENERAL PLAN**

The proposed project site is outside of the Turlock city limits (with the exception of the N. Washington Road right-of-way), but within the City's Planning Area Boundary. The Planning Area is the geographic area for which the General Plan establishes policies about future urban growth, long term agricultural activity, and natural resource conservation. The General Plan includes the following policies regarding lands within its Sphere of Influence (SOI):

Policy 2.9-h - Cooperate with the City/County line. Seek Stanislaus County cooperation in designating unincorporated land for uses compatible with adjacent City lands.

Policy 2.9-I - LAFCO approval for Sphere of Influence changes. Seek LAFCO approval of Sphere of Influence changes to reflect the General Plan Diagram, upon completion of the master plan updates for the sewer, water, and wastewater treatment systems, and upon completion of the Capital Facilities Fee update (within two years of adoption of the General Plan).

Policy 2.9-j - Fee sharing programs. Update the City's agreement with Stanislaus County regarding collection of the public facilities fee. The agreement should stipulate that the City will collect and pass on to the County development fees for County improvements, and the County will refer to the City applications for development in the City's Sphere of Influence.

The proposed project is also immediately west of the City's Study Area, which defines the outer limit of urban development over the next twenty years. Unincorporated areas within the Study Area shall be annexed into Turlock following an explicit phasing and master planning process. The intent is to limit development in the Study Area so that lands under agricultural production are not converted to other uses until urban development is imminent. The area on the eastern side of Washington Road is included in the City's Westside Industrial Specific Plan – an area planned only for industrial use, without residential development. Under this Specific Plan, expansion of wet and dry utilities and emergency services is not currently planned for the area outside the Study Area.

### 3.12.2 ENVIRONMENTAL SETTING

#### ***Fire Protection and Emergency Services***

The Stanislaus Consolidated Fire Protection District provides fire protection and emergency services to the unincorporated areas of the County, as well as cooperating with the fire departments from incorporated cities within the county. The Fire Protection District headquarters is located at 3324 Topeka Street, Riverbank.

#### **STATIONS**

The District operates seven fire stations. The fire stations are staffed seven days a week, 24-hours a day. The fire stations, along with apparatus, are summarized in Table 3.12-1.

**Table 3.12-1  
Fire Station Summary**

Station No.	Address	Distance from Project Site	Apparatus	
			Quantity	Equipment
30	3324 Topeka St., Riverbank	19.5 miles	This station facilitates operations only	
31	461 Mitchell Road, Modesto	10.8 miles	2	Type-one engines
			1	Medium rescue unit
			1	Hazardous materials response unit
32	4845 Yosemite Blvd., Modesto (Township of Empire)	12.6 miles	1	Type-one, 75' quint
			1	Type-one water tender
			1	Type-three engine
33	7737 Yosemite Blvd., Modesto (unincorporated area)	12.6 miles	2	Type-one engines
			1	Type-three engine
34	321 E Street, Waterford	17.5 miles	1	Type-one engine
			1	Type-one water tender
			1	Type-three engine
			1	Rescue boat
35	30198 Main Street, LaGrange	35.6 miles	1	Type-one engine
			1	Type-four engine
			1	Light rescue unit
36	3318 Topeka Street, Riverbank	19.5 miles	1	Type-one engines
			1	Type-three engine
			1	Type-one water tender
			1	Rescue boat

Source: Stanislaus Consolidated Fire Protection District website: <http://www.scfpd.us>

## **ORGANIZATION**

### ***Operations***

The Stanislaus Consolidated Fire Protection District is a full-service, public safety organization. The career Operational staff consists of battalion chiefs, captains, engineers and firefighters working a consecutive 48-hour shift on a rotational schedule that comprises a 56-hour work week. In addition to the career personnel, volunteer/intern firefighters provide supplemental support. All Operational staff are directed to acquire and maintain skills/ proficiencies related to EMS, firefighting, rescue, and other operations.

The Deputy Chief is the Director of Operations, and leads and supervises the battalion chiefs as they respond to the fire chief's direction. A training captain's responsibilities and duties include planning, prioritizing, assigning, supervising, and participating in all training needs of the fire agency. He/she reports directly to the Deputy Chief.

The shift captains report to their assigned battalion chief. They document and maintain company records, respond to and mitigate various types of emergencies, and assure that the crew and equipment are always ready for immediate response. Captains must regularly inspect private and public facilities, provide information to the public during prevention activities, and train consistently to address any changes that may adversely impact their ability to adequately accomplish the duty of the fire service to the citizens of their community and the County.

The Operational staff respond to approximately 12 calls for emergency assistance every day, twenty-four hours a day.

### ***Training***

The Training Division's primary focus is to develop the intellectual and physical competencies of each fire department member, so that each member can expand his/her contributions to the fire service and the community and County. This division is responsible for conducting internal training to meet mandated training subject for Emergency Management Services (EMS) and firefighter didactic and manipulative skills.

### ***Public Safety Education***

The goal of these staff is to provide every citizen within the District the highest level of safety awareness training possible. The District currently provides a number of fire safety education programs for large and small groups of every age.

## **STAFFING**

The Operations Division, which serves as the first responder to calls for service has the most personnel assigned to it. Personnel in the Operations Division include the following:

- 3 battalion chiefs;

- 15 captains;
- 21 engineers (currently 2 vacant positions);
- 6 firefighters; and
- Reserves, volunteers and interns.

## **PERFORMANCE**

The Insurance Services Office (ISO) Public Protection Classification Program currently rates fire districts on a scale of 1 to 10, with 1 being the highest possible rating and 10 being the lowest. The ISO rating measures individual fire protection agencies against a Fire Suppression Rating Schedule, which includes such criteria as facilities and support for handling and dispatching fire alarms, first-alarm response and initial attack, and adequacy of local water supply for fire-suppression purposes. The ISO ratings are subsequently used to establish fire insurance premiums. The Stanislaus Consolidated Fire Protection District (Fire Stations 30 through 36) have an ISO rating of 7. The project area falls within the Mountain View Fire Protection District (Fire Station 1), located in Crows Landing, which has an ISO rating of 9. The area within this Fire Protection District is entirely rural and agricultural, with no City or unincorporated communities.

## **MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN AND MUTUAL AID RESPONSE PROGRAM**

In cooperation with Stanislaus County, the Stanislaus Consolidated Fire Protection District has adopted a Local Multi-Jurisdictional Hazard Mitigation Plan: a countywide plan that identifies risks posed by disasters, and identifies ways to minimize damage from those disasters. Other departments and agencies, including the Stanislaus County Office of Education and other fire departments, school districts, and city agencies, also participate in the Local Multi-Jurisdictional Hazard Mitigation Plan.

The Fire Department participates in the California Master Mutual Aid Response program and maintains mutual aid agreements with other fire departments within Stanislaus County.

### ***Police Protection***

The Stanislaus County Sheriff's Department provides police protection throughout the unincorporated areas of the county. The Sheriff's Department is headquartered at 250 East Hackett Road, Modesto.

## **ORGANIZATION**

The Sheriff's Department is lead by the Sheriff-Coroner and the Undersheriff. In addition to the Stanislaus Regional 911 operations, the Department includes investigations, patrol operations, the coroner's division, public safety, the men's jail, inmate programs and jail alternatives, adult detention, and court services. The Sheriff's Department includes a K9 unit, a mounted unit, a bomb squad, and other special teams. The Sheriff's Department also coordinates with the police departments from Turlock, Ceres, Oakdale, Waterford, Newman and Hughson, and with federal

FBI, DEA, IRS, and INS agents on the Stanislaus Drug Enforcement Agency. This agency is currently focusing efforts on the methamphetamine problem and major drug trafficking organizations.

### **Schools**

The project area is within the boundaries of Stanislaus County. Most schools within the County are located in incorporated cities. However, the following schools are located in unincorporated communities:

- Denair Unified School District;
- Empire Union School District;
- Hickman School District;
- Keyes Union School District;
- Knights Ferry School District;
- Roberts Ferry Union School District;
- Salida Union School District; and
- Valley Home School District.

The project site is immediately west of Turlock's city limits and the City's WISP, which includes plans to develop the area for industrial and commercial use; no residences, schools, or parks are planned.

### **Parks and Recreation**

Stanislaus County's park system comprises community parks and recreation corridors. There are 18 parks in unincorporated areas of the county, including Bonita Park and Pool in Crows Landing, Fox Grove on the Tuolumne River, and Laird Park on the San Joaquin River. Some facilities include basketball courts and/or baseball fields, picnic shelters and barbecue areas, playground equipment, soccer fields, restrooms, and informal play areas. Woodward Reservoir and Modesto Reservoir are also included in the County's park system. Other facilities, such as seasonal off-road vehicle areas in La Grange and Del Puerto Canyon, nature trails and fishing accesses are maintained by the County in response to other recreational needs.

### **Libraries**

Stanislaus County Library provides services to patrons throughout the county, as well as other areas within the San Joaquin Valley. Permanent facilities are located in Modesto, Ceres, Denair, Empire, Hougson, Keyes, Newman, Oakdale, Patterson, Riverbank, Salida, Turlock, and Waterford.

Residents have access to 788,734 books, magazines, newspapers, audio books, videos, and DVD, valued at nearly \$19 million. Seventy two percent of county residents have library cards, and checked out 1.2 million items in 2011.

## **Water**

### **SURFACE WATER**

Agriculture and urban water supplies for Stanislaus County originate from both ground water and surface water. Irrigation of agricultural land is the largest consumptive use of water in the County. Stanislaus County has five irrigation water districts and 14 water districts. The main sources of irrigation water of the Stanislaus, Tuolumne and the San Joaquin rivers. Although these rivers contain water of excellent quality as they flow from the Sierra Nevada Mountains, the quality decreases as they flow west, due to both agricultural and domestic use and return. The San Joaquin River, in particular, serves as a drain for return water and domestic and industrial wastes through the entire San Joaquin Valley. The Tuolumne River water also suffers, due to agricultural return wastes and gas well wastes, before its confluence with the San Joaquin River (General Plan Support Documents, 1996).

### **GROUNDWATER**

Groundwater is the major source of domestic and industrial water in Stanislaus County, and is used to supplement surface water for irrigation purposes when necessary. The quality of ground water cannot be controlled except as recharge. However, the purposes and quantity used can be controlled, and the quality of water returned as recharge is regulated in large part. In areas east of the San Joaquin River, including the proposed project area, ground water quality is higher than those areas in the western portion of the County.

### **WATER QUALITY**

The County recommends that farmers throughout the San Joaquin River basin incorporate appropriate practices, such as those listed below, to help control various types of ground water and surface water contamination.

- Use of cover crops in vineyards and orchards
- Keep erosion-prone soils in permanent cover, especially along waterways to prevent bank erosion and siltation
- Use proper grazing management
- Use no-till and low-till practices
- Match irrigation methods to soil and topographic conditions and avoid runoff
- Construct in-channel structures to reduce runoff velocities
- Use tailwater recovery systems
- Construct sediment detention ponds

- Follow pesticide label directions and County Agricultural Commissioner’s permit requirements
- Install approved back-flow prevention devices or air gaps between water sources and irrigation systems
- When applying chemicals to sandy soils, choose an effective material with the lowest potential to move in the soil.

Depth of the water table varies throughout the county, but may be only a few feet deep around Turlock to several hundred feet. Although overall groundwater is good in areas east of the San Joaquin River, chemicals, including chloride, nitrate, arsenic, sodium, calcium, magnesium carbonate, DBCP, bicarbonate, and sulfate, may be present (California Groundwater Bulletin 118).

**WATER SUPPLY PLANNING**

Stanislaus County is within all or a portion of four subbasins within the San Joaquin River Hydrologic Region(s). The proposed project site is located within the Turlock Subbasin, which includes a total of 218,249 acres. The Subbasin is bordered on the west by the San Joaquin River, which flows from south to north, and by the Tuolumne River on the north, which flows from east to west. The Merced River flows along the southern boundary of the County and the Turlock Subbasin. This area is served by the Turlock Irrigation District, the Ballico-Cortez Water District, the Eastside Water District, and a small portion of the Merced Irrigation District (Groundwater Bulletin 118).

In 2007, Stanislaus County had a total of 171,634 irrigated acres, 17,273 urban acres, and 29,342 non-irrigated acres (primarily in the foothills of the Sierra Nevada Mountains on the eastern boundary of the County) (Stanislaus County Water Atlas, 2008). Using these figures, approximately 78.6 percent of the land in Stanislaus County was under irrigated agricultural uses. A summary of the water sources utilized is shown in Table 3.12-2.

**Table 3.12-2  
Surface and Ground Water Utilized in the Tulare Subbasin**

	Surface Water (ac-ft/yr)*	Ground Water (ac-ft/yr)
Supply	518,000	235,000
Use		
Irrigation	451,000	168,000
Urban	67,000	0

Source: Stanislaus County Water Atlas, 2008

Although the table above indicates that no groundwater was utilized for urban purposes in 2008, the City of Turlock’s recently adopted General Plan (2012) and Urban Water Management Plan

(2011), provide information regarding the installation of new groundwater wells to supplement the City's needs through 2020.

The City expects to be able to meet water demand through groundwater extraction through 2020 by adding wells to extract the available water and infrastructure to deliver the water to the new facilities as the demand increases with buildout of the General Plan. In 2020, the City will supplement its groundwater with surface water.

Groundwater is managed in the Turlock Subbasin by the Turlock Groundwater Basin Groundwater Management Coordinating Committee. According to this source, urban land uses, irrigators in the Eastside and Ballico-Cortez water districts, and irrigators in the foothills and other non-District areas depend on groundwater for water supply. Both irrigated agricultural production and urban land use have increased significantly in the Subbasin since 1950. Until the 1990s an equilibrium was maintained on the inflow and outflow into and out of the Subbasin. Studies by the California Department of Water Resources suggest that groundwater storage decreased between 2002 and 2006. As a result of this decreased storage and increased groundwater use, the Subbasin may no longer be in equilibrium. However, because surface water from the Turlock Irrigation District is used to supply more than half of the total irrigation water applied within the Subbasin, a balance may continue to be possible.

The Turlock Groundwater Management Plan includes measures to protect groundwater, as well as surface water. Measures include:

- Protection of natural recharge areas through mapping and identification, education of the public and planning entities, and encouraging the maintenance of land use practices that promote ground water recharge;
- Feasibility evaluation of artificial recharge projects;
- Management and optimization of well field operations;
- Support of public health projects to protect water quality through proper well construction and destruction;
- Water quality management, beginning with conducting a hydrologic assessment to identify contaminant sources and develop strategies to control the migration and movement of poor quality water into or within the Subbasin;
- Continue the groundwater monitoring and subsidence monitoring program;
- Provide a forum for policy assessment and coordination of regional programs with policy implications or requirements;
- Continue promoting coordination and cooperation between water agencies; and

- Prepare a feasibility study of conjunctive use project to increase supply flexibility and promote recharge in years when water is available.

Additionally, there is concern that as currently proposed, changes to the existing Bay-Delta Plan will increase the flow requirement of water in the Merced, Stanislaus, and Tuolumne rivers. Since the Tuolumne River is the surface water supply source for the cities of Ceres, Modesto, and Turlock in Stanislaus County, the proposed increase of additional water will have an adverse impact on the underlying groundwater subbasin, by necessitating the three cities to pump more groundwater to make up for lost surface water.

### **Wastewater**

The Turlock Regional Water Quality Control Facility (TRWQCF) provides tertiary treatment of wastewater from the cities of Turlock, Ceres and the unincorporated community service districts of Keyes and Denair. Effluent from the facility discharges to the Turlock Irrigation District (TID) Lateral No. 5 Drain (also known as the Harding Drain). The Harding Drain is an open, multipurpose drain that intercepts and conveys irrigation return flows as well as storm drain runoff and the TRWQCF's effluent. The Harding Drain discharges to the San Joaquin River. The San Joaquin River is designated an impaired water body under the authority of the Clean Water Act, Section 303(d). When a water body is listed as an impaired water body, the regulations require that no additional pollutants be discharged to the water body. Dilution credits will no longer be allowed for the effluent discharge from the TRWQCF, as the RWQCB determined that the TID Lateral No. 5 Drain was a tributary to the San Joaquin River. The regional Basin Plan requires that tributaries receive the same level of protection as the major water bodies. The discharge requirements include tertiary treatment (coagulation/flocculation and filtration), lower levels of biochemical oxygen demand (BOD), total suspended solids (TSS), ammonia, and more efficient disinfection.

According to County Code Title 16.10.040 and Stanislaus County's Measure X, primary and secondary on-site wastewater treatment is required for all new residential construction or commercial projects, except agricultural uses of the land that are permitted. Wastewater produced by non-residential uses, including agricultural, commercial, and industrial wastes, are also regulated by the State Water Resources Control Board on an individual basis.

### **Storm Drainage and Surface Water Runoff**

The County currently protects surface water quality by requiring the implementation of Best Management Practices (BMPs) during the construction of new development projects and requires projects to comply with post-construction BMPs, as identified in the County's National Pollutant Discharge Elimination System (NPDES) 2011-2012 Storm Water Management Plan. Surface water quality is also protected by complying with the current State of California Construction General Permit Order 2009-0009-DWQ. In April 2003, the County filed a Notice of Intent to participate in the State's General Permit, in compliance with the federal stormwater quality regulations, 40 CFR Part 122 et. Seq. (Phase II), Porter-Cologne Water Quality Control Act Section 13376, and with the State Water Resources Control Board General Permit for Small Cities No. CAS000004. In addition to areas within urbanized areas, the General Permit includes

the communities of Empire, Keyes, and Salida, Crow's Landing, Denair, Diablo Grande, Del Rio, Grayson, Hickman, Knight's Ferry, La Grange, Sunset Oaks Estates, Valley Home and Westley, and the industrial area known as Beard Tract between Modesto and Empire.

In addition to the General Permit, the County provides public education, and has a number of practices in place to inform the public about dumping and other potential sources of surface water pollution. A Storm Water Pollution Prevention Program has been developed by County staff to track storm water related violations that occur in unincorporated areas. Farmers must also manage their operations to reduce runoff from water applied to crops treated with pesticides and fertilizers. These activities are administered by the Regional Water Quality Control Board through an Ag Waiver program.

### **Solid Waste**

Four refuse collection agreements are administered by the County for the unincorporated areas, managed under the County-wide Integrated Waste Management Plan for the County and its nine cities. Stanislaus County is also responsible for administering and enforcing the Food Processing By-product Ordinance. The County administers the Service Agreement with Covanta Energy for operation of the Stanislaus Resource Recovery Facility and energy-from-waste project.

Solid waste from the project would be taken to the Fink Road landfill near Crows Landing, or to the Stanislaus Resource Recovery Facility (SRRF), a waste-to-energy facility, adjacent to the landfill. The waste-to-energy facility reduces the volume of waste going into the landfill by about 90 percent. According to the Solid Waste Management Division of the Stanislaus County Department of Environmental Resources, the Fink Road landfill—the only one operating in Stanislaus County—had capacity until 2017 for garbage (Class III waste) and 2023 for the waste-to-energy ash (Class II waste) as originally designed, with a total landfill capacity is 6.8 million tons. However, based on lower disposal rates, the County recently revised its projections for the life of the landfill to 2029 for Class III waste and 2043 for Class II. In addition, the County has initiated plans for an expansion and reconfiguration of the existing facility to extend its useful life by another 10 to 15 years beyond the revised projections. The expansion project would be complete prior to the scheduled original closure date of the landfill. In accordance with Public Resources Code Section 41000 et seq., a goal of 50 percent waste stream diversion through reduction and recycling has been established.

### **WASTE DIVERSION TARGETS**

Public Resources Code Sections 41000 and 41300 et seq. require each city and county in the state to prepare a Source Reduction and Recycling Element (SRRE) to meet waste diversion reduction goals of 25 percent by 1995 and 50 percent by 2000.

The County's SRRE was adopted by the Board of Supervisors, and was later reviewed and approved by the California Integrated Waste Management Board (CIWMB) in 1995. The SRRE included source reduction, including recycling and composting activities for solid waste generated within the county. The study also detailed means of reducing commercial and

industrial sources of solid waste. Funding and public information components were also included.

In 2001, the Regional Solid Waste Planning Agency (RSWPA) was formed including Stanislaus County and the eight cities within the county. According to CalRecycle, the RSWPA's current per capita target is 6.3 pounds per person per day and employment target is 21.2 pounds per employee per day. In 2010, the RSWPA achieved 3.9 pounds per person per day and 16.0 pounds per employee per day.

## ***Energy***

The Turlock Irrigation District (TID) provides electricity to the southern portion of Stanislaus County, with power provided by Pacific Gas & Electric (PG&E) and the Modesto Irrigation District in the northern and middle sections of the County, respectively. PG&E provides natural gas service to the county. Below is a discussion of each energy source.

### **ELECTRICITY**

Users in Turlock and the other areas in the southern one-third of the county receive their electricity supply from the Turlock Irrigation District (TID). Established in 1887 as the state's first publicly-owned irrigation district, TID supplies water to farmers and retail power to homes, businesses, and farms in Turlock and the surrounding area. TID was able to offer hydroelectric power beginning in 1923 with the construction of the Don Pedro Dam. Approximately 40 percent of TID's electricity is generated at the Don Pedro Dam and Powerhouse. To supplement power generated at Don Pedro, TID built numerous small hydroelectric plants on its canals, which use the gravity-fed system to generate power during periods of peak demand.

Natural gas power plants represent approximately 19 percent of TID's power generation capacity. TID operates three such plants: the Walnut Energy Center, the Walnut Power Plant, and the Almond Power Plant. TID also purchases power from numerous sources in northern California and the Pacific Northwest.

TID's electricity supply is split between power that the District generates and that which is purchased from other suppliers. TID generates just over half of its own supply and purchases the remainder. TID estimates that current electricity sources are not adequate to maintain a sufficient level of service over the next 20 years. However, TID is in the process of adding additional resources as part of its normal planning process and expects to be capable of maintaining sufficient service in future years.

### ***Renewables***

Currently, 6.5 percent of TID's electricity supply comes from renewable energy sources. Seventy percent of their renewable power supply is generated from geothermal energy, and TID also owns some solar, wind, and fuel cell facilities in the Napa area. TID is also investing in a large wind power site in the Columbia River Gorge, which will allow them to meet their State renewable requirement through 2025. Current State requirements are for power suppliers to

deliver at least 20 percent renewable energy by 2017 and 33 percent by 2020. TID's goal is to increase their renewable percentage by one to two percent per year in order to meet the requirement. TID is also currently working with the City of Turlock to develop a fuel cell plant in conjunction with the City's new wastewater treatment facility, which would utilize the facility's methane output to create energy.

The Stanislaus Resource Recovery Facility is an energy-from-waste facility that processes 800 tons per day of solid waste, generating up to 22.5 megawatts of renewable energy. This energy is sold to Pacific Gas and Electric Company (PG&E). The facility is a zero water discharge plant, which means that all waste water generated on-site is treated and reused in the process. The facility, Covanta Stanislaus, is located in the southwest corner of the county in the community of Crows Landing

## **NATURAL GAS**

PG&E provides natural gas to all or part of 39 counties in California, including the project site, comprising most of the northern and central portions of the state. PG&E obtains more than 70 percent of its natural gas supplies from western Canada and the balance from U.S. sources. PG&E operates approximately 48,000 miles of transmission and distribution pipelines.

### **3.12.3 IMPACT EVALUATION CRITERIA**

According to the CEQA Guidelines, a project will normally have significant adverse impacts associated with public services and utilities if it would:

*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 of other performance objectives for any of the public services:*

- *Fire protection;*
- *Police protection;*
- *Schools;*
- *Parks; and*
- *Other public facilities.*

According to Appendix G of the CEQA Guidelines a project will normally be considered potentially significant if it will:

- a) *Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.*
- 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.*

- 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.*
- d) *Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed.*
- 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.*
- f) *Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.*
- g) *Comply with federal, state, and local statutes and regulations related to solid waste.*

### **3.12.4 IMPACTS AND MITIGATION MEASURES**

#### **Impact #3.12-1 – Increased demand for fire protection services and personnel.**

The proposed project is located in the county immediately west of the city limits for the City of Turlock. Accordingly, the project area is within the Stanislaus County Fire Protection District, although response to a fire on the site could include both city and county fire services. The project includes the construction and operation of a 180,000 square foot warehouse and associated facilities for the receiving, storage, packing, and shipping of watermelons, sweet potatoes, beans, wheat, pumpkins, and squash. Several structures would be constructed in addition to the existing buildings on the site, and all would be required to comply with federal and State building and fire codes and other safety procedures, as well as with County General Plan policies.

**Conclusion:** Stanislaus County has impact fees that include fire facilities. In order to implement the goals and objectives of the County's general plan, and to mitigate the impacts caused by future development in the county, fire department facilities must be constructed. The Board of Supervisors has determined that an impact fee for county facilities that include the fire department are needed in order to finance these facilities and to pay for each development's fair share of the facilities' construction and acquisition costs.

Adherence to the existing policies of the Stanislaus County General Plan and payment of fire development-related impact fees will ensure that additional fire protection services and personnel are provided in the future. The increase in fire protection resulting from construction of additional facilities is a long-term objective that cannot be fully addressed in the timeframe needed to significantly improve response to the project area in the short term. However, with the incorporation of building codes and operations' safety requirements, impacts will be *less than significant*.

**Mitigation Measure #3.12-1:** The access to the site from Washington Road shall be provided with radio frequency gate opening devices (i.e. "Click-to-enter") in addition to the standard

police/fire bypass keyway. Manually operated gates across required fire access roadways are prohibited.

**Effectiveness of Mitigation Measure:** Implementation of this mitigation measure, in conjunction with payment of fire development impact fees and adherence to state and federal building codes and other requirements will result in impacts from the project to fire protection services to a level that is *less than significant*.

### **Impact #3.12-2 – Increased demand for law enforcement services.**

The County collects impact fees specifically for Sheriff's Department services. The purpose of the fees is to implement the goals and objectives of the County's general plan. Additionally, to mitigate the impacts caused by future development in the county, certain sheriff's department facilities must be constructed. The Board of Supervisors has determined that a Sheriff's Department impact fee is needed in order to finance such facilities and to pay for each development's fair share of the facilities' construction and acquisition costs. Depending on the type facility being constructed, the County building department assesses a fee of \$9 per 1,000 square feet (warehouse facility) to \$47 per 1,000 square feet (large industrial facility) for Sheriff's Department fees.

**Conclusion:** Adherence to Stanislaus County General Plan policies and the payment of Sheriff's Department facilities fees will ensure that adequate law enforcement protection and public protection facilities are provided to serve the project area. The project is a warehouse, which will not increase the population of residents in the project area. It is not anticipated that the project will require construction of new law enforcement facilities to support the project. Therefore, there are *no impacts* associated with construction of new facilities as a result of the project.

**Mitigation Measures:** None required.

### **Impact #3.12-3 – Increased demand on public schools.**

The proposed project is expected to employ up to 75 workers during its busiest season (June through September), with workers living in nearby Turlock. The project is not anticipated to induce growth in the area, or require the construction of new homes or increase the need for City services.

**Conclusion:** The project will not adversely impact or require additional school facilities, and there is *no impact* to the demand for public schools resulting from the project.

**Mitigation Measures:** No mitigation measures are required.

### **Impact #3.12-4 – Increased demand on parks and recreation.**

**Conclusion:** The proposed project does not include the construction of residential uses that would require new parks. The project is located just outside the City limits, and would be

expected to attract City residents who would not need to relocate for work. Existing park facilities will not be impacted by this project. There will be *no impact* to the demand on park facilities resulting from the project.

**Mitigation Measures:** No mitigation measures are required.

**Impact #3.12-5 – Increased demand on library services.**

**Conclusion:** The proposed project does not include the construction of residential uses that would require new library facilities. Existing library facilities will not be impacted by this project. There will be *no impact* to the demand on library services resulting from the project.

**Mitigation Measures:** No mitigation measures are required.

**Impact #3.12-6 – Increased demand on public protection facilities.**

See the discussion on law enforcement protection provided under Impact #3.12-2.

**Conclusion:** Impacts would be *less than significant*.

**Mitigation Measures:** No additional mitigation measures are required.

**Impact #3.12-7 – Increased demand on paramedic services.**

In Stanislaus County, standards are regulated by the Mountain-Valley Emergency Medical Services Agency. Ambulance crews responding to a life-threatening emergency are expected to arrive at the scene within 11.5 minutes in suburban areas and in fewer than 20 minutes in county areas. American Medical Response covers Turlock and other areas of the county.

Although workers in packing facilities may have a higher likelihood of on-the-job injuries than in many other industries (U.S. Department of Labor Statistics and Research, 2000), many of the injuries sustained are musculoskeletal disorders that occur over time, and are not the result of falls or other isolated events. Per the California Department of Industrial Relations, the employer will develop an injury and illness prevention program, and workers will be trained on avoiding injuries in their workplace. The proposed project would not present any significant challenges to the ability of ambulance services to provide adequate ambulance services in a timely manner. Accordingly, the proposed project would have a less than significant impact on ambulance services.

**Conclusion:** *Less than significant* impact.

**Mitigation Measures:** None are required.

**Impact #3.12-8 – Exceed wastewater treatment requirements of the Regional Water Quality Control Board, Central Valley Region.**

The SWRCB adopted Resolution 68-16 regarding a “Statement of Policy with Respect to Maintaining High Quality Waters in California.” The SWRCB declared in this resolution that any activity that produces or could produce a waste or increased volume or concentration of waste will be required to meet waste discharge requirements that will result in the best practicable treatment or control of the discharge necessary to ensure a nuisance will not occur and that high water quality will be maintained for the benefit to the people of the state. These waste discharge requirements are administered by the Central Valley Regional Water Quality Control Board through Basin Plan Waste Discharge Requirements and apply if a wastewater treatment plant were to serve the proposed project site.

The project will result in additional wastewater, almost exclusively from washing fruit or vegetables before packaging. During the busiest months it is anticipated that up to 6,000 gallons per week would be used, and would then directed to adjacent fields as irrigation water. This water will not contain chlorine or other additives, except possibly enzymes, and will not require treatment before being transported to nearby agricultural fields. Because the wastewater will not be released offsite into a public owned sanitary sewer collection system, the California Regional Water Quality Control Board Waste Discharge Requirement (WDR) agreement is not required.

**Conclusion:** Avila and Sons is not required to receive an executed WDR from the RWQCB prior to discharge of additional wastewater, as all water used will remain on site or be utilized on adjacent properties for irrigation purposes. Therefore, the impact is *less than significant* resulting from additional wastewater.

**Mitigation Measures:** None are required.

**Impact #3.12-9 – 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.**

Water used on site for washing purposes, as well as water used by employees for sanitation and cleaning will be supplied by an existing well. The proposed project would use approximately 2.12 acre feet of water per year for all combined purposes. Wastewater resulting from the washing process will be applied to nearby fields, and will not require prior treatment.

Waste water generated from hand washing stations, restrooms, or other employee facilities would adhere to Stanislaus County requirements of both the Uniform Plumbing Code and the County Environmental Health Department for the installation and operation of an on-site, commercial septic system. The facility would have a maximum of 75 employees. During the busiest season (June through September), employees were estimated to use a total of 9,375 gallons of water per week. These employees would work two or three shifts and all would not be on site at one time. The septic system would be calculated for size based on an estimated use of 25 gallons/day per employee. The sewage disposal system would probably require an aerobic treatment unit, and not septic tanks, per County requirements.

An 800 gallon per minute (GPM) well will provide water for washing produce and sanitation, and an existing 25 GPM well can also be used for washing produce. The use of groundwater for this purpose is discussed in greater detail in Section 3.9.4

**Conclusion:** The project will not require the construction or expansion of existing water or wastewater facilities. No other water sources exist or are proposed. There is *no impact*

**Mitigation Measures:** None are required.

**Impact #3.12-10 – 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.**

The proposed project will require installation and operation of a new or expanded retention basin, as the existing basin provides storage for 0.08 acres of water storage. The proposed project is subject to the requirements of the NPDES Permit adopted by the SWRCB. In order to be granted coverage, the applicant must submit a Notice of Intent to comply with the general permit along with a site plan map and fee to the SWRCB prior to starting construction. Additionally, as part of the NPDES process, the applicant must prepare a Storm Water Pollution Prevention Plan (SWPPP) according to the latest regulations (effective July 1, 2010) to be retained onsite. The SWPPP must include BMPs that, when implemented, prevent storm water quality degradation to the extent practical by preventing sediments and other pollutants from leaving the project site (United States Environmental Protection Agency 2013).

Construction activity subject to this permit includes clearing, grading, grubbing, and disturbance to the ground for activities such as excavation. The drainage basin will prevent on-site drainage from flowing off-site, and will not have significant environmental effects on the site. Water stored in the basin will disperse by way of evapotranspiration. The basin would be used to store stormwater from the site only, and would not cause negative environmental effects. The project will also be in compliance with the Industrial Storm Water General Permit Order No. 97-03-DWQ as appropriate, which further regulates stormwater discharges for industrial sites.

During the construction phase of the project, Best Management Practices (BMPs), in compliance with MS4 permit requirements will be implemented to ensure that on-site pollutants and runoff is controlled. These BMPs typically include dust control measures, control and clean up of track out, and installation of straw or other waddles to control surface water runoff. Low Impact Development standards will be included as well, where appropriate.

**Conclusion:** With the implementation of BMPs and other measures as required under the NPDES General Permit and the Phase I and II MS4 permits, the project's stormwater impact is *less than significant*.

**Mitigation Measures:** None are required.

**Impact #3.12-11 – Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed.**

The project does not qualify under SB 610, under Water Code Section 10912(5) as a “Project” (a proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area). A “project,” as defined under SR 610 requires that water supply assessments be conducted and that the “project” be considered in the preparation of urban water management plans and water supply assessments.

The proposed project will use a maximum of 1,000 gallons per day during the busiest seasons and approximately 335 gallons per day during the slower seasons, primarily for rinsing fruit and vegetables. Water would be extracted from an existing, on-site, agricultural well, which produces water at a rate of 800 GPM. Washing water may be used to irrigate the adjacent fields, so that less surface water would be needed for irrigation purposes. No new entitlements will be needed.

**Conclusion:** The project will have *a less than significant* impact on the County’s ability to serve existing water users.

**Mitigation Measures:** None are required.

**Impact #3.12-12 – 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.**

An off-site wastewater treatment provider will not be required for the project. Wastewater resulting from employee’s use (e.g. bathroom and hand washing facilities) will be treated using an on-site septic system that will be designed in accordance with the County Environmental Health Department requirements. Construction of the facility will begin once the required permit from the County has been granted. The existing residential septic system will be expanded to ensure that there is capacity for the estimated 75 employees. As noted under 3.15.5(b), waste water generated from hand washing stations, restrooms, or other employee facilities would also adhere to Stanislaus County requirements to meet the Uniform Plumbing Code for the installation and operation of an on-site, commercial septic system.

**Conclusion:** The project will have *a less than significant* impact on the County’s or nearby City’s ability to serve existing wastewater users.

**Mitigation Measures:** None are required.

**Impact #3.12-13 – Be served by a landfill with sufficient permitted capacity to accommodate the project’s solid waste disposal needs.**

The project will include construction of the facility and operation of the produce processing equipment. Construction activities are expected to generate debris typical of this activity. Solid waste from the project would be taken to the Fink Road landfill near Crows Landing, or to the

Stanislaus Resource Recovery Facility (SRRF), a waste-to-energy facility, adjacent to the landfill. The waste-to-energy facility reduces the volume of waste going into the landfill by about 90 percent. According to the Solid Waste Management Division of the Stanislaus County Department of Environmental Resources, the Fink Road landfill had capacity until 2017 for garbage (Class III waste) and 2023 for the waste-to-energy ash (Class II waste) as originally designed, with a total landfill capacity is 6.8 million tons. However, based on lower disposal rates, the County recently revised its projections for the life of the landfill to 2029 for Class III waste and 2043 for Class II. In addition, the County has initiated plans for an expansion and reconfiguration of the existing facility to extend its useful life by another 10 to 15 years beyond the revised projections. The expansion project would be complete prior to the scheduled original closure date of the landfill. In accordance with Public Resources Code Section 41000 et seq., a goal of 50 percent waste stream diversion through reduction and recycling has been established.

In compliance with State, federal, and local regulations, including the Stanislaus County General Plan and Zoning Ordinance, materials will be recycled or composed to the extent possible. Facilities operations will produce solid waste in the form of culled fruit that may be removed due to bruising or other defect. Up to approximately 0.5 cubic yards of organic waste (culls and pieces of produce) may be produced daily. This will be spread over the ground on the site, and periodically tilled into the soil. The project will comply with state, federal, and local regulations regarding disposal of solid waste.

**Conclusion:** The proposed project would not generate the need for new solid waste facilities and the impacts would be *less than significant*.

**Mitigation Measures:** None are required.

**Impact #3.12-14 – Comply with federal, state, and local statutes and regulations related to solid waste.**

Federal regulations include the Resource Conservation and Recovery Act that regulates the potential health and environmental problems associated with solid waste hazards and non-hazardous wastes. State regulations include Local Government Construction and Demolition (C&D) Guide, also known as Senate Bill 1374. This guide seeks to assist jurisdictions with diverting their C&D material, with a primary focus on CalRecycle developing and adopting a model C&D diversion ordinance for voluntary use by California jurisdictions. Another State requirement is the California Integrated Waste Management Act of 1989 (AB 939), effective January 1990. This legislation required each local jurisdiction in California to set diversion requirements for solid waste. Legislation was updated in 2007, so that new disposal-based indicator (pounds per person per year) uses only two factors: a jurisdiction's population (or in some cases employment) and its disposal as reported by disposal facilities. The City of Turlock's disposal rate goal is 6.3 pounds per person per day and employment target is 21.2 pounds per employee per day. Although CalRecycle encourages composting of solid waste from agricultural facilities, there are no State requirements to compost culls and solid wastes strained from washing water at packing facilities.

Title 9 of the Stanislaus County Code includes ordinances regarding ordinances for refuse (solid waste) collection (Title 9.02 through 9.10). The County's Land Use Element includes Policy 22, which states that, "*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.*" The Conservation Element includes a goal (#7) to, "*Support efforts to minimize the disposal of solid waste through source reduction, reuse, recycling, composting, and transformation activities.*"

During the construction of structures on the site, construction wastes will be disposed of properly and hauled to the Fink Road Landfill in Crows Landing. The operation of the project will result in organic waste that will remain on site, and be tilled into the soil to improve soil conditions for crop production. All other solid waste produced as a result of the washing, packing, and loading operations will be disposed of at the Fink Road landfill. Wastes are not expected to exceed the State target levels.

**Conclusion:** The proposed project would comply with federal, State and local statutes and regulations related to solid waste, and the impacts would be *less than significant*.

**Mitigation Measures:** None are required.

### **3.13 Transportation and Traffic**

This section describes the existing transportation systems and traffic and potential effects from project implementation on area roadways and transportation systems. Descriptions and analysis in this section are based on a traffic impact study prepared by KD Anderson & Associates, Inc., dated October 15, 2013.

#### **3.13.1 REGULATORY SETTING**

##### ***Federal***

#### **FEDERAL CLEAN AIR ACT**

The Clean Air Act (CAA) requires that, in areas experiencing air quality problems, transportation planning must be consistent with air quality goals. This is determined through the transportation conformity process. In some areas, this process has forced State and local transportation officials to make tough decisions in order to meet both air quality and mobility goals. Where CAA goals were not being met, some State and local transportation officials have been challenged to find ways to reduce vehicle emissions by developing transportation plans, TIPs, and projects that will alter travel patterns, reduce the number of single-occupant vehicles, and make alternative modes of transportation (such as transit and bicycles) an increasingly important part of the transportation network (Federal Highway Administration 2013).

#### **REGIONAL SURFACE TRANSPORTATION PROGRAM**

Road improvements to city and county roads are sometimes funded with federal grants. Grants often require a match of funding from the local jurisdiction. Funds are directed to projects and programs for a broad variety of streets and road work. Typical projects that qualify to be funded under this federal program are roadway surfacing and reconstruction.

#### **CONGESTION MITIGATION AND AIR QUALITY PROGRAM**

Funds are directed to transportation projects and programs which contribute to the attainment or maintenance of National Ambient Air Quality Standards in non-attainment or air quality maintenance areas for ozone, carbon monoxide, or particulate matter under provisions in the Federal Clean Air Act.

##### ***State***

#### **SB 375**

Following the passage of Assembly Bill 32 (AB 32) – The California Global Warming Solutions Act of 2006, which specifies that by the year 2020, greenhouse gas (GHG) emissions within the State must be at 1990 levels, Senate Bill 375 (SB 375) – The Sustainable Communities and Climate Protection Act of 2008 was signed into law as the framework for achieving greenhouse gas emissions reductions from land use and transportation planning.

SB 375 includes four primary findings related to the RTP/SCS development process:

- That the ARB develop regional GHG emission reduction targets for cars and light trucks for each of the 18 MPOs in California, including Stan COG;
- That the Stanislaus COG, during the next RTP update is required to prepare an SCS that specifies how the GHG emission reduction target set by ARB will be achieved. If the target cannot be met through the SCS, then an Alternative Planning Strategy (APS) shall be prepared by StanCOG;
- Streamlines CEQA requirements for specific residential and mixed-use developments that are consistent with the Stanislaus County SCS or APS (as determined by ARB) to achieve regional GHG emissions reduction target; and
- Requires that StanCOG conduct the Regional Housing Needs Assessment (RHNA) process consistent with the RTP/SCS process and that the RHNA allocations be consistent with the development pattern in the SCS.

### **AB 1358 – CALIFORNIA COMPLETE STREETS ACT**

On September 30, 2008 Governor Arnold Schwarzenegger signed Assembly Bill 1358, the California Complete Streets Act. The Act states: “In order to fulfill the commitment to reduce greenhouse gas emissions, make the most efficient use of urban land and transportation infrastructure, and improve public health by encouraging physical activity, transportation planners must find innovative ways to reduce vehicle miles traveled (VMT) and to shift from short trips in the automobile to biking, walking and use of public transit.”

The legislation impacts local general plans by adding the following language to Government Code Section 65302(b)(2)(A) and (B):

- (A) Commencing January 1, 2011, upon any substantial revision of the circulation element, the legislative body shall modify the circulation element to plan for a balanced, multimodal transportation network that meets the needs of all users of the streets, roads, and highways for safe and convenient travel in a manner that is suitable to the rural, suburban, or urban context of the general plan; and
- (B) For the purposes of this paragraph, “users of streets, roads, and highways” means bicyclists, children, persons with disabilities, motorists, movers of commercial goods, pedestrians, users of public transportation, and seniors.

### ***Regional***

### **REGIONAL TRANSPORTATION PLAN**

The adopted Regional Transportation Plan (RTP) (2011) establishes regional transportation policy for the Stanislaus County region and focuses on achieving a coordinated and balanced

multimodal transportation system, while maintaining the integrity of the existing system. The RTP includes projects located throughout Stanislaus County region for all forms or modes of transportation, including automobiles, transit, non-motorized (including bicycle), passenger rail, freight, and aviation facilities. The RTP reflects a fiscally constrained environment and identifies those projects (considered as Tier 1 projects) that have a secure or approved funding source.

## ***Local***

### **STANISLAUS COUNTY**

#### ***General Plan***

Pursuant to California Code Title 14, Section 65300 the 1994 Stanislaus County General Plan addresses transportation and traffic in its Circulation Element, Land Use Element, and Agricultural Element. The plan also includes local, regional, State, and federal programs and regulations as well as a comprehensive set of guiding and implementing policies. The following policies are applicable to the proposed project site:

CIR: Policy One-Development will be permitted only when facilities for circulation exist, or will exist as part of the development, to adequately handle increased traffic;

CIR: Policy Two- Circulation systems shall be designed and maintained to promote safety and minimize traffic congestion;

LU: Policy Twenty-Three- New development shall pay its fair share of the cost of cumulative impacts on circulation and transit systems; and

AG: Policy 3.1- The County shall continue to coordinate with the San Joaquin Valley Air Pollution Control District.

Additional Elements may apply indirectly to transportation and traffic related impacts. In addition to the County's General Plan, the proposed project would have to comply with the Stanislaus County Code.

#### ***Stanislaus County Code***

The Stanislaus County Code Title 11, Chapters 11.04 through 11.43 govern certain activities throughout the County that are related to the transportation and traffic section of this report. The proposed project's construction phases would include transporting heavy equipment to the site. After the construction phases are complete, trucks will haul produce on county roads to access other routes, and employees will commute to the site. Compliance with the following regulations will be required:

Title 11, Chapter 11.04 Speed Limits;

Title 11, Chapter 11.16 Highway Weight Limits and Alternative Routes; and

Title 11, Chapter 11.22 Construction and Maintenance Areas.

The North Washington Road right-of-way is in the City of Turlock's Westside Industrial Specific Plan (WISP) limits and designated as an expressway in the City's General Plan. Consequently, the proposed project will also be subject to the WISP with regard to road frontage improvements. The next section provides an overview of applicable regulations.

***Stanislaus Council of Governments (StanCOG) Draft Final Non-Motorized Transportation Master Plan***

The StanCOG Non-Motorized Transportation Plan (Plan) was updated in September 2013. StanCOG is the Regional Transportation Planning Agency (RTPA) for Stanislaus County. The Plan was prepared to prioritize investments that serve countywide and local interests, increase accessibility of competitive grant funding sources, and update the 2008 StanCOG Non-Motorized Transportation Plan. A countywide understanding of existing conditions and countywide priority bicycle and pedestrian networks as well as existing conditions analysis and recommended network for the unincorporated County and each of the nine Stanislaus County cities is provided in the Plan. Each jurisdiction has a specific stand alone chapter, which can be adopted by local agencies. Chapter 11 is the stand alone chapter for the City of Turlock. The following goals and objectives are included in the plan:

**Goal 1: Increase Bicycle and Pedestrian Access and Safety:**

- Objective 1.A: Implement the StanCOG Countywide Bicycle and Pedestrian Master Plan, which identifies existing conditions and planned networks, and provides specific short-term and longterm recommendations for countywide priority facilities and programs, including near-term (five to ten-year) priority projects;
- Objective 1.B: Complete a continuous network of bikeways and pedestrian facilities that are feasible, fundable, and serve the needs of bicyclists and pedestrians, especially for travel to employment centers, schools, commercial districts, transit stations, and institutions;
- Objective 1.C Objective 1.C: Address immediate and future safety needs for all roadway users, particularly bicyclists and pedestrians, who are the most vulnerable roadway users;
- Objective 1.D: Improve access and integration with transit for bicycling and walking trips.

**Goal 2: Increase Bicycle and Pedestrian Trips:**

- Objective 2.A: Include bikeways and pedestrians facilities in all appropriate future development projects to facilitate on-site circulation and connections to the proposed system; and
- Objective 2.B: Provide secure, covered short- and long-term bicycle parking in employment and commercial areas, in multi-family housing, at schools, and at transit facilities.

### Goal 3: Improve Regional & Local Connections:

- Objective 3.A: Complete a network of bikeways that allow for intercity travel between Stanislaus County communities; and
- Objective 3 B: Align countywide bikeways through Stanislaus County cities such that local needs and destinations are served.

## **CITY OF TURLOCK**

### ***Westside Industrial Specific Plan***

As previously mentioned, of the entire right-of-way width of North Washington Road is in the Turlock city limits. The road is classified as an expressway in the Turlock General Plan. In addition to landscape screening for onsite parking areas, frontage improvements including curb, gutter, and sidewalk will be required along with a right turn lane into the project site. The proposed driveway would be aligned with the new traffic signal into the Blue Diamond facility on North Washington Road. All of these activities would generate traffic and be directly related to transportation issues. Compliance with the WISP will include the following policies:

I-P- 1: Continue to monitor traffic service levels and implement improvements prior to deterioration in LOS to below the stated standard. (GP Policy 5.1-i);

I-P- 3: Emphasize routes for major truck traffic and out-of-area employees on the west side of the Plan Area;

I-P- 4: Emphasize access for resident employees on east-west circulation, notably Fulkerth Road, West Canal Drive, Castor Street and West Linwood Avenue;

I-P- 7: Truck traffic, other than local delivery trucks, shall be limited to the primary streets: Fulkerth Road, West Main Street, West Linwood Avenue, South Walnut Avenue, Washington Road and Tegner Road;

I-P- 11: Developments along Tegner Road, Washington Road and West Main Street shall be required to consolidate or limit driveways in order to minimize traffic conflicts consistent with General Plan Table 5.2-B, Expressway Design and Access Standards;

LU-P 2: All development shall comply with design standards established in this Specific Plan;

LU-P 3: Land use should be coordinated with reasonably foreseeable public transportation systems to ensure that land uses with a projected average employment density of 20 or more employees per acre are located within 1200 feet of likely transit routes;

LU-P 4: Land use should be allocated so that the destination for heavy truck traffic is generally located on the west side of the Plan Area with access from Washington Road; and

LU-P 8: Development will occur in phases linked to specific infrastructure improvements as defined in Section 5, Implementation.\

Chapters 5 and 3 of the WISP provide a detailed overview of the specific plan area including its infrastructure and services and land use objectives as related to traffic and transportation. The plan can be accessed at the City of Turlock's website using the following path:

<http://www.ci.turlock.ca.us/pdfink.asp?pdf=documents/developmentservices/planning/guidelines/WISP.pdf?o=o&title=Westside%20Industrial%20Specific%20Plan>

### **3.13.2 PHYSICAL SETTING**

#### ***Study Area Roads***

Washington Road: is a north south two lane roadway that traverses Stanislaus County on the west side of Turlock. The Turlock city limits and Sphere of Influence encompasses all of Washington Road along the frontage of the project site. The road extends from Taylor Road in the north to Riverside Avenue southwest of Hilmar. In the project vicinity the roadway is generally a two-lane rural road with full access. Mid-week traffic counts conducted in June 2013 shows that Washington Road has an Average Daily Traffic (ADT) volume of about 2,880 vehicles per day. Based on counts conducted in May 2010 truck traffic along Washington Road is about 2.5% of the daily trips for 3+ axles and 10% of the daily trips for 2 axles. The Turlock 2012 General Plan Update identifies Washington Road as a four-lane Expressway with a turn median.

#### **STUDY AREA INTERSECTIONS**

The quality of traffic flow is often governed by the operation of major intersections.

Intersections selected for evaluation in consultation with Stanislaus County staff include:

1. Washington Road / Fulkerth Road (all-way stop);
2. Washington Road / Main Street (all-way stop); and
3. Washington Road / Blue Diamond Growers (signal).

The Washington Road / Fulkerth Road intersection: is a rural access intersection for motorists along Fulkerth Road traveling between farmland to the west and SR 99 and Turlock to the east. This intersection is all-way stop controlled. All approaches are single lanes; however, Fulkerth Road is offset by about 12 feet on either side of Washington Road; Fulkerth Road west of Washington Road is shifted north of the west leg.

The Washington Road / Main Street intersection: provides access along a major east-west arterial (Main Street) through Stanislaus County extending from downtown Turlock east of SR 99 west

to downtown Patterson. This intersection is within a rural area of the County and is all-way stop controlled. The Washington Road approaches are single lane while the Main Street approaches include a left turn lane and a through-right lane.

The Washington Road / Blue Diamond Growers intersection: provides access to the Blue Diamond Growers processing plant located on the east side of the intersection. The intersection includes southbound left turn and through lanes, northbound right turn and through lanes and a westbound lane providing access to both northbound and southbound Washington Road. The intersection is signalized with a dedicated left turn phase for southbound to eastbound movements.

## LEVEL OF SERVICE

Level of Service (LOS) is a qualitative measure of traffic operating conditions whereby a letter grade "A" through "F", corresponding to progressively worsening operating conditions, is assigned to an intersection or roadway segment. Table 3.13-1 presents the characteristics associated with each LOS grade.

**Table 3.13-1  
Level of Service Definition**

Level of Service	Signalized Intersection	Unsignalized Intersection	Roadway (Daily)
"A"	Uncongested operations, all queues clear in a single-signal cycle. Delay $\leq 10.0$ sec	Little or no delay. Delay $\leq 10$ sec/veh	Completely free flow.
"B"	Uncongested operations, all queues clear in a single cycle. Delay $> 10.0$ sec and $\leq 20.0$ sec	Short traffic delays. Delay $> 10$ sec/veh and $\leq 15$ sec/veh	Free flow, presence of other vehicles noticeable.
"C"	Light congestion, occasional backups on critical approaches. Delay $> 20.0$ sec and $\leq 35.0$ sec	Average traffic delays. Delay $> 15$ sec/veh and $\leq 25$ sec/veh	Ability to maneuver and select operating speed affected.
"D"	Significant congestions of critical approaches but intersection functional. Cars required to wait through more than one cycle during short peaks. No long queues formed. Delay $> 35.0$ sec and $\leq 55.0$ sec	Long traffic delays. Delay $> 25$ sec/veh and $\leq 35$ sec/veh	Unstable flow, speeds and ability to maneuver restricted.
"E"	Severe congestion with some long standing queues on critical approaches. Blockage of intersection may occur if traffic signal does not provide for protected turning movements. Traffic queue may block nearby intersection(s) upstream of critical approach(es). Delay $> 55.0$ sec and $\leq 80.0$ sec	Very long traffic delays, failure, extreme congestion. Delay $> 35$ sec/veh and $\leq 50$ sec/veh	At or near capacity, flow quite unstable.
"F"	Total breakdown, stop-and-go operation. Delay $> 80.0$ sec	Intersection blocked by external causes. Delay $> 50$ sec/veh	Forced flow, breakdown.

Sources: Transportation Research Board, 2000.

The 2010 Highway Capacity Manual (HCM) presents methodologies for calculating practical capacity and LOS at intersections. At signalized intersections and intersections controlled by all-way stop signs, traffic conditions are described in terms of the average length of the delays experienced by all motorists. Intersection configuration, traffic volumes and traffic signal timing are all factors that enter into determination of the length of average delay and the resulting LOS. One other factor that was considered in the HCM analysis was the increased percentage of truck traffic attributed to the projected along the study roadways. The 'Heavy Vehicle' percentage was increased to a minimum of 10% to account for this added truck traffic.

The delays experienced at intersections controlled by side street stop signs are different. Motorists waiting to turn must yield the right of way to through traffic, and the length of delays can vary on each approach to the intersection. For this analysis the length of delays experienced by motorists on each approach has been calculated.

A traffic impact is considered significant if it renders an unacceptable LOS on a street segment or at a signalized intersection, or if it worsens already unacceptable conditions on a street segment or at a signalized intersection. Local jurisdictions adopt minimum LOS standards for use in traffic studies and environmental impact reports. Stanislaus County employs LOS C as the minimum standard in rural areas outside of community boundaries, while LOS D is acceptable in urban areas. The Turlock 2012 General Plan Update indicates that LOS D is the city's minimum standard. Since the study intersections are within the City's Sphere of Influence the most recently published City guidelines were used as the threshold levels; however, LOS is shown for both agencies.

At unsignalized intersections, a traffic impact may be considered "adverse but not significant" if the agency LOS standard is exceeded but the projected traffic does not satisfy traffic signal warrants. Under these conditions, several methods are available to alleviate delays to stop controlled vehicles. These may include adding turn lanes, adding acceleration / two-way left turn lanes, or installation of a traffic signal. The unmet signal warrants would imply that installing a traffic signal may reduce the delay for the stop-controlled vehicles but may not justify the new delays that would be incurred by the major street traffic (which is currently not stopped). Under these circumstances, installation of a signal would not be recommended and the substandard LOS for stop-controlled vehicles would be considered an "adverse but not significant" impact.

### ***Roadway Segment Level of Service***

The quality of traffic flow can also be described in general terms based on the daily traffic volume occurring on individual roadway segments. Agencies typically make use of general LOS thresholds that equate daily traffic volume to peak hour LOS.

The Stanislaus County Congestion Management Plan (CMP) and Regional Transportation Plan (RTP) make use of LOS thresholds originally developed by the Florida Department of Transportation. These thresholds identify typical daily traffic volumes that would be expected to result in LOS B, C, D or E conditions at major intersections during the peak hour. Table 3.13-2 presents the facility classification guidelines.

Washington Road is within the Turlock city limits and Sphere of Influence; therefore, LOS criteria for roadway segments within the City were also considered. Table 3.13-2 also presents the classification guidelines for City roadways.

**Table 3.13-2  
Roadway Segment Level of Service Definitions**

Street Classification	Lanes	Daily Traffic Volume at LOS				
		LOS A	LOS B (v/c < 0.45)	LOS C (v/c < 0.60)	LOS D (v/c < 0.90)	LOS E (v/c < 1.00)
Collector	2	‡	5,800	7,700	11,600	12,900
		(8,000)	(9,000)	(10,000)	(11,000)	(12,000)
Arterial	2	‡	7,000	9,200	13,700	15,450
		(10,000)	(12,000)	(13,000)	(15,000)	(16,000)
Expressway	4	‡	15,000	20,100	30,200	33,200
		(20,000)	(23,000)	(26,000)	(29,000)	(32,000)
	6	‡	16,200	21,600	32,400	36,000
		(23,000)	(27,000)	(31,000)	(35,000)	(38,000)
		‡	23,400	31,200	46,800	52,000
		(35,000)	(40,000)	(46,000)	(52,000)	(57,000)

Source: Transportation Research Board, 2000.

Notes: x – Stanislaus County, † - 6-lane divided expressway with left turn lane, (x) - City of Turlock criteria (2006 WISP), ‡ - no information available, \* - 4-lane divided arterial with left turn lane

According to the City’s guidelines for arterial roads with 2 lanes and a daily traffic volume of 0 to 10,000, the LOS is A. For daily traffic volumes between 15,450 and 16,000, the LOS is E. Four lane arterial roads with a daily traffic count of 20,000 is classified as LOS A. While a 4 lane arterial with traffic volumes between 32,000 and 33,200 is LOS E.

***Existing Intersection Levels of Service***

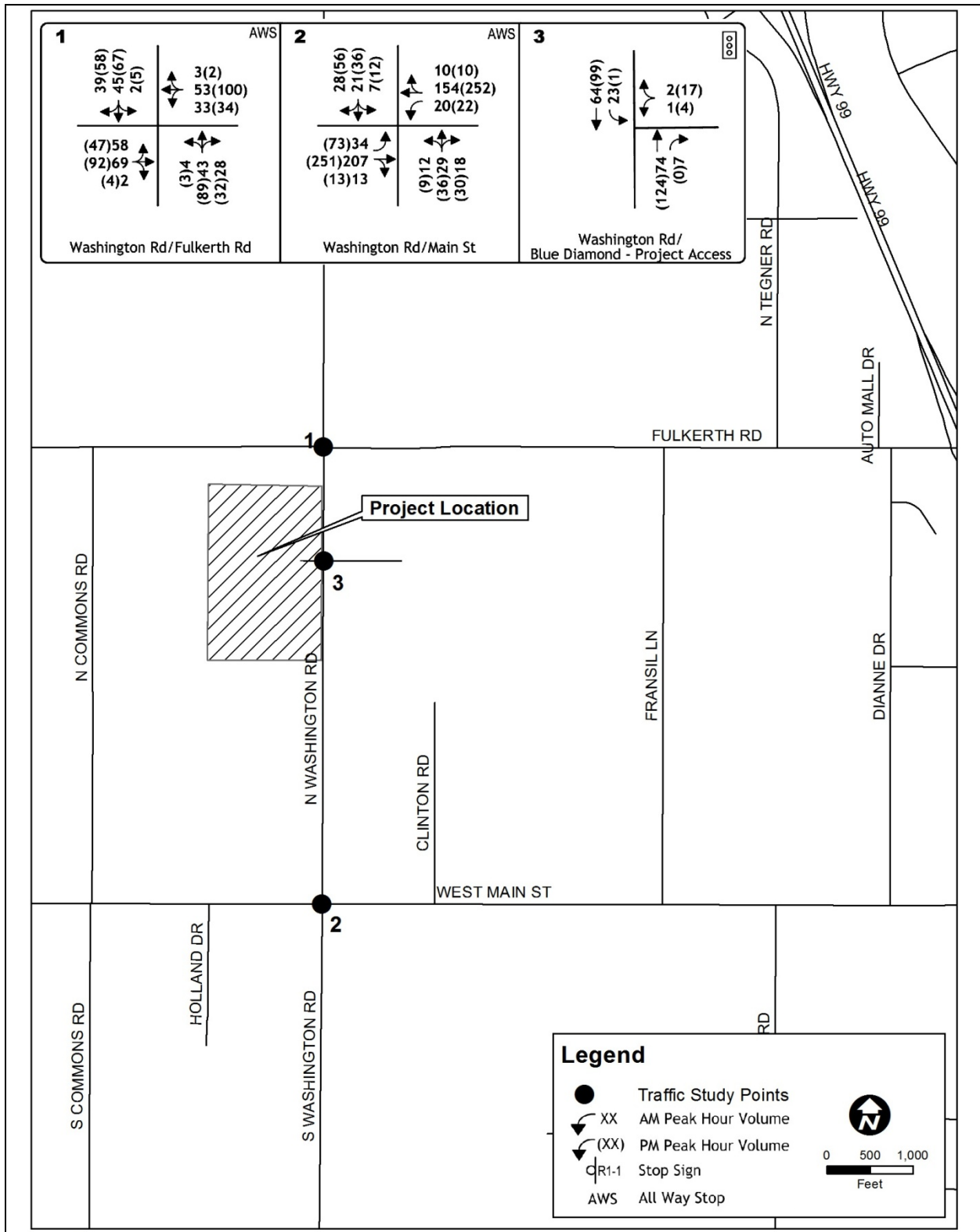
The “Traffic Impact Analysis for Washington Road Warehouse” (Appendix F) was completed by KD Anderson & Associates, Inc. on October 15, 2013. Figure 3.13-1 presents the existing traffic volumes and land configurations, while Table 3.13-3 summarizes the results of LOS for each study intersection. The LOS calculations are provided in the Appendix.

All study intersections currently operate at LOS B conditions or better and are within adopted standards at all study locations. Neither of the unsignalized intersections carries traffic volumes that satisfy peak hour traffic signal warrants.

**3.13.3 IMPACT EVALUATION CRITERIA**

***Analysis Methodology***

The methodology used to prepare Section 3.13 of this report included reviewing and applying information from the traffic impact report that was completed by KD Anderson & Associates, Inc. on October 15, 2013. Since the study intersections and roadway segment are within the City’s Sphere of Influence, the most recently published City guidelines were used as the threshold levels. The Turlock 2012 General Plan Update indicates that LOS D is the City’s minimum standard.



## EXISTING TRAFFIC VOLUMES AND LANE CONFIGURATIONS

Figure 3.13-1

**Table 3.13-3  
Existing Intersection Levels of Service**

Intersection	Control	A.M. Peak Hour		P.M. Peak Hour		Meets Peak Hour Signal Warrants
		Average Delay (Seconds)	LOS	Average Delay (Seconds)	LOS	
1. Washington Rd / Fulkerth Rd	All-Way					
Overall	Stop	8.4	A	9.2	A	No
NB		8.1	A	9.0	A	
SB		8.1	A	8.9	A	
EB		8.7	A	9.4	A	
WB		8.4	A	9.3	A	
2. Washington Rd / Main St	All-Way					
Overall	Stop	9.8	A	11.9	B	No
NB		8.8	A	9.8	A	
SB		8.6	A	9.9	A	
EB		10.3	B	12.2	B	
WB		9.7	A	12.7	B	
3. Washington Rd / Blue Diamond Access	Signal	4.3	A	1.1	A	N/A

Source: KD Anderson & Associates, Inc., 2013.

### **Thresholds of Significance**

According to Appendix G of the CEQA Guidelines, a project will normally have significant adverse impacts associated with traffic/transportation if it would:

- 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.*
- 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.*
- 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.*
- d) *Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).*
- e) *Result in inadequate emergency access.*
- 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.*

g) *Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).*

### **Other Thresholds**

As a matter of policy, Stanislaus County strives to maintain LOS C or better on all roadways. When measuring Levels of Service (LOS), Stanislaus County uses the criteria established in the Highway Capacity Manual published and updated by the Transportation Research Board.

The City of Turlock's WISP provides objectives in Chapter 5, Section 5.1.2, for LOS which includes:

Objective 1-Strive to maintain a minimum LOS Standard C on all roadway segments in the Plan Area; and

Objective 2-Strive to maintain a minimum LOS D in the PM Peak Hour on all intersections in the Plan Area.

These thresholds would apply directly to significance criteria thresholds a) and b) as related to the LOS. Inadvertently, they would apply to the other significant criteria thresholds c) through g).

### **3.13.4 IMPACTS AND MITIGATION MEASURES**

**Impact #3.13-1 – 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.**

**Impact #3.13-2 – 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?**

#### ***Project Trip Generation***

The proposed project will construct an 180,000 square foot warehouse to be used to store, package, and ship produce to distribution centers in Los Angeles, northern California, Oregon and Washington. The Institute of Transportation Engineers (ITE) publishes trip generation rates for a variety of land uses including warehouses.

The ITE Trip Generation, 9<sup>th</sup> Edition was used to evaluate the project site. Table 3.13-4 displays the daily, a.m. peak hour, and p.m. peak hour trip generation for the proposed project. Trip generation for the 180,000 square foot warehouse was calculated following the guidelines for estimating trip generation in Chapter 3 of the Trip Generation Handbook, 2<sup>nd</sup> Edition. This

included the use of fitted curve equations for daily and p.m. peak hour traffic. The a.m. rate was based upon the average rate as insufficient data is available to develop a fitted curve equation. Using these figures the project site would generate 817 daily trips with 114 a.m. peak hour trips and 87 p.m. peak hour trips.

**Table 3.13-4  
Project Trip Generation**

Land Use	Amount	Trip Rate			Trips					
		Daily	A.M. Peak Hour	P.M. Peak Hour	Daily	A.M. Peak Hour	P.M. Peak Hour			
Warehouse (LU 150)	180 ksf	4.54*	0.63†	0.48‡	817	114	87			
			A.M. Peak Hour	P.M. Peak Hour		A.M. Peak Hour	P.M. Peak Hour			
			In	Out		In	Out			
Warehouse (LU 150)			0.7	0.21	0.25	0.75	90	24	22	65
			9							
			Net New Trips		817	90	24	22	65	

Source: KD Anderson & Associates, Inc., 2013.

Notes: ksf – thousand square feet; \* - rate based on fitted curve equation -  $\ln(T) = 0.86\ln(X)+2.24$ ; † - rate based on fitted curve equation -  $\ln(T) = 0.55\ln(X)+1.88$ ; and ‡ - rate based on fitted curve equation -  $\ln(T) = 0.64\ln(X)+1.14$

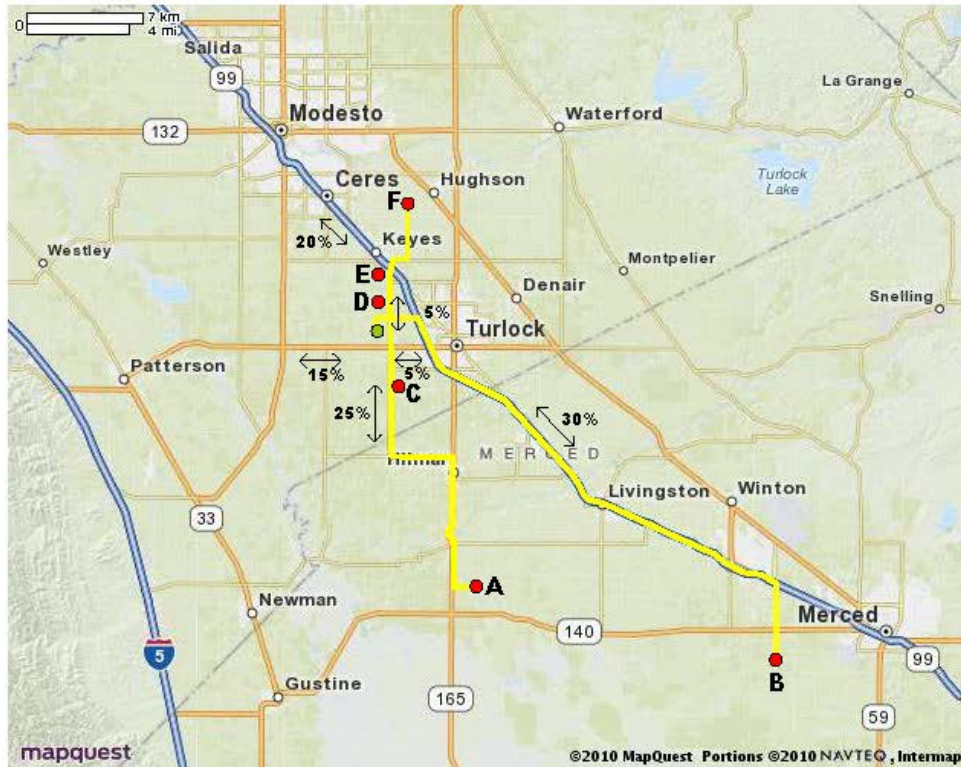
### ***Trip Distribution and Trip Assignment***

The location of the growing fields, the projected shipping directions and employee trips were all considered in developing the distribution. Figure 3.13-2 provides locations of each of the growing fields providing crops to the warehouse. The majority of the acreage is located south of the warehouse. Inbound crop delivery truck access is projected to occur along SR 99 and Washington Road. The remaining growing fields are located to the north with access provided along Washington Road. A majority of the growing fields are located near Stevinson with the shortest route along Washington Road. Outbound product distribution traffic is expected to use either SR 99 or I-5. About 50% of the product is projected to be shipped to Los Angeles with the remaining 50% split to distribution centers in Sacramento, the Bay Area, Oregon and Washington. Employee trips are expected to be spread north, south, east and west. While the site's trip distribution could change in the future based on a change in product storage and shipping there is nothing currently more valid that the trip distribution based on the applicant's projected use. Table 3.13-5 presents the projected trip distribution.

**Table 3.13-5  
Project Trip Distribution**

Route	% Distribution
North to / from Grayson via Washington Road	5%
North to / from SR 99	20%
South to / from SR 99	30%
South to / from Stevinson via Washington Road	25%
East to / from Turlock via Main Street and Fulkerth Road	5%
West to / from Patterson	15%
Total	100%

Source: KD Anderson & Associates, Inc., 2013.



**Legend**

- Project Site
- Fields
- Projected Crop Truck Routes
- $\leftrightarrow$  Overall Trip Distribution (includes inbound crop trucks, outbound product trucks and employees)
- A) 600 acres
- B) 190 acres
- C) 135 acres
- D) 40 acres
- E) 20 acres
- F) 30 acres

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 Transportation Engineers  
 0620-01 LT Rev. 10/11/2013

**FIELD LOCATIONS AND TRIP DISTRIBUTION**

figure 4



**LOCATION OF GROWING FIELDS**

**Figure 3.13-2**

### Existing Plus Project Traffic Volumes and Levels of Services

Figure 3.13-3 presents the “Existing Plus Project” traffic with the project completed. LOS under these conditions are presented in Table 3.13-6. All intersections will continue to operate at LOS that are within the minimum standards adopted by the City of Turlock. The Washington Road/Main Street intersection will also meet the peak hour signal warrant using total volume criteria. This indicates that the traffic volumes may begin to experience short term delays during peak periods. Since the intersection operates at an overall LOS B condition, no mitigations are required to improve the intersection.

**Table 3.13-6  
Existing Plus Project Peak Hour Intersection Levels of Service**

Intersection	Control	A.M. Peak Hour		P.M. Peak Hour		A.M. + Project Peak Hour		P.M. + Project Peak Hour		Meets Peak Hour Signal Warrants
		Average Delay (Seconds)	LOS	Average Delay (Seconds)	LOS	Average Delay (Seconds)	LOS	Average Delay (Seconds)	LOS	
1. Washington Rd / Fulkerth Rd	All-Way Stop	8.4	A	9.2	A	8.5	A	9.3	A	No
Overall		8.1	A	9.0	A	8.2	A	9.2	A	
NB		8.1	A	8.9	A	8.2	A	9.0	A	
SB		8.7	A	9.4	A	8.8	A	9.5	A	
EB		8.4	A	9.3	A	8.7	A	9.5	A	
WB										
2. Washington Rd / Main St	All-Way Stop	9.8	A	11.9	B	10.2	B	12.6	B	Yes*
Overall		8.8	A	9.8	A	9.3	A	10.2	B	
NB		8.6	A	9.9	A	9.1	A	11.1	B	
SB		10.3	B	12.2	B	10.7	B	12.8	B	
EB		9.7	A	12.7	B	10.3	B	13.7	B	
WB										
3. Washington Rd / Blue Diamond Access	Signal	12.7	B	1.1	A	32.5	C	11.1	B	N/A

Source: KD Anderson & Associates, Inc., 2013.

Note: \* meets peak hour warrant for p.m. plus project condition.

### Existing Plus Project Roadway Segment Levels of Service

The LOS for the Washington Road study segment between Main Street and Fulkerth Road is projected to operate at LOS B or better condition with the project, as shown in Table 8 of the Traffic Study.

### Existing Plus Approved Projects

Both Stanislaus County and Turlock planning departments were contacted to identify any projects in the vicinity that could add background traffic to the roadway system. There were none

identified in the County, but the City of Turlock's staff identified four in the vicinity to potentially have an effect on the study roadways and intersections. These included:

1. West Main Street Shopping Center;
2. Mi Pueblo;
3. Blue Diamond Growers; and
4. Dust Bowl.

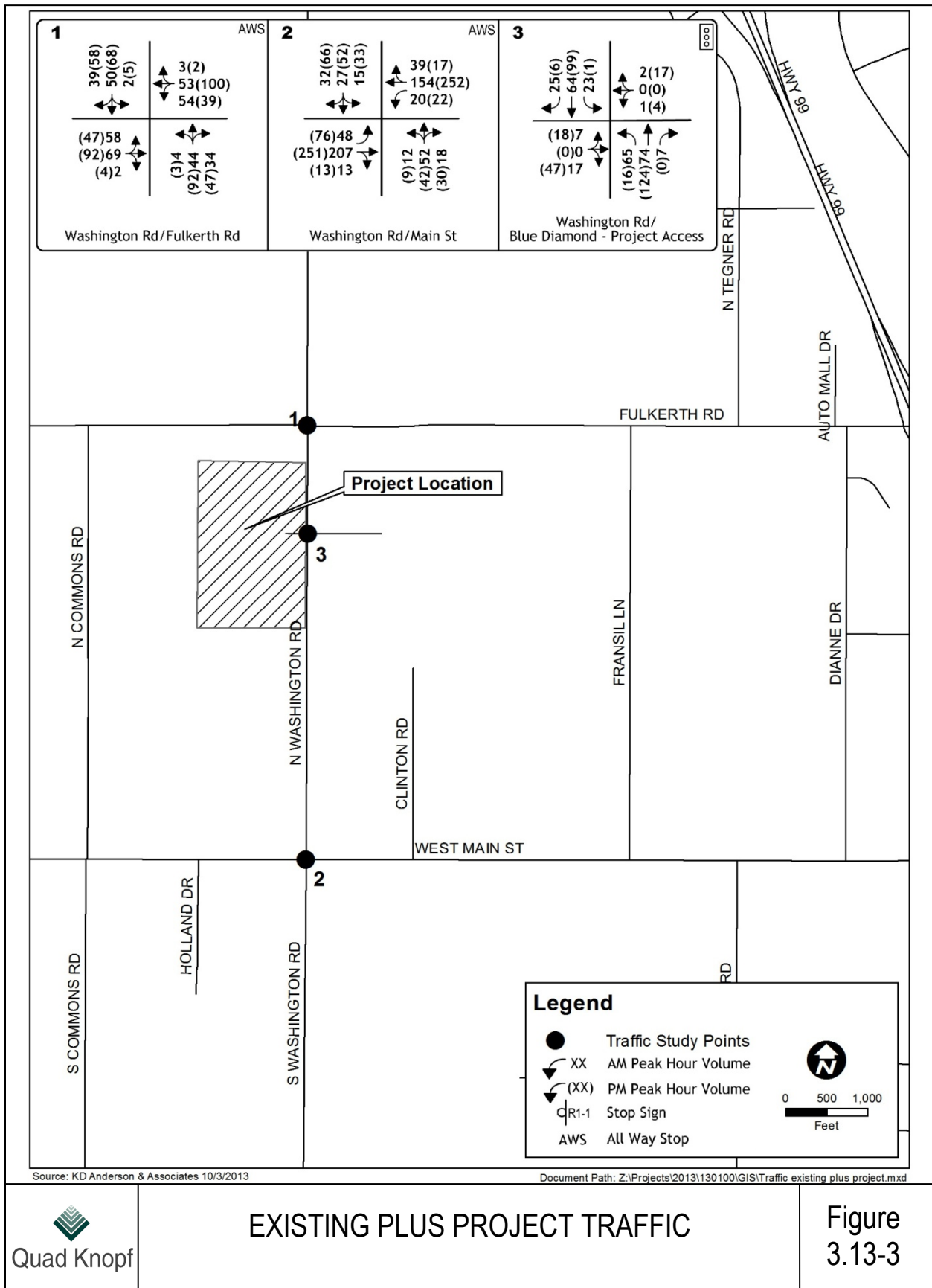
These projects were added to existing traffic volumes to arrive at an Existing Plus Approved Projects (EPAP) baseline. Additional projects in the city limits are identified in Chapter Five of this Draft EIR.

### ***Approved / Foreseeable Projects Descriptions***

1. Kilroy West Main Commercial Shopping Center: This project is located in the southeast corner of the West Main Street/Kilroy Avenue intersection in west Turlock. The project includes 75,200 sf of retail uses and 17,500 square feet of restaurant use.
2. Mi Pueblo: This project is located in the southwest quadrant of the West Main Street / South Soderquist Avenue intersection. The project includes tenant improvements to provide 75,300 square feet of retail use and 28,500 square feet of office use.
3. Blue Diamond Growers: This project is located along the east side of Washington Road south of Fulkerth Road. The project is a food processing facility and will total 451,637 square feet when completed over three phases. This project is directly east of the Washington Road Warehouse. The first phase of the project opened in June, however, the EPAP condition assumes full buildout of the facility.
4. Dust Bowl: The Dust Bowl is a foreseeable local brewery with approximately 50,000 square feet of brewing and warehousing space, with an approximately 5,000 square feet tap room. The project is located in the southwest corner of Fulkerth Road and Dianne Road.

EPAP Lane Configurations: Lane configurations at the study intersections are projected to remain as they currently exist. No changes in roadway configurations are identified in the near term by either Stanislaus County or the City of Turlock.

EPAP Roadway Segment Levels of Service: Table 3.13-7 summarizes the LOS under 2015 conditions for the Washington Road study segment. The segment will continue to operate at an LOS B or better condition.



**Table 3.13-7  
EPAP Average Daily Traffic Roadway Segment Levels of Service**

Roadway	Location		Class	Lanes	Standard		EPAP Conditions		EPAP + Project Conditions	
	From	To			LOS	Daily Volume Threshold	LOS	Daily Volume	LOS	Daily Volume
Washington Road	Main Street	Fulkerth Road	Arterial	2	C/D	9,200 / 15,000	B/A	4,116	B/A	4,702

Source: KD Anderson & Associates, Inc., 2013.

EPAP Intersection Levels of Service: Table 3.13-8 displays the a.m. and p.m. peak hour LOS at each study intersection in the EPAP ‘No Project’ conditions. Each of the three intersections is projected to operate within acceptable LOS thresholds, at LOS C or better.

**Table 3.13-8  
AM / PM Peak Hour Intersection Levels of Service EPAP Plus Project Conditions**

Location	Control	EPAP A.M. Peak Hour		EPAP P.M. Peak Hour		EPAP + Project A.M. Peak Hour		EPAP + Project P.M. Peak Hour		Meets Peak Hour Signal Warrants
		Average Delay (Seconds)	LOS	Average Delay (Seconds)	LOS	Average Delay (Seconds)	LOS	Average Delay (Seconds)	LOS	
1. Washington Rd / Fulkerth Rd	All-Way Stop	9.4	A	10.6	B	9.7	A	10.8	B	No
	Overall	8.9	A	10.9	B	9.1	A	11.2	B	
	NB	8.7	A	9.7	A	8.9	A	9.9	A	
	SB	9.3	A	10.4	B	9.5	A	10.5	B	
	EB	10.1	B	11.1	B	10.6	B	11.3	B	
	WB									
2. Washington Rd / Main St	All-Way Stop	11.2	B	16.0	C	12.2	B	18.4	C	Yes*
	Overall	9.5	A	11.2	B	10.3	B	11.9	B	
	NB	9.9	A	14.6	B	10.6	B	17.8	C	
	SB	11.1	B	15.2	C	11.8	B	16.8	C	
	EB	12.0	B	18.8	C	13.6	B	21.9	C	
	WB									
3. Washington Rd / Blue Diamond Access	Signal	7.3	A	3.8	A	14.5	B	23.7	C	N/A

Source: KD Anderson & Associates, Inc., 2013.

Note: \* - meets warrant without and with project (p.m. only).

The Washington Road/Main Street intersection will operate at an acceptable LOS, at an overall LOS C condition in the p.m. peak hour. This intersection will also meet the peak hour signal warrant using total volume criteria. This indicates that the traffic volumes may begin to experience short term delays during peak periods. Since the intersection operates at an overall LOS C condition, no recommendations are made to improve the intersection.

## ***EPAP Plus Project Traffic Volumes and Levels of Service***

EPAP plus Project Roadway Segment Levels of Service: Table 3.13-9 summarizes the LOS along the Washington Road study segment under the EPAP plus Project condition. The segment will continue to operate within acceptable Level of Service thresholds, operating at an LOS B condition.

EPAP plus Project Intersection Levels of Service: Table 3.13-10 displays the a.m. and p.m. peak hour LOS at each study intersection in this time frame. Each of the three intersections is projected to operate within acceptable LOS thresholds, at LOS C or better.

The Washington Road/Main Street intersection will continue to operate at an acceptable level of service, at an overall LOS C condition in the p.m. peak hour. This intersection will also meet the peak hour signal warrant using total volume criteria. This indicates that the traffic volumes may begin to experience short term delays during peak periods. Since the intersection operates at an overall LOS C condition, no mitigations are required to improve the intersection.

## ***Cumulative Traffic Impacts***

The traffic impacts associated with the proposed project have also been evaluated within the context of future traffic conditions occurring in this area of Stanislaus County. Year 2035 daily traffic volume forecasts generated by the City of Turlock regional travel demand forecasting model is the basis for future background traffic conditions as this project is located adjacent to the City limits.

## **YEAR 2035 FORECASTS**

The StanCOG regional traffic model is a macroscopic model considering the county as a whole. While it provides data on trips generated and traveling throughout the County it provides less precision than local models. This project is located at the west end of Turlock, with the City limits along Washington Road. Consequently, since the City of Turlock model is local, the projected forecasts on individual streets are likely to be more accurate than the County's regional model. Travel forecasts along the study roadways were based on Turlock's 2035 General Plan Update (September 2012). The traffic model, part of the circulation element, was updated and is maintained by Omni Means, Ltd.

Development of future year intersection turning movement traffic volumes requires that the turning movements at each intersection "balance". To achieve the balance, inbound traffic volumes must equal the outbound traffic volumes, and the volumes must be distributed among the various left-turn, through, and right-turn movements at each intersection. The "balancing" of future year intersection turning movement traffic volumes was conducted using methods described in the Transportation Research Board's (TRB's) National Cooperative Highway Research Program (NCHRP) Report 255, Highway Traffic Data for Urbanized Area Project Planning and Design. The NCHRP 255 method applies the desired peak hour directional volumes to the intersection turning movement volumes, using an iterative process to balance and adjust the resulting forecasts to match the desired peak hour directional volumes. The traffic

from the Blue Diamond site was manually added to the 2035 forecasts. The traffic model indicates all traffic from this area of the WISP is distributed onto Fulkerth Road, thereby understating traffic volumes along Washington Road.

### ***Road Conditions***

By 2035 Washington Road is projected to be widened to a four-lane divided arterial as part of the WISP buildout. In addition, the two study intersections will be widened and signalized. The lane configurations are detailed below:

- Washington Road / Fulkerth Road (signalized)
  - Northbound – 1 Left, 1 Through, 1 Right
  - Southbound – 1 Left, 1 Through, 1 Right
  - Eastbound – 1 Left, 1 Through-Right
  - Westbound – 1 Left, 1 Through-Right
  
- Washington Road / Main Street (signalized)
  - Northbound – 1 Left, 2 Through, 1 Right
  - Southbound – 1 Left, 2 Through, 1 Right
  - Eastbound – 1 Left, 1 Through, 1 Through-Right
  - Westbound – 1 Left, 1 Through, 1 Through-Right
  
- Washington Road / Blue Diamond (signalized)
  - Northbound – 1 Left, 2 Through, 1 Right
  - Southbound – 1 Left, 1 Through, 1 Through-Right
  - Eastbound – 1 Left-Through-Right
  - Westbound – 1 Left-Through-Right

Cumulative Intersection Levels of Service Levels of Service: The 2035 intersection LOS are shown in Table 3.13-10. The projected LOS during the a.m. and p.m. peak hours are within the adopted standards at all study locations.

**Table 3.13-9  
AM / PM Peak Hour Intersection Levels of Service Cumulative Plus Project Conditions**

Location	Control	Cumulative		Cumulative		Cumulative + Project		Cumulative + Project	
		A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour	
		Average Delay	LOS	Average Delay	LOS	Average Delay	LOS	Average Delay	LOS
1. Washington Rd / Fulkerth Rd	Signal*	23.3	C	17.4	B	28.4	C	17.9	B
2. Washington Rd / Main St	Signal*	19.3	B	22.1	C	19.9	B	26.0	C
3. Washington Rd / Blue Diamond Access	Signal	6.0	A	3.5	A	11.8	B	12.5	B

Source: Source: KD Anderson & Associates, Inc., 2013.

Note:\* - signalized based on WISP improvements. N/A - not applicable

Cumulative Roadway Segment Levels of Service: Table 3.13-11 summarizes the LOS for the Washington Road study segment. The segment is projected to have a daily volume of 13,235 vehicles. The segment will operate within acceptable LOS thresholds, operating at an LOS B or better condition.

**Table 3.13-10  
Cumulative Plus Project Roadway Segment Levels of Service**

Roadway	Location		Class	Lanes	Standard		Cumulative Conditions		Cumulative + Project Conditions	
	From	To			LOS	Daily Volume Threshold	LOS	Daily Volume	LOS	Daily Volume
Washington Road	Main Street	Fulkerth Road	Arterial	4	C/D	20,100 / 29,000	B/A	13,235	B/A	13,911

Source: Source: KD Anderson & Associates, Inc., 2013.

Cumulative Plus Project Intersection Levels of Service Levels of Service: Trips generated by the proposed project were superimposed onto background year 2035 volumes to create the “2035 Plus Project” conditions. Table 3.13-9 displays the a.m. and p.m. peak hour LOS at each study intersection in this time frame. Each of the three intersections will continue to operate within acceptable LOS thresholds, at LOS C or better.

Cumulative Plus Project Roadway Segment Levels of Service: Table 3.13-10 summarizes the LOS for the Washington Road study segment. The segment is projected to have daily volumes of 13,911 vpd. This segment will continue to operate at an LOS B or better condition.

**Access and Circulation**

While the preceding analysis is a reasonable indicator of the project’s relative impacts to the study area street system under the typical CEQA parameters, it is important to consider the adequacy of site access and internal circulation within the context of peak period conditions.

**QUEUING**

A queuing analysis was conducted at each of the intersections. A 95% confidence level was assumed, meaning that the forecast queue length should be exceeded only 5% of the time. Standard queuing theory was used at signalized and side street stop controlled intersections to calculate the number of vehicles that would be queued.

There is no adopted methodology to determine queues at all-way stop intersections; however, *Tian and Kyte* have modeled several methodologies to analyze queue length models for all-way stop controlled intersections (AWSC). Based on field data comparisons to analysis results they have concluded that the two-way stop controlled methodology identified in the Highway Capacity Manual can be applied to AWSC intersections to estimate vehicle queues.

A significant portion of the traffic into and out of the project site will be trucks, and the queue lengths cited are based on the number of vehicles. Table 3.13-11 shows the projected queues under the Existing, EPAP and Cumulative scenarios. Under Existing condition queues are generally two vehicles or less in both a.m. and p.m. peak hours at the Washington Road/Fulkerth Road intersection.

**Table 3.13-11  
Projected Queues (Vehicles)**

Location	Existing		EPAP		Cumulative*	
	No Project	Plus Project	No Project	Plus Project	No Project	Plus Project
1. Washington Rd / Fulkerth Rd						
NB	1 / 2	1 / 2	2 / 3	2 / 2	1 / 1	1 / 1
SB	1 / 2	1 / 2	1 / 2	1 / 2	<1 / <1	<1 / <1
EB	2 / 2	2 / 2	2 / 2	2 / 3	2 / 1	2 / 1
WB	1 / 2	2 / 2	2 / 3	3 / 3	8 / 6	9 / 7
2. Washington Rd / Main St						
NB	1 / 1	1 / 1	1 / 1	1 / 2	2 / 1	2 / 1
SB	1 / 2	1 / 2	2 / 2	2 / 3	2 / 5	3 / 6
EB	3 / 4	3 / 4	3 / 3	4 / 6	3 / 6	3 / 7
WB	2 / 4	3 / 4	4 / 4	4 / 5	3 / 3	3 / 3
3. Washington Rd / Blue Diamond / Project Access						
NB Left	N/A	2 / <1	N/A	2 / 1	N/A	2 / <1
SB Left	<1 / <1	<1 / <1	4 / 2	3 / 2	3 / 2	3 / 1
EB	N/A	<1 / <1	N/A	<1 / <1	N/A	<1 / <1
WB	<1 / <1	<1 / <1	2 / 4	<1 / 3	2 / 5	<1 / 3

Source: Source: KD Anderson & Associates, Inc., 2013.

Note: AM / PM, \* - number of vehicles queued in left turn lane; if no left turn lane is present, queue is in through lane, and N/A – not applicable

At the Washington Road/Main Street intersection the queues are up to four vehicles on the east and west approaches and two or less on the north and south approaches. At the Washington Road/Blue Diamond intersection the queues are less than a vehicle for the southbound left turn lane and the westbound leg.

In the Existing plus Project scenario queues will lengthen by up to an additional vehicle along some approaches. The longest queue at the Washington Road/Fulkerth Road intersection will remain two vehicles while at the Washington Road/Main Street intersection the eastbound and westbound approaches will continue to have four queued vehicles. Queues at the Washington Road / Blue Diamond intersection will change as the project leg is added to the west. Two vehicles are projected to queue in the northbound left turn lane. The remaining turn lanes and approaches will have a single queued vehicle.

The EPAP scenario is projected to have queues similar to the Existing No Project condition. Queues are projected to increase by up to a single vehicle along various approaches. The projected worst queues will occur along the westbound approach of the Washington Road/Main Street intersection during both peak hours as four vehicles are projected and along the northbound and westbound approaches of the Washington Road/Fulkerth Road intersection where three vehicles will queue.

In the EPAP plus Project scenario queues will lengthen at the Washington Road/Main Street intersection where the eastbound queue is projected to lengthen to six vehicles in the p.m. peak hour; the westbound approach will lengthen to five vehicles. Queues at the Washington Road/Fulkerth Road intersection will remain at up to three vehicles. The queues at the Washington Road/Blue Diamond intersection appear to decline. This is due to a fourth leg added to the intersection and the re-optimization of the traffic signal timing. The longest queue will be three vehicles in the southbound left lane and along the westbound approach.

In the Cumulative No Project scenario the queues in the westbound left turn lane at the Washington Road/Fulkerth Road intersection are projected to lengthen to 8 vehicles in the a.m. peak hour. At the Washington Road/ Main Street intersection the queue will lengthen in the eastbound left turn lane to six vehicles in the p.m. peak hour. At the Washington Road/Blue Diamond access intersection the queue is projected to lengthen to five vehicles along the westbound approach in the p.m. peak hour. The southbound left turn lane queue will be 3 vehicles.

In the Cumulative plus Project scenario the queues will lengthen at the Washington Road/Fulkerth Road intersection to nine vehicles in the westbound left turn lane. At the Washington Road/Main Street intersection the queue will lengthen to seven vehicles in the eastbound approach and to six vehicles along the southbound approach. At the Washington Road/Blue Diamond intersection the queues in the westbound approach will decrease from five to three vehicles. This due to the fourth leg added to the intersection and the re-optimization of the traffic signal timing. Two vehicles will be queued in the northbound left lane while three vehicles will continue to be queued in the southbound left lane.

### ***Existing Plus Project Specific Impacts***

The addition of the proposed project will contribute to the traffic volumes along Washington Road. All intersections and road segments will continue to operate above the LOS thresholds. The following mitigation measures are identified under this planning horizon. This impact is ***potentially significant***

**Mitigation Measure #3.13-1a:** The project shall pay the Traffic Impact Fees as set forth by Stanislaus County.

**Mitigation Measure #3.13-1b:** The applicant shall pay the City of Turlock Capital Facility Development Fees which provides for the construction of Public Facilities and to purchase capital items to allow for City services. The City's fees change quarterly, therefore the amount will be determined with approval of the project.

**Mitigation Measure #3.13-1c:** The applicant shall install half street improvements along the project frontage to meet the future lane configurations along Washington Road. This will also include addition of a northbound left turn lane at the Washington Road/Blue Diamond/Project Access intersection. These improvements shall also include traffic signal modifications to the existing signal. A residential driveway should also be constructed on Washington Road to

provide access for the single family residence that will remain. This residence is located about 350 feet south of the Blue Diamond/project driveway.

**Effectiveness of Mitigation:** With incorporation of these mitigation measures, the proposed project would comply with both Stanislaus County requirements for traffic impact fees and the City of Turlock's capital facility development fees. Improvements along Washington Avenue would reduce congestion and improve safety for passenger vehicles, transit operators, and pedestrian and bicycle circulation. With incorporation of mitigation, the impact is *less than significant*.

**Impact #3.13-3 – 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.**

As mentioned in Section 3.8 of this EIR, the Turlock Airpark is located approximately 4.8 miles northwest of the proposed project site. The proposed project would not result in an increase in population that could result in an increase in traffic levels. The project site is designated by the Stanislaus County Code as A- 2-40 (General Agriculture). Pursuant to the code, Title 21, Chapter 21.52, Section 21.52.040 A. 1. The maximum height of all buildings and advertising signs is thirty-five feet. The proposed warehouse would have a shed roof with a maximum height of approximately 32 feet at the ridgeline. Therefore, the project will not result in a change in air traffic patterns due to tall structures or buildings.

**Conclusion:** There is *no impact*.

**Mitigation Measures:** No mitigation measures are necessary.

**Impact #3.13-4 – Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses**

The site will be accessed from a single driveway onto North Washington Road which will be aligned with the existing traffic signaled driveway to the Blue Diamond facility. Additional traffic signalization improvements will be installed to accommodate access to and from the site onto North Washington Road. The applicant will also provide dedication and street improvements along North Washington Road as required by the Turlock WISP. Improvements would include curb, gutter, street re-striping, and road widening to accommodate acceleration and deceleration lanes onto North Washington Road. On site vehicular circulation and parking will be reconfigured to accommodate North Washington Road street dedication and improvements.

All intersection and road improvements will have to comply with the City of Turlock's design standards.

The proposed project will result in 52 shipping truck trips per day, 6 days per week, 52 weeks per year. The proposed project will use trucks to transport produce to and the site. Farm equipment will be used on public streets in very limited instances in order to move produce grown on the site to the warehouse for processing.

**Conclusion:** This impact is *less than significant*.

**Mitigation Measure:** No mitigation measures are required.

**Impact #3.13-5 – Result in inadequate emergency access.**

The proposed project has the potential to result in inadequate emergency access while road improvements are being constructed along North Washington Road.

**Conclusion:** This impact is *potentially significant*.

**Mitigation Measure #3.13-5:** Proposed project site plans shall be reviewed by the City fire and police departments to ensure adequate emergency access.

**Effectiveness of Mitigation:** Implementation of Mitigation Measure #3.13-5 will reduce the impact to a *less than significant* level.

**Impact #3.13-6 – Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?**

**Impact# 3.13-7 – Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).**

***Alternative Transportation Modes***

Stanislaus Regional Transit (StaRT): provides both fixed route service, shuttles and “roundabout” service that combines features of fixed route and dial a ride services. Route 45E operates between Veterans Memorial Park in Patterson and Central Park in Turlock east of SR 99. Route 45E includes a stop at the Washington Road/Fulkerth Road intersection. This route operates between 6:20 a.m. and 8:05 p.m. weekdays and 6:25 a.m. to 7:10 p.m. on Saturdays. During the midweek there are three a.m. and four p.m. trips while on Saturday there are two a.m. and three p.m. trips.

DART: Most alternative transportation in the Turlock/Denair area are provided by the City of Turlock. The City’s has two services, BLAST and DART. The BLAST is the City’s fixed route transit system; however, none of the four routes extend west beyond Walnut Road. DART provides dial-a-ride services for people over 65 and those with disabilities. Service on DART for all other passengers is limited to only those trips going or coming from outside the BLAST service area and to elementary students going to or from school.

***Pedestrian / Bicycle Circulation***

Facilities that are dedicated to pedestrians and bicycles are limited in the rural areas of Stanislaus County outside of developed urban areas. This is the case in the vicinity of the Washington Road Warehouse site. Washington Road is a rural roadway without sidewalk or bike facilities along

the roadway. Bicyclists currently ride with motor vehicular traffic along Washington Road while pedestrians can walk along the shoulder.

Although existing facilities are limited, bicycle lanes are being installed on major streets as development occurs. Figure 5-3 of the Turlock 2035 General Plan Update indicates that Class II bike lanes are to be developed along Fulkerth Road west of Dianne Drive to Washington Road; bike lanes currently exist east of Dianne Drive. Bike lanes will also be provided along Washington Road, extending north and south of the study area and on West Main Street, from Washington Road east past SR 99.

Mitigation Measure #3.13-1c requires the applicant to install half street improvements along the project frontage to meet the future lane configurations along Washington Road in accordance with the requirements of the WISP. This would help to relieve some of the safety issues related to the lack of bicycle trails and sidewalks in the area.

**Conclusion:** Transit systems would not be affected by the proposed project as they do not extend to the vicinity of the site. Improvements will be made along North Washington Road as required by Mitigation Measure #3.13-1c in accordance with the City of Turlock's WISP. As proposed the project will increase safety for both pedestrians and bicyclists, and help to meet the City's WISP goals and policies for road improvements along north Washington Road. With incorporation of Mitigation Measure #3.13-1c, the impact is *less than significant*.

**Mitigation Measures:** See Mitigation Measure #3.13-1c.

**Effectiveness of Mitigation:** Implementation of Mitigation Measure #3.13-1c will reduce the impact to a *less than significant* level.