KERN COUNTY
Planning & Natural Resources

Craig M. Murphy, Director
2700 "M" Street, Suite 100
Bakersfield, CA 93301-2323
Phone: (661) 862-8600
TTY Relay 1-800-735-2929
Email: planning@kerncounty.com
Web Address: https://kernplanning.com

NOTICE OF INTENT FOR PUBLIC REVIEW AND HEARING ON THE MITIGATED NEGATIVE DECLARATION FOR THE SAED INVESTMENTS, LLC PROJECT

This is to advise that the Kern County Planning and Natural Resources Department has prepared a Mitigated Negative Declaration (MND) for the project identified below. As mandated by State law, the minimum public review period for this environmental document is 30 days.

PROJECT TITLE: Saed Investments, LLC by Max Bacerra; PLN23-00774; Precise Development Plan No. 44, Map 79-35.

PROJECT LOCATION: Southwest of the Coberly Road and Cherry Avenue intersection, Section: 35, Township: 28 S, Range: 25 E. APNs: 090-340-18.

DOCUMENT AVAILABILITY: The MND for the above referenced proposed project is available for public review at the Planning and Natural Resources Department, which is located at the address listed above or it can be accessed on the Kern County Planning and Natural Resources Department website at: **https://kernplanning.com/planning/mnd**.

AGENCY/PUBLIC COMMENT: The Planning and Natural Resources Department solicits the comments of agencies, interested parties, and surrounding property owners on the environmental analysis contained in the Initial Study and proposed MND for the project. Any comments should be submitted to the Planner whose contact information is identified below prior to the close of the public review period. As mandated by State law, the MND public review period for the proposed project is 30 days.

July 9, 2026 – August 7, 2026

Written comments may be submitted to the project Planner identified below prior to the close of the public review period on **Friday, August 7, 2026, at 5:00 p.m.** to:

Kern County Planning and Natural Resources Department
ATTN: Robert Williams, Planner I
2700 "M" Street, Suite 100, Bakersfield, CA 93301
Phone: (661) 862-5159
E-mail: WilliamsRo@kerncounty.com

PUBLIC HEARING: A public hearing has been scheduled for Director's Hearing to consider approval on the proposed project and solicit comments on the adequacy and completeness of the proposed mitigation measures described in the MND. You may comment by providing testimony at the public hearing on:

DATE: **September 3, 2026**
TIME: **10:00 A.M. or soon thereafter**
LOCATION: **Director's Hearing**
Kern County Planning and Natural Resources Department
2700 M Street, Suite 100, Bakersfield, CA 93301

This matter would only be considered by the Kern County Board of Supervisors in the event an appeal to the decision of the Director or Appointed Hearing Officer is filed. If such an appeal is filed after consideration by the Director or Appointed Hearing Officer a public hearing will be scheduled for the Kern County Board of Supervisors for final consideration and action. Comments may be provided at that hearing prior to any action by the Board of Supervisors on the matter.

PROJECT DESCRIPTION: The project proposes a Precise Development Plan to allow the development of a 129,236 square foot warehouse facility on a 6.41-acre portion of a 19.58-acre parcel. The proposed warehouse will operate seven days a week from 7:00 a.m. to 7:00 p.m., excluding major holidays. The facility will employ 15 to 20 warehouse staff, with an additional 3 (three) to 4 (four) administrative and logistics employees. Furniture products will arrive via semi-trucks and trailers, with daily operations receiving up to four major deliveries from manufacturers. Outgoing deliveries will be made by smaller trucks beginning at 8:00 a.m., typically returning between 4:00 p.m. and 5:00 p.m., with occasional later returns for long-distance routes throughout California and neighboring states. The project site will include employee and customer parking, for a total of 82 standard parking spaces, as well as a loading dock equipped with multiple roll-up doors for truck loading and unloading. The warehouse will support short- and mid-term storage of residential and commercial furniture to be distributed to local retail showrooms and retail purchasers of the furniture.

CRAIG M. MURPHY, Director
Planning and Natural Resources Department

To be published once only on next available date and as soon as possible

THE BAKERSFIELD CALIFORNIAN
SHAFTER PRESS

RW (07/9/26)

Saed Investments, LLC by Max Bacerra
Notification List Labels

090 340 55 00 6
APPLIED TECHNOLOGIES ASSCS INC
16701 GREENSPOINT PARK DR STE 200
HOUSTON TX 77060-2314

090 252 02 00 0
CALIFORNIA RESOURCES PETROLEUM CORP
27200 TOURNEY RD STE 200
SANTA CLARITA CA 91355-4910

090 340 37 00 4
31127 COBERLY ROAD LLC
134 W 168TH ST
GARDENA CA 90248

090 340 65 00 5
GREEN STATE LLC
9309 ENOS LN
BAKERSFIELD CA 93314-8008

090 340 71 00 2
H & H RENATAL PROPERTIES
19487 BROKEN CT
SHAFTER CA 93263

090 340 70 00 9
HOWZE NOBLE FAMILY TRUST
4900 VENTANA CANYON DR
BAKERSFIELD CA 93306

090 251 25 00 0
JP OIL CALIFORNIA LLC
PO BOX 330
GAINESVILLE TX 76241-0330

090 340 23 00 3
PONDER COMMERCIAL PROPERTIES LLC
PO BOX 1427
BENICIA CA 94510-4427

090 340 18 00 9
SAED INVESTMENTS IV LLC
110 N D ST
MADERA CA 93638

090 251 27 00 6
SEKHON LIVING TRUST
5436 PINE AV
CHINO HILLS CA 91709

090 340 41 00 5
SHAFTER PROP LLC
820 DEN BESTE CT
WINDSOR CA 95492-6896

090 340 38 00 7 **DUP**
SHAFTER PROPERTIES LLC
820 DENBESTE CT
WINDSOR CA 95492

090 340 40 00 2
TRI SMITH LEGACY LLC
31194 SHELBY LN
SHAFTER CA 93263

090 252 01 00 7
WONDERFUL NUT ORCHARDS LLC
6801 E LERDO HW
SHAFTER CA 93263-9610

City of Shafter
336 Pacific Avenue
Shafter, CA 93263

U.S. Bureau of Land Management
Caliente/Bakersfield
35126 McMurtrey Avenue
Bakersfield, CA 93308

U. S. Fish & Wildlife Service
Division of Ecological Services
2800 Cottage Way #W-2605
Sacramento, CA 95825-1846

U.S. Dept of Agriculture/NRCS
5080 California Avenue, Ste 150
Bakersfield, CA 93309-0711

U.S. Postal Service
Address Management Systems
28201 Franklin Parkway
Santa Clarita, CA 91383-9321

So. San Joaquin Valley Arch Info Ctr
California State University of Bkfd
9001 Stockdale Highway
Bakersfield, CA 93311

Caltrans/Dist 6
Planning/Land Bank Bldg.
P.O. Box 12616
Fresno, CA 93778

State Clearinghouse
Office of Planning and Research
1400 - 10th Street, Room 222
Sacramento, CA 95814

State Dept of Conservation
Geologic Energy Management Division
11000 River Run Boulevard
Bakersfield, CA 93311

California Fish & Wildlife
1234 East Shaw Avenue
Fresno, CA 93710

California Highway Patrol
Planning & Analysis Division
P.O. Box 942898
Sacramento, CA 94298-0001

California Regional Water Quality
Control Board/Central Valley Region
1685 E Street
Fresno, CA 93706-2020

Kern County
Agriculture Department

Kern County Public Works Department/
Building & Development/Floodplain

Kern County Public Works Department/
Building & Development/Survey

Kern County
Env Health Services Department

Kern County Fire Dept (Put in FIRE BOX)
Regina Arriaga
Roxanne Routh
Jim Killam

Kern County Fire Dept
Aaron Duncan

Kern County Parks & Recreation

Kern County Sheriff's Dept
Administration

Kern County Public Works Department/
Building & Development/Development
Review

Kern County Public Works
Department/Operations &
Maintenance/Regulatory Monitoring &
Reporting

Kern County Public Works Department/
Building & Development/Code
Compliance

Richland-Lerdo Union School Dist
331 Shafter Avenue
Shafter, CA 93263

Kern High School Dist
5801 Sundale Avenue
Bakersfield, CA 93309

Kern County Superintendent of Schools
Attention School District Facility Services
1300 - 17th Street
Bakersfield, CA 93301

KernCOG
1401 19th Street - Suite 300
Bakersfield, CA 93301

Local Agency Formation Comm/LAFCO
5300 Lennox Avenue, Suite 303
Bakersfield, CA 93309

San Joaquin Valley
Air Pollution Control District
1990 East Gettysburg Avenue
Fresno, CA 93726

Kern Mosquito Abatement Dist
4705 Allen Road
Bakersfield, CA 93314

Adams, Broadwell, Joseph & Cardozo
Attention: Rachel Levine
601 Gateway Boulevard, Suite 1000
South San Francisco, CA 94080

AT&T California
OSP Engineering/Right-of-Way
4901 Ashe Road
Bakersfield, CA 93313

Center on Race, Poverty
& the Environnent
5901 Christie Avenue, Suit 208
Emeryville, CA 94608

Center on Race, Poverty
& the Environmental/
CA Rural Legal Assistance Foundation
1012 Jefferson Street
Delano, CA 93215

Defenders of Wildlife
P.O. Box 401
Folsom, CA 95763

Native American Heritage Council
of Kern County
Attn: Gene Albitre
18169 Highway 155
Woody, CA 93287

~~Pacific Gas & Electric Co~~
~~Matt Coleman, Land Mgt~~
~~1918 "H" Street~~
~~Bakersfield, CA 93301-4319~~

Pacific Gas & Electric Co
Land Projects
650 "O" Street, First Floor
Fresno, CA 93760-0001

Sierra Club/Kern Kaweah Chapter
P.O. Box 3357
Bakersfield, CA 93385

Southern California Gas Co
35118 McMurtrey Avenue
Bakersfield, CA 93308-9477

Southern California Gas Co
Transportation Dept
P.O. Box 513249
Los Angeles, CA 90051

David Laughing Horse Robinson
P.O. Box 20849
Bakersfield, CA 93390

Kern Valley Indian Council
Attn: Robert Robinson, Chairperson
P.O. Box 401
Weldon, CA 93283

Kern Valley Indian Council
Historic Preservation Office
P.O. Box 401
Weldon, CA 93283

Tejon Indian Tribe
Attn: Curtis Alcantar
4941 David Road
Bakersfield CA 93307

Joyce LoBasso
P.O. Box 6003
Bakersfield, CA 93386

Kevin Johnston
2476 Buena Vista Avenue
Livermore, CA 94550

Leadership Counsel for Justice & Accountability
Attn: Emma De La Rosa
1522 18th Street
Bakersfield, CA 93301

LIUNA
6800 District Boulevard
Bakersfield CA 93313

Northcutt and Associates
4220 Poplar Street
Lake Isabella, CA 93240-9536

Thomas Roads Improvement Program
PARSONS
1600 Truxtun Avenue, 3rd Floor
Bakersfield, CA 93301

A E Corporation
Planning Department
901 Via Piemonte, 5th Floor
Ontario, CA 91764

Lozeau Drury LLP
1939 Harrison Street, Suite 150
Oakland, CA 94612

California Resources Corp
Attn: Minerals Mgt
11109 River Run Boulevard
Bakersfield, CA 93311

Shafter Rec & Parks Dist
700 East Tulare Avenue
Shafter, CA 93263

North Kern Water Storage Dist
P.O. Box 81435
Bakersfield, CA 93380-1435

Rio Bravo-Greeley Union School Dist
6521 Enos Lane
Bakersfield, CA 93314

Morongo Band of Mission Indians
12700 Pumarra Rd
Banning CA 92220

MITIGATED
NEGATIVE DECLARATION

TO WHOM IT MAY CONCERN:

Pursuant to the California Environmental Quality Act of 1970 (CEQA), the State CEQA Guidelines, and the Kern County Guidelines for Implementation of CEQA and State CEQA Guidelines, the Kern County Planning and Natural Resources Department has made an Initial Study of possible environmental impacts of the following-described project:

APPLICANT: Saed Investments IV LLC

APPLICATION: (a) Precise Development Plan No. 44, Map 79-35, Saed Investments, LLC by Max Bacerra (PP25125)

LOCATION: Southwest of the Coberly Road and Cherry Avenue intersection, also being a portion of Section 35, Township 28 South, Range 25 East, County of Kern, State of California; Assessor's Parcel Number: 090-340-18.

DESCRIPTION OF PROPOSED PROJECT: (a) A Precise Development Plan (PD) to allow the development of a 129,236 square foot warehouse facility in a M-2 PD (Medium Industrial – Precise Development Combining) District Pursuant to Section 19.38.020.E.2 of the Kern County Zoning Ordinance. The project site consists of a 6.41-acre portion of a 19.58-acre parcel in the Shafter area. The site is zoned M-2 PD and is designated 4.1 Service Industrial by the Western Rosedale Specific Plan.

MITIGATION MEASURES Included in the Proposed Project to Avoid Potentially Significant Effects (if required):

(1) All exterior/outdoor lighting fixtures shall comply with Chapter 19.81 (Outdoor Lighting "Dark Skies Ordinance") of the Kern County Zoning Ordinance. Lighting fixtures shall not exceed a height of 20 feet above grade, if freestanding, or the height of the building upon which they are attached. Light fixtures shall be maintained in sound operating conditions at all times.

(2) Prior to the issuance of building permits for the proposed Project, the Project proponent/operator shall submit a proposed color scheme and treatment plan, for review and approval by the Kern County Planning and Natural Resources Department, that will ensure all Project facilities blend in with the colors found in the surrounding landscape. All color treatments shall result in matte or nonglossy finishes.

(3) Prior to the issuance of grading permits, the project proponent shall submit to the Kern County Planning and Natural Resources Department for its review and approval a landscape design and planting plan, which shall include a landscaped buffer between truck docks and adjacent properties, as shown on Plot Plan. The landscaping shall include native and drought-tolerant plants. The total landscaped area shall be a minimum of five (5) percent of the total developed area within the project site and the total landscaped area within the parking lot(s) shall be a minimum of five (5) percent of the total parking lot area(s). Site plan and building permit approvals shall require that landscaping between the truck dock area and adjacent properties shall be installed no later than completion of landscaping improvements for development located adjacent to the buffer area.

(4) Prior to the issuance of grading permits, the project proponent shall provide evidence of the following: all construction-related areas shall be kept clean and tidy by storing construction materials and equipment within the proposed construction staging and laydown areas and/or generally away from public view. The project proponent shall remove construction debris promptly at intervals of two weeks or less.

(5) The development shall comply with all requirements of the San Joaquin Valley Air Pollution Control District.

(6) Prior to issuance of grading or building permits, the project proponent shall submit a Fugitive Dust Control Plan to San Joaquin Air Pollution Control District (SJAPCD) for review and approval. The Fugitive Dust Control Plan shall reduce emissions during construction of particulate matter that is 10 microns or less and 2.5 microns or less in diameter (PM_{10} and $PM_{2.5}$). The Fugitive Dust Control Plan shall include:

(a) Name(s), address(es), and phone number(s) of person(s) responsible for the preparation, submission and implementation of the plan.

(b) Description and location of operation(s).

(c) Listing of all fugitive dust emissions sources included in the operation.

(d) The following dust control measures shall be implemented:

1. All on-site unpaved roads shall be effectively stabilized using water or chemical soil stabilizers and that shall not increase any other environmental impacts, including loss of vegetation.

2. All material excavated or graded will be sufficiently watered to prevent excessive dust. Watering will occur as needed with complete coverage of disturbed areas. The excavated soil piles will be watered as needed to limit dust emissions to less than 20 percent opacity or covered with temporary coverings.

3. Construction activities that occur on unpaved surfaces will be discontinued during windy conditions when winds exceed 25 miles per hour and those activities cause visible dust plumes. Construction activities may continue if dust suppression measures are used to minimize visible dust plumes. The measures shall follow the San Joaquin Air Pollution Control District's Reasonably Available Control Measures Regulation VIII (Fugitive PM10 Prohibitions), including Rules 8011 and 8021, and implement Best Available Control Measures (BACMs) or more stringent measures to ensure that:

   a. the visible dust plumes are not transported off the project site or within 400 feet of any regularly occupied structure not owned by the project proponent;

   b. the visible dust plumes generated from linear construction are not transported 200 feet beyond the centerline of the linear facilities and do not cause a traffic obscuration hazard on public roads.

4. Track-out debris onto public paved roads shall not extend 25 feet or more from an active operation and track-out shall be removed or isolated such as behind a locked gate at the conclusion of each workday.

5. All hauling materials shall be moist while being loaded into dump trucks.

6. All haul trucks hauling soil, sand and other loose materials on public roads shall be covered (e.g., with tarps or other enclosures that would reduce fugitive dust emissions).

7. Soil loads should be kept below six inches or the freeboard of the truck.

8. Drop heights shall be minimized when loaders dump soil into trucks.

9. Gate seals shall be tight on dump trucks.

10. Traffic speeds on unpaved roads shall be limited to a maximum of 15 miles per hour.

11. All grading activities shall be suspended when visible dust emissions exceed 20 percent or wind speeds are greater than 30 miles per hour.

12. Other fugitive dust control measures shall be implemented as necessary to comply with San Joaquin Air Pollution Control District Rules and Regulations.

13. Disturbed areas should be minimized.

(7) The project proponent shall continuously comply with the following during construction of the proposed project facilities:

(a) All off-road construction diesel engines not registered under California Air Resources Board's Statewide Portable Equipment Program, which have a rating of 50 horsepower or more, shall meet, at a minimum, the Tier 4 California Emissions Standards for Off-Road Compressions-Ignition Engines as specified in California Code of Regulations, Title 13, Section 2423(b)(1) unless that such engine is not available for a particular item of equipment. In the event a Tier 4 engine is not available for any off-road engine larger than 100 horsepower, that engine shall be equipped with retrofit controls that will provide nitrogen oxides and particulate matter emissions that are equivalent to Tier 4 engines. An exemption from these requirements may be granted by Kern County in the event that the applicant documents that (1) equipment with the required tier is not reasonably available (e.g., reasonability factors to be considered include those available within Kern County within the scheduled construction period), and (2) corresponding reductions in criteria pollutant emissions are achieved from other construction equipment.

(b) All equipment shall be turned off when not in use. Engine idling of all equipment shall be minimized.

(8) The project proponent and/or its contractors shall continuously implement the following measures during construction of the project to control emissions from the on-site equipment:

(a) All equipment shall be maintained in accordance with the manufacturer's specifications.

(b) All equipment, including heavy-duty equipment, motor vehicles, and portable equipment, shall be turned off when not in use for more than five (5) minutes.

(c) Construction equipment shall not operate longer than eight (8) cumulative hours per day without prior written authorization provided by the Kern County Planning and Natural Resources Department.

(d) All construction vehicles shall be equipped with proper emissions control equipment and kept in good and proper running order to substantially reduce NOx emissions.

(e) On-road and off-road diesel equipment shall use diesel particulate filters (or the equivalent) if permitted under manufacturer's guidelines.

(f) All on-site off-road equipment and on-road vehicles shall meet the recent California Air Resources Board engine emission standards or alternatively fueled equipment, such as compressed natural gas, liquified natural gas, or electric, as appropriate.

(g) Tier 4 engines shall be used on all equipment when available.

(9) To reduce demand for gas-powered landscape maintenance equipment, all required landscaping along roadways will be designed with native drought-resistant species (plants, trees, and bushes).

(10) Prior to issuance of building permits, the project applicant/developer shall demonstrate to the satisfaction of the Kern County Planning that the project applicant shall require the use of super compliant, low-VOC paints (less than 10 g/L) during the architectural coating construction phase of project construction, and during project maintenance.

(11) To reduce idling emissions from trucks, the project applicant/developer shall have signage placed at truck access gates, loading docks, and truck parking areas that clearly notes idling is strictly prohibited on the subject property. In coordination with Kern County, the project applicant/developer shall also place similar signs in the adjacent streets in the project area. At minimum, each sign placed outside the interior premises of the subject property shall note the idling prohibition on the adjacent streets and include telephone numbers of the building facilities manager and the California Air Resources Board to report violations. All signage shall be made of weather-proof materials. All site and architectural plans submitted to Kern County shall note the locations of these signs. Prior to issuance of occupancy permits, Kern County shall verify compliance with these requirements herein.

(13) Prior to occupancy, the project proponent shall provide designated parking spaces for employee vehicles, as follows:

(a) 13 electric vehicle chargers; and,

(b) an additional 4 electric vehicle capable spaces.

(14) Prior to issuance of building permits, the project proponent shall implement the following Valley Fever Provisions:

(a) Provide evidence to the Kern County Planning and Natural Resources Department that the project operator and/or construction manager has developed a "Valley Fever Training Handout", training, and schedule of sessions for education to be provided to all construction personnel. All evidence of the training session materials, handout(s) and schedule shall be submitted to the Kern County Planning and Natural Resources Department within 24 hours of the first training session. Multiple training sessions may be conducted if different work crews will come to the site for different stages of construction; however, all construction personnel shall be provided training prior to beginning work. The evidence submitted to the Kern County Planning and Natural Resources Department regarding the "Valley Fever Training Handout" and Session(s) shall include the following:

(b) A sign-in sheet (to include the printed employee names, signature, and date) for all employees who attended the training session.

(c) Distribution of a written flier or brochure that includes educational information regarding the health effects of exposure to criteria pollutant emissions and Valley Fever.

(d) Training on methods that may help prevent Valley Fever infection.

(e) A demonstration to employees on how to use personal protective equipment, such as respiratory equipment (masks), to reduce exposure to pollutants and facilitate recognition of symptoms and earlier treatment of Valley Fever. Where respirators are required, the equipment shall be readily available and shall be provided to employees for use during work. Proof that the demonstration is included in the training shall be submitted to the county. This proof can be via printed training materials/agenda, DVD, digital media files, or photographs.

(15) Prior to the issuance of grading permits, a one-time fee shall be paid to the Kern County Public Health Services Department in the amount of $3,200 for Valley Fever public awareness programs.

(16) Prior to issuance of a grading or building permit, the project proponent shall retain a Lead Biologist who meets the qualifications of an Authorized Biologist acceptable to the California Department of Fish and Wildlife (CDFW) to oversee compliance with protection measures for all listed and other special-status species. All appropriate contact information for the selected biologist shall be provided to the Kern County Planning and Natural Resources Department. The Lead Biologist, or their Designated Compliance Manager (other qualified biologists designated by the Lead Biologist to perform the Lead Biologist function), shall be on the project site during construction of any perimeter fencing or grading activities throughout construction phases. The Lead Biologist shall have the right to halt all activities that are in violation of the special-status species protection measures. Work shall proceed only after hazards to special-status species have been appropriately addressed through compliance with required mitigation measures and appropriate consultation with USFWS and California Department of Fish and Wildlife (CDFW) when appropriate (i.e., when required by law). The Lead Biologist shall have in his/her possession a copy of all the compliance measures while work is being conducted on the project site. In addition to the above-listed duties, the Lead Biologist or their Designated Compliance Manager shall be responsible for implementation of the following provisions:

(a) Construction Work Hours

The project Lead Biologist shall ensure that construction activities within 50 feet of the outside edge of the project footprint containing habitat for special-status wildlife will be minimized between sunset and sunrise, and all construction-related lighting will be turned off during that period, with the exception of lighting for maintenance, security patrols, and emergency (defined by an imminent threat to life or significant property) activities. Lighting for maintenance within 50 feet of the outside edge of the project footprint containing habitat for special-status wildlife will be directed away from natural areas.

(b) Flagging/Fencing/Demarcation

The project Lead Biologist shall designate the construction area and any buffer zones using highly visible materials in the field and review with the contractor in accordance with the final grading plan.

(c) Debris/Non-Native Vegetation/Pollution

The project Lead Biologist shall monitor construction to ensure:

1. Fully covered trash receptacles that are animal-proof will be installed and used to contain all food, food scraps, food wrappers, beverage containers, and other miscellaneous trash. Trash contained within the receptacles will be removed at least once a week from the construction site.

2. No litter, construction materials, or debris will be discharged into state-jurisdictional waters.

3. All uses of weed and pest control compounds shall comply with the application restrictions mandated by the U.S. Environmental Protection Agency and the California Department of Pesticide Regulation.

4. Construction work areas shall be kept clean of debris, such as cable, trash, and construction materials. All construction/contractor personnel shall collect all micro trash and litter (anything shiny, such as broken glass), vehicle fluid containers, and food waste from the project area on a daily basis.

5. All disturbed invasive plants shall be removed from the work site and not used in mulching, composting, etc. If weed biomass must be removed from the site to a designated disposal area, propagules shall be secured in a tarp (without holes or rips) and then carried to a vehicle. Biomass shall be properly wrapped to prevent plant parts from blowing away in transit, and vehicles carrying weed biomass shall be inspected prior to leaving the site to ensure that no plant parts are resting on the bumpers, tailgates, or other exposed areas.

(d) Vehicle and Equipment Restrictions and Maintenance

The project Lead Biologist shall monitor construction to ensure:

1. Maximum construction vehicle speed will be 15 miles per hour (mph) within the project footprint. Nighttime construction shall be minimized to the extent possible. However, if nighttime construction or construction-related activity (e.g., security patrols, equipment maintenance) is necessary, then the speed limit shall be 10 mph.

2. Vehicles and equipment access will be limited to the project footprint and ingress and egress on existing roads.

3. Staging and storage areas for spoils, equipment, materials, fuels, lubricants, and solvents will be located outside the state-jurisdictional channels and within the designated project footprint. Stationary equipment, such as motors, pumps, generators, compressors, and welders, located within or adjacent to state-jurisdictional waters shall be positioned over drip-pans or other containment. Prior to refueling and lubrication, vehicles and other equipment shall be moved away from the state-jurisdictional channels.

(e) Erosion/Silt

The project Lead Biologist shall monitor construction to ensure:

1. During construction activities, temporary erosion control devices, such as straw bales, silt

fencing, and sandbags, shall be used to prevent siltation in state-jurisdictional areas. Coir rolls, erosion control mats or blankets, straw or fiber wattles, or similar erosion control products shall be composed of natural-fiber, biodegradable materials; photodegradable or other plastic erosion control materials shall be prohibited.

(f) Other Restrictions on Construction Activities and Personnel

The project Lead Biologist shall monitor construction to ensure:

1. During construction, no pets, such as cats or dogs, should be permitted on the project's construction sites.

2. No commercial hunting will be authorized or permitted on a portion of the project site under construction.

3. Any contractor, employee, or agency personnel who are responsible for inadvertently killing, injuring, or trapping a listed species (e.g., San Joaquin Kit Fox, San Joaquin Antelope Squirrel) shall immediately report the incident to the project Lead Biologist. The project Lead Biologist shall contact the U.S. Fish and Wildlife Service (USFWS) (for federal Endangered Species Act (FESA) species) and California Department of Fish and Wildlife (CDFW) (for California Endangered Species Act (CESA) species) immediately in the case of a dead, injured, or entrapped listed species. The Sacramento USFWS Office and CDFW shall be notified in writing within 3 working days of the accidental death or injury to a listed species during project-related activities with a copy to the Kern County Planning and Natural Resources Department. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal and any other pertinent information.

4. To prevent inadvertent entrapment of wildlife (including, but not limited to San Joaquin Kit Fox, American badger) during construction, all excavated, steep-walled holes or trenches more than 2 feet deep shall be covered with plywood or similar materials at the close of each working day, or be provided with one or more escape ramps constructed of earth fill or wooden planks. Before such holes or trenches are filled, they shall be thoroughly inspected for trapped wildlife species. If trapped wildlife is observed, escape ramps or structures shall be installed immediately to allow escape.

5. All pipes, culverts, or similar structures with a diameter of 4 inches or more that are stored at a construction site for one or more overnight periods shall be thoroughly inspected for wildlife before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If wildlife species are discovered inside a pipe, the project biologist shall flush the species from the pipe. If a federal- or State-listed species is discovered, that section of pipe shall not be moved until the USFWS and/or CDFW has been consulted, as appropriate. If necessary, under the direct supervision of the project biologist, the pipe may be moved once to remove it from the path of construction activity until the species has escaped.

(g) Biological Monitoring and Compliance Documentation

The project Lead Biologist shall be responsible for maintaining a database and/or tracking the following during construction:

1. Document that required pre-construction surveys, avoidance, mitigation, and/or

relocation efforts have been implemented.

2. Document compliance with construction measures (b)-(f) above.

3. Document compliance with worker training.

(17) Prior to issuance of grading or building permit and for the duration of construction activities, the project proponent shall demonstrate it has in place a Worker Environmental Awareness Program (WEAP) for all construction workers at the project site. The Lead Biologist shall ensure all construction personnel on-site complete WEAP training prior to conducting any construction related activities on-site. As part of the WEAP training, the project Lead Biologist shall perform the following training-related tasks:

(a) Provide the training materials for WEAP training. These materials shall include the measures and mitigation requirements for protected plant and wildlife species (e.g., avoidance and buffer requirements, nighttime construction limitations, etc.); and applicable fire protection measures. WEAP training will also include driver training to avoid and minimize collision risks with protected species, and reporting protocols in the event that any dead or injured wildlife are discovered.

(b) Send a copy of all WEAP training materials to the Kern County Planning and Natural Resources Department.

(c) Maintain a list on-site of all employees who have undergone WEAP training. A copy of this list shall be provided to the Kern County Planning and Natural Resources Department as necessary.

(18) No more than 14 days prior to commencement of ground disturbing activities as authorized by this permit, a qualified biologist shall conduct a pre-construction survey of the Project site to ensure that no special-status wildlife, such as burrowing owls, Tipton kangaroo rat, giant kangaroo rat, San Joaquin kit fox, American badger, etc., and/or plant species have occupied the property. The project proponent shall submit a preconstruction survey report prepared by the qualified biologist to the Kern County Planning and Natural Resources Department describing any wildlife or special status plant species observed during the pre-construction survey.

(a) If any special-status species are identified during the pre-construction survey or during construction activities, the California Department of Fish and Wildlife and the U.S. Fish and Wildlife Service shall be contacted, where applicable, regarding the need to obtain any permits or approval from those agencies including an Incidental take Permit where avoidance is infeasible. Where acceptable to the California Department of Fish and Wildlife and the U.S. Fish and Wildlife Service, exclusion zones shall be established and maintained until all construction activities are completed unless said agencies prefer that any affected special-status species be removed and/or relocated in accordance with said agencies adopted guidelines or standard procedures.

(b) Biological resource monitoring during each initial phase of ground disturbance.

(c) Compliance reporting provided to the required oversight agencies for all biological resource field surveys, monitoring, and additional tasks as warranted.

(d) A Worker Environmental Awareness Program outlining special-status species that may access, use or otherwise transverse the project area will be implemented.

(e) If known or natal SJKF dens are identified at any time during construction, protocols enumerated in the USFWS Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance (2011) should be implemented, and the appropriate agencies contacted for guidance.

(f) Vertical sided trenching deeper than (2) two feet will include escape ramps at no more than 1:1 ration every 100 feet.

(g) Vertical sided holes that are not capable of being ramped should be covered or otherwise secured to the greatest extent practicable.

(h) Pipes, conduit and similar material (3) three inches or greater should be capped to prevent wildlife from becoming inadvertently trapped in the piping.

(19) If construction activities are conducted during the typical nesting bird season (February 15 through September 15), pre-construction surveys shall be conducted by a qualified biologist prior to any site preparation and/or construction activity to identify potential nesting bird activity. The survey area shall include a 500-foot buffer surrounding the property. Swainson's hawk protocol-level surveys shall be consistent with the survey methods developed by the Swainson's Hawk Technical Advisory Committee (SWHA TAC 2000); If no active nests are found within the survey area, no further mitigation is required. If nesting activity is identified during the pre-construction survey process, the following measures will be implemented:

(a) If active nest sites of bird species protected under the Migratory Bird Treaty Act and/or California Fish and Game Code are observed within the project site, then the project will be modified and/or delayed as necessary to avoid direct take of the identified nests, eggs, and/or young;

(b) If active nest sites of raptors and/or bird species of special concern are observed within the vicinity of the project site, then the appropriate buffer around the nest site (typically 250 feet for passerines and 500 feet for raptors) will be established. Construction activities in the buffer zone will be prohibited until the young have fledged the nest and achieved independence; and,

(c) Active nests shall be documented by a qualified biologist, and a letter report shall be submitted to the Kern County Planning and Natural Resources Department documenting project compliance with the Migratory Bird Treaty Act and California Fish and Game Code.

(20) Prior to the issuance of grading permits, the project proponent shall retain a qualified archaeologist who shall be designated the Lead Archaeologist for the site, defined as an archaeologist meeting the Secretary of the Interior's Standards for professional archaeology, to carry out all mitigation measures related to archaeological and historical resources. Proof of hire shall be submitted to the Kern County Planning and Natural Resources Department. If any previously unknown archaeological or cultural resources are discovered, work in the area of discovery shall be stopped and a qualified archaeologist contacted to evaluate the find. A copy of the archaeologist's evaluation shall be submitted to the Kern County Planning and Natural Resources Department upon its issuance and any measures recommended by the archaeologist shall be implemented prior to resumption of work in the area of discovery.

(21) Prior to the issuance of grading or building permits, and for the duration of construction activities, the project proponent shall demonstrate it has in place a Worker Environmental Awareness Program (WEAP) for all construction workers at the project site which includes cultural and paleontological resources training. The training shall be prepared and conducted by a qualified Lead Archeologist, defined as an archaeologist that meets the Secretary of the Interior's professional qualification standards in archaeology. The training shall

be prepared and conducted by the qualified archaeologist. The training may be in the form of a video. The training may be discontinued when ground disturbance is completed or suspended but must resume when ground-disturbing activities resume. A sticker shall be placed on hard hats indicating that the worker has completed the cultural training program. Construction personnel shall not be permitted to operate equipment within the construction area unless they have attended the training and are wearing hard hats with the required sticker. A copy of the training transcript and/or training video, as well as a list of the names of all personnel who attended the training and copies of the signed acknowledgement forms shall be submitted to the Kern County Planning and Natural Resources Department. The purpose of the WEAP Training Program shall be to inform construction personnel of the types of cultural resources that may be encountered during construction, and to bring awareness to personnel of actions to be taken in the event of a cultural resources discovery.

This may include: a discussion of applicable cultural resources statutes, regulations and related enforcement provisions; an overview of the prehistoric and historic environmental setting and context, as well as current cultural information regarding local tribal groups; samples or visuals of artifacts that might be found in the project area; and a discussion of what prehistoric and historic archaeological deposits look like at the surface and when exposed during construction. The cultural training program shall include instruction that in the event cultural resources are unearthed during ground-disturbing activities, the project operator shall cease any ground disturbing activities within 100 feet of the find until it can be evaluated by Lead Archaeologist.

(22) The project proponent shall continuously comply with the following: In the event that unanticipated cultural resources are encountered during the course of grading or construction, the project operator/contractor shall cease any ground disturbing activities within 50 feet of the find. Cultural resources may include prehistoric archaeological materials such as flaked and ground stone tools and debris, shell, bone, ceramics, and fire-affected rock, as well as historic materials such as glass, metal, wood, brick, or structural remnants. The Lead Archaeologist shall evaluate the resource to determine whether it qualifies as either an historical resource or a unique archaeological resource, and, if so, shall recommend appropriate treatment measures, as appropriate, to the Director of Planning and Natural Resources or designee. The project proponent shall implement such recommended measures if the Director of Planning and Natural Resources or her designee determines that they are feasible in light of project design, logistics, and cost considerations.

Per California Environmental Quality Act (CEQA) Guidelines Section 15126.4(b)(3), project redesign and preservation in place shall be the preferred means to avoid impacts to significant historical resources. Consistent with CEQA Guidelines Section 15126.4(b)(3)(C), if resources cannot be avoided, additional treatment measures shall be developed in consultation with the Director of Planning and Natural Resources or her designee, and may include testing and evaluation or data recovery excavation. Kern County shall consult with appropriate Native American representatives in determining appropriate treatment for unearthed cultural resources if the resources are prehistoric or Native American in nature. The qualified archaeologist shall prepare a report documenting evaluation and/or additional treatment of the resource. A copy of the report shall be provided to the Kern County Planning and Natural Resources Department and to the Southern San Joaquin Valley Information Center.

(23) The project proponent shall continuously comply with the following: If human remains are uncovered during project construction, the project proponent shall immediately halt work and contact the Kern County Coroner to evaluate the remains, the Kern County Planning and Natural Resources Department and follow the procedures and protocols set forth in Section 15064.5 (e)(1) of the CEQA Guidelines. The Lead Archeologist shall be notified, and all construction activity shall immediately cease on the entire project. If the County coroner determines that the remains are Native American, the Native American Heritage Commission shall be notified, in accordance with Health and Safety Code Section 7050.5, subdivision (c),

and Public Resources Code 5097.98 (as amended by AB 2641) for identification of the most likely Native American descendent. No construction activity may commence again until the Kern County Planning and Natural Resources Department has authorized such construction to begin after consultation with the Coroner and the most likely descendent - Native American Elder.

(24) Prior to the issuance of building permits, the Project Proponent shall provide a report and summary of all energy efficient building design standards incorporated into the project design and operations to reduce the level of energy consumption of the Project. The following measures shall be included in the Project design and implemented. Explanations for feasibility and implementation shall be included in the report:

(a) Within one year of the first day of Project operations, solar photovoltaics mounted on proposed structure's roofs to provide a portion of the future electrical demand and offset emissions from fossil fuel fired power plants.

(b) Incorporate green building measures that contribute to reducing energy use by at least 10 percent and up to 25 percent less than Title 24 requirements.

(c) Provide solar water heating for non-industrial water heating.

(d) If needed, in addition to roof mounted solar, provide ground mounted solar photovoltaics arrays to provide a portion of the estimated electrical demand for the proposed Project.

(e) Commercial buildings shall be designed to meet LEED® certification standards.

(f) Roofs on all buildings shall be of a light color to reduce heat generation.

(g) Portions of parking lots (drive aisles) may be paved with concrete versus asphalt, based on structural determinations, to reduce initial.

(h) Within two years of the first day of project operations, up to 20% of employee parking stalls shall be covered. If feasible for electrical demand, the parking stall roofs shall contain solar photovoltaics

(i) LED lighting fixtures shall be used on all indoor and exterior site lighting;

(j) LED lighting fixtures shall be used on all public streets and site lighting;

(k) Electric forklifts and other material handling vehicles to reduce usage of fossil fuels shall be implemented, based on feasibility of operations.

(l) Consult with Kern County Public Works and Golden Empire Transit (GET) on feasible design circulation features for transit related public street improvements adjacent to the project for implementation of MM 4.17-3 Transportation Demand Management Program

(m) Provide bicycle friendly features, such as onsite bike lanes, bike racks, and bike lockers, to reduce vehicle miles traveled and to encourage non-vehicular transportation;

(n) Where feasible design operations to incorporate the usage of high efficiency electric motors for industrial uses.

(25) The project proponent shall comply with applicable seismic risk protection measures in the California

Building Code, as confirmed with building permit plans submitted to the Kern County Public Works Department for review and approval.

(26) Prior to the issue of grading or building permits, the project proponent shall incorporate all recommendations of the Geotechnical Engineering Investigation by Salem Engineering Group, Inc. dated February 4, 2025, to address potential for localized seismic hazards and soil conditions. The qualified geotechnical engineer shall confirm compliance with all site preparation requirements identified within the Geotechnical Report. Compliance documentation shall be provided to the Kern County Public Works Department.

(27) The project proponent shall prepare a Soil Erosion and Sedimentation Control Plan to mitigate potential loss of soil and erosion. The plan shall be prepared by a California registered civil engineer or other professional approved to prepare said Plan and submitted for review and approval by the Kern County Public Works Department. The Soil Erosion and Sedimentation Control Plan shall include, but is not limited to, the following:

(a) Best Management Practices (BMPs) to minimize soil erosion consistent with Kern County grading requirements and the California Regional Water Quality Control Board requirements pertaining to the preparation and approval of a Stormwater Pollution Prevention Plan BMPs recommended by the Kern County Public Works Department shall be reviewed for applicability.

(b) Sediment collection facilities may be required by the Kern County Public Works Department.

(c) A timetable for full implementation, estimated costs, and a surety bond or other security as approved by the County.

(d) Other measures required by the County during permitting, including long-term monitoring (post-construction) of erosion control measures until site stabilization is achieved; and

(e) Provisions to comply with local and state codes relating to drainage and runoff, including use of pervious pavements, and/or other methods to the extent feasible, to increase stormwater infiltration and reduce runoff onto agricultural lands.

(28) If any previously unknown oil, gas, or injection wells are discovered, work in the area of discovery shall be stopped and the Department of Conservation/Geologic Energy Management Division/Bakersfield office contacted by the project proponent to obtain information on the requirements of, and approval to perform, remedial operations implemented prior to resumption of work in the area of discovery.

(29) The project proponent/developer shall include the following:

(a) Prior to issuance of occupancy permits, the project developer shall disclose to all tenants/business entities that only electric-powered off-road equipment (e.g. forklifts, material handling equipment, etc.) shall be utilized for all indoor activities for daily warehouse and business operations and a copy of disclosure documents shall be submitted to the Planning and Natural Resources Department to be kept on file.

(b) Prior to issuance of grading permits, the project construction's General Contractor shall target a construction waste diversion rate of 80 percent. A monthly construction report shall be provided to the County documenting total waste generated, types of waste streams, and total waste recycled.

(c) During operation and to the extent feasible for safe warehouse operations, automatic light switches shall be incorporated into the project.

(d) During operation, any equipment containing greater than five pounds of refrigerant, procured or installed, shall be tagged so that project applicant and tenant can identify and verify all installed equipment.

(30) Prior to the issuance of grading and building permits for the project, documentation shall be provided to the Kern County Planning and Natural Resources Department demonstrating the proposed project will implement one of the following measures:

(a) Install solar panels, solar hot water, or other clean energy power generation sources on the proposed project site to provide 100% of the proposed project's energy needs; or

(b) Participate in Pacific Gas and Electric Company (PG&E) Solar Choice program for nonresidential (i.e., 100 percent carbon-free electricity) for electricity accounts associated with the project to procure 100 percent of the proposed project's electricity needs from renewable energy.

(31) The project proponent shall consult with the Kern County Public Health Services Department - Environmental Health Division – Hazardous Materials Program. If required, the project proponent shall submit a Hazardous Materials Business Plan to the Kern County Environmental Health Division Hazardous Materials program and with the California Environmental Reporting System (CERS) for hazardous materials/waste stored on site. This Business Plan, as applicable, shall be submitted within 30 days of operation.

(32) The project proponent shall continuously comply with the following: All hazardous wastes shall be stored and properly managed in accordance with the approved Kern County Waste Management Department Hazardous Waste Exclusion Plan and hazardous materials business plan, until transported for proper disposal. A copy of the Hazardous Waste Exclusion Plan shall be submitted to the Kern County Planning and Natural Resources Department.

(33) Prior to the issuance of grading or building permits for the project, if herbicides are to be utilized, the contractor or personnel applying herbicides must have the appropriate State and local herbicide applicator licenses and comply with all State and local regulations regarding herbicide use. Herbicides shall be mixed and applied in conformance with the product manufacturer's directions. The herbicide applicator shall be equipped with splash protection clothing and gear, chemical resistant gloves, chemical spill/splash wash supplies, and material safety data sheets for all hazardous materials to be used. To minimize harm to wildlife, vegetation, and waterbodies, herbicides shall not be applied directly to wildlife, and products identified as non-toxic to birds and small mammals shall be used if nests or dens are observed. Herbicides shall not be applied if it is raining at the site, rain is imminent, or the target area has puddles or standing water, and shall not be applied when wind velocity exceeds 10 miles per hour. If spray is observed to be drifting to a non-target location, spraying shall be discontinued until conditions causing the drift have abated.

(34) The project proponent shall continuously comply with the following: If during grading or soil removal, evidence of petroleum products is discovered and appears to continue below the ground surface, construction activities in that area shall stop immediately and a qualified hazardous materials professional shall be contacted and brought to the project sites to make a proper assessment of the suspect materials. If applicable, remediation shall include removal of soil and proper disposal at an approved facility. Copies of all reports and correspondence shall be submitted to the Kern County Environmental Health Services

Division/Hazardous Materials Section and the Kern County Planning and Natural Resources Department.

(35) The project proponent shall continuously comply with the following: If suspect materials or wastes of unknown origin are discovered during construction on the project site, which is thought to include hazardous waste materials, the following shall occur:

(a) All work shall immediately stop in the vicinity of the suspected contaminant;

(b) Project Construction Manager shall be notified;

(c) Area(s) shall be secured as directed by the Project Construction Manager;

(d) Notification shall be made to the Kern County Environmental Health Services Division/Hazardous Materials Section for consultation, assessment and appropriate actions;

(e) Copies of all notifications and correspondence shall be submitted to the Kern County Planning and Natural Resources Department.

(36) Prior to grading or excavating, the Underground Service Alert on-call center shall be contacted at (800) 227-2600. The proposed excavation area shall be delineated with white marking paint or with other suitable markers such as flags or stakes at least two days prior to commencing any excavation work. A "Dig Alert" ticket number would be issued at the time Underground Service Alert is contacted. Excavating is not permitted without this ticket number and is valid for twenty-eight days. Underground Service Alert would notify its member utilities having underground facilities in the area. Underground Service Alert does not notify non-member utilities or energy companies, or Caltrans.

(37) Prior to the issuance of grading or building permits, the project proponent shall appoint an Emergency Response Liaison to coordinate the reduction of construction-related traffic for the duration of any emergency at or nearby the project site. The Kern County Fire Department, Kern County Sherriff's Department, and the California Highway Patrol shall be provided with the construction schedule and the on-site contact information for the Liaison prior to construction. The Liaison shall be immediately reachable at all times during project construction. The Liaison shall have radio contact with project construction vehicles at all times to coordinate traffic reduction measures. In addition, the Liaison shall coordinate with the Kern County Fire Department, the Kern County Sherriff's Department, and the California Highway Patrol to establish emergency procedures for access to the project site in the event of emergency during construction activities.

(38) All permanent power utilities extended to the project site shall be installed underground, where feasible as determined by the Kern County Planning and Natural Resources Director.

(39) The project proponent shall continuously comply with the following during construction implementation of the project: In order to eliminate the risk of generating disease vectors at the site, during project construction, the project proponent shall ensure that trash is stored in closed containers and removed from the site at regular intervals. Open containers shall be inverted, and construction ditches shall not be allowed to accumulate water. Construction activities shall not generate standing water. The environmental monitor shall ensure that standing water and large quantities of trash do not accumulate onsite. Project compliance shall be verified by the Kern County Public Works Department during the course of that agency's performance of any on-site inspections.

(40) The use shall not generate noise that exceeds an average 65 dB Ldn (24-hour median) between the hours of

7:00 a.m. and 10:00 p.m., and shall not generate noise that exceeds 65 dB, or which would result in an increase of five (5) dB or more from ambient sound levels, whichever is greater, between the hours of 10:00 p.m. and 7:00 a.m. Noise level measurements shall be taken at the exterior of the closest residential dwelling within the boundary of the affected residential district(s) with sound level meter using an A-weighted network (scale) and, where practical, the microphone shall be positioned five (5) feet above the ground and away from reflective surfaces. Public complaints alleging violation of this standard may be required to submit documentation of actual noise level measurements. The Director of the Kern County Planning and Natural Resources Department, in consultation with the Kern County Public Health Services Department/Environmental Health Division, may authorize deviations or exceptions to the standards contained in this subsection and may require noise attenuation measures in conjunction with such authorization.

(41) The following shall be implemented by the project proponent during project construction:

(a) Project construction hours shall comply with Kern County Noise Ordinance as specified in Section 8.36.020. This includes, the construction contractor shall not receive deliveries or conduct engine warm-ups between 9 PM and 6 AM Monday through Friday and Between 9 PM and 8 AM Saturday and Sunday.

(b) The construction contractor shall locate on-site equipment staging areas so as to maximize the distance between construction-related noise sources and noise-sensitive receptors nearest the project site during all construction.

(c) The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors. The nearest sensitive receptor is a hotel located approximately 0.35 miles southeast of the project site, and a single-family residence is located approximately 0.87 miles east.

(d) The construction contractor shall locate any pile drivers, or other machinery capable of causing strong vibrations or load noises, such that the rear of the vibratory pile driver or machinery faces toward the noise sensitive receptor when the machine is being utilized.

(e) The construction contractor shall ensure that "quiet" models of air compressors and other stationary construction equipment are utilized where such technology exists.

(f) The construction contractor shall ensure proper maintenance and working order of equipment and vehicles, and that all construction equipment is equipped with manufacturers' approved mufflers and baffles.

(g) The construction contractor shall prohibit unnecessary idling of internal combustion engines (i.e., in excess of five [5] minutes). The construction contractor shall ensure that the sound-control devices in all construction and impact equipment are at least as effective as the sound control devices installed in the original equipment at the time of purchase.

(42) Prior to receipt of an occupancy permit for the commercial structure, the project proponent or building permittee shall stencil a statement or graphical icon above publicly accessible storm drain system inlets that prohibits dumping improper wastes into the storm drain system and shall install inserts to collect trash from storm drain inlets in high-use areas of the site that include a standard curb and gutter system.

(43) Prior to issuance of a grading permit, the Project proponent/operator shall submit a Stormwater Pollution

Prevention Plan for review and approval by the Kern County Planning and Natural Resources Department and/or Kern County Public Works Department. The approved Stormwater Pollution Prevention Plan shall be implemented by the project and designed to minimize runoff and shall specify best management practices to prevent all construction pollutants from contacting stormwater, with the intent of keeping sediment or any other pollutants from moving offsite and into receiving waters. The requirements of the Stormwater Pollution Prevention Plan shall be incorporated into design specifications and construction contracts. Recommended best management practices to be incorporated in the Stormwater Pollution Prevention Plan shall include the following:

(a) Minimization of vegetation removal;

(b) Implementing sediment controls, including silt fences as necessary;

(c) Installation of a stabilized construction entrance/exit and stabilization of disturbed areas;

(d) Properly containing and disposing of hazardous materials used for construction onsite;

(e) Properly covering stockpiled soils to prevent wind erosion;

(f) Proper protections and containment for fueling and maintenance of equipment and vehicles;

(g) Appropriate disposal of demolition debris, concrete and soil, and aggressively controlling litter;

(h) Cleanup of silt and mud on adjacent street due to construction activity;

(i) Checking all lined and unlined ditches after each rainfall;

(j) Restore all erosion control devices to working order to the satisfaction of the Kern County Planning and Natural Resources Department and/or Kern County Public Works Department after each rainfall run-off; and

(k) Install additional erosion control measures as may be required due to uncompleted grading operations or unforeseen circumstances which may arise.

(44) The project proponent and the Superior Water Company shall comply with applicable requirements of the Sustainable Groundwater Management Act in managing any groundwater water resources made available to this project.

(45) Prior to issuance of any building permits or other development approvals, the project proponent shall provide written verification of compliance with applicable water efficiency design standards required by the California Uniform Building Code.

(46) The building permit applications shall include compliance with applicable water conservation state laws and regulations, and local ordinances, including but not limited to those applicable to interior fixtures, tankless water heaters, and low-flow plumbing, compliance with which shall be used to meet the required Maximum Applied Water Allowance for each land use.

(47) Prior to the issuance of a building permit, the project proponent shall comply with the following: The project proponent shall encourage all contractors of the project to hire, to the extent feasible, at least 50 percent of their workers from the local Kern County communities. The project proponent shall provide the contractors with a list of training programs that provide skilled workers and shall require the contractor to advertise

locally for available jobs, notify the training programs of job availability, all in conjunction with normal hiring practices of the contractor. The project proponent shall submit a letter detailing the hiring efforts prior to commencement of construction.

(48) Prior to the issuance of building permits, the project proponent shall prepare and submit a Construction Traffic Control Plan to Kern County Public Works for approval. The Construction Traffic Control Plan must be prepared in accordance with both the California Department of Transportation Manual on Uniform Traffic Control Devices and Work Area Traffic Control Handbook and shall include, but not be limited to, the following issues:

(a) Timing of deliveries of heavy equipment and building materials;

(b) Directing construction traffic with a flag person;

(c) Placing temporary signing, lighting, and traffic control devices as required; including, but not limited to, appropriate signage along access routes (Interstate 5 and Stockdale Highway) to indicate the presence of heavy vehicles and construction traffic;

(d) Determining the need for construction work hours and arrival/departure times outside peak traffic periods;

(e) Ensuring access for emergency vehicles to the project site;

(f) Temporary closure of travel lanes or disruptions to street segments and intersections during materials delivery, transmission line stringing activities, or any other utility connections;

(g) Maintaining access to adjacent property;

(h) Specification of both construction-related vehicle travel and oversize load haul routes, the minimization of construction traffic during the AM and PM peak hour, distributing construction traffic flow across alternative routes to access the project site, and avoiding residential neighborhoods to the maximum extent feasible; and

(i) Identification of vehicle safety procedures for entering and exiting site access roads.

A traffic control coordinator shall be established. The traffic control coordinator shall be responsible for responding to any local complaints about project construction and operational traffic concerns. The traffic control coordinator shall determine the cause of the traffic complaint and shall be required to implement reasonable measures to resolve the complaint. Signs shall be posted along the project's construction and operations access routes and shall list the telephone number for the traffic control coordinator. The Construction Traffic Management Plan shall be subject to the review and approval of the Kern County Public Works Department. A copy of the plan shall be submitted to local emergency response agencies and transit providers as directed by Kern County, and to Caltrans. These agencies shall be notified at least 30 days before the commencement of construction that would partially or fully obstruct public roadways.

(41) Prior to issuance of grading permit, the project proponent shall pay all required Regional Transportation Impact Fees.

(42) Prior to issuance of the final occupancy approval, the following shall be performed in compliance with the requirements of the Kern County Public Works Department and shall

be accomplished at no cost to the County:

1. Record, through the Kern County Public Works Department, an irrevocable offer of dedication to the County of Kern of all subject property for Coberly Road, 45 feet in width, per the Kern County Development Standards and the Land Division Ordinance.

2. Under street improvement plans approved by the Kern County Public Works Department, construct Coberly Road project frontage to Type "A" Subdivision Standard, half width Local Road, per the Kern County Development Standards and the Land Division Ordinance. These improvements shall be, but not limited to, curb, gutter, sidewalk, wheelchair ramps, asphalt concrete, restriping and the necessary tie-ins.

3. Drive approach widths to be determined after consultation with Kern County Public Works Department.

4. Iinclude a striping plan and streetlight plan with the street improvement plans.

(43) Prior to the issuance of a building permit, the project proponent shall submit a Construction/Demolition Recycling Plan to the Kern County Public Works Department for review and approval. An onsite recycling coordinator shall be designated by the project applicant to facilitate recycling of all construction waste through coordination with the onsite contractor, local waste haulers, and/or other facilities that recycle construction/demolition waste. The onsite recycling coordinator will also be responsible for ensuring that wastes requiring special disposal are handled according to state and County regulations that are in effect at the time of disposal. The name and phone number of the coordinator and the site plan for the disposal area shall be provided to the Kern County Public Works Department prior to the issuance of a grading permit. Additional measures to be included in the Plan include:

(a) Reducing the quantity of waste generated by construction activities (e.g., by using onsite spoils and bulk site-clearing materials for existing project needs, such as backfill, mulch, erosion and sedimentation control), donating reusable materials to charitable organizations, or exporting materials for use in other construction projects;

(b) Maintaining a centralized information repository on site to identify which construction materials can be recycled and provide direction as to which sources will accept recyclable building and construction materials; and

(c) Requiring building or construction materials that are not recyclable to be taken to the nearest waste disposal facility. These materials shall be transported in bulk to reduce multiple truck trips, thereby reducing emissions generated from waste transportation.

(44) Prior to the issuance of any grading or building permit for the project, the project proponent shall provide a fenced storage area for recyclable materials that is clearly identified for recycling during construction activities. This area shall be maintained on the site during construction. A site plan showing the recycling storage area shall be submitted to the Kern County Planning and Natural Resources Department and Kern County Waste Management Department.

(45) Prior to the certificate of occupancy, the project proponent shall construct, subject to the review and approval of the Kern County Public Works Department, adequate, segregated, onsite screened storage for collection of commercial solid waste and source separated recyclable materials.

(46) Prior to issuance of grading and building permits the Project proponent shall coordinate with PG&E staff to determine the specific requirements regarding any potential electric service or facility issues needed to adequately accommodate the proposed Project. The Project proponent shall comply with and adhere to all requirements identified by PG&E to fully mitigate impacts to electric services and facilities, as needed as Project construction progresses.

INCLUSION OF MITIGATION MEASURES AS PART OF PROJECT:

I, as applicant/authorized agent, have reviewed the mitigation measures noted above and agree to include said measures as part of this project.

Signed: _____ Dated: 7/6/2026

FINDINGS:

(1) It has been found that this project, as described and proposed to be mitigated herein, will not have a significant effect on the environment and that an Environmental Impact Report (EIR) is, therefore, not required. A brief statement of reasons supporting such findings is as follows:

(2) The proposed project would have a less than significant impact on cultural resources or human environmental resources. However, the proposed project has the potential to result in a significant impact on biological resources due to possible disturbance of habitat or species during construction. However, with implementation of the included mitigation measures potential impacts would be minimized.

(3) These measures will ensure that the project does not substantially degrade the quality of the environment, reduce habitat, or threaten any special-status species or plant communities. The project's impacts would not be cumulatively considerable when combined with other projects in the area, and it would not cause substantial adverse effects on human beings, either directly or indirectly. Therefore, with incorporation of mitigation, all potential impacts would be reduced to less than significant levels.

(4) The project's incremental contribution to cumulative environmental impacts would not be cumulatively considerable. Projects within Kern County, including the proposed project, are evaluated for potential impacts and required to implement project-specific mitigation measures to reduce impacts to less than significant levels. All development must also comply with applicable County policies and ordinances.

(5) The project will adhere to all permitting requirements and regulations of the Kern County Zoning Ordinance, the San Joaquin Valley Air Pollution Control District, the California Building Code, and the California Code of Regulations Fire Code. Compliance with these requirements ensures that the project does not contribute to cumulative impacts beyond those already anticipated in regional and local planning efforts.

(6) Mitigation measures identified for air quality, biological resources, cultural resources, geology and soils,

hazards and hazardous materials, tribal cultural resources will further reduce project-level impacts to less than significant. When viewed in connection with past, present, and reasonably foreseeable future development, the project does not result in cumulatively considerable effects. Therefore, cumulative impacts would be less than significant.

(7) The project does not have the potential to cause substantial adverse effects on human beings, either directly or indirectly. The project site is in an area planned for industrial use, and all identified environmental impacts such as air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, tribal cultural resources, have been reduced to less than significant levels through compliance with existing regulations and standard conditions of approval. No substantial adverse effects on human beings are anticipated.

PUBLIC INQUIRY: Any person may object to dispensing with such EIR or respond to the findings herein. Information relating to the proposed project is on file in the office of the Planning and Natural Resources Department at the address shown below. Any person wishing to examine or obtain a copy of that information or this document, or seeking information as to the time and manner to so object or respond, may do so by inquiring at said office during regular business hours.

A copy of the Initial Study is attached hereto.

PROPOSED NEGATIVE DECLARATION DATE: July 9, 2026
NEGATIVE DECLARATION REVIEW PERIOD ENDS: August 7, 2026

CRAIG M. MURPHY, Director
Planning and Natural Resources Department

By Cindi Hoover Assistant Director

Kern County Planning and Natural Resources Department
2700 "M" Street, Suite 100
Bakersfield, CA 93301
(661) 862-8600

AGENCY CONSULTATION REQUIRED: X Yes _ No

AGENCIES CONSULTED: Kern County Planning and Natural Resources Department/Current Planning; County Clerk; See notification list.

STATE CLEARINGHOUSE NUMBER (if required):

INITIAL STUDY PREPARED BY: Robert Williams, Planner I (661-862-5159), Kern County Planning and Natural Resources Department

DATE POSTED: July 9, 2026

DATE OF NOTICE TO PUBLIC: July 9, 2026

* Public Resources Code, Section 21000, et seq.

** Title 14, Division 6, California Administrative Code, as amended

*** Resolution No. 88-068, adopted January 19, 1988

CLH:RW (7/6/2026-5587.ND)

Attachment

INITIAL STUDY REVIEW

PROJECT DESCRIPTION AND SETTING

PROPOSED PROJECT: (a) Precise Development Plan No. 44, Map 79-35, Saed Investments, LLC by Max Bacerra (PP25125)

LOCATION: Southwest of the Coberly Road and Cherry Avenue intersection, also being a portion of Section 35, Township 28 South, Range 25 East, County of Kern, State of California; Assessor's Parcel Number: 090-340-18.

PROJECT DESCRIPTION: (a) A Precise Development Plan (PD) to allow the development of a 129,236 square foot warehouse facility in a M-2 PD (Medium Industrial – Precise Development Combining) District Pursuant to Section 19.38.020.E.2 of the Kern County Zoning Ordinance. The project site consists of a 6.41-acre portion of a 19.58-acre parcel in the Shafter area. Tentative Parcel Map 12515, as currently requested, would subdivide the parcel into three parcels. The project site is the western-most parcel of Tentative parcel map 12515. The site is zoned M-2 PD and is designated 4.1 Service Industrial by the Western Rosedale Specific Plan.

The project site is rectangular in shape and is currently undeveloped. Surrounding properties are characterized primarily by agricultural and industrial uses. Coberly Road directly abuts the site to the north, and Cherry Avenue abuts the site to the east. Agricultural uses, including irrigated farmland to the north and almond orchards to the east, surround these boundaries. The area to the south is vacant industrial land, with semi- truck parking and storage and an environmental remediation business beyond, while the land to the west is also industrial and developed with a steel fabrication operation.

The City of Shafter jurisdictional limits are located directly to the east of the project site along Cherry Avenue. The project site is located within the administrative boundary of Agricultural Preserve No. 8. Access to the site is provided by Coberly Road, which is currently unimproved along the project frontage, as well as Cherry Avenue, a local road identified as an arterial alignment (110-foot right-of-way) in the Kern County General Plan Circulation Element, and Enos Lane, an arterial highway with a 110-foot right-of-way as designated in the Circulation Element. The project site is located within the Shafter-Wasco Irrigation District Groundwater Sustainability Agency. The district does not allocate groundwater to individual landowners; therefore, the project is consistent with the policies of the Kern County Water Agency Water Storage District. The applicant has provided will-serve letters indicating that domestic, fire, and irrigation water will be supplied by Superior Mutual Water Company, and sewer service will be provided by North of the River Sanitary District. The project would connect to the existing water and sewer infrastructure serving the area, and any necessary improvements or extensions required to accommodate the proposed development would completed as part of the proposed project.

The applicant is seeking land-use approval of a Precise Development Plan to authorize the development and operation of a 129,236-square-foot warehouse within the M-2 PD District. According to the operational statement, the warehouse will operate seven days a week from 7:00 a.m. to 7:00 p.m., excluding major holidays. The facility will employ 15 to 20 warehouse staff, with an additional 3 (three) to 4 (four) administrative and logistics employees. Furniture products will arrive via semi-trucks and trailers, with daily operations receiving up to four major deliveries from manufacturers. Outgoing deliveries will be made by smaller trucks beginning at 8:00 a.m., typically returning between 4:00 p.m. and 5:00 p.m., with occasional later returns for long-distance routes throughout California and neighboring states. The project site will include employee and customer parking, for a total of 82 standard parking spaces, as well as a

loading dock equipped with multiple roll-up doors for truck loading and unloading. The warehouse will support short- and mid-term storage of residential and commercial furniture to be distributed to retail showrooms. The project proposes two primary access points along the north frontage of the site on Coberly Road. In addition, secondary access dedicated to fire and emergency response will be located on the south side of the site with temporary emergency access along the eastern boundary of the site until which time the remaining parcels to the east are developed.

ENVIRONMENTAL SETTING: The project site consists of approximately 19.58 acres and is located on the southwest corner of Coberly Road and Cherry Avenue. The project site lies within the County of Kern's administrative jurisdiction. Surrounding properties are characterized primarily by agricultural and industrial uses. Cherry Avenue abuts the parcel to the east, while Coberly Road abuts the site to the north. Vacant land designated for medium industrial is located to the south of the project site. Anvil Steel corporation abuts the project to the west on land that is designated for medium industrial. Land located east of the site, beyond Cherry Avenue, consists of agriculturally zoned property in the City of Shafter's jurisdiction. Parcels located north of Coberly Road are vacant land designated for agriculture. The project site is located within the Western Rosedale Specific Plan area. The City of Shafter jurisdictional limits are located immediately east of the project site, abutting the eastern boundary of the parcel.

Site and surrounding land uses and development patterns are described in the following table:

Proposed Project Site and Surrounding Land Use			
Direction	**Existing Map Code Designation**	**Existing Zoning**	**Existing Land Use**
Project Site	4.1 (Service Industrial)	M-2 PD (Medium Industrial – Precise Development Combining)	Vacant/undeveloped land
North	8.1 (Intensive Agriculture (Minimum 20 Acre Parcel Size))	A (Exclusive Agriculture)	Coberly Road/Agricultural land-row crops
East	R-IA (Intensive Agriculture) (City of Shafter)	A (Agricultural) (City of Shafter)	Agricultural land - orchards
South	4.1	M-2 PD	Vacant land
West	4.1	M-2 PD	Anvil Steel industrial yard

The project site is located in the southwestern portion of the southern San Joaquin Valley, north of the Kern River at an approximate elevation of 330 feet above sea level. The project site does not contain any protected trees, rock outcroppings, or historic buildings and is not located near a scenic highway or designated scenic vista.

The project site is not identified as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance by the California Department of Conservation Farmland Mapping Program. However, the project site is located within the boundaries of the Kern County Agricultural Preserve No. 8, yet there is no land encumbered by a Williamson Act Land Use Contract located within the project site. The land directly north of the project site is Prime agricultural land encumbered by a Williamson Act Land Use Contract. The site is not near any forested lands.

The project site is not located within an Earthquake Fault Zone. However, the nearest active fault to the project site is White Wolf fault located 31.32 miles from the project site. The Geotechnical Engineering Investigation (2025) identifies the site as containing soils consisting of interbedded layers of loose to

medium dense silty sand, and firm to hard sandy silt and/or loose to medium dense clayey silty sand. The project site is located within the jurisdiction of the San Joaquin Valley Air Pollution Control District (SJVAPCD). The project site is located within the Western Rosedale Specific Plan area. The project site does not contain any riparian habitat or other sensitive natural community or wetlands as defined by Section 404 of the Clean Water Act.

No known migration wildlife corridors are present, and the site is not a native wildlife nursery site. The project is not located within an area of large bodies of open water, on or adjacent to the proposed project site, making it subject to seiche, tsunami, or mudflow. The site is not located within the administrative boundaries of an oilfield or an oilfield production area. There are no known oil, gas, or injection wells of record on the project site.

Figure 7 of the Circulation Element of the Kern County General Plan categorizes Cherry Avenue as an arterial (major highway) alignment. Figure 10 of the Circulation Element of the Kern County General Plan identifies the nearest railroad to the project site is the Santa Fe Way Railway. The site is not located within any Specific Airport Sphere of Influence and outside the administrative boundaries of the Kern County Airport Land Use Compatibility Plan. The nearest public airport is Shafter Airport located approximately five (5) miles west of the project site.

The project is located in Flood Zone X and not located within any designated floodplain hazard. Flood Zone X indicates the property is outside of the 100-year floodplain. Therefore, the project will not be placed within a 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or FIRM or other flood hazard delineation map or place structures within a 100-year flood hazard area that would impede or redirect flood flows.

The franchise hauler for all nonhazardous, municipal solid waste is collected by American Refuse for disposal at the Shafter-Wasco Sanitary Landfill. The project site is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. As proposed, the project will not physically divide an established community.

Fire protection is provided by the Kern County Fire Department, Shafter Station 32 (325 Sunset Avenue), located approximately 4 miles northwest of the project site. Police protection is provided by the Kern County Sheriff's Office.

The project site is located within the Rio Bravo-Greeley Union School District and Kern High School Districts. The closest schools are Rio-Bravo Elementary School located approximately two (2) miles to the southwest, the closest middle school is Rio Bravo Greeley Union School located two (2) miles to the southwest, and Shafter High School is located approximately four (4) miles northwest of the project site. The project site is located within the Kern County Parks and Recreation District's notification area for all discretionary projects.

PERMITS AND APPROVALS:

Permit/Approval	Agency	Description
Precise Development Plan	Kern County Planning and Natural Resources Department – Director's Hearing	Site layout, operations and development standards
Tentative Parcel Map 12515	Kern County Planning and	Tentative Parcel Map to

	Natural Resources Department – Director's Hearing	subdivide existing 19.58-acre parcel into three parcels.
Grading Permit	Kern County Public Works, Building Department	Earthwork activities including excavation, fill placement, and site grading
Building Permits	Kern County Public Works, Building Department	Construction of buildings and structures
Encroachment Permit (County Roads)	Kern County Public Works, Development Review Department	Improvements within County right-of-way
Encroachment Permit (City Streets)	City of Shafter Public Works Department	Improvements within City of Shafter right-of-way
Stormwater Permit	State Water Resources Control Board	Coverage under the NPDES Construction General Permit, requires preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP).
Air Quality Permit	San Joaquin Valley Air Pollution Control District	Stationary sources (e.g., emergency generators, coating operations) and compliance with district rules.
Hazardous Materials Business Plan	Kern county Environmental Health Services Department	Hazardous materials (e.g., oils, solvents, fuels) exceed regulatory thresholds; including inventory and emergency response procedures.
Fire Protection Review	Kern County Fire Department	Fire access, fire flow, and hazardous materials storage requirements.
Sewer Service Permit	North of the River Sanitation District	Connection to a regional wastewater treatment plant
Water Service Approval	Superior Water Company	Water supply availability and service connection
Electrical Service Approval	PG&E or applicable utility provider	Electrical service connection and infrastructure

CONSTRUCTION SCHEDULE: Project construction is anticipated to occur over 16 months and would occur in one phase. Construction would follow a standard progression of activities, beginning with site

mobilization and concluding with final inspection and project closeout. The anticipated sequence of construction would include mobilization, site clearing and grubbing, rough grading, installation of utilities, foundation construction, building erection, paving and drainage improvements, site improvements, and final closeout. For purposes of technical study preparation, a conceptual construction commencement timing of mid-2025 with a 16-month construction period completing in late 2026 was assumed.

KERN COUNTY
ENVIRONMENTAL CHECKLIST FORM

Environmental Factors Potentially Affected:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agriculture and Forestry Resources	☒ Air Quality
☒ Biological Resources	☒ Cultural Resources	☒ Energy
☒ Geology / Soils	☒ Greenhouse Gas Emissions	☐ Hazards & Hazardous Materials
☒ Hydrology / Water Quality	☐ Land Use / Planning	☐ Mineral Resources
☒ Noise	☐ Population / Housing	☐ Public Services
☐ Recreation	☐ Transportation	☒ Tribal Cultural Resources
☐ Utilities and Service Systems	☐ Wildfire	☒ Mandatory Findings of Significance

DETERMINATION. (To be completed by the Lead Agency)

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect (a) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (b) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENT IMPACT REPORT (EIR) is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or

mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature	7/9/2026 Date
Robert Williams, Planner I Print	Kern County Planning and Natural Resources Department Agency

Evaluation of Environmental Impacts:

(1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a Lead Agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

(2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

(3) Once the Lead Agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an Environmental Impact Report (EIR) is required.

(4) Negative Declaration: "Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The Lead Agency must describe the mitigation measure and briefly explain how they reduce the effect to a less than significant level.

(5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or Negative Declaration, Section 15063(c) (3) (D). In this case, a brief discussion should identify the following:

(a) Earlier Analysis Used. Identify and state where they are available for review.

(b) Impacts Adequately Addressed. Identify which effects from the above checklist where within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

(c) Mitigation Measures. For effects that are "Less Than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

(6) Lead Agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or

outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

(7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

(8) This is only a suggested form, and lead agencies are free to use different formats; however, Lead Agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

(9) The explanation of each issue should identify:

(a) The significance criteria or threshold, if any, used to evaluate each question.

(b) The mitigation measure identified, if any, to reduce the impact to less than significance.

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
I. AESTHETICS. Except as provided in Public Resources Code Section 21099, would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area?	☐	☐	☒	☐

RESPONSES:

Response to (a) through (b): No impact. The project is located within an area that has historically been used for agricultural and industrial purposes. There are no scenic trees, rock outcroppings or historic buildings on the project site. There are currently no designated scenic highways or sensitive view corridors in the vicinity of the Proposed project.

Response to (c): Less than significant. The Project is located in a non-urbanized designated area, Additionally, the project would comply with sections 19.38.080 limiting height of buildings, 19.38.110 limiting height, size and location of signs, and 19.86 for minimum landscaping requirements and other development standards as provided in Zoning Ordinance (Title 19, Kern County Municipal Code). Therefore, the Project would have no impact on scenic vistas, state scenic highways or existing visual character or quality of the Project site or its surroundings.

Response to (d): Less than significant. As proposed, the warehouse will operate between 7:00 a.m. and 7:00 p.m. To ensure new sources of light and glare do not adversely affect daytime or nighttime views or

substantially impact adjacent properties or the public right-of-way, all parking areas and outdoor lighting shall comply with Chapter 19.81, the Kern County Dark Skies Ordinance. This requirement ensures that lighting is hooded, arranged, and controlled so that fixtures are not directly visible from adjoining properties or public streets, reducing potential light and glare impacts to a less-than-significant level.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
II. AGRICULTURE AND FOREST RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timber land, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒

e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☒	☐

RESPONSES:

Response to (a): No impact. The site is not classified as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. The site and surrounding area contain no forest resources, and no conversion of farmland, forest land, or timberland would occur on the Project site. The area is designated for industrial development; the project would have no impact on agricultural or forestry resources.

Response to (b): No Impact. The project site is designated Service Industrial under the Western Rosedale Specific Plan and is zoned for industrial use, not agriculture, forest land, or timberland. Nor is the project site subject to a Williamson Act Land Use Contract. Therefore, the project would not conflict with existing zoning for agricultural uses or conflict with a Williamson Act contract and no impact would occur.

Response to (c): No Impact. The project site and surrounding area do not contain forest land, timberland, or timberland zoned for Timberland Production. The proposed project would not conflict with or result in rezoning forest or timberland zoned lands. Therefore, no impact would occur.

Response to (d): No Impact. The project site and surrounding area do not contain forest land. As such, implementation of the proposed project would not result in the loss or conversion of forest land to non-forest use and as such no impact would occur.

Response to (e): Less than Significant. The project site is not in active agricultural use and is not designated as important farmland. The project site is designated Service Industrial, and the site is surrounded by a mix of agricultural and Medium Industrial zoning, with industrial uses located nearby. While the project site itself is not under a Williamson Act contract, the property to the north is designated for agricultural use and is enrolled in the Williamson Act. The project improvements would be limited to the boundary of the project site and road right of way immediately north of the project site and would not impede use of adjacent agriculturally designated land. Additionally, the project site and surrounding area do not contain forest land. Therefore, the proposed project would not induce or result in the conversion of farmland or forest land into non-agricultural or non-forest uses. As such, the project is not anticipated to cause the conversion of agricultural land to non-agricultural uses, or forest land to no-forest uses and no impact would occur.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
III. AIR QUALITY. Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☒	☐	☐
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☒	☐	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☒	☐	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

RESPONSES:

The applicant provided an Air Quality and Greenhouse Gas Impact Analysis, completed by Birdseye Planning Group dated January 2025 (Appendix A), that was used to support the following analysis:

Response to (a)- (b): Less Than Significant with Mitigation. The federal and State governments have been empowered by the federal and state Clean Air Acts to regulate emissions of airborne pollutants and have established ambient air quality standards for the protection of public health. The EPA is the federal agency designated to administer air quality regulation, while the California Air Resources Board (ARB) is the state equivalent in California. Federal and state standards have been established for six criteria pollutants, including ozone (Ch), carbon monoxide (CO), nitrogen dioxide (NO2), sulfur dioxide (SO2), particulates less than 10 and 2.5 microns in diameter (PM1oand PM2.s), and lead (Pb). California has also set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles.

Local control in air quality management is provided by the ARB through county-level or regional (multi-county) Air Pollution Control Districts (APCDs). The ARB establishes air quality standards and is responsible for control of mobile emission sources, while the local APCDs are responsible for enforcing standards and regulating stationary sources. The ARB has established 15 air basins statewide. The project site is located within the San Joaquin Valley Air Basin. Air quality conditions in the Basin are under the jurisdiction of the San Joaquin Valley Air Pollution Control District (SJVAPCD). The SJVAPCD is required to monitor air pollutant levels to ensure that air quality standards are met and, if they are not met, to develop strategies and plans to meet the standards. Depending on whether the standards are met or exceeded, the local air basin is classified as being in "attainment" or "non-attainment." The Project site is

located within the San Joaquin Valley Air Basin (SVAB) which is in non-attainment status for the federal 8-hour ozone standards and classified as serious nonattainment for fine particulate matter less than 2.5 microns in size (PM2.5). Under the California Ambient Air Quality Standards (CAAQS), the San Joaquin Valley Air Pollution Control District is designated nonattainment for ozone, PM10, and PM2.5. The Basin is in attainment for the state and federal standards for nitrogen dioxide, and carbon monoxide. Characteristics of ozone, carbon monoxide, nitrogen dioxide, and suspended particulates are described in Appendix A.

Air pollutant emissions in the SJVAB are generated by stationary and mobile sources. Stationary sources can be divided into two major subcategories: point and area sources. Point sources occur at a specific location and are often identified by an exhaust vent or stack. Examples include boilers or combustion equipment that produce electricity or generate heat. Area sources are widely distributed and include such sources as residential and commercial water heaters, painting operations, lawn mowers, agricultural fields, landfills, and some consumer products. Mobile sources refer to emissions from motor vehicles, including tailpipe and evaporative emissions, and are classified as either on-road or off-road. On-road sources may be legally operated on roadways and highways. Off-road sources include aircraft, ships, trains, and self-propelled construction equipment. Air pollutants can also be generated by the natural environment, such as when high winds suspend fine dust particles. A detailed description of applicable plans, rules and regulations are provided in Appendix A.

The project would construct a warehouse for shipping and delivery of furniture which would involve the use of heavy-duty trucks and medium-duty "delivery" trucks and heavy-duty construction equipment which would contribute to air emissions.

Construction Emissions

Project construction would generate temporary air pollutant emissions. These impacts are associated with fugitive dust (PM_{10} and $PM_{2.5}$) and exhaust emissions from heavy construction vehicles, work crew vehicle trips in addition to ROG that would be released during the drying phase upon application of paint and other architectural coatings. Construction would generally consist of site preparation, grading, construction of the proposed buildings, paving, and architectural coating (i.e., paint) application.

This analysis assumes that graded/excavated soils would be balanced on the project site and that no soil import or export would be required. The project would be required to comply with SJVAPCD Regulation VIII which identifies measures to reduce fugitive dust from ground disturbing activities and emissions associated with heavy equipment operation.

Table 1
Estimated Maximum Mitigated Daily Construction Emissions

Construction Phase		**Maximum Emissions (lbs/day)**				
	ROG	**NOx**	**co**	**SOx**	**PM10**	**PM2.s**
2025 lbs/day	3.4	31.7	31.4	0.04	6.6	3.9
2026 lbs/day	15.3	11.7	18.8	0.03	1.3	0.6
SJVAPCD Regional Thresholds	*100*	*100*	*100*	*100*	*100*	*100*
Threshold Exceeded	**No**	**No**	**No**	**No**	**No**	**No**

As shown in Table 1, construction of the proposed project would not exceed the SJVAPCD screening

threshold. Compliance with SJVAPCD Regulation VIII and Rule 4601 would be required to reduce construction emissions to less than significant. Proposed mitigation measures would require the review and approval of a fugitive dust management plan prior to ground disturbing activities, ensuring that impacts related to particulate matter are reduced to a less than significant level.

Construction-Related Toxic Air Contaminant Impacts
The greatest potential for toxic air contaminant emissions would be related to diesel particulate emissions associated with heavy equipment operations during construction of the proposed project. Health effects from carcinogenic air toxics are usually described in terms of "individual cancer risk". The California Office of Environmental Health Hazard Assessment (OEHHA) health risk guidance states that a residential receptor should be evaluated based on a 30-year exposure period. "Individual Cancer Risk" is the likelihood that a person exposed to concentrations of toxic air contaminants over a 70-year lifetime will contract cancer, based on the use of standard risk-assessment methodology. Given the short-term construction schedule, the proposed project would not result in a long-term (i.e., 30 or 70 year) exposure to a substantial source of toxic air contaminant emissions; and thus, would not be exposed to the related individual cancer risk. Further, per the GAMAQI, SJVAPCD recommends that an ambient air quality analysis be performed only when the increase in on-site emissions from construction activities exceeds the 100 pounds per day screening level for any criteria pollutant, after implementation of all enforceable mitigation measures. As shown in Table 1 above, construction emissions would not exceed 100 pounds per day. Therefore, no significant short-term toxic air contaminant impacts would occur during construction of the proposed project, therefore, impacts from construction related toxic air contaminants would be less than significant.

Valley Fever, or coccidioidomycosis, is caused by the microscopic fungus *Coccidioides immitis* (*C. immitis*), which grows in arid soil in parts of Kern County and other parts of America. Infection occurs when the spores of the fungus become airborne and are inhaled. Construction activities that disturb soils within the Project site could potentially release Valley Fever spores resulting in adverse health effects for construction workers or others exposed to the spores. Proposed mitigation measures would require implementation of Valley Fever training for all Project construction workers ensuring they are properly educated on the risks and safety protocols to reduce health risks related to Valley Fever exposure.

Operational Emissions
An analysis of maximum daily emissions during operation was conducted to determine if emissions would exceed 100 pounds per day for any pollutant of concern. The maximum daily operational emissions would occur at project buildout. The built-out project was modeled for 2025, which is the estimated year of first occupancy. Table 5 summarizes emissions associated with operation of the proposed project. Operational emissions include emissions from electricity consumption (energy sources), vehicle trips (mobile sources), and area sources including landscape equipment and architectural coating emissions as the structures are repainted over the life of the project.

The majority of operational emissions are associated with passenger vehicle and heavy truck trips to and from the project site. Trip volumes were based on trip generation factors for a warehouse use. Multiple model runs were performed to quantify mobile emissions associated with passenger vehicles and operation of the proposed warehouses. A separate modeling run calculated mobile emissions generated by heavy trucks. The combined emissions reflect the total mobile emissions. The following emissions sources were included in the analysis and are further discussed in Appendix A: Motor Vehicle Emissions, Architectural Coatings (Painting), Consumer Products, Landscape Equipment, Electricity, Natural Gas.

As shown in Table 2, the net change in emissions would not exceed the 100-pound daily SJVAPCD screening threshold nor would emissions exceed the annual tons/year threshold for ROG, NOx, CO, SOx, PM10 and PM2.s. Therefore, the project's regional air quality impacts (including impacts related to criteria pollutants, sensitive receptors and violations of air quality standards) would be less than significant per

thresholds a and b. Further, the project would implement proposed mitigation measures to further reduce air emissions. The Project would not prevent implementation of any air quality plan, a net increase of any criteria pollutant under an applicable federal or state ambient air quality standard with implementation of proposed mitigation measures. Impacts relative to air quality plans and cumulative would be less than significant with mitigation.

Table 2
Estimated Operational Emissions

	Estimated Emissions (lbs/day)					
	ROG	**NOx**	**CO**	**SOx**	**PM10**	**$PM_{2.5}$**
Proposed Project						
Area	3.8	0.04	9.3	0.02	0.01	0.008
Energy	0.01	0.18	0.15	0.001	0.01	0.01
Mobile	0.56	0.45	5.6	0.02	2.4	0.6
Mobile - Heavy Truck	0.27	10.5	4.7	0.10	3.5	1.1
Maximum lbs/day	**4.64**	**11.2**	**19.8**	**0.141**	**5.9**	**1.7**
SJVAPCD Daily Thresholds	**100**	**100**	**100**	**100**	**100**	**100**
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**
Maximum Tons/Year	**0.8**	**2.0**	**3.6**	**0.3**	**1.1**	**0.3**
SJVAPCD Threshold	**10**	**10**	**100**	**27**	**15**	**15**
Threshold Exceeded	**No**	**No**	**No**	**No**	**No**	**No**

See Appendix A for CalEEMod version. 2022.1 computer model output. Summer emissions shown.

Response to (c): Less Than Significant Impact. The nearest sensitive receptor is located approximately one mile southwest of the site, southwest of the intersection of Baker Road and Enos Lane and 1.5 miles north of the site at the intersection of Cherry Avenue and Burbank Street. As discussed above, The greatest potential for toxic air contaminant emissions would be related to diesel particulate emissions associated with heavy equipment operations during construction of the proposed project. Health effects from carcinogenic air toxics are usually described in terms of "individual cancer risk". The California Office of Environmental Health Hazard Assessment (OEHHA) health risk guidance states that a residential receptor should be evaluated based on a 30-year exposure period. "Individual Cancer Risk" is the likelihood that a person exposed to concentrations of toxic air contaminants over a 70-year lifetime will contract cancer, based on the use of standard risk-assessment methodology. Given the short-term construction schedule, the proposed project would not result in a long-term (i.e., 30 or 70 year) exposure to a substantial source of toxic air contaminant emissions; and thus, would not be exposed to the related individual cancer risk. Further, per the GAMAQI, SJVAPCD recommends that an ambient air quality analysis be performed only when the increase in on-site emissions from construction activities exceeds the 100 pounds per day screening level for any criteria pollutant, after implementation of all enforceable mitigation measures. As shown in Table 1 above, construction emissions would not exceed 100 pounds per day. Therefore, no significant short-term toxic air contaminant impacts would occur during construction of the proposed project. Due to the project's location away from sensitive receptors and inclusion of proposed mitigation measures, operation of the Project would not expose individuals to substantial pollutant concentrations.

Localized high levels of CO are associated with traffic congestion and idling or slow-moving vehicles. SJVAPCD provides screening criteria to determine when to quantify local CO concentrations based on impacts to the level of service (LOS) of intersections in the project vicinity. Advances in emission controls have resulted in attainment of the CO standard throughout California. Recent CO hotspot modeling found that only extremely high traffic volumes could result in a CO hotspot. Traffic volumes at intersections exceeding 44,000 vehicles per hour have been used as a screening criterion to determine if additional modeling should be conducted. Based on Kern County March 2023 traffic count data, Annual Average Daily Traffic (AADT) on Cherry Avenue which abuts the site to the east, between Seventh Standard Road to the south and Coberly Road adjacent to and north of the site, is 607 vehicles. No data for Coberly Road is available; however, based on the Cherry Avenue AADT and the fact that peak hour traffic is approximately 10% of the AADT, it is reasonable to assume that total volumes at the Coberly Road/Cherry Avenue intersection is less than the 44,000 vehicle per hour screening threshold, The addition of project traffic (approximately 954 daily trips [706 vehicle trips and 249 truck trips]) to baseline volumes would not exceed 44,000 peak hour volumes. No CO hotspots are anticipated. Impacts associated with CO hotspots would be less than significant.

Response to (d): Less Than Significant Impact. Odors would be potentially generated from vehicles and equipment exhaust emissions during construction of the project. Potential odors produced during construction would be attributable to exhaust emissions, architectural coatings, and asphalt pavement application. Such odors would disperse rapidly from the project site and generally occur at magnitudes that would not affect substantial numbers of people. The nearest sensitive receptor to the project site is located approximately one mile south of the project site southwest of the intersection of Baker Road and Enos Lane and 1.5 miles north of the site at the intersection of Cherry Avenue and Burbank Street. Due to the distance of sensitive receptors from the project site, impacts associated with odor causing emissions adversely affecting a substantial number of people during construction would be less than significant.

Land uses and industrial operations that are associated with odor complaints include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding facilities. The project would construct and operate a new warehouse with related infrastructure improvements. These uses are not generally associated with odor causing emissions that would create a nuisance for a substantial number of people that could rise to the level of significance. Therefore, impacts related to odors from operation of the project would be less than significant.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES. Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife, U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☒	☐	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

RESPONSES:

Response to (a): Direct and indirect impacts, in the form of "incidental take" of a threatened, endangered, or otherwise protected species, are not expected as a result of the development of the proposed project.

Implementation of proposed mitigation measures for the protection of biological resources are recommended to avoid and minimize potential impact to general wildlife.

The project is within the historic range of Tipton kangaroo rats. The project site was not included in the southwest focus area for the species in the previous habitat conservation plan. The most recent habitat suitability modeling (Cypher 2020) does not include the project in any of the four tiers enumerated for suitability and potential for occurrence of Tipton kangaroo rat is very low due to a lack of suitable habitat on the project site. Other special status species with a potential to occur on or near the project site include San Joaquin kit fox, and burrowing owl. Because the project site is located within an area developed with industrial uses and agriculture, the potential for these species to occur on the project site are low. Proposed mitigation measures requiring pre-construction surveys, worker environmental awareness program (WEAP) training, and management of construction materials and equipment would ensure special status wildlife species are not disturbed, entrapped or impeded during project construction. Proposed mitigation measures would reduce impacts to special status species, including Tipton kangaroo rat, San Joaquin kit fox and burrowing owl to less than significant.

Response to (b): No riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or United States Fish and Wildlife Service exists on the project site. No impact will occur as a result of the development of the proposed project, and no mitigation measures are recommended.

Response to (c): One mapped feature, a fresh water pond identified in wetland category PUBFx (Palustrine unconsolidated bottom) , appear on the USFWS National Wetlands Inventory mapping (USFWS 2021) on the proposed, project site. Based on aerial photography, this feature appears to have been removed through various historical land uses such as agricultural activities and previous site modifications. Therefore, no impact will occur as a result of the development of the project. No mitigation measures are recommended.

Response to (d): No migratory wildlife corridors were are anticipated to occur on the project site The project site does not currently support the movement of any native fish of wildlife species or any established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites. However, construction of the project could impact nesting migratory birds and conflict with the Migratory Bird Treaty Act if construction occurs during nesting season (generally February 1 through August 31) and impacts nesting or nests of protected migratory bird species. Proposed mitigation requires nesting bird surveys if ground disturbing activities would occur during the nesting season. Proposed mitigation would reduce impacts to nesting birds to less than significant.

Response to (e): There are no biological resources on the site which are protected by local policies. Impacts from conflicts with local policies will not occur. No additional mitigation measures are recommended.

Response to (f): The project is not located within and does not conflict with any Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. No impacts would occur and no additional mitigation measures are recommended.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES. Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☒	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☒	☐	☐

RESPONSES:

Response to (a) through (c): Less than significant with mitigation. The project site is not known to contain cultural resources; therefore, the project would not cause a substantial adverse change in the significance of a historical or archaeological resource pursuant to §15064.5. Pursuant to Assembly Bill 52 (AB 52), the following tribes were notified: Tejon Indian Tribe, Twenty-Nine Palms Band of Mission Indians, Yuhaaviatam of San Manuel Nation, Torres Martinez Desert Cahuilla Indians, and Morongo Band of Mission Indians. The Yuhaaviatam of San Manuel Nation responded with no comments. The remaining tribes did not respond. No tribes requested consultation or recommended mitigation measures for the project.

However, proposed mitigation measures require that if any previously unknown archaeological or cultural resources are discovered during ground-disturbing activities, work in the immediate area shall be halted and a qualified archaeologist shall be contacted to evaluate the find. A copy of the archaeologist's evaluation shall be submitted to the Kern County Planning and Natural Resources Department, and any recommended measures shall be implemented prior to resuming work in the area of discovery. Impacts to historical and archeological resources would be reduced to less than significant with implementation of proposed mitigation.

Additionally, should human remains be discovered during construction, construction activities shall cease within 100 feet of the discovery and the Project proponent shall comply with proposed mitigation measures

pursuant to Section 15064.5 (e)(1) of the CEQA Guidelines and in accordance with Health and Safety Code Section 7050.5, subdivision (c), and Public Resources Code 5097.98 (as amended by AB 2641). Incorporation and implementation of proposed mitigation measures would reduce potentially significant impacts related to the inadvertent discovery of human remains to less than significant.

	Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VI. ENERGY. Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

RESPONSES:

Response to (a): The Project would not result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources during construction or operation. There are no unusual Project characteristics that would cause construction equipment to operate less efficiently than on comparable sites within Kern County. As such, construction-related fuel consumption would not be inefficient, wasteful, or unnecessary. During operation, the Project would consume energy typical of similar development; however, it would be required to comply with all applicable state and local building code standards, including current energy efficiency requirements. Compliance with these regulations ensures that energy use would be efficient and consistent with applicable standards. Therefore, impacts would be less than significant.

Response to (b): Less Than Significant Impact. The Project would not conflict with or obstruct implementation of any applicable state or local plan for renewable energy or energy efficiency. The proposed development would be required to comply with current building codes and applicable energy efficiency standards, including those that support state and local renewable energy goals. Because the Project would be constructed and operated in accordance with these requirements, it would not interfere with adopted plans or policies related to energy efficiency or renewable energy. Therefore, impacts would be less than significant.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. GEOLOGY AND SOILS. Would the project:				
a) Directly or indirectly cause 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 geologic unit or soil that is unstable, or that would become unstable as a result of the project and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect 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 waste water?	☐	☐	☐	☒

f) Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?	☐	☒	☐	☐

RESPONSES:
The applicant provided a Geotechnical Engineering Investigation completed by Salem Engineering Group, Inc. dated February 2025 (Appendix B), that was used to support the following analysis :

Responses to (a)(i-iv): Less than Significant with Mitigation. Based on the proximity of several dominant active faults and seismogenic structures, as well as the historic seismic record, the area of the subject site is considered subject to relatively low seismicity. The project area is not within an Alquist-Priolo Special Studies Zone and will not require a special site investigation from an Engineering Geologist. Soils on site are classified as Site Class D in accordance with Chapter 16 of the California Building Code. The proposed structures are determined to be in Seismic Design Category D. Based on the Office of Statewide Health Planning and Development (OSHPD) Seismic Design Maps, the estimated design peak ground acceleration adjusted for site class effects (PGAM) was determined to be 0.465 g (based on both probabilistic and deterministic seismic ground motion).

In general, the soils encountered generally consisted of interbedded layers of loose to medium dense silty sand, and firm to hard sandy silt and/or loose to medium dense clayey silty sand, The stratified sand and silt are underlain by irregular stratified layers of medium dense to dense poorly graded sand with silts and clays, followed by poorly graded sand with silts and traces of gravel, to the maximum depth explored of 50 feet BSG. It should be noted that isolated areas of cemented soils, were encountered at various depths in borings B-2, B-8, and B-11. In addition, based on site observations, it appears approximately 1 to 2 feet of undocumented fills are present on the northern and eastern side of the site.

Free groundwater was not encountered to the depth of exploration during this investigation. Available, historic groundwater depths are reported at a historical high groundwater depth of approximately 157 feet below site grade in October 1987. Readings from the same well after 1992 reported groundwater depths approximately more than 170 feet depth BSG.

Based on the relative density of soils encountered during this investigation, lack of ground water within the upper 50 feet BSG, and the relatively low peak ground acceleration (0.465g), the potential for liquefaction/seismic settlement to impact the site is considered low.

There are no known landslides at the site, nor is the site in the path of any known or potential landslides. We do not consider the potential for a landslide to be a hazard to this project.

The proposed project would not directly or indirectly cause substantial adverse effects, including the risk of loss, injury, or death. Based on available environmental and geotechnical information, the project site is not subject to significant hazards, and compliance with applicable building codes and proposed mitigation measures would further ensure that risks to people or property remain a less than significant impact.

Response to (b): Less than significant with mitigation. The proposed project is not expected to result in substantial soil erosion or the loss of topsoil. The project site is generally flat and located within a developed industrial area, which reduces the potential for erosion. However prior to grading, proposed mitigation measures require the preparation of a Storm Water Pollution Prevention Plan (SWPPP) including erosion control measures and Best Management Practices (BMPs). The project would be required to implement standard erosion control measures and comply with all recommended conditions, including BMPs and

applicable grading and stormwater regulations during construction. These measures will effectively minimize any potential erosion. With implementation of mitigation measures, impacts related to soil erosion or loss of topsoil are considered less than significant.

Response to (c): Less than significant. The project site is not located on a geologic unit or soil known to be unstable, nor would the proposed development create conditions that increase the potential for landslides, lateral spreading, subsidence, liquefaction, or soil collapse. Based on available geotechnical information and the flat, developed nature of the surrounding area, the potential for such hazards is considered low**.**

Additionally, the project will comply with all recommended conditions and standard engineering practices to stabilize soil during construction, further reducing the likelihood of any geological hazards. Compliance with applicable building code requirements will also ensure long-term site stability. Therefore, the project would not result in on- or off-site geologic instability and impacts would be less than significant.

Response to (d): Less than significant. The project site is not known to contain expansive soils, as defined in Table 18-1-B of the Uniform Building Code (1994). Based on available geotechnical information and the site's location within a developed industrial area, the potential for expansive soils to create direct or indirect risks to life or property is considered to have less than significant impact.

Additionally, the project will be required to comply with all applicable building code standards and recommended geotechnical conditions, which ensure appropriate design and construction practices if any expansive soil conditions are encountered. Therefore, the project would not result in substantial risks related to expansive soils.

Response to (e): No impact. The project does not propose the use of septic tanks or alternative wastewater disposal systems. Sewer service is available to the site, and all wastewater generated by the project will be directed to the existing sewer infrastructure. Therefore, soil suitability for septic or alternative wastewater systems is not a factor. As a result, the project would have no impact related to soils incapable of supporting wastewater disposal systems.

Response to (f): Less than Significant with Mitigation. The project site does not contain any known unique paleontological resources, paleontological sites, or unique geological features, however, the project area may contain previously undiscovered paleontological resources within subsurface soils. To minimize the risk of inadvertent impacts, the project would implement a Worker Environmental Awareness Program (WEAP) for all construction personnel. This program, prepared and conducted by a qualified archaeologist or paleontologist, would provide training on recognizing potential paleontological resources and proper procedures if resources are encountered during construction. Training would cover the types of fossils that could be present, applicable cultural and paleontological statutes, and required response measures, including immediate cessation of work within 50 feet of a discovery and notification of the qualified professional for evaluation. Only trained personnel wearing verification (e.g., hard hat stickers) would be permitted to operate equipment in the construction area. Documentation of training completion would be maintained and submitted to Kern County Planning and Natural Resources. With implementation of this program, the potential for the project to directly or indirectly destroy a unique paleontological resource or site would be reduced to less-than-significant levels.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII. GREENHOUSE GAS EMISSIONS. Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☒	☐	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

RESPONSES:

The applicant provided an Air Quality/Greenhouse Study completed by Birdseye Planning Group, dated January 2025 (Appendix A), that was used to support the following analysis:

Response to (a): Less than significant. Kern County has not adopted its own GHG thresholds or a Climate Action Plan; therefore, the County relies on the San Joaquin Valley Air Pollution Control District (SJVAPCD) guidance for evaluating GHG emissions. The SJVAPCD recommends demonstrating a reduction from Business-as-Usual (BAU) emissions, originally set at 29 percent for achieving AB 32's 2020 target. The State later updated this value to a 21.7 percent reduction from BAU to reflect revised growth forecasts. Because the Project analysis assumes operation in 2025—after the AB 32 target year—and no new thresholds have been established for SB 32's 2030 goals, this analysis evaluates whether the Project demonstrates continued progress toward these statewide reduction objectives. Accordingly, the Project's reduction from BAU, using the 21.7 percent benchmark, is used as one measure of significance for determining GHG impacts.

Construction of the proposed project would generate temporary GHG emissions primarily associated with the operation of construction equipment and truck trips. Site preparation and grading typically generate the greatest emission quantities because the use of heavy equipment is greatest during this phase of construction. Emissions associated with the construction period were estimated based on the projected maximum amount of equipment that would be used on-site at one time.

Construction activity is assumed to occur over a period of approximately 16 months beginning in mid-2025 and concluding in late 2026. Based on CalEEMod results, construction activity for the project would generate an estimated 634 metric tons of carbon dioxide equivalent (CO2E), as shown in Table 1. Amortized over a 30-year period (the assumed life of the project), construction of the proposed project would generate 21 metric tons of CO2E per year.

Table 1
Estimated Construction Related Greenhouse Gas Emissions

Year	Annual Emissions (metric tons C02E)
2025	260
2026	374
Total	**634**
Amortized over 30 years	**21 metric tons per year**

See Appendix A for CalEEMod software program output for new construction.

Operational emissions of GHG would result from stationary, indirect and mobile sources. Sources include energy use, water use, solid waste and transportation. Table 2 shows the combined annual GHG emissions from all sources including the amortized construction emissions. Total annual emissions would be 2,518 metric tons of CO_2E.

Table 2
Combined Annual Greenhouse Gas Emissions (BAU}

Emission Source	Annual Emissions (CO2E)
Construction	21 metric tons
Operational Energy Solid Waste Water	 170 metric tons 38 metric tons 52 metric tons
Mobile	2,237 metric tons
Total	**2,518 metric tons**

See Appendix A for CalEEMod software program output.

As referenced in Table 3, specific goals and actions that pertain to the proposed project include those addressing energy and water use reduction, promotion of green building measures, waste reduction, and reduction in vehicle miles traveled. The proposed project would also be required to implement all mandatory green building measures for new commercial development under the CALGreen Code.

Table 3
Reductions from Greenhouse Gas Regulations

Regulation	Project Applicability	Reduction Source	Percent Reduction in 2020 and 2030
Pavley Low Emission Vehicle Standards	Light-duty cars and trucks accessing the site are subject to	CalEEMod defaults (Pavlev I)	25.1

	the regulation.	Adjusted GHG emission factor (Pavley II/LEV Ill) in CalEEMod.	19.5% 2030[1]
Truck and Bus Regulation	Heavy-duty trucks accessing the site for deliveries and services are subject to the regulation.	Adjusted GHG emission factors for the regulation in CalEEMod	7.2%[2]
Low Carbon Fuel Standard {LCFS)	Vehicles accessing the site will use fuel subject to the LCFS	CalEEMod defaults	10% 2020 18% 2030
Title 24 Energy Efficiency Standards	Project buildings will be constructed to meet the latest version of Title 24 (currently 2019). Reduction applies only to energy consumption subject to the regulation.	CalEEMod defaults	30%[3]
Green Building Code Standards	The project will include water conservation features required by the standard	CalEEMod mitigation component	20%[4]
Water Efficient Land Use Ordinance	The project landscaping will comply with the regulation	CalEEMod mitigation component	20%[4]
Renewable Portfolio Standard **(RPS)**	Electricity purchased for use at the project site is subject to the 33 percent RPS mandate	CalEEMod adjusted energy intensity factors with PG&E emission factors that show the company will exceed the 33 percent mandate.	33%
Solid waste	The solid waste service provider will need to provide programs to increase diversion and recycling to meet the 75 percent mandate.	CalEEMod mitigation component	75%[5]

Notes:
Regulations are described in Section 2.3 Regulatory Environment. The source of the percentage reductions from each measure are from the following sources:

1 ARB Staff Report for LEV Ill Amendments (ARB 2013a)
2 ARB Staff Report for GHG Regulations for Medium and Heavy-Duty Engines and Vehicles (ARB 2013b)
3 Berkeley Law Fact Sheet: Building Energy Efficiency; Title 24 Standards Will Cut Energy Use in commercial buildings by 30 Percent. Same percentage assumed for 2022 Code
4 SB X7-7/CAPCOA Water Conservation Strategy applied as mitigation in CalEEMod 2022.1
5 AB 939 waste reduction of 75% applied as mitigation strategy in CalEEMod 2022.1

Table 4
Combined Annual Greenhouse Gas Mitigated Emissions

Emission Source	**Annual Emissions (CO2E)**	**2023 With Design Features**	**Percent Reduction**
Construction	21 metric tons	21	0.0%

Operational			
Energy Solid Waste	170 metric tons	63	63% (electricity)
Water	38 metric tons	11	75%
	52 metric tons	42	20%
	363 metric tons - passenger	298	18%[1]
Mobile	1,854 - heavy truck	1,520	18%[1]
	2,217 metric tons	1,818	0.0%
Total	**2,518 metric tons**	**1,955 metric tons**	**-22.3%**

See Appendix A for CalEEMod software program output.
1 - Assumes LCFS (18%) reduction for mobile emission.

GHG emission reductions associated with energy and fuel programs mandated at the state level would reduce BAU emissions by 22.3% resulting in total mitigated emissions of 1,955 metric tons per year as shown in Table 4. This would exceed the 21.7% target referenced herein; thus, resulting in a less than significant GHG impact under the threshold mentioned above. In addition to the incorporated reduction measures, proposed mitigation measures would require the project to implement design features and measures to reduce greenhouse gas emissions and energy consumption further reducing GHG emissions to a less than significant level.

Response to (b): Less than significant. The Project would not conflict with or obstruct implementation of any applicable plan, policy, or regulation adopted for the purpose of reducing greenhouse gas (GHG) emissions. The Project would most likely be served by Pacific Gas and Electric (PG&E), which has committed to increasing the proportion of electricity generated from renewable sources, including wind and solar. The Project would not interfere with PG&E's ongoing energy diversification efforts. In addition, Project construction would comply with the California Building Code, including the 2022 Energy Efficiency Standards and the 2022 California Green Building Standards Code, which collectively support statewide GHG reduction goals.

The Project would not obstruct or interfere with California Air Resources Board's (CARB) zero-emission and plug-in hybrid light-duty EV targets for 2025 or 2030. Because these standards are enforced statewide, vehicles accessing the Project site must comply as required. The Project would also not impede CARB's efforts to increase GHG emission stringency for light-duty vehicles, implement Medium- and Heavy-Duty GHG Phase 2 standards, or reduce emissions from last-mile delivery operations.

The Project would not conflict with Kern County's efforts to reduce vehicle miles traveled (VMT), would not exceed San Joaquin Valley Air Pollution Control District (SJVAPCD) GHG thresholds for industrial uses, and would not impede pedestrian or bicycle use of adjacent streets.

The Project would also be consistent with the California Sustainable Freight Action Plan. Delivery vehicles serving the Project would be part of the statewide goods-movement sector, and the Project would not interfere with adoption or implementation of the Low Carbon Fuel Standard targeting an 18% carbon-intensity reduction.

Furthermore, the Project would not obstruct implementation of the Short-Lived Climate Pollutant Strategy, nor would it interfere with post-2020 Cap-and-Trade Program requirements. The Project site is not designated as part of the state's natural or working lands targeted for conservation under California's carbon-sink strategy. To the extent applicable, the Project would incorporate wood products in construction and would include landscaping, consistent with statewide objectives to enhance carbon sequestration.

Based on the above, the Project would not conflict with any applicable GHG reduction plans, policies, or regulations, and impacts would be less than significant.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IX. HAZARDS AND HAZARDOUS MATERIALS. Would the project:				
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?	☐	☐	☐	☒
c) Emit hazardous emissions or handle hazardous or acutely hazardous material, 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 complied 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 or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☐	☒

RESPONSES:

Response to (a) through (g): No impact. The Project will not store, generate, or release hazardous materials or hazardous emissions. The site is not located near sensitive receptors; the nearest residences are approximately one mile southwest of the site, near Baker Road and Enos Lane, and 1.5 miles north of the site at Cherry Avenue and Burbank Street. The Project is not within an airport land use plan and will not interfere with any adopted emergency response or evacuation plan. Therefore, the Project would have no impact related to hazards or hazardous materials.

The project will not impair or physically interfere with the implementation of an adopted Emergency Response Plan or Emergency Evacuation Plan. Additionally, the site is not located within a State Responsibility Area for wildland fire. Potential exposure to wildfire risk is considered to have no impact, as the project area is distant from sensitive receptors that could be adversely affected by wildland fire hazards.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
X. HYDROLOGY AND WATER QUALITY. Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☒	☐	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☒	☐	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	☐	☒	☐	☐
i) result in substantial erosion or siltation on- or off-site;	☐	☒	☐	☐
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	☐	☒	☐	☐
iii) 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; or	☐	☒	☐	☐
iv) impede or redirect flood flows?	☐	☒	☐	☐
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☒	☐	☐

RESPONSES:

Response to (a) through (e): Less than significant with mitigation. The proposed project would not violate water quality standards, degrade surface or groundwater quality, or conflict with waste discharge requirements. The project will be required to comply with applicable stormwater regulations, including incorporation of surface drainage design features that direct runoff to approved collection basin. With these standard measures, impacts would be less than significant with mitigation.

The project does not include groundwater extraction and would receive water supply from the Superior Water Company which has issued a will-serve letter demonstrating that they have adequate water availability to supply the project. The project would not substantially decrease groundwater supplies or interfere with groundwater recharge. Any increase in impervious surfaces would be managed through required drainage improvements that maintain appropriate on-site runoff controls ad onsite stormwater management. Therefore, impacts to groundwater resources would be less than significant with mitigation.

Although the project would include grading the 6.41 acre project site and an increase in impervious surface, the project would not substantially alter existing drainage patterns in a manner that would cause erosion, siltation, flooding, exceed the capacity of stormwater systems, generate polluted runoff, or impede or redirect flood flows. Required surface drainage design, including sloped grading away from structures, controlled discharge locations, and compliance with County drainage standards, will ensure runoff is properly managed. Additionally, proposed mitigation measures require preparation and approval of a Stormwater Pollution Prevention Plan (SWPPP) and incorporation of Best Management Practices (BMPs) to ensure erosion and runoff are limited to the extent feasible. As a result, all drainage-related impacts would be less than significant with mitigation.

The project site is not within a tsunami or seiche zone and is not expected to be subject to flood-related pollutant release. Compliance with applicable drainage and stormwater requirements would further ensure that pollutant release risks remain less than significant.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XI. LAND USE AND PLANNING. Would the project:				
a) Physically divide an established community?	☐	☐	☒	☐
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐

RESPONSES:

Response to (a) and (b): Less than significant. The project will not physically divide an established community or create any conflict with a land use plan, policy, or regulation adopted to avoid or mitigate environmental effects. Additionally, the project does not conflict with any applicable land use plan, policy, or regulation of agencies with jurisdiction over the site. The project site is designated Service Industrial under the Western Rosedale Specific Plan, and the proposed development complies with this designation and is consistent with surrounding community land uses. Therefore, the project would have a less than significant impact on land use and planning.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XII. MINERAL RESOURCES. Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

RESPONSES:

Response to (a) and (b): No impact. The project is not designated for resource recovery by the Kern County General Plan, or other land use plans, and will not result in the loss of availability of a known mineral resource that would be of value to the state or loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. Therefore, it will have no impact relating to mineral resources.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIII. NOISE. Would the project result in:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standard of other agencies?	☐	☒	☐	☐
b) Generation of excessive ground borne vibration or ground borne noise levels?	☐	☒	☐	☐
c) For a project located within the vicinity of a private airstrip or 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?	☐	☐	☐	☒

RESPONSES:

Response to (a) through (b): Less than significant with mitigation. The project will not generate a substantial temporary or permanent increase in ambient noise levels beyond the standards established in the Kern County Zone Ordinance. It will also not produce excessive ground-borne vibration or ground-borne noise levels and is not located within an airport land use plan. Therefore, the project would have a less than significant impact related to noise.

Construction activities may result in a temporary increase in noise and traffic in the surrounding area; however, these effects would be short-term and are considered less than significant. The project site is located within an industrial area, where typical construction noise is expected and compatible with surrounding land uses. Proposed mitigation measures would require compliance with Kern County noise regulations, ensuring that any potential ground-borne vibration or excessive noise is reduced to a less than significant level.

Response to (c): No Impact. The site is not located within the vicinity of a private airstrip or 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; therefore, the project would not expose people working or residing in the project area to excessive airport related noise levels and no impact would occur.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIV. POPULATION AND HOUSING. Would the project:				
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing people or housing, necessitating the constriction of replacement housing elsewhere?	☐	☐	☐	☒

RESPONSES:

Response to (a) and (b): No impact. The project is an industrially zoned area and will not induce substantial unplanned population growth in the area and is currently vacant and will not displace substantial numbers of existing people or housing, to necessitate housing elsewhere. Therefore, it will have no impact relating to population and housing.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XV. PUBLIC SERVICES. Would the project:				
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☒	☐
Police Protection?	☐	☐	☒	☐
Schools?	☐	☐	☒	☐
Parks?	☐	☐	☒	☐
Other public facilities?	☐	☐	☒	☐

RESPONSES:

Response to (a): Less than significant. The project does not propose to construct new public facilities such as schools or parks and would not contribute to an increase in population resulting in the need for newly constructed facilities. The project would be required to pay all applicable statutory fees related to schools and parks. The project will not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or need for new or physically altered governmental facilities impacting response time for or performance objectives for fire protection, police protection, schools, parks, or other public facilities. Therefore, it will have a less than significant impact related to public services.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI. RECREATION.				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

RESPONSES:

Response to (a) and (b): No impact. The project would not cause an increase in population that would increase the use of existing neighborhood and regional parks or other recreational facilities and does not include recreational facilities or require the construction or expansion for recreational facilities which might have an adverse physical effect on the environment. Therefore, it will have no impact relating to recreation.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII. TRANSPORTATION. Would the project:				
a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☒	☐
b) Conflict or be inconsistent with CEQA Guidelines Section § 15064.3, subdivision (b)?	☐	☐	☒	☐
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersection) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
d) Result in inadequate emergency access?	☐	☐	☒	☐

RESPONSES:

Response to (a) through (d): Less than significant. The applicant provided a Traffic Impact Study completed by LAV//Pinnacle Consulting & Engineering Services, dated October 8, 2024 (Appendix C). The Traffic Impact Study was reviewed by the Kern County Public Works Development Review Department and it was determined the project does not conflict with a program plan ordinance or policy addressing the circulation system, and does not conflict with CEQA guidelines Section § 15064.3, subdivision (b) or substantially increase hazards due to a geometric design feature or result in inadequate emergency access. Therefore, it will have a less than significant impact relating to transportation.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVIII. TRIBAL CULTURAL RESOURCES.				
a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section § 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☒	☐	☐
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section § 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

RESPONSES:

Response to (a): Less than Significant with Mitigation. The project site is not located in an area determined to be highly or moderately sensitive for archaeological resources. Pursuant to Assembly Bill (AB) 52, project information was routed to the Tejon Indian Tribe, Twenty-Nine Palms Band of Mission Indians, Yuhaaviatam of San Manuel Nation, Torres Martinez Desert Cahuilla Indians, and Morongo Band of Mission Indians, offering each an opportunity to consult under Public Resources Code (PRC) Section 21080.3(b) with a 30-day window to formally respond. No requests or consultation were received. If any previously unknown archaeological or cultural resources are discovered, proposed mitigation measures would require work in the area of discovery to cease and a qualified archaeologist contacted to evaluate the

find. A copy of the archaeologist's evaluation shall be submitted to the Kern County Planning and Natural Resources Department upon its issuance, and any measures recommended by the archaeologist shall be implemented before work resumes in the area of discovery. With implementation of proposed mitigation measures, any potential impact to tribal cultural resources would be reduced to less than significant.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIX UTILITIES AND SERVICE SYSTEMS. Would the project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☒	☐
c) 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?	☐	☐	☒	☐
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

RESPONSES:

Response to (a) through (e): Less than significant. As a new development, the Project would require standard utility connections for water, wastewater, stormwater drainage, electric power, natural gas, and telecommunications. These improvements would be limited to on-site infrastructure and typical service extensions. Utility providers have confirmed their ability to serve the Project, and no off-site expansions, major new facilities, or relocation of existing infrastructure would be required. Therefore, the Project would not result in the need for new or expanded utility systems that could cause significant environmental effects.

The applicant has provided will-serve letters from the Superior Mutual Water Company confirming adequate water supply and from the North of the River Sanitary District confirming sewer service availability. These letters demonstrate that sufficient water supplies and wastewater service capacity exist to serve the project during normal, dry, and multiple-dry-year conditions. Accordingly, impacts related to water supply and wastewater capacity would be less than significant**.**

The project would not generate solid waste in quantities that exceed local or State standards or available landfill capacity. Solid waste generated by the project will be collected by the local franchised hauler and disposed of at permitted facilities with sufficient remaining capacity. The project will comply with all applicable federal, State, and local solid waste regulations, including waste diversion requirements. As a result, solid waste–related impacts would be less than significant**.**

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XX. WILDFIRE. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☒	☐
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☒	☐
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☒	☐

Response to (a) through (d): Less than significant. The project is not located within or near an area of State responsibility or a high fire hazard severity zone. The project would not impair or interfere with any adopted emergency response or evacuation plans. The site is in an area with minimal slope and is not within or adjacent to a State Responsibility Area or Very High Fire Hazard Severity Zone. Project implementation would not exacerbate wildfire risks due to slope, prevailing winds, or other environmental factors, nor would it expose occupants to pollutant concentrations from a wildfire. Additionally, the project does not include or require the installation or maintenance of infrastructure that could increase fire risk or result in ongoing environmental impacts. All County-required development standards, including road improvements or any other conditions of approval, will be implemented as part of the project, thereby ensuring adequate access and compliance with applicable safety requirements. The project site is not subject to conditions that would expose people or structures to flooding, landslides, or post-fire slope instability. Therefore, it will have a less than significant impact related to wildfire hazards or emergency response.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XXI. MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☒	☐	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

RESPONSES:

Response to (a): The proposed project has the potential to result in a significant impact on biological and cultural resources due to possible disturbance of habitat or species or inadvertent discovery of archeological resources during construction. However, with implementation of the proposed mitigation measures potential impacts would be minimized.

These measures will ensure that the project does not substantially degrade the quality of the environment, reduce habitat, or threaten any special-status species or plant communities. Further, the proposed mitigation measures would ensure the protection of archeological resources if they are inadvertently uncovered during construction. Therefore, with incorporation of mitigation, all potential impacts would be reduced to less than significant levels.

Response to (b): Less than significant with mitigation. The project's incremental contribution to cumulative environmental impacts would not be cumulatively considerable with incorporation of proposed mitigation measures. Projects within Kern County, including the proposed project, are evaluated for potential impacts and required to implement project-specific mitigation measures to reduce impacts to less than significant levels. All development must also comply with applicable County policies and ordinances.

The project will adhere to all permitting requirements and regulations of the Kern County Zoning Ordinance, the San Joaquin Valley Air Pollution Control District, the California Building Code, and the California Code of Regulations Fire Code. Compliance with these requirements ensures that the project does not contribute to cumulative impacts beyond those already anticipated in regional and local planning efforts.

Mitigation measures identified for Air Quality, Geology and Soils, Greenhouse Gas Emissions and Noise will further reduce project-level impacts to less than significant. When viewed in connection with past, present, and reasonably foreseeable future development, the project does not result in cumulatively considerable effects. Therefore, cumulative impacts would be less than significant.

*Response to (c):*Less than significant. The project does not have the potential to cause substantial adverse effects on human beings, either directly or indirectly. The project site is in an area planned for industrial use, and all identified environmental impacts—such as air quality, noise, traffic, and geologic hazards—have been reduced to less than significant levels through compliance with existing regulations, standard conditions of approval and proposed mitigation measures. No substantial adverse effects on human beings are anticipated.

BIBLIOGRAPHY

(1) Kern County Planning and Natural Resources Department, "Kern County General Plan" (2004)

(2) Kern County Planning and Natural Resources Department, "Zoning Ordinance" (2025)

(3) Kern County Planning and Natural Resources Department, “Western Rosedale Specific Plan” (1994)

(4) Kern County Planning and Natural Resources Department, "Recirculated Program Environmental Impact Report for the Kern County General Plan" (2004)

(5) Kern County Planning and Natural Resources Department, "General Provisions of the Kern County General Plan" (2004)

(6) Kern County Planning and Natural Resources Department, “Project Description and Environmental Setting for ___(RPN?)_ Precise Development Plan, Map 79-35 – Furniture City Warehouse (PP25125)”

(7) Kern County Planning and Natural Resources Department, “Airport Land Use Compatibility Plan” (2004)

(8) San Joaquin Valley Air Pollution Control District, “Guide for Assessing and Mitigating Air Quality Impacts” (1998)

(9) Kern County Planning and Natural Resources Department, “Flood Plain Map 06029C1800E” (2008)

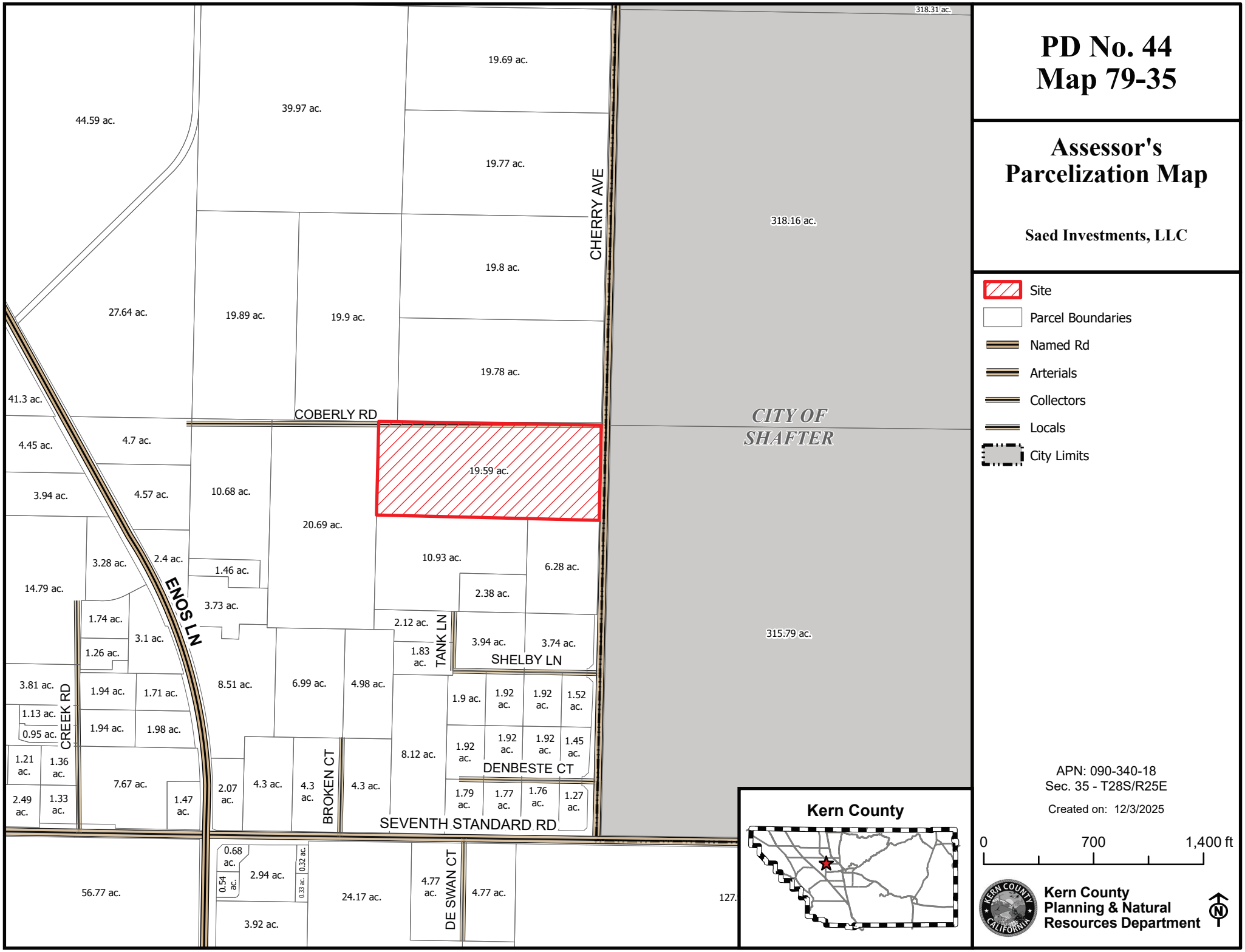
(10) Kern County Planning and Natural Resources Department, "Agricultural Preserve No. 8 Boundary Map" (2014)

(11) Kern County Planning and Natural Resources Department, "Zone Map No. 79-35" (online GIS)

(12) *LAV//Pinnacle Consulting & Engineering Services, "Traffic Impact Study – Furniture City Warehouse Development, Southwest corner of Cherry Avenue and Coberly Road, Kern County, California” (2024)*

(13) *Birdseye Planning Group for LAV Pinnacle Engineering, "Air Quality/Greenhouse Gas Study – Furniture City Warehouse Project, Kern County, California" (2025)*

(14) *Salem Engineering Group Inc., "Geotechnical Engineering Investigation – Proposed Furniture City Warehouse Building." (2025)*



PD No. 44
Map 79-35

Assessor's Parcelization Map

Saed Investments, LLC

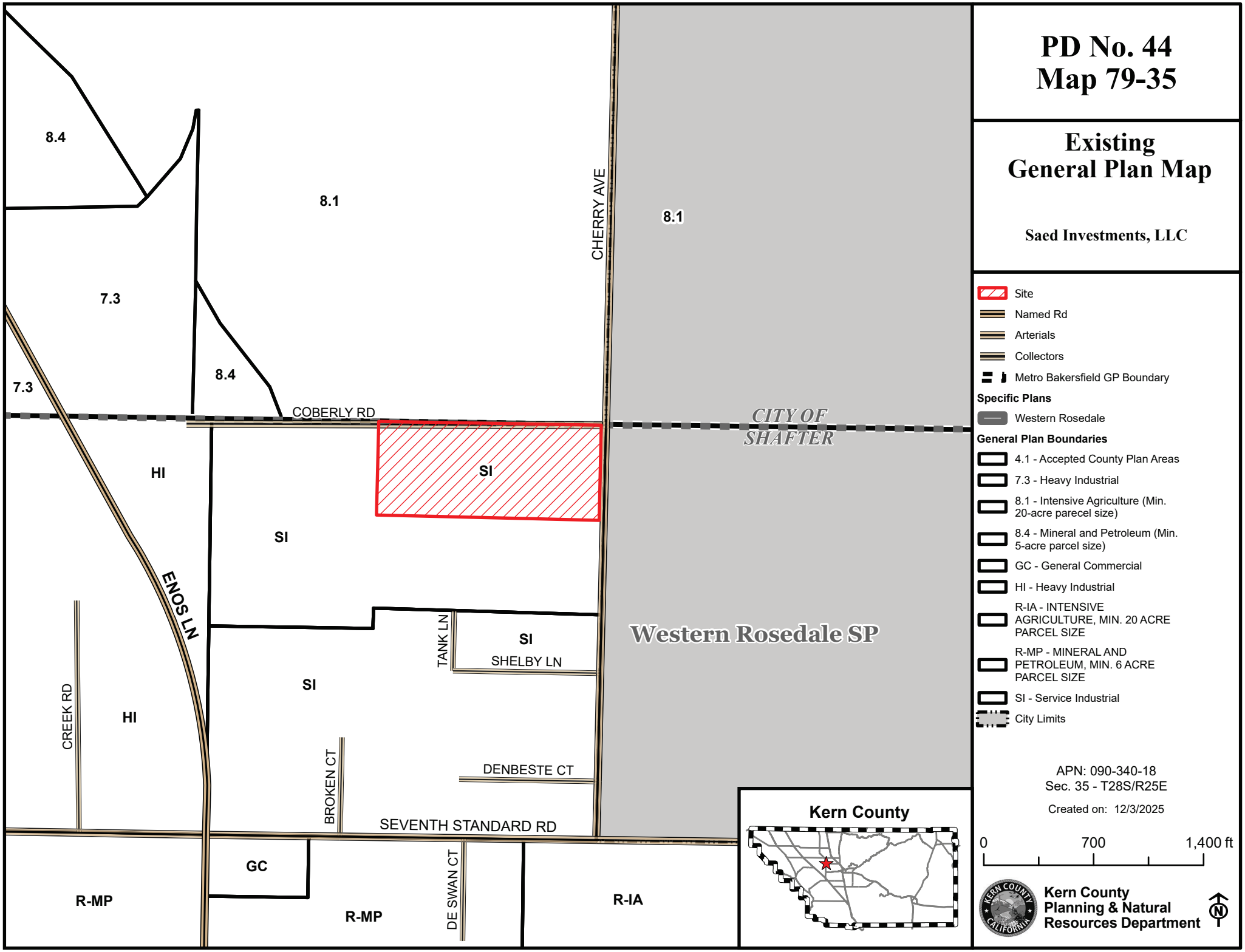
- Site
- Parcel Boundaries
- Named Rd
- Arterials
- Collectors
- Locals
- City Limits

APN: 090-340-18
Sec. 35 - T28S/R25E

Created on: 12/3/2025

0 700 1,400 ft

Kern County Planning & Natural Resources Department



PD No. 44
Map 79-35

Existing General Plan Map

Saed Investments, LLC

- Site
- Named Rd
- Arterials
- Collectors
- Metro Bakersfield GP Boundary

Specific Plans

- Western Rosedale

General Plan Boundaries

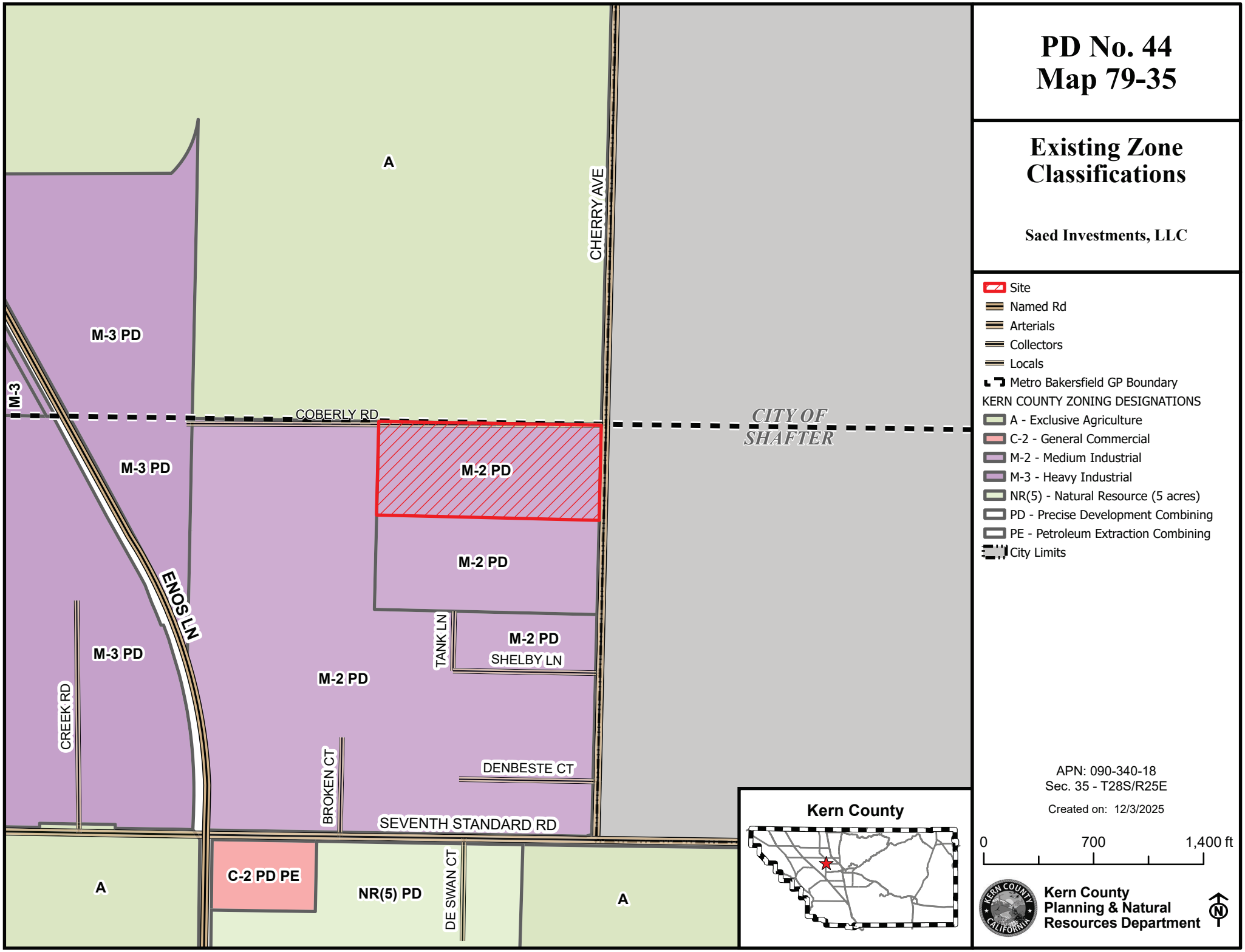
- 4.1 - Accepted County Plan Areas
- 7.3 - Heavy Industrial
- 8.1 - Intensive Agriculture (Min. 20-acre parecel size)
- 8.4 - Mineral and Petroleum (Min. 5-acre parcel size)
- GC - General Commercial
- HI - Heavy Industrial
- R-IA - INTENSIVE AGRICULTURE, MIN. 20 ACRE PARCEL SIZE
- R-MP - MINERAL AND PETROLEUM, MIN. 6 ACRE PARCEL SIZE
- SI - Service Industrial
- City Limits

APN: 090-340-18
Sec. 35 - T28S/R25E

Created on: 12/3/2025

0 700 1,400 ft

Kern County Planning & Natural Resources Department



PD No. 44
Map 79-35

Existing Zone Classifications

Saed Investments, LLC

- Site
- Named Rd
- Arterials
- Collectors
- Locals
- Metro Bakersfield GP Boundary

KERN COUNTY ZONING DESIGNATIONS

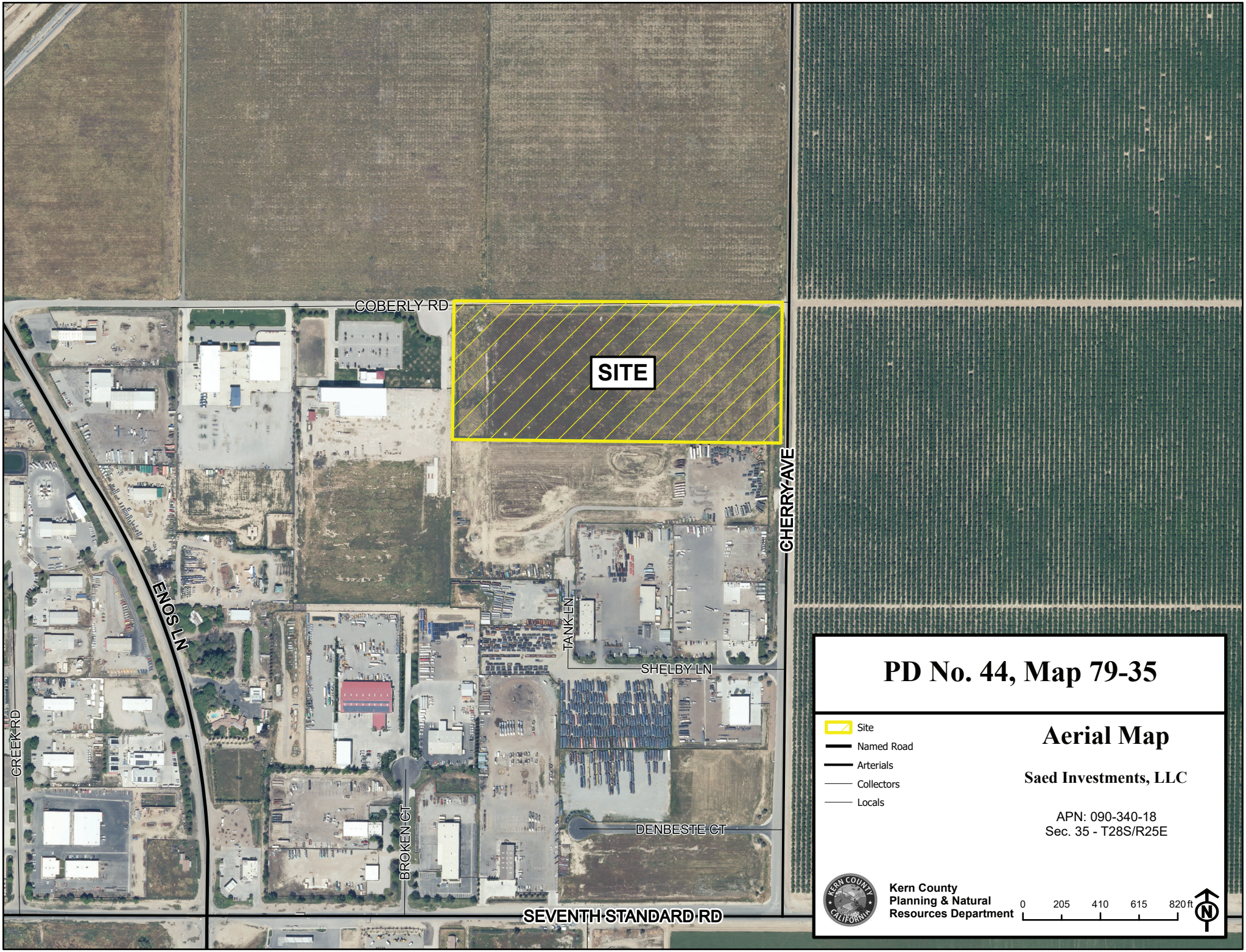
- A - Exclusive Agriculture
- C-2 - General Commercial
- M-2 - Medium Industrial
- M-3 - Heavy Industrial
- NR(5) - Natural Resource (5 acres)
- PD - Precise Development Combining
- PE - Petroleum Extraction Combining
- City Limits

APN: 090-340-18
Sec. 35 - T28S/R25E

Created on: 12/3/2025

0 700 1,400 ft

Kern County Planning & Natural Resources Department



PD No. 44, Map 79-35

Site
Named Road
Arterials
Collectors
Locals

Aerial Map

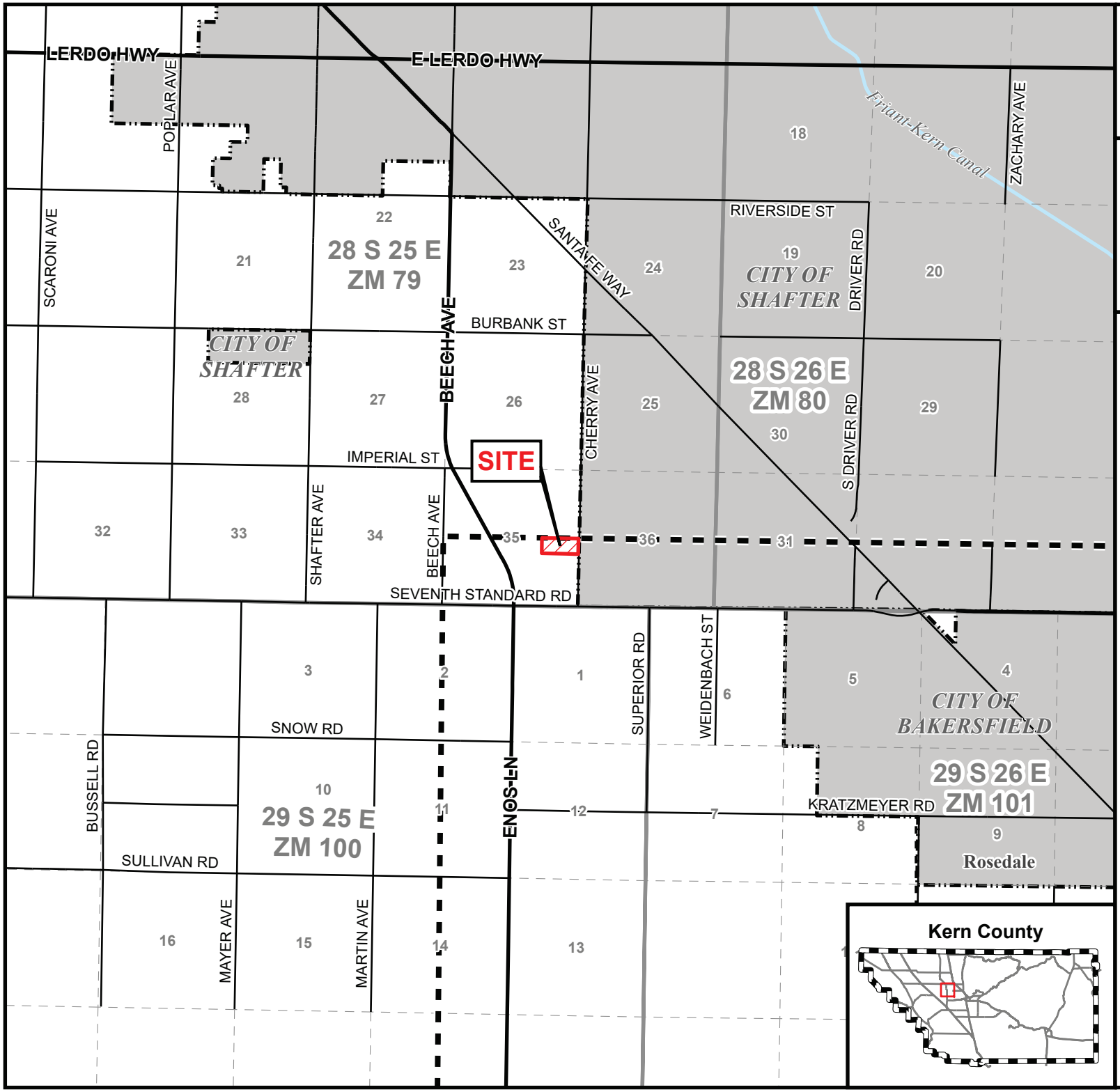
Saed Investments, LLC

APN: 090-340-18
Sec. 35 - T28S/R25E

Kern County
Planning & Natural
Resources Department

0 205 410 615 820 ft

N



PD No. 44
Map 79-35

Vicinity Map

Saed Investments, LLC

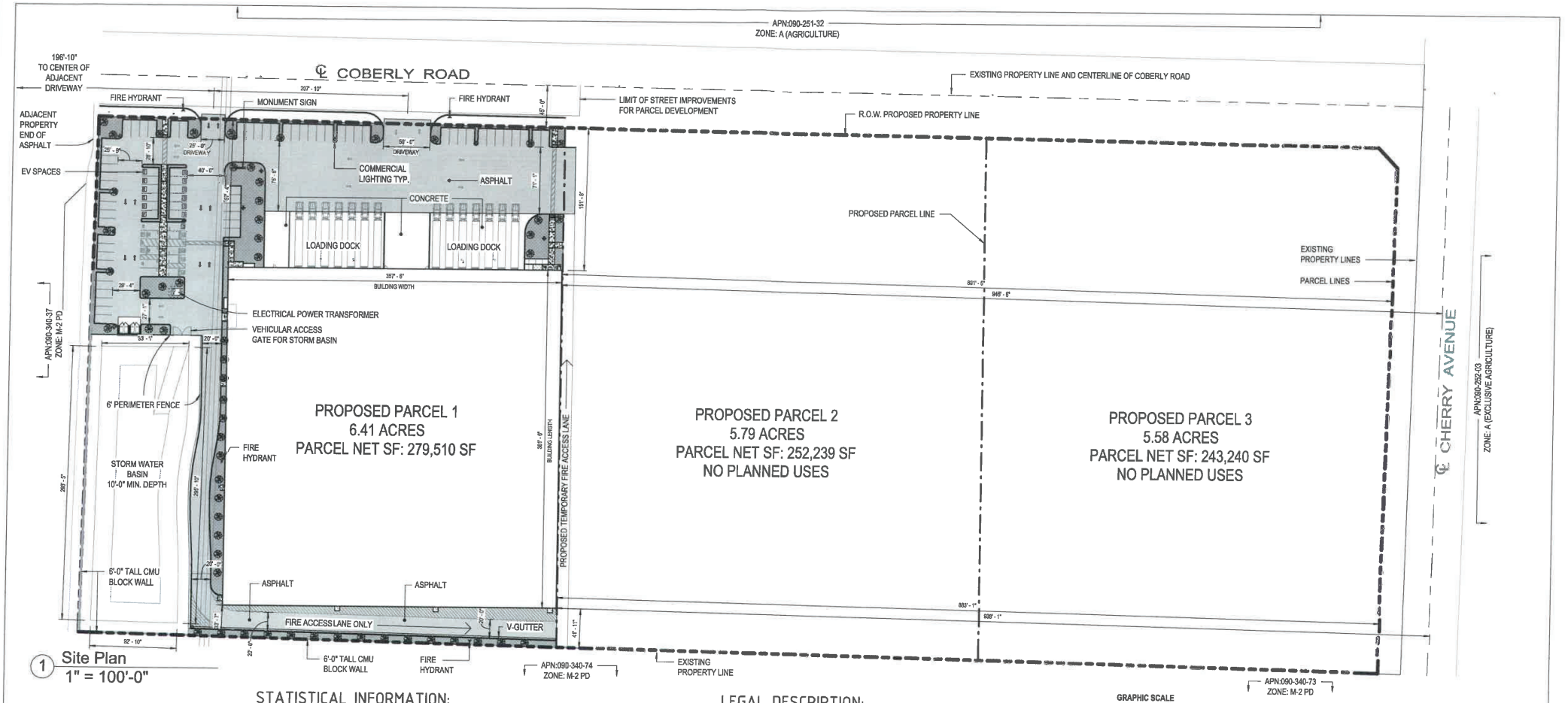
- Site
- Named Road
- Arterials
- Metro Bakersfield GP Boundary
- Township/Range
- Sections
- City Limits
- Unincorporated Cities

APN: 090-340-18
Sec. 35 - T28S/R25E

Created on: 12/3/2025

0 4,900 9,800 ft

Kern County Planning & Natural Resources Department



1 Site Plan
1" = 100'-0"

STATISTICAL INFORMATION:

OWNER: SAED INVESTMENT IV LLC

APPLICANT: SAED INVESTMENT IV LLC

SITE ADDRESS: SWC OF CHERRY AVENUE AND COBERLY ROAD, SHAFTER, CA

MAILING ADDRESS: 1100 N. D STREET, MADERA, CA 93638

PROJECT CONSULTANT: MAX BACERRA, PRINCIPAL, PACIFICUS IV COMPANY

GENERAL PLAN LAND USE DESIGNATION: SI (SERVICE INDUSTRIAL)

EXISTING ZONING: MEDIUM INDUSTRIAL, PRECISE DEVELOPMENT COMBINING (M – 2, PD)

ACREAGE (LAND AREA): 19.58 ACRES

TOTAL AREA FOR PARCEL 1: 6.41 ACRES

EXISTING USE: PRIMARILY VACANT AND UNDEVELOPED LAND. LAND IS FALLOW AND DISKED.

PROPOSED USE: DEVELOPMENT OF ONE SINGLE WAREHOUSE BUILDING TOTALING 129,236 SQ. FT. ON PARCEL 1 TO BE CREATED WITH REQUIRED PARKING AND LANDSCAPING BEING PROVIDED ALONG WITH 14 LOADING DOCK AREAS PROVIDED.

PROPOSED BUILDING: A TILT UP CONCRETE BUILDING FOR LIGHT INDUSTRIAL / WAREHOUSE USE FOR STORAGE OF FINISHED OR UNFINISHED ITEMS

BUILDING COVERAGE: 129,236 SF (46.3%)

BUILDING HEIGHT: 40 FEET (MAXIMUM HEIGHT)

TOTAL GROSS LAND AREA 853,517 SF (19.58 ACRES)

TOTAL NET LAND AREA 774,989 SF (17.79 ACRES)

REQUIRED LANDSCAPE AREA: 13,975 (5%)

PROVIDED LANDSCAPE AREA: 16,217 SF (5.5%)

PARKING SPACES REQUIRED: 50 SPACES

PARKING SPACES PROVIDED: 82 SPACES

SEWAGE DISPOSAL: SEWAGE DISPOSAL SYSTEM OPERATED BY THE NORTH OF THE RIVER SANITATION DISTRICT

WATER SUPPLY: SUPERIOR WATER COMPANY

DRAINAGE: DRAINAGE GENERATED FROM THE BUILDING DEVELOPMENT OF PARCEL 1 AND THE FUTURE DEVELOPMENT OF PARCELS 2 AND 3 WILL BE FUNNELED INTO A LARGE SINGLE ON SITE DRAINAGE BASIN TO BE LOCATION ON PARCEL 1. THIS COLLECTIVE STORM WATER BASIN WILL BE DESIGNED AND CONSTRUCTED TO ACCOMMODATE ALL OF THE ANTICIPATED STORM WATER DRAINAGE GENERATED FROM ALL THREE PARCELS.

LEGAL DESCRIPTION:

PARCEL 4 OF PARCEL MAP NO. 10754, ACCORDING TO THE MAP THEREOF RECORDED MAY 18, 2001, IN BOOK 51, PAGES 163 AND 164 OF PARCEL MAPS, KERN COUNTY RECORDS.

APN: 090-340-18

NOTE: A PARCEL MAP APPLICATION OVER THE ENTIRE 19.5 ACRES HAS BEEN SUBMITTED TO THE KERN COUNTY PLANING DEPARTMENT BY LAV / PINNACLE ENGINEERING. (SUBMITTED TENTATIVE PARCEL MAP 12515)

GRAPHIC SCALE
0 50 100 200

NORTH

EXISTING PROPERTY LINE

PROPOSED NEW PARCEL LINES

LEGEND:

40' HIGH COMMERCIAL LIGHT POLE W/ GLARE SHIELD

FIRE HYDRANT

PG&E TRANSFORMER

TRASH ENCLOSURE

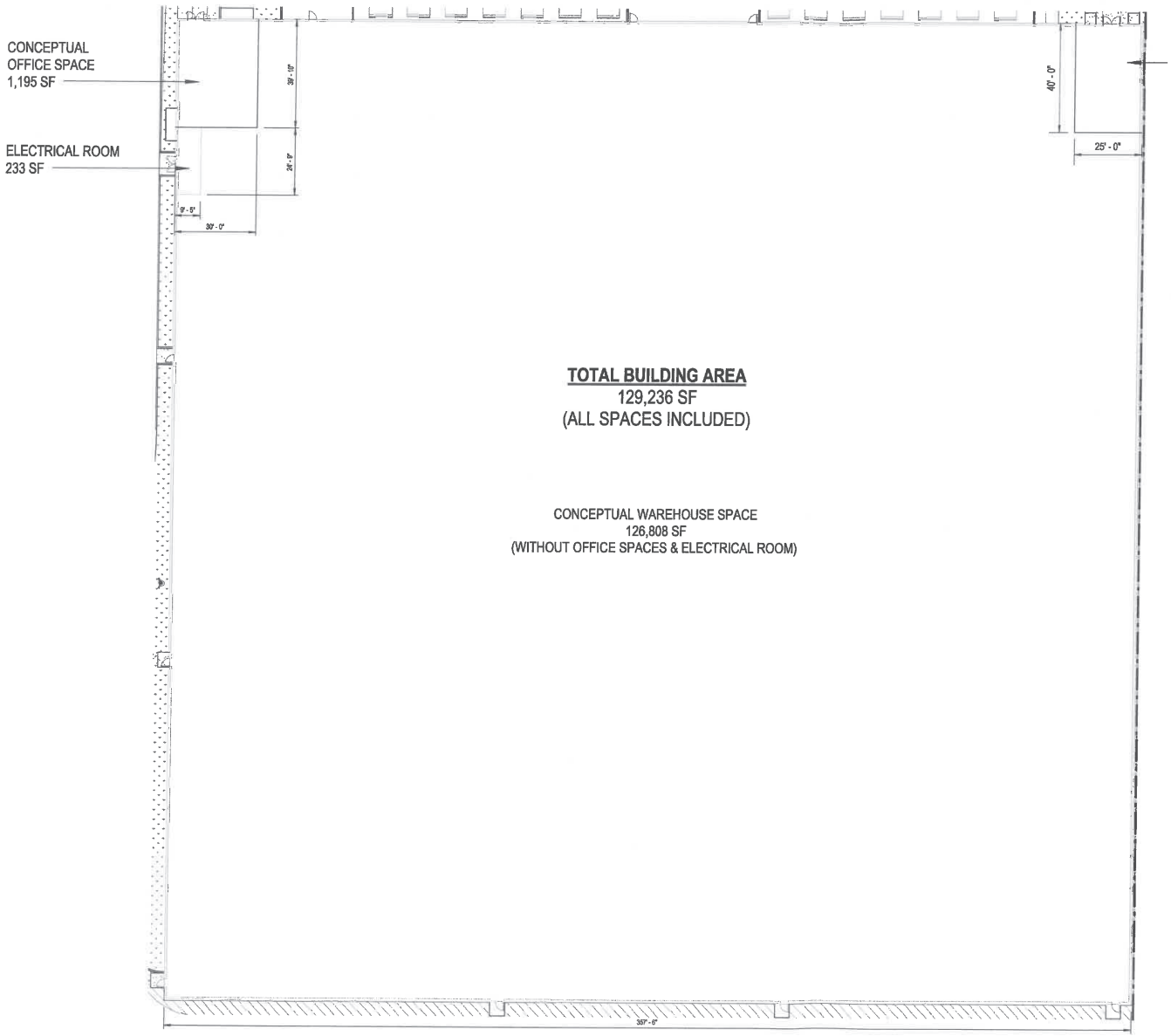
CONCEPTUAL SITE PLAN FOR PARCEL 1
FURNITURE CITY WAREHOUSING PARK MASTER PLAN
APN: 090-340-18

SHEET 1 OF 5

PD PLAN -_____, MAP NO._____

PRECISE DEVELOPMENT PLAN FURNITURE CITY WAREHOUSE MASTER PLAN
SITE PLAN

SECTION 35,T. 28 S., R.25 E., COUNTY OF KERN



GROSS AREA ANALYSIS

CONCEPTUAL OFFICE AREA:	2,195 SF
ELECTRICAL ROOM:	233 SF
CONCEPTUAL WAREHOUSE AREA :	126,808 SF
TOTAL BUILDING FLOOR AREA:	129,236 SF

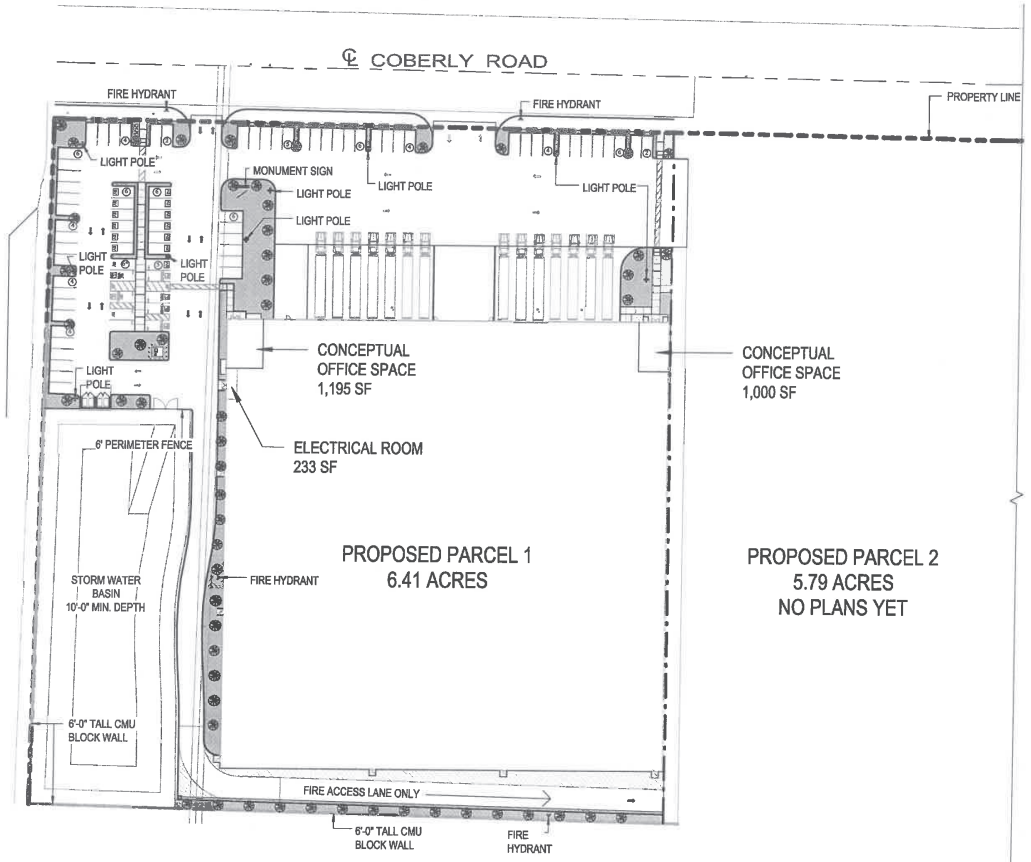
1 Level 1 Floor Plan
1" = 40'-0"

PD PLAN -_____, MAP NO._____

PRECISE DEVELOPMENT PLAN FURNITURE CITY WAREHOUSE MASTER PLAN

Floor Plan

SECTION 35,T. 28 S., R.25 E., COUNTY OF KERN



1 Site Plan Parking Analysis
1" = 100'-0"

GRAPHIC SCALE
0 50 100 200

NORTH

GROSS AREA ANALYSIS

CONCEPTUAL OFFICE AREA:	2,195 SF
ELECTRICAL ROOM:	233 SF
CONCEPTUAL WAREHOUSE AREA :	126,808 SF
TOTAL BUILDING FLOOR AREA:	129,236 SF

PARKING ANALYSIS

AREAS:
OFFICE AREA: 2,195 SQ. FT.
ELECTRICAL EQUIPMENT ROOM: 233 SQ. FT. (EXCLUDED)
WAREHOUSE (STORAGE) AREA: 126,808 SQ. FT.

CALC:

1 WAREHOUSE 126,808
1 PARKING SPACE PER 1,000 SF UP TO 10,000 SF INITIALLY
10,000 SF / 1,000 SF = 10 SPACES

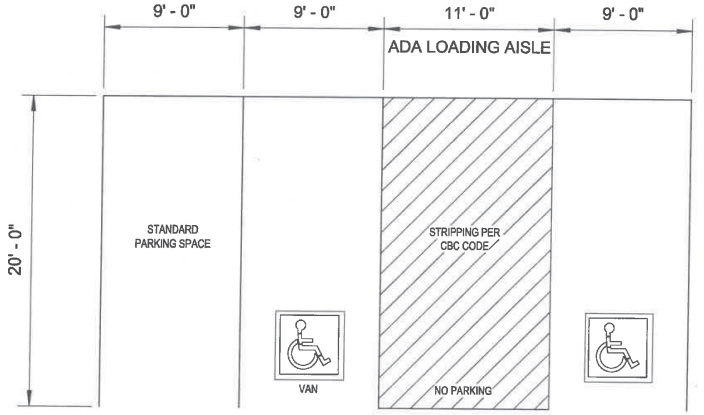
1 PARKING SPACE PER 3,000 SF
116,808 SF / 3,000 SF = 38.936 = 39 SPACES

TOTAL= 49 SPACES

2 OFFICE PARKING
1 PARKING SPACE PER 250 SF
2,195 SF / 250 SF = 8.78 = 9 SPACES

TOTAL = 9 SPACES

GRAND TOTAL = 58 SPACES
PROVIDED = 82 SPACES



2 PARKING STALL DIMENSIONS
1/8" = 1'-0"

GRAPHIC SCALE
0 4 8 16

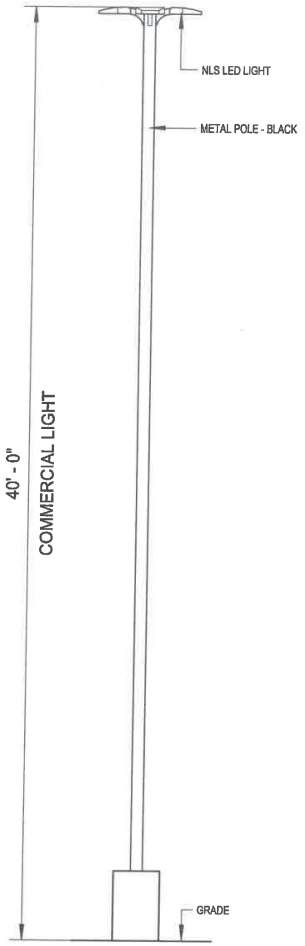
NORTH

SHEET 3 OF 5

PD PLAN -_____, MAP NO._____

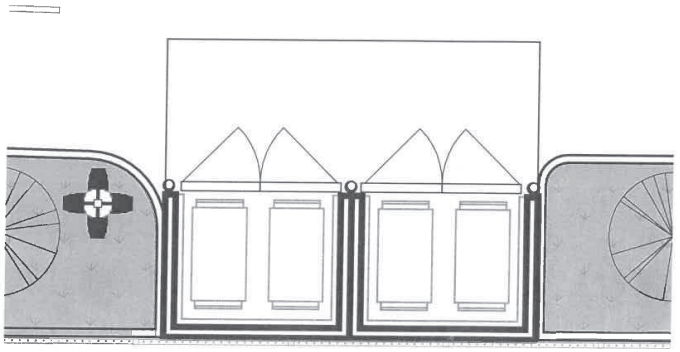
PRECISE DEVELOPMENT PLAN FURNITURE CITY WAREHOUSE MASTER PLAN
ONSITE PARKING ANALYSIS

SECTION 35,T. 28 S., R.25 E., COUNTY OF KERN



1 COMMERCIAL LIGHT
3/16" = 1'-0"

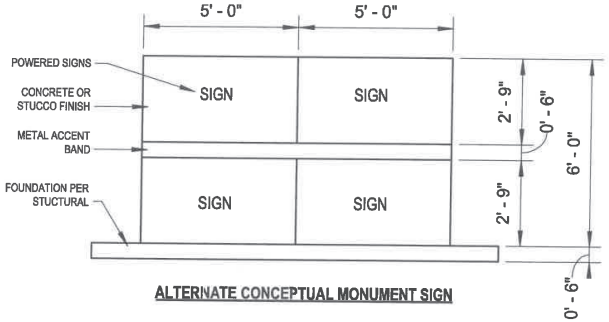
GRAPHIC SCALE
0 8 16 32



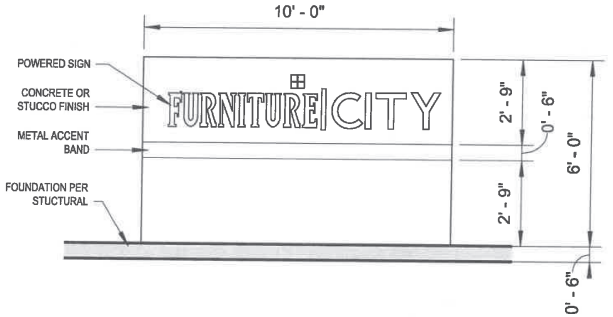
2 Site Plan Trash Enclosure (Typ.)
1/8" = 1'-0"

GRAPHIC SCALE
0 4 8 16

TRASH ENCLOSURES TO INCLUDE RECYCLING ACCOMMODATIONS PER SECTION 19.80.030.K OF THE KERN COUNTY ZONING ORDINANCE.



ALTERNATE CONCEPTUAL MONUMENT SIGN



3 Monument Sign (Typ.)
1/4" = 1'-0"

GRAPHIC SCALE
0 2 4 8

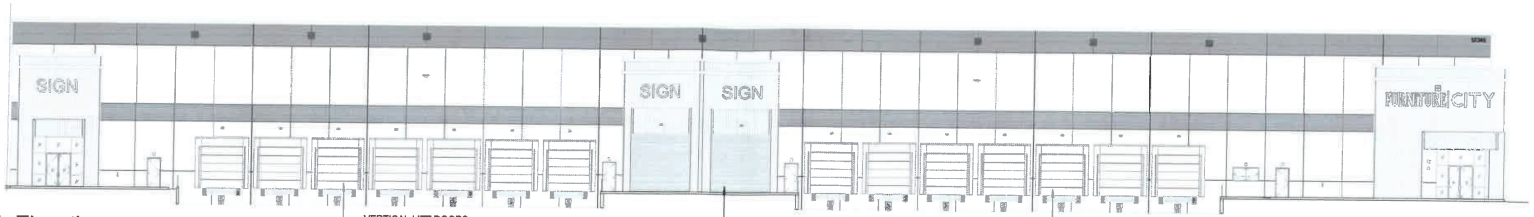
SHEET 4 OF 5

PD PLAN - _____, MAP NO._____

PRECISE DEVELOPMENT PLAN FURNITURE CITY WAREHOUSE MASTER PLAN

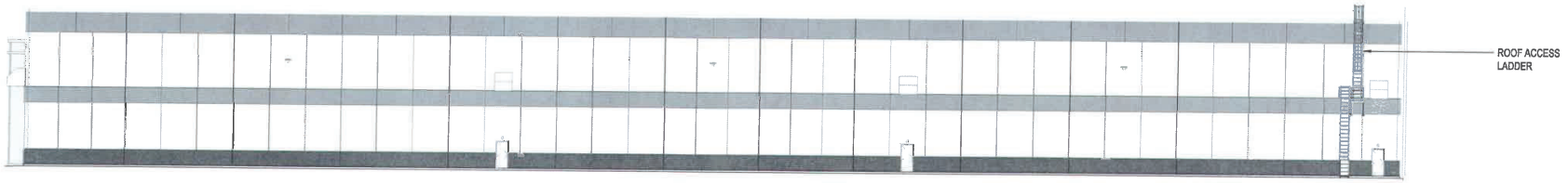
OVERALL SITE ELEVATION AND SITE ELEMENTS

SECTION 35,T. 28 S., R.25 E., COUNTY OF KERN



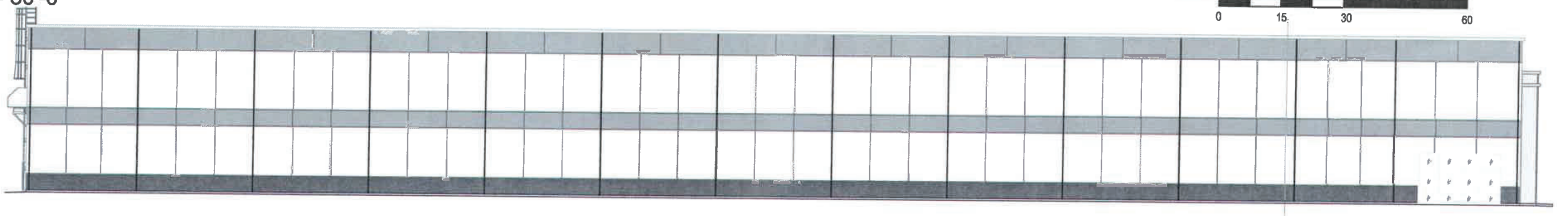
1 North Elevation
1" = 30'-0"

GRAPHIC SCALE
0 15 30 60



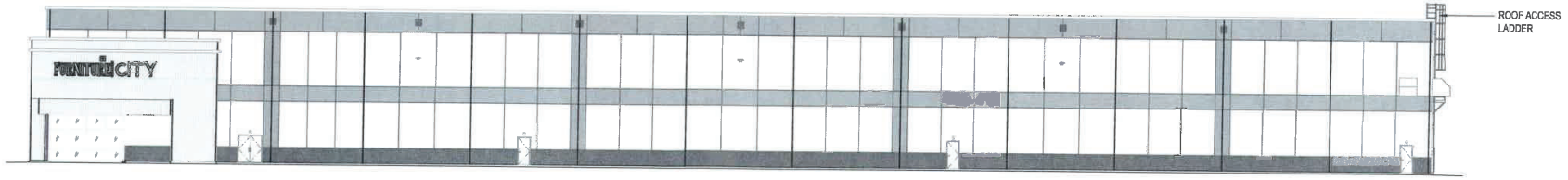
2 South Elevation
1" = 30'-0"

GRAPHIC SCALE
0 15 30 60



3 East Elevation
1" = 30'-0"

GRAPHIC SCALE
0 15 30 60



4 West Elevation
1" = 30'-0"

GRAPHIC SCALE
0 15 30 60

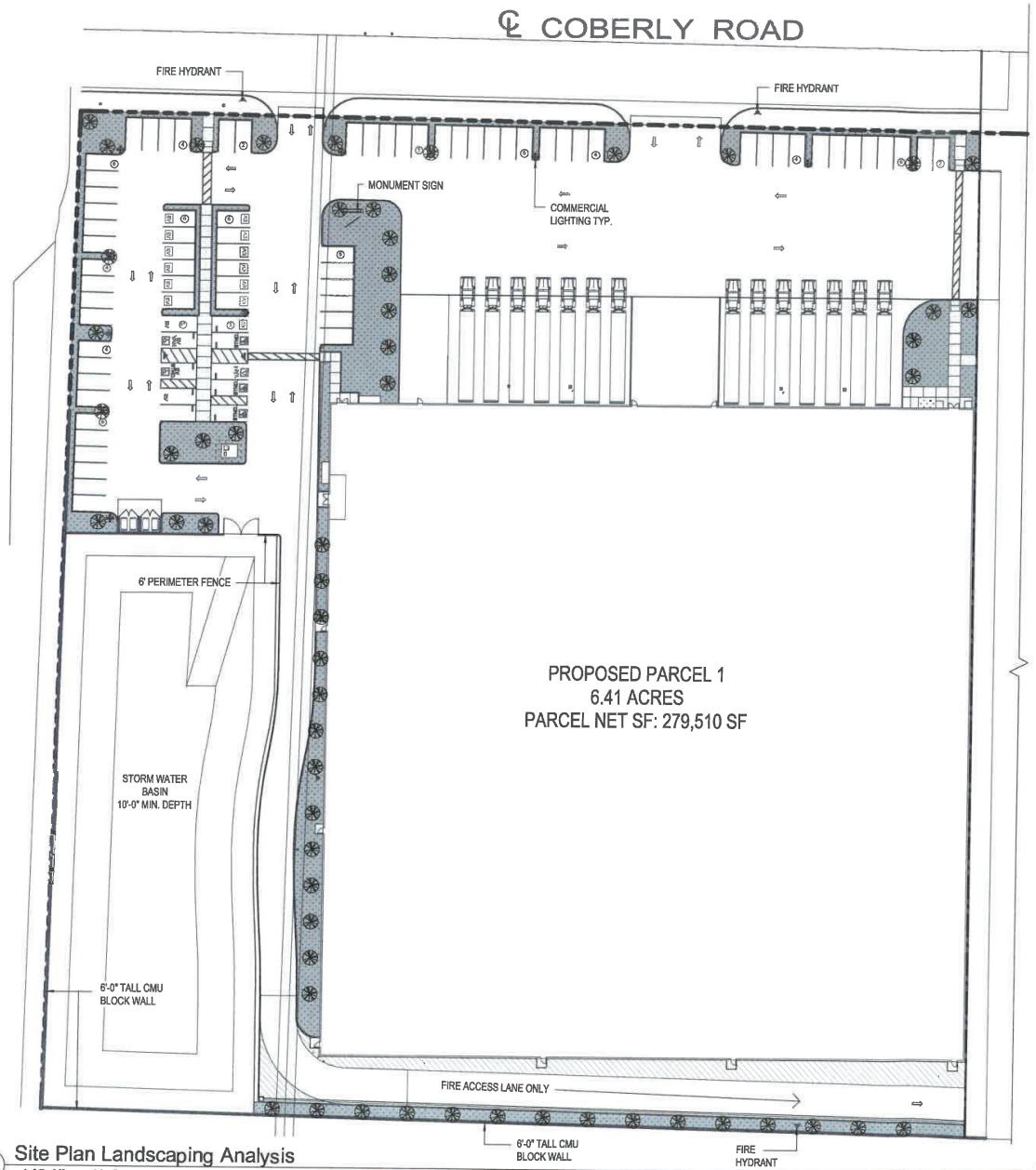
SHEET 5 OF 5

PD PLAN -_____, MAP NO._____

PRECISE DEVELOPMENT PLAN FURNITURE CITY WAREHOUSE MASTER PLAN

BUILDING ELEVATIONS

SECTION 35,T. 28 S., R.25 E., COUNTY OF KERN



1 Site Plan Landscaping Analysis
1/64" = 1'-0"

GRAPHIC SCALE
0 32 64 128

NORTH

EXISTING PROPERTY LINE

PROPOSED NEW PARCEL LINES

LEGAL DESCRIPTION:

PARCEL 4 OF PARCEL MAP NO. 10754, ACCORDING TO THE MAP THEREOF RECORDED MAY 18, 2001, IN BOOK 51, PAGES 163 AND 164 OF PARCEL MAPS, KERN COUNTY RECORDS.

APN: 090-340-18

NOTE: A PARCEL MAP APPLICATION OVER THE ENTIRE 19.5 ACRES HAS BEEN SUBMITTED TO THE KERN COUNTY PLANING DEPARTMENT BY LAV / PINNACLE ENGINEERING. (SUBMITTED TENTATIVE PARCEL MAP 12515)

LANDSCAPE AREA ANALYSIS:

TOTAL LANDSCAPING AREA = 16,657 SF
TOTAL NET LAND AREA (PROPOSED PARCEL 1) = 279,510 SF

$\frac{16,657\ SF}{279,510\ SF}$ = 5.95% LANDSCAPING AREA PROVIDED

LEGEND:

- 40' HIGH COMMERCIAL LIGHT POLE W/ GLARE SHIELD
- PG&E TRANSFORMER
- TRASH ENCLOSURE
- DROUGHT TOLERANT FICUS & EVERGREEN TREES
- GROUND COVER - "VALLEY VIOLET" CEANOTHUS & WOOD MULCH
  - ALSO INDICATES LANDSCAPING AREA

SHEET 1. OF 1.

PD PLAN -_____, MAP NO._____

PRECISE DEVELOPMENT PLAN FURNITURE CITY WAREHOUSE MASTER PLAN

LANDSCAPING PLAN ANALYSIS

SECTION 35,T. 28 S., R.25 E., COUNTY OF KERN

Mitigated Negative Declaration

Appendix A

AIR QUALITY/GREENHOUSE GAS STUDY

SAED INVESTMENTS, LLC
by Max Bacerra
(PP25125)

PD No. 44, Map 79-35

Kern County
Planning and Natural Resources Department Bakersfield, CA

July 2026

FURNITURE CITY WAREHOUSE PROJECT

AIR QUALITY/GREENHOUSE GAS STUDY

Prepared for:

LAV // Pinnacle Engineering
12418 Rosedale Highway, Suite A
Bakersfield, CA 93312

Prepared by:

BPG
BIRDSEYE
PLANNING GROUP

January 2025

FURNITURE CITY WAREHOUSE PROJECT
SHAFTER, CALIFORNIA

AIR QUALITY and GREENHOUSE GAS STUDY

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Appendix A CalEEMod Air Quality and Greenhouse Gas Emissions Model Results – Summer/Annual Emissions

FURNITURE CITY WAREHOUSE PROJECT SHAFTER, CALIFORNIA

AIR QUALITY and GREENHOUSE GAS STUDY

This report is an analysis of the potential air quality and greenhouse gas impacts associated with the proposed Furniture City Warehouse Project near the City of Shafter in unincorporated Kern County, California. This report has been prepared by Birdseye Planning Group (BPG) under contract to the project applicant to support preparation of the environmental documentation pursuant to the California Environmental Quality Act (CEQA). This study analyzes the potential for temporary impacts associated with construction activity and long-term impacts associated with operation of the proposed project.

PROJECT DESCRIPTION

The proposed Furniture City Warehouse would be located on a 6.41-acre site at the southwest corner of Cherry Avenue and Coberly Road in the Shafter area of unincorporated Kern County. The site is vacant and formerly used for agricultural production. The site is zoned Medium Industrial – Precise Development (M-2, PD) and located within the Western Rosedale Specific Plan.

The project would provide one warehouse with office space and parking. The proposed warehouse would be 129,465 square feet. A total of 82 parking spaces would be provided on-site. The facility would be used to store furniture and related non-perishable items. No rail access would be provided. No storage of perishable items requiring refrigeration or use of heavy trucks with transport refrigeration units (TRUs) would occur on-site. Site access would be from two entrance/exits on the north side of the site along Coberly Road. A secondary fire access would be provided on the south side of the site. A vacant lot is located to the north, an orchard is located to the east and light industrial uses are located to the west and south. The proposed Project is expected to begin construction in mid-2025 and be operational in late 2026. The site is shown in Figure 1. The proposed site plan is shown in Figure 2.

SETTING

Air Pollution Regulation

The federal and state governments have been empowered by the federal and state Clean Air Acts to regulate emissions of airborne pollutants and have established ambient air quality standards for the protection of public health. The EPA is the federal agency designated to administer air quality regulation, while the California Air Resources Board (ARB) is the state equivalent in California. Federal and state standards have been established for six criteria

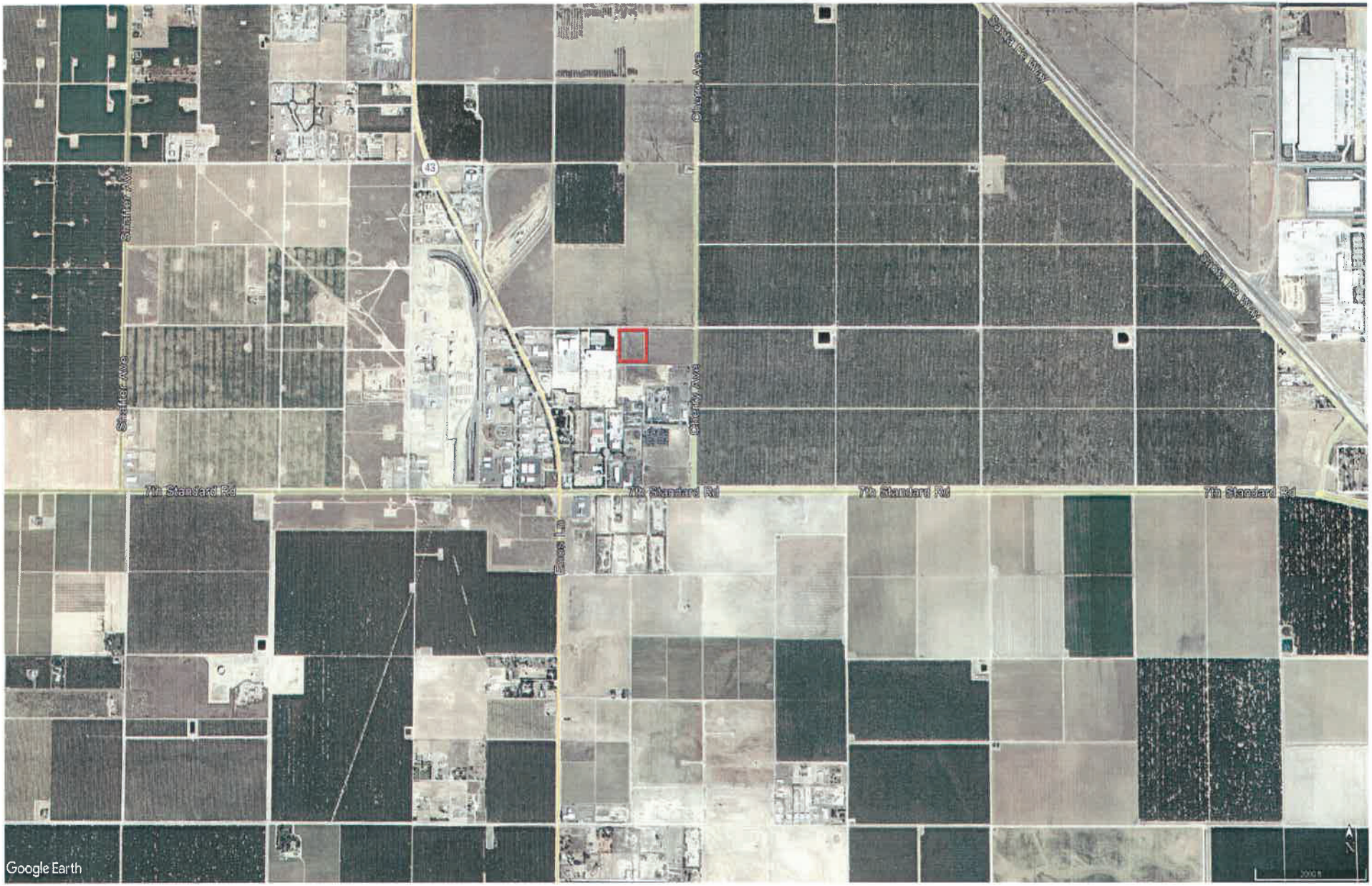
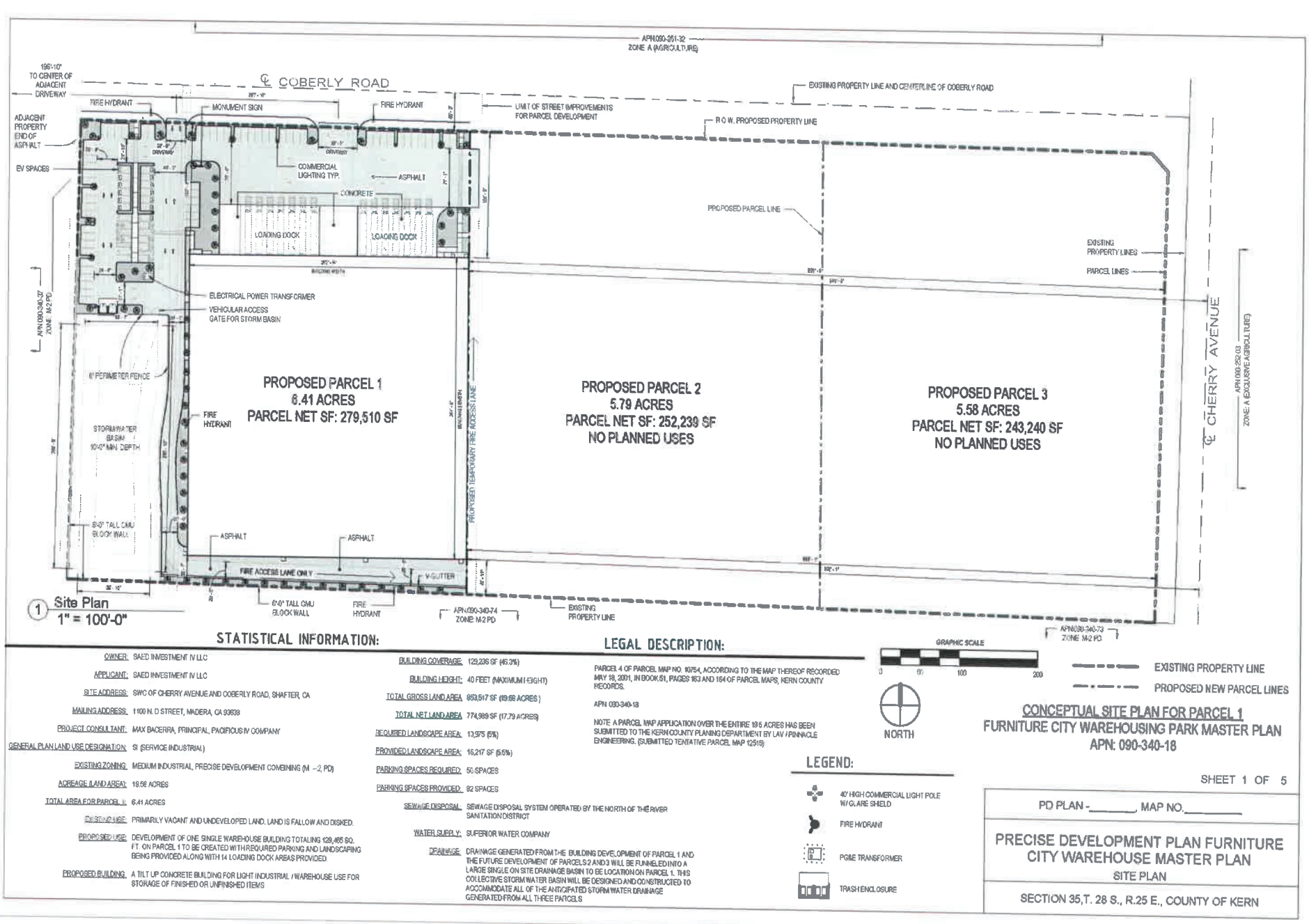


Figure 1—Vicinity Map

- Project Site



STATISTICAL INFORMATION:

OWNER:	SAED INVESTMENT IV LLC
APPLICANT:	SAED INVESTMENT IV LLC
SITE ADDRESS:	SWC OF CHERRY AVENUE AND COBERLY ROAD, SHAFTER, CA
MAILING ADDRESS:	1100 N. D STREET, MADERA, CA 93638
PROJECT CONSULTANT:	MAX BACERRA, PRINCIPAL, PACIFICUS IV COMPANY
GENERAL PLAN LAND USE DESIGNATION:	SI (SERVICE INDUSTRIAL)
EXISTING ZONING:	MEDIUM INDUSTRIAL, PRECISE DEVELOPMENT COMBINING (M -2, PD)
ACREAGE (LAND AREA):	19.56 ACRES
TOTAL AREA FOR PARCEL 1:	6.41 ACRES
EXISTING USE:	PRIMARILY VACANT AND UNDEVELOPED LAND. LAND IS FALLOW AND DISKED.
PROPOSED USE:	DEVELOPMENT OF ONE SINGLE WAREHOUSE BUILDING TOTALING 129,495 SQ. FT. ON PARCEL 1 TO BE CREATED WITH REQUIRED PARKING AND LANDSCAPING BEING PROVIDED ALONG WITH 14 LOADING DOCK AREAS PROVIDED.
PROPOSED BUILDING:	A TILT UP CONCRETE BUILDING FOR LIGHT INDUSTRIAL / WAREHOUSE USE FOR STORAGE OF FINISHED OR UNFINISHED ITEMS
BUILDING COVERAGE:	129,236 SF (46.3%)
BUILDING HEIGHT:	40 FEET (MAXIMUM HEIGHT)
TOTAL GROSS LAND AREA	953,517 SF (19.68 ACRES)
TOTAL NET LAND AREA	774,989 SF (17.79 ACRES)
REQUIRED LANDSCAPE AREA:	13,975 (5%)
PROVIDED LANDSCAPE AREA:	16,217 SF (5.5%)
PARKING SPACES REQUIRED:	50 SPACES
PARKING SPACES PROVIDED:	92 SPACES
SEWAGE DISPOSAL:	SEWAGE DISPOSAL SYSTEM OPERATED BY THE NORTH OF THE RIVER SANITATION DISTRICT
WATER SUPPLY:	SUPERIOR WATER COMPANY
DRAINAGE:	DRAINAGE GENERATED FROM THE BUILDING DEVELOPMENT OF PARCEL 1 AND THE FUTURE DEVELOPMENT OF PARCELS 2 AND 3 WILL BE FUNNELED INTO A LARGE SINGLE ON SITE DRAINAGE BASIN TO BE LOCATION ON PARCEL 1. THIS COLLECTIVE STORM WATER BASIN WILL BE DESIGNED AND CONSTRUCTED TO ACCOMMODATE ALL OF THE ANTICIPATED STORM WATER DRAINAGE GENERATED FROM ALL THREE PARCELS

LEGAL DESCRIPTION:

PARCEL 4 OF PARCEL MAP NO. 10754, ACCORDING TO THE MAP THEREOF RECORDED MAY 18, 2001, IN BOOK 51, PAGES 163 AND 164 OF PARCEL MAPS, KERN COUNTY RECORDS.

APN: 090-340-18

NOTE: A PARCEL MAP APPLICATION OVER THE ENTIRE 19.5 ACRES HAS BEEN SUBMITTED TO THE KERN COUNTY PLANING DEPARTMENT BY LAV / PINNACLE ENGINEERING. (SUBMITTED TENTATIVE PARCEL MAP 12519)

LEGEND:

- 40' HIGH COMMERCIAL LIGHT POLE W/ GLARE SHIELD
- FIRE HYDRANT
- PG&E TRANSFORMER
- TRASH ENCLOSURE

CONCEPTUAL SITE PLAN FOR PARCEL 1
FURNITURE CITY WAREHOUSING PARK MASTER PLAN
APN: 090-340-18

SHEET 1 OF 5

PD PLAN -_____, MAP NO._____

PRECISE DEVELOPMENT PLAN FURNITURE CITY WAREHOUSE MASTER PLAN
SITE PLAN

SECTION 35,T. 28 S., R.25 E., COUNTY OF KERN

Figure 2 —Site Plan

pollutants, including ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulates less than 10 and 2.5 microns in diameter (PM_{10} and $PM_{2.5}$), and lead (Pb). California has also set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. Table 1 lists the current federal and state standards for each of these pollutants. Standards have been set at levels intended to be protective of public health. California standards are generally more restrictive than federal standards for each of these pollutants except lead and the eight-hour average for CO.

Table 1
State and Federal Ambient Air Quality Standards

POLLUTANT	AVERAGE TIME	CALIFORNIA STANDARDS[1]		NATIONAL STANDARDS[2]		
		Concentration[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
Ozone[8] (O_3)	1 hour	0.09 ppm (180 µg/m³)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 hours	0.070 ppm (137µg/m³)		0.070 ppm (137 µg/m³)		
Carbon Monoxide (CO)	8 hours	9.0 ppm (10 mg/m³)	Non-Dispersive Infrared Spectroscopy (NDIR)	9 ppm (10 mg/m³)	--	Non-Dispersive Infrared Spectroscopy (NDIR)
	1 hour	20 ppm (23 mg/m³)		35 ppm (40 mg/m³)		
Nitrogen Dioxide (NO_2)[10]	Annual Average	0.030 ppm (57 µg/m³)	Gas Phase Chemiluminescence	0.053 ppm (100 µg/m³)	Same as Primary Standard	Gas Phase Chemiluminescence
	1 hour	0.18 ppm (339 µg/m³)		100 ppb (188 µg/m³)	--	
Sulfur Dioxide (SO_2)[11]	Annual Average	--	Ultraviolet Fluorescence	0.03 ppm (80 µg/m³)	--	Pararosaniline
	24 hours	0.04 ppm (105 µg/m³)		0.14 ppm (365 µg/m³)	--	
	3 hours	--		--	0.5 ppm (1300 µg/m³)	
	1 hour	0.25 ppm (655 µg/m³)		75 ppb (196 µg/m³)	--	
Respirable Particulate Matter (PM_{10})[9]	24 hours	50 µg/m³	Gravimetric or Beta Attenuation	150 µg/m³	150 µg/m³	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m³		--	--	
Fine Particulate Matter ($PM_{2.5}$)[9]	Annual Arithmetic Mean	12 µg/m³	Gravimetric or Beta Attenuation	12 µg/m³	15 µg/m³	Inertial Separation and Gravimetric Analysis
	24 hours	--		35 µg/m³	Same as Primary Standard	

POLLUTANT	AVERAGE TIME	CALIFORNIA STANDARDS[1]		NATIONAL STANDARDS[2]		
		Concentration[3]	Method[4]	Primary[3, 5]	Secondary[3, 6]	Method[7]
Sulfates	24 hours	25 µg/m³	Ion Chromatography	--	--	--
Lead[12, 13] (Pb)	30-day Average	1.5 µg/m³	Atomic Absorption	--	--	High Volume Sampler and Atomic Absorption
	Calendar Quarter	--		1.5 µg/m³	Same as Primary Standard	
	3-month Rolling Average	--		0.15 µg/m³		
Hydrogen Sulfide (H_2S)	1 hour	0.03 ppm (42 µg/m³)	Ultraviolet Fluorescence	--	--	--
Vinyl Chloride[12]	24 hours	0.010 ppm (26 µg/m³)	Gas Chromatography	--	--	--

Notes:

ppm = parts per million
µg/m³ = micrograms per cubic meter
mg/m³ = milligrams per cubic meter
Source: California Air Resources Board 2017

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM_{10}, $PM_{2.5}$, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.
3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. Any equivalent measurement method which can be shown to the satisfaction of the CARB to give equivalent results at or near the level of the air quality standard may be used.
5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
7. Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.

8. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

9. On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 μg/ m^3 to 12.0 μg/ m^3. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 μg/ m^3, as was the annual secondary standard of 15 μg/ m^3. The existing 24-hour PM_{10} standards (primary and secondary) of 150 μg/ m^3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

10. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

11. On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

    Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

12. The CARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

13. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 μg/ m^3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

14. In 1989, the CARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

Local control in air quality management is provided by the ARB through county-level or regional (multi-county) Air Pollution Control Districts (APCDs). The ARB establishes air quality standards and is responsible for control of mobile emission sources, while the local APCDs are responsible for enforcing standards and regulating stationary sources. The ARB has established 15 air basins statewide. The project site is located within the San Joaquin Valley Air Basin. Air quality conditions in the Basin are under the jurisdiction of the San Joaquin Valley Air Pollution Control District (SJVAPCD). The SJVAPCD is required to monitor air pollutant levels to ensure that air quality standards are met and, if they are not met, to develop strategies to meet the standards. Depending on whether the standards are met or exceeded, the local air basin is classified as being in "attainment" or "non-attainment."

The Basin in which the project area is located, is a non-attainment area for both the federal and state standards for ozone and $PM_{2.5}$ and the state PM_{10} standard. The Basin is in attainment for the state and federal standards for nitrogen dioxide, and carbon monoxide. Characteristics of ozone, carbon monoxide, nitrogen dioxide, and suspended particulates are described below.

Ozone. Ozone is produced by a photochemical reaction (triggered by sunlight) between nitrogen oxides (NO_x) and reactive organic gases (ROG)[1]. Nitrogen oxides are formed during the combustion of fuels, while reactive organic compounds are formed during combustion and evaporation of organic solvents. Because ozone requires sunlight to form, it mostly occurs in concentrations considered serious between the months of April and October. Ozone is a pungent, colorless, toxic gas with direct health effects on humans including respiratory and eye irritation and possible changes in lung functions. Groups most sensitive to ozone include children, the elderly, people with respiratory disorders, and people who exercise strenuously outdoors.

Carbon Monoxide. Carbon monoxide is a local pollutant that is found in high concentrations only near the source. The major source of carbon monoxide, a colorless, odorless, poisonous gas, is automobile traffic. Elevated concentrations, therefore, are usually only found near areas of high traffic volumes. Carbon monoxide's health effects are related to its affinity for hemoglobin in the blood. At high concentrations, carbon monoxide reduces the amount of oxygen in the blood, causing heart difficulties in people with chronic diseases, reduced lung capacity and impaired mental abilities.

Nitrogen Dioxide. Nitrogen dioxide (NO_2) is a by-product of fuel combustion, with the primary source being motor vehicles and industrial boilers and furnaces. The principal form of nitrogen oxide produced by combustion is nitric oxide (NO), but NO reacts rapidly to form NO_2, creating the mixture of NO and NO_2 commonly called NO_x. Nitrogen dioxide is an acute irritant. A relationship between NO_2 and chronic pulmonary fibrosis may exist, and an increase in bronchitis in young children at concentrations below 0.3 parts per million (ppm) may occur. Nitrogen dioxide absorbs blue light and causes a reddish-brown cast to the atmosphere and reduced visibility. It can also contribute to the formation of PM_{10} and acid rain.

Suspended Particulates. PM_{10} is particulate matter measuring no more than 10 microns in diameter, while $PM_{2.5}$ is fine particulate matter measuring no more than 2.5 microns in diameter. Suspended particulates are mostly dust particles, nitrates and sulfates. Both PM_{10} and $PM_{2.5}$ are by-products of fuel combustion and wind erosion of soil and unpaved roads and are directly emitted into the atmosphere through these processes. Suspended particulates are also created in the atmosphere through chemical reactions. The characteristics, sources, and potential health effects associated with the small particulates (those between 2.5 and 10 microns in diameter) and fine particulates ($PM_{2.5}$) can be very different. The small particulates generally come from windblown dust and dust kicked up from mobile sources. The fine particulates are generally associated with combustion processes as well as being formed in the atmosphere as a secondary pollutant through chemical reactions. Fine particulate matter is more likely to penetrate deeply into the lungs and poses a health threat to all groups, but particularly to the

[1] Organic compound precursors of ozone are routinely described by a number of variations of three terms: hydrocarbons (HC), organic gases (OG), and organic compounds (OC). These terms are often modified by adjectives such as total, reactive, or volatile, and result in a rather confusing array of acronyms: HC, THC (total hydrocarbons), RHC (reactive hydrocarbons), TOG (total organic gases), ROG (reactive organic gases), TOC (total organic compounds), ROC (reactive organic compounds), and VOC (volatile organic compounds). While most of these differ in some significant way from a chemical perspective, from an air quality perspective two groups are important: non-photochemically reactive in the lower atmosphere, or photochemically reactive in the lower atmosphere (HC, RHC, ROG, ROC, and VOC).

elderly, children, and those with respiratory problems. More than half of the small and fine particulate matter that is inhaled into the lungs remains there. These materials can damage health by interfering with the body's mechanisms for clearing the respiratory tract or by acting as carriers of an absorbed toxic substance.

Toxic Air Contaminants/Diesel Particulate Matter. Hazardous air pollutants, also known as toxic air pollutants (TACs) or air toxics, are those pollutants that are known or suspected to cause cancer or other serious health effects, such as reproductive effects or birth defects, or adverse environmental effects. Examples of toxic air pollutants include:

- benzene, which is found in gasoline;
- perchloroethylene, which is emitted from some dry-cleaning facilities; and
- methylene chloride, which is used as a solvent.

Transportation related emissions are focused on particulate matter constituents within diesel exhaust and TAC constituents that comprise a portion of total organic gas (TOG) emissions from both diesel and gasoline fueled vehicles. Diesel engine emissions are comprised of exhaust particulate matter and TOGs which are collectively defined as Diesel Particulate Matter (DPM). DPM and TOG emissions from both diesel and gasoline fueled vehicles are typically composed of carbon particles and carcinogenic substances including polycyclic aromatic hydrocarbons, benzene, formaldehyde, acetaldehyde, acrolein, and 1,3-butadiene. Diesel exhaust also contains gaseous pollutants, including volatile organic compounds and oxides of nitrogen (NO_x). Information on TAC and DPM is provided herein for reference only. The project would not be a sensitive air emission receptor; however, the operation of vehicles, including heavy trucks, would generate DPM and TACs.

The California Air Resources Board has provided guidance for siting new residential uses in proximity to TAC sources. The primary goal of this document is to provide information for use in making decisions related to siting new residential projects. While it is understood that the project is a warehouse, it is useful to address the criteria here for the purposes of considering public health impacts. With respect to siting residences in proximity to warehouses, CARB recommends a distance of at least 1,000 feet between sensitive properties and distribution centers. The proposed use would not be as intensive as a distribution center; however, there are no residences within 1,000 feet of the site.

Sulfur Dioxide. Sulfur Dioxide (SO2) is a colorless, irritating gas with a "rotten egg" smell formed primarily by the combustion of sulfur-containing fossil fuels. The SJVAB is in attainment of both the Federal and California standards for SO2. However, like airborne NOx, suspended SOx particles contribute to the poor visibility that sometimes occurs in the Valley. These SOx particles can also combine with other pollutants to form $PM_{2.5}$. The prevalence of low-sulfur fuel use in the Valley has minimized problems from this pollutant.

Lead. Lead (Pb) is a metal that is a natural constituent of air, water, and the biosphere. Lead is neither created nor destroyed in the environment, so it essentially persists forever. The health

effects of lead poisoning include loss of appetite, weakness, apathy, and miscarriage; it can also cause lesions of the neuromuscular system, circulatory system, brain, and gastrointestinal tract.

Gasoline-powered automobile engines were a major source of airborne lead which resulted from the combustion to leaded fuels. The use of leaded fuel has been mostly phased out, with the result that ambient concentrations of lead have dropped dramatically. Lead concentrations were last systematically measured in the SJVAB in 1989, when the average concentrations were approximately five percent of the State lead standard. Lead levels remain well below applicable standards, and the SJVAB is designated in attainment for lead.

Hydrogen Sulfide. Hydrogen Sulfide (H2S) is associated with geothermal activity, oil and gas production, refining, sewage treatment plants, and confined animal feeding operations. Hydrogen sulfide is extremely hazardous in high concentrations; especially in enclosed spaces (800 ppm can cause death). OSHA regulates workplace exposure to H2S.

Sulfates. Sulfates (SO4 2-) are the fully oxidized ionic form of sulfur. Sulfates occur in combination with metal and/or hydrogen ions. In California, emissions of sulfur compounds occur primarily from the combustion of petroleum-derived fuels (e.g., gasoline and diesel fuel) that contain sulfur. This sulfur is oxidized to sulfur dioxide (SO2) during the combustion process and subsequently converted to sulfate compounds in the atmosphere. The conversion of SO2 to sulfates takes place comparatively rapidly and completely in urban areas of California due to regional meteorological features. The ARB sulfates standard is designed to prevent aggravation of respiratory symptoms. Effects of sulfate exposure at levels above the standard include a decrease in ventilatory function, aggravation of asthmatic symptoms, and an increased risk of cardio-pulmonary disease. Sulfates are particularly effective in degrading visibility, and, due to the fact that they are usually acidic, can harm ecosystems and damage materials and property. Data collected in the SJVAB demonstrate levels of sulfates significantly less than the health standards.

Visibility Reducing Particles. These are a mixture of suspended particulate matter consisting of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. The standard is intended to limit the frequency and severity of visibility impairment due to regional haze and is equivalent to a 10-mile nominal visual range.

Vinyl Chloride. (Vinyl Chloride (C2H3Cl, also known as VCM) is a colorless gas that does not occur naturally. It is formed when other substances such as trichloroethane, trichloroethylene, and tetrachloro-ethylene are broken down. Vinyl chloride is used to make polyvinyl chloride (PVC) which is used to make a variety of plastic products, including pipes, wire and cable coatings, and packaging materials.

Regional Climate and Local Air Quality

San Joaquin Valley Air Basin. The project site is in the San Joaquin Valley Air Basin (SJVAB), which is defined by the Sierra Nevada mountains in the east (averaging 8,000 to 14,000 feet in elevation), the Coast Ranges in the west (averaging 3,000 feet in elevation), and the Tehachapi

mountains in the south (averaging 6,000 to 8,000 feet in elevation). The San Joaquin Valley is flat, with a slight downward gradient to the northwest, and opens to the sea at the Carquinez Strait, where the San Joaquin-Sacramento Delta empties into San Francisco Bay.

Although marine air generally flows into the SJVAB from the San Joaquin River Delta, the region's topographic features restrict air movement through and out of the SJVAB. The Coastal Range hinders wind access into the San Joaquin Valley from the west, the Tehachapi range prevents southerly passage of airflow, and the high Sierra Nevada range is a significant barrier to the east. These topographic features result in weak airflow, which becomes blocked vertically by high barometric pressure over the San Joaquin Valley. Consequently, the SJVAB is highly susceptible to air pollutant accumulation over time.

Air pollutant emissions in the SJVAB are generated by stationary and mobile sources. Stationary sources can be divided into two major subcategories: point and area sources. Point sources occur at a specific location and are often identified by an exhaust vent or stack. Examples include boilers or combustion equipment that produce electricity or generate heat. Area sources are widely distributed and include such sources as residential and commercial water heaters, painting operations, lawn mowers, agricultural fields, landfills, and some consumer products. Mobile sources refer to emissions from motor vehicles, including tailpipe and evaporative emissions, and are classified as either on-road or off-road. On-road sources may be legally operated on roadways and highways. Off-road sources include aircraft, ships, trains, and self-propelled construction equipment. Air pollutants can also be generated by the natural environment, such as when high winds suspend fine dust particles.

Attainment Status. The EPA and the ARB designate air basins where ambient air quality standards are exceeded as "nonattainment" areas. If standards are met, the area is designated an "attainment" area. If there is inadequate or inconclusive data to make a definitive attainment designation, they are considered "unclassified." National nonattainment areas are further designated marginal, moderate, serious, severe, or extreme as a function of deviation from standards.

Each standard has a different definition, or "form" of what constitutes attainment, based on specific air quality statistics. For example, the federal 8-hour CO standard is not to be exceeded more than once per year; therefore, an area is in attainment of the CO standard if no more than one 8-hour ambient air monitoring values exceeds the threshold per year. In contrast, the federal annual PM2.5 standard is met if the three-year average of the annual average PM2.5 concentration is less than or equal to the standard. The San Joaquin Valley Air Basin is designated nonattainment for ozone, PM10, and PM2.5.

Ambient Air Quality. The SJVAPCD operates and maintains an expansive network of air monitoring sites throughout the eight counties of the San Joaquin Valley. A total of 24 sites are currently operated directly by the District or in collaboration with the California Air Resources Board. In addition, CARB also independently operates a number of air monitoring stations in

the Valley, along with additional sites operated by the National Park Service and tribal nations. In total, 38 air monitoring sites are currently in operation in the San Joaquin Valley.

The purpose of the monitoring stations is to measure ambient concentrations of the pollutants and determine whether the ambient air quality meets the California state and federal standards. The air quality monitoring station located nearest to the project site is at 548 Walker Street in Shafter, California, located approximately 4.2 miles northwest of the project site. Ozone and nitrogen oxide data were obtained from this station. PM10 and PM2.5 data were obtained from the Bakersfield Golden State Highway Station at 2820 M Street, Bakersfield, California located approximately 13.6 miles southeast of the project site. Monitoring data are shown in Table 2. As shown, both the federal and state ozone standards were exceeded at the Shafter monitoring station from 2019, 2020 and 2021. Both the PM10 and PM2.5 standards were also exceeded during the same time period.

San Joaquin Valley Air Pollution Control District

The SJVAPCD is responsible for controlling emissions primarily from stationary sources. The SJVAPCD in coordination with the eight countywide transportation agencies, is also responsible for developing, updating, and implementing air quality attainment plans for the Air Basin. The SJVAPCD also has a role as lead and responsible agency under CEQA.

Ozone Plans

As referenced, the Air Basin is designated nonattainment of state and federal health-based air quality standards for ozone. To meet Clean Air Act requirements for the one-hour ozone standard, the SJVAPCD adopted an Extreme Ozone Attainment Demonstration Plan in 2004, with an attainment date of 2010. Although the EPA revoked the federal 1-hour ozone standard effective June 15, 2005, and replaced it with an 8-hour standard, the requirement to submit a plan for that standard remained in effect for the San Joaquin Valley.

The EPA originally classified the Air Basin as serious nonattainment for the 1997 federal 8-hour ozone standard with an attainment date of 2013. On April 30, 2007, the District's Governing Board adopted the 2007 Ozone Plan, which contained analysis showing a 2013 attainment target to be infeasible. The 2007 Ozone Plan details the plan for achieving attainment on schedule with an "extreme nonattainment" deadline of 2024. At its adoption of the 2007 Ozone Plan, the SJVAPCD also requested a reclassification to extreme nonattainment. ARB approved the plan in June 2007, and the EPA approved the request for reclassification to extreme nonattainment on April 15, 2010.

Table 2
Ambient Air Quality Data

Pollutant	2019	2020	2021
Ozone, ppm – First High 8-Hour Average (2015 Standard)	0.077	0.098	0.85
Number of days of above 2015 standard (>0.070 ppm)	14	34	15
Nitrogen Dioxide, ppm – First High National	49.3	40.9	47.8
Nitrogen Dioxide, ppm – First High State	49	40	47
Days above the State standard (>0.18 ppm)	0	0	0
Days above the national standard (>100 ppb)	0	0	0
Particulate Matter <10 microns, $\mu g/m^3$ First High Federal	652.2	146.8	175
Particulate Matter <10 microns, $\mu g/m^3$ First High State	664.2	144	176.3
Estimated number of days greater than national 24-hour standard (>150 $\mu g/m^3$)	6.6	0	*
Estimated number of days greater than state standard (>50 $\mu g/m^3$)	21	26	25
Particulate Matter <2.5 microns, $\mu g/m^3$ First High	66.1	150.2	78.5
Annual average (exceedances of 12 $\mu g/m^3$ standard not reported)	12.4	*	*
Number of samples of Federal exceedances (>12 $\mu g/m^3$)	4	10	43

Note – Nitrogen Dioxide and Ozone data from Shafter monitoring station
PM10 and PM2.5 data from the Bakersfield Golden State Highway monitoring station
**Data insufficient to determine the value*
Source: California Air Resources Board, 2019, 2020, 2021 Annual Air Quality Data Summaries available at https://www.arb.ca.gov/adam/topfour/topfourdisplay.php

The Air Basin is designated an extreme ozone nonattainment area for the EPA's 2008 8-hour ozone standard of 75 ppb. The District's Governing Board approved the 2016 Plan for the 2008 8-Hour Ozone Standard on June 16, 2016. The ARB approved the attainment demonstration plan for the San Joaquin Valley on July 21, 2016, and transmitted the plan to EPA on August 24, 2016. The EPA Administrator signed the Final Rule revising the 8-hour ozone standard to 70 ppm on October 1, 2015. The new standard will require the SJVAPCD to prepare a new attainment to achieve the more stringent emission level within 20 years from the effective date of designation (EPA 2018). The SJVAPCD adopted the 2022 Plan for the 2015 8-Hour Ozone Standard in December 2022. This Plan satisfies Clean Air Act requirements and ensures attainment of the 70 parts per billion 8-hour ozone standard. The SJVAPCD adopted the 2023 Maintenance Plan and Redesignation Request for the Revoked 1-Hour Ozone Standard on June 15, 2023.

Particulate Matter Plans

The SJVAB was designated nonattainment of state and federal health-based air quality standards for PM_{10}. The Air Basin is also designated nonattainment of state and federal

standards for $PM_{2.5}$. To meet Clean Air Act requirements for the PM_{10} standard, the SJVAPCD adopted a PM_{10} Attainment Demonstration Plan (Amended 2003 PM_{10} Plan and 2006 PM_{10} Plan), which had an attainment date of 2010. The District adopted the 2007 PM_{10} Maintenance Plan in September 2007 to assure the San Joaquin Valley's continued attainment of the EPA's PM_{10} standard. The EPA designated the valley as an attainment/maintenance area for PM_{10} on September 25, 2008. Although the San Joaquin Valley has exceeded the standard since then, those days were considered exceptional events that are not considered a violation of the standard for attainment purposes.

The 2008 $PM_{2.5}$ Plan builds upon the comprehensive strategy adopted in the 2007 Ozone Plan to bring the Air Basin into attainment of the 1997 national standards for $PM_{2.5}$. The EPA has identified NO_x and SO_2 as precursors that must be addressed in air quality plans for the 1997 $PM_{2.5}$ standards. The EPA issued final approval of the 2008 $PM_{2.5}$ Plan on November 9, 2011, which became effective on January 9, 2012. The EPA also granted California's request to extend the attainment deadline for the San Joaquin Valley to April 5, 2015 and approved commitments to measures and reductions by the District and the ARB.

In December 2012, the District adopted the 2012 $PM_{2.5}$ Plan to bring the San Joaquin Valley into attainment of the EPA's 2006 24-hour $PM_{2.5}$ standard of 35 $\mu g/m^3$. The ARB approved the District's 2012 $PM_{2.5}$ Plan for the 2006 standard at a public hearing on January 24, 2013 (SJVAPCD 2012). This plan intended to bring the Valley into attainment with the standard by 2019, with the expectation that most areas will achieve attainment before that time.

The 2015 Plan for the 1997 $PM_{2.5}$ Standard approved by the District Governing Board on April 16, 2015—is intended to bring the Valley into attainment of the EPA's 1997 $PM_{2.5}$ standard no later than December 31, 2020. The plan was required to request reclassification to Serious nonattainment and to extend the attainment date from 2018 to 2020 (SJVAPCD 2015).

The 2016 Moderate Area Plan for the 2012 $PM_{2.5}$ Standard was adopted on September 15, 2016. This plan includes an attainment impracticability demonstration and request for reclassification of the Valley from Moderate nonattainment to Serious nonattainment (SJVAPCD 2017b).

The SJVAPCD adopted the 2018 Plan for the 1997, 2006, and 2012 $PM_{2.5}$ Standards on November 15, 2018. This plan demonstrates attainment of the federal $PM_{2.5}$ standards (SJVAPCD 2018a).

SJVAPCD Rules and Regulations

The following SJVAPCD rules and regulations are applicable to the project:

Rule 2201—New and Modified Stationary Source Review Rule. This requires the review of new and modified Stationary Sources of air pollution and to provide mechanisms including emission trade-offs by which Authorities to Construct such sources may be granted, without interfering with the attainment or maintenance of Ambient Air Quality Standards. Permits may be required if the project includes a diesel emergency generator.

Rule 4002—National Emissions Standards for Hazardous Air Pollutants. The purpose of the rule is to incorporate the National Emission Standards for Hazardous Air Pollutants from Part 61, Chapter I, Subchapter C, Title 40, Code of Federal Regulations and the National Emission Standards for Hazardous Air Pollutants for Source Categories from Part 63, Chapter I, Subchapter C, Title 40, Code of Federal Regulations to protect the health and safety of the public from hazardous air pollutants, such as asbestos.

Rule 4102—Nuisance. The purpose of this rule is to protect the health and safety of the public and applies to any source operation that emits or may emit air contaminants or other materials.

Rule 4601—Architectural Coatings. The purpose of this rule is to limit Volatile Organic Compounds (VOC) emissions from architectural coatings. Emissions are reduced by limits on VOC content and providing requirements on coatings storage, cleanup, and labeling. Only compliant components are available for purchase in the San Joaquin Valley.

Rule 4641—Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations. The purpose of this rule is to limit VOC emissions from asphalt paving and maintenance operations. This regulation is enforced by the asphalt provider.

Rule 4621—Gasoline Transfer into Stationary Storage Containers, Delivery Vessels, and Bulk Plants. The purpose of this rule is to limit VOC emissions from stationary storage containers. The project's fuel storage tanks will be compliant with this rule.

Rule 4622—Gasoline Transfer into Motor Vehicle Fuel Tanks. The purpose of this rule is to limit emissions of gasoline vapors from the transfer of gasoline into motor vehicle fuel tanks. The fuel pumps will utilize vapor recovery systems that will be compliant with this rule.

Regulation VIII—Fugitive PM10 Prohibitions. Rules 8011–8081 are designed to reduce PM_{10} emissions (predominantly fugitive dust) generated during construction and demolition activities, road construction, bulk materials storage, from use of paved and unpaved roads and carry-out/track-out.

Sensitive Receptors

Sensitive receptors include, but are not limited to, hospitals, schools, daycare facilities, elderly housing and convalescent facilities. These are areas where the occupants are more susceptible to the adverse effects of exposure to air pollutants. Ambient air quality standards have been established to represent the levels of air quality considered sufficient, with an adequate margin of safety, to protect public health and welfare as well that segment of the public most susceptible to respiratory distress, such as children under 14; the elderly over 65; persons engaged in strenuous work or exercise; and people with cardiovascular and chronic respiratory diseases. The project site is surrounded by vacant land, agricultural production land, light and heavy industrial uses. The closest receivers are located approximately one mile southwest of the site southwest of the intersection of Baker Road and Enos Lane and 1.5 miles north of the site at the intersection of Cherry Avenue and Burbank Street.

AIR QUALITY IMPACT ANALYSIS

Methodology and Significance Thresholds

This air quality analysis conforms to the methodologies recommended in the San Joaquin Valley Unified Air Pollution Control District Guidance for Assessing and Mitigating Air Quality Impacts (GAMAQI) March 2015. The GAMAQI includes recommended methodologies for assessing air emissions and provides thresholds for determining the significance of both construction and operation of proposed projects. All emissions were calculated using the California Emissions Estimator Model (CalEEMod) software version 2022.1.

Construction activities such as clearing, grading and excavation would generate diesel and dust emissions. Construction equipment that would generate criteria air pollutants includes excavators, graders, dump trucks, and loaders. It was assumed that all construction equipment used would be diesel-powered. Construction emissions associated with development of the proposed project by estimating the types of equipment (including the number) that would be used on-site during each of the construction phases. Construction emissions are analyzed using the regional thresholds established by the SJVAPCD and provided in the GAMAQI.

Operational emissions include mobile source emissions, energy emissions, and area source emissions. Mobile source emissions are generated by motor vehicle trips and heavy truck trips associated with operation of the project. Emissions attributed to energy use include electricity and natural gas consumption for space and water heating. Area source emissions are generated by landscape maintenance equipment, consumer products and architectural coatings (i.e., paints). To determine whether a regional air quality impact would occur, the increase in emissions would be compared with the SJVAPCD recommended regional thresholds for operational emissions.

Significance Thresholds. Based on Appendix G of the *CEQA Guidelines*, a project would have a significant air quality impact if it would:

a) *Conflict with or obstruct implementation of the applicable air quality plan;*

b) *Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?*

c) *Expose sensitive receptors to substantial pollutant concentrations; or*

d) *Result in other emissions such as those leading to odors adversely affecting a substantial number of people.*

a. Conflict with or obstruct implementation of the applicable air quality plan;

The CEQA Guidelines state that a significant impact would occur if the project would conflict with or obstruct implementation of the applicable air quality plan. As stated in the GAMAQI,

project emissions that do not exceed SJVAPCD emission thresholds would not conflict with or obstruct the applicable air quality plan (AQP). Additional criteria are focused on whether the project is consistent with current zoning and General Plan land use designations and whether control measures designed to minimize air emissions are implemented. The criteria are summarized below. Thus, the following evaluation proposes the following criteria for determining project consistency with the current AQPs:

1. *Will the project result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the AQPs?*

This measure is determined by comparison to the regional and localized thresholds identified by the SJVAPCD for Regional and Local Air Pollutants.

2. *Will the project comply with applicable control measures in the AQPs?*

The primary control measures applicable to development projects is Regulation VIII—Fugitive PM_{10} Prohibitions and Rule 9510 Indirect Source Review.

Criterion 1 - Contribution to Air Quality Violations
Regional air quality impacts and attainment of the state and federal air quality standards result from cumulative impacts of all emission sources within the air basin. Individual projects are generally not large enough to contribute measurably to an existing violation of air quality standards. Because the region is nonattainment for $PM_{2.5}$, PM_{10} and ozone, projects that generate ozone precursor pollutants (ROG and NO_X), PM_{10}, or $PM_{2.5}$ in excess of the SJVAPCD screening thresholds may contribute to violations of the applicable standards and conflict with the attainment plans. As discussed, emissions of ROG, NO_X, PM_{10}, and $PM_{2.5}$ associated with the construction and operation of the project would not exceed the screening thresholds nor would it cause a CO hotspot or otherwise violate CO standards. Therefore, the project would not contribute to air quality violations.

Criterion 2 - Compliance with Applicable Control Measures
The AQMP contains control measures, which are enforceable requirements through the adoption of rules and regulations. A description of rules and regulations that apply to this project is provided below.

Regulation VIII—Fugitive PM_{10} Prohibitions focuses on controlling fugitive dust emissions during construction activities. Projects over 10 acres are required to file a Dust Control Plan (DCP) containing dust control practices sufficient to comply with Regulation VIII. As stated, the project would comply with dust control requirements provided as part of Regulation VIII and prepare a Dust Control Plan.

Rule 2201—New and Modified Stationary Source Review Rule. The review of new and modified Stationary Sources of air pollution and to provide mechanisms including emission

trade-offs by which Authorities to Construct such sources may be granted, without interfering with the attainment or maintenance of Ambient Air Quality Standards. Permits are required for gasoline storage and fueling operations. The restaurant may require permits per SJVAPCD Rule 4692 depending on the type of grills used.

Rule 4102—Nuisance. The purpose of this rule is to protect the health and safety of the public and applies to any source operation that emits or may emit air contaminants or other materials. Agricultural activities are exempt from the nuisance rule.

Rule 4621—Gasoline Transfer into Stationary Storage Containers, Delivery Vessels, and Bulk Plants. The purpose of this rule is to limit VOC emissions from stationary storage containers. The fuel storage tanks would be required to comply with this rule.

The project would not generate daily emissions in excess of the daily screening thresholds. Secondly, the project would be compliant with applicable SJVAPCD rules and regulations. Further, the project would be compliant with existing zoning and General Plan land use designations for the site. Therefore, the project complies with this criterion and would not conflict with or obstruct implementation of applicable air quality attainment plans per threshold (a).

b. ***Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?***

The SJVAPCD has developed specific quantitative thresholds that apply to projects within the San Joaquin Valley Air Basin. As stated in Section 8.4.2 of the GAMAQI, impacts to air quality result from emissions generated during short-term activities (construction) and long-term activities (operations). Construction-related emissions consist mainly of exhaust emissions (NOx and PM) from construction equipment and other mobile sources, and fugitive dust emissions from earth moving activities. Operational emissions are source specific and consist of permitted equipment and activities and non-permitted equipment and activities.

The following significance thresholds apply to short-term construction activities and long-term operational emissions. Project emissions that are less than the thresholds would be less than significant for the purpose of CEQA review:

- *10 tons per year of ROG*
- *10 tons per year of NOx*
- *100 tons per year of CO*
- *27 tons per year of SOx*
- *15 tons per year of PM_{10}*
- *15 tons per year of $PM_{2.5}$*

When assessing the significance of project-related impacts on air quality, impacts are considered potentially significant when on-site emission increases from construction activities or operational activities exceed the 100 pounds per day screening level of any criteria pollutant after implementation of all enforceable mitigation measures. Under such circumstance, SJVAPCD recommends that an ambient air quality analysis be performed.

Construction Emissions

Project construction would generate temporary air pollutant emissions. These impacts are associated with fugitive dust (PM_{10} and $PM_{2.5}$) and exhaust emissions from heavy construction vehicles, work crew vehicle trips in addition to ROG that would be released during the drying phase upon application of paint and other architectural coatings. Construction would generally consist of demolition, site preparation, grading, construction of the proposed buildings, paving, and architectural coating (i.e., paint) application.

This analysis assumes that graded/excavated soils would be balanced on the project site and that no soil import or export would be required. The project would be required to comply with SJVAPCD Regulation VIII which identifies measures to reduce fugitive dust from ground disturbing activities and emissions associated with heavy equipment operation.

Regulation VIII—Fugitive PM_{10} Prohibitions. Regulation VIII is one of the primary strategies from the 2006 PM10 Plan for reducing the PM10 emissions that are part of fugitive dust. Projects over 10 acres are required to file a Dust Control Plan (DCP) containing dust control practices sufficient to comply with Regulation VIII, Section 5.2, Table 8021-1 (see Table 3 below). Because the site is over 10 acres in size, a Dust Control Plan would be required per Regulation VIII, Section 6.3.

Table 3
Control Measure Options for Construction, Excavation, Extraction and Other Earthmoving Activities

A. Pre-Activity	A1 Pre-water site sufficient to limit VDE to 20% opacity, and A2 Phase work to reduce the amount of disturbed surface area at any one time.
B. During Active Operations:	B1 Apply water or chemical/organic stabilizers/suppressants sufficient to limit VDE to 20% opacity; or B2 Construct and maintain wind barriers sufficient to limit VDE to 20% opacity. If utilizing wind barriers, control measure B1 above shall also be implemented. B3 Apply water or chemical/organic stabilizers/suppressants to unpaved haul/access roads and unpaved vehicle/equipment traffic areas sufficient to limit VDE to 20% opacity and meet the conditions of a stabilized unpaved road surface.
C. Temporary Stabilization During Period of Inactivity	C1 Restrict vehicular access to the area; and C2 Apply water or chemical/organic stabilizers/suppressants, sufficient to comply with the conditions of a stabilized surface. If an area having 0.5 acres or more of disturbed surface area remains unused for seven or

	more days, the area must comply with the conditions for a stabilized surface area as defined in section 3.58 of Rule 8011.

In addition to those requirements shown above, the following sections would also apply to the project:

Regulation VIII, Section 5.3: Speed Limitations and Posting of Speed Limit Signs on Uncontrolled Unpaved Access/Haul Roads on Construction Sites

Subsection 5.3.1. An owner/operator shall limit the speed of vehicles traveling on uncontrolled unpaved access/haul roads within construction sites to a maximum of 15 miles per hour.

Subsection 5.3.2. An owner/operator shall post speed limit signs that meet State and Federal Department of Transportation standards at each uncontrolled unpaved access/haul road entrance. At a minimum, speed limit signs shall also be posted at least every 500 feet and shall be readable in both directions of travel along uncontrolled unpaved access/haul roads.

Regulation VIII, Section 5.4: Wind Generated Fugitive Dust Requirements

Subsection 5.4.1. Cease outdoor construction, excavation, extraction, and other earthmoving activities that disturb the soil whenever VDE exceeds 20% opacity. Indoor activities such as electrical, plumbing, dry wall installation, painting, and any other activity that does not cause any disturbances to the soil are not subject to this requirement.

Subsection 5.4.2. Continue operation of water trucks/devices when outdoor construction excavation, extraction, and other earthmoving activities cease, unless unsafe to do so. Construction emissions modeling for site preparation, grading, building construction, paving, and architectural coating application is based on the overall scope of the proposed development and construction phasing which is expected to begin mid-2024 and extend through late 2025. For modeling purposes, it was assumed the site would be watered two times daily and idling time for construction equipment would be limited to 5 minutes. In addition to Regulation VIII requirements, emissions modeling also assumed compliance with Rule 4601 – Architectural Coatings. The rule requires flat paints to meet a standard of 50 grams per liter (g/L) and gloss paints 100 g/L by 2012 for an average rate of 65 g/L. Most of the coatings used for non-residential painting are flat paints; thus, 50 g/L for the building and 100 g/L for asphalt coatings was assumed for modeling purposes. Table 4 summarizes the estimated maximum mitigated daily emissions of pollutants occurring during construction.

Table 4
Estimated Maximum Mitigated Daily Construction Emissions

Construction Phase		Maximum Emissions (lbs/day)				
	ROG	NO_x	CO	SOx	PM_{10}	$PM_{2.5}$
2025 lbs/day	3.4	31.7	31.4	0.04	6.6	3.9
2026 lbs/day	15.3	11.7	18.8	0.03	1.3	0.6
SJVAPCD Regional Thresholds	*100*	*100*	*100*	*100*	*100*	*100*
Threshold Exceeded	**No**	**No**	**No**	**No**	**No**	**No**

As shown in Table 4, construction of the proposed project would not exceed the SJVAPCD screening threshold. No mitigation in addition to compliance with SJVAPCD Regulation VIII and Rule 4601 would be required to reduce construction emissions to less than significant.

Construction-Related Toxic Air Contaminant Impacts

The greatest potential for toxic air contaminant emissions would be related to diesel particulate emissions associated with heavy equipment operations during construction of the proposed project. Health effects from carcinogenic air toxics are usually described in terms of "individual cancer risk". The California Office of Environmental Health Hazard Assessment (OEHHA) health risk guidance states that a residential receptor should be evaluated based on a 30-year exposure period. "Individual Cancer Risk" is the likelihood that a person exposed to concentrations of toxic air contaminants over a 70-year lifetime will contract cancer, based on the use of standard risk-assessment methodology. Given the short-term construction schedule, the proposed project would not result in a long-term (i.e., 30 or 70 year) exposure to a substantial source of toxic air contaminant emissions; and thus, would not be exposed to the related individual cancer risk. Further, per the GAMAQI, SJVAPCD recommends that an ambient air quality analysis be performed only when the increase in on-site emissions from construction activities exceeds the 100 pounds per day screening level for any criteria pollutant, after implementation of all enforceable mitigation measures. As shown in Table 4 above, construction emissions would not exceed 100 pounds per day. Therefore, no significant short-term toxic air contaminant impacts would occur during construction of the proposed project.

Construction-Related Odor Impacts

Potential sources of odor during construction activities include equipment exhaust and activities such as paving. The objectionable odors that may be produced during the construction process would occur periodically and end when construction is completed. No significant impact related to odors would occur during construction of the proposed project per threshold (e) referenced above.

Operational Impacts

Regional Pollutant Emissions

An analysis of maximum daily emissions during operation was conducted to determine if emissions would exceed 100 pounds per day for any pollutant of concern. The maximum daily operational emissions would occur at project buildout. The built-out project was modeled for 2025, which is the estimated year of first occupancy. Table 5 summarizes emissions associated with operation of the proposed project. Operational emissions include emissions from electricity consumption (energy sources), vehicle trips (mobile sources), and area sources including landscape equipment and architectural coating emissions as the structures are repainted over the life of the project.

The majority of operational emissions are associated with passenger vehicle and heavy truck trips to and from the project site. Trip volumes were based on trip generation factors for a warehouse use. Multiple model runs were performed to quantify mobile emissions associated with passenger vehicles and operation of the proposed warehouses. A separate modeling run calculated mobile emissions generated by heavy trucks. The combined emissions reflect the total mobile emissions. Emissions sources addressed are summarized as follows:

Motor Vehicle Emissions. The vehicle fleet mix is defined as the mix of motor vehicle classes active during operation of the project. Emission factors are assigned to the expected vehicle mix as a function of vehicle class, speed, and fuel use (gasoline and diesel-powered vehicles). Project trip generation rates were obtained from LAV//Pinnacle Engineering (August 2023). CalEEMod 2022.1 default values for passenger car trip length and trip type were used. For heavy truck emissions, 71% of the fleet were assumed to be heavy duty (HHD) trucks. The remaining 29% were distributed across the remaining heavy truck fleet classes. The default heavy truck trip length was increased to 50 miles each way.

Architectural Coatings (Painting). Paints release VOC emissions during application and drying. The buildings in the project would be repainted on occasion. The project is required to comply with the SJVAPCD Rule 4601—Architectural Coatings. The rule required flat paints to meet a standard of 50 grams per liter (g/l) and gloss paints 100 g/l by 2012 for an average rate of 65 g/l. Most of the coatings used for non-residential painting are flat paints; thus, 50 g/L was assumed for modeling purposes.

Consumer Products. Consumer products are various solvents used in non-industrial applications, which emit VOCs during use. Consumer Products are generally defined as detergents; cleaning compounds; polishes; floor finishes; cosmetics; personal care products; home, lawn, and garden products; disinfectants; sanitizers; aerosol paints; and automotive specialty products. The default emission factor developed for CalEEMod was used.

Landscape Equipment. This category assumes use of equipment including lawnmowers/trimmers, blowers and related maintenance equipment. Default emission rates developed for CalEEMod were used for modeling purposes.

Electricity. Electricity used by the project (for lighting, etc.) would result in emissions from the power plants that would generate electricity distributed on the electrical power grid. Electricity

emissions estimates are only used in the GHG analysis. CalEEMod was used to estimate these emissions from the project.

Natural Gas. The project would generate emissions from the combustion of natural gas for water heaters, heat, etc. CalEEMod has two categories for natural gas consumption - Title 24 and non-Title 24. CalEEMod defaults were used.

Water and Wastewater. GHG emissions are emitted from the use of electricity to pump water to the project and to treat wastewater. CalEEMod defaults were used.

Solid Waste. GHG emissions would be generated from the decomposition of solid waste generated by the project. CalEEMod was used to estimate the GHG emissions from this source.

As shown in Table 5, the net change in emissions would not exceed the 100-pound daily SJVAPCD screening threshold nor would emissions exceed the annual tons/year threshold for ROG, NOx, CO, SOx, PM_{10} and $PM_{2.5}$. Therefore, the project's regional air quality impacts (including impacts related to criteria pollutants, sensitive receptors and violations of air quality standards) would be less than significant per threshold b. Further, the project would not contribute to a cumulatively considerable impact. Impacts relative to threshold (b) would be less than significant.

c. ***Expose sensitive receptors to substantial pollutant concentrations;***

Carbon Monoxide Hotspot Evaluation

Localized high levels of CO are associated with traffic congestion and idling or slow-moving vehicles. The SJVAPCD provides screening criteria to determine when to quantify local CO concentrations based on impacts to the level of service (LOS) of intersections in the project vicinity. Advances in emission controls have resulted in attainment of the CO standard throughout California. Recent CO hotspot modeling found that only extremely high traffic volumes could result in a CO hotspot. Traffic volumes at intersections exceeding 44,000 vehicles per hour have been used as a screening criterion to determine if additional modeling should be conducted. Based on Kern County March 2023 traffic count data, Annual Average Daily Traffic (AADT) on Cherry Avenue which abuts the site to the east, between 7th Standard Road to the south and Coberly Road adjacent to and north of the site, is 607 vehicles. No data for Coberly Road is available; however, based on the Cherry Avenue AADT and the fact that peak hour traffic is approximately 10% of the AADT, it is reasonable to assume that total volumes at the Coberly Road/Cherry Avenue intersection is less than the 44,000 vehicle per hour screening threshold. The addition of project traffic (approximately 954 daily trips [706 vehicle trips and 248 truck trips]) to baseline volumes would not exceed 44,000 peak hour volumes. No CO hotspots are anticipated. Impacts associated with threshold (c) would be less than significant.

Table 5
Estimated Operational Emissions

	Estimated Emissions (lbs/day)					
	ROG	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Proposed Project						
Area	3.8	0.04	9.3	0.02	0.01	0.008
Energy	0.01	0.18	0.15	0.001	0.01	0.01
Mobile	0.56	0.45	5.6	0.02	2.4	0.6
Mobile – Heavy Truck	0.27	10.5	4.7	0.10	3.5	1.1
Maximum lbs/day	**4.64**	**11.2**	**19.8**	**0.141**	**5.9**	**1.7**
SJVAPCD Daily Thresholds	**100**	**100**	**100**	**100**	**100**	**100**
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**
Maximum Tons/Year	**0.8**	**2.0**	**3.6**	**0.3**	**1.1**	**0.3**
SJVAPCD Threshold	**10**	**10**	**100**	**27**	**15**	**15**
Threshold Exceeded	**No**	**No**	**No**	**No**	**No**	**No**

See Appendix for CalEEMod version. 2022.1 computer model outputt. Summer emissions shown.

d. Result in other emissions such as those leading to odors adversely affecting a substantial number of people.

The State of California Health and Safety Code, Division 26, Part 4, Chapter 3, Section 41700, SJVAPCD Regulation VIII and Rule 4102 prohibits emissions from any source whatsoever in such quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to the public health or damage to property. Projects required to obtain permits from SJVAPCD are evaluated by staff for potential odor nuisance, and conditions may be applied (or control equipment required) where necessary to prevent occurrence of public nuisance.

Rule 4102—Nuisance, is intended to protect the health and safety of the public and applies to any source operation that emits or may emit air contaminants or other materials. Agricultural activities are exempt from the nuisance rule. A project that involves a use that would produce objectionable odors would be deemed to have a significant odor impact if it would affect a considerable number of off-site receptors. Odor issues are very subjective by the nature of odors themselves and because measurements are difficult to quantify. As a result, this guideline is qualitative and focuses on the existing and potential surrounding uses and location of sensitive receptors.

The occurrence and severity of potential odor impacts depends on numerous factors. The nature, frequency, and intensity of the source; the wind speeds and direction; and the sensitivity of receiving location each contribute to the intensity of the impact. Although offensive odors seldom cause physical harm, they can be annoying and cause distress among the public and

generate citizen complaints. Odors would be potentially generated from vehicles and equipment exhaust emissions during construction of the project. Potential odors produced during construction would be attributable to exhaust emissions, architectural coatings, and asphalt pavement application. Such odors would disperse rapidly from the project site and generally occur at magnitudes that would not affect substantial numbers of people. Therefore, impacts associated with other emissions (such as those leading to odors) adversely affecting a substantial number of people during construction would be less than significant.

Land uses and industrial operations that are associated with odor complaints include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding facilities. The project would construct and operate a new warehouse with related infrastructure improvements. These uses are not associated with emissions (such as those leading to odors) adversely affecting a substantial number of people that could rise to the level of significance. Therefore, impacts would be **less than significant** per threshold (d).

GREENHOUSE GAS EMISSION DISCUSSION

Gases that absorb and re-emit infrared radiation in the atmosphere are called greenhouse gases (GHGs). GHGs are present in the atmosphere naturally, are released by natural sources, or are formed from secondary reactions taking place in the atmosphere. The gases that are widely seen as the principal contributors to human-induced climate change include carbon dioxide (CO_2), methane (CH_4), nitrous oxides (N_2O), fluorinated gases such as hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Water vapor is excluded from the list of GHGs because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation.

GHGs are emitted by both natural processes and human activities. Of these gases, CO_2 and CH_4 are emitted in the greatest quantities from human activities. Emissions of CO_2 are largely by-products of fossil fuel combustion, whereas CH_4 results from off-gassing associated with agricultural practices and landfills. Man-made GHGs, many of which have greater heat-absorption potential than CO_2, include fluorinated gases and sulfur hexafluoride (SF_6) (California Environmental Protection Agency [CalEPA], 2006). Different types of GHGs have varying global warming potentials (GWPs). The GWP of a GHG is the potential of a gas or aerosol to trap heat in the atmosphere over a specified timescale (generally, 100 years). Because GHGs absorb different amounts of heat, a common reference gas (CO_2) is used to relate the amount of heat absorbed to the amount of the gas emissions, referred to as "carbon dioxide equivalent" (CO_2E), and is the amount of a GHG emitted multiplied by its GWP. Carbon dioxide has a GWP of one. By contrast, methane (CH_4) has a GWP of 28, meaning its global warming effect is 28 times greater than carbon dioxide on a molecule per molecule basis (IPCC, 2014).

The largest source of GHG in California is transportation, contributing 40 percent of the state's total GHG emissions. The industrial sector is the second largest source, contributing 15 percent of the state's GHG emissions. Residential and commercial sources contribute approximately 10

percent of the State's GHG emissions. California emissions result in part to its geographic size and large population compared to other states. However, a factor that reduces California's per capita fuel use and GHG emissions, as compared to other states, is its relatively mild climate. In July 2017, California's state legislature passed Assembly Bill (AB) 398 to reauthorize and extend until 2030 the state's economy-wide greenhouse gas (GHG) reduction program. California has established a goal to achieve carbon neutrality by 2045 or earlier.

California Regulations

In 2005, former Governor Schwarzenegger issued Executive Order (EO) S-3-05, establishing statewide GHG emissions reduction targets. EO S-3-05 states that by 2020, emissions shall be reduced to 1990 levels; and by 2050, emissions shall be reduced to 80 percent of 1990 levels (CalEPA, 2006). In response to EO S-3-05, CalEPA created the Climate Action Team (CAT), which in March 2006 published the Climate Action Team Report (the "2006 CAT Report") (CalEPA, 2006). The 2006 CAT Report recommended various strategies that the state could pursue to reduce GHG emissions. These strategies could be implemented by various state agencies to ensure that the emission reduction targets in EO S-3-05 are met and can be met with existing authority of the state agencies. The strategies include the reduction of passenger and light duty truck emissions, the reduction of idling times for diesel trucks, an overhaul of shipping technology/infrastructure, increased use of alternative fuels, increased recycling, and landfill methane capture.

Assembly Bill 32 and CARB's Scoping Plan

To further the goals established in EO S-3-05, the Legislature passed Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006. AB 32 requires California to reduce its GHG emissions to 1990 levels by 2020. Under AB 32, CARB is responsible for and is recognized as having the expertise to carry out and develop the programs and requirements necessary to achieve the GHG emissions reduction mandate of AB 32. Under AB 32, CARB must adopt regulations requiring the reporting and verification of statewide GHG emissions from specified sources. This program is used to monitor and enforce compliance with established standards. CARB also is required to adopt rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emission reductions. AB 32 authorized CARB to adopt market-based compliance mechanisms to meet the specified requirements. Finally, CARB is ultimately responsible for monitoring compliance and enforcing any rule, regulation, order, emission limitation, emission reduction measure, or market-based compliance mechanism adopted. In 2007, CARB approved a limit on the statewide GHG emissions level for year 2020 consistent with the determined 1990 baseline (427 MMT CO_2E). CARB's adoption of this limit is in accordance with Health and Safety Code, Section 38550.

Further, in 2008, CARB adopted the Scoping Plan in accordance with Health and Safety Code, Section 38561. The Scoping Plan establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions for various emission sources/sectors to 1990 levels by 2020. The Scoping Plan evaluates opportunities for sector-specific reductions, integrates all CARB and Climate Action Team early actions and additional GHG reduction

features by both entities, identifies additional measures to be pursued as regulations, and outlines the role of a cap-and-trade program. The key elements of the Scoping Plan include the following (CARB 2008):

1. Expanding and strengthening existing energy efficiency programs, as well as building and appliance standards;
2. Achieving a statewide renewable energy mix of 33%;
3. Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system and caps sources contributing 85% of California's GHG emissions;
2. Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets;
3. 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
4. Creating targeted fees, including a public goods charge on water use, fees on high GWP gases, and a fee to fund the administrative costs of the State of California's long-term commitment to AB 32 implementation.

In the Scoping Plan (CARB 2008), CARB determined that achieving the 1990 emissions level in 2020 would require a reduction in GHG emissions of approximately 28.5% from the otherwise projected 2020 emissions level (i.e., those emissions that would occur in 2020) absent GHG reducing laws and regulations (referred to as Business-As-Usual (BAU)). To calculate this percentage reduction, CARB assumed that all new electricity generation would be supplied by natural gas plants, no further regulatory action would impact vehicle fuel efficiency, and building energy efficiency codes would be held at 2005 standards.

In the 2011 Final Supplement to the AB 32 Scoping Plan Functional Equivalent Document (CARB 2011a), CARB revised its estimates of the projected 2020 emissions level in light of the economic recession and the availability of updated information about GHG reduction regulations. Based on the new economic data, CARB determined that achieving the 1990 emissions level by 2020 would require a reduction in GHG emissions of 21.7% (down from 28.5%) from the BAU conditions. When the 2020 emissions level projection was updated to account for newly implemented regulatory measures, including Pavley I (model years 2009–2016) and the Renewables Portfolio Standard (RPS) (12% to 20%), CARB determined that achieving the 1990 emissions level in 2020 would require a reduction in GHG emissions of 16% (down from 28.5%) from the BAU conditions.

In 2014, CARB adopted the First Update to the Climate Change Scoping Plan: Building on the Framework (First Update; CARB 2014). The stated purpose of the First Update is to "highlight California's success to date in reducing its GHG emissions and lay the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80% below 1990 levels by 2050" (CARB 2014). The First Update found that California is on track to meet the 2020 emissions reduction mandate established by AB 32 and noted that California

could reduce emissions further by 2030 to levels needed to stay on track to reduce emissions to 80% below 1990 levels by 2050 if the state realizes the expected benefits of existing policy goals.

In conjunction with the First Update, CARB identified "six key focus areas comprising major components of the state's economy to evaluate and describe the larger transformative actions that will be needed to meet the state's more expansive emission reduction needs by 2050" (CARB 2014). Those six areas are (1) energy, (2) transportation (vehicles/equipment, sustainable communities, housing, fuels, and infrastructure), (3) agriculture, (4) water, (5) waste management, and (6) natural and working lands. The First Update identifies key recommended actions for each sector that will facilitate achievement of EO S-3-05's 2050 reduction goal (CARB 2014).

Based on CARB's research efforts presented in the First Update, it has a "strong sense of the mix of technologies needed to reduce emissions through 2050" (CARB 2014). Those technologies include energy demand reduction through efficiency and activity changes; large-scale electrification of on-road vehicles, buildings, and industrial machinery; decarbonizing electricity and fuel supplies; and the rapid market penetration of efficient and clean energy technologies. As part of the First Update, CARB recalculated the state's 1990 emissions level using more recent GWPs identified by the IPCC. Using the recalculated 1990 emissions level (431 MMT CO_2E) and the revised 2020-emissions-level projection identified in the 2011 Final Supplement, CARB determined that achieving the 1990 emissions level by 2020 would require a reduction in GHG emissions of approximately 15% (instead of 28.5% or 16%) from the BAU conditions (CARB 2014).

In January 2017, CARB released, *The 2017 Climate Change Scoping Plan Update* (Second Update; CARB 2017b), for public review and comment. This update proposes CARB's strategy for achieving the state's 2030 GHG target as established in Senate Bill (SB) 32 (discussed below), including continuing the Cap-and-Trade Program through 2030, and includes a new approach to reduce GHGs from refineries by 20%. The Second Update incorporates approaches to cutting short-lived climate pollutants (SLCPs) under the Short-Lived Climate Pollutant Reduction Strategy (a planning document that was adopted by CARB in March 2017), acknowledges the need for reducing emissions in agriculture, and highlights the work underway to ensure that California's natural and working lands increasingly sequester carbon. During development of the Second Update, CARB held a number of public workshops in the Natural and Working Lands, Agriculture, Energy, and Transportation sectors to inform development of the 2030 Scoping Plan Update (CARB 2016). The Second Update has not been considered by CARB's Governing Board at the time this analysis was prepared.

Executive Order S-01-07 was enacted on January 18, 2007. The order mandates that a Low Carbon Fuel Standard ("LCFS") for transportation fuels be established for California to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020.

Adopted December 15, 2022, CARB's 2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan) sets a path to achieve targets for carbon neutrality and reduce anthropogenic

GHG emissions by 85 percent below 1990 levels by 2045 in accordance with AB 1279. To achieve the targets of AB 1279, the 2022 Scoping Plan relies on existing and emerging fossil fuel alternatives and clean technologies, as well as carbon capture and storage. Specifically, the 2022 Scoping Plan focuses on zero-emission transportation; phasing out use of fossil gas use for heating homes and buildings; reducing chemical and refrigerants with high GWP; providing communities with sustainable options for walking, biking, and public transit; displacement of fossil-fuel fired electrical generation through use of renewable energy alternatives (e.g., solar arrays and wind turbines); and scaling up new options such as green hydrogen. Unlike the 2017 Scoping Plan, CARB no longer includes a numeric per capita threshold and instead advocates for compliance with a local GHG reduction strategy (i.e., Climate Action Plan) consistent with CEQA Guidelines Section 15183.5.

The key elements of the 2022 CARB Scoping Plan focus on transportation. Specifically, the 2022 Scoping Plan intends to rapidly move towards zero-emission transportation (i.e., electrifying cars, buses, trains, and trucks), which constitutes California's single largest source of GHGs. The regulations that impact the transportation sector are adopted and enforced by CARB on vehicle manufacturers and are outside the jurisdiction and control of local governments. The 2022 Scoping Plan accelerates development of new regulations as well as amendments to strengthen regulations and programs already in place. Included in the 2022 Scoping Plan is a set of Local Actions (2022 Scoping Plan Appendix D) focused on providing local jurisdictions with tools to reduce GHGs and assist the state in meeting the targets set forth in the 2022 Scoping Plan. The 2022 Scoping Plan also includes a section on evaluating plan-level and project-level alignment with the State's Climate Goals in CEQA GHG analyses. In this section, CARB identifies several recommendations and strategies that should be considered for new residential and mixed-use development to determine consistency with the 2022 Scoping Plan. These approaches are recommendations only and are not requirements. They do not supplant lead agencies' discretion to develop their own evidence-based approaches for determining whether a project would have a potentially significant impact on GHG emissions.

Other regulations affecting state and local GHG planning and policy development are summarized as follows:

Assembly Bill 939 and Senate Bill 1374

Assembly Bill 939 (AB 939) requires that each jurisdiction in California to divert at least 50 percent of its waste away from landfills, whether through waste reduction, recycling or other means. Senate Bill 1374 (SB 1374) requires the California Integrated Waste Management Board to adopt a model ordinance by March 1, 2004 suitable for adoption by any local agency to require 50 to 75 percent diversion of construction and demolition of waste materials from landfills.

Senate Bill 1368

Senate Bill 1368 (SB 1368) is the companion Bill of AB 32 and was adopted September, 2006. SB 1368 required the California Public Utilities Commission (CPUC) to establish a performance standard for baseload generation of GHG emissions by investor-owned utilities by February 1,

2007 and for local publicly owned utilities by June 30, 2007. These standards could not exceed the GHG emissions rate from a baseload combined-cycle, natural gas-fired plant. Furthermore, the legislation states that all electricity provided to the State, including imported electricity, must be generated by plants that meet the standards set by California Public Utilities Commission (CPUC) and California Energy Commission (CEC).

Senate Bill 97

Senate Bill 97 (SB 97) was adopted August 2007 and acknowledges that climate change is an environmental issue that requires analysis under CEQA. SB 97 directed the Governor's Office of Planning and Research (OPR), which is part of the State Natural Resources Agency, to prepare, develop, and transmit to CARB guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions, as required by CEQA, by July 1, 2009. The Natural Resources Agency was required to certify and adopt those guidelines by January 1, 2010. Pursuant to the requirements of SB 97 as stated above, on December 30, 2009 the Natural Resources Agency adopted amendments to the state CEQA guidelines that address GHG emissions. The CEQA Guidelines Amendments changed sections of the CEQA Guidelines and incorporated GHG language throughout the Guidelines. However, no GHG emissions thresholds of significance were provided and no specific mitigation measures were identified. The GHG emission reduction amendments went into effect on March 18, 2010 and are summarized below:

1. Climate action plans and other greenhouse gas reduction plans can be used to determine whether a project has significant impacts, based upon its compliance with the plan.

2. Local governments are encouraged to quantify the greenhouse gas emissions of proposed projects, noting that they have the freedom to select the models and methodologies that best meet their needs and circumstances. The section also recommends consideration of several qualitative factors that may be used in the determination of significance, such as the extent to which the given project complies with state, regional, or local GHG reduction plans and policies. OPR does not set or dictate specific thresholds of significance. Consistent with existing CEQA Guidelines, OPR encourages local governments to develop and publish their own thresholds of significance for GHG impacts assessment.

3. When creating their own thresholds of significance, local governments may consider the thresholds of significance adopted or recommended by other public agencies, or recommended by experts.

4. New amendments include guidelines for determining methods to mitigate the effects of greenhouse gas emissions in Appendix F of the CEQA Guidelines.

5. OPR is clear to state that "to qualify as mitigation, specific measures from an existing plan must be identified and incorporated into the project; general compliance with a plan, by itself, is not mitigation."

6. OPR's emphasizes the advantages of analyzing GHG impacts on an institutional, programmatic level. OPR therefore approves tiering of environmental analyses and highlights some benefits of such an approach.

7. Environmental impact reports (EIRs) must specifically consider a project's energy use and energy efficiency potential.

Senate Bills 1078, 107, and X1-2 and Executive Orders S-14-08 and S-21-09
Senate Bill 1078 (SB 1078) requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. Senate Bill 107 (SB 107) changed the target date to 2010. Executive Order S-14-08 was signed on November 2008 and expands the State's Renewable Energy Standard to 33 percent renewable energy by 2020. Executive Order S-21-09 directed CARB to adopt regulations by July 31, 2010 to enforce S-14-08. Senate Bill X1-2 codifies the 33 percent renewable energy requirement by 2020.

California Code of Regulations (CCR) Title 24, Part 6
CCR Title 24, Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings (Title 24) were first established 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 efficiency technologies and methods. Although it was not originally intended to reduce GHG emissions, electricity production by fossil fuels results in GHG emissions and energy efficient buildings require less electricity. Therefore, increased energy efficiency results in decreased GHG emissions.

The Energy Commission adopted 2008 Standards on April 23, 2008 and Building Standards Commission approved them for publication on September 11, 2008. These updates became effective on August 1, 2009. All buildings for which an application for a building permit is submitted on or after July 1, 2014 must follow the 2013 standards. The 2013 commercial standards are estimated to be 30 percent more efficient than the 2008 standards; 2013 residential standards are at least 25 percent more efficient. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases greenhouse gas emissions.

Senate Bill 375
Senate Bill 375 (SB 375) was adopted in September 2008 and aligns regional transportation planning efforts, regional GHG emission reduction targets, and land use and housing allocation. SB 375 requires Metropolitan Planning Organizations (MPO) to adopt a sustainable communities strategy (SCS) or alternate planning strategy (APS) that will prescribe land use allocation in that MPOs Regional Transportation Plan (RTP). CARB, in consultation with each MPO, will provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. These reduction targets will be updated every eight years but can be updated every four years if advancements in emissions

technologies affect the reduction strategies to achieve the targets. CARB is also charged with reviewing each MPO's sustainable community's strategy or alternate planning strategy for consistency with its assigned targets.

The proposed project is located within the Southern California Association of Governments (SCAG) jurisdiction, which has authority to develop the SCS or APS. For the SCAG region, beginning October 2018, the targets set by CARB are at eight percent below 2005 per capita GHG emissions levels by 2020 and 19 percent below 2005 per capita GHG emissions levels by 2035. On September 3, 2020, SCAG adopted the 2020-2045 Regional Transportation Plan / Sustainable Communities Strategy (RTP/SCS), Connect SoCal. which meets the CARB emission reduction requirements. The Housing Element Update is required by the State to be completed within 18 months after RTP/SCS adoption. The Riverside County Housing Element 2021-2029 (6th Cycle) is being prepared and will include housing-related goals, policies, and programs to address the existing and projected future housing needs of the unincorporated County.

City and County land use policies, including General Plans, are not required to be consistent with the RTP and associated SCS or APS. However, CEQA incentivizes, through streamlining and other provisions, qualified projects that are consistent with an approved SCS or APS and categorized as "transit priority projects."

Senate Bill X7-7

Senate Bill X7-7 (SB X7-7), enacted on November 9, 2009, mandates water conservation targets and efficiency improvements for urban and agricultural water suppliers. SB X7-7 requires the Department of Water Resources (DWR) to develop a task force and technical panel to develop alternative best management practices for the water sector. Additionally, SB X7-7 required the DWR to develop criteria for baseline uses for residential, commercial, and industrial uses for both indoor and landscaped area uses. The DWR was also required to develop targets and regulations that achieve a statewide 20 percent reduction in water usage.

Title 24 Building Energy Efficiency Standards

California's Energy Efficiency Standards for Residential and Nonresidential Buildings (CCR Title 24, Part 6) 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. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases GHG emissions. On August 11, 2021, the CEC adopted the 2022 Energy Code. In December 2021, it was approved by the California Building Standards Commission for inclusion into the California Building Standards Code. Among other updates like strengthened ventilation standards for gas cooking appliances, the 2022 Energy Code includes updated standards such as new electric heat pump requirements for residential uses, schools, offices, banks, libraries, retail, and grocery stores; the promotion of electric-ready requirements for new homes including the addition of circuitry for electric appliances, battery storage panels and dedicated infrastructure to allow for the conversion from natural gas to electricity; and the expansion of solar photovoltaic and battery storage standards to additional

land uses including high-rise multi-family residences, hotels and motels, tenant spaces, offices (including medical offices and clinics), retail and grocery stores, restaurants, schools, and civic uses (including theaters auditoriums, and convention centers). Newly constructed commercial buildings would also be required to have a solar photovoltaic (PV) array and an energy storage system (ESS) installed. Projects whose permit applications are applied for on or after January 1, 2023, must comply with the 2022 Energy Code.

Title 24 California Green Building Standards Code

The California Green Building Standards Code (CCR Title 24, Part 11 code) commonly referred to as the CALGreen Code, is a statewide mandatory construction code developed and adopted by the California Building Standards Commission and the Department of Housing and Community Development. The CALGreen standards require new residential and commercial buildings to comply with mandatory measures under the topics of planning and design, energy efficiency, water efficiency/conservation, material conservation and resource efficiency, and environmental quality. CALGreen also provides voluntary tiers and measures that local governments may adopt that encourage or require additional measures in the five green building topics: planning and design; energy efficiency; water efficiency and conservation; material conservation and resource efficiency; and environmental quality. The CALGreen Code also provides voluntary measures (CALGreen Tier 1 and Tier 2) that local governments may adopt which encourage or require additional measures in the five green building topics. CALGreen's Tier 1 standards call for a 15% improvement in energy requirements, stricter water conservation, 65% diversion of construction and demolition waste, 10% recycled content in building materials, 20% permeable paving, 20% cement reduction, and cool/solar-reflective roofs. CALGreen's more rigorous Tier 2 standards call for a 30% improvement in energy requirements, stricter water conservation, 75% diversion of construction and demolition waste, 15% recycled content in building materials, 30% permeable paving, 25% cement reduction, and cool/solar-reflective roofs.

The CEC adopted the 2022 CALGreen Code in December 2021, went into effect on January 1, 2023. The 2022 CALGreen code focuses on battery storage system controls, demand management, heat pump space and water heating, and building electrification.

Title 20

Title 20 of the California Code of Regulations requires manufacturers of appliances to meet state and federal standards for energy and water efficiency. Performance of appliances must be certified through the CEC to demonstrate compliance with standards. New appliances regulated under Title 20 include refrigerators, refrigerator-freezers, and freezers; room air conditioners and room air-conditioning heat pumps; central air conditioners; spot air conditioners; vented gas space heaters; gas pool heaters; plumbing fittings and plumbing fixtures; fluorescent lamp ballasts; lamps; emergency lighting; traffic signal modules; dishwaters; clothes washers and dryers; cooking products; electric motors; low voltage dry-type distribution transformers; power supplies; televisions and consumer audio and video equipment; and battery charger systems. Title 20 presents protocols for testing for each type of appliance covered under the regulations and appliances must meet the standards for energy

performance, energy design, water performance, and water design. Title 20 contains three types of standards for appliances: federal and state standards for federally regulated appliances, state standards for federally regulated appliances, and state standards for non-federally regulated appliances.

Executive Order B-30-15

EO B-30-15 (April 2015) identified an interim GHG reduction target in support of targets previously identified under S-3-05 and AB 32. EO B-30-15 set an interim target goal of reducing statewide GHG emissions to 40% below 1990 levels by 2030 to keep California on its trajectory toward meeting or exceeding the long-term goal of reducing statewide GHG emissions to 80% below 1990 levels by 2050 as set forth in EO S-3-05. To facilitate achievement of this goal, EO B-30-15 calls for an update to CARB's Scoping Plan to express the 2030 target in terms of MMT CO2E. EO B-30-15 also calls for state agencies to continue to develop and implement GHG emission reduction programs in support of the reduction targets. EO B-30-15 does not require local agencies to take any action to meet the new interim GHG reduction target.

Senate Bill 32 and Assembly Bill 197

SB 32 and AB 197 (enacted in 2016) are companion bills that set new statewide GHG reduction targets, make changes to CARB's membership, increase legislative oversight of CARB's climate change–based activities, and expand dissemination of GHG and other air quality–related emissions data to enhance transparency and accountability. More specifically, SB 32 codified the 2030 emissions reduction goal of EO B-30-15 by requiring CARB to ensure that statewide GHG emissions are reduced to 40% below 1990 levels by 2030. AB 197 established the Joint Legislative Committee on Climate Change Policies, consisting of at least three members of the Senate and three members of the Assembly, in order to provide ongoing oversight over implementation of the state's climate policies. AB 197 added two members of the Legislature to CARB as nonvoting members; requires CARB to make available and update (at least annually via its website) emissions data for GHGs, criteria air pollutants, and toxic air contaminants from reporting facilities; and requires CARB to identify specific information for GHG emissions reduction measures when updating the Scoping Plan.

SB 350— Clean Energy and Pollution Reduction Act of 2015

In October 2015, the legislature approved and the Governor signed SB 350, which reaffirms California's commitment to reducing its GHG emissions and addressing climate change. Key provisions include an increase in the renewables portfolio standard (RPS), higher energy efficiency requirements for buildings, initial strategies towards a regional electricity grid, and improved infrastructure for electric vehicle charging stations. Provisions for a 50 percent reduction in the use of petroleum statewide were removed from the Bill because of opposition and concern that it would prevent the Bill's passage. Specifically, SB 350 requires the following to reduce statewide GHG emissions:

1. Increase the amount of electricity procured from renewable energy sources from 33 percent to 50 percent by 2030, with interim targets of 40 percent by 2024, and 25 percent by 2027.

2. Double the energy efficiency in existing buildings by 2030. This target will be achieved through the California Public Utility Commission (CPUC), the California Energy Commission (CEC), and local publicly-owned utilities.

3. Reorganize the Independent System Operator (ISO) to develop more regional electrify transmission markets and to improve accessibility in these markets, which will facilitate the growth of renewable energy markets in the western United States (California Leginfo 2015).

SB 100

On September 10, 2018, Governor Brown signed SB 100, which raises California's RPS requirements to 60 percent by 2030, with interim targets, and 100 percent by 2045. The bill also establishes a state policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all state agencies by December 31, 2045. Under the bill, the state cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.

Executive Order B-55-18

On September 10, 2018, Governor Brown signed Executive Order B-55-2018 which established a new statewide goal to achieve carbon neutrality as soon as possible and no later than 2045. The executive order also states that California will achieve and maintain net negative emissions thereafter.

AB 2127

AB 2127 promotes better planning for EV infrastructure build-out across all vehicle classes. AB 2127 would help the state meet the goal of 5 million zero-emission vehicles (ZEV) on the road by 2030.

Local Regulations and CEQA Requirements

As referenced, pursuant to the requirements of SB 97, the Resources Agency has adopted amendments to the State CEQA Guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions. The adopted CEQA Guidelines provide general regulatory guidance on the analysis and mitigation of GHG emissions in CEQA documents, but contain no suggested thresholds of significance for GHG emissions. Instead, lead agencies are given the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHGs and climate change impacts. The general approach to developing a Threshold of Significance for GHG emissions is to identify the emissions level for which a project would not be expected to substantially conflict with existing California legislation adopted to reduce statewide GHG emissions needed to move the state towards climate stabilization. If a project would generate GHG emissions above the threshold level, its contribution to cumulative impacts would be considered significant.

To date, the Bay Area Air Quality Management District (BAAQMD), the South Coast Air Quality Management District (SCAQMD), and the San Joaquin Air Pollution Control District (SJVAPCD) have adopted quantitative significance thresholds for GHGs. However, in March 2013 the Bay Area's thresholds were overruled by the Alameda County Superior Court (*California Building Industry Association v. Bay Area Air Quality Management District*), on the basis that adoption of the thresholds constitutes a "project" under CEQA, but did not receive the appropriate environmental review. As a result, BAAQMD has elected to not recommend specific GHG thresholds for use in CEQA documents.

Kern County has not adopted its own GHG thresholds or prepared a Climate Action Plan that can be used as a basis for determining project significance. The County assesses GHG emissions using a threshold approach adopted by the SJVAPCD, which required projects to meet a 29 percent reduction from BAU in accordance with SJVAPCD methodologies. The SJVAPCD's *Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA* includes thresholds based on whether the project will reduce or mitigate GHG levels by 29 percent from BAU levels compared with 2005 levels by 2020 (SJVAPCD 2009). The GHG reduction level for the State to reach 1990 emission levels by 2020 was reduced to 21.7 percent from BAU in 2020 in the 2014 First Update to the Scoping Plan to account for slower than projected growth after the 2008 recession (ARB 2014). The project is expected to commence operations in 2025. This date is beyond the AB 32 2020 milestone year and the SJVAPCD and other agencies have not developed a new threshold based on SB 32 2030 targets. Therefore, this analysis uses a significance approach based on continued progress toward later goals. The analysis of the project's reduction from BAU based on emissions in 2025 compared with the 21.7 percent reduction is used as one measure of significance.

Voluntary Emission Reduction Agreement

A Voluntary Emission Reduction Agreement (VERA) is an air quality mitigation measure by which a developer can voluntarily enter into a contractual agreement with the SJVAPCD to mitigate a development project's impact on air quality. Under the agreement, the developer provides funds to SJVAPCD to administer implementation of the VERA. SJVAPCD then identifies emissions reductions projects, funds those projects, and verifies that the specified emission reductions have been successfully achieved. SJVAPCD considers implementation of a VERA to be a feasible mitigation measure under CEQA, effectively achieving emission reductions necessary to reduce impacts to less than significant. Under a VERA, a developer may reduce emissions either to less than significant or to net zero. The Project proponent will engage in future discussions with SJVAPCD staff in order to determine the specific terms of the VERA.

CLIMATE CHANGE IMPACT ANALYSIS

Thresholds of Significance

Pursuant to the requirements of SB 97, the Resources Agency adopted amendments to the State CEQA Guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions in March 2010. These guidelines are used in evaluating the cumulative significance of GHG

emissions from the proposed project. According to the adopted CEQA Guidelines, impacts related to GHG emissions from the proposed project would be significant if the project would:

- *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; and/or*
- *Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.*

The vast majority of individual projects do not generate sufficient GHG emissions to create a project-specific impact through a direct influence to climate change; therefore, the issue of climate change typically involves an analysis of whether a project's contribution towards an impact is cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (CEQA Guidelines, Section 15355).

For future projects, the significance of GHG emissions may be evaluated based on locally adopted quantitative thresholds, or consistency with a regional GHG reduction plan (such as a Climate Action Plan). In the absence of an approved Climate Action Plan, the proposed project is evaluated based on the percentage reduction in BAU emissions and compared to the 21.7 percent statewide goal referenced above.

Methodology

GHG emissions associated with construction and operation of the proposed project and existing development have been estimated using California Emissions Estimator Model (CalEEMod) version 2022.1.

Construction Emissions

Construction of the proposed project would generate temporary GHG emissions primarily associated with the operation of construction equipment and truck trips. Site preparation and grading typically generate the greatest emission quantities because the use of heavy equipment is greatest during this phase of construction. Emissions associated with the construction period were estimated based on the projected maximum amount of equipment that would be used on-site at one time. Air districts such as the SCAQMD have recommended amortizing construction-related emissions over a 30-year period to calculate annual emissions. Complete CalEEMod results and assumptions can be viewed in the Appendix.

Operational Emissions

Default values used in CalEEMod version 2022.1 are based on the California Energy Commission (CEC) sponsored California Commercial End Use Survey (CEUS) and Residential Appliance Saturation Survey (RASS) studies. CalEEMod provides operational emissions of CO_2, N_2O and CH_4. This methodology has been subjected to peer review by numerous public and private

stakeholders, and in particular by the CEC; and therefore, is considered reasonable and reliable for use in GHG impact analysis pursuant to CEQA. It is also recommended by CAPCOA (January 2008).

Emissions associated with area sources (i.e., consumer products, landscape maintenance, and architectural coating) were calculated in CalEEMod based on standard emission rates from CARB, USEPA, and district supplied emission factor values (CalEEMod User Guide, 2016). Emissions from waste generation were also calculated in CalEEMod and are based on the IPCC's methods for quantifying GHG emissions from solid waste using the degradable organic content of waste (CalEEMod User Guide, 2016). Waste disposal rates by land use and overall composition of municipal solid waste in California was primarily based on data provided by the California Department of Resources Recycling and Recovery (CalRecycle).

Emissions from water and wastewater usage calculated in CalEEMod were based on the default electricity intensity from the CEC's 2006 Refining Estimates of Water-Related Energy Use in California using the average values for Northern and Southern California. Emissions from mobile sources were quantified based on trip generation estimates included in CalEEMod version 2022.1 for warehouse projects.

Estimate of GHG Emissions

Construction Emissions

Construction activity is assumed to occur over a period of approximately 16 months beginning in mid-2025 and concluding in late 2026. Based on CalEEMod results, construction activity for the project would generate an estimated 634 metric tons of carbon dioxide equivalent (CO_2E), as shown in Table 6. Amortized over a 30-year period (the assumed life of the project), construction of the proposed project would generate 21 metric tons of CO_2E per year.

Operational Indirect and Stationary Direct Emissions

Long-term emissions relate to energy use, solid waste, water use, and transportation. Each source is discussed below and includes the emissions associated with existing development and the anticipated emissions that would result from the proposed project.

Table 6
Estimated Construction Related Greenhouse Gas Emissions

Year	Annual Emissions (metric tons CO_2E)
2025	260
2026	374
Total	**634**

Amortized over 30 years	**21 metric tons per year**

See Appendix for CalEEMod software program output for new construction.

Energy Use. Operation of onsite development would consume both electricity and natural gas (see Appendix for CalEEMod results). The generation of electricity through combustion of fossil fuels typically yields CO_2, and to a smaller extent, N_2O and CH_4. Natural gas emissions can be calculated using default values from the CEC sponsored CEUS and RASS studies which are built into CalEEMod. As shown in Table 7, the overall net increase in energy use at the project site would result in approximately 170 metric tons of CO_2E per year.

Water Use Emissions. The CalEEMod results indicate that without measures o minimize water consumption, the project would use approximately 29.9 million gallons of water per year. Based on the amount of electricity generated to supply and convey this amount of water, as shown in Table 8, the project would generate approximately 52 metric tons of CO_2E per year.

Solid Waste Emissions. For solid waste generated onsite, AB 341 mandates that municipal recycling programs be implemented to reduce the volume of solid waste disposed in landfills by 75%. Without waste reduction, CalEEMod results indicate that the project would result in approximately 38 metric tons of CO_2E per year associated with solid waste disposed within landfills.

Transportation Emissions. Mobile source GHG emissions were estimated by combining emissions from both passenger vehicle and heavy trucks. As shown in Table 9, the estimated mobile emissions of GHGs for the project would be 363 MT CO_2E for passenger vehicles and 1,854 MT CO_2E annually for heavy trucks.

Combined Construction, Stationary and Mobile Source Emissions

Table 10 combines the net new construction, operational, and mobile GHG emissions associated with the proposed project. As discussed above, temporary emissions associated with construction activity (approximately 634 metric tons CO_2E) are amortized over 30 years (the anticipated life of the project).

Table 7
Estimated Annual Energy-Related Greenhouse Gas Emissions

Emission Source	Annual Emissions (CO_2E)
Proposed Project	
Electricity	133 metric tons
Natural Gas	37 metric tons
Total	**170 metric tons**

See Appendix for CalEEMod software program output

Table 8
Estimated Annual
Solid Waste and Water Use Greenhouse Gas Emissions

Emission Source	Annual Emissions (CO_2E)
Water	52 metric tons
Solid Waste	38 metric tons
Total Water and Solid Waste	**90 metric tons**

See Appendix for CalEEMod software program output.

Table 9
Estimated Annual Mobile Emissions of Greenhouse Gases

Emission Source	Annual Emissions (CO_2E)
Proposed Project	
Passenger vehicles	383 metric tons
Heavy trucks	1,854 metric tons
Total	**2,237 metric tons**

See Appendix for CalEEMod software program output.

For the proposed project, the combined unmitigated annual emissions would total approximately 2,518 metric tons per year in CO_2E. The proposed project is evaluated based on whether measures to reduce GHG emissions would achieve at least a 21.7 percent reduction from baseline.

Table 10
Combined Annual Greenhouse Gas Emissions
(BAU)

Emission Source	Annual Emissions (CO_2E)
Construction	21 metric tons
Operational Energy Solid Waste Water	 170 metric tons 38 metric tons 52 metric tons
Mobile	2,237 metric tons
Total	**2,518 metric tons**

See Appendix for CalEEMod software program output.

GHG Cumulative Significance

To determine significance, the analysis first quantified project-related GHG emissions under a BAU scenario and then compares these emissions with emissions that would occur when considering design features and compliance with applicable regulatory measures. The following regulations are incorporated into the CalEEMod emission factors used herein:

- Pavley I and Pavley II (LEV III) motor vehicle emission standards;
- ARB Medium and Heavy-Duty Vehicle Regulation; and
- 2005, 2008, 2013, 2016 and 2022 Title 24 Energy Efficiency Standards.

The following regulations have not been incorporated into the CalEEMod emission factors and require alternative methods to account for emission reductions provided by the regulations:

- Renewable Portfolio Standards (RPS);
- Low Carbon Fuel Standard (LCFS);
- Green Building Code Standards (indoor water use);
- California Model Water Efficient Landscape Ordinance (Outdoor Water);

As stated, Pavley II/LEV III standards have been incorporated in the latest version of CalEEMod. ARB estimated a 3 percent reduction by 2020 and a 19 percent reduction from the vehicle categories subject to the regulation by 2030. The ARB GHG Regulation for Medium and Heavy-Duty Engines and Vehicles applies to trucks that will operate in California and on the project site. The benefits of the regulation were incorporated into CalEEMod 2022.1. The ARB estimates that this regulation will reduce GHG emissions from the affected vehicles by 7.2 percent. The Low Carbon Fuel Standard (LCFS) is estimated to have achieved a 10 percent reduction in emissions by 2020 and is expected to achieve an 18 percent reduction by 2030. CalEEMod does not include credit for the LCFS.

The California Energy Commission (CEC) estimates that 2019 Title 24 standards resulted in an increase in energy efficiency of 30 percent for commercial buildings relative to the 2016 standards (Berkeley Law Fact Sheet). No specific data has been obtained that states the difference in energy efficiency between the 2019 and 2022 standards; thus, for modeling purposes it is assumed that the 30 percent reduction would apply.

RPS is not accounted for in CalEEMod 2022.1. PG&E provided emission factors for the electricity it provides to customers and projections for its energy portfolio for 2020. No data to reflect compliance in 2030 was included in the PG&E projections. The utilities will be required by SB 350 to increase the use of renewable energy sources to 50 percent; however, details on individual utility compliance has not been determined. Thus, a reduction of 33% from BAU was assumed for energy emissions.

Energy savings from water conservation resulting from the Green Building Code Standards for indoor water use and California Model Water Efficient Landscape Ordinance for outdoor water

use are not included in CalEEMod. The Water Conservation Act of 2009 mandates a 20 percent reduction in urban water use that is implemented with these regulations (CDWR 2013). Benefits of the water conservation regulations are applied in the CalEEMod mitigation component and assumes a total reduction in water demand associated with the project of 20 percent.

Reductions in emissions from solid waste are based on the City achieving the CalRecycle 75 Percent Initiative by 2020 compared with a 50 percent baseline for 2005. Thus, no reduction in solid waste emissions is assumed in this analysis.

Regulations applicable to project sources and the percent reduction anticipated from each source are shown in Table 11. The percentage reductions are only applied to the specific sources subject to the regulations. For example, the Pavley LEV Standards apply only to light duty cars and trucks. Thus, the emission reduction was only applied to cars/light trucks. The project is intended to serve people traveling in motor vehicles; therefore, no additional reductions for design features and benefits from its location and infrastructure were assumed as mitigation in CalEEMod. The results of this analysis are shown in Table 12.

Table 11
Reductions from Greenhouse Gas Regulations

Regulation	Project Applicability	Reduction Source	Percent Reduction in 2020 and 2030
Pavley Low Emission Vehicle Standards	Light-duty cars and trucks accessing the site are subject to the regulation.	CalEEMod defaults (Pavley I)	25.1
		Adjusted GHG emission factor (Pavley II/LEV III) in CalEEMod.	19.5% 2030[1]
Truck and Bus Regulation	Heavy-duty trucks accessing the site for deliveries and services are subject to the regulation.	Adjusted GHG emission factors for the regulation in CalEEMod	7.2%[2]
Low Carbon Fuel Standard (LCFS)	Vehicles accessing the site will use fuel subject to the LCFS	CalEEMod defaults	10% 2020 18% 2030
Title 24 Energy Efficiency Standards	Project buildings will be constructed to meet the latest version of Title 24 (currently 2019). Reduction applies only to energy consumption subject to the regulation.	CalEEMod defaults	30%[3]
Green Building Code Standards	The project will include water conservation features required by the standard	CalEEMod mitigation component	20%[4]
Water Efficient Land Use Ordinance	The project landscaping will comply with the regulation	CalEEMod mitigation component	20%[4]
Renewable Portfolio Standard (RPS)	Electricity purchased for use at the project site is subject to the 33 percent RPS mandate	CalEEMod adjusted energy intensity factors with PG&E emission factors that show the company will exceed the 33 percent mandate.	33%
Solid waste	The solid waste service provider will need to provide programs to increase diversion and	CalEEMod mitigation component	75%[5]

	recycling to meet the 75 percent mandate.		

Notes:
Regulations are described in Section 2.3 Regulatory Environment. The source of the percentage reductions from each measure are from the following sources:
1 ARB Staff Report for LEV III Amendments (ARB 2013a)
2 ARB Staff Report for GHG Regulations for Medium and Heavy-Duty Engines and Vehicles (ARB 2013b)
3 Berkeley Law Fact Sheet: Building Energy Efficiency; Title 24 Standards Will Cut Energy Use in commercial buildings by 30 Percent. Same percentage assumed for 2022 Code
4 SB X7-7/CAPCOA Water Conservation Strategy applied as mitigation in CalEEMod 2022.1
5 AB 939 waste reduction of 75% applied as mitigation strategy in CalEEMod 2022.1

Table 12
Combined Annual Greenhouse Gas Mitigated Emissions

Emission Source	Annual Emissions (CO_2E)	2023 With Design Features	Percent Reduction
Construction	21 metric tons	21	0.0%
Operational			
Energy	170 metric tons	63	63% (electricity)
Solid Waste	38 metric tons	11	75%
Water	52 metric tons	42	20%
Mobile	363 metric tons - passenger	298	18%[1]
	1,854 – heavy truck	1,520	18%[1]
	2,217 metric tons	1,818	0.0%
Total	**2,518 metric tons**	**1,955 metric tons**	**-22.3%**

See Appendix for CalEEMod software program output.
1 – Assumes LCFS (18%) reduction for mobile emission.

As referenced, specific goals and actions that pertain to the proposed project include those addressing energy and water use reduction, promotion of green building measures, waste reduction, and reduction in vehicle miles traveled. The proposed project would also be required to implement all mandatory green building measures for new commercial development under the CALGreen Code. As shown, GHG emission reductions associated with energy and fuel programs mandated at the state level would reduce BAU emissions by 22.3%. This would exceed the 21.7% target referenced herein; thus, resulting in a less than significant GHG impact under threshold a.

Consistency with AB 32 Scoping Plans and SB 32

SB 32/2017 Scoping Plan Consistency

The 2017 Scoping Plan Update reflects the 2030 target of a 40% reduction in GHG emissions below 1990 levels, set by Executive Order B-30-15 and codified by SB 32. Table 14, 2017 Scoping Plan Consistency Summary, summarizes the Project's consistency with the 2017 Scoping Plan. As stated, the Project would not conflict with any of the Scoping Plan actions.

Table 13
2017 Scoping Plan Consistency Summary

Action	Responsible Parties	Consistency
Implement SB 350 by 2030		
Increase the Renewables Portfolio Standard to 50% of retail sales by 2030 and ensure grid reliability.	CPUC, CEC, CARB	**No Conflict.** The Project would most likely use energy from Pacific Gas and Electric (PG&E). PG&E has committed to diversify their portfolio of energy sources by increasing energy from wind and solar sources. The Project would not interfere with or obstruct PG&E energy source diversification efforts.
Establish annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas end uses by 2030.		**No Conflict.** The Project would be constructed in compliance with current California Building Code requirements including the 2022 Building and Energy Efficiency Standards and the 2022 California Green Building Standard requirements.
Reduce GHG emissions in the electricity sector through the implementation of the above measures and other actions as modeled in Integrated Resource Planning (IRP) to meet GHG emissions reductions planning targets in the IRP process. Load-serving entities and publicly- owned utilities meet GHG emissions reductions planning targets through a combination of measures as described in IRPs.		
Implement Mobile Source Strategy (Cleaner Technology and Fuels)		
At least 1.5 million zero emission and plugin hybrid light-duty EVs by 2025.	CARB, California State Transportation Agency (CalSTA), Strategic Growth Council (SGC), California Department of Transportation (Caltrans), CEC, OPR, Local Agencies	**No Conflict.** This is a CARB Mobile Source Strategy. The Project would not obstruct or interfere with CARB zero emission and plug-in hybrid light-duty EV 2025 targets. As this is a CARB enforced standard, vehicles that access the Project must comply with the standards as applicable; and thus, would comply with the strategy.
At least 4.2 million zero emission and plugin hybrid light-duty EVs by 2030.		**No Conflict.** This is a CARB Mobile Source Strategy. The Project would not obstruct or interfere with CARB zero emission and plug-in hybrid light-duty EV 2030 targets.
Further increase GHG stringency on all light-duty vehicles beyond existing Advanced Clean cars regulations.		**No Conflict.** This is a CARB Mobile Source Strategy. The Project would not obstruct or interfere with CARB efforts to further increase GHG stringency on all light-duty vehicles beyond existing Advanced Clean cars regulations.
Medium- and Heavy-Duty GHG Phase 2.		**No Conflict.** This is a CARB Mobile Source Strategy. The Project would not obstruct or interfere with CARB efforts to implement Medium- and Heavy-Duty GHG Phase 2.

Innovative Clean Transit: Transition to a suite of to-be-determined innovative clean transit options. Assumed 20% of new urban buses purchased beginning in 2018 will be zero emission buses with the penetration of zero-emission technology ramped up to 100% of new sales in 2030. Also, new natural gas buses, starting in 2018, and diesel buses, starting in 2020, meet the optional heavy-duty low-NOX standard.		**Not applicable.** This measure is not related to the project scope.
Last Mile Delivery: New regulation that would result in the use of low NOX or cleaner engines and the deployment of increasing numbers of zero-emission trucks primarily for class 3-7 last mile delivery trucks in California. This measure assumes ZEVs comprise 2.5% of new Class 3–7 truck sales in local fleets starting in 2020, increasing to 10% in 2025 and remaining flat through 2030.		**No Conflict.** This is a CARB Mobile Source Strategy. The Project would not obstruct or interfere with CARB efforts to improve last mile delivery emissions.
Further reduce VMT through continued implementation of SB 375 and regional Sustainable Communities Strategies; statewide implementation of SB 743; and potential additional VMT reduction strategies not specified in the Mobile Source Strategy but included in the document "Potential VMT Reduction Strategies for Discussion."		**No Conflict.** The project would not conflict with Kern County's implementation of strategies to reduce VMT.
Increase stringency of SB 375 Sustainable Communities Strategy (2035 targets).	CARB	**No Conflict.** The project would not exceed SJVAPCD GHG emission standards for industrial sources or otherwise conflict with GHG reduction efforts.
Harmonize project performance with emissions reductions and increase competitiveness of transit and active transportation modes (e.g., via guideline documents, funding programs, project selection, etc.).	CalSTA, SGC, OPR, CARB, Governor's Office of Business and Economic Development (GOBiz), California Infrastructure and Economic Development Bank (IBank), Department of Finance (DOF), California Transportation Commission (CTC), Caltrans	**No Conflict.** The project would not conflict with use of adjacent streets by pedestrians or bicycles.
By 2019, develop pricing policies to support low-GHG transportation (e.g., low emission vehicle zones for heavy duty, road user, parking pricing, transit discounts).	CalSTA, Caltrans, CTC, OPR, SGC, CARB	**Not applicable.** This measure is not related to the project scope.
Implement California Sustainable Freight Action Plan		
Improve freight system efficiency.	CalSTA, CalEPA, CNRA, CARB, Caltrans, CEC, GO-Biz	**No Conflict.** This measure would apply to all trucks accessing the Project site. It is presumed that these vehicles would be part of the statewide goods movement sector and limited to delivery vehicles.
Deploy over 100,000 freight vehicles and equipment capable of		**Not applicable.** This measure is unrelated to the project scope.

zero emission operation and maximize both zero and near zero emission freight vehicles and equipment powered by renewable energy by 2030.		
Adopt a Low Carbon Fuel Standard with a Carbon Intensity reduction of 18%.	CARB	**No Conflict.** When adopted, this measure would apply to all fuel purchased for use in vehicles accessing the project site. The Project would not obstruct or interfere with agency efforts to adopt a Low Carbon Fuel Standard with a Carbon Intensity reduction of 18%.
Implement the Short-Lived Climate Pollutant Strategy (SLPS) by 2030		
40% reduction in methane and hydrofluorocarbon emissions below 2013 levels.	CARB, CalRecycle, CDFA, California State Water Resource Control Board (SWRCB), Local Air Districts	**No Conflict.** The Project would be required to comply with this measure and reduce any Project-source SLPS emissions accordingly. The Project would not obstruct or interfere with agency efforts to reduce SLPS emissions.
Implement the post-2020 Cap-and-Trade Program with declining annual caps.	CARB	**No Conflict.** The Project would be required to comply with any applicable Cap-and-Trade Program provisions. The Project would not obstruct or interfere agency efforts to implement the post-2020 Cap-and-Trade Program.
By 2018, develop Integrated Natural and Working Lands Implementation Plan to secure California's land base as a net carbon sink:		
Protect land from conversion through conservation easements and other incentives.	CNRA, Departments Within CDFA, CalEPA, CARB	**Not applicable**. The Project site is not an identified property that needs to be conserved.
Increase the long-term resilience of carbon storage in the land base and enhance sequestration capacity		**No Conflict.** The site is zoned for development. It is not intended to be preserved. Resilience of carbon storage in open space land in the Perris area would not be affected.
Utilize wood and agricultural products to increase the amount of carbon stored in the natural and built environments		**No Conflict.** To the extent appropriate for the proposed buildings, wood products would be used in construction, including roof structure. Additionally, the Project includes landscaping.
Establish scenario projections to serve as the foundation for the Implementation Plan		**Not applicable.** This measure is unrelated to the project scope.
Implement Forest Carbon Plan	CNRA, California Department of Forestry and Fire Protection (CAL FIRE), CalEPA and Departments Within	**Not applicable.** This measure is unrelated to the project scope.
Identify and expand funding and financing mechanisms to support GHG reductions across all sectors.	State Agencies & Local Agencies	**Not applicable.** This measure is unrelated to the project scope.

2022 Scoping Plan Consistency

CARB's 2022 Scoping Plan sets a path to achieve targets for carbon neutrality and reduce anthropogenic GHG emissions by 85 percent below 1990 levels by 2045 in accordance with AB 1279. The 2022 Scoping Plan focuses on zero-emission transportation; phasing out use of fossil

gas use for heating homes and buildings; reducing chemical and refrigerants with high GWP; providing communities with sustainable options for walking, biking, and public transit; displacement of fossil-fuel fired electrical generation through use of renewable energy alternatives (e.g., solar arrays and wind turbines); and scaling up new options such as green hydrogen. Unlike the 2017 Scoping Plan, CARB no longer includes a numeric per capita threshold and instead advocates for compliance with a local GHG reduction strategy (i.e., Climate Action Plan) consistent with CEQA Guidelines Section 15183.5. Statewide strategies to reduce GHG emissions in the latest 2022 Scoping Plan include implementing SB 100, which would achieve 100 percent clean electricity by 2045; achieving 100 percent zero emission vehicle sales in 2035 through Advanced Clean Cars II; and implementing the Advanced Clean Fleets regulation to deploy ZEV buses and trucks. Additional transportation policies include the Off-Road Zero Emission Targeted Manufacturer rule, Clean Off-Road Fleet Recognition Program, In-use Off-Road Diesel Fueled Fleets Regulation, Clean Off-Road Fleet Recognition Program, and Amendments to the In-use Off-Road Diesel-Fueled Fleets Regulation.

The 2022 Scoping Plan would continue to implement SB 375. GHGs would be further reduced through the Cap-and-Trade Program carbon pricing and SB 905. SB 905 requires CARB to create the Carbon Capture, Removal, Utilization, and Storage Program to evaluate, demonstrate, and regulate carbon dioxide removal projects and technology. As indicated above, GHG reductions are also achieved as a result of State of California energy and water efficiency requirements for new residential development. These efficiency improvements correspond to reductions in secondary GHG emissions. For example, in California, most of the electricity that powers homes is derived from natural gas combustion. Therefore, energy saving measures, such as Title 24, reduces GHG emissions from the power generation facilities by reducing load demand. The 2022 Scoping Plan Appendix D provides local jurisdictions with tools to reduce GHGs and assist the state in meeting the ambitious targets set forth in the 2022 Scoping Plan. The 2022 Scoping Plan Appendix D focuses on Residential and Mixed-Use Projects. The 2022 Scoping Plan Appendix D lists potential actions that support the State's climate goals. However, the 2022 Scoping Plan notes that the applicability and performance of the actions may vary across the regions. The document is organized into two categories (A) examples of plan-level GHG reduction actions that could be implemented by local governments and (B) examples of on-site project design features, mitigation measures, that could be required of individual projects under CEQA, if feasible, when the local jurisdiction is the lead agency. The Project would include a number of the Standard Conditions and mitigation measures for construction and operation. For example, the 2022 Scoping Plan's construction actions include enforcing idling time restrictions on construction vehicles and requiring construction vehicles to operate highest tier engines commercially available. The Project would include a majority of the feasible operational mitigation measures listed in the 2022 Scoping Plan Appendix D as design features. Some of the recommended operational measures would include providing bicycle parking, creating on- and off-site safety improvements for bike, pedestrian, and transit connections, requiring solar panels, drought-tolerant landscaping, and energy conserving appliances. As discussed above, the Project would be consistent with all applicable plan goals and applicable regulatory programs designed to reduce GHG emissions generated by land use projects. The Project would be subject to compliance with all building codes in effect at the time of construction, which

include energy conservation measures mandated by California Building Standards Code Title 24 – Energy Efficiency Standards. Because Title 24 standards require energy conservation features in new construction (e.g., high- efficiency lighting, high-efficiency heating, ventilating, and air-conditioning (HVAC) systems, thermal insulation, double-glazed windows, water conserving plumbing fixtures), they indirectly regulate and reduce GHG emissions. California's Building Energy Efficiency Standards are updated on an approximately three-year cycle. As shown above, the majority of the Project's emissions are from energy and mobile sources, which would be further reduced by the 2022 Scoping Plan actions described above. The City has no control over vehicle emissions; however, these emissions would decline in the future because of Statewide measures as well as cleaner technology and fleet turnover. Many State plans and policies would contribute to a reduction in the Project's mobile source emissions, including the following:

CARB's Advanced Clean Truck Regulation: Adopted in June 2020, CARB's Advanced Clean Truck Regulation requires truck manufacturers to transition from diesel trucks and vans to electric zero-emission trucks beginning in 2024. By 2045, every new truck sold in California is required to be zero-emission. The Advanced Clean Truck Regulation accelerates the transition of zero-emission medium-and heavy-duty vehicles from Class 2b to Class 8.

Executive Order N-79-20: Executive Order N-79-20 establishes the goal for all new passenger cars and trucks, as well as all drayage/cargo trucks and off-road vehicles and equipment, sold in California, to be zero-emission by 2035 and all medium and heavy-duty vehicles to be zero-emission by 2045. It also directs CARB to develop and propose rulemaking for passenger vehicles and trucks, medium-and heavy-duty fleets where feasible, drayage trucks, and off-road vehicles and equipment "requiring increasing volumes" of new ZEVs "towards the target of 100 percent."

CARB's Mobile Source Strategy: CARB's Mobile Source Strategy takes an integrated planning approach to identify the level of transition to cleaner mobile source technologies needed to achieve all of California's targets by increasing the adoption of ZEV buses and trucks.

CARB's Sustainable Freight Action Plan: The Sustainable Freight Action Plan which improves freight system efficiency, utilizes near-zero emissions technology, and deployment of ZEV trucks. This Plan applies to all trucks accessing the Project site and may include existing trucks or new trucks that are part of the Statewide goods movement sector.

CARB's Emissions Reduction Plan for Ports and Goods Movement: CARB's Emissions Reduction Plan for Ports and Goods Movement identifies measures to improve goods movement efficiencies such as advanced combustion strategies, friction reduction, waste heat recovery, and electrification of accessories. While these measures are not directly applicable to the Project, any commercial activity associated with goods movement would be required to comply with these measures as adopted.

The Project would not obstruct or interfere with efforts to increase ZEVs or State efforts to improve system efficiency. Compliance with applicable State standards (e.g., continuation of the Cap-and-Trade regulation; CARB's Mobile Source Strategy, Sustainable Freight Action Plan, and Advanced Clean Truck Regulation; Executive Order N-79-20; SB 100/renewable electricity portfolio improvements that require 60 percent renewable electricity by 2030 and 100 percent renewable by 2045, etc.) would ensure consistency with State and regional GHG reduction planning efforts, including the 2022 Scoping Plan. It is also noted that the Project would not convert any Natural and Working Lands (NWL) and/or decrease the State's urban forest carbon stock, which are areas of emphasis in the 2022 Scoping Plan.

Regarding goals for 2050 under Executive Order S-3-05, at this time it is not possible to quantify the emissions savings from future regulatory measures, as they have not yet been developed; nevertheless, it can be anticipated that Project operations would benefit from applicable measures enacted to meet State GHG reduction goals. The Project would not impede the State's progress towards carbon neutrality by 2045 under the 2022 Scoping Plan. The Project would be required to comply with applicable current and future regulatory requirements promulgated through the 2022 Scoping Plan. Thus, impacts related to consistency with the 2022 Scoping Plan would be less than significant. The Project would not conflict with the applicable plans and regulatory programs that are discussed above; and therefore, with respect to this particular threshold, the Project does not have a significant impact under threshold b.

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Appendix A

CalEEMod Air Quality and Greenhouse Gas Emissions Model Results – Summer/Annual, and N_2O from Mobile Emissions Sources

Furniture City Warehouse Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Furniture City Warehouse
Construction Start Date	6/3/2025
Operational Year	2026
Lead Agency	Kern County
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.70
Precipitation (days)	18.0
Location	35.448209185109434, -119.24584963113384
County	Kern-San Joaquin
City	Unincorporated
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2898
EDFZ	5
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Southern California Gas
App Version	2022.1.1.28

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Unrefrigerated Warehouse-No Rail	129	1000sqft	2.97	129,465	1,000	—	—	—

Parking Lot	82.0	Space	0.74	0.00	500	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-2*	Limit Heavy-Duty Diesel Vehicle Idling
Construction	C-11	Limit Vehicle Speeds on Unpaved Roads
Water	W-7	Adopt a Water Conservation Strategy
Waste	S-1/S-2	Implement Waste Reduction Plan

* Qualitative or supporting measure. Emission reductions not included in the mitigated emissions results.

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	15.3	31.7	31.5	0.05	1.37	5.32	6.69	1.26	2.68	3.93	—	5,531	5,531	0.22	0.15	4.61	5,553
Mit.	15.3	31.7	31.5	0.05	1.37	5.32	6.69	1.26	2.68	3.93	—	5,531	5,531	0.22	0.15	4.61	5,553
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	16.2	18.1	27.2	0.04	0.67	1.23	1.90	0.62	0.30	0.92	—	5,551	5,551	0.18	0.17	0.14	5,606
Mit.	16.2	18.1	27.2	0.04	0.67	1.23	1.90	0.62	0.30	0.92	—	5,551	5,551	0.18	0.17	0.14	5,606
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.47	6.61	9.81	0.02	0.26	0.53	0.79	0.24	0.20	0.44	—	2,231	2,231	0.07	0.08	1.06	2,258
Mit.	2.47	6.61	9.81	0.02	0.26	0.53	0.79	0.24	0.20	0.44	—	2,231	2,231	0.07	0.08	1.06	2,258
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.45	1.21	1.79	< 0.005	0.05	0.10	0.14	0.04	0.04	0.08	—	369	369	0.01	0.01	0.18	374
Mit.	0.45	1.21	1.79	< 0.005	0.05	0.10	0.14	0.04	0.04	0.08	—	369	369	0.01	0.01	0.18	374
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	3.39	31.7	31.5	0.05	1.37	5.32	6.69	1.26	2.68	3.93	—	5,531	5,531	0.22	0.15	4.55	5,553
2026	15.3	11.7	18.9	0.03	0.41	0.99	1.40	0.38	0.24	0.62	—	4,075	4,075	0.12	0.15	4.61	4,126
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.37	11.6	16.1	0.03	0.44	0.85	1.30	0.41	0.21	0.62	—	3,738	3,738	0.12	0.15	0.12	3,785
2026	16.2	18.1	27.2	0.04	0.67	1.23	1.90	0.62	0.30	0.92	—	5,551	5,551	0.18	0.17	0.14	5,606
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.72	6.32	7.65	0.01	0.26	0.53	0.79	0.24	0.20	0.44	—	1,556	1,556	0.05	0.04	0.55	1,570
2026	2.47	6.61	9.81	0.02	0.24	0.51	0.74	0.22	0.12	0.34	—	2,231	2,231	0.07	0.08	1.06	2,258
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2025	0.13	1.15	1.40	< 0.005	0.05	0.10	0.14	0.04	0.04	0.08	—	258	258	0.01	0.01	0.09	260
2026	0.45	1.21	1.79	< 0.005	0.04	0.09	0.14	0.04	0.02	0.06	—	369	369	0.01	0.01	0.18	374

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	3.39	31.7	31.5	0.05	1.37	5.32	6.69	1.26	2.68	3.93	—	5,531	5,531	0.22	0.15	4.55	5,553
2026	15.3	11.7	18.9	0.03	0.41	0.99	1.40	0.38	0.24	0.62	—	4,075	4,075	0.12	0.15	4.61	4,126
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.37	11.6	16.1	0.03	0.44	0.85	1.30	0.41	0.21	0.62	—	3,738	3,738	0.12	0.15	0.12	3,785
2026	16.2	18.1	27.2	0.04	0.67	1.23	1.90	0.62	0.30	0.92	—	5,551	5,551	0.18	0.17	0.14	5,606
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.72	6.32	7.65	0.01	0.26	0.53	0.79	0.24	0.20	0.44	—	1,556	1,556	0.05	0.04	0.55	1,570
2026	2.47	6.61	9.81	0.02	0.24	0.51	0.74	0.22	0.12	0.34	—	2,231	2,231	0.07	0.08	1.06	2,258
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.13	1.15	1.40	< 0.005	0.05	0.10	0.14	0.04	0.04	0.08	—	258	258	0.01	0.01	0.09	260
2026	0.45	1.21	1.79	< 0.005	0.04	0.09	0.14	0.04	0.02	0.06	—	369	369	0.01	0.01	0.18	374

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	4.44	0.69	15.1	0.03	0.03	2.40	2.44	0.03	0.61	0.64	123	3,493	3,616	12.7	0.21	7.96	4,002
Mit.	4.44	0.69	15.1	0.03	0.03	2.40	2.44	0.03	0.61	0.64	62.3	3,480	3,542	6.56	0.18	7.96	3,767
% Reduced	—	—	—	—	—	—	—	—	—	—	49%	< 0.5%	2%	48%	14%	—	6%
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.45	0.74	6.66	0.02	0.02	2.40	2.43	0.02	0.61	0.63	123	3,169	3,292	12.7	0.21	0.21	3,672
Mit.	3.45	0.74	6.66	0.02	0.02	2.40	2.43	0.02	0.61	0.63	62.3	3,156	3,218	6.56	0.19	0.21	3,438
% Reduced	—	—	—	—	—	—	—	—	—	—	49%	< 0.5%	2%	48%	13%	—	6%
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.91	0.71	9.95	0.02	0.03	2.37	2.40	0.03	0.60	0.63	123	3,264	3,387	12.7	0.21	3.44	3,769
Mit.	3.91	0.71	9.95	0.02	0.03	2.37	2.40	0.03	0.60	0.63	62.3	3,251	3,313	6.56	0.18	3.44	3,535
% Reduced	—	—	—	—	—	—	—	—	—	—	49%	< 0.5%	2%	48%	13%	—	6%
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.71	0.13	1.82	< 0.005	0.01	0.43	0.44	< 0.005	0.11	0.11	20.4	540	561	2.10	0.03	0.57	624
Mit.	0.71	0.13	1.82	< 0.005	0.01	0.43	0.44	< 0.005	0.11	0.11	10.3	538	549	1.09	0.03	0.57	585
% Reduced	—	—	—	—	—	—	—	—	—	—	49%	< 0.5%	2%	48%	13%	—	6%

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.56	0.45	9.33	0.02	0.01	2.40	2.41	0.01	0.61	0.61	—	2,390	2,390	0.05	0.05	7.96	2,414

Area	3.86	0.05	5.63	< 0.005	0.01	—	0.01	0.01	—	0.01	—	23.2	23.2	< 0.005	< 0.005	—	23.2
Energy	0.01	0.19	0.16	< 0.005	0.01	—	0.01	0.01	—	0.01	—	1,014	1,014	0.15	0.02	—	1,023
Water	—	—	—	—	—	—	—	—	—	—	57.4	65.9	123	5.89	0.14	—	313
Waste	—	—	—	—	—	—	—	—	—	—	65.6	0.00	65.6	6.56	0.00	—	229
Total	4.44	0.69	15.1	0.03	0.03	2.40	2.44	0.03	0.61	0.64	123	3,493	3,616	12.7	0.21	7.96	4,002
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.50	0.56	6.51	0.02	0.01	2.40	2.41	0.01	0.61	0.61	—	2,089	2,089	0.06	0.06	0.21	2,108
Area	2.94	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.01	0.19	0.16	< 0.005	0.01	—	0.01	0.01	—	0.01	—	1,014	1,014	0.15	0.02	—	1,023
Water	—	—	—	—	—	—	—	—	—	—	57.4	65.9	123	5.89	0.14	—	313
Waste	—	—	—	—	—	—	—	—	—	—	65.6	0.00	65.6	6.56	0.00	—	229
Total	3.45	0.74	6.66	0.02	0.02	2.40	2.43	0.02	0.61	0.63	123	3,169	3,292	12.7	0.21	0.21	3,672
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.50	0.50	7.02	0.02	0.01	2.37	2.38	0.01	0.60	0.61	—	2,173	2,173	0.06	0.05	3.44	2,193
Area	3.40	0.02	2.78	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.4	11.4	< 0.005	< 0.005	—	11.5
Energy	0.01	0.19	0.16	< 0.005	0.01	—	0.01	0.01	—	0.01	—	1,014	1,014	0.15	0.02	—	1,023
Water	—	—	—	—	—	—	—	—	—	—	57.4	65.9	123	5.89	0.14	—	313
Waste	—	—	—	—	—	—	—	—	—	—	65.6	0.00	65.6	6.56	0.00	—	229
Total	3.91	0.71	9.95	0.02	0.03	2.37	2.40	0.03	0.60	0.63	123	3,264	3,387	12.7	0.21	3.44	3,769
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.09	0.09	1.28	< 0.005	< 0.005	0.43	0.43	< 0.005	0.11	0.11	—	360	360	0.01	0.01	0.57	363
Area	0.62	< 0.005	0.51	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.89	1.89	< 0.005	< 0.005	—	1.90
Energy	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	168	168	0.02	< 0.005	—	169
Water	—	—	—	—	—	—	—	—	—	—	9.50	10.9	20.4	0.98	0.02	—	51.8
Waste	—	—	—	—	—	—	—	—	—	—	10.9	0.00	10.9	1.09	0.00	—	38.0
Total	0.71	0.13	1.82	< 0.005	0.01	0.43	0.44	< 0.005	0.11	0.11	20.4	540	561	2.10	0.03	0.57	624

2.6. Operations Emissions by Sector, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.56	0.45	9.33	0.02	0.01	2.40	2.41	0.01	0.61	0.61	—	2,390	2,390	0.05	0.05	7.96	2,414
Area	3.86	0.05	5.63	< 0.005	0.01	—	0.01	0.01	—	0.01	—	23.2	23.2	< 0.005	< 0.005	—	23.2
Energy	0.01	0.19	0.16	< 0.005	0.01	—	0.01	0.01	—	0.01	—	1,014	1,014	0.15	0.02	—	1,023
Water	—	—	—	—	—	—	—	—	—	—	45.9	52.8	98.6	4.71	0.11	—	250
Waste	—	—	—	—	—	—	—	—	—	—	16.4	0.00	16.4	1.64	0.00	—	57.4
Total	4.44	0.69	15.1	0.03	0.03	2.40	2.44	0.03	0.61	0.64	62.3	3,480	3,542	6.56	0.18	7.96	3,767
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.50	0.56	6.51	0.02	0.01	2.40	2.41	0.01	0.61	0.61	—	2,089	2,089	0.06	0.06	0.21	2,108
Area	2.94	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.01	0.19	0.16	< 0.005	0.01	—	0.01	0.01	—	0.01	—	1,014	1,014	0.15	0.02	—	1,023
Water	—	—	—	—	—	—	—	—	—	—	45.9	52.8	98.6	4.71	0.11	—	250
Waste	—	—	—	—	—	—	—	—	—	—	16.4	0.00	16.4	1.64	0.00	—	57.4
Total	3.45	0.74	6.66	0.02	0.02	2.40	2.43	0.02	0.61	0.63	62.3	3,156	3,218	6.56	0.19	0.21	3,438
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.50	0.50	7.02	0.02	0.01	2.37	2.38	0.01	0.60	0.61	—	2,173	2,173	0.06	0.05	3.44	2,193
Area	3.40	0.02	2.78	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.4	11.4	< 0.005	< 0.005	—	11.5
Energy	0.01	0.19	0.16	< 0.005	0.01	—	0.01	0.01	—	0.01	—	1,014	1,014	0.15	0.02	—	1,023
Water	—	—	—	—	—	—	—	—	—	—	45.9	52.8	98.6	4.71	0.11	—	250
Waste	—	—	—	—	—	—	—	—	—	—	16.4	0.00	16.4	1.64	0.00	—	57.4
Total	3.91	0.71	9.95	0.02	0.03	2.37	2.40	0.03	0.60	0.63	62.3	3,251	3,313	6.56	0.18	3.44	3,535
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Mobile	0.09	0.09	1.28	< 0.005	< 0.005	0.43	0.43	< 0.005	0.11	0.11	—	360	360	0.01	0.01	0.57	363
Area	0.62	< 0.005	0.51	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.89	1.89	< 0.005	< 0.005	—	1.90
Energy	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	168	168	0.02	< 0.005	—	169
Water	—	—	—	—	—	—	—	—	—	—	7.60	8.73	16.3	0.78	0.02	—	41.4
Waste	—	—	—	—	—	—	—	—	—	—	2.71	0.00	2.71	0.27	0.00	—	9.50
Total	0.71	0.13	1.82	< 0.005	0.01	0.43	0.44	< 0.005	0.11	0.11	10.3	538	549	1.09	0.03	0.57	585

3. Construction Emissions Details

3.1. Demolition (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.40	22.2	19.9	0.03	0.92	—	0.92	0.84	—	0.84	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	1.22	1.09	< 0.005	0.05	—	0.05	0.05	—	0.05	—	188	188	0.01	< 0.005	—	188
Demolition	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.22	0.20	< 0.005	0.01	—	0.01	0.01	—	0.01	—	31.1	31.1	< 0.005	< 0.005	—	31.2
Demolition	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	1.13	0.00	0.00	0.18	0.18	0.00	0.04	0.04	—	202	202	0.01	0.01	0.73	205
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.1	10.1	< 0.005	< 0.005	0.02	10.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.67	1.67	< 0.005	< 0.005	< 0.005	1.69
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.2. Demolition (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.40	22.2	19.9	0.03	0.92	—	0.92	0.84	—	0.84	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	1.22	1.09	< 0.005	0.05	—	0.05	0.05	—	0.05	—	188	188	0.01	< 0.005	—	188
Demolition	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.22	0.20	< 0.005	0.01	—	0.01	0.01	—	0.01	—	31.1	31.1	< 0.005	< 0.005	—	31.2
Demolition	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	1.13	0.00	0.00	0.18	0.18	0.00	0.04	0.04	—	202	202	0.01	0.01	0.73	205

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.1	10.1	< 0.005	< 0.005	0.02	10.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.67	1.67	< 0.005	< 0.005	< 0.005	1.69
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Site Preparation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.31	31.6	30.2	0.05	1.37	—	1.37	1.26	—	1.26	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	5.11	5.11	—	2.63	2.63	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.87	0.83	< 0.005	0.04	—	0.04	0.03	—	0.03	—	145	145	0.01	< 0.005	—	146
Dust From Material Movement	—	—	—	—	—	0.14	0.14	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.16	0.15	< 0.005	0.01	—	0.01	0.01	—	0.01	—	24.0	24.0	< 0.005	< 0.005	—	24.1
Dust From Material Movement	—	—	—	—	—	0.03	0.03	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	1.32	0.00	0.00	0.21	0.21	0.00	0.05	0.05	—	236	236	0.01	0.01	0.85	240
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.89	5.89	< 0.005	< 0.005	0.01	5.97

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.98	0.98	< 0.005	< 0.005	< 0.005	0.99
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.4. Site Preparation (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.31	31.6	30.2	0.05	1.37	—	1.37	1.26	—	1.26	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	5.11	5.11	—	2.63	2.63	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.87	0.83	< 0.005	0.04	—	0.04	0.03	—	0.03	—	145	145	0.01	< 0.005	—	146
Dust From Material Movement	—	—	—	—	—	0.14	0.14	—	0.07	0.07	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.16	0.15	< 0.005	0.01	—	0.01	0.01	—	0.01	—	24.0	24.0	< 0.005	< 0.005	—	24.1
Dust From Material Movement	—	—	—	—	—	0.03	0.03	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	1.32	0.00	0.00	0.21	0.21	0.00	0.05	0.05	—	236	236	0.01	0.01	0.85	240
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.89	5.89	< 0.005	< 0.005	0.01	5.97
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.98	0.98	< 0.005	< 0.005	< 0.005	0.99
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.74	16.3	17.9	0.03	0.72	—	0.72	0.66	—	0.66	—	2,959	2,959	0.12	0.02	—	2,970
Dust From Material Movement	—	—	—	—	—	1.84	1.84	—	0.89	0.89	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	1.29	1.42	< 0.005	0.06	—	0.06	0.05	—	0.05	—	235	235	0.01	< 0.005	—	236
Dust From Material Movement	—	—	—	—	—	0.15	0.15	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.24	0.26	< 0.005	0.01	—	0.01	0.01	—	0.01	—	38.9	38.9	< 0.005	< 0.005	—	39.1
Dust From Material Movement	—	—	—	—	—	0.03	0.03	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	1.13	0.00	0.00	0.18	0.18	0.00	0.04	0.04	—	202	202	0.01	0.01	0.73	205
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	14.6	14.6	< 0.005	< 0.005	0.02	14.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.42	2.42	< 0.005	< 0.005	< 0.005	2.46
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.6. Grading (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.74	16.3	17.9	0.03	0.72	—	0.72	0.66	—	0.66	—	2,959	2,959	0.12	0.02	—	2,970

Dust From Material Movement	—	—	—	—	—	1.84	1.84	—	0.89	0.89	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	1.29	1.42	< 0.005	0.06	—	0.06	0.05	—	0.05	—	235	235	0.01	< 0.005	—	236
Dust From Material Movement	—	—	—	—	—	0.15	0.15	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.24	0.26	< 0.005	0.01	—	0.01	0.01	—	0.01	—	38.9	38.9	< 0.005	< 0.005	—	39.1
Dust From Material Movement	—	—	—	—	—	0.03	0.03	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	1.13	0.00	0.00	0.18	0.18	0.00	0.04	0.04	—	202	202	0.01	0.01	0.73	205
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	14.6	14.6	< 0.005	< 0.005	0.02	14.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.42	2.42	< 0.005	< 0.005	< 0.005	2.46
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.29	2.66	3.32	0.01	0.11	—	0.11	0.10	—	0.10	—	610	610	0.02	< 0.005	—	612
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.48	0.61	< 0.005	0.02	—	0.02	0.02	—	0.02	—	101	101	< 0.005	< 0.005	—	101
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.25	0.23	4.10	0.00	0.00	0.66	0.66	0.00	0.16	0.16	—	733	733	0.03	0.03	2.63	744
Vendor	0.02	0.79	0.26	< 0.005	0.01	0.19	0.20	0.01	0.05	0.06	—	696	696	0.01	0.10	1.91	729
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.22	0.27	2.81	0.00	0.00	0.66	0.66	0.00	0.16	0.16	—	643	643	0.01	0.03	0.07	651
Vendor	0.02	0.85	0.27	< 0.005	0.01	0.19	0.20	0.01	0.05	0.06	—	697	697	0.01	0.10	0.05	728
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.78	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	170	170	< 0.005	0.01	0.29	172
Vendor	0.01	0.21	0.07	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	177	177	< 0.005	0.03	0.21	185
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.14	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	28.1	28.1	< 0.005	< 0.005	0.05	28.5
Vendor	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	29.3	29.3	< 0.005	< 0.005	0.03	30.7

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Building Construction (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.29	2.66	3.32	0.01	0.11	—	0.11	0.10	—	0.10	—	610	610	0.02	< 0.005	—	612
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.48	0.61	< 0.005	0.02	—	0.02	0.02	—	0.02	—	101	101	< 0.005	< 0.005	—	101
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.25	0.23	4.10	0.00	0.00	0.66	0.66	0.00	0.16	0.16	—	733	733	0.03	0.03	2.63	744
Vendor	0.02	0.79	0.26	< 0.005	0.01	0.19	0.20	0.01	0.05	0.06	—	696	696	0.01	0.10	1.91	729
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.22	0.27	2.81	0.00	0.00	0.66	0.66	0.00	0.16	0.16	—	643	643	0.01	0.03	0.07	651
Vendor	0.02	0.85	0.27	< 0.005	0.01	0.19	0.20	0.01	0.05	0.06	—	697	697	0.01	0.10	0.05	728
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.78	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	170	170	< 0.005	0.01	0.29	172
Vendor	0.01	0.21	0.07	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	177	177	< 0.005	0.03	0.21	185
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.14	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	28.1	28.1	< 0.005	< 0.005	0.05	28.5
Vendor	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	29.3	29.3	< 0.005	< 0.005	0.03	30.7
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.61	5.57	7.33	0.01	0.21	—	0.21	0.20	—	0.20	—	1,356	1,356	0.05	0.01	—	1,360
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	1.02	1.34	< 0.005	0.04	—	0.04	0.04	—	0.04	—	224	224	0.01	< 0.005	—	225
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.24	0.20	3.77	0.00	0.00	0.66	0.66	0.00	0.16	0.16	—	718	718	0.01	0.02	2.37	728
Vendor	0.02	0.76	0.25	< 0.005	0.01	0.19	0.20	0.01	0.05	0.06	—	683	683	0.01	0.10	1.77	714
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.21	0.25	2.58	0.00	0.00	0.66	0.66	0.00	0.16	0.16	—	630	630	0.01	0.03	0.06	638
Vendor	0.02	0.81	0.25	< 0.005	0.01	0.19	0.20	0.01	0.05	0.06	—	683	683	0.01	0.10	0.05	713
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.13	1.59	0.00	0.00	0.37	0.37	0.00	0.09	0.09	—	370	370	0.01	0.01	0.58	375
Vendor	0.01	0.45	0.14	< 0.005	0.01	0.11	0.11	0.01	0.03	0.03	—	386	386	< 0.005	0.06	0.43	403
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.29	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	61.2	61.2	< 0.005	< 0.005	0.10	62.1
Vendor	< 0.005	0.08	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	63.9	63.9	< 0.005	0.01	0.07	66.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Building Construction (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.61	5.57	7.33	0.01	0.21	—	0.21	0.20	—	0.20	—	1,356	1,356	0.05	0.01	—	1,360

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	1.02	1.34	< 0.005	0.04	—	0.04	0.04	—	0.04	—	224	224	0.01	< 0.005	—	225
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.24	0.20	3.77	0.00	0.00	0.66	0.66	0.00	0.16	0.16	—	718	718	0.01	0.02	2.37	728
Vendor	0.02	0.76	0.25	< 0.005	0.01	0.19	0.20	0.01	0.05	0.06	—	683	683	0.01	0.10	1.77	714
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.21	0.25	2.58	0.00	0.00	0.66	0.66	0.00	0.16	0.16	—	630	630	0.01	0.03	0.06	638
Vendor	0.02	0.81	0.25	< 0.005	0.01	0.19	0.20	0.01	0.05	0.06	—	683	683	0.01	0.10	0.05	713
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.13	1.59	0.00	0.00	0.37	0.37	0.00	0.09	0.09	—	370	370	0.01	0.01	0.58	375
Vendor	0.01	0.45	0.14	< 0.005	0.01	0.11	0.11	0.01	0.03	0.03	—	386	386	< 0.005	0.06	0.43	403
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.29	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	61.2	61.2	< 0.005	< 0.005	0.10	62.1
Vendor	< 0.005	0.08	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	63.9	63.9	< 0.005	0.01	0.07	66.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Paving (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.68	6.23	8.81	0.01	0.26	—	0.26	0.24	—	0.24	—	1,350	1,350	0.05	0.01	—	1,355
Paving	0.10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.34	0.48	< 0.005	0.01	—	0.01	0.01	—	0.01	—	74.0	74.0	< 0.005	< 0.005	—	74.2
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.06	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	12.2	12.2	< 0.005	< 0.005	—	12.3
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.08	0.09	0.95	0.00	0.00	0.24	0.24	0.00	0.06	0.06	—	232	232	< 0.005	0.01	0.02	235
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	13.2	13.2	< 0.005	< 0.005	0.02	13.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.18	2.18	< 0.005	< 0.005	< 0.005	2.21
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.12. Paving (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.68	6.23	8.81	0.01	0.26	—	0.26	0.24	—	0.24	—	1,350	1,350	0.05	0.01	—	1,355
Paving	0.10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.04	0.34	0.48	< 0.005	0.01	—	0.01	0.01	—	0.01	—	74.0	74.0	< 0.005	< 0.005	—	74.2
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.06	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	12.2	12.2	< 0.005	< 0.005	—	12.3
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.09	0.95	0.00	0.00	0.24	0.24	0.00	0.06	0.06	—	232	232	< 0.005	0.01	0.02	235
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	13.2	13.2	< 0.005	< 0.005	0.02	13.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.18	2.18	< 0.005	< 0.005	< 0.005	2.21
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Architectural Coating (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	13.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	13.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.10	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	16.1	16.1	< 0.005	< 0.005	—	16.1
Architectural Coatings	1.67	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.66	2.66	< 0.005	< 0.005	—	2.67
Architectural Coatings	0.30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.75	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	144	144	< 0.005	< 0.005	0.47	146
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.05	0.52	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	126	126	< 0.005	0.01	0.01	128
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	15.8	15.8	< 0.005	< 0.005	0.02	16.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.61	2.61	< 0.005	< 0.005	< 0.005	2.65
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.14. Architectural Coating (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	13.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	13.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.10	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	16.1	16.1	< 0.005	< 0.005	—	16.1
Architectural Coatings	1.67	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.66	2.66	< 0.005	< 0.005	—	2.67

Architect Coatings	0.30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.75	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	144	144	< 0.005	< 0.005	0.47	146
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.05	0.52	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	126	126	< 0.005	0.01	0.01	128
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	15.8	15.8	< 0.005	< 0.005	0.02	16.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.61	2.61	< 0.005	< 0.005	< 0.005	2.65
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.56	0.45	9.33	0.02	0.01	2.40	2.41	0.01	0.61	0.61	—	2,390	2,390	0.05	0.05	7.96	2,414
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.56	0.45	9.33	0.02	0.01	2.40	2.41	0.01	0.61	0.61	—	2,390	2,390	0.05	0.05	7.96	2,414
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.50	0.56	6.51	0.02	0.01	2.40	2.41	0.01	0.61	0.61	—	2,089	2,089	0.06	0.06	0.21	2,108
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.50	0.56	6.51	0.02	0.01	2.40	2.41	0.01	0.61	0.61	—	2,089	2,089	0.06	0.06	0.21	2,108
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.09	0.09	1.28	< 0.005	< 0.005	0.43	0.43	< 0.005	0.11	0.11	—	360	360	0.01	0.01	0.57	363
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.09	0.09	1.28	< 0.005	< 0.005	0.43	0.43	< 0.005	0.11	0.11	—	360	360	0.01	0.01	0.57	363

4.1.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.56	0.45	9.33	0.02	0.01	2.40	2.41	0.01	0.61	0.61	—	2,390	2,390	0.05	0.05	7.96	2,414
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.56	0.45	9.33	0.02	0.01	2.40	2.41	0.01	0.61	0.61	—	2,390	2,390	0.05	0.05	7.96	2,414
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.50	0.56	6.51	0.02	0.01	2.40	2.41	0.01	0.61	0.61	—	2,089	2,089	0.06	0.06	0.21	2,108
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.50	0.56	6.51	0.02	0.01	2.40	2.41	0.01	0.61	0.61	—	2,089	2,089	0.06	0.06	0.21	2,108
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.09	0.09	1.28	< 0.005	< 0.005	0.43	0.43	< 0.005	0.11	0.11	—	360	360	0.01	0.01	0.57	363
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.09	0.09	1.28	< 0.005	< 0.005	0.43	0.43	< 0.005	0.11	0.11	—	360	360	0.01	0.01	0.57	363

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	777	777	0.13	0.02	—	785
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	15.7	15.7	< 0.005	< 0.005	—	15.9
Total	—	—	—	—	—	—	—	—	—	—	—	793	793	0.13	0.02	—	801
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	777	777	0.13	0.02	—	785
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	15.7	15.7	< 0.005	< 0.005	—	15.9
Total	—	—	—	—	—	—	—	—	—	—	—	793	793	0.13	0.02	—	801
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	129	129	0.02	< 0.005	—	130
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	2.61	2.61	< 0.005	< 0.005	—	2.63

Total	—	—	—	—	—	—	—	—	—	—	—	131	131	0.02	< 0.005	—	133

4.2.2. Electricity Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	777	777	0.13	0.02	—	785
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	15.7	15.7	< 0.005	< 0.005	—	15.9
Total	—	—	—	—	—	—	—	—	—	—	—	793	793	0.13	0.02	—	801
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	777	777	0.13	0.02	—	785
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	15.7	15.7	< 0.005	< 0.005	—	15.9
Total	—	—	—	—	—	—	—	—	—	—	—	793	793	0.13	0.02	—	801
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	129	129	0.02	< 0.005	—	130
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	2.61	2.61	< 0.005	< 0.005	—	2.63

Total	—	—	—	—	—	—	—	—	—	—	—	131	131	0.02	< 0.005	—	133

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.01	0.19	0.16	< 0.005	0.01	—	0.01	0.01	—	0.01	—	221	221	0.02	< 0.005	—	222
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	0.19	0.16	< 0.005	0.01	—	0.01	0.01	—	0.01	—	221	221	0.02	< 0.005	—	222
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.01	0.19	0.16	< 0.005	0.01	—	0.01	0.01	—	0.01	—	221	221	0.02	< 0.005	—	222
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	0.19	0.16	< 0.005	0.01	—	0.01	0.01	—	0.01	—	221	221	0.02	< 0.005	—	222
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	36.6	36.6	< 0.005	< 0.005	—	36.7
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Total	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	36.6	36.6	< 0.005	< 0.005	—	36.7

4.2.4. Natural Gas Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.01	0.19	0.16	< 0.005	0.01	—	0.01	0.01	—	0.01	—	221	221	0.02	< 0.005	—	222
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	0.19	0.16	< 0.005	0.01	—	0.01	0.01	—	0.01	—	221	221	0.02	< 0.005	—	222
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.01	0.19	0.16	< 0.005	0.01	—	0.01	0.01	—	0.01	—	221	221	0.02	< 0.005	—	222
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	0.19	0.16	< 0.005	0.01	—	0.01	0.01	—	0.01	—	221	221	0.02	< 0.005	—	222
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	36.6	36.6	< 0.005	< 0.005	—	36.7
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Total	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	36.6	36.6	< 0.005	< 0.005	—	36.7

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	2.77	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.17	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.92	0.05	5.63	< 0.005	0.01	—	0.01	0.01	—	0.01	—	23.2	23.2	< 0.005	< 0.005	—	23.2
Total	3.86	0.05	5.63	< 0.005	0.01	—	0.01	0.01	—	0.01	—	23.2	23.2	< 0.005	< 0.005	—	23.2
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	2.77	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.17	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	2.94	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.51	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architect Coatings	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.08	< 0.005	0.51	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.89	1.89	< 0.005	< 0.005	—	1.90
Total	0.62	< 0.005	0.51	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.89	1.89	< 0.005	< 0.005	—	1.90

4.3.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	2.77	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.17	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.92	0.05	5.63	< 0.005	0.01	—	0.01	0.01	—	0.01	—	23.2	23.2	< 0.005	< 0.005	—	23.2
Total	3.86	0.05	5.63	< 0.005	0.01	—	0.01	0.01	—	0.01	—	23.2	23.2	< 0.005	< 0.005	—	23.2
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	2.77	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.17	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	2.94	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.51	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.08	< 0.005	0.51	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.89	1.89	< 0.005	< 0.005	—	1.90
Total	0.62	< 0.005	0.51	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.89	1.89	< 0.005	< 0.005	—	1.90

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	57.4	65.9	123	5.89	0.14	—	313
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.01	0.01	< 0.005	< 0.005	—	0.01
Total	—	—	—	—	—	—	—	—	—	—	57.4	65.9	123	5.89	0.14	—	313
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unrefrigerated Warehou Rail	—	—	—	—	—	—	—	—	—	—	57.4	65.9	123	5.89	0.14	—	313
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.01	0.01	< 0.005	< 0.005	—	0.01
Total	—	—	—	—	—	—	—	—	—	—	57.4	65.9	123	5.89	0.14	—	313
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	9.50	10.9	20.4	0.98	0.02	—	51.8
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Total	—	—	—	—	—	—	—	—	—	—	9.50	10.9	20.4	0.98	0.02	—	51.8

1.4.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	45.9	52.7	98.6	4.71	0.11	—	250
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.01	0.01	< 0.005	< 0.005	—	0.01
Total	—	—	—	—	—	—	—	—	—	—	45.9	52.8	98.6	4.71	0.11	—	250
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unrefrige Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	45.9	52.7	98.6	4.71	0.11	—	250
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.01	0.01	< 0.005	< 0.005	—	0.01
Total	—	—	—	—	—	—	—	—	—	—	45.9	52.8	98.6	4.71	0.11	—	250
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrige rated Warehou se-No Rail	—	—	—	—	—	—	—	—	—	—	7.60	8.73	16.3	0.78	0.02	—	41.4
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Total	—	—	—	—	—	—	—	—	—	—	7.60	8.73	16.3	0.78	0.02	—	41.4

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrige rated Warehou se-No Rail	—	—	—	—	—	—	—	—	—	—	65.6	0.00	65.6	6.56	0.00	—	229
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	65.6	0.00	65.6	6.56	0.00	—	229

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	65.6	0.00	65.6	6.56	0.00	—	229
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	65.6	0.00	65.6	6.56	0.00	—	229
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	10.9	0.00	10.9	1.09	0.00	—	38.0
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	10.9	0.00	10.9	1.09	0.00	—	38.0

4.5.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	16.4	0.00	16.4	1.64	0.00	—	57.4
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	16.4	0.00	16.4	1.64	0.00	—	57.4

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	16.4	0.00	16.4	1.64	0.00	—	57.4
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	16.4	0.00	16.4	1.64	0.00	—	57.4
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	2.71	0.00	2.71	0.27	0.00	—	9.50
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	2.71	0.00	2.71	0.27	0.00	—	9.50

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.6.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Remove	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	6/3/2025	6/30/2025	5.00	20.0	—
Site Preparation	Site Preparation	7/01/2025	7/14/2025	5.00	10.0	—
Grading	Grading	7/15/2025	8/23/2025	5.00	29.0	—
Building Construction	Building Construction	8/24/2025	10/16/2026	5.00	300	—
Paving	Paving	10/16/2026	11/12/2026	5.00	20.0	—
Architectural Coating	Architectural Coating	8/18/2026	10/16/2026	5.00	44.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41

Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	6.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	6.00	36.0	0.38
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Paving	Cement and Mortar Mixers	Diesel	Average	2.00	6.00	10.0	0.56
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40

Grading	Tractors/Loaders/Back	Diesel	Average	3.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	6.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	6.00	36.0	0.38
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Paving	Cement and Mortar Mixers	Diesel	Average	2.00	6.00	10.0	0.56
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	17.3	LDA,LDT1,LDT2
Demolition	Vendor	—	10.6	HHDT,MHDT
Demolition	Hauling	0.00	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	17.3	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.6	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT

Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	15.0	17.3	LDA,LDT1,LDT2
Grading	Vendor	—	10.6	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	54.4	17.3	LDA,LDT1,LDT2
Building Construction	Vendor	21.2	10.6	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	20.0	17.3	LDA,LDT1,LDT2
Paving	Vendor	—	10.6	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	10.9	17.3	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.6	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	17.3	LDA,LDT1,LDT2
Demolition	Vendor	—	10.6	HHDT,MHDT
Demolition	Hauling	0.00	20.0	HHDT

Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	17.3	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.6	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	15.0	17.3	LDA,LDT1,LDT2
Grading	Vendor	—	10.6	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	54.4	17.3	LDA,LDT1,LDT2
Building Construction	Vendor	21.2	10.6	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	20.0	17.3	LDA,LDT1,LDT2
Paving	Vendor	—	10.6	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	10.9	17.3	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.6	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

3.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

3.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	194,198	64,733	1,929

3.6. Dust Mitigation

3.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	—	—
Site Preparation	—	—	15.0	0.00	—
Grading	—	—	29.0	0.00	—
Paving	0.00	0.00	0.00	0.00	0.74

3.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	3	74%	74%

3.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Unrefrigerated Warehouse-No Rail	0.00	0%
Parking Lot	0.74	100%

3.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	204	0.03	< 0.005
2026	0.00	204	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Unrefrigerated Warehouse-No Rail	221	221	221	80,806	3,453	3,453	3,453	1,260,401
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Unrefrigerated Warehouse-No Rail	221	221	221	80,806	3,453	3,453	3,453	1,260,401
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

0	0.00	194,198	64,733	1,929

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Unrefrigerated Warehouse-No Rail	1,390,430	204	0.0330	0.0040	690,586
Parking Lot	28,161	204	0.0330	0.0040	0.00

5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Unrefrigerated Warehouse-No Rail	1,390,430	204	0.0330	0.0040	690,586
Parking Lot	28,161	204	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Unrefrigerated Warehouse-No Rail	29,938,781	16,310
Parking Lot	0.00	8,155

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Unrefrigerated Warehouse-No Rail	23,951,025	13,048
Parking Lot	0.00	6,524

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Unrefrigerated Warehouse-No Rail	122	—
Parking Lot	0.00	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Unrefrigerated Warehouse-No Rail	30.4	—
Parking Lot	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

3.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	23.4	annual days of extreme heat
Extreme Precipitation	0.00	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

3.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	84.6
AQ-PM	98.2

AQ-DPM	23.9
Drinking Water	97.1
Lead Risk Housing	40.3
Pesticides	95.0
Toxic Releases	37.4
Traffic	18.2
Effect Indicators	—
CleanUp Sites	70.5
Groundwater	59.9
Haz Waste Facilities/Generators	82.1
Impaired Water Bodies	0.00
Solid Waste	42.3
Sensitive Population	—
Asthma	73.0
Cardio-vascular	82.7
Low Birth Weights	—
Socioeconomic Factor Indicators	—
Education	88.2
Housing	—
Linguistic	—
Poverty	68.0
Unemployment	8.69

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	—

Employed	—
Median HI	—
Education	—
Bachelor's or higher	—
High school enrollment	—
Preschool enrollment	—
Transportation	—
Auto Access	—
Active commuting	—
Social	—
2-parent households	—
Voting	—
Neighborhood	—
Alcohol availability	—
Park access	—
Retail density	—
Supermarket access	—
Tree canopy	—
Housing	—
Homeownership	—
Housing habitability	—
Low-inc homeowner severe housing cost burden	—
Low-inc renter severe housing cost burden	—
Uncrowded housing	—
Health Outcomes	—
Insured adults	—
Arthritis	0.0
Asthma ER Admissions	21.6

High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	0.0
Cognitively Disabled	94.6
Physically Disabled	78.7
Heart Attack ER Admissions	16.5
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	0.0
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	90.2
Elderly	92.1
English Speaking	0.0
Foreign-born	0.0
Outdoor Workers	6.1

Climate Change Adaptive Capacity	—
Impervious Surface Cover	98.4
Traffic Density	0.0
Traffic Access	0.0
Other Indices	—
Hardship	0.0
Other Decision Support	—
2016 Voting	0.0

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	87.0
Healthy Places Index Score for Project Location (b)	—
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification

Construction: Construction Phases	Architectural coating phase overlapped with building construction to reflect anticipated construction scheduling.
Operations: Fleet Mix	Fleet mix was changed to model mobile emissions only from light duty passenger vehicles.
Operations: Vehicle Data	Trip generation rate adjusted to match the trip generation memorandum (LAV//Pinnacle, Inc., 2023)

Mitigated Negative Declaration

Appendix B

GEOTECHNICAL ENGINEERING INVESTIGATION

SAED INVESTMENTS, LLC
by Max Bacerra
(PP25125)

PD No. 44, Map 79-35

Kern County
Planning and Natural Resources Department Bakersfield, CA

July 2026

GEOTECHNICAL • ENVIRONMENTAL • GEOLOGY • MATERIALS TESTING & INSPECTION • FORENSIC • LABORATORY

SALEM
engineering group, inc.

GEOTECHNICAL ENGINEERING INVESTIGATION

PROPOSED FURNTURE CITY WAREHOUSE BUILDING
SWC OF COBERLY ROAD AND CHERRY AVENUE
APN 090-340-18
SHAFTER, CALIFORNIA

SALEM PROJECT NO. 2-223-0066
FEBRUARY 4, 2025

PREPARED FOR:

MR. RIYAD SAED
FURNITURE CITY
5355 N. BLACKSTONE AVE.
FRESNO, CALIFORNIA

C/O MR. MAX BACERRA
PACIFICUS IV COMPANY, LLC.
375 S. DOVER PARKWAY SUITE C
DELANO, CALIFORNIA 93215

PREPARED BY:

SALEM ENGINEERING GROUP, INC.
4729 W. JACQUELYN AVENUE
FRESNO, CA 93722
P: (559) 271-9700
F: (559) 275-0827

SALEM
engineering group, inc.

4729 W. Jacquelyn Avenue
Fresno, CA 93722
Phone (559) 271-9700
Fax (559) 275-0827

February 4, 2025

Project No. 2-223-0066

Mr. Riyad Saed
Furniture City
5355 N. Blackstone Ave.
Fresno, California

C/O Mr. Max Bacerra
Pacificus IV Company, LLC.
375 S. Dover Parkway Suite C
Delano, California 93215

Subject: **GEOTECHNICAL ENGINEERING INVESTIGATION**
PROPOSED FURNITURE CITY WAREHOUSE BUILDINGS
SOUTHWEST CORNER OF COBERLY ROAD AND CHERRY AVENUE (APN: 090-340-18)
SHAFTER, KERN COUNTY, CALIFORNIA

Dear Mr. Saed:

At your request and authorization, SALEM Engineering Group, Inc. (SALEM) has prepared this Geotechnical Engineering Investigation report for the proposed Furniture City Warehouse building on Parcel 1 within the subject site (APN: 090-340-18) located at the southwest corner of Coberly Road and Cherry Avenue, in Shafter, California.

We understand that development of the site includes construction of a warehouse building on the west section of the subject parcel. Per information provided, the warehouse building, planned in Parcel 1 of PM 12515, will comprise approximately 129,456 square feet of the 6.41 acre parcel.

The accompanying report presents our findings, conclusions, and recommendations regarding the geotechnical aspects of designing and constructing the project as presently proposed. In our opinion, the proposed project is feasible from a geotechnical viewpoint provided our recommendations are incorporated into the design and construction of the project.

We appreciate the opportunity to assist you with this project. Should you have questions regarding this report or need additional information, please contact the undersigned at (559) 271-9700.

Respectfully Submitted,

SALEM ENGINEERING GROUP, INC.

Ahmad Dalqamouni

Ahmad Dalqamouni, PG, Ph.D., M.CE
Geotechnical Project Engineer
PG 10146

Dean B. Ledgerwood II, PE, PG, CEG
Geotechnical Manager
PE 94395 / PG 8725 / CEG 2613

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- Direct Shear Test Result
- Gradation Curves
- Atterberg Limits
- Expansion Index
- Resistance Value Test Result
- Corrosivity Test Results

SALEM
engineering group, inc.

4729 W. Jacquelyn Avenue
Fresno, CA 93722
Phone (559) 271-9700
Fax (559) 275-0827

PROPOSED FURNITURE CITY WAREHOUSE BUILDING
SOUTHWEST CORNER OF COBERLY ROAD AND CHERRY AVENUE
APN: 090-340-18
SHAFTER, CALIFORNIA

1. PURPOSE AND SCOPE

This report presents the results of our Geotechnical Engineering Investigation for the proposed office and warehouse buildings within the subject parcel with APN #: 090-340-18 located on the Southwest Corner of Coberly Road and Cherry Avenue in Shafter, California, as depicted on Figure 1, Vicinity Map.

SALEM Engineering Group, Inc. (SALEM) has completed this geotechnical engineering investigation with the purpose to observe and sample the subsurface conditions encountered at the site, and provide conclusions and recommendations relative to the geotechnical aspects of constructing the project as presently proposed. The recommendations presented herein are based on analysis of the data obtained during the investigation and our local experience with similar soil and geologic conditions.

If project details vary significantly from those described herein, SALEM should be contacted to determine the necessity for review and possible revision of this report.

2. SITE LOCATION AND DESCRIPTION

The subject site is located southwest of the intersection of Coberly Road and Cherry Avenue in Shafter, California (Near Coordinates 35.4479°, -119.2467°), (see Vicinity Map, Figure 1).

At the time of our field exploration, the area proposed for the improvements was vacant land and observed that some areas of the parcel are irregular in elevation and covered with piles of concrete, trash and undocumented fill.

The proposed warehouse building is planned on the southern side of the parcel. The project site is bounded by an industrial development (Lufkin Industries) to the west, by Cherry Avenue to the east, bounded by unpaved section of Coberly Road to the north side, and bounded by undeveloped vacant land that utilized for truck parking and storage area. The site is observed to be surrounded by utilities poles and others on the east and north areas,

It is observed that the northwest site area have been used for dumping undocumented fills and trash from demolished construction. Also, it should be mentioned that general site elevation was observed to be around 1-2 feet higher than surrounding elevations near north side and east side of parcel. In addition. The site at it is original level is approximately 330 feet above mean sea level (AMSL), based on Google Earth Imagery.

3. PROJECT DESCRIPTION

Based on review of the provided preliminary site plan, provided by Mr. Bacerra, we understand the project will include a large warehouse structure, with a plan view area around 129,465 square feet. The warehouse structure will include approximately 2,200 square feet of designated office space. In addition, we anticipated the warehouse building will include depressed loading docks.

It is also anticipated the proposed construction will include steel/metal framing, with possible concrete tilt up walls, supported on shallow spread foundations and concrete slabs on grade. Structural loads were not provided to us; however, based upon our past experience, we have assumed that the buildings will likely require shallow foundations with column and continuous wall footings that have loads of up to approximately 80 to 150 kips and 3 to 5 kips per linear foot, respectively. Floor slab soil bearing pressure is expected not to exceed 150 psf.

Based on review of the site plan provided. It is our understanding that appurtenant construction is anticipated to include asphaltic concrete paving, depressed truck loading docks, storm drainage areas, and underground utilities.

It should be mentioned that percolation testing for storm water drainage areas was not included in the scope and fees of this investigation, if percolation testing is required for the design of drainage system, SALEM should be notified to provide cost estimate for these services.

A site grading plan was not available at the time of preparation of this report. Based on the observed site grades at the time of our field exploration, it is anticipated that cuts and fills during earthwork will be on the order of 2 to 3 feet to providing a level area for the project area. In the event that changes occur in the nature or design of the project, the conclusions and recommendations contained in this report will not be considered valid unless the changes are reviewed and the conclusions of our report are modified.

The site location and approximate locations of proposed improvements are shown on the Site Plan, Figure 2.

4. FIELD EXPLORATION

4.1. Drilled Test Bores

Our field exploration consisted of site surface reconnaissance and subsurface exploration. Between March 17, 2023 and March 19, 2023, twenty eight (28) test borings were drilled throughout the site to depths ranging from 5 to 50 feet below site grade (BSG). The test borings were drilled within or near the proposed buildings pads, docking, and pavement areas at the approximate locations shown on Figure No. 2, Site Plan. The test borings were advanced with 6 5/8 inch hollow stem auger rotated by a truck-mounted CME-45 drill rig.

The materials encountered in the test borings were visually classified in the field, and logs were recorded by a field engineer at that time. Visual classification of the materials encountered in the test borings was generally made in accordance with the Unified Soil Classification System (ASTM D2487).

A Unified Soil Classification Chart and key to sampling is presented in Appendix A, including test boring logs. Subsurface soil samples were obtained by driving a Modified California sampler (MCS) or a Standard Penetration Test (SPT) sampler. The Boring Logs include the soil type, color, moisture content, dry density, and the applicable Unified Soil Classification System symbol. The location of the test borings were determined by measuring from site features determined from information provided to us. Hence, accuracy can be implied only to the degree that this method warrants. The actual boundaries between different soil

types may be gradual and soil conditions may vary. For a more detailed description of the materials encountered, the Boring Logs in Appendix A should be consulted.

Penetration resistance blow counts were obtained by dropping a 140-pound automated trip hammer through a 30-inch free fall to drive the sampler to a maximum penetration of 18 inches. The number of blows required to drive the last 12 inches, or less if very dense or hard, is recorded as Penetration Resistance (blows/foot) on the logs of borings.

Soil samples were obtained from the test borings at the depths shown on the test boring logs. The MCS samples were recovered and capped at both ends to preserve the samples at their natural moisture content; SPT samples were recovered and placed in a sealed bag to preserve their natural moisture content. At the completion of drilling and sampling, the test borings were backfilled with drill cuttings.

5. LABORATORY TESTING

Laboratory tests were performed on selected soil samples to evaluate their physical characteristics and engineering properties. The laboratory-testing program was formulated with emphasis on the evaluation of natural moisture, density, shear strength, consolidation, expansion index, Atterberg Limits, and gradation of the materials encountered.

In addition, chemical tests were performed to evaluate the corrosivity of the soils to buried concrete and metal. Details of the laboratory test program and the results of laboratory test are summarized in Appendix B. This information, along with the field observations, was used to prepare the final boring logs in Appendix A.

6. SOIL AND GROUNDWATER CONDITIONS

6.1 Surface and Subsurface Conditions

The subsurface conditions encountered appear typical of those found in the geologic region of the site. In general, the soils encountered are consisted of interbedded layers of loose to medium dense silty sand, and firm to hard sandy silt and/or loose to medium dense clayey silty sand, The stratified sand and silt are underlain by irregular stratified layers of medium dense to dense poorly graded sand with silts and clays, followed by poorly graded sand with silts and traces of gravel, to the maximum depth explored of 50 feet BSG. It should be noted that isolated areas of cemented soils, were encountered at various depths in borings B-2, B-8, and B-11. In addition, based on site observations, it appears approximately 1 to 2 feet of undocumented fills are present on the northern and eastern side of the site.

Two (2) consolidation tests performed on samples at depths of 2 and 3.5 feet BSG resulted in about 1.3 and 4.1 percent consolidation under a load of 8 kips per square foot. When wetted under a load of 2.0 kips per square foot, these samples exhibited 0.6 percent swell and 1.2 percent collapse, respectively. Three (3) direct shear tests resulted in an internal angles of friction of 33, 45, and 43 degrees with cohesion values of 670, no-cohesion, and 193 pound square foot, respectively. Four (4) Atterberg Limits test performed on near surface soil samples resulted in plasticity index of 4, 23, 3, and non- plastic (0), with liquid limit values: 17, 43, 20, and no value, respectively. Two (2) expansion index tests performed on a sample collected from the upper 4 feet BSG resulted in an expansion index of 3 and 9, respectively. Three (3) R-value tests resulted in values of 39, 39 and 33.

The soils were classified in the field during the drilling and sampling operations. The stratification lines were approximated by the field engineer on the basis of observations made at the time of drilling. The actual boundaries between different soil types may be gradual and soil conditions may vary. For a more detailed description of the materials encountered, the Boring Logs in Appendix A should be consulted.

6.2 Groundwater

The test boring locations were checked for the presence of groundwater during and after the drilling operations. Free groundwater was not encountered during this investigation to the maximum depth of 50 feet below site grade (BSG).

Based on review of the Department of Water Resources, On-Line Water Well Database (http://wdl.water.ca.gov), a water well located about 0.4 miles east of the site (well no. 28S25E36J001M) reported a historical high groundwater depth of approximately 157.5 feet below site grade in October 1987. Readings from the same well after 2002 reported a groundwater depths approximately more than 170 feet depth BSG.

It should be recognized that water table elevations may fluctuate with time, being dependent upon seasonal precipitation, irrigation, land use, localized pumping, and climatic conditions as well as other factors. Therefore, water level observations at the time of the field investigation may vary from those encountered during the construction phase of the project. The evaluation of such factors is beyond the scope of this report.

6.3. Soil Corrosion Screening

Excessive sulfate in either the soil or native water may result in an adverse reaction between the cement in concrete and the soil. The 2014 Edition of ACI 318 (ACI 318) has established criteria for evaluation of sulfate and chloride levels and how they relate to cement reactivity with soil and/or water. A soil sample was obtained from the project site and was tested for the evaluation of the potential for concrete deterioration or steel corrosion due to attack by soil-borne soluble salts and soluble chloride. The water-soluble sulfate concentration in the saturation extract from the soil sample was detected to be 143 and 100 mg/kg.

ACI 318 Tables 19.3.1.1 and 19.3.2.1 outline exposure categories, classes, and concrete requirements by exposure class. ACI 318 requirements for site concrete based upon soluble sulfate are summarized in Table 6.3 below.

TABLE 6.3
WATER SOLUBLE SULFATE EXPOSURE REQUIREMENTS

Location of Sample	Dissolved Sulfate (SO_4) in Soil % by Weight	Exposure Severity	Exposure Class	Maximum w/cm Ratio	Minimum Concrete Compressive Strength, psi	Cementitious Materials Type
B-6	0.0143	Negligible	SO	N/A	2,500 psi	No Restriction
B-15	0.0100	Negligible	SO	N/A	2,500 psi	No Restriction

The water-soluble chloride concentration detected in saturation extract from the soil samples were 39 and 29 mg/kg. In addition, corrosion testing performed on near surface soils resulted in minimum resistivity values of 2,570 and 2,218 ohm-centimeters. Based on the results, these soils would be considered to have a "Mildly Corrosive" potential to buried metal objects (per National Association of Corrosion Engineers, Corrosion Severity Ratings).

It is recommended that a qualified corrosion engineer be consulted regarding protection of buried steel or ductile iron piping and conduit or, at a minimum, applicable manufacturer's recommendations for corrosion protection of buried metal pipe be closely followed. Additional corrosion testing for minimum resistivity may need to be performed if required by the pipe manufacturer.

7. GEOLOGIC SETTING

The project site is in the Great Valley Geomorphic Province, which is a topographic and structural basin that is bounded on the east by the Sierra Nevada and on the west by the Coast Ranges. The Sierra Nevada, a fault block dipping gently southwestward, is made up of igneous and metamorphic rocks of pre-Tertiary age that comprise the basement complex beneath the Valley. The Coast Ranges contain folded and faulted sedimentary rocks of Mesozoic and Cenozoic age, which are similar to those rocks that underlie the Valley at depth and non-conformably overlie the basement complex; gently dipping to nearly horizontal sedimentary rocks of Tertiary and Quaternary age overlie the older rocks. The Great Valley Province is an alluvial plain, drained by the Sacramento River in the north and the San Joaquin Valley in the south, each join and flow out the San Francisco Bay. The Great Valley is an asymmetric trough, extending about 50 miles wide and 400 miles long. The southern portion of the Great Valley includes San Joaquin Valley filled with Pleistocene and Holocene alluvium derived from the Sierra Nevada and Coast Ranges. Sediments in the Great Valley are reportedly up to 40,000 feet thick.

Sediments currently at or near the surface are believed to be of Quaternary Age – Lower Pleistocene (2 million years old or younger). The San Joaquin Valley has historically been a province of relatively low to moderate seismic activity.

Based on review of Geologic Map of California: Bakersfield sheet[1], the site is mapped in an area described as recent Great Valley Fan deposits (Qf). Deposits encountered on the subject site during exploratory drilling are discussed in detail in this report.

8. GEOLOGIC HAZARDS

8.1 Faulting and Seismicity

Based on the proximity of several dominant active faults and seismogenic structures, as well as the historic seismic record, the area of the subject site is considered subject to relatively low seismicity. The project area is not within an Alquist-Priolo Special Studies Zone and will not require a special site investigation by an Engineering Geologist. Soils on site are classified as Site Class D in accordance with Chapter 16 of the California Building Code. The proposed structures are determined to be in Seismic Design Category D.

To determine the distance of known active faults within 100 miles of the site, we used the United States Geological Survey (USGS) web-based application *2008 National Seismic Hazard Maps - Fault Parameters.*

[1] Smith, A.R., 1964, Geologic map of California : Bakersfield sheet: California Division of Mines and Geology, , scale 1:250,000

Site latitude is 35.4479 ° North; site longitude is -119.2467° West. The ten closest active faults are summarized below in Table 8.1.

TABLE 8.1
REGIONAL FAULT SUMMARY

Fault Name	Distance to Site (miles)	Maximum Earthquake Magnitude, M_w
White Wolf	31.32	7.2
Pleito	31.79	7.1
S. San Andreas; CH+CC+BB+NM+SM+NSB+SSB+BG	32.25	8.0
S. San Andreas; BB	35.85	7.1
S. San Andreas; CH	36.21	7.1
San Juan	45.39	7.1
Garlock; GE+GC+GW	46.86	7.7
S. San Andreas; NM	48.52	7.0
Great Valley 14 (Kettleman Hills)	54.09	7.2
San Gabriel	54.78	7.3

The faults tabulated above and numerous other faults in the region are sources of potential ground motion. However, earthquakes that might occur on other faults throughout California are also potential generators of significant ground motion and could subject the site to intense ground shaking.

8.2 Surface Fault Rupture

The site is not within a currently established State of California Earthquake Fault Zone for surface fault rupture hazards. No active faults with the potential for surface fault rupture are known to pass directly beneath the site. Therefore, the potential for surface rupture due to faulting occurring beneath the site during the design life of the proposed development is considered low.

8.3 Ground Shaking

Based on the 2022 CBC, a Site Class D was selected for the site based on soil conditions with standard penetration resistance, N-values, averaging between 15 and 50 blows per foot. Table 9.7.1 includes design seismic coefficients and spectral response parameters, based on the 2022 California Building Code (CBC) for the project foundation design.

Based on Office of Statewide Health Planning and Development (OSHPD) Seismic Design Maps, the estimated design peak ground acceleration adjusted for site class effects (PGA_M) was determined to be 0.465 g (based on both probabilistic and deterministic seismic ground motion).

8.4 Liquefaction

Soil liquefaction is a state of soil particles suspension caused by a complete loss of strength when the effective stress drops to zero. Liquefaction normally occurs under saturated conditions in soils such as sand in which the strength is purely frictional. Primary factors that trigger liquefaction are: moderate to strong ground shaking (seismic source), relatively clean, loose granular soils (primarily poorly graded sands and silty sands),

and saturated soil conditions (shallow groundwater). Due to the increasing overburden pressure with depth, liquefaction of granular soils is generally limited to the upper 50 feet of a soil profile.

In general, the soils encountered generally consisted of interbedded layers of loose to medium dense silty sand, and firm to hard sandy silt and/or loose to medium dense clayey silty sand, The stratified sand and silt are underlain by irregular stratified layers of medium dense to dense poorly graded sand with silts and clays, followed by poorly graded sand with silts and traces of gravel, to the maximum depth explored of 50 feet BSG. It should be noted that isolated areas of cemented soils, were encountered at various depths in borings B-2, B-8, and B-11. In addition, based on site observations, it appears approximately 1 to 2 feet of undocumented fills are present on the northern and eastern side of the site.

Free groundwater was not encountered to the depth of exploration during this investigation. Available, historic groundwater depths are reported a historical high groundwater depth of approximately 157 feet below site grade in October 1987. Readings from the same well after 1992 reported a groundwater depths approximately more than 170 feet depth BSG.

Based on the relative density of soils encountered during this investigation, lack of ground water within the upper 50 feet BSG, and the relatively low peak ground acceleration (0.465g), the potential for liquefaction/seismic settlement to impact the site is considered low.

8.5 Lateral Spreading

Lateral spreading is a phenomenon in which soils move laterally during seismic shaking and is often associated with liquefaction. The amount of movement depends on the soil strength, duration and intensity of seismic shaking, topography, and free face geometry. Due to the relatively flat site topography and lack of groundwater near the surface, we judge the likelihood of lateral spreading to be nil to very low.

8.6 Landslides

There are no known landslides at the site, nor is the site in the path of any known or potential landslides. We do not consider the potential for a landslide to be a hazard to this project.

8.7 Tsunamis and Seiches

The site is not located within a coastal area. Therefore, tsunamis (seismic sea waves) are not considered a significant hazard at the site.

Seiches are large waves generated in enclosed bodies of water in response to ground shaking. No major water-retaining structures are located immediately up gradient from the project site. Flooding from a seismically-induced seiche is considered unlikely.

9. CONCLUSIONS AND RECOMMENDATIONS

9.1 General Conclusions

9.1.1 Based upon the data collected during this investigation, and from a geotechnical engineering standpoint, it is our opinion that the site is suitable for the proposed construction of improvements at the site as planned, provided the recommendations contained in this report are incorporated into the project design and construction. Conclusions and recommendations provided in this report are

based on our review of available literature, analysis of data obtained from our field exploration and laboratory testing program, and our understanding of the proposed development at this time.

9.1.2 The soils encountered generally consisted of interbedded layers of loose to medium dense silty sand, and firm to hard sandy silt and/or loose to medium dense clayey silty sand, The stratified sand and silt are underlain by irregular stratified layers of medium dense to dense poorly graded sand with silts and clays, followed by poorly graded sand with silts and traces of gravel, to the maximum depth explored of 50 feet BSG. It should be noted that isolated areas of cemented soils, were encountered at various depths in borings B-2, B-8, and B-11.

Based on site observations, it appears approximately 1 to 2 feet of undocumented fills are present on the northern and eastern side of the site. In addition, several stockpiles of concrete/Trash material was noted within the site. The stockpiled soils/concrete should not be considered suitable for use as engineered fill within building pad or parking areas.

9.1.3 Free groundwater was not encountered to the depth of exploration during this investigation.

9.1.4 The near surface soils exhibited moderate compressibility characteristics, slight collapse potential, and very low expansion potential. When compacted as engineered fill, the shallow soils encountered have good pavement support characteristics.

9.1.5 Based on the subsurface conditions at the site and the anticipated structural loading, we anticipate that the proposed building may be supported using conventional shallow foundations provided that the recommendations presented herein are incorporated in the design and construction of the project.

9.1.6 Provided the warehouse building structure foundation pads are graded in accordance with the recommendations of this report and foundations are constructed as described herein, we estimate total static settlement of 1 inch and a differential static settlement of ½ inch in 30 feet.

9.1.7 Based on the chemistry testing performed, the near surface soils have 'negligible' potential for sulfate attack on concrete and are considered to be "mildly corrosive" to buried metal objects.

9.1.8 All references to relative compaction and optimum moisture content in this report are based on ASTM D 1557 (latest edition).

9.1.9 We should be retained to review the project plans as they develop further, provide engineering consultation as-needed, and perform geotechnical observation and testing services during construction.

9.2 Surface Drainage

9.2.1 Proper surface drainage is critical to the future performance of the project. Uncontrolled infiltration of irrigation excess and storm runoff into the soils can adversely affect the performance of the planned improvements. Saturation of a soil can cause it to lose internal shear strength and increase its compressibility, resulting in a change to important engineering properties. Proper drainage should be maintained at all times.

9.2.2 Exposed ground immediately adjacent to the foundation shall be sloped away from the building at a slope of not less than 5 percent for a minimum distance of 10 feet. Impervious surfaces within 10 feet of the building foundation shall be sloped a minimum of 1 percent away from the building

and drainage gradients maintained to carry all surface water to collection facilities and off site. These grades should be maintained for the life of the project. Ponding of water should not be allowed adjacent to the structure. Over-irrigation within landscaped areas adjacent to the structure should not be performed.

9.2.3 Roof drains should be installed with appropriate downspout extensions out-falling on splash blocks so as to direct water a minimum of 5 feet away from the structures or be connected to the storm drain system for the development.

9.3 Site Grading

9.3.1 A representative of our firm should be present during all site clearing and grading operations to test and/or observe earthwork construction. This testing and observation is an integral part of our service as acceptance of earthwork construction is dependent upon compaction of the material and the stability of the material. The Geotechnical Engineer may reject any material that does not meet compaction and stability requirements. Further recommendations of this report are predicated upon the assumption that earthwork construction will conform to recommendations set forth in this section as well as other portions of this report.

9.3.2 A preconstruction conference should be held at the site prior to the beginning of grading operations with the owner, contractor, civil engineer and geotechnical engineer in attendance.

9.3.3 Site excavation/demolition activities shall include removal of all surface obstructions not intended to be incorporated into final site design. In addition, undocumented fill, underground buried structures, and/or utility lines, underground septic tanks and leach lines (if any), existing foundation elements, etc., encountered during demolition and construction should be properly removed and the resulting excavations backfilled with Engineered Fill. After demolition activities, it is recommended that disturbed soils be removed and/or replaced with compacted engineered fill soils.

9.3.4 Surface vegetation consisting of grasses and other similar vegetation should be removed by stripping to a sufficient depth to remove organic-rich topsoil. The upper 2 inches of the soils containing, vegetation, roots and other objectionable organic matter encountered at the time of grading should be stripped and removed from the surface. Deeper stripping may be required in localized areas. The stripped vegetation will not be suitable for use as Engineered Fill or within 5 feet of building pads. However, stripped topsoil may be stockpiled and reused in landscape or non-structural areas or exported from the site.

9.3.5 Any areas or pockets of soft or loose soils, void spaces made by burrowing animals, undocumented fill, or other disturbed soil (i.e. soil disturbed by removal) that are encountered, should be excavated to expose approved firm native material. Care should be taken during site grading to mitigate (e.g. excavate and compact as engineered fill) all soil disturbed by demolition and tree removal activities.

9.3.6 Existing improvements such as underground utilities if encountered during site grading, should be relocated outside the proposed buildings pads. Underground utilities should not be abandoned in place. All existing trench backfill should be removed and replaced with compacted engineered fill material. The Contractor should assume trench material extends at a 1H to 1V from the bottom of the trench to the surface grade.

9.3.7 Structural building pad areas and over-build zone should be considered as areas extending a minimum of 5 feet horizontally beyond the outside dimensions of buildings, including footings and non-cantilevered overhangs carrying structural loads. "Pre-construction site grade" as described in this report should be considered site grade conditions at the time of the geotechnical field exploration.

9.3.8 To provide uniform support for the proposed building warehouse, it is recommended that the building pad and over-build zone be uniformly over-excavated to a minimum of 18 inches below foundations, 24 inches below preconstruction site grades, or to the depth to remove undocumented fill, whichever is greater. The resulting over-excavation shall be scarified to a depth of at least 12 inches, worked until uniform and free from large clods, moisture-conditioned to slightly above optimum moisture, and compacted to a minimum of 92 percent of the maximum density. The building pad should be over-excavated uniformly to the depths and horizontal limits recommended in this report. The limits of the deeper over-excavation at depressed loading docks should extend to a minimum of 5 feet beyond loading dock foundations.

Interior slabs on grade should be supported on a minimum of 4 inches of class 2 aggregate base compacted to 95 percent relative compaction, over the depth of engineered fill recommended below foundations.

9.3.9 Areas of lightly loaded foundations (such as screen walls, retaining walls, pump house, etc.) should be over-excavated to at least 18 inches below preconstruction site grade, to the bottom of foundations, or to the depth to remove undocumented fill, whichever is greater. The resulting bottom of excavation shall be scarified to a minimum depth of 12 inches, worked until uniform and free from large clods, moisture conditioned to slightly above optimum moisture, and compacted to 92 percent of the maximum density. The horizontal limits of the over-excavation should extend throughout the structural pad areas (including over-build zone, extending laterally to a minimum of 3 feet beyond the outer edges of the proposed foundation).

9.3.10 Areas of lightly loaded exterior concrete slabs on grade (not subject to vehicular traffic) should be prepare by over-excavation of 12 inches below existing site grade or to the bottom of the proposed aggregate base layer, whichever provides deeper fill. The resulting over-excavation shall be scarified to a depth of at least 12 inches, worked until uniform and free from large clods, moisture-conditioned to slightly above optimum moisture, and compacted to a minimum of 92 percent of the maximum density. The horizontal limits of the over-excavation should extend throughout the building over-build zone, laterally to a minimum of 3 feet beyond the outer edges of the proposed concrete slabs.

Lightly loaded exterior concrete slabs on grade should be supported on a minimum of 4 inches of Class 2 aggregate base compacted to 95 percent relative compaction over subgrade soils prepared as recommended above.

9.3.11 Areas of asphaltic concrete, Portland cement concrete pavements, or gravel parking/drive areas located outside the building pad over-build zone, should be prepared by over-excavation to 12 inches below existing grade or 12 inches below the bottom of the required aggregate base section, whichever is greater. The zone of over-excavation should extend a minimum of 3 feet beyond these improvements. These soils should be moisture conditioned to slightly above optimum and compacted as engineered fill. The upper 12 inches of subgrade below proposed pavement areas should be compacted to a minimum of 95 percent relative compaction (ASTM D1557).

9.3.12 Areas to receive engineered fill outside the building pad over-build zone, should be prepared by scarification of the upper 12 inches below existing grade or 12 inches below the recommended base section, whichever is greater. These soils should be moisture conditioned to slightly above optimum and compacted as engineered fill.

9.3.13 An integral part of satisfactory fill placement is the stability of the placed lift of soil. If placed materials exhibit excessive instability as determined by a SALEM field representative, the lift will be considered unacceptable and shall be remedied prior to placement of additional fill material. Additional lifts should not be placed if the previous lift did not meet the required dry density or if soil conditions are not stable.

9.3.14 The most effective site preparation alternatives will depend on site conditions prior to grading. We should evaluate site conditions and provide supplemental recommendations immediately prior to grading, if necessary.

9.3.15 We do not anticipate groundwater or seepage to adversely affect construction if conducted during the drier months of the year (typically summer and fall). It should be anticipated that saturated soil moisture conditions could occur during the wet season (typically winter and spring) as surface soil becomes wet. Grading during this time period will likely encounter wet materials resulting in possible excavation and fill placement difficulties. Project site winterization consisting of placement of aggregate base and protecting exposed soils during construction should be performed. If the construction schedule requires grading operations during the wet season, we can provide additional recommendations as conditions warrant.

9.3.16 Typical remedial measures include: discing and aerating the soil during dry weather; mixing the soil with dryer materials; removing and replacing the soil with an approved fill material or placement of crushed rocks or aggregate base material; or mixing the soil with an approved lime or cement product.

The most common remedial measure of stabilizing the bottom of the excavation due to wet soil condition is to reduce the moisture of the soil to near the optimum moisture content by having the subgrade soils scarified and aerated or mixed with drier soils prior to compacting. However, the drying process may require an extended period of time and delay the construction operation. To expedite the stabilizing process, crushed rock may be utilized for stabilization provided this method is approved by the owner for the cost purpose.

If the use of crushed rock is considered, it is recommended that the upper soft and wet soils be replaced by 6 to 24 inches of ¾-inch to 1-inch crushed rocks. The thickness of the rock layer depends on the severity of the soil instability. The recommended 6 to 24 inches of crushed rock material will provide a stable platform. It is further recommended that lighter compaction equipment be utilized for compacting the crushed rock. All open graded crushed rock/gravel should be fully encapsulated with a geotextile fabric (such as Mirafi 140N) to minimize migration of soil particles into the voids of the crushed rock. Although it is not required, the use of geogrid (e.g. Tensar BX 1100, BX 1200 or TX 160) below the crushed rock will enhance stability and reduce the required thickness of crushed rock necessary for stabilization.

Our firm should be consulted prior to implementing remedial measures to provide appropriate recommendations.

9.4 Soil and Excavation Characteristics

9.4.1 Based on the soil conditions encountered in our borings, the onsite soils can be excavated with conventional moderate excavation equipment. No special measures for excavation of on-site soils should be anticipated.

9.4.2 It is the responsibility of the contractor to ensure that all excavations and trenches are properly shored and maintained in accordance with applicable Occupational Safety and Health Administration (OSHA) rules and regulations to maintain safety and maintain the stability of adjacent existing improvements. Temporary excavations are further discussed in a later Section of this report.

9.4.3 The near surface soils identified as part of our investigation are, generally, damp due to the absorption characteristics of the soil. Earthwork operations may encounter very moist unstable soils which may require removal to a stable bottom. Exposed native soils exposed as part of site grading operations shall not be allowed to dry out and should be kept continuously moist prior to placement of subsequent fill.

9.5 Materials for Fill

9.5.1 On-site soils are suitable for use as general Engineered Fill in structural areas, and below the aggregate base section recommended below concrete slabs on grade, provided they do not contain deleterious matter, organic material, or rock/cemented hardpan fragments material larger than 3 inches in maximum dimension.

Undocumented fill soils were noted within the site areas. Suitability of the use of these materials as engineered fill was not included within the scope of this investigation. If desired for use as engineered fill, SALEM should be contacted prior to grading to sample stockpiles for fill compliance testing (sieve, Atterberg, organics, soil chemistry, R-value, etc.).

9.5.2 Imported Non-Expansive Engineered Fill soil, should be well-graded, low-to-non-expansive slightly cohesive silty sand or sandy silt. This material should be approved by the Engineer prior to use and should typically possess the soil characteristics summarized below in Table 9.5.2.

TABLE 9.5.2
IMPORT FILL REQUIREMENTS

Percent Passing 3-inch Sieve	100
Percent Passing No.4 Sieve	75-100
Percent Passing No 200 Sieve	15-40
Maximum Plasticity Index	15
Maximum Organic Content	3% by Weight
Maximum Expansion Index (ASTM D4829)	20
Minimum R-Value (pavement areas only)	35

Prior to importing the Contractor should demonstrate to the Owner that the proposed import meets the requirements for import fill specified in this report. In addition, the material should be verified by the Contractor that the soils do not contain any environmental contaminates as regulated by local, state, or federal agencies, as applicable.

9.5.3 All Engineered Fill (including scarified ground surfaces and backfill) should be placed in lifts no thicker than will allow for adequate bonding and compaction (typically 6 inches in loose thickness).

9.5.4 On-Site soils used as engineered fill soils should moisture conditioned to slightly above optimum moisture content, and compacted to at least 92 percent relative compaction.

9.5.5 Import Engineered Fill, if selected, should be placed, moisture conditioned to slightly above optimum moisture content, and compacted to at least 92 percent relative compaction.

9.5.6 The preferred materials specified for Engineered Fill are suitable for most applications with the exception of exposure to erosion. Project site winterization and protection of exposed soils during the construction phase should be the sole responsibility of the Contractor, since they have complete control of the project site.

9.5.7 Environmental characteristics and corrosion potential of import soil materials should also be considered.

9.5.8 Proposed import materials should be sampled, tested, and approved by SALEM prior to its transportation to the site.

9.5.9 Aggregate base material should meet the requirements of a Caltrans Class 2 Aggregate Base. Aggregate base placed within the building pad limits should be non-recycled. The aggregate base material should conform to the requirements of Section 26 of the Standard Specifications for Class 2 material, ¾-inch or 1½-inches maximum size. The aggregate base material should be compacted to a minimum relative compaction of 95 percent based ASTM D1557. The aggregate base material should be spread in layers not exceeding 6 inches and each layer of aggregate material course should be tested and approved by the Soils Engineer prior to the placement of successive layers

9.5.10 Open graded gravel and rock material (i.e. ¾ inch or ½ inch crushed gravel) should not be used as backfill including utility trenches. If required by local agency or for use in subgrade stabilization, to prevent migration of fines, open graded materials should be fully encapsulated in a geotextile fabric such as Mirafi 140N or equivalent. Open graded rock should be placed in loose lifts no greater than about 6 to 8 inches, and vibrated in-place to a firm non-yielding condition.

9.6 Seismic Design Criteria

9.6.1 For seismic design of the structures, and in accordance with the seismic provisions of the 2022 CBC, our recommended parameters are shown below. These parameters were determined using Office of Statewide Health Planning and Development (OSHPD) Seismic Design Maps by location website (https://seismicmaps.org/), in accordance with the 2022 CBC. The Site Class was determined based on the soils encountered during our field exploration.

TABLE 9.6.1
2022 CBC SEISMIC DESIGN PARAMETERS

Seismic Item	Symbol	Value	2016 ASCE 7 or 2022 CBC Reference
Site Coordinates (Datum = NAD 83)		35.4479 Lat -119.2467 Lon	
Site Class	--	D	ASCE 7-16 Table 20.3
Soil Profile Name	--	Stiff Soil	ASCE 7-16 Table 20.3
Risk Category	--	II	CBC Table 1604.5
Site Coefficient for PGA	F_{PGA}	1.218	ASCE 7-16 Table 11.8-1
Peak Ground Acceleration (adjusted for Site Class effects)	PGA_M	0.465 g	ASCE 7-16 Equation 11.8-1
Seismic Design Category	SDC	D	ASCE 7-16 Table 11.6-1 & 2
Mapped Spectral Acceleration (Short period - 0.2 sec)	S_S	0.873 g	CBC Figure 1613.2.1(1)
Mapped Spectral Acceleration (1.0 sec. period)	S_1	0.327 g	CBC Figure 1613.2.1(3)
Site Class Modified Site Coefficient	F_a	1.151	CBC Table 1613.2.3(1)
Site Class Modified Site Coefficient	F_v	**1.973***	CBC Table 1613.2.3(2)
MCE Spectral Response Acceleration (Short period - 0.2 sec) $S_{MS} = F_a S_S$	S_{MS}	1.004g	CBC Equation 16-20
MCE Spectral Response Acceleration (1.0 sec. period) $S_{M1} = F_v S_1$	S_{M1}	**0.645 g***	CBC Equation 16-21
Design Spectral Response Acceleration $S_{DS}=⅔S_{MS}$ (short period - 0.2 sec)	S_{DS}	0.670 g	CBC Equation 16-22
Design Spectral Response Acceleration $S_{D1}=⅔S_{M1}$ (1.0 sec. period)	S_{D1}	**0.430 g***	CBC Equation 16-23
Short Period Transition Period (S_{D1}/S_{DS}), Seconds	T_S	0.642	ASCE 7-16, Section 11.4.6
Long Period Transition period (seconds)	T_L	12	ASCE 7-16, Figures 22-14 through 22-17

Note: *** Determined per ASCE Table 11.4.-2 for use in calculating Ts only**

Site Specific Ground Motion Analysis was not included in the scope of this investigation. Per ASCE 11.4.8 Structures on Site Class D, with S_1 greater than or equal to 0.2 may require Site Specific Ground Motion Analysis. However, a site specific ground motion analysis may not be required based on Exceptions listed in ASCE 11.4.8 The Structural Engineer should verify whether Exception No. 2 of ASCE 7-16, Section 114.8 is valid for the proposed construction. In the event a site specific ground motion analysis is required, SALEM should be contacted for these services.

9.6.2 Conformance to the criteria in the above table for seismic design does not constitute any kind of guarantee or assurance that significant structural damage or ground failure will not occur if a large

earthquake occurs. The primary goal of seismic design is to protect life, not to avoid all damage, since such design may be economically prohibitive.

9.7 Shallow Foundations

9.7.1 The site is suitable for use of conventional shallow foundations consisting of continuous footings and isolated pad footings supported on engineered fill prepared in accordance with Section 9.3 of this report. Shallow foundations supported on engineered fill as recommended in this report may be designed based on total and differential static settlement of 1 inch and ½ inch in 30 feet, respectively.

9.7.2 The bearing wall footings considered for the structure should be continuous with a minimum width of 15 inches and extend to minimum depths of 18 inches below the lowest adjacent grade. Isolated column footings should have a minimum width of 15 inches and extend a minimum depth of 18 inches below the lowest adjacent grade.

9.7.3 Footing concrete should be placed into neat excavation. The footing bottoms shall be maintained free of loose and disturbed soil.

9.7.4 Foundations supported on engineered fill as recommended in this report may be designed based on an allowable bearing capacity of 3,000 pounds per square foot (dead plus live loads). This value may be increased by 1/3 for short term wind and seismic loading. The weight of concrete footing and soil backfill above the foundation may be neglected in design.

9.7.5 Resistance to lateral footing displacement can be computed using an allowable coefficient of friction factor of 0.35 acting between the base of foundations and the supporting subgrade.

9.7.6 Lateral resistance for footings can alternatively be developed using an allowable equivalent fluid passive pressure of 350 pounds per cubic foot acting against the appropriate vertical native footing faces. The frictional and passive resistance of the soil may be combined without reduction in determining the total lateral resistance.

9.7.7 Underground utilities running parallel to footings should not be constructed in the zone of influence of footings. The zone of influence may be taken to be the area beneath the footing and within a 1:1 plane extending out and down from the bottom edge of the footing.

9.7.8 The foundation subgrade should be sprinkled as necessary to maintain a moist condition without significant shrinkage cracks as would be expected in any concrete placement. Prior to placing rebar reinforcement, foundation excavations should be evaluated by a representative of SALEM for appropriate support characteristics and moisture content. Moisture conditioning may be required for the materials exposed at footing bottom, particularly if foundation excavations are left open for an extended period.

9.8 Interior Concrete Slabs-on-Grade

9.8.1 Slab thickness and reinforcement should be determined by the structural engineer based on the anticipated loading. We recommend that non-structural slabs-on-grade be at least 5 inches thick and underlain by four (4) inches of class 2 aggregate base compacted to 95 percent relative compaction over engineered fill extending to the depth recommended below foundations.

9.8.2 The structural engineer should determine slab reinforcing. We recommend reinforcing slabs, at a minimum, with No. 4 reinforcing bars placed 18 inches on center, each way. Slabs subject to structural loading may be designed utilizing a modulus of subgrade reaction of 105 pounds per square inch per inch. The K value was approximated based on inter-relationship of soil classification and bearing values (Portland Cement Association, Rocky Mountain Northwest).

9.8.3 The spacing of crack control joints should be designed by the project structural engineer. In order to regulate cracking of the slabs, we recommend that full depth construction joints or control joints be provided at a maximum spacing of 15 feet in each direction for 5-inch thick slabs and 12 feet for 4-inch thick slabs.

9.8.4 Crack control joints should extend a minimum depth of one-fourth the slab thickness and should be constructed using saw-cuts or other methods as soon as practical after concrete placement. The exterior floors should be poured separately in order to act independently of the walls and foundation system.

9.8.5 It is recommended that the utility trenches within the structure be compacted, as specified in our report, to minimize the transmission of moisture through the utility trench backfill. Special attention to the immediate drainage and irrigation around the structures is recommended.

9.8.6 Moisture within the structure may be derived from water vapors, which were transformed from the moisture within the soils. This moisture vapor penetration can affect floor coverings and produce mold and mildew in the structure. To minimize moisture vapor intrusion, it is recommended that a vapor retarder be installed in accordance with manufacturer's recommendations and/or ASTM guidelines, whichever is more stringent. In addition, ventilation of the structure is recommended to reduce the accumulation of interior moisture.

9.8.7 In areas where it is desired to reduce floor dampness where moisture-sensitive coverings, coatings, underlayments, adhesives, moisture sensitive goods, humidity controlled environments, or climate cooled environments are anticipated, construction should have a suitable waterproof vapor retarder (a minimum of 15 mils thick, is recommended, polyethylene vapor retarder sheeting, Raven Industries "VaporBlock 15, Stego Industries 15 mil "StegoWrap" or W.R. Meadows Sealtight 15 mil "Perminator") incorporated into the floor slab design. The water vapor retarder should be a decay resistant material complying with ASTM E96 or ASTM E1249 not exceeding 0.01 perms, ASTM E154 and ASTM E1745 Class A. The vapor retarder should, maintain the recommended permeance **after** conditioning tests per ASTM E1745. The vapor barrier should be placed between the concrete slab and the compacted granular aggregate subbase material. The water vapor retarder (vapor barrier) should be installed in accordance with ASTM Specification E 1643-18.

9.8.8 The concrete may be placed directly on vapor retarder. The vapor retarder should be inspected prior to concrete placement. Cut or punctured retarder should be repaired using vapor retarder material lapped 6 inches beyond damaged areas and taped. Extend vapor retarder over footings and seal to foundation wall or slab at an elevation consistent with the top of the slab or terminate at impediments such as water stops or dowels. Seal around penetrations such as utilities or columns in order to create a monolithic membrane between the surface of the slab and moisture sources below the slab as well as at the slab perimeter.

9.8.9 Avoid use of stakes driven through the vapor retarder.

9.8.10 The recommendations of this report are intended to reduce the potential for cracking of slabs due to soil movement. However, even with the incorporation of the recommendations presented herein, foundations, stucco walls, and slabs-on-grade may exhibit some cracking due to soil movement. This is common for project areas that contain expansive or loose soils since designing to eliminate potential soil movement is cost prohibitive. The occurrence of concrete shrinkage cracks is independent of the supporting soil characteristics. Their occurrence may be reduced and/or controlled by limiting the slump of the concrete, proper concrete placement and curing, and by the placement of crack control joints at periodic intervals, in particular, where re-entrant slab corners occur.

9.8.11 Proper finishing and curing should be performed in accordance with the latest guidelines provided by the American Concrete Institute, Portland Cement Association, and ASTM.

9.9 Exterior Concrete Slabs on Grade

9.9.1 The following recommendations are intended for lightly loaded exterior slabs on grade not subject to vehicular traffic. Slab thickness and reinforcement should be determined by the structural engineer based on the anticipated loading. We recommend that non-structural slabs-on-grade be at least 4 inches thick and underlain by four (4) inches of class 2 aggregate base over the depth of engineered fill recommended in section 9.3 of this report.

9.9.2 The spacing of crack control joints should be designed by the project structural engineer. In order to regulate cracking of the slabs, we recommend that full depth construction joints or control joints be provided at a maximum spacing of 15 feet in each direction for 5-inch thick slabs and 12 feet for 4-inch thick slabs.

9.9.3 Crack control joints should extend a minimum depth of one-fourth the slab thickness and should be constructed using saw-cuts or other methods as soon as practical after concrete placement.

9.9.4 Proper finishing and curing should be performed in accordance with the latest guidelines provided by the American Concrete Institute, Portland Cement Association, and ASTM.

9.10 Lateral Earth Pressures and Frictional Resistance

9.10.1 Active, at-rest and passive unit lateral earth pressures against footings and walls are summarized in the table below:

Lateral Pressure Conditions	Soil Equivalent Fluid Pressure
Active Pressure, Drained, pcf	35
At-Rest Pressure, Drained, pcf	55
Allowable Passive Pressure, pcf	350
Allowable Coefficient of Friction	0.35
Minimum Wet Unit Weight (lbs/ft^3) [γ_{min}]	105
Maximum Wet Unit Weight (lbs/ft^3) [γ_{max}]	135

9.10.2 Active pressure applies to walls, which are free to rotate. At-rest pressure applies to walls, which are restrained against rotation. The preceding lateral earth pressures assume sufficient drainage behind retaining walls to prevent the build-up of hydrostatic pressure. The top one-foot of adjacent subgrade should be deleted from the passive pressure computation.

9.10.3 The allowable parameters include a safety factor of 1.5 and can be used in design for direct comparison of resisting loads against lateral driving loads.

9.10.4 If combined passive and frictional resistance is used in design, a 50 percent reduction in frictional resistance is recommended.

9.10.5 For lateral stability against seismic loading conditions, we recommend a minimum safety factor of 1.1.

9.10.6 For dynamic seismic lateral loading the following equation shall be used:

Dynamic Seismic Lateral Loading Equation
Dynamic Seismic Lateral Load = $\frac{3}{8}\gamma K_h H^2$
Where: γ = Maximum In-Place Soil Density (Section 9.10.1 above)
K_h = Horizontal Acceleration = $\frac{2}{3}PGA_M$ (Section 9.6.1 above)
H = Wall Height

9.11 Retaining Walls

9.11.1 Retaining and/or below grade walls should be drained with either perforated pipe encased in free-draining gravel or a prefabricated drainage system. The gravel zone should have a minimum width of 12 inches wide and should extend upward to within 12 inches of the top of the wall. The upper 12 inches of backfill should consist of native soils, concrete, asphaltic-concrete or other suitable backfill to minimize surface drainage into the wall drain system. The gravel should conform to Class 2 permeable materials graded in accordance with the current CalTrans Standard Specifications.

9.11.2 Prefabricated drainage systems, such as Miradrain®, Enkadrain®, or an equivalent substitute, are acceptable alternatives in lieu of gravel provided they are installed in accordance with the manufacturer's recommendations. If a prefabricated drainage system is proposed, our firm should review the system for final acceptance prior to installation.

9.11.3 Drainage pipes should be placed with perforations down and should discharge in a non-erosive manner away from foundations and other improvements.

9.11.4 The top of the perforated pipe should be placed at or below the bottom of the adjacent floor slab or pavements. The pipe should be placed in the center line of the drainage blanket and should have a minimum diameter of 4 inches. Slots should be no wider than 1/8-inch in diameter, while perforations should be no more than ¼-inch in diameter.

9.11.5 If retaining walls are less than 5 feet in height, the perforated pipe may be omitted in lieu of weep holes on 4 feet maximum spacing. The weep holes should consist of 2-inch minimum diameter holes (concrete walls) or unmortared head joints (masonry walls) and placed no higher than 18 inches above the lowest adjacent grade. Two 8-inch square overlapping patches of geotextile fabric

(conforming to the CalTrans Standard Specifications for "edge drains") should be affixed to the rear wall opening of each weep hole to retard soil piping.

9.11.6 During grading and backfilling operations adjacent to any walls, heavy equipment should not be allowed to operate within a lateral distance of 5 feet from the wall, or within a lateral distance equal to the wall height, whichever is greater, to avoid developing excessive lateral pressures. Within this zone, only hand operated equipment ("whackers," vibratory plates, or pneumatic compactors) should be used to compact the backfill soils.

9.12 Temporary Excavations

9.12.1 We anticipate that the majority of the dense site soils will be classified as Cal-OSHA "Type C" soil when encountered in excavations during site development and construction. Excavation sloping, benching, the use of trench shields, and the placement of trench spoils should conform to the latest applicable Cal-OSHA standards. The contractor should have a Cal-OSHA-approved "competent person" onsite during excavation to evaluate trench conditions and make appropriate recommendations where necessary.

9.12.2 It is the contractor's responsibility to provide sufficient and safe excavation support as well as protecting nearby utilities, structures, and other improvements which may be damaged by earth movements. All onsite excavations must be conducted in such a manner that potential surcharges from existing structures, construction equipment, and vehicle loads are resisted. The surcharge area may be defined by a 1:1 projection down and away from the bottom of an existing foundation or vehicle load.

9.12.3 Temporary excavations and slope faces should be protected from rainfall and erosion. Surface runoff should be directed away from excavations and slopes.

9.12.4 Open, unbraced excavations in undisturbed soils should be made according to the slopes presented in the following table:

RECOMMENDED EXCAVATION SLOPES

Depth of Excavation (ft)	Slope (Horizontal : Vertical)
0-5	1:1
5-10	1½:1
10-15	2:1

9.12.5 If, due to space limitation, excavations near existing structures are performed in a vertical position, braced shoring or shields may be used for supporting vertical excavations. Therefore, in order to comply with the local and state safety regulations, a properly designed and installed shoring system would be required to accomplish planned excavations and installation. A Specialty Shoring Contractor should be responsible for the design and installation of such a shoring system during construction.

9.12.6 Braced shoring should be designed for a maximum pressure distribution of 20H, (where H is the depth of the excavation in feet). The foregoing does not include excess hydrostatic pressure or surcharge loading. Fifty percent of any surcharge load, such as construction equipment weight,

should be added to the lateral load given herein. Equipment traffic should concurrently be limited to an area at least 3 feet from the shoring face or edge of the slope.

9.12.7 The excavation and shoring recommendations provided herein are based on soil characteristics derived from the borings within the area. Variations in soil conditions will likely be encountered during the excavations. SALEM Engineering Group, Inc. should be afforded the opportunity to provide field review to evaluate the actual conditions and account for field condition variations not otherwise anticipated in the preparation of this recommendation. Slope height, slope inclination, or excavation depth should in no case exceed those specified in local, state, or federal safety regulation, (e.g. OSHA) standards for excavations, 29 CFR part 1926, or Assessor's regulations.

9.13 Underground Utilities

9.13.1 Underground utility trenches should be backfilled with properly compacted material. The material excavated from the trenches should be adequate for use as backfill provided it does not contain deleterious matter, vegetation or rock larger than 3 inches in maximum dimension. Trench backfill should be placed in loose lifts not exceeding 8 inches and compacted to at least 95 percent relative compaction at or above optimum moisture content. The upper 12 inches of trench backfill within asphalt or concrete paved areas shall be moisture conditioned to at or above optimum moisture content and compacted to at least 95 percent relative compaction.

9.13.2 Bedding and pipe zone backfill typically extends from the bottom of the trench excavations to approximately 12 inches above the crown of the pipe. Pipe bedding, haunches and initial fill extending to 1 foot above the pipe should consist of a clean well graded sand with 100 percent passing the #4 sieve, a maximum of 15 percent passing the #200 sieve, and a minimum sand equivalent of 20.

9.13.3 It is suggested that underground utilities crossing beneath new or existing structures be plugged at entry and exit locations to the building or structure to prevent water migration. Trench plugs can consist of on-site clay soils, if available, or sand cement slurry. The trench plugs should extend 2 feet beyond each side of individual perimeter foundations.

9.13.4 The contractor is responsible for removing all water-sensitive soils from the trench regardless of the backfill location and compaction requirements. The contractor should use appropriate equipment and methods to avoid damage to the utilities and/or structures during fill placement and compaction

9.14 Pavement Design

9.14.1 R-Value testing was based on performing Resistance R-value test on one sample extracted from three borings drilled throughout the site at the project site. Based on the results of the R-value testing performed and soils encountered, the pavement design recommendations provided herein are based on an R-value of 33. SALEM recommends confirmation R-value testing of subgrade soils in pavement areas be conducted during grading to confirm pavement design.

9.14.2 The asphaltic concrete (flexible pavement) is based on a 20-year pavement life utilizing traffic indexes of ranging from 4.0 to 8.0. The Civil Engineer should select the appropriate pavement section based on the anticipated traffic loading. The following table shows the recommended pavement sections for various traffic indices.

TABLE 9.14.2
ASPHALT CONCRETE PAVEMENT THICKNESSES

Traffic Index	Asphaltic Concrete, (inches)	Class 2 Aggregate Base, (inches)*	Compacted Subgrade, (inches)*
4.0	2.5	4.0	12.0
5.0	2.5	6.0	12.0
6.0	3.0	7.5	12.0
7.0	4.0	8.5	12.0
8.0	4.5	10.5	12.0

**95% compaction based on ASTM D1557 Test Method*

9.14.3 The following recommendations are for Portland Cement Concrete pavement sections.

TABLE 9.14.3
PORTLAND CEMENT CONCRETE PAVEMENT THICKNESSES

Traffic Index	Portland Cement Concrete, (inches)*	Class 2 Aggregate Base, (inches)**	Compacted Subgrade. (inches)**
4.0	5.5	4.0	12.0
5.0	6.0	4.0	12.0
6.0	6.5	4.0	12.0
7.0	6.5	4.0	12.0
8.0	7.0	4.0	12.0

** Minimum Compressive Strength of 4,000 psi*
*** 95% compaction based on ASTM D1557 Test Method*

9.14.4 Asphalt concrete should conform to Section 39 of Caltrans' latest Standard Specifications for ½ inch Hot Mix Asphalt (HMA) Type A or B. Asphaltic concrete should be placed and compacted in accordance with Caltrans Standard Specifications.

9.14.5 Excavations, depressions, or soft and pliant areas extending below planned finished subgrade levels should be cleaned to firm, undisturbed soil and backfilled with Engineered Fill. Any buried structures encountered during construction should be properly removed and backfilled.

9.14.6 Buried structures encountered during construction should be properly removed/rerouted and the resulting excavations backfilled. It is suspected that demolition activities of the existing pavement will disturb the upper soils. After demolition activities, it is recommended that disturbed soils within pavement areas be removed and/or compacted as engineered fill.

9.14.7 An integral part of satisfactory fill placement is the stability of the placed lift of soil. Prior to placement of aggregate base, the subgrade soils should be proof-rolled by a loaded water truck (or equivalent) to verify no deflections of greater than ½ inch occur. If placed materials exhibit excessive instability as determined by a SALEM field representative, the lift will be considered unacceptable and shall be remedied prior to placement of additional fill material. Additional lifts should not be placed if the previous lift did not meet the required dry density or if soil conditions are not stable.

9.14.8 A representative of our firm should be present during all site clearing and grading operations to test and observe earthwork construction. This testing and observation is an integral part of our service as acceptance of earthwork construction is dependent upon compaction of the material and the stability of the material.

10. PLAN REVIEW, CONSTRUCTION OBSERVATION AND TESTING

10.1 Plan and Specification Review

10.1.1 SALEM should review the project plans and specifications prior to final design submittal to assess whether our recommendations have been properly implemented and evaluate if additional analysis and/or recommendations are required.

10.2 Construction Observation and Testing Services

10.2.1 The recommendations provided in this report are based on the assumption that we will continue as Geotechnical Engineer of Record throughout the construction phase. It is important to maintain continuity of geotechnical interpretation and confirm that field conditions encountered are similar to those anticipated during design. If we are not retained for these services, we cannot assume any responsibility for others interpretation of our recommendations, and therefore the future performance of the project.

10.2.2 SALEM should be present at the site during site preparation to observe site clearing, preparation of exposed surfaces after clearing, and placement, treatment and compaction of fill material.

10.2.3 SALEM's observations should be supplemented with periodic compaction tests to establish substantial conformance with these recommendations. Moisture content of footings and slab subgrade should be tested immediately prior to concrete placement. SALEM should observe foundation excavations prior to placement of reinforcing steel or concrete to assess whether the actual bearing conditions are compatible with the conditions anticipated during the preparation of this report.

11. LIMITATIONS AND CHANGED CONDITIONS

The analyses and recommendations submitted in this report are based upon the data obtained from the test borings drilled at the approximate locations shown on the Site Plan, Figure 1. The report does not reflect variations which may occur between borings. The nature and extent of such variations may not become evident until construction is initiated.

If variations then appear, a re-evaluation of the recommendations of this report will be necessary after performing on-site observations during the excavation period and noting the characteristics of such variations. The findings and recommendations presented in this report are valid as of the present and for the proposed construction. If site conditions change due to natural processes or human intervention on the property or adjacent to the site, or changes occur in the nature or design of the project, or if there is a substantial time lapse between the submission of this report and the start of the work at the site, the conclusions and recommendations contained in our report will not be considered valid unless the changes are reviewed by SALEM and the conclusions of our report are modified or verified in writing. The validity of the recommendations contained in this report is also dependent upon an adequate testing and observations program during the construction phase. Our firm assumes no responsibility for construction compliance with

the design concepts or recommendations unless we have been retained to perform the on-site testing and review during construction. SALEM has prepared this report for the exclusive use of the owner and project design consultants.

SALEM does not practice in the field of corrosion engineering. It is recommended that a qualified corrosion engineer be consulted regarding protection of buried steel or ductile iron piping and conduit or, at a minimum, that manufacturer's recommendations for corrosion protection be closely followed. Further, a corrosion engineer may be needed to incorporate the necessary precautions to avoid premature corrosion of concrete slabs and foundations in direct contact with native soil. The importation of soil and or aggregate materials to the site should be screened to determine the potential for corrosion to concrete and buried metal piping. The report has been prepared in accordance with generally accepted geotechnical engineering practices in the area. No other warranties, either express or implied, are made as to the professional advice provided under the terms of our agreement and included in this report.

If you have any questions, or if we may be of further assistance, please do not hesitate to contact our office at (559) 271-9700.

Respectfully Submitted,
SALEM ENGINEERING GROUP, INC.

Ahmad Dalqamouni

Ahmad Dalqamouni, PG, Ph.D., M.GE.
Geotechnical Project Manager
PG 10146

PROFESSIONAL GEOLOGIST
AHMAD Y. DALQAMOUNI
10146
EXP 03/31/27
STATE OF CALIFORNIA

Dean B. Ledgerwood II, PE, PG, CEG
Geotechnical Manager
PE 94395 / PG 8725 / CEG 2613

CERTIFIED ENGINEERING GEOLOGIST
Dean B. Ledgerwood II
No. 2613
Exp 12/31/25
STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER
DEAN B. LEDGERWOOD II
C 94395
EXP. 03/31/27
CIVIL
STATE OF CALIFORNIA

R. Sammy Salem, PE, GE
Principal Managing Engineer
RCE 52762 / RGE 2549

REGISTERED PROFESSIONAL ENGINEER
R. SAMMY SALEM
GE 2549
EXP. 12-31-2026
GEOTECHNICAL
STATE OF CALIFORNIA



VICINITY MAP	SCALE: 1 : 1500'	DATE: March. 2023	SALEM engineering group, inc.
PROPOSED WAREHOUSE BUILDING SWC OF COBERLY ROAD & CHERRY AVENUE SHAFTER, CALIFORNIA	DRAWN BY: VT	APPROVED BY: DL	
	PROJECT NO. 2-223-0066	FIGURE NO. 1	



SITE PLAN	SCALE: 1" = 200'	DATE: March. 2023
PROPOSED WAREHOUSE BUILDING SWC OF COBERLY ROAD & CHERRY AVENUE SHAFTER, CALIFORNIA	DRAWN BY: VT	APPROVED BY: DL
	PROJECT NO. 2-223-0066	FIGURE NO. 2

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APPENDIX

A



APPENDIX A
FIELD EXPLORATION

Fieldwork for our investigation was conducted March 17, 18, and 19 of 2023 and included a site visit, subsurface exploration, and soil sampling. The locations of the exploratory borings are shown on the Site Plan, Figure 1. Boring logs for our exploration are presented in figures following the text in this appendix. Borings were located in the field using existing reference points. Therefore, actual boring locations may deviate slightly.

The test borings were advanced with 6-inch solid flight auger rotated by a truck-mounted CME-45 drill rig. Visual classification of the materials encountered in the test borings was generally made in accordance with the Unified Soil Classification System (ASTM D2487).

Penetration resistance blow counts were obtained by dropping a 140-pound automated trip hammer through a 30-inch free fall to drive the sampler to a maximum penetration of 18 inches. The number of blows required to drive the last 12 inches, or less if very dense or hard, is recorded as Penetration Resistance (blows/foot) on the logs of borings. Soil samples were obtained from the test borings at the depths shown on the logs of borings. The MCS samples were recovered and capped at both ends to preserve the samples at their natural moisture content; SPT samples were recovered and placed in a sealed bag to preserve their natural moisture content. At the completion of drilling and sampling, the test borings were backfilled with drill cuttings.

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Test Boring: B-1 **Page** 1 **Of:** 1

Project Number: 2-223-0066

Date: 03/17/2023

Client: Furniture City

Project: Proposed Warehouse Building

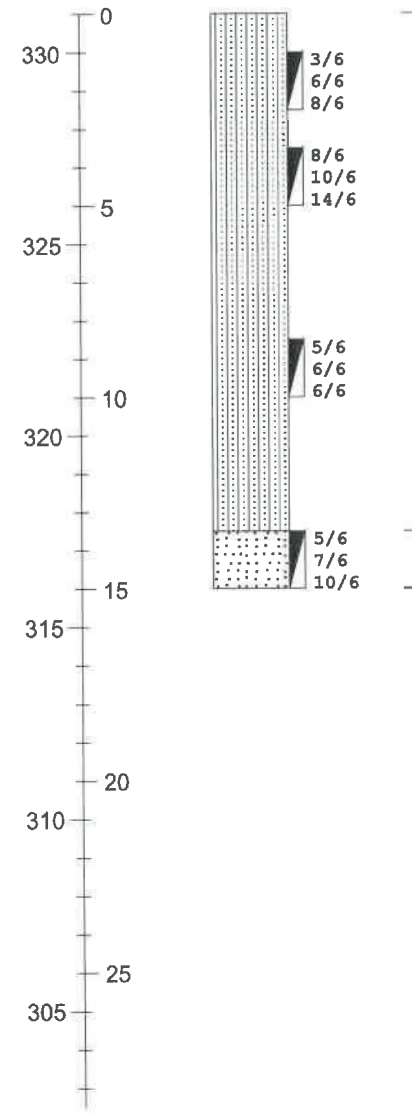
Location: SWC of Coberly Road & Cherry Avenue, Shafter, CA.

Drilled By: Salem Engineering Group, Inc. **Logged By:** KY

Drill Type: CME 45 **Elevation:** 331ft. AMSL

Auger Type: 6-5/8in. Hollow Stem Auger **Initial Depth to Groundwater:** N/E

Hammer Type: Automatic Trip - 140lbs./30in. **Final Depth to Groundwater:** N/E



ELEVATION/ DEPTH (feet)	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	USCS	Soil Description	N-Values blows/ft.	Moisture Content %	Dry Density, PCF	Remarks
		SM	Silty SAND; medium dense, brown, moist, fine grained.	14	10.2	--	
			Grades as above.	24	3.4	--	
			Grades as above; fine to medium grained, trace of gravel.	12	2.1	--	
		SP	Poorly Graded SAND; medium dense, light brown, moist.	17	1.3	--	
			End of boring at 15ft. BSG				

Notes:

Figure Number A-1

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Test Boring: B-2 **Page** 1 **Of:** 1

Project Number: 2-223-0066

Date: 03/15/2023

Client: Furniture City

Project: Proposed Warehouse Building

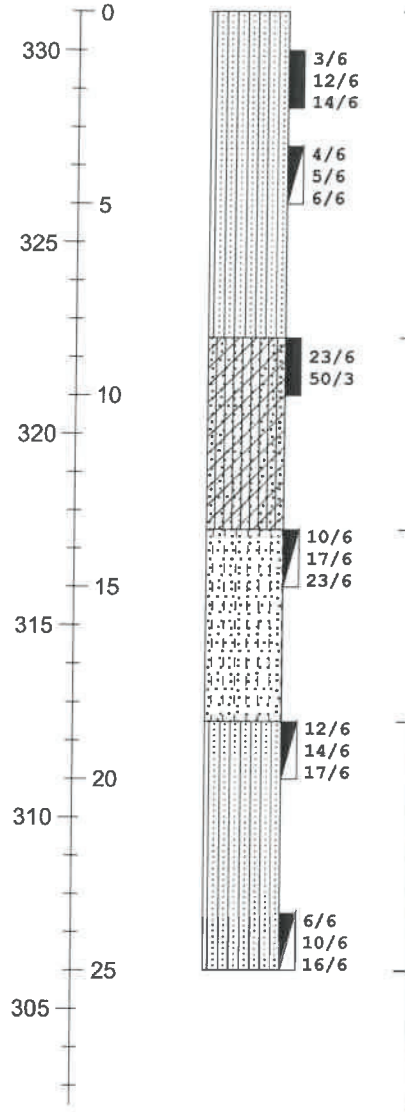
Location: SWC of Coberly Road & Cherry Avenue, Shafter, CA.

Drilled By: Salem Engineering Group, Inc. **Logged By:** KY

Drill Type: CME 45 **Elevation:** 331ft. AMSL

Auger Type: 6-5/8in. Hollow Stem Auger **Initial Depth to Groundwater:** N/E

Hammer Type: Automatic Trip - 140lbs./30in. **Final Depth to Groundwater:** N/E



ELEVATION/ DEPTH (feet)	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	USCS	Soil Description	N-Values blows/ft.	Moisture Content %	Dry Density, PCF	Remarks
		SM	Silty SAND; medium dense, brown, moist.	26	11.5	111.7	
			Grades as above.	11	5.9	--	
		SC-SM	Clayey Silty SAND; very hard, brown, moist, fine grained.	>50	10.0	119.0	
		SP-SM	Poorly Graded SAND with Silt; medium dense, light brown, moist, fine grained.	40	6.8	--	
		SM	Silty SAND; dense, light brown, moist, fine grained.	31	8.7	--	
			Grades as above; light brown to light grey.	26	1.1	--	
			End of boring at 25ft. BSG				

Notes:

Figure Number A-2

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Test Boring: B-3 **Page** 1 **Of:** 1

Project Number: 2-223-0066

Date: 03/17/2023

Client: Furniture City

Project: Proposed Warehouse Building

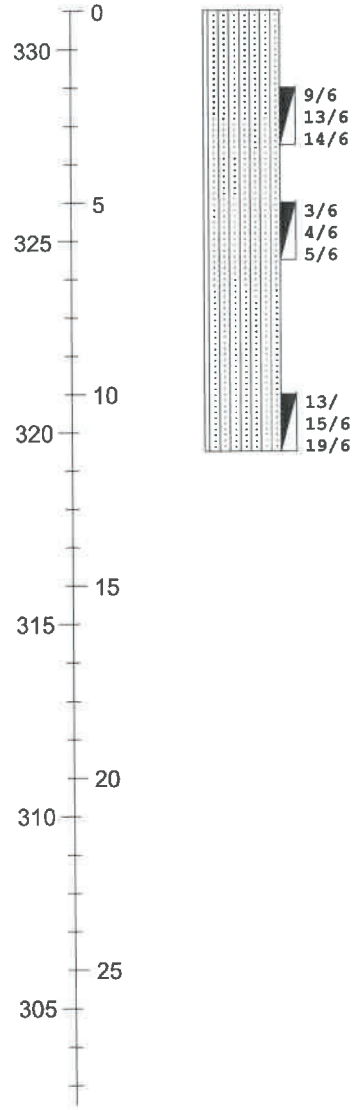
Location: SWC of Coberly Road & Cherry Avenue, Shafter, CA.

Drilled By: Salem Engineering Group, Inc. **Logged By:** KY

Drill Type: CME 45 **Elevation:** 331ft. AMSL

Auger Type: 6-5/8in. Hollow Stem Auger **Initial Depth to Groundwater:** N/E

Hammer Type: Automatic Trip - 140lbs./30in. **Final Depth to Groundwater:** N/E



ELEVATION/ DEPTH (feet)	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	USCS	Soil Description	N-Values blows/ft.	Moisture Content %	Dry Density, PCF	Remarks
		SM	Silty SAND; medium dense, brown, moist, fine grained.	27	7.0	--	
			Grades as above.	9	5.0	--	
			Grades as above; very dense.	34	6.6	--	
			End of boring at 11.5ft. BSG				

Notes:

Figure Number A-3

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Test Boring: B-4 **Page** 1 **Of:** 1

Project Number: 2-223-0066

Date: 03/18/2023

Client: Furniture City

Project: Proposed Warehouse Building

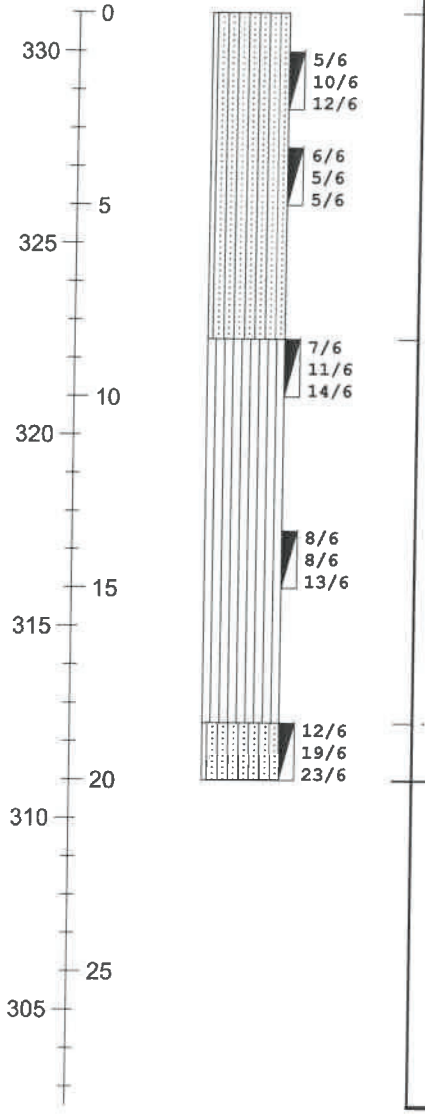
Location: SWC of Coberly Road & Cherry Avenue, Shafter, CA.

Drilled By: Salem Engineering Group, Inc. **Logged By:** KY

Drill Type: CME 45 **Elevation:** 331ft. AMSL

Auger Type: 6-5/8in. Hollow Stem Auger **Initial Depth to Groundwater:** N/E

Hammer Type: Automatic Trip - 140lbs./30in. **Final Depth to Groundwater:** N/E



ELEVATION/ DEPTH (feet)	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	USCS	Soil Description	N-Values blows/ft.	Moisture Content %	Dry Density, PCF	Remarks
		SM	Silty SAND; medium dense, brown, moist, fine grained.	22	5.0	--	
			Grades as above; loose, fine to medium grained.	10	3.1	--	
		ML	Sandy SILT; medium dense, brown, moist, fine grained.	25	7.6	--	
			Grades as above.	21	7.6	--	
		SM	Silty SAND; dense, brown, moist.	42	1.9	--	
			End of boring at 20ft. BSG				

Notes:

Figure Number A-4

SALEM
engineering group, inc.

Test Boring: B-5 **Page** 1 **Of:** 1

Project Number: 2-223-0066

Date: 03/15/2023

Client: Furniture City

Project: Proposed Warehouse Building

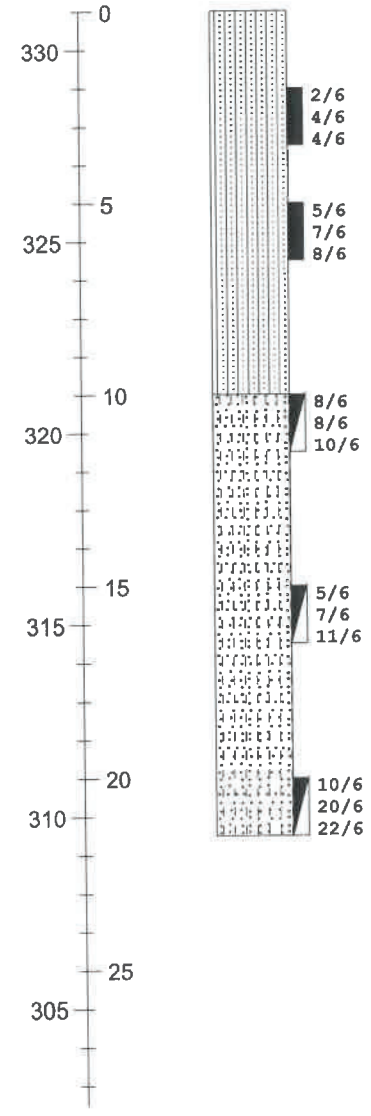
Location: SWC of Coberly Road & Cherry Avenue, Shafter, CA.

Drilled By: Salem Engineering Group, Inc. **Logged By:** KY

Drill Type: CME 45 **Elevation:** 331ft. AMSL

Auger Type: 6-5/8in. Hollow Stem Auger **Initial Depth to Groundwater:** N/E

Hammer Type: Automatic Trip - 140lbs./30in. **Final Depth to Groundwater:** N/E



ELEVATION/ DEPTH (feet)	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	USCS	Soil Description	N-Values blows/ft.	Moisture Content %	Dry Density, PCF	Remarks
		SM	Silty SAND; loose, brown, moist.	8	4.0	108.1	
			Grades as above; light brown, fine to medium grained.	15	2.1	112.2	
		SP-SM	Poorly Graded SAND with Silt; medium dense, light brown.	18	1.1	--	
			Grades as above.	18	1.7	--	
			Grades as above; dense, brown, fine grained.	42	11.1	--	
			End of boring at 21.5ft. BSG				

Notes:

Figure Number A-5

SALEM
engineering group, inc.

Test Boring: B-6 **Page** 1 **Of:** 2

Project Number: 2-223-0066

Date: 03/15/2023

Client: Furniture City

Project: Proposed Warehouse Building

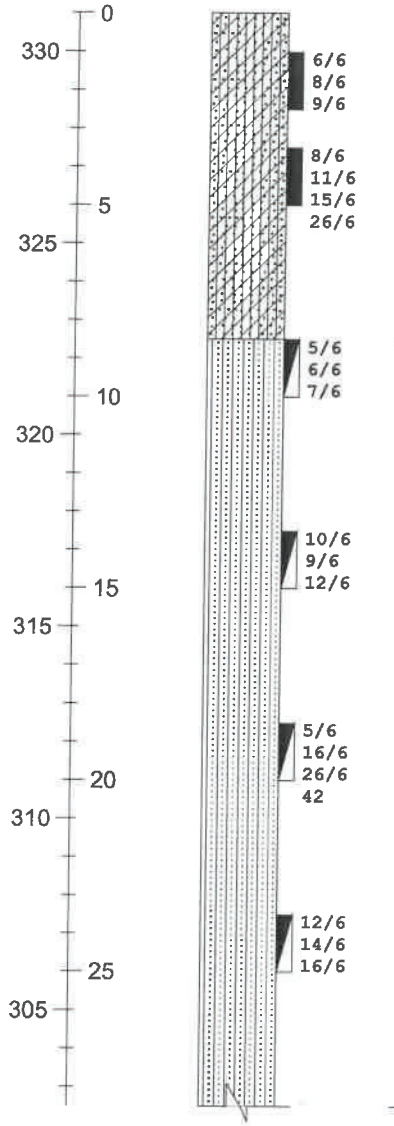
Location: SWC of Coberly Road & Cherry Avenue, Shafter, CA.

Drilled By: Salem Engineering Group, Inc. **Logged By:** KY

Drill Type: CME 45 **Elevation:** 331ft. AMSL

Auger Type: 6-5/8in. Hollow Stem Auger **Initial Depth to Groundwater:** N/E

Hammer Type: Automatic Trip - 140lbs./30in. **Final Depth to Groundwater:** N/E



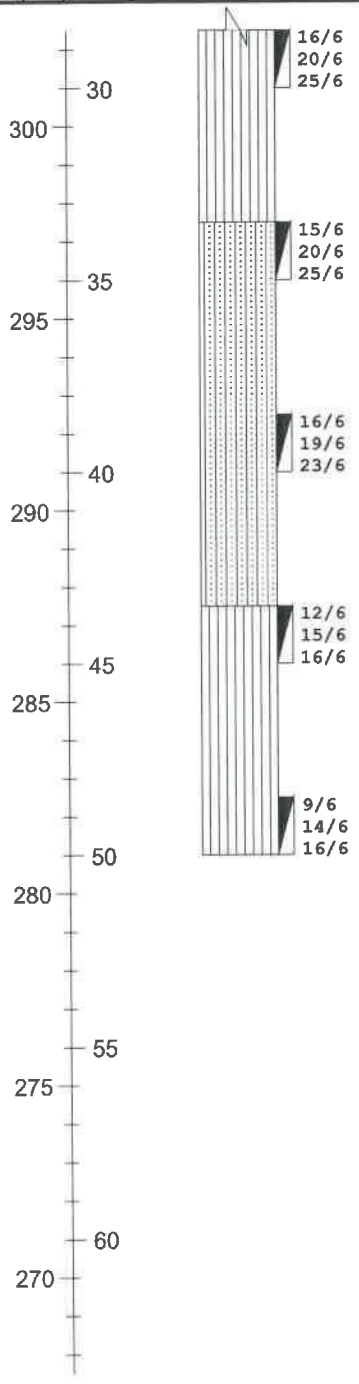
ELEVATION/ DEPTH (feet)	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	USCS	Soil Description	N-Values blows/ft.	Moisture Content %	Dry Density, PCF	Remarks
		SC-SM	Clayey Silty SAND; medium dense, brown, moist, fine grained.	17	9.6	96.9	
			Grades as above.	26	4.9	114.1	
		SM	Silty SAND; medium dense, light brown, moist, fine to medium grained.	13	2.6	--	
			Grades as above.	21	4.6	--	
			Grades as above; dense, brown, moist, fine grained.	42	8.0	--	
			Grades as above; medium dense.	30	9.2	--	

Notes:

Figure Number A-6

SALEM engineering group, inc.

Project Number: 2-223-0066
Date: 03/15/2023
Test Boring: B-6



ELEVATION/ DEPTH (feet)	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	USCS	Soil Description	N-Values blows/ft.	Moisture Content %	Dry Density, PCF	Remarks
		ML	Sandy SILT; hard, brown, moist.	45	10.0	--	
		SM	Silty SAND; dense, brown to light brown, moist, fine to medium grained.	45	3.7	--	
			Grades as above; brown.	42	9.1	--	
		ML	Sandy SILT; hard, brown, moist, fine grained.	31	14.1	--	
			Grades as above; very stiff.	30	23.1	--	
			End of boring at 50ft. BSG				

Notes:

Figure Number A-6

SALEM
engineering group, inc.

Test Boring: B-7 **Page** 1 **Of:** 1

Project Number: 2-223-0066

Date: 03/16/2023

Client: Furniture City

Project: Proposed Warehouse Building

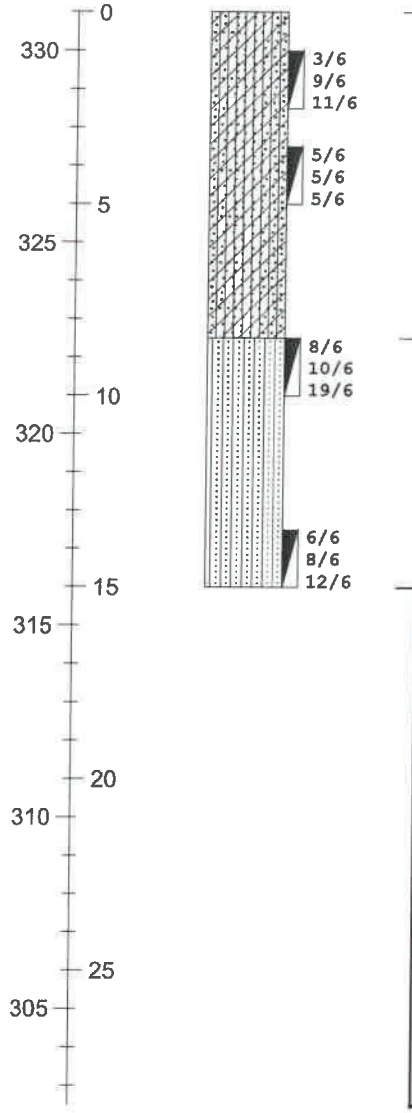
Location: SWC of Coberly Road & Cherry Avenue, Shafter, CA.

Drilled By: Salem Engineering Group, Inc. **Logged By:** KY

Drill Type: CME 45 **Elevation:** 331ft. AMSL

Auger Type: 6-5/8in. Hollow Stem Auger **Initial Depth to Groundwater:** N/E

Hammer Type: Automatic Trip - 140lbs./30in. **Final Depth to Groundwater:** N/E



ELEVATION/ DEPTH (feet)	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	USCS	Soil Description	N-Values blows/ft.	Moisture Content %	Dry Density, PCF	Remarks
		SC-SM	Clayey Silty SAND: medium dense, brown, moist, fine grained.	20	7.0	--	
			Grades as above.	10	9.9	--	
		SM	Silty SAND; medium dense, light brown, moist, fine grained.	29	4.6	--	
			Grades as above.	20	10.1	--	
			End of boring at 15ft. BSG				

Notes:

Figure Number A-7

SALEM
engineering group, inc.

Test Boring: B-8 **Page** 1 **Of:** 1

Project Number: 2-223-0066

Date: 03/16/2023

Client: Furniture City

Project: Proposed Warehouse Building

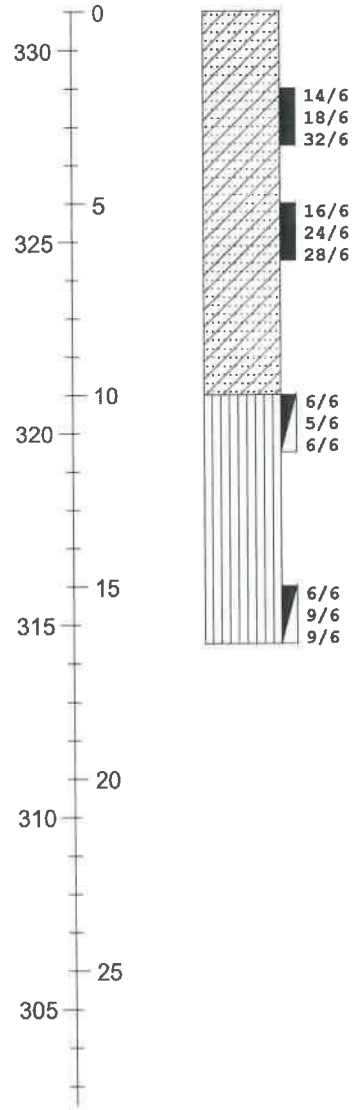
Location: SWC of Coberly Road & Cherry Avenue, Shafter, CA.

Drilled By: Salem Engineering Group, Inc. **Logged By:** KY

Drill Type: CME 45 **Elevation:** 331ft. AMSL

Auger Type: 6-5/8in. Hollow Stem Auger **Initial Depth to Groundwater:** N/E

Hammer Type: Automatic Trip - 140lbs./30in. **Final Depth to Groundwater:** N/E



ELEVATION/ DEPTH (feet)	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	USCS	Soil Description	N-Values blows/ft.	Moisture Content %	Dry Density, PCF	Remarks
		SC	Clayey SAND; dense, brown, moist, fine grained, with cementation.	50	7.4	120.4	
			Grades as above.	52	13.0	110.2	
		ML	Sandy SILT; stiff, brown, moist, fine grained.	11	11.5	--	
			Grades as above; stiff, brown, moist, fine grained, with trace clay.	18	14.4	--	
			End of boring at 16.5ft. BSG				

Notes:

Figure Number A-8

SALEM
engineering group, inc.

Test Boring: B-9 **Page** 1 **Of:** 1

Project Number: 2-223-0066

Date: 03/17/2023

Client: Furniture City

Project: Proposed Warehouse Building

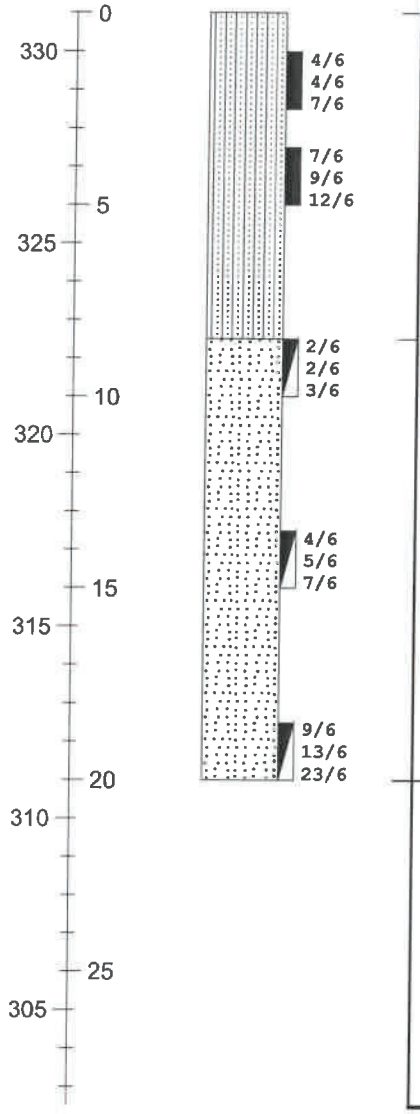
Location: SWC of Coberly Road & Cherry Avenue, Shafter, CA.

Drilled By: Salem Engineering Group, Inc. **Logged By:** KY

Drill Type: CME 45 **Elevation:** 331ft. AMSL

Auger Type: 6-5/8in. Hollow Stem Auger **Initial Depth to Groundwater:** N/E

Hammer Type: Automatic Trip - 140lbs./30in. **Final Depth to Groundwater:** N/E



ELEVATION/ DEPTH (feet)	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	USCS	Soil Description	N-Values blows/ft.	Moisture Content %	Dry Density, PCF	Remarks
		SM	Silty SAND; loose, brown, moist, fine grained.	11	4.6	111.4	
			Grades as above; medium dense, fine to medium grained.	21	2.5	112.3	
		SP	Poorly Graded SAND; loose, light brown, moist.	5	1.0	--	
			Grades as above.	12	1.2	--	
			Grades as above; dense, with silt.	36	2.0	--	
			End of boring at 20ft. BSG				

Notes:

Figure Number A-9

SALEM
engineering group, inc.

Test Boring: B-10 **Page** 1 **Of:** 1

Project Number: 2-223-0066

Date: 03/17/2023

Client: Furniture City

Project: Proposed Warehouse Building

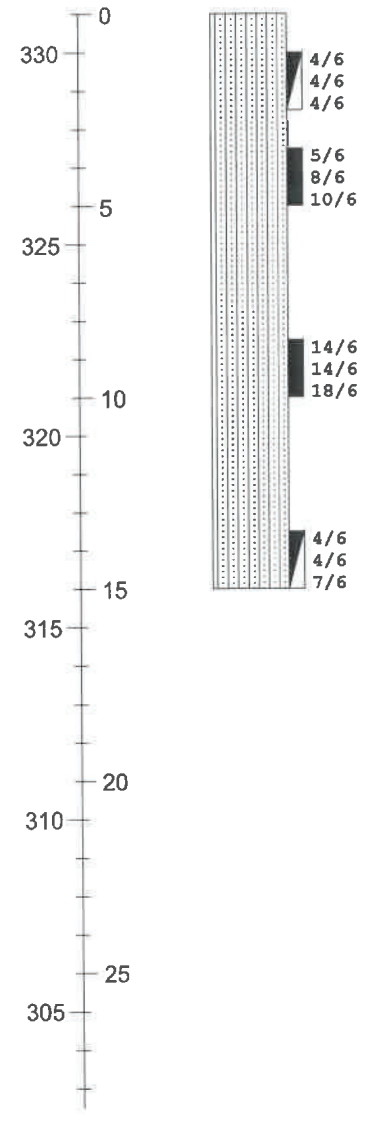
Location: SWC of Coberly Road & Cherry Avenue, Shafter, CA.

Drilled By: Salem Engineering Group, Inc. **Logged By:** KY

Drill Type: CME 45 **Elevation:** 331ft. AMSL

Auger Type: 6-5/8in. Hollow Stem Auger **Initial Depth to Groundwater:** N/E

Hammer Type: Automatic Trip - 140lbs./30in. **Final Depth to Groundwater:** N/E



ELEVATION/ DEPTH (feet)	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	USCS	Soil Description	N-Values blows/ft.	Moisture Content %	Dry Density, PCF	Remarks
		SM	Silty SAND; loose, brown, moist, fine to medium grained.	8	6.2	--	
			Grades as above; medium dense.	18	1.4	--	
			Grades as above.	32	2.3	87.6	
			Grades as above.	11	1.4	--	
			End of boring at 15ft. BSG				

Notes:

Figure Number A-10

SALEM
engineering group, inc.

Test Boring: B-11 **Page** 1 **Of:** 1

Project Number: 2-223-0066

Date: 03/16/2023

Client: Furniture City

Project: Proposed Warehouse Building

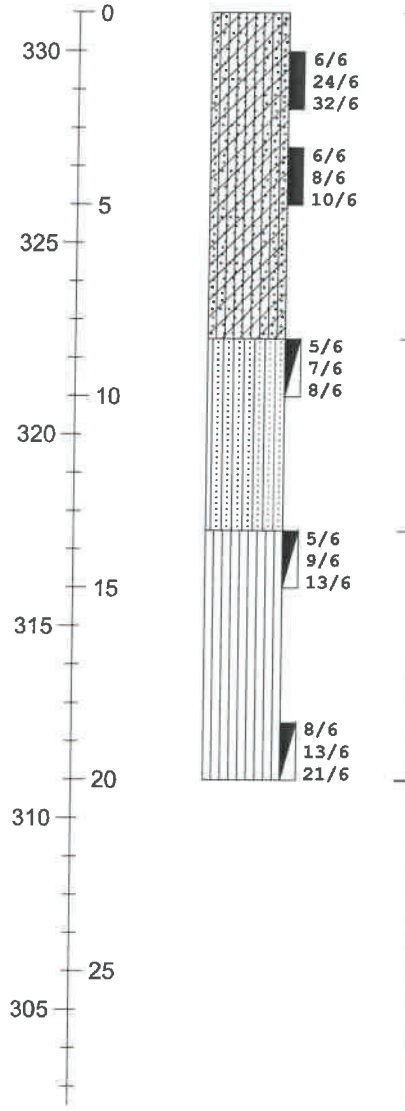
Location: SWC of Coberly Road & Cherry Avenue, Shafter, CA.

Drilled By: Salem Engineering Group, Inc. **Logged By:** KY

Drill Type: CME 45 **Elevation:** 331ft. AMSL

Auger Type: 6-5/8in. Hollow Stem Auger **Initial Depth to Groundwater:** N/E

Hammer Type: Automatic Trip - 140lbs./30in. **Final Depth to Groundwater:** N/E



ELEVATION/ DEPTH (feet)	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	USCS	Soil Description	N-Values blows/ft.	Moisture Content %	Dry Density, PCF	Remarks
		SC-SM	Clayey Silty SAND; dense, light brown, moist, fine grained.	56	4.6	120.4	
			Grades as above; medium dense.	18	4.5	101.2	
		SM	Silty SAND; medium dense, brown, moist, fine grained.	15	15.3	--	
		ML	Sandy SILT; stiff, brown, moist, fine grained.	22	11.2	--	
			Grades as above.	34	6.1	--	
			End of boring at 20ft. BSG				

Notes:

Figure Number A-11

SALEM
engineering group, inc.

Test Boring: B-12 **Page** 1 **Of:** 1

Project Number: 2-223-0066

Date: 03/17/2023

Client: Furniture City

Project: Proposed Warehouse Building

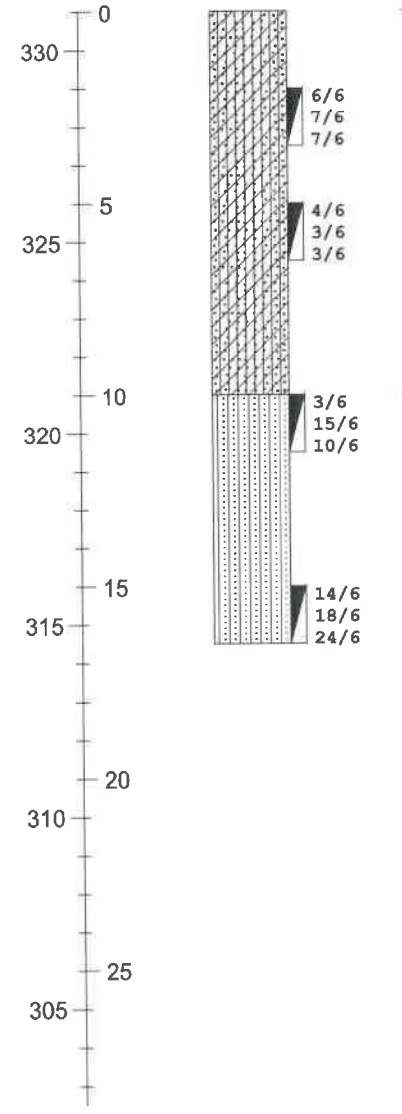
Location: SWC of Coberly Road & Cherry Avenue, Shafter, CA.

Drilled By: Salem Engineering Group, Inc. **Logged By:** KY

Drill Type: CME 45 **Elevation:** 331ft. AMSL

Auger Type: 6-5/8in. Hollow Stem Auger **Initial Depth to Groundwater:** N/E

Hammer Type: Automatic Trip - 140lbs./30in. **Final Depth to Groundwater:** N/E



ELEVATION/ DEPTH (feet)	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	USCS	Soil Description	N-Values blows/ft.	Moisture Content %	Dry Density, PCF	Remarks
		SC-SM	Clayey Silty SAND; medium dense, brown, moist, fine grained.	14	6.2	--	
			Grades as above; loose.	6	2.1	--	
		SM	Silty SAND; medium dense, light brown, moist, fine to medium grained.	25	3.7	--	
			Grades as above; dense. fine to coarse grained.	42	4.3	--	
			End of boring at 16.5ft. BSG				

Notes:

Figure Number A-12

SALEM
engineering group, inc.

Test Boring: B-13 **Page** 1 **Of:** 1

Project Number: 2-223-0066

Date: 03/17/2023

Client: Furniture City

Project: Proposed Warehouse Building

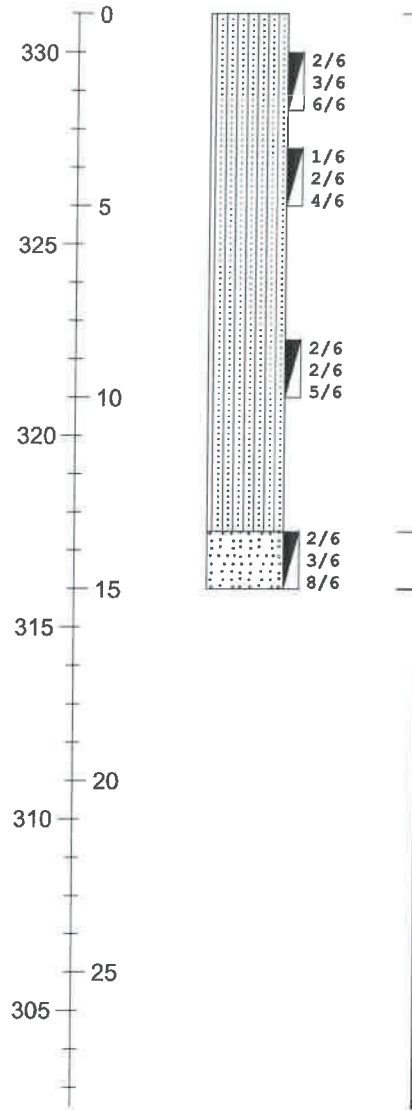
Location: SWC of Coberly Road & Cherry Avenue, Shafter, CA.

Drilled By: Salem Engineering Group, Inc. **Logged By:** KY

Drill Type: CME 45 **Elevation:** 331ft. AMSL

Auger Type: 6-5/8in. Hollow Stem Auger **Initial Depth to Groundwater:** N/E

Hammer Type: Automatic Trip - 140lbs./30in. **Final Depth to Groundwater:** N/E



ELEVATION/ DEPTH (feet)	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	USCS	Soil Description	N-Values blows/ft.	Moisture Content %	Dry Density, PCF	Remarks
		SM	Silty SAND; loose, brown, moist, fine grained.	9	6.9	--	
			Grades as above.	6	3.9	--	
			Grades as above.	7	4.3	--	Low recovery.
		SP	Poorly graded SAND; medium dense, light brown, moist.	11	1.1	--	
			End of boring at 15ft. BSG				

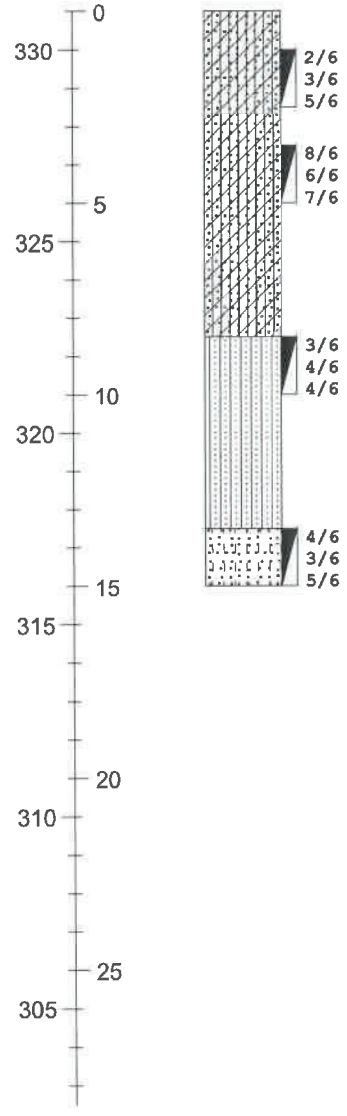
Notes:

Figure Number A-13

SALEM
engineering group, inc.

Test Boring: B-14 **Page** 1 **Of:** 1
Project Number: 2-223-0066
Date: 03/17/2023
Client: Furniture City

Project: Proposed Warehouse Building
Location: SWC of Coberly Road & Cherry Avenue, Shafter, CA.
Drilled By: Salem Engineering Group, Inc. **Logged By:** KY
Drill Type: CME 45 **Elevation:** 331ft. AMSL
Auger Type: 6-5/8in. Hollow Stem Auger **Initial Depth to Groundwater:** N/E
Hammer Type: Automatic Trip - 140lbs./30in. **Final Depth to Groundwater:** N/E



ELEVATION/ DEPTH (feet)	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	USCS	Soil Description	N-Values blows/ft.	Moisture Content %	Dry Density, PCF	Remarks
		SC-SM	Clayey Silty SAND; loose, brown, moist, fine to medium grained.	8	4.9	--	
			Grades as above; medium dense.	13	5.0	--	
		SM	Silty SAND; loose, brown, moist, fine to medium grained.	8	3.9	--	
		SP-SM	Poolry Graded SAND with Silt; loose, light brown, moist.	8	0.9	--	
			End of boring at 15ft. BSG				

Notes:

Figure Number A-14

SALEM
engineering group, inc.

Test Boring: B-15 **Page** 1 **Of:** 2

Project Number: 2-223-0066

Date: 03/16/2023

Client: Furniture City

Project: Proposed Warehouse Building

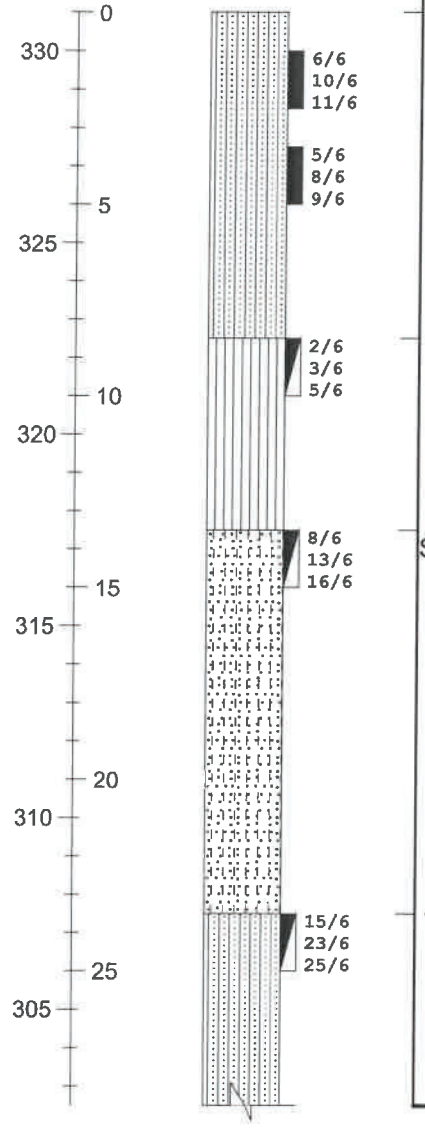
Location: SWC of Coberly Road & Cherry Avenue, Shafter, CA.

Drilled By: Salem Engineering Group, Inc. **Logged By:** KY

Drill Type: CME 45 **Elevation:** 331ft. AMSL

Auger Type: 6-5/8in. Hollow Stem Auger **Initial Depth to Groundwater:** N/E

Hammer Type: Automatic Trip - 140lbs./30in. **Final Depth to Groundwater:** N/E



ELEVATION/ DEPTH (feet)	USCS	Soil Description	N-Values blows/ft.	Moisture Content %	Dry Density, PCF	Remarks
	SM	Silty SAND; medium dense, brown, moist, fine to medium grained.	21	4.6	99.7	
		Grades as above.	17	4.0	113.1	
	ML	Sandy SILT; loose, brown, moist.	8	6.0	--	Low recovery.
	SP-SM	Poorly Graded SAND with Silt; light brown, moist.	29	7.7	--	
		Grades as above; olive brown, fine grained.				
	SM	Silty SAND; dense, brown, moist.	48	3.6	--	

Notes:

Figure Number A-15

SALEM engineering group, inc.

Project Number: 2-223-0066
Date: 03/16/2023
Test Boring: B-15

ELEVATION/ DEPTH (feet)	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	USCS	Soil Description	N-Values blows/ft.	Moisture Content %	Dry Density, PCF	Remarks
30 / 300	8/6 13/6 15/6		Grades as above.	28	6.1	--	
35 / 295	8/6 18/6 30/6	SP-SM	Poorly Graded SAND with Silt; dense, brown, moist.	45	3.2	--	
			End of boring at 35ft. BSG				
40 / 290							
45 / 285							
50 / 280							
55 / 275							
60 / 270							

Notes:

Figure Number A-15

SALEM
engineering group, inc.

Test Boring: B-16 **Page** 1 **Of:** 1

Project Number: 2-223-0066

Date: 03/16/2023

Client: Furniture City

Project: Proposed Warehouse Building

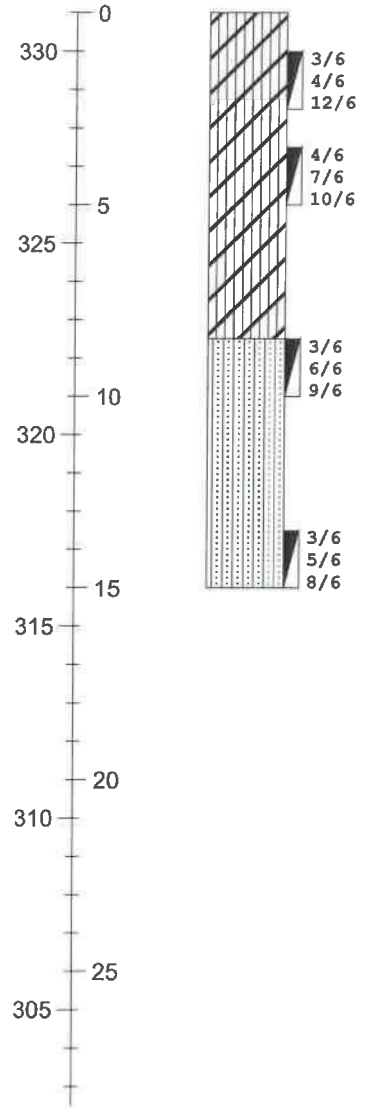
Location: SWC of Coberly Road & Cherry Avenue, Shafter, CA.

Drilled By: Salem Engineering Group, Inc. **Logged By:** KY

Drill Type: CME 45 **Elevation:** 331ft. AMSL

Auger Type: 6-5/8in. Hollow Stem Auger **Initial Depth to Groundwater:** N/E

Hammer Type: Automatic Trip - 140lbs./30in. **Final Depth to Groundwater:** N/E



ELEVATION/ DEPTH (feet)	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	USCS	Soil Description	N-Values blows/ft.	Moisture Content %	Dry Density, PCF	Remarks
		CL-ML	Clayey SILT; very stiff, brown, moist.	16	10.2	--	
			Grades as above.	17	8.4	--	
		SM	Silty SAND; medium dense, light brown, mosit, fine grained.	15	2.1	--	
			Grades as above.	13	1.9	--	
			End of boring at 15ft. BSG				

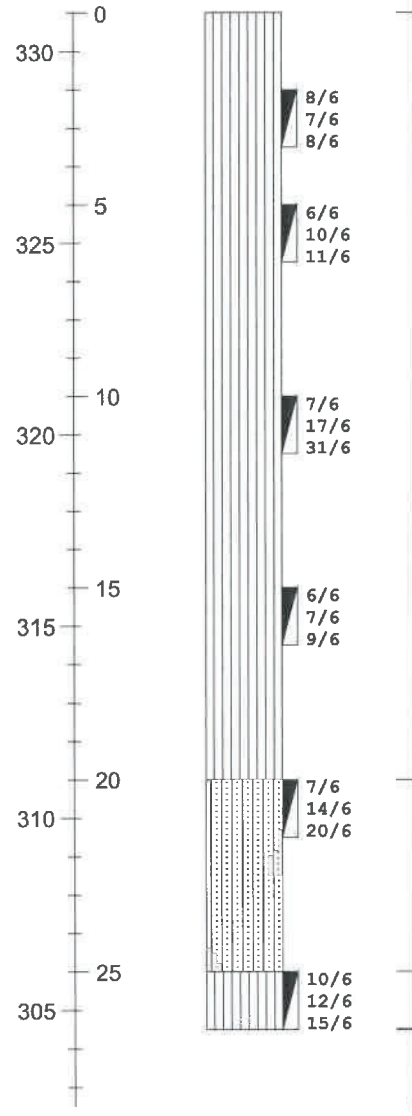
Notes:

Figure Number A-16

SALEM
engineering group, inc.

Test Boring: B-17 **Page** 1 **Of:** 1
Project Number: 2-223-0066
Date: 03/16/2023
Client: Furniture City

Project: Proposed Warehouse Building
Location: SWC of Coberly Road & Cherry Avenue, Shafter, CA.
Drilled By: Salem Engineering Group, Inc. **Logged By:** KY
Drill Type: CME 45 **Elevation:** 331ft. AMSL
Auger Type: 6-5/8in. Hollow Stem Auger **Initial Depth to Groundwater:** N/E
Hammer Type: Automatic Trip - 140lbs./30in. **Final Depth to Groundwater:** N/E



ELEVATION/ DEPTH (feet)	USCS	Soil Description	N-Values blows/ft.	Moisture Content %	Dry Density, PCF	Remarks
0	ML	Sandy SILT; stiff, light brown, moist, fine grained.	15	6.5	--	
5		Grades as above; very stiff.	21	4.9	--	
10		Grades as above; hard.	48	4.3	--	
15		Grades as above; very stiff.	16	21.6	--	
20	SM	Silty SAND; dense, brown, moist, fine to medium grained.	34	4.3	--	
25	ML	Sandy SILT; very stiff, brown, moist.	27	15.8	--	
		End of boring at 26.5ft. BSG				

Notes:

Figure Number A-17

SALEM
engineering group, inc.

Test Boring: B-18 **Page** 1 **Of:** 1

Project Number: 2-223-0066

Date: 03/16/2023

Client: Furniture City

Project: Proposed Warehouse Building

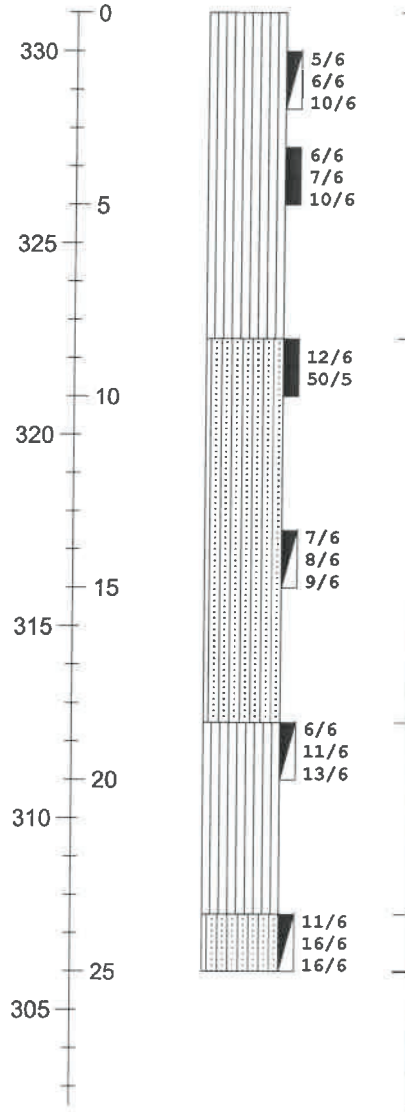
Location: SWC of Coberly Road & Cherry Avenue, Shafter, CA.

Drilled By: Salem Engineering Group, Inc. **Logged By:** KY

Drill Type: CME 45 **Elevation:** 331ft. AMSL

Auger Type: 6-5/8in. Hollow Stem Auger **Initial Depth to Groundwater:** N/E

Hammer Type: Automatic Trip - 140lbs./30in. **Final Depth to Groundwater:** N/E



ELEVATION/ DEPTH (feet)	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	USCS	Soil Description	N-Values blows/ft.	Moisture Content %	Dry Density, PCF	Remarks
		ML	Sandy SILT; stiff, brown, moist.	16	4.5	--	
			Grades as above.	17	1.2	111.6	
		SM	Silty SAND; very dense, brown, moist, with cementation.	>50	15.5	105.6	
			Grades as above; medium dense.	17	9.6	--	
		ML	SILT; very stiff, olive brown, moist.	24	26.8	--	
		SM	Silty SAND; dense, brown, moist.	32	4.8	--	
			End of boring at 25ft. BSG				

Notes:

Figure Number A-18

SALEM
engineering group, inc.

Test Boring: B-19 **Page** 1 **Of:** 1

Project Number: 2-223-0066

Date: 03/17/2023

Client: Furniture City

Project: Proposed Warehouse Building

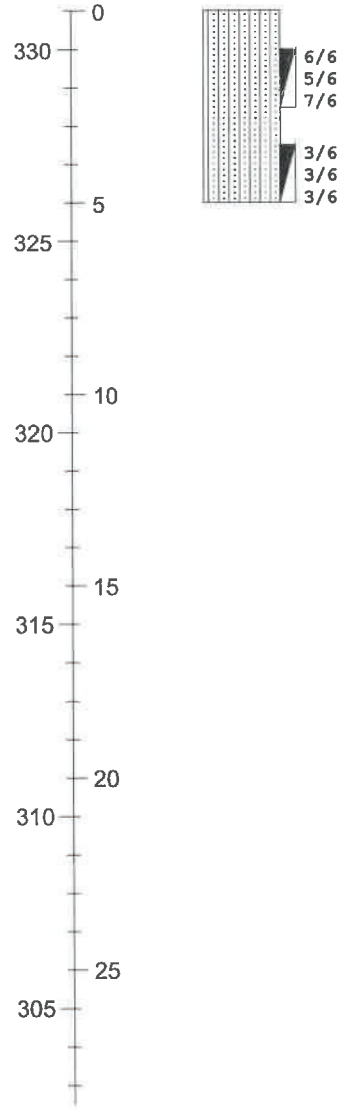
Location: SWC of Coberly Road & Cherry Avenue, Shafter, CA.

Drilled By: Salem Engineering Group, Inc. **Logged By:** KY

Drill Type: CME 45 **Elevation:** 331ft. AMSL

Auger Type: 6-5/8in. Hollow Stem Auger **Initial Depth to Groundwater:** N/E

Hammer Type: Automatic Trip - 140lbs./30in. **Final Depth to Groundwater:** N/E



ELEVATION/ DEPTH (feet)	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	USCS	Soil Description	N-Values blows/ft.	Moisture Content %	Dry Density, PCF	Remarks
		SM	Silty SAND; medium dense, brown, moist.	12	7.5	--	
			Grades as above; loose.	6	4.8	--	
			End of boring at 5ft. BSG				

Notes:

Figure Number A-19

SALEM
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Test Boring: B-20 **Page** 1 **Of:** 1

Project Number: 2-223-0066

Date: 03/16/2023

Client: Furniture City

Project: Proposed Warehouse Building

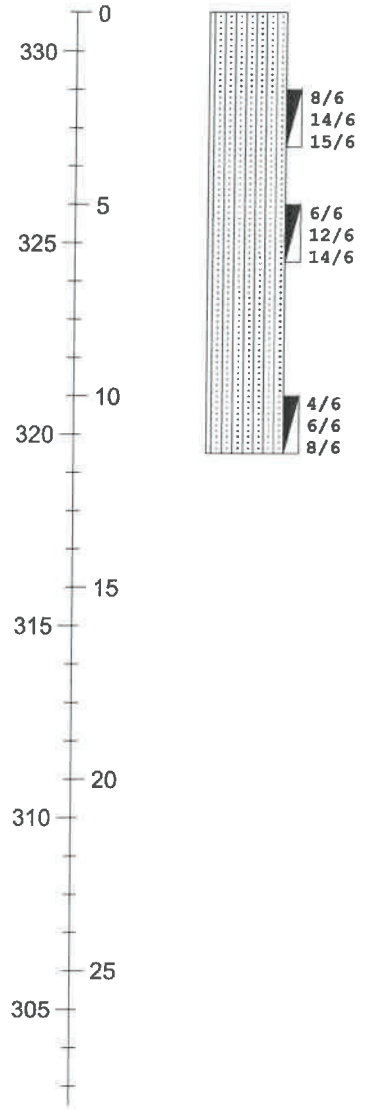
Location: SWC of Coberly Road & Cherry Avenue, Shafter, CA.

Drilled By: Salem Engineering Group, Inc. **Logged By:** KY

Drill Type: CME 45 **Elevation:** 331ft. AMSL

Auger Type: 6-5/8in. Hollow Stem Auger **Initial Depth to Groundwater:** N/E

Hammer Type: Automatic Trip - 140lbs./30in. **Final Depth to Groundwater:** N/E



ELEVATION/ DEPTH (feet)	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	USCS	Soil Description	N-Values blows/ft.	Moisture Content %	Dry Density, PCF	Remarks
		SM	Silty SAND; medium dense, light brown, moist, fine grained.	29	7.1	--	
			Grades as above.	26	10.9	--	
			Grades as above.	14	9.0	--	
			End of boring at 11.5ft. BSG				

Notes:

Figure Number A-20

SALEM
engineering group, inc.

Test Boring: B-21 **Page** 1 **Of:** 1

Project Number: 2-223-0066

Date: 03/17/2023

Client: Furniture City

Project: Proposed Warehouse Building

Location: SWC of Coberly Road & Cherry Avenue, Shafter, CA.

Drilled By: Salem Engineering Group, Inc. **Logged By:** KY

Drill Type: CME 45 **Elevation:** 331ft. AMSL

Auger Type: 6-5/8in. Hollow Stem Auger **Initial Depth to Groundwater:** N/E

Hammer Type: Automatic Trip - 140lbs./30in. **Final Depth to Groundwater:** N/E

ELEVATION/ DEPTH (feet)	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	USCS	Soil Description	N-Values blows/ft.	Moisture Content %	Dry Density, PCF	Remarks
0 / 330	7/6 12/6 15/6	SM	Silty SAND; medium dense, brown, moist, fine grained.	27	6.9	--	
5 / 325	5/6 6/6 9/6		Grades as above.	15	9.2	--	
			End of boring at 5ft. BSG				
10 / 320							
15 / 315							
20 / 310							
25 / 305							

Notes:

Figure Number A-21

SALEM
engineering group, inc.

Test Boring: B-22 **Page** 1 **Of:** 1

Project Number: 2-223-0066

Date: 03/16/2023

Client: Furniture City

Project: Proposed Warehouse Building

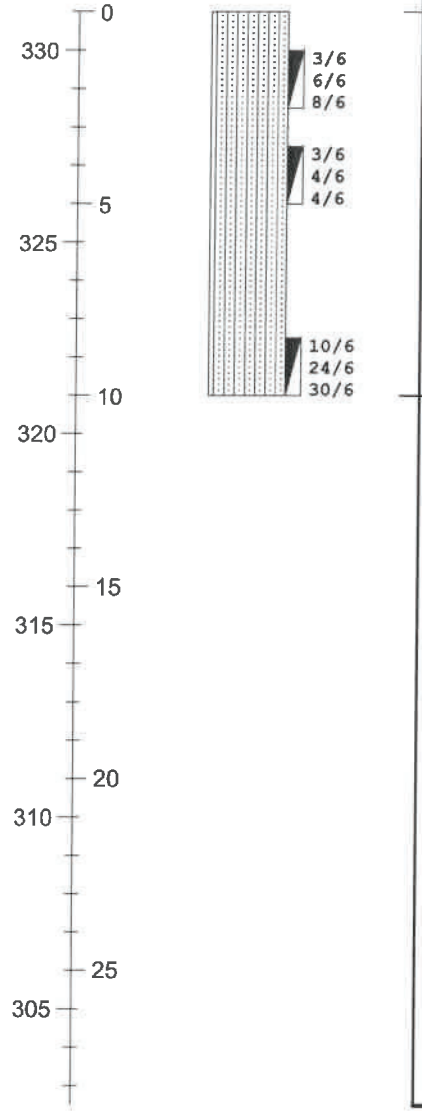
Location: SWC of Coberly Road & Cherry Avenue, Shafter, CA.

Drilled By: Salem Engineering Group, Inc. **Logged By:** KY

Drill Type: CME 45 **Elevation:** 331ft. AMSL

Auger Type: 6-5/8in. Hollow Stem Auger **Initial Depth to Groundwater:** N/E

Hammer Type: Automatic Trip - 140lbs./30in. **Final Depth to Groundwater:** N/E



ELEVATION/ DEPTH (feet)	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	USCS	Soil Description	N-Values blows/ft.	Moisture Content %	Dry Density, PCF	Remarks
		SM	Silty SAND; medium dense, brown, moist, fine to medium grained.	14	9.8	--	
			Grades as above; loose.	8	2.9	--	
			Grades as above.	54	8.6	--	
			End of boring at 10ft. BSG				

Notes:

Figure Number A-22

SALEM
engineering group, inc.

Test Boring: B-23 **Page** 1 **Of:** 1

Project Number: 2-223-0066

Date: 03/17/2023

Client: Furniture City

Project: Proposed Warehouse Building

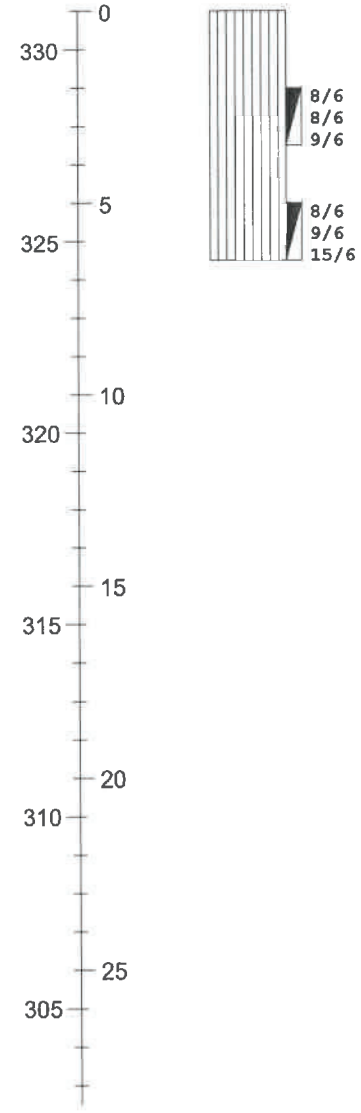
Location: SWC of Coberly Road & Cherry Avenue, Shafter, CA.

Drilled By: Salem Engineering Group, Inc. **Logged By:** KY

Drill Type: CME 45 **Elevation:** 331ft. AMSL

Auger Type: 6-5/8in. Hollow Stem Auger **Initial Depth to Groundwater:** N/E

Hammer Type: Automatic Trip - 140lbs./30in. **Final Depth to Groundwater:** N/E



ELEVATION/ DEPTH (feet)	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	USCS	Soil Description	N-Values blows/ft.	Moisture Content %	Dry Density, PCF	Remarks
		ML	Sandy SILT; very stiff, brown moist.	17			
			Grades as above.	24			
			End of boring at 6.5ft. BSG				

Notes:

Figure Number A-23

SALEM
engineering group, inc.

Test Boring: B-24 **Page** 1 **Of:** 1

Project Number: 2-223-0066

Date: 03/17/2023

Client: Furniture City

Project: Proposed Warehouse Building

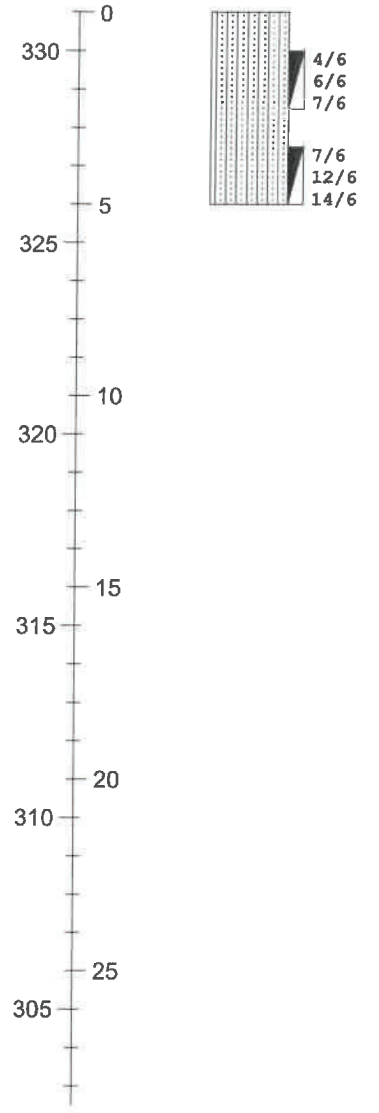
Location: SWC of Coberly Road & Cherry Avenue, Shafter, CA.

Drilled By: Salem Engineering Group, Inc. **Logged By:** KY

Drill Type: CME 45 **Elevation:** 331ft. AMSL

Auger Type: 6-5/8in. Hollow Stem Auger **Initial Depth to Groundwater:** N/E

Hammer Type: Automatic Trip - 140lbs./30in. **Final Depth to Groundwater:** N/E



ELEVATION/ DEPTH (feet)	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	USCS	Soil Description	N-Values blows/ft.	Moisture Content %	Dry Density, PCF	Remarks
		SM	Silty SAND; medium dense, brown, moist, fine to medium grained.	13	12.5	--	
			Grades as above; fine grained.	26	7.3	--	
			End of boring at 5ft. BSG				

Notes:

Figure Number A-24

SALEM
engineering group, inc.

Test Boring: B-25 **Page** 1 **Of:** 1
Project Number: 2-223-0066
Date: 03/15/2023
Client: Furniture City

Project: Proposed Warehouse Building
Location: SWC of Coberly Road & Cherry Avenue, Shafter, CA.
Drilled By: Salem Engineering Group, Inc. **Logged By:** KY
Drill Type: CME 45 **Elevation:** 331ft. AMSL
Auger Type: 6-5/8in. Hollow Stem Auger **Initial Depth to Groundwater:** N/E
Hammer Type: Automatic Trip - 140lbs./30in. **Final Depth to Groundwater:** N/E

ELEVATION/ DEPTH (feet)	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	USCS	Soil Description	N-Values blows/ft.	Moisture Content %	Dry Density, PCF	Remarks
330 / 0	7/6 7/6 10/6	SM	Silty SAND; medium dense, brown, moist, fine grained.	17	10.7	--	
5 / 325	3/6 5/6 6/6		Grades as above.	11	10.8	--	
10 / 320			End of boring at 5ft. BSG				
15 / 315							
20 / 310							
25 / 305							

Notes:

Figure Number A-25

SALEM
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Test Boring: B-26 **Page** 1 **Of:** 1

Project Number: 2-223-0066

Date: 03/15/2023

Client: Furniture City

Project: Proposed Warehouse Building

Location: SWC of Coberly Road & Cherry Avenue, Shafter, CA.

Drilled By: Salem Engineering Group, Inc. **Logged By:** KY

Drill Type: CME 45 **Elevation:** 331ft. AMSL

Auger Type: 6-5/8in. Hollow Stem Auger **Initial Depth to Groundwater:** N/E

Hammer Type: Automatic Trip - 140lbs./30in. **Final Depth to Groundwater:** N/E

ELEVATION/ DEPTH (feet)	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	USCS	Soil Description	N-Values blows/ft.	Moisture Content %	Dry Density, PCF	Remarks
0 / 330	7/6 7/6 10/6	ML	Sandy SILT; very stiff, brown, moist.	17	6.1	--	
5 / 325	3/6 5/6 6/6		Grades as above.	11	6.5	--	
			End of boring at 5ft. BSG				
10 / 320							
15 / 315							
20 / 310							
25 / 305							

Notes:

Figure Number A-26

SALEM
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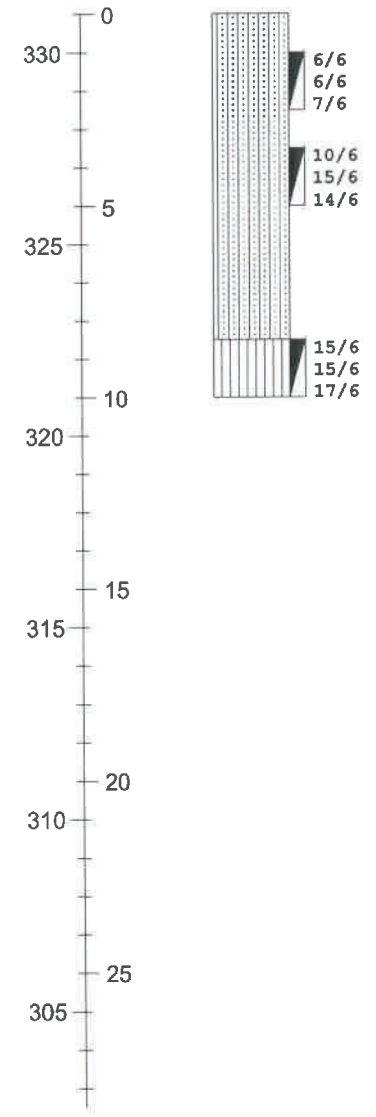
Test Boring: B-27 **Page** 1 **Of:** 1
Project Number: 2-223-0066
Date: 03/15/2023
Client: Furniture City

Project: Proposed Warehouse Building
Location: SWC of Coberly Road & Cherry Avenue, Shafter, CA.
Drilled By: Salem Engineering Group, Inc. **Logged By:** KY
Drill Type: CME 45 **Elevation:** 331ft. AMSL
Auger Type: 6-5/8in. Hollow Stem Auger **Initial Depth to Groundwater:** N/E
Hammer Type: Automatic Trip - 140lbs./30in. **Final Depth to Groundwater:** N/E



ELEVATION/ DEPTH (feet)	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	USCS	Soil Description	N-Values blows/ft.	Moisture Content %	Dry Density, PCF	Remarks
		SM	Silty SAND; medium dense, brown, moist, fine grained.	13	5.3	--	
			Grades as above.	29	4.2	--	
		ML	Sandy SILT; hard, brown, moist, fine grained.	32			
			End of boring at 10ft. BSG				

Notes:

Figure Number A-27

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Test Boring: B-28 **Page** 1 **Of:** 1

Project Number: 2-223-0066

Date: 03/15/2023

Client: Furniture City

Project: Proposed Warehouse Building

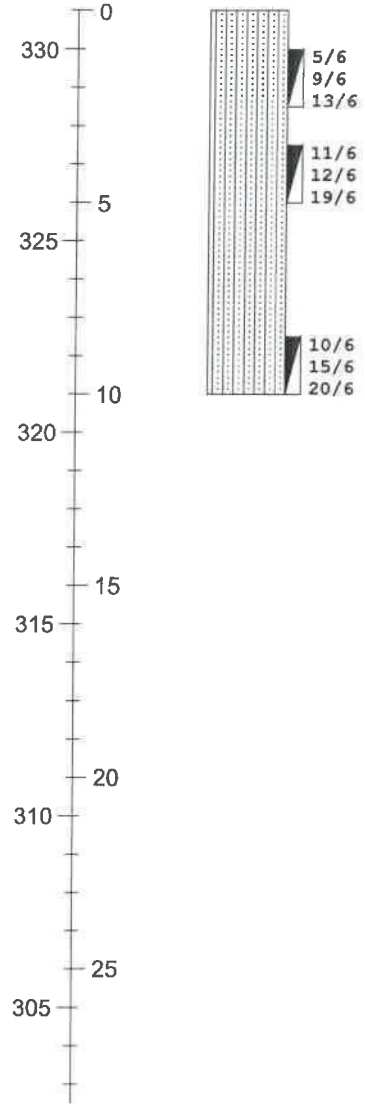
Location: SWC of Coberly Road & Cherry Avenue, Shafter, CA.

Drilled By: Salem Engineering Group, Inc. **Logged By:** KY

Drill Type: CME 45 **Elevation:** 331ft. AMSL

Auger Type: 6-5/8in. Hollow Stem Auger **Initial Depth to Groundwater:** N/E

Hammer Type: Automatic Trip - 140lbs./30in. **Final Depth to Groundwater:** N/E



ELEVATION/ DEPTH (feet)	SOIL SYMBOLS SAMPLER SYMBOLS AND FIELD TEST DATA	USCS	Soil Description	N-Values blows/ft.	Moisture Content %	Dry Density, PCF	Remarks
		SM	Silty SAND; medium dense, brown, moist, fine grained.	22	7.4	--	
			Grades as above; dense.	31	6.9	--	
			Grades as above.	35	9.9	--	
			End of boring at 10ft. BSG				

Notes:

Figure Number A-28

KEY TO SYMBOLS

Symbol Description

Strata symbols

 Silty sand

 Poorly graded sand

 Poorly graded clayey silty sand

 Poorly graded sand with silt

 Silt

 Clayey sand

 Silty low plasticity clay

Misc. Symbols

 Boring continues

Soil Samplers

 Standard penetration test

 California sampler

Notes:

Granular Soils
Blows Per Foot (Uncorrected)

	MCS	SPT
Very loose	<5	<4
Loose	5-15	4-10
Medium dense	16-40	11-30
Dense	41-65	31-50
Very dense	>65	>50

Cohesive Soils
Blows Per Foot (Uncorrected)

	MCS	SPT
Very soft	<3	<2
Soft	3-5	2-4
Firm	6-10	5-8
Stiff	11-20	9-15
Very Stiff	21-40	16-30
Hard	>40	>30

MCS = Modified California Sampler
SPT = Standard Penetration Test Sampler

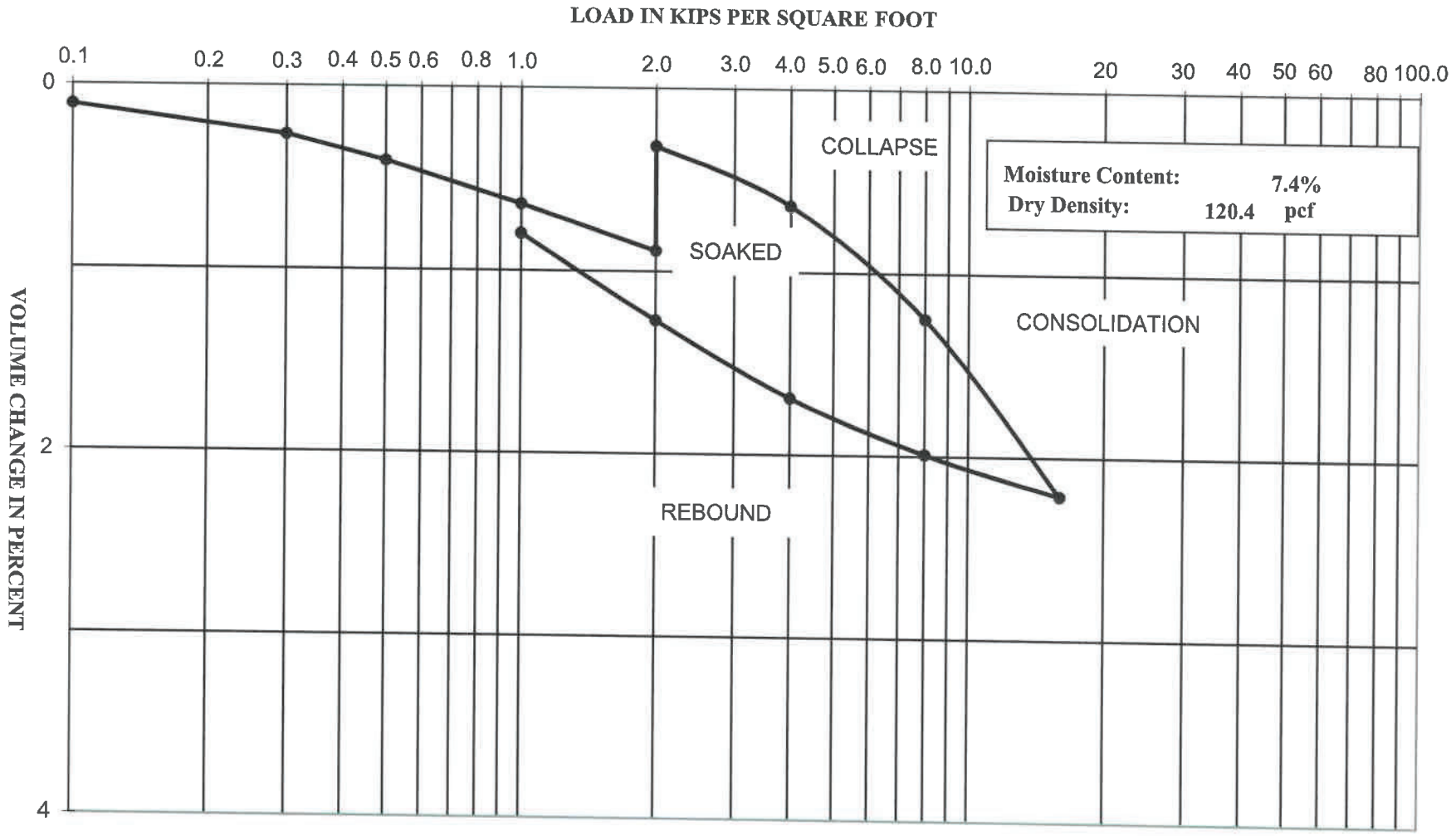
APPENDIX

B

APPENDIX B
LABORATORY TESTING

Laboratory tests were performed in accordance with generally accepted test methods of the American Society for Testing and Materials (ASTM), Caltrans, or other suggested procedures. Selected samples were tested for in-situ dry density and moisture content, corrosivity, consolidation, shear strength, resistance value, expansion index, Atterberg Limits, and grain size distribution. The results of the laboratory tests are summarized in the following figures.

CONSOLIDATION - PRESSURE TEST DATA
ASTM D2435



Project Name: Warehouse Bldg - Shafter

Project Number: 2-223-0066

Boring: B-8 @ 2'

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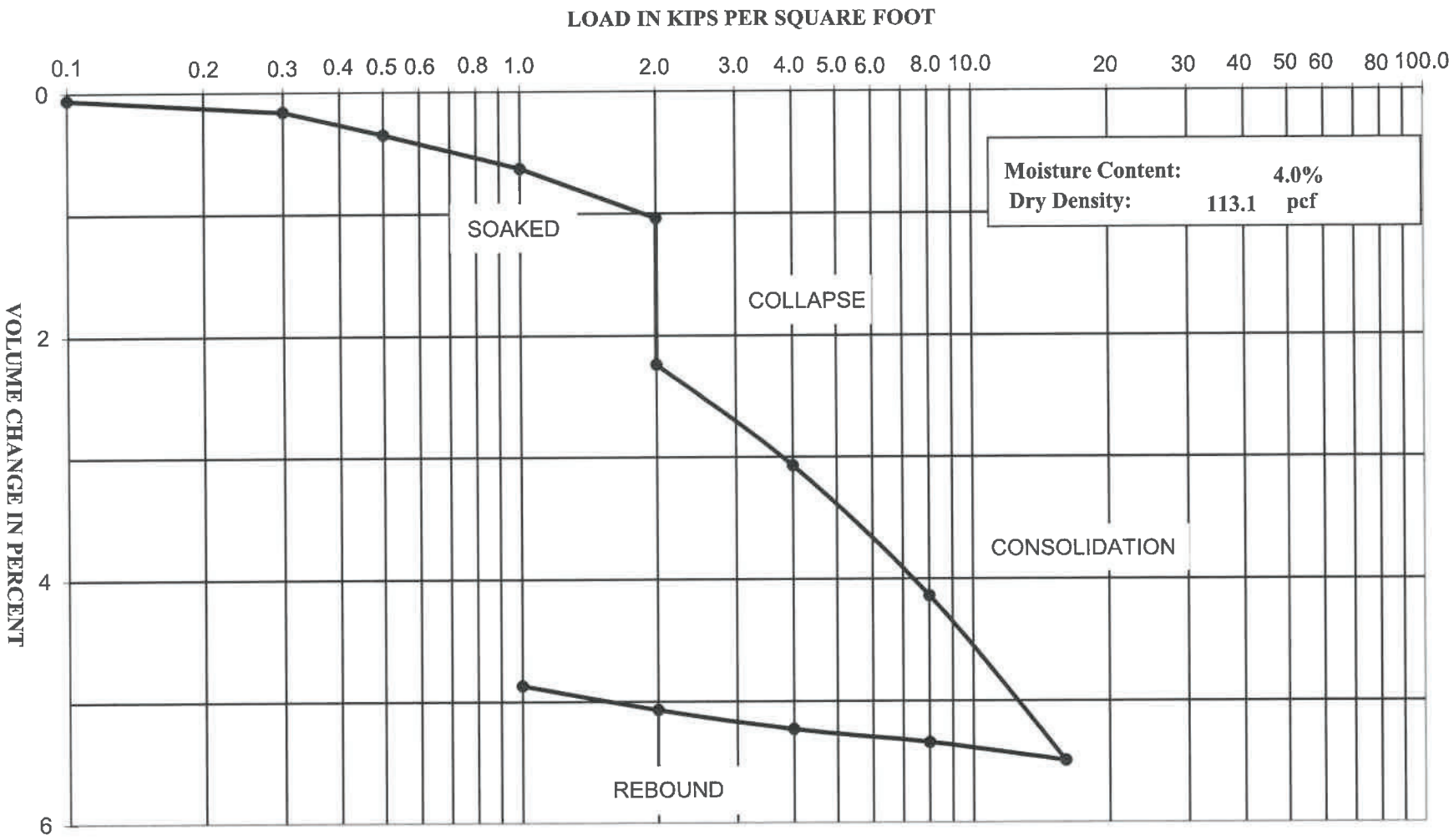
CONSOLIDATION - PRESSURE TEST DATA
ASTM D2435



Project Name: Warehouse Bldg - Shafter

Project Number: 2-223-0066

Boring: B-15 @ 3.5'

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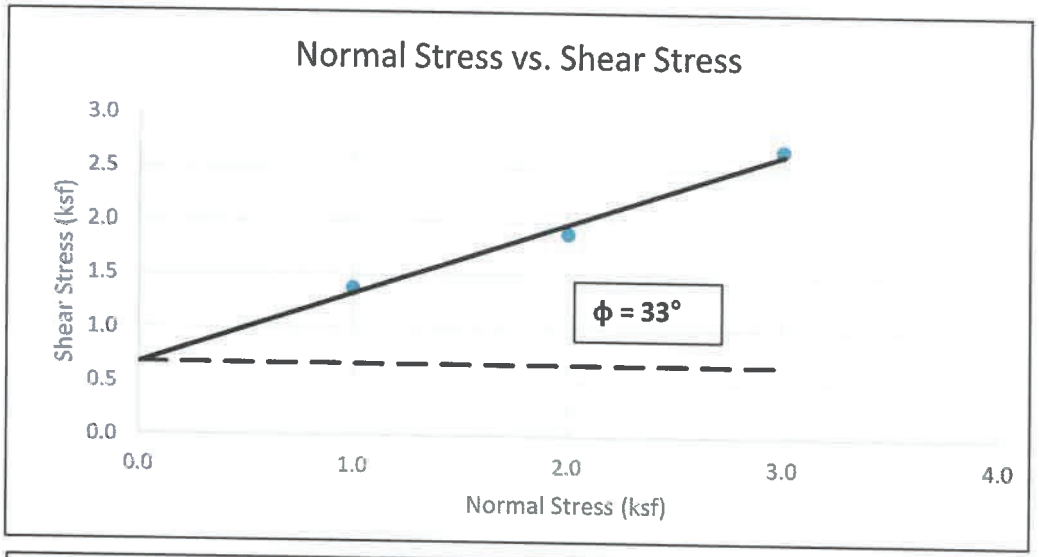
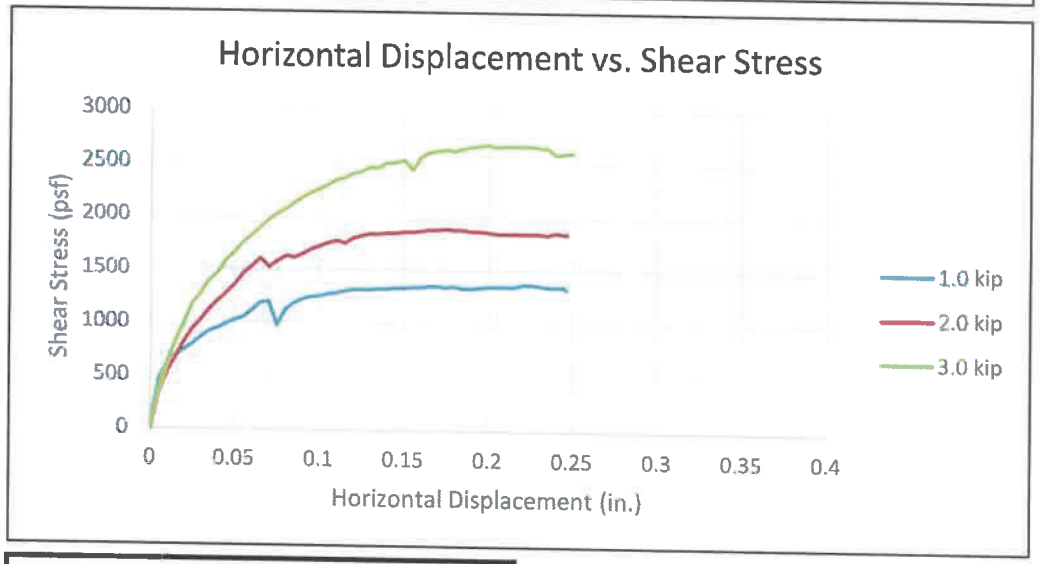
Direct Shear Test (ASTM D3080)

Project Name: Warehouse Bldg - Shafter
Project Number: 2-223-0066
Client:
Boring: B-6 @ 3.5'
Soil Type: Clayey Silty SAND (SC-SI
Sample Type: Undisturbed Ring
Tested By: NL
Reviewed By:
Date of Test: 3/27/23
Test Equipment: GeoComp ShearTrac II

	Loading		
	1.0 kip	**2.0 kip**	**3.0 kip**
Normal Stress (ksf)	1.00	2.00	3.00
Shear Rate (in/min)	0.0040	0.0040	0.0040
Peak Shear Stress (ksf)	1.37	1.89	2.68

Initial Height of Sample (in)	1.000	1.000	1.000
Post-Consol. Sample Height (in.)	0.942	0.921	0.885
Post-Shear Sample Height (in.)	0.920	0.897	0.856
Diameter of Sample (in)	2.4	2.4	2.4
Initial (pre-shear) Values			
Moisture Content (%)	4.9		
Dry Density (pcf)	112.5	113.5	112.2
Saturation %	26.6	27.4	26.5
Void Ratio	0.49	0.48	0.50
Consolidated Void Ratio	0.41	0.36	0.32
Final (post-shear) Values			
Final Moisture Content (%)	19.6	18.3	18.6
Dry Density (pcf)	113.0	116.7	119.2
Saturation %	93.3	99.4	111.6
Void Ratio	0.57	0.50	0.45





Peak Shear Strength Values	
Slope	0.66
Friction Angle	33
Cohesion (psf)	670

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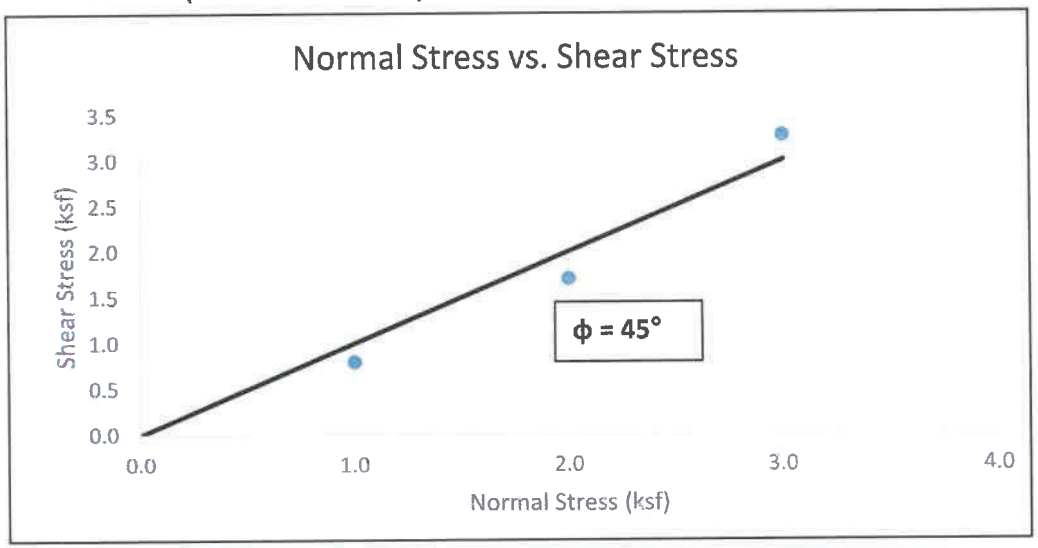
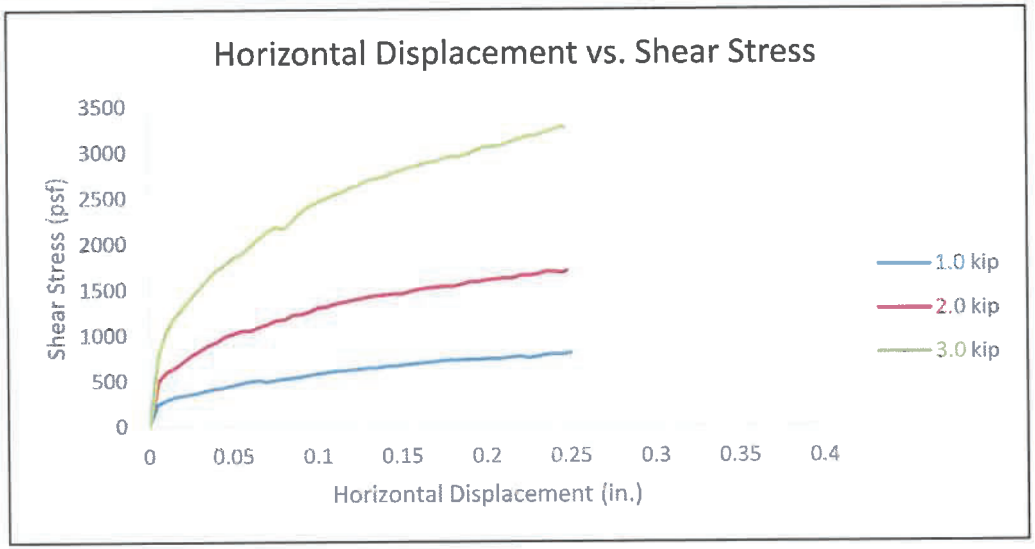
Direct Shear Test (ASTM D3080)

Project Name: Warehouse Bldg - Shafter
Project Number: 2-223-0066
Client:
Boring: B-8 @ 5'
Soil Type: Silty SAND (SM)
Sample Type: Undisturbed Ring
Tested By: NL / MC
Reviewed By:
Date of Test: 8/28/23
Test Equipment: GeoComp ShearTrac II

	Loading		
	1.0 kip	**2.0 kip**	**3.0 kip**
Normal Stress (ksf)	1.00	2.00	3.00
Shear Rate (in/min)	0.0025	0.0025	0.0025
Peak Shear Stress (ksf)	0.80	1.70	3.27

Initial Height of Sample (in)	1.000	1.000	1.000
Post-Consol. Sample Height (in.)	0.711	0.669	0.621
Post-Shear Sample Height (in.)	0.665	0.629	0.575
Diameter of Sample (in)	2.4	2.4	2.4
Initial (pre-shear) Values			
Moisture Content (%)		13.0	
Dry Density (pcf)	100.5	109.0	103.3
Saturation %	51.2	63.4	54.9
Void Ratio	0.69	0.56	0.64
Consolidated Void Ratio	0.20	0.04	0.02
Final (post-shear) Values			
Final Moisture Content (%)	35.9	31.9	30.7
Dry Density (pcf)	129.7	141.4	142.3
Saturation %	278.0	606.8	902.3
Void Ratio	0.35	0.14	0.09





Peak Shear Strength Values	
Slope	1.00
Friction Angle	45
Cohesion (psf)	0

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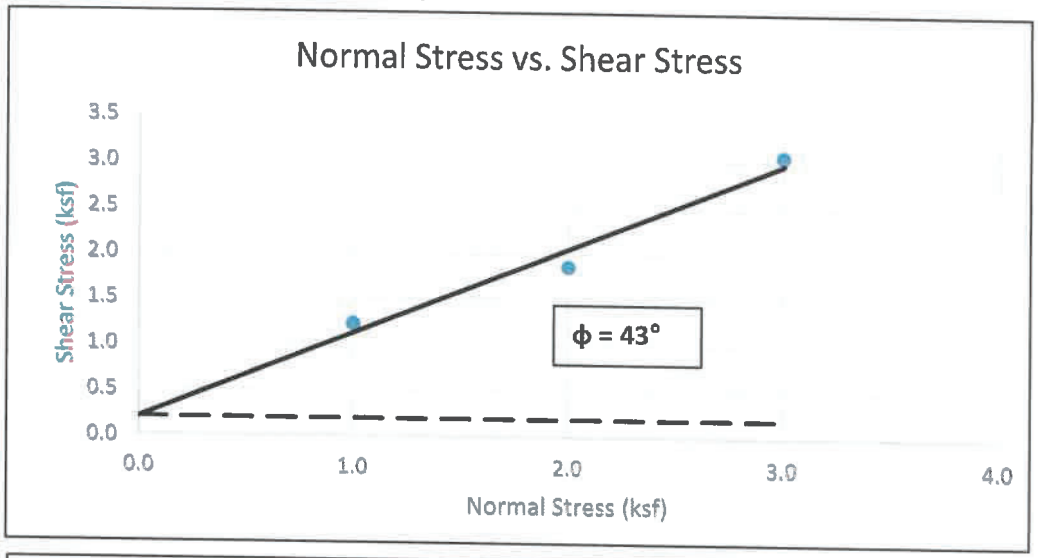
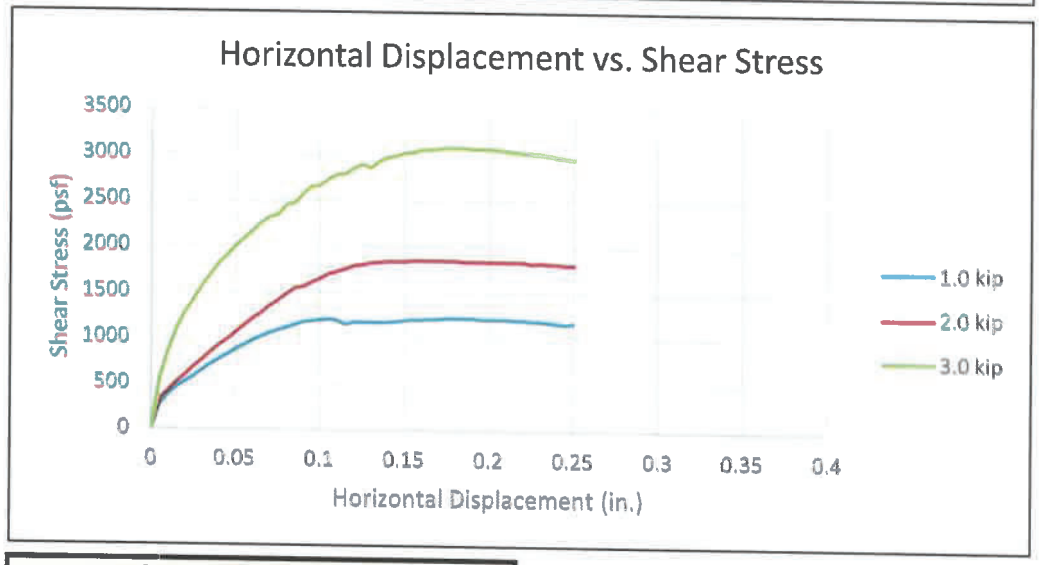
Direct Shear Test (ASTM D3080)

Project Name: Warehouse Bldg - Shafter
Project Number: 2-223-0066
Client:
Boring: B-18 @ 8.5'
Soil Type: Silty SAND (SM)
Sample Type: Undisturbed Ring
Tested By: NL / MC
Reviewed By:
Date of Test: 3/29/23
Test Equipment: GeoComp ShearTrac II

	Loading		
	1.0 kip	**2.0 kip**	**3.0 kip**
Normal Stress (ksf)	1.00	2.00	3.00
Shear Rate (in/min)	0.0025	0.0025	0.0025
Peak Shear Stress (ksf)	1.22	1.86	3.08

Initial Height of Sample (in)	1.000	1.000	1.000
Post-Consol. Sample Height (in.)	0.923	0.900	0.867
Post-Shear Sample Height (in.)	0.915	0.883	0.838
Diameter of Sample (in)	2.4	2.4	2.4
Initial (pre-shear) Values			
Moisture Content (%)	15.5		
Dry Density (pcf)	110.3	101.0	93.9
Saturation %	78.1	61.8	52.0
Void Ratio	0.54	0.68	0.81
Consolidated Void Ratio	0.42	0.51	0.57
Final (post-shear) Values			
Final Moisture Content (%)	26.1	30.7	31.9
Dry Density (pcf)	110.1	102.6	98.6
Saturation %	131.9	122.7	118.6
Void Ratio	0.54	0.68	0.73





Peak Shear Strength Values	
Slope	0.93
Friction Angle	43
Cohesion (psf)	193

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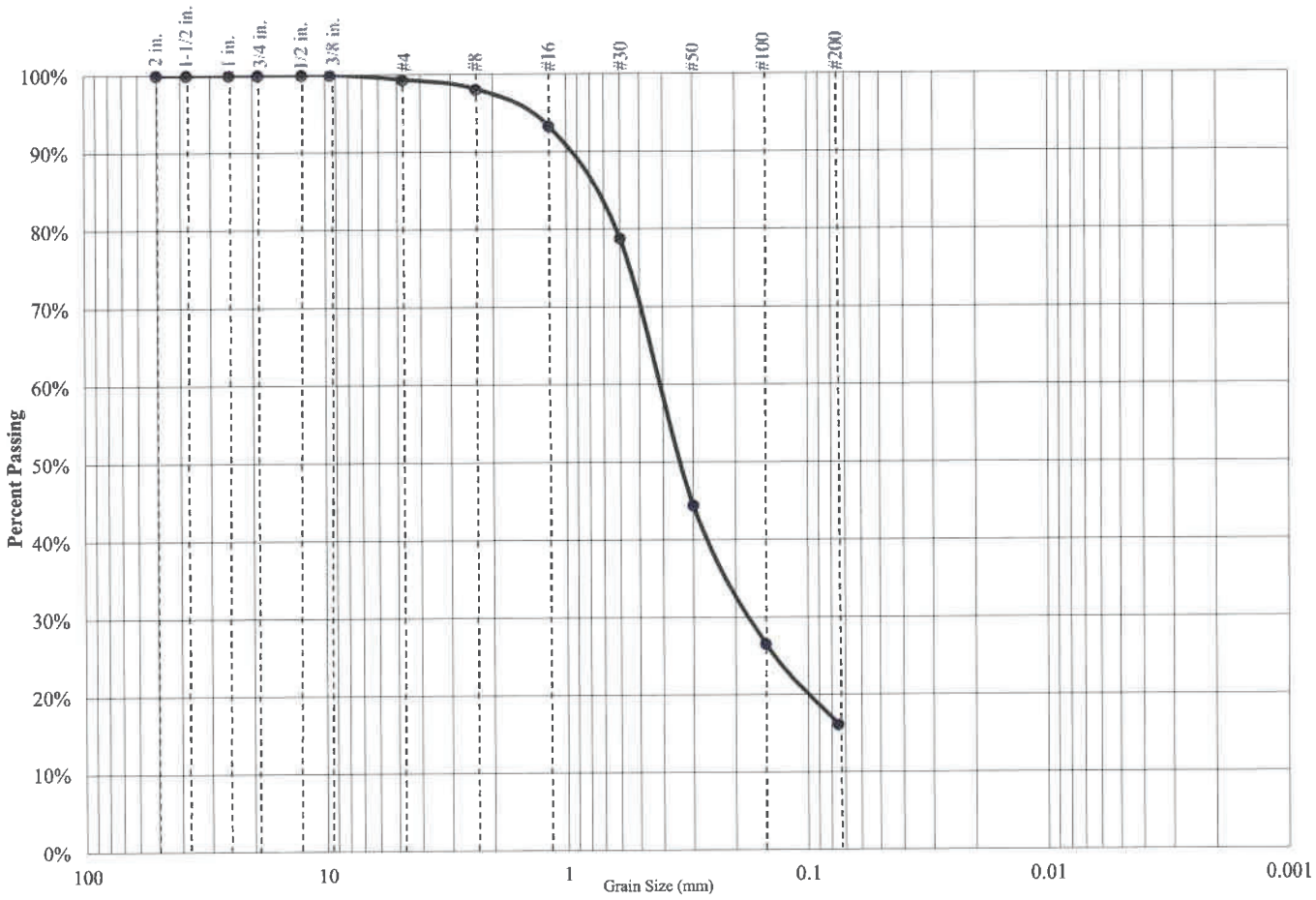
PARTICLE SIZE DISTRIBUTION DIAGRAM

GRADATION TEST - ASTM C136



Percent Gravel	Percent Sand	Percent Silt/Clay
1%	83%	16%

Sieve Size	Percent Passing
3/4 inch	100.0%
1/2 inch	100.0%
3/8 inch	100.0%
#4	99.3%
#8	98.1%
#16	93.3%
#30	78.8%
#50	44.5%
#100	26.5%
#200	16.1%

Atterberg Limits		
PL=	LL=	PI=

Coefficients			
D_{85}=		D_{60}=	D_{50}=
D_{30}=		D_{15}=	D_{10}=
C_u=	N/A	C_c=	N/A

USCS CLASSIFICATION
Silty SAND (SM)

Project Name: Warehouse Bldg - Shafter

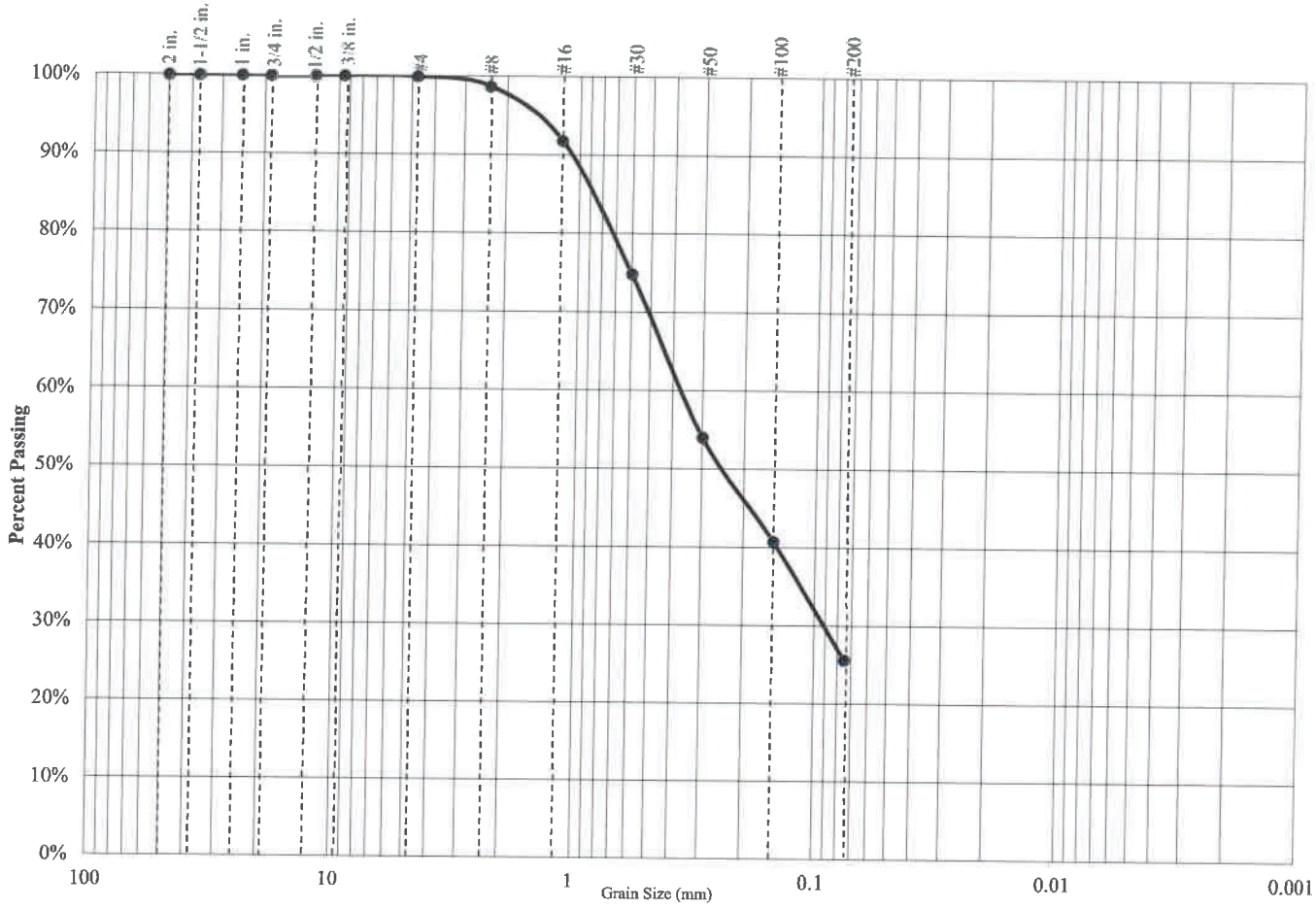
Project Number: 2-223-0066

Boring: B-1 @ 8.5'

SALEM engineering group, inc.

PARTICLE SIZE DISTRIBUTION DIAGRAM

GRADATION TEST - ASTM C136



Percent Gravel	Percent Sand	Percent Silt/Clay
0%	74%	26%

Sieve Size	Percent Passing
3/4 inch	100.0%
1/2 inch	100.0%
3/8 inch	100.0%
#4	99.9%
#8	98.7%
#16	91.8%
#30	74.8%
#50	54.1%
#100	40.8%
#200	25.6%

Atterberg Limits		
PL=	LL=	PI=

Coefficients				
D_{85}=		D_{60}=		D_{50}=
D_{30}=		D_{15}=		D_{10}=
C_u=	N/A	C_c=	N/A	

USCS CLASSIFICATION
Silty SAND (SM)

Project Name: Warehouse Bldg - Shafter

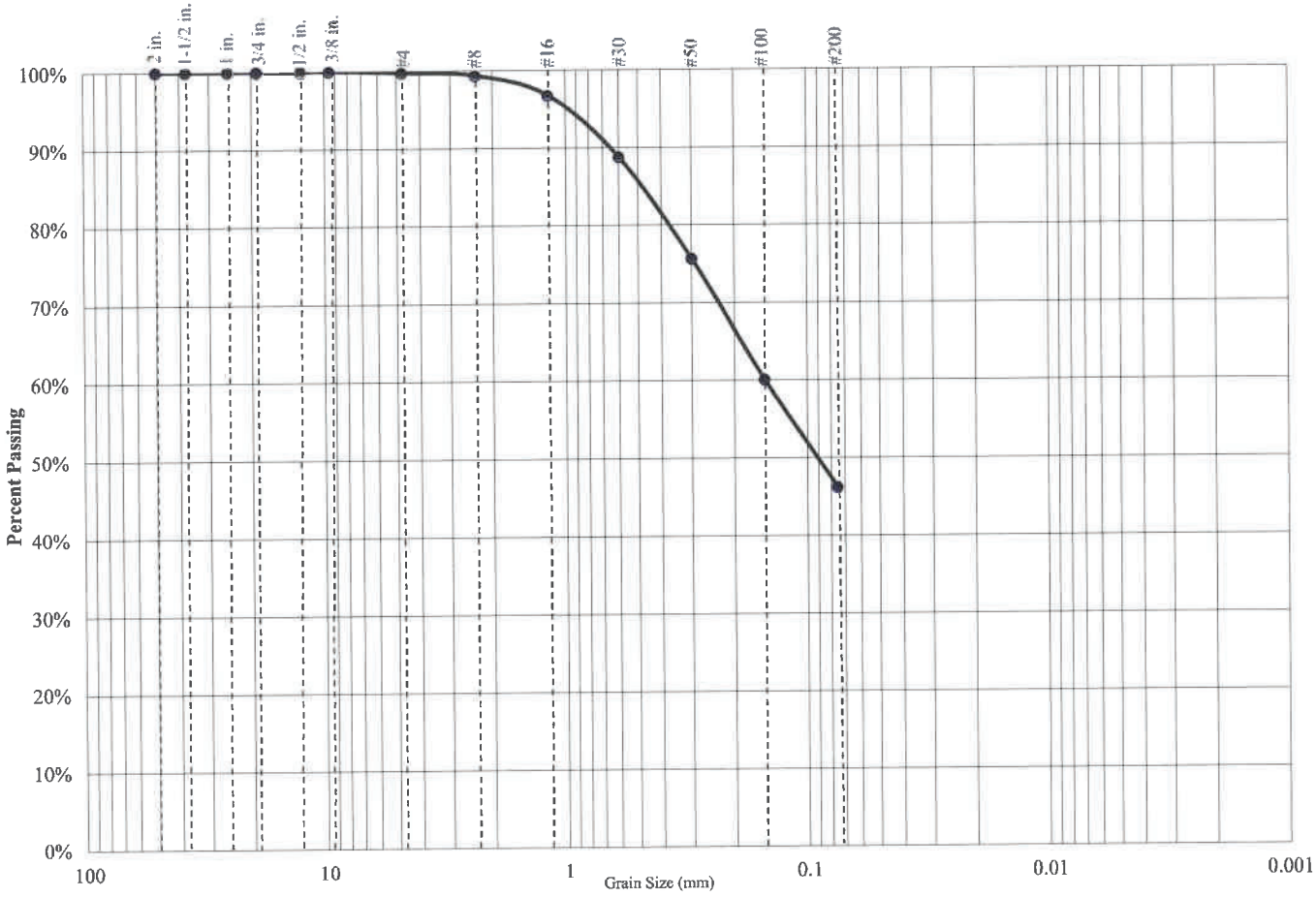
Project Number: 2-223-0066

Boring: B-5 @ 5'

SALEM engineering group, inc.

PARTICLE SIZE DISTRIBUTION DIAGRAM

GRADATION TEST - ASTM C136



Percent Gravel	Percent Sand	Percent Silt/Clay
0%	54%	46%

Sieve Size	Percent Passing
3/4 inch	100.0%
1/2 inch	100.0%
3/8 inch	100.0%
#4	99.8%
#8	99.4%
#16	96.8%
#30	88.8%
#50	75.7%
#100	60.1%
#200	46.2%

Atterberg Limits		
PL=	LL=	PI=

Coefficients			
D_{85}=		D_{60}=	D_{50}=
D_{30}=		D_{15}=	D_{10}=
C_u=	N/A	C_c=	N/A

USCS CLASSIFICATION
Clayey Silty SAND (SC-SM)

Project Name: Warehouse Bldg - Shafter

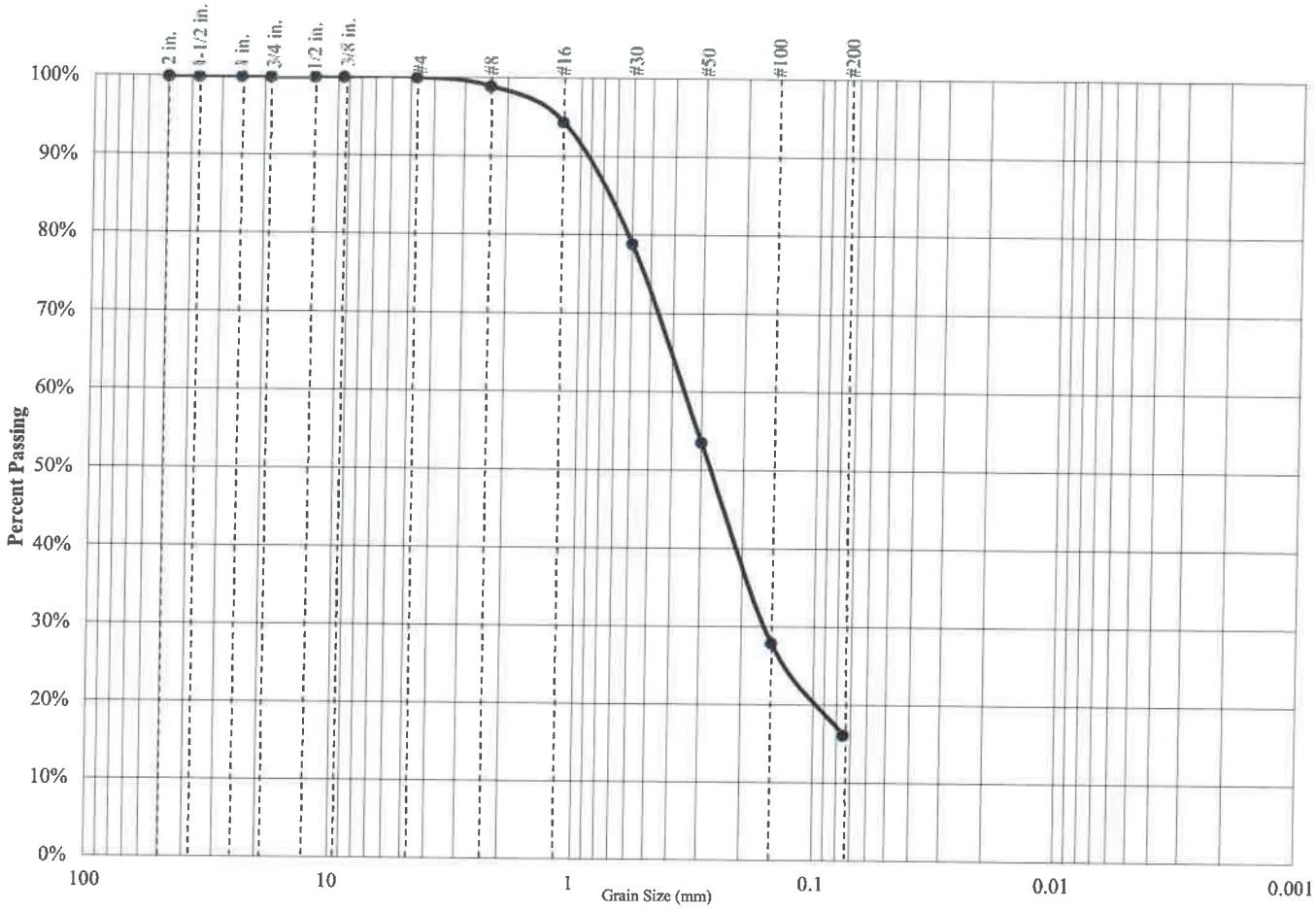
Project Number: 2-223-0066

Boring: B-6 @ 1' - 4'

SALEM engineering group, inc.

PARTICLE SIZE DISTRIBUTION DIAGRAM

GRADATION TEST - ASTM C136



Percent Gravel	Percent Sand	Percent Silt/Clay
0%	84%	16%

Sieve Size	Percent Passing
3/4 inch	100.0%
1/2 inch	100.0%
3/8 inch	100.0%
#4	100.0%
#8	98.9%
#16	94.4%
#30	78.9%
#50	53.6%
#100	27.9%
#200	16.1%

Atterberg Limits		
PL=	LL=	PI=

Coefficients					
D_{85}=		D_{60}=		D_{50}=	
D_{30}=		D_{15}=		D_{10}=	
C_u=	N/A	C_c=	N/A		

USCS CLASSIFICATION
Silty SAND (SM)

Project Name: Warehouse Bldg - Shafter

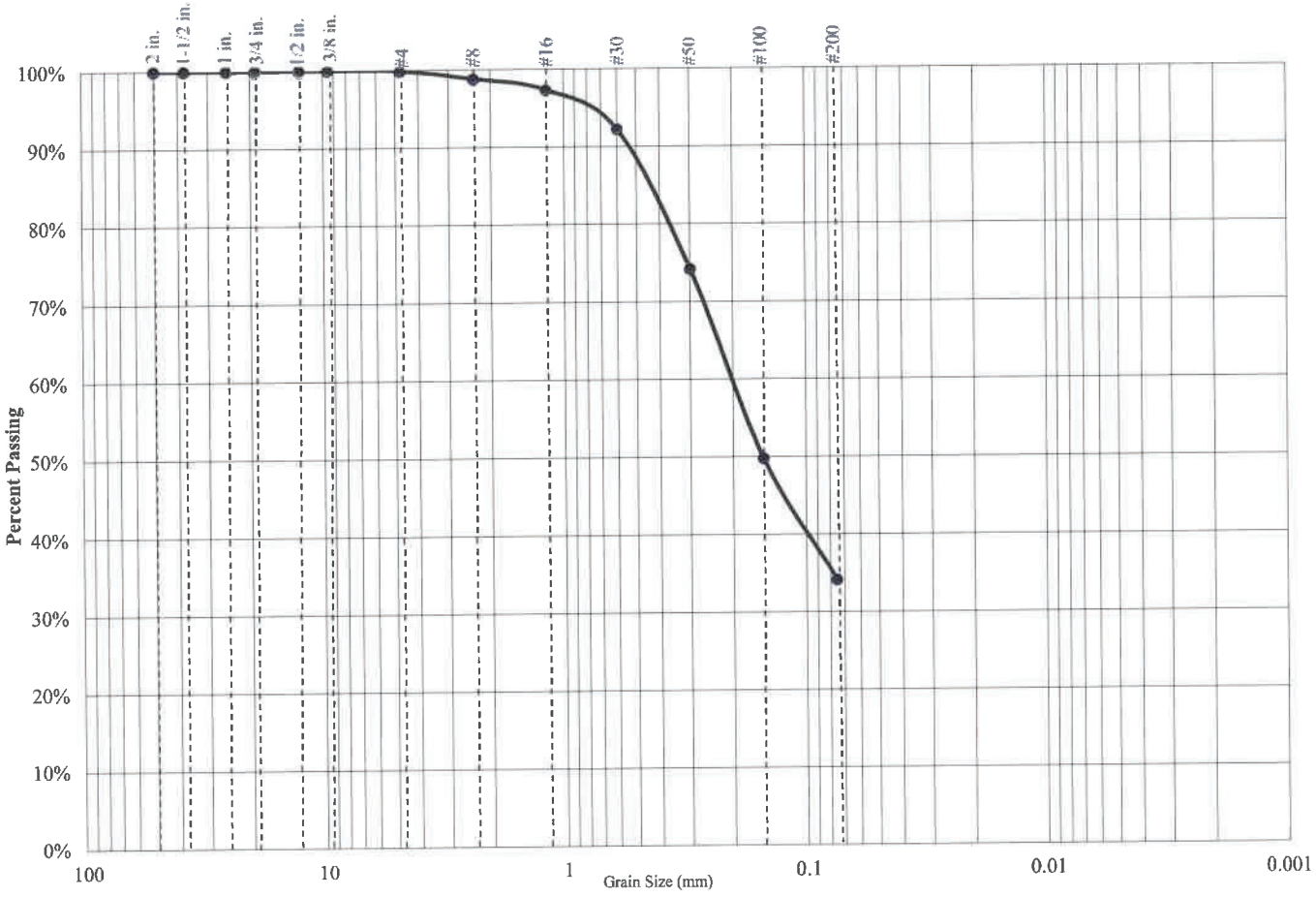
Project Number: 2-223-0066

Boring: B-6 @ 8.5'

SALEM engineering group, inc.

PARTICLE SIZE DISTRIBUTION DIAGRAM

GRADATION TEST - ASTM C136



Percent Gravel	Percent Sand	Percent Silt/Clay
0%	66%	34%

Sieve Size	Percent Passing
3/4 inch	100.0%
1/2 inch	100.0%
3/8 inch	100.0%
#4	99.9%
#8	98.8%
#16	97.3%
#30	92.3%
#50	74.2%
#100	49.8%
#200	34.1%

Atterberg Limits		
PL=	LL=	PI=

Coefficients			
D_{85}=		D_{60}=	D_{50}=
D_{30}=		D_{15}=	D_{10}=
C_u=	N/A	C_c=	N/A

USCS CLASSIFICATION
Silty SAND (SM)

Project Name: Warehouse Bldg - Shafter

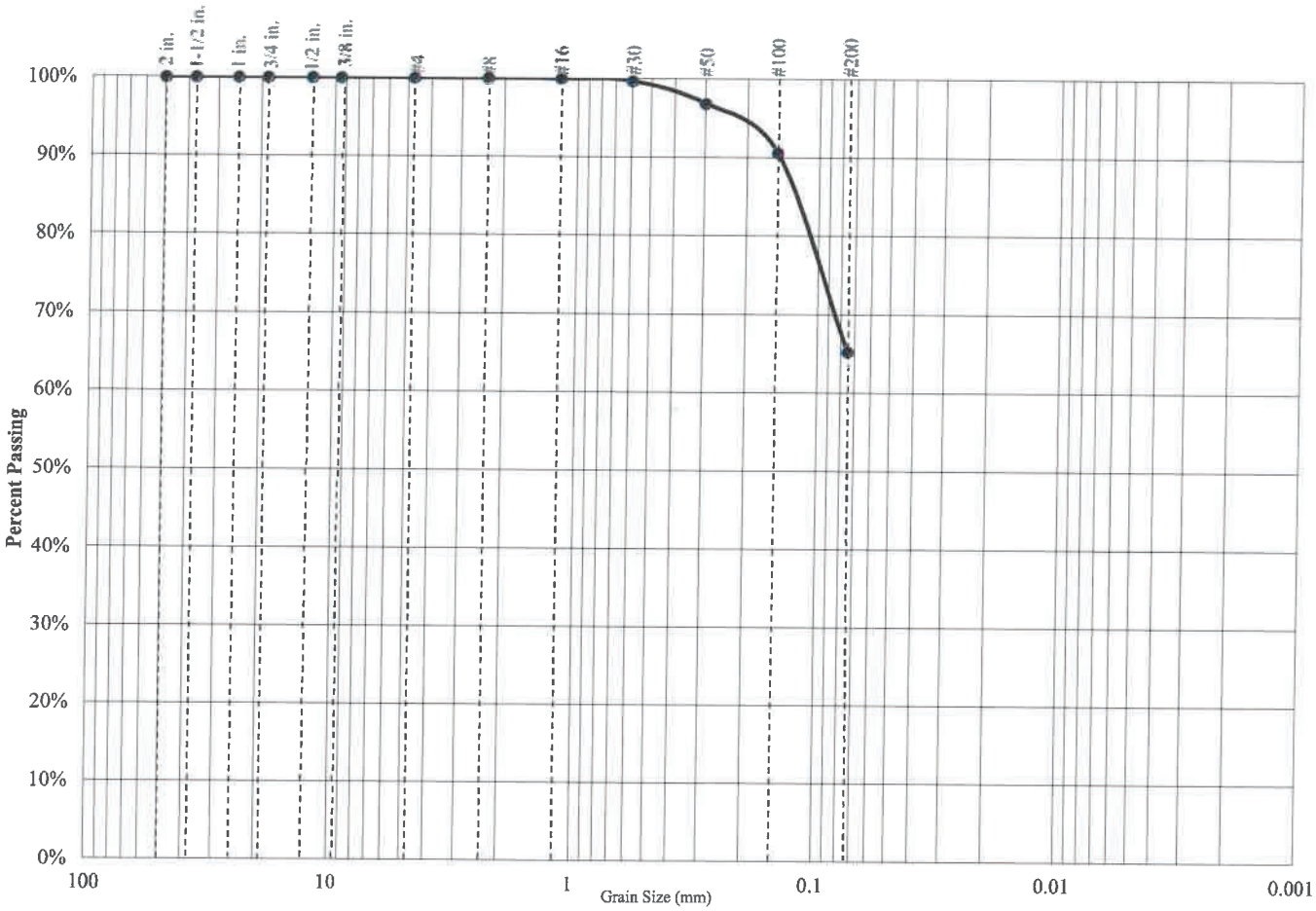
Project Number: 2-223-0066

Boring: B-6 @ 18.5'

SALEM engineering group, inc.

PARTICLE SIZE DISTRIBUTION DIAGRAM

GRADATION TEST - ASTM C136



Percent Gravel	Percent Sand	Percent Silt/Clay
0%	35%	65%

Sieve Size	Percent Passing
3/4 inch	100.0%
1/2 inch	100.0%
3/8 inch	100.0%
#4	100.0%
#8	100.0%
#16	100.0%
#30	99.7%
#50	96.9%
#100	90.6%
#200	65.2%

Atterberg Limits		
PL=	LL=	PI=

Coefficients					
D_{85}=		D_{60}=		D_{50}=	
D_{30}=		D_{15}=		D_{10}=	
C_u=	N/A	C_c=	N/A		

USCS CLASSIFICATION
Sandy SILT (ML)

Project Name: Warehouse Bldg - Shafter

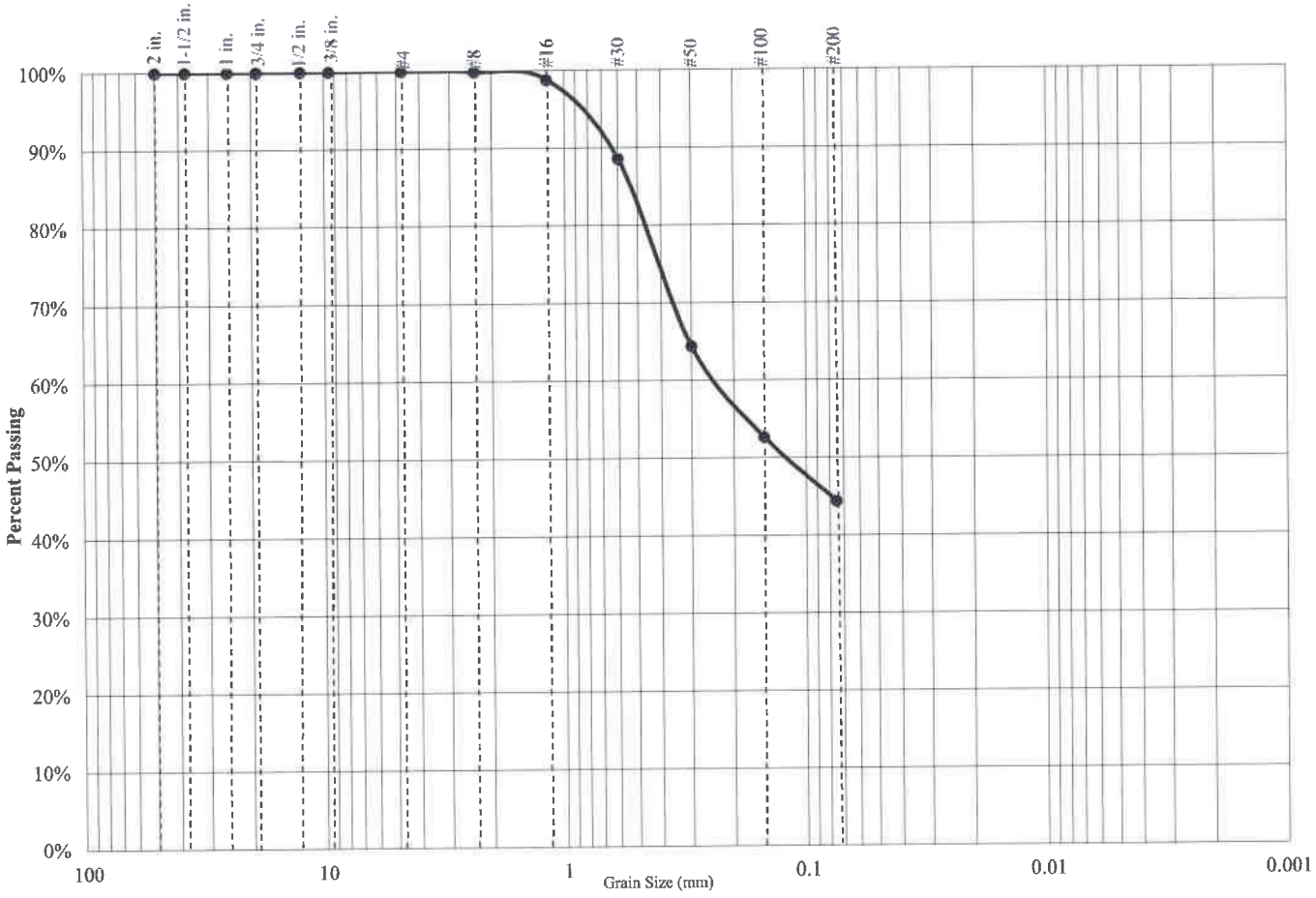
Project Number: 2-223-0066

Boring: B-6 @ 28.5'

SALEM engineering group, inc.

PARTICLE SIZE DISTRIBUTION DIAGRAM

GRADATION TEST - ASTM C136



Percent Gravel	Percent Sand	Percent Silt/Clay
0%	56%	44%

Sieve Size	Percent Passing
3/4 inch	100.0%
1/2 inch	100.0%
3/8 inch	100.0%
#4	100.0%
#8	99.9%
#16	98.8%
#30	88.6%
#50	64.4%
#100	52.7%
#200	44.4%

Atterberg Limits		
PL=	LL=	PI=

Coefficients			
D_{85}=		D_{60}=	D_{50}=
D_{30}=		D_{15}=	D_{10}=
C_u=	N/A	C_c=	N/A

USCS CLASSIFICATION
Silty SAND (SM)

Project Name: Warehouse Bldg - Shafter

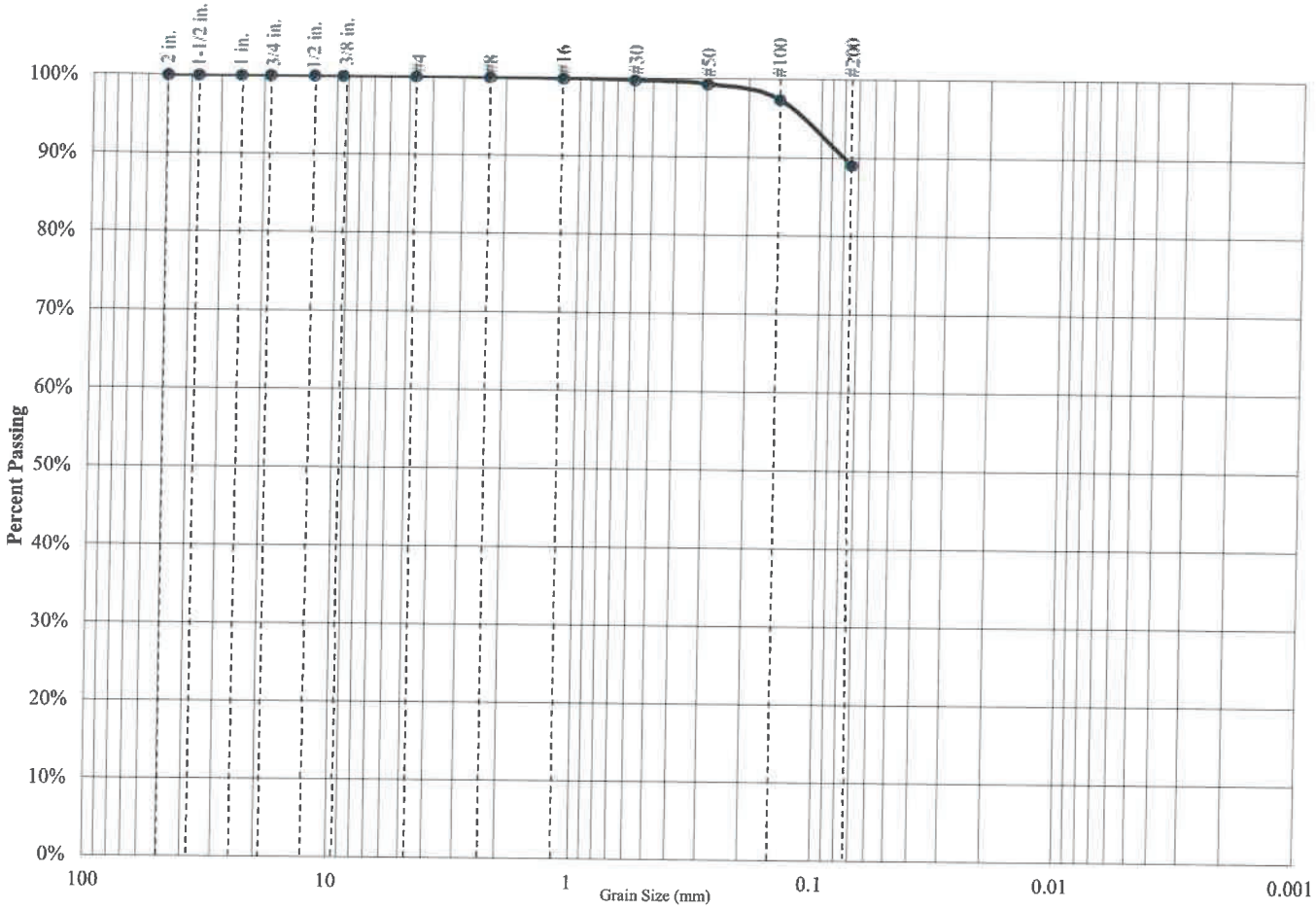
Project Number: 2-223-0066

Boring: B-6 @ 38.5'

SALEM engineering group, inc.

PARTICLE SIZE DISTRIBUTION DIAGRAM

GRADATION TEST - ASTM C136



Percent Gravel	Percent Sand	Percent Silt/Clay
0%	11%	89%

Sieve Size	Percent Passing
3/4 inch	100.0%
1/2 inch	100.0%
3/8 inch	100.0%
#4	100.0%
#8	99.9%
#16	99.9%
#30	99.7%
#50	99.3%
#100	97.4%
#200	89.1%

Atterberg Limits		
PL=	LL=	PI=

Coefficients					
D_{85}=		D_{60}=		D_{50}=	
D_{30}=		D_{15}=		D_{10}=	
C_u=	N/A	C_c=	N/A		

USCS CLASSIFICATION
SILT (ML)

Project Name: Warehouse Bldg - Shafter

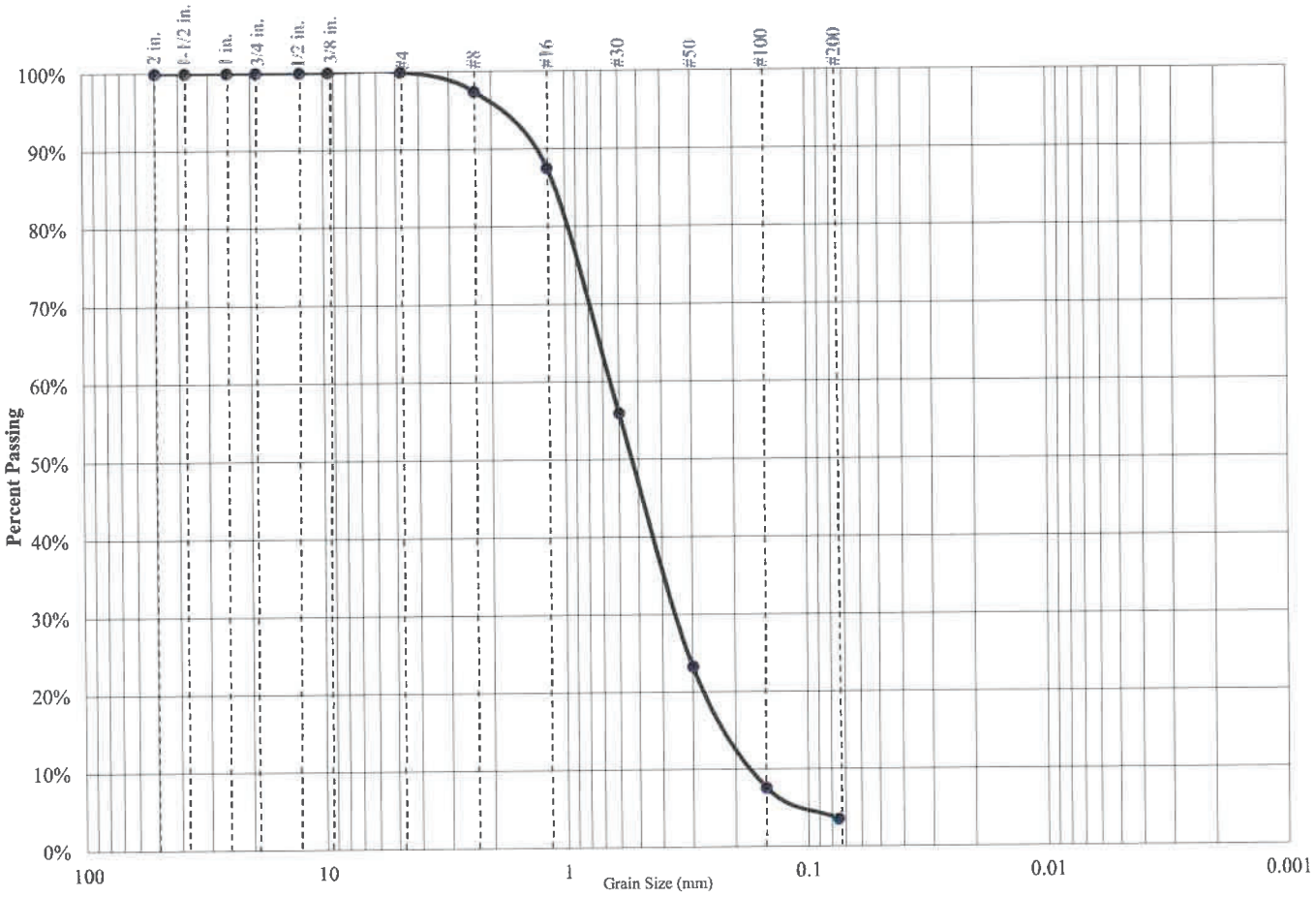
Project Number: 2-223-0066

Boring: B-6 @ 48.5'

SALEM engineering group, inc.

PARTICLE SIZE DISTRIBUTION DIAGRAM

GRADATION TEST - ASTM C136



Percent Gravel	Percent Sand	Percent Silt/Clay
0%	96%	4%

Sieve Size	Percent Passing
3/4 inch	100.0%
1/2 inch	100.0%
3/8 inch	100.0%
#4	100.0%
#8	97.4%
#16	87.5%
#30	56.0%
#50	23.3%
#100	7.6%
#200	3.5%

Atterberg Limits		
PL=	LL=	PI=

Coefficients			
D_{85}=		D_{60}=	D_{50}=
D_{30}=		D_{15}=	D_{10}=
C_u=	N/A	C_c=	N/A

USCS CLASSIFICATION
Poorly Graded SAND

Project Name: Warehouse Bldg - Shafter

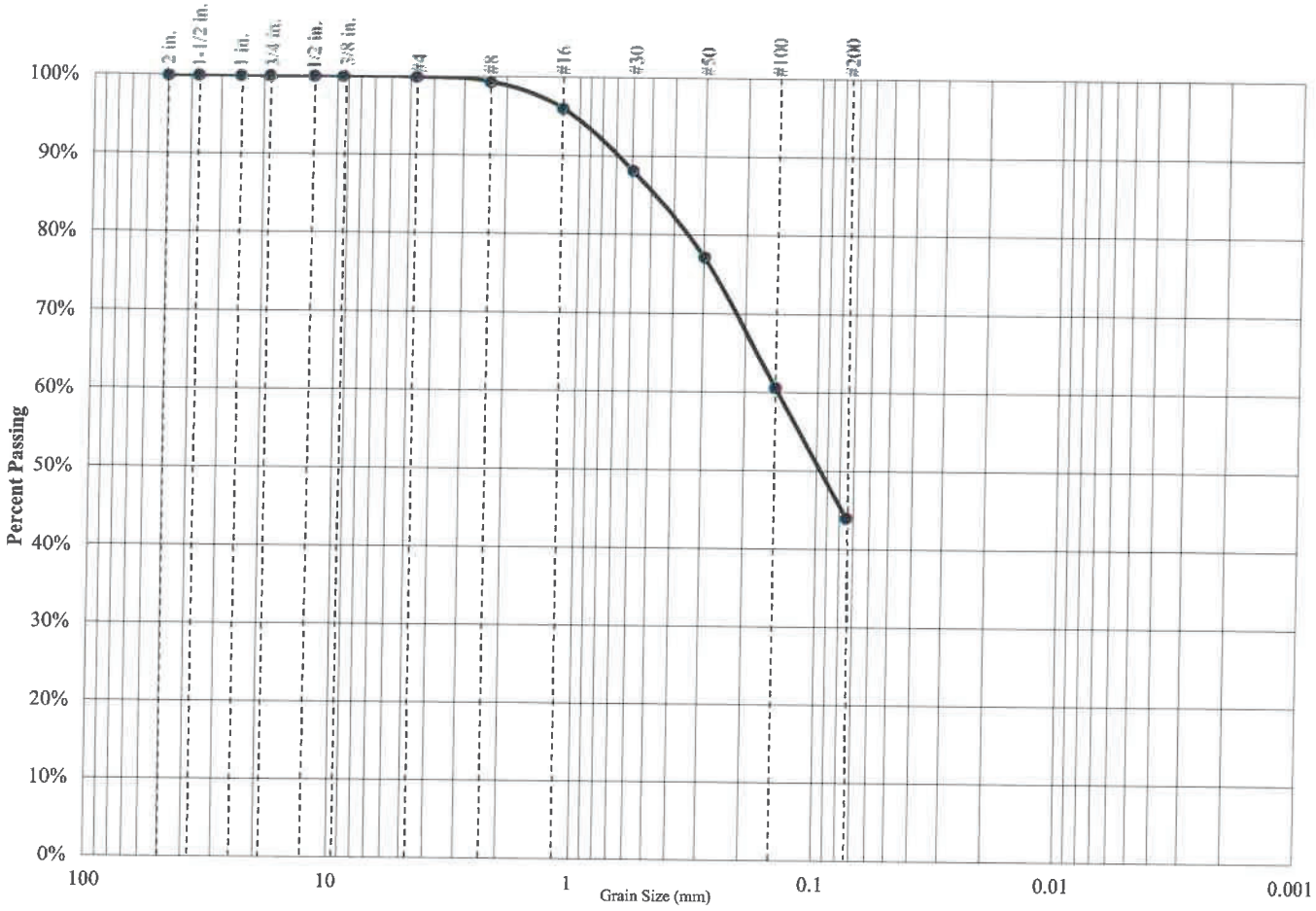
Project Number: 2-223-0066

Boring: B-9 @ 13.5'

SALEM engineering group, inc.

PARTICLE SIZE DISTRIBUTION DIAGRAM

GRADATION TEST - ASTM C136



Percent Gravel	Percent Sand	Percent Silt/Clay
0%	56%	44%

Sieve Size	Percent Passing
3/4 inch	100.0%
1/2 inch	100.0%
3/8 inch	100.0%
#4	99.9%
#8	99.4%
#16	96.0%
#30	88.2%
#50	77.2%
#100	60.6%
#200	44.0%

Atterberg Limits		
PL=	LL=	PI=

Coefficients					
D_{85}=		D_{60}=		D_{50}=	
D_{30}=		D_{15}=		D_{10}=	
C_u=	N/A	C_c=	N/A		

USCS CLASSIFICATION
Silty SAND (SM)

Project Name: Warehouse Bldg - Shafter

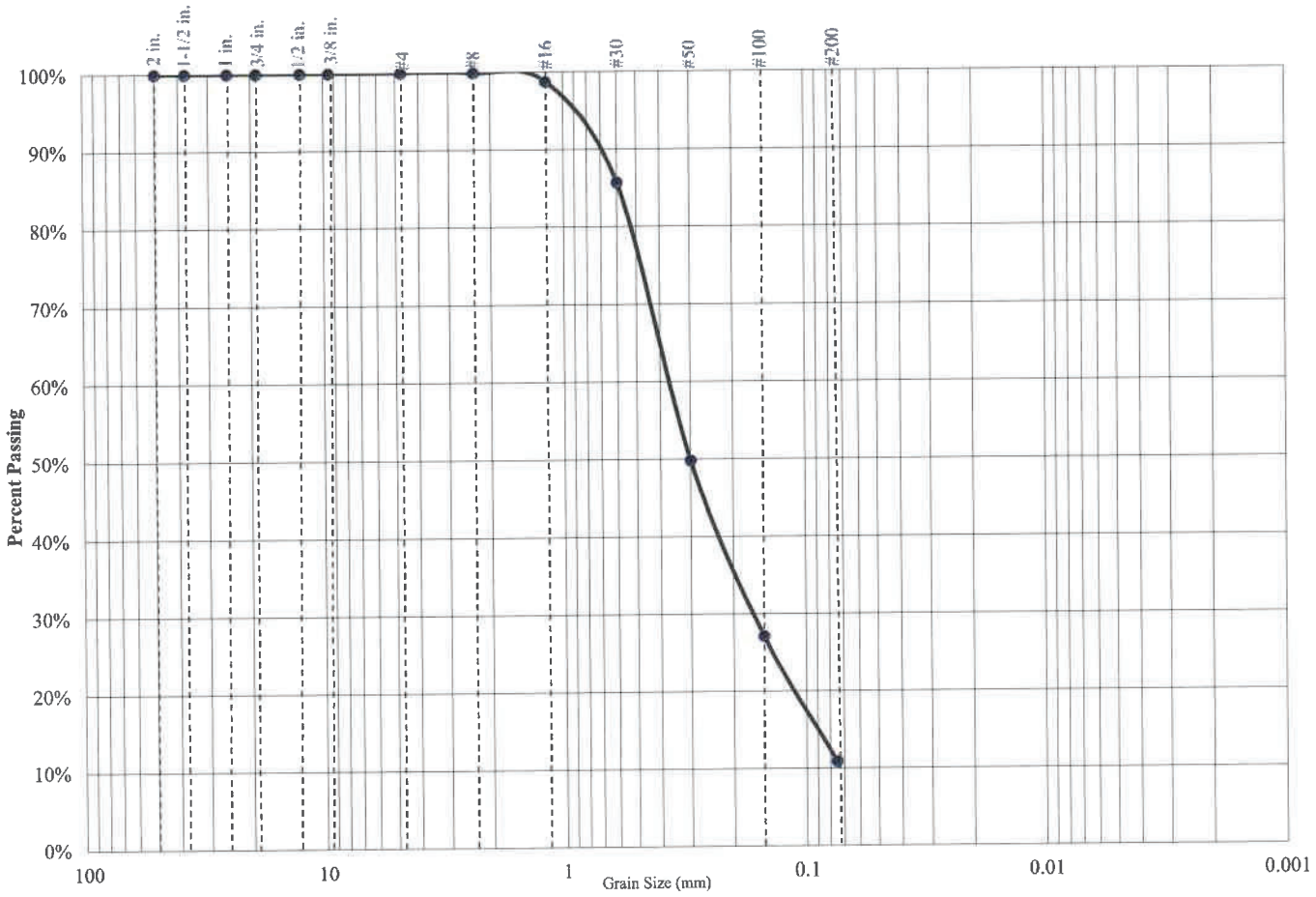
Project Number: 2-223-0066

Boring: B-15 @ 1' - 4'

SALEM engineering group, inc.

PARTICLE SIZE DISTRIBUTION DIAGRAM

GRADATION TEST - ASTM C136



Percent Gravel	Percent Sand	Percent Silt/Clay
0%	89%	11%

Sieve Size	Percent Passing
3/4 inch	100.0%
1/2 inch	100.0%
3/8 inch	100.0%
#4	100.0%
#8	99.9%
#16	98.8%
#30	85.7%
#50	49.9%
#100	27.1%
#200	10.9%

Atterberg Limits		
PL=	LL=	PI=

Coefficients			
D_{85}=		D_{60}=	D_{50}=
D_{30}=		D_{15}=	D_{10}=
C_u=	N/A	C_c=	N/A

USCS CLASSIFICATION
Poorly Graded SAND with Silt (SP-SM)

Project Name: Warehouse Bldg - Shafter

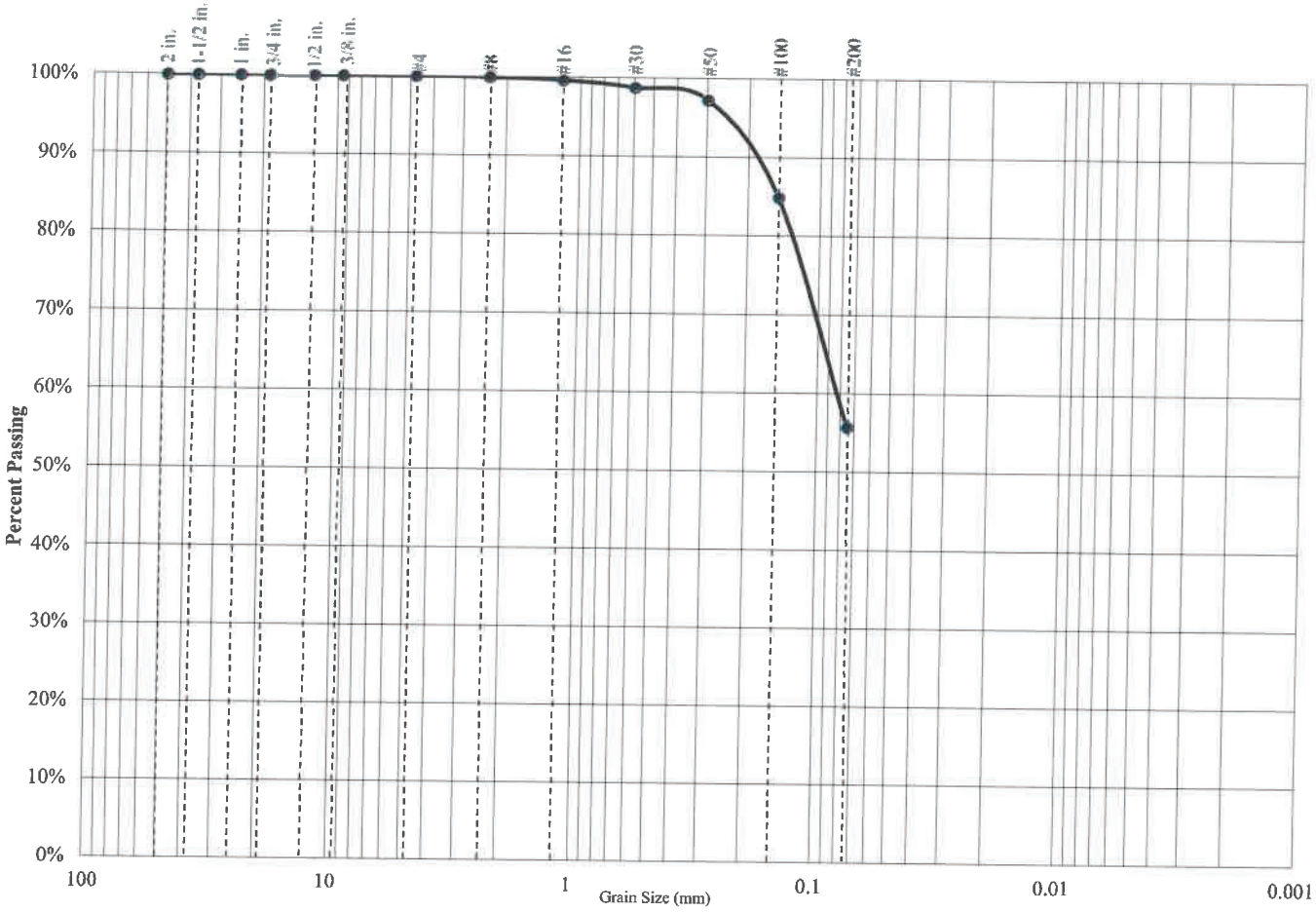
Project Number: 2-223-0066

Boring: B-15 @ 33.5'

SALEM engineering group, inc.

PARTICLE SIZE DISTRIBUTION DIAGRAM

GRADATION TEST - ASTM C136



Percent Gravel	Percent Sand	Percent Silt/Clay
0%	44%	56%

Sieve Size	Percent Passing
3/4 inch	100.0%
1/2 inch	100.0%
3/8 inch	100.0%
#4	100.0%
#8	99.9%
#16	99.6%
#30	98.8%
#50	97.2%
#100	84.9%
#200	55.7%

Atterberg Limits		
PL=	LL=	PI=

Coefficients				
D_{85}=		D_{60}=		D_{50}=
D_{30}=		D_{15}=		D_{10}=
C_u=	N/A	C_c=	N/A	

USCS CLASSIFICATION
Sandy SILT (ML)

Project Name: Warehouse Bldg - Shafter

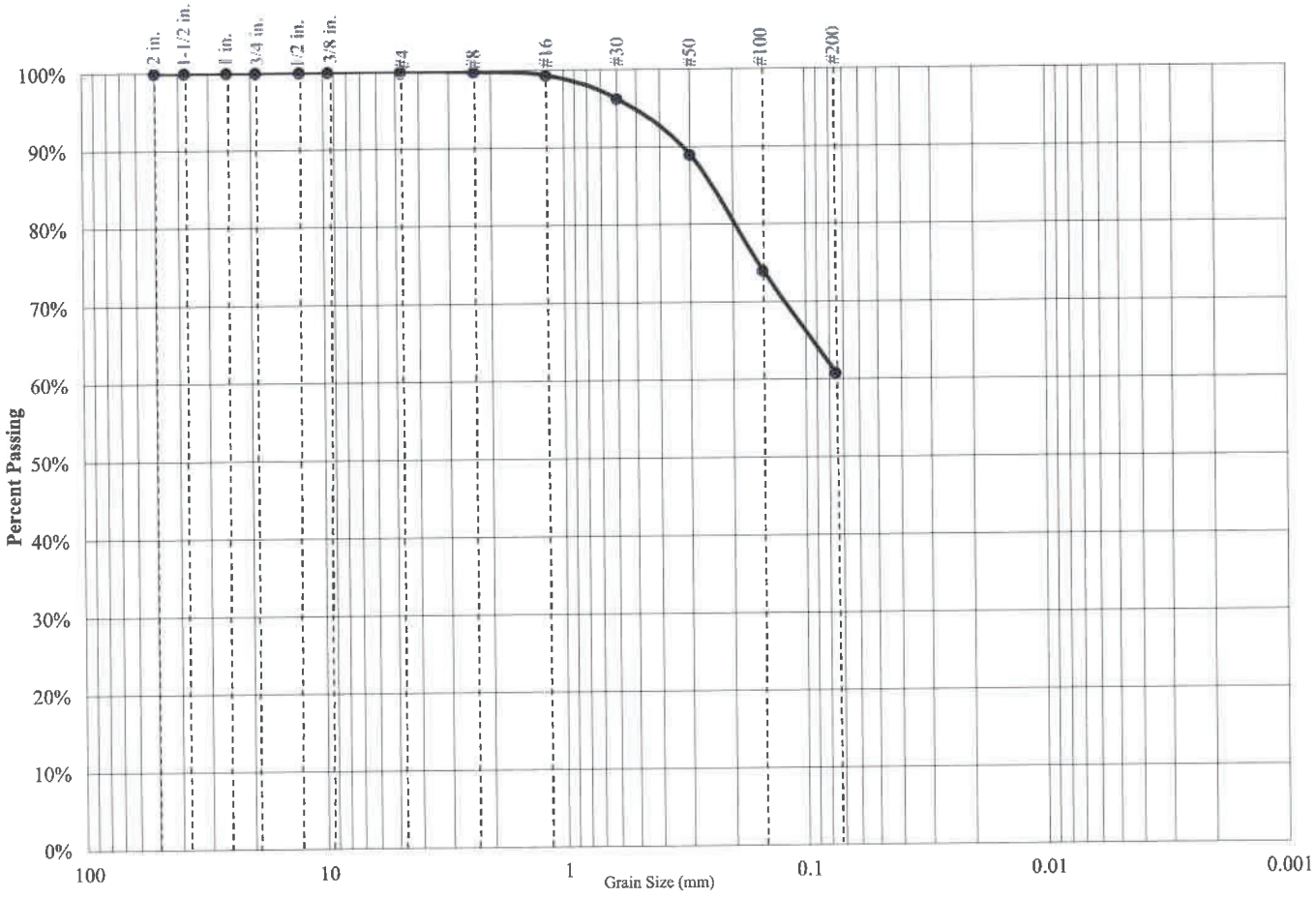
Project Number: 2-223-0066

Boring: B-17 @ 5'

SALEM engineering group, inc.

PARTICLE SIZE DISTRIBUTION DIAGRAM

GRADATION TEST - ASTM C136



Percent Gravel	Percent Sand	Percent Silt/Clay
0%	39%	61%

Sieve Size	Percent Passing
3/4 inch	100.0%
1/2 inch	100.0%
3/8 inch	100.0%
#4	100.0%
#8	99.9%
#16	99.3%
#30	96.3%
#50	89.0%
#100	74.0%
#200	60.8%

Atterberg Limits		
PL=	LL=	PI=

Coefficients			
D_{85}=		D_{60}=	D_{50}=
D_{30}=		D_{15}=	D_{10}=
C_u=	N/A	C_c=	N/A

USCS CLASSIFICATION
Sandy SILT (ML)

Project Name: Warehouse Bldg - Shafter

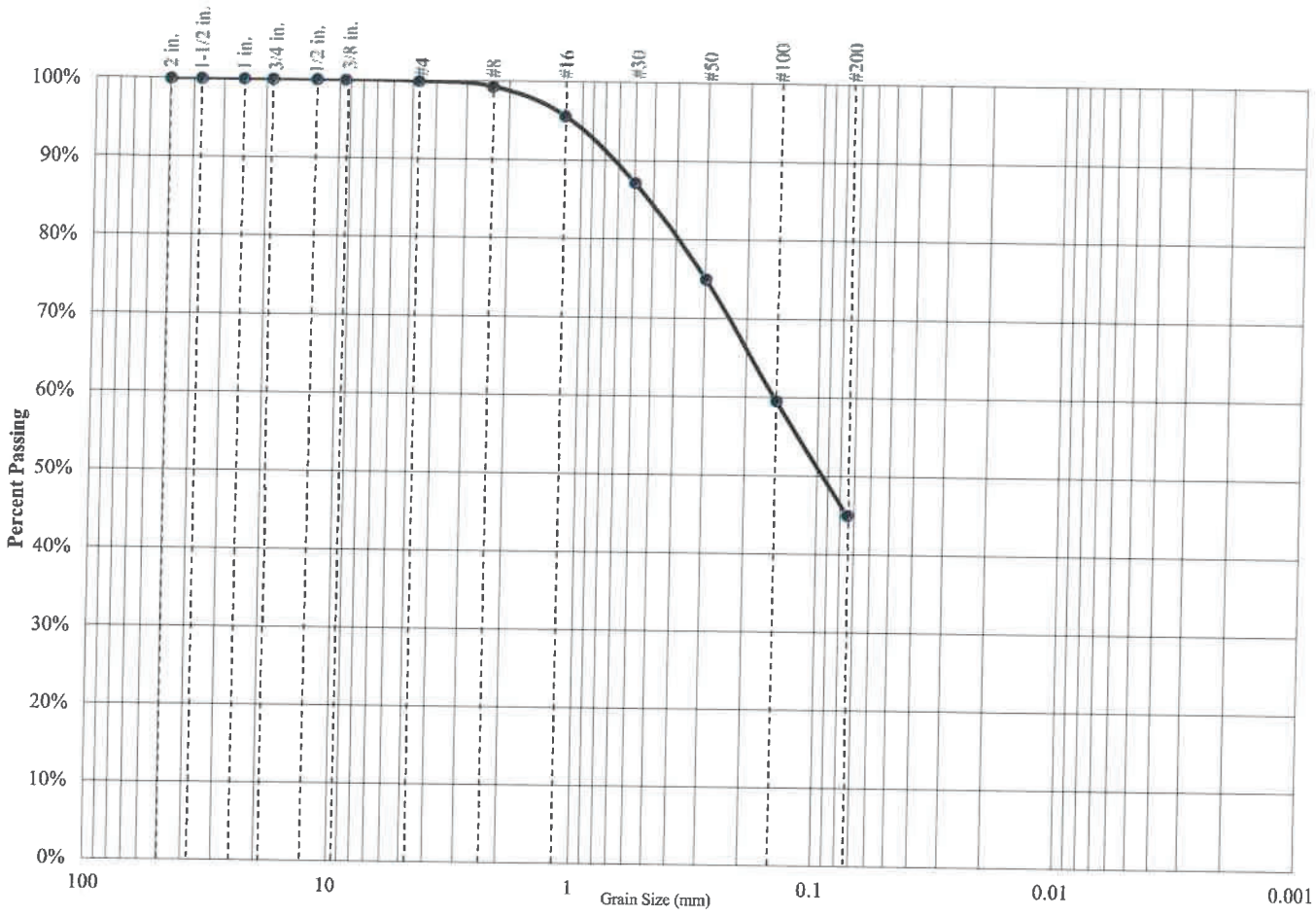
Project Number: 2-223-0066

Boring: B-17 @ 25'

SALEM engineering group, inc.

PARTICLE SIZE DISTRIBUTION DIAGRAM

GRADATION TEST - ASTM C136



Percent Gravel	Percent Sand	Percent Silt/Clay
0%	55%	45%

Sieve Size	Percent Passing
3/4 inch	100.0%
1/2 inch	100.0%
3/8 inch	100.0%
#4	99.9%
#8	99.3%
#16	95.6%
#30	87.2%
#50	75.0%
#100	59.6%
#200	45.0%

Atterberg Limits		
PL=	LL=	PI=

Coefficients					
D_{85}=		D_{60}=		D_{50}=	
D_{30}=		D_{15}=		D_{10}=	
C_u=	N/A	C_c=	N/A		

USCS CLASSIFICATION
Silty SAND (SM)

Project Name: Warehouse Bldg - Shafter

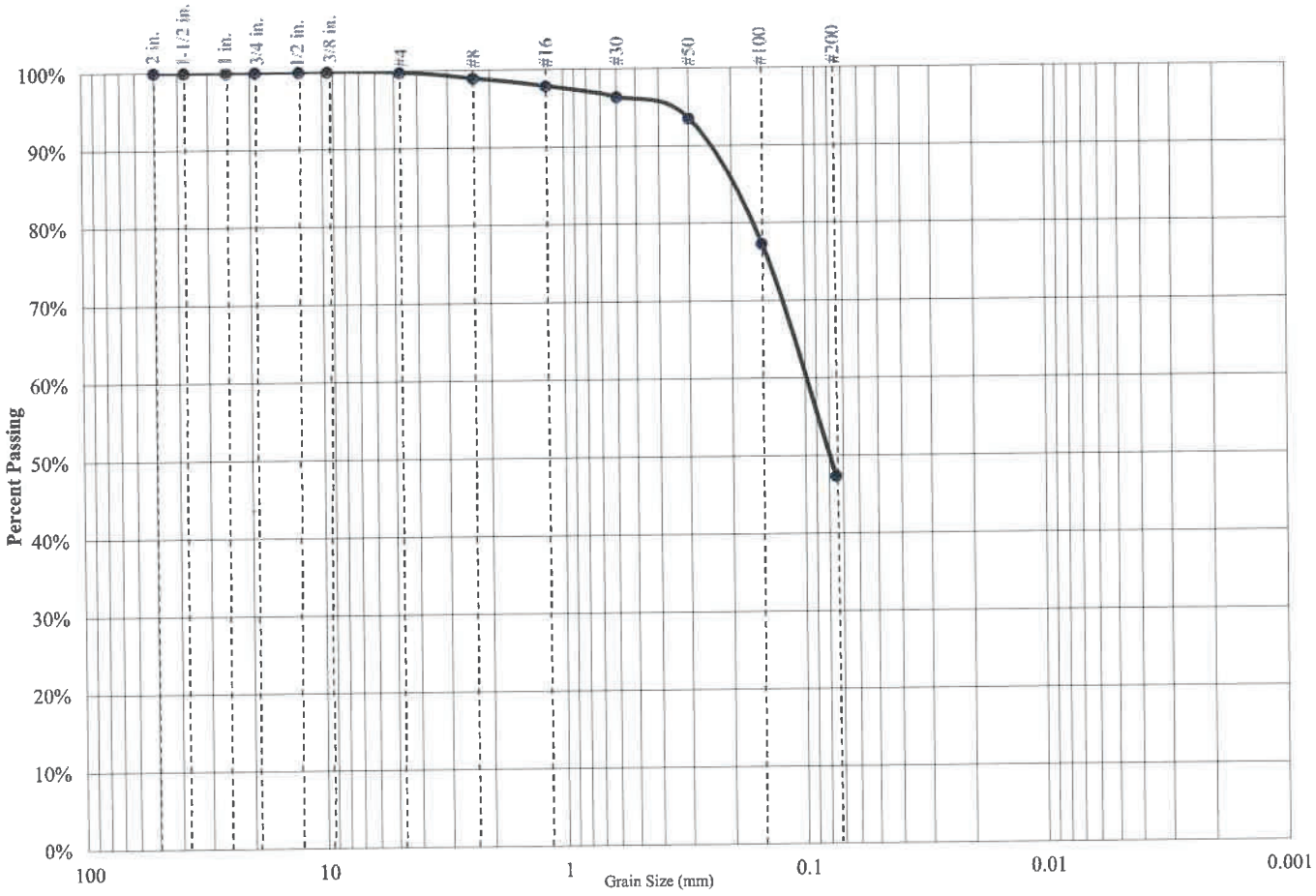
Project Number: 2-223-0066

Boring: B-19 @ 1' - 3'

SALEM engineering group, inc.

PARTICLE SIZE DISTRIBUTION DIAGRAM

GRADATION TEST - ASTM C136



Percent Gravel	Percent Sand	Percent Silt/Clay
0%	53%	47%

Sieve Size	Percent Passing
3/4 inch	100.0%
1/2 inch	100.0%
3/8 inch	100.0%
#4	99.8%
#8	99.0%
#16	97.9%
#30	96.4%
#50	93.6%
#100	77.3%
#200	47.4%

Atterberg Limits		
PL=	LL=	PI=

Coefficients			
D_{85}=		D_{60}=	D_{50}=
D_{30}=		D_{15}=	D_{10}=
C_u=	N/A	C_c=	N/A

USCS CLASSIFICATION
Silty SAND (SM)

Project Name: Warehouse Bldg - Shafter

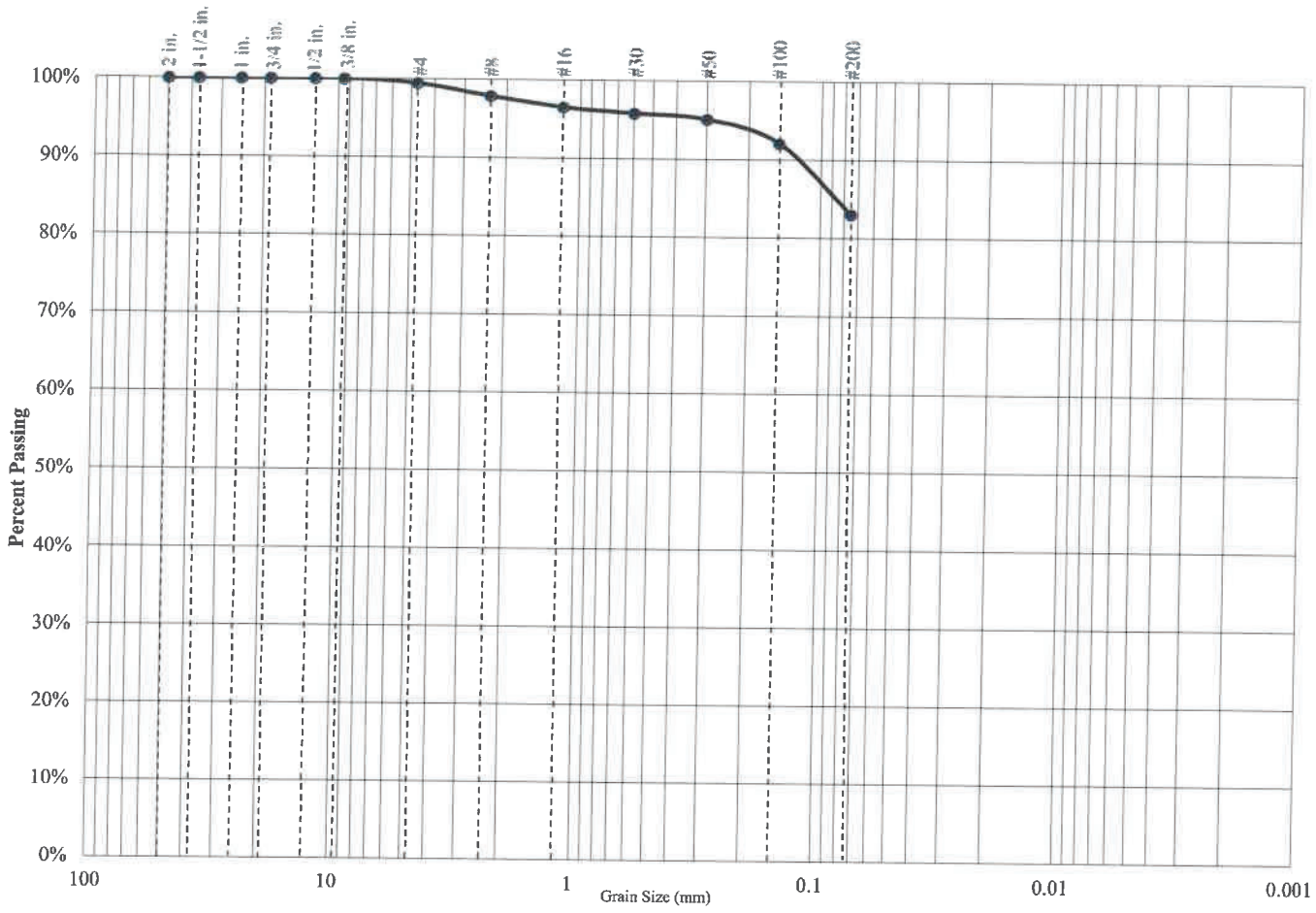
Project Number: 2-223-0066

Boring: B-20 @ 10'

SALEM engineering group, inc.

PARTICLE SIZE DISTRIBUTION DIAGRAM

GRADATION TEST - ASTM C136



Percent Gravel	Percent Sand	Percent Silt/Clay
1%	16%	83%

Sieve Size	Percent Passing
3/4 inch	100.0%
1/2 inch	100.0%
3/8 inch	100.0%
#4	99.4%
#8	97.9%
#16	96.5%
#30	95.8%
#50	95.1%
#100	92.1%
#200	83.1%

Atterberg Limits		
PL=	LL=	PI=

Coefficients					
D_{85}=		D_{60}=		D_{50}=	
D_{30}=		D_{15}=		D_{10}=	
C_u=	N/A	C_c=	N/A		

USCS CLASSIFICATION
SILT with Sand (ML)

Project Name: Warehouse Bldg - Shafter

Project Number: 2-223-0066

Boring: B-23 @ 5'

SALEM engineering group, inc.

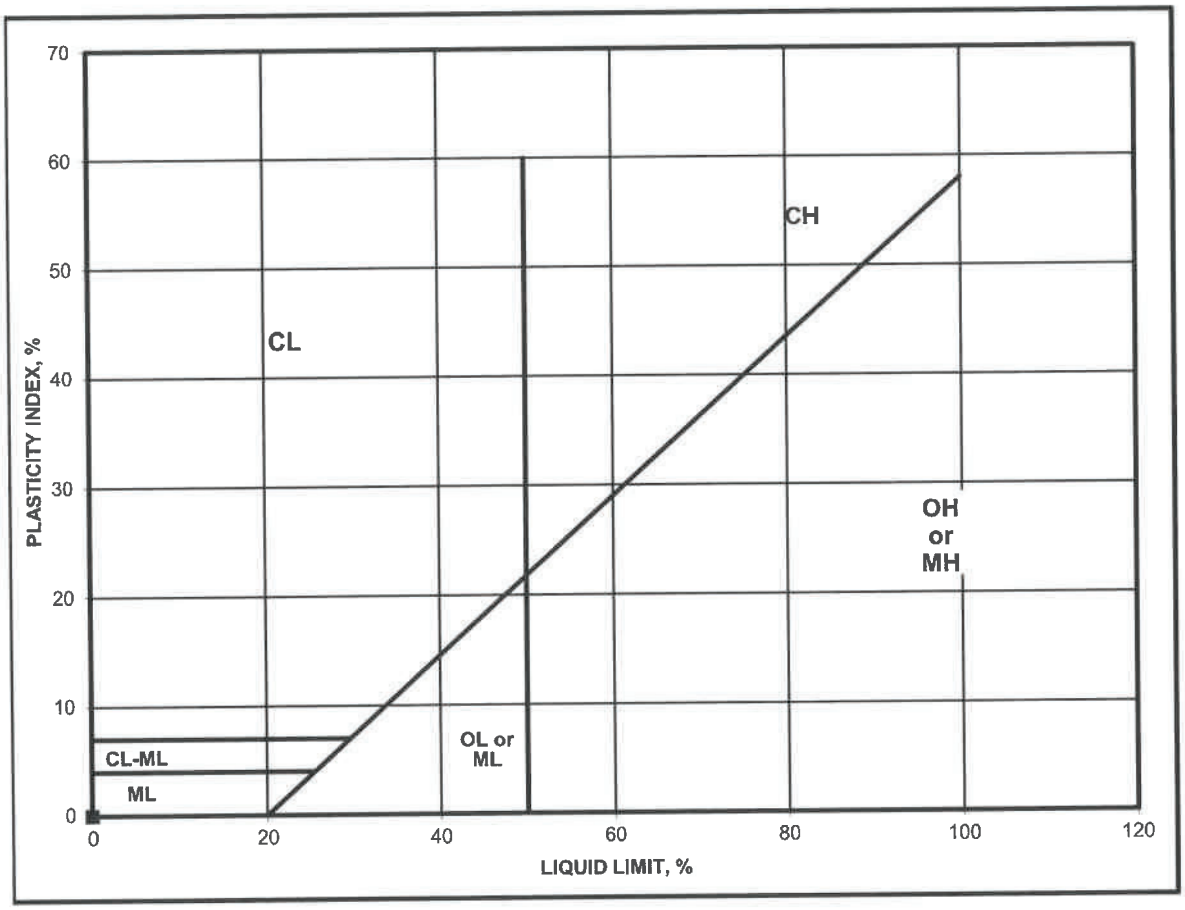
Atterberg Limits Determination
ASTM D4318

Project Name: Warehouse Bldg - Shafter
Project Number: 2-223-0066
Date Sampled: 3/15/23 - 3/17/23 Date Tested: 3/24/23
Sampled By: SEG Tested By: MC
Sample Location: B-1 @ 8.5'

Run Number	Plastic Limit			Liquid Limit		
	1	2	3	1	2	3
Weight of Wet Soil & Tare						
Weight of Dry Soil & Tare						
Weight of Water	Does Not Roll			Slides On Cup		
Weight of Tare						
Weight of Dry Soil						
Water Content						
Number of Blows						

Plastic Limit : **Liquid Limit :**

Plasticity Index : Non-Plastic
Unified Soil Classification :



SALEM engineering group, inc.

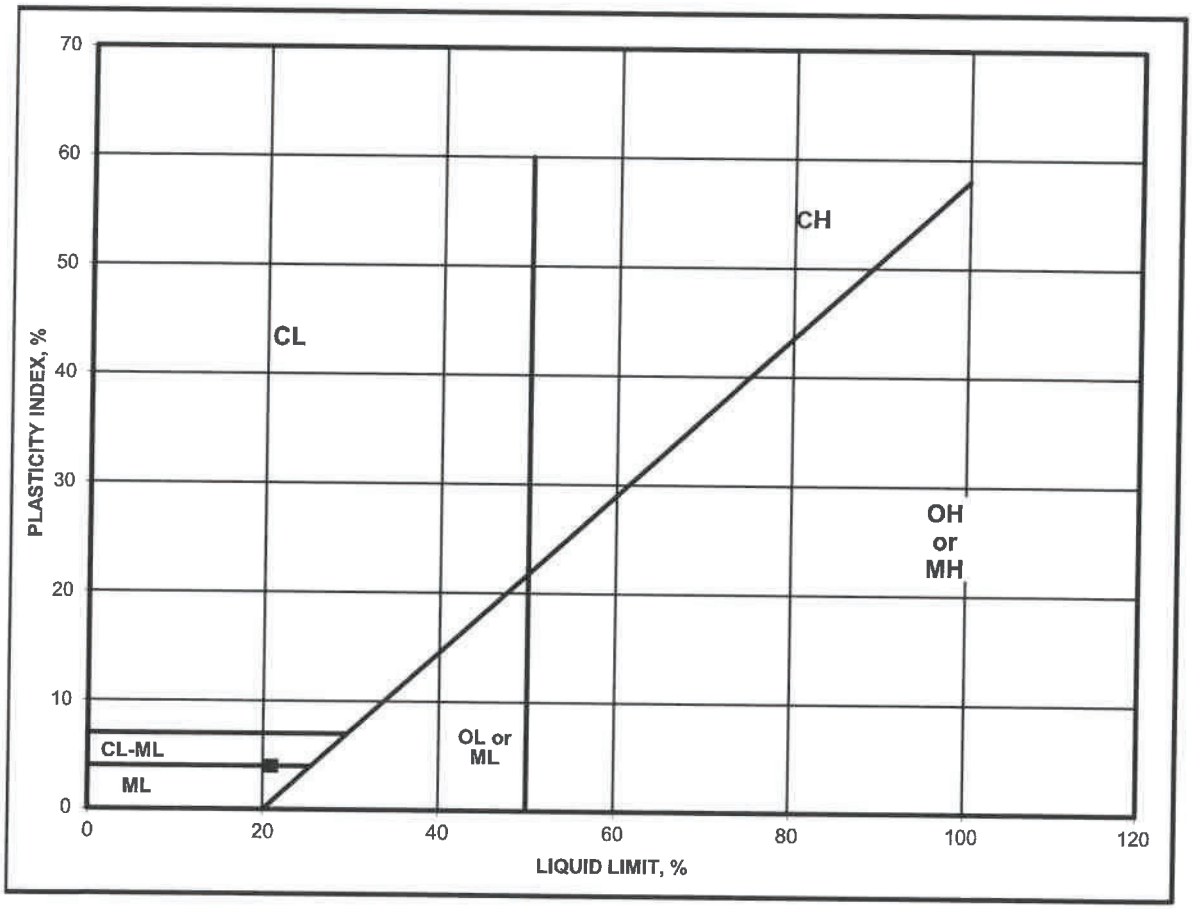
Atterberg Limits Determination
ASTM D4318

Project Name: Warehouse Bldg - Shafter
Project Number: 2-223-0066
Date Sampled: 3/15/23 - 3/17/23 — Date Tested: 3/27/23
Sampled By: SEG — Tested By: MC
Sample Location: B-6 @ 1' - 4'

Run Number	Plastic Limit			Liquid Limit		
	1	2	3	1	2	3
Weight of Wet Soil & Tare	28.87	29.72	29.30	34.69	34.22	33.17
Weight of Dry Soil & Tare	27.72	28.48	28.11	32.37	31.83	30.97
Weight of Water	1.15	1.24	1.19	2.32	2.39	2.20
Weight of Tare	21.11	21.24	21.36	20.70	20.73	21.00
Weight of Dry Soil	6.61	7.24	6.75	11.67	11.10	9.97
Water Content	17.4	17.1	17.6	19.9	21.5	22.1
Number of Blows				30	21	17

Plastic Limit : 17 **Liquid Limit : 21**

Plasticity Index : 4
Unified Soil Classification : CL/ML



SALEM engineering group, inc.

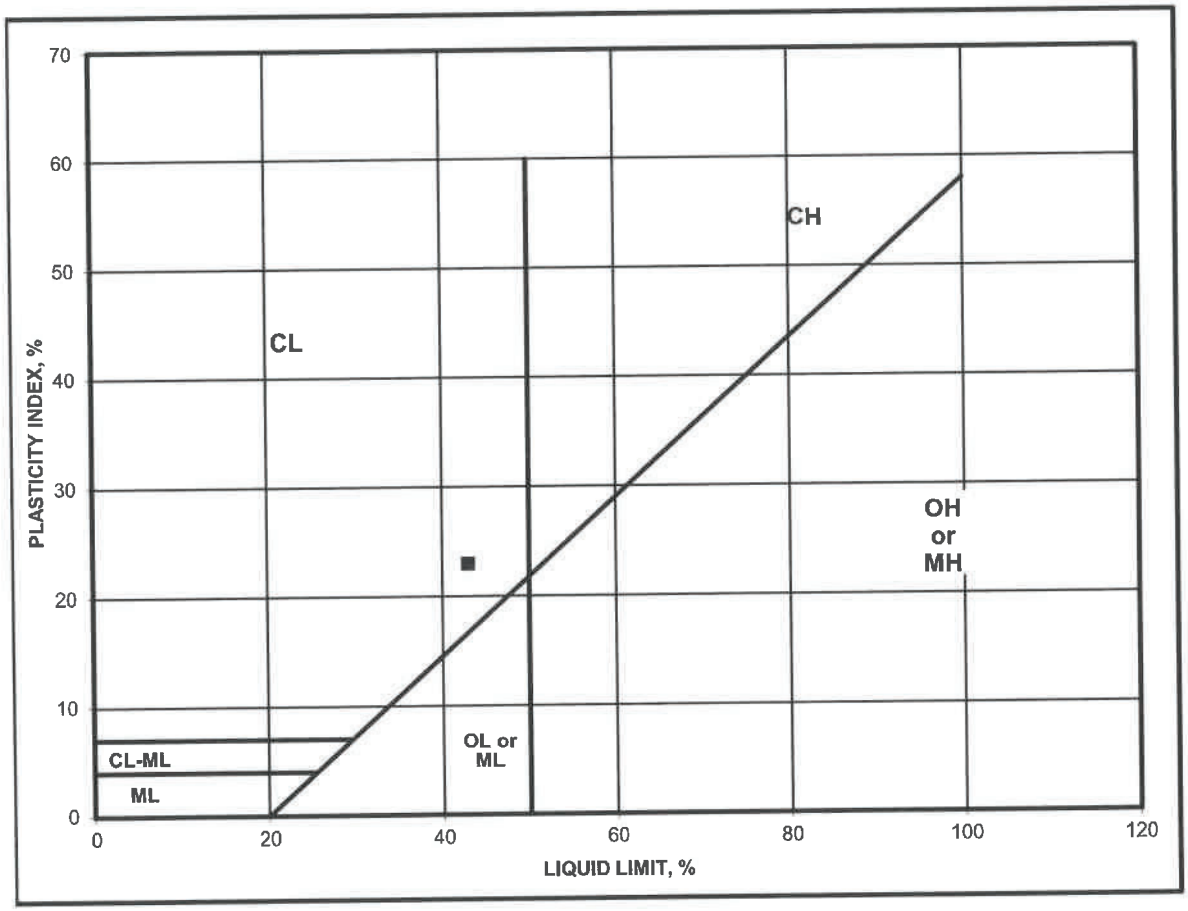
Atterberg Limits Determination
ASTM D4318

Project Name: Warehouse Bldg - Shafter
Project Number: 2-223-0066
Date Sampled: 3/15/23 - 3/17/23 — Date Tested: 3/27/23
Sampled By: SEG — Tested By: MC
Sample Location: B-16 @ 3.5'

Run Number	Plastic Limit			Liquid Limit		
	1	2	3	1	2	3
Weight of Wet Soil & Tare	27.64	26.11	29.15	33.62	31.24	33.18
Weight of Dry Soil & Tare	26.47	25.28	27.69	30.00	27.75	29.25
Weight of Water	1.17	0.83	1.46	3.62	3.49	3.93
Weight of Tare	20.84	21.14	20.47	21.20	19.62	20.51
Weight of Dry Soil	5.63	4.14	7.22	8.80	8.13	8.74
Water Content	20.8	20.0	20.2	41.1	42.9	45.0
Number of Blows				32	27	19

Plastic Limit : 20 **Liquid Limit : 43**

Plasticity Index : 23
Unified Soil Classification : CL



SALEM engineering group, inc.

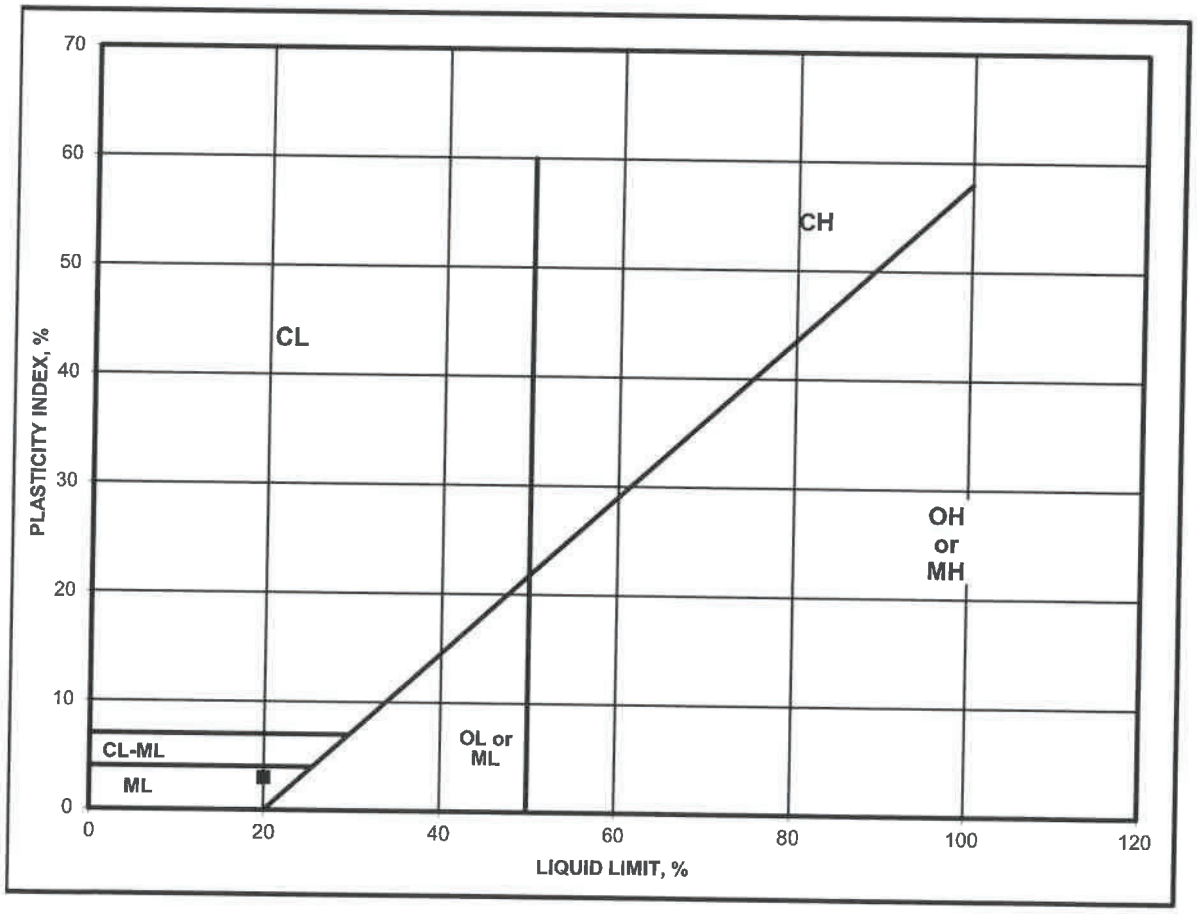
Atterberg Limits Determination
ASTM D4318

Project Name: Warehouse Bldg - Shafter
Project Number: 2-223-0066
Date Sampled: 3/15/23 - 3/17/23 — Date Tested: 3/28/23
Sampled By: SEG — Tested By: MC
Sample Location: B-24 @ 1' - 4'

Run Number	Plastic Limit			Liquid Limit		
	1	2	3	1	2	3
Weight of Wet Soil & Tare	29.56	29.77	29.60	34.18	33.28	34.85
Weight of Dry Soil & Tare	28.39	28.62	28.38	31.92	31.15	32.40
Weight of Water	1.17	1.15	1.22	2.26	2.13	2.45
Weight of Tare	21.76	21.88	21.50	20.86	20.78	20.82
Weight of Dry Soil	6.63	6.74	6.88	11.06	10.37	11.58
Water Content	17.6	17.1	17.7	20.4	20.5	21.2
Number of Blows				27	22	16

Plastic Limit : 17 **Liquid Limit : 20**

Plasticity Index : 3
Unified Soil Classification : ML



SALEM engineering group, inc.

EXPANSION INDEX TEST
ASTM D4829

Project Name: Warehouse Bldg - Shafter
Project Number: 2-223-0066
Date Sampled: 3/15/23 - 3/17/23 Date Tested: 3/24/23
Sampled By: SEG Tested By: MC
Sample Location: B-6 @ 1' - 4'
Soil Description: Clayey Silty SAND (SC-SM)

Trial #	1	2	3
Weight of Soil & Mold, g.	594.0		
Weight of Mold, g.	187.8		
Weight of Soil, g.	406.2		
Wet Density, pcf	122.5		
Weight of Moisture Sample (Wet), g.	808.0		
Weight of Moisture Sample (Dry), g.	740.5		
Moisture Content, %	9.1		
Dry Density, pcf	112.3		
Specific Gravity of Soil	2.7		
Degree of Saturation, %	49.2		

Time	Inital	30 min	1 hr	6 hrs	12 hrs	24 hrs
Dial Reading	0	0.0032	0.0034	--	--	0.0035

Expansion Index $_{measured}$ = 3.5
Expansion Index $_{50}$ = 3.2

Expansion Index = **3**

Expansion Potential Table	
Exp. Index	Potential Exp.
0 - 20	Very Low
21 - 50	Low
51 - 90	Medium
91 - 130	High
>130	Very High

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EXPANSION INDEX TEST
ASTM D4829

Project Name: Warehouse Bldg - Shafter
Project Number: 2-223-0066
Date Sampled: 3/15/23 - 3/17/23
Sampled By: SEG
Sample Location: B-15 @ 1' - 4'
Soil Description: Silty SAND (SM)

Date Tested: 3/24/23
Tested By: MC

Trial #	1	2	3
Weight of Soil & Mold, g.	589.5		
Weight of Mold, g.	187.8		
Weight of Soil, g.	401.7		
Wet Density, pcf	121.1		
Weight of Moisture Sample (Wet), g.	800.0		
Weight of Moisture Sample (Dry), g.	732.5		
Moisture Content, %	9.2		
Dry Density, pcf	110.9		
Specific Gravity of Soil	2.7		
Degree of Saturation, %	48.0		

Time	Inital	30 min	1 hr	6 hrs	12 hrs	24 hrs
Dial Reading	0	0.0085	0.0091	--	--	0.0098

Expansion Index $_{measured}$ = 9.8
Expansion Index $_{50}$ = 8.9

Expansion Index = **9**

Expansion Potential Table	
Exp. Index	Potential Exp.
0 - 20	Very Low
21 - 50	Low
51 - 90	Medium
91 - 130	High
>130	Very High

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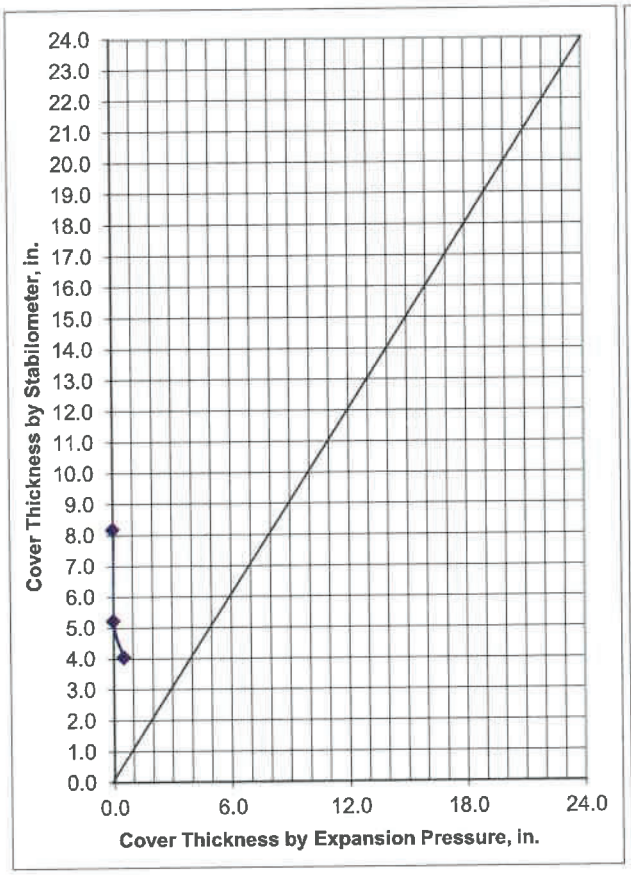
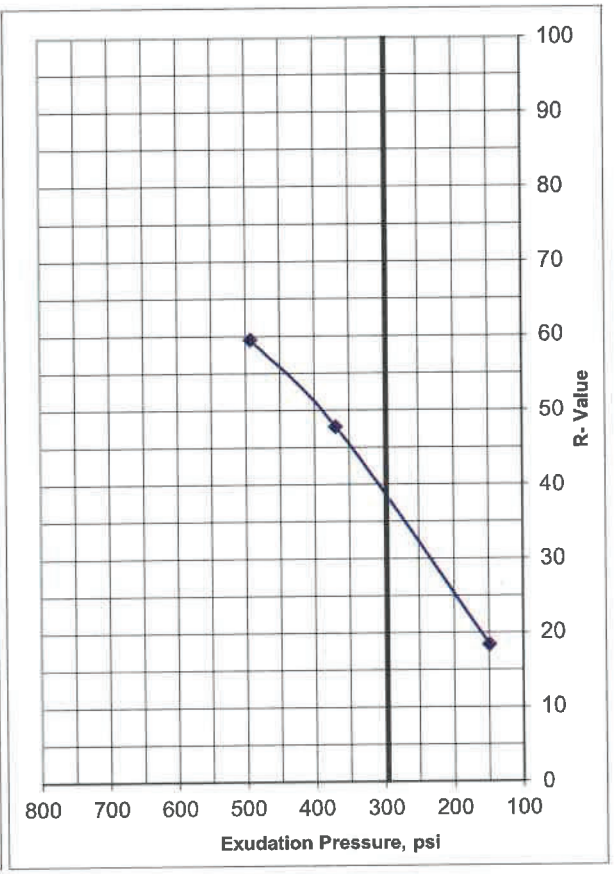
Resistance R-Value
and Expansion Pressure of Compacted Soils
ASTM D2844

Project Name: Warehouse Bldg - Shafter
Project Number: 2-223-0066
Date Sampled: 3/15/23 - 3/17/23
Sampled By: SEG
Sample Location: B-19 @ 1' - 3'
Soil Description: Silty SAND (SM)

Date Tested: 3/31/23
Tested By: JS





Specimen	1	2	3
Exudation Pressure, psi	492.3	369.8	148.7
Moisture at Test, %	9.2	9.7	10.6
Dry Density, pcf	125.9	125.2	124.0
Expansion Pressure, psf	56	0	0
Thickness by Stabilometer, in.	4.1	5.2	8.2
Thickness by Expansion Pressure, in.	0.5	0.0	0.0
R-Value by Stabilometer	60	48	18
R-Value by Expansion Pressure	N/A		
R-Value at 300 psi Exudation Pressure	38		

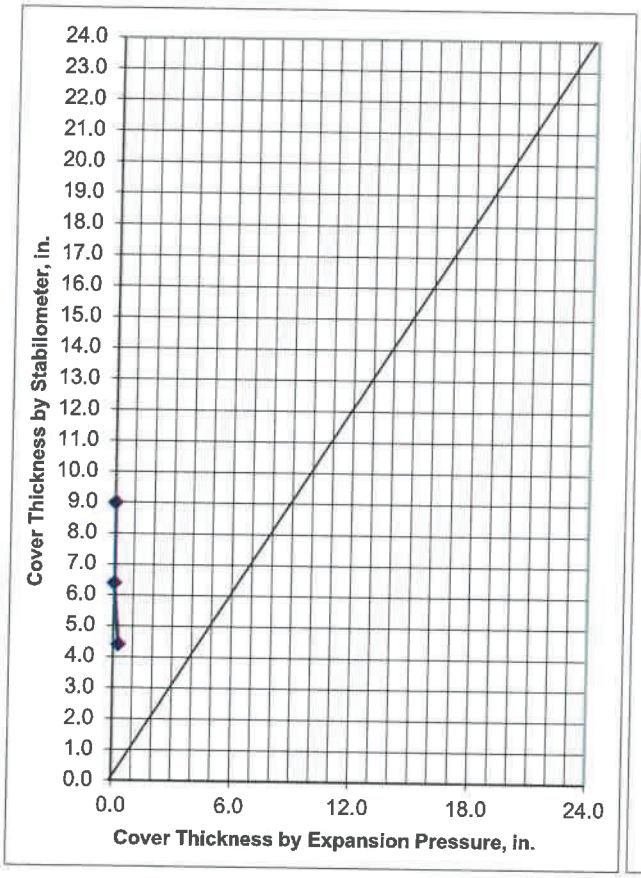
Controlling R-Value	**38**

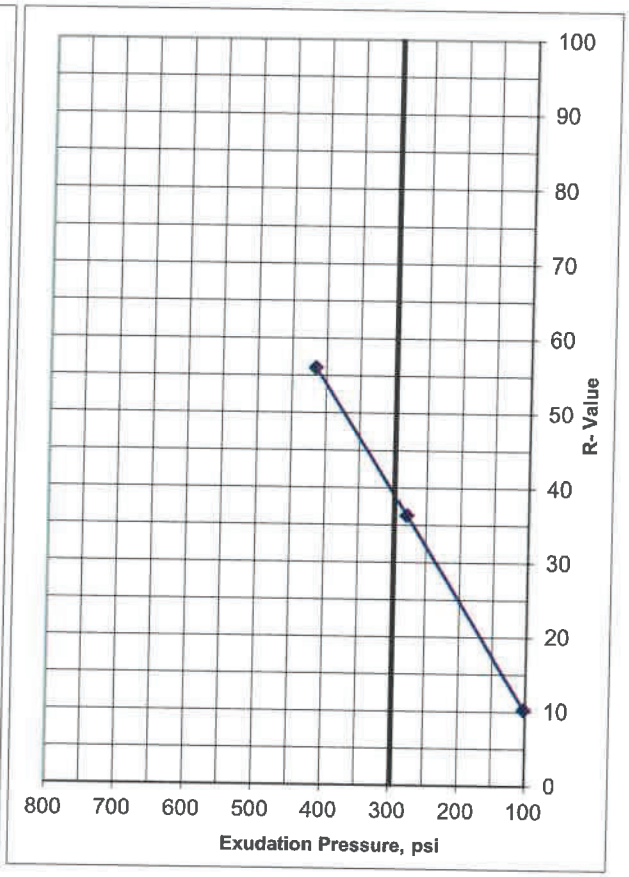
SALEM
engineering group, inc.

Resistance R-Value
and Expansion Pressure of Compacted Soils
ASTM D2844

Project Name: Warehouse Bldg - Shafter
Project Number: 2-223-0066
Date Sampled: 3/15/23 - 3/17/23
Sampled By: SEG
Sample Location: B-24 @ 1' - 4'
Soil Description: Silty SAND (SM)

Date Tested: 3/31/23
Tested By: JS





Specimen	1	2	3
Exudation Pressure, psi	416.2	279.2	102.3
Moisture at Test, %	10.7	11.1	12.2
Dry Density, pcf	121.8	122.3	119.7
Expansion Pressure, psf	26	0	0
Thickness by Stabilometer, in.	4.4	6.4	9.0
Thickness by Expansion Pressure, in.	0.2	0.0	0.0
R-Value by Stabilometer	56	36	10
R-Value by Expansion Pressure	N/A		
R-Value at 300 psi Exudation Pressure	39		

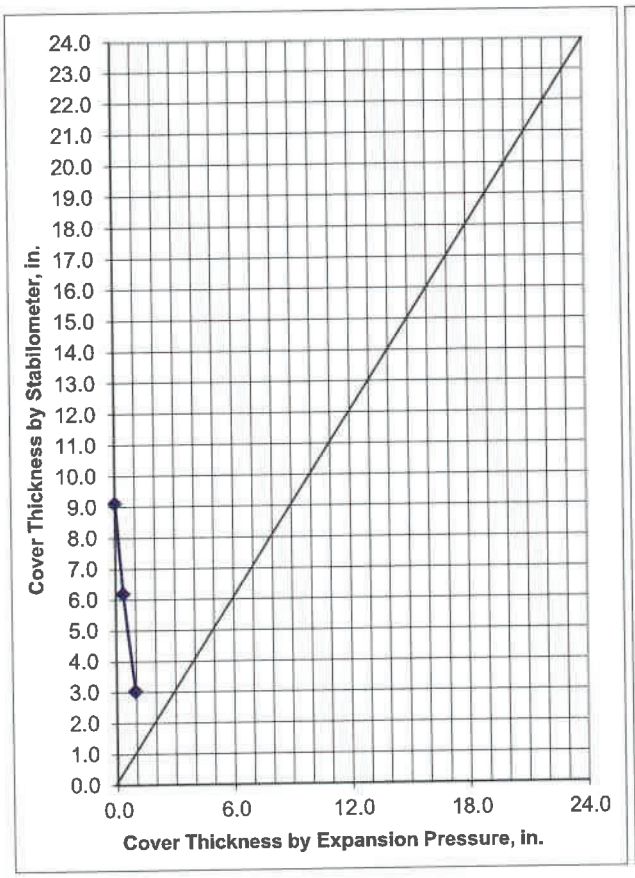
Controlling R-Value	**39**

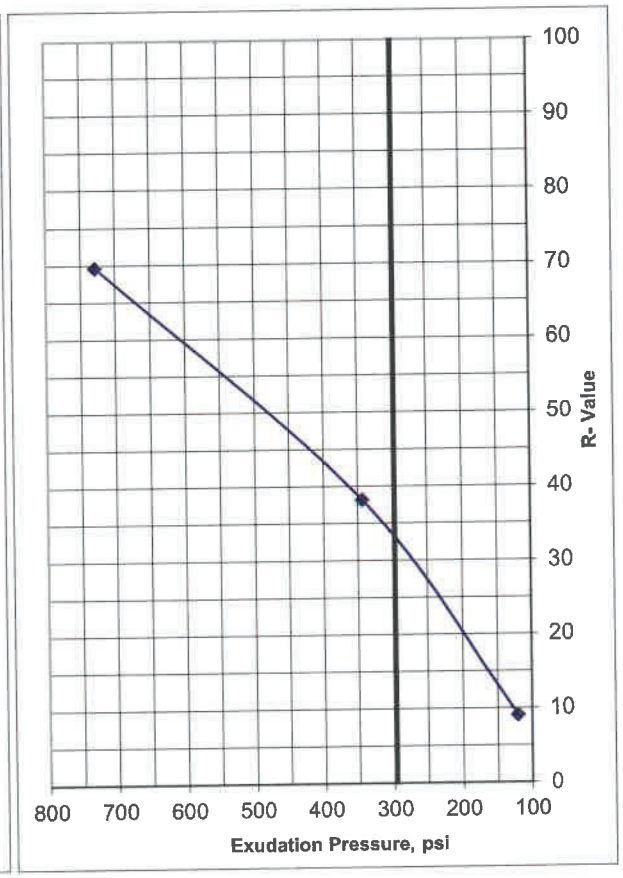
SALEM engineering group, inc.

Resistance R-Value
and Expansion Pressure of Compacted Soils
ASTM D2844

Project Name: Warehouse Bldg - Shafter
Project Number: 2-223-0066
Date Sampled: 3/15/23 - 3/17/23
Sampled By: SEG
Sample Location: B-27 @ 1' - 4'
Soil Description: Silty SAND (SM)

Date Tested: 3/31/23
Tested By: JS





Specimen	1	2	3
Exudation Pressure, psi	728	342.8	119.7
Moisture at Test, %	8.9	10.3	12.3
Dry Density, pcf	128.0	126.5	121.6
Expansion Pressure, psf	104	43	4
Thickness by Stabilometer, in.	3.0	6.2	9.1
Thickness by Expansion Pressure, in.	1.0	0.4	0.0
R-Value by Stabilometer	70	38	9
R-Value by Expansion Pressure	N/A		
R-Value at 300 psi Exudation Pressure	33		

Controlling R-Value	**33**

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CHEMICAL ANALYSIS

SO_4 - Modified CTM 417 & Cl - Modified CTM 417/422

Project Name: Warehouse Bldg - Shafter
Project Number: 2-223-0066
Date Sampled: 3/15/23 - 3/17/23 Date Tested: 3/24/23
Sampled By: SEG Tested By: MC
Soil Description: Clayey Silty SAND (SC-SM)

Sample Number	Sample Location	Soluble Sulfate SO_4-S	Soluble Chloride Cl	pH
1a.	B-6 @ 1' - 4'	150 mg/kg	39 mg/kg	7.5
1b.	B-6 @ 1' - 4'	140 mg/kg	37 mg/kg	7.5
1c.	B-6 @ 1' - 4'	140 mg/kg	41 mg/kg	7.5
Average:		**143 mg/kg**	**39 mg/kg**	**7.5**

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CHEMICAL ANALYSIS

SO_4 - Modified CTM 417 & Cl - Modified CTM 417/422

Project Name: Warehouse Bldg - Shafter
Project Number: 2-223-0066
Date Sampled: 3/15/23 - 3/17/23
Sampled By: SEG
Soil Description: Silty SAND (SM)

Date Tested: 3/24/23
Tested By: MC

Sample Number	Sample Location	Soluble Sulfate SO_4-S	Soluble Chloride Cl	pH
1a.	B-15 @ 1' - 4'	100 mg/kg	29 mg/kg	7.6
1b.	B-15 @ 1' - 4'	100 mg/kg	28 mg/kg	7.6
1c.	B-15 @ 1' - 4'	100 mg/kg	30 mg/kg	7.6
Average:		**100 mg/kg**	**29 mg/kg**	**7.6**

SALEM
engineering group, inc.

SOIL RESISTIVITY
CTM 643

Project Name: Warehouse Bldg - Shafter
Project Number: 2-223-0066
Sample Location: B-6 @ 1' - 4'
Soil Description: Clayey Silty SAND (SC-SM)

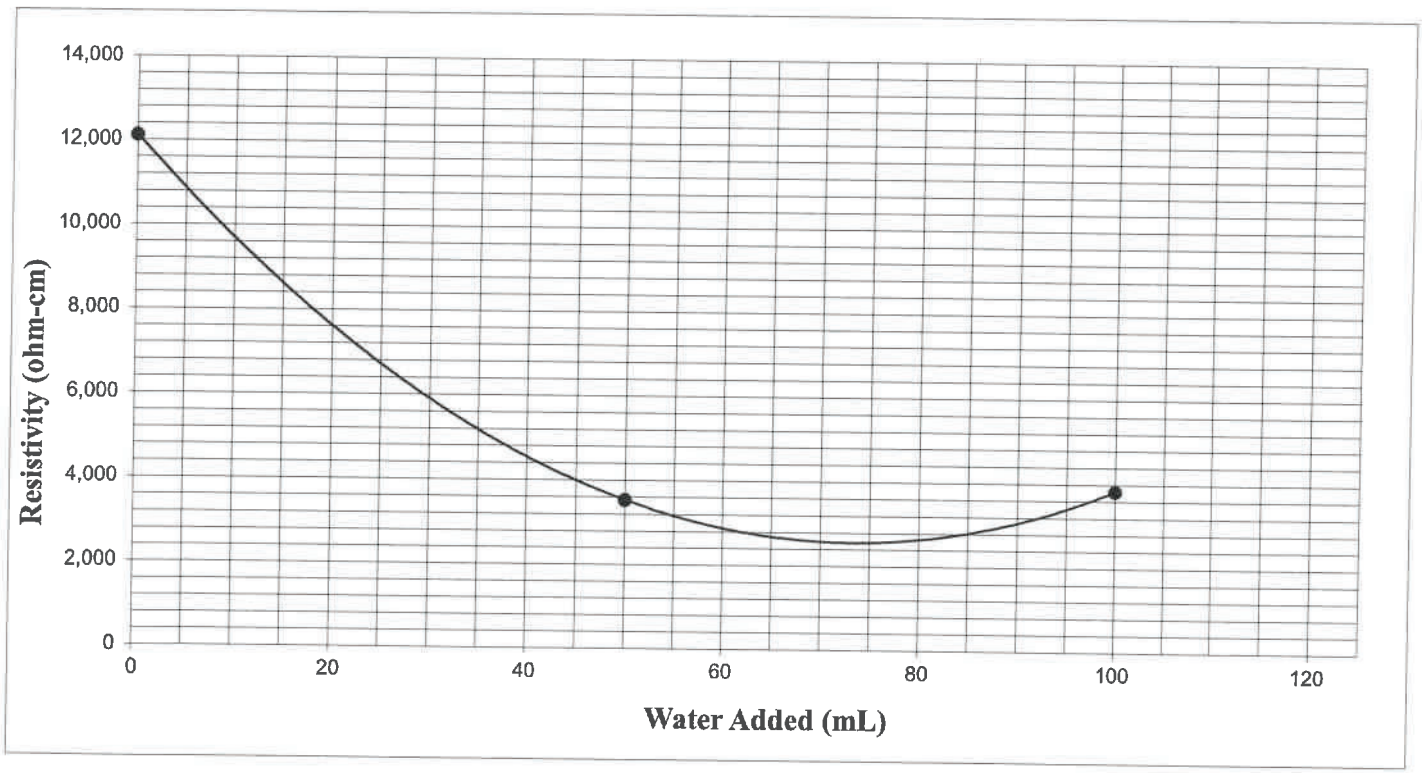
Date Sampled: 3/15/23 - 3/17/23
Sampled By: SEG
Date Tested: 3/29/23 Tested By: MC

Chloride Content: 39 mg/Kg
Sulfate Content: 143 mg/Kg
Soil pH: 7.5

Initial Sample Weight: 700 gms
Test Box Constant: 1.010 cm

Test Data:

Trial #	Water Added (mL)	Meter Dial Reading	Multiplier Setting	Resistance (ohms)	Resistivity (ohm-cm)
1	0	1.2	10,000	12,000	12,120
2	50	3.5	1,000	3,500	3,535
3	100	3.8	1,000	3,800	3,838



Minimum Resistivity:	**2,570** ohm-cm

SALEM engineering group, inc.

SOIL RESISTIVITY
CTM 643

Project Name: Warehouse Bldg - Shafter
Project Number: 2-223-0066
Sample Location: B-15 @ 1' - 4'
Soil Description: Silty SAND (SM)

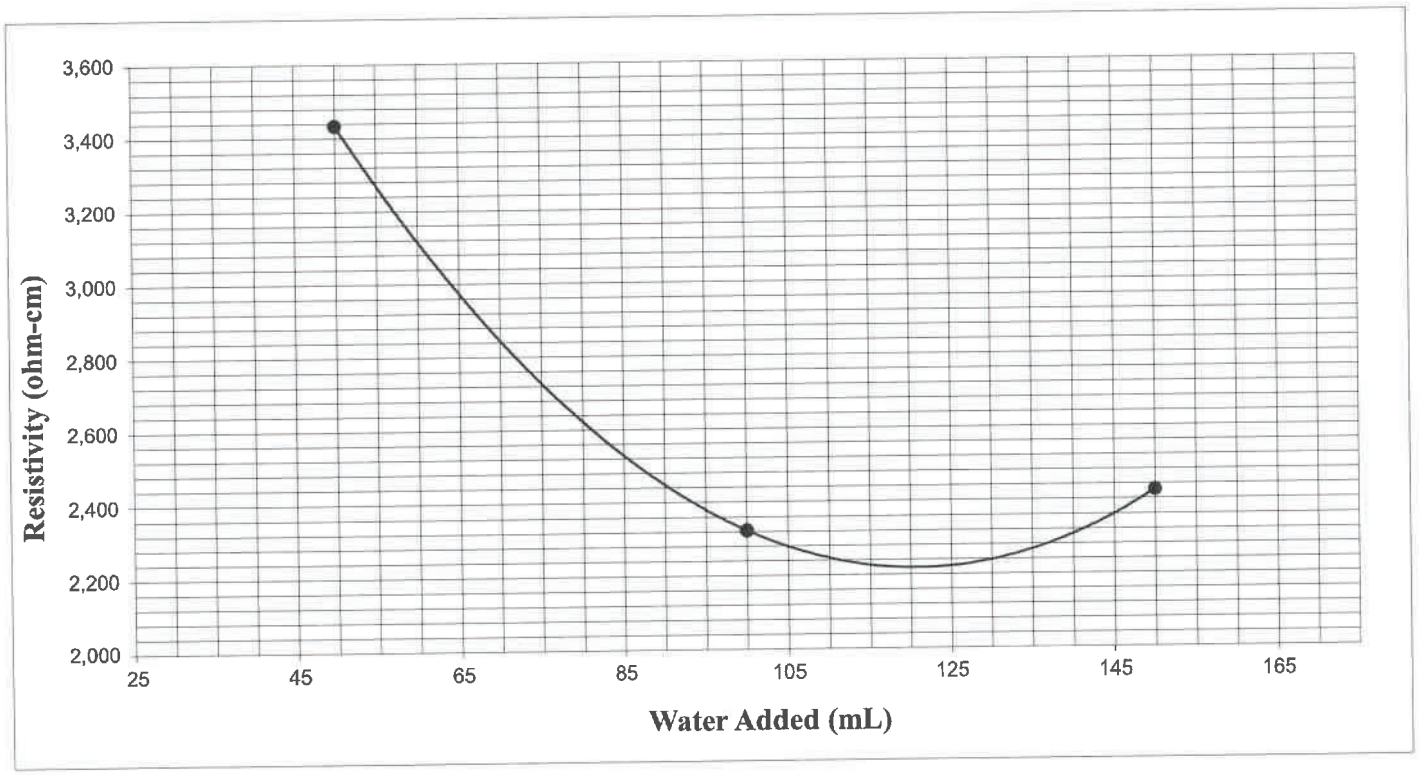
Date Sampled: 3/15/23 - 3/17/23
Sampled By: SEG
Date Tested: 3/29/23 Tested By: MC

Chloride Content: 29 mg/Kg
Sulfate Content: 100 mg/Kg
Soil pH: 7.6

Initial Sample Weight: 700 gms
Test Box Constant: 1.010 cm

Test Data:

Trial #	Water Added (mL)	Meter Dial Reading	Multiplier Setting	Resistance (ohms)	Resistivity (ohm-cm)
1	50	3.4	1,000	3,400	3,434
2	100	2.3	1,000	2,300	2,323
3	150	2.4	1,000	2,400	2,424



Minimum Resistivity:	**2,218** ohm-cm

SALEM engineering group, inc.

APPENDIX

C

APPENDIX C
GENERAL EARTHWORK AND PAVEMENT SPECIFICATIONS

When the text of the report conflicts with the general specifications in this appendix, the recommendations in the report have precedence.

1.0 SCOPE OF WORK: These specifications and applicable plans pertain to and include all earthwork associated with the site rough grading, including, but not limited to, the furnishing of all labor, tools and equipment necessary for site clearing and grubbing, stripping, preparation of foundation materials for receiving fill, excavation, processing, placement and compaction of fill and backfill materials to the lines and grades shown on the project grading plans and disposal of excess materials.

2.0 PERFORMANCE: The Contractor shall be responsible for the satisfactory completion of all earthwork in accordance with the project plans and specifications. This work shall be inspected and tested by a representative of SALEM Engineering Group, Incorporated, hereinafter referred to as the Soils Engineer and/or Testing Agency. Attainment of design grades, when achieved, shall be certified by the project Civil Engineer. Both the Soils Engineer and the Civil Engineer are the Owner's representatives. If the Contractor should fail to meet the technical or design requirements embodied in this document and on the applicable plans, he shall make the necessary adjustments until all work is deemed satisfactory as determined by both the Soils Engineer and the Civil Engineer. No deviation from these specifications shall be made except upon written approval of the Soils Engineer, Civil Engineer, or project Architect.

No earthwork shall be performed without the physical presence or approval of the Soils Engineer. The Contractor shall notify the Soils Engineer at least 2 working days prior to the commencement of any aspect of the site earthwork.

The Contractor shall assume sole and complete responsibility for job site conditions during the course of construction of this project, including safety of all persons and property; that this requirement shall apply continuously and not be limited to normal working hours; and that the Contractor shall defend, indemnify and hold the Owner and the Engineers harmless from any and all liability, real or alleged, in connection with the performance of work on this project, except for liability arising from the sole negligence of the Owner or the Engineers.

3.0 TECHNICAL REQUIREMENTS: All compacted materials shall be densified to no less that 95 percent of relative compaction (based on ASTM D1557 Test Method (latest edition), or as specified in the technical portion of the Soil Engineer's report. The location and frequency of field density tests shall be determined by the Soils Engineer. The results of these tests and compliance with these specifications shall be the basis upon which satisfactory completion of work will be judged by the Soils Engineer.

4.0 SOILS AND FOUNDATION CONDITIONS: The Contractor is presumed to have visited the site and to have familiarized himself with existing site conditions and the contents of the data presented in the Geotechnical Engineering Report. The Contractor shall make his own interpretation of the data contained in the Geotechnical Engineering Report and the Contractor shall not be relieved of liability for any loss sustained as a result of any variance between conditions indicated by or deduced from said report and the actual conditions encountered during the progress of the work.

5.0 DUST CONTROL: The work includes dust control as required for the alleviation or prevention of any dust nuisance on or about the site or the borrow area, or off-site if caused by the Contractor's operation either during the performance of the earthwork or resulting from the conditions in which the Contractor leaves the site. The Contractor shall assume all liability, including court costs of codefendants, for all claims

related to dust or wind-blown materials attributable to his work. Site preparation shall consist of site clearing and grubbing and preparation of foundation materials for receiving fill.

6.0 CLEARING AND GRUBBING: The Contractor shall accept the site in this present condition and shall demolish and/or remove from the area of designated project earthwork all structures, both surface and subsurface, trees, brush, roots, debris, organic matter and all other matter determined by the Soils Engineer to be deleterious. Such materials shall become the property of the Contractor and shall be removed from the site.

Tree root systems in proposed improvement areas should be removed to a minimum depth of 3 feet and to such an extent which would permit removal of all roots greater than 1 inch in diameter. Tree roots removed in parking areas may be limited to the upper 1½ feet of the ground surface. Backfill of tree root excavations is not permitted until all exposed surfaces have been inspected and the Soils Engineer is present for the proper control of backfill placement and compaction. Burning in areas which are to receive fill materials shall not be permitted.

7.0 SUBGRADE PREPARATION: Surfaces to receive Engineered Fill and/or building or slab loads shall be prepared as outlined above, scarified to a minimum of 12 inches, moisture-conditioned as necessary, and compacted to 95 percent relative compaction.

Loose soil areas and/or areas of disturbed soil shall be moisture-conditioned as necessary and compacted to 95 percent relative compaction. All ruts, hummocks, or other uneven surface features shall be removed by surface grading prior to placement of any fill materials. All areas which are to receive fill materials shall be approved by the Soils Engineer prior to the placement of any fill material.

8.0 EXCAVATION: All excavation shall be accomplished to the tolerance normally defined by the Civil Engineer as shown on the project grading plans. All over-excavation below the grades specified shall be backfilled at the Contractor's expense and shall be compacted in accordance with the applicable technical requirements.

9.0 FILL AND BACKFILL MATERIAL: No material shall be moved or compacted without the presence or approval of the Soils Engineer. Material from the required site excavation may be utilized for construction site fills, provided prior approval is given by the Soils Engineer. All materials utilized for constructing site fills shall be free from vegetation or other deleterious matter as determined by the Soils Engineer.

10.0 PLACEMENT, SPREADING AND COMPACTION: The placement and spreading of approved fill materials and the processing and compaction of approved fill and native materials shall be the responsibility of the Contractor. Compaction of fill materials by flooding, ponding, or jetting shall not be permitted unless specifically approved by local code, as well as the Soils Engineer. Both cut and fill shall be surface-compacted to the satisfaction of the Soils Engineer prior to final acceptance.

11.0 SEASONAL LIMITS: No fill material shall be placed, spread, or rolled while it is frozen or thawing, or during unfavorable wet weather conditions. When the work is interrupted by heavy rains, fill operations shall not be resumed until the Soils Engineer indicates that the moisture content and density of previously placed fill is as specified.

12.0 DEFINITIONS - The term "pavement" shall include asphaltic concrete surfacing, untreated aggregate base, and aggregate subbase. The term "subgrade" is that portion of the area on which surfacing, base, or subbase is to be placed.

The term "Standard Specifications": hereinafter referred to, is the most recent edition of the Standard Specifications of the State of California, Department of Transportation. The term "relative compaction"

refers to the field density expressed as a percentage of the maximum laboratory density as determined by ASTM D1557 Test Method (latest edition).

13.0 PREPARATION OF THE SUBGRADE - The Contractor shall prepare the surface of the various subgrades receiving subsequent pavement courses to the lines, grades, and dimensions given on the plans. The upper 12 inches of the soil subgrade beneath the pavement section shall be compacted to a minimum relative compaction of 95 percent based upon ASTM D1557. The finished subgrades shall be tested and approved by the Soils Engineer prior to the placement of additional pavement courses.

14.0 AGGREGATE BASE - The aggregate base material shall be spread and compacted on the prepared subgrade in conformity with the lines, grades, and dimensions shown on the plans. The aggregate base material shall conform to the requirements of Section 26 of the Standard Specifications for Class 2 material, ¾-inch or 1½-inches maximum size. The aggregate base material shall be compacted to a minimum relative compaction of 95 percent based upon ASTM D1557. The aggregate base material shall be spread in layers not exceeding 6 inches and each layer of aggregate material course shall be tested and approved by the Soils Engineer prior to the placement of successive layers.

15.0 AGGREGATE SUBBASE - The aggregate subbase shall be spread and compacted on the prepared subgrade in conformity with the lines, grades, and dimensions shown on the plans. The aggregate subbase material shall conform to the requirements of Section 25 of the Standard Specifications for Class 2 Subbase material. The aggregate subbase material shall be compacted to a minimum relative compaction of 95 percent based on ASTM D1557, and it shall be spread and compacted in accordance with the Standard Specifications. Each layer of aggregate subbase shall be tested and approved by the Soils Engineer prior to the placement of successive layers.

16.0 ASPHALTIC CONCRETE SURFACING - Asphaltic concrete surfacing shall consist of a mixture of mineral aggregate and paving grade asphalt, mixed at a central mixing plant and spread and compacted on a prepared base in conformity with the lines, grades, and dimensions shown on the plans. The viscosity grade of the asphalt shall be PG 64-10, unless otherwise stipulated or local conditions warrant more stringent grade. The mineral aggregate shall be Type A or B, ½ inch maximum size, medium grading, and shall conform to the requirements set forth in Section 39 of the Standard Specifications. The drying, proportioning, and mixing of the materials shall conform to Section 39. The prime coat, spreading and compacting equipment, and spreading and compacting the mixture shall conform to the applicable chapters of Section 39, with the exception that no surface course shall be placed when the atmospheric temperature is below 50 degrees F. The surfacing shall be rolled with a combination steel-wheel and pneumatic rollers, as described in the Standard Specifications. The surface course shall be placed with an approved self-propelled mechanical spreading and finishing machine.

Mitigated Negative Declaration

Appendix C

TRAFFIC IMPACT STUDY

SAED INVESTMENTS, LLC
by Max Bacerra
(PP25125)

PD No. 44, Map 79-35

Kern County
Planning and Natural Resources Department Bakersfield, CA

July 2026

Traffic Impact Study

Furniture City Warehouse Development at Southwest Corner of Cherry Avenue and Coberly Road, Kern County, California

October 8th, 2024

Project No. 23-1042



Submitted by:

10/8/2024

Matthew K. VoVilla, R.C.E. 43130 ***Date***

LAV//PINNACLE

Consulting & Engineering Services

Planning – Engineering – Surveying – Project Management

12418 Rosedale Highway, Suite B, Bakersfield, CA 93312 – Ph: 661.869.0184
Mailing Address: 13061 Rosedale Hwy., Suite G-199, Bakersfield, CA 93314

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Appendix "A" Exhibit and Figures:

Exhibit "A" – Precise Development Plan

Figure 1: Project Location and Existing Street Network

Figure 2: Year 2023 Existing A.M. Peak Hour Volumes & Turning Movements

Figure 3: Year 2023 Existing P.M. Peak Hour Volumes & Turning Movements

Figure 4: Project Generated Traffic – Evening Peak Hour

Figure 5: Year 2022 Existing Peak Hour Volumes & Turning Movements Plus Project Generated Traffic

Figure 6: Year 2026 Projected Peak Hour Volumes & Turning Movements

Figure 7: Year 2026 Projected Peak Hour Volumes & Turning Movements Plus Project Generated Traffic

Figure 8: Year 2046 Projected Peak Hour Volumes & Turning Movements

Figure 9: Year 2046 Projected Peak Hour Volumes & Turning Movements Plus Project Generated Traffic

APPENDIX "B" – Level of Service Calculations

APPENDIX "C" – Additional Documents

I. INTRODUCTION

This Traffic Impact Study was prepared for the development a proposed warehouse development at the southwest corner of the intersection of Cherry Avenue and Coberly Road. An application for a Zone Change and Precise Development (PD) Plan has been submitted to the County of Kern to allow warehouse development. As part of the review process of a Precise Development Plan, the County of Kern requested preparation of a Traffic Impact Study.

A. Project Description

The proposed Project is located at the southwest corner of the intersection of Coberly Road and Cherry Lane, which is within the jurisdictional limits of the County of Kern. The site is 19.58 acres and consists of three parcels.

The Project site is currently vacant land and is zoned M-2 PD: Medium Industrial.

The proposed Project will develop Parcel 1, which will include a warehouse building with a footprint of 129,465 sq. ft. The proposed Building will include 14 loading dock areas in addition to required parking and landscaping.

Included in Appendix "A" herein is the PD Plan, which includes the Site Plan and shows the layout and location of the proposed Project. Access to the Project will be facilitated by one driveway entrance and one additional passenger vehicle only driveway entrance on Coberly Road.

B. Surrounding Land Use

The Project will have roughly 510-feet of frontage along the south side of Coberly Road.

Properties to the south and west are zoned M-2 PD: Medium industrial or M-3 PD: Heavy Industrial. Many of the sites are developed and actively in use. Properties to the east and north are zoned A: Exclusive Agriculture. The property directly east of the Project is an orchard.

II. EXISTING LOCAL STREET NETWORK

The following is a description of streets in the vicinity of the site, which may be impacted to some extent by the Project.

Enos Lane (State Route 43) is a north-south, two-lane State Route in western Kern County that commences at S.R. 119 in southern Kern County and runs northward connecting the towns of Wasco and Shafter, and ultimately connects with S.R. 99 at Selma in Fresno County. S.R. 43 also connects with all major east-west routes in Kern County, including S.R. 46 (Paso Robles Highway), S.R. 58, Seventh Standard Road, Stockdale Highway, and S.R. 119 (Taft Highway). A roundabout exists at the intersection of Enos Lane and Stockdale Highway.

Additionally, and as discussed in future detail in Section V of the report, the Regional Transportation Impact Fee Program (RTIF) funds an expanded intersection for the intersection of Enos Lane and 7th Standard Road.

7th Standard Road is a designated east-west, arterial that runs from its westerly terminus at Wagon Wheel Road in western Kern County to State Route 65, where it transitions to Merle Haggard Drive. 7th Standard Road is a major east-west corridor and has full interchanges with Interstate 5 and State Route 99 freeway. East of Galpin Street, 7th Standard Road is a 4-lane road with constructed medians and left turn bays. West of Galpin Street, 7th Standard Road is a two-lane road with paved shoulders.

Cherry Avenue is a designated north-south, two-lane arterial with its northerly terminus at Fresno Avenue and its southerly terminus at 7th Standard Road.

Coberly Road is a designated east-west, two-lane collector running from its westerly terminus at Enos Lane to its easterly terminus at Santa Fe Way. The entirety of the road is an unpaved dirt road, with the exception of a segment spanning 1/3 mile from Enos Lane to the western property line of the Project.

Figure 1, included in Appendix "A" of this report, shows the existing street network in the vicinity of the Project, including intersection control and number of lanes in each direction.

III. METHOD OF ANALYSIS & TRAFFIC ESTIMATES

A. General

Additional detailed descriptions of methods and "findings" are provided in the appropriate sections herein. However, as a preface to the following sections, a brief step-by-step description used for analysis in this report, as follows:

1. Existing conditions of the Project and surrounding area are surveyed, including traffic counts, laneage, and intersection control. Traffic counts were performed during periods of peak volume.

2. Project-generated traffic, based on the proposed land use, was estimated and distributed onto the street network.

3. Using growth rates extracted from Kern Council of Governments (Kern COG) computer traffic model, and historical growth rates for the area and roadways in the vicinity of the Project, future traffic volumes were extrapolated from existing counts. In this case, future traffic was estimated for Year 2026 and Year 2046. Year 2026 is the anticipated "opening" day, when the development is open for business.

It is possible that opening day could be sooner than 2026. In that scenario, the theoretical traffic developed for 2026 would be larger than previous years, and the results considered conservative.

4. Having estimated future traffic for various scenarios, the estimated Project-generated traffic was added to existing traffic volumes and future traffic volumes (estimated as described in Item 3 above), to determine the total traffic for present and future years.

5. Street segments and intersections were analyzed for "Level of Service" (LOS) for the various scenarios: A) Existing conditions with No Project; B) Existing Conditions with Project; C) Year 2026 (Assumed as "Opening Day" with No Project; D) Year 2026 with Project; E) Year 2046 with No Project; and F) Year 2046 with Project

6. For any of the above scenarios which result in an unacceptable "Level of Service" (LOS), usually anything less than "C," it is determined whether the Project has obligation to mitigate or improve the facility. In a condition where degradation of a facility's LOS is directly attributable to the Project, then the required mitigation is determined. This includes scenarios where a facility is operating at a LOS less than "C" and is further degraded by the addition of Project traffic. When degradation of a facility's LOS is not directly attributable to the Project, then the Project has no obligation to mitigate the facility. Mitigation not obligated by the Project is considered outside the scope of this study.

7. If mitigation is required, resultant LOS's are calculated to determine the effectiveness of the proposed mitigation. The Project is only obligated to provide such mitigation to restore the existing LOS, albeit less than "C." Project-funded mitigation improvements are usually improvements that would not necessarily be needed if there was no project. In these cases, the Project's obligation, in very simplified terms, is the cost of a particular mitigation improvement multiplied by the ratio of Project-generated traffic to total estimated future year traffic volume. If mitigation is funded by the RTIF program, and the TIS demonstrated that said RTIF mitigation effectively restored the target LOS, the Project's only obligation would be payment of the RTIF fee. However, if the RTIF funded mitigation proved insufficient, the Project could have an obligation for additional mitigation.

Again, in the following sections, methodology, findings, and mitigation are discussed in further detail.

B. Traffic Counts

Traffic counts were performed over the street network in the vicinity of the Project to determine existing intersection volumes, turning movements, and traffic flow patterns. Traffic counts were performed during the morning and evening peak periods during weekdays, excluding Mondays, Fridays, holidays, and days preceding or following holidays. Weekdays before or after holidays and weekends are not representative of normal traffic patterns and thus are not counted or included in the database.

Counts were performed during the morning peak period between 6:30 am and 8:30 am as well as the evening peak period between 4:00 pm and 6:00 pm. The peak one-hour period within said counting windows were used as the basis of analysis in this report. Often the peak period for one intersection or street is slightly different than others. In this study, conservatively, the highest one-hour volumes for each intersection or street segment within the peak periods were used for analysis in this report.

For intersections analyzed as part of the scope of this Study, Figures 2 & 3, included in Appendix "A", show highest one-hour hour volumes during the morning and evening peak periods, respectively. These figures also show actual turning movements at all counted intersections.

C. Future Year Traffic Volumes

Future traffic for Year 2026 and Year 2046 were estimated by applying growth rates to present day traffic volumes for each facility within the scope of this Study. Growth rates were derived from the Kern Council of Governments (Kern COG) computer traffic model and historical traffic count data. (Kern COG is an association of city and county governments created to address regional transportation issues. Kern COG maintains a computer traffic model for Kern County, which includes monitoring of demographic trends). Using the Average Daily Traffic (ADT) for the years 2020 and 2046, an annual growth rate can be calculated using the compound growth equation.

All street segments analyzed by this study, as discussed further in Section IV herein, were evaluated for their ADTs in the Kern COG Traffic Model. Table 1 herein shows the Kern COG traffic model projections for four segments of 7th Standard Road and two segments of Enos Lane for Years 2020 and 2046. shown in Table 1, the weighted average annual growth rate for the surrounding area was calculated to be 1.13%.

As a basis of comparison, Kern County Population Estimates from United States Census Bureau, between for April 2010 to April 2020 indicates that the County has an average annual growth rate of 0.8%. Additionally, City of Bakersfield Population Estimates, again from the United States Census Bureau, indicated an average annual growth rate of 1.5%. In the interest of being conservative, the average annual growth rate of 1.5% was applied for traffic volume growth.

Table 1: Projected Average Annual Growth Rates for Warehouse Development at SW Corner of Cherry Avenue & Coberly Road, Shafter, CA

Item No.	Road Segment	Road Segment Limits		Regional Traffic Count - Average Daily Volume[1]		Annual Growth Rate[2] (%)	Growth Factor: Year 2024 to Year 2026	Growth Factor: Year 2024 to Year 2046
				Year 2020	Year 2046			
1	7th Standard Road	Shafter Ave	Enos Lane	6,056	7,213	0.67%	1.01	1.16
2	7th Standard Road	Enos Lane	Cherry Ave	8,458	12,058	1.37%	1.03	1.35
3	7th Standard Road	Cherry Ave	Superior Road	9,676	13,687	1.34%	1.03	1.34
4	Enos Lane	Coberly Road	7th Standard Road	8,320	9,454	0.49%	1.01	1.11
5	Enos Lane	7th Standard Road	Howze Ave	9,002	8,080	-0.41%	0.99	0.91
					Average Growth Rate:	1.13%	1.02	1.28
					Kern County Population Growth (2010-2020)[3]:	**0.80%**	**1.02**	**1.19**
					City of Bakersfield Population Growth (2010-2020)[4]:	**1.50%**	**1.03**	**1.39**

Notes:

1. Average Daily Traffic Volumes per the Kern County Council of Governments Regional Traffic Count Data
2. Annual Growth Rate Calculated per the Compound Annual Growth Rate Formula.
3. Kern County Population Estimates per United States Census Bureau data for April 2010 to April 2020
4. City of Bakersfield Population Estimates per United States Census Bureau data for April 2010 to April 2020

With any Traffic Impact Study (TIS), there are often other projects in the same vicinity that are being contemplated, planned, designed, or under construction. It becomes very difficult to incorporate every other contemplated development in the vicinity of the Project into the TIS scope; and many projects never come to fruition. In typical practice, it is assumed the extrapolation, (or growth) to Year 2046 traffic generally incorporates other surrounding projects. As stated, these annual growth rates used to extrapolate Year 2046 traffic volumes, extracted from the Kern COG traffic model, are based on growth trends. The exception to this practice occurs when two abutting or nearby projects, roughly on the same development, are anticipated to impact the same intersections or streets. When this occurs, trip generation from both projects is combined and the cumulative impact is analyzed. In the case of this study, this scenario does not occur; and the average annual growth rate has been assumed to account for various miscellaneous projects in the area.

D. Project Generated Traffic

Project generated vehicular trips were estimated using the *Institute of Transportation Engineers Trip Generation Manual*, 11th Edition, hereinafter referred to as the ITE Manual. Said ITE Manual provides mathematical correlations between various land uses and trip generation. The ITE Manual provides average rates for each land use type, and is the accepted methodology for both Kern County and Caltrans. Some ITE land uses also include a fitted curve for trip generation rates.

The following Table 2 itemizes each land use, provides an ITE Code appropriate for each land use, provides the land use description, the independent variable, and a trip generation rate associated with the independent variable. In this case, the independent variable for each land use is "gross leasable floor area." Table 2 provides trip rates and total trip generation for the 24-hour average day, and the A.M. and P.M. peak hour, and the directional split for each scenario.

Since the proposed Project land use is for warehouses, Table 2 was further divided into Tables 2a and 2b. Table 2a provides passenger vehicle trips, representing employees for the warehouse. Table 2b provides Truck trips. Table 2a provides an unadjusted total for passenger vehicle trips as 260 average daily trips, with 40 and 43 peak hour trips for the morning and evening peak hours, respectively. Table 2b provides an unadjusted total for truck trips as 84 average daily trips, with 3 and 4 peak hour trips for the morning and evening peak hours, respectively.

Generally speaking, the challenge in accurately estimating trips for warehouse developments is avoiding over-estimations. Following agency guidelines, trip adjustment factors can often be applied to the trips derived from the ITE manual. That being said, it was determined that adjustment factors for the Project trips, including "Pass-by" and "Capture", were not appropriate for the proposed land use. Therefore, all subsequent calculations use the unadjusted totals reported above.

Table 2a: Vehicle Trip Generation for Warehouse Development at SW Corner of Cherry Avenue & Coberly Road, Shafter, CA

Land Uses					*24 Hour Trips*		*A.M. Peak Hour Trips*				*P.M. Peak Hour Trips*			
Item No.	**Proposed Land Use**	**ITE Code**	**Independent Variable**		**Trip Rate**	**Veh Trips (vpd)**	**Trip Rate**	**Veh Trips (vph)**	**Split In**	**Split Out**	**Trip Rate**	**Veh Trips (vph)**	**Split In**	**Split Out**
Ph1	Warehouse	150	Gross Floor Area (1K SF)	140.5	Fitted Curve[1]	260	Fitted Curve[2]	40	31	9	Fitted Curve[3]	43	12	31
				Vehicle Trip Total:		260		40	31	9		43	12	31

Notes:

1. Weekday 24-Hour Trips based on Fitted Curve Equation: T = 1.58(X) + 38.29
2. Weekday AM Peak Hour Trips based on Fitted Curve Equation: T = 0.12(X) + 23.62
3. Weekday PM Peak Hour Trips based on Fitted Curve Equation: T = 0.12(X) + 26.48

Table 2b: Truck Trip Generation for Warehouse Development at SW Corner of Cherry Avenue & Coberly Road, Shafter, CA

Land Uses					*24 Hour Trips*		*A.M. Peak Hour Trips*				*P.M. Peak Hour Trips*			
Item No.	**Proposed Land Use**	**ITE Code**	**Independent Variable**		**Trip Rate**	**Veh Trips (vpd)**	**Trip Rate**	**Veh Trips (vph)**	**Split In**	**Split Out**	**Trip Rate**	**Veh Trips (vph)**	**Split In**	**Split Out**
Ph1	Warehouse	150	Gross Floor Area (1K SF)	140.5	0.60	84	0.02	3	2	1	0.03	4	2	2
				Truck Trip Total:		84		3	2	1		4	2	2

E. Trip Distribution and Assignment

A significant portion of the weekday trips to and from the Project during peak hour of adjacent street traffic are anticipated to be side trips during the work-home commute. Therefore, Project-generated trips were distributed onto the existing street network proportional to the existing traffic patterns.

Figures 4a and 4b, included in Appendix "A" of this report, shows the distribution of Project-generated traffic onto the local street network.

IV. IMPACT OF PROJECT TRAFFIC

A. Level of Service (LOS)

Operational analysis of streets and intersections were performed using methods outlined in the *Transportation Research Board, National Research Council Highway Capacity Manual,* HCM, 2022.

Level of Service (LOS) is the generally accepted gauge for describing the quality of operation of either a road segment or street intersection. Other attributes of operational quality associated with each Level of Service are v/c - volume to capacity ratio, vehicle delay through an intersection, and reserve capacity of an intersection approach. For each type of street segment, intersection, or freeway analysis, the Level of Service criteria varies slightly. Levels of Service for every type of roadway, intersection, or freeway are described thoroughly in the *Highway Capacity Manual,* however, the following brief descriptions have been provided:

Table 3: Level of Service for Signalized Intersections

Level of Service	Stopped Delay per Vehicle (sec.)
A	≤ 10.0
B	10.1 to 20.0
C	20.1 to 35.0
D	35.1 to 55.0
E	55.1 to 80.0
F	> 80.0

Table 4: Level of Service for Un-Signalized Intersections

Level of Service	Stopped Delay per Vehicle (sec.)
A	≤ 10.0
B	10.1 to 15.0
C	15.1 to 25.0
D	25.1 to 35.0
E	35.1 to 50.0
F	> 50.0

Table 5: Level of Service for Highways and Arterials

Level of Service	Description
A	Free flow conditions, unimpeded ability to maneuver and pass, very little delay, no platoons, highest average travel speeds.
B	Mostly free flow conditions; presence of other vehicles begins to be noticeable. Passing is required to maintain speeds, slightly less average travel speeds than Level of Service "A".
C	Traffic density clearly affects the ability to pass and maneuver within the stream. Speeds are reduced to about 50 mph on highways and to about 50% of the average on urban arterials.
D	Unstable flow. Speeds are reduced from 40% to 60% of normal. Passing demand is high although mostly impossible on 2-Lane Highways. Traffic disruptions usually cause extensive queues.
E	Very unstable flow at or near capacity. Passing and maneuvering virtually impossible. Extensive platooning on highways and queuing on arterials. Speeds range from 20 mph or less on arterials and 2-Lane Highways, and up to 50 mph on Multi-Lane Highways.
F	Forced or breakdown flow. Demand exceeds capacity. Vehicles experience short spurts of movement followed by stoppages. Intersection congestion, long queues and delays are common.

B. Traffic Impact Analysis

As discussed in Section III herein, Project generated traffic was distributed onto the existing street network based on existing patterns. In accordance with Kern County criteria, any street segment or intersection, both existing and future scenarios, which operates at or above a Level of Service of "D," must be analyzed if it receives 50 or more Project-generated peak hour trips. If a facility currently operates at an "E" or "F," the analysis threshold drops to 20 and 10 trips, respectively.

Level of Service calculation methods were taken from the previously referenced ***Highway Capacity Manual***. Computer software from "McTrans Highway Capacity" package was used to facilitate extensive calculations. All computer-generated reports have been included in Appendix "B" of this report.

The following figures are referenced for the various traffic scenarios analyzed:

1. Figure 2 provides the existing Year 2024 traffic morning peak hour traffic without the addition of Project-generated traffic.
2. Figure 3 provides the existing Year 2024 traffic evening peak hour traffic without the addition of Project-generated traffic.
3. Figure 4a shows the distribution of the entirety of morning peak hour Project-generated traffic.
4. Figure 4b shows the distribution of the entirety of evening peak hour Project-generated traffic.
5. Figure 5a shows the summation of morning peak hour Project-generated traffic and morning peak hour existing background traffic during the Year 2024. This is the summation of Figures 2 and 4a.
6. Figure 5b shows the summation of evening peak hour Project-generated traffic and evening peak hour existing background traffic during the Year 2024. This is the summation of Figures 3 and 4b.
7. Figure 6a shows the estimated "Opening Day", Year 2026 morning peak hour traffic, without the addition of Project-generated traffic.
8. Figure 6b shows the estimated "Opening Day", Year 2026 evening peak hour traffic, without the addition of Project-generated traffic.
9. Figure 7a shows the summation of "Opening Day" morning background traffic and Project-generated morning peak hour traffic during the year 2026. This is the summation of Figures 6a and 4a.
10. Figure 7b shows the summation of "Opening Day" evening background traffic and Project-generated evening peak hour traffic during the year 2026. This is the summation of Figures 6b and 4b.
11. Figure 8a shows the estimated Year 2046 morning peak hour traffic without the addition of Project-generated traffic.
12. Figure 8b shows the estimated Year 2046 evening peak hour traffic without the addition of Project-generated traffic.

13. Figure 9a shows the summation of morning peak hour Project-generated traffic and the morning peak hour background traffic for Year 2046. This is the summation of Figures 8a and 4a.
14. Figure 9b shows the summation of evening peak hour Project-generated traffic and evening peak hour background traffic during the Year 2046. This is the summation of Figures 8b and 4b.

Again, the Level of Service calculations herein include analysis of the impact of Project traffic on existing and future year scenarios. Specifically, the above scenarios shown as Items 1 & 2, and 7 through 14 were analyzed for Level of Service, as well as the need for mitigation improvements.

Summaries of the Level of Service calculations for the various scenarios described have been included in the following tables:

- Table 6 shows the results of the intersection Level of Service calculations.

- Table 7 shows the results of Level of Service calculations for various street segments within the scope of this study.

TABLE 6: Intersection Level of Service (LOS) - Peak Hour

Legend: **S = Signalized** **1W = One Way Stop Control** **4W = All Way Stop** **R = Roundabout**

No.	Intersection	Time Period	Control	Northbound			Southbound			Eastbound			Westbound			Comp LOS	Intersection Delay (sec/veh)	Peak Hour Warrant Met (Yes/No)
				Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
1)	Cherry Avenue and Coberly Road	Year 2024 A.M. Existing	1W	-	-	-	-	-	-	A	A	A	A	A	A		A	0.0
		Year 2024 A.M. with Project	1W	-	B	-	-	-	-	A	A	A	A	A	A		A	0.7
		Year 2026 A.M. without Project	1W	-	-	-	-	-	-	A	A	A	A	A	A		A	0.0
		Year 2026 A.M. with Project	1W	-	B	-	-	-	-	A	A	A	A	A	A		A	0.7
		Year 2046 A.M. without Project	1W	-	-	-	-	-	-	A	A	A	A	A	A		A	0.0
		Year 2046 A.M. with Project	1W	-	B	-	-	-	-	A	A	A	A	A	A		A	0.5
		Year 2024 P.M. Existing	1W	-	-	-	-	-	-	A	A	A	A	A	A		A	0.0
		Year 2024 P.M. with Project	1W	-	A	-	-	-	-	A	A	A	A	A	A		A	1.0
		Year 2026 P.M. without Project	1W	-	-	-	-	-	-	A	A	A	A	A	A		A	0.0
		Year 2026 P.M. with Project	1W	-	A	-	-	-	-	A	A	A	A	A	A		A	1.0
		Year 2046 P.M. without Project	1W	-	-	-	-	-	-	A	A	A	A	A	A		A	0.0
		Year 2046 P.M. with Project	1W	-	A	-	-	-	-	A	A	A	A	A	A		A	1.0
2)	Enos Lane and Coberly Road	Year 2024 A.M. Existing	1W	-	-	-	-	-	-	-	-	-	A	A	-		A	0.0
		Year 2024 A.M. with Project	1W	-	-	-	-	B	-	-	-	-	A	A	-		A	0.8
		Year 2026 A.M. without Project	1W	-	-	-	-	-	-	-	-	-	A	A	-		A	0.0
		Year 2026 A.M. with Project	1W	-	-	-	-	B	-	-	-	-	A	A	-		A	0.8
		Year 2046 A.M. without Project	1W	-	-	-	-	-	-	-	-	-	A	A	-		A	0.0
		Year 2046 A.M. with Project	1W	-	-	-	-	-	-	-	-	-	A	A	-		A	0.7
		Year 2024 P.M. Existing	1W	-	-	-	-	B	-	-	-	-	A	A	-		A	0.1
		Year 2024 P.M. with Project	1W	-	-	-	-	B	-	-	-	-	A	A	-		A	0.7
		Year 2026 P.M. without Project	1W	-	-	-	-	B	-	-	-	-	A	A	-		A	0.1
		Year 2026 P.M. with Project	1W	-	-	-	-	B	-	-	-	-	A	A	-		A	0.7
		Year 2046 P.M. without Project	1W	-	-	-	-	B	-	-	-	-	A	A	-		A	0.1
		Year 2046 P.M. with Project	1W	-	-	-	-	B	-	-	-	-	A	A	-		A	0.7

TABLE 6: Intersection Level of Service (LOS) - Peak Hour (cont.)

Legend: **S = Signalized** **1W = One Way Stop Control** **4W = All Way Stop** **R = Roundabout**

No.	Intersection	Time Period	Control	Northbound			Southbound			Eastbound			Westbound			Comp LOS	Intersection Delay (sec/veh)	Peak Hour Warrant Met (Yes/No)
				Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
3)	Cherry Avenue and 7th Standard Road	Year 2024 A.M. Existing	1W	A	A	-	-	-	-	-	-	-	C	-	B		A	5.5
		Year 2024 A.M. with Project	1W	A	A	-	-	-	-	-	-	-	C	-	B		A	5.5
		Year 2026 A.M. without Project	1W	A	A	-	-	-	-	-	-	-	C	-	B		A	5.6
		Year 2026 A.M. with Project	1W	A	A	-	-	-	-	-	-	-	C	-	B		A	5.6
		Year 2046 A.M. without Project	1W	B	A	-	-	-	-	-	-	-	E	-	B		A	6.9
		Year 2046 A.M. with Project	1W	B	A	-	-	-	-	-	-	-	E	-	B		A	6.9
		Year 2024 P.M. Existing	1W	A	A	-	-	-	-	-	-	-	C	-	B		A	3.4
		Year 2024 P.M. with Project	1W	A	A	-	-	-	-	-	-	-	C	-	B		A	3.7
		Year 2026 P.M. without Project	1W	A	A	-	-	-	-	-	-	-	C	-	B		A	3.5
		Year 2026 P.M. with Project	1W	A	A	-	-	-	-	-	-	-	C	-	B		A	3.7
		Year 2046 P.M. without Project	1W	A	A	-	-	-	-	-	-	-	C	-	B		A	4.1
		Year 2046 P.M. with Project	1W	A	A	-	-	-	-	-	-	-	C	-	B		A	4.4
4)	Enos Lane and 7th Standard Road	Year 2024 A.M. Existing	4W	C	-	-	C	A	-	C	-	-	C	A	-		C	18.9
		Year 2024 A.M. with Project	4W	C	-	-	C	A	-	C	-	-	C	B	-		C	19.7
		Year 2026 A.M. without Project	4W	C	-	-	D	A	-	C	-	-	C	B	-		C	20.2
		Year 2026 A.M. with Project	4W	C	-	-	D	A	-	C	-	-	C	B	-		C	21.2
		Year 2046 A.M. without Project	4W	D	-	-	F	B	-	F	-	-	D	B	-		F	69.6
		Year 2046 A.M. with Project	4W	D	-	-	F	B	-	F	-	-	D	B	-		F	71.3
		Year 2024 P.M. Existing	4W	C	-	-	C	B	-	C	-	-	C	A	-		C	19.4
		Year 2024 P.M. with Project	4W	D	-	-	C	B	-	C	-	-	C	B	-		C	20.3
		Year 2026 P.M. without Project	4W	D	-	-	C	B	-	C	-	-	C	B	-		C	20.9
		Year 2026 P.M. with Project	4W	D	-	-	C	B	-	C	-	-	C	B	-		C	22.0
		Year 2046 P.M. without Project	4W	F	-	-	D	B	-	F	-	-	D	B	-		F	75.4
		Year 2046 P.M. with Project	4W	F	-	-	E	B	-	F	-	-	D	B	-		F	86.4

TABLE 7a: Street Segment Level of Service for AM Peak Hour

				Year 2024 Existing A.M. Volumes (Figure 3)		Year 2024 A.M. Plus Project Traffic (Figure 5)		Year 2026 A.M. Without Project Traffic (Figure 6)		Year 2026 A.M. Plus Project Traffic (Figure 7)		Year 2046 A.M. Without Project Traffic (Figure 8)		Year 2046 A.M. Plus Project Traffic (Figure 9)	
Item	**Street Segment**	**Limits**	**Existing Laneage - Both Directions**	**PH Vol (vph) (wb/eb) or (sb/nb)**	**Level of Service (LOS)**	**PH Vol (vph) (wb/eb) or (sb/nb)**	**Level of Service (LOS)**	**PH Vol (vph) (wb/eb) or (sb/nb)**	**Level of Service (LOS)**	**PH Vol (vph) (wb/eb) or (sb/nb)**	**Level of Service (LOS)**	**PH Vol (vph) (wb/eb) or (sb/nb)**	**Level of Service (LOS)**	**PH Vol (vph) (wb/eb) or (sb/nb)**	**Level of Service (LOS)**
1)	Coberly Road	Enos Ln to Cherry Ave	2	0/3	A	23/13	A	0/3	A	23/13	A	0/4	A	24/13	A
2)	7th Standard Road	Enos Ln to Cherry Ave	2	373/307	B	373/307	B	384/316	B	384/316	B	518/426	C	518/426	C
3)	SR 43/Enos Lane	Coberly Rd to 7th Standard Rd	2	211/166	A	216/180	A	217/171	A	222/185	A	293/230	B	298/244	B
4)	Cherry Ave	Coberly Rd to 7th Standard Rd	2	38/145	A	38/157	A	39/149	A	39/161	A	53/201	A	53/213	A

TABLE 7b: Street Segment Level of Service for PM Peak Hour

				Year 2024 Existing P.M. Volumes (Figure 3)		Year 2024 P.M. Plus Project Traffic (Figure 5)		Year 2026 P.M. Without Project Traffic (Figure 6)		Year 2026 P.M. Plus Project Traffic (Figure 7)		Year 2046 P.M. Without Project Traffic (Figure 8)		Year 2046 P.M. Plus Project Traffic (Figure 9)	
Item	**Street Segment**	**Limits**	**Existing Laneage - Both Directions**	**PH Vol (vph) (wb/eb) or (sb/nb)**	**Level of Service (LOS)**	**PH Vol (vph) (wb/eb) or (sb/nb)**	**Level of Service (LOS)**	**PH Vol (vph) (wb/eb) or (sb/nb)**	**Level of Service (LOS)**	**PH Vol (vph) (wb/eb) or (sb/nb)**	**Level of Service (LOS)**	**PH Vol (vph) (wb/eb) or (sb/nb)**	**Level of Service (LOS)**	**PH Vol (vph) (wb/eb) or (sb/nb)**	**Level of Service (LOS)**
1)	Coberly Road	Enos Ln to Cherry Ave	2	2/0	A	22/13	A	2/0	A	22/13	A	3/0	A	23/13	A
2)	7th Standard Road	Enos Ln to Cherry Ave	2	335/419	B	335/419	B	345/431	B	345/431	B	465/581	C	465/581	C
3)	SR 43/Enos Lane	Coberly Rd to 7th Standard Rd	2	175/224	A	189/232	A	180/231	A	194/239	A	243/311	A	257/319	A
4)	Cherry Ave	Coberly Rd to 7th Standard Rd	2	127/47	A	139/50	A	131/48	A	143/51	A	176/65	A	188/68	A

C. Traffic Signal Warrant Analysis

Non-signalized intersections within the Project vicinity were analyzed for satisfaction of the Peak Hour Volume Warrant as described in Section 9 of the Caltrans Traffic Manual and the **Manual of Uniform Traffic Control Devices**. A brief explanation of the intersection warrant analysis is provided as follows:

The Manual of Uniform Traffic Control Devices (MUTCD) prescribes "tests" which are conducted to determine the need for installation of a traffic signal. These "tests" are referred to as "warrants." The MUTCD list minimum signal "warrants," which have been adopted by the California Department of Transportation and most California agencies, including the City of Bakersfield and the County of Kern. These "warrants" consist of evaluation of various criteria that have been determined as critical for the installation of a signal. The warrant criterion has been derived empirically.

In actual practice, justification for signal installation is usually based on satisfaction of a number of warrants as well as poor Levels of Service for multiple movements. In keeping within the scope of this traffic study, non-signalized intersections were evaluated for signalization, including expansion of the intersection, based solely on satisfaction of the Peak Hour Signal Warrant described in The Manual of Uniform Traffic Control Devices (MUTCD).

Table 6 herein provides a column indicating whether or not the Peak Hour Warrant was satisfied for each scenario.

Table 8 herein provides intersection volumes and also indicates whether or not the Peak Hour Warrant is satisfied for all existing and future scenarios.

As shown on Tables 6 and 8 herein, the Peak Hour Signal was satisfied for the intersections of Enos Lane & 7th Standard Road for both Year 2046 scenarios. Therefore, a traffic signal is warranted during any of the peak hour conditions. However, since the signal is warranted regardless of the addition of Project generated trips, the Project is not obligated to fund the traffic signals.

Table 8: Peak Hour Warrant Analysis

		Year 2024 Existing Volumes (Figures 2 & 3)			Year 2024 Existing Volumes Plus Project (Figure 5)			Year 2026 Existing Volumes (Figure 6)		
No.	Existing Non-Signalized Intersection	Highest Minor Approach Volume (vph)	Total Major Approach Volume (vph)	Peak Hour Warrant Satisfied	Highest Minor Approach Volume (vph)	Total Major Approach Volume (vph)	Peak Hour Warrant Satisfied	Highest Minor Approach Volume (vph)	Total Major Approach Volume (vph)	Peak Hour Warrant Satisfied
1)	Cherry Ave and Coberly Rd AM	0	174	No	2	187	No	0	179	No
	Cherry Ave and Coberly Rd PM	0	124	No	13	128	No	0	128	No
2)	Enos Ln and Coberly Rd AM	0	324	No	8	344	No	0	334	No
	Enos Ln and Coberly Rd PM	2	324	No	22	334	No	2	334	No
3)	Cherry Ave and 7th Standard Rd AM	38	649	No	38	661	No	39	668	No
	Cherry Ave and 7th Standard Rd PM	127	635	No	139	638	No	131	653	No
4)	Enos Ln and 7th Standard Rd AM	268	466	No	271	471	No	217	480	No
	Enos Ln and 7th Standard Rd PM	277	541	No	281	545	No	285	557	No

Table 8: Peak Hour Warrant Analysis (cont.)

		Year 2026 Existing Volumes Plus Project (Figure 7)			Year 2046 Volumes (Figures 8)			Year 2046 Volumes Plus Project (Figure 9)		
No.	Existing Non-Signalized Intersection	Highest Minor Approach Volume (vph)	Total Major Approach Volume (vph)	Peak Hour Warrant Satisfied	Highest Minor Approach Volume (vph)	Total Major Approach Volume (vph)	Peak Hour Warrant Satisfied	Highest Minor Approach Volume (vph)	Total Major Approach Volume (vph)	Peak Hour Warrant Satisfied
1)	Cherry Ave and Coberly Rd AM	2	192	No	0	241	No	2	254	No
	Cherry Ave and Coberly Rd PM	13	132	No	0	172	No	13	176	No
2)	Enos Ln and Coberly Rd AM	8	354	No	0	449	No	8	469	No
	Enos Ln and Coberly Rd PM	22	288	No	3	450	No	23	460	No
3)	Cherry Ave and 7th Standard Rd AM	39	680	No	53	901	No	53	914	No
	Cherry Ave and 7th Standard Rd PM	143	656	No	176	881	No	188	874	No
4)	Enos Ln and 7th Standard Rd AM	284	485	No	372	646	Yes	381	651	Yes
	Enos Ln and 7th Standard Rd PM	289	561	No	385	751	Yes	389	755	Yes

D. Pavement Analysis

Pavement design and pavement lifespan are all a function of truck volume. Compared to trucks, passenger vehicles cause very little degradation to asphalt concrete pavements. However, there are other factors affecting pavement life span including regular preventative maintenance and weather. As discussed, the Project will generate truck traffic. In accordance with Kern County Zoning Ordinance, Section 19.80.030 B, and recent comments from the County, the Project must evaluate the pavement structural section of Coberly Road for adequacy under the anticipated loads of future truck traffic.

In accordance with Kern County policy, the pavement structural section for Coberly Road must be adequate for a 30-year design life under the anticipated combined Year 2046 ambient traffic (non-project truck traffic) and project-generated traffic. If the existing pavement does not meet the stated criteria for future traffic, the Project must bring the roadway up to said standards. Often this means an asphalt concrete overlay over the existing pavement; however, at times a full reconstruction of the road is necessary.

Cores of the existing Coberly Road pavement section were performed and provided by the Kern County Public Works Department. The core of the eastbound lane showed an asphalt concrete pavement thickness of 0.25 feet and a Class 2 Aggregate Base thickness of 0.5 feet over native material. The core of the westbound lane also showed an asphalt concrete pavement thickness of 0.25 feet and a Class 2 Aggregate Base thickness of 0.5 feet over native material. Additionally, the Kern County Laboratory calculated a Resistance value for the native material of 22 and 28 for the eastbound and westbound lanes respectively. Correspondence with the County, which includes the Coring information, has been included in Appendix "C" of this report.

In accordance with the methods prescribed in the current edition of the *Caltrans Highway Design Manual*, the pavement structural section design is a function of anticipated truck traffic. Based on research Caltrans has empirically derived and assigned factors to be applied to specific trucks/axle counts that yield a value termed by Caltrans as "Equivalent Single Axle Loads" (ESAL). A second value termed by Caltrans as "Traffic Index" or TI is then determined from ESAL's. TI's increase as ESAL's become larger. Pavement Structural sections are a function of the final TI and in short, the larger the TI, the thicker the required pavement section. In this case, the existing and pavement section is asphalt concrete over aggregate base over compacted native material.

The term "truck" includes a variety of vehicles from two axle buses to tractor-trailers with five or more axles. As part of the Caltrans Traffic Census Data program, Caltrans has determined a breakdown of truck types along with number of axels for each for all observed roadway segments. In the case of this Project, the census data from Enos Road/State Route 43 was utilized. In the following Table 9, truck traffic and a breakdown of truck types by number of axles for Truck traffic was extrapolated for Coberly Road.

Table 9 uses empirically derived Equivalent Single Axle Load (ESAL) constants taken from Table 613.3A of the *Caltrans Highway Design Manual,* which when multiplied by the various categories of truck volumes, yields Equivalent Single Axel Loads (ESAL), and their associated Traffic Index (TI). Although Table 9 provides ESAL's and TI's for 10-, 20-, 30- and 40-year designs, Kern

County has required the Project to provide a 30-year design life for Coberly Road, which commences upon Project approval. Again, as shown in Table 9, the final ESAL's and 30-year design life yield a Traffic Index of 10.0.

Calculation of a pavement structural section using a 30-year TI of 8.5, and a native material R-Value of 22, yields an asphalt concrete thickness of 0.50 feet and a Class 2 aggregate base thickness of 1.25 feet.

Structural Section calculations for all design lives have been included in Appendix "C" herein.

Table 9: Coberly Road - Equivalent Single Axle Load for Truck Trips

Truck Axles	Truck AADT	Percent Truck Traffic	ESAL Constants				ESAL			
			10-Year	20-Year	30-Year	40-Year	10-Year	20-Year	30-Year	40-Year
2 Axle	45	53%	690	1,380	2,070	2,760	30,719	61,438	92,156	122,875
3 Axle	7	8%	1,840	3,680	5,520	7,360	12,365	24,730	37,094	49,459
4 Axle	3	3%	2,940	5,880	8,820	11,760	7,409	14,818	22,226	29,635
5 Axle	30	36%	6,890	13,780	20,670	27,560	208,354	416,707	625,061	833,414
Total	84						**258,846**	**517,692**	**776,538**	**1,035,384**
						TI	9.0	7.5	8.5	8.5
						R-Value	22	22	22	22
						Design AC Thickness (ft)	0.50	0.42	0.50	0.50

Note:

1) Daily Truck Traffic Percent from Caltrans Traffic Census Data for Route 43

2) ESAL: Equivalent Single Axle Load

3) ESAL Constants per Highway Design Manual Table 613.3A

4) Traffic Index (TI) Calculated using TI Equation, per Highway Design Manual Index 613.3(3)

V. TRAFFIC MITIGATION

A. Requirements for Mitigation

Mitigation is normally considered necessary if a particular intersection or street segment, under any existing or future scenario, (with or without the addition of Project-generated traffic), is anticipated to function at a less than Level of Service (LOS) "C." Generally, the objective of traffic mitigation is to restore the Level of Service to a "C" or better. However, the Project only has an obligation to fund mitigation if the addition of its trip generation caused the Level of Service (LOS) of a facility to fall below "C;" or degrade a pre-Project LOS that is already less than "C" further. In other words, if a facility presently functions at a LOS of "D," and Project-generated traffic does not degrade the LOS further to an "E," then the project has no obligation to fund mitigation. However, in this same scenario, if Project trips degraded the LOS from a "D" to an "E," then the project would be obligated to mitigate to the pre-project LOS of "D."

B. Funding for Mitigation Improvements

A more complicated issue is funding for traffic mitigation improvements, and the Project's obligation or share of those costs. Prior to 1997, needed mitigation improvements were often attached as a Condition of Approval to abutting or nearby land development projects. In theory, these land development projects were the cause of increased traffic and degraded Level of Service, and therefore were responsible for mitigation to restore a satisfactory LOS. In reality, these land development projects often only contributed the last increment of traffic, (or the proverbial last straw), to an existing Level of Service already on threshold of dropping below "D."

Attaching the entirety of mitigation costs rendered many projects economically unfeasible and caused land developers to avoid sites that would trigger costly improvements, (such as bridge widening, canal culverts, grade separations, and even traffic signals). This contributed to "leap-frog" development and created a street system with many bottlenecks, since many segments remained unimproved, un-widened, or un-signalized.

In 1997, the Metropolitan Bakersfield Regional Transportation Impact Fee (TIF) program was greatly expanded to include and fund a comprehensive list of transportation improvements intended to restore and maintain an overall satisfactory LOS within the metropolitan Bakersfield area. These included many main corridors well beyond the city limits. A nexus study at that time calculated the cost of that comprehensive improvement list, and derived fees for all new development to fund said list. In theory, all new land development, to include residential homes and commercial sites, with payment of the RTIF, would fund engineering and construction of traffic mitigation improvements identified in the RTIF program. Although new development was burdened with the majority of the cost of constructing the RTIF improvement list, it was more palatable to land developers since the cost was prorated to all projects as a function of trip generation. Since 1997, the RTIF program has been updated to account for inflation in construction costs.

Generally, the RTIF program funds road widening and signal installations for all main arterials. Again, the intent is to maintain an overall satisfactory LOS. In addition, the RTIF also funds high-cost items such as bridges, canal culverts and grade separations.

Although the RTIF program is intended to be comprehensive, it is still the obligation of any TIS to substantiate that traffic impact from new development is mitigated. This includes validating improvements listed in the RTIF program list are sufficient to improve affected facilities to an acceptable LOS, usually "C" or better. If the improvements listed on the RTIF program are insufficient, or incomplete, additional improvements must be identified by the TIS.

If RTIF funded improvements are proven sufficient to mitigate traffic for a specific project, then the Project's only obligation is to pay the Regional Transportation Impact Fee. However, a project must contribute funding for additional mitigation if the following conditions are met: 1) Project-generated traffic degrades the LOS to less than "C"; 2) The Project degrades any facility, already operating at less than "D", to a lesser LOS; and 3) Improvements necessary to mitigate the facility are not included and funded by the RTIF program. In these cases, the Project must contribute its pro-rata share of the mitigation cost. The derivation of Project share is discussed in detail in the following section.

C. Proposed Mitigation

As discussed in detail earlier in this report, a poor operational Level of Service or satisfaction of the Peak Hour Warrant is considered justification for mitigation. Mitigation improvements for intersections includes expansion of stop controlled lanes, installation of a traffic signal, or upgrading an existing signalized intersection (to full expansion in accordance with all local standards). However, as discussed, the Project may or may not be obligated to fund such mitigation.

It should be noted that in the analysis of an intersection, every through and turning movement is evaluated for its own Level of Service (LOS). However, the average estimated delay of all vehicles passing through the intersection is used to determine a composite, or average LOS. The composite level of service is used to determine if mitigation is required. In the following, the need for mitigation is discussed for every intersection and street segment within the scope of this study.

I. Intersections: Intersection LOS for all analyzed traffic scenarios are shown in Table 6. For the Intersection of Enos Lane and 7th Standard Road, the Year 2046 without Project scenario degraded the LOS to an "F".

The addition of Project-generated traffic under any present day or future scenario did not degrade the level of service; therefore, no mitigation is warranted. Mitigation not obligated by the Project is considered outside the scope of this study.

II. **Street Segments:** Street segment LOS for all analyzed traffic scenarios are shown in Table 7a and 7b. For all street segments, there are no scenarios which degraded the LOS to below a "C". Therefore, no mitigation is warranted.

D. Project's Pro-Rata Share of Mitigation

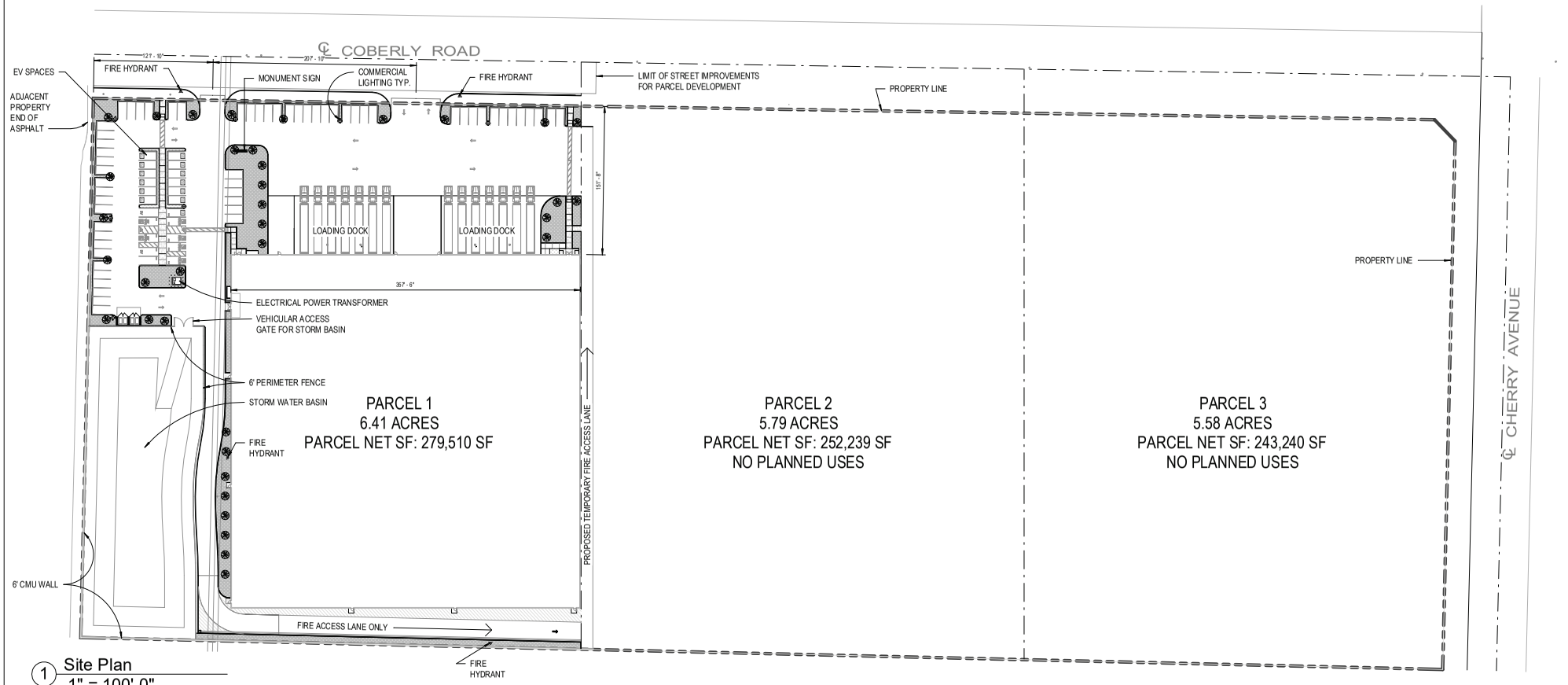
Again, when degradation of a facility's LOS to less than "D" is directly attributable to the Project, and the RITF program *does not* fund specific improvements, the Project is obligated to pay its pro-rata share for mitigation needed to restore the facility to a LOS of "C" or better.

For all scenarios analyzed, there are no conditions in which a facility degrades below a LOS of "D" that is attributable to the Project traffic. Therefore, no mitigation is required by the Project and thus, no pro-rata share is necessary.

VI. CONCLUSIONS & RECOMMENDATIONS

The analysis herein has shown that the addition of Project-generated traffic, in any present day or future scenario, does not cause any intersection or street segment to degrade to a LOS less than the existing condition. The nature of this Study has been very conservative, specifically in the calculation of Project-generated traffic (trips). Theoretical trip calculations are bound by agency standards and are inherently conservative.

Appendix “A”
Exhibit and Figures



1 Site Plan
1" = 100'-0"

STATISTICAL INFORMATION:

OWNER:	SAED INVESTMENT IV LLC
APPLICANT:	SAED INVESTMENT IV LLC
SITE ADDRESS:	SWC OF CHERRY AVENUE AND COBERLY ROAD, SHAFTER, CA
MAILING ADDRESS:	1100 N. D STREET, MADERA, CA 93638
PROJECT CONSULTANT:	MAX BACERRA, PRINCIPAL, PACIFICUS IV COMPANY
GENERAL PLAN LAND USE DESIGNATION:	SI (SERVICE INDUSTRIAL)
EXISTING ZONING:	MEDIUM INDUSTRIAL, PRECISE DEVELOPMENT COMBINING (M – 2, PD)
ACREAGE (LAND AREA):	19.58 ACRES
TOTAL AREA FOR PARCEL 1:	6.41 ACRES
EXISTING USE:	PRIMARILY VACANT AND UNDEVELOPED LAND. LAND IS FALLOW AND DISKED.
PROPOSED USE:	DEVELOPMENT OF ONE SINGLE WAREHOUSE BUILDING TOTALING 129,465 SQ. FT. ON PARCEL 1 TO BE CREATED WITH REQUIRED PARKING AND LANDSCAPING BEING PROVIDED ALONG WITH 14 LOADING DOCK AREAS PROVIDED.
PROPOSED BUILDING:	A TILT UP CONCRETE BUILDING FOR LIGHT INDUSTRIAL / WAREHOUSE USE FOR STORAGE OF FINISHED OR UNFINISHED ITEMS
BUILDING COVERAGE:	129,465 SF (46.3%)
BUILDING HEIGHT:	40 FEET (MAXIMUM HEIGHT)
TOTAL GROSS LAND AREA	853,517 SF (19.58 ACRES)
TOTAL NET LAND AREA	774,989 SF (17.79 ACRES)
REQUIRED LANDSCAPE AREA:	13,975 (5%)
PROVIDED LANDSCAPE AREA:	16,217 SF (5.5%)
PARKING SPACES REQUIRED:	50 SPACES
PARKING SPACES PROVIDED:	82 SPACES
SEWAGE DISPOSAL:	SEWAGE DISPOSAL SYSTEM OPERATED BY THE NORTH OF THE RIVER SANITATION DISTRICT
WATER SUPPLY:	SUPERIOR WATER COMPANY
DRAINAGE:	DRAINAGE GENERATED FROM THE BUILDING DEVELOPMENT OF PARCEL 1 AND THE FUTURE DEVELOPMENT OF PARCELS 2 AND 3 WILL BE FUNNELED INTO A LARGE SINGLE ON SITE DRAINAGE BASIN TO BE LOCATION ON PARCEL 1. THIS COLLECTIVE STORM WATER BASIN WILL BE DESIGNED AND CONSTRUCTED TO ACCOMMODATE ALL OF THE ANTICIPATED STORM WATER DRAINAGE GENERATED FROM ALL THREE PARCELS.

LEGAL DESCRIPTION:

PARCEL 4 OF PARCEL MAP NO. 10754, ACCORDING TO THE MAP THEREOF RECORDED MAY 18, 2001, IN BOOK 51, PAGES 163 AND 164 OF PARCEL MAPS, KERN COUNTY RECORDS.

APN: 090-340-18

NOTE: A PARCEL MAP APPLICATION OVER THE ENTIRE 19.5 ACRES HAS BEEN SUBMITTED TO THE KERN COUNTY PLANING DEPARTMENT BY LAV / PINNACLE ENGINEERING. (SUBMITTED TENTATIVE PARCEL MAP 12515)

GRAPHIC SCALE
0 50 100 200

NORTH

EXISTING PROPERTY LINE
PROPOSED NEW PARCEL LINES

LEGEND:

45' HIGH COMMERCIAL LIGHT POLE
FIRE HYDRANT
PG&E TRANSFORMER
TRASH ENCLOSURE

CONCEPTUAL SITE PLAN FOR PARCEL 1
FURNITURE CITY WAREHOUSING PARK MASTER PLAN
APN: 090-340-18

PD PLAN -_____, MAP NO._____

PRECISE DEVELOPMENT PLAN FURNITURE CITY WAREHOUSE MASTER PLAN
SITE PLAN

SECTION 35,T. 28 S., R.25 E., COUNTY OF KERN



FIGURE 1

PROJECT LOCATION AND EXISTING STREET NETWORK

LEGEND:

- EXISTING FREEWAY
- EXISTING ARTERIAL STREET
- EXISTING COLLECTOR STREET
- T EXISTING STOP SIGN
- EXISTING TRAFFIC SIGNAL
- INTERSECTION STUDIED

NORTH

0 500 1000 2000

DATE: OCTOBER 2024

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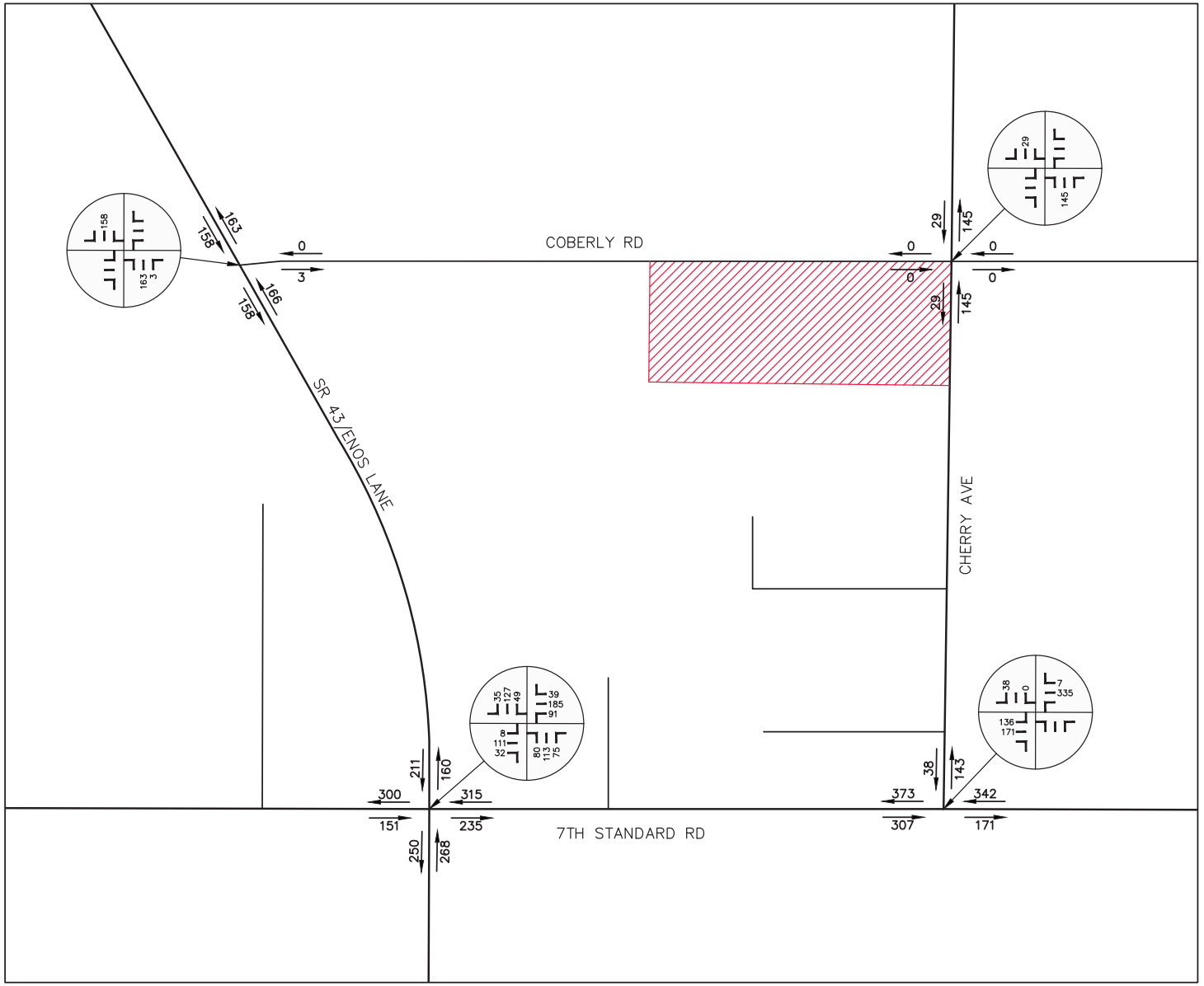

FIGURE 2

YEAR 2024 EXISTING
A.M. PEAK HOUR VOLUMES
AND TURNING MOVEMENTS

LEGEND:

- EXISTING FREEWAY
- EXISTING ARTERIAL STREET
- EXISTING COLLECTOR STREET

INTERSECTION TURNING MOVEMENTS

NORTH

0 250 500 1000

DATE: MARCH 2024

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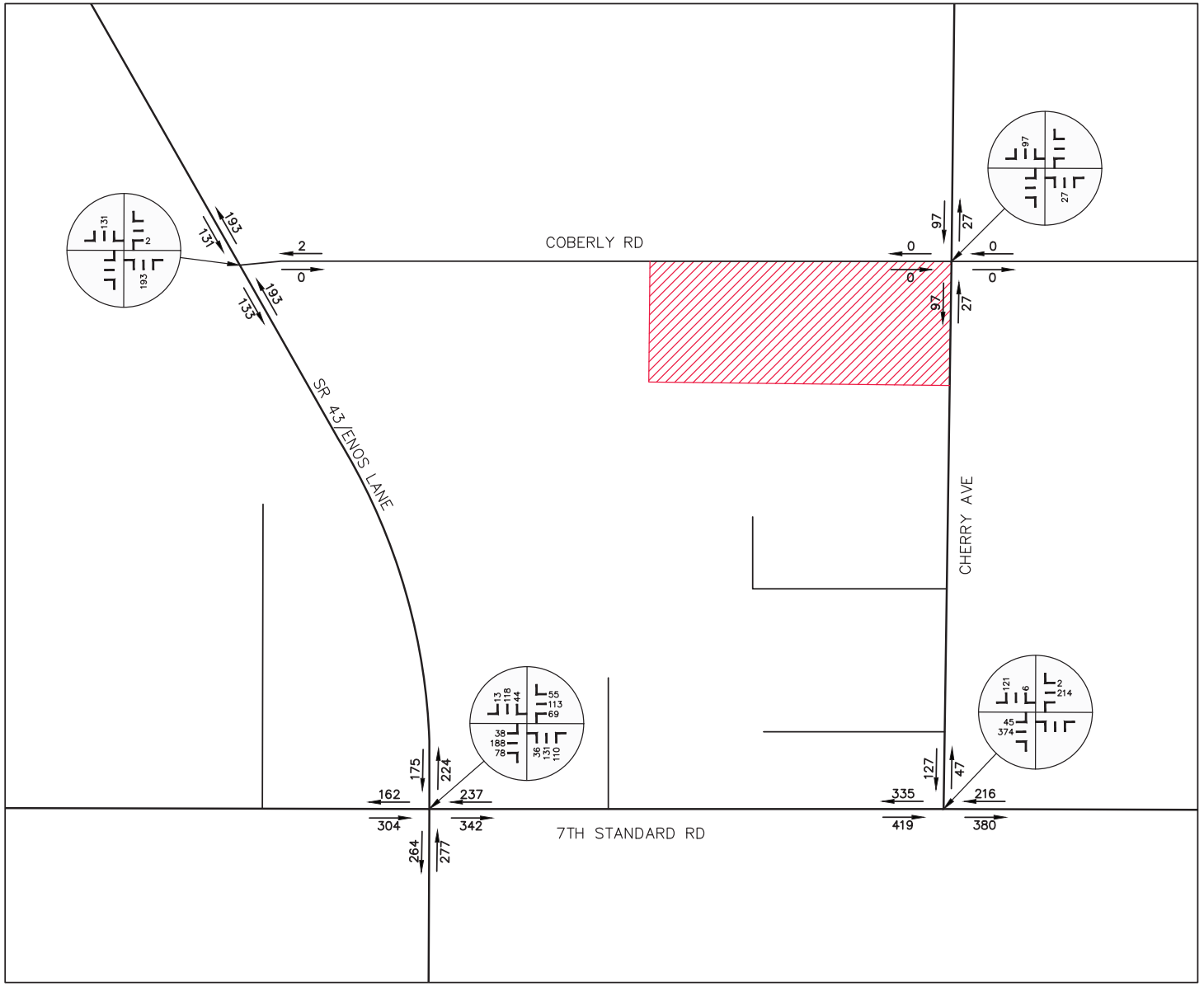
FIGURE 3

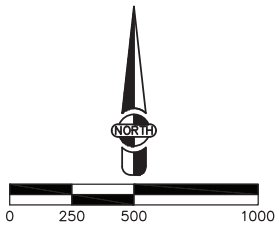
YEAR 2024 EXISTING
P.M. PEAK HOUR VOLUMES
AND TURNING MOVEMENTS



LEGEND:

- EXISTING FREEWAY
- EXISTING ARTERIAL STREET
- EXISTING COLLECTOR STREET

INTERSECTION TURNING MOVEMENTS



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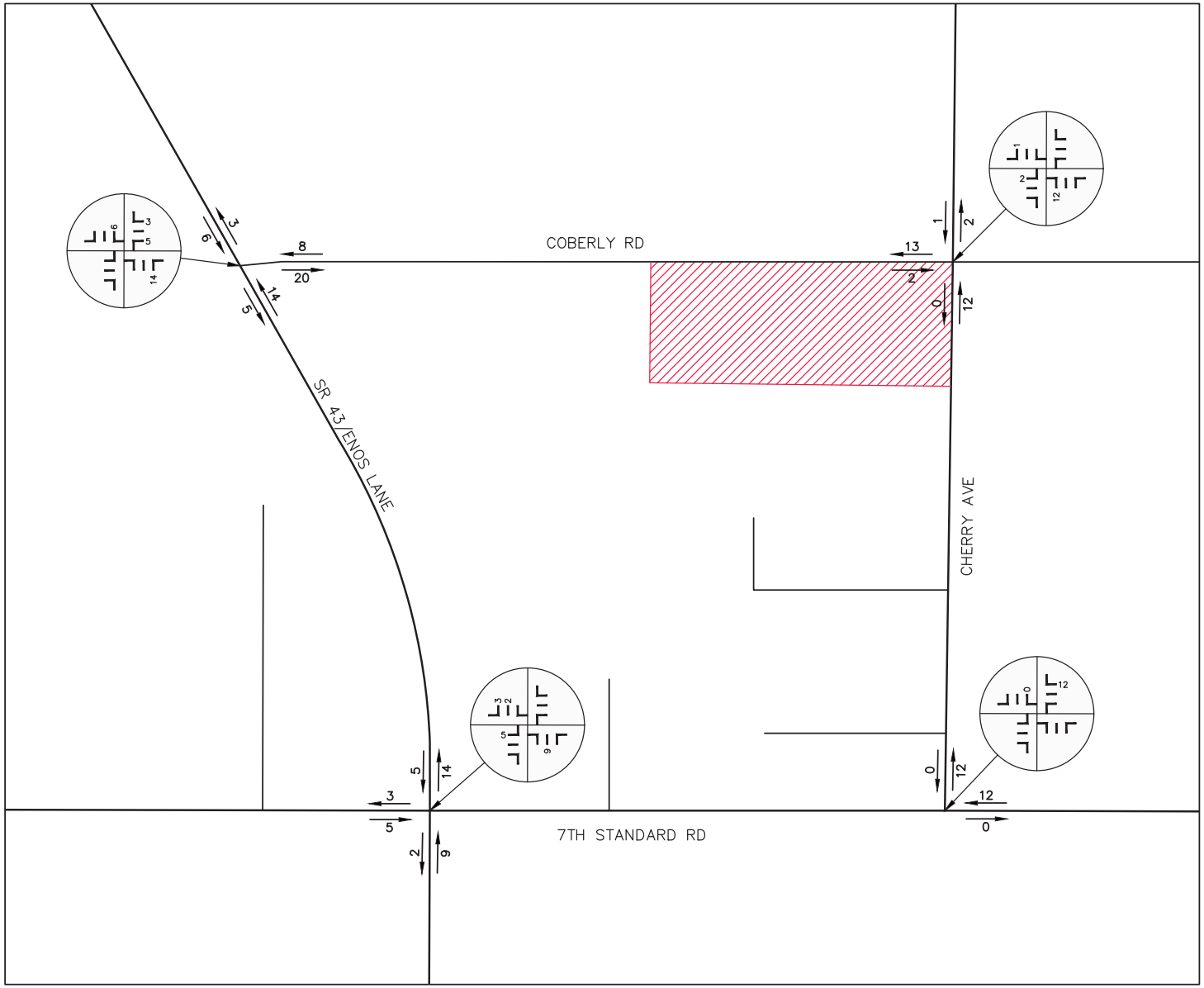

FIGURE 4A

A.M. PROJECT GENERATED TRAFFIC

LEGEND:

- EXISTING FREEWAY
- EXISTING ARTERIAL STREET
- EXISTING COLLECTOR STREET

INTERSECTION TURNING MOVEMENTS

NORTH

0 250 500 1000

DATE: MARCH 2024

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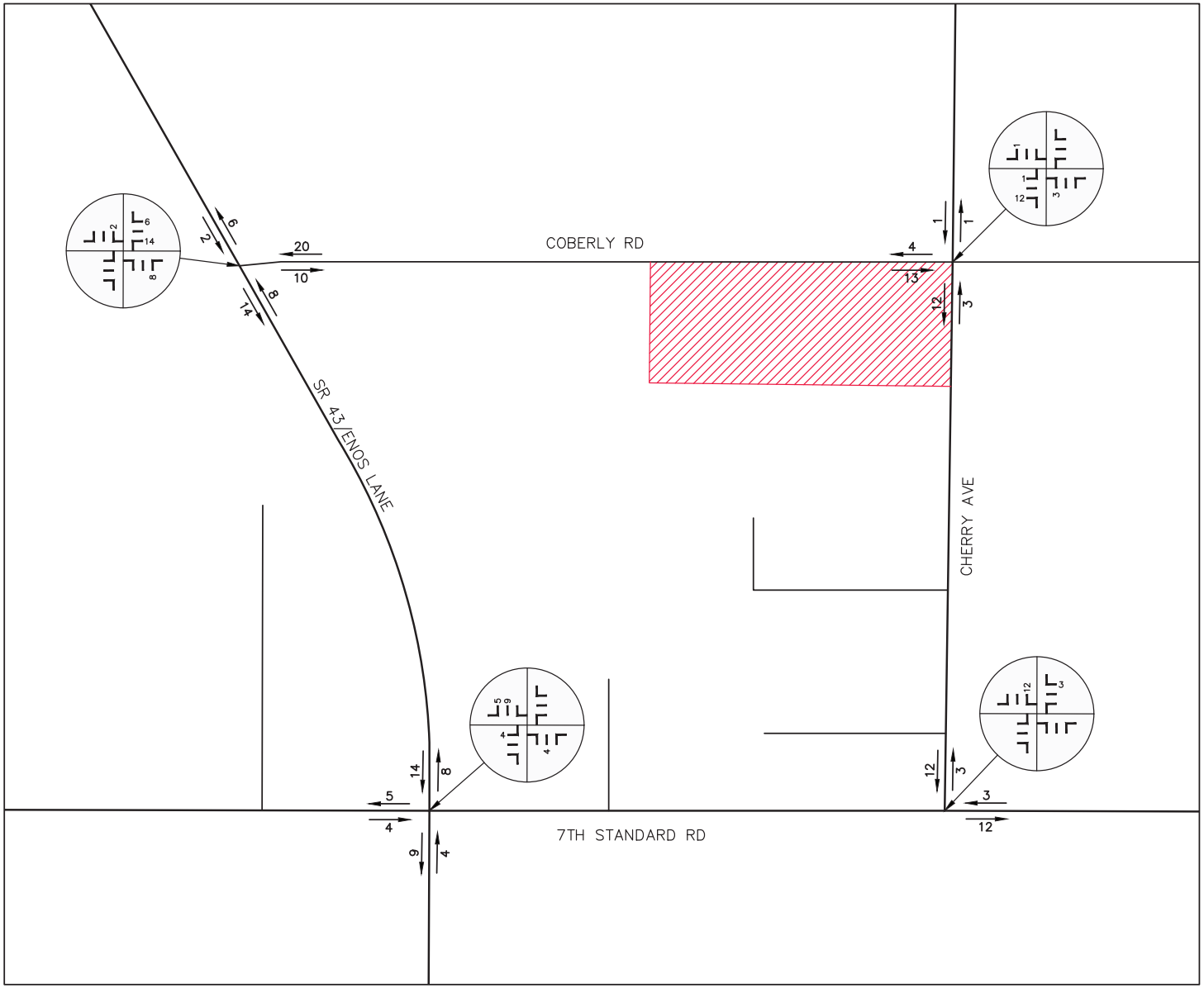

FIGURE 4B

P.M. PROJECT GENERATED TRAFFIC

LEGEND:

- EXISTING FREEWAY
- EXISTING ARTERIAL STREET
- EXISTING COLLECTOR STREET

INTERSECTION TURNING MOVEMENTS

NORTH

0 250 500 1000

DATE: MARCH 2024

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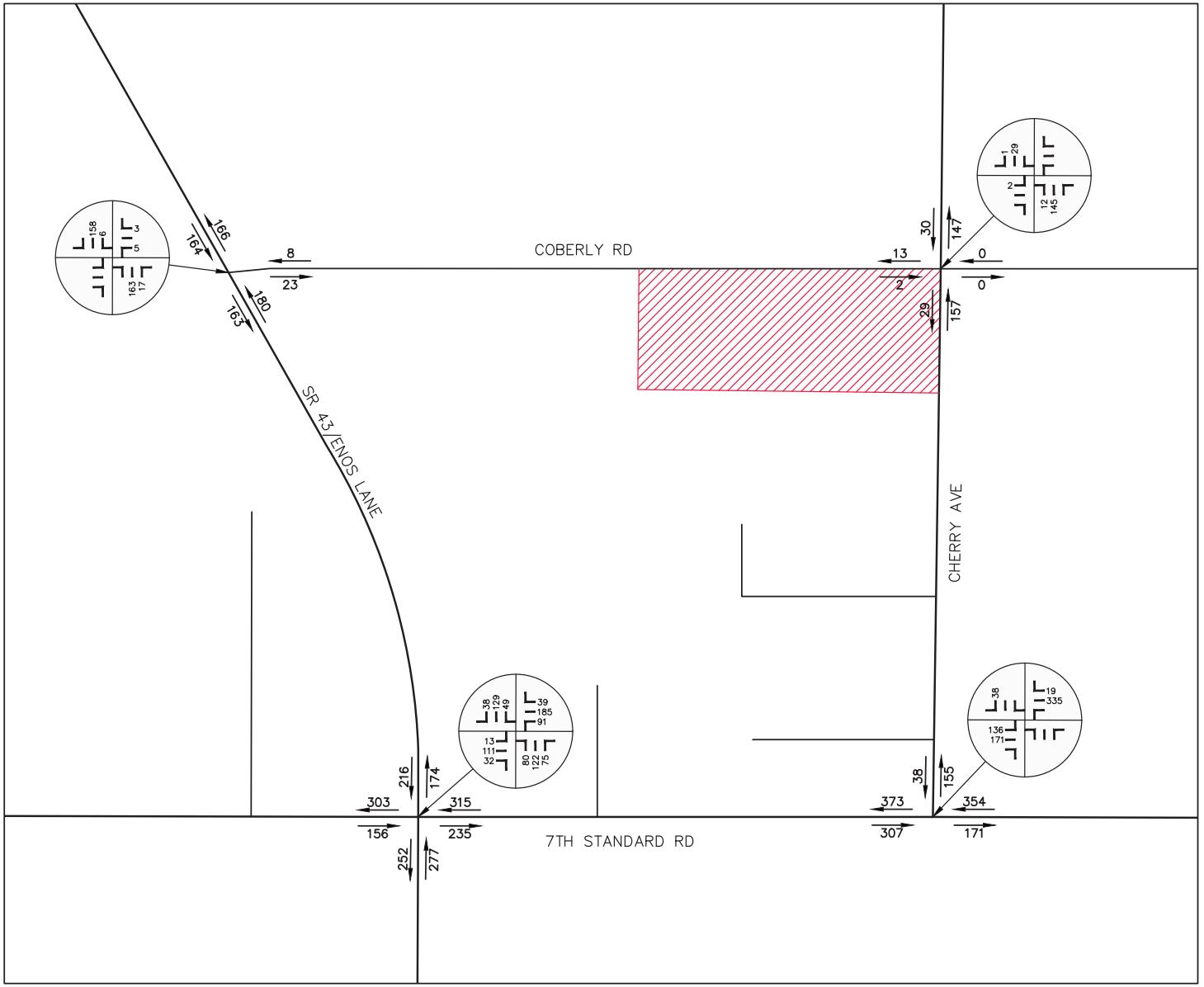

FIGURE 5A

YEAR 2024 A.M. PEAK HOUR VOLUMES AND TURNING MOVEMENTS PLUS PROJECT GENERATED TRAFFIC

LEGEND:

- EXISTING FREEWAY
- EXISTING ARTERIAL STREET
- EXISTING COLLECTOR STREET

INTERSECTION TURNING MOVEMENTS

DATE: OCTOBER 2024

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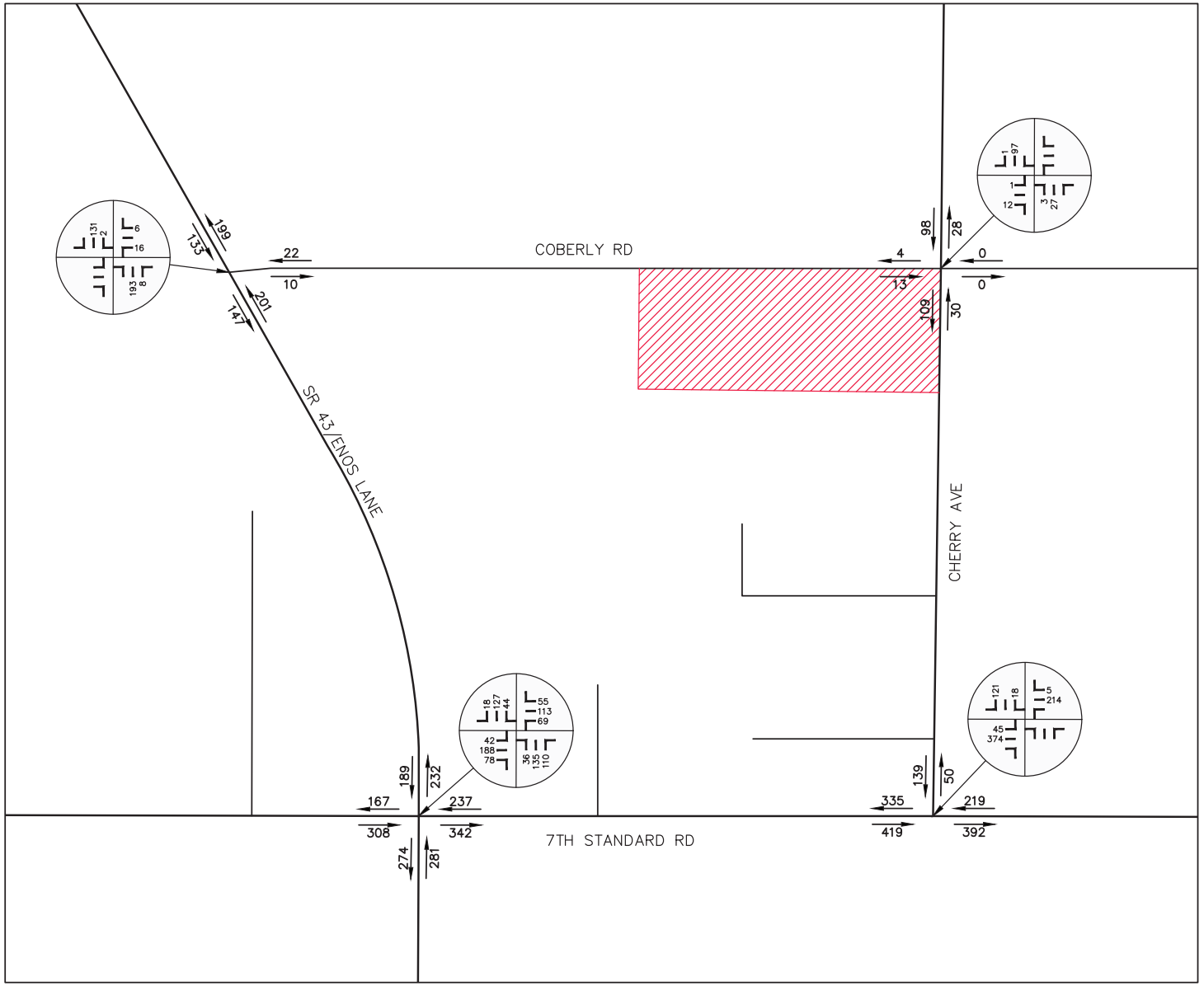
FIGURE 5B

YEAR 2024 P.M. PEAK HOUR VOLUMES AND TURNING MOVEMENTS PLUS PROJECT GENERATED TRAFFIC



LEGEND:

- EXISTING FREEWAY
- EXISTING ARTERIAL STREET
- EXISTING COLLECTOR STREET

INTERSECTION TURNING MOVEMENTS

NORTH

0 250 500 1000

DATE: OCTOBER 2024

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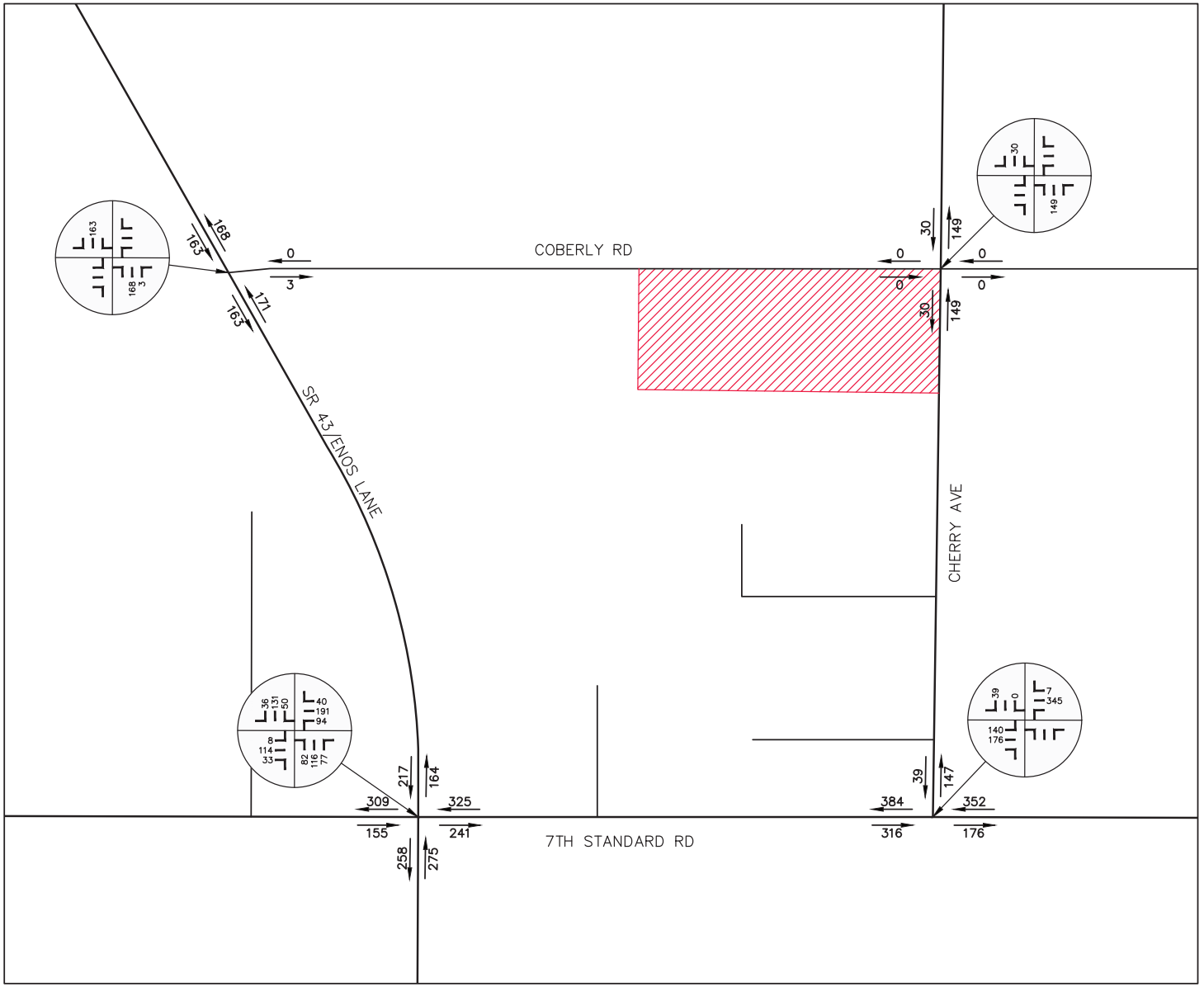
FIGURE 6A

YEAR 2026 OPENING DAY
A.M. PEAK HOUR VOLUMES
AND TURNING MOVEMENTS



LEGEND:

- EXISTING FREEWAY
- EXISTING ARTERIAL STREET
- EXISTING COLLECTOR STREET

INTERSECTION TURNING MOVEMENTS

NORTH

0 250 500 1000

DATE: OCTOBER 2024

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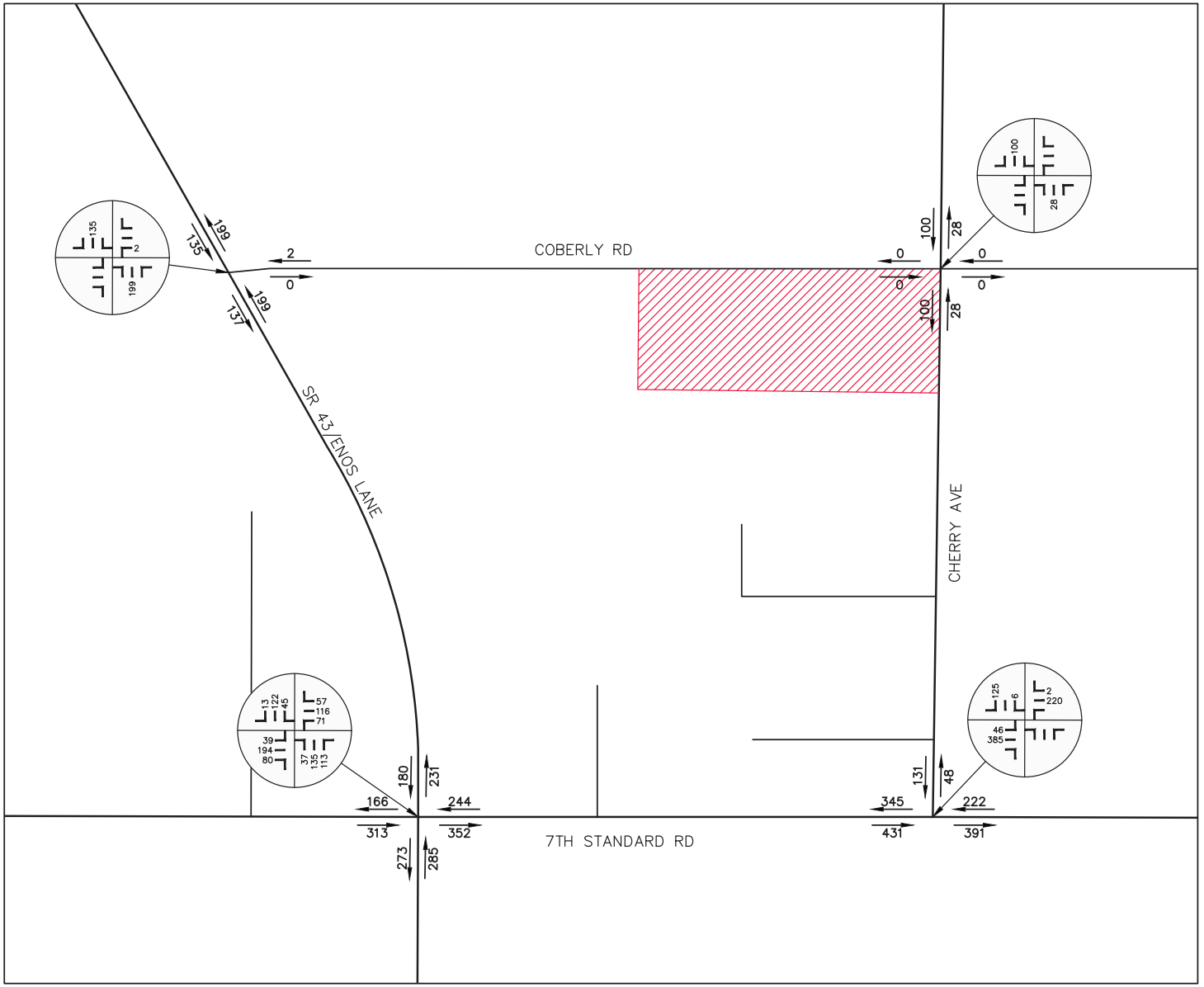
FIGURE 6B

YEAR 2026 OPENING DAY
P.M. PEAK HOUR VOLUMES
AND TURNING MOVEMENTS



LEGEND:

- EXISTING FREEWAY
- EXISTING ARTERIAL STREET
- EXISTING COLLECTOR STREET

INTERSECTION TURNING MOVEMENTS

NORTH

0 250 500 1000

DATE: OCTOBER 2024

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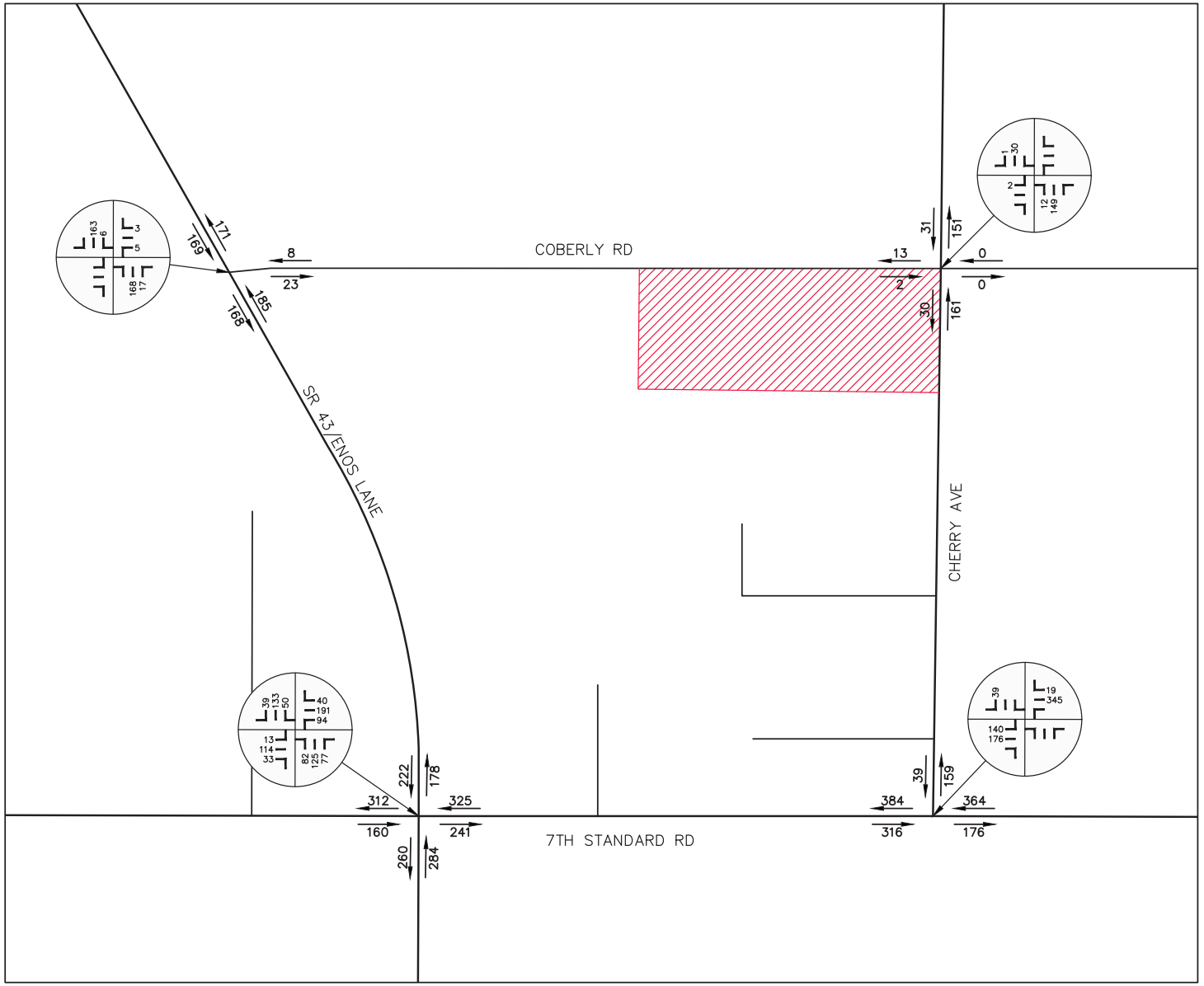

FIGURE 7A

YEAR 2026 A.M. PEAK HOUR VOLUMES AND TURNING MOVEMENTS PLUS PROJECT GENERATED TRAFFIC

LEGEND:

- EXISTING FREEWAY
- EXISTING ARTERIAL STREET
- EXISTING COLLECTOR STREET

INTERSECTION TURNING MOVEMENTS

DATE: OCTOBER 2024

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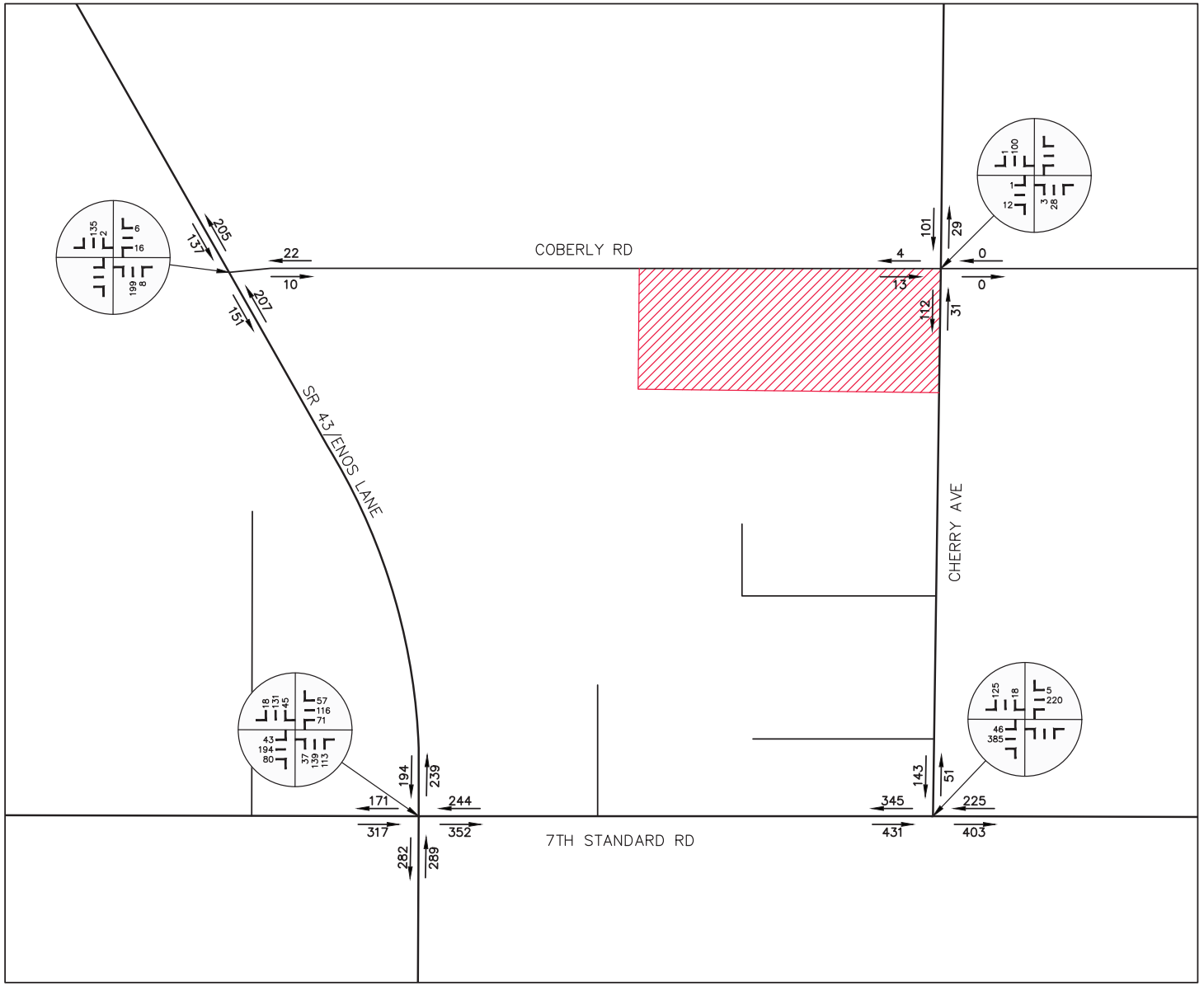

FIGURE 7B

YEAR 2026 P.M. PEAK HOUR VOLUMES AND TURNING MOVEMENTS PLUS PROJECT GENERATED TRAFFIC

LEGEND:

- EXISTING FREEWAY
- EXISTING ARTERIAL STREET
- EXISTING COLLECTOR STREET

INTERSECTION TURNING MOVEMENTS

DATE: OCTOBER 2024

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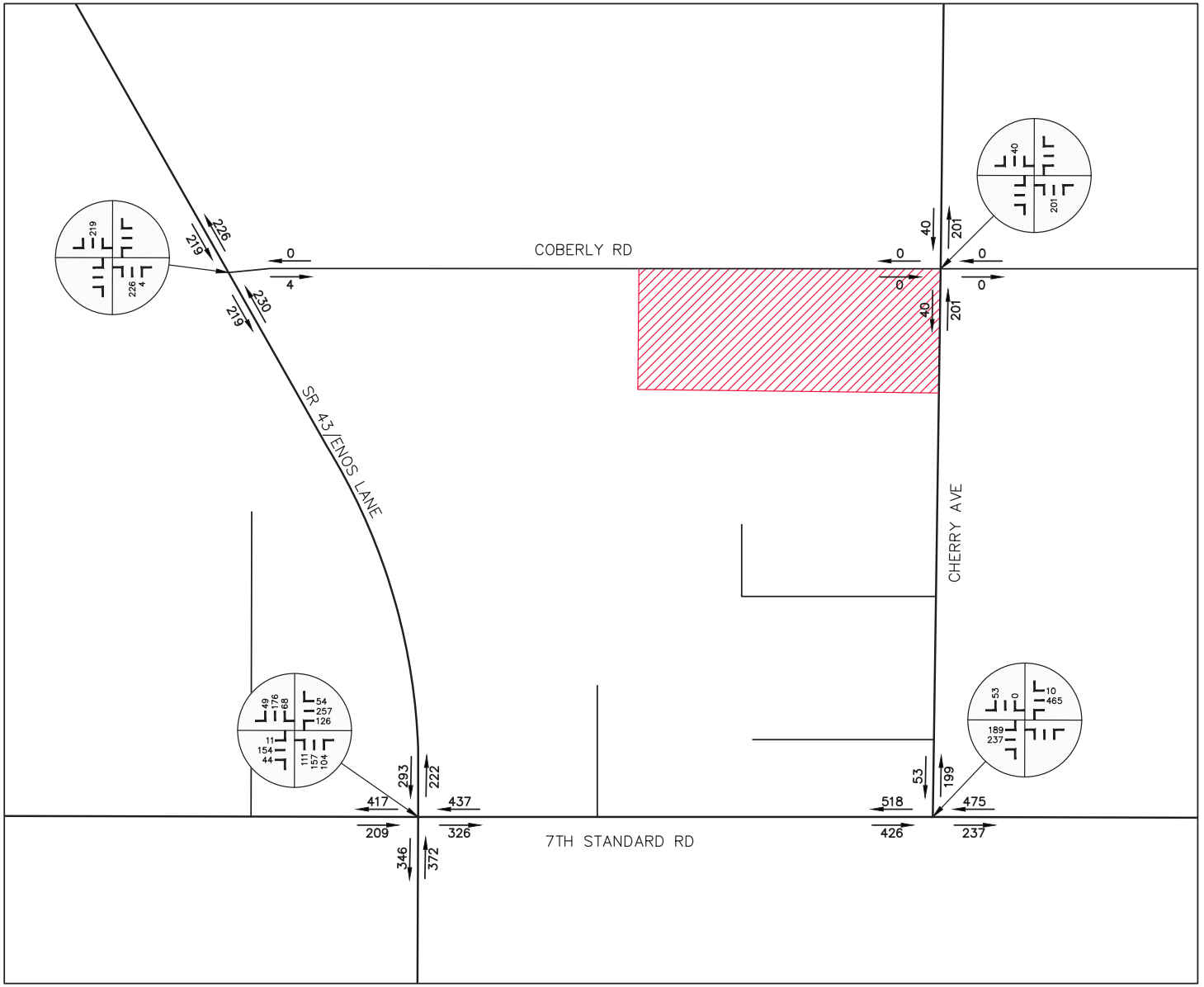
Phone: (661) 869-0184 // LAV@lavpinnacle.com

FIGURE 8A

YEAR 2046 FUTURE
A.M. PEAK HOUR VOLUMES
AND TURNING MOVEMENTS



LEGEND:

- EXISTING FREEWAY
- EXISTING ARTERIAL STREET
- EXISTING COLLECTOR STREET

INTERSECTION TURNING MOVEMENTS

NORTH

0 250 500 1000

DATE: OCTOBER 2024

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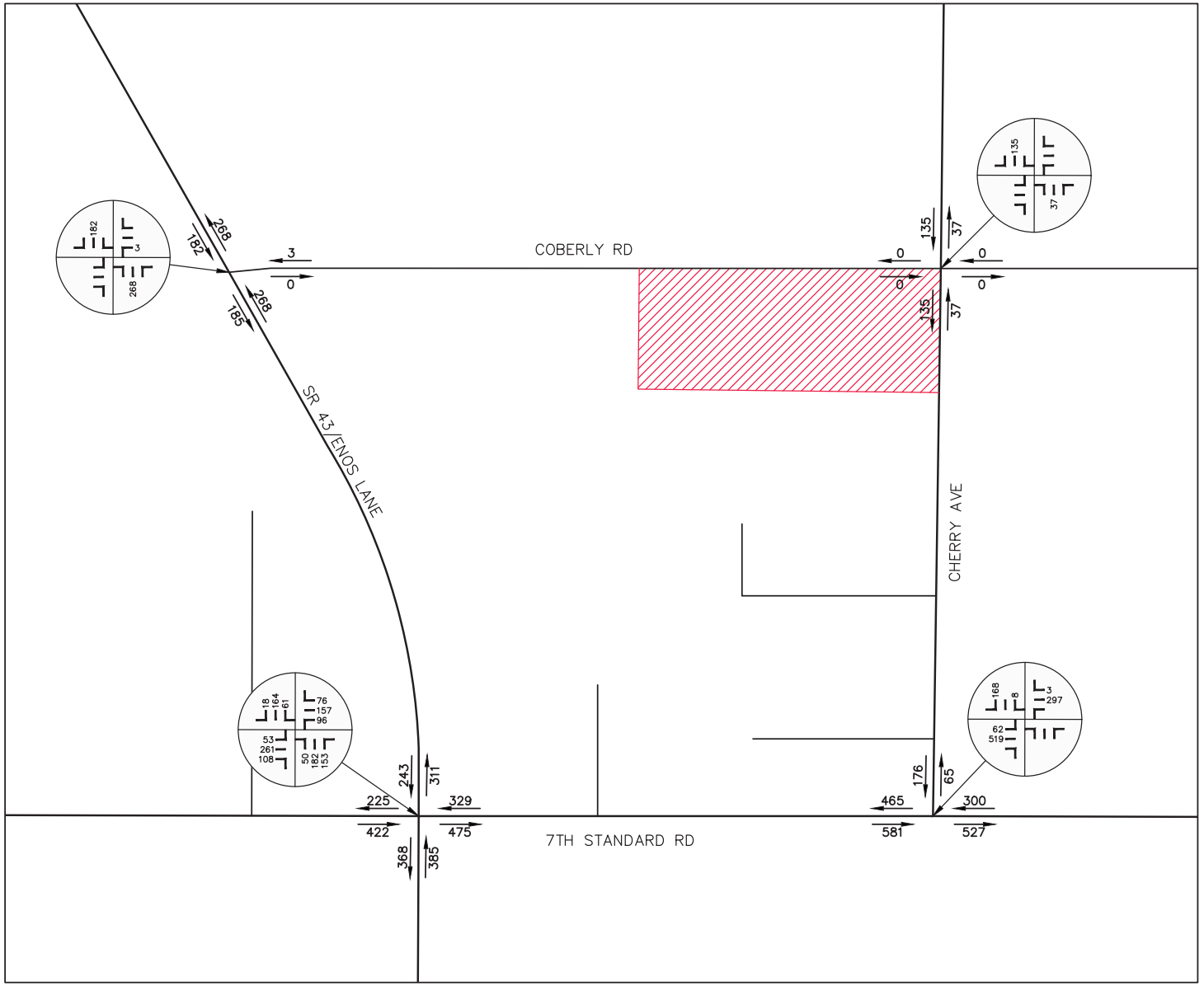

FIGURE 8B

YEAR 2046 FUTURE
P.M. PEAK HOUR VOLUMES
AND TURNING MOVEMENTS

LEGEND:

- EXISTING FREEWAY
- EXISTING ARTERIAL STREET
- EXISTING COLLECTOR STREET

INTERSECTION TURNING MOVEMENTS

DATE: OCTOBER 2024

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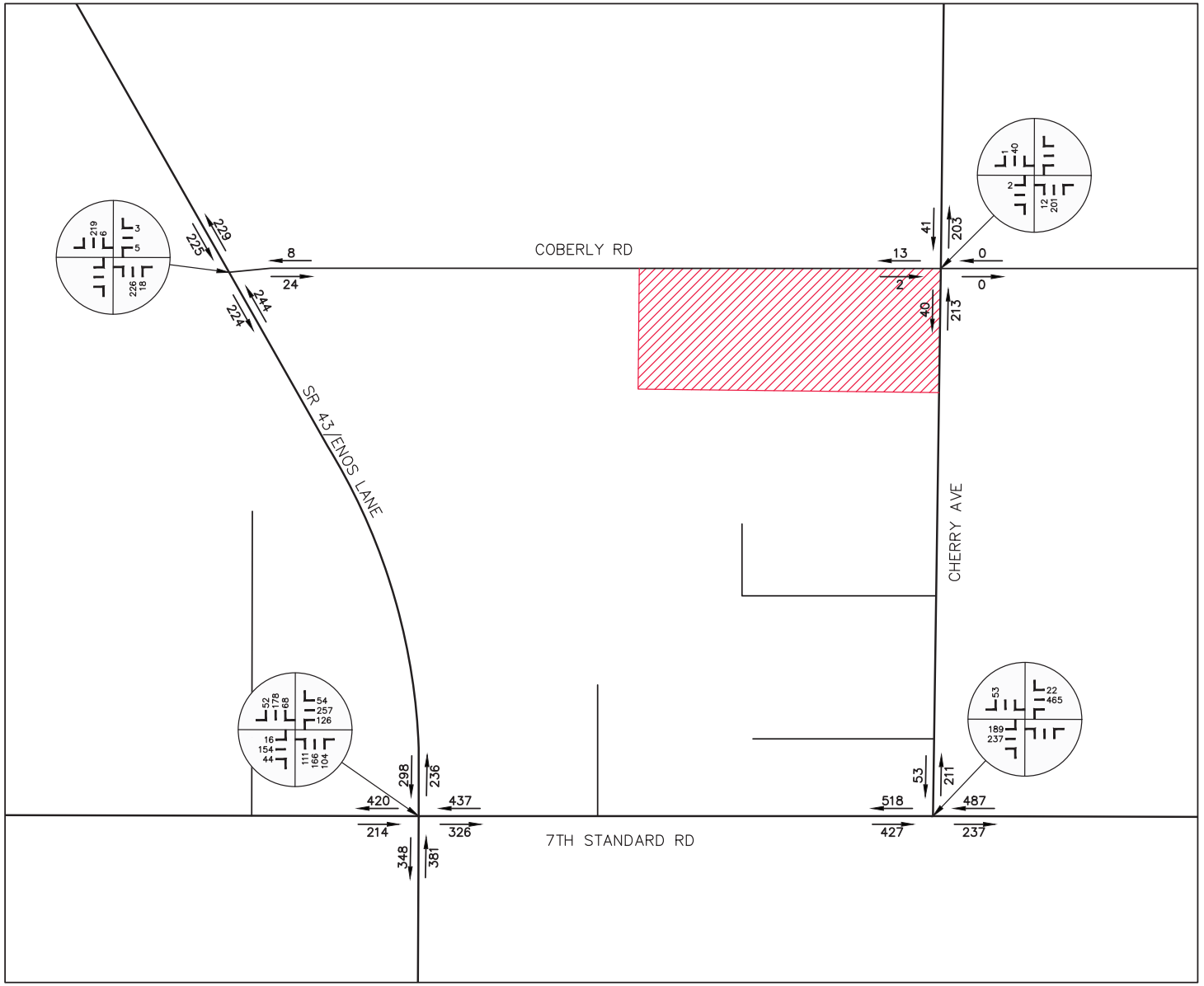

FIGURE 9A

YEAR 2046 A.M. PEAK HOUR VOLUMES AND TURNING MOVEMENTS PLUS PROJECT GENERATED TRAFFIC

LEGEND:

- EXISTING FREEWAY
- EXISTING ARTERIAL STREET
- EXISTING COLLECTOR STREET

INTERSECTION TURNING MOVEMENTS

NORTH

0 250 500 1000

DATE: OCTOBER 2024

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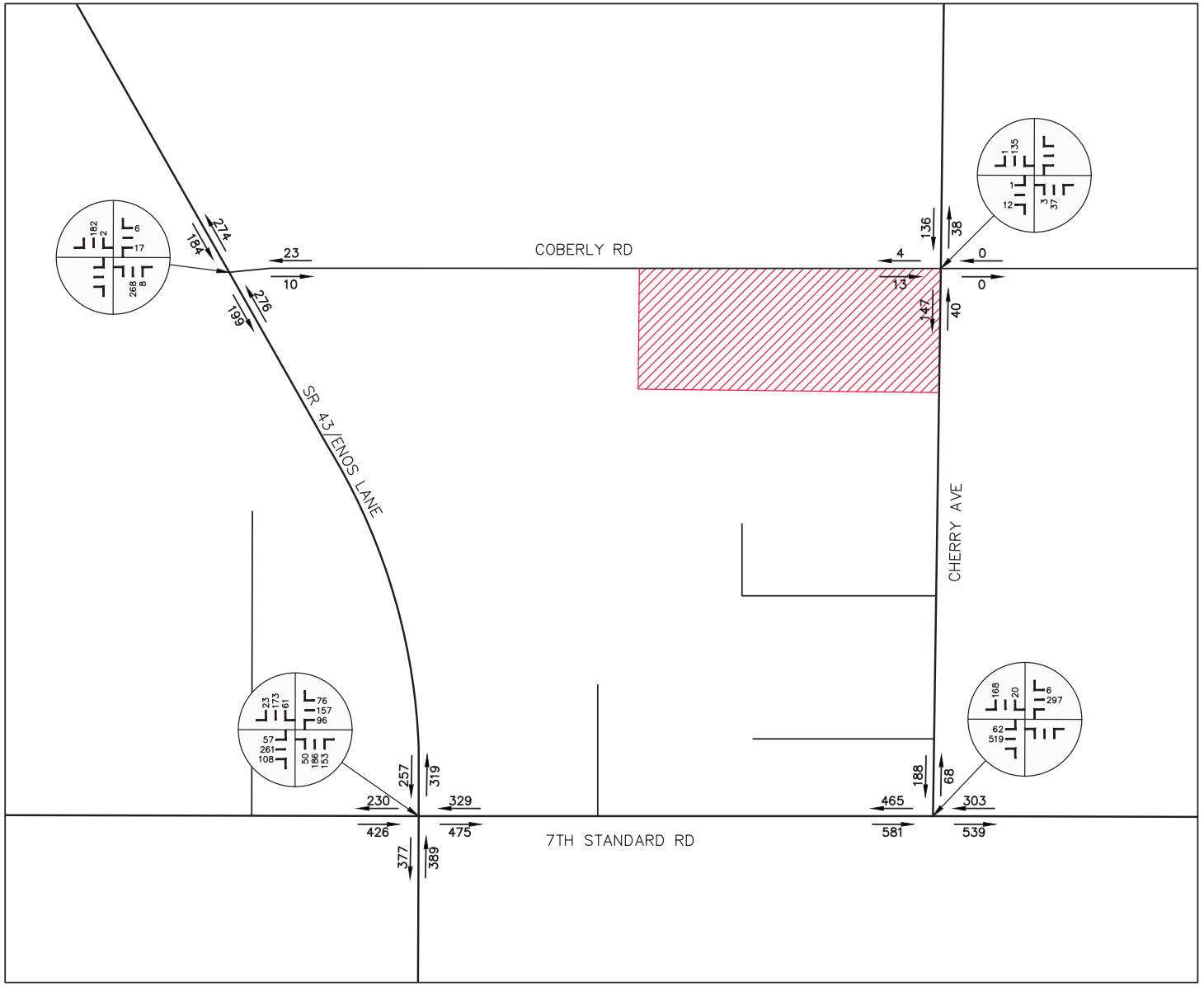

FIGURE 9B

YEAR 2046 P.M. PEAK HOUR VOLUMES AND TURNING MOVEMENTS PLUS PROJECT GENERATED TRAFFIC

LEGEND:

- EXISTING FREEWAY
- EXISTING ARTERIAL STREET
- EXISTING COLLECTOR STREET

INTERSECTION TURNING MOVEMENTS

DATE: OCTOBER 2024

LAV//PINNACLE
Consulting & Engineering Services
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Phone: (661) 869-0184 // LAV@lavpinnacle.com

Appendix “B”
LOS Calculations

Intersections

HCS Two-Way Stop-Control Report

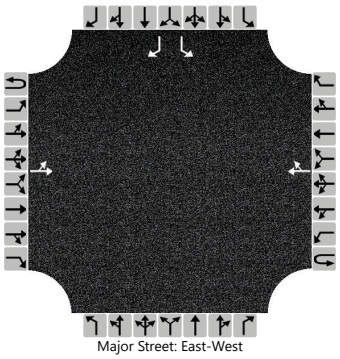
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/27/2024
Analysis Year	2024
Time Analyzed	AM Peak Hour
Intersection Orientation	East-West
Project Description	TIS for Warehouse Facility

Site Information

Intersection	Cherry Avenue and 7th Standard Road
Jurisdiction	County
East/West Street	7th Standard Road
North/South Street	Cherry Avenue
Peak Hour Factor	0.84
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		1	0	1
Configuration		LT						TR						L		R
Volume (veh/h)		136	171				335	7						0		38
Percent Heavy Vehicles (%)		17												17		17
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized														No		
Median Type | Storage					Undivided											

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.27												6.57		6.37
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.35												3.65		3.45

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		162												0		45
Capacity, c (veh/h)		1075												231		616
v/c Ratio		0.15												0.00		0.07
95% Queue Length, Q_{95} (veh)		0.5												0.0		0.2
95% Queue Length, Q_{95} (ft)		14.2														5.7
Control Delay (s/veh)		8.9	1.5											20.6		11.3
Level of Service (LOS)		A	A											C		B
Approach Delay (s/veh)		4.8												11.3		
Approach LOS		A												B		

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HCS Two-Way Stop-Control Report

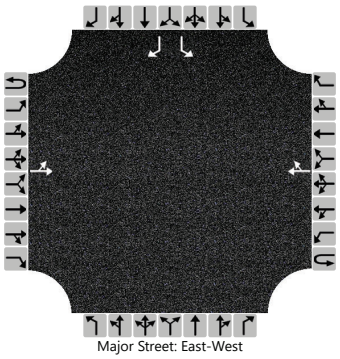
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	10/4/2024
Analysis Year	2024
Time Analyzed	AM Peak Hour+Project
Intersection Orientation	East-West
Project Description	TIS for Warehouse Facility

Site Information

Intersection	Cherry Avenue and 7th Standard Road
Jurisdiction	County
East/West Street	7th Standard Road
North/South Street	Cherry Avenue
Peak Hour Factor	0.84
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		1	0	1
Configuration		LT						TR						L		R
Volume (veh/h)		136	171				335	19						0		38
Percent Heavy Vehicles (%)		17												17		17
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized														No		
Median Type | Storage					Undivided											

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.27												6.57		6.37
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.35												3.65		3.45

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		162												0		45
Capacity, c (veh/h)		1062												229		610
v/c Ratio		0.15												0.00		0.07
95% Queue Length, Q_{95} (veh)		0.5												0.0		0.2
95% Queue Length, Q_{95} (ft)		14.2														5.7
Control Delay (s/veh)		9.0	1.5											20.8		11.4
Level of Service (LOS)		A	A											C		B
Approach Delay (s/veh)		4.8												11.4		
Approach LOS		A												B		

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HCS Two-Way Stop-Control Report

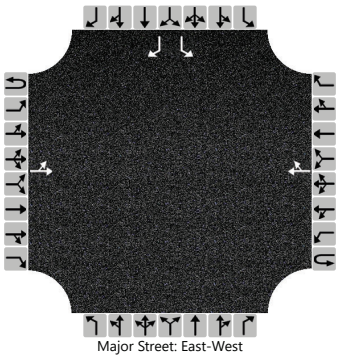
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/27/2024
Analysis Year	2026
Time Analyzed	AM Peak Hour
Intersection Orientation	East-West
Project Description	TIS for Warehouse Facility

Site Information

Intersection	Cherry Avenue and 7th Standard Road
Jurisdiction	County
East/West Street	7th Standard Road
North/South Street	Cherry Avenue
Peak Hour Factor	0.84
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		1	0	1
Configuration		LT						TR						L		R
Volume (veh/h)		140	176				345	7						0		39
Percent Heavy Vehicles (%)		17												17		17
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized														No		
Median Type | Storage					Undivided											

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.27												6.57		6.37
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.35												3.65		3.45

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		167												0		46
Capacity, c (veh/h)		1064												221		607
v/c Ratio		0.16												0.00		0.08
95% Queue Length, Q_{95} (veh)		0.6												0.0		0.2
95% Queue Length, Q_{95} (ft)		17.0														5.7
Control Delay (s/veh)		9.0	1.6											21.3		11.4
Level of Service (LOS)		A	A											C		B
Approach Delay (s/veh)		4.9												11.4		
Approach LOS		A												B		

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HCS Two-Way Stop-Control Report

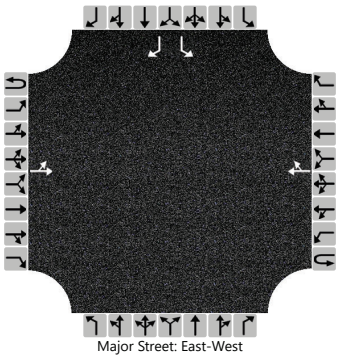
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	10/4/2024
Analysis Year	2026
Time Analyzed	AM Peak Hour+Project
Intersection Orientation	East-West
Project Description	TIS for Warehouse Facility

Site Information

Intersection	Cherry Avenue and 7th Standard Road
Jurisdiction	County
East/West Street	7th Standard Road
North/South Street	Cherry Avenue
Peak Hour Factor	0.84
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		1	0	1
Configuration		LT						TR						L		R
Volume (veh/h)		140	176				345	19						0		39
Percent Heavy Vehicles (%)		17												17		17
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized														No		
Median Type | Storage					Undivided											

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.27												6.57		6.37
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.35												3.65		3.45

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		167												0		46
Capacity, c (veh/h)		1051												218		601
v/c Ratio		0.16												0.00		0.08
95% Queue Length, Q_{95} (veh)		0.6												0.0		0.3
95% Queue Length, Q_{95} (ft)		17.0														8.5
Control Delay (s/veh)		9.1	1.6											21.5		11.5
Level of Service (LOS)		A	A											C		B
Approach Delay (s/veh)		4.9												11.5		
Approach LOS		A												B		

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HCS Two-Way Stop-Control Report

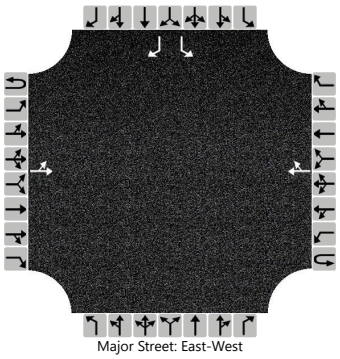
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/27/2024
Analysis Year	2046
Time Analyzed	AM Peak Hour
Intersection Orientation	East-West
Project Description	TIS for Warehouse Facility

Site Information

Intersection	Cherry Avenue and 7th Standard Road
Jurisdiction	County
East/West Street	7th Standard Road
North/South Street	Cherry Avenue
Peak Hour Factor	0.84
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		1	0	1
Configuration		LT						TR						L		R
Volume (veh/h)		189	237				465	10						0		53
Percent Heavy Vehicles (%)		17												17		17
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized														No		
Median Type | Storage					Undivided											

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.27												6.57		6.37
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.35												3.65		3.45

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		225												0		63
Capacity, c (veh/h)		936												120		501
v/c Ratio		0.24												0.00		0.13
95% Queue Length, Q_{95} (veh)		0.9												0.0		0.4
95% Queue Length, Q_{95} (ft)		25.6														11.4
Control Delay (s/veh)		10.1	2.9											35.1		13.2
Level of Service (LOS)		B	A											E		B
Approach Delay (s/veh)		6.1												13.2		
Approach LOS		A												B		

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HCS Two-Way Stop-Control Report

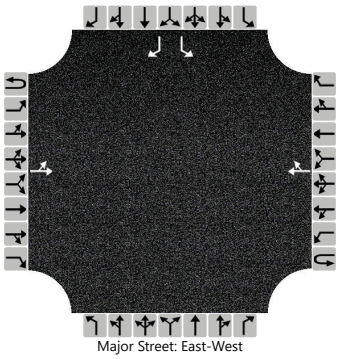
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	10/4/2024
Analysis Year	2046
Time Analyzed	AM Peak Hour+Project
Intersection Orientation	East-West
Project Description	TIS for Warehouse Facility

Site Information

Intersection	Cherry Avenue and 7th Standard Road
Jurisdiction	County
East/West Street	7th Standard Road
North/South Street	Cherry Avenue
Peak Hour Factor	0.84
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		1	0	1
Configuration		LT						TR						L		R
Volume (veh/h)		189	237				465	22						0		53
Percent Heavy Vehicles (%)		17												17		17
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized														No		
Median Type | Storage					Undivided											

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.27												6.57		6.37
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.35												3.65		3.45

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		225												0		63
Capacity, c (veh/h)		924												118		496
v/c Ratio		0.24												0.00		0.13
95% Queue Length, Q_{95} (veh)		1.0												0.0		0.4
95% Queue Length, Q_{95} (ft)		28.4														11.4
Control Delay (s/veh)		10.1	2.9											35.5		13.3
Level of Service (LOS)		B	A											E		B
Approach Delay (s/veh)		6.1												13.3		
Approach LOS		A												B		

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HCS Two-Way Stop-Control Report

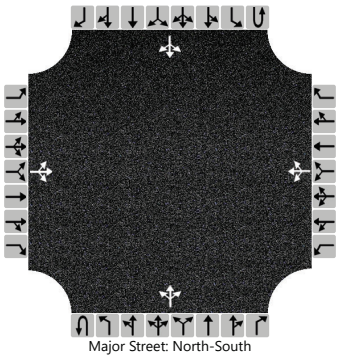
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/27/2024
Analysis Year	2024
Time Analyzed	AM Peak Hour
Intersection Orientation	North-South
Project Description	TIS for Warehouse Facility

Site Information

Intersection	Cherry Avenue and Coberly Road
Jurisdiction	County
East/West Street	Coberly Road
North/South Street	Cherry Avenue
Peak Hour Factor	0.63
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		0	0	0		0	0	0		0	145	0		0	29	0
Percent Heavy Vehicles (%)		11	11	11		11	11	11		11				11		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.21	6.61	6.31		7.21	6.61	6.31		4.21				4.21		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.60	4.10	3.40		3.60	4.10	3.40		2.30				2.30		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			0				0			0				0		
Capacity, c (veh/h)			0				0			1506				1286		
v/c Ratio										0.00				0.00		
95% Queue Length, Q_{95} (veh)										0.0				0.0		
95% Queue Length, Q_{95} (ft)																
Control Delay (s/veh)										7.4	0.0	0.0		7.8	0.0	0.0
Level of Service (LOS)										A	A	A		A	A	A
Approach Delay (s/veh)									0.0				0.0			
Approach LOS									A				A			

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HCS Two-Way Stop-Control Report

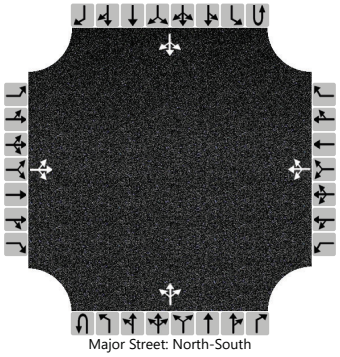
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	10/4/2024
Analysis Year	2024
Time Analyzed	AM Peak Hour+Project
Intersection Orientation	North-South
Project Description	TIS for Warehouse Facility

Site Information

Intersection	Cherry Avenue and Coberly Road
Jurisdiction	County
East/West Street	Coberly Road
North/South Street	Cherry Avenue
Peak Hour Factor	0.63
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		2	0	0		0	0	0		12	145	0		0	29	1
Percent Heavy Vehicles (%)		11	11	11		11	11	11		11				11		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.21	6.61	6.31		7.21	6.61	6.31		4.21				4.21		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.60	4.10	3.40		3.60	4.10	3.40		2.30				2.30		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			3				0			19				0		
Capacity, c (veh/h)			611				0			1504				1286		
v/c Ratio			0.01							0.01				0.00		
95% Queue Length, Q_{95} (veh)			0.0							0.0				0.0		
95% Queue Length, Q_{95} (ft)			0.0													
Control Delay (s/veh)			10.9							7.4	0.1	0.1		7.8	0.0	0.0
Level of Service (LOS)			B							A	A	A		A	A	A
Approach Delay (s/veh)		10.9								0.7				0.0		
Approach LOS		B								A				A		

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HCS Two-Way Stop-Control Report

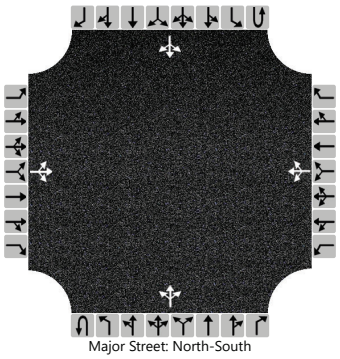
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/27/2024
Analysis Year	2026
Time Analyzed	AM Peak Hour
Intersection Orientation	North-South
Project Description	TIS for Warehouse Facility

Site Information

Intersection	Cherry Avenue and Coberly Road
Jurisdiction	County
East/West Street	Coberly Road
North/South Street	Cherry Avenue
Peak Hour Factor	0.63
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		0	0	0		0	0	0		0	149	0		0	30	0
Percent Heavy Vehicles (%)		11	11	11		11	11	11		11				11		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.21	6.61	6.31		7.21	6.61	6.31		4.21				4.21		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.60	4.10	3.40		3.60	4.10	3.40		2.30				2.30		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			0				0			0				0		
Capacity, c (veh/h)			0				0			1504				1279		
v/c Ratio										0.00				0.00		
95% Queue Length, Q_{95} (veh)										0.0				0.0		
95% Queue Length, Q_{95} (ft)																
Control Delay (s/veh)										7.4	0.0	0.0		7.8	0.0	0.0
Level of Service (LOS)										A	A	A		A	A	A
Approach Delay (s/veh)									0.0				0.0			
Approach LOS									A				A			

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HCS Two-Way Stop-Control Report

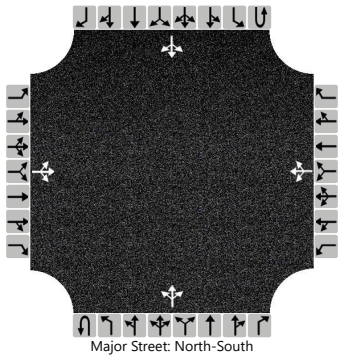
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	10/4/2024
Analysis Year	2026
Time Analyzed	AM Peak Hour+Project
Intersection Orientation	North-South
Project Description	TIS for Warehouse Facility

Site Information

Intersection	Cherry Avenue and Coberly Road
Jurisdiction	County
East/West Street	Coberly Road
North/South Street	Cherry Avenue
Peak Hour Factor	0.63
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		2	0	0		0	0	0		12	149	0		0	30	1
Percent Heavy Vehicles (%)		11	11	11		11	11	11		11				11		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.21	6.61	6.31		7.21	6.61	6.31		4.21				4.21		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.60	4.10	3.40		3.60	4.10	3.40		2.30				2.30		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			3				0			19				0		
Capacity, c (veh/h)			604				0			1502				1279		
v/c Ratio			0.01							0.01				0.00		
95% Queue Length, Q_{95} (veh)			0.0							0.0				0.0		
95% Queue Length, Q_{95} (ft)			0.0													
Control Delay (s/veh)			11.0							7.4	0.1	0.1		7.8	0.0	0.0
Level of Service (LOS)			B							A	A	A		A	A	A
Approach Delay (s/veh)		11.0								0.7				0.0		
Approach LOS		B								A				A		

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HCS Two-Way Stop-Control Report

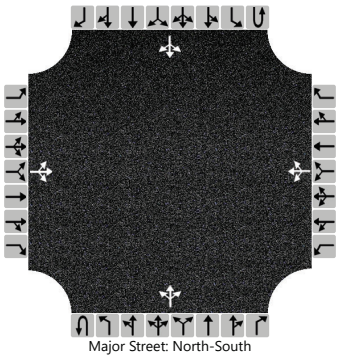
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/27/2024
Analysis Year	2046
Time Analyzed	AM Peak Hour
Intersection Orientation	North-South
Project Description	TIS for Warehouse Facility

Site Information

Intersection	Cherry Avenue and Coberly Road
Jurisdiction	County
East/West Street	Coberly Road
North/South Street	Cherry Avenue
Peak Hour Factor	0.63
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		0	0	0		0	0	0		0	201	0		0	40	0
Percent Heavy Vehicles (%)		11	11	11		11	11	11		11				11		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.21	6.61	6.31		7.21	6.61	6.31		4.21				4.21		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.60	4.10	3.40		3.60	4.10	3.40		2.30				2.30		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			0				0			0				0		
Capacity, c (veh/h)			0				0			1484				1192		
v/c Ratio										0.00				0.00		
95% Queue Length, Q_{95} (veh)										0.0				0.0		
95% Queue Length, Q_{95} (ft)																
Control Delay (s/veh)										7.4	0.0	0.0		8.0	0.0	0.0
Level of Service (LOS)										A	A	A		A	A	A
Approach Delay (s/veh)									0.0				0.0			
Approach LOS									A				A			

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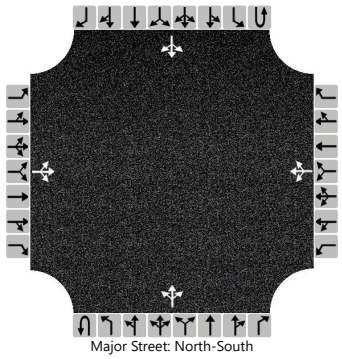
HCS Two-Way Stop-Control Report

General Information		Site Information	
Analyst	BMB	Intersection	Cherry Avenue and Coberly Road
Agency/Co.	LAV Consulting	Jurisdiction	County
Date Performed	10/4/2024	East/West Street	Coberly Road
Analysis Year	2046	North/South Street	Cherry Avenue
Time Analyzed	AM Peak Hour+Project	Peak Hour Factor	0.63
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	TIS for Warehouse Facility		

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		2	0	0		0	0	0		12	201	0		0	40	1
Percent Heavy Vehicles (%)		11	11	11		11	11	11		11				11		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.21	6.61	6.31		7.21	6.61	6.31		4.21				4.21		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.60	4.10	3.40		3.60	4.10	3.40		2.30				2.30		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			3				0			19				0		
Capacity, c (veh/h)			519				0			1482				1192		
v/c Ratio			0.01							0.01				0.00		
95% Queue Length, Q_{95} (veh)			0.0							0.0				0.0		
95% Queue Length, Q_{95} (ft)			0.0													
Control Delay (s/veh)			12.0							7.5	0.1	0.1		8.0	0.0	0.0
Level of Service (LOS)			B							A	A	A		A	A	A
Approach Delay (s/veh)		12.0								0.5				0.0		
Approach LOS		B								A				A		

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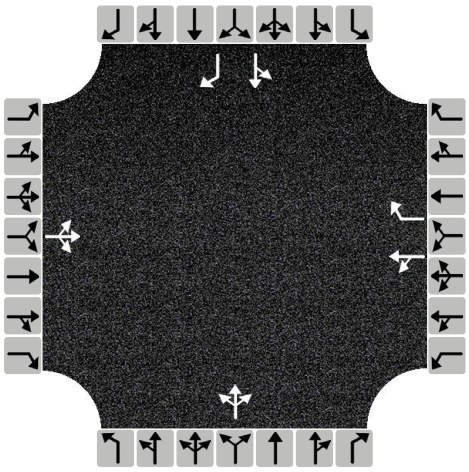
HCS All-Way Stop Control Report

General and Site Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/27/2024
Analysis Year	2024
Analysis Time Period (hrs)	0.25
Time Analyzed	AM Peak Hour
Project Description	TIS for Warehouse Facility
Intersection	Enos Lane/7th Standard Road
Jurisdiction	County
East/West Street	7th Standard Road
North/South Street	Enos Lane
Peak Hour Factor	0.85

Lanes



Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume (veh/h)	8	111	32	91	185	39	80	113	75	49	127	35
% Thrus in Shared Lane												

Lane Flow Rate and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LT	R		LTR			LT	R	
Flow Rate, v (veh/h)	178			325	46		315			207	41	
Percent Heavy Vehicles	12			12	12		12			12	12	
Initial Departure Headway, h_d (s)	3.20			3.20	3.20		3.20			3.20	3.20	
Initial Degree of Utilization, x	0.158			0.289	0.041		0.280			0.184	0.037	
Final Departure Headway, h_d (s)	7.55			7.31	6.43		7.15			7.56	6.71	
Final Degree of Utilization, x	0.373			0.659	0.082		0.626			0.435	0.077	
Move-Up Time, m (s)	2.0			2.3	2.3		2.0			2.3	2.3	
Service Time, t_s (s)	5.55			5.01	4.13		5.15			5.26	4.41	

Capacity, Delay and Level of Service

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LT	R		LTR			LT	R	
Flow Rate, v (veh/h)	178			325	46		315			207	41	
Capacity (veh/h)	477			493	560		503			476	537	
95% Queue Length, Q_{95} (veh)	1.7			4.7	0.3		4.3			2.2	0.2	
95% Queue Length, Q_{95} (ft)	46.6			128.8	8.2		117.8			60.3	5.5	
Control Delay (s/veh)	15.0			23.0	9.7		21.4			16.0	10.0	
Level of Service, LOS	B			C	A		C			C	A	
Approach Delay (s/veh) | LOS	15.0	B		21.4	C		21.4	C		15.0	B	
Intersection Delay (s/veh) | LOS	18.9						C					

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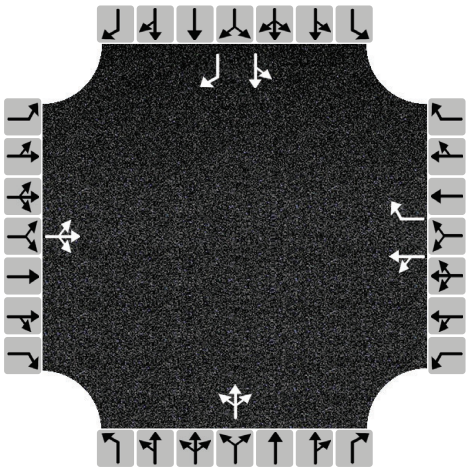
HCS All-Way Stop Control Report

General and Site Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	10/4/2024
Analysis Year	2024
Analysis Time Period (hrs)	0.25
Time Analyzed	PM Peak Hour+Project
Project Description	TIS for Warehouse Facility
Intersection	Enos Lane/7th Standard Road
Jurisdiction	County
East/West Street	7th Standard Road
North/South Street	Enos Lane
Peak Hour Factor	0.89

Lanes



Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume (veh/h)	42	188	78	69	113	55	36	135	110	44	127	18
% Thrus in Shared Lane												

Lane Flow Rate and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LT	R		LTR			LT	R	
Flow Rate, v (veh/h)	346			204	62		316			192	20	
Percent Heavy Vehicles	14			14	14		14			14	14	
Initial Departure Headway, h_d (s)	3.20			3.20	3.20		3.20			3.20	3.20	
Initial Degree of Utilization, x	0.308			0.182	0.055		0.281			0.171	0.018	
Final Departure Headway, h_d (s)	7.25			7.78	6.87		7.31			7.89	7.04	
Final Degree of Utilization, x	0.697			0.442	0.118		0.641			0.421	0.040	
Move-Up Time, m (s)	2.0			2.3	2.3		2.0			2.3	2.3	
Service Time, t_s (s)	5.25			5.48	4.57		5.31			5.59	4.74	

Capacity, Delay and Level of Service

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LT	R		LTR			LT	R	
Flow Rate, v (veh/h)	346			204	62		316			192	20	
Capacity (veh/h)	496			463	524		493			456	511	
95% Queue Length, Q_{95} (veh)	5.4			2.2	0.4		4.5			2.1	0.1	
95% Queue Length, Q_{95} (ft)	150.1			61.2	11.1		125.1			58.4	2.8	
Control Delay (s/veh)	25.3			16.5	10.5		22.4			16.2	10.0	
Level of Service, LOS	D			C	B		C			C	B	
Approach Delay (s/veh) | LOS	25.3	D		15.1	C		22.4	C		15.6	C	
Intersection Delay (s/veh) | LOS	20.3						C					

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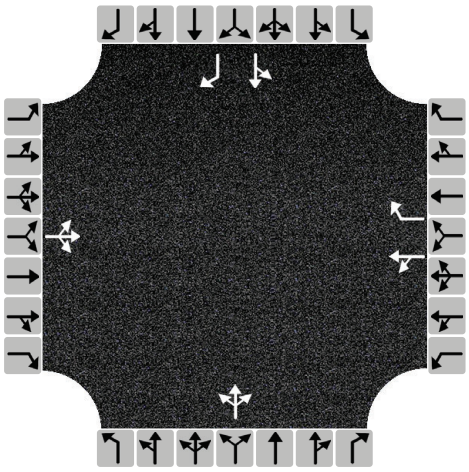
HCS All-Way Stop Control Report

General and Site Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/27/2024
Analysis Year	2026
Analysis Time Period (hrs)	0.25
Time Analyzed	AM Peak Hour
Project Description	TIS for Warehouse Facility
Intersection	Enos Lane/7th Standard Road
Jurisdiction	County
East/West Street	7th Standard Road
North/South Street	Enos Lane
Peak Hour Factor	0.85

Lanes



Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume (veh/h)	8	114	33	94	191	40	82	116	77	50	131	36
% Thrus in Shared Lane												

Lane Flow Rate and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LT	R		LTR			LT	R	
Flow Rate, v (veh/h)	182			335	47		324			213	42	
Percent Heavy Vehicles	12			12	12		12			12	12	
Initial Departure Headway, h_d (s)	3.20			3.20	3.20		3.20			3.20	3.20	
Initial Degree of Utilization, x	0.162			0.298	0.042		0.288			0.189	0.038	
Final Departure Headway, h_d (s)	7.71			7.42	6.54		7.28			7.70	6.84	
Final Degree of Utilization, x	0.390			0.691	0.085		0.654			0.456	0.081	
Move-Up Time, m (s)	2.0			2.3	2.3		2.0			2.3	2.3	
Service Time, t_s (s)	5.71			5.12	4.24		5.28			5.40	4.54	

Capacity, Delay and Level of Service

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LT	R		LTR			LT	R	
Flow Rate, v (veh/h)	182			335	47		324			213	42	
Capacity (veh/h)	467			485	550		495			467	526	
95% Queue Length, Q_{95} (veh)	1.8			5.2	0.3		4.7			2.3	0.3	
95% Queue Length, Q_{95} (ft)	49.3			142.5	8.2		128.8			63.0	8.2	
Control Delay (s/veh)	15.6			25.1	9.9		23.0			16.7	10.1	
Level of Service, LOS	C			D	A		C			C	B	
Approach Delay (s/veh) | LOS	15.6	C		23.2	C		23.0	C		15.6	C	
Intersection Delay (s/veh) | LOS	20.2						C					

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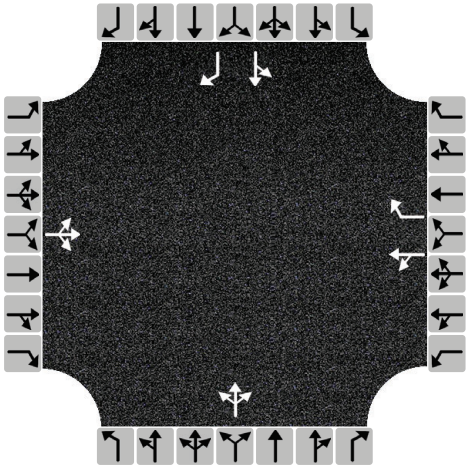
HCS All-Way Stop Control Report

General and Site Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	10/4/2024
Analysis Year	2026
Analysis Time Period (hrs)	0.25
Time Analyzed	PM Peak Hour+Project
Project Description	TIS for Warehouse Facility
Intersection	Enos Lane/7th Standard Road
Jurisdiction	County
East/West Street	7th Standard Road
North/South Street	Enos Lane
Peak Hour Factor	0.89

Lanes



Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume (veh/h)	43	194	80	71	116	57	37	139	113	45	131	18
% Thrus in Shared Lane												

Lane Flow Rate and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LT	R		LTR			LT	R	
Flow Rate, v (veh/h)	356			210	64		325			198	20	
Percent Heavy Vehicles	14			14	14		14			14	14	
Initial Departure Headway, h_d (s)	3.20			3.20	3.20		3.20			3.20	3.20	
Initial Degree of Utilization, x	0.317			0.187	0.057		0.289			0.176	0.018	
Final Departure Headway, h_d (s)	7.39			7.93	7.02		7.45			8.05	7.20	
Final Degree of Utilization, x	0.731			0.463	0.125		0.672			0.442	0.040	
Move-Up Time, m (s)	2.0			2.3	2.3		2.0			2.3	2.3	
Service Time, t_s (s)	5.39			5.63	4.72		5.45			5.75	4.90	

Capacity, Delay and Level of Service

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LT	R		LTR			LT	R	
Flow Rate, v (veh/h)	356			210	64		325			198	20	
Capacity (veh/h)	487			454	513		483			447	500	
95% Queue Length, Q_{95} (veh)	6.0			2.4	0.4		4.9			2.2	0.1	
95% Queue Length, Q_{95} (ft)	166.8			66.7	11.1		136.2			61.2	2.8	
Control Delay (s/veh)	28.0			17.3	10.7		24.4			17.0	10.2	
Level of Service, LOS	D			C	B		C			C	B	
Approach Delay (s/veh) | LOS	28.0	D		15.8	C		24.4	C		16.4	C	
Intersection Delay (s/veh) | LOS	22.0						C					

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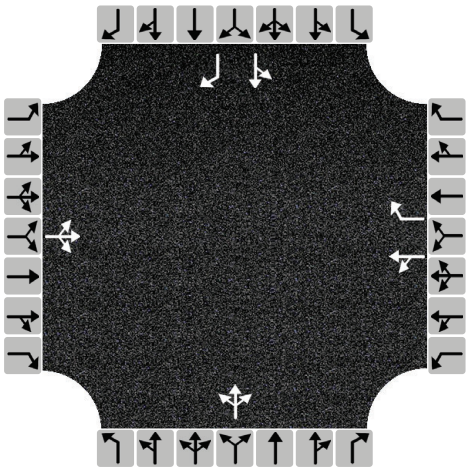
HCS All-Way Stop Control Report

General and Site Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/27/2024
Analysis Year	2046
Analysis Time Period (hrs)	0.25
Time Analyzed	AM Peak Hour
Project Description	TIS for Warehouse Facility
Intersection	Enos Lane/7th Standard Road
Jurisdiction	County
East/West Street	7th Standard Road
North/South Street	Enos Lane
Peak Hour Factor	0.85

Lanes



Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume (veh/h)	11	154	44	126	257	54	111	157	104	68	176	49
% Thrus in Shared Lane												

Lane Flow Rate and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LT	R		LTR			LT	R	
Flow Rate, v (veh/h)	246			451	64		438			287	58	
Percent Heavy Vehicles	12			12	12		12			12	12	
Initial Departure Headway, h_d (s)	3.20			3.20	3.20		3.20			3.20	3.20	
Initial Degree of Utilization, x	0.219			0.401	0.056		0.389			0.255	0.051	
Final Departure Headway, h_d (s)	9.52			8.87	8.01		8.77			9.26	8.42	
Final Degree of Utilization, x	0.650			1.110	0.141		1.066			0.738	0.135	
Move-Up Time, m (s)	2.0			2.3	2.3		2.0			2.3	2.3	
Service Time, t_s (s)	7.52			6.57	5.71		6.77			6.96	6.12	

Capacity, Delay and Level of Service

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LT	R		LTR			LT	R	
Flow Rate, v (veh/h)	246			451	64		438			287	58	
Capacity (veh/h)	378			406	450		411			389	427	
95% Queue Length, Q_{95} (veh)	4.4			16.1	0.5		14.6			5.8	0.5	
95% Queue Length, Q_{95} (ft)	120.6			441.1	13.7		400.0			158.9	13.7	
Control Delay (s/veh)	28.6			107.2	12.0		93.1			34.0	12.4	
Level of Service, LOS	D			F	B		F			D	B	
Approach Delay (s/veh) | LOS	28.6	D		95.4	F		93.1	F		30.4	D	
Intersection Delay (s/veh) | LOS	69.6						F					

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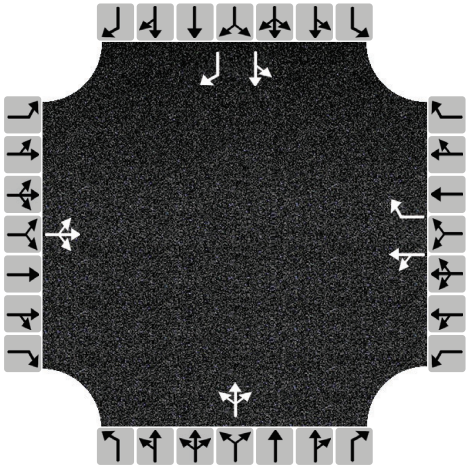
HCS All-Way Stop Control Report

General and Site Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	10/4/2024
Analysis Year	2046
Analysis Time Period (hrs)	0.25
Time Analyzed	PM Peak Hour+Project
Project Description	TIS for Warehouse Facility
Intersection	Enos Lane/7th Standard Road
Jurisdiction	County
East/West Street	7th Standard Road
North/South Street	Enos Lane
Peak Hour Factor	0.89

Lanes



Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume (veh/h)	57	281	106	96	157	76	50	186	153	61	173	23
% Thrus in Shared Lane												

Lane Flow Rate and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LT	R		LTR			LT	R	
Flow Rate, v (veh/h)	499			284	85		437			263	26	
Percent Heavy Vehicles	14			14	14		14			14	14	
Initial Departure Headway, h_d (s)	3.20			3.20	3.20		3.20			3.20	3.20	
Initial Degree of Utilization, x	0.443			0.253	0.076		0.389			0.234	0.023	
Final Departure Headway, h_d (s)	8.92			9.45	8.56		8.83			9.55	8.73	
Final Degree of Utilization, x	1.236			0.746	0.203		1.072			0.697	0.063	
Move-Up Time, m (s)	2.0			2.3	2.3		2.0			2.3	2.3	
Service Time, t_s (s)	6.92			7.15	6.26		6.83			7.25	6.43	

Capacity, Delay and Level of Service

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LT	R		LTR			LT	R	
Flow Rate, v (veh/h)	499			284	85		437			263	26	
Capacity (veh/h)	404			381	420		408			377	413	
95% Queue Length, Q_{95} (veh)	20.9			5.9	0.8		14.8			5.1	0.2	
95% Queue Length, Q_{95} (ft)	581.0			164.0	22.2		411.4			141.8	5.6	
Control Delay (s/veh)	153.2			35.2	13.4		95.2			31.5	12.0	
Level of Service, LOS	F			E	B		F			D	B	
Approach Delay (s/veh) | LOS	153.2	F		30.2	D		95.2	F		29.8	D	
Intersection Delay (s/veh) | LOS	86.4						F					

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HCS Two-Way Stop-Control Report

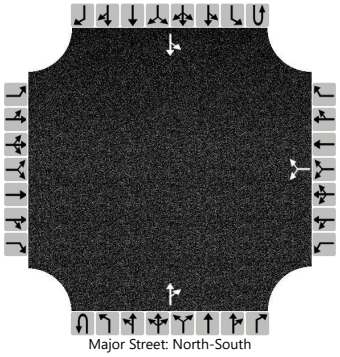
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/27/2024
Analysis Year	2024
Time Analyzed	AM Peak Hour
Intersection Orientation	North-South
Project Description	TIS for Warehouse Facility

Site Information

Intersection	Enos Lane and Coberly Road
Jurisdiction	County
East/West Street	Coberly Road
North/South Street	Enos Lane
Peak Hour Factor	0.84
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						0		0			163	3		0	158	
Percent Heavy Vehicles (%)						10		10						10		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.50		6.30						4.20		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.59		3.39						2.29		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							0							0		
Capacity, c (veh/h)							0							1328		
v/c Ratio														0.00		
95% Queue Length, Q_{95} (veh)														0.0		
95% Queue Length, Q_{95} (ft)																
Control Delay (s/veh)														7.7	0.0	
Level of Service (LOS)														A	A	
Approach Delay (s/veh)													0.0			
Approach LOS													A			

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HCS Two-Way Stop-Control Report

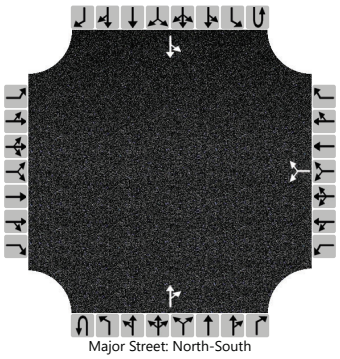
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	10/4/2024
Analysis Year	2024
Time Analyzed	AM Peak Hour+Project
Intersection Orientation	North-South
Project Description	TIS for Warehouse Facility

Site Information

Intersection	Enos Lane and Coberly Road
Jurisdiction	County
East/West Street	Coberly Road
North/South Street	Enos Lane
Peak Hour Factor	0.84
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						5		3			163	17		6	158	
Percent Heavy Vehicles (%)						10		10						10		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.50		6.30						4.20		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.59		3.39						2.29		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							10							7		
Capacity, c (veh/h)							652							1310		
v/c Ratio							0.01							0.01		
95% Queue Length, Q_{95} (veh)							0.0							0.0		
95% Queue Length, Q_{95} (ft)							0.0							0.0		
Control Delay (s/veh)							10.6							7.8	0.0	
Level of Service (LOS)							B							A	A	
Approach Delay (s/veh)					10.6								0.3			
Approach LOS					B								A			

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HCS Two-Way Stop-Control Report

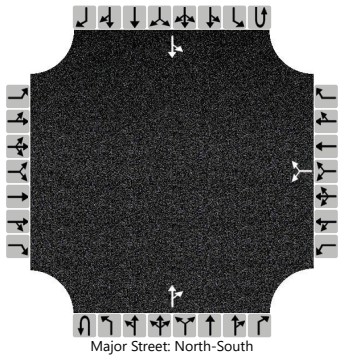
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/27/2024
Analysis Year	2026
Time Analyzed	AM Peak Hour
Intersection Orientation	North-South
Project Description	TIS for Warehouse Facility

Site Information

Intersection	Enos Lane and Coberly Road
Jurisdiction	County
East/West Street	Coberly Road
North/South Street	Enos Lane
Peak Hour Factor	0.84
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						0		0			168	3		0	163	
Percent Heavy Vehicles (%)						10		10						10		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.50		6.30						4.20		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.59		3.39						2.29		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							0							0		
Capacity, c (veh/h)							0							1322		
v/c Ratio														0.00		
95% Queue Length, Q_{95} (veh)														0.0		
95% Queue Length, Q_{95} (ft)																
Control Delay (s/veh)														7.7	0.0	
Level of Service (LOS)														A	A	
Approach Delay (s/veh)													0.0			
Approach LOS													A			

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HCS Two-Way Stop-Control Report

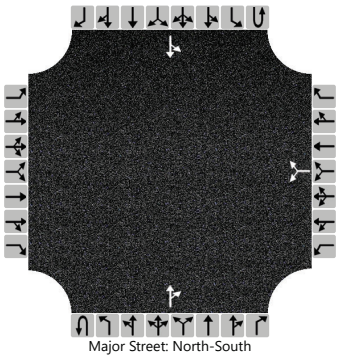
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	10/4/2024
Analysis Year	2026
Time Analyzed	AM Peak Hour+Project
Intersection Orientation	North-South
Project Description	TIS for Warehouse Facility

Site Information

Intersection	Enos Lane and Coberly Road
Jurisdiction	County
East/West Street	Coberly Road
North/South Street	Enos Lane
Peak Hour Factor	0.84
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						5		3			168	17		6	163	
Percent Heavy Vehicles (%)						10		10						10		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.50		6.30						4.20		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.59		3.39						2.29		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							10							7		
Capacity, c (veh/h)							643							1303		
v/c Ratio							0.01							0.01		
95% Queue Length, Q_{95} (veh)							0.0							0.0		
95% Queue Length, Q_{95} (ft)							0.0							0.0		
Control Delay (s/veh)							10.7							7.8	0.0	
Level of Service (LOS)							B							A	A	
Approach Delay (s/veh)					10.7								0.3			
Approach LOS					B								A			

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HCS Two-Way Stop-Control Report

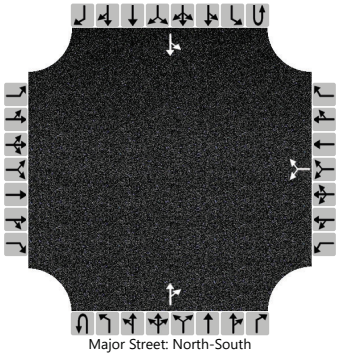
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/27/2024
Analysis Year	2046
Time Analyzed	AM Peak Hour
Intersection Orientation	North-South
Project Description	TIS for Warehouse Facility

Site Information

Intersection	Enos Lane and Coberly Road
Jurisdiction	County
East/West Street	Coberly Road
North/South Street	Enos Lane
Peak Hour Factor	0.84
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						0		0			226	4		0	219	
Percent Heavy Vehicles (%)						10		10						10		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.50		6.30						4.20		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.59		3.39						2.29		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							0							0		
Capacity, c (veh/h)							0							1245		
v/c Ratio														0.00		
95% Queue Length, Q_{95} (veh)														0.0		
95% Queue Length, Q_{95} (ft)																
Control Delay (s/veh)														7.9	0.0	
Level of Service (LOS)														A	A	
Approach Delay (s/veh)													0.0			
Approach LOS													A			

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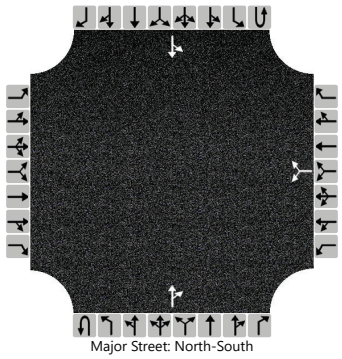
HCS Two-Way Stop-Control Report

General Information		Site Information	
Analyst	BMB	Intersection	Enos Lane and Coberly Road
Agency/Co.	LAV Consulting	Jurisdiction	County
Date Performed	10/4/2024	East/West Street	Coberly Road
Analysis Year	2046	North/South Street	Enos Lane
Time Analyzed	AM Peak Hour+Project	Peak Hour Factor	0.84
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	TIS for Warehouse Facility		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						5		3			226	18		6	219	
Percent Heavy Vehicles (%)						10		10						10		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.50		6.30						4.20		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.59		3.39						2.29		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							10							7		
Capacity, c (veh/h)							550							1227		
v/c Ratio							0.02							0.01		
95% Queue Length, Q_{95} (veh)							0.1							0.0		
95% Queue Length, Q_{95} (ft)							2.7							0.0		
Control Delay (s/veh)							11.7							8.0	0.1	
Level of Service (LOS)							B							A	A	
Approach Delay (s/veh)					11.7								0.3			
Approach LOS					B								A			

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HCS Two-Way Stop-Control Report

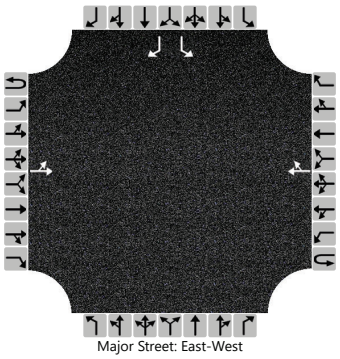
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/27/2024
Analysis Year	2024
Time Analyzed	PM Peak Hour
Intersection Orientation	East-West
Project Description	TIS for Warehouse Facility

Site Information

Intersection	Cherry Avenue and 7th Standard Road
Jurisdiction	County
East/West Street	7th Standard Road
North/South Street	Cherry Avenue
Peak Hour Factor	0.93
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		1	0	1
Configuration		LT						TR						L		R
Volume (veh/h)		45	374				214	2						6		121
Percent Heavy Vehicles (%)		16												16		16
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized														No		
Median Type | Storage					Undivided											

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.26												6.56		6.36
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.34												3.64		3.44

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		48												6		130
Capacity, c (veh/h)		1257												351		774
v/c Ratio		0.04												0.02		0.17
95% Queue Length, Q_{95} (veh)		0.1												0.1		0.6
95% Queue Length, Q_{95} (ft)		2.8												2.8		16.9
Control Delay (s/veh)		8.0	0.4											15.4		10.6
Level of Service (LOS)		A	A											C		B
Approach Delay (s/veh)		1.2												10.8		
Approach LOS		A												B		

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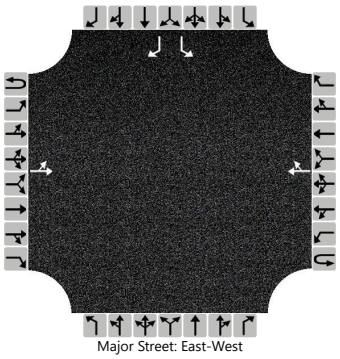
HCS Two-Way Stop-Control Report

General Information		Site Information	
Analyst	BMB	Intersection	Cherry Avenue and 7th Standard Road
Agency/Co.	LAV Consulting	Jurisdiction	County
Date Performed	10/4/2024	East/West Street	7th Standard Road
Analysis Year	2024	North/South Street	Cherry Avenue
Time Analyzed	PM Peak Hour+Project	Peak Hour Factor	0.93
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	TIS for Warehouse Facility		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		1	0	1
Configuration		LT						TR						L		R
Volume (veh/h)		45	374				214	5						18		121
Percent Heavy Vehicles (%)		16												16		16
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized													No			
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.26												6.56		6.36
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.34												3.64		3.44

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		48												19		130
Capacity, c (veh/h)		1254												350		773
v/c Ratio		0.04												0.06		0.17
95% Queue Length, Q_{95} (veh)		0.1												0.2		0.6
95% Queue Length, Q_{95} (ft)		2.8												5.6		16.9
Control Delay (s/veh)		8.0	0.4											15.9		10.6
Level of Service (LOS)		A	A											C		B
Approach Delay (s/veh)	1.2												11.3			
Approach LOS	A												B			

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HCS Two-Way Stop-Control Report

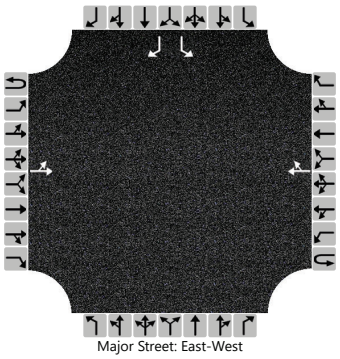
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/27/2024
Analysis Year	2026
Time Analyzed	PM Peak Hour
Intersection Orientation	East-West
Project Description	TIS for Warehouse Facility

Site Information

Intersection	Cherry Avenue and 7th Standard Road
Jurisdiction	County
East/West Street	7th Standard Road
North/South Street	Cherry Avenue
Peak Hour Factor	0.93
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		1	0	1
Configuration		LT						TR						L		R
Volume (veh/h)		46	385				220	2						6		125
Percent Heavy Vehicles (%)		16												16		16
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized														No		
Median Type | Storage					Undivided											

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.26												6.56		6.36
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.34												3.64		3.44

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		49												6		134
Capacity, c (veh/h)		1250												341		768
v/c Ratio		0.04												0.02		0.18
95% Queue Length, Q_{95} (veh)		0.1												0.1		0.6
95% Queue Length, Q_{95} (ft)		2.8												2.8		16.9
Control Delay (s/veh)		8.0	0.4											15.8		10.7
Level of Service (LOS)		A	A											C		B
Approach Delay (s/veh)		1.2												10.9		
Approach LOS		A												B		

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HCS Two-Way Stop-Control Report

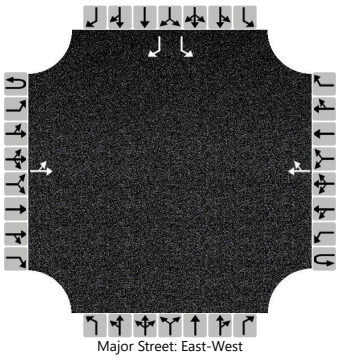
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	10/4/2024
Analysis Year	2026
Time Analyzed	PM Peak Hour+Project
Intersection Orientation	East-West
Project Description	TIS for Warehouse Facility

Site Information

Intersection	Cherry Avenue and 7th Standard Road
Jurisdiction	County
East/West Street	7th Standard Road
North/South Street	Cherry Avenue
Peak Hour Factor	0.93
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		1	0	1
Configuration		LT						TR						L		R
Volume (veh/h)		46	385				220	5						18		125
Percent Heavy Vehicles (%)		16												16		16
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized														No		
Median Type | Storage					Undivided											

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.26												6.56		6.36
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.34												3.64		3.44

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		49												19		134
Capacity, c (veh/h)		1247												340		766
v/c Ratio		0.04												0.06		0.18
95% Queue Length, Q_{95} (veh)		0.1												0.2		0.6
95% Queue Length, Q_{95} (ft)		2.8												5.6		16.9
Control Delay (s/veh)		8.0	0.4											16.2		10.7
Level of Service (LOS)		A	A											C		B
Approach Delay (s/veh)	1.2												11.4			
Approach LOS	A												B			

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HCS Two-Way Stop-Control Report

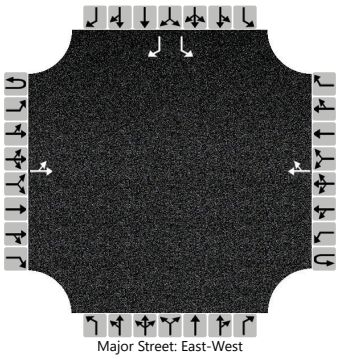
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/27/2024
Analysis Year	2046
Time Analyzed	PM Peak Hour
Intersection Orientation	East-West
Project Description	TIS for Warehouse Facility

Site Information

Intersection	Cherry Avenue and 7th Standard Road
Jurisdiction	County
East/West Street	7th Standard Road
North/South Street	Cherry Avenue
Peak Hour Factor	0.93
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		1	0	1
Configuration		LT						TR						L		R
Volume (veh/h)		62	519				297	3						8		168
Percent Heavy Vehicles (%)		16												16		16
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized														No		
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.26												6.56		6.36
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.34												3.64		3.44

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		67												9		181
Capacity, c (veh/h)		1162												229		689
v/c Ratio		0.06												0.04		0.26
95% Queue Length, Q_{95} (veh)		0.2												0.1		1.0
95% Queue Length, Q_{95} (ft)		5.6												2.8		28.2
Control Delay (s/veh)		8.3	0.7											21.3		12.1
Level of Service (LOS)		A	A											C		B
Approach Delay (s/veh)		1.5												12.5		
Approach LOS		A												B		

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HCS Two-Way Stop-Control Report

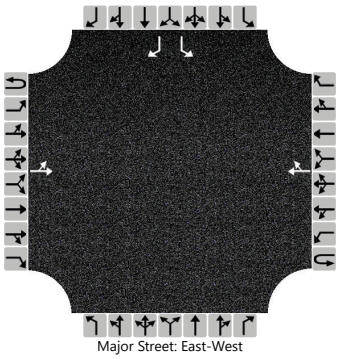
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	10/4/2024
Analysis Year	2046
Time Analyzed	PM Peak Hour+Project
Intersection Orientation	East-West
Project Description	TIS for Warehouse Facility

Site Information

Intersection	Cherry Avenue and 7th Standard Road
Jurisdiction	County
East/West Street	7th Standard Road
North/South Street	Cherry Avenue
Peak Hour Factor	0.93
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		1	0	1
Configuration		LT						TR						L		R
Volume (veh/h)		62	519				297	6						20		168
Percent Heavy Vehicles (%)		16												16		16
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized														No		
Median Type | Storage					Undivided											

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.26												6.56		6.36
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.34												3.64		3.44

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		67												22		181
Capacity, c (veh/h)		1159												228		687
v/c Ratio		0.06												0.09		0.26
95% Queue Length, Q_{95} (veh)		0.2												0.3		1.1
95% Queue Length, Q_{95} (ft)		5.6												8.5		31.0
Control Delay (s/veh)		8.3	0.7											22.4		12.1
Level of Service (LOS)		A	A											C		B
Approach Delay (s/veh)		1.5												13.2		
Approach LOS		A												B		

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HCS Two-Way Stop-Control Report

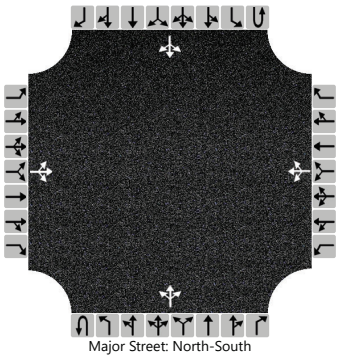
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/27/2024
Analysis Year	2024
Time Analyzed	PM Peak Hour
Intersection Orientation	North-South
Project Description	TIS for Warehouse Facility

Site Information

Intersection	Cherry Avenue and Coberly Road
Jurisdiction	County
East/West Street	Coberly Road
North/South Street	Cherry Avenue
Peak Hour Factor	0.56
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		0	0	0		0	0	0		0	27	0		0	97	0
Percent Heavy Vehicles (%)		7	7	7		7	7	7		7				7		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.17	6.57	6.27		7.17	6.57	6.27		4.17				4.17		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.56	4.06	3.36		3.56	4.06	3.36		2.26				2.26		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			0				0			0				0		
Capacity, c (veh/h)			0				0			1374				1527		
v/c Ratio										0.00				0.00		
95% Queue Length, Q_{95} (veh)										0.0				0.0		
95% Queue Length, Q_{95} (ft)																
Control Delay (s/veh)										7.6	0.0	0.0		7.4	0.0	0.0
Level of Service (LOS)										A	A	A		A	A	A
Approach Delay (s/veh)									0.0				0.0			
Approach LOS									A				A			

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HCS Two-Way Stop-Control Report

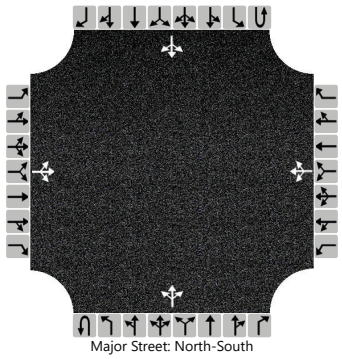
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	10/4/2024
Analysis Year	2024
Time Analyzed	PM Peak Hour+Project
Intersection Orientation	North-South
Project Description	TIS for Warehouse Facility

Site Information

Intersection	Cherry Avenue and Coberly Road
Jurisdiction	County
East/West Street	Coberly Road
North/South Street	Cherry Avenue
Peak Hour Factor	0.56
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		1	0	12		0	0	0		3	27	0		0	97	1
Percent Heavy Vehicles (%)		7	7	7		7	7	7		7				7		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.17	6.57	6.27		7.17	6.57	6.27		4.17				4.17		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.56	4.06	3.36		3.56	4.06	3.36		2.26				2.26		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			23				0			5				0		
Capacity, c (veh/h)			843				0			1372				1527		
v/c Ratio			0.03							0.00				0.00		
95% Queue Length, Q_{95} (veh)			0.1							0.0				0.0		
95% Queue Length, Q_{95} (ft)			2.6													
Control Delay (s/veh)			9.4							7.6	0.0	0.0		7.4	0.0	0.0
Level of Service (LOS)			A							A	A	A		A	A	A
Approach Delay (s/veh)	9.4								0.8				0.0			
Approach LOS	A								A				A			

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HCS Two-Way Stop-Control Report

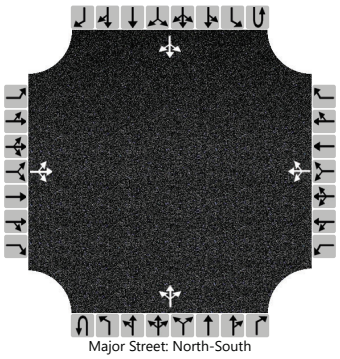
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/27/2024
Analysis Year	2026
Time Analyzed	PM Peak Hour
Intersection Orientation	North-South
Project Description	TIS for Warehouse Facility

Site Information

Intersection	Cherry Avenue and Coberly Road
Jurisdiction	County
East/West Street	Coberly Road
North/South Street	Cherry Avenue
Peak Hour Factor	0.56
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		0	0	0		0	0	0		0	28	0		0	100	0
Percent Heavy Vehicles (%)		7	7	7		7	7	7		7				7		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.17	6.57	6.27		7.17	6.57	6.27		4.17				4.17		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.56	4.06	3.36		3.56	4.06	3.36		2.26				2.26		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			0				0			0				0		
Capacity, c (veh/h)			0				0			1368				1525		
v/c Ratio										0.00				0.00		
95% Queue Length, Q_{95} (veh)										0.0				0.0		
95% Queue Length, Q_{95} (ft)																
Control Delay (s/veh)										7.6	0.0	0.0		7.4	0.0	0.0
Level of Service (LOS)										A	A	A		A	A	A
Approach Delay (s/veh)									0.0				0.0			
Approach LOS									A				A			

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HCS Two-Way Stop-Control Report

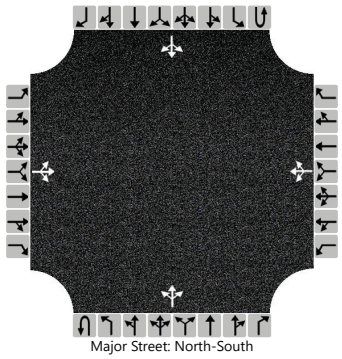
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	10/4/2024
Analysis Year	2026
Time Analyzed	PM Peak Hour+Project
Intersection Orientation	North-South
Project Description	TIS for Warehouse Facility

Site Information

Intersection	Cherry Avenue and Coberly Road
Jurisdiction	County
East/West Street	Coberly Road
North/South Street	Cherry Avenue
Peak Hour Factor	0.56
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		1	0	12		0	0	0		3	28	0		0	100	1
Percent Heavy Vehicles (%)		7	7	7		7	7	7		7				7		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.17	6.57	6.27		7.17	6.57	6.27		4.17				4.17		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.56	4.06	3.36		3.56	4.06	3.36		2.26				2.26		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			23				0			5				0		
Capacity, c (veh/h)			837				0			1365				1525		
v/c Ratio			0.03							0.00				0.00		
95% Queue Length, Q_{95} (veh)			0.1							0.0				0.0		
95% Queue Length, Q_{95} (ft)			2.6													
Control Delay (s/veh)			9.4							7.6	0.0	0.0		7.4	0.0	0.0
Level of Service (LOS)			A							A	A	A		A	A	A
Approach Delay (s/veh)	9.4								0.8				0.0			
Approach LOS	A								A				A			

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HCS Two-Way Stop-Control Report

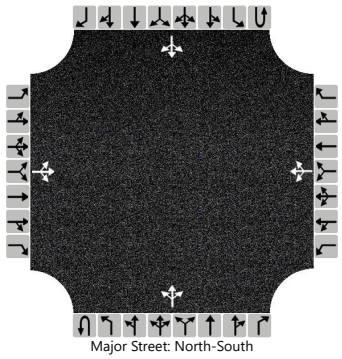
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/27/2024
Analysis Year	2046
Time Analyzed	PM Peak Hour
Intersection Orientation	North-South
Project Description	TIS for Warehouse Facility

Site Information

Intersection	Cherry Avenue and Coberly Road
Jurisdiction	County
East/West Street	Coberly Road
North/South Street	Cherry Avenue
Peak Hour Factor	0.56
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		0	0	0		0	0	0		0	37	0		0	135	0
Percent Heavy Vehicles (%)		7	7	7		7	7	7		7				7		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.17	6.57	6.27		7.17	6.57	6.27		4.17				4.17		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.56	4.06	3.36		3.56	4.06	3.36		2.26				2.26		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			0				0			0				0		
Capacity, c (veh/h)			0				0			1297				1504		
v/c Ratio										0.00				0.00		
95% Queue Length, Q_{95} (veh)										0.0				0.0		
95% Queue Length, Q_{95} (ft)																
Control Delay (s/veh)										7.8	0.0	0.0		7.4	0.0	0.0
Level of Service (LOS)										A	A	A		A	A	A
Approach Delay (s/veh)									0.0				0.0			
Approach LOS									A				A			

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HCS Two-Way Stop-Control Report

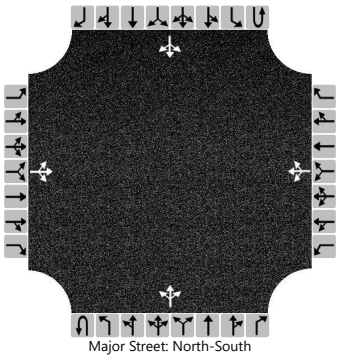
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	10/4/2024
Analysis Year	2046
Time Analyzed	PM Peak Hour+Project
Intersection Orientation	North-South
Project Description	TIS for Warehouse Facility

Site Information

Intersection	Cherry Avenue and Coberly Road
Jurisdiction	County
East/West Street	Coberly Road
North/South Street	Cherry Avenue
Peak Hour Factor	0.56
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		1	0	12		0	0	0		3	37	0		0	135	1
Percent Heavy Vehicles (%)		7	7	7		7	7	7		7				7		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.17	6.57	6.27		7.17	6.57	6.27		4.17				4.17		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.56	4.06	3.36		3.56	4.06	3.36		2.26				2.26		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			23				0			5				0		
Capacity, c (veh/h)			769				0			1295				1504		
v/c Ratio			0.03							0.00				0.00		
95% Queue Length, Q_{95} (veh)			0.1							0.0				0.0		
95% Queue Length, Q_{95} (ft)			2.6													
Control Delay (s/veh)			9.8							7.8	0.0	0.0		7.4	0.0	0.0
Level of Service (LOS)			A							A	A	A		A	A	A
Approach Delay (s/veh)	9.8								0.6				0.0			
Approach LOS	A								A				A			

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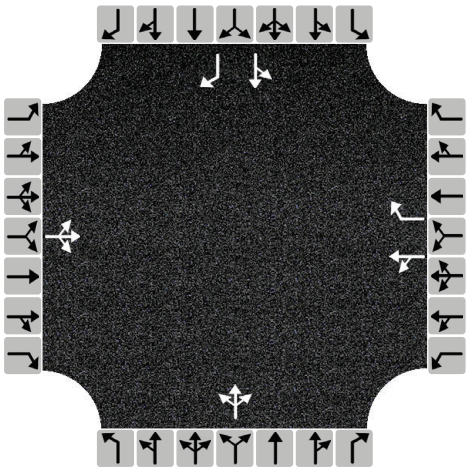
HCS All-Way Stop Control Report

General and Site Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/27/2024
Analysis Year	2024
Analysis Time Period (hrs)	0.25
Time Analyzed	PM Peak Hour
Project Description	TIS for Warehouse Facility
Intersection	Enos Lane/7th Standard Road
Jurisdiction	County
East/West Street	7th Standard Road
North/South Street	Enos Lane
Peak Hour Factor	0.89

Lanes



Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume (veh/h)	38	188	78	69	113	55	36	131	110	44	118	13
% Thrus in Shared Lane												

Lane Flow Rate and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LT	R		LTR			LT	R	
Flow Rate, v (veh/h)	342			204	62		311			182	15	
Percent Heavy Vehicles	14			14	14		14			14	14	
Initial Departure Headway, h_d (s)	3.20			3.20	3.20		3.20			3.20	3.20	
Initial Degree of Utilization, x	0.304			0.182	0.055		0.277			0.162	0.013	
Final Departure Headway, h_d (s)	7.14			7.64	6.73		7.20			7.82	6.96	
Final Degree of Utilization, x	0.677			0.434	0.116		0.622			0.395	0.028	
Move-Up Time, m (s)	2.0			2.3	2.3		2.0			2.3	2.3	
Service Time, t_s (s)	5.14			5.34	4.43		5.20			5.52	4.66	

Capacity, Delay and Level of Service

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LT	R		LTR			LT	R	
Flow Rate, v (veh/h)	342			204	62		311			182	15	
Capacity (veh/h)	504			471	535		500			460	517	
95% Queue Length, Q_{95} (veh)	5.0			2.2	0.4		4.2			1.9	0.1	
95% Queue Length, Q_{95} (ft)	139.0			61.2	11.1		116.8			52.8	2.8	
Control Delay (s/veh)	23.8			16.1	10.3		21.3			15.5	9.9	
Level of Service, LOS	C			C	B		C			C	A	
Approach Delay (s/veh) | LOS	23.8	C		14.7	B		21.3	C		15.1	C	
Intersection Delay (s/veh) | LOS	19.4						C					

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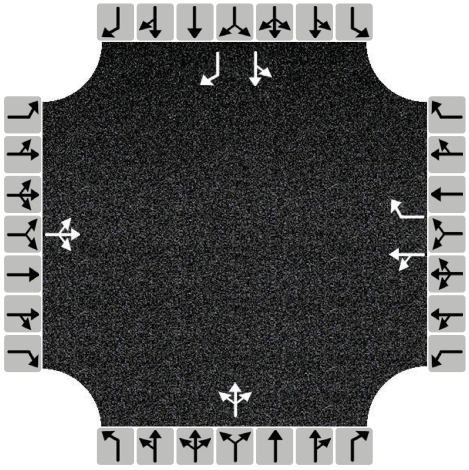
HCS All-Way Stop Control Report

General and Site Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/27/2024
Analysis Year	2024
Analysis Time Period (hrs)	0.25
Time Analyzed	PM Peak Hour+Project
Project Description	TIS for Warehouse Facility
Intersection	Enos Lane/7th Standard Road
Jurisdiction	County
East/West Street	7th Standard Road
North/South Street	Enos Lane
Peak Hour Factor	0.89

Lanes



Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume (veh/h)	51	188	78	69	113	55	36	142	110	44	144	29
% Thrus in Shared Lane												

Lane Flow Rate and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LT	R		LTR			LT	R	
Flow Rate, v (veh/h)	356			204	62		324			211	33	
Percent Heavy Vehicles	14			14	14		14			14	14	
Initial Departure Headway, h_d (s)	3.20			3.20	3.20		3.20			3.20	3.20	
Initial Degree of Utilization, x	0.317			0.182	0.055		0.288			0.188	0.029	
Final Departure Headway, h_d (s)	7.48			8.05	7.13		7.53			8.05	7.21	
Final Degree of Utilization, x	0.740			0.457	0.122		0.677			0.473	0.065	
Move-Up Time, m (s)	2.0			2.3	2.3		2.0			2.3	2.3	
Service Time, t_s (s)	5.48			5.75	4.83		5.53			5.75	4.91	

Capacity, Delay and Level of Service

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LT	R		LTR			LT	R	
Flow Rate, v (veh/h)	356			204	62		324			211	33	
Capacity (veh/h)	481			447	505		478			447	499	
95% Queue Length, Q_{95} (veh)	6.1			2.3	0.4		5.0			2.5	0.2	
95% Queue Length, Q_{95} (ft)	169.6			63.9	11.1		139.0			69.5	5.6	
Control Delay (s/veh)	28.9			17.3	10.8		24.9			17.8	10.4	
Level of Service, LOS	D			C	B		C			C	B	
Approach Delay (s/veh) | LOS	28.9	D		15.8	C		24.9	C		16.8	C	
Intersection Delay (s/veh) | LOS	22.4						C					

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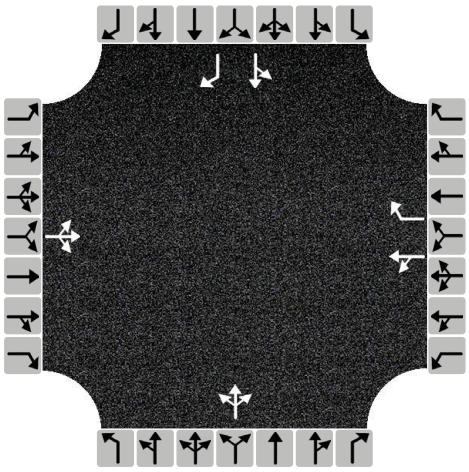
HCS All-Way Stop Control Report

General and Site Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/27/2024
Analysis Year	2026
Analysis Time Period (hrs)	0.25
Time Analyzed	PM Peak Hour
Project Description	TIS for Warehouse Facility
Intersection	Enos Lane/7th Standard Road
Jurisdiction	County
East/West Street	7th Standard Road
North/South Street	Enos Lane
Peak Hour Factor	0.89

Lanes



Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume (veh/h)	39	194	80	71	116	57	37	135	113	45	122	13
% Thrus in Shared Lane												

Lane Flow Rate and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LT	R		LTR			LT	R	
Flow Rate, v (veh/h)	352			210	64		320			188	15	
Percent Heavy Vehicles	14			14	14		14			14	14	
Initial Departure Headway, h_d (s)	3.20			3.20	3.20		3.20			3.20	3.20	
Initial Degree of Utilization, x	0.313			0.187	0.057		0.285			0.167	0.013	
Final Departure Headway, h_d (s)	7.27			7.80	6.88		7.34			7.97	7.12	
Final Degree of Utilization, x	0.710			0.455	0.122		0.652			0.416	0.029	
Move-Up Time, m (s)	2.0			2.3	2.3		2.0			2.3	2.3	
Service Time, t_s (s)	5.27			5.50	4.58		5.34			5.67	4.82	

Capacity, Delay and Level of Service

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LT	R		LTR			LT	R	
Flow Rate, v (veh/h)	352			210	64		320			188	15	
Capacity (veh/h)	495			462	523		491			451	506	
95% Queue Length, Q_{95} (veh)	5.6			2.3	0.4		4.6			2.0	0.1	
95% Queue Length, Q_{95} (ft)	155.7			63.9	11.1		127.9			55.6	2.8	
Control Delay (s/veh)	26.2			16.8	10.5		23.1			16.2	10.0	
Level of Service, LOS	D			C	B		C			C	B	
Approach Delay (s/veh) | LOS	26.2	D		15.4	C		23.1	C		15.8	C	
Intersection Delay (s/veh) | LOS	20.9						C					

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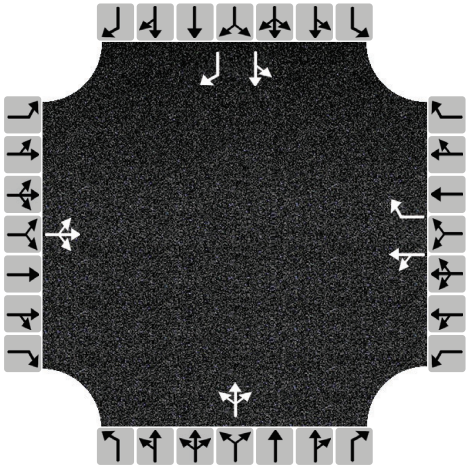
HCS All-Way Stop Control Report

General and Site Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/27/2024
Analysis Year	2026
Analysis Time Period (hrs)	0.25
Time Analyzed	PM Peak Hour+Project
Project Description	TIS for Warehouse Facility
Intersection	Enos Lane/7th Standard Road
Jurisdiction	County
East/West Street	7th Standard Road
North/South Street	Enos Lane
Peak Hour Factor	0.89

Lanes



Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume (veh/h)	52	194	80	71	116	57	37	146	113	45	148	29
% Thrus in Shared Lane												

Lane Flow Rate and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LT	R		LTR			LT	R	
Flow Rate, v (veh/h)	366			210	64		333			217	33	
Percent Heavy Vehicles	14			14	14		14			14	14	
Initial Departure Headway, h_d (s)	3.20			3.20	3.20		3.20			3.20	3.20	
Initial Degree of Utilization, x	0.326			0.187	0.057		0.296			0.193	0.029	
Final Departure Headway, h_d (s)	7.63			8.22	7.30		7.68			8.22	7.38	
Final Degree of Utilization, x	0.776			0.480	0.130		0.710			0.495	0.067	
Move-Up Time, m (s)	2.0			2.3	2.3		2.0			2.3	2.3	
Service Time, t_s (s)	5.63			5.92	5.00		5.68			5.92	5.08	

Capacity, Delay and Level of Service

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LT	R		LTR			LT	R	
Flow Rate, v (veh/h)	366			210	64		333			217	33	
Capacity (veh/h)	472			438	493		469			438	488	
95% Queue Length, Q_{95} (veh)	6.9			2.5	0.4		5.5			2.7	0.2	
95% Queue Length, Q_{95} (ft)	191.8			69.5	11.1		152.9			75.1	5.6	
Control Delay (s/veh)	32.4			18.3	11.1		27.3			18.7	10.6	
Level of Service, LOS	D			C	B		D			C	B	
Approach Delay (s/veh) | LOS	32.4	D		16.6	C		27.3	D		17.7	C	
Intersection Delay (s/veh) | LOS	24.5						C					

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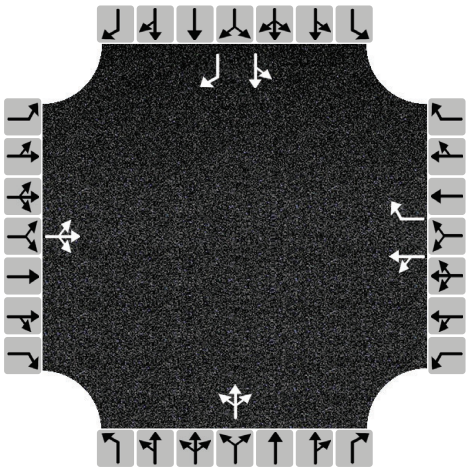
HCS All-Way Stop Control Report

General and Site Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/27/2024
Analysis Year	2046
Analysis Time Period (hrs)	0.25
Time Analyzed	PM Peak Hour
Project Description	TIS for Warehouse Facility
Intersection	Enos Lane/7th Standard Road
Jurisdiction	County
East/West Street	7th Standard Road
North/South Street	Enos Lane
Peak Hour Factor	0.89

Lanes



Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume (veh/h)	53	261	108	96	157	76	50	182	153	61	164	18
% Thrus in Shared Lane												

Lane Flow Rate and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LT	R		LTR			LT	R	
Flow Rate, v (veh/h)	474			284	85		433			253	20	
Percent Heavy Vehicles	14			14	14		14			14	14	
Initial Departure Headway, h_d (s)	3.20			3.20	3.20		3.20			3.20	3.20	
Initial Degree of Utilization, x	0.421			0.253	0.076		0.385			0.225	0.018	
Final Departure Headway, h_d (s)	8.83			9.38	8.50		8.75			9.54	8.72	
Final Degree of Utilization, x	1.164			0.741	0.202		1.052			0.670	0.049	
Move-Up Time, m (s)	2.0			2.3	2.3		2.0			2.3	2.3	
Service Time, t_s (s)	6.83			7.08	6.20		6.75			7.24	6.42	

Capacity, Delay and Level of Service

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LT	R		LTR			LT	R	
Flow Rate, v (veh/h)	474			284	85		433			253	20	
Capacity (veh/h)	408			384	423		411			377	413	
95% Queue Length, Q_{95} (veh)	18.1			5.8	0.7		14.1			4.7	0.2	
95% Queue Length, Q_{95} (ft)	503.2			161.2	19.5		392.0			130.7	5.6	
Control Delay (s/veh)	125.9			34.6	13.3		88.8			29.6	11.9	
Level of Service, LOS	F			D	B		F			D	B	
Approach Delay (s/veh) | LOS	125.9	F		29.7	D		88.8	F		28.3	D	
Intersection Delay (s/veh) | LOS	75.4						F					

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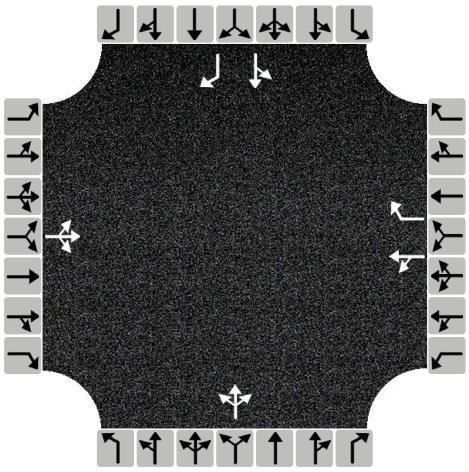
HCS All-Way Stop Control Report

General and Site Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/27/2024
Analysis Year	2046
Analysis Time Period (hrs)	0.25
Time Analyzed	PM Peak Hour+Project
Project Description	TIS for Warehouse Facility
Intersection	Enos Lane/7th Standard Road
Jurisdiction	County
East/West Street	7th Standard Road
North/South Street	Enos Lane
Peak Hour Factor	0.89

Lanes



Turning Movement Demand Volumes

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume (veh/h)	66	251	108	96	157	76	50	193	153	61	190	34
% Thrus in Shared Lane												

Lane Flow Rate and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LT	R		LTR			LT	R	
Flow Rate, v (veh/h)	478			284	85		445			282	38	
Percent Heavy Vehicles	14			14	14		14			14	14	
Initial Departure Headway, h_d (s)	3.20			3.20	3.20		3.20			3.20	3.20	
Initial Degree of Utilization, x	0.424			0.253	0.076		0.396			0.251	0.034	
Final Departure Headway, h_d (s)	9.05			9.56	8.68		8.97			9.56	8.74	
Final Degree of Utilization, x	1.201			0.755	0.206		1.108			0.749	0.093	
Move-Up Time, m (s)	2.0			2.3	2.3		2.0			2.3	2.3	
Service Time, t_s (s)	7.05			7.26	6.38		6.97			7.26	6.44	

Capacity, Delay and Level of Service

Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LT	R		LTR			LT	R	
Flow Rate, v (veh/h)	478			284	85		445			282	38	
Capacity (veh/h)	398			377	415		401			377	412	
95% Queue Length, Q_{95} (veh)	19.3			6.1	0.8		15.9			5.9	0.3	
95% Queue Length, Q_{95} (ft)	536.5			169.6	22.2		442.0			164.0	8.3	
Control Delay (s/veh)	140.4			36.4	13.6		107.6			35.8	12.3	
Level of Service, LOS	F			E	B		F			E	B	
Approach Delay (s/veh) | LOS	140.4	F		31.1	D		107.6	F		33.0	D	
Intersection Delay (s/veh) | LOS	85.0						F					

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HCS Two-Way Stop-Control Report

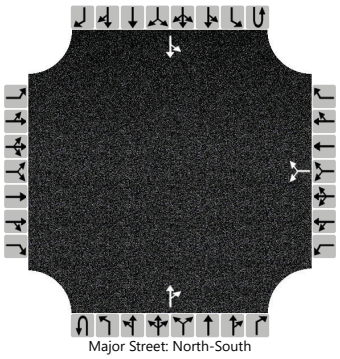
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/27/2024
Analysis Year	2024
Time Analyzed	PM Peak Hour
Intersection Orientation	North-South
Project Description	TIS for Warehouse Facility

Site Information

Intersection	Enos Lane and Coberly Road
Jurisdiction	County
East/West Street	Coberly Road
North/South Street	Enos Lane
Peak Hour Factor	0.70
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						2		0			193	0		0	131	
Percent Heavy Vehicles (%)						5		5						5		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.45		6.25						4.15		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.55		3.35						2.25		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							3							0		
Capacity, c (veh/h)							552							1270		
v/c Ratio							0.01							0.00		
95% Queue Length, Q_{95} (veh)							0.0							0.0		
95% Queue Length, Q_{95} (ft)							0.0									
Control Delay (s/veh)							11.6							7.8	0.0	
Level of Service (LOS)							B							A	A	
Approach Delay (s/veh)					11.6								0.0			
Approach LOS					B								A			

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HCS Two-Way Stop-Control Report

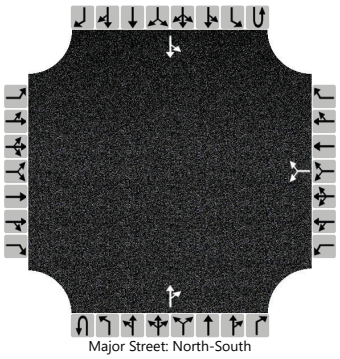
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	10/4/2024
Analysis Year	2024
Time Analyzed	PM Peak Hour+Project
Intersection Orientation	North-South
Project Description	TIS for Warehouse Facility

Site Information

Intersection	Enos Lane and Coberly Road
Jurisdiction	County
East/West Street	Coberly Road
North/South Street	Enos Lane
Peak Hour Factor	0.70
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						16		6			193	8		2	131	
Percent Heavy Vehicles (%)						5		5						5		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.45		6.25						4.15		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.55		3.35						2.25		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							31							3		
Capacity, c (veh/h)							586							1258		
v/c Ratio							0.05							0.00		
95% Queue Length, Q_{95} (veh)							0.2							0.0		
95% Queue Length, Q_{95} (ft)							5.2							0.0		
Control Delay (s/veh)							11.5							7.9	0.0	
Level of Service (LOS)							B							A	A	
Approach Delay (s/veh)					11.5								0.1			
Approach LOS					B								A			

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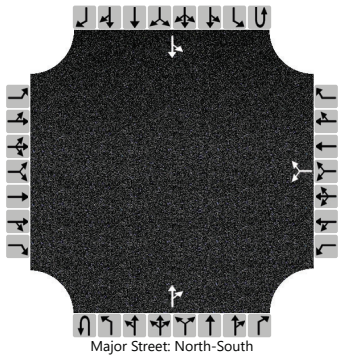
HCS Two-Way Stop-Control Report

General Information		Site Information	
Analyst	BMB	Intersection	Enos Lane and Coberly Road
Agency/Co.	LAV Consulting	Jurisdiction	County
Date Performed	3/27/2024	East/West Street	Coberly Road
Analysis Year	2026	North/South Street	Enos Lane
Time Analyzed	PM Peak Hour	Peak Hour Factor	0.70
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	TIS for Warehouse Facility		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						2		0			199	0		0	135	
Percent Heavy Vehicles (%)						5		5						5		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.45		6.25						4.15		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.55		3.35						2.25		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							3							0		
Capacity, c (veh/h)							541							1261		
v/c Ratio							0.01							0.00		
95% Queue Length, Q_{95} (veh)							0.0							0.0		
95% Queue Length, Q_{95} (ft)							0.0									
Control Delay (s/veh)							11.7							7.9	0.0	
Level of Service (LOS)							B							A	A	
Approach Delay (s/veh)					11.7								0.0			
Approach LOS					B								A			

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HCS Two-Way Stop-Control Report

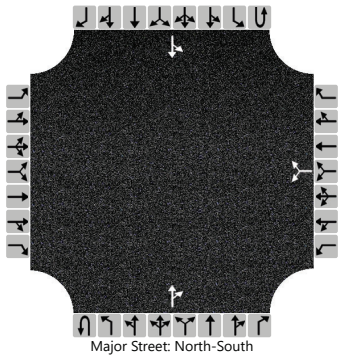
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	10/4/2024
Analysis Year	2026
Time Analyzed	PM Peak Hour+Project
Intersection Orientation	North-South
Project Description	TIS for Warehouse Facility

Site Information

Intersection	Enos Lane and Coberly Road
Jurisdiction	County
East/West Street	Coberly Road
North/South Street	Enos Lane
Peak Hour Factor	0.70
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						16		6			199	8		2	135	
Percent Heavy Vehicles (%)						5		5						5		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.45		6.25						4.15		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.55		3.35						2.25		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							31							3		
Capacity, c (veh/h)							576							1249		
v/c Ratio							0.05							0.00		
95% Queue Length, Q_{95} (veh)							0.2							0.0		
95% Queue Length, Q_{95} (ft)							5.2							0.0		
Control Delay (s/veh)							11.6							7.9	0.0	
Level of Service (LOS)							B							A	A	
Approach Delay (s/veh)					11.6								0.1			
Approach LOS					B								A			

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HCS Two-Way Stop-Control Report

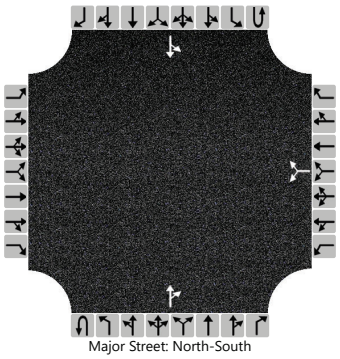
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	3/27/2024
Analysis Year	2046
Time Analyzed	PM Peak Hour
Intersection Orientation	North-South
Project Description	TIS for Warehouse Facility

Site Information

Intersection	Enos Lane and Coberly Road
Jurisdiction	County
East/West Street	Coberly Road
North/South Street	Enos Lane
Peak Hour Factor	0.70
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						3		0			268	0		0	182	
Percent Heavy Vehicles (%)						5		5						5		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.45		6.25						4.15		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.55		3.35						2.25		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							4							0		
Capacity, c (veh/h)							433							1159		
v/c Ratio							0.01							0.00		
95% Queue Length, Q_{95} (veh)							0.0							0.0		
95% Queue Length, Q_{95} (ft)							0.0									
Control Delay (s/veh)							13.4							8.1	0.0	
Level of Service (LOS)							B							A	A	
Approach Delay (s/veh)					13.4								0.0			
Approach LOS					B								A			

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HCS Two-Way Stop-Control Report

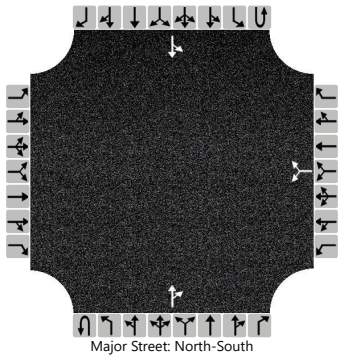
General Information

Analyst	BMB
Agency/Co.	LAV Consulting
Date Performed	10/4/2024
Analysis Year	2046
Time Analyzed	PM Peak Hour+Project
Intersection Orientation	North-South
Project Description	TIS for Warehouse Facility

Site Information

Intersection	Enos Lane and Coberly Road
Jurisdiction	County
East/West Street	Coberly Road
North/South Street	Enos Lane
Peak Hour Factor	0.70
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						17		6			268	8		2	182	
Percent Heavy Vehicles (%)						5		5						5		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.45		6.25						4.15		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.55		3.35						2.25		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							33							3		
Capacity, c (veh/h)							468							1148		
v/c Ratio							0.07							0.00		
95% Queue Length, Q_{95} (veh)							0.2							0.0		
95% Queue Length, Q_{95} (ft)							5.2							0.0		
Control Delay (s/veh)							13.3							8.1	0.0	
Level of Service (LOS)							B							A	A	
Approach Delay (s/veh)					13.3								0.1			
Approach LOS					B								A			

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Street Segments

HCS Two-Lane Highway Report

Project Information			
Analyst	BMB	Date	3/27/2024
Agency	LAV Consulting	Analysis Year	2024
Jurisdiction	County	Time Analyzed	AM Peak Hour
Project Description	7th Standard Road - Enos Ln to Cherry Ave	Units	U.S. Customary

Segment 1

Vehicle Inputs			
Segment Type	Passing Zone	Length, ft	2490
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	55	Access Point Density, pts/mi	0.0

Demand and Capacity			
Directional Demand Flow Rate, veh/h	401	Opposing Demand Flow Rate, veh/h	330
Peak Hour Factor	0.93	Total Trucks, %	16.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.24

Intermediate Results			
Segment Vertical Class	1	Free-Flow Speed, mi/h	62.2
Speed Slope Coefficient (m)	3.68426	Speed Power Coefficient (p)	0.50920
PF Slope Coefficient (m)	-1.26749	PF Power Coefficient (p)	0.79965
In Passing Lane Effective Length?	No	Follower Density, followers/mi/ln	3.0
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2490	-	-	60.2

Vehicle Results			
Average Speed, mi/h	60.2	Percent Followers, %	45.7
Segment Travel Time, minutes	0.47	Adj. Follower Density, followers/mi/ln	3.0
Vehicle LOS	B		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	44	0.02	3.0	B

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HCS Two-Lane Highway Report

Project Information			
Analyst	BMB	Date	10/7/2024
Agency	LAV Consulting	Analysis Year	2024+Project
Jurisdiction	County	Time Analyzed	AM Peak Hour
Project Description	7th Standard Road - Enos Ln to Cherry Ave	Units	U.S. Customary

Segment 1

Vehicle Inputs			
Segment Type	Passing Zone	Length, ft	2490
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	55	Access Point Density, pts/mi	0.0

Demand and Capacity			
Directional Demand Flow Rate, veh/h	401	Opposing Demand Flow Rate, veh/h	330
Peak Hour Factor	0.93	Total Trucks, %	16.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.24

Intermediate Results			
Segment Vertical Class	1	Free-Flow Speed, mi/h	62.2
Speed Slope Coefficient (m)	3.68426	Speed Power Coefficient (p)	0.50920
PF Slope Coefficient (m)	-1.26749	PF Power Coefficient (p)	0.79965
In Passing Lane Effective Length?	No	Follower Density, followers/mi/ln	3.0
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2490	-	-	60.2

Vehicle Results			
Average Speed, mi/h	60.2	Percent Followers, %	45.7
Segment Travel Time, minutes	0.47	Adj. Follower Density, followers/mi/ln	3.0
Vehicle LOS	B		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	44	0.02	3.0	B

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HCS Two-Lane Highway Report

Project Information			
Analyst	BMB	Date	3/27/2024
Agency	LAV Consulting	Analysis Year	2026
Jurisdiction	County	Time Analyzed	AM Peak Hour
Project Description	7th Standard Road - Enos Ln to Cherry Ave	Units	U.S. Customary

Segment 1

Vehicle Inputs			
Segment Type	Passing Zone	Length, ft	2490
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	55	Access Point Density, pts/mi	0.0

Demand and Capacity			
Directional Demand Flow Rate, veh/h	413	Opposing Demand Flow Rate, veh/h	340
Peak Hour Factor	0.93	Total Trucks, %	16.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.24

Intermediate Results			
Segment Vertical Class	1	Free-Flow Speed, mi/h	62.2
Speed Slope Coefficient (m)	3.68700	Speed Power Coefficient (p)	0.50736
PF Slope Coefficient (m)	-1.26902	PF Power Coefficient (p)	0.79912
In Passing Lane Effective Length?	No	Follower Density, followers/mi/ln	3.2
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2490	-	-	60.1

Vehicle Results			
Average Speed, mi/h	60.1	Percent Followers, %	46.5
Segment Travel Time, minutes	0.47	Adj. Follower Density, followers/mi/ln	3.2
Vehicle LOS	B		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	45	0.02	3.2	B

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HCS Two-Lane Highway Report

Project Information			
Analyst	BMB	Date	10/4/2024
Agency	LAV Consulting	Analysis Year	2026+Project
Jurisdiction	County	Time Analyzed	AM Peak Hour
Project Description	7th Standard Road - Enos Ln to Cherry Ave	Units	U.S. Customary

Segment 1

Vehicle Inputs			
Segment Type	Passing Zone	Length, ft	2490
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	55	Access Point Density, pts/mi	0.0

Demand and Capacity			
Directional Demand Flow Rate, veh/h	413	Opposing Demand Flow Rate, veh/h	340
Peak Hour Factor	0.93	Total Trucks, %	16.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.24

Intermediate Results			
Segment Vertical Class	1	Free-Flow Speed, mi/h	62.2
Speed Slope Coefficient (m)	3.68700	Speed Power Coefficient (p)	0.50736
PF Slope Coefficient (m)	-1.26902	PF Power Coefficient (p)	0.79912
In Passing Lane Effective Length?	No	Follower Density, followers/mi/ln	3.2
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2490	-	-	60.1

Vehicle Results			
Average Speed, mi/h	60.1	Percent Followers, %	46.5
Segment Travel Time, minutes	0.47	Adj. Follower Density, followers/mi/ln	3.2
Vehicle LOS	B		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	45	0.02	3.2	B

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HCS Two-Lane Highway Report

Project Information			
Analyst	BMB	Date	3/27/2024
Agency	LAV Consulting	Analysis Year	2046
Jurisdiction	County	Time Analyzed	AM Peak Hour
Project Description	7th Standard Road - Enos Ln to Cherry Ave	Units	U.S. Customary

Segment 1

Vehicle Inputs			
Segment Type	Passing Zone	Length, ft	2490
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	55	Access Point Density, pts/mi	0.0

Demand and Capacity			
Directional Demand Flow Rate, veh/h	557	Opposing Demand Flow Rate, veh/h	458
Peak Hour Factor	0.93	Total Trucks, %	16.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.33

Intermediate Results			
Segment Vertical Class	1	Free-Flow Speed, mi/h	62.2
Speed Slope Coefficient (m)	3.71778	Speed Power Coefficient (p)	0.48790
PF Slope Coefficient (m)	-1.28489	PF Power Coefficient (p)	0.79324
In Passing Lane Effective Length?	No	Follower Density, followers/mi/ln	5.2
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2490	-	-	59.6

Vehicle Results			
Average Speed, mi/h	59.6	Percent Followers, %	55.4
Segment Travel Time, minutes	0.47	Adj. Follower Density, followers/mi/ln	5.2
Vehicle LOS	C		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	61	0.04	5.2	C

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HCS Two-Lane Highway Report

Project Information			
Analyst	BMB	Date	10/4/2024
Agency	LAV Consulting	Analysis Year	2046+Project
Jurisdiction	County	Time Analyzed	AM Peak Hour
Project Description	7th Standard Road - Enos Ln to Cherry Ave	Units	U.S. Customary

Segment 1

Vehicle Inputs			
Segment Type	Passing Zone	Length, ft	2490
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	55	Access Point Density, pts/mi	0.0

Demand and Capacity			
Directional Demand Flow Rate, veh/h	557	Opposing Demand Flow Rate, veh/h	458
Peak Hour Factor	0.93	Total Trucks, %	16.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.33

Intermediate Results			
Segment Vertical Class	1	Free-Flow Speed, mi/h	62.2
Speed Slope Coefficient (m)	3.71778	Speed Power Coefficient (p)	0.48790
PF Slope Coefficient (m)	-1.28489	PF Power Coefficient (p)	0.79324
In Passing Lane Effective Length?	No	Follower Density, followers/mi/ln	5.2
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2490	-	-	59.6

Vehicle Results			
Average Speed, mi/h	59.6	Percent Followers, %	55.4
Segment Travel Time, minutes	0.47	Adj. Follower Density, followers/mi/ln	5.2
Vehicle LOS	C		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	61	0.04	5.2	C

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HCS Two-Lane Highway Report

Project Information			
Analyst	BMB	Date	3/27/2024
Agency	LAV Consulting	Analysis Year	2024
Jurisdiction	County	Time Analyzed	AM Peak Hour
Project Description	Cherry Ave - Coberly Road to 7th Standard Road	Units	U.S. Customary

Segment 1

Vehicle Inputs			
Segment Type	Passing Zone	Length, ft	2670
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	55	Access Point Density, pts/mi	0.0

Demand and Capacity			
Directional Demand Flow Rate, veh/h	45	Opposing Demand Flow Rate, veh/h	173
Peak Hour Factor	0.84	Total Trucks, %	17.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.03

Intermediate Results			
Segment Vertical Class	1	Free-Flow Speed, mi/h	62.1
Speed Slope Coefficient (m)	3.63282	Speed Power Coefficient (p)	0.54734
PF Slope Coefficient (m)	-1.22986	PF Power Coefficient (p)	0.81191
In Passing Lane Effective Length?	No	Follower Density, followers/mi/ln	0.1
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2670	-	-	62.1

Vehicle Results			
Average Speed, mi/h	62.1	Percent Followers, %	9.5
Segment Travel Time, minutes	0.49	Adj. Follower Density, followers/mi/ln	0.1
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	5	0.00	0.1	A

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HCS Two-Lane Highway Report

Project Information			
Analyst	BMB	Date	10/4/2024
Agency	LAV Consulting	Analysis Year	2024 + Project
Jurisdiction	County	Time Analyzed	AM Peak Hour
Project Description	Coberly Road - Enos Ln to Cherry Ave	Units	U.S. Customary

Segment 1

Vehicle Inputs			
Segment Type	Passing Zone	Length, ft	3413
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	45	Access Point Density, pts/mi	0.0

Demand and Capacity			
Directional Demand Flow Rate, veh/h	37	Opposing Demand Flow Rate, veh/h	21
Peak Hour Factor	0.63	Total Trucks, %	7.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.02

Intermediate Results			
Segment Vertical Class	1	Free-Flow Speed, mi/h	51.1
Speed Slope Coefficient (m)	2.95344	Speed Power Coefficient (p)	0.62665
PF Slope Coefficient (m)	-1.18071	PF Power Coefficient (p)	0.80289
In Passing Lane Effective Length?	No	Follower Density, followers/mi/ln	0.1
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	3413	-	-	51.1

Vehicle Results			
Average Speed, mi/h	51.1	Percent Followers, %	7.9
Segment Travel Time, minutes	0.76	Adj. Follower Density, followers/mi/ln	0.1
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	4	0.00	0.1	A

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HCS Two-Lane Highway Report

Project Information			
Analyst	BMB	Date	3/27/2024
Agency	LAV Consulting	Analysis Year	2026
Jurisdiction	County	Time Analyzed	AM Peak Hour
Project Description	Cherry Ave - Coberly Road to 7th Standard Road	Units	U.S. Customary

Segment 1

Vehicle Inputs			
Segment Type	Passing Zone	Length, ft	2670
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	55	Access Point Density, pts/mi	0.0

Demand and Capacity			
Directional Demand Flow Rate, veh/h	46	Opposing Demand Flow Rate, veh/h	177
Peak Hour Factor	0.84	Total Trucks, %	17.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.03

Intermediate Results			
Segment Vertical Class	1	Free-Flow Speed, mi/h	62.1
Speed Slope Coefficient (m)	3.63469	Speed Power Coefficient (p)	0.54587
PF Slope Coefficient (m)	-1.23114	PF Power Coefficient (p)	0.81152
In Passing Lane Effective Length?	No	Follower Density, followers/mi/ln	0.1
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2670	-	-	62.1

Vehicle Results			
Average Speed, mi/h	62.1	Percent Followers, %	9.7
Segment Travel Time, minutes	0.49	Adj. Follower Density, followers/mi/ln	0.1
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	5	0.00	0.1	A

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HCS Two-Lane Highway Report

Project Information			
Analyst	BMB	Date	10/4/2024
Agency	LAV Consulting	Analysis Year	2026+Project
Jurisdiction	County	Time Analyzed	AM Peak Hour
Project Description	Cherry Ave - Coberly Road to 7th Standard Road	Units	U.S. Customary

Segment 1

Vehicle Inputs			
Segment Type	Passing Zone	Length, ft	2670
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	55	Access Point Density, pts/mi	0.0

Demand and Capacity			
Directional Demand Flow Rate, veh/h	46	Opposing Demand Flow Rate, veh/h	192
Peak Hour Factor	0.84	Total Trucks, %	17.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.03

Intermediate Results			
Segment Vertical Class	1	Free-Flow Speed, mi/h	62.1
Speed Slope Coefficient (m)	3.64014	Speed Power Coefficient (p)	0.54162
PF Slope Coefficient (m)	-1.23484	PF Power Coefficient (p)	0.81039
In Passing Lane Effective Length?	No	Follower Density, followers/mi/ln	0.1
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2670	-	-	62.1

Vehicle Results			
Average Speed, mi/h	62.1	Percent Followers, %	9.8
Segment Travel Time, minutes	0.49	Adj. Follower Density, followers/mi/ln	0.1
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	5	0.00	0.1	A

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HCS Two-Lane Highway Report

Project Information			
Analyst	BMB	Date	3/27/2024
Agency	LAV Consulting	Analysis Year	2046
Jurisdiction	County	Time Analyzed	AM Peak Hour
Project Description	Cherry Ave - Coberly Road to 7th Standard Road	Units	U.S. Customary

Segment 1

Vehicle Inputs			
Segment Type	Passing Zone	Length, ft	2670
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	55	Access Point Density, pts/mi	0.0

Demand and Capacity			
Directional Demand Flow Rate, veh/h	63	Opposing Demand Flow Rate, veh/h	239
Peak Hour Factor	0.84	Total Trucks, %	17.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.04

Intermediate Results			
Segment Vertical Class	1	Free-Flow Speed, mi/h	62.1
Speed Slope Coefficient (m)	3.65698	Speed Power Coefficient (p)	0.52891
PF Slope Coefficient (m)	-1.24581	PF Power Coefficient (p)	0.80696
In Passing Lane Effective Length?	No	Follower Density, followers/mi/ln	0.1
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2670	-	-	62.1

Vehicle Results			
Average Speed, mi/h	62.1	Percent Followers, %	12.5
Segment Travel Time, minutes	0.49	Adj. Follower Density, followers/mi/ln	0.1
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	7	0.00	0.1	A

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HCS Two-Lane Highway Report

Project Information			
Analyst	BMB	Date	10/4/2024
Agency	LAV Consulting	Analysis Year	2046+Project
Jurisdiction	County	Time Analyzed	AM Peak Hour
Project Description	Cherry Ave - Coberly Road to 7th Standard Road	Units	U.S. Customary

Segment 1

Vehicle Inputs			
Segment Type	Passing Zone	Length, ft	2670
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	55	Access Point Density, pts/mi	0.0

Demand and Capacity			
Directional Demand Flow Rate, veh/h	63	Opposing Demand Flow Rate, veh/h	254
Peak Hour Factor	0.84	Total Trucks, %	17.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.04

Intermediate Results			
Segment Vertical Class	1	Free-Flow Speed, mi/h	62.1
Speed Slope Coefficient (m)	3.66170	Speed Power Coefficient (p)	0.52547
PF Slope Coefficient (m)	-1.24877	PF Power Coefficient (p)	0.80601
In Passing Lane Effective Length?	No	Follower Density, followers/mi/ln	0.1
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2670	-	-	62.1

Vehicle Results			
Average Speed, mi/h	62.1	Percent Followers, %	12.6
Segment Travel Time, minutes	0.49	Adj. Follower Density, followers/mi/ln	0.1
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	7	0.00	0.1	A

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HCS Two-Lane Highway Report

Project Information			
Analyst	BMB	Date	3/27/2024
Agency	LAV Consulting	Analysis Year	2024
Jurisdiction	County	Time Analyzed	AM Peak Hour
Project Description	Coberly Road - Enos Ln to Cherry Ave	Units	U.S. Customary

Segment 1

Vehicle Inputs			
Segment Type	Passing Zone	Length, ft	3413
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	45	Access Point Density, pts/mi	0.0

Demand and Capacity			
Directional Demand Flow Rate, veh/h	0	Opposing Demand Flow Rate, veh/h	5
Peak Hour Factor	0.63	Total Trucks, %	7.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.00

Intermediate Results			
Segment Vertical Class	1	Free-Flow Speed, mi/h	51.1
Speed Slope Coefficient (m)	2.92898	Speed Power Coefficient (p)	0.65155
PF Slope Coefficient (m)	-1.15809	PF Power Coefficient (p)	0.80904
In Passing Lane Effective Length?	No	Follower Density, followers/mi/ln	0.0
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	3413	-	-	51.1

Vehicle Results			
Average Speed, mi/h	51.1	Percent Followers, %	0.0
Segment Travel Time, minutes	0.76	Adj. Follower Density, followers/mi/ln	0.0
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	0	0.00	0.0	A

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HCS Two-Lane Highway Report

Project Information			
Analyst	BMB	Date	3/27/2024
Agency	LAV Consulting	Analysis Year	2024 + Project
Jurisdiction	County	Time Analyzed	AM Peak Hour
Project Description	Coberly Road - Enos Ln to Cherry Ave	Units	U.S. Customary

Segment 1

Vehicle Inputs			
Segment Type	Passing Zone	Length, ft	3413
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	45	Access Point Density, pts/mi	0.0

Demand and Capacity			
Directional Demand Flow Rate, veh/h	60	Opposing Demand Flow Rate, veh/h	100
Peak Hour Factor	0.63	Total Trucks, %	7.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.04

Intermediate Results			
Segment Vertical Class	1	Free-Flow Speed, mi/h	51.1
Speed Slope Coefficient (m)	3.01002	Speed Power Coefficient (p)	0.57423
PF Slope Coefficient (m)	-1.22986	PF Power Coefficient (p)	0.79000
In Passing Lane Effective Length?	No	Follower Density, followers/mi/ln	0.1
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	3413	-	-	51.1

Vehicle Results			
Average Speed, mi/h	51.1	Percent Followers, %	12.5
Segment Travel Time, minutes	0.76	Adj. Follower Density, followers/mi/ln	0.1
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	6	0.00	0.1	A

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HCS Two-Lane Highway Report

Project Information			
Analyst	BMB	Date	3/27/2024
Agency	LAV Consulting	Analysis Year	2026
Jurisdiction	County	Time Analyzed	AM Peak Hour
Project Description	Coberly Road - Enos Ln to Cherry Ave	Units	U.S. Customary

Segment 1

Vehicle Inputs			
Segment Type	Passing Zone	Length, ft	3413
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	45	Access Point Density, pts/mi	0.0

Demand and Capacity			
Directional Demand Flow Rate, veh/h	0	Opposing Demand Flow Rate, veh/h	5
Peak Hour Factor	0.63	Total Trucks, %	7.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.00

Intermediate Results			
Segment Vertical Class	1	Free-Flow Speed, mi/h	51.1
Speed Slope Coefficient (m)	2.92898	Speed Power Coefficient (p)	0.65155
PF Slope Coefficient (m)	-1.15809	PF Power Coefficient (p)	0.80904
In Passing Lane Effective Length?	No	Follower Density, followers/mi/ln	0.0
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	3413	-	-	51.1

Vehicle Results			
Average Speed, mi/h	51.1	Percent Followers, %	0.0
Segment Travel Time, minutes	0.76	Adj. Follower Density, followers/mi/ln	0.0
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	0	0.00	0.0	A

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HCS Two-Lane Highway Report

Project Information			
Analyst	BMB	Date	10/4/2024
Agency	LAV Consulting	Analysis Year	2026 + Project
Jurisdiction	County	Time Analyzed	AM Peak Hour
Project Description	Coberly Road - Enos Ln to Cherry Ave	Units	U.S. Customary

Segment 1

Vehicle Inputs			
Segment Type	Passing Zone	Length, ft	3413
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	45	Access Point Density, pts/mi	0.0

Demand and Capacity			
Directional Demand Flow Rate, veh/h	37	Opposing Demand Flow Rate, veh/h	21
Peak Hour Factor	0.63	Total Trucks, %	7.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.02

Intermediate Results			
Segment Vertical Class	1	Free-Flow Speed, mi/h	51.1
Speed Slope Coefficient (m)	2.95344	Speed Power Coefficient (p)	0.62665
PF Slope Coefficient (m)	-1.18071	PF Power Coefficient (p)	0.80289
In Passing Lane Effective Length?	No	Follower Density, followers/mi/ln	0.1
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	3413	-	-	51.1

Vehicle Results			
Average Speed, mi/h	51.1	Percent Followers, %	7.9
Segment Travel Time, minutes	0.76	Adj. Follower Density, followers/mi/ln	0.1
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	4	0.00	0.1	A

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HCS Two-Lane Highway Report

Project Information			
Analyst	BMB	Date	3/27/2024
Agency	LAV Consulting	Analysis Year	2046
Jurisdiction	County	Time Analyzed	AM Peak Hour
Project Description	Coberly Road - Enos Ln to Cherry Ave	Units	U.S. Customary

Segment 1

Vehicle Inputs			
Segment Type	Passing Zone	Length, ft	3413
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	45	Access Point Density, pts/mi	0.0

Demand and Capacity			
Directional Demand Flow Rate, veh/h	0	Opposing Demand Flow Rate, veh/h	6
Peak Hour Factor	0.63	Total Trucks, %	7.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.00

Intermediate Results			
Segment Vertical Class	1	Free-Flow Speed, mi/h	51.1
Speed Slope Coefficient (m)	2.93248	Speed Power Coefficient (p)	0.64790
PF Slope Coefficient (m)	-1.16137	PF Power Coefficient (p)	0.80814
In Passing Lane Effective Length?	No	Follower Density, followers/mi/ln	0.0
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	3413	-	-	51.1

Vehicle Results			
Average Speed, mi/h	51.1	Percent Followers, %	0.0
Segment Travel Time, minutes	0.76	Adj. Follower Density, followers/mi/ln	0.0
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	0	0.00	0.0	A

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HCS Two-Lane Highway Report

Project Information			
Analyst	BMB	Date	10/4/2024
Agency	LAV Consulting	Analysis Year	2046 + Project
Jurisdiction	County	Time Analyzed	AM Peak Hour
Project Description	Coberly Road - Enos Ln to Cherry Ave	Units	U.S. Customary

Segment 1

Vehicle Inputs			
Segment Type	Passing Zone	Length, ft	3413
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	45	Access Point Density, pts/mi	0.0

Demand and Capacity			
Directional Demand Flow Rate, veh/h	38	Opposing Demand Flow Rate, veh/h	21
Peak Hour Factor	0.63	Total Trucks, %	7.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.02

Intermediate Results			
Segment Vertical Class	1	Free-Flow Speed, mi/h	51.1
Speed Slope Coefficient (m)	2.95344	Speed Power Coefficient (p)	0.62665
PF Slope Coefficient (m)	-1.18071	PF Power Coefficient (p)	0.80289
In Passing Lane Effective Length?	No	Follower Density, followers/mi/ln	0.1
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	3413	-	-	51.1

Vehicle Results			
Average Speed, mi/h	51.1	Percent Followers, %	8.2
Segment Travel Time, minutes	0.76	Adj. Follower Density, followers/mi/ln	0.1
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	4	0.00	0.1	A

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HCS Two-Lane Highway Report

Project Information			
Analyst	BMB	Date	3/27/2024
Agency	LAV Consulting	Analysis Year	2024
Jurisdiction	County	Time Analyzed	AM Peak Hour
Project Description	SR 43/Enos Lane - Coberly Road to 7th Standard Road	Units	U.S. Customary

Segment 1

Vehicle Inputs			
Segment Type	Passing Zone	Length, ft	2490
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	55	Access Point Density, pts/mi	0.0

Demand and Capacity			
Directional Demand Flow Rate, veh/h	237	Opposing Demand Flow Rate, veh/h	187
Peak Hour Factor	0.89	Total Trucks, %	14.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.14

Intermediate Results			
Segment Vertical Class	1	Free-Flow Speed, mi/h	62.2
Speed Slope Coefficient (m)	3.64110	Speed Power Coefficient (p)	0.54313
PF Slope Coefficient (m)	-1.23825	PF Power Coefficient (p)	0.80883
In Passing Lane Effective Length?	No	Follower Density, followers/mi/ln	1.2
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2490	-	-	61.0

Vehicle Results			
Average Speed, mi/h	61.0	Percent Followers, %	32.1
Segment Travel Time, minutes	0.46	Adj. Follower Density, followers/mi/ln	1.2
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	25	0.01	1.2	A

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HCS Two-Lane Highway Report

Project Information			
Analyst	BMB	Date	10/4/2024
Agency	LAV Consulting	Analysis Year	2024+Project
Jurisdiction	County	Time Analyzed	AM Peak Hour
Project Description	SR 43/Enos Lane - Coberly Road to 7th Standard Road	Units	U.S. Customary

Segment 1

Vehicle Inputs			
Segment Type	Passing Zone	Length, ft	2490
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	55	Access Point Density, pts/mi	0.0

Demand and Capacity			
Directional Demand Flow Rate, veh/h	243	Opposing Demand Flow Rate, veh/h	202
Peak Hour Factor	0.89	Total Trucks, %	14.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.14

Intermediate Results			
Segment Vertical Class	1	Free-Flow Speed, mi/h	62.2
Speed Slope Coefficient (m)	3.64695	Speed Power Coefficient (p)	0.53862
PF Slope Coefficient (m)	-1.24218	PF Power Coefficient (p)	0.80764
In Passing Lane Effective Length?	No	Follower Density, followers/mi/ln	1.3
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2490	-	-	61.0

Vehicle Results			
Average Speed, mi/h	61.0	Percent Followers, %	32.7
Segment Travel Time, minutes	0.46	Adj. Follower Density, followers/mi/ln	1.3
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	25	0.01	1.3	A

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HCS Two-Lane Highway Report

Project Information			
Analyst	BMB	Date	3/27/2024
Agency	LAV Consulting	Analysis Year	2026
Jurisdiction	County	Time Analyzed	AM Peak Hour
Project Description	SR 43/Enos Lane - Coberly Road to 7th Standard Road	Units	U.S. Customary

Segment 1

Vehicle Inputs			
Segment Type	Passing Zone	Length, ft	2490
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	55	Access Point Density, pts/mi	0.0

Demand and Capacity			
Directional Demand Flow Rate, veh/h	244	Opposing Demand Flow Rate, veh/h	192
Peak Hour Factor	0.89	Total Trucks, %	14.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.14

Intermediate Results			
Segment Vertical Class	1	Free-Flow Speed, mi/h	62.2
Speed Slope Coefficient (m)	3.64322	Speed Power Coefficient (p)	0.54149
PF Slope Coefficient (m)	-1.23968	PF Power Coefficient (p)	0.80840
In Passing Lane Effective Length?	No	Follower Density, followers/mi/ln	1.3
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2490	-	-	61.0

Vehicle Results			
Average Speed, mi/h	61.0	Percent Followers, %	32.7
Segment Travel Time, minutes	0.46	Adj. Follower Density, followers/mi/ln	1.3
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	26	0.01	1.3	A

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HCS Two-Lane Highway Report

Project Information			
Analyst	BMB	Date	10/4/2024
Agency	LAV Consulting	Analysis Year	2026+Project
Jurisdiction	County	Time Analyzed	AM Peak Hour
Project Description	SR 43/Enos Lane - Coberly Road to 7th Standard Road	Units	U.S. Customary

Segment 1

Vehicle Inputs			
Segment Type	Passing Zone	Length, ft	2490
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	55	Access Point Density, pts/mi	0.0

Demand and Capacity			
Directional Demand Flow Rate, veh/h	249	Opposing Demand Flow Rate, veh/h	208
Peak Hour Factor	0.89	Total Trucks, %	14.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.15

Intermediate Results			
Segment Vertical Class	1	Free-Flow Speed, mi/h	62.2
Speed Slope Coefficient (m)	3.64899	Speed Power Coefficient (p)	0.53707
PF Slope Coefficient (m)	-1.24352	PF Power Coefficient (p)	0.80723
In Passing Lane Effective Length?	No	Follower Density, followers/mi/ln	1.4
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2490	-	-	60.9

Vehicle Results			
Average Speed, mi/h	60.9	Percent Followers, %	33.3
Segment Travel Time, minutes	0.46	Adj. Follower Density, followers/mi/ln	1.4
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	26	0.01	1.4	A

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HCS Two-Lane Highway Report

Project Information			
Analyst	BMB	Date	3/27/2024
Agency	LAV Consulting	Analysis Year	2046
Jurisdiction	County	Time Analyzed	AM Peak Hour
Project Description	SR 43/Enos Lane - Coberly Road to 7th Standard Road	Units	U.S. Customary

Segment 1

Vehicle Inputs			
Segment Type	Passing Zone	Length, ft	2490
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	55	Access Point Density, pts/mi	0.0

Demand and Capacity			
Directional Demand Flow Rate, veh/h	329	Opposing Demand Flow Rate, veh/h	258
Peak Hour Factor	0.89	Total Trucks, %	14.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.19

Intermediate Results			
Segment Vertical Class	1	Free-Flow Speed, mi/h	62.2
Speed Slope Coefficient (m)	3.66618	Speed Power Coefficient (p)	0.52433
PF Slope Coefficient (m)	-1.25451	PF Power Coefficient (p)	0.80378
In Passing Lane Effective Length?	No	Follower Density, followers/mi/ln	2.2
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2490	-	-	60.5

Vehicle Results			
Average Speed, mi/h	60.5	Percent Followers, %	40.2
Segment Travel Time, minutes	0.47	Adj. Follower Density, followers/mi/ln	2.2
Vehicle LOS	B		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	35	0.02	2.2	B

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HCS Two-Lane Highway Report

Project Information			
Analyst	BMB	Date	10/4/2024
Agency	LAV Consulting	Analysis Year	2046+Project
Jurisdiction	County	Time Analyzed	AM Peak Hour
Project Description	SR 43/Enos Lane - Coberly Road to 7th Standard Road	Units	U.S. Customary

Segment 1

Vehicle Inputs			
Segment Type	Passing Zone	Length, ft	2490
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	55	Access Point Density, pts/mi	0.0

Demand and Capacity			
Directional Demand Flow Rate, veh/h	335	Opposing Demand Flow Rate, veh/h	274
Peak Hour Factor	0.89	Total Trucks, %	14.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.20

Intermediate Results			
Segment Vertical Class	1	Free-Flow Speed, mi/h	62.2
Speed Slope Coefficient (m)	3.67117	Speed Power Coefficient (p)	0.52075
PF Slope Coefficient (m)	-1.25756	PF Power Coefficient (p)	0.80279
In Passing Lane Effective Length?	No	Follower Density, followers/mi/ln	2.3
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2490	-	-	60.5

Vehicle Results			
Average Speed, mi/h	60.5	Percent Followers, %	40.7
Segment Travel Time, minutes	0.47	Adj. Follower Density, followers/mi/ln	2.3
Vehicle LOS	B		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	35	0.02	2.3	B

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HCS Two-Lane Highway Report

Project Information			
Analyst	BMB	Date	3/27/2024
Agency	LAV Consulting	Analysis Year	2024
Jurisdiction	County	Time Analyzed	PM Peak Hour
Project Description	7th Standard Road - Enos Ln to Cherry Ave	Units	U.S. Customary

Segment 1

Vehicle Inputs			
Segment Type	Passing Zone	Length, ft	2490
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	55	Access Point Density, pts/mi	0.0

Demand and Capacity			
Directional Demand Flow Rate, veh/h	399	Opposing Demand Flow Rate, veh/h	499
Peak Hour Factor	0.84	Total Trucks, %	17.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.23

Intermediate Results			
Segment Vertical Class	1	Free-Flow Speed, mi/h	62.1
Speed Slope Coefficient (m)	3.72563	Speed Power Coefficient (p)	0.48223
PF Slope Coefficient (m)	-1.28944	PF Power Coefficient (p)	0.79149
In Passing Lane Effective Length?	No	Follower Density, followers/mi/ln	3.1
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2490	-	-	60.1

Vehicle Results			
Average Speed, mi/h	60.1	Percent Followers, %	46.4
Segment Travel Time, minutes	0.47	Adj. Follower Density, followers/mi/ln	3.1
Vehicle LOS	B		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	39	0.02	3.1	B

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HCS Two-Lane Highway Report

Project Information			
Analyst	BMB	Date	10/4/2024
Agency	LAV Consulting	Analysis Year	2024+Project
Jurisdiction	County	Time Analyzed	PM Peak Hour
Project Description	7th Standard Road - Enos Ln to Cherry Ave	Units	U.S. Customary

Segment 1

Vehicle Inputs			
Segment Type	Passing Zone	Length, ft	2490
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	55	Access Point Density, pts/mi	0.0

Demand and Capacity			
Directional Demand Flow Rate, veh/h	399	Opposing Demand Flow Rate, veh/h	499
Peak Hour Factor	0.84	Total Trucks, %	17.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.23

Intermediate Results			
Segment Vertical Class	1	Free-Flow Speed, mi/h	62.1
Speed Slope Coefficient (m)	3.72563	Speed Power Coefficient (p)	0.48223
PF Slope Coefficient (m)	-1.28944	PF Power Coefficient (p)	0.79149
In Passing Lane Effective Length?	No	Follower Density, followers/mi/ln	3.1
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2490	-	-	60.1

Vehicle Results			
Average Speed, mi/h	60.1	Percent Followers, %	46.4
Segment Travel Time, minutes	0.47	Adj. Follower Density, followers/mi/ln	3.1
Vehicle LOS	B		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	39	0.02	3.1	B

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HCS Two-Lane Highway Report

Project Information			
Analyst	BMB	Date	3/27/2024
Agency	LAV Consulting	Analysis Year	2026
Jurisdiction	County	Time Analyzed	PM Peak Hour
Project Description	7th Standard Road - Enos Ln to Cherry Ave	Units	U.S. Customary

Segment 1

Vehicle Inputs			
Segment Type	Passing Zone	Length, ft	2490
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	55	Access Point Density, pts/mi	0.0

Demand and Capacity			
Directional Demand Flow Rate, veh/h	411	Opposing Demand Flow Rate, veh/h	513
Peak Hour Factor	0.84	Total Trucks, %	17.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.24

Intermediate Results			
Segment Vertical Class	1	Free-Flow Speed, mi/h	62.1
Speed Slope Coefficient (m)	3.72893	Speed Power Coefficient (p)	0.48035
PF Slope Coefficient (m)	-1.29090	PF Power Coefficient (p)	0.79087
In Passing Lane Effective Length?	No	Follower Density, followers/mi/ln	3.2
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2490	-	-	60.0

Vehicle Results			
Average Speed, mi/h	60.0	Percent Followers, %	47.2
Segment Travel Time, minutes	0.47	Adj. Follower Density, followers/mi/ln	3.2
Vehicle LOS	B		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	41	0.02	3.2	B

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HCS Two-Lane Highway Report

Project Information			
Analyst	BMB	Date	10/4/2024
Agency	LAV Consulting	Analysis Year	2026+Project
Jurisdiction	County	Time Analyzed	PM Peak Hour
Project Description	7th Standard Road - Enos Ln to Cherry Ave	Units	U.S. Customary

Segment 1

Vehicle Inputs			
Segment Type	Passing Zone	Length, ft	2490
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	55	Access Point Density, pts/mi	0.0

Demand and Capacity			
Directional Demand Flow Rate, veh/h	411	Opposing Demand Flow Rate, veh/h	513
Peak Hour Factor	0.84	Total Trucks, %	17.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.24

Intermediate Results			
Segment Vertical Class	1	Free-Flow Speed, mi/h	62.1
Speed Slope Coefficient (m)	3.72893	Speed Power Coefficient (p)	0.48035
PF Slope Coefficient (m)	-1.29090	PF Power Coefficient (p)	0.79087
In Passing Lane Effective Length?	No	Follower Density, followers/mi/ln	3.2
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2490	-	-	60.0

Vehicle Results			
Average Speed, mi/h	60.0	Percent Followers, %	47.2
Segment Travel Time, minutes	0.47	Adj. Follower Density, followers/mi/ln	3.2
Vehicle LOS	B		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	41	0.02	3.2	B

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HCS Two-Lane Highway Report

Project Information			
Analyst	BMB	Date	3/27/2024
Agency	LAV Consulting	Analysis Year	2046
Jurisdiction	County	Time Analyzed	PM Peak Hour
Project Description	7th Standard Road - Enos Ln to Cherry Ave	Units	U.S. Customary

Segment 1

Vehicle Inputs			
Segment Type	Passing Zone	Length, ft	2490
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	55	Access Point Density, pts/mi	0.0

Demand and Capacity			
Directional Demand Flow Rate, veh/h	554	Opposing Demand Flow Rate, veh/h	692
Peak Hour Factor	0.84	Total Trucks, %	17.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.33

Intermediate Results			
Segment Vertical Class	1	Free-Flow Speed, mi/h	62.1
Speed Slope Coefficient (m)	3.76674	Speed Power Coefficient (p)	0.46045
PF Slope Coefficient (m)	-1.30546	PF Power Coefficient (p)	0.78381
In Passing Lane Effective Length?	No	Follower Density, followers/mi/ln	5.2
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2490	-	-	59.5

Vehicle Results			
Average Speed, mi/h	59.5	Percent Followers, %	56.0
Segment Travel Time, minutes	0.48	Adj. Follower Density, followers/mi/ln	5.2
Vehicle LOS	C		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	55	0.04	5.2	C

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HCS Two-Lane Highway Report

Project Information			
Analyst	BMB	Date	10/4/2024
Agency	LAV Consulting	Analysis Year	2046 + Project
Jurisdiction	County	Time Analyzed	PM Peak Hour
Project Description	7th Standard Road - Enos Ln to Cherry Ave	Units	U.S. Customary

Segment 1

Vehicle Inputs			
Segment Type	Passing Zone	Length, ft	2490
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	55	Access Point Density, pts/mi	0.0

Demand and Capacity			
Directional Demand Flow Rate, veh/h	554	Opposing Demand Flow Rate, veh/h	692
Peak Hour Factor	0.84	Total Trucks, %	17.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.33

Intermediate Results			
Segment Vertical Class	1	Free-Flow Speed, mi/h	62.1
Speed Slope Coefficient (m)	3.76674	Speed Power Coefficient (p)	0.46045
PF Slope Coefficient (m)	-1.30546	PF Power Coefficient (p)	0.78381
In Passing Lane Effective Length?	No	Follower Density, followers/mi/ln	5.2
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2490	-	-	59.5

Vehicle Results			
Average Speed, mi/h	59.5	Percent Followers, %	56.0
Segment Travel Time, minutes	0.48	Adj. Follower Density, followers/mi/ln	5.2
Vehicle LOS	C		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	55	0.04	5.2	C

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HCS Two-Lane Highway Report

Project Information			
Analyst	BMB	Date	3/27/2024
Agency	LAV Consulting	Analysis Year	2024
Jurisdiction	County	Time Analyzed	PM Peak Hour
Project Description	Cherry Ave - Coberly Road to 7th Standard Road	Units	U.S. Customary

Segment 1

Vehicle Inputs			
Segment Type	Passing Zone	Length, ft	2670
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	55	Access Point Density, pts/mi	0.0

Demand and Capacity			
Directional Demand Flow Rate, veh/h	137	Opposing Demand Flow Rate, veh/h	51
Peak Hour Factor	0.93	Total Trucks, %	16.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.08

Intermediate Results			
Segment Vertical Class	1	Free-Flow Speed, mi/h	62.2
Speed Slope Coefficient (m)	3.57213	Speed Power Coefficient (p)	0.60111
PF Slope Coefficient (m)	-1.18244	PF Power Coefficient (p)	0.82570
In Passing Lane Effective Length?	No	Follower Density, followers/mi/ln	0.5
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2670	-	-	61.7

Vehicle Results			
Average Speed, mi/h	61.7	Percent Followers, %	20.4
Segment Travel Time, minutes	0.49	Adj. Follower Density, followers/mi/ln	0.5
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	16	0.00	0.5	A

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HCS Two-Lane Highway Report

Project Information			
Analyst	BMB	Date	10/4/2024
Agency	LAV Consulting	Analysis Year	2024+Project
Jurisdiction	County	Time Analyzed	PM Peak Hour
Project Description	Cherry Ave - Coberly Road to 7th Standard Road	Units	U.S. Customary

Segment 1

Vehicle Inputs			
Segment Type	Passing Zone	Length, ft	2670
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	55	Access Point Density, pts/mi	0.0

Demand and Capacity			
Directional Demand Flow Rate, veh/h	149	Opposing Demand Flow Rate, veh/h	54
Peak Hour Factor	0.93	Total Trucks, %	16.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.09

Intermediate Results			
Segment Vertical Class	1	Free-Flow Speed, mi/h	62.2
Speed Slope Coefficient (m)	3.57444	Speed Power Coefficient (p)	0.59896
PF Slope Coefficient (m)	-1.18434	PF Power Coefficient (p)	0.82515
In Passing Lane Effective Length?	No	Follower Density, followers/mi/ln	0.5
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2670	-	-	61.6

Vehicle Results			
Average Speed, mi/h	61.6	Percent Followers, %	21.9
Segment Travel Time, minutes	0.49	Adj. Follower Density, followers/mi/ln	0.5
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	18	0.00	0.5	A

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HCS Two-Lane Highway Report

Project Information			
Analyst	BMB	Date	3/27/2024
Agency	LAV Consulting	Analysis Year	2026
Jurisdiction	County	Time Analyzed	PM Peak Hour
Project Description	Cherry Ave - Coberly Road to 7th Standard Road	Units	U.S. Customary

Segment 1

Vehicle Inputs			
Segment Type	Passing Zone	Length, ft	2670
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	55	Access Point Density, pts/mi	0.0

Demand and Capacity			
Directional Demand Flow Rate, veh/h	141	Opposing Demand Flow Rate, veh/h	52
Peak Hour Factor	0.93	Total Trucks, %	16.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.08

Intermediate Results			
Segment Vertical Class	1	Free-Flow Speed, mi/h	62.2
Speed Slope Coefficient (m)	3.57291	Speed Power Coefficient (p)	0.60038
PF Slope Coefficient (m)	-1.18308	PF Power Coefficient (p)	0.82551
In Passing Lane Effective Length?	No	Follower Density, followers/mi/ln	0.5
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2670	-	-	61.6

Vehicle Results			
Average Speed, mi/h	61.6	Percent Followers, %	20.9
Segment Travel Time, minutes	0.49	Adj. Follower Density, followers/mi/ln	0.5
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	17	0.00	0.5	A

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HCS Two-Lane Highway Report

Project Information			
Analyst	BMB	Date	10/4/2024
Agency	LAV Consulting	Analysis Year	2026+Project
Jurisdiction	County	Time Analyzed	PM Peak Hour
Project Description	Cherry Ave - Coberly Road to 7th Standard Road	Units	U.S. Customary

Segment 1

Vehicle Inputs			
Segment Type	Passing Zone	Length, ft	2670
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	55	Access Point Density, pts/mi	0.0

Demand and Capacity			
Directional Demand Flow Rate, veh/h	154	Opposing Demand Flow Rate, veh/h	55
Peak Hour Factor	0.93	Total Trucks, %	16.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.09

Intermediate Results			
Segment Vertical Class	1	Free-Flow Speed, mi/h	62.2
Speed Slope Coefficient (m)	3.57520	Speed Power Coefficient (p)	0.59826
PF Slope Coefficient (m)	-1.18496	PF Power Coefficient (p)	0.82497
In Passing Lane Effective Length?	No	Follower Density, followers/mi/ln	0.6
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2670	-	-	61.5

Vehicle Results			
Average Speed, mi/h	61.5	Percent Followers, %	22.3
Segment Travel Time, minutes	0.49	Adj. Follower Density, followers/mi/ln	0.6
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	18	0.00	0.6	A

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HCS Two-Lane Highway Report

Project Information			
Analyst	BMB	Date	3/27/2024
Agency	LAV Consulting	Analysis Year	2046
Jurisdiction	County	Time Analyzed	PM Peak Hour
Project Description	Cherry Ave - Coberly Road to 7th Standard Road	Units	U.S. Customary

Segment 1

Vehicle Inputs			
Segment Type	Passing Zone	Length, ft	2670
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	55	Access Point Density, pts/mi	0.0

Demand and Capacity			
Directional Demand Flow Rate, veh/h	189	Opposing Demand Flow Rate, veh/h	70
Peak Hour Factor	0.93	Total Trucks, %	16.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.11

Intermediate Results			
Segment Vertical Class	1	Free-Flow Speed, mi/h	62.2
Speed Slope Coefficient (m)	3.58510	Speed Power Coefficient (p)	0.58923
PF Slope Coefficient (m)	-1.19295	PF Power Coefficient (p)	0.82267
In Passing Lane Effective Length?	No	Follower Density, followers/mi/ln	0.8
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2670	-	-	61.3

Vehicle Results			
Average Speed, mi/h	61.3	Percent Followers, %	26.2
Segment Travel Time, minutes	0.49	Adj. Follower Density, followers/mi/ln	0.8
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	22	0.01	0.8	A

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HCS Two-Lane Highway Report

Project Information			
Analyst	BMB	Date	10/4/2024
Agency	LAV Consulting	Analysis Year	2046+Project
Jurisdiction	County	Time Analyzed	PM Peak Hour
Project Description	Cherry Ave - Coberly Road to 7th Standard Road	Units	U.S. Customary

Segment 1

Vehicle Inputs			
Segment Type	Passing Zone	Length, ft	2670
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	55	Access Point Density, pts/mi	0.0

Demand and Capacity			
Directional Demand Flow Rate, veh/h	202	Opposing Demand Flow Rate, veh/h	73
Peak Hour Factor	0.93	Total Trucks, %	16.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.12

Intermediate Results			
Segment Vertical Class	1	Free-Flow Speed, mi/h	62.2
Speed Slope Coefficient (m)	3.58707	Speed Power Coefficient (p)	0.58745
PF Slope Coefficient (m)	-1.19452	PF Power Coefficient (p)	0.82222
In Passing Lane Effective Length?	No	Follower Density, followers/mi/ln	0.9
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2670	-	-	61.2

Vehicle Results			
Average Speed, mi/h	61.2	Percent Followers, %	27.4
Segment Travel Time, minutes	0.50	Adj. Follower Density, followers/mi/ln	0.9
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	24	0.01	0.9	A

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HCS Two-Lane Highway Report

Project Information			
Analyst	BMB	Date	3/27/2024
Agency	LAV Consulting	Analysis Year	2024
Jurisdiction	County	Time Analyzed	PM Peak Hour
Project Description	Coberly Road - Enos Ln to Cherry Ave	Units	U.S. Customary

Segment 1

Vehicle Inputs			
Segment Type	Passing Zone	Length, ft	3413
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	45	Access Point Density, pts/mi	0.0

Demand and Capacity			
Directional Demand Flow Rate, veh/h	4	Opposing Demand Flow Rate, veh/h	0
Peak Hour Factor	0.56	Total Trucks, %	3.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.00

Intermediate Results			
Segment Vertical Class	1	Free-Flow Speed, mi/h	51.2
Speed Slope Coefficient (m)	2.91358	Speed Power Coefficient (p)	0.67576
PF Slope Coefficient (m)	-1.13675	PF Power Coefficient (p)	0.81491
In Passing Lane Effective Length?	No	Follower Density, followers/mi/ln	0.0
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	3413	-	-	51.2

Vehicle Results			
Average Speed, mi/h	51.2	Percent Followers, %	1.1
Segment Travel Time, minutes	0.76	Adj. Follower Density, followers/mi/ln	0.0
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	0	0.00	0.0	A

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HCS Two-Lane Highway Report

Project Information			
Analyst	BMB	Date	10/4/2024
Agency	LAV Consulting	Analysis Year	2024 + Project
Jurisdiction	County	Time Analyzed	PM Peak Hour
Project Description	Coberly Road - Enos Ln to Cherry Ave	Units	U.S. Customary

Segment 1

Vehicle Inputs			
Segment Type	Passing Zone	Length, ft	3413
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	45	Access Point Density, pts/mi	0.0

Demand and Capacity			
Directional Demand Flow Rate, veh/h	39	Opposing Demand Flow Rate, veh/h	23
Peak Hour Factor	0.56	Total Trucks, %	3.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.02

Intermediate Results			
Segment Vertical Class	1	Free-Flow Speed, mi/h	51.2
Speed Slope Coefficient (m)	2.96352	Speed Power Coefficient (p)	0.62383
PF Slope Coefficient (m)	-1.18354	PF Power Coefficient (p)	0.80202
In Passing Lane Effective Length?	No	Follower Density, followers/mi/ln	0.1
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	3413	-	-	51.2

Vehicle Results			
Average Speed, mi/h	51.2	Percent Followers, %	8.4
Segment Travel Time, minutes	0.76	Adj. Follower Density, followers/mi/ln	0.1
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	4	0.00	0.1	A

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HCS Two-Lane Highway Report

Project Information			
Analyst	BMB	Date	3/27/2024
Agency	LAV Consulting	Analysis Year	2026
Jurisdiction	County	Time Analyzed	PM Peak Hour
Project Description	Coberly Road - Enos Ln to Cherry Ave	Units	U.S. Customary

Segment 1

Vehicle Inputs			
Segment Type	Passing Zone	Length, ft	3413
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	45	Access Point Density, pts/mi	0.0

Demand and Capacity			
Directional Demand Flow Rate, veh/h	4	Opposing Demand Flow Rate, veh/h	0
Peak Hour Factor	0.56	Total Trucks, %	3.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.00

Intermediate Results			
Segment Vertical Class	1	Free-Flow Speed, mi/h	51.2
Speed Slope Coefficient (m)	2.91358	Speed Power Coefficient (p)	0.67576
PF Slope Coefficient (m)	-1.13675	PF Power Coefficient (p)	0.81491
In Passing Lane Effective Length?	No	Follower Density, followers/mi/ln	0.0
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	3413	-	-	51.2

Vehicle Results			
Average Speed, mi/h	51.2	Percent Followers, %	1.1
Segment Travel Time, minutes	0.76	Adj. Follower Density, followers/mi/ln	0.0
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	0	0.00	0.0	A

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HCS Two-Lane Highway Report

Project Information			
Analyst	BMB	Date	10/4/2024
Agency	LAV Consulting	Analysis Year	2026 + Project
Jurisdiction	County	Time Analyzed	PM Peak Hour
Project Description	Coberly Road - Enos Ln to Cherry Ave	Units	U.S. Customary

Segment 1

Vehicle Inputs			
Segment Type	Passing Zone	Length, ft	3413
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	45	Access Point Density, pts/mi	0.0

Demand and Capacity			
Directional Demand Flow Rate, veh/h	39	Opposing Demand Flow Rate, veh/h	23
Peak Hour Factor	0.56	Total Trucks, %	3.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.02

Intermediate Results			
Segment Vertical Class	1	Free-Flow Speed, mi/h	51.2
Speed Slope Coefficient (m)	2.96352	Speed Power Coefficient (p)	0.62383
PF Slope Coefficient (m)	-1.18354	PF Power Coefficient (p)	0.80202
In Passing Lane Effective Length?	No	Follower Density, followers/mi/ln	0.1
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	3413	-	-	51.2

Vehicle Results			
Average Speed, mi/h	51.2	Percent Followers, %	8.4
Segment Travel Time, minutes	0.76	Adj. Follower Density, followers/mi/ln	0.1
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	4	0.00	0.1	A

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HCS Two-Lane Highway Report

Project Information			
Analyst	BMB	Date	3/27/2024
Agency	LAV Consulting	Analysis Year	2046
Jurisdiction	County	Time Analyzed	PM Peak Hour
Project Description	Coberly Road - Enos Ln to Cherry Ave	Units	U.S. Customary

Segment 1

Vehicle Inputs			
Segment Type	Passing Zone	Length, ft	3413
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	45	Access Point Density, pts/mi	0.0

Demand and Capacity			
Directional Demand Flow Rate, veh/h	5	Opposing Demand Flow Rate, veh/h	0
Peak Hour Factor	0.56	Total Trucks, %	3.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.00

Intermediate Results			
Segment Vertical Class	1	Free-Flow Speed, mi/h	51.2
Speed Slope Coefficient (m)	2.91358	Speed Power Coefficient (p)	0.67576
PF Slope Coefficient (m)	-1.13675	PF Power Coefficient (p)	0.81491
In Passing Lane Effective Length?	No	Follower Density, followers/mi/ln	0.0
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	3413	-	-	51.2

Vehicle Results			
Average Speed, mi/h	51.2	Percent Followers, %	1.6
Segment Travel Time, minutes	0.76	Adj. Follower Density, followers/mi/ln	0.0
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	0	0.00	0.0	A

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HCS Two-Lane Highway Report

Project Information			
Analyst	BMB	Date	10/4/2024
Agency	LAV Consulting	Analysis Year	2046 + Project
Jurisdiction	County	Time Analyzed	PM Peak Hour
Project Description	Coberly Road - Enos Ln to Cherry Ave	Units	U.S. Customary

Segment 1

Vehicle Inputs			
Segment Type	Passing Zone	Length, ft	3413
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	45	Access Point Density, pts/mi	0.0

Demand and Capacity			
Directional Demand Flow Rate, veh/h	41	Opposing Demand Flow Rate, veh/h	23
Peak Hour Factor	0.56	Total Trucks, %	3.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.02

Intermediate Results			
Segment Vertical Class	1	Free-Flow Speed, mi/h	51.2
Speed Slope Coefficient (m)	2.96352	Speed Power Coefficient (p)	0.62383
PF Slope Coefficient (m)	-1.18354	PF Power Coefficient (p)	0.80202
In Passing Lane Effective Length?	No	Follower Density, followers/mi/ln	0.1
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	3413	-	-	51.2

Vehicle Results			
Average Speed, mi/h	51.2	Percent Followers, %	8.7
Segment Travel Time, minutes	0.76	Adj. Follower Density, followers/mi/ln	0.1
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	4	0.00	0.1	A

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HCS Two-Lane Highway Report

Project Information			
Analyst	BMB	Date	3/27/2024
Agency	LAV Consulting	Analysis Year	2024
Jurisdiction	County	Time Analyzed	PM Peak Hour
Project Description	SR 43/Enos Lane - Coberly Road to 7th Standard Road	Units	U.S. Customary

Segment 1

Vehicle Inputs			
Segment Type	Passing Zone	Length, ft	2490
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	55	Access Point Density, pts/mi	0.0

Demand and Capacity			
Directional Demand Flow Rate, veh/h	199	Opposing Demand Flow Rate, veh/h	255
Peak Hour Factor	0.88	Total Trucks, %	15.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.12

Intermediate Results			
Segment Vertical Class	1	Free-Flow Speed, mi/h	62.2
Speed Slope Coefficient (m)	3.66311	Speed Power Coefficient (p)	0.52524
PF Slope Coefficient (m)	-1.25381	PF Power Coefficient (p)	0.80409
In Passing Lane Effective Length?	No	Follower Density, followers/mi/ln	0.9
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2490	-	-	61.1

Vehicle Results			
Average Speed, mi/h	61.1	Percent Followers, %	29.0
Segment Travel Time, minutes	0.46	Adj. Follower Density, followers/mi/ln	0.9
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	21	0.01	0.9	A

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HCS Two-Lane Highway Report

Project Information			
Analyst	BMB	Date	10/4/2024
Agency	LAV Consulting	Analysis Year	2024+Project
Jurisdiction	County	Time Analyzed	PM Peak Hour
Project Description	SR 43/Enos Lane - Coberly Road to 7th Standard Road	Units	U.S. Customary

Segment 1

Vehicle Inputs			
Segment Type	Passing Zone	Length, ft	2490
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	55	Access Point Density, pts/mi	0.0

Demand and Capacity			
Directional Demand Flow Rate, veh/h	215	Opposing Demand Flow Rate, veh/h	264
Peak Hour Factor	0.88	Total Trucks, %	15.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.13

Intermediate Results			
Segment Vertical Class	1	Free-Flow Speed, mi/h	62.2
Speed Slope Coefficient (m)	3.66604	Speed Power Coefficient (p)	0.52313
PF Slope Coefficient (m)	-1.25562	PF Power Coefficient (p)	0.80351
In Passing Lane Effective Length?	No	Follower Density, followers/mi/ln	1.1
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2490	-	-	61.0

Vehicle Results			
Average Speed, mi/h	61.0	Percent Followers, %	30.6
Segment Travel Time, minutes	0.46	Adj. Follower Density, followers/mi/ln	1.1
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	22	0.01	1.1	A

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HCS Two-Lane Highway Report

Project Information			
Analyst	BMB	Date	3/27/2024
Agency	LAV Consulting	Analysis Year	2026
Jurisdiction	County	Time Analyzed	PM Peak Hour
Project Description	SR 43/Enos Lane - Coberly Road to 7th Standard Road	Units	U.S. Customary

Segment 1

Vehicle Inputs			
Segment Type	Passing Zone	Length, ft	2490
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	55	Access Point Density, pts/mi	0.0

Demand and Capacity			
Directional Demand Flow Rate, veh/h	205	Opposing Demand Flow Rate, veh/h	263
Peak Hour Factor	0.88	Total Trucks, %	15.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.12

Intermediate Results			
Segment Vertical Class	1	Free-Flow Speed, mi/h	62.2
Speed Slope Coefficient (m)	3.66568	Speed Power Coefficient (p)	0.52339
PF Slope Coefficient (m)	-1.25539	PF Power Coefficient (p)	0.80358
In Passing Lane Effective Length?	No	Follower Density, followers/mi/ln	1.0
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2490	-	-	61.1

Vehicle Results			
Average Speed, mi/h	61.1	Percent Followers, %	29.6
Segment Travel Time, minutes	0.46	Adj. Follower Density, followers/mi/ln	1.0
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	21	0.01	1.0	A

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HCS Two-Lane Highway Report

Project Information			
Analyst	BMB	Date	10/4/2024
Agency	LAV Consulting	Analysis Year	2026+Project
Jurisdiction	County	Time Analyzed	PM Peak Hour
Project Description	SR 43/Enos Lane - Coberly Road to 7th Standard Road	Units	U.S. Customary

Segment 1

Vehicle Inputs			
Segment Type	Passing Zone	Length, ft	2490
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	55	Access Point Density, pts/mi	0.0

Demand and Capacity			
Directional Demand Flow Rate, veh/h	220	Opposing Demand Flow Rate, veh/h	272
Peak Hour Factor	0.88	Total Trucks, %	15.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.13

Intermediate Results			
Segment Vertical Class	1	Free-Flow Speed, mi/h	62.2
Speed Slope Coefficient (m)	3.66856	Speed Power Coefficient (p)	0.52132
PF Slope Coefficient (m)	-1.25715	PF Power Coefficient (p)	0.80301
In Passing Lane Effective Length?	No	Follower Density, followers/mi/ln	1.1
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2490	-	-	61.0

Vehicle Results			
Average Speed, mi/h	61.0	Percent Followers, %	31.2
Segment Travel Time, minutes	0.46	Adj. Follower Density, followers/mi/ln	1.1
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	23	0.01	1.1	A

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HCS Two-Lane Highway Report

Project Information			
Analyst	BMB	Date	3/27/2024
Agency	LAV Consulting	Analysis Year	2046
Jurisdiction	County	Time Analyzed	PM Peak Hour
Project Description	SR 43/Enos Lane - Coberly Road to 7th Standard Road	Units	U.S. Customary

Segment 1

Vehicle Inputs			
Segment Type	Passing Zone	Length, ft	2490
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	55	Access Point Density, pts/mi	0.0

Demand and Capacity			
Directional Demand Flow Rate, veh/h	276	Opposing Demand Flow Rate, veh/h	353
Peak Hour Factor	0.88	Total Trucks, %	15.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.16

Intermediate Results			
Segment Vertical Class	1	Free-Flow Speed, mi/h	62.2
Speed Slope Coefficient (m)	3.69260	Speed Power Coefficient (p)	0.50485
PF Slope Coefficient (m)	-1.27103	PF Power Coefficient (p)	0.79833
In Passing Lane Effective Length?	No	Follower Density, followers/mi/ln	1.7
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2490	-	-	60.7

Vehicle Results			
Average Speed, mi/h	60.7	Percent Followers, %	36.6
Segment Travel Time, minutes	0.47	Adj. Follower Density, followers/mi/ln	1.7
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	29	0.01	1.7	A

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HCS Two-Lane Highway Report

Project Information			
Analyst	BMB	Date	10/4/2024
Agency	LAV Consulting	Analysis Year	2046+Project
Jurisdiction	County	Time Analyzed	PM Peak Hour
Project Description	SR 43/Enos Lane - Coberly Road to 7th Standard Road	Units	U.S. Customary

Segment 1

Vehicle Inputs			
Segment Type	Passing Zone	Length, ft	2490
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	55	Access Point Density, pts/mi	0.0

Demand and Capacity			
Directional Demand Flow Rate, veh/h	292	Opposing Demand Flow Rate, veh/h	363
Peak Hour Factor	0.88	Total Trucks, %	15.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.17

Intermediate Results			
Segment Vertical Class	1	Free-Flow Speed, mi/h	62.2
Speed Slope Coefficient (m)	3.69509	Speed Power Coefficient (p)	0.50322
PF Slope Coefficient (m)	-1.27238	PF Power Coefficient (p)	0.79785
In Passing Lane Effective Length?	No	Follower Density, followers/mi/ln	1.8
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2490	-	-	60.6

Vehicle Results			
Average Speed, mi/h	60.6	Percent Followers, %	37.9
Segment Travel Time, minutes	0.47	Adj. Follower Density, followers/mi/ln	1.8
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	30	0.01	1.8	A

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Appendix “C”
Additional Documentation

brent@lavpinnacle.com

From: Paul Candelaria <paulc@kerncounty.com>
Sent: Monday, November 20, 2023 2:51 PM
To: Alyssa Allen <alyssa@lavpinnacle.com>; Brent Barenberg <brent@lavpinnacle.com>
Cc: Rodd Parke <ParkeR@kerncounty.com>
Subject: Coberly Road R-value results

Good afternoon Alyssa and Brent,

I apologize for the delay, and I know it has been a while, but I got the R-value and core results for Coberly Road. Below is what the lab has found, and the R-values are attached in the PDF.

Please see attached R-Value results.

We got one at approx 1650' West of Cherry in the Westbound lane. There was 0.50' of CL2AB. AC Core thickness was 0.25'. R-Value = 28.

The second one was at approx 700' East of Enos Ln in the Eastbound lane. There was 0.50' of CL2AB. AC Core thickness was 0.25'. R-Value = 22.

Best Regards,

Paul Candelaria
Senior Engineer
Kern County Public Works Department.
(661) 862-8869 Direct
(661) 862-8851 Fax
paulc@kerncounty.com

PAVEMENT DESIGN CHECK - KERN COUNTY R-VALUE METHOD

Project: **Furniture City Warehouse** Date: 10/4/2024
Coberly Road Pavement Struct. Sect. Check Job No: 23-1042
Truck Traffic - 10-year Design Life Prep'd by: BMB

Given: GE = 0.0032 (TI) (100 - R)

TI =	7.50	R-Value Class 2 Agg. Base=	78
R Value (Native)=	22.0	R-Value Class 3 Agg. Base=	72
SF =	0.2		

Asphalt Concrete Thickness:

GE (AC) =	0.528			
GE(ACF)=	0.728			
GF(AC)=	2.01			
AC depth=	**0.36**	feet =	4.3	inches

Aggregate Base Thickness: (Min.) = 0.33 feet

GE (AB) =	1.872			
GE(ABF)=	1.872			
GE(ABF)-GE(ACF)=	1.144			
GF(AB)=	1.1			
AB depth=	**1.04**	feet	12.5	inches

Depth of Native @ 95% Rel. Compact.: (Min.) = 0.5 feet

Min. Required Section Depth = **2**

Depth Native = **0.60** feet

Final Structural Section (not rounded):

0.42	ft. Asphalt Concrete Type "B"
1.08	ft. Class 2 Aggregate Base
1.00	ft. Native Material at 95%
2.50	ft. Total Structural Section Depth

PAVEMENT DESIGN CHECK - KERN COUNTY R-VALUE METHOD

Project: **Furniture City Warehouse** Date: 10/4/2024
Coberly Road Pavement Struct. Sect. Check Job No: 23-1042
Truck Traffic - 20-year Design Life Prep'd by: BMB

Given: GE = 0.0032 (TI) (100 - R)

TI =	8.50	R-Value Class 2 Agg. Base=	78
R Value (Native)=	22.0	R-Value Class 3 Agg. Base=	72
SF =	0.2		

Asphalt Concrete Thickness:

GE (AC) =	0.5984			
GE(ACF)=	0.7984			
GF(AC)=	1.89			
AC depth=	**0.42**	feet =	5.1	inches

Aggregate Base Thickness: (Min.) = 0.33 feet

GE (AB) =	2.1216			
GE(ABF)=	2.1216			
GE(ABF)-GE(ACF)=	1.3232			
GF(AB)=	1.1			
AB depth=	**1.20**	feet	14.4	inches

Depth of Native @ 95% Rel. Compact.: (Min.) = 0.5 feet

Min. Required Section Depth = **2.5**

Depth Native = **0.87** feet

Final Structural Section (not rounded):

0.50	ft. Asphalt Concrete Type "B"
1.25	ft. Class 2 Aggregate Base
1.00	ft. Native Material at 95%
2.75	ft. Total Structural Section Depth

PAVEMENT DESIGN CHECK - KERN COUNTY R-VALUE METHOD

Project: **Furniture City Warehouse** Date: 10/4/2024
Coberly Road Pavement Struct. Sect. Check Job No: 23-1042
Truck Traffic - 30-year Design Life Prep'd by: BMB

Given: GE = 0.0032 (TI) (100 - R)

TI =	8.50	R-Value Class 2 Agg. Base=	78
R Value (Native)=	22.0	R-Value Class 3 Agg. Base=	72
SF =	0.2		

Asphalt Concrete Thickness:

GE (AC) =	0.5984			
GE(ACF)=	0.7984			
GF(AC)=	1.89			
AC depth=	**0.42**	feet =	5.1	inches

Aggregate Base Thickness: (Min.) = 0.33 feet

GE (AB) =	2.1216			
GE(ABF)=	2.1216			
GE(ABF)-GE(ACF)=	1.3232			
GF(AB)=	1.1			
AB depth=	**1.20**	feet	14.4	inches

Depth of Native @ 95% Rel. Compact.: (Min.) = 0.5 feet

Min. Required Section Depth = **2.5**

Depth Native = **0.87** feet

Final Structural Section (not rounded):

0.50	ft. Asphalt Concrete Type "B"
1.25	ft. Class 2 Aggregate Base
1.00	ft. Native Material at 95%
2.75	ft. Total Structural Section Depth

PAVEMENT DESIGN CHECK - KERN COUNTY R-VALUE METHOD

Project: **Furniture City Warehouse** Date: 10/4/2024
Coberly Road Pavement Struct. Sect. Check Job No: 23-1042
Truck Traffic - 40-year Design Life Prep'd by: BMB

Given: GE = 0.0032 (TI) (100 - R)

TI =	9.00	R-Value Class 2 Agg. Base=	78
R Value (Native)=	22.0	R-Value Class 3 Agg. Base=	72
SF =	0.2		

Asphalt Concrete Thickness:

GE (AC) =	0.6336				
GE(ACF)=	0.8336				
GF(AC)=	1.89				
AC depth=	**0.44**	feet =	5.3	inches	

Aggregate Base Thickness: (Min.) = 0.33 feet

GE (AB) =	2.2464				
GE(ABF)=	2.2464				
GE(ABF)-GE(ACF)=	1.4128				
GF(AB)=	1.1				
AB depth=	**1.28**	feet	15.4	inches	

Depth of Native @ 95% Rel. Compact.: (Min.) = 0.5 feet

Min. Required Section Depth = **2.5**

Depth Native = **0.77** feet

Final Structural Section (not rounded):

0.50	ft. Asphalt Concrete Type "B"
1.33	ft. Class 2 Aggregate Base
1.00	ft. Native Material at 95%
2.83	ft. Total Structural Section Depth