

APPENDIX A

Sierra Club Attachment

SETTLEMENT AGREEMENT AND RELEASE

This Settlement Agreement and Release of All Claims ("Agreement") is entered into by and between the Sierra Club, a California nonprofit public benefit association, the City of Stockton ("City"), a municipal services corporation, and Greenlaw Development, LLC, a California limited liability company ("Developer"), (collectively referred to as "Parties" or singularly "Party"), to terminate fully and finally all disputes concerning the matters set forth below.

RECITALS

WHEREAS, Developer, proposes to develop an approximately 203-acre site in the South Stockton area commonly known as the Mariposa Industrial Park for light industrial land uses (the "Project"). The conceptual site plan proposes construction and operation of 3,616,870 square feet of warehouse and ancillary office uses, approximately 1,831 auto parking spaces, 1,107 truck and trailer parking spaces, and related infrastructure. Developer has applied to the City for the following project approvals: (1) adoption of a Resolution certifying the Mariposa Industrial Park Environmental Impact Report (SCH #2020120283) ("EIR"), including a Statement of Overriding Considerations, and adoption of a Mitigation Monitoring and Reporting Program ("MMRP"); and (2) adoption of an Ordinance for the Pre-zoning of APNs 179-220-10; -11; -12; -13; -16; -17; -18; 19; and -24 (the "Property") to Industrial, Limited (IL); and (3) adoption an Ordinance for a Development Agreement; and (4) adoption of a Resolution authorizing the filing of an annexation application with the San Joaquin Local Agency Formation Commission (collectively the "Project Approvals"); and

WHEREAS, The Sierra Club and the California Attorney General submitted comments on the EIR requesting that additional air quality and other mitigation measures be included in the EIR and MMRP for the Project and that a fund to mitigate impacts on affected residents be created; and

WHEREAS, the Parties wish to resolve fully and finally all disputes which may exist between the Parties concerning the Project Approvals.

NOW, THEREFORE, based upon the foregoing recitals and the terms, conditions, covenants, and agreements contained above and incorporated in full below, the Parties agree as follows:

AGREEMENT

For good and valuable consideration, the receipt of which is acknowledged by each Party hereto, the Parties promise and agree as follows:

1. If the City approves the Project, and (i) the certified EIR and adopted MMRP include all of the Mitigation Measures in the attached Mariposa Industrial Project Enhanced Measures, and (ii) the authorized Development Agreement includes all of the revised terms in the attached Mariposa Industrial Project Enhanced Measures, then (iii) neither the Sierra Club nor any of its affiliates will file any complaints, claims, grievances, special proceedings or any other actions against the City or Developer with any state,

federal, or local agency or court challenging the Project Approvals or the proposed annexation of the Project site to the City of Stockton. If an affiliate of the Sierra Club is determined to have made a challenge to the Project Approvals or the proposed annexation of the Project site to the City of Stockton in violation of this Section 1, such violation shall constitute a breach of this Agreement by the Sierra Club.

2. The City will draft and consider a comprehensive Warehouse Sustainability Ordinance for future projects that establishes development standards for the construction of industrial warehousing and distribution facilities that exceed 100,000 square feet subject to periodic review for consistency with current regulatory agency recommendations before December 31, 2023. The City may incorporate the addition of warehouse sustainability requirements through its current Development Code revision/update process, provided that the ordinance is considered before December 31, 2023. City staff shall recommend adoption of the ordinance.
3. The City agrees that the Mitigation Measures in the attached Mariposa Industrial Project Enhanced Measures are designed to mitigate potentially significant environmental impacts of warehouse projects. If, prior to adopting the Warehouse Sustainability Ordinance, the City considers approving a project that proposes to develop industrial warehousing or distribution facilities that exceed 100,000 square feet, the City shall include all such applicable measures from the Mariposa Industrial Project Enhanced Measures in any Environmental Impact Report or Mitigated Negative Declaration for the project and consider requiring the project to comply with them.
4. Developer agrees to comply with the attached Mariposa Industrial Project Enhanced Measures and will comply with all applicable City building code requirements.
5. If the City approves the Project, the City will coordinate with the County of San Joaquin to develop and install signage prohibiting non-emergency vehicle access to the project site from Clark Drive or Marfargoa Road. Developer will be responsible for the costs of signage determined to be appropriate by the City and the County.
6. Developer shall pay Sierra Club \$34,350 as reimbursement for Sierra Club's attorney's fees and costs incurred in the administrative phase of the Project Approvals. Payment shall be made to the Shute, Mihaly & Weinberger LLP trust account. Developer shall make this payment within ten (10) days of the expiration of the statute of limitations set forth in Section 21167 of the Public Resources Code on actions or proceedings to attack, review, set aside, void, or annul the City of Stockton's determination of CEQA compliance for the Project Approvals, provided that no such action or proceeding has been initiated by the Sierra Club or its affiliates.
7. This Agreement shall be effective and binding upon the Parties only after the execution of both (1) this Agreement by all parties, and (2) the execution of a Memorandum of Understanding between the California Attorney General and the City relating to the City considering an ordinance to establish development standards for industrial warehouse land uses.

8. Miscellaneous.

- a. Exclusive Remedies. The Parties' sole and exclusive remedy for breach of this Agreement shall be an action for specific performance or injunction. In no event shall any Party be entitled to monetary damages for breach of this Agreement. In addition, no legal action for specific performance or injunction shall be brought or maintained until: (a) the non-breaching Party provides written notice to the breaching Party which explains with particularity the nature of the claimed breach, and (b) within thirty (30) days after receipt of said notice, the breaching Party fails to cure the claimed breach or, in the case of a claimed breach which cannot be reasonably remedied within a thirty (30) day period, the breaching Party fails to commence to cure the claimed breach within such thirty (30) day period, and thereafter diligently complete the activities reasonably necessary to remedy the claimed breach.
- b. All notices and other communications required to be provided pursuant to this Agreement shall be by electronic mail and by first class mail to the following persons at the following addresses:

SIERRA CLUB:

Margo Praus
Delta-Sierra Group
P.O. Box 9258
Stockton, CA 95208
margopraus@msn.com

with copy to:

Sierra Club
Aaron Isherwood, Coordinating Attorney
2101 Webster St., Suite 1300
Oakland, CA 94612
aaron.isherwood@sierraclub.org

with copy to:

Shute, Mihaly & Weinberger LLP
Heather Minner
396 Hayes Street
San Francisco, CA 94102
minner@smwlaw.com

GREENLAW DEVELOPMENT, LLC:

Greenlaw Partners
18301 Von Karmen Avenue, Suite 250
Irvine, CA 92612
Attn: Rob Mitchell
Email: rob@greenlawpartners.com

with copy to:

Cochran Law Group
18301 Von Karman Avenue, Suite 270
Irvine, California 92612
Attn: Thia Cochran
Email: thia@cochranlawgroup.com

with copy to:

Law Office of Daniel P. Doporto
Daniel P. Doporto
3478 Buskirk Avenue, Suite 1000
Pleasant Hill, CA 94523
Email: ddoporto@doportolaw.com

CITY OF STOCKTON:

City Attorney's Office
425 N. El Dorado Street
Stockton, CA 95202
City.attorney@stocktonca.gov

with copy to:

City Manager's Office
425 N. El Dorado Street
Stockton, CA 95202
City.manager@stocktonca.gov

- c. Binding on Successors. The terms, covenants, and conditions of this Agreement shall be binding upon and shall inure to the benefit of the heirs, executors, administrators, successors and assignees of the respective Parties. Developer shall record a copy of this Agreement against the Property. Developer will provide a copy of the recorded Agreement to Sierra Club within fifteen (15) days of such recording. The Parties shall give notice to all other Parties of any successor or assignee to the Party.

- d. Non-Admission of Liability. The Parties acknowledge and agree that this Agreement is a settlement of disputed claims. Neither the fact that the Parties have settled nor the terms of this Agreement shall be construed in any manner as an admission of any liability by any Party.
- e. Assistance of Counsel. The Parties each specifically represent that they have consulted to their satisfaction with and received independent advice from their respective counsel prior to executing this Agreement concerning the terms and conditions of this Agreement.
- f. Waiver. Failure to insist on compliance with any term, covenant or condition contained in this Agreement shall not be deemed a waiver of that term, covenant or condition, nor shall any waiver or relinquishment of any right or power contained in this Agreement at any one time or more times be deemed a waiver or relinquishment of any right or power at any other time or times.
- g. Severability. Should any portion, word, clause, phrase, sentence or paragraph of this Agreement be declared void or unenforceable, such portion shall be considered independent and severable from the remainder, the validity of which shall remain unaffected.
- h. Governing Law and Venue. This Agreement is made and entered into in the State of California, and shall in all respects be interpreted, enforced and governed under the laws of said State without giving effect to conflicts of laws principles. Any action to enforce, invalidate, or interpret any provision of this Agreement shall be brought in San Joaquin County Superior Court.
- i. Entire Agreement. This Agreement constitutes the entire agreement between the Parties who have executed it and supersedes any and all other agreements, understandings, negotiations, or discussions, either oral or in writing, express or implied between the Parties to this Agreement. No representation, inducement, promise, agreement or warranty not contained in this Agreement, including, but not limited to, any purported supplements, modifications, waivers, or terminations of this Agreement shall be valid or binding, unless executed in writing by all of the Parties to this Agreement.
- j. Each of the signatories hereto represents and warrants that he or she is competent and authorized to enter into this Agreement on behalf of the Party for whom he or she purports to sign.
- k. Counterparts. This Agreement may be executed in multiple counterparts, each of which shall be considered an original but all of which shall constitute one agreement.

[SIGNATURES COMMENCE ON FOLLOWING PAGE]

IN WITNESS WHEREOF, the undersigned execute this Settlement Agreement and Release, and hereby agree to all terms and condition herein, on the dates set forth below.

SIERRA CLUB

By: [Signature]
Name: Margo Brown
Its: Chair, Sierra Club
Date: 11-11-2022

GREENLAW DEVELOPMENT, LLC

By: [Signature]
Name: Rob Mitchell
Its: Partner
Date: 11/20/22

CITY OF STOCKTON

By: [Signature]
Name: Harry Black
Its: City Manager
Date: 12/22/22

ATTEST:
for CLERK OF THE CITY OF STOCKTON
By: [Signature]



APPROVED AS TO FORM

By: [Signature]
Name: Taryn Jones for
City Attorney
Date: 12/22/22

Attachment (1): Mariposa Industrial Project Enhanced Measures
1585908.7

The Final EIR Mitigation Measures will be revised to include the following:

AMM AIR-1: Solar Power: Owners, operators or tenants shall include with the building permit application, sufficient solar panels to provide power for the operation's base power use at the start of operations and as base power use demand increases. Project sponsor shall include analysis of (a) projected power requirements at the start of operations and as base power demand increases corresponding to the implementation of the "clean fleet" requirements, and (b) generating capacity of the solar installation.

AMM AIR -1 (continued): CDD shall verify the size and scope of the solar project based upon the analysis of the projected power requirements and generating capacity as well as the available solar panel installation space. The photovoltaic system shall include a battery storage system to serve the facility in the event of a power outage to the extent required by the 2022 or later California Building Standards Code.

AMM AIR -1 (continued): In the event sufficient space is not available on the subject lot to accommodate the needed number of solar panels to produce the operation's base or anticipated power use, the applicant shall demonstrate how all available space has been maximized (e.g., roof, parking areas, etc.). Areas which provide truck movement may be excluded from these calculations unless otherwise deemed acceptable by the supplied reports.

AMM AIR -1 (continued): The developer or tenant, or qualified solar provider engaged by the developer or tenant shall timely order all equipment and shall install the system when the City has approved building permits and the necessary equipment has arrived. The developer or tenant shall commence operation of the system when it has received permission to operate from the utility. The photovoltaic system owner shall be responsible for maintaining the system(s) at not less than 80% of the rated power for 20 years. At the end of the 20-year period, the building owner shall install a new photovoltaic system meeting the capacity and operational requirements of this measure, or continue to maintain the existing system, for the life of the project.

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<p>EMM AIR-1: Prior to the issuance of the first building permit, the applicant/developer shall demonstrate compliance with the SJVAPCD Rule 9510 (Indirect Source Review) to reduce growth in both NOx and PM10 emissions, as required by SJVAPCD and City requirements.</p>
<p>AMM AIR-1: Architectural Coatings: Construction plans shall require that architectural and industrial maintenance coatings (e.g., paints) applied on the project site shall be consistent with a VOC content of <10 g/L. Developer or tenant is not expected to exercise control over materials painted offsite by a third party.</p>
<p>AMM AIR-3: Construction Worker Trip Reduction: Project construction plans and specifications will require contractor to provide transit and ridesharing information for construction workers.</p>
<p>AMM AIR-2: SJVAPCD Regulation VIII Compliance: Construction plans and specifications shall include a Dust Control Plan incorporating the applicable requirements of Regulation VIII, which shall be submitted to the SJVAPCD for review and approval prior to beginning construction in accordance with the requirements of Regulation VIII.</p>
<p>AMM AIR -2: Emission Standards for Heavy-Duty Trucks: The following mitigation measures shall be implemented during all on-going business operations and shall be included as part of contractual lease agreement language to ensure the tenants/lessees are informed of all on-going operational responsibilities.</p> <p>The property owner/tenant/lessee shall ensure that all heavy-duty trucks (Class 7 and 8) domiciled on the project site are model year 2014 or later from start of operations and shall expedite a transition to zero-emission vehicles, with the fleet fully zero-emission by December 31, 2025 or when commercially available for the intended application, whichever date is later.</p> <p>A zero-emission vehicle shall ordinarily be considered commercially available if the vehicle is capable of serving the intended purpose and is included in California's Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project, https://californiahvip.org/ or listed as available in the US on the Global Commercial Vehicle Drive to Zero inventory,</p>

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<https://globaldrivetozero.org/>. The City shall be responsible for the final determination of commercial availability, based on all the facts and circumstances at the time the determination is made, and may (but is not required to) consult with the California Air Resources Board before making such final determination. In order for the City to make a determination that such vehicles are commercially unavailable, the operator must submit documentation from a minimum of three (3) EV dealers identified on the californiahvip.org website demonstrating the inability to obtain the required EVs or equipment needed within 6 months.

"Domiciled at the project site shall mean the vehicle is either (i) parked or kept overnight at the project site more than 70% of the calendar year or (ii) dedicated to the project site (defined as more than 70% of the truck routes (during the calendar year) that start at the project site even if parked or kept elsewhere)

Zero-emission heavy-duty trucks which require service can be temporarily replaced with model year 2014 or later trucks. Replacement trucks shall be used for only the minimum time required for servicing fleet trucks.

AMM AIR-3: Zero Emission Vehicles: The property owner/tenant/lessee shall utilize a "clean fleet" of vehicles/delivery vans/trucks (Class 2 through 6) as part of business operations as follows: For any vehicle (Class 2 through 6) domiciled at the project site, the following "clean fleet" requirements apply: (i) 33% of the fleet will be zero emission vehicles at start of operations, (ii) 65% of the fleet will be zero emission vehicles by December 31, 2023, (iii) 80% of the fleet will be zero emission vehicles by December 31, 2025, and (iv) 100% of the fleet will be zero emission vehicles by December 31, 2027.

"Domiciled at the project site" shall mean the vehicle is either (i) parked or kept overnight at the project site more than 70% of the calendar year or (ii) dedicated to the project site (defined as more than 70% of the truck routes (during the calendar year) that start at the project site even if parked or kept elsewhere).

Zero-emission vehicles which require service can be temporarily replaced with alternate vehicles. Replacement vehicles shall be used for only the minimum time required for servicing fleet vehicles.

The property owner/tenant/lessee shall not be responsible to meet "clean fleet" requirements for vehicles used by common carriers operating under their own authority that provide delivery services to or from the project site.

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AMM AIR-4: Demonstrate Compliance with Clean Fleet Requirements: The applicant, property owner, tenant, lessee, or other party operating the facility (the "Operator") shall utilize the zero emission vehicles/trucks required to meet the "clean fleet" requirements in AMM AIR-2 (for Class 7 and 8 vehicles) and AMM AIR-3 (for Class 2 through 6 vehicles) above. Within 30-days of occupancy, the Operator shall demonstrate to the satisfaction of CDD staff, that the applicable clean fleet requirements are being met.

AMM AIR-4 (continued): In the event that vehicles/trucks are not commercially available for the intended application, the "clean fleet requirements" may be adjusted as minimally as possible by the CDD to accommodate the unavailability of commercially available vehicles/trucks.

AMM AIR 4 (continued) The City shall quantify the air pollution and GHG emissions resulting from any modification of this condition. Within 12 months of failing to meet a "clean fleet" requirement the property owner/tenant/lessee shall implement a Voluntary Emissions Reduction Agreement (VERA) providing pound for pound mitigation of the criteria pollutant, toxic air contaminants, and GHG emissions quantified by the City through a process that develops, funds, and implements emission reduction projects, with the Air District serving a role of administrator of the emission reduction projects and verifier of the successful mitigation effort. The VERA shall prioritize projects in the South Stockton and surrounding area. Property owner/tenant/lessee shall continue to fund the VERA each year in an amount necessary to achieve pound for pound mitigation of emissions resulting from not meeting the clean fleet requirements until the owner/tenant/lessee fully complies.

AMM AIR-4 (continued): The Operator shall implement the proposed measures after CDD review and approval. Any extension of time granted to implement this condition shall be limited to the shortest period of time necessary to allow for 100% electrification under the clean fleet requirements. The CDD staff may seek the recommendation of the California Air Resources Board in determining whether there has been a manufacturing disruption or insufficient vehicles/trucks commercially available for the intended application.

AMM AIR-4 (continued): Construction Meal Destinations: Project construction plans and specifications will require the contractor to establish one or more locations for food or catering truck service to construction workers and to cooperate with food service providers to provide consistent food service.

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AMM AIR-5: Condition of Approved Compliance Report: The Operator shall submit a condition of approval compliance report within 30 days of, but not later than, the following dates: December 31, 2023, December 31, 2025, and December 31, 2027. The report shall outline clean fleet requirements applicable at each report interval and include documentation demonstrating compliance with each requirement. The City shall consider each report at a noticed public hearing and determine whether the Operator has complied with the applicable clean fleet requirements. If the Operator has not met each 100% clean fleet requirement by December 31, 2027, then the Operator shall submit subsequent reports every year until the 100% clean fleet requirement is implemented. The City shall consider each subsequent report at a noticed public hearing and determine whether the Operator has complied with the clean fleet requirements, including any minimal adjustments to the requirements by the CDD to accommodate the manufacturing disruption or unavailability of commercially available vehicles/trucks, as described in the previous paragraph. Notice of the above hearings shall be provided to all properties located within 1,000 feet of the project site and through the ASK Stockton list serve.

AMM AIR-5 (continued): After the 100% clean fleet requirement has been implemented and confirmed by the CDD, the Operator shall submit to the CDD an on-going compliance report every three years containing all necessary documentation to verify that the Operator is meeting the clean fleet requirements. At the time it confirms that the 100% clean fleet requirement has been implemented, the CDD will establish the due date for the first on-going compliance report. Each subsequent on-going compliance report shall be due within 30 days of, but not later than, the three-year anniversary of the preceding due date. The on-going compliance reports and accompanying documentation shall be made available to the public upon request.

AMM AIR-6: Zero Emission Forklifts, Yard trucks and Yard Equipment: Owners, operators or tenants shall require all forklifts, yard trucks, and other equipment used for on-site movement of trucks, trailers and warehoused goods, as well as landscaping maintenance equipment used on the site, to be electrically powered or zero-emission. The owner, operator or tenant shall provide on-site electrical charging facilities to adequately service electric vehicles and equipment

AMM AIR-7: Truck Idling Restrictions: Owners, operators or tenants shall be required to make their best effort to restrict truck idling onsite to a maximum of three minutes, subject to exceptions defined by CARB in the document: commercial_vehicle_idling_requirements_July 2016. Idling restrictions shall be enforced by highly-visible posting at the

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site entry, posting at other on-site locations frequented by truck drivers, conspicuous inclusion in employee training and guidance material and owner, operator or tenant direct action as required.
AMM AIR-8: Electric Truck Charging: At all times during project operation, owners, operators or tenants shall be required to provide electric charging facilities on the project site sufficient to charge all electric trucks domiciled on the site and such facilities shall be made available for all electric trucks that use the project site.
AMM AIR-9: Project Operations, Food Service: Owners, operators or tenants shall establish locations for food or catering truck service and cooperate with food service providers to provide consistent food service to operations employees.
AMM AIR-10: Project Operations, Employee Trip Reduction: Owners, operators or tenants shall provide employees transit route and schedule information on systems serving the project area and coordinate ridesharing amongst employees.
AMM AIR-11: Yard Sweeping: Owners, operators or tenants shall provide periodic yard and parking area sweeping to minimize dust generation
AMM AIR-12: Diesel Generators: Owners, operators or tenants shall prohibit the use of diesel generators, except in emergency situations, in which case such generators shall have Best Available Control Technology (BACT) that meets CARB's Tier 4 emission standards.
AMM AIR-13: Truck Emission Control: Owners, operators or tenants shall ensure that trucks or truck fleets domiciled at the project site be model year 2014 or later, and maintained consistent with current CARB emission control regulations.
AMM AIR-14: All tenant lease agreements for the project site shall include a provision requiring the tenant/lessee to comply with all applicable requirements of the MMRP, a copy of which shall be attached to each tenant/lease agreement.
AMM AIR-14 (continued): SmartWay: Owners, operators or tenants shall enroll and participate the in SmartWay program for eligible businesses
AMM AIR-15: Designated Smoking Areas: Owners, operators or tenants shall ensure that any outdoor areas allowing smoking are at least 25 feet from the nearest property line.
AMM AIR 16: Project construction shall be subject to all adopted City building codes, including the adopted Green Building Standards Code, version July 2022 or later. Prior to the issuance of building permits, the applicant/developer

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<p>shall demonstrate (e.g., provide building plans) that the proposed buildings are designed and will be built to, at a minimum, meet the Nonresidential Voluntary Measures of the California Green Building Standards code, Divisions A5.1, 5.2 and 5.5, including but not limited to the Tier 2 standards in those Divisions, where applicable, such as the Tier 2 advanced energy efficiency requirements as outlined under Section A5.203.1.2.</p>	<p>EMM AG-1: The project shall participate in and comply with the City's Agricultural Lands Mitigation Program, under which developers of the property shall contribute agricultural mitigation land or shall pay the Agricultural Land Mitigation Fee to the City.</p>	
<p>The City and Applicant will revise the proposed Development Agreement to provide the following:</p>		
<p>In the DA text and in Exhibit B, to clarify that cold storage facilities are prohibited on the site and transport refrigeration units (TRUs) may not enter the site. In the DA text provide that any future proposal to construct cold storage facilities on the site or to allow TRUs to enter the site would require an amendment to the Development Agreement that shall be deemed and processed as a Major Modification to the Development Agreement, an application to the City for a conditional use permit, and be subject to review under the California Environmental Quality Act and Stockton Municipal Code Chapter 16.168.</p>		
<p>Section 8.3 of the DA will be revised as follows:</p>		
<p>8.3 Mitigation Measures. Developer agrees to and shall comply with all applicable mitigation measures attached hereto as Exhibit C and with all applicable mitigation measures in the MIP EIR, as described in the Mitigation Monitoring/Reporting Program approved by the City on _____, 2023. Developer shall include in all tenant lease agreements for the project site a provision requiring the tenant/lessee to comply with all applicable requirements of the measures in this Section 8.3, a copy of which shall be attached to each to each tenant/lease agreement.</p>		
<p>Section 10.1 of the DA will be revised as follows:</p>		
<p>10.1 Annual Review. As required by California Government Code Section 65865.1 and pursuant to Section 16.128.110 of the Development Agreement Ordinance, the City of Stockton Planning Commission shall review</p>		

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<p>this Agreement and all actions taken pursuant to the terms of this Agreement with respect to the development of the Project every twelve (12) months at a duly-noticed public hearing to determine good faith compliance with this Agreement ("Annual Review"). Specifically, the Annual Review shall be conducted for the purposes of determining good faith compliance with the terms and/or conditions of this Agreement, including compliance with the mitigation measures in Section 8.3 of this Agreement. Each Annual Review shall also document the status of Project development. In the event the Planning Commission recommends modification or termination of this Agreement in connection with such Annual Review, the action to effectuate such modification or termination must be taken by City Council.</p>	<p>In the DA text, to require the City to coordinate with the County to develop and install signage prohibiting non-emergency vehicle access to the project site from Clark Drive or Marfargoa Road. The Applicant will be responsible for the costs of the signage determined to be appropriate by the City and the County.</p>	<p>In the text, to require the following:</p> <p>Construction plans shall include a 10-foot by 65-foot landscaped berm along the 623-lineal foot and 493-lineal foot portions of the west line of the site, located north and south of Marfargoa Road, which will be required by and shown on Exhibit B to the Development Agreement. Landscaping of the berm shall include fast-growing evergreen trees to provide maximum visual screening, as determined by a qualified landscape architect. Construction plans shall also include a 10-foot wall along the 881-lineal foot and 1,316-lineal foot portions of the west line of the site, located north and south of Clark Drive, which will be required by and shown on Exhibit B to the Development Agreement. Construction plans shall also identify a 60-foot "no truck" zone along the entire length of the west line of the site, which will be required by and shown on Exhibit B to the Development Agreement. Construction plans shall also identify and prohibit building construction within a setback area located a minimum of 300 feet from the property line of residential properties along Marfargoa Road and Clark Drive. Notwithstanding the foregoing, the stairwells of ancillary/accessory buildings may encroach into the 300-foot setback area.</p>	<p>In the text, to provide that, prior to the issuance of a grading permit, the Applicant will provide \$200,000 to a non-profit organization serving disadvantaged residents of San Joaquin County approved by the City's Community Development Director, to fund a program to reduce exposure to emissions and noise from vehicle and truck traffic and industrial operations, for residents located within the geographic area bounded by Munford Avenue, Mariposa Road, Little John's Creek and the SR99 Frontage Road. The program may fund or reimburse home air filtration systems, HVAC</p>
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modifications, window replacements, weather stripping, or similar improvements; publicly available electric vehicle charging station(s); and/or air quality monitoring sensors with publicly available real time data (such as PurpleAir sensors).



Warehouse Projects: Best Practices and Mitigation Measures to Comply with the California Environmental Quality Act

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In carrying out its duty to enforce laws across California, the California Attorney General's Bureau of Environmental Justice (Bureau)¹ regularly reviews proposed warehouse projects for compliance with the California Environmental Quality Act (CEQA) and other laws. When necessary, the Bureau submits comment letters to lead agencies regarding warehouse projects, and in rare cases the Bureau has filed litigation to enforce CEQA.² This document builds upon the Bureau's work on warehouse projects, collecting information gained from the Bureau's review of hundreds of warehouse projects across the state.³ It is meant to help lead agencies pursue CEQA compliance and promote environmentally-just development as they confront warehouse project proposals.⁴ While CEQA analysis is necessarily project-specific, this document provides information on feasible best practices and mitigation measures, nearly all of which have been adapted from actual warehouse projects in California.

I. Background

In recent years, the proliferation of e-commerce and rising consumer expectations of rapid shipping have contributed to a boom in warehouse development.⁵ California, with its ports, population centers, and transportation network, has found itself at the center of this trend. In 2020, the Ports of Los Angeles, Long Beach, and Oakland collectively accounted for over 34% of all United States international container trade.⁶ The Ports of Los Angeles and Long Beach alone generate about 35,000 container truck trips every day.⁷ Accordingly, the South Coast Air Basin now contains approximately 3,000 warehouses of over 100,000 square feet each, with a total warehouse capacity of approximately 700 million square feet, an increase of 20 percent over the last five years.⁸ This trend has only accelerated, with e-commerce growing to

¹ <https://oag.ca.gov/environment/justice>.

² <https://oag.ca.gov/environment/ceqa>; *People of the State of California v. City of Fontana* (Super. Ct. San Bernardino County, No. CIVSB2121829); *South Central Neighbors United et al. v. City of Fresno et al.* (Super. Ct. Fresno County, No. 18CECG00690).

³ This September 2022 version revises and replaces the prior March 2021 version of this document.

⁴ Anyone reviewing this document to determine CEQA compliance responsibilities should consult their own attorney for legal advice.

⁵ As used in this document, "warehouse" or "logistics facility" is defined as a facility consisting of one or more buildings that stores cargo, goods, or products on a short- or long-term basis for later distribution to businesses and/or retail customers.

⁶ Data from the Bureau of Transportation Statistics, Container TEUs (Twenty-foot Equivalent Units) (2020), <https://data.bts.gov/stories/s/Container-TEU/x3fb-aeda/> (Ports of Los Angeles, Long Beach, and Oakland combined for 14.157 million TEUs, 34% of 41.24 million TEUs total nationwide) (last accessed September 18, 2022).

⁷ U.S. Dept. of Transportation, Federal Highway Administration, *FHWA Operations Support – Port Peak Pricing Program Evaluation* (2020), available at <https://ops.fhwa.dot.gov/publications/fhwahop09014/sect2.htm> (last accessed September 18, 2022).

⁸ South Coast Air Qual. Mgmt. Dist., *Final Socioeconomic Assessment for Proposed Rule 2305 – Warehouse Indirect Source Rule – Warehouse Actions and Investments to Reduce Emissions (WAIRE) Program and Proposed Rule 316 – Fees for Rule 2305*, at 7-8, 41 (May 2021).

13% of all retail sales and 2021 being a second consecutive record year for new warehouse space leased.⁹ The latest data and forecasts predict that the next wave of warehouse development will be in the Central Valley.¹⁰

When done properly, these activities can contribute to the economy and consumer welfare. However, imprudent warehouse development can harm local communities and the environment. Among other pollutants, diesel trucks visiting warehouses emit nitrogen oxide (NO_x)—a primary precursor to smog formation and a significant factor in the development of respiratory problems like asthma, bronchitis, and lung irritation—and diesel particulate matter (a subset of fine particular matter that is smaller than 2.5 micrometers)—a contributor to cancer, heart disease, respiratory illnesses, and premature death.¹¹ Trucks and on-site loading activities can also be loud, bringing disruptive noise levels during 24/7 operation that can cause hearing damage after prolonged exposure.¹² The hundreds, and sometimes thousands, of daily truck and passenger car trips that warehouses generate contribute to traffic jams, deterioration of road surfaces, and traffic accidents.

These environmental impacts also tend to be concentrated in neighborhoods already suffering from disproportionate health impacts and systemic vulnerability. For example, a comprehensive study by the South Coast Air Quality Management District found that communities located near large warehouses scored far higher on California’s environmental justice screening tool, which measures overall pollution and demographic vulnerability.¹³ That

⁹ U.S. Census Bureau News, Quarterly Retail E-Commerce Sales 4th Quarter 2021 (February 22, 2022), https://www.census.gov/retail/mrts/www/data/pdf/ec_current.pdf (last accessed September 18, 2022); CBRE Research, *2022 North America Industrial Big Box Report: Review and Outlook*, at 2-3 (March 2022), available at <https://www.cbre.com/insights/reports/2022-north-america-industrial-big-box#download-report> (last accessed September 18, 2022).

¹⁰ CBRE Research, *supra* note 9, at 4, 36; New York Times, *Warehouses Are Headed to the Central Valley, Too* (Jul. 22, 2020), available at <https://www.nytimes.com/2020/07/22/us/coronavirus-ca-warehouse-workers.html>.

¹¹ California Air Resources Board, Nitrogen Dioxide & Health, <https://ww2.arb.ca.gov/resources/nitrogen-dioxide-and-health> (last accessed September 18, 2022) (NO_x); California Air Resources Board, Summary: Diesel Particulate Matter Health Impacts, <https://ww2.arb.ca.gov/resources/summary-diesel-particulate-matter-health-impacts> (last accessed September 18, 2022); Office of Environmental Health Hazard Assessment and American Lung Association of California, Health Effects of Diesel Exhaust, <https://oehha.ca.gov/media/downloads/calenviroscreen/indicators/diesel4-02.pdf> (last accessed September 18, 2022) (DPM).

¹² Noise Sources and Their Effects, <https://www.chem.purdue.edu/chemsafety/Training/PPETrain/dblevels.htm> (last accessed September 18, 2022) (a diesel truck moving 40 miles per hour, 50 feet away, produces 84 decibels of sound).

¹³ South Coast Air Quality Management District, “Final Socioeconomic Assessment for Proposed Rule 2305 – Warehouse Indirect Source Rule – Warehouse Actions and Investments to Reduce Emissions (WAIRE) Program and Proposed Rule 316 – Fees for Rule 2305” (May 2021), at 4-5.

study concluded that, compared to the South Coast Air Basin averages, communities in the South Coast Air Basin near large warehouses had a substantially higher proportion of people of color; were exposed to more diesel particulate matter; had higher rates of asthma, cardiovascular disease, and low birth weights; and had higher poverty and unemployment rates.¹⁴ Each area has its own unique history, but many of these impacts and vulnerabilities reflect historic redlining practices in these communities, which devalued land and concentrated poverty, racial outgroups, and pollution into designated areas.¹⁵

II. Proactive Planning: General Plans, Local Ordinances, and Good Neighbor Policies

To systematically guide warehouse development, we encourage local governing bodies to proactively plan for logistics projects in their jurisdictions. Proactive planning allows jurisdictions to prevent land use conflicts before they materialize and direct sustainable development. Benefits also include providing a predictable business environment, protecting residents from environmental harm, and setting consistent expectations jurisdiction-wide.

Proactive planning can take many forms. Land use designation and zoning decisions should channel development into appropriate areas. For example, establishing industrial districts near major highway and rail corridors but away from sensitive receptors¹⁶ can help attract investment while avoiding conflicts between warehouse facilities and residential communities. Transition zones with lighter industrial and commercial land uses may also help minimize conflicts between residential and industrial uses.

In addition, general plan policies, local ordinances, and good neighbor policies should set minimum standards for logistics projects. General plan policies can be incorporated into existing economic development, land use, circulation, or other related general plan elements. Many jurisdictions alternatively choose to consolidate policies in a separate environmental justice element. Adopting general plan policies to guide warehouse development may also help

¹⁴ *Id.* at 5-7.

¹⁵ Beginning in the 1930s, federal housing policy directed investment away from Black, immigrant, and working-class communities by color-coding neighborhoods according to the purported “riskiness” of loaning to their residents. In California cities where such “redlining” maps were drawn, nearly all of the communities where warehouses are now concentrated were formerly coded “red,” signifying the least desirable areas where investment was to be avoided. See University of Richmond Digital Scholarship Lab, Mapping Inequality, <https://dsl.richmond.edu/panorama/redlining/#loc=12/33.748/-118.272&city=los-angeles-ca> (Los Angeles), <https://dsl.richmond.edu/panorama/redlining/#loc=13/32.685/-117.132&city=san-diego-ca> (San Diego), <https://dsl.richmond.edu/panorama/redlining/#loc=11/37.81/-122.38&city=oakland-ca> (Oakland), <https://dsl.richmond.edu/panorama/redlining/#loc=13/37.956/-121.326&city=stockton-ca> (Stockton), <https://dsl.richmond.edu/panorama/redlining/#loc=12/36.751/-119.86&city=fresno-ca> (Fresno) (all last accessed September 18, 2022).

¹⁶ In this document, “sensitive receptors” refers to residences, schools, public recreation facilities, health care facilities, places of worship, daycare facilities, community centers, or incarceration facilities.

jurisdictions comply with their obligations under SB 1000, which requires local government general plans to identify objectives and policies to reduce health risks in disadvantaged communities, promote civil engagement in the public decision making process, and prioritize improvements and programs that address the needs of disadvantaged communities.¹⁷

Local ordinances and good neighbor policies that set development standards for all warehouses in the jurisdiction are a critical and increasingly common tool that serve several goals. When well-designed, these ordinances direct investment to local improvements, provide predictability for developers, conserve government resources by streamlining project review processes, and reduce the environmental impacts of industrial development. While many jurisdictions have adopted warehouse-specific development standards, an ordinance in the City of Fontana provides an example to review and build upon.¹⁸ Good neighbor policies in Riverside County and by the Western Riverside Council of Government include additional measures worth consideration.¹⁹

The Bureau encourages jurisdictions to adopt their own local ordinances that combine the strongest policies from those models with measures discussed in the remainder of this document.

III. Community Engagement

Early and consistent community engagement is central to establishing good relationships between communities, lead agencies, and warehouse developers and tenants. Robust community engagement can give lead agencies access to community residents' on-the-ground knowledge and information about their concerns, build community support for projects, and develop creative solutions to ensure new logistics facilities are mutually beneficial. Examples of best practices for community engagement include:

- Holding a series of community meetings at times and locations convenient to members of the affected community and incorporating suggestions into the project design.
- Posting information in hard copy in public gathering spaces and on a website about the project. The information should include a complete, accurate project description, maps and drawings of the project design, and information about how the public can provide input and be involved in the project approval process. The

¹⁷ For more information about SB 1000, see <https://oag.ca.gov/environment/sb1000>.

¹⁸ <https://oag.ca.gov/system/files/attachments/press-docs/Final%20Signed%20Fontana%20Ordinance.pdf> (last accessed September 18, 2022).

¹⁹ For example, the Riverside County policy requires community benefits agreements and supplemental funding contributions toward additional pollution offsets, and the Western Riverside Council of Governments policy sets a minimum buffer zone of 300 meters between warehouses and sensitive receptors. <https://www.rivcocob.org/wp-content/uploads/2020/01/Good-Neighbor-Policy-F-3-Final-Adopted.pdf> (last accessed September 18, 2022) (Riverside County); <http://www.wrcog.cog.ca.us/DocumentCenter/View/318/Good-Neighbor-Guidelines-for-Siting-Warehouse-Distribution-Facilities-PDF?bidId=> (last accessed September 18, 2022) (Western Riverside Council of Governments).

information should be in a format that is easy to navigate and understand for members of the affected community.

- Providing notice by mail to residents and schools within a certain radius of the project and along transportation corridors to be used by vehicles visiting the project, and by posting a prominent sign on the project site. The notice should include a brief project description and directions for accessing complete information about the project and for providing input on the project.
- Providing translation or interpretation in residents' native language, where appropriate.
- For public meetings broadcast online or otherwise held remotely, providing for access and public comment by telephone and supplying instructions for access and public comment with ample lead time prior to the meeting.
- Partnering with local community-based organizations to solicit feedback, leverage local networks, co-host meetings, and build support.
- Considering adoption of a community benefits agreement, negotiated with input from affected residents and businesses, by which the developer provides benefits to the affected community.
- Creating a community advisory board made up of local residents to review and provide feedback on project proposals in early planning stages.
- Identifying a person to act as a community liaison concerning on-site construction activity and operations, and providing contact information for the community liaison to the surrounding community.
- Requiring signage in public view at warehouse facilities with contact information for a local designated representative for the facility operator who can receive community complaints, and requiring any complaints to be answered by the facility operator within 48 hours of receipt.

IV. Warehouse Siting and Design Considerations

The most important consideration when planning a logistics facility is its location. Warehouses located in residential neighborhoods or near sensitive receptors expose community residents and those using or visiting sensitive receptor sites to the air pollution, noise, traffic, and other environmental impacts they generate. Therefore, placing facilities away from sensitive receptors significantly reduces their environmental and quality of life harms on local communities. The suggested best practices for siting and design of warehouse facilities does not relieve lead agencies' responsibility under CEQA to conduct a project-specific analysis of the project's impacts and evaluation of feasible mitigation measures and alternatives; lead agencies' incorporation of the best practices must be part of the impact, mitigation and alternatives analyses to meet the requirements of CEQA. Examples of best practices when siting and designing warehouse facilities include:

- Per California Air Resources Board (CARB) guidance, siting warehouse facilities so that their property lines are at least 1,000 feet from the property lines of the nearest sensitive receptors.²⁰
- Providing adequate amounts of on-site parking to prevent trucks and other vehicles from parking or idling on public streets and to reduce demand for off-site truck yards.
- Establishing setbacks from the property line of the nearest sensitive receptor to warehouse dock doors, loading areas, and truck drive aisles, and locating warehouse dock doors, loading areas, and truck drive aisles on the opposite side of the building from the nearest sensitive receptors—e.g., placing dock doors on the north side of the facility if sensitive receptors are near the south side of the facility.
- Placing facility entry and exit points from the public street away from sensitive receptors—e.g., placing these points on the north side of the facility if sensitive receptors are adjacent to the south side of the facility.
- Ensuring heavy duty trucks abide by the on-site circulation plans by constructing physical barriers to block those trucks from using areas of the project site restricted to light duty vehicles or emergency vehicles only.
- Preventing truck queuing spillover onto surrounding streets by positioning entry gates after a minimum of 140 feet of space for queuing, and increasing the distance by 70 feet for every 20 loading docks beyond 50 docks.
- Locating facility entry and exit points on streets of higher commercial classification that are designed to accommodate heavy duty truck usage.
- Screening the warehouse site perimeter and onsite areas with significant truck traffic (e.g., dock doors and drive aisles) by creating physical, structural, and/or vegetative buffers that prevent or substantially reduce pollutant and noise dispersion from the facility to sensitive receptors.
- Planting exclusively 36-inch box evergreen trees to ensure faster maturity and four-season foliage.
- Requiring all property owners and successors in interest to maintain onsite trees and vegetation for the duration of ownership, including replacing any dead or unhealthy trees and vegetation.
- Posting signs clearly showing the designated entry and exit points from the public street for trucks and service vehicles.
- Including signs and drive aisle pavement markings that clearly identify onsite circulation patterns to minimize unnecessary onsite vehicle travel.
- Posting signs indicating that all parking and maintenance of trucks must be conducted within designated on-site areas and not within the surrounding community or public streets.

²⁰ CARB, Air Quality and Land Use Handbook: A Community Health Perspective (April 2005), at ES-1. CARB staff has released draft updates to this siting and design guidance which suggests a greater distance may be warranted in some scenarios. CARB, Concept Paper for the Freight Handbook (December 2019), available at https://ww2.arb.ca.gov/sites/default/files/2020-03/2019.12.12%20-%20Concept%20Paper%20for%20the%20Freight%20Handbook_1.pdf (last accessed September 18, 2022).

V. Air Quality and Greenhouse Gas Emissions Analysis and Mitigation

Emissions of air pollutants and greenhouse gases are often among the most substantial environmental impacts from new warehouse facilities. CEQA compliance demands a proper accounting of the full air quality and greenhouse gas impacts of logistics facilities and adoption of all feasible mitigation of significant impacts. Although efforts by CARB and other authorities to regulate the heavy-duty truck and off-road diesel fleets have made excellent progress in reducing the air quality impacts of logistics facilities, the opportunity remains for local jurisdictions to further mitigate these impacts at the project level. Lead agencies and developers should also consider designing projects with their long-term viability in mind. Constructing the necessary infrastructure to prepare for the zero-emission future of goods movement not only reduces a facility's emissions and local impact now, but it can also save money as demand for zero-emission infrastructure grows. In planning new logistics facilities, the Bureau strongly encourages developers to consider the local, statewide, and global impacts of their projects' emissions.

Examples of best practices when studying air quality and greenhouse gas impacts include:

- Fully analyzing all reasonably foreseeable project impacts, including cumulative impacts. In general, new warehouse developments are not ministerial under CEQA because they involve public officials' personal judgment as to the wisdom or manner of carrying out the project, even when warehouses are permitted by a site's applicable zoning and/or general plan land use designation.²¹
- When analyzing cumulative impacts, thoroughly considering the project's incremental impact in combination with past, present, and reasonably foreseeable future projects, even if the project's individual impacts alone do not exceed the applicable significance thresholds.
- Preparing a quantitative air quality study in accordance with local air district guidelines.
- Preparing a quantitative health risk assessment in accordance with California Office of Environmental Health Hazard Assessment and local air district guidelines.
- Refraining from labeling compliance with CARB or air district regulations as a mitigation measure—compliance with applicable regulations is required regardless of CEQA.
- Disclosing air pollution from the entire expected length of truck trips. CEQA requires full public disclosure of a project's anticipated truck trips, which entails calculating truck trip length based on likely truck trip destinations, rather than the distance from the facility to the edge of the air basin, local jurisdiction, or other truncated endpoint. All air pollution associated with the project must be considered, regardless of where those impacts occur.

²¹ CEQA Guidelines § 15369.

- Accounting for all reasonably foreseeable greenhouse gas emissions from the project, without discounting projected emissions based on participation in California’s Cap-and-Trade Program.

Examples of measures to mitigate air quality and greenhouse gas impacts from construction are below. To ensure mitigation measures are enforceable and effective, they should be imposed as permit conditions on the project where applicable.

- Requiring off-road construction equipment to be hybrid electric-diesel or zero-emission, where available, and all diesel-fueled off-road construction equipment to be equipped with CARB Tier IV-compliant engines or better, and including this requirement in applicable bid documents, purchase orders, and contracts, with successful contractors demonstrating the ability to supply the compliant construction equipment for use prior to any ground-disturbing and construction activities.
- Prohibiting off-road diesel-powered equipment from being in the “on” position for more than 10 hours per day.
- Using electric-powered hand tools, forklifts, and pressure washers, and providing electrical hook ups to the power grid rather than use of diesel-fueled generators to supply their power.
- Designating an area in the construction site where electric-powered construction vehicles and equipment can charge.
- Limiting the amount of daily grading disturbance area.
- Prohibiting grading on days with an Air Quality Index forecast of greater than 100 for particulates or ozone for the project area.
- Forbidding idling of heavy equipment for more than three minutes.
- Keeping onsite and furnishing to the lead agency or other regulators upon request, all equipment maintenance records and data sheets, including design specifications and emission control tier classifications.
- Conducting an on-site inspection to verify compliance with construction mitigation and to identify other opportunities to further reduce construction impacts.
- Using paints, architectural coatings, and industrial maintenance coatings that have volatile organic compound levels of less than 10 g/L.
- Providing information on transit and ridesharing programs and services to construction employees.
- Providing meal options onsite or shuttles between the facility and nearby meal destinations for construction employees.

Examples of measures to mitigate air quality and greenhouse gas impacts from operation include:

- Requiring all heavy-duty vehicles engaged in drayage²² to or from the project site to be zero-emission beginning in 2030.

²² “Drayage” refers generally to transport of cargo to or from a seaport or intermodal railyard.

- Requiring all on-site motorized operational equipment, such as forklifts and yard trucks, to be zero-emission with the necessary charging or fueling stations provided.
- Requiring tenants to use zero-emission light- and medium-duty vehicles as part of business operations.
- Forbidding trucks from idling for more than three minutes and requiring operators to turn off engines when not in use.
- Posting both interior- and exterior-facing signs, including signs directed at all dock and delivery areas, identifying idling restrictions and contact information to report violations to CARB, the local air district, and the building manager.
- Installing solar photovoltaic systems on the project site of a specified electrical generation capacity that is equal to or greater than the building's projected energy needs, including all electrical chargers.
- Designing all project building roofs to accommodate the maximum future coverage of solar panels and installing the maximum solar power generation capacity feasible.
- Constructing zero-emission truck charging/fueling stations proportional to the number of dock doors at the project.
- Running conduit to designated locations for future electric truck charging stations.
- Unless the owner of the facility records a covenant on the title of the underlying property ensuring that the property cannot be used to provide refrigerated warehouse space, constructing electric plugs for electric transport refrigeration units at every dock door and requiring truck operators with transport refrigeration units to use the electric plugs when at loading docks.
- Oversizing electrical rooms by 25 percent or providing a secondary electrical room to accommodate future expansion of electric vehicle charging capability.
- Constructing and maintaining electric light-duty vehicle charging stations proportional to the number of employee parking spaces (for example, requiring at least 10% of all employee parking spaces to be equipped with electric vehicle charging stations of at least Level 2 charging performance)
- Running conduit to an additional proportion of employee parking spaces for a future increase in the number of electric light-duty charging stations.
- Installing and maintaining, at the manufacturer's recommended maintenance intervals, air filtration systems at sensitive receptors within a certain radius of facility for the life of the project.
- Installing and maintaining, at the manufacturer's recommended maintenance intervals, an air monitoring station proximate to sensitive receptors and the facility for the life of the project, and making the resulting data publicly available in real time. While air monitoring does not mitigate the air quality or greenhouse gas impacts of a facility, it nonetheless benefits the affected community by providing information that can be used to improve air quality or avoid exposure to unhealthy air.
- Requiring all stand-by emergency generators to be powered by a non-diesel fuel.
- Requiring facility operators to train managers and employees on efficient scheduling and load management to eliminate unnecessary queuing and idling of

- trucks.
- Requiring operators to establish and promote a rideshare program that discourages single-occupancy vehicle trips and provides financial incentives for alternate modes of transportation, including carpooling, public transit, and biking.
- Meeting CalGreen Tier 2 green building standards, including all provisions related to designated parking for clean air vehicles, electric vehicle charging, and bicycle parking.
- Designing to LEED green building certification standards.
- Providing meal options onsite or shuttles between the facility and nearby meal destinations.
- Posting signs at every truck exit driveway providing directional information to the truck route.
- Improving and maintaining vegetation and tree canopy for residents in and around the project area.
- Requiring that every tenant train its staff in charge of keeping vehicle records in diesel technologies and compliance with CARB regulations, by attending CARB-approved courses. Also require facility operators to maintain records on-site demonstrating compliance and make records available for inspection by the local jurisdiction, air district, and state upon request.
- Requiring tenants to enroll in the United States Environmental Protection Agency's SmartWay program, and requiring tenants who own, operate, or hire trucking carriers with more than 100 trucks to use carriers that are SmartWay carriers.
- Providing tenants with information on incentive programs, such as the Carl Moyer Program and Voucher Incentive Program, to upgrade their fleets.

VI. Noise Impacts Analysis and Mitigation

The noise associated with logistics facilities can be among their most intrusive impacts to nearby sensitive receptors. Various sources, such as unloading activity, diesel truck movement, and rooftop air conditioning units, can contribute substantial noise pollution. These impacts are exacerbated by logistics facilities' typical 24-hour, seven-days-per-week operation. Construction noise is often even greater than operational noise, so if a project site is near sensitive receptors, developers and lead agencies should adopt measures to reduce the noise generated by both construction and operation activities.

Examples of best practices when studying noise impacts include:

- Preparing a noise impact analysis that considers all reasonably foreseeable project noise impacts, including to nearby sensitive receptors. All reasonably foreseeable project noise impacts encompasses noise from both construction and operations, including stationary, on-site, and off-site noise sources.
- Adopting a lower significance threshold for incremental noise increases when baseline noise already exceeds total noise significance thresholds, to account for the cumulative impact of additional noise and the fact that, as noise moves up the decibel scale, each decibel increase is a progressively greater increase in sound

pressure than the last. For example, 70 dBA is ten times more sound pressure than 60 dBA.

- Disclosing and considering the significance of short-term noise levels associated with all aspects of project operation (i.e. both on-site noise generation and off-site truck noise). Considering only average noise levels may mask noise impacts sensitive receptors would consider significant—for example, the repeated but short-lived passing of individual trucks or loading activities at night.

Examples of measures to mitigate noise impacts include:

- Constructing physical, structural, or vegetative noise barriers on and/or off the project site.
- Planning and enforcing truck routes that avoid passing sensitive receptors.
- Locating or parking all stationary construction equipment as far from sensitive receptors as possible, and directing emitted noise away from sensitive receptors.
- Verifying that construction equipment has properly operating and maintained mufflers.
- Requiring all combustion-powered construction equipment to be surrounded by a noise protection barrier
- Limiting operation hours to daytime hours on weekdays.
- Paving roads where truck traffic is anticipated with low noise asphalt.
- Orienting any public address systems onsite away from sensitive receptors and setting system volume at a level not readily audible past the property line.

VII. Traffic Impacts Analysis and Mitigation

Warehouse facilities inevitably bring truck and passenger car traffic. Truck traffic can present substantial safety issues. Collisions with heavy-duty trucks are especially dangerous for passenger cars, motorcycles, bicycles, and pedestrians. These concerns can be even greater if truck traffic passes through residential areas, school zones, or other places where pedestrians are common and extra caution is warranted.

Examples of measures to mitigate traffic impacts include:

- Designing, clearly marking, and enforcing truck routes that keep trucks out of residential neighborhoods and away from other sensitive receptors.
- Installing signs in residential areas noting that truck and employee parking is prohibited.
- Requiring preparation and approval of a truck routing plan describing the facility's hours of operation, types of items to be stored, and truck routing to and from the facility to designated truck routes that avoids passing sensitive receptors. The plan should include measures for preventing truck queuing, circling, stopping, and parking on public streets, such as signage, pavement markings, and queuing analysis and enforcement. The plan should hold facility operators responsible for violations of the truck routing plan, and a revised plan should be required from any new tenant that occupies the property before a business license

is issued. The approving agency should retain discretion to determine if changes to the plan are necessary, including any additional measures to alleviate truck routing and parking issues that may arise during the life of the facility.

- Constructing new or improved transit stops, sidewalks, bicycle lanes, and crosswalks, with special attention to ensuring safe routes to schools.
- Consulting with the local public transit agency and securing increased public transit service to the project area.
- Designating areas for employee pickup and drop-off.
- Implementing traffic control and safety measures, such as speed bumps, speed limits, or new traffic signs or signals.
- Placing facility entry and exit points on major streets that do not have adjacent sensitive receptors.
- Restricting the turns trucks can make entering and exiting the facility to route trucks away from sensitive receptors.
- Constructing roadway improvements to improve traffic flow.
- Preparing a construction traffic control plan prior to grading, detailing the locations of equipment staging areas, material stockpiles, proposed road closures, and hours of construction operations, and designing the plan to minimize impacts to roads frequented by passenger cars, pedestrians, bicyclists, and other non-truck traffic.

VIII. Other Significant Environmental Impacts Analysis and Mitigation

Warehouse projects may result in significant environmental impacts to other resources, such as to aesthetics, cultural resources, energy, geology, or hazardous materials. All significant adverse environmental impacts must be evaluated, disclosed and mitigated to the extent feasible under CEQA. Examples of best practices and mitigation measures to reduce environmental impacts that do not fall under any of the above categories include:

- Appointing a compliance officer who is responsible for implementing all mitigation measures, and providing contact information for the compliance officer to the lead agency, to be updated annually.
- Creating a fund to mitigate impacts on affected residents, schools, places of worship, and other community institutions by retrofitting their property. For example, retaining a contractor to retrofit/install HVAC and/or air filtration systems, doors, dual-paned windows, and sound- and vibration-deadening insulation and curtains.
- Sweeping surrounding streets on a daily basis during construction to remove any construction-related debris and dirt.
- Directing all lighting at the facility into the interior of the site.
- Using full cut-off light shields and/or anti-glare lighting.
- Requiring submission of a property maintenance program for agency review and approval providing for the regular maintenance of all building structures, landscaping, and paved surfaces.
- Using cool pavement to reduce heat island effects.

- Planting trees in parking areas to provide at least 35% shade cover of parking areas within fifteen years to reduce heat island impacts.
- Using light colored roofing materials with a solar reflective index of 78 or greater.
- Including on-site amenities, such as a truck operator lounge with restrooms, vending machines, and air conditioning, to reduce the need for truck operators to idle or travel offsite.
- Designing skylights to provide natural light to interior worker areas.
- Installing climate control and air filtration in the warehouse facility to promote worker well-being.

IX. Conclusion

California's world-class economy, ports, and transportation network position it at the center of the e-commerce and logistics industry boom. At the same time, California is a global leader in environmental protection and environmentally just development. The guidance in this document furthers these dual strengths, ensuring that all can access the benefits of economic development. The Bureau will continue to monitor proposed projects for compliance with CEQA and other laws. Lead agencies, developers, community advocates, and other interested parties should feel free to reach out to us as they consider how to guide warehouse development in their area.

Please do not hesitate to contact the Environmental Justice Bureau at ej@doj.ca.gov if you have any questions.

MEMORANDUM OF AGREEMENT

This Memorandum of Agreement (“Agreement”) is entered into by and between the City of Stockton (“City”), and Rob Bonta, Attorney General of California, on behalf of the People of the State of California (“Attorney General”), and it is dated and effective as of the date that the last Party signs (“Effective Date”). The City, and the Attorney General are referred to as the “Parties.”

RECITALS

WHEREAS areas of the City, including south Stockton, have disproportionately suffered from the environmental impacts of industrial land uses located nearby residences and other sensitive receptors such as schools, parks, and hospitals. According to CalEnviroScreen, a tool used to identify communities exposed to high levels of pollution, south Stockton’s neighborhoods are exposed to pollution burdens in the top 10% of all communities in California, with some communities registering in the top 1%.

WHEREAS because of the extremely high levels of air pollution to which this environmental justice community is disproportionately exposed, the California Air Resources Board (CARB) has designated the area of south Stockton to the northwest of the Project as a top priority for reductions in emissions and improvements in air quality under AB 617. In 2021, CARB approved Stockton’s Community Emissions Reduction Program (CERP) after an extensive public process. The CERP includes projected investments of over \$32 million in emission reduction incentives and a variety of other clean air projects in the south Stockton AB 617 community area and additional measures to reduce exposure to air pollution for sensitive receptors.

WHEREAS in recent years, the proliferation of e-commerce and rising consumer expectations of rapid shipping have contributed to a boom in warehouse development. California, with its ports, population centers, and transportation network, has found itself at the center of this trend.

WHEREAS in response to project applications consistent with this demand, the City has approved millions of square feet of warehouse and logistics space, substantial amounts of which have been or will be constructed in the south Stockton community.

WHEREAS the Attorney General has previously submitted letters to the City regarding concerns with significant environmental impacts being created by such warehouse and distribution facility projects, including the Sanchez Hoggan Annexation Project and the South Stockton Commerce Center Project.

WHEREAS the City seeks to minimize additional environmental impacts from new warehouse and distribution facility development sited in south Stockton and throughout the City.

WHEREAS the California Environmental Quality Act (CEQA), Public Resources Code section 21000 et seq. and California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387, requires, amongst other things, that the City impose feasible mitigation measures on applicable projects to minimize any significant environmental impacts. The California Supreme Court has determined that CEQA requires a lead agency “to implement all mitigation measures unless those measures are truly infeasible.” *Sierra Club v. Cty. of Fresno* (2018) 6 Cal.5th 502, 524–25 (citing *City of San Diego v. Board of Trustees of California State University* (2015) 61 Cal.4th 945, 967).

WHEREAS on August 24, 2021, the City released the Draft Environmental Impact Report (EIR) for the Mariposa Industrial Park Project. Public comments submitted on the Draft EIR, including comments from the Attorney General’s Office and the Sierra Club, raised concerns that the project’s

significant environmental impacts were not sufficiently disclosed, analyzed, and mitigated as required by CEQA.

WHEREAS on February 28, 2022, the City released the Final EIR for the Mariposa Industrial Park Project. In response, once again stakeholders, including the Attorney General's Office and the Sierra Club, raised concerns regarding the project, including the lack of feasible mitigation as required under CEQA.

WHEREAS the City, the Attorney General's Office, and the Sierra Club have been engaged in good-faith negotiations regarding additional feasible mitigation measures to reduce the potentially significant environmental impacts that the Mariposa Industrial Park Project may create.

WHEREAS as a result of those good-faith negotiations the City has proposed to require additional feasible mitigation measures on the Mariposa Industrial Park Project to further reduce the project's significant environmental impacts, as identified in the amended Mariposa Industrial Park Final Environmental Impact Report ("Revised Final EIR" State Clearinghouse No. 2020120283). The City Council intends to soon consider adopting: (1) a Resolution certifying that Revised Final EIR together with the adoption of CEQA Findings including a Statement of Overriding Considerations and adoption of a Mitigation Monitoring and Reporting Program ("MMRP"); (2) an Ordinance for the Pre-Zoning of APNs 179-220-10, -12, -13, -16, -17, -18, -19, and -24 (the "Property") to Industrial, Limited; (3) an Ordinance for a Development Agreement; and (4) a Resolution authorizing the filing of an annexation application with the San Joaquin Local Agency Formation Commission (collectively the "Project Approvals").

WHEREAS the City has embarked on a comprehensive update to Title 16 of the City's Municipal Code, known as the Development Code, that is intended to produce a user-friendly Development Code, serving as an effective tool to implement the General Plan, shape future growth, and help realize the community's vision of promoting investment in downtown Stockton and historically underserved areas, preserving and enhancing neighborhood character, and improving community health and safety. The City anticipates adopting and publishing a new updated Development Code in 2023.

WHEREAS the City seeks to establish an ordinance applicable to future warehouse and distribution facility development projects ("warehouse ordinance") in order to set minimum development standards to mitigate environmental impacts from those projects. Such a warehouse ordinance will also provide clarity to stakeholders, including developers and the general public, regarding the requirements needed to construct warehouse and distribution facilities in the City.

AGREEMENT

Either as part of the aforementioned ongoing Development Code amendment process or as a separate, stand-alone process, City staff shall propose a warehouse ordinance to identify and apply all feasible mitigation measures to qualifying warehouse and distribution facility projects to minimize their potentially significant environmental impacts. The proposed warehouse ordinance shall be scheduled for consideration by the City Council before December 31, 2023.

The warehouse ordinance proposed to the City Council shall apply to qualifying facilities engaged in logistics use, which is defined as any warehouse or wholesaling and distribution land use which entails facilities to be used for the storage of farm products, furniture, household goods, or other commercial goods of any nature for distribution to wholesalers and/or retailers, including cold storage. Qualifying facilities do not include self-storage or mini-storage facilities offered for rent or lease to the

general public. Qualifying facilities shall include, at minimum, projects with a building or buildings totaling 100,000 square feet or larger.

In preparing and proposing the warehouse ordinance, City staff shall consider including at minimum the conditions included in Exhibit A. To the extent that the conditions included in Exhibit A are not included in the warehouse ordinance proposed for approval by City Council, City staff shall explain: (1) why such conditions are infeasible as defined under CEQA; (2) what alternative conditions are being proposed for inclusion in-lieu of any such omitted conditions; and (3) how such alternative conditions reduce potentially significant environmental impacts.

If the City enters into this Agreement and adopts the Project Approvals, including all of the Mariposa Industrial Project Enhanced Measures attached to the City's and Developer's separate settlement agreement with the Sierra Club, then the Attorney General shall not file any complaints, claims, grievances, special proceedings, legal challenges, or take any other actions against the City with any state, federal, or local agency or court challenging the City Council's adoption of the Project Approvals or the proposed annexation of the Property to the City of Stockton (the "AG Obligation").

GENERAL TERMS AND CONDITIONS

1. Agreement Term. This Agreement shall remain in effect until the City implements and complies with the commitment pursuant to the agreed-on deadline set forth herein.
2. Default. The Parties agree and acknowledge that time is of the essence for City staff to propose and for the City Council to consider adopting a warehouse ordinance before the December 31, 2023, deadline set forth in this Agreement. The Parties stipulate that the Superior Court in and for San Joaquin County shall have jurisdiction over the Parties and this Agreement to enforce the provisions of the Agreement until performance in full of all terms of the Agreement. The Court shall have full authority to enforce the Agreement as if the Parties had entered the Agreement as a stipulated judgment pursuant to Code of Civil Procedure, section 664.6. Nothing in this Agreement prevents the Attorney General from seeking any and all remedies for non-compliance with the Agreement.
3. No Waiver. This Agreement does not in any way limit or waive the Attorney General's jurisdiction, capacity, authorization, obligation, right, or discretion to determine whether any City action or failure to act complies with CEQA or any other law except as expressly provided in the AG Obligation above.
4. Amendment. No addition to or modification of any term or provision of this Agreement will be effective unless set forth in writing and signed by an authorized representative of each of the Parties.
5. Signing Authority. By signing this Agreement, the persons executing the Agreement represent that they have the capacity and authority to execute the Agreement as the representative of their respective agency and to bind their respective agency to the terms of this Agreement.
6. Entire Agreement. This Agreement contains the entire agreement of the Parties with respect to the subject matter of this Agreement, and supersedes all prior negotiations, discussions, agreements, commitments, and understandings with respect thereto.
7. Applicable Law. This Agreement shall be governed by and construed in accordance with the laws of the State of California.
8. Joint Drafting. This Agreement has been jointly drafted, and the general rule that it be construed against the drafting party is not applicable.
9. Severability. If a court should find any term, covenant, or condition of this Agreement to be invalid or unenforceable, the remainder of the Agreement shall remain in full force and effect.

10. Representation by Counsel. Each of the Parties affirmatively represents that it has been represented throughout this matter by attorneys of its own choosing. Each Party has read this Agreement and has had the terms used herein and the consequences thereof explained by its attorneys of choice. This Agreement is freely and voluntarily executed and agreed to by each Party after having been apprised of all relevant information and data furnished by its attorneys of choice. Each Party in executing this Agreement does not rely upon any inducements, promises, or representations made by any other Party except as set forth herein.
11. Counterparts and Electronic Signatures. This Agreement may be executed with counterpart signatures, each of which shall be deemed an original. The Agreement will be binding upon the receipt of original, facsimile, or electronically communicated signatures.

DATED: December __, 2022

ROB BONTA
Attorney General of California
CHRISTIE VOSBURG
Supervising Deputy Attorney General

SCOTT LICHTIG
Deputy Attorney General
Attorneys for the People of the State of
California

DATED: December __, 2022

CITY OF STOCKTON

HARRY BLACK
City Manager

EXHIBIT A

In preparing and proposing the warehouse ordinance, City staff shall consider including at minimum the following conditions on qualifying facilities. To the extent that the following conditions are not included in the warehouse ordinance proposed for approval by City Council, City staff shall explain: (1) why such conditions are infeasible as defined under CEQA; (2) what alternative conditions are being proposed for inclusion in-lieu of any such omitted conditions; and (3) how such alternative conditions reduce potentially significant environmental impacts:

Construction Mitigation:

- San Joaquin Valley Air Pollution Control District (SJVAPCD) Regulation VIII Compliance: Construction plans and specifications shall include a Dust Control Plan incorporating the applicable requirements of Regulation VIII, which shall be submitted to the SJVAPCD for review and approval prior to beginning construction in accordance with the requirements of Regulation VIII.
- Construction Vehicles & Equipment:
 - The use of electric-powered, battery-powered, natural gas, or hybrid construction equipment and vehicles are required during construction if commercially available. If substantial evidence is provided by the permittee or its contractor that such equipment is not commercially available, including a description of commercially reasonable efforts to secure such equipment, diesel-powered construction equipment greater than 50 horsepower meeting the highest rated California Air Resources Board (CARB) Tier technology available at the time of construction may be used. Prior to permit issuance, the construction contractor shall submit an equipment list confirming equipment used is compliant with the highest CARB Tier at the time of construction. Equipment proposed for use that does not meet the highest CARB Tier in effect at the time of construction, shall only be approved for use at the discretion of Stockton's Community Development Department (CDD) and shall require proof from the construction contractor that, despite reasonable best efforts to obtain the highest CARB Tier equipment, such equipment was unavailable.
 - All off-road equipment with a power rating below 19 kilowatts (e.g., plate compactors, pressure washers) used during construction of the qualifying facility(ies) shall be electric powered.
 - Subject to all other idling restrictions, off-road diesel-powered equipment shall not be left in the "on position" for more than 10 hours per day.
- Owners, operators or tenants of qualifying facilities shall provide "cool roof" specifications in construction plans verifying that the proposed roof will utilize cool roofing materials with an aged reflectance and thermal emittance values that are equal to or greater than those specified in the current edition of the CALGreen Building Standards Code, Table A5.106.11.2.3 for Tier 1 and the City's Green Building Standards within Chapter 15.72 of the Stockton Municipal Code.
- Temporary electrical hookup to the construction yard and associated work areas shall be required.
- The idling of heavy construction equipment for more than 5 minutes shall be prohibited. The owners, operators or tenants shall provide verification that construction specifications establish a

five-minute idling limit for all heavy-duty construction equipment utilized during construction of the proposed qualifying facility(ies). Signage shall be posted throughout the construction site regarding the idling time limit, and the construction contractor shall maintain a log for review. The log shall verify that construction equipment operators are advised of the idling time limit at the start of each construction day. Idling limits shall be noted in the construction specifications. The maintenance of logs documenting compliance shall be required.

- The construction contractors shall maintain on the construction site an inventory of construction equipment, maintenance records, and datasheets, including design specifications and emission control tier classifications.
- Architectural and industrial maintenance coatings (e.g., paints) applied on the qualifying facility(ies) shall be consistent with a VOC content of <10 g/L. Developer or tenant is not expected to exercise control over materials painted offsite by a third party.
- Qualifying facilities shall require the construction contractor to establish one or more locations for food or catering truck service to construction workers and to cooperate with food service providers to provide consistent food service.
- Qualifying facilities shall require the construction contractor to provide transit and ridesharing information for construction workers.

Site Design:

- Qualifying facilities shall be constructed in compliance with the most current edition of all adopted City building codes, including the adopted Green Building Standards Code. Prior to the issuance of building permits, the applicant/developer of the qualifying facility(ies) shall demonstrate (e.g., provide building plans) that the proposed buildings are designed and will be built to, at a minimum, meet the Tier 2 advanced energy efficiency requirements of the Nonresidential Voluntary Measures of the California Green Building Standards code, Divisions A5.1, A5.2 and A5.5, Energy Efficiency as outlined under Section A5.203.1.2.
- Qualifying facilities and their associated loading docks must be located no closer than 300 feet from sensitive receptors, and the City staff should consider the public health and safety benefits of requiring a larger buffer, up to 1,000 ft. All such setbacks will be measured from the loading dock or any building edge, whichever is closer, to the property line of any nearby sensitive receptors using the straight-line method. The setbacks and buffers required in this ordinance shall prevail over any less-stringent standards in the City's Development Code. Sensitive receptor shall be defined as any residence including private homes, condominiums, apartments, and living quarters, schools, preschools, daycare centers, correctional facilities, parks/recreation facilities, in-home daycares, and health facilities such as hospitals, long term care facilities, retirement and nursing homes.
- Qualifying facilities must include an onsite landscaped buffer, measured from the property line of all adjacent sensitive receptors. The width of the buffer shall be proportionate to the height of the warehouse building with specified minimums as set forth below unless infeasible. Landscaping shall be installed at the periphery of the qualifying facility(ies) site along adjacent rights of way and the landscaping buffer area shall not include the right of way itself. Landscape buffers shall not be required on interior boundaries of the qualifying facility(ies).

- The width of the buffer shall be set at a 2:1 ratio for all warehouses—for every 1 foot of building height, the buffer shall be 2 feet. The landscaping portion of this buffer shall not be less than 50% of this buffer, but may include areas to be used for bioswales, retention/detention areas and/or other stormwater and water quality management areas.
- The buffer area(s) shall include, at a minimum, a solid decorative wall(s) adjacent to sensitive receptors, natural ground landscaping, and solid screen buffering trees, as described below, unless there is an existing solid block wall. Onsite buffer areas shall not include deceleration lanes or right-turn lanes. To the extent allowed by other applicable City codes, policies and regulations the height of the decorative wall shall be at least 14 feet, except in buffer areas adjacent to sensitive receptors. For areas adjacent to sensitive receptors, the decorative wall shall be a minimum of 14 to 18 feet to the extent otherwise permitted by city codes, policies and regulations.
- Trees shall be used as part of the solid screen buffering treatment. Trees used for this purpose shall be evergreen, drought tolerant, and shall be spaced in two rows along the length of the buffer, with trees in each row offset, and each tree no greater than 15 feet on center. Spacing up to 20 feet may be allowed if wide canopy trees are used sufficient to create wall of vegetation that filters warehouse pollution. The property owner, tenant, operator, and any successors in interest shall maintain these trees for the duration of ownership, ensuring any unhealthy or dead trees are replaced with a similar tree as soon as possible.
- All landscaping shall be drought tolerant, and to the extent feasible, species with low biogenic emissions. Palm trees shall not be utilized.
- All landscaping areas shall be properly irrigated for the life of the qualifying facility(ies) to allow for plants and trees to maintain growth with no undue pruning.

Operational Mitigation

- Solar Power/Battery Energy Storage Systems:
 - The building permit application for qualifying facilities must demonstrate sufficient solar panels to provide power for the operation's base power use at the start of operations and as base power use demand increases. The application shall include analysis of plans to meet (a) projected power requirements at the start of operations and as base power demand increases corresponding to the implementation of the "clean fleet" requirements, and (b) generating capacity of the solar installation.
 - The photovoltaic system(s) shall include a battery energy storage system to serve the qualifying facility(ies) in the event of a power outage to the extent required by the most current edition of the California Building Standards Code.
 - Stockton's Community Development Department (CDD) shall verify the size and scope of the solar project based upon the analysis of the projected power requirements and generating capacity as well as the available solar panel installation space.
 - In the event sufficient space is not available on the subject lot to accommodate the needed number of solar panels to produce the operation's base or anticipated power use, the applicant of the qualifying facility(ies) shall demonstrate how all available space has

been maximized (e.g., roof, parking areas, etc.) for photovoltaic and battery energy storage system use. Areas which provide truck movement may be excluded from these calculations unless otherwise deemed acceptable by the supplied reports and applicable building standards.

- The owners, operators or tenants, or qualified solar system contractor engaged by the developer or tenant, shall install the system when the City has approved building permits and the necessary equipment has arrived. The tenant/operator of the qualifying facility(ies) shall commence operation of the system only when it has received permission to operate from the utility. The photovoltaic system owner shall be responsible for maintaining the system(s) at not less than 80% of the rated power for 20 years. At the end of the 20-year period, the owners, operators or tenants shall install a new photovoltaic system meeting the capacity and operational requirements of this measure, or continue to maintain the existing system, for the life of the qualifying facility(ies).
- Electric Vehicles (EV): The following mitigation measures shall be implemented during all on-going business operations and shall be included as part of contractual lease agreement language to ensure the tenants/operators of the qualifying facility(ies) are informed of all on-going operational responsibilities.
 - Heavy-Duty EV Trucks: The property owners, operators or tenants of the qualifying facility(ies) shall ensure that all heavy-duty trucks (Class 7 and 8) domiciled on site are model year 2014 or later from start of operations and shall expedite a transition to zero-emission vehicles, with the fleet fully zero-emission by December 31, 2025, or when commercially available for the intended application, whichever date is later.
 - Medium-Duty EV Vehicles: The property owners, operators or tenants of the qualifying facility(ies) shall utilize a "clean fleet" of vehicles/delivery vans/trucks (Class 2 through 6) as part of business operations as follows: For any vehicle (Class 2 through 6) domiciled on site, the following "clean fleet" requirements apply: (i) 33% of the fleet will be zero emission vehicles at start of operations, (ii) 65% of the fleet will be zero emission vehicles by December 31, 2023, (iii) 80% of the fleet will be zero emission vehicles by December 31, 2025, and (iv) 100% of the fleet will be zero emission vehicles by December 31, 2027.
 - "Domiciled on site" shall mean the vehicle is either (i) parked or kept overnight at the qualifying facility(ies) more than 70% of the calendar year or (ii) dedicated to the qualifying facility(ies) site (defined as more than 70% of the truck routes during the calendar year that start at the qualifying facility(ies) site even if parked or kept elsewhere). The tenant/operator of the qualifying facility(ies) shall not be responsible to meet "clean fleet" requirements for vehicles used by common carriers operating under their own authority that provide delivery services to or from the qualifying facility(ies) site.
 - Zero-emission vehicles which require service can be temporarily replaced with alternate vehicles. Replacement vehicles shall be used for only the minimum time required for servicing fleet vehicles.

- A zero-emission vehicle shall ordinarily be considered commercially available if the vehicle is capable of serving the intended purpose and is included in California's Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project, <https://californiahvip.org/> or listed as available in the US on the Global Commercial Vehicle Drive to Zero inventory, <https://globaldrivetozero.org/>. The City shall be responsible for the final determination of commercial availability, based on all the facts and circumstances at the time the determination is made. In order for the City to make a determination that such vehicles are commercially unavailable, the operator must submit documentation from a minimum of three (3) EV dealers identified on the californiahvip.org website demonstrating the inability to obtain the required EVs or equipment needed within 6 months.
- The tenant/operator of the qualifying facility(ies) shall utilize the zero emission vehicles/trucks required to meet the "clean fleet" requirements. Within 30 days of issuance of the final certificate of occupancy, the tenant/operator shall demonstrate to the satisfaction of CDD staff, that the applicable clean fleet requirements are being met. In the event that there is a disruption in the manufacturing of zero emission vehicles/trucks or that sufficient vehicles/trucks are not commercially available for the intended application, the "clean fleet requirements" may be adjusted as minimally as possible by the CDD to accommodate the manufacturing disruption or unavailability of commercially available vehicles/trucks.
- The tenant/operator of the qualifying facility(ies) shall implement the proposed measures after CDD review and approval. Any extension of time granted to implement this condition shall be limited to the shortest period of time necessary to allow for 100% electrification under the clean fleet requirements. The CDD staff may seek the recommendation of the California Air Resources Board in determining whether there has been a manufacturing disruption or insufficient vehicles/trucks commercially available for the intended application.
- Within 12 months of failing to meet a "clean fleet" requirement, the tenant/operator of the qualifying facility(ies) shall implement a Voluntary Emissions Reduction Agreement (VERA) providing pound for pound mitigation of the criteria pollutant, toxic air contaminants, and GHG emissions quantified by the City through a process that develops, funds, and implements emission reduction projects, with the Air District serving a role of administrator of the emission reduction projects and verifier of the successful mitigation effort. The VERA shall prioritize projects in the area surrounding the new qualifying facility(ies). The tenant/operator shall continue to fund the VERA each year in an amount necessary to achieve pound for pound mitigation of emissions resulting from not meeting the clean fleet requirements until the owner/tenant/lessee fully complies.
- At all times during operation, and to the extent the applicable utility authorizes and has capacity to support, the tenant/operator of the qualifying facility(ies) shall be required to provide electric charging facilities on site sufficient to charge all electric trucks domiciled on the site, and such facilities shall be made available for all electric trucks that use the qualifying facility(ies).
- The tenant/operator of the qualifying facility(ies) shall require all forklifts, yard trucks, and other equipment used for on-site movement of trucks, trailers and warehoused goods, as well as landscaping maintenance equipment used on the site, to be electrically powered or zero-emission.

The tenant/operator shall provide on-site electrical charging facilities to adequately service such electric vehicles and equipment.

- EV Compliance Reporting:
 - The tenant/operator of the qualifying facility(ies) shall procure the zero emission vehicles/trucks required to meet the "clean fleet" requirements above. Within 30 days of issuance of the final certificate of occupancy, the tenant/operator shall submit a condition of approval compliance report outlining compliance with each clean fleet requirement applicable and including documentation demonstrating compliance with each requirement. The tenant/operator shall submit similar reports every two years thereafter until full compliance with the applicable clean fleet requirements is achieved. The City shall consider each report at a noticed public hearing and determine whether the tenant/operator has complied with the applicable clean fleet requirements. If the tenant/operator has not met each 100% clean fleet requirement by December 31, 2027, then the tenant/operator shall submit reports annually until the 100% clean fleet requirement is implemented. The City shall consider each subsequent report at a noticed public hearing and determine whether the Operator has complied with the clean fleet requirements, including any minimal adjustments to the requirements by the CDD to accommodate the manufacturing disruption or unavailability of commercially available vehicles/trucks, as described above. Notice of the above hearings shall be provided to all properties located within 1,000 feet of the qualifying facility(ies) site and through the ASK Stockton list serve.
 - After the 100% clean fleet requirement has been implemented and confirmed by the CDD, the tenant/operator shall submit to the CDD an on-going compliance report every three years containing all necessary documentation to verify that the clean fleet requirements are being met. At the time it confirms that the 100% clean fleet requirement has been implemented, the CDD will establish the due date for the first on- going compliance report. Each subsequent on-going compliance report shall be due within 30 days of, but not later than, the three-year anniversary of the preceding due date. The on-going compliance reports and accompanying documentation shall be made available to the public upon request
- For qualifying facilities at which cold storage and associated transport refrigeration units (TRUs) are proposed or may be a future use, unless the owner of the facility records a covenant on the title of the underlying property ensuring that the property cannot be used to provide cold storage, a conduit shall be installed during construction of the building shell from the electrical room to 100% of the loading dock doors that have potential to serve the refrigerated space. If tenant improvement building permits are issued for any such cold storage space, electric plug-in units shall be installed at every dock door servicing the cold storage space to allow TRUs to plug in and truck operators with TRUs shall be required to utilize the electric plug-in units when at loading docks serving such refrigerated space.
- Prior to the issuance of the first building permit, the applicant/developer shall demonstrate compliance with the SJVAPCD Rule 9510 (Indirect Source Review) to reduce growth in both NOx and PM10 emissions, as required by SJVAPCD and City requirements.

- The tenant/operator of the qualifying facility(ies) shall enroll and participate the in SmartWay program for eligible businesses.
- Truck Routes and Ingress/Egress:
 - Entry gates into the loading dock/truck court area of the qualifying facility(ies) shall be sufficiently positioned to ensure all trucks and other vehicles are contained onsite and inside the property line. Queuing, or circling of vehicles, on public streets immediately pre- or post-entry to an industrial commerce facility is strictly prohibited unless queuing occurs in a deceleration lane or right turn lane exclusively serving the qualified facility(ies).
 - Applicants shall submit to the CDD, and obtain approval of, all turning templates to verify truck turning movements at entrance and exit driveways and street intersection adjacent to industrial buildings prior to entitlement approval. Unless not physically possible, truck entries shall be located on collector streets (or streets of a higher commercial classification), and vehicle entries shall be designed to prevent truck access on streets that are not collector streets (or streets of a higher commercial classification), including, but not limited to, by limiting the width of vehicle entries.
 - Prior to issuance of certificate of occupancy, the tenant/operator of the qualifying facility(ies) shall establish and submit for approval to the CDD a truck routing plan to and from the State Highway System based on the City's latest Truck Route Map. The plan shall describe the operational characteristics of the use of the tenant/operator, including, but not limited to, hours of operations, types of items to be stored within the building, and proposed truck routing to and from the proposed facility(ies) to designated truck routes that avoids passing sensitive receptors, to the greatest extent possible. The plan shall include measures, such as signage and pavement markings, queuing analysis and enforcement, for preventing truck queuing, circling, stopping, and parking on public streets. The tenant/operator shall be responsible for enforcement of the plan. A revised plan shall be submitted to the CDD prior to a business license being issued by the City for any new tenant/operator of the property. The CDD shall have discretion to determine if changes to the plan are necessary including any additional measures to alleviate truck routing and parking issues that may arise during the life of the facility(ies). Signs and drive aisle pavement markings shall clearly identify the onsite circulation pattern to minimize unnecessary on-site vehicular travel.
 - The tenant/operator of the qualifying facility(ies) shall post signs, that may be required by the City, in prominent locations inside and outside of the building indicating that off-site parking for any employee, truck, or other operation related vehicle is strictly prohibited. City may require facility operator to post signs on surface or residential streets indicating that off-site truck parking is prohibited by City ordinance and/or the Truck Routing Plan.
 - Signs shall be installed, as required by the City, at all qualifying facility(ies) truck exit driveways directing truck drivers to the truck route as indicated in the Truck Routing Plan and State Highway System.
 - Upon commencement of operations, the tenant/operator of the qualifying facility(ies) shall be required to restrict truck idling onsite to a maximum of three minutes, subject to exceptions defined by CARB's commercial vehicle idling requirements. The facility must

post highly-visible signs identifying these idling restrictions at the site entry and at other on-site locations frequented by truck drivers and include these restrictions in employee training and guidance material.

- Signs at the qualifying facility(ies) shall be installed, as required by the City, in public view with contact information for a local designated representative who works for the facility(ies) operator and who is designated to receive complaints about excessive dust, fumes, or odors, and truck and parking complaints for the site, as well as contact information for the San Joaquin Valley Air Pollution Control District's on-line complaint system and its complaint call-line: 1-800-281-7003. Any complaints made to the facility(ies) operator's designee shall be answered within 72 hours of receipt.
- Workforce-Related Mitigation:
 - Prior to issuance of occupancy permits, the applicant/developer shall demonstrate to the satisfaction of the City, that the proposed parking areas for employee passenger automobiles are designed and will be built to accommodate EV charging stations, at no cost to employees. At minimum, the parking areas and the number of EV charging stations for employee passenger automobiles shall equal the Tier 1 Nonresidential Voluntary Measures of the California Green Building Standards Code, Section A5.106.5.3.1.
 - Prior to issuance of occupancy permits, the applicant/developer shall demonstrate to the satisfaction of the City, that the proposed parking areas for passenger automobiles are designed and will be built to provide parking for low-emitting, fuel-efficient, and carpool/van vehicles. At minimum, the number of preferential parking spaces for passenger automobiles shall equal the Tier 1 Nonresidential Voluntary Measures of the California Green Building Standards Code, Section A5.106.5.1.1.
 - The tenant/operator of the qualifying facility(ies) shall establish locations for food or catering truck service and cooperate with food service providers to provide consistent food service to operations employees.
 - The tenant/operator of the qualifying facility(ies) shall provide employees transit route and schedule information on systems serving the qualifying facility(ies) area and coordinate ridesharing amongst employees.
 - Designated Smoking Areas: The tenant/operator of the qualifying facility(ies) shall ensure that any outdoor areas allowing smoking are at least 25 feet from the nearest property line.
- Yard Sweeping: Owners, operators or tenants of the qualifying facility(ies) shall provide periodic yard and parking area sweeping to minimize dust generation
- Diesel Generators: Owners, operators or tenants of the qualifying facility(ies) shall prohibit the use of diesel generators, except in emergency situations (including when the utility delays a facility's new electrical service connection), in which case such generators shall have Best Available Control Technology (BACT) that meets CARB's Tier 4 emission standards.

Additional Mitigation

- To the extent a qualifying facility seeks and secures a Development Agreement with/from the City, the applicant, or its successor in interest, and the City shall comply with Government Code section 65865.1 and Stockton Development Code section 16.128.110. The City shall schedule a public hearing at the Planning Commission, with notice to all affected parties, at least every 12 months after approval of the Development Agreement, to receive and discuss the annual report on the status of the qualifying facility(ies)'s compliance with the Development Agreement. At those same hearings, the City shall review all the qualifying facility(ies)'s mitigation measures and conditions of approval for compliance.
- Applicants seeking one or more discretionary permits for proposed qualifying facility(ies) shall engage in a community outreach effort to engage the existing community in determining issues of concern that can be addressed through site design and other means during the land use entitlement process. Suggested outreach efforts include but are not limited to, hosting community meetings, making presentations at advisory and community councils, and hosting job fairs.

APPENDIX B

Madzier Email Attachments

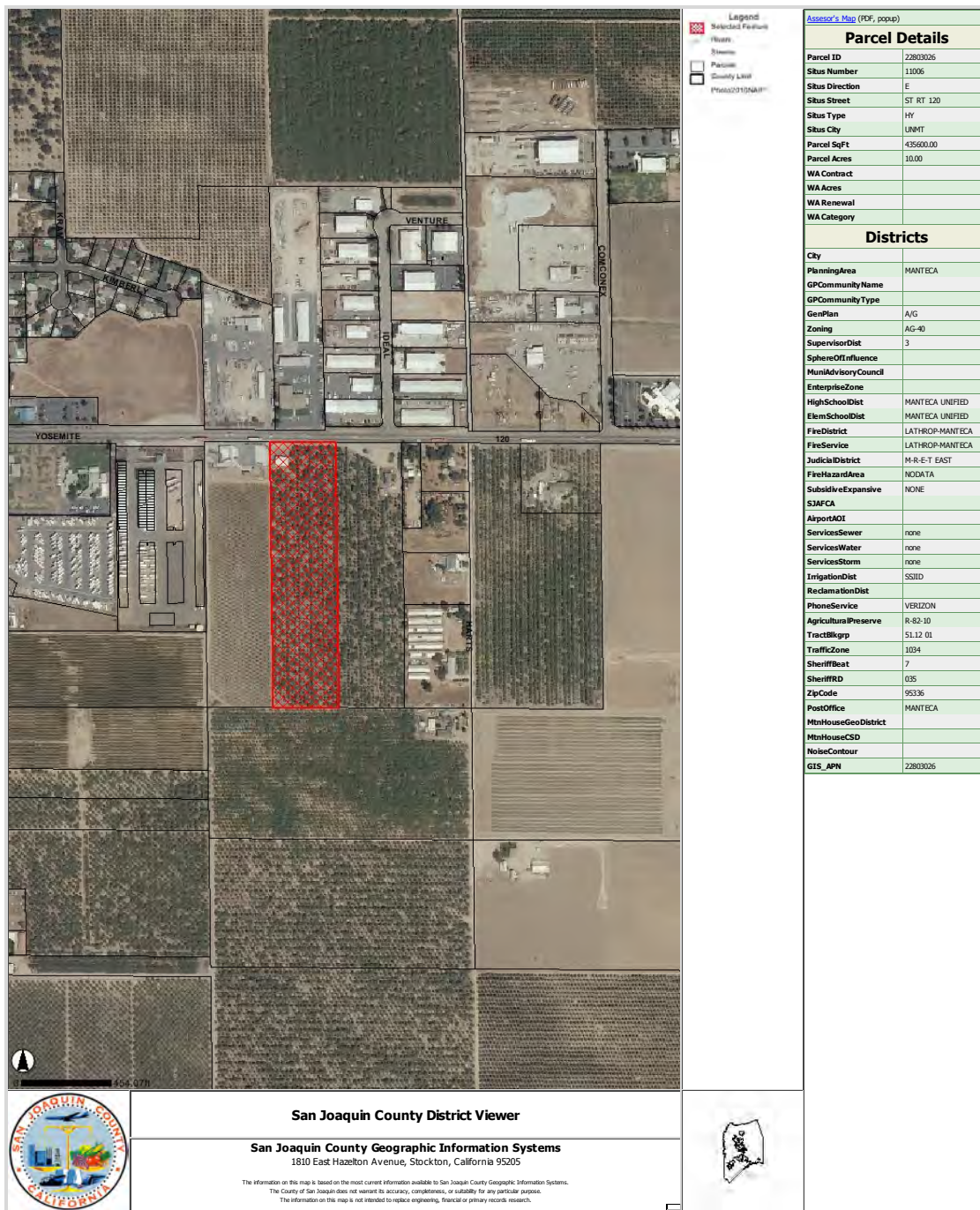


Figure 405.1
Corner Sight Distance (b)

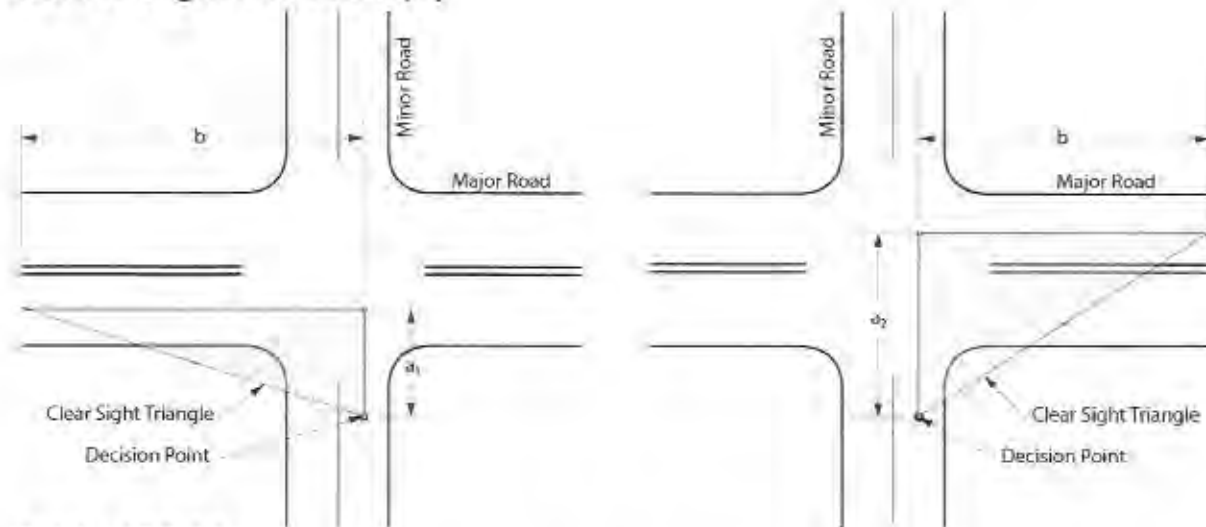


Table 405.1A
Corner Sight Distance Time Gap (T_g) for Unsignalized Intersections

Design Vehicle	Left-turn from Stop (s) ⁽⁴⁾	Right-turn from Stop and Crossing Maneuver (s)
Passenger Car	7½	6½
Private Road Intersection		
Rural Driveway		
Single-Unit Truck	9½	8½
Public Road Intersection		
Combination Truck	11½	10½
Major and Minor Roads on Routes:		
National Network		
Terminal or Service Access		
California Legal		
KPRA Advisory		

Notes: Time gaps are for a stopped vehicle to turn left, right or cross a two-lane highway with no median and with minor road grades of 3 percent or less. The table values should be adjusted as follows:

⁽¹⁾For multilane highways—When crossing or making a left-turn onto a two-way major road with more than two lanes, add 0.5 s for passenger cars or 0.7 s for trucks for each additional lane to be crossed. Median widths should be converted to an equivalent number of lanes in applying the 0.5 s and 0.7 s criteria. For example, an 18-foot wide median is equivalent to 1.5 lanes; this requires an additional 0.75 s for a passenger car to cross or an additional 1.05 s for a truck to cross.

⁽²⁾For minor road approach grades—If the minor road approach grade is an upgrade that exceeds 3 percent and the rear wheels of the design vehicle are on the grade exceeding 3 percent, add 0.2 s for each percent grade for left-turns and crossing maneuvers; or add 0.1 s for each percent grade for right-turns. For example, a passenger car is turning right from a minor road and at the stop location its rear wheels are on a 4 percent upgrade; this requires an additional 0.4 s for the right-turn.

⁽³⁾Unique situations may necessitate a different design vehicle for a particular minor road than those listed here (e.g., predominant combination trucks out of a rural driveway). Additionally, for intersections at skewed angles less than 60 degrees, a further adjustment is needed. See the AASHTO "A Policy on Geometric Design of Highways and Streets" for guidance.

⁽⁴⁾Time gap for vehicles approaching from the left can be the same as the right-turn from stop maneuver.

Quick Guide: Truck Lengths & Routes







The **3-Step Quick Guide** to help you determine which routes your truck may legally travel on.

Step 1 | **Step 2** | **Step 3** | *Step 4 (Optional)* | *Step 5 (Optional)*





Step 1: Determine Your Truck Category

The two categories of truck tractor-semitrailers in California are: (1) the "green" trucks (Interstate "STAA" trucks) and (2) the "black" trucks (California Legal trucks). These two tables show the maximum allowed lengths for the two categories of truck tractor-semitrailers.

Truck Tractor - Semitrailers:

Lengths	"Green" STAA Trucks		"Black" California Legal Trucks
			
Route Colors:			
Overall Length:	unlimited	unlimited	65 feet Max
Semitrailer:	53 feet Max	48 feet Max	unlimited
KPRA (kingpin-to-rear-most-axle distance):	40 feet Max (two-axle semitrailer); 38 feet Max (single-axle semitrailer)	unlimited	40 feet Max (two-axle semitrailer); 38 feet Max (single-axle semitrailer)

Doubles:

Lengths	"Green" STAA Trucks	"Black" California Legal Trucks	
			
Route Colors:			
		Option A	Option B
Overall Length:	unlimited	75 feet Max	65 feet Max
Trailers:	28 ft - 6 inch Max (each trailer)	28 ft - 6 inch Max (each trailer)	28 ft - 6 inch Max (one trailer) unlimited (other trailer)

Step 2: Determine the State Routes You Can Use

The color-coded "California Truck Network Map" for State highways is the official government source for truck route information. There are many private truck route guides, e.g., the *Rand McNally Motor Carrier Atlas* and various GPS systems. However, the accuracy of those private guides cannot be guaranteed, and must be verified by consulting the official "Caltrans Truck Network Map." The table below shows which color routes on the map your truck may legally travel

Legal Truck Access

- Legal Truck Access Homepage
- 45' Buses & Motorhomes
- Exemptions
- Getting to Eureka
- Motorsports
- Truck Lane Use
- Weigh Stations

Related Links:

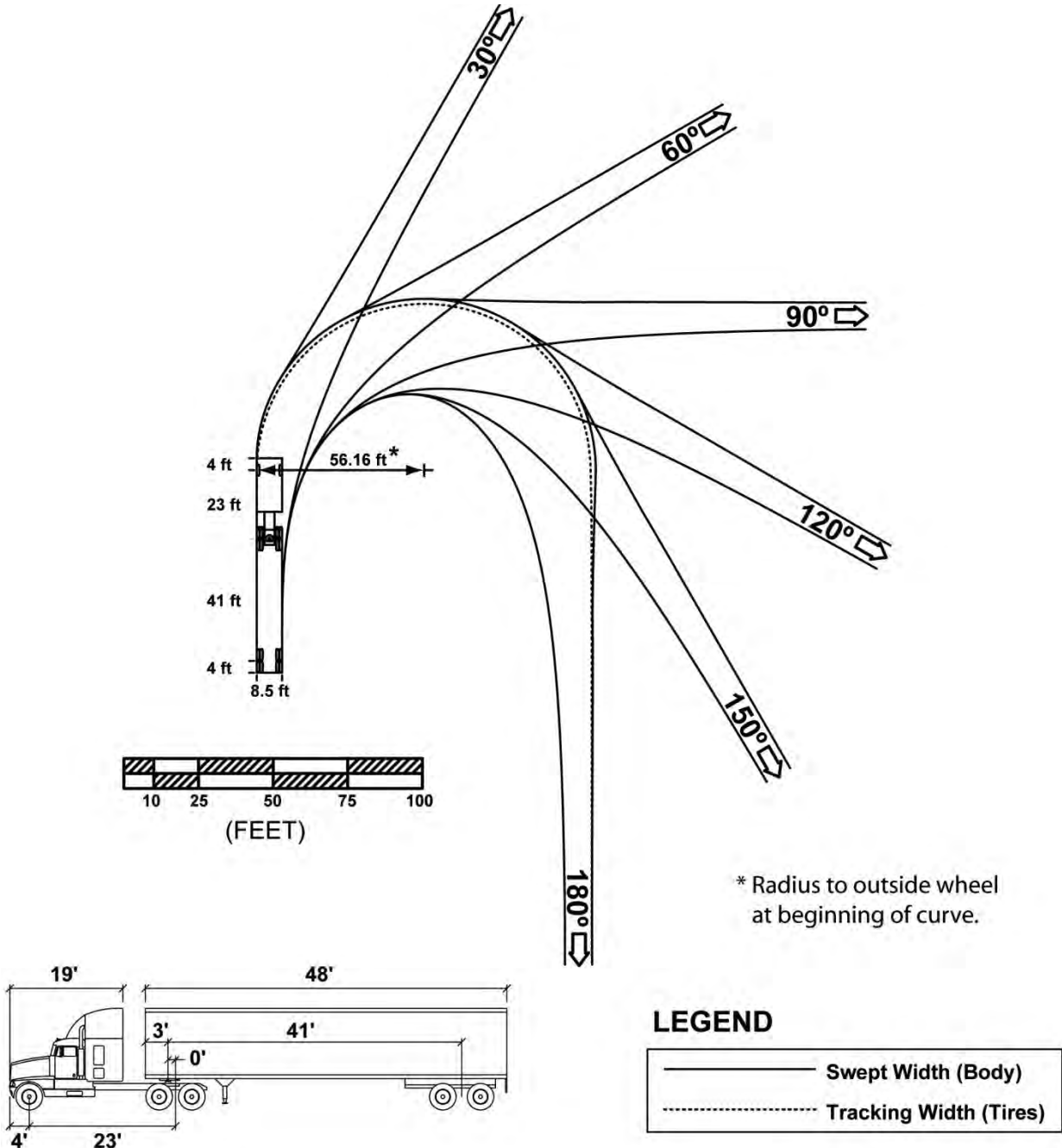
- Chain Requirements
- Encroachment Permits
- Exit Number Signs
- Toll Operations
- Truck-Only Lanes
- Truck Stops (CA, AZ, NV, OR)
- Transportation Permits
- Permit Services List (PDF)
- Permits Contact List
- Road Conditions

Contact Information:

- Legal Truck Access
1120 N Street, Sacramento, CA 95814
- Main Phone: (916) 654-5741
- E-mail: legal.truck.access@dot.ca.gov
(Staff: Darren Tam, and Manuel Fonseca)
- District Truck Staff

Figure 404.5A

STAA Design Vehicle 56-Foot Radius



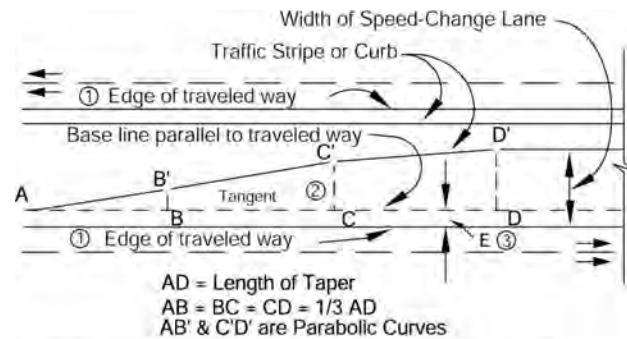
STAA - STANDARD

Tractor Width	: 8.5'	Lock to Lock Time	: 6 seconds
Trailer Width	: 8.5'	Steering Lock Angle	: 26.3 degrees
Tractor Track	: 8.5'	Articulating Angle	: 70 degrees
Trailer Track	: 8.5'		

Note: For definitions, see
Indexes 404.1 and 404.5.

Table 405.2A

Bay Taper for Median Speed-change Lanes



LENGTH OF TAPER - feet			OFFSET DISTANCE		
60	90	120	DD' = 10'	DD' = 11'	DD' = 12'
Distance From Point "A"					
5	7.5	10.0	0.00	0.00	0.00
10	15.0	20.0	0.16	0.17	0.19
15	22.5	30.0	0.62	0.69	0.75
			1.41	1.55	1.69
B'	20	30.0	2.50	2.75	3.00
	30	45.0	5.00	5.50	6.00
C'	40	60.0	7.50	8.25	9.00
	45	67.5	8.59	9.45	10.31
	50	75.0	9.38	10.31	11.25
	55	82.5	9.84	10.83	11.81
	60	90.0	10.00	11.00	12.00

NOTES:

- (1) The table gives offsets from a base line parallel to the edge of traveled way at intervals measured from point "A". Add "E" for measurements from edge of traveled way.
- (2) Where edge of traveled way is a curve, neither base line nor taper between B & C will be a tangent. Use proportional offsets from B to C.
- (3) The offset "E" is usually 2 ft along edge of traveled way for curbed medians; Use "E" = 0 ft. for striped medians.

Table 405.2B

Deceleration Lane Length

Design Speed (mph)	Length to Stop (ft)
30	235
40	315
50	435
60	530

CHAPTER 400 – INTERSECTIONS AT GRADE

Intersections are planned points of conflict where two or more roadways join or cross. At-grade intersections are among the most complicated elements on the highway system, and control the efficiency, capacity, and safety for motorized and non-motorized users of the facility. The type and operation of an intersection is important to the adjacent property owners, motorists, bicyclists, pedestrians, transit operators, the trucking industry, and the local community.

There are two basic types of at grade intersections: crossing and circular. It is not recommended that intersections have more than four legs. Occasionally, local development and land uses create the need for a more complex intersection design. Such intersections may require a specialized intersection design to handle the specify traffic demands at that location. In addition to the guidance in this manual, see Traffic Operations Policy Directive (TOPD) Number 13-02: Intersection Control Evaluation (ICE) for direction and procedures on the evaluation, comparison and selection of the intersection types and control strategies identified in Index 401.5. Also refer to the Complete Streets Intersection Guide for further information.

Topic 401 – Factors Affecting Design

Index 401.1 – General

At-grade intersections must handle a variety of conflicts among users, which includes truck, transit, pedestrians, and bicycles. These recurring conflicts play a major role in the preparation of design standards and guidelines. Arriving, departing, merging, turning, and crossing paths of moving pedestrians, bicycles, truck, and vehicular traffic have to be accommodated within a relatively small area. The objective of designing an intersection is to effectively balance the convenience, ease, and comfort of the users, as well as the human factors, with moving traffic (automobiles, trucks, motorcycles, transit vehicles, bicycles, pedestrians, etc.). The safety and mobility needs of motorist, bicyclist and pedestrians as well as their movement patterns in intersections must be analyzed early in the planning phase and then followed through appropriately during the design phase of all intersections on the State highway. It is Departmental policy to develop integrated multimodal projects in balance with community goals, plans, and values.

The Complete Intersections: A Guide to Reconstructing Intersections and Interchanges for Bicyclists and Pedestrians contains a primer on the factors to consider when designing intersections. It is published by the California Division of Traffic Operations.

401.2 Human Factors

- (1) *The Driver.* An appreciation of driver performance is essential to proper highway design and operation. The suitability of a design rests as much on how safely and efficiently drivers are able to use the highway as on any other criterion.

Motorist's perception and reaction time set the standards for sight distance and length of transitions. The driver's ability to understand and interpret the movements and crossing times of the other vehicle drivers, bicyclists, and pedestrians using the intersection is equally

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important when making decisions and their associated reactions. The designer needs to keep in mind the user's limitations and therefore design intersections so that they meet user expectation.

- (2) *The Bicyclist*. Bicyclist experience, skills and physical capabilities are factors in intersection design. Intersections are to be designed to help bicyclists understand how to traverse the intersection. Chapter 1000 provides intersection guidance for Class I and Class III bikeways that intersect the State highway system. The guidance in this chapter specifically relates to bicyclists that operate within intersections on the State highway system.
- (3) *The Pedestrian*. Understanding how pedestrians will use an intersection is critical because pedestrian volumes, their age ranges, physical ability, etc. all factor in to their startup time and the time it takes them to cross an intersection and thus, dictates how to design the intersection to avoid potential conflicts with bicyclists and motor vehicles. The guidance in this chapter specifically relates to pedestrian travel within intersections on the State highway system. See Topic 105, Pedestrian Facilities, Design Information Bulletin 82 - "Pedestrian Accessibility Guidelines for Highway Projects," the AASHTO Guide for the Planning, Design, and Operation of Pedestrian Facilities, and the California Manual on Uniform Traffic Control Devices (California MUTCD) for additional guidance.

401.3 Traffic Considerations

Good intersection design clearly indicates to bicyclists and motorists how to traverse the intersection (see Figure 403.6A). Designs that encourage merging traffic to yield to through bicycle and motor vehicle traffic are desirable.

The size, maneuverability, and other characteristics of bicycles and motorized vehicles (automobiles, trucks, transit vehicles, farm equipment, etc.) are all factors that influence the design of an intersection. The differences in operating characteristics between bicycles and motor vehicles should be considered early in design.

Table 401.3 compares vehicle characteristics to intersection design elements.

A design vehicle is a convenient means of representing a particular segment of the vehicle population. See Topic 404 for a further discussion of the uses of design vehicles.

Transit vehicles and how their stops interrelate with an intersection, pedestrian desired walking patterns and potential transfers to other transit facilities are another critical factor to understand when designing an intersection. Transit stops and their placement needs to take into account the required maintenance operations that will be needed and usually supplied by the Transit Operator.

401.4 The Physical Environment

In highly developed urban areas, where right of way is usually limited, the volume of vehicular traffic, pedestrians, and bicyclists may be large, street parking exists, and transit stops (for both buses and light rail) are available. All interact in a variety of movements that contribute to and add to the complexity of a State highway and can result in busy intersections.

Industrial development may require special attention to the movement of large trucks.

Rural areas where farming occurs may require special attention for specialized farm equipment. In addition, rural cities or town centers (rural main streets) also require special attention.

Rural intersections in farm areas with low traffic volumes may have special visibility problems or require shadowing of left-turn vehicles from high speed approach traffic.

Table 401.3

Vehicle Characteristics	Intersection Design Element Affected
Length	Length of storage lane
Width	Lane width
Height	Clearance to overhead signs and signals
Wheel base	Corner radius and width of turning lanes
Acceleration	Tapers and length of acceleration lane
Deceleration	Tapers and length of deceleration lane

There are many factors to be considered in the design of intersections, with the goal to achieve a functional, safe and efficient intersection for all users of the facility. The location and level of use by various modes will have an impact on intersection design, and therefore should be considered early in the design process. In addition to current levels of use, it is important to consider future travel patterns for vehicles, including trucks; pedestrian and bicycle demand and the future expansion of transit.

401.5 Intersection Type

Intersection types are characterized by their basic geometric configuration, and the form of intersection traffic control that is employed:

(1) *Geometric Configurations*

- (a) Crossing-Type Intersections - "Tee" and 4-legged intersections
- (b) Circular Intersections –roundabouts, traffic circles, rotaries; however, only roundabouts are acceptable for State highways.
- (c) Alternative Intersection Designs – various effective geometric alternatives to traditional designs that can reduce crashes and their severity, improve operations, reduce congestion and delay typically by reducing or altering the number of conflict points; these alternatives include geometric design features such as intersections with displaced left-turns or variations on U-turns.

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(2) *Intersection Control Strategies.* See California MUTCD and Traffic Operations Policy Directive (TOPD) Number 13-02, Intersection Control Evaluation for procedures and guidance on how to evaluate, compare and select from among the following intersection control strategies:

- (a) Two-Way Stop Controlled - for minor road traffic
- (b) All-Way Stop Control
- (c) Signal Control
- (d) Yield Control (Roundabout)

Historically, crossing-type intersections with signal or “STOP”-control have been used on the State highway system. However, other intersection types, given the appropriate circumstances may enhance intersection performance through fewer or less severe crashes and improve operations by reducing overall delay. Alternative intersection geometric designs should be considered and evaluated early in the project scoping, planning and decision-making stages, as they may be more efficient, economical and safer solutions than traditional designs. Alternative intersection designs can effectively balance the safety and mobility needs of the motor vehicle drivers, transit riders, bicyclists and pedestrians using the intersection.

401.6 Transit

Transit use may range from periodic buses, handled as part of the normal mix of vehicular traffic, to Bus Rapid Transit (BRT) or light rail facilities which can have a large impact on other users of the intersection. Consideration of these modes should be part of the early planning and design of intersections.

Topic 402 – Operational Features Affecting Design

402.1 Capacity

Adequate capacity to handle peak period traffic demands is a basic goal of intersection design.

- (1) *Unsignalized Intersections.* The “Highway Capacity Manual”, provides methodology for capacity analysis of unsignalized intersections controlled by “STOP” or “YIELD” signs. The assumption is made that major street traffic is not affected by the minor street movement. Unsignalized intersections generally become candidates for signalization when traffic backups begin to develop on the cross street or when gaps in traffic are insufficient for drivers to yield to crossing pedestrians. See the California MUTCD, for signal warrants. Changes to intersection controls must be coordinated with District Traffic Branch.
- (2) *Signalized Intersections.* See Topic 406 for analysis of simple signalized intersections, including ramps. The analysis of complex and alternative intersections should be referred to the District Traffic Branch; also see Traffic Operations Policy Directive (TOPD) Number 13-02.
- (3) *Roundabout Intersections.* See TOPD Number 13-02 for screening process and the Intersection Control Evaluation(ICE) Process Informational Guide for operational analysis methods and tools.

402.2 Collisions

- (1) *General.* Intersections have a higher potential for conflict compared to other sections of the highway because travel is interrupted, traffic streams cross, and many types of turning movements occur.

The type of traffic control affects the type of collisions. Signalized intersections tend to have more rear end and same-direction sideswipes than intersections with “STOP”-control on minor legs. Roundabouts experience few angle or crossing collisions. Roundabouts reduce the frequency and severity of collisions, especially when compared to the performance of signalized intersections in high speed environments. Other alternative intersection types are configurations to consider for minimizing the number of conflict points.

- (2) *Undesirable Geometric Features.*

- Inadequate approach sight distance.
- Inadequate corner sight distance.
- Steep grades.
- Five or more approaches.
- Presence of curves within intersections(unless at roundabouts).
- Inappropriately large curb radii.
- Long pedestrian crossing distances.
- Intersection Angle <75 degrees (see Topic 403).

402.3 On-Street Parking

On-street parking generally decreases through-traffic capacity, impedes traffic flow, and increases crash potential. Where the primary service of the arterial is the movement of vehicles, it may be desirable to prohibit on-street parking on State highways in urban and suburban expressways and rural arterial sections. However, within urban and suburban areas and in rural communities located on State highways, on-street parking should be considered in order to accommodate existing land uses. Where adequate off-street parking facilities are not available, the designer should consider on-street parking, so that the proposed highway improvement will be compatible with the land use. On-street parking as well as off-street parking needs to comply with DIB82. See AASHTO, A Policy on Geometric Design of Highways and Streets for additional guidance related to on-street parking.

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402.4 Consider All Users

Intersections should accommodate all users of the facility, including vehicles, bicyclists, pedestrians and transit. Bicycles have all the rights and responsibilities as motorist per the California Vehicle Code, but should have separate consideration of their needs, even separate facilities if volumes warrant. Pedestrians should not be prohibited from crossing one or more legs of an intersection, unless no other safe alternative exists. Pedestrians can be prohibited from crossing one or more legs of an intersection if a reasonable alternate route exists and there is a demonstrated need to do so. All pedestrian facilities shall be ADA compliant as outlined in DIB 82. Transit needs should be determined early in the planning and design phase as their needs can have a large impact on the performance of an intersection. Transit stops in the vicinity of intersections should be evaluated for their effect on the safety and operation of the intersection(s) under study. See Topic 108 for additional information.

402.5 Speed-Change Areas

Speed-change areas for vehicles entering or leaving main streams of traffic are beneficial to the safety and efficiency of an intersection. Entering traffic merges most efficiently with through traffic when the merging angle is less than 15 degrees and when speed differentials are at a minimum.

Topic 403 – Principles of Channelization

403.1 Preference to Major Movements

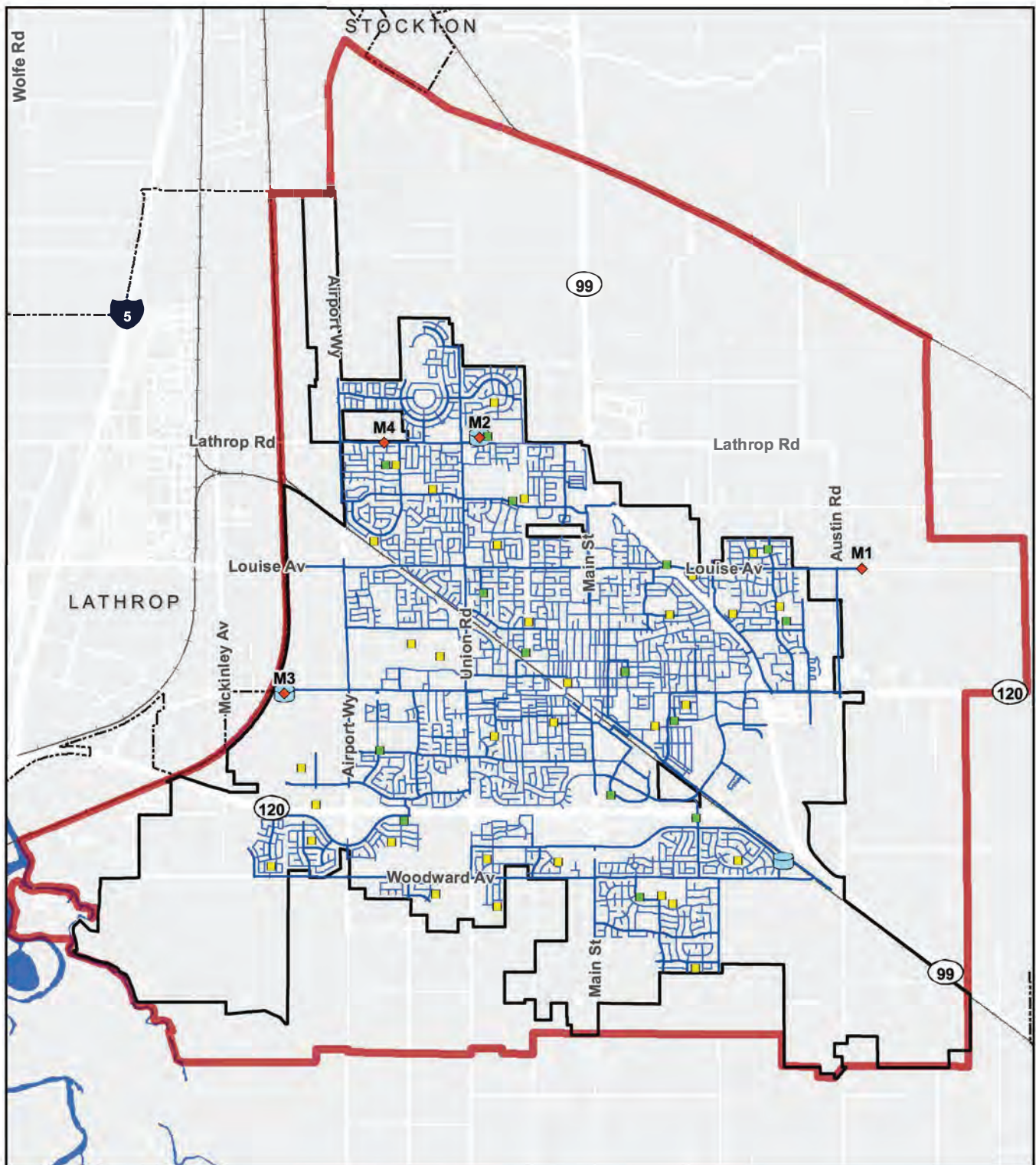
The provision of direct free-flowing high-standard alignment to give preference to major movements is good channelization practice. This may require some degree of control of the minor movements such as stopping, funneling, or even eliminating them. These controlling measures should conform to natural paths of movement and should be introduced gradually to promote smooth and efficient operation.

403.2 Areas of Conflict

Large multilane undivided intersection areas are undesirable. The hazards of conflicting movements are magnified when motorists, bicyclists, and pedestrians are unable to anticipate movements of other users within these areas. Channelization reduces areas of conflict by separating or regulating traffic movements into definite paths of travel by the use of pavement markings or traffic islands.

Multilane undivided intersections, even with signalization, are more difficult for pedestrians to cross. Providing pedestrian refuge islands enable pedestrians to cross fewer lanes at a time.

See Index 403.7 for traffic island guidance when used as pedestrian refuge. Curb extensions shorten crossing distance and increase visibility. See Index 303.4 for curb extensions.



Legend

- Manteca City Limits
- Planning Area

Existing City Water Infrastructure

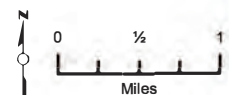
- Potable Water Well
- Irrigation Water Well
- Turnout
- Water Tank

Water Main

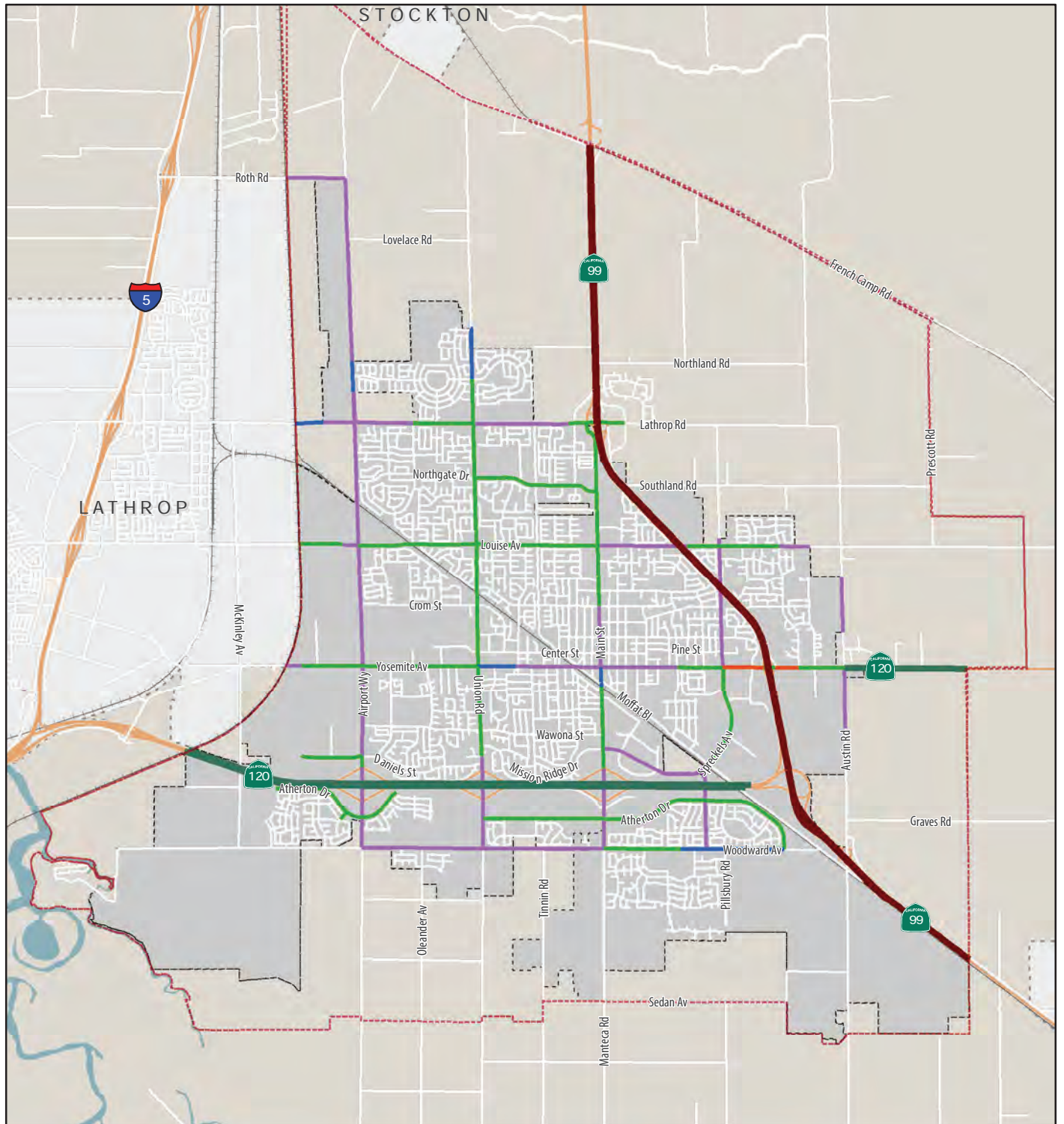
- 8-inch and Smaller
- 10-inch and Larger

CITY OF MANTECA GENERAL PLAN

Figure 3.15-1. Existing Water System Facilities



Source: City of Manteca GIS. Map date: July 17, 2017. City boundary revised August 28, 2022.
Notes: Turnout locations are approximate. Only active facilities are shown.



Number of Lanes

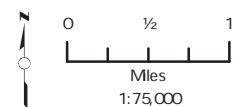
- 2
- 3
- 4
- 5
- 4-lane Freeway/Expressway
- 6-lane Freeway

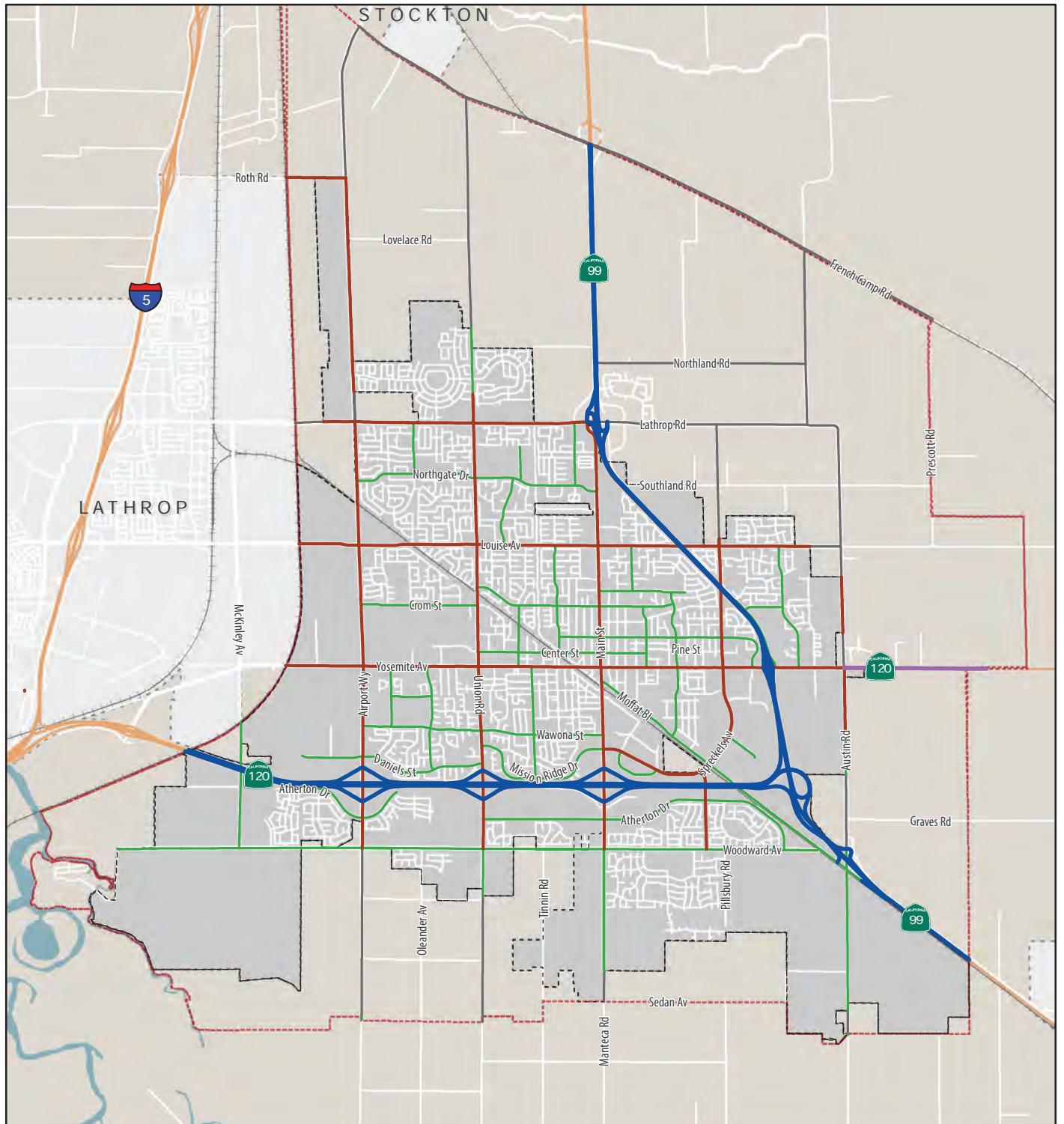
- Manteca City Limits
- Planning Area

Note: Streets shown in white primarily residential.

CITY OF MANTECA GENERAL PLAN

Figure 3.14-2 Number of Lanes

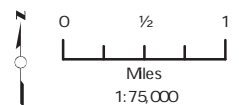




Functional Classification

— Freeway/Ramps	— Arterial	 Manteca City Limits
— Expressway	— Collector	 Planning Area
	— Rural Road	

CITY OF MANTECA GENERAL PLAN
Figure 3.14-1: Roadway Network
Functional Classification



Last revised August 7, 2019

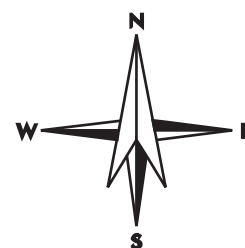
**Rte 124 near Ione: Begin Advisory
1.5 miles south of Ione, 0.2 miles
north of Ione-Buena Vista Rd.
(PM 1.0). Begin California Legal
at Waterman Rd. 1.2 miles
north of Jct Rte 104
(PM 3.5).**

**NOTE: STAA trucks on eastbound 104
MAY NOT turn right onto southbound 49.**

*KPRA = kingpin-to-rear-axle distance

**Triangle Rd. 2.1 miles ———
west of Midpines (PM 26.3)**

NOTE: Rte 140 has been closed temporarily due to a landslide. A temporary detour was constructed; however, vehicles MORE THAN 45 feet in length MAY NOT use the Rte 140 detour. All vehicles more than 45 feet in length MUST use Rte 120 or Rte 41 to enter Yosemite.



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- The turning templates in Figures 404.5A through G are a design aid for determining the swept width and/or tracking width of large vehicles as they maneuver through a turn. The templates can be used as overlays to evaluate the adequacy of the geometric layout of a curve or intersection when reproduced on clear film and scaled to match the highway drawings. These templates assume a vehicle speed of less than 10 miles per hour.
- Computer software such as AutoTURN or AutoTrak can draw the swept width and/or tracking width along any design curve within a CADD drawing program such as MicroStation or AutoCAD. Dimensions taken from the vehicle diagrams in Figures 404.5A through G may be inputted into the computer program by creating a custom vehicle if the vehicle is not already included in the software library. The software can also create a vehicle turn template that conforms to any degree curve desired.

404.4 Design Vehicles and Related Definitions

(1) *The Surface Transportation Assistance Act of 1982 (STAA).*

- (a) STAA Routes. STAA allows certain longer trucks called STAA trucks to operate on the National Network. After STAA was enacted, the Department evaluated State routes for STAA truck access and created Terminal Access and Service Access routes which, together with the National Network, are called the STAA Network. Terminal Access routes allow STAA access to terminals and facilities. Service Access routes allow STAA trucks one-mile access off the National Network, but only at identified exits and only for designated services. Service Access routes are primarily local roads. A “Truck Route Map,” indicating the National Network routes and the Terminal Access routes is posted on the Department’s Office of Commercial Vehicle Operations website and is also available in printed form.
- (b) STAA Design Vehicle. The STAA design vehicle is a truck tractor-semitrailer combination with a 48-foot semitrailer, a 43-foot kingpin-to-rear-axle (KPRA) distance, an 8.5-foot body and axle width, and a 23-foot truck tractor wheelbase. Note, a truck tractor is a non-load-carrying vehicle. There is also a STAA double (truck tractor-semitrailer-trailer); however, the double is not used as the design vehicle due to its shorter turning radius. The STAA Design Vehicle is shown in Figures 404.5A and B.

The STAA Design Vehicle in Figures 404.5A or B should be used on the National Network, Terminal Access, California Legal, and Advisory routes.

- (c) STAA Vehicle – 53-Footer Trailer. Another category of vehicle allowed only on STAA routes has a maximum 53-foot trailer, a maximum 40-foot KPRA for two or more axles, a maximum 38-foot KPRA for a single axle, and unlimited overall length. This vehicle is not to be used as the design vehicle as it is not the worst case for offtracking due to its shorter KPRA. The STAA Design Vehicle should be used instead.

(2) *California Legal.*

- (a) California Legal Routes. Virtually all State routes off the STAA Network are California Legal routes. There are two types of California Legal routes, the regular California Legal routes and the KPRA Advisory Routes. Advisory routes have signs posted that state the maximum KPRA length that the route can accommodate without the vehicle offtracking outside the lane. KPRA advisories range from 30 feet to 38 feet, in 2-foot increments. California Legal vehicles are allowed to use both types of California Legal routes. California Legal vehicles can also use the STAA Network. However, STAA trucks are not allowed on any California Legal routes. The Truck Route Map indicating the California Legal routes is posted on the Department’s Office of Commercial Vehicle Operations website.

- (b) California Legal Design Vehicle. The California Legal vehicle is a truck tractor-semitrailer with the following dimensions: the maximum overall length is 65 feet; the maximum KPRA distance is 40 feet for semitrailers with two or more axles, and 38 feet for semitrailers with a single axle; the maximum width is 8.5 feet. There are also two categories of California Legal doubles (truck tractor-semitrailer-trailer); however, the doubles are not used as the design vehicle due to their shorter turning radii. The California Legal Design Vehicle is shown in Figures 404.5C and D.

The California Legal Design Vehicle in Figures 404.5C and D should only be used when the STAA design vehicle is not feasible and with concurrence from the District Truck Manager.

(3) *40-Foot Bus.*

- (a) 40-Foot Bus Routes. All single-unit vehicles, including buses and motor trucks up to 40 feet in length, are allowed on virtually every route in California.
- (b) 40-Foot Bus Design Vehicle. The 40-Foot Bus Design Vehicle shown in Figure 404.5E is an AASHTO standard. Its 25-foot wheelbase and 40-foot length are typical of city transit buses and some intercity buses. At intersections where truck volumes are light or where the predominate truck traffic consists of mostly 3-axle units, the 40-foot bus may be used. Its wheel path sweeps a greater width than 3-axle delivery trucks, as well as smaller buses such as school buses.

(4) *45-Foot Bus & Motorhome.*

- (a) 45-Foot Bus & Motorhome Routes. The “45-foot bus and motorhome” refers to bus and motorhomes over 40 feet in length, up to and including 45 feet in length. These longer buses and motorhomes are allowed in California, but only on certain routes.

The 45-foot tour bus became legal on the National Network in 1991 and later allowed on some State routes in 1995. The 45-foot motorhome became legal in California in 2001, but only on those routes where the 45-foot bus was already allowed. A Bus and Motorhome Map indicating where these longer buses and motorhomes are allowed and where they are not allowed is posted on the Department’s Office of Commercial Vehicle Operations website.

- (b) 45-Foot Bus and Motorhome Design Vehicle. The 45-Foot Bus & Motorhome Design Vehicle shown in Figure 404.5F is used by Caltrans for the longest allowable bus and motorhome. Its wheelbase is 28.5 feet. It is also similar to the AASHTO standard 45-foot bus. Typically this should be the smallest design vehicle used on a State highway. It may be used where the State highway intersects local streets without commercial or industrial traffic.

The 45-Foot Bus and Motorhome Design Vehicle shown in Figure 404.5F should be used in the design of all interchanges and intersections on all green routes indicated on the Bus and Motorhome Map for both new construction and rehabilitation projects. Check also the longer standard design vehicles on these routes as required – the STAA Design Vehicle and the California Legal Design Vehicle in Indexes 404.4(1) and (2).

Table 201.7

Decision Sight Distance

Design Speed(mph)	Decision Sight Distance(ft)
30	450
35	525
40	600
45	675
50	750
55	865
60	990
65	1,050
70	1,105
75	1,180
80	1,260

Topic 202 – Superelevation

202.1 Basic Criteria

When a vehicle moves in a circular path, it undergoes a centripetal acceleration that acts toward the center of curvature. This force is countered by the perceived centrifugal force experienced by the motorist.

On a superelevated highway, this force is resisted by the vehicle weight component parallel to the superelevated surface and by the side friction developed between the tires and pavement. It is impractical to balance centrifugal force by superelevation alone, because for any given curve radius a certain superelevation rate is exactly correct for only one driving speed. At all other speeds there will be a side thrust either outward or inward, relative to the curve center, which must be offset by side friction.

If the vehicle is not skidding, these forces are in equilibrium as represented by the following simplified curve equation, which is used to design a curve for a comfortable operation at a particular speed: