4.13 Transportation

This section describes the existing transportation conditions of the project site, identifies associated regulatory requirements, evaluates potential project and cumulative impacts, and identifies mitigation measures for any significant impacts related to implementation of the Laguna Creek Diversion Retrofit Project (Proposed Project).

A summary of the comments received during the scoping period for this environmental impact report is provided in Table 2-1 in Chapter 2, Introduction, and a complete list of comments is provided in Appendix A. There were no comments related to transportation.

4.13.1 Existing Conditions

As described in Chapter 3, Project Description, the Proposed Project is located in the community of Bonny Doon, in unincorporated Santa Cruz County, California, approximately 7 miles northwest of downtown Santa Cruz. The Proposed Project consists of improvements to the existing Laguna Creek Diversion Facility (Facility). The Facility serves as a surface water collection and diversion system that supplies raw water from the Laguna Creek to the City of Santa Cruz's North Coast System.

This section describes key roadways, as well as transit, pedestrian, and bicycle facilities within the vicinity of the project site. The extent of these facilities constitutes the study area evaluated in this analysis. Regional and site access is also described.

4.13.1.1 Roadways

Roadway characteristics and roadway classifications for key vicinity roads are described below. All roadways discussed are within the unincorporated County of Santa Cruz (County) and are shown on Figure 3-1 in Chapter 3, Project Description.

Smith Grade is a generally east-west, two-lane, undivided roadway located adjacent to and serving as the primary and only connection to the project site. Smith Grade extends from Empire Grade to Bonny Doon Road, northwest of the City of Santa Cruz. Smith Grade is not designated with a functional street classification by the County of Santa Cruz General Plan Circulation Element, however, it is identified as a Major Street in the Santa Cruz County Bike Map (County of Santa Cruz 2020, 2016). Parking is allowed along some sections, and no pedestrian or bicycle facilities are present along either side of the roadway. The speed limit is not posted along Smith Grade; however, advisory speed signs along the roadway vary and allow for average speeds that range between 30 and 40 miles per hour (mph).

Empire Grade is a generally north-south, two-lane, undivided roadway that provides access to the project site from the east. Empire Grade extends from High Street in the City of Santa Cruz to Jamison Creek Road to the north. Empire Grade is not designated with a functional street classification by the County of Santa Cruz General Plan Circulation Element, however, it identified as a Major Street in the Santa Cruz County Bike Map (County of Santa Cruz 2020, 2016). Parking is allowed along some sections, and no pedestrian or bicycle facilities are present along the roadway outside of the Santa Cruz City limits. The posted speed limit is 40 mph.

Bonny Doon Road is a north-south, two-lane, undivided roadway that provides access to the project site from the west. Bonny Doon Road stretches from State Route 1 to Pine Flat Road, north of the community of Bonny Doon. Bonny Doon Road is not designated with a functional street classification by the County of Santa Cruz General Plan

Circulation Element; however, the Santa Cruz County Bike Map identifies Bonny Doon Road as a Major Street (County of Santa Cruz 2020, 2016). Parking is allowed along some sections, and no pedestrian or bicycle facilities are present along the roadway. The posted speed limit ranges between 30 mph to 45 mph.

Regional Access

Regional access to the project site is provided from State Route 1, via Bonny Doon Road and Smith Grade; or from State Route 1, via Empire Grade and Smith Grade. Access from State Route 17 to the project site is also provided via Mount Herman Road, Felton Empire Road, Empire Grade, and Smith Grade.

Site Access Roads

Two existing roads, the west and main access roads, intersect with Smith Grade on either side of Laguna Creek, and currently provide access to the project site. Both are private, unpaved roads, and access is currently restricted by padlocked gates. A third road, the east access road, splits off from the main access road within the Project site, and provide access to the upstream side of the dam.

Traffic Volumes and Level of Service

Level of service (LOS) is commonly used as a qualitative description of segment and roadway operations and is based on the capacity and the volume of traffic using the segment or roadway. The Highway Capacity Manual describes the operation of a roadway using a range of LOS from LOS A (free-flow conditions) to LOS F (severely congested conditions).

In order to evaluate consistency with the County's General Plan LOS policies described in Section 4.13.2, Regulatory Framework, below, average daily traffic (ADT) data was gathered and analyzed for the nearest roadways within the project study area. ADT is the total number of cars passing over a segment of the roadway, in both directions on an average day. According to the Highway Capacity Manual (TRB 2016), ADT for a roadway segment is evaluated based on the volume-to-capacity (V/C) ratio of the roadway. Table 4.13-1 displays the relationship between the volume of a roadway and its capacity as a function of LOS.

Table 4.13-1. Level of Service Definitions for Volume-to-Capacity Ratio

Level of Service	V/C Ratio	General Description
A	≤0.600	Free flow
B	0.601 to ≤0.700	Stable flow (slight delays)
C	0.701 to ≤0.800	Stable flow (acceptable delays)
D	0.801 to ≤0.900	Approaching unstable flow (tolerable delay, occasionally wait through more than one signal cycle before proceeding)
E	0.901 to ≤1.00	Unstable flow (intolerable delay)
F	>1.00	Forced flow (jammed)

Source: TRB, 2016.
Notes: V/C = volume to capacity.

Traffic data was obtained from the County of Santa Cruz GIS Web application and website (County of Santa Cruz 2020). Within proximity to the project site, ADT information is available for Empire Grade, south of Chinquapin Road, approximately 2.5 miles east of the project site; ADT information is not available for Smith Grade or Bonny Doon

Road. As of 2019, the ADT volume on Empire Grade was 2,327 vehicles. According to the Highway Capacity Manual (TRB 2016), the capacity of a two-lane roadway is approximately 3,200 passenger cars per hour for both directions. The peak hour traffic of a roadway is roughly equivalent to approximately 10% of the daily traffic of a roadway and the ADT on Empire Grade of 2,327 vehicles consists of approximately 233 peak hour vehicles. Thus, under existing conditions, a V/C ratio of 0.07 and LOS A is calculated for this segment of Empire Grade, within the project vicinity.

4.13.1.2 Transit

The project site is not directly served by an active transit service. The Santa Cruz Metropolitan Transit District (Santa Cruz Metro) provides bus service throughout the County; however, no routes operate along Smith Grade. Santa Cruz Metro routes 41 and 42 operate along Empire Grade, from the Santa Cruz Metro Center, located at 920 Pacific Avenue in the City of Santa Cruz, to the unincorporated town of Bonny Doon, providing the closest connection to the project site. The nearest stop in Bonny Doon is located approximately 2 miles from the project site, at the southwest corner of Pine Flat Road/Bonny Doon Road intersection (Santa Cruz Metro 2020).

4.13.1.3 Pedestrian and Bicycle Facilities

As stated above, aside from various hiking trails, pedestrian and bicycle facilities are not present along Smith Grade, Empire Grade, or Bonny Doon Road (County of Santa Cruz 2016).

4.13.2 Regulatory Framework

4.13.2.1 Federal

There are no federal regulations related to transportation that are directly applicable to the Proposed Project.

4.13.2.2 State

California Senate Bill 743

On September 27, 2013, Senate Bill (SB) 743 was signed into law, which creates a process to change the way that transportation impacts are analyzed under the California Environmental Quality Act (CEQA). SB 743 required the Governor's Office of Planning and Research (OPR) to amend the CEQA Guidelines to provide an alternative to level of service (LOS) for evaluating transportation impacts. Under the new transportation guidelines, LOS, or vehicle delay, will no longer be considered an environmental impact under CEQA. The updates to the CEQA Guidelines required under SB 743 were approved on December 28, 2018. These guidelines identify vehicle miles traveled (VMT) as the most appropriate measure of transportation impacts under CEQA and are currently being implemented as of July 1, 2020.

SB 743 requires California to reduce greenhouse gas emissions by 40% below 1990 levels by 2030. The California Air Resources Board has determined that it is not possible to achieve this goal without reducing VMT growth and specifically California needs to reduce per capita VMT across all economic sectors. SB 743 is primarily focused on passenger-cars and the reduction in per capita VMT as it relates to individual trips. The OPR Technical Advisory (OPR 2018) provides guidance and tools to properly carry out the principles within SB 743 and how to evaluate transportation impacts in CEQA. The OPR Technical Advisory was utilized within this analysis as the primary source of analysis of VMT and transportation-related impacts.

4.13.2.3 Local

County of Santa Cruz

As required by state law, the County has adopted a General Plan and Local Coastal Program that work in tandem with each other to create and address goals and policies as related to the transportation system of the County. Within the General Plan, the Circulation Element serves as the key policy statement of the County regarding transportation facilities serving the unincorporated areas, including the project site (Santa Cruz County 2020). The Circulation Element contains several policies and programs that fulfill this purpose.

Specific goals identified in the Circulation Element are identified below, some of which are relevant to the Proposed Project. These goals outline the County's objectives to improve the transportation system.

- **Transportation System**: Provide a convenient, safe, and economical transportation system for the movement of people and goods, promoting the wise use of resources, particularly energy and clean air, and the health and comfort of residents.
- **Mode Choice**: Provide the public with choice in transportation modes on a well-integrated system.
- **Limit Increase in Auto Use**: Limit the increase in auto usage to minimize adverse impacts. Increase transit ridership, carpooling, vanpooling, walking and bicycling, etc.
- **Efficiency**: Provide for more efficient use of existing transportation facilities.
- **Regional Goals**: Meet the requirements of regional plans, such as the Congestion Management Program, Air Quality Management Plan and Regional Transportation Plan. Integrate planning for transportation, land use, and air quality goals.
- **Parking**: Manage parking supply to provide reasonably convenient parking for groups such as shoppers, and visitors who are most sensitive to the parking supply levels, while encouraging alternatives to solo commuting and limiting impacts on neighborhoods.
- **Bikeway System**: Develop and implement a comprehensive bikeway system that promotes bicycle travel as a viable transportation mode and meets the recreation and travel needs of the citizens of Santa Cruz County.
- **Safety**: Reduce the number and severity of bicycle accidents.
- **Coordination**: Coordinate transportation improvements in area plans with the General Plan and LCP Land Use Plan and regional transportation plans.

The following policy pertains to the County's approach to LOS:

- **3.12.1. Level of Service (LOS) Policy**: In reviewing the traffic impacts of proposed development projects or proposed roadway improvements, LOS C should be considered the objective, but LOS D as the minimum acceptable (where costs, right-of-way requirements, or environmental impacts of maintaining LOS under this policy are excessive, capacity enhancement may be considered infeasible). Review development projects or proposed roadway improvements to the Congestion Management Program network for consistency with Congestion Management Plan goals. Proposed development projects that would cause LOS at an intersection or on an uninterrupted highway segment to fall below D during the weekday peak hour will be required to mitigate their traffic impacts. Proposed development projects that would add traffic at intersections or on highway segments already at LOS E or F shall also be required to mitigate any traffic volume resulting in a 1% increase in the volume/capacity ratio of the sum of all critical movements. Projects

shall be denied until additional capacity is provided or where overriding finding of public necessity and or benefit is provided.

4.13.3 Impacts and Mitigation Measures

This section contains the evaluation of potential environmental impacts associated with the Proposed Project related to transportation. The section identifies the standards of significance used in evaluating the impacts, describes the methods used in conducting the analysis, and evaluates the Proposed Project's impacts and contribution to significant cumulative impacts, if any are identified.

4.13.3.1 Thresholds of Significance

The standards of significance used to evaluate the impacts of the Proposed Project related to transportation are based on Appendix G of the CEQA Guidelines, as listed below. A significant impact would occur if the Proposed Project would:

A. Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.

B. Conflict or be inconsistent with CEQA Guidelines Section 15064.3, Subdivision (b).

C. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

D. Result in inadequate emergency access.

4.13.3.2 Analytical Methods

Construction

The Proposed Project would result in the temporary addition of haul trucks, vendor trucks, and worker vehicles to the circulation network over the course of an approximately 3-month construction period. The construction phasing schedule and vehicle trip assumptions are provided in Section 4.3, Air Quality, Table 4.3-4. As the number of vehicles traveling to and from the project site is expected to fluctuate over the 3-month period, this analysis provides an estimation of project traffic for the period of peak activity during the construction period and evaluates the relative effect of temporary construction traffic on the circulation system.

Operation

As described in Chapter 3, Project Description, the Proposed Project's operation and maintenance activities would generally remain similar to the existing activities that occur currently within the project site. Operation and maintenance activities associated with the Proposed Project would therefore generate nominal new traffic volume to the circulation network.

4.13.3.3 Project Impact Analysis

This section provides a detailed evaluation of transportation impacts associated with the Proposed Project.

Impact TRA-1: Conflict with a Program, Plan, Ordinance, or Policy Addressing the Circulation System (Significance Standard A). The Proposed Project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. *(Less than Significant)*

Construction

The construction of the Proposed Project was evaluated to determine study area and roadway network impacts. The Institute of Transportation Engineers' *Trip Generation, 10th Edition* (ITE 2017) does not contain trip rates for the construction-related activities that would be associated with the Proposed Project. Trip generation estimates for construction projects are based on average or peak number of workers and trucks that would be required for the proposed construction activities. Construction traffic includes the number of workers and the amount of delivery (vendor) and haul truck traffic that would be generated to and from the site daily and during the AM and PM peak commuting hours. The maximum number of construction-related trips is expected to occur over a series of construction phases that would overlap or occur concurrently. Therefore, the overall peak construction period was utilized to calculate the estimated trip generation for the Proposed Project.

Overlap of the following phases is estimated to generate peak worker and truck traffic, representing the peak construction period.

- Cofferdam and Temporary Stream Bypass System (Pipe Installation)
- New Coanda Screen Intake and Valve Vault Structures (Excavation; Doweling; Concrete Pour; New Intake Structure, Coanda Screen)
- Electrical Installations (Electrical Conduit)
- Access Stairs and Riprap Bank Stabilization (Access Stairs)

Construction would occur in 2021 over a period of approximately 3 months, with mobilization as early as March 2021, and in-creek construction activities targeted to occur between June and October. As described in Chapter 3, Project Description, the construction activities would occur in one 10-hour shift between 7:00 a.m. and 5:00 p.m., Monday through Friday. Although actual work hours may fluctuate within the 10-hour shift depending on the phase of construction, workers were assumed to arrive during the AM peak hour and leave the site during the PM peak hour to provide a conservative analysis. All truck trips were averaged over the 8-hour workday to estimate peak hour trips. The number of truck trips were converted using Passenger Car Equivalent (PCE) factors to account for the relatively greater impact of a larger vehicle on the circulation system. All truck trips were converted to PCE trips using a factor of 2.0 PCE for vendor trucks and 3.0 PCE for haul trucks for the purposes of this analysis.

The trip generation estimates during the peak construction period are summarized in Table 4.13-2 below and detailed information is provided in Appendix F. Construction of the Proposed Project would generate 50 daily trips, 25 AM peak hour trips (25 inbound and 0 outbound), and 25 PM peak hour trips (0 inbound and 25 outbound), during the peak construction period. With the application of PCE factors to truck trips, the Proposed Project would generate 74 total PCE daily trips, and 37 PCE trips during the AM peak hour (37 inbound and 0 outbound) and 37 PCE trips during the PM peak hour (0 inbound and 37 outbound).

These trips are anticipated to occur along Empire Grade, Smith Grade, or Bonny Doon Road. The construction-related traffic would be temporary and short term.

Table 4.13-2. Peak Day Construction Trip Generation Estimates

Vehicle Type		Daily Trips[1]	AM Peak Hour			PM Peak Hour		
			In	*Out*	*Total*	*In*	*Out*	*Total*
Cofferdam and Temporary Stream Bypass System								
Pipe Installation	Non-PCE Trips	10	5	0	5	0	5	5
	PCE-Adjusted Trips	10	5	0	5	0	5	5
New Coanda Screen Intake and Valve Vault Structures								
Excavation	Non-PCE Trips	4	2	0	2	0	2	2
	PCE-Adjusted Trips	8	4	0	4	0	4	4
Doweling and Anchorage	Non-PCE Trips	2	1	0	1	0	1	1
	PCE-Adjusted Trips	2	1	0	1	0	1	1
Installation of Rebar and Pouring Concrete	Non-PCE Trips	14	7	0	7	0	7	7
	PCE-Adjusted Trips	22	11	0	11	0	11	11
Installation of Coanda Screen	Non-PCE Trips	4	2	0	2	0	2	2
	PCE-Adjusted Trips	8	4	0	4	0	4	4
Electrical Installations								
Electrical Conduit Installation	Non-PCE Trips	4	2	0	2	0	2	2
	PCE-Adjusted Trips	6	3	0	3	0	3	3
Access Stairs and Riprap Bank Stabilization								
Access Stairs	Non-PCE Trips	12	6	0	6	0	6	6
	PCE-Adjusted Trips	18	9	0	9	0	9	9
	Project Total	**50**	**25**	**0**	**25**	**0**	**25**	**25**
	Project Total (PCE)	**74**	**37**	**0**	**37**	**0**	**37**	**37**

Source: Appendix F.
Notes: PCE = Passenger Car Equivalent
[1] Daily trips represent the number of trips to and from the project site (i.e., two trips represents one vehicle traveling to the work area and leaving the work area)

As shown in Table 4.13-2, under the peak construction phase, a maximum of approximately 37 vehicles would be added during the peak hour to this segment of Empire Grade.[1] It is estimated that with the addition of the project peak hour traffic to the existing 233 peak hour vehicles, approximately 270 peak hour vehicles would be along this segment of Empire Grade. Therefore, with the addition of project peak hour traffic to this segment of Empire Grade, the V/C ratio would increase to 0.08 and remain at LOS A. For the remaining study area roadways of Bonny Doon Road and Smith Grade, it is expected that the V/C ratio would also remain within the range of acceptable LOS (LOS D or better). Additionally, all of the peak construction phase vehicles would be temporary and would be removed from all study roadways once construction is completed.

As described above, the transportation analysis of the peak construction phase indicates that the expected number of peak hour and daily trips would not create a measurable impact to any roadways or intersections in the area and would not cause the County's transportation facilities to operate below the County's LOS policy. Furthermore, the addition of project traffic during the peak hour would not substantially change the LOS of the segment of Empire

[1] Segment of Empire Grade south of Chinquapin Road, approximately 2.5 miles east of the project site.

Grade, and LOS A conditions would remain. Additionally, as all construction activities would occur on site and nominal vehicular traffic would be added to the circulation network during construction, the Proposed Project would not conflict with the operation of existing Santa Cruz Metro transit facilities, or degrade bicycle or pedestrian facilities identified in the Circulation Element. Further, as discussed above, no pedestrian or bicycle facilities are provided along Smith Grade, at or near the project site. The Proposed Project would not increase roadway capacity, generate a permanent increase in traffic, or change traffic patterns that could cause an impact to the circulation system including transit, roadway, bicycle, and pedestrian facilities. Therefore, as construction of the Proposed Project would not conflict with adopted policies, plans, or programs addressing the circulation system, impacts would be less than significant.

Operation

Due to the nominal amount of trips generated during operations and maintenance associated with the Proposed Project, the roadway conditions in the project vicinity would not substantially differ from existing conditions as discussed in Section 4.13.1, Existing Conditions. Therefore, as operation of the Proposed Project would not conflict with adopted policies, plans, or programs addressing the circulation system, impacts would be less than significant.

Impact TRA-2: Vehicle Miles Traveled (Significance Standard B). The Proposed Project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, Subdivision (b). ***(Less than Significant)***

CEQA Guidelines Section 15064.3(b) focuses on VMT for determining the significance of transportation impacts. It is further divided into four subdivisions: (1) land use projects, (2) transportation projects, (3) qualitative analysis, and (4) methodology. The Proposed Project would be categorized under (3), qualitative analysis, as this Subdivision (b)(3) recognizes that lead agencies may not be able to quantitatively estimate VMT for every project type. In these situations, lead agencies are directed to evaluate factors such as the availability of transit, proximity to other destinations, and other factors that may affect the amount of driving required by the project. Additionally, Subdivision (b)(3) indicates that a qualitative analysis of construction traffic is often appropriate. A qualitative analysis of VMT in provided in this analysis as the Proposed Project consists of elements that would generate temporary construction-related traffic.

Furthermore, OPR's Technical Advisory provides several "screening thresholds" that may be applied to identify land use projects that should be expected to cause a less-than-significant impact without detailed study; specifically, the "screening threshold for small projects" states that projects that generate fewer than 110 daily trips generally may be assumed to cause a less-than-significant impact (OPR 2018). As shown in Table 4.13-2 above, during the peak overlapping construction phases, the Proposed Project would result in approximately 74 total PCE daily trips within the study area and roadway network. Once construction is completed, VMT would return to pre-project conditions similar to the existing operations at the Facility. Therefore, as the Proposed Project would not conflict with or be inconsistent with CEQA Guidelines Section 15064.3, Subdivision (b), impacts would be less than significant.

Impact TRA-3: Geometric Design Hazards (Significance Standard C). The Proposed Project would not substantially increase hazards due to a geometric design feature or incompatible use. ***(Less than Significant)***

Construction

As described previously, construction of the Proposed Project would result in a temporary increase in local traffic as a result of construction-related workforce traffic, material deliveries, and construction activities. The primary off-site impacts from the movement of construction trucks would include short-term and intermittent effects on traffic operations because of the slower movements and larger turning radii of delivery and haul trucks compared to passenger vehicles.

The Proposed Project would be accessed from Smith Grade via two existing access roads, the west and main access roads. During construction, both roads would be maintained and improved to allow construction vehicles safe egress and ingress. The west access road leads to the western edge of the dam, while the main access road leads to the control building and it also splits into the east access road, which leads to the eastern edge of the dam. ~~All p~~Parking and staging areas for construction ~~would~~ that occur on site~~, and~~ would not block traffic along Smith Grade. Off-site staging areas used for construction worker parking and storage of materials would be located along construction routes used for the Proposed Project and similarly would not block traffic.

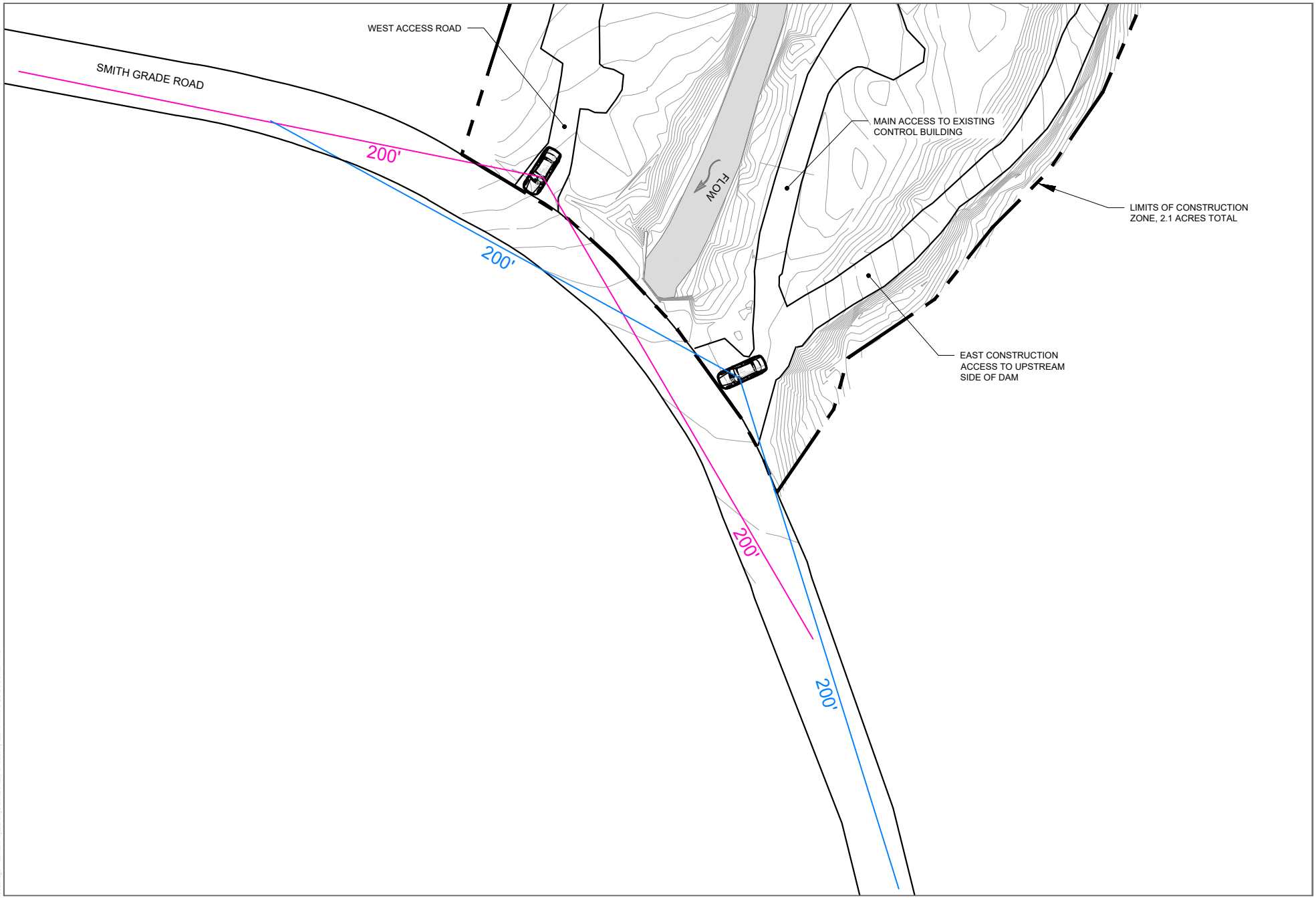
In order to fully evaluate the safety of egress from the two access roads onto Smith Grade, a sight distance analysis was performed. As discussed above, Smith Grade does not have posted speed limits; however, advisory speed signs along the roadway allow for average speeds that range between 30 and 40 mph. Although no advisory speed signs are posted in the vicinity of the project site, the sight distance analysis was conducted for a roadway designed for 30 mph to account for the curved roadway/turns along this section of Smith Grade near both access roads. Figure 4.13-1 shows the expected sight distance visible from both the west access road and main access road.

The American Association of State Highway and Transportation Officials (AASHTO) identifies sight distance in *A Policy on Geometric Design of Highways and Streets* (*The Green Book)* as the length of the roadway ahead that is visible to a driver, and should be long enough to enable a vehicle traveling at or near the design speed to stop before reaching a stationary object in its path (AASHTO 2018). Safe conditions for a vehicle waiting at the access driveways and motorists traveling along Smith Grade would exist when adequate stopping sight distance, the length required for a vehicle to react and stop to an object in its path, is available. The AASHTO Green Book (Table 3-1) recommends a stopping sight distance of approximately 200 feet at speeds of 30 mph. As such, a clear line of sight of 200 feet from a motorist traveling southbound and northbound along Smith Grade to a vehicle exiting either of the access driveways would provide safe conditions for motorists traveling along Smith Grade and for those maneuvering from one of the access driveways onto Smith Grade. As shown in Figure 4.13-1, the sight distance lines primarily extend along the Smith Grade right-of-way, where brush, trees, or other obstacles would not obscure views. Additionally, review of the access driveways indicates that potential obstructions to a clear line of sight are minimal, as foliage is generally low-growing between the fence line and Smith Grade and overhanging branches are generally above eye-level at the driveways. Furthermore, the Proposed Project would require an encroachment permit from the County, which includes development and approval of a Traffic Control Plan for ingress to/egress from the project site, as indicated in Section 3.8, Project Permits and Approvals, and would address access and ensure safety for construction vehicle movement near the site.

As discussed in Chapter 3, Project Description, the Proposed Project identifies potential improvements to the access roads, including limited tree removal to accommodate road widening, grading, compaction, and placement of aggregate. The locations of both driveways would remain unchanged, and the aforementioned improvements would not introduce sharp curves or degrade the conditions of either driveway's intersection with Smith Grade. Additionally, construction equipment would be hauled to and from the Project site, and all construction activities would occur on-site, beyond the Smith Grade right-of-way. The Proposed Project would not entail the introduction of incompatible uses on Smith Grade. Therefore, as construction of the Proposed Project would not introduce hazardous design features or incompatible land uses, impacts would be less than significant.

Operation

Once operational, the Proposed Project would generate nominal traffic and vehicle trips associated with routine maintenance of the Facility similar to existing conditions, and therefore, would not create hazardous roadway conditions. Therefore, as operation of the Proposed Project would not result in hazardous design features or incompatible land uses, impacts would be less than significant.



SOURCE: AASHTO 2011, City of Santa Cruz 2020, Black & Veatch 2020

DUDEK

0 24 48 Feet

FIGURE 4.13-1

Sight Distance Analysis

Laguna Creek Diversion Retrofit Project - EIR

Impact TRA-4: Emergency Access (Significance Standard D). The Proposed Project would not result in inadequate emergency access. ***(Less than Significant)***

As discussed above and shown on Figure 4.13-1, two access roads, the west access road and the main access road, provide ingress to and egress from the project site via Smith Grade. As discussed in Chapter 3, Project Description, both access roads would be cleared of excess vegetation and maintained so that construction traffic could access either side of the dam during the construction period. Emergency vehicles would be able to access the site from the west or main access road, and the improvements noted above would not degrade the conditions of either access road from existing conditions. Therefore, with the Proposed Project, access roads would continue to comply with all applicable local requirements related to emergency vehicle access and circulation identified in the Santa Cruz County Fire Code, and the Proposed Project would not result in inadequate emergency access. During operation, the Proposed Project would generate limited vehicle trips associated with routine maintenance of the Facility, similar to existing conditions, and there would be no changes to emergency access to the site or in the vicinity. Therefore, the Proposed Project would not obstruct emergency access and impacts associated with inadequate emergency access would be less than significant.

4.13.3.4 Cumulative Impacts Analysis

This section provides an evaluation of cumulative transportation impacts associated with the Proposed Project and past, present, and reasonably foreseeable future projects, as identified in Table 4.1-1 in Section 4.1, Introduction to Analysis, and as relevant to this topic. The geographic area for the impact analysis is identified as the project site along with the extent of Empire Grade, Smith Grade, and Bonny Doon Road that would support haul truck, vendor truck, and worker vehicle access to the project site.

Impact TRA-5: Cumulative Transportation Impacts (Significance Standards A, B, C, and D). The Proposed Project, in combination with past, present, and reasonably foreseeable future development, would not result in a significant cumulative impact related to transportation. ***(Less than Significant)***

The known cumulative projects planned within the project vicinity include the Santa Cruz Water Rights Project, the Laguna Pipeline portion of the North Coast System Repair and Replacement Project, and the Reggiardo Diversion upgrade identified in the Anadromous Fisheries Habitat Conservation Plan. The Santa Cruz Water Rights Project would not result in construction within the Laguna Watershed and would not result in operational changes related to the Proposed Project that would affect transportation. Although the Laguna Pipeline and Reggiardo Diversion upgrade would entail limited construction within the project vicinity, they would occur several years after construction of the Proposed Project.

As indicated in Section 4.1, there are not any known substantive proposed or pending development projects in the project vicinity that would be under the jurisdiction of the County. However, if any such projects are proposed they would be subject to County approval; such projects that require discretionary approval are assumed to be designed or otherwise conditioned to avoid and minimize transportation impacts. It is not anticipated that the cumulative projects would contribute a substantial amount of vehicle trips to the study area along Empire Grade, Smith Grade, or Bonny Doon Road. As described above, the Proposed Project would generate a minor amount of trips associated with the construction and no change in trips is anticipated with operations and maintenance of the Facility, which would be similar to existing conditions. The cumulative projects, in addition to the Proposed Project, would not combine to conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. Additionally, the cumulative projects, in addition to the Proposed Project, would not combine to create inadequate emergency access conditions within the study area or near the project

site. Therefore, the Proposed Project, in combination with the past, present, and reasonably foreseeable future projects in the geographic area, would result in less-than-significant cumulative impacts to transportation, and no mitigation measures are required.

4.13.3.5 Mitigation Measures

As described above, the Proposed Project would not result in any significant transportation impacts, and therefore, no mitigation measures are required.

4.13.4 References

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