Appendix A-2

Air Quality Analysis: San Francisco-Oakland Bay Bridge (SFOBB) Bicycle/Pedestrian Regional Connection Project— Air Quality Analysis (EA 4H970 EFIS 0413000324)

Memorandum

Date:	September 30, 2014
To:	Eva Lillie and Brian Krcelic TYLIN International 1111 Broadway, Suite 2150 Oakland, CA 94607
From:	Rich Walter and Kate Giberson
Subject:	**San Francisco-Oakland Bay Bridge (SFOBB) Bicycle/Pedestrian Regional Connection Project— Air Quality Analysis (EA 4H970 EFIS 0413000324)**

Introduction

The San Francisco-Oakland Bay Bridge (SFOBB) Bicycle/Pedestrian Connection Project (Project) is a new bicycle/pedestrian path connection (Path) between West Oakland and the new bike path leading to the new East Span of the San Francisco Oakland Bay Bridge (Bay Bridge) in Oakland, California (**Figure 1**). The Path would be approximately 6,030 linear feet. On the west end, the Path would connect to the existing bicycle/pedestrian path on the Bay Bridge (Bay Bridge Trail) on the south side of the Bay Bridge toll plaza. On the east end, the Path would connect to the existing bicycle/pedestrian path on Mandela Parkway. Refer to **Figure 2**.

The purpose of the Project is to provide a safe connection for bicyclists and pedestrians to travel between West Oakland and the Bay Bridge Trail. The area in between is occupied by industry, roadways, railways and I-880. Current access for bicyclists and pedestrians is on roadways extending through the industrial area which have heavy truck traffic.

The Project is proposed by the Gateway Park Working Group, which includes the following nine local, regional and state agencies: The Bay Area Toll Authority (BATA), the California Department of Transportation (Caltrans), San Francisco Bay Conservation and Development Commission (BCDC), California Transportation Commission (CTC), East Bay Regional Park District (EBRPD), City of Oakland, Port of Oakland, East Bay Municipal Utility District (EBMUD), and Association of Bay Area Governments (ABAG's). The agency responsible for operation and maintenance of the bike path is anticipated to be Caltrans but could also be City of Oakland.

Caltrans is the lead agency under the National Environmental Policy Act (NEPA). BATA is the lead agency under the California Environmental Quality Act (CEQA). The environmental documents are a CEQA initial study/mitigated negative declaration (IS/MND) and a NEPA categorical exclusion.

Because the project will involve the use of federal funds and Caltrans is the lead agency under NEPA, the technical memorandum addressed criteria pollutants and mobile source air toxics (MSATs) for construction and operational impacts consistent with Caltrans environmental procedures. As discussed in the memorandum, the Project will be exempt from transportation conformity requirements per Title 40 Part 93 of the Code of Federal Regulations (40CFR 93). The environmental document addresses criteria pollutants, health risks, odor, and climate change and greenhouse gas emissions for construction and operational impacts consistent with the Bay Area Air Quality Management District (BAAQMD) CEQA air quality guidelines.

This memorandum was prepared by ICF staff Shannon Hatcher, senior air quality specialist, and Kai-Ling Kuo, transportation engineer and air quality specialist. This memorandum includes the following sections.

- Project Description
- Project Construction
- Environmental Setting
- Environmental Consequences
- Avoidance, Minimization, and Mitigation Measures
- References Cited

Project Description

The proposed project is a new Class I bike path[1] located in the City of Oakland, Alameda County, near the I-880 and I-80 interchange and the new East Span of the Bay Bridge (**Figures 1, 2, and 3**).

The Class I Path would extend 6,030 feet (1.14 mile) between Mandela Parkway on the east and the Bay Bridge Trail on the west. The Path is an elevated structure for most of this distance to provide access across existing freeways, railways and industrial areas. It is an independent structure, except over the railroad tracks where it would be on the West Grand Avenue overcrossing structure. The elevated Path reaches a maximum height of 37 feet where it is on the overcrossing structure.

The Class I Path would be 17 feet wide (15 feet clear width and 2 feet for fencing), except on the overcrossing structure where it reduces to 14 feet wide (10 feet clear width and 4 feet for fencing). The bike path would have a maximum grade of 5 percent.

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[1] Bicycle Path Classifications:
Class I bikeways (bike paths) are separate paths with exclusive right of way for bicycles and pedestrians, with minimal vehicular crossings.
Class II bikeways (bike lanes) are striped lanes on streets, separating bicycles from vehicles, within the road right-of-way.
Class III bikeways (bike routes) are lanes shared with motor vehicles.
Source: California Department of Transportation. Highway Design Manual. Chapter 1000 Bicycle Transportation Design. Last updated March 7, 2014. http://www.dot.ca.gov/hq/oppd/hdm/hdmtoc.htm

Project Location

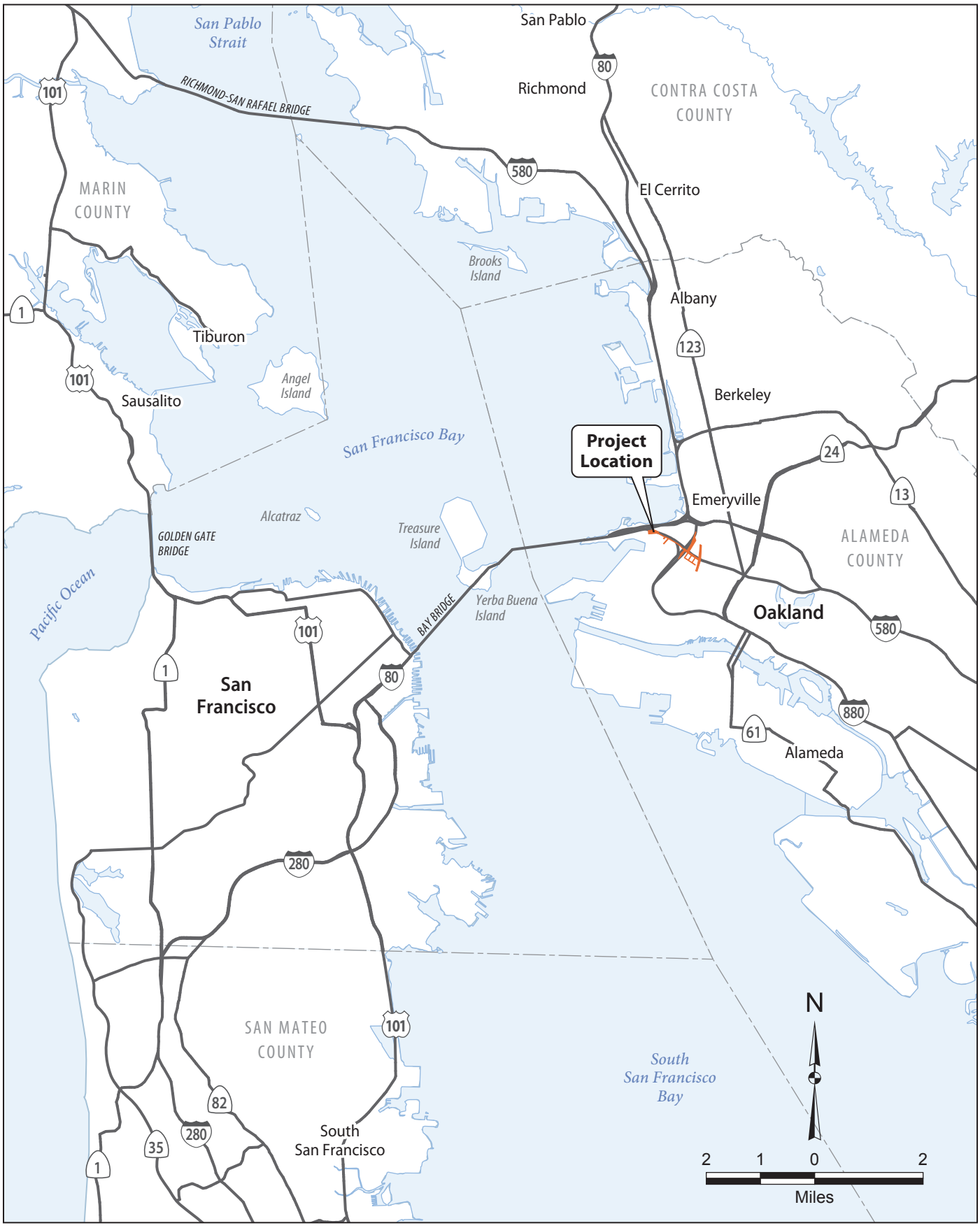

Figure 1

Path

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Project Area

Figure 2

Path

The Project could also include Class II bike lanes and a 100-space parking lot at the east end of the Class I Path, if funding is available. The Class II bike lanes would extend along surface streets near the east touchdown of the Path, providing connections to Mandela Parkway and to the proposed Wood Street parking lot.

Class I Path Segments

The Path has been divided into the following five segments described below from east to west (**Figure 3**).

1. At-Grade Connection to Mandela Parkway
2. Separate Elevated Structure East
3. West Grand Avenue Overcrossing
4. Separate Elevated Structure West
5. At-Grade Connection to Bay Bridge Trail

Segment 1. At-Grade Connection to Mandela Parkway

The Class I Path would be at-grade along the south side of West Grand Avenue, between Mandela Parkway and Campbell Street (**Figure 4**). This segment would be approximately 450 feet long and 15-feet wide since no fencing is required. There would be a landscape median on the north side of the path to separate the path from vehicular traffic.

Where Campbell Street and Willow Street currently intersect with West Grand Avenue, a cul-de-sac or barrier would be created on the south side of West Grand Avenue to prevent regular vehicular traffic from crossing the new Class I Path.

Segment 2. Separate Elevated Structure East

From Campbell Street, the Class I Path would continue for approximately 1,050 feet as a separate structure along the south side of West Grand Avenue. The Path has an elevated ascent similar to West Grand Avenue, crossing over Willow Street and Wood Street (**Figure 5**). After the Wood Street crossing, the Path would continue on the West Grand Avenue overcrossing (refer to Segment 3 below).

Construction of this segment would require permanently closing or vacating the existing Grand Avenue Alley. Grand Avenue Alley is the narrow one-way street on the south side of Grand Avenue, between Mandela Parkway and Wood Street.

Segment 3. West Grand Avenue Overcrossing

After the Wood Street overcrossing, the Class I Path would continue on the West Grand Avenue overcrossing for approximately 780 feet. It would cross over the frontage road and railroad tracks (narrow gauge tracks or spur line), under the I-880 freeway structures, and over the Burlington Northern & Santa Fe Railroad and Union Pacific railroad tracks (**Figure 6**). The width of the travel

lanes and striped median would be reduced to provide enough width for the Path using the existing West Grand Avenue roadway structure. After the railroad crossings, the Path would continue as a separate structure on the south side of West Grand Avenue (refer to Segment 4).

Segment 4. Separate Elevated Structure West

After the railroad crossing, the Class I path would continue for approximately 3,400 feet as a separate structure on the south side of West Grand Avenue. It would cross over Maritime Street and continue to the touchdown near the Caltrans maintenance facility (**Figures 7 and 8**). East of the Caltrans maintenance facility, the path would descend with a switchback curve.

This segment could also include two ramps, from the elevated structure to Maritime Street, that could be constructed after the Class I path if funding is available. On the east side of Maritime Street, there could be a 700-foot-long ramp extending to Burma Road. On the west side of Maritime Street, there could be a 250-foot-long ramp extending to a roof-top landing and rest stop on the planned Oakland Maritime Support Services building. The maximum grade on the ramps would be 5 percent.

Segment 5. At-Grade Connection to Bay Bridge Trail

From the west touchdown, the Class I Path would continue another 350 feet at grade level below the I-880/80 connection lanes and connect to the existing Bay Bridge Trail (also known as Segment 2 bike path) (**Figure 8**).

Class II Bike Lanes

The Project could also include Class II bike lanes along surface streets near the east touchdown of the Class I Path, providing connections to Mandela Parkway and the proposed Wood Street parking lot (**Figure 3**). The width of the Class II bike lanes, extending along each side of the street, would be 5 feet. The Class II bike lanes, which cover approximately 4,650 linear feet, would be constructed after the Class I Path, if funding is available.

Class II bike lanes would extend along the following surface streets:

- 20th Street, from Mandela Parkway (one block south of West Grand Avenue) to Wood Street
- Wood Street, from 20th Street to 24th Street
- Willow Street, from 20th Street to West Grand Avenue
- Campbell Street, from 20th Street to West Grand Avenue

Where Campbell Street currently intersects with West Grand Avenue, bollards would be installed to allow emergency vehicles but prevent regular vehicular traffic from crossing the new Class I Path on the south side of West Grand Avenue. Where Willow Street currently intersects with West Grand Avenue, a cul-de-sac would be created to prevent vehicular traffic from crossing the new Class I Pike path on the south side of West Grand Avenue.

Bike Path Segments

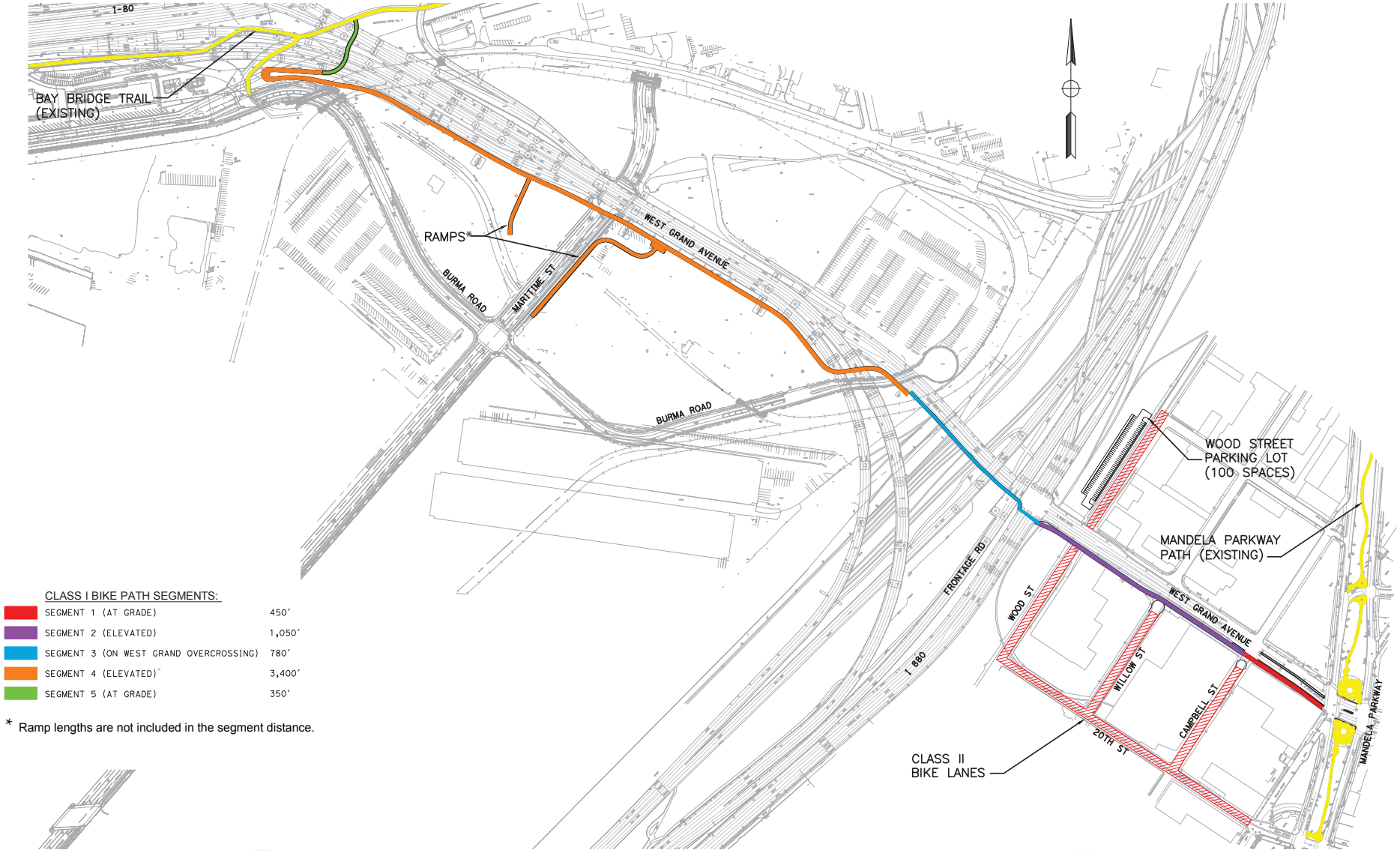
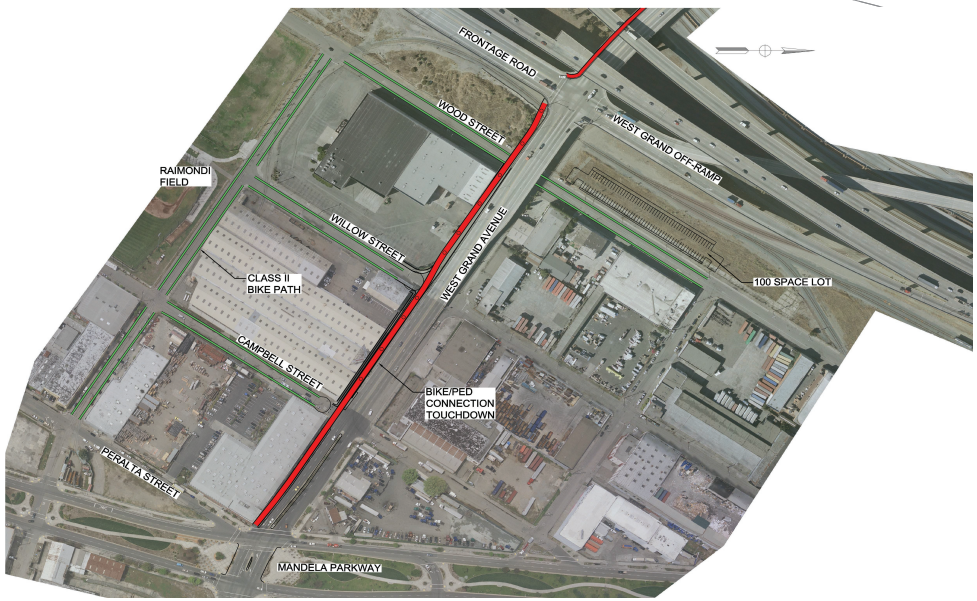


Figure 3

Path

Bike Path Segment 1



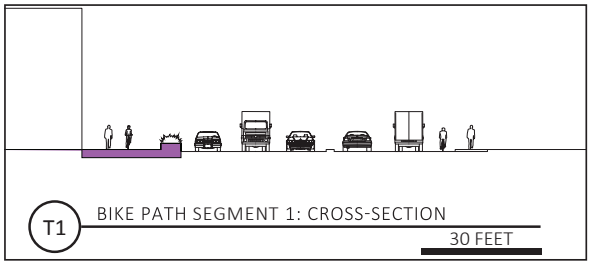


Figure 4

Path

Wood Street Parking Lot

The project could include construction of a new 100-space parking lot located on the west side of Wood Street, north of West Grand Avenue, and beneath the east side of the I-880 freeway (**Figure 3**). The parking lot would cover .48 acres (21,217 square feet).

The parking lot would include lighting to achieve a minimum of ½ foot candle and 1 foot candle at primary circulation areas. The parking lot would include landscaping, which could include drought-tolerant trees, shrubs and groundcover on an additional 6,000 sf. The Wood Street parking lot would be constructed after the Class I Path, if funding is available.

Mandela Parkway Median

The Project could include streetscape improvements, such as landscaping and art work, on the Mandela Parkway median within one block of West Grand Avenue. The landscaping would enhance the existing landscaping and would not involve any major changes.

Project Features

Access Points

As described above for Segments 1 and 5, the Path would be accessible from Mandela Parkway at West Grand Avenue on the east end and from the Bay Bridge Trail on the west end (**Figure 3**).

Additionally, there could be access points on either side of Maritime Street, whereby the elevated portion of the Path could have ramps extending down to the east and/or west side of Maritime Street (**Figure 3**). On the west side of Maritime Street, the ramp would be approximately 250 linear feet and could include a landing on the roof top of the planned Oakland Maritime Support Services building. On the east side of Maritime Street, the ramp would be approximately 700 feet. Both ramps would have a maximum grade of 5%.

Fencing

The elevated portion of the Path would include fencing that is 8 feet in height above the finished surface. The fencing will comply with all relevant building and safety codes. The type of fence has not been determined, but it is unlikely to be chain link fencing, except when the path is on West Grand Avenue over the railroad tracks (Segment 3). For Segment 3, there would likely be a 3- to 4-foot high concrete barrier between the path and vehicular traffic.

Lighting

The Path would be open at all times. Therefore, low-level lighting would be installed along the Path. It is anticipated that 1- to 2-foot candles[2] with LED lights would be side mounted in the barrier along the elevated segments, although there could also be some overhead lights installed at the top of the fencing if deemed necessary for safety. Lighting along the at-grade segments would be provided by new or existing street lights or pedestrian light standards.

Rest Areas

The elevated portion of the Path could have some wider areas that would serve as rest areas, but the number and location has not been determined. It is anticipated that there would be up to three such rest areas dispersed along the elevated segments.

Way-Finding Elements

The Path would include centerline striping and way-finding signage. There could also be safety signage, such as signs indicating the bicycle speed limit. Additionally, the Path could include *way-finding elements*, which may include old Bay Bridge artifacts, to help guide users to the existing paths and new East Span of the Bay Bridge.

Landscaping

The elevated portion of the Path could include planters in the wider rest areas or attached to the exterior sides of the structure. There could also be some landscaping under the structure at the west end touchdown (where path makes a switchback curve and descends) and at the east end (between Wood Street and Campbell Street).

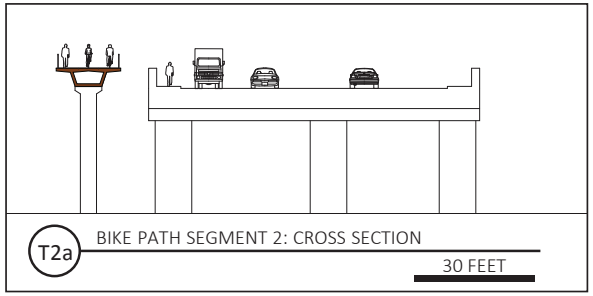
Stormwater Drainage

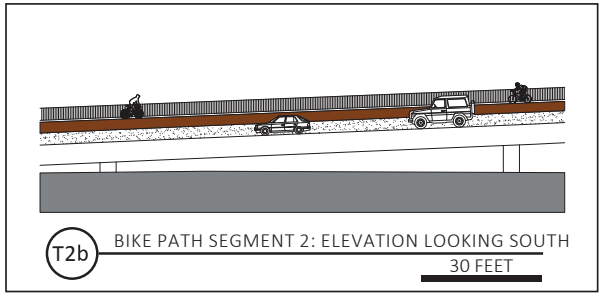
Stormwater on the elevated structure would likely drain off at downspouts at the columns, and continue as surface flows or be conveyed to an existing drainage system, depending on the existing drainage patterns and facilities at each location. There would be no stormwater flowing into existing wetlands or drainages.

It is estimated that approximately 1.73 acres or 75,356 sf of stormwater treatment is needed. Stormwater treatment options include vegetated flow-through treatment areas or bio-treatment basins beneath the elevated path and/or in vacant areas by freeways and the proposed Wood Street parking lot. All areas under consideration for stormwater treatment options are within the project area (**Figure 9**).

[2] The term foot-candle refers to a measurement of illumination. It is a unit of illumination, equivalent to the illumination produced by a source of one candle at a distance of one foot and equal to one lumen incident per square foot. http://en.wikipedia.org/wiki/Foot-candle

Bike Path Segment 2





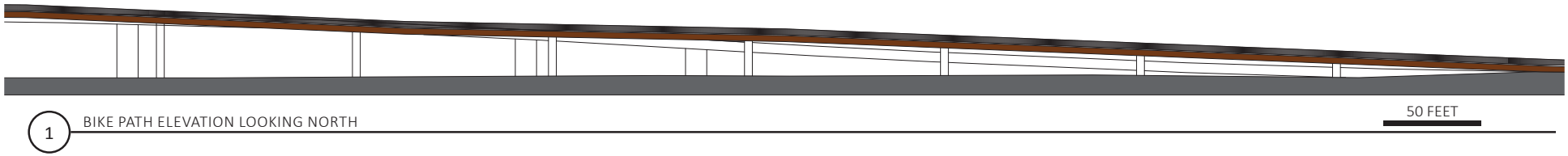


Figure 5

Path

Bike Path Segment 3

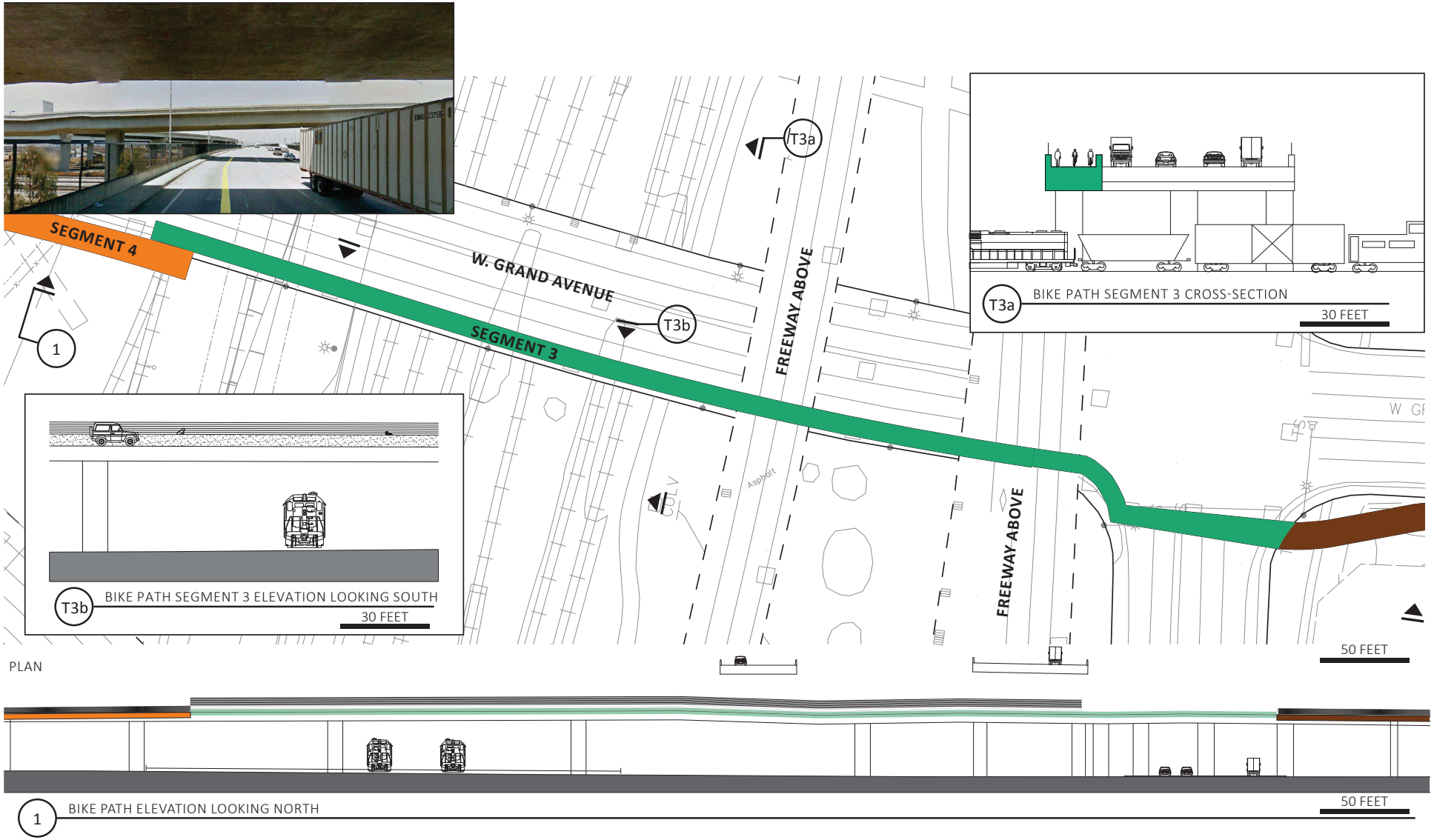


Figure 6

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Bike Path Segment 4

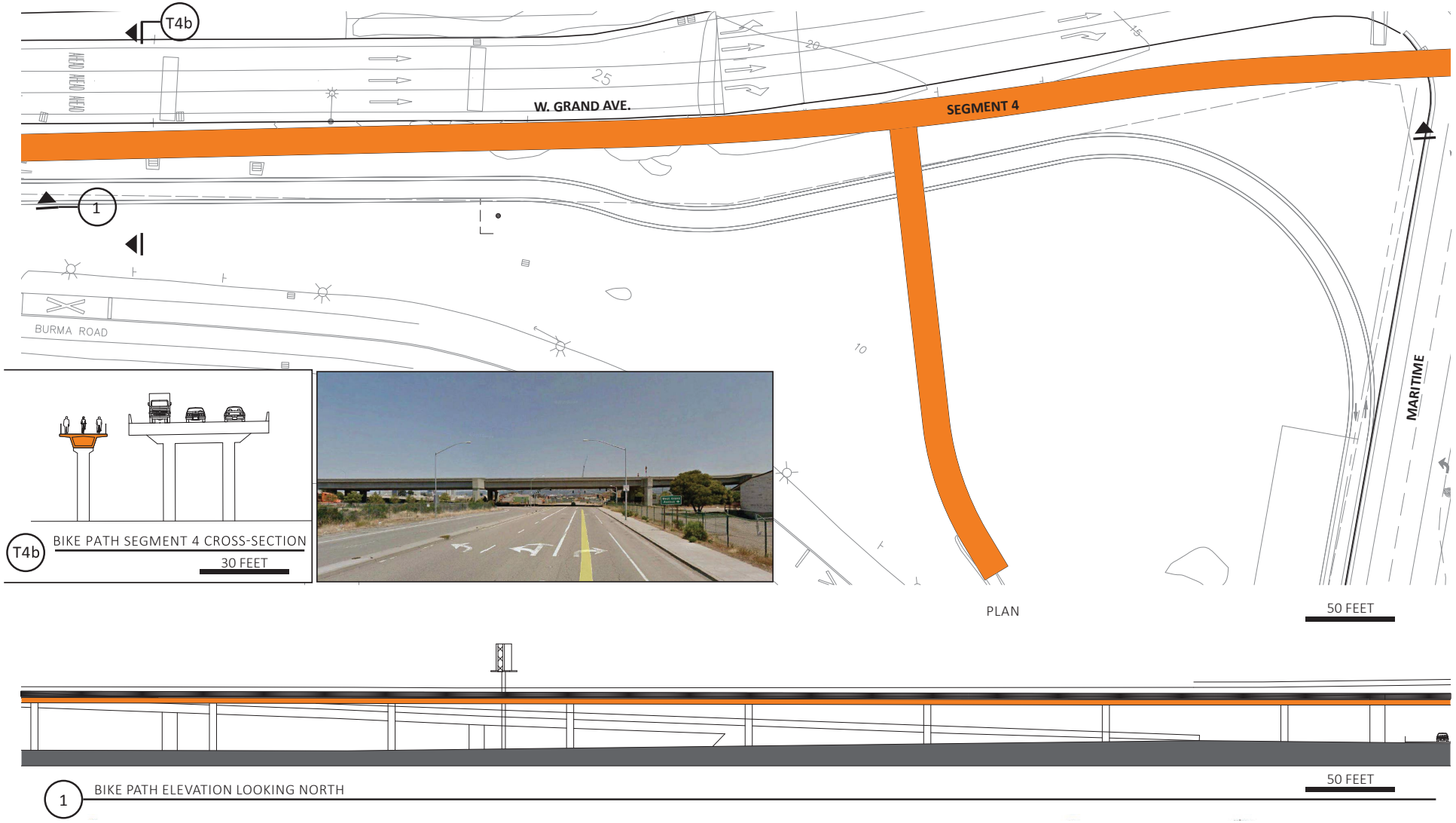

Figure 7

Path

Bike Path Segment 5

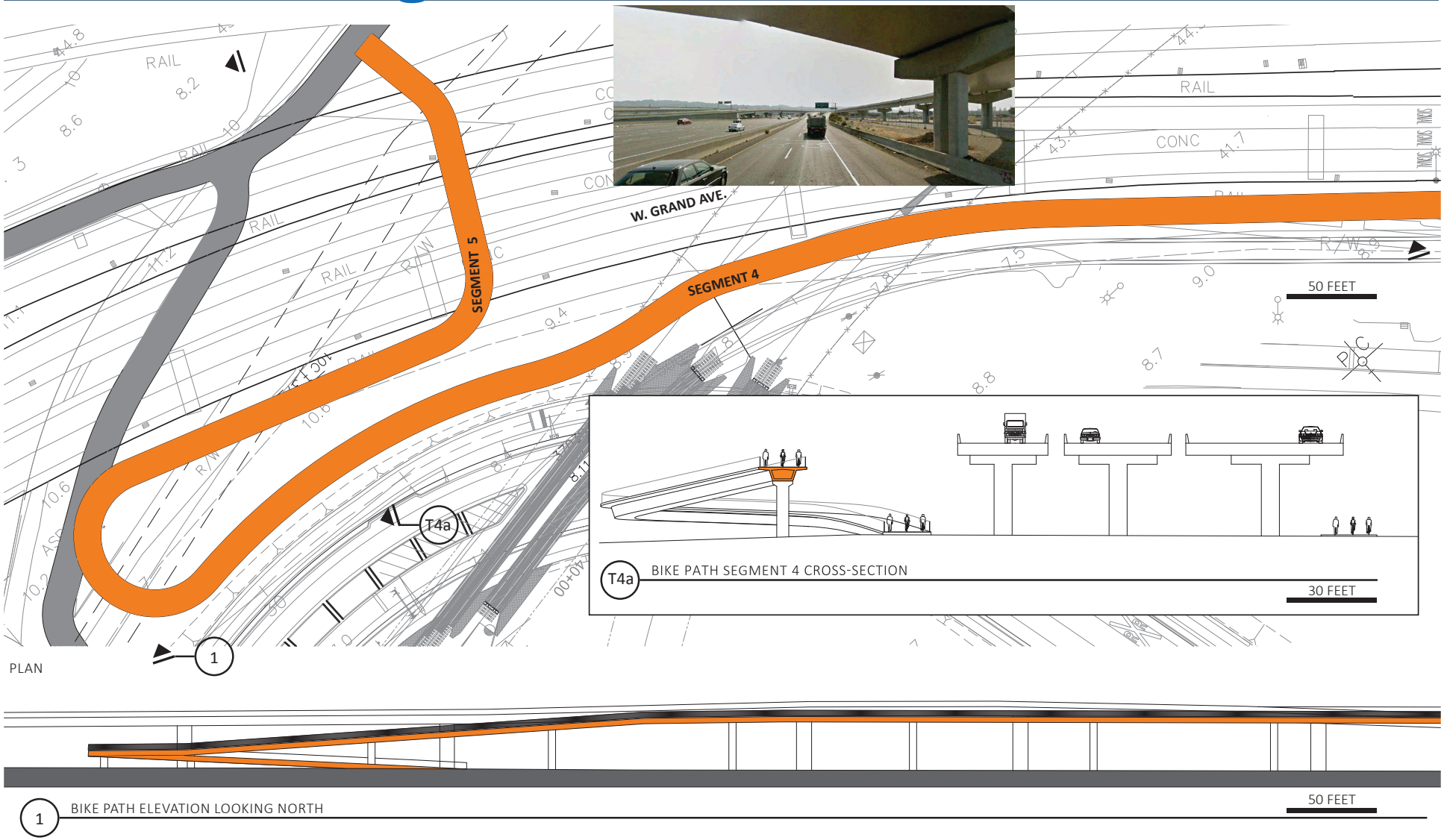

Figure 8

Path

Potential Stormwater Treatment Areas

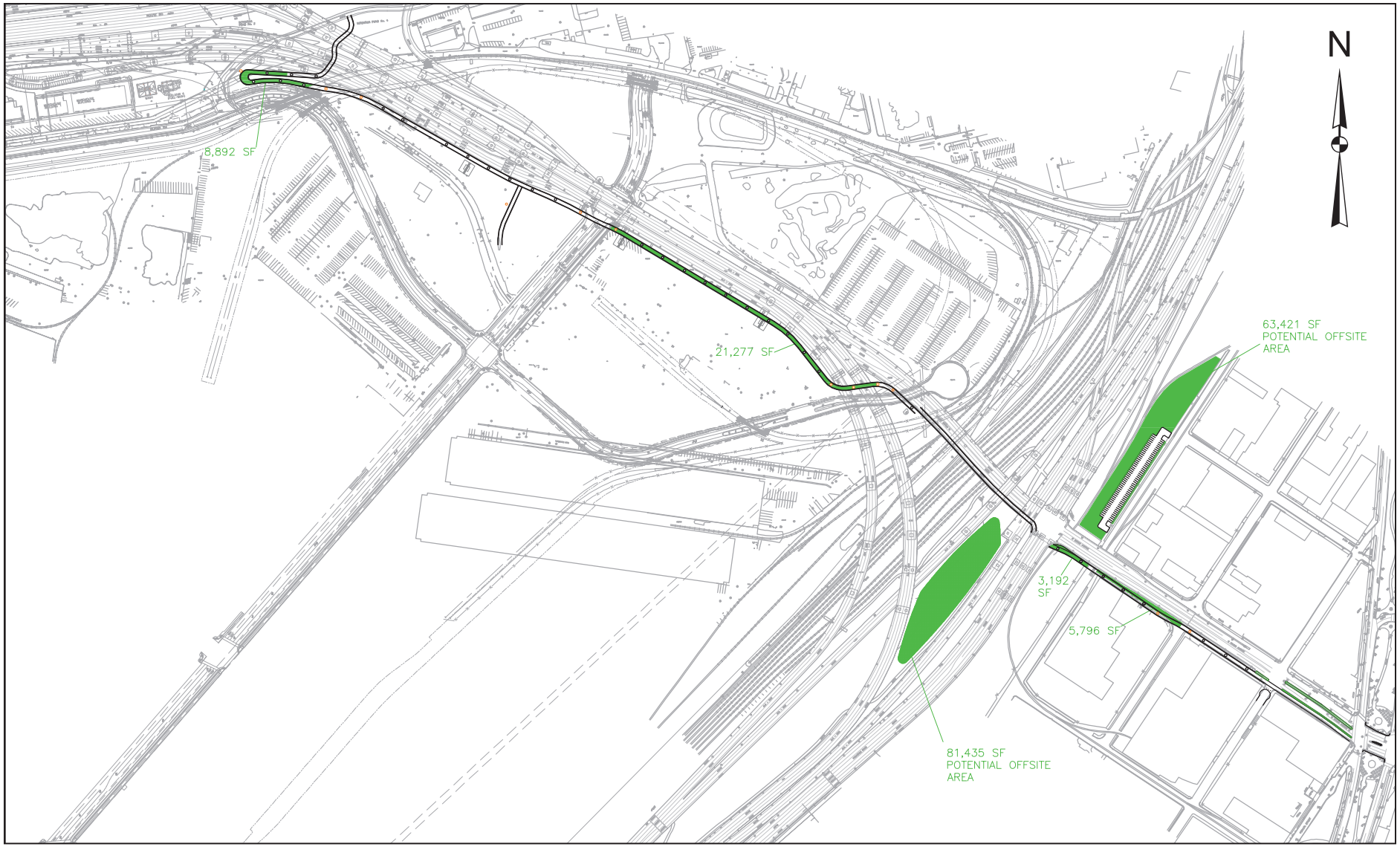

Figure 9

Path

Safety

In addition to the fencing and lighting described above, the elevated portion of the Path would include solar call boxes and security cameras. It is anticipated that the Path would be patrolled periodically by California Highway Patrol or City of Oakland officers on bicycles.

Operation & Maintenance

The Path would be open 24 hours per day, seven days per week. Maintenance would include weekly trash removal, monthly sweeping, and bi-annual inspections for restriping, resurfacing, and repairs.

Project Construction

Excavation and Grading

Project construction would require excavation, grading and new pavement as follows:

- Excavation up to 5 feet deep for 45 column footings for the elevated path (note that supporting piles would be driven 50-60 feet deep);
- Excavation up to 3 feet deep for at-grade modifications at the west end touch down near the Caltrans maintenance facility and the east touch down at Campbell Street and Willow Street, where there would be intersection modifications to create cul-de-sacs;
- Excavation up to 3 feet deep for at-grade modifications along City streets for new pavement sections, sidewalks and driveways; and
- Excavation up to 3 feet deep and grading for gravel and asphalt pavement at the Wood Street parking lot.

It is estimated that the project would result in up to approximately 2,600 cubic yards of cut material. During excavation, soils would be tested for contamination. Clean soils would be used or sold for reuse at nearby construction sites. Contaminated soils would be disposed at an appropriate facility.

It is possible that trees could be removed (e.g., northwest of the Maritime Street/Burma Road intersection or along West Grand Avenue), based on review of an aerial photo.

Construction Hours and Duration

Construction is anticipated to occur between the hours of 7:00 a.m. and 6:00 p.m., Monday through Saturday. It is possible that evening work will be required for construction over Maritime Street. There would be no construction on Sundays or national holidays without special permission.

Project construction is estimated to occur over 26 months from March 2017 to May 2019.

Vehicle Access

Construction truck activity and haul routes would be limited to key collector roads, including West Grand Avenue, Maritime Street, Frontage Parkway, and Wood Street. Construction vehicles may also use Burma Road, Mandela Parkway, Campbell Street, Willow Street, Peralta Street, and 20th Street.

Construction activities are not anticipated to result in any long-term road closures. Temporary road closures could include Campbell Street for intersection modifications at West Grand Avenue and Maritime Street to place falsework over Maritime Street for the new elevated structure.

Temporary lane closures could occur on West Grand Avenue, Maritime Street, Wood Street, Willow Street, Engineers Road, Peralta Street, Campbell Street, and 20th Street.

Construction Equipment

Construction equipment and vehicles could include: backhoes, loaders, tractors, cranes, lifts, pile drivers, concrete trucks and pump, paving machine, compactors/rollers, and trucks for demolition, grading, and materials delivery.

Construction equipment and power tools could include: jackhammers, air compressors, generators, concrete saws, power drills, welding equipment, sandblasting equipment, painting equipment, power and impact wrenches, and the like.

Piles for the 45 footings (estimated amount to support the elevated path) could be driven piles (precast concrete or steel) or cast-in-drilled-hole concrete piles, or a combination depending on the specific site conditions along the structure.

Staging

Construction staging would be on a disturbed or paved area, away from drainages. Options include using the Wood Street parking lot area before parking construction begins and renting a nearby parcel, possibly along Maritime Street or Burma Road.

Environmental Setting

The air quality management agencies of direct importance in the project area include the U.S Environmental Protection Agency (EPA), the California Air Resources Board (ARB), and the Bay Area Air Quality Management District (BAAQMD). The follow sections provide a brief description of these agencies, as well as existing air quality conditions in the project area. Sensitive receptors in the project area are also provided.

Federal Regulations

The federal Clean Air Act (CAA), enacted in 1963 and amended several times thereafter (including the 1990 amendments known as CAAA 1990, which are the current federal governing regulations

for air quality), establishes the framework for modern air pollution control. The EPA has established national ambient air quality standards (NAAQS) for six criteria pollutants (**Table 1**). Criteria pollutants include carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2) ozone, lead, and particulate matter (PM), which includes two subsets: PM less than 10 microns in diameter (PM10) and PM less than 2.5 microns in diameter (PM2.5). Most standards have been set to protect public health. For some pollutants, standards have been based on values such as protection of crops, protection of materials, or avoidance of nuisance conditions.

Under the 1990 CAAA, the U.S. Department of Transportation (DOT) cannot fund, authorize, or approve Federal actions to support programs or projects that are not first found to conform to State Implementation Plan (SIP) for achieving the goals of the CAA requirements. Conformity with the CAA typically takes place on two levels—first, at the regional level and second, at the project level. At the regional level, EPA transportation conformity regulations requires that the project be included in a currently conforming regional transportation plan (RTP) and transportation improvement program (TIP) at the time of project approval. Conformity at the project level requires hot spot analysis if a region is designated nonattainment or maintenance for CO and/or PM.

State Regulations

Responsibility for achieving the California ambient air quality standards (CAAQS) (Table 1), which for certain pollutants and averaging periods are more stringent than federal standards, is placed on the ARB and local air pollution control districts. State standards are achieved through district-level air quality management plans that are incorporated into the SIP, for which ARB is the lead agency.

The California Clean Air Act of 1988 (California CAA) substantially added to the authority and responsibilities of air districts. The California CAA designates air districts as lead air quality planning agencies, requires air districts to prepare air quality plans, and grants air districts authority to implement transportation control measures.

The California CAA focuses on attainment of the state ambient air quality standards and requires designation of attainment and nonattainment areas with respect to these standards. The act also requires that local and regional air districts expeditiously adopt and prepare an air quality attainment plan (Clean Air Plan) if the district violates state air quality standards for ozone, CO, SO_2, or NO_2. These plans are specifically designed to attain state standards and must be designed to achieve an annual 5% reduction in district-wide emissions of each nonattainment pollutant or its precursors. No locally prepared attainment plans are required for areas that violate the state PM10 standards; the ARB is responsible for developing plans and projects that achieve compliance with the state PM10 standards.

Table 1. Federal and State Ambient Air Quality Standards

			National Standards	
Criteria Pollutant	Average Time	California Standards	Primary	Secondary
Ozone	1-hour	0.09 ppm	None	None
	8–hour	0.070 ppm	0.075 ppm	0.075 ppm
Particulate Matter (PM10)	24-hour	50 μg/m^3	150 μg/m^3	150 μg/m^3
	Annual mean	20 μg/m^3	None	None
Fine Particulate Matter (PM2.5)	24-hour	None	35 μg/m^3	35 μg/m^3
	Annual mean	12 μg/m^3	12.0 μg/m^3	15.0 μg/m^3
Carbon Monoxide	8-hour	9.0 ppm	9 ppm	None
	1-hour	20 ppm	35 ppm	None
Nitrogen Dioxide	Annual mean	0.030 ppm	0.053 ppm	0.053 ppm
	1-hour	0.18 ppm	0.100 ppm	None
Sulfur Dioxide	Annual mean	None	0.030 ppm	None
	24-hour	0.04 ppm	0.014 ppm	None
	3-hour	None	None	0.5 ppm
	1-hour	0.25 ppm	0.075 ppm	None
Lead	30-day Average	1.5 μg/m^3	None	None
	Calendar quarter	None	1.5 μg/m^3	1.5 μg/m^3
	3-month average	None	0.15 μg/m^3	0.15 μg/m^3
Sulfates	24-hour	25 μg/m^3	None	None
Hydrogen Sulfide	1-hour	0.03 ppm	None	None
Vinyl Chloride	24-hour	0.01 ppm	None	None

Source: California Air Resources Board 2013

Notes:

ppm = parts per million

μg/m^3 = micrograms per cubic meter

Local Regulations

At the local level, air quality is managed through land use and development planning practices, which are implemented in the project area through the general planning process. The BAAQMD is responsible for establishing and enforcing local air quality rules and regulations that address the requirements of federal and state air quality laws. It is also responsible for ensuring the NAAQS and CAAQS are met. The proposed project is subject to BAAQMD rules and regulations at the time of construction, and may be subject to the following rules.

- Regulation 2, Rule 2 (New Source Review). This regulation contains requirements for Best Available Control Technology and emission offsets.
- Regulation 2, Rule 5 (New Source Review of Toxic Air Contaminates). This regulation outlines guidance for evaluating TAC emissions and their potential health risks.

- Regulation 6, Rule 1 (Particulate Matter). This regulation restricts emissions of PM darker than No. 1 on the Ringlemann Chart to less than three minutes in any one hour.
- Regulation 7 (Odorous Substances). This regulation establishes general odor limitations on odorous substances and specific emission limitations on certain odorous compounds.
- Regulation 8, Rule 3 (Architectural Coatings). This regulation limits the quantity of VOCs in architectural coatings.
- Regulation 9, Rule 6 (Nitrogen oxides emission from natural gas-fired boilers and water heaters). This regulation limits emissions of NO_X generated by natural gas-fired boilers.
- Regulation 9, Rule 8 (Stationary Internal Combustion Engines). This regulation limits emissions of NO_X and CO from stationary internal combustion engines of more than 50 horsepower.
- Regulation 11, Rule 2 (Asbestos Demolition, Renovation and Manufacturing). This regulation controls emissions of asbestos to the atmosphere during demolition, renovation, milling and manufacturing and establishes appropriate waste disposal procedures.

Existing Air Quality Conditions

The existing air quality conditions in the project area can be characterized by monitoring data collected in the region. The nearest monitoring station to the project is the Oakland-West station located at 1100 21st Street. The station is approximately 0.4 miles east of the project area and monitors for ozone, CO, PM2.5, and NO_2. There are currently no stations in the county that collect data on PM10. Table 2 summarizes ozone, CO, PM2.5, and NO_2 pollutant levels from the Oakland-West station for the last 3 years for which complete data are available (2011–2013). Air quality concentrations are expressed in terms of ppm or micrograms per cubic meter ($\mu g/m^3$). As shown in **Table 2**, the monitoring station has experienced two violations of the national PM2.5 standard during this time period.

Attainment Status

Local monitoring data (Table 2) are used to designate areas as nonattainment, maintenance, attainment, or unclassified for the NAAQS and CAAQS. The four designations are further defined as:

- **Nonattainment:** Assigned to areas where monitored pollutant concentrations consistently violate the standard in question.
- **Maintenance:** Assigned to areas where monitored pollutant concentrations exceeded the standard in question in the past but are no longer in violation of that standard.
- **Attainment:** Assigned to areas where pollutant concentrations meet the standard in question over a designated period of time.
- **Unclassified:** Assigned to areas were data are insufficient to determine whether a pollutant is violating the standard in question

Table 2. Ambient Air Quality Monitoring Data for the Oakland-West Station

Pollutant Standards	2011	2012	2013
Ozone (O_3)			
Maximum 1-hour concentration	0.057	0.061	0.071
Maximum 8-hour concentration	0.048	0.049	0.060
4th highest 8-hour concentration	0.045	0.046	0.045
Days state 1-hour standard exceeded (0.09 ppm)	0	0	0
Days state 8-hour standard exceeded (0.070 ppm)	0	0	0
Days national 8-hour standard exceeded (0.075 ppm)	0	0	0
Carbon Monoxide (CO)			
Maximum 1-hour concentration	2.7	2.4	3.2
Maximum 8-hour concentration	3.5	2.8	3.8
Days state 1-hour standard exceeded (20 ppm)	0	0	0
Days national 1-hour standard exceeded (35 ppm)	0	0	0
Days state 8-hour standard exceeded (9.0 ppm)	0	0	0
Days national 8-hour standard exceeded (9 ppm)	0	0	0
Particulate Matter (PM10)			
No data available			
Particulate Matter (PM2.5)			
Maximum state 24-hour concentration	43.1	29.2	42.7
Maximum national 24-hour concentration	-	12.3	42.7
Annual average concentration	-	-	12.7
Days national 24-hour standard exceeded (expected) (35 µg/m3)	0	0	2
Nitrogen Dioxide (NO_2)			
Maximum 1-hour Concentration	62.4	53.2	63.9
Annual Average Concentration	15	15	16
Days state standard exceeded (0.18 ppm)	0	0	0
Days national standard exceeded (0.100 ppm)	0	0	0

Source: California Air Resources Board 2014a; U.S. Environmental Protection Agency 2014a.

Notes:

ppm = parts per million

$\mu g/m^3$ = micrograms per cubic meter

\- = there was insufficient data available to determine the value

Table 3 summarizes the attainment status of the project area with regard to the NAAQS and CAAQS.

Table 3. Federal and State Attainment Status of the Project Area (Alameda County)

Pollutant	NAAQS	CAAQS
8-hour ozone	Marginal Nonattainment	Nonattainment
CO	Maintenance (P)	Attainment
PM10	Attainment	Nonattainment
PM2.5	Nonattainment	Nonattainment

Sources: California Air Resources Board 2014b; U.S. Environmental Protection Agency 2014b.
Notes:
(P) = designation applies to a portion of the County

Sensitive Receptors

Sensitive receptors are typically defined as facilities that attract children, the elderly, people with illnesses, or other sensitive to the effects of air pollution. Examples of sensitive receptors include residences, hospitals, schools, parks, and places of worship.

The Project would run through the industrial and commercial area in the west Oakland. Local air pollutants in the project area is emitted primarily by vehicular traffic traveling on the freeways (I-880, I-80), including truck traffic, as well as railroad and port-related operations. The Class I bike path would run immediately adjacent to W Grand Avenue and the Class II bike lanes would run on 20th Street, Wood Street, Willow Street, and Campbell Street.

Existing recreational uses include the bicycle/pedestrian pathway along Mandela Parkway and Raimondi Park on south side of 20th Street, between Wood Street and Campbell Street. The Mandela Parkway median includes informal seating areas within 100 feet of the intersection with West Grand Avenue. Raimondi Park is primarily used for active recreation, such as baseball and football activities. The closest residences are located on Peralta about 320 feet south of the Class II bike lane on 20th Street. There are no schools, churches, or hospitals within 1,000 feet of the project area.

Environmental Consequences

This section describes the proposed air quality effects[3] that could result from project implementation.

[3] Health risk effects related to exposure of proposed Path users to existing pollutant concentrations due to the proximity of major highways and railroad and port-related operations are addressed in the CEQA document.

Impact AQ-1: Conflict with transportation conformity requirements

As discussed above, federally funded projects must demonstrate compliance with the SIP through regional and project level conformity analyses. However, not all federally funded projects must complete a conformity analysis. The CAA lists certain types of highway and roadway transit projects that are exempt from the conformity requirements (40 CFR 93.126). Bicycle and pedestrian facilities, such as the Project, are among those listed in the CAA as exempt from conformity. Consequently, while the proposed project is federally funded, it may proceed toward implementation without a conformity analysis. Since the Project is exempt from transportation conformity per 40 CFR 93.126, neither an evaluation of inclusion of the Project in the currently conforming RTP and TIP (i.e. regional conformity analysis), nor a CO or PM hot-spot analysis (i.e. project level conformity analysis) is required.

Impact AQ-2: Generate operation-related emissions of ozone precursors (ROG and NO_X), CO, and PM10

Long-term project air quality impacts are limited to those associated with new vehicle trips to park in the project area and utilize the Path. The Project would not increase the capacity or traffic speed of the roadway system in the project area. Long-term project operation would require the use of electricity for proposed lighting along the Path and at the parking lot, which would primarily generate indirect emissions of greenhouse gases, with minimal criteria pollutant emissions.

The Project entails constructing a Class I bike path along the south side of West Grand Avenue; Class II bike lanes on parts of 20th Street, Wood Street, Willow Street, and Campbell Street; and a 100-space parking lot for the Path users. Path users and existing Bay Bridge Trail users utilizing the new parking lot could generate new vehicle trips to and from the parking lot.

Based on the trip generation estimated by the project's transportation consultant (Tellez pers. comm.), the parking lot is estimated to generate up to 550–600 local daily trips on weekdays and 2,500–2,800 local daily trips on weekends. Daily vehicle trips to and from the parking lot are estimated based on the existing Bay Bridge Trail bicycle/pedestrian counts. It is anticipated that some trail users would continue to use their existing parking locations, and some trail users who currently park elsewhere would switch to the new lot because it would be a more convenient location or result in a shorter travel distance. Therefore, the net new vehicle trips generated by the Project are expected to be fewer than the estimated daily vehicle trips.

The California Emission Estimator Model (CalEEMod), version 2013.2.2 was used to estimate direct criteria pollutant emissions from vehicle trips and indirect greenhouse gas emissions from electricity usage for proposed lighting. The operational assumptions and CalEEMod inputs and outputs are provided in **Attachment 1**. The default vehicle trip lengths and vehicle trip types from the CalEEMod for the "City Park" lane use were also used for the analysis.

Table 4 summarizes the maximum daily emissions and the annual emissions for the project using 550 weekday daily trips and 2,500 weekend daily vehicle trips. As described above, the emission estimates represent a worst-case scenario because the net new vehicle trips generated by the Project are expected to be fewer that estimated daily vehicle trips. While project implementation

would result in a minor net increase in vehicle trips, vehicle miles traveled, and associated operational emissions, these increases are anticipated to be fairly minimal. No mitigation is required.

Table 4. Summary of Operational Criteria Pollutant Emissions

Daily/Annual Emissions	ROG	NO_x	CO	PM10	PM2.5
Maximum Daily Emissions (lbs/day)	7.74	19.71	71.96	11.68	3.32
Annual Emissions (tons/year)	0.61	1.68	6.39	0.91	0.26
BAAQMD Thresholds (lbs/day)	54	54	*CAAQS*	82	54

Notes:
CAAQS = violation of a *CAAQS*
See Attachment 1 for operation assumptions and CalEEMod inputs and outputs.

Impact AQ-3: Generate significant levels of MSAT emissions

The Project falls under FHWA Category 1, no meaningful mobile source air toxic (MSAT) impacts, because it is exempt from CAA conformity under 40 CFR 93.126 (see Impact AQ-1). Moreover, because the purpose of the Project is to construct a bicycle/pedestrian path connection and promote safety access, it would cause minimal air quality impacts for CAA criteria pollutants and would not be linked with any special MSAT concerns. As such, this Project would not result in substantial changes in traffic volumes, vehicle mix, basic project location, or any other factor that would cause an increase in MSAT impacts of the project from that of the no-project alternative.

Moreover, EPA regulations for vehicle engines and fuels would cause overall MSAT emissions to decline significantly over the next several decades. Based on regulations now in effect, an analysis of national trends with EPA's MOVES model forecasts a combined reduction of over 80 percent in the total annual emission rate for the priority MSAT from 2010 to 2050 while vehicle-miles of travel are projected to increase by over 100 percent. This will both reduce the background level of MSAT as well as the possibility of even minor MSAT emissions from this project.

Impact AQ-4: Generate construction-related emissions of ozone precursors (ROG and NO_X), CO, and PM10

Construction activities associated with the Project would generate short-term emissions of ROG, NO_x, CO, PM10, and PM2.5. Emissions would originate from on-road hauling trips, construction worker commute trips, construction site fugitive dust, and off-road construction equipment. Construction-related emissions would vary substantially depending on the level of activity, specific construction operations, and wind and precipitation conditions.

CalEEMod were used to estimate construction emissions based on the project-specific inputs of construction phases and schedule, duration, equipment, demolition and earthmoving volume, and truck and worker trips associated with each phase. Construction data, including phases, schedule, construction equipment, and off-haul debris are provided by the project's engineering consultant TYLIN International. The construction assumptions and CalEEMod inputs and outputs are provided

in **Attachment 1**. Construction equipment defaults, such as emission factors, horsepower, and load factors, from the CalEEMod were used for the analysis. It is assumed that on-site construction equipment and construction activities would occur 5 days per week and 8 hours per day. The default vehicle trip lengths, for hauling trucks and workers, from the CalEEMod were also used for the analysis.

Table 5 summarizes the maximum daily emissions and the annual emissions for the project. Project construction is estimated to occur less than five years (over 2 years from March 2017 to May 2019).

Table 5. Summary of Construction Criteria Pollutant Emissions

Daily/Annual Emissions	ROG	NO_x	CO	PM10			PM2.5		
				Dust	Exhaust	Total	Dust	Exhaust	Total
Year 2017									
Maximum Daily Emissions (lbs/day)	2.53	19.49	18.85	2.06	1.07	2.71	0.41	1.04	1.36
Annual Emissions (tons/year)	0.14	1.04	1.15	0.10	0.06	0.16	0.02	0.06	0.08
Year 2018									
Maximum Daily Emissions (lbs/day)	1.62	13.59	13.69	1.73	0.65	2.08	0.32	0.61	0.93
Annual Emissions (tons/year)	0.10	0.88	0.89	0.08	0.04	0.13	0.02	0.04	0.06
Year 2019									
Maximum Daily Emissions (lbs/day)	0.59	5.03	6.17	0.40	0.26	0.67	0.11	0.24	0.35
Annual Emissions (tons/year)	0.01	0.09	0.13	0.01	0.00	0.02	0.00	0.00	0.01
BAAQMD Thresholds (lbs/day)	54	54	-	BMPs	82	-	BMPs	54	-

Notes:
BMPs = best management practices.
See Attachment 1 for construction assumptions and CalEEMod inputs and outputs.

Federal transportation conformity requires the evaluation of construction-related hot-spot emissions if construction activities will last longer than five years in one general location. While the proposed project is not subject to conformity requirements, as construction of the project is expected to last up to 26-months, a hot-spot analysis would not be required under transportation conformity requirements.

Construction activities are subject to Caltrans Standard Specifications, Section 14-9, Air Quality. This section requires the contractor to comply with the BAAQMD rules, ordinances, and regulations, as well as control dust from construction related activities. The BAAQMD (2011) Air Quality Guidelines establishes thresholds of significance for criteria pollutants, TACs, and odors. It also considers dust

impacts to be less than significant through the application of best management practices (BMPs). In addition, the BAAQMD recommends construction contractors to implement all basic construction mitigation measures as listed in the Air Quality Guidelines to reduce construction emissions from dust and diesel exhaust. Implementation of Mitigation Measures AQ-1 through AQ-3 is therefore required.

Impact AQ-5: Expose receptors to naturally occurring asbestos during construction

Depending on a project's size and geographic location, BAAQMD may require mitigation to address potential impacts from naturally occurring asbestos (NOA). BAAQMD enforces ARB's applicable air toxic control measures (ATCM) which requires operations engaged in road construction and maintenance, grading, and quarrying and surface mining activities in areas where NOA is likely to be found, to employ the best available dust mitigation measures to reduce and control dust emissions.

Projects that are located in an area known to contain NOA or have the potential to disturb asbestos (from soil or building material) are required to prepare and submit applicable notification forms and comply with all the requirements of ARB's ATCM. For projects that not involve earth-disturbing activity in an area known to contain NOA or are not located in these NOA areas, it can be assumed that the Project would not have the potential to expose people to airborne asbestos particles.

The Project is not located in an area known to contain NOA. Accordingly, the Project is not required to submit NOA notification forms, but must employ the best available dust mitigation measures to reduce and control dust emissions (as outlined in Mitigation Measure AQ-2).

Avoidance, Minimization, and Mitigation Measures

Most of the construction impacts on air quality are short-term in duration and, therefore, would not result in long-term adverse conditions. Implementation of the following mitigation measures would reduce any air quality impacts resulting from construction activities.

Mitigation Measure AQ-1: Implement California Department of Transportation Standard Specifications

The project applicant will comply with Caltrans' Standard Specifications in Section 14-9 Air Quality (2010).

- Section 14-9.02 specifically requires compliance by the contractor with all applicable laws and regulations related to air quality, including air pollution control district and air quality management district regulations and local ordinances.
- Section 14-9.03 is directed at controlling dust. If dust palliative materials other than water are to be used, material specifications are contained in Section 18.

Mitigation Measure AQ-2: Implement BAAQMD Basic Control Measures to Control Construction-Related Dust

In accordance with the BAAQMD's current Air Quality Guidelines (2011), when practical, the project applicant will implement the following BAAQMD-recommended control measures to reduce particulate matter emissions from construction activities.

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) will be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site will be covered.
- All visible mud or dirt track-out onto adjacent public roads will be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads will be limited to 15 miles per hour.
- All roadways, driveways, and sidewalks to be paved will be completed as soon as possible. Building pads will be laid as soon as possible after grading unless seeding or soil binders are used.
- A publicly visible sign will be posted with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person will respond and take corrective action within 48 hours. The Air District's phone number will also be visible to ensure compliance with applicable regulations.

Mitigation Measure AQ-3: Implement BAAQMD Basic Control Measures to Reduce Exhaust Emissions during Construction

The project applicant will implement, to the extent feasible, the following measures to reduce exhaust emissions (NO_x and PM10) from construction equipment. These mitigation measures are based on measures proposed in the BAAQMD Air Quality Guidelines (2011).

- Idling times will be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California Airborne Toxics Control Measure—13 California Code of Regulations [CCR] 2485). Clear signage will be provided for construction workers at all access points.
- All construction equipment will be maintained and properly tuned in accordance with manufacturer's specifications. All equipment will be checked by a certified visible emissions evaluator.

References Cited

Printed References

Bay Area Air Quality Management District. 2011. California Environmental Quality Act Air Quality Guidelines. May. San Francisco, CA.

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California Air Resources Board. 2014a. *iADAM Air Quality Data Statistics*. Available: http://www.arb.ca.gov/adam/index.html. Accessed: July 15, 2014.

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U.S. Environmental Protection Agency. 2014a. Monitor Values Report. Last revised: July 11, 2014. Available: http://www.epa.gov/airdata/ad_rep_mon.html. Accessed: July 15, 2014.

U.S. Environmental Protection Agency. 2014b. *The Green Book Nonattainment Areas for Criteria Pollutants*. Last revised: July 2, 2014. Available: <http://www.epa.gov/oar/oaqps/greenbk/>. Accessed: July 15, 2014.

Personal Communications

Tellez, Kathrin. Transportation Engineer. Fehr and Peers. July 15, 2014—email to Kai-Ling Kuo, ICF International, San Jose, CA, regarding vehicle trips generated by the Wood Street parking lot.

Attachment 1

Calculations for Estimating Construction and Operation Emissions

San Francisco-Oakland Bay Bridge Bicycle/Pedestrian Connection Project

Construction Emissions - Criteria Pollutants

Maximum Daily Emissions from Tailpipe Exhaust and Fugitive Dust (CalEEMod Output)

Year	ROG	NOX	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
	lb/day									
2017	2.53	19.49	18.85	0.04	2.06	1.07	2.71	0.41	1.04	1.36
2018	1.62	13.59	13.69	0.03	1.73	0.65	2.08	0.32	0.61	0.93
2019	0.59	5.03	6.17	0.01	0.40	0.26	0.67	0.11	0.24	0.35

Annual Emissions from Tailpipe Exhaust and Fugitive Dust (CalEEMod Output)

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
	tons/yr									
2017	0.14	1.04	1.15	0.00	0.10	0.06	0.16	0.02	0.06	0.08
2018	0.10	0.88	0.89	0.00	0.08	0.04	0.13	0.02	0.04	0.06
2019	0.01	0.09	0.13	0.00	0.01	0.00	0.02	0.00	0.00	0.01

Construction Emissions - GHGs

Total Annual Emissions from Tailpipe Exhaust and Electricity Usage

Year	CO2	CH4	N2O	CO2e
	MT/yr			
2017	180.93	0.02	0.00	181.32
2018	149.06	0.02	0.00	149.54
2019	22.45	0.00	0.00	22.50
Total	352.45	0.04	0.00	353.36

Annual Emissions from Tailpipe Exhaust (CalEEMod Output)

Year	CO2	CH4	N2O	CO2e
	MT/yr			
2017	179.27	0.02	0.00	179.65
2018	147.07	0.02	0.00	147.53
2019	21.62	0.00	0.00	21.66

Annual Emissions from Electricity Usage from Office Trailer

Year	CO2	CH4	N2O	CO2e
	MT/yr			
2017	1.67	0.000	0.000	1.68
2018	2.00	0.000	0.000	2.01
2019	0.83	0.000	0.000	0.84

Work Days
218
261
109

Construction Electricity Usage

Electricity intensity of other commercial use (kWh/sq f	22.5	(2014 Climate Registry Default Emission Factors, Table 14.7)
Number of field office trailer	1	
Sq ft per trailer	440	
Work days per year	261	
Electricity Usage (kWh/day/trailer)	38	

Operation Emissions - Criteria Pollutants

Maximum Daily Emissions from Vehicle Trips (CalEEMod Output)

Source	ROG	NOX	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
	lb/day									
Vehicle Trips	7.74	19.71	71.96	0.18	11.39	0.29	11.68	3.05	0.27	3.32

Annual Emissions from Vehicle Trips (CalEEMod Output)

Source	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
	tons/yr									
Vehicle Trips	0.61	1.68	6.39	0.01	0.88	0.02	0.91	0.24	0.02	0.26

Parking Lot Vehicle Trips Generation

550 weekday daily vehicle trips

2500 weekend daily vehicle trips

Note:

Estimation of daily vehicle trips to/from the parking lot are developed based on existing Bay Bridge Trail bicycle/pedestrian counts. It is anticipated that some trail users would continue to park where they currently do and some trail users that currently park elsewhere would switch to the new lot; therefore, the net new vehicle trips generated by the project are expected to be fewer than the estimated daily vehicle trips. Consequently, emission estimates using 550 weekday daily trips and 2,500 weekend daily vehicle trips represent a worst-case scenario.

Operation Emissions - GHGs

Annual Emissions from Vehicle Trips and Electricity Usage for Lighting (CalEEMod Output)

Source	CO2	CH4	N2O	CO2e
	MT/yr			
Area	0.002	0.000	0.000	0.002
Vehicle Trips	1,001	0.036	0.000	1,002
Electricity	14.72	0.001	0.000	14.81
Total	1,016	0.037	0.000	1,017

Electricity Usage for Lighting

200	kWh/evening
365	days
73000	kWh/year

Parameters

lb to MT	0.0004536
MWh to kWH	1000

	CO2	CH4	N2O	Source
Electricity Emission Rates (lbs/MWh)	444.62	0.029	0.006	PG&E 2012 CO2 Emission Rates (Climate Registry 2014), 2010 eGrid (EPA 2014)
GWP	1	25	298	IPCC AR4

References:

Climate Registry. 2014. General Reporting Protocol, 2014 Climate Registry Default Emission Factors. Available: http://www.theclimateregistry.org/resources/protocols/general-reporting-protocol/.

EPA. 2014. 2010 eGRID Version 1.0, 2010 summary Table. Last Updated: 2/24. Available: http://www.epa.gov/cleanenergy/energy-resources/egrid/.

Gateway Bike Path - Construction and Operation Emissions

Alameda County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	100.00	Space	0.64	27,750.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	63
Climate Zone	5			**Operational Year**	2019
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	444.62	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Update with PG&E 2012 CO2 Emission Rates (Climate Registry 2014).

Demolition - 1,700 cy of export from path and 900 of export from parking lot, assume 1.3 tons/cy.

Vehicle Trips - Assume 550 trips/day on weekday and 2,500 trips/day on weekend. Use trip lengths and types for City Park land use.

Consumer Products - No consumer products related to parking lot.

Area Coating - No building in praking lot.

Energy Use - Lighting for path and parking lot is assumed to use about 200 kWh/evening (73,000 kWh/year).

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	2.5337	19.4914	18.8534	0.0375	2.0567	1.0657	2.7145	0.4122	1.0363	1.3594	0.0000	3,408.0427	3,408.0427	0.3537	0.0000	3,415.4708
2018	1.6173	13.5921	13.6906	0.0294	1.7267	0.6470	2.0838	0.3230	0.6071	0.9302	0.0000	2,603.9299	2,603.9299	0.4366	0.0000	2,613.0985
2019	0.7623	5.0256	6.1721	0.0119	0.4039	0.2649	0.6689	0.1077	0.2438	0.3515	0.0000	1,060.7463	1,060.7463	0.2126	0.0000	1,065.2101
Total	**4.9133**	**38.1091**	**38.7160**	**0.0787**	**4.1873**	**1.9776**	**5.4671**	**0.8429**	**1.8872**	**2.6410**	**0.0000**	**7,072.7189**	**7,072.7189**	**1.0029**	**0.0000**	**7,093.7793**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	6.9200e-003	1.0000e-004	0.0103	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0219	0.0219	6.0000e-005		0.0231
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	7.7365	19.7072	71.9554	0.1779	11.3869	0.2882	11.6750	3.0505	0.2655	3.3160		14,412.7908	14,412.7908	0.4893		14,423.0661
Total	**7.7434**	**19.7073**	**71.9657**	**0.1779**	**11.3869**	**0.2882**	**11.6751**	**3.0505**	**0.2656**	**3.3160**		**14,412.8126**	**14,412.8126**	**0.4894**	**0.0000**	**14,423.0893**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition-Bike Path	Demolition	3/1/2017	4/25/2017	5	40	

2	Site Preparation-Bike Path	Site Preparation	4/1/2017	5/28/2017	5	40	
3	Grading-Bike Path	Grading	5/1/2017	6/25/2017	5	40	
4	Footings-Bike Path	Trenching	7/1/2017	12/15/2017	5	120	
5	Columns-Bike Path	Trenching	9/1/2017	2/15/2018	5	120	
6	Bridge-Bike Path	Trenching	11/1/2017	6/12/2018	5	160	
7	Drainage-Bike Path	Trenching	3/1/2018	5/23/2018	5	60	
8	Signals Lighting-Bike Path	Building Construction	5/1/2018	5/28/2018	5	20	
9	Paving-Bike Path	Paving	6/1/2018	6/28/2018	5	20	
10	Landscaping-Bike Path	Paving	8/1/2018	8/28/2018	5	20	
11	Demolition-Parking Lot	Demolition	9/1/2018	9/28/2018	5	20	
12	Grading-Parking Lot	Site Preparation	10/1/2018	11/23/2018	5	40	
13	Drainage-Parking Lot	Trenching	12/1/2018	1/12/2019	5	30	
14	Paving-Parking Lot	Paving	2/1/2019	2/14/2019	5	10	
15	Lighting-Parking Lot	Building Construction	3/1/2019	3/28/2019	5	20	
16	Landscaping-Parking Lot	Paving	4/1/2019	4/28/2019	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition-Bike Path	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition-Bike Path	Generator Sets	1	8.00	84	0.42
Demolition-Bike Path	Rubber Tired Dozers	0	1.00	255	0.40
Demolition-Bike Path	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation-Bike Path	Graders	0	8.00	174	0.41

Site Preparation-Bike Path	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading-Bike Path	Concrete/Industrial Saws	0	8.00	81	0.73
Grading-Bike Path	Rubber Tired Dozers	0	1.00	255	0.40
Grading-Bike Path	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Footings-Bike Path	Generator Sets	1	8.00	84	0.42
Footings-Bike Path	Pumps	1	8.00	84	0.42
Columns-Bike Path	Generator Sets	1	8.00	84	0.42
Columns-Bike Path	Pumps	1	8.00	84	0.42
Bridge-Bike Path	Cranes	1	8.00	226	0.29
Drainage-Bike Path	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Signals Lighting-Bike Path	Cranes	0	4.00	226	0.29
Signals Lighting-Bike Path	Forklifts	0	6.00	89	0.20
Signals Lighting-Bike Path	Generator Sets	1	8.00	84	0.42
Signals Lighting-Bike Path	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Paving-Bike Path	Cement and Mortar Mixers	0	6.00	9	0.56
Paving-Bike Path	Pavers	1	8.00	125	0.42
Paving-Bike Path	Rollers	1	8.00	80	0.38
Paving-Bike Path	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Landscaping-Bike Path	Cement and Mortar Mixers	0	6.00	9	0.56
Landscaping-Bike Path	Generator Sets	1	8.00	84	0.42
Landscaping-Bike Path	Pavers	0	7.00	125	0.42
Landscaping-Bike Path	Rollers	0	7.00	80	0.38
Landscaping-Bike Path	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Demolition-Parking Lot	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition-Parking Lot	Generator Sets	1	8.00	84	0.42
Demolition-Parking Lot	Rubber Tired Dozers	0	1.00	255	0.40
Demolition-Parking Lot	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading-Parking Lot	Graders	0	8.00	174	0.41

Grading-Parking Lot	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Drainage-Parking Lot	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving-Parking Lot	Cement and Mortar Mixers	0	6.00	9	0.56
Paving-Parking Lot	Pavers	1	7.00	125	0.42
Paving-Parking Lot	Rollers	1	7.00	80	0.38
Paving-Parking Lot	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Lighting-Parking Lot	Cranes	0	4.00	226	0.29
Lighting-Parking Lot	Forklifts	0	6.00	89	0.20
Lighting-Parking Lot	Generator Sets	1	8.00	84	0.42
Lighting-Parking Lot	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Landscaping-Parking Lot	Cement and Mortar Mixers	0	6.00	9	0.56
Landscaping-Parking Lot	Generator Sets	1	8.00	84	0.42
Landscaping-Parking Lot	Pavers	0	7.00	125	0.42
Landscaping-Parking Lot	Rollers	0	7.00	80	0.38
Landscaping-Parking Lot	Tractors/Loaders/Backhoes	0	7.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition-Bike Path	2	40.00	0.00	212.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation-Bike Path	1	40.00	4.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading-Bike Path	1	40.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Footings-Bike Path	2	40.00	4.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Columns-Bike Path	2	40.00	4.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Bridge-Bike Path	1	40.00	4.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Drainage-Bike Path	1	40.00	4.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Signals Lighting-Bike Path	1	40.00	4.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving-Bike Path	2	40.00	4.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

Landscaping-Bike Path	1	40.00	4.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Demolition-Parking Lot	2	40.00	0.00	112.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading-Parking Lot	1	40.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Drainage-Parking Lot	1	40.00	4.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving-Parking Lot	2	40.00	4.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Lighting-Parking Lot	1	40.00	4.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Landscaping-Parking Lot	1	40.00	4.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition-Bike Path - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.1823	0.0000	1.1823	0.1790	0.0000	0.1790			0.0000			0.0000
Off-Road	0.6404	5.5776	4.5356	6.8400e-003		0.3994	0.3994		0.3811	0.3811		671.8792	671.8792	0.1261		674.5281
Total	**0.6404**	**5.5776**	**4.5356**	**6.8400e-003**	**1.1823**	**0.3994**	**1.5817**	**0.1790**	**0.3811**	**0.5601**		**671.8792**	**671.8792**	**0.1261**		**674.5281**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1034	1.3744	0.9699	4.0000e-003	0.0925	0.0183	0.1108	0.0253	0.0169	0.0422		396.6319	396.6319	2.8700e-003		396.6922
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

Worker	0.1465	0.1782	2.0822	4.6700e-003	0.3772	2.9500e-003	0.3802	0.1001	2.7200e-003	0.1028		377.3387	377.3387	0.0188		377.7338
Total	**0.2498**	**1.5526**	**3.0521**	**8.6700e-003**	**0.4697**	**0.0213**	**0.4910**	**0.1254**	**0.0196**	**0.1450**		**773.9706**	**773.9706**	**0.0217**		**774.4260**

3.3 Site Preparation-Bike Path - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.0000e-004	0.0000	8.0000e-004	9.0000e-005	0.0000	9.0000e-005			0.0000			0.0000
Off-Road	0.3168	3.0439	2.3938	3.1100e-003		0.2289	0.2289		0.2106	0.2106		318.2649	318.2649	0.0975		320.3128
Total	**0.3168**	**3.0439**	**2.3938**	**3.1100e-003**	**8.0000e-004**	**0.2289**	**0.2297**	**9.0000e-005**	**0.2106**	**0.2107**		**318.2649**	**318.2649**	**0.0975**		**320.3128**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0399	0.3505	0.4059	9.6000e-004	0.0267	5.2500e-003	0.0319	7.6300e-003	4.8200e-003	0.0125		94.7773	94.7773	7.3000e-004		94.7926
Worker	0.1465	0.1782	2.0822	4.6700e-003	0.3772	2.9500e-003	0.3802	0.1001	2.7200e-003	0.1028		377.3387	377.3387	0.0188		377.7338
Total	**0.1864**	**0.5288**	**2.4881**	**5.6300e-003**	**0.4039**	**8.2000e-003**	**0.4121**	**0.1077**	**7.5400e-003**	**0.1152**		**472.1160**	**472.1160**	**0.0195**		**472.5263**

3.4 Grading-Bike Path - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.3168	3.0439	2.3938	3.1100e-003		0.2289	0.2289		0.2106	0.2106		318.2649	318.2649	0.0975		320.3128
Total	**0.3168**	**3.0439**	**2.3938**	**3.1100e-003**	**0.0000**	**0.2289**	**0.2289**	**0.0000**	**0.2106**	**0.2106**		**318.2649**	**318.2649**	**0.0975**		**320.3128**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1465	0.1782	2.0822	4.6700e-003	0.3772	2.9500e-003	0.3802	0.1001	2.7200e-003	0.1028		377.3387	377.3387	0.0188		377.7338
Total	**0.1465**	**0.1782**	**2.0822**	**4.6700e-003**	**0.3772**	**2.9500e-003**	**0.3802**	**0.1001**	**2.7200e-003**	**0.1028**		**377.3387**	**377.3387**	**0.0188**		**377.7338**

3.5 Footings-Bike Path - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6633	5.1060	4.3164	7.4700e-003		0.3491	0.3491		0.3491	0.3491		707.2284	707.2284	0.0591		708.4698
Total	**0.6633**	**5.1060**	**4.3164**	**7.4700e-003**		**0.3491**	**0.3491**		**0.3491**	**0.3491**		**707.2284**	**707.2284**	**0.0591**		**708.4698**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0399	0.3505	0.4059	9.6000e-004	0.0267	5.2500e-003	0.0319	7.6300e-003	4.8200e-003	0.0125		94.7773	94.7773	7.3000e-004		94.7926
Worker	0.1465	0.1782	2.0822	4.6700e-003	0.3772	2.9500e-003	0.3802	0.1001	2.7200e-003	0.1028		377.3387	377.3387	0.0188		377.7338
Total	**0.1864**	**0.5288**	**2.4881**	**5.6300e-003**	**0.4039**	**8.2000e-003**	**0.4121**	**0.1077**	**7.5400e-003**	**0.1152**		**472.1160**	**472.1160**	**0.0195**		**472.5263**

3.6 Columns-Bike Path - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6633	5.1060	4.3164	7.4700e-003		0.3491	0.3491		0.3491	0.3491		707.2284	707.2284	0.0591		708.4698
Total	**0.6633**	**5.1060**	**4.3164**	**7.4700e-003**		**0.3491**	**0.3491**		**0.3491**	**0.3491**		**707.2284**	**707.2284**	**0.0591**		**708.4698**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

Vendor	0.0399	0.3505	0.4059	9.6000e-004	0.0267	5.2500e-003	0.0319	7.6300e-003	4.8200e-003	0.0125		94.7773	94.7773	7.3000e-004		94.7926
Worker	0.1465	0.1782	2.0822	4.6700e-003	0.3772	2.9500e-003	0.3802	0.1001	2.7200e-003	0.1028		377.3387	377.3387	0.0188		377.7338
Total	**0.1864**	**0.5288**	**2.4881**	**5.6300e-003**	**0.4039**	**8.2000e-003**	**0.4121**	**0.1077**	**7.5400e-003**	**0.1152**		**472.1160**	**472.1160**	**0.0195**		**472.5263**

3.6 Columns-Bike Path - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5886	4.7041	4.2866	7.4700e-003		0.3055	0.3055		0.3055	0.3055		707.2284	707.2284	0.0523		708.3261
Total	**0.5886**	**4.7041**	**4.2866**	**7.4700e-003**		**0.3055**	**0.3055**		**0.3055**	**0.3055**		**707.2284**	**707.2284**	**0.0523**		**708.3261**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0377	0.3177	0.3859	9.6000e-004	0.0267	4.8600e-003	0.0316	7.6300e-003	4.4700e-003	0.0121		93.1452	93.1452	7.2000e-004		93.1602
Worker	0.1309	0.1602	1.8673	4.6700e-003	0.3772	2.8500e-003	0.3801	0.1001	2.6300e-003	0.1027		363.3578	363.3578	0.0173		363.7205
Total	**0.1687**	**0.4779**	**2.2533**	**5.6300e-003**	**0.4039**	**7.7100e-003**	**0.4116**	**0.1077**	**7.1000e-003**	**0.1148**		**456.5030**	**456.5030**	**0.0180**		**456.8807**

3.7 Bridge-Bike Path - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6480	7.6930	2.7563	5.6400e-003		0.3430	0.3430		0.3155	0.3155		577.2380	577.2380	0.1769		580.9522
Total	**0.6480**	**7.6930**	**2.7563**	**5.6400e-003**		**0.3430**	**0.3430**		**0.3155**	**0.3155**		**577.2380**	**577.2380**	**0.1769**		**580.9522**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0399	0.3505	0.4059	9.6000e-004	0.0267	5.2500e-003	0.0319	7.6300e-003	4.8200e-003	0.0125		94.7773	94.7773	7.3000e-004		94.7926
Worker	0.1465	0.1782	2.0822	4.6700e-003	0.3772	2.9500e-003	0.3802	0.1001	2.7200e-003	0.1028		377.3387	377.3387	0.0188		377.7338
Total	**0.1864**	**0.5288**	**2.4881**	**5.6300e-003**	**0.4039**	**8.2000e-003**	**0.4121**	**0.1077**	**7.5400e-003**	**0.1152**		**472.1160**	**472.1160**	**0.0195**		**472.5263**

3.7 Bridge-Bike Path - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5584	6.6732	2.4673	5.6400e-003		0.2888	0.2888		0.2657	0.2657		568.0309	568.0309	0.1768		571.7444
Total	**0.5584**	**6.6732**	**2.4673**	**5.6400e-003**		**0.2888**	**0.2888**		**0.2657**	**0.2657**		**568.0309**	**568.0309**	**0.1768**		**571.7444**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0377	0.3177	0.3859	9.6000e-004	0.0267	4.8600e-003	0.0316	7.6300e-003	4.4700e-003	0.0121		93.1452	93.1452	7.2000e-004		93.1602
Worker	0.1309	0.1602	1.8673	4.6700e-003	0.3772	2.8500e-003	0.3801	0.1001	2.6300e-003	0.1027		363.3578	363.3578	0.0173		363.7205
Total	**0.1687**	**0.4779**	**2.2533**	**5.6300e-003**	**0.4039**	**7.7100e-003**	**0.4116**	**0.1077**	**7.1000e-003**	**0.1148**		**456.5030**	**456.5030**	**0.0180**		**456.8807**

3.8 Drainage-Bike Path - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2661	2.6297	2.3367	3.1100e-003		0.1863	0.1863		0.1714	0.1714		312.7760	312.7760	0.0974		314.8208
Total	**0.2661**	**2.6297**	**2.3367**	**3.1100e-003**		**0.1863**	**0.1863**		**0.1714**	**0.1714**		**312.7760**	**312.7760**	**0.0974**		**314.8208**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

Vendor	0.0377	0.3177	0.3859	9.6000e-004	0.0267	4.8600e-003	0.0316	7.6300e-003	4.4700e-003	0.0121		93.1452	93.1452	7.2000e-004		93.1602
Worker	0.1309	0.1602	1.8673	4.6700e-003	0.3772	2.8500e-003	0.3801	0.1001	2.6300e-003	0.1027		363.3578	363.3578	0.0173		363.7205
Total	**0.1687**	**0.4779**	**2.2533**	**5.6300e-003**	**0.4039**	**7.7100e-003**	**0.4116**	**0.1077**	**7.1000e-003**	**0.1148**		**456.5030**	**456.5030**	**0.0180**		**456.8807**

3.9 Signals Lighting-Bike Path - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2869	2.3346	2.1268	3.7300e-003		0.1487	0.1487		0.1487	0.1487		353.6142	353.6142	0.0255		354.1500
Total	**0.2869**	**2.3346**	**2.1268**	**3.7300e-003**		**0.1487**	**0.1487**		**0.1487**	**0.1487**		**353.6142**	**353.6142**	**0.0255**		**354.1500**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0377	0.3177	0.3859	9.6000e-004	0.0267	4.8600e-003	0.0316	7.6300e-003	4.4700e-003	0.0121		93.1452	93.1452	7.2000e-004		93.1602
Worker	0.1309	0.1602	1.8673	4.6700e-003	0.3772	2.8500e-003	0.3801	0.1001	2.6300e-003	0.1027		363.3578	363.3578	0.0173		363.7205
Total	**0.1687**	**0.4779**	**2.2533**	**5.6300e-003**	**0.4039**	**7.7100e-003**	**0.4116**	**0.1077**	**7.1000e-003**	**0.1148**		**456.5030**	**456.5030**	**0.0180**		**456.8807**

3.10 Paving-Bike Path - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5715	5.9631	4.7495	7.1400e-003		0.3411	0.3411		0.3138	0.3138		718.8418	718.8418	0.2238		723.5413
Paving	0.0838					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6554**	**5.9631**	**4.7495**	**7.1400e-003**		**0.3411**	**0.3411**		**0.3138**	**0.3138**		**718.8418**	**718.8418**	**0.2238**		**723.5413**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0377	0.3177	0.3859	9.6000e-004	0.0267	4.8600e-003	0.0316	7.6300e-003	4.4700e-003	0.0121		93.1452	93.1452	7.2000e-004		93.1602
Worker	0.1309	0.1602	1.8673	4.6700e-003	0.3772	2.8500e-003	0.3801	0.1001	2.6300e-003	0.1027		363.3578	363.3578	0.0173		363.7205
Total	**0.1687**	**0.4779**	**2.2533**	**5.6300e-003**	**0.4039**	**7.7100e-003**	**0.4116**	**0.1077**	**7.1000e-003**	**0.1148**		**456.5030**	**456.5030**	**0.0180**		**456.8807**

3.11 Landscaping-Bike Path - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2869	2.3346	2.1268	3.7300e-003		0.1487	0.1487		0.1487	0.1487		353.6142	353.6142	0.0255		354.1500

Paving	0.0838					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.3707**	**2.3346**	**2.1268**	**3.7300e-003**		**0.1487**	**0.1487**		**0.1487**	**0.1487**		**353.6142**	**353.6142**	**0.0255**		**354.1500**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0377	0.3177	0.3859	9.6000e-004	0.0267	4.8600e-003	0.0316	7.6300e-003	4.4700e-003	0.0121		93.1452	93.1452	7.2000e-004		93.1602
Worker	0.1309	0.1602	1.8673	4.6700e-003	0.3772	2.8500e-003	0.3801	0.1001	2.6300e-003	0.1027		363.3578	363.3578	0.0173		363.7205
Total	**0.1687**	**0.4779**	**2.2533**	**5.6300e-003**	**0.4039**	**7.7100e-003**	**0.4116**	**0.1077**	**7.1000e-003**	**0.1148**		**456.5030**	**456.5030**	**0.0180**		**456.8807**

3.12 Demolition-Parking Lot - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.2518	0.0000	1.2518	0.1895	0.0000	0.1895			0.0000			0.0000
Off-Road	0.5530	4.9643	4.4635	6.8400e-003		0.3350	0.3350		0.3201	0.3201		666.3902	666.3902	0.1229		668.9707
Total	**0.5530**	**4.9643**	**4.4635**	**6.8400e-003**	**1.2518**	**0.3350**	**1.5869**	**0.1895**	**0.3201**	**0.5097**		**666.3902**	**666.3902**	**0.1229**		**668.9707**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1065	1.3194	0.9937	4.2100e-003	0.0977	0.0192	0.1169	0.0268	0.0176	0.0444		411.8261	411.8261	3.0500e-003		411.8902
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1309	0.1602	1.8673	4.6700e-003	0.3772	2.8500e-003	0.3801	0.1001	2.6300e-003	0.1027		363.3578	363.3578	0.0173		363.7205
Total	**0.2375**	**1.4796**	**2.8610**	**8.8800e-003**	**0.4749**	**0.0220**	**0.4969**	**0.1268**	**0.0203**	**0.1471**		**775.1839**	**775.1839**	**0.0203**		**775.6107**

3.13 Grading-Parking Lot - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0159	0.0000	0.0159	1.7200e-003	0.0000	1.7200e-003			0.0000			0.0000
Off-Road	0.2661	2.6297	2.3367	3.1100e-003		0.1863	0.1863		0.1714	0.1714		312.7760	312.7760	0.0974		314.8208
Total	**0.2661**	**2.6297**	**2.3367**	**3.1100e-003**	**0.0159**	**0.1863**	**0.2022**	**1.7200e-003**	**0.1714**	**0.1731**		**312.7760**	**312.7760**	**0.0974**		**314.8208**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

Worker	0.1309	0.1602	1.8673	4.6700e-003	0.3772	2.8500e-003	0.3801	0.1001	2.6300e-003	0.1027		363.3578	363.3578	0.0173		363.7205
Total	**0.1309**	**0.1602**	**1.8673**	**4.6700e-003**	**0.3772**	**2.8500e-003**	**0.3801**	**0.1001**	**2.6300e-003**	**0.1027**		**363.3578**	**363.3578**	**0.0173**		**363.7205**

3.14 Drainage-Parking Lot - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2661	2.6297	2.3367	3.1100e-003		0.1863	0.1863		0.1714	0.1714		312.7760	312.7760	0.0974		314.8208
Total	**0.2661**	**2.6297**	**2.3367**	**3.1100e-003**		**0.1863**	**0.1863**		**0.1714**	**0.1714**		**312.7760**	**312.7760**	**0.0974**		**314.8208**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0377	0.3177	0.3859	9.6000e-004	0.0267	4.8600e-003	0.0316	7.6300e-003	4.4700e-003	0.0121		93.1452	93.1452	7.2000e-004		93.1602
Worker	0.1309	0.1602	1.8673	4.6700e-003	0.3772	2.8500e-003	0.3801	0.1001	2.6300e-003	0.1027		363.3578	363.3578	0.0173		363.7205
Total	**0.1687**	**0.4779**	**2.2533**	**5.6300e-003**	**0.4039**	**7.7100e-003**	**0.4116**	**0.1077**	**7.1000e-003**	**0.1148**		**456.5030**	**456.5030**	**0.0180**		**456.8807**

3.14 Drainage-Parking Lot - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day										lb/day					
Off-Road	0.2328	2.3374	2.3027	3.1100e-003		0.1560	0.1560		0.1436	0.1436		307.5419	307.5419	0.0973		309.5852
Total	**0.2328**	**2.3374**	**2.3027**	**3.1100e-003**		**0.1560**	**0.1560**		**0.1436**	**0.1436**		**307.5419**	**307.5419**	**0.0973**		**309.5852**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0347	0.2900	0.3598	9.6000e-004	0.0267	4.5100e-003	0.0312	7.6300e-003	4.1500e-003	0.0118		91.5370	91.5370	7.0000e-004		91.5516
Worker	0.1196	0.1460	1.7021	4.6700e-003	0.3772	2.7800e-003	0.3800	0.1001	2.5800e-003	0.1026		350.3409	350.3409	0.0161		350.6782
Total	**0.1543**	**0.4359**	**2.0619**	**5.6300e-003**	**0.4039**	**7.2900e-003**	**0.4112**	**0.1077**	**6.7300e-003**	**0.1144**		**441.8779**	**441.8779**	**0.0168**		**442.2298**

3.15 Paving-Parking Lot - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4403	4.5897	4.1102	6.2500e-003		0.2577	0.2577		0.2370	0.2370		618.8684	618.8684	0.1958		622.9803
Paving	0.1677					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6080**	**4.5897**	**4.1102**	**6.2500e-003**		**0.2577**	**0.2577**		**0.2370**	**0.2370**		**618.8684**	**618.8684**	**0.1958**		**622.9803**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0347	0.2900	0.3598	9.6000e-004	0.0267	4.5100e-003	0.0312	7.6300e-003	4.1500e-003	0.0118		91.5370	91.5370	7.0000e-004		91.5516
Worker	0.1196	0.1460	1.7021	4.6700e-003	0.3772	2.7800e-003	0.3800	0.1001	2.5800e-003	0.1026		350.3409	350.3409	0.0161		350.6782
Total	**0.1543**	**0.4359**	**2.0619**	**5.6300e-003**	**0.4039**	**7.2900e-003**	**0.4112**	**0.1077**	**6.7300e-003**	**0.1144**		**441.8779**	**441.8779**	**0.0168**		**442.2298**

3.16 Lighting-Parking Lot - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2520	2.1442	2.1131	3.7300e-003		0.1282	0.1282		0.1282	0.1282		353.6142	353.6142	0.0224		354.0846
Total	**0.2520**	**2.1442**	**2.1131**	**3.7300e-003**		**0.1282**	**0.1282**		**0.1282**	**0.1282**		**353.6142**	**353.6142**	**0.0224**		**354.0846**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0347	0.2900	0.3598	9.6000e-004	0.0267	4.5100e-003	0.0312	7.6300e-003	4.1500e-003	0.0118		91.5370	91.5370	7.0000e-004		91.5516

Worker	0.1196	0.1460	1.7021	4.6700e-003	0.3772	2.7800e-003	0.3800	0.1001	2.5800e-003	0.1026		350.3409	350.3409	0.0161		350.6782
Total	**0.1543**	**0.4359**	**2.0619**	**5.6300e-003**	**0.4039**	**7.2900e-003**	**0.4112**	**0.1077**	**6.7300e-003**	**0.1144**		**441.8779**	**441.8779**	**0.0168**		**442.2298**

3.17 Landscaping-Parking Lot - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2520	2.1442	2.1131	3.7300e-003		0.1282	0.1282		0.1282	0.1282		353.6142	353.6142	0.0224		354.0846
Paving	0.0838					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.3358**	**2.1442**	**2.1131**	**3.7300e-003**		**0.1282**	**0.1282**		**0.1282**	**0.1282**		**353.6142**	**353.6142**	**0.0224**		**354.0846**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0347	0.2900	0.3598	9.6000e-004	0.0267	4.5100e-003	0.0312	7.6300e-003	4.1500e-003	0.0118		91.5370	91.5370	7.0000e-004		91.5516
Worker	0.1196	0.1460	1.7021	4.6700e-003	0.3772	2.7800e-003	0.3800	0.1001	2.5800e-003	0.1026		350.3409	350.3409	0.0161		350.6782
Total	**0.1543**	**0.4359**	**2.0619**	**5.6300e-003**	**0.4039**	**7.2900e-003**	**0.4112**	**0.1077**	**6.7300e-003**	**0.1144**		**441.8779**	**441.8779**	**0.0168**		**442.2298**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	7.7365	19.7072	71.9554	0.1779	11.3869	0.2882	11.6750	3.0505	0.2655	3.3160		14,412.7908	14,412.7908	0.4893		14,423.0661
Unmitigated	7.7365	19.7072	71.9554	0.1779	11.3869	0.2882	11.6750	3.0505	0.2655	3.3160		14,412.7908	14,412.7908	0.4893		14,423.0661

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	550.00	2,500.00	2500.00	2,363,587	2,363,587
Total	550.00	2,500.00	2,500.00	2,363,587	2,363,587

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Parking Lot	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.542590	0.062129	0.167184	0.110637	0.030730	0.004573	0.019109	0.050292	0.001784	0.003671	0.005678	0.000201	0.001421

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	6.9200e-003	1.0000e-004	0.0103	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0219	0.0219	6.0000e-005		0.0231
Unmitigated	6.9200e-003	1.0000e-004	0.0103	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0219	0.0219	6.0000e-005		0.0231

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

SubCategory	lb/day										lb/day					
Consumer Products	5.9400e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	9.8000e-004	1.0000e-004	0.0103	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0219	0.0219	6.0000e-005		0.0231
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**6.9200e-003**	**1.0000e-004**	**0.0103**	**0.0000**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**		**0.0219**	**0.0219**	**6.0000e-005**		**0.0231**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

Gateway Bike Path - Construction and Operation Emissions

Alameda County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	100.00	Space	0.64	27,750.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	63
Climate Zone	5			**Operational Year**	2019
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	444.62	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Update with PG&E 2012 CO2 Emission Rates (Climate Registry 2014).

Demolition - 1,700 cy of export from path and 900 of export from parking lot, assume 1.3 tons/cy.

Vehicle Trips - Assume 550 trips/day on weekday and 2,500 trips/day on weekend. Use trip lengths and types for City Park land use.

Consumer Products - No consumer products related to parking lot.

Area Coating - No building in praking lot.

Energy Use - Lighting for path and parking lot is assumed to use about 200 kWh/evening (73,000 kWh/year).

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	0.1415	1.0429	1.1533	2.1700e-003	0.0962	0.0622	0.1583	0.0230	0.0603	0.0833	0.0000	179.2664	179.2664	0.0181	0.0000	179.6464
2018	0.1059	0.8791	0.8879	1.8000e-003	0.0815	0.0445	0.1260	0.0203	0.0417	0.0620	0.0000	147.0657	147.0657	0.0220	0.0000	147.5283
2019	0.0143	0.0901	0.1342	2.8000e-004	0.0115	4.7700e-003	0.0162	3.0700e-003	4.5900e-003	7.6600e-003	0.0000	21.6198	21.6198	2.1400e-003	0.0000	21.6647
Total	**0.2618**	**2.0120**	**2.1754**	**4.2500e-003**	**0.1891**	**0.1114**	**0.3005**	**0.0463**	**0.1066**	**0.1529**	**0.0000**	**347.9519**	**347.9519**	**0.0423**	**0.0000**	**348.8394**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.1700e-003	1.0000e-005	9.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7900e-003	1.7900e-003	0.0000	0.0000	1.8900e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	14.7188	14.7188	9.6000e-004	2.0000e-004	14.8006
Mobile	0.6091	1.6791	6.3905	0.0136	0.8841	0.0233	0.9073	0.2376	0.0214	0.2590	0.0000	1,001.3813	1,001.3813	0.0358	0.0000	1,002.1325
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.6103**	**1.6792**	**6.3914**	**0.0136**	**0.8841**	**0.0233**	**0.9073**	**0.2376**	**0.0214**	**0.2590**	**0.0000**	**1,016.1020**	**1,016.1020**	**0.0367**	**2.0000e-004**	**1,016.9349**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition-Bike Path	Demolition	3/1/2017	4/25/2017	5	40	
2	Site Preparation-Bike Path	Site Preparation	4/1/2017	5/28/2017	5	40	
3	Grading-Bike Path	Grading	5/1/2017	6/25/2017	5	40	
4	Footings-Bike Path	Trenching	7/1/2017	12/15/2017	5	120	
5	Columns-Bike Path	Trenching	9/1/2017	2/15/2018	5	120	
6	Bridge-Bike Path	Trenching	11/1/2017	6/12/2018	5	160	
7	Drainage-Bike Path	Trenching	3/1/2018	5/23/2018	5	60	
8	Signals Lighting-Bike Path	Building Construction	5/1/2018	5/28/2018	5	20	
9	Paving-Bike Path	Paving	6/1/2018	6/28/2018	5	20	
10	Landscaping-Bike Path	Paving	8/1/2018	8/28/2018	5	20	
11	Demolition-Parking Lot	Demolition	9/1/2018	9/28/2018	5	20	
12	Grading-Parking Lot	Site Preparation	10/1/2018	11/23/2018	5	40	
13	Drainage-Parking Lot	Trenching	12/1/2018	1/12/2019	5	30	
14	Paving-Parking Lot	Paving	2/1/2019	2/14/2019	5	10	
15	Lighting-Parking Lot	Building Construction	3/1/2019	3/28/2019	5	20	
16	Landscaping-Parking Lot	Paving	4/1/2019	4/28/2019	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition-Bike Path	Concrete/Industrial Saws	0	8.00	81	0.73

Demolition-Bike Path	Generator Sets	1	8.00	84	0.42
Demolition-Bike Path	Rubber Tired Dozers	0	1.00	255	0.40
Demolition-Bike Path	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation-Bike Path	Graders	0	8.00	174	0.41
Site Preparation-Bike Path	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading-Bike Path	Concrete/Industrial Saws	0	8.00	81	0.73
Grading-Bike Path	Rubber Tired Dozers	0	1.00	255	0.40
Grading-Bike Path	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Footings-Bike Path	Generator Sets	1	8.00	84	0.42
Footings-Bike Path	Pumps	1	8.00	84	0.42
Columns-Bike Path	Generator Sets	1	8.00	84	0.42
Columns-Bike Path	Pumps	1	8.00	84	0.42
Bridge-Bike Path	Cranes	1	8.00	226	0.29
Drainage-Bike Path	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Signals Lighting-Bike Path	Cranes	0	4.00	226	0.29
Signals Lighting-Bike Path	Forklifts	0	6.00	89	0.20
Signals Lighting-Bike Path	Generator Sets	1	8.00	84	0.42
Signals Lighting-Bike Path	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Paving-Bike Path	Cement and Mortar Mixers	0	6.00	9	0.56
Paving-Bike Path	Pavers	1	8.00	125	0.42
Paving-Bike Path	Rollers	1	8.00	80	0.38
Paving-Bike Path	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Landscaping-Bike Path	Cement and Mortar Mixers	0	6.00	9	0.56
Landscaping-Bike Path	Generator Sets	1	8.00	84	0.42
Landscaping-Bike Path	Pavers	0	7.00	125	0.42
Landscaping-Bike Path	Rollers	0	7.00	80	0.38
Landscaping-Bike Path	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Demolition-Parking Lot	Concrete/Industrial Saws	0	8.00	81	0.73

Demolition-Parking Lot	Generator Sets	1	8.00	84	0.42
Demolition-Parking Lot	Rubber Tired Dozers	0	1.00	255	0.40
Demolition-Parking Lot	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading-Parking Lot	Graders	0	8.00	174	0.41
Grading-Parking Lot	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Drainage-Parking Lot	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving-Parking Lot	Cement and Mortar Mixers	0	6.00	9	0.56
Paving-Parking Lot	Pavers	1	7.00	125	0.42
Paving-Parking Lot	Rollers	1	7.00	80	0.38
Paving-Parking Lot	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Lighting-Parking Lot	Cranes	0	4.00	226	0.29
Lighting-Parking Lot	Forklifts	0	6.00	89	0.20
Lighting-Parking Lot	Generator Sets	1	8.00	84	0.42
Lighting-Parking Lot	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Landscaping-Parking Lot	Cement and Mortar Mixers	0	6.00	9	0.56
Landscaping-Parking Lot	Generator Sets	1	8.00	84	0.42
Landscaping-Parking Lot	Pavers	0	7.00	125	0.42
Landscaping-Parking Lot	Rollers	0	7.00	80	0.38
Landscaping-Parking Lot	Tractors/Loaders/Backhoes	0	7.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition-Bike Path	2	40.00	0.00	212.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation-Bike Path	1	40.00	4.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading-Bike Path	1	40.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Footings-Bike Path	2	40.00	4.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Columns-Bike Path	2	40.00	4.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

Bridge-Bike Path	1	40.00	4.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Drainage-Bike Path	1	40.00	4.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Signals Lighting-Bike Path	1	40.00	4.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving-Bike Path	2	40.00	4.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Landscaping-Bike Path	1	40.00	4.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Demolition-Parking Lot	2	40.00	0.00	112.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading-Parking Lot	1	40.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Drainage-Parking Lot	1	40.00	4.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving-Parking Lot	2	40.00	4.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Lighting-Parking Lot	1	40.00	4.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Landscaping-Parking Lot	1	40.00	4.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition-Bike Path - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0237	0.0000	0.0237	3.5800e-003	0.0000	3.5800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0128	0.1116	0.0907	1.4000e-004		7.9900e-003	7.9900e-003		7.6200e-003	7.6200e-003	0.0000	12.1904	12.1904	2.2900e-003	0.0000	12.2384
Total	**0.0128**	**0.1116**	**0.0907**	**1.4000e-004**	**0.0237**	**7.9900e-003**	**0.0316**	**3.5800e-003**	**7.6200e-003**	**0.0112**	**0.0000**	**12.1904**	**12.1904**	**2.2900e-003**	**0.0000**	**12.2384**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	2.2700e-003	0.0285	0.0253	8.0000e-005	1.7900e-003	3.7000e-004	2.1600e-003	4.9000e-004	3.4000e-004	8.3000e-004	0.0000	7.1893	7.1893	5.0000e-005	0.0000	7.1904
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.7100e-003	4.0500e-003	0.0388	9.0000e-005	7.2600e-003	6.0000e-005	7.3200e-003	1.9300e-003	5.0000e-005	1.9900e-003	0.0000	6.3535	6.3535	3.4000e-004	0.0000	6.3607
Total	**4.9800e-003**	**0.0326**	**0.0641**	**1.7000e-004**	**9.0500e-003**	**4.3000e-004**	**9.4800e-003**	**2.4200e-003**	**3.9000e-004**	**2.8200e-003**	**0.0000**	**13.5428**	**13.5428**	**3.9000e-004**	**0.0000**	**13.5511**

3.3 Site Preparation-Bike Path - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.3400e-003	0.0609	0.0479	6.0000e-005		4.5800e-003	4.5800e-003		4.2100e-003	4.2100e-003	0.0000	5.7745	5.7745	1.7700e-003	0.0000	5.8117
Total	**6.3400e-003**	**0.0609**	**0.0479**	**6.0000e-005**	**2.0000e-005**	**4.5800e-003**	**4.6000e-003**	**0.0000**	**4.2100e-003**	**4.2100e-003**	**0.0000**	**5.7745**	**5.7745**	**1.7700e-003**	**0.0000**	**5.8117**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.0000e-004	7.2500e-003	0.0110	2.0000e-005	5.2000e-004	1.1000e-004	6.2000e-004	1.5000e-004	1.0000e-004	2.5000e-004	0.0000	1.7141	1.7141	1.0000e-005	0.0000	1.7144
Worker	2.7100e-003	4.0500e-003	0.0388	9.0000e-005	7.2600e-003	6.0000e-005	7.3200e-003	1.9300e-003	5.0000e-005	1.9900e-003	0.0000	6.3535	6.3535	3.4000e-004	0.0000	6.3607
Total	**3.6100e-003**	**0.0113**	**0.0498**	**1.1000e-004**	**7.7800e-003**	**1.7000e-004**	**7.9400e-003**	**2.0800e-003**	**1.5000e-004**	**2.2400e-003**	**0.0000**	**8.0676**	**8.0676**	**3.5000e-004**	**0.0000**	**8.0751**

3.4 Grading-Bike Path - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.3400e-003	0.0609	0.0479	6.0000e-005		4.5800e-003	4.5800e-003		4.2100e-003	4.2100e-003	0.0000	5.7745	5.7745	1.7700e-003	0.0000	5.8117
Total	**6.3400e-003**	**0.0609**	**0.0479**	**6.0000e-005**	**0.0000**	**4.5800e-003**	**4.5800e-003**	**0.0000**	**4.2100e-003**	**4.2100e-003**	**0.0000**	**5.7745**	**5.7745**	**1.7700e-003**	**0.0000**	**5.8117**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.7100e-003	4.0500e-003	0.0388	9.0000e-005	7.2600e-003	6.0000e-005	7.3200e-003	1.9300e-003	5.0000e-005	1.9900e-003	0.0000	6.3535	6.3535	3.4000e-004	0.0000	6.3607
Total	**2.7100e-003**	**4.0500e-003**	**0.0388**	**9.0000e-005**	**7.2600e-003**	**6.0000e-005**	**7.3200e-003**	**1.9300e-003**	**5.0000e-005**	**1.9900e-003**	**0.0000**	**6.3535**	**6.3535**	**3.4000e-004**	**0.0000**	**6.3607**

3.5 Footings-Bike Path - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Off-Road	0.0398	0.3064	0.2590	4.5000e-004		0.0209	0.0209		0.0209	0.0209	0.0000	38.4952	38.4952	3.2200e-003	0.0000	38.5628
Total	**0.0398**	**0.3064**	**0.2590**	**4.5000e-004**		**0.0209**	**0.0209**		**0.0209**	**0.0209**	**0.0000**	**38.4952**	**38.4952**	**3.2200e-003**	**0.0000**	**38.5628**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7000e-003	0.0217	0.0330	6.0000e-005	1.5500e-003	3.2000e-004	1.8700e-003	4.5000e-004	2.9000e-004	7.4000e-004	0.0000	5.1423	5.1423	4.0000e-005	0.0000	5.1432
Worker	8.1300e-003	0.0122	0.1165	2.6000e-004	0.0218	1.8000e-004	0.0220	5.7900e-003	1.6000e-004	5.9600e-003	0.0000	19.0605	19.0605	1.0200e-003	0.0000	19.0820
Total	**0.0108**	**0.0339**	**0.1495**	**3.2000e-004**	**0.0233**	**5.0000e-004**	**0.0238**	**6.2400e-003**	**4.5000e-004**	**6.7000e-003**	**0.0000**	**24.2028**	**24.2028**	**1.0600e-003**	**0.0000**	**24.2252**

3.6 Columns-Bike Path - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0285	0.2196	0.1856	3.2000e-004		0.0150	0.0150		0.0150	0.0150	0.0000	27.5882	27.5882	2.3100e-003	0.0000	27.6367
Total	**0.0285**	**0.2196**	**0.1856**	**3.2000e-004**		**0.0150**	**0.0150**		**0.0150**	**0.0150**	**0.0000**	**27.5882**	**27.5882**	**2.3100e-003**	**0.0000**	**27.6367**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.9300e-003	0.0156	0.0236	4.0000e-005	1.1100e-003	2.3000e-004	1.3400e-003	3.2000e-004	2.1000e-004	5.3000e-004	0.0000	3.6853	3.6853	3.0000e-005	0.0000	3.6860
Worker	5.8300e-003	8.7100e-003	0.0835	1.9000e-004	0.0156	1.3000e-004	0.0157	4.1500e-003	1.2000e-004	4.2700e-003	0.0000	13.6600	13.6600	7.3000e-004	0.0000	13.6754
Total	**7.7600e-003**	**0.0243**	**0.1071**	**2.3000e-004**	**0.0167**	**3.6000e-004**	**0.0171**	**4.4700e-003**	**3.3000e-004**	**4.8000e-003**	**0.0000**	**17.3454**	**17.3454**	**7.6000e-004**	**0.0000**	**17.3614**

3.6 Columns-Bike Path - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0100	0.0800	0.0729	1.3000e-004		5.1900e-003	5.1900e-003		5.1900e-003	5.1900e-003	0.0000	10.9070	10.9070	8.1000e-004	0.0000	10.9239
Total	**0.0100**	**0.0800**	**0.0729**	**1.3000e-004**		**5.1900e-003**	**5.1900e-003**		**5.1900e-003**	**5.1900e-003**	**0.0000**	**10.9070**	**10.9070**	**8.1000e-004**	**0.0000**	**10.9239**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.2000e-004	5.5800e-003	8.9500e-003	2.0000e-005	4.4000e-004	8.0000e-005	5.2000e-004	1.3000e-004	8.0000e-005	2.0000e-004	0.0000	1.4319	1.4319	1.0000e-005	0.0000	1.4321
Worker	2.0400e-003	3.1000e-003	0.0294	7.0000e-005	6.1700e-003	5.0000e-005	6.2200e-003	1.6400e-003	4.0000e-005	1.6900e-003	0.0000	5.1999	5.1999	2.7000e-004	0.0000	5.2055
Total	**2.7600e-003**	**8.6800e-003**	**0.0384**	**9.0000e-005**	**6.6100e-003**	**1.3000e-004**	**6.7400e-003**	**1.7700e-003**	**1.2000e-004**	**1.8900e-003**	**0.0000**	**6.6318**	**6.6318**	**2.8000e-004**	**0.0000**	**6.6376**

3.7 Bridge-Bike Path - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0139	0.1654	0.0593	1.2000e-004		7.3700e-003	7.3700e-003		6.7800e-003	6.7800e-003	0.0000	11.2587	11.2587	3.4500e-003	0.0000	11.3312
Total	**0.0139**	**0.1654**	**0.0593**	**1.2000e-004**		**7.3700e-003**	**7.3700e-003**		**6.7800e-003**	**6.7800e-003**	**0.0000**	**11.2587**	**11.2587**	**3.4500e-003**	**0.0000**	**11.3312**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.7000e-004	7.7900e-003	0.0118	2.0000e-005	5.6000e-004	1.1000e-004	6.7000e-004	1.6000e-004	1.0000e-004	2.6000e-004	0.0000	1.8427	1.8427	1.0000e-005	0.0000	1.8430
Worker	2.9100e-003	4.3500e-003	0.0418	9.0000e-005	7.8100e-003	6.0000e-005	7.8700e-003	2.0800e-003	6.0000e-005	2.1300e-003	0.0000	6.8300	6.8300	3.7000e-004	0.0000	6.8377
Total	**3.8800e-003**	**0.0121**	**0.0536**	**1.1000e-004**	**8.3700e-003**	**1.7000e-004**	**8.5400e-003**	**2.2400e-003**	**1.6000e-004**	**2.3900e-003**	**0.0000**	**8.6727**	**8.6727**	**3.8000e-004**	**0.0000**	**8.6807**

3.7 Bridge-Bike Path - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Off-Road	0.0327	0.3904	0.1443	3.3000e-004		0.0169	0.0169		0.0155	0.0155	0.0000	30.1456	30.1456	9.3800e-003	0.0000	30.3427
Total	**0.0327**	**0.3904**	**0.1443**	**3.3000e-004**		**0.0169**	**0.0169**		**0.0155**	**0.0155**	**0.0000**	**30.1456**	**30.1456**	**9.3800e-003**	**0.0000**	**30.3427**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.4800e-003	0.0192	0.0308	6.0000e-005	1.5100e-003	2.9000e-004	1.8000e-003	4.3000e-004	2.6000e-004	7.0000e-004	0.0000	4.9274	4.9274	4.0000e-005	0.0000	4.9282
Worker	7.0300e-003	0.0107	0.1013	2.5000e-004	0.0212	1.7000e-004	0.0214	5.6500e-003	1.5000e-004	5.8000e-003	0.0000	17.8938	17.8938	9.2000e-004	0.0000	17.9130
Total	**9.5100e-003**	**0.0299**	**0.1321**	**3.1000e-004**	**0.0228**	**4.6000e-004**	**0.0232**	**6.0800e-003**	**4.1000e-004**	**6.5000e-003**	**0.0000**	**22.8212**	**22.8212**	**9.6000e-004**	**0.0000**	**22.8412**

3.8 Drainage-Bike Path - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.9800e-003	0.0789	0.0701	9.0000e-005		5.5900e-003	5.5900e-003		5.1400e-003	5.1400e-003	0.0000	8.5124	8.5124	2.6500e-003	0.0000	8.5680
Total	**7.9800e-003**	**0.0789**	**0.0701**	**9.0000e-005**		**5.5900e-003**	**5.5900e-003**		**5.1400e-003**	**5.1400e-003**	**0.0000**	**8.5124**	**8.5124**	**2.6500e-003**	**0.0000**	**8.5680**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.2700e-003	9.8500e-003	0.0158	3.0000e-005	7.8000e-004	1.5000e-004	9.2000e-004	2.2000e-004	1.3000e-004	3.6000e-004	0.0000	2.5269	2.5269	2.0000e-005	0.0000	2.5273
Worker	3.6100e-003	5.4600e-003	0.0520	1.3000e-004	0.0109	9.0000e-005	0.0110	2.9000e-003	8.0000e-005	2.9800e-003	0.0000	9.1763	9.1763	4.7000e-004	0.0000	9.1862
Total	**4.8800e-003**	**0.0153**	**0.0678**	**1.6000e-004**	**0.0117**	**2.4000e-004**	**0.0119**	**3.1200e-003**	**2.1000e-004**	**3.3400e-003**	**0.0000**	**11.7032**	**11.7032**	**4.9000e-004**	**0.0000**	**11.7135**

3.9 Signals Lighting-Bike Path - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.8700e-003	0.0234	0.0213	4.0000e-005		1.4900e-003	1.4900e-003		1.4900e-003	1.4900e-003	0.0000	3.2079	3.2079	2.3000e-004	0.0000	3.2128
Total	**2.8700e-003**	**0.0234**	**0.0213**	**4.0000e-005**		**1.4900e-003**	**1.4900e-003**		**1.4900e-003**	**1.4900e-003**	**0.0000**	**3.2079**	**3.2079**	**2.3000e-004**	**0.0000**	**3.2128**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.2000e-004	3.2800e-003	5.2600e-003	1.0000e-005	2.6000e-004	5.0000e-005	3.1000e-004	7.0000e-005	4.0000e-005	1.2000e-004	0.0000	0.8423	0.8423	1.0000e-005	0.0000	0.8424
Worker	1.2000e-003	1.8200e-003	0.0173	4.0000e-005	3.6300e-003	3.0000e-005	3.6600e-003	9.7000e-004	3.0000e-005	9.9000e-004	0.0000	3.0588	3.0588	1.6000e-004	0.0000	3.0621
Total	**1.6200e-003**	**5.1000e-003**	**0.0226**	**5.0000e-005**	**3.8900e-003**	**8.0000e-005**	**3.9700e-003**	**1.0400e-003**	**7.0000e-005**	**1.1100e-003**	**0.0000**	**3.9011**	**3.9011**	**1.7000e-004**	**0.0000**	**3.9045**

3.10 Paving-Bike Path - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.7200e-003	0.0596	0.0475	7.0000e-005		3.4100e-003	3.4100e-003		3.1400e-003	3.1400e-003	0.0000	6.5212	6.5212	2.0300e-003	0.0000	6.5639
Paving	8.4000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.5600e-003**	**0.0596**	**0.0475**	**7.0000e-005**		**3.4100e-003**	**3.4100e-003**		**3.1400e-003**	**3.1400e-003**	**0.0000**	**6.5212**	**6.5212**	**2.0300e-003**	**0.0000**	**6.5639**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.2000e-004	3.2800e-003	5.2600e-003	1.0000e-005	2.6000e-004	5.0000e-005	3.1000e-004	7.0000e-005	4.0000e-005	1.2000e-004	0.0000	0.8423	0.8423	1.0000e-005	0.0000	0.8424
Worker	1.2000e-003	1.8200e-003	0.0173	4.0000e-005	3.6300e-003	3.0000e-005	3.6600e-003	9.7000e-004	3.0000e-005	9.9000e-004	0.0000	3.0588	3.0588	1.6000e-004	0.0000	3.0621
Total	**1.6200e-003**	**5.1000e-003**	**0.0226**	**5.0000e-005**	**3.8900e-003**	**8.0000e-005**	**3.9700e-003**	**1.0400e-003**	**7.0000e-005**	**1.1100e-003**	**0.0000**	**3.9011**	**3.9011**	**1.7000e-004**	**0.0000**	**3.9045**

3.11 Landscaping-Bike Path - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Off-Road	2.8700e-003	0.0234	0.0213	4.0000e-005		1.4900e-003	1.4900e-003		1.4900e-003	1.4900e-003	0.0000	3.2079	3.2079	2.3000e-004	0.0000	3.2128
Paving	8.4000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.7100e-003**	**0.0234**	**0.0213**	**4.0000e-005**		**1.4900e-003**	**1.4900e-003**		**1.4900e-003**	**1.4900e-003**	**0.0000**	**3.2079**	**3.2079**	**2.3000e-004**	**0.0000**	**3.2128**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.2000e-004	3.2800e-003	5.2600e-003	1.0000e-005	2.6000e-004	5.0000e-005	3.1000e-004	7.0000e-005	4.0000e-005	1.2000e-004	0.0000	0.8423	0.8423	1.0000e-005	0.0000	0.8424
Worker	1.2000e-003	1.8200e-003	0.0173	4.0000e-005	3.6300e-003	3.0000e-005	3.6600e-003	9.7000e-004	3.0000e-005	9.9000e-004	0.0000	3.0588	3.0588	1.6000e-004	0.0000	3.0621
Total	**1.6200e-003**	**5.1000e-003**	**0.0226**	**5.0000e-005**	**3.8900e-003**	**8.0000e-005**	**3.9700e-003**	**1.0400e-003**	**7.0000e-005**	**1.1100e-003**	**0.0000**	**3.9011**	**3.9011**	**1.7000e-004**	**0.0000**	**3.9045**

3.12 Demolition-Parking Lot - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0125	0.0000	0.0125	1.9000e-003	0.0000	1.9000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.5300e-003	0.0496	0.0446	7.0000e-005		3.3500e-003	3.3500e-003		3.2000e-003	3.2000e-003	0.0000	6.0454	6.0454	1.1100e-003	0.0000	6.0688
Total	**5.5300e-003**	**0.0496**	**0.0446**	**7.0000e-005**	**0.0125**	**3.3500e-003**	**0.0159**	**1.9000e-003**	**3.2000e-003**	**5.1000e-003**	**0.0000**	**6.0454**	**6.0454**	**1.1100e-003**	**0.0000**	**6.0688**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.1600e-003	0.0137	0.0130	4.0000e-005	9.4000e-004	1.9000e-004	1.1400e-003	2.6000e-004	1.8000e-004	4.4000e-004	0.0000	3.7324	3.7324	3.0000e-005	0.0000	3.7330
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2000e-003	1.8200e-003	0.0173	4.0000e-005	3.6300e-003	3.0000e-005	3.6600e-003	9.7000e-004	3.0000e-005	9.9000e-004	0.0000	3.0588	3.0588	1.6000e-004	0.0000	3.0621
Total	**2.3600e-003**	**0.0155**	**0.0303**	**8.0000e-005**	**4.5700e-003**	**2.2000e-004**	**4.8000e-003**	**1.2300e-003**	**2.1000e-004**	**1.4300e-003**	**0.0000**	**6.7911**	**6.7911**	**1.9000e-004**	**0.0000**	**6.7950**

3.13 Grading-Parking Lot - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.2000e-004	0.0000	3.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.3200e-003	0.0526	0.0467	6.0000e-005		3.7300e-003	3.7300e-003		3.4300e-003	3.4300e-003	0.0000	5.6749	5.6749	1.7700e-003	0.0000	5.7120
Total	**5.3200e-003**	**0.0526**	**0.0467**	**6.0000e-005**	**3.2000e-004**	**3.7300e-003**	**4.0500e-003**	**3.0000e-005**	**3.4300e-003**	**3.4600e-003**	**0.0000**	**5.6749**	**5.6749**	**1.7700e-003**	**0.0000**	**5.7120**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4000e-003	3.6400e-003	0.0346	9.0000e-005	7.2600e-003	6.0000e-005	7.3200e-003	1.9300e-003	5.0000e-005	1.9800e-003	0.0000	6.1175	6.1175	3.1000e-004	0.0000	6.1241
Total	**2.4000e-003**	**3.6400e-003**	**0.0346**	**9.0000e-005**	**7.2600e-003**	**6.0000e-005**	**7.3200e-003**	**1.9300e-003**	**5.0000e-005**	**1.9800e-003**	**0.0000**	**6.1175**	**6.1175**	**3.1000e-004**	**0.0000**	**6.1241**

3.14 Drainage-Parking Lot - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.7900e-003	0.0276	0.0245	3.0000e-005		1.9600e-003	1.9600e-003		1.8000e-003	1.8000e-003	0.0000	2.9793	2.9793	9.3000e-004	0.0000	2.9988
Total	**2.7900e-003**	**0.0276**	**0.0245**	**3.0000e-005**		**1.9600e-003**	**1.9600e-003**		**1.8000e-003**	**1.8000e-003**	**0.0000**	**2.9793**	**2.9793**	**9.3000e-004**	**0.0000**	**2.9988**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.4000e-004	3.4500e-003	5.5300e-003	1.0000e-005	2.7000e-004	5.0000e-005	3.2000e-004	8.0000e-005	5.0000e-005	1.3000e-004	0.0000	0.8844	0.8844	1.0000e-005	0.0000	0.8846
Worker	1.2600e-003	1.9100e-003	0.0182	5.0000e-005	3.8100e-003	3.0000e-005	3.8400e-003	1.0100e-003	3.0000e-005	1.0400e-003	0.0000	3.2117	3.2117	1.6000e-004	0.0000	3.2152
Total	**1.7000e-003**	**5.3600e-003**	**0.0237**	**6.0000e-005**	**4.0800e-003**	**8.0000e-005**	**4.1600e-003**	**1.0900e-003**	**8.0000e-005**	**1.1700e-003**	**0.0000**	**4.0961**	**4.0961**	**1.7000e-004**	**0.0000**	**4.0997**

3.14 Drainage-Parking Lot - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.0500e-003	0.0105	0.0104	1.0000e-005		7.0000e-004	7.0000e-004		6.5000e-004	6.5000e-004	0.0000	1.2555	1.2555	4.0000e-004	0.0000	1.2638
Total	**1.0500e-003**	**0.0105**	**0.0104**	**1.0000e-005**		**7.0000e-004**	**7.0000e-004**		**6.5000e-004**	**6.5000e-004**	**0.0000**	**1.2555**	**1.2555**	**4.0000e-004**	**0.0000**	**1.2638**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.7000e-004	1.3500e-003	2.2400e-003	0.0000	1.2000e-004	2.0000e-005	1.4000e-004	3.0000e-005	2.0000e-005	5.0000e-005	0.0000	0.3725	0.3725	0.0000	0.0000	0.3725
Worker	4.9000e-004	7.5000e-004	7.0700e-003	2.0000e-005	1.6300e-003	1.0000e-005	1.6500e-003	4.3000e-004	1.0000e-005	4.5000e-004	0.0000	1.3270	1.3270	7.0000e-005	0.0000	1.3284
Total	**6.6000e-004**	**2.1000e-003**	**9.3100e-003**	**2.0000e-005**	**1.7500e-003**	**3.0000e-005**	**1.7900e-003**	**4.6000e-004**	**3.0000e-005**	**5.0000e-004**	**0.0000**	**1.6995**	**1.6995**	**7.0000e-005**	**0.0000**	**1.7010**

3.15 Paving-Parking Lot - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.2000e-003	0.0230	0.0206	3.0000e-005		1.2900e-003	1.2900e-003		1.1900e-003	1.1900e-003	0.0000	2.8071	2.8071	8.9000e-004	0.0000	2.8258

Paving	8.4000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.0400e-003**	**0.0230**	**0.0206**	**3.0000e-005**		**1.2900e-003**	**1.2900e-003**		**1.1900e-003**	**1.1900e-003**	**0.0000**	**2.8071**	**2.8071**	**8.9000e-004**	**0.0000**	**2.8258**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.9000e-004	1.5000e-003	2.4900e-003	0.0000	1.3000e-004	2.0000e-005	1.5000e-004	4.0000e-005	2.0000e-005	6.0000e-005	0.0000	0.4139	0.4139	0.0000	0.0000	0.4139
Worker	5.5000e-004	8.3000e-004	7.8600e-003	2.0000e-005	1.8200e-003	1.0000e-005	1.8300e-003	4.8000e-004	1.0000e-005	5.0000e-004	0.0000	1.4745	1.4745	7.0000e-005	0.0000	1.4760
Total	**7.4000e-004**	**2.3300e-003**	**0.0104**	**2.0000e-005**	**1.9500e-003**	**3.0000e-005**	**1.9800e-003**	**5.2000e-004**	**3.0000e-005**	**5.6000e-004**	**0.0000**	**1.8884**	**1.8884**	**7.0000e-005**	**0.0000**	**1.8900**

3.16 Lighting-Parking Lot - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.5200e-003	0.0214	0.0211	4.0000e-005		1.2800e-003	1.2800e-003		1.2800e-003	1.2800e-003	0.0000	3.2079	3.2079	2.0000e-004	0.0000	3.2122
Total	**2.5200e-003**	**0.0214**	**0.0211**	**4.0000e-005**		**1.2800e-003**	**1.2800e-003**		**1.2800e-003**	**1.2800e-003**	**0.0000**	**3.2079**	**3.2079**	**2.0000e-004**	**0.0000**	**3.2122**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.9000e-004	3.0000e-003	4.9800e-003	1.0000e-005	2.6000e-004	5.0000e-005	3.0000e-004	7.0000e-005	4.0000e-005	1.2000e-004	0.0000	0.8277	0.8277	1.0000e-005	0.0000	0.8279
Worker	1.0900e-003	1.6600e-003	0.0157	4.0000e-005	3.6300e-003	3.0000e-005	3.6600e-003	9.7000e-004	3.0000e-005	9.9000e-004	0.0000	2.9490	2.9490	1.5000e-004	0.0000	2.9520
Total	**1.4800e-003**	**4.6600e-003**	**0.0207**	**5.0000e-005**	**3.8900e-003**	**8.0000e-005**	**3.9600e-003**	**1.0400e-003**	**7.0000e-005**	**1.1100e-003**	**0.0000**	**3.7767**	**3.7767**	**1.6000e-004**	**0.0000**	**3.7799**

3.17 Landscaping-Parking Lot - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.5200e-003	0.0214	0.0211	4.0000e-005		1.2800e-003	1.2800e-003		1.2800e-003	1.2800e-003	0.0000	3.2079	3.2079	2.0000e-004	0.0000	3.2122
Paving	8.4000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.3600e-003**	**0.0214**	**0.0211**	**4.0000e-005**		**1.2800e-003**	**1.2800e-003**		**1.2800e-003**	**1.2800e-003**	**0.0000**	**3.2079**	**3.2079**	**2.0000e-004**	**0.0000**	**3.2122**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.9000e-004	3.0000e-003	4.9800e-003	1.0000e-005	2.6000e-004	5.0000e-005	3.0000e-004	7.0000e-005	4.0000e-005	1.2000e-004	0.0000	0.8277	0.8277	1.0000e-005	0.0000	0.8279
Worker	1.0900e-003	1.6600e-003	0.0157	4.0000e-005	3.6300e-003	3.0000e-005	3.6600e-003	9.7000e-004	3.0000e-005	9.9000e-004	0.0000	2.9490	2.9490	1.5000e-004	0.0000	2.9520

Total	**1.4800e-003**	**4.6600e-003**	**0.0207**	**5.0000e-005**	**3.8900e-003**	**8.0000e-005**	**3.9600e-003**	**1.0400e-003**	**7.0000e-005**	**1.1100e-003**	**0.0000**	**3.7767**	**3.7767**	**1.6000e-004**	**0.0000**	**3.7799**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.6091	1.6791	6.3905	0.0136	0.8841	0.0233	0.9073	0.2376	0.0214	0.2590	0.0000	1,001.3813	1,001.3813	0.0358	0.0000	1,002.1325
Unmitigated	0.6091	1.6791	6.3905	0.0136	0.8841	0.0233	0.9073	0.2376	0.0214	0.2590	0.0000	1,001.3813	1,001.3813	0.0358	0.0000	1,002.1325

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	550.00	2,500.00	2500.00	2,363,587	2,363,587
Total	550.00	2,500.00	2,500.00	2,363,587	2,363,587

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Parking Lot	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.542590	0.062129	0.167184	0.110637	0.030730	0.004573	0.019109	0.050292	0.001784	0.003671	0.005678	0.000201	0.001421

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	14.7188	14.7188	9.6000e-004	2.0000e-004	14.8006
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	14.7188	14.7188	9.6000e-004	2.0000e-004	14.8006

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e

Land Use	kWh/yr	MT/yr			
Parking Lot	72982.5	14.7188	9.6000e-004	2.0000e-004	14.8006
Total		**14.7188**	**9.6000e-004**	**2.0000e-004**	**14.8006**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.1700e-003	1.0000e-005	9.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7900e-003	1.7900e-003	0.0000	0.0000	1.8900e-003
Unmitigated	1.1700e-003	1.0000e-005	9.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7900e-003	1.7900e-003	0.0000	0.0000	1.8900e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.0800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	9.0000e-005	1.0000e-005	9.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7900e-003	1.7900e-003	0.0000	0.0000	1.8900e-003
Total	**1.1700e-003**	**1.0000e-005**	**9.3000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.7900e-003**	**1.7900e-003**	**0.0000**	**0.0000**	**1.8900e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000

Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation