

3Roots San Diego Project  
Environmental Impact Report  
SCH No. 2018041065; Project No. 587128

Appendix C

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Air Quality Technical Report

June 2019

# 3Roots San Diego Project

## Air Quality Technical Report

June 2019 | CAH-02.01

*Prepared for:*

**Mesa Canyon Community Partners**  
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San Diego, CA 92127

*Prepared by:*

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## ACRONYMS AND ABBREVIATIONS

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$\mu\text{g}/\text{m}^3$	micrograms per cubic meter
BMPs	best management practices
BRT	bus rapid transit
CAA	Clean Air Act (Federal)
CAAQS	California Ambient Air Quality Standard
CalEEMod	California Emission Estimator Model
CalEPA	California Environmental Protection Agency
CALGreen	California Green Building Standards Code
CARB	California Air Resources Board
CCAA	California Clean Air Act
CCMP	Carroll Canyon Master Plan
CEQA	California Environmental Quality Act
City	City of San Diego
CO	carbon monoxide
County	County of San Diego
CUP	Conditional Use Permit
DPM	diesel particulate matter
°F	Fahrenheit (degrees)
g/L	grams per liter
I-	Interstate
IEM	Iowa Environmental Mesonet
IOD	Irrevocable Offer of Dedication
LOS	level of service
mph	miles per hour
NAAQS	National Ambient Air Quality Standards
NO	nitrogen oxide
NO <sub>x</sub>	oxides of nitrogen
NO <sub>2</sub>	nitrogen dioxide
O <sub>3</sub>	ozone

## ACRONYMS AND ABBREVIATIONS (cont.)

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Pb	lead
PM <sub>10</sub>	respirable particulate matter with an aerodynamic diameter of 10 microns or less
PM <sub>2.5</sub>	fine particulate matter with an aerodynamic diameter of 2.5 microns or less
ppm	parts per million
RAQS	Regional Air Quality Strategy
ROG	reactive organic gas
SANDAG	San Diego Association of Governments
SCAQMD	South Coast Air Quality Management District
SDAB	San Diego Air Basin
SDAPCD	San Diego Air Pollution Control District
SDG&E	San Diego Gas & Electric
SIP	State Implementation Plan
SO <sub>2</sub>	sulfur dioxide
SO <sub>x</sub>	oxides of sulfur
T-BACT	Toxics Best Available Control Technology
TAC	Toxic Air Contaminant
USEPA	U.S. Environmental Protection Agency
VMT	vehicle miles traveled
VOC	volatile organic compound
WRCC	Western Regional Climate Center

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## EXECUTIVE SUMMARY

This report presents an assessment of potential air quality impacts during construction and operation of the proposed 3Roots San Diego Project (Project), located in the central portion of the Mira Mesa Community Plan area the City of San Diego.

The Project would result in emissions of criteria air pollutants during construction and operation. Construction emission sources include fugitive dust, heavy construction equipment exhaust, and vehicle trips associated with workers commuting to and from the site and trucks hauling materials. In accordance with San Diego Air Pollution Control District (SDAPCD) Rule 55, fugitive dust control measures, including the use of an on-site water truck to water down active grading areas and unpaved and paved roads at least twice daily, are incorporated into the project design. Project emissions of criteria pollutants during construction would remain below SDAPCD emissions thresholds.

Operational sources of emissions include area (e.g., landscape equipment, architectural coatings, and consumer product use), on-site energy use, and transportation. A wide range of current regulatory codes, project design features, and other measures would be incorporated into future development including energy-efficiency features that would meet California Title 24 Energy Efficiency Standards. Based on the evaluation, most criteria pollutants emissions would be below screening thresholds and, therefore, less than significant. Emissions would exceed the screening-level thresholds for carbon monoxide (CO) and respirable particulate matter with an aerodynamic diameter of 10 microns or less (PM<sub>10</sub>), and would result in potentially significant impacts for air quality. Implementation of Mitigation Measure AQ-1 would reduce CO operational emissions to a level of less than significant. Although the measure would also reduce PM<sub>10</sub> area emissions, it would not do so below pounds per day thresholds. Additional dispersion modeling undertaken for PM<sub>10</sub> demonstrated that local concentrations would not exceed the state or national AAQS established to protect human health. Therefore, direct and cumulative impacts with the implementation of Mitigation Measure AQ-1 would reduce impacts to less than significant.

The Project would be consistent with air quality policies set forth by the SDAPCD as presented in the most recent Regional Air Quality Strategies (RAQS), and would not substantially alter air movement patterns.

Project-generated traffic would not result in a carbon monoxide hot spot. Construction and operation of the Project would not result in exposure of sensitive receptors to significant quantities of toxic air contaminants (TACs). In addition, evaluation of potential odors from the Project indicated that associated impacts would be less than significant. Due to the Project replacing the industrial use included in the Carroll Canyon Master Plan for the project site with a recreational use, resulting impacts are expected to be less than previously anticipated.

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# 1.0 INTRODUCTION

## 1.1 PURPOSE OF THE REPORT

This report analyzes potential air quality impacts associated with the 3Roots San Diego Project (Project). The report analyzes the potential impacts and, as appropriate, identifies measures which can be taken to avoid adverse impacts related to air quality. The analysis follows the guidelines within the City of San Diego's (City) *California Environmental Quality Act (CEQA) Significance Determination Thresholds* (City 2016).

## 1.2 PROJECT LOCATION AND BACKGROUND

The 3Roots San Diego Project (Project) would be a mixed-use community located on 413 acres in the central portion of the Mira Mesa Community Plan area in the City of San Diego (City) (Figure 1, *Regional Location*). The project site is located east of Camino Santa Fe, approximately halfway between Mira Mesa Boulevard and Miramar Road (Figure 2, *Aerial Vicinity*). The property was formerly operated as a mining site (sand and gravel). The Project is the second phase of a multi-phased plan to convert reclaimed quarry land to planned development.

## 1.3 PROJECT DESCRIPTION

### 1.3.1 Development Concept and Summary

The Project includes a 40-acre mixed-use district defined in the Master Planned Development Permit as the "Community Collective," which would include 12.7 acres of multi-family residential (RM-3-9) and 12.7 acres of commercial uses, including the proposed Mobility Hub (CC-2-4), parks, open space, and roadways; 21.1 acres of single-family residential (RX-1-2); 63.2 acres of single- and multi-family residential (RM-2-6); all connected by 45.7 acres of on-site roads and parkways. The Project would also set aside nearly 256 acres of open space, including approximately 181.3 acres of natural open space, 38.7 acres of parks and trails, and approximately 37.5 acres of slopes, enhanced landscape, dedicated brush management zones, and water quality/retention basins (Figure 3, *Proposed Site Plan* and Table 1, *Land Use Summary*).

**Table 1**  
**LAND USE SUMMARY**

Land Use	Project (acres)
Open Space	181.3
Slopes, Basins, Brush Management Zones, and Enhanced Landscape	37.5
Parks and Trails	38.7
Community Collective Commercial (CC-2-4)	12.7
Community Collective Residential (RM-3-9)	12.7
Residential (RM-2-6)	63.2
Residential (RX-1-2)	21.1
Roads and Parkways	45.7
<b>(Approximate) TOTAL</b>	<b>412.9*</b>

\* The Carroll Canyon Road extension west of Camino Santa Fe (through the Fenton Technology Park), which is a project component, mapped as part of the prior Fenton Technology Park project, includes 6.1 acres of disturbance and 4.6 acres of right-of-way dedication. These acres are not included in the above total.

### 1.3.2 CUP/Reclamation Plan Amendment

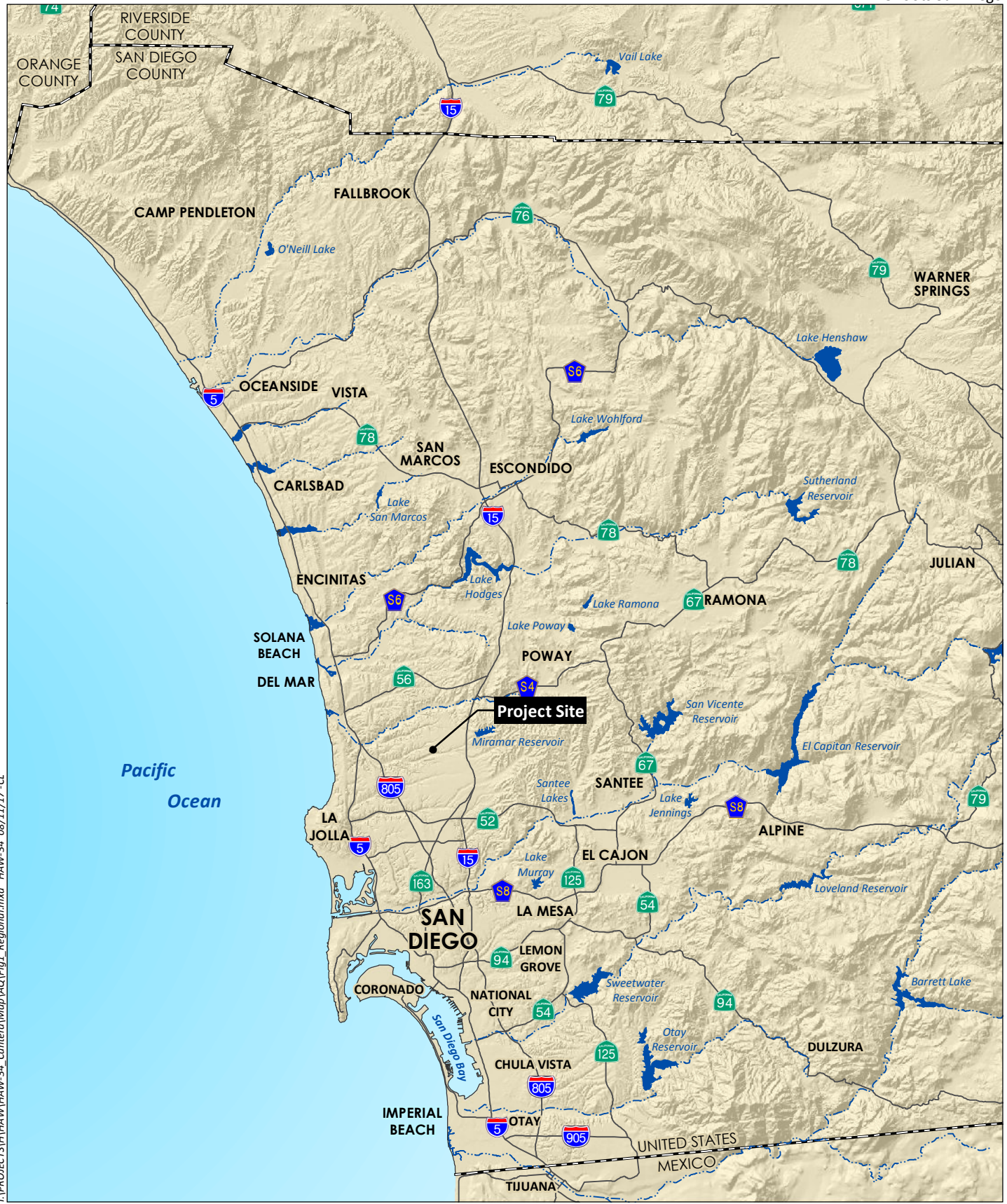
The project site has been an active aggregate mining operation and concrete processing plant since 1958. The City approved a CUP for all mining and processing activities. The CUP has been modified throughout the life of the mine to adjust the boundaries of the resource extraction area. The latest CUP was approved on September 13, 1990 (CUP 89-0585). The CUP and associated Reclamation Plan and Environmental Impact Report (EIR) identified required backfilling and re-contouring to stabilize the slopes and prepare land for future development and required the restoration and enhancement of native habitats, including Carroll Canyon Creek.

As active mining operations have ceased, the CUP for aggregate mining and processing is lapsing and will not be renewed. An amended Reclamation Plan is necessary to address changes in the site conditions and the redevelopment plans since 1990, and to complete regulatory closure of the mined lands. The amendment would modify the Reclamation Plan boundary, adjust grade elevations to align with the proposed development and revise the originally proposed road networks to match existing infrastructure and protect sensitive habitat.

### 1.3.3 SDG&E Facility Modifications

There are three SDG&E Facility Modifications (Figure 3-4, SDG&E Facility Modifications) required as a result of the Project and all three are therefore analyzed as part of the Project.

1. The existing overhead east-west double circuit 69-kV system (TL6906 and TL677) would be converted to underground and relocated along the north side of Carroll Canyon Road. The proposed conversion would tie-in on the west to the existing transmission alignment in the current SDG&E easement west at Camino Santa Fe via a steel cable pole on the northeast corner of the intersection of Camino Santa Fe and Carroll Canyon Road. On the east, the proposed conversion would rise overhead via steel cable poles south of the creek (east of the existing Fenton substation site), extend north overhead within the open space, and tie-in to the existing transmission alignment on new terminal dead-end steel poles that would continue overhead east in the current SDG&E easement.



Source: Base Map Layers (SanGIS, 2016)





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Source: Aerial (SanGIS 2014)



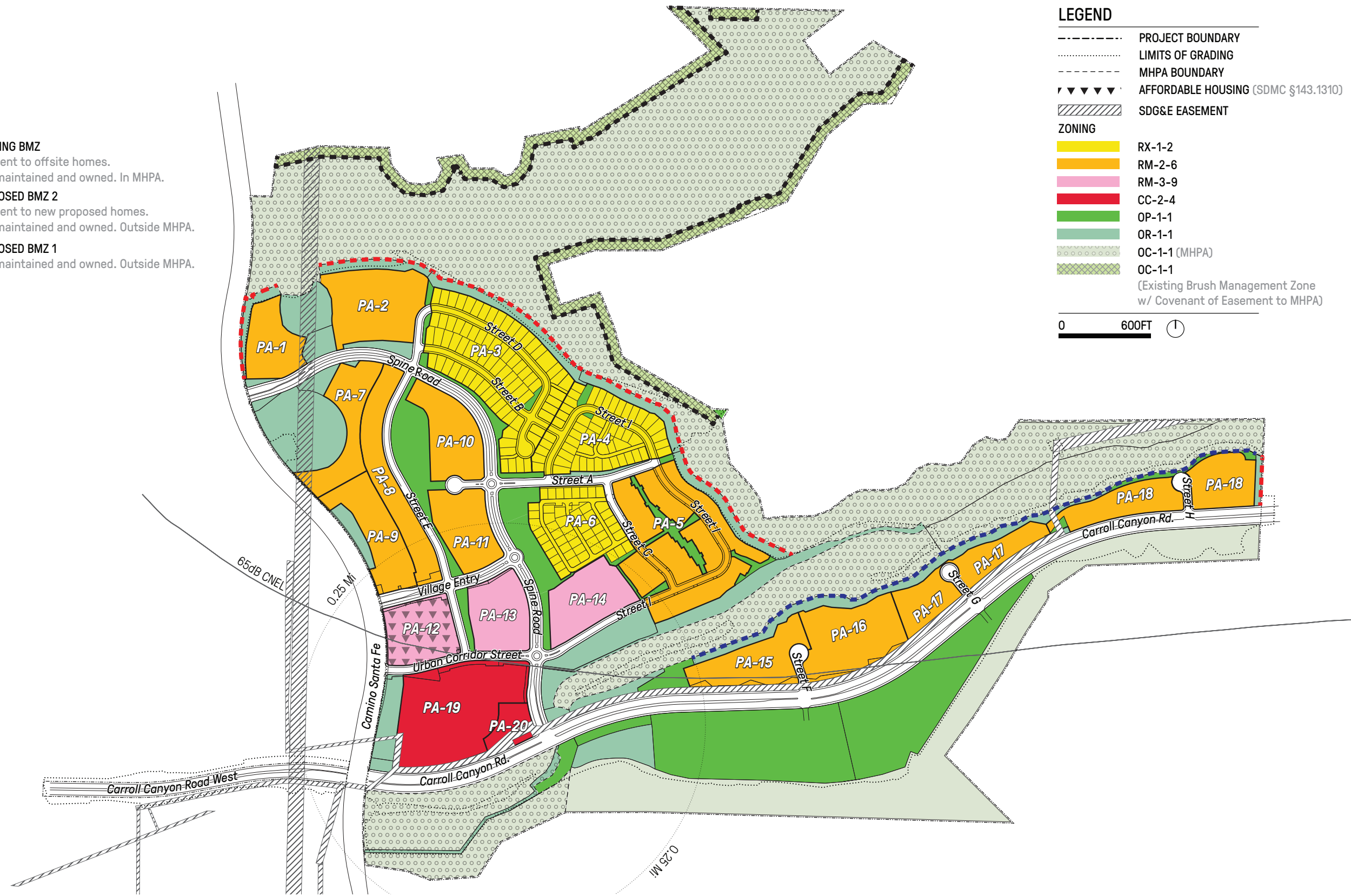
I:\PROJECTS\HAW\HAW-34\_Central\Map\Noise\Fig3\_ProposedSitePlan.indd CAH-02.01 12/19/18 CL

- BMZ**
- EXISTING BMZ**  
 Adjacent to offsite homes.  
 HOA maintained and owned. In MHPA.
  - PROPOSED BMZ 2**  
 Adjacent to new proposed homes.  
 HOA maintained and owned. Outside MHPA.
  - PROPOSED BMZ 1**  
 HOA maintained and owned. Outside MHPA.

**LEGEND**

- PROJECT BOUNDARY**
  - LIMITS OF GRADING**
  - MHPA BOUNDARY**
  - AFFORDABLE HOUSING (SDMC §143.1310)**
  - SDG&E EASEMENT**
- ZONING**
- RX-1-2**
  - RM-2-6**
  - RM-3-9**
  - CC-2-4**
  - OP-1-1**
  - OR-1-1**
  - OC-1-1 (MHPA)**
  - OC-1-1**  
 (Existing Brush Management Zone  
 w/ Covenant of Easement to MHPA)

0 600FT



Source: Placeworks 12/18

2. The existing overhead east-west single circuit 69-kV system (TL668) would be converted to underground and relocated along the north side of Carroll Canyon Road alongside the path of the double circuit 69-kV system configuration. The proposed conversion would tie-in on the west to an existing north-south transmission alignment along the west side of Camino Santa Fe via a cable pole on the southwest corner of the intersection of Camino Santa Fe and Carroll Canyon Road. On the east, the proposed conversion would rise overhead via steel cable poles south of the creek (east of the existing Fenton substation site), extend north overhead within the open space, and tie-in to the existing transmission alignment on new terminal dead-end steel poles that would continue overhead east in the current SDG&E easement. The existing overhead east-west single circuit 69-kV system (TL664) would be relocated to the south for approximately 900 feet and would be converted to underground along the south side of Carroll Canyon Road for approximately 400 feet. The proposed relocation will tie-in to the west to an existing north-south transmission alignment along Rehco Road (west of the existing 230-kV north-south corridor) in the current SDG&E transmission easement and tie-in to a north-south transmission alignment along the west of Camino Santa Fe.

The existing overhead north-south double circuit 69-kV system (TL668 and TL664) along the west of Camino Santa Fe would remain overhead with an approximately 500-foot realignment to remove the pole near the creek. The proposed realignment will tie-in to the north at the aforementioned east-west conversion proposed steel cable pole on the southwest corner of Camino Santa Fe and Carroll Canyon Road intersection and tie-in to the south with a pole replacement on the hillside in the current SDG&E transmission easement. To distribute electric service to the Project, SDG&E would convert and relocate the existing overhead 12-kV system that is attached to the 69-kV pole line as described above and converted to underground into the Carroll Canyon Road ROW. Electric distribution lines ultimately would be located underground within future the project ROWs and designated electricity corridors.

The existing SDG&E 69-kV/12-kV Fenton Substation located within the project site would be decommissioned and removed by SDG&E. This would occur after all current SDG&E customers that obtain electric service from this substation have been removed from service by SDG&E. The decommissioning would include removal of all equipment such as: three-phase transformer, regulator, steel structures, circuit breakers, capacitors, fencing, oil containment structures, pads, pylons/piers, conduit packages, cable, etc. The decommissioning and demolition of this substation is not part of the Reclamation Plan Amendment and a replacement substation is not proposed as part of the Project.

### **1.3.4 Residential Zoning**

#### **RX-1-2 (Planning Areas 3, 4, and 6)**

The Project includes a total 185 single family lots zoned as RX-1-2, with homes ranging in size from 2,500 square feet to 3,600 square feet. Lot sizes would be a minimum of 3,000 square feet in these areas with a density of 5 to 10 dwelling units per acre. These single-family detached homes would range between two and three stories with the maximum height of 42 feet.

**RM-2-6 (Planning Areas 1, 2, 5, 7-11, 15-18)**

A total of 1,006 residential units are planned within the RM-2-6 as part of the Project. Units would include a mix of single-family detached and multi-family attached condos built on a common lot, that are two and three stories with a maximum height of 40 and 45 feet, respectively. As shown on Figure 3, many of the detached homes would be located on the periphery of the proposed community and the area to the north of Carroll Canyon Road across from the proposed community park. Most of the attached homes would be located in the central portion of the Project along the western edge of the development footprint adjacent to Camino Santa Fe.

**RM-3-9 (Community Collective) (Planning Areas 12-14)**

The Community Collective would include 609 multi-family units on 12.7 acres designated as RM-3-9 which allows for maximum densities up to 73 dwelling units per acre. The contemplated product would range between 25 and 65 dwelling units per acre. Buildings would range from three to five stories high, with a maximum height of 65 feet. Parking would be included as surface lots on grade or in a structure within the residential parcel. Planning Area 13 would include approximately 16,000 square feet of live-work and retail uses in the RM-3-9 product at the ground floor to activate the street character by introducing a commercial element.

**1.3.5 Commercial Zones****CC-2-4 (Commercial Community)****Mobility Hub (Planning Area 20)**

The Mobility Hub is proposed to be a centralized multi-modal node within the Project. It would provide pick-up and drop-off staging areas for both public transportation systems (future potential bus service) as well as private multimodal transportation options such as employer shuttles and rideshare services. A bike repair, rental, and maintenance shop would also be included. Solar and non-solar electric vehicle (EV) charging stations would be provided in the Mobility Hub as well.

**Commercial and Office Uses (Planning Areas 19 and 13)**

Adjacent to the Mobility Hub, the commercial uses would provide services and entertainment options connecting with the residential neighborhoods via a pedestrian trail system. The commercial area includes 160,000 square feet of retail and office (including the 16,000 square feet of live-work and retail uses described above in the RM-3-9 zone). Of that total, the Project includes 136,000 square feet of retail. Food and beverage offerings may include fast casual restaurants, quality dining, breweries, cafes, and on-site craft foods. Health and wellness components may include such options as pharmacy, on-site medical clinic, sports performance training, and boutique fitness studios. The 23,000-square foot office component may include a co-working concept and offer services such as shipping, printing, conference rooms, and tele-meeting options.

**Pop-up Retail (Planning Area 19)**

Pop-up retail uses, which are planned along the northern portion of Planning Area 19, may be approved through a Temporary Use Permit (SDMC Section 123.0401). Potential pop-up retail uses include commercial and retail uses permitted in the CC-2-4 zone, including food, beverages, and groceries;

sundries, pharmaceutical, and convenience sales; wearing apparel and accessories; and eating and drinking establishments. Pop-up retail is generally identified as temporary or permanent retail structures under 800 square feet, including shipping containers, retrofitted vehicles for commerce, open air market kiosks, and other similar structures. Planning Area 19 may also host farmers markets and food trucks, each of which would be subject to any necessary permits.

### **1.3.6 Parks and Trails**

The Project would include a 25-acre community sports park as well as a collection of smaller neighborhood parks between 3 and 13 acres, mini parks ranging in size from approximately one to three acres, and pocket parks less than one acre, as well as a series of trails connecting the neighborhoods to the recreational amenities, open space, and Community Collective (Figure 3), for a total of 38.7 acres of parks and trails. The community sports park would be located immediately south of Carroll Canyon Road and would be used as a sports complex for the community of Mira Mesa. The community park would include lit soccer fields, baseball fields, restrooms, an indoor recreation facility, and a parking area with roughly 30 parking spaces per field, adhering to the City of San Diego Park and Recreation Design Guidelines. There would be night lighting associated with the use of the sports fields.

### **1.3.7 Open Space**

Approximately 181 acres would be retained as natural open space (Figure 3) and included in the City's Multi-habitat Planning Area (MHPA), which establishes the preserve system of the Multiple Species Conservation Program. The Project proposes to restore, widen, and enhance the riparian areas and waterways along the entire length of Carroll Canyon Creek.

### **1.3.8 Circulation/Access**

The Project would construct the on-site extension of Carroll Canyon Road, a main arterial facilitating a connection between Interstate 805 (I-805) and Interstate 15 (I-15). The future on-site segment of Carroll Canyon Road would be a 6-lane Prime Arterial. As planned in the Mira Mesa Community Plan, Carroll Canyon Road is also proposed to extend off-site, west of Camino Santa Fe. This road segment is designed as a 4-lane Major and runs for approximately 2,017 linear feet, directly south of the existing Fenton Technology Center.

The main entry points to the project site would be from Camino Santa Fe and Carroll Canyon Road. A collector arterial roadway (Spine Road) would intersect with both Carroll Canyon Road and Camino Santa Fe and would run through the project site from north to south. Two streets, which would intersect with Camino Santa Fe, would primarily be used for access to the Community Collective and intersect with Spine Road to create a modified grid system of roadways through the Project. Several arterial roads would extend into the surrounding residential neighborhoods (Figure 3).

The Project would set aside a 25-foot-wide right-of-way through an Irrevocable Offer of Dedication (IOD) that could be used as a bus rapid transit (BRT) route along the segment of Carroll Canyon Road, which runs through the project site. In addition to the IOD for the BRT lane, the applicant would provide SANDAG with an IOD for an approximately 55-foot by 135-foot area to be used as a BRT stop. The Project would also include networks of sidewalks, pathways, plazas, public spaces, and bike lanes to facilitate pedestrian and bicycle circulation.

### 1.3.9 Construction Phasing

The Project would be constructed in two phases, as summarized in Table 2, *Construction Phasing*. Pending project approvals, Phase 1 could begin in August 2019 (and be completed in 2021) at the northern portion of the project site and would include the construction of residential development eastward from Camino Santa Fe (Planning Areas 1 through 14). Phase 2 is contingent upon receipt of regulatory approvals and is estimated to begin in February 2020. It would include the construction of residential development through the center of the project site and the commercial development in the Community Collective, including the completion of residential development to the proposed extension of Carroll Canyon Road (Planning Areas 15 through 20).

**Table 2  
CONSTRUCTION PHASING**

Phase 1	Phase 2
Reclamation Phase 1	Reclamation Phase 2
Phase 1 grading and installation of backbone infrastructure	Remaining grading and infrastructure
185 Single-family Detached Units	Carroll Canyon Road
609 Apartments	Carroll Canyon Road West
250 Detached Condominiums	113 Detached Condominiums
393 Attached Condominiums	250 Attached Condominiums
16,000 square feet Retail/Live Work Commercial	Creek Restoration
11 acres of Parks (Pocket parks and neighborhood parks)	144,160 square feet Commercial
	Mobility Hub
	SDG&E Realignment
	27 acres of Community Park (including sports park)

## 1.4 SUSTAINABLE DESIGN FEATURES

The Project has been designed to promote sustainability. Buildings would feature cool roofs, energy-efficient appliances, energy-efficient light-emitting diode (LED) lighting, and drought-tolerant plantings. All single-family and multi-family residential units would include conduit to promote solar energy generation and battery storage, and most homes would be equipped with a fully functioning solar system. Homes would be situated on the site to maximize opportunities to walk and bike through the trail system. The Community Collective would be located immediately adjacent to the Phase I Fenton Technology Park to reduce vehicle miles traveled (VMT) by providing jobs and commercial uses near residential uses. The Mobility Hub would place public transportation as well as private mobility options in an accessible area for project residents. Changing/shower facilities would be provided in commercial buildings to facilitate bicycle commuting. The majority of the Project would be located within 0.5 mile of the Mobility Hub. Additional sustainable design features for the Project include:

- Over 8 miles of on-site trails
- Over 5 miles of on-site Green Streets
- One mile of creek restoration for Carrol Canyon Creek, including a 300-foot creek undercrossing
- Over 180 acres of dedicated open space

- Traffic-calming roundabouts
- On-site community EV charging stations
- Right-of-way dedication for a BRT bus lane and a future BRT
- LED street lights
- Access to clean air vehicles, buses, and shuttles
- Solar-powered art
- A Re-vegetation and Enhancement Planting Program
- Increased land use diversity (mixed-use)
- On-site affordable housing
- Mining Equipment and Construction Debris Recycle Programs

## 1.5 REGULATORY REQUIREMENTS AND PROJECT DESIGN FEATURES

### 1.5.1 Regulatory Requirements

#### 1.5.1.1 Construction Measures

The Project would incorporate best management practices (BMPs) during construction to reduce emissions of fugitive dust. San Diego Air Pollution Control District (SDAPCD) Rule 55 – Fugitive Dust Control states that no dust and/or dirt shall leave the property line. SDAPCD Rule 55 requires the following:

- (1) Airborne Dust Beyond the Property Line: No person shall engage in construction or demolition activity subject to this rule in a manner that discharges visible dust emissions into the atmosphere beyond the property line for a period or periods aggregating more than 3 minutes in any 60-minute period.
- (2) Track-Out/Carry-Out: Visible roadway dust as a result of active operations, spillage from transport trucks, erosion, or track-out/carry-out shall:
  - (i) be minimized by the use of any of the following or equally effective trackout/carry out and erosion control measures that apply to future development or operation:
    - (a) track-out grates or gravel beds at each egress point,
    - (b) wheel-washing at each egress during muddy conditions, soil binders, chemical soil stabilizers, geotextiles, mulching, or seeding; and for outbound transport trucks;
    - (c) using secured tarps or cargo covering, watering, or treating of transported material; and
  - (ii) be removed at the conclusion of each work day when active operations cease, or every 24 hours for continuous operations. If a street sweeper is used to remove any trackout/carry-out, only PM<sub>10</sub>-efficient street sweepers certified to meet the most current South Coast Air Quality Management District (SCAQMD) Rule 1186 requirements shall be used.

The use of blowers for removal of track-out/carry out is prohibited under any circumstances.

On July 26, 2007, the CARB adopted a regulation to reduce diesel particulate matter (DPM) and NO<sub>x</sub> emissions from in use (existing) off-road heavy-duty diesel vehicles in California (CARB 2007). Beginning January 1, 2014, CARB requires all off-road equipment greater than 25 horsepower to comply with the CARB Off-road Diesel Vehicle Regulations. Based on these regulations, it is estimated that the construction equipment used meet a Tier 3 engine standard.

### 1.5.1.2 Area Source Reductions

- Use of low-VOC coatings in accordance with, or exceeding, SDAPCD Rule 67
  - Residential interior coatings are to be less than or equal to 50 grams of volatile organic compound (VOC) per liter (g/L)
  - Residential exterior coatings are to be less than or equal to 100 g/L
  - Non-residential interior/exterior coatings are to be less than or equal to 100 g/L

### 1.5.1.3 Energy Efficiencies

- Future development will be designed to meet 2016 Title 24 energy efficiency standards

## 1.5.2 Project Design Features

### 1.5.2.1 Construction Best Management Practices

The control measures listed below are the BMPs that future development would incorporate for dust control:

- Contractor(s) will implement paving, chip sealing or chemical stabilization of internal roadways after completion of grading.
- Dirt storage piles will be stabilized by chemical binders, tarps, fencing or other erosion control.
- A 15-mile per hour (mph) speed limit will be enforced on unpaved surfaces.
- On dry days, dirt and debris spilled onto paved surfaces shall be swept up immediately to reduce resuspension of particulate matter caused by vehicle movement. Approach routes to construction sites shall be cleaned daily of construction-related dirt in dry weather.
- Haul trucks hauling dirt, sand, soil, or other loose materials will be covered or 2 feet of freeboard will be maintained.
- Disturbed areas shall be hydroseeded, landscaped, or developed as quickly as possible and as directed by the County of San Diego (County) and/or SDAPCD to reduce dust generation.
- Grading will be terminated if winds exceed 25 mph.



- Any blasting areas would be wetted down prior to initiating the blast.
- In accordance with California Green Building Standards Code (CALGreen) criteria, state, and local laws, at least 50 percent of on- site construction waste and ongoing operational waste would be diverted from landfills through reuse and recycling.

### 1.5.2.2 Transportation Demand Management Measures

The Project would implement Transportation Demand Management (TDM) measures to reduce the Project's overall impact on the transportation system and to provide reasonable and viable transportation options for those living, working, and visiting the project site. This includes the following measures as described in the California Air Pollution Control Officers Association (CAPCOA) *Quantifying Greenhouse Gas Mitigation Measures*:

- LUT-3 Increase Diversity (Mixed Use) – Having different types of land uses near one another can decrease VMT since trips between land use types are shorter and may be accommodated by non-auto modes of transport. The Project includes a mix of residential and non-residential land uses.
- LUT-5 Increased Transit Accessibility – Locating a project near transit would facilitate the use of transit by people traveling to or from the project site. The use of transit results in a mode shift and therefore reduced VMT. The project site is located less than one mile from San Diego Metropolitan Transit System Line 110 with stops at the intersection of Camino Santa Fe and Flanders Drive and headway times of approximately 20 to 30 minutes.
- LUT-6 Integrate Affordable and Below Market Rate Housing – Income has a statistically significant effect on the probability that a commuter will take transit or walk to work. The Project would provide 180 affordable housing units.
- SDT-1 Neighborhood/Site Enhancements – Providing a pedestrian access network to link areas of the project site encourages people to walk instead of drive. This mode shift results in people driving less and thus a reduction in VMT. The Project would provide a pedestrian access network that internally links all uses and connects to all existing or planned external streets and pedestrian facilities contiguous with the project site.

## 2.0 REGULATORY FRAMEWORK

### 2.1 CRITERIA AIR POLLUTANTS AND HEALTH EFFECTS

Criteria pollutants are defined by state and federal law as a risk to the health and welfare of the general public. In general, air pollutants include the following compounds:

- Ozone (O<sub>3</sub>)
- Reactive organic gases (ROGs) or volatile organic compounds (VOCs)
- Carbon monoxide (CO)
- Nitrogen dioxide (NO<sub>2</sub>)

- Respirable particulate matter and fine particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>)
- Sulfur dioxide (SO<sub>2</sub>)
- Lead (Pb)

The following specific descriptions of health effects for each of the air pollutants potentially associated with project construction and operation are based on information provided by the California Air Resources Board (CARB 2009) and the U.S. Environmental Protection Agency (USEPA 2017a).

**Ozone.** Ozone is considered a photochemical oxidant, which is a chemical that is formed when VOCs and nitrogen oxides (NO<sub>x</sub>), both by-products of fuel combustion, react in the presence of ultraviolet light. Ozone is considered a respiratory irritant and prolonged exposure can reduce lung function, aggravate asthma, and increase susceptibility to respiratory infections. Children and those with existing respiratory diseases are at greatest risk from exposure to ozone.

**Reactive Organic Gases.** ROGs (also known as VOCs) are compounds composed primarily of hydrogen and carbon atoms. Internal combustion associated with motor vehicle usage is the major source of ROGs. Other sources of ROGs include evaporative emissions from paints and solvents, the application of asphalt paving, and the use of household consumer products such as aerosols. Adverse effects on human health are not caused directly by ROGs, but rather by reactions of ROGs to form secondary pollutants such as ozone.

**Carbon Monoxide.** CO is a by-product of fuel combustion. CO is an odorless, colorless gas that affects red blood cells in the body by binding to hemoglobin and reducing the amount of oxygen that can be carried to the body's organs and tissues. CO can cause health effects to those with cardiovascular disease and can also affect mental alertness and vision.

**Nitrogen Dioxide.** NO<sub>2</sub> is also a by-product of fuel combustion and is formed both directly as a product of combustion and in the atmosphere through the reaction of nitrogen oxide (NO) with oxygen. NO<sub>2</sub> is a respiratory irritant and may affect those with existing respiratory illness, including asthma. NO<sub>2</sub> can also increase the risk of respiratory illness.

**Respirable Particulate Matter and Fine Particulate Matter.** Respirable particulate matter, or PM<sub>10</sub>, refers to particulate matter with an aerodynamic diameter of 10 microns or less. Fine particulate matter, or PM<sub>2.5</sub>, refers to particulate matter with an aerodynamic diameter of 2.5 microns or less. Particulate matter in these size ranges have been determined to have the potential to lodge in the lungs and contribute to respiratory problems. PM<sub>10</sub> and PM<sub>2.5</sub> arise from a variety of sources, including road dust, diesel exhaust, fuel combustion, tire and brake wear, construction operations, and windblown dust. PM<sub>10</sub> and PM<sub>2.5</sub> can increase susceptibility to respiratory infections and can aggravate existing respiratory diseases such as asthma and chronic bronchitis. PM<sub>2.5</sub> is considered to have the potential to lodge deeper in the lungs. Diesel particulate matter is classified a carcinogen by CARB.

**Sulfur dioxide.** SO<sub>2</sub> is a colorless, reactive gas that is produced from the burning of sulfur-containing fuels such as coal and oil and by other industrial processes. Generally, the highest concentrations of SO<sub>2</sub> are found near large industrial sources. SO<sub>2</sub> is a respiratory irritant that can cause narrowing of the airways leading to wheezing and shortness of breath. Long-term exposure to SO<sub>2</sub> can cause respiratory illness and aggravate existing cardiovascular disease.

**Lead.** Lead in the atmosphere occurs as particulate matter. With the phase-out of leaded gasoline, large manufacturing facilities are the sources of the largest amounts of lead emissions. Lead has the potential to cause gastrointestinal, central nervous system, kidney, and blood diseases upon prolonged exposure. Lead is also classified as a probable human carcinogen. Because emissions of lead are found only in projects that are permitted by the local air district, lead is not an air quality of concern for the Project.

Air quality is defined by ambient air concentrations of specific pollutants identified by the USEPA to be of concern with respect to health and welfare of the general public. The USEPA is responsible for enforcing the Federal Clean Air Act (CAA) of 1970 and its 1977 and 1990 Amendments. The CAA required the USEPA to establish National Ambient Air Quality Standards (NAAQS), which identify concentrations of pollutants in the ambient air below which no adverse effects on the public health and welfare are anticipated. In response, the USEPA established both primary and secondary standards for several criteria pollutants, which are introduced above. Table 3, *Ambient Air Quality Standards*, shows the federal and state ambient air quality standards for these pollutants.

The CAA allows states to adopt ambient air quality standards and other regulations provided they are at least as stringent as federal standards. The CARB has established the more stringent California Ambient Air Quality Standards (CAAQS) for the six criteria pollutants through the California Clean Air Act of 1988 (CCAA), and for additional pollutants, including sulfates, H<sub>2</sub>S, vinyl chloride and visibility-reducing particles. Areas that do not meet the NAAQS or the CAAQS for a particular pollutant are considered to be “nonattainment areas” for that pollutant. On June 3, 2016, the San Diego Air Basin (SDAB) was classified as a moderate nonattainment area for the 8-hour NAAQS for ozone. Effective June 3, 2016, the USEPA determined that 11 areas, including the SDAB, failed to attain the 2008 Ozone NAAQS by the applicable attainment date of July 20, 2015 and, thus, are reclassified as “Moderate” for the 2008 Ozone NAAQS (CARB 2017a). The SDAB is an attainment area for the NAAQS for all other criteria pollutants including PM<sub>10</sub> and PM<sub>2.5</sub>. The SDAB is currently classified as a nonattainment area under the CAAQS for ozone, PM<sub>10</sub>, and PM<sub>2.5</sub> (SDAPCD 2017).

**Table 3**  
**AMBIENT AIR QUALITY STANDARDS**

Pollutant	Averaging Time	California Standards	Federal Standards	
			Primary <sup>1</sup>	Secondary <sup>2</sup>
O <sub>3</sub>	1 Hour	0.09 ppm (180 µg/m <sup>3</sup> )	–	–
	8 Hour	0.070 ppm (137 µg/m <sup>3</sup> )	0.070 ppm (137 µg/m <sup>3</sup> )	Same as Primary
PM <sub>10</sub>	24 Hour	50 µg/m <sup>3</sup>	150 µg/m <sup>3</sup>	Same as Primary
	AAM	20 µg/m <sup>3</sup>	–	Same as Primary
PM <sub>2.5</sub>	24 Hour	–	35 µg/m <sup>3</sup>	Same as Primary
	AAM	12 µg/m <sup>3</sup>	12.0 µg/m <sup>3</sup>	15.0 µg/m <sup>3</sup>
CO	1 Hour	20 ppm (23 mg/m <sup>3</sup> )	35 ppm (40 mg/m <sup>3</sup> )	–
	8 Hour	9.0 ppm (10 mg/m <sup>3</sup> )	9 ppm (10 mg/m <sup>3</sup> )	–
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m <sup>3</sup> )	–	–
NO <sub>2</sub>	1 Hour	0.18 ppm (339 µg/m <sup>3</sup> )	0.100 ppm (188 µg/m <sup>3</sup> )	–
	AAM	0.030 ppm (57 µg/m <sup>3</sup> )	0.053 ppm (100 µg/m <sup>3</sup> )	Same as Primary

**Table 3 (cont.)**  
**AMBIENT AIR QUALITY STANDARDS**

Pollutant	Averaging Time	California Standards	Federal Standards	
			Primary <sup>1</sup>	Secondary <sup>2</sup>
SO <sub>2</sub>	1 Hour	0.25 ppm (655 µg/m <sup>3</sup> )	0.075 ppm (196 µg/m <sup>3</sup> )	–
	3 Hour	–	–	0.5 ppm (1,300 µg/m <sup>3</sup> )
	24 Hour	0.04 ppm (105 µg/m <sup>3</sup> )	–	–
Lead	30-day Avg.	1.5 µg/m <sup>3</sup>	–	–
	Calendar Quarter	–	1.5 µg/m <sup>3</sup>	Same as Primary
	Rolling 3-month Avg.	–	0.15 µg/m <sup>3</sup>	
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per km – visibility ≥ 10 miles (0.07 per km – ≥30 miles for Lake Tahoe)	<b>No Federal Standards</b>	
Sulfates	24 Hour	25 µg/m <sup>3</sup>		
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m <sup>3</sup> )		
Vinyl Chloride	24 Hour	0.01 ppm (26 µg/m <sup>3</sup> )		

Source: CARB 2016

<sup>1</sup> National Primary Standards: The levels of air quality necessary, within an adequate margin of safety, to protect the public health.

<sup>2</sup> National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

O<sub>3</sub>: ozone; ppm: parts per million; µg/m<sup>3</sup>: micrograms per cubic meter; PM<sub>10</sub>: large particulate matter;

AAM: Annual Arithmetic Mean; PM<sub>2.5</sub>: fine particulate matter; CO: carbon monoxide;

mg/m<sup>3</sup>: milligrams per cubic meter; NO<sub>2</sub>: nitrogen dioxide; SO<sub>2</sub>: sulfur dioxide; km: kilometer; –: No Standard.

The CARB is the state regulatory agency with authority to enforce regulations to both achieve and maintain the NAAQS and CAAQS. The local air district has the primary responsibility for the development and implementation of rules and regulations designed to attain the NAAQS and CAAQS, as well as the permitting of new or modified sources, development of air quality management plans, and adoption and enforcement of air pollution regulations. The SDAPCD is the local agency responsible for the administration and enforcement of air quality regulations for the County.

The SDAPCD and San Diego Association of Governments (SANDAG) are responsible for developing and implementing the clean air plan for attainment and maintenance of the ambient air quality standards in the SDAB. The County Regional Air Quality Strategy (RAQS) was initially adopted in 1991 and is updated on a triennial basis. The most recent version of the RAQS was adopted by the SDAPCD in December 2016 (SDAPCD 2016). The local RAQS, in combination with those from all other California nonattainment areas with serious (or worse) air quality problems, is submitted to the CARB, which develops the California State Implementation Plan (SIP).

The RAQS relies on information from CARB and SANDAG, including mobile and area source emissions, as well as information regarding projected growth in the County, to project future emissions and then

determine from that the strategies necessary for the reduction of emissions through regulatory controls. The CARB mobile source emission projections and SANDAG growth projections are based on population and vehicle trends and land use plans developed by the cities and by the County as part of the development of their General Plans. While SANDAG collaborates with the SDAPCD on the development of the SIP, the SDAPCD is the lead agency. As such, SDAPCD is responsible for projecting all future mobile source emissions using EMFAC2014.

The SIP relies on the same information from SANDAG to develop emission inventories and emission reduction strategies that are included in the attainment demonstration for the air basin.

The current federal and state attainment status (Table 4, *Federal and State Air Quality Designations*) for the SDAB is as follows:

**Table 4**  
**FEDERAL AND STATE AIR QUALITY DESIGNATIONS**

Criteria Pollutant	Federal Designation	State Designation
O <sub>3</sub> (1-hour)	(No federal standard)	Nonattainment
O <sub>3</sub> (8-hour)	Nonattainment	Nonattainment
CO	Attainment	Attainment
PM <sub>10</sub>	Unclassifiable	Nonattainment
PM <sub>2.5</sub>	Attainment	Nonattainment
NO <sub>2</sub>	Attainment	Attainment
SO <sub>2</sub>	Attainment	Attainment
Lead	Attainment	Attainment
Sulfates	(No federal standard)	Attainment
Hydrogen Sulfide	(No federal standard)	Unclassified
Visibility	(No federal standard)	Unclassified

Source: SDAPCD 2017

## 2.2 TOXIC AIR CONTAMINANTS

Toxic air contaminants (TACs) are a diverse group of air pollutants that may cause or contribute to an increase in deaths or in serious illness or that may pose a present or potential hazard to human health. TACs include both organic and inorganic chemical substances that may be emitted from a variety of common sources, including gasoline stations, motor vehicles, dry cleaners, industrial operations, painting operations, and research and teaching facilities. TACs are different than the criteria pollutants previously discussed because ambient air quality standards have not been established for TACs. TACs occurring at extremely low levels may still cause health effects, and it is typically difficult to identify levels of exposure that do not produce adverse health effects. TAC impacts are described by carcinogenic risk and by chronic (i.e., of long duration) and acute (i.e., severe but of short duration) adverse effects on human health.

The California Health and Safety Code (Section 39655, subd. (a)) defines a TAC as “an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health.” A substance that is listed as a hazardous air pollutant pursuant to subsection (b) of Section 112 of the Federal CAA (42 United States Code Section 7412[b]) is a TAC. Under State law, the California Environmental Protection Agency (CalEPA), acting through CARB, is authorized to identify a substance as a TAC if it determines the substance is an air pollutant that may cause or

contribute to an increase in mortality or an increase in serious illness, or that may pose a present or potential hazard to human health.

## 3.0 EXISTING CONDITIONS

### 3.1 CLIMATE AND METEOROLOGY

The climate in southern California, including the San Diego Air Basin (SDAB) in which the project site is located, is controlled largely by the strength and position of the subtropical high-pressure cell over the Pacific Ocean. Areas within 30 miles of the coast experience moderate temperatures and comfortable humidity. Precipitation is limited to a few storms during the winter season. The climate of the County is characterized by hot, dry summers, and mild, wet winters.

The predominant wind direction in the vicinity of project site is from the west and the average wind speed is approximately six mph (Iowa Environmental Mesonet [IEM] 2018). The annual average maximum temperature in the project area is approximately 67 degrees Fahrenheit (°F), and the average annual minimum temperature is approximately 56°F. Total precipitation in the project area averages approximately 10 inches annually. Precipitation occurs mostly during the winter and relatively infrequently during the summer (Western Regional Climate Center [WRCC] 2017).

Due to its climate, the SDAB experiences frequent temperature inversions (temperature increases as altitude increases, which is the opposite of general patterns). Temperature inversions prevent air close to the ground from mixing with the air above it. As a result, air pollutants are trapped near the ground. During the summer, air quality problems are created due to the interaction between the ocean surface and the lower layer of the atmosphere, creating a moist marine layer. An upper layer of warm air mass forms over the cool marine layer, preventing air pollutants from dispersing upward. Additionally, hydrocarbons and NO<sub>2</sub> react under strong sunlight, creating smog. Light, daytime winds, predominantly from the west, further aggravate the condition by driving the air pollutants inland, toward the foothills. During the fall and winter, air quality problems are created due to CO and NO<sub>2</sub> emissions. High NO<sub>2</sub> levels usually occur during autumn or winter, on days with summer-like conditions.

### 3.2 EXISTING AIR QUALITY

#### 3.2.1 Attainment Designations

Attainment designations are discussed in Section 2.1 and Table 4. The SDAB is a federal and state nonattainment area for ozone. The SDAB is also a state nonattainment area for PM<sub>10</sub> and PM<sub>2.5</sub>. The SDAB is an attainment area for all other criteria pollutants.

#### 3.2.2 Monitored Air Quality

The SDAPCD operates a network of ambient air monitoring stations throughout the County. The purpose of the monitoring stations is to measure ambient concentrations of the pollutants and determine whether the ambient air quality meets the CAAQS and the NAAQS. The nearest ambient monitoring station to the project site is the San Diego – Kearny Villa Road monitoring station located at 6125 Kearny Villa Road. Air quality data are shown on Table 5, *Air Quality Monitoring Data*.

Monitoring data at the San Diego – Kearny Villa Road station shows acceptable levels of the criteria air pollutants NO<sub>2</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> for 2015 to 2017. Violations of the state and federal 8-hour standards for ozone occurred in 2016 and 2017. The state 1-hour ozone standard was exceeded twice in 2017.

**Table 5**  
**AIR QUALITY MONITORING DATA**

<b>Pollutant Standards</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>
<b>Ozone (O<sub>3</sub>)</b>			
Maximum concentration 1-hour period (ppm)	0.077	0.087	0.097
Maximum concentration 8-hour period (ppm)	0.070	0.075	0.083
Days above 1-hour state standard (>0.09 ppm)	0	0	2
Days above 8-hour state/federal standard (>0.070 ppm)	0	3	6
<b>Nitrogen Dioxide (NO<sub>2</sub>)</b>			
Maximum 1-hour concentration (ppm)	0.051	0.053	0.054
Days above state 1-hour standard (0.18 ppm)	0	0	0
Days above federal 1-hour standard (0.100 ppm)	0	0	0
<b>Suspended Particulates (PM<sub>10</sub>)</b>			
Maximum 24-hour concentration (µg/m <sup>3</sup> )	39.0	36.0	46.0
Days above state standard (>50 µg/m <sup>3</sup> )	0	0	0
Days above federal standard (>150 µg/m <sup>3</sup> )	0	0	0
Annual concentration (µg/m <sup>3</sup> )	16.7	*	17.6
Exceed state standard (20 µg/m <sup>3</sup> )?	No	No	No
<b>Suspended Particulates (PM<sub>2.5</sub>)</b>			
Maximum 24-hour concentration (µg/m <sup>3</sup> )	25.7	20.3	27.5
Days above federal standard (>35 µg/m <sup>3</sup> )	0	0	0

Source: CARB 2017b

ppm = parts per million; µg/m<sup>3</sup> = micrograms per cubic meter; \* = insufficient data

## 4.0 METHODOLOGY AND SIGNIFICANCE CRITERIA

### 4.1 METHODOLOGY

Criteria pollutant emissions were calculated using the California Emissions Estimator Model (CalEEMod), Version 2016.3.2. CalEEMod is a computer model used to estimate criteria air pollutant emissions resulting from construction and operation of land development projects throughout the state of California. CalEEMod was developed by the SCAMQD with the input of several air quality management and pollution control districts. The input data and subsequent construction and operation emission estimates for the Project are discussed below. CalEEMod output files are included in Appendix A.

#### 4.1.1 Construction Emissions

As described above, construction emissions are assessed using the CalEEMod. CalEEMod contains OFFROAD2011 emission factors and EMFAC2014 emission factors from CARB's models for off-road equipment and on-road vehicles, respectively. The construction analysis included modeling of the projected construction equipment that would be used during each construction activity and quantities

of earth and debris to be moved. The model calculates emissions of CO, PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, and the ozone precursors VOC and NO<sub>x</sub>. Emissions associated with construction of the Project were calculated using the USEPA's Tier 3 emission standards for off-road engines and CARB's OFFROAD equipment horsepower ratings and load factors.

Construction input data for CalEEMod include, but are not limited to, (1) the anticipated start and finish dates of construction activity; (2) inventories of construction equipment to be used; (3) areas to be excavated and graded; and (4) volumes of materials to be exported from and imported to the project area. The analysis assessed maximum daily emissions from individual construction activities, including site preparation, grading, building construction, paving, and architectural coating.

Construction would require heavy equipment during site preparation, grading, building construction, and paving. Construction equipment estimates are based on detailed assumptions provided by JT Krueger & Company. Table 6, *Construction Equipment Assumptions*, presents a summary of the assumed equipment that would be involved in each stage of construction.

**Table 6**  
**CONSTRUCTION EQUIPMENT ASSUMPTIONS**

Construction Phase	Equipment	Number
<i>Phase I</i>		
Clear and Grub	Cat D-8T Dozer	4
	Cat 966M Loader	2
Mass Excavation	Cat 657G Motor Scraper	8
	Cat D-8T Dozer	3
	Cat 834K Rubber Tire Dozer	2
	Cat 12M3 Blade (Motor Grader)	1
Finish Grading	Cat D-8T Dozer	2
	Cat 12M3 Blade (Motor Grader)	4
Wet Utilities	Cat 330F Excavator	4
	Cat 930M Loader	4
	Cat 414E Skip Loader	4
Building Construction	Cranes	1
	Forklifts	3
	Generator Set	1
	Cat 430F2 Backhoe	3
Architectural Coatings	Welder	1
	Air Compressor	1
Frontage and Intersection Improvements	Cat 12M3 Blade (Motor Grader)	2
	Cat 623K Scraper	2
	Cat 414E Skip Loader	1
	Cat CB7 Solid Drum Vibratory Roller	1
	Cat AP655F Paving Machine	1
	Gomaco 3300 Curb Machine	1
Dry Utilities	Cat 430F2 Backhoe	4
	Cat 930M Loader	4



**Table 6 (cont.)  
CONSTRUCTION EQUIPMENT ASSUMPTIONS**

<b>Construction Phase</b>	<b>Equipment</b>	<b>Number</b>
<i><b>Phase I</b></i>		
Street Improvements	Cat 12M3 Blade (Motor Grader)	4
	Cat 623K Scraper	4
	Cat 414E Skip Loader	4
	Cat CB7 Solid Drum Vibratory Roller	4
	Gomaco 3300 Curb Machine	2
	Cat AP655F Paving Machine	2
<i><b>Phase II</b></i>		
Clear and Grub	Cat D-8T Dozer	4
	Cat 966M Loader	2
Mass Excavation	Cat 657G Motor Scraper	8
	Cat 773G Rock Truck	3
	Cat 834K Rubber Tire Dozer	2
	Cat 12M3 Blade (Motor Grader)	1
Finish Grading	Cat D-8T Dozer	2
	Cat 12M3 Blade (Motor Grader)	4
Creek Improvements	Cat 390F Excavator	2
	Cat 986K Loader	1
	Cat D8T Dozer	1
	Grove RT 600E Rough Terrain Hydraulic Crane	1
Wet Utilities	Cat 330F Excavator	4
	Cat 930M Loader	4
	Cat 414E Skip Loader	4
Dry Utilities	Cat 430F2 Backhoe	4
	Cat 930M Loader	4
Street Improvements	Cat 12M3 Blade (Motor Grader)	2
	Cat 623K Scraper	2
	Cat 414E Skip Loader	1
	Cat CB7 Solid Drum Vibratory Roller	1
	Gomaco 3300 Curb Machine	1
	Cat AP655F Paving Machine	1
Off-Site Carroll Canyon Road	Cat 12M3 Blade (Motor Grader)	2
	Cat 623K Scraper	2
	Cat 414E Skip Loader	1
	Cat CB7 Solid Drum Vibratory Roller	1
	Cat AP655F Paving Machine	1
	Gomaco 3300 Curb Machine	1
	Cat 966G Loader	1
	Cat 834B Rubber Tire Dozer	1
Cat 14G Blade (Motor Grader)	1	
Building Construction	Cranes	1
	Forklifts	3
	Generator Set	1
	Cat 430F2 Backhoe	3
	Welder	1
Architectural Coatings	Air Compressor	1

Source: CalEEMod defaults and JT Kruer & Co.

Note: Output data, including equipment horsepower, is provided in Appendix A.

The construction schedule was based on information provided by JT Kruer & Company. As shown in Table 7, *Anticipated Construction Schedule*, the Project would be constructed in two phases. Phase I was assumed to begin in August 2019 and Phase II in February 2020.

**Table 7**  
**ANTICIPATED CONSTRUCTION SCHEDULE**

Construction Activity	Construction Period		
	Start	End	Number of Working Days
<i>Phase I</i>			
Clear and Grub	8/5/2019	8/21/2019	13
Mass Excavation	8/22/2019	10/7/2019	33
Finish Grading	10/8/2019	12/23/2019	55
Wet Utilities	10/8/2019	12/22/2020	316
Building Construction	4/1/2020	12/31/2021	458
Architectural Coatings	5/1/2020	12/31/2021	436
Frontage and Intersection Improvements	8/26/2020	2/9/2021	120
Dry Utilities	12/11/2020	5/17/2021	122
Street Improvements	4/14/2021	8/20/2021	93
<i>Phase II</i>			
Clear and Grub	2/4/2020	2/18/2020	11
Mass Excavation	2/19/2020	4/28/2020	50
Finish Grading	4/29/2020	7/17/2020	58
Creek Improvements	4/29/2020	11/5/2020	137
Wet Utilities	5/11/2020	2/9/2021	197
Dry Utilities	11/12/2020	4/23/2021	117
Street Improvements	4/8/2021	8/19/2021	96
Off-Site Carroll Canyon Road	7/13/2021	10/1/2021	59
Building Construction	4/1/2022	7/31/2023	347
Architectural Coatings	5/1/2022	7/31/2023	326

Source: JT Kruer & Co.

Note: Output data is provided in Appendix A.

The quantity, duration, and the intensity of construction activity influence the amount of construction emissions and their related pollutant concentrations that occur at any one time. As such, the emission forecasts provided herein reflect a specific set of conservative assumptions based on the expected construction scenario wherein a relatively large amount of construction is occurring in a relatively intensive manner. Because of this conservative assumption, actual emissions could be less than those forecasted. If construction is delayed or occurs over a longer time period, emissions could be reduced because of (1) a more modern and cleaner-burning construction equipment fleet mix than incorporated in the CalEEMod, and/or (2) a less intensive buildout schedule (i.e., fewer daily emissions occurring over a longer time interval). A complete listing of the assumptions used in the analysis and model output is provided in Appendix A of this report.

CalEEMod has the capability to calculate reductions in construction emissions from the effects of dust control, diesel-engine classifications, and other selected emissions reduction measures. Construction emission calculations presented herein assume the implementation of standard dust control measures listed in Section 1.5, including watering two times daily during grading, ensuring that all exposed

surfaces maintain a minimum soil moisture of 12 percent, and limiting vehicle speeds on unpaved roads to 15 mph.

The Project would also conform to the VOC limits included in SDAPCD Rule 67 (as described in Section 1.6). According to Rule 67, residential interior coatings must have a VOC content less than or equal to 50 g/L and residential exterior coatings must have a content less than or equal to 100 g/L. The quantities of coatings that would be applied to the interior and exterior of the new buildings were estimated according to CalEEMod default assumptions.

#### **4.1.2 Operational Emissions**

Operational impacts were estimated using CalEEMod. Operational sources of emissions include area, energy, and transportation. Operational emissions from area sources include the use of consumer products, engine emissions from landscape maintenance equipment, and VOC emissions from repainting of buildings.

Operational emissions from mobile source emissions are associated with Project-related vehicle trip generation and trip length. Based on the Transportation Impact Analysis (TIA; Michael Baker International [MBI] 2019), the Project would generate 11,788 average daily trips (ADTs) and 34.5 million vehicle miles traveled (VMT) upon buildout of Phase I and a total of 26,213 ADT and 64 million VMT upon full buildout of Phase II. CalEEMod default vehicle speeds, trip purpose, and distance were used. Model output data sheets are included in Appendix A.

Operational emission estimates with project design features take into account energy efficiency in accordance 2016 Title 24 standards.

## **4.2 GUIDELINES FOR THE DETERMINATION OF SIGNIFICANCE**

The City (2016) has approved guidelines for determining significance based on Appendix G.III of the State CEQA Guidelines, which provide guidance that a project would have a significant environmental impact if it would:

1. Conflict with or obstruct the implementation of the San Diego RAQS or applicable portions of the SIP;
2. Result in emissions that would violate any air quality standard or contribute substantially to an existing or projected air quality violation;
3. Result in a cumulatively considerable net increase for which the SDAB is in non-attainment of NAAQS or CAAQS;
4. Expose sensitive receptors (including, but not limited to, residences, schools, hospitals, resident care facilities, or day-care centers) to substantial pollutant concentrations;
5. Create objectionable odors affecting a substantial number of people.

As stated in Appendix G of the CEQA Guidelines, “significance criteria established by the applicable air quality management or air pollution control district may be relied upon.” The City’s air quality significance determination thresholds are established by the SDAPCD. The SDAPCD sets forth

quantitative emission thresholds for stationary sources. Project-related air quality impacts would be considered significant if any of the applicable significance thresholds presented herein are exceeded. In the absence of a SDAPCD adopted threshold for PM<sub>2.5</sub>, the SCAQMD's screening threshold of 55 pounds per day or 10 tons per year is being applied to this analysis.

For CEQA purposes, these screening criteria can be used as numeric methods to demonstrate that a project's total emissions would not result in a significant impact to air quality. The screening thresholds are included in Table 8, *Screening-Level Thresholds for Air Quality Impact Analysis*. If sensitive receptors are involved, or if the potential exists for a significantly cumulative air quality impact, the more restrictive AAQS thresholds shall be used to determine significance.

**Table 8**  
**SCREENING-LEVEL THRESHOLDS FOR AIR QUALITY IMPACT ANALYSIS**

<b>Pollutant</b>	<b>Total Emissions</b>		
<b>Construction Emissions (Pounds/Day)</b>			
Respirable Particulate Matter (PM <sub>10</sub> )	100		
Fine Particulate Matter (PM <sub>2.5</sub> )	55		
Oxides of Nitrogen (NO <sub>x</sub> )	250		
Oxides of Sulfur (SO <sub>x</sub> )	250		
Carbon Monoxide (CO)	550		
Volatile Organic Compounds (VOCs)	137		
<b>Operational Emissions</b>			
	<b>Pounds/Hour</b>	<b>Pounds/Day</b>	<b>Tons/Year</b>
Respirable Particulate Matter (PM <sub>10</sub> )	---	100	15
Fine Particulate Matter (PM <sub>2.5</sub> )	---	55	10
Oxides of Nitrogen (NO <sub>x</sub> )	25	250	40
Oxides of Sulfur (SO <sub>x</sub> )	25	250	40
Carbon Monoxide (CO)	100	550	100
Lead and Lead Compounds	---	3.2	0.6
Volatile Organic Compounds (VOCs)	---	137	15
<b>Toxic Air Contaminant Emissions</b>			
Excess Cancer Risk	1 in 1 million 10 in 1 million with T-BACT		
Non-Cancer Hazard	1.0		

Source: City of San Diego 2016

T-BACT = Toxics-Best Available Control Technology

Per the City's Significance Determination Thresholds, determining the significance of potential odor impacts should be based on what is known about the quantity of the odor compound(s) that would result from the project's proposed use(s), the types of neighboring uses potentially affected, the distance(s) between the project's point source(s) and the neighboring uses such as sensitive receptors, and the resultant concentrations at receptors.

## 5.0 PROJECT IMPACTS

### 5.1 CONFORMANCE TO THE REGIONAL AIR QUALITY STRATEGY

#### 5.1.1 Impacts

The RAQS outlines SDAPCD's plans and control measures designed to attain the CAAQS for ozone. In addition, the SDAPCD relies on the SIP, which includes the SDAPCD's plans and control measures for attaining the ozone NAAQS. These plans accommodate emissions from all sources, including natural sources, through implementation of control measures, where feasible, on stationary sources to attain the standards. Mobile sources are regulated by the CalEPA and the CARB, and the emissions and reduction strategies related to mobile sources are considered in the RAQS and SIP.

The RAQS relies on information from CARB and SANDAG, including projected growth in the region, mobile, area and all other source emissions in order to project future emissions and determine from that the strategies necessary for the reduction of stationary source emissions through regulatory controls. The CARB mobile source emission projections and SANDAG growth projections are based on population and vehicle trends, and land use plans developed by the cities and by the County. As such, projects that propose development that is consistent with the growth anticipated by local community or general plans would be consistent with the RAQS. In the event that a project proposes development which is less dense than anticipated within the local plan, the project would likewise be consistent with the RAQS. If a project proposes development that is greater than that anticipated in the local plan and SANDAG's growth projections upon which the RAQS is based, the project would be in conflict with the RAQS and SIP, and might have a potentially significant impact on air quality. This situation would warrant further analysis to determine if the proposed project and the surrounding projects exceed the growth projections used in the RAQS for the specific subregional area.

Because the analysis of consistency with the applicable air quality management plan is based on planned land uses, the proposed land uses are the focus of this analysis. As the CUP/Reclamation Plan Amendment and SDG&E facility modifications would not alter the land use of the site, they are not further discussed in this subsection.

In 1994, the project site and adjacent lands, totaling 554 acres, were the subject of the Carroll Canyon Master Plan (CCMP), which defined suitable land uses, design guidelines, development standards, and an implementation program for the development of the project site upon completion of mining operations. The CCMP established a framework that the City and property owners could use to anticipate subsequent industrial, commercial, and residential uses and capacities for the project site. Land uses approved for the project site under the CCMP included a 40-acre mixed-use commercial core area including a mobility hub, 1,800 residential units, and 52 acres of industrial uses.

Consistent with the CCMP, the Project would include a maximum of 1,800 residential units, an on-site Mobility Hub adjacent to the intersection of Camino Santa Fe and Carroll Canyon Road, and local-serving retail and office uses. While the residential uses proposed in the CCMP were limited to medium and medium-high density units, by expanding the residential footprint, the Project would include more units in the mixed-use area and reduce densities to medium-low along the periphery of the development area, allowing for a variety of product types providing diverse housing opportunities to different life stages.

The Project would replace the industrial areas planned in the CCMP for the southern portion of the site with a 25-acre community sports park and expanded land area for residential uses. The community sports park and the multiple parks spread throughout the plan would offer approximately 39 acres of active and passive parkland. By maintaining the total number of residential dwelling units included in the CCMP and eliminating the industrial area, the Project proposes development that would result in 3,964 fewer daily trips (MBI 2019), would be less dense than anticipated within the local plan, and would not exceed the assumptions in the RAQS. To further demonstrate the Project would not exceed the assumptions in the RAQS, an emissions comparison has been completed following the methods described in Section 4.1.2. Emissions from the proposed park were subtracted from the emissions associated with maximum allowable industrial development to estimate the net emissions allowed under the land uses identified for the 52-acre industrial area in the 1994 CCMP. The net emissions from the 52-acre industrial area were then added to the Project's emissions to determine the total emissions associated with the land uses allowed under the 1994 CCMP (Table 9, *Maximum Daily Operational Emissions Comparison*).

**Table 9**  
**MAXIMUM DAILY OPERATIONAL EMISSIONS COMPARISON**

Category	Pollutant Emissions (pounds per day)					
	VOC	NO <sub>x</sub>	CO	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Allowed Industrial	159	233	613	2	169	1.6
Proposed Park	2	9	23	<0.5	6	2
Net Emissions	156	224	590	2	163	46
<b>Proposed Project</b>	99	153	571	2	139	39
<b>Project under 1994 CCMP</b>	252	376	1,161	3	302	85
Screening-Level Thresholds	137	250	550	250	100	55
<b>Significant Impact?</b>						
Proposed Project	No	No	Yes	No	Yes	No
Project under 1994 CCMP	Yes	Yes	Yes	No	Yes	Yes

Source: CalEEMod (output data is provided in Appendix A)

Note: Total is the sum of the unrounded values.

As shown in Table 9, due to the replacement of the industrial area with a park, land uses planned under the Project would result in criteria pollutant emissions substantially lower than the land uses allowed under the approved 1994 CCMP. Therefore, the Project would be consistent with the RAQS.

### 5.1.2 Significance of Impacts

The Project would not conflict with regional air quality plans and impacts would be less than significant.

### 5.1.3 Mitigation Measures

Mitigation measures would not be required.

### 5.1.4 Significance After Mitigation

Impacts associated with conformance to regional air quality plans would be less than significant.

## 5.2 CONFORMANCE TO FEDERAL AND STATE AMBIENT AIR QUALITY STANDARDS

### 5.2.1 Impacts

The baseline for analysis is the completion of the existing Reclamation Plan, with no corresponding emissions. To provide a conservative analysis of potential construction period emissions, earthwork associated with all elements of project development are included in the construction emissions modeling described below. Because impacts related to the CUP/Reclamation Plan Amendment, which would be short-term, are covered under the construction analysis, and because operation of the SDG&E facility modifications would not generate emissions, the analysis for the Project's operational impacts focuses on the Master Planned Development Permit.

The Project would generate criteria pollutants in the short term during construction and the long term during operation. To determine whether a project would result in emissions that would violate any air quality standard or contribute substantially to an existing or projected air quality violation, a project's emissions are evaluated based on the quantitative emission thresholds shown in Table 8.

#### 5.2.1.1 Construction

Construction of the Project would result in a temporary addition of pollutants to the local airshed caused by soil disturbance, fugitive dust emissions, and combustion pollutants from on-site construction equipment, as well as from off-site trucks hauling construction materials, debris, refuse, and/or soil. Construction emissions can vary substantially day to day, depending on the level of activity, the specific type of operation, and for dust, the prevailing weather conditions.

The Project's construction emissions were estimated using the CalEEMod model as described in Section 4.1.1. Project-specific input was based on general information provided in Section 1.0, assumptions provided by the Project Applicant, and default model settings to estimate reasonably conservative conditions. Additional details of phasing, selection of construction equipment, and other input parameters, including CalEEMod data, are included in Appendix A and summarized in Section 4.1.1.

The results of the calculations for project construction are shown in Table 10, *Maximum Daily Construction Emissions*. The data are presented as the maximum anticipated daily emissions for comparison with the SDAPCD thresholds.

**Table 10**  
**MAXIMUM DAILY CONSTRUCTION EMISSIONS**

Phase	Pollutant Emissions (pounds/day)					
	VOC	NO <sub>x</sub>	CO	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
<b>Phase 1</b>						
2019	4	80	91	<0.5	14	7
2020	43	113	148	<0.5	15	7
2021	42	103	133	<0.5	17	7
Maximum Daily Emissions – Phase I	43	113	148	<0.5	17	7
<b>Phase 2</b>						
2020	5	88	99	<0.5	13	7
2021	2	53	60	<0.5	5	3
2022	63	41	46	<0.5	10	3
2023	62	36	44	<0.5	10	3
Maximum Daily Emissions – Phase II	63	88	99	<0.5	13	7
<b>Maximum Daily Emissions<sup>1</sup></b>	<b>63</b>	<b>201</b>	<b>247</b>	<b>&lt;0.5</b>	<b>28</b>	<b>14</b>
<i>Screening-Level Thresholds</i>	<i>137</i>	<i>250</i>	<i>550</i>	<i>250</i>	<i>100</i>	<i>55</i>
<b>Significant Impact?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>

Source: CalEEMod (output data is provided in Appendix A)

<sup>1</sup> Maximum daily emissions of NO<sub>x</sub>, CO, SO<sub>2</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> occur in 2020 when Phase 1 and Phase 2 construction activities occur concurrently.

Note: Totals may not sum due to rounding.

As shown in Table 10, emissions of all criteria pollutants related to project construction would be below the SDAPCD significance thresholds. Project construction would not cause a violation of any air quality standard, contribute substantially to an existing or projected air quality violation, or exceed the particulate matter threshold. Therefore, direct impacts from criteria pollutants generated during construction would be less than significant.

### 5.2.1.2 Concurrent Construction and Operation

Due to the anticipated phasing, it is possible that occupation of Phase 1 may occur concurrently with construction of Phase 2. Table 11, *Concurrent Operational and Construction Emissions*, shows the maximum daily emissions from this potential overlap.

**Table 11**  
**CONCURRENT OPERATIONAL AND CONSTRUCTION EMISSIONS**

Category	Pollutant Emissions (pounds per day)					
	VOC	NO <sub>x</sub>	CO	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Phase II Construction (2022-2023)	63	41	46	<0.5	10	3
Phase I Operation (2022)	66	90	351	1	75	21
<b>Total Daily Emissions</b>	<b>129</b>	<b>131</b>	<b>397</b>	<b>1</b>	<b>85</b>	<b>24</b>
<i>Screening-Level Thresholds</i>	<i>137</i>	<i>250</i>	<i>550</i>	<i>250</i>	<i>100</i>	<i>55</i>
<b>Significant Impact?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>

Source: CalEEMod (output data is provided in Appendix A)

The combined Phase 2 construction and Phase 1 operational emissions would be below the significance threshold for all criteria pollutants. The CalEEMod model outputs are presented in Appendix A.



### 5.2.1.3 Full Project Operation

The Project's operational emissions were estimated using the CalEEMod model as described in Section 4.1.2. The CalEEMod model input was based on the current vehicle trip generation provided in the Project's TIA (MIB 2018) and the building area. Operational emission calculations and model outputs are provided in Appendix A. Table 12, *Maximum Daily Operational Emissions*, presents the summary of operational emissions for the Project.

**Table 12**  
**MAXIMUM DAILY OPERATIONAL EMISSIONS**

Category	Pollutant Emissions (pounds per day)					
	VOC	NO <sub>x</sub>	CO	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Area	61	2	149	<0.5	1	1
Energy	1	11	6	<0.5	1	1
Mobile	37	140	416	1	137	37
<b>Total Daily Emissions</b>	<b>99</b>	<b>153</b>	<b>571</b>	<b>2</b>	<b>139</b>	<b>39</b>
<i>Screening-Level Thresholds</i>	<i>137</i>	<i>250</i>	<i>550</i>	<i>250</i>	<i>100</i>	<i>55</i>
<b>Significant Impact?</b>	<b>No</b>	<b>No</b>	<b>Yes</b>	<b>No</b>	<b>Yes</b>	<b>No</b>

Source: CalEEMod (output data is provided in Appendix A)

Note: Total is the sum of the unrounded values.

As shown in Table 12, project emissions of CO and PM<sub>10</sub> during operation would exceed the daily thresholds set by the City. Operation of the Project would at full buildout would, therefore, cause a potentially significant impact on air quality.

### 5.2.2 Significance of Impacts

As shown in Table 12, project emissions of CO and PM<sub>10</sub> during operation would exceed the daily thresholds set by the City. Operation of the Project would therefore cause a potentially significant impact on air quality.

### 5.2.3 Mitigation Framework

The following mitigation measure would reduce potential impacts of buildout of the Project on State and federal air quality standards.

- AQ-1** Use of electrically powered landscape equipment. Electric receptacles/outlets shall be installed at the exterior of all single-family units, all multi-family buildings (including those with affordable units), and all common area buildings, so that homeowners and landscape contractors hired by the homeowners' association may utilize electrically powered lawnmowers, leaf blowers, and chainsaws. Project plans shall include: (1) all necessary receptacles/outlets; and (2) a note that states "All landscape maintenance contracts provided by the applicable homeowners association must require that landscape contractors use electrically powered lawn mowers, leaf blowers, and chain saws." City staff must verify both requirements prior to approval of the final plans.

## 5.2.4 Significance After Mitigation

Electric lawn equipment including lawn mowers, leaf blowers, and chain saws are available. When electric landscape equipment is used in place of a conventional gas-powered equipment, direct emissions from fossil fuel combustion are eliminated. Implementation of Measure AQ-1 would result in an average reduction of area source related CO emissions by 24 percent (from 149 pounds per day to 113 pounds per day) and particulate emissions (PM<sub>10</sub> and PM<sub>2.5</sub>) by 25 percent (less than 1). As shown in Table 13, *Maximum Daily Operational Emissions with Mitigation*, with implementation of mitigation measure AQ-1, CO and PM<sub>10</sub> emissions would be reduced, but only CO emissions would be reduced to a level below the respective threshold; PM<sub>10</sub> emissions would remain above its threshold. In addition, VOC, NO<sub>x</sub>, SO<sub>x</sub>, and PM<sub>2.5</sub> emissions would be further reduced from their previous less than significant levels.

**Table 13**  
**MAXIMUM DAILY OPERATIONAL EMISSIONS WITH MITIGATION**

Category	Pollutant Emissions (pounds per day)					
	VOC	NO <sub>x</sub>	CO	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Area	59	1	113	<0.5	1	1
Energy	1	11	6	<0.5	1	1
Mobile	36	140	416	1	137	37
<b>Total Daily Emissions</b>	<b>96</b>	<b>152</b>	<b>535</b>	<b>2</b>	<b>138</b>	<b>39</b>
<i>Screening-Level Thresholds</i>	<i>137</i>	<i>250</i>	<i>550</i>	<i>250</i>	<i>100</i>	<i>55</i>
<b>Significant Impact?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>Yes</b>	<b>No</b>

Source: CalEEMod (output data is provided in Appendix A)

Note: Total is the sum of the unrounded values.

The screening level thresholds provided by SDAPCD are to be used as screening criteria for potential impact significance for stationary sources. As noted above, where mitigated emissions exceeded the City's screening-level thresholds, and where the potential exists for a significantly cumulative air quality impact, the City's significance threshold guidance for air quality requires application of the more restrictive state and national AAQS. Further, in response to recent case law (specifically the December 24, 2018 California Supreme Court decision S219783 on Sierra Club versus County of Fresno [Friant Ranch]), the localized effects from the emissions were evaluated to determine potential pollutant concentrations at sensitive receptors.

The analysis was conducted using the USEPA's preferred regulatory Gaussian Plume Air Dispersion Model (AERMOD). Mobile source PM<sub>10</sub> emissions were modeled as a network of line area sources based on the Project's trip distribution included in the TIA using the mass emissions reported in Table 13. Area and energy source emissions of PM<sub>10</sub> reported in Table 13 were modeled as a large area source coinciding with the Project's built area. Receptors were placed on a grid with 50-meter spacing within the Project site and 250-meter spacing beyond the Project site to characterize the regional concentrations. Meteorological data from the Marine Corp Air Station Miramar were used to represent the atmospheric conditions at the Project site. These emissions sources, parameters, and receptor data were modeled using the AERMOD air dispersion model to produce concentrations at receptors of interest. All AERMOD output files are provided in Appendix C to this report.

California target thresholds for PM<sub>10</sub> are 50 µg/m<sup>3</sup> for 24 hour and 20 µg/m<sup>3</sup> for maximum annual average counts, respectively (see Table 3 of this report). The maximum 24-hour and annual average PM<sub>10</sub>

concentrations of  $0.30 \mu\text{g}/\text{m}^3$  and  $0.17 \mu\text{g}/\text{m}^3$ , respectively, were found within the Project site boundaries. When summed with the peak ambient background concentrations provided in Table 5, the maximum 24-hour average  $\text{PM}_{10}$  concentration is estimated to be  $46.3 \mu\text{g}/\text{m}^3$  and the maximum annual average concentration is estimated to be  $17.8 \mu\text{g}/\text{m}^3$ . Concentrations of this magnitude fall below the state and national AAQS, which define clean air and are established to protect even the most sensitive individuals. An AAQS defines the maximum amount of a pollutant that can be present in outdoor air without harm to the public's health. As such, although the Project exceeds the City's screening-level threshold for  $\text{PM}_{10}$ , it is not expected to result in any adverse health effects.

As previously described, implementation of Mitigation Measure AQ-1 would result in an average reduction of area source related CO emissions by 24 percent and particulate emissions ( $\text{PM}_{10}$  and  $\text{PM}_{2.5}$ ) by 25 percent. As shown in Table 13, with implementation of mitigation measure AQ-1, CO and  $\text{PM}_{10}$  emissions would be reduced, but only CO emissions would be reduced to a level below the respective threshold;  $\text{PM}_{10}$  emissions would remain above its threshold. Based on additional dispersion modeling of  $\text{PM}_{10}$ , however, Project-related emissions are not expected to result in any cumulative impacts or adverse health effects because dispersion modeling revealed that local concentrations would not exceed the state or national AAQS established to protect human health. Therefore, direct and cumulative impacts with the implementation of Mitigation Measure AQ-1 would reduce impacts to less than significant.

## **5.3 CUMULATIVELY CONSIDERABLE NET INCREASE OF CRITERIA POLLUTANTS**

### **5.3.1 Impacts**

The study area for a cumulative regional air quality analysis is the SDAB. The SDAB is designated as a nonattainment area for ozone,  $\text{PM}_{10}$ , and  $\text{PM}_{2.5}$  under State standards and a nonattainment area for ozone under federal standards. The RAQS is the most appropriate document for evaluating the Project's cumulative effects because the RAQS evaluated air quality emissions for the whole of the SDAB using a future development scenario. According to Section 5.1 of this report, the Project would not conflict with implementation of the RAQS. However, as discussed under Section 5.2, the Project's operational regional CO and  $\text{PM}_{10}$  emissions would exceed the City's Screening Level Thresholds. Therefore, impacts are considered cumulatively considerable and significant.

### **5.3.2 Significance of Impacts**

The Project's  $\text{PM}_{10}$  emissions would also contribute to existing violations of the respective standards. Cumulative impacts would be potentially significant.

### **5.3.3 Mitigation Framework**

The primary source of operational  $\text{PM}_{10}$  emissions is mobile sources. The Project includes several VMT reducing as described in Section 1.5.2.2. No mitigation is available to further reduce these mobile source emissions.

### 5.3.4 Significance After Mitigation

As discussed previously, by maintaining a total number of residential dwelling units consistent with that of the CCMP and eliminating the industrial area, the Project proposes development which is less dense than anticipated within the local plan. Nonetheless, the contribution of air pollutants to the SDAB would result in a significant and unavoidable cumulative impact on air quality within the SDAB.

## 5.4 IMPACTS TO SENSITIVE RECEPTORS

### 5.4.1 Impacts

Impacts to sensitive receptors are typically analyzed for operational period CO hotspots and exposure to TACs. An analysis of the Project's potential to expose sensitive receptors to these pollutants is provided below.

As described in the following discussion, exposure to CO hotspots and most TACs is based on operational emissions, with proposed land uses therefore the focus of this discussion. Grading associated with the CUP/Reclamation Plan Amendment and the SDG&E facility modifications was incorporated into the modeling of DPM emissions to provide a conservative analysis.

#### 5.4.1.1 Carbon Monoxide Hotspots

A CO hotspot is an area of localized CO pollution caused by severe vehicle congestion on major roadways, typically near intersections. If a project increases average delay at signalized intersections operating at Level of Service (LOS) E or F, or causes an intersection that would operate at LOS D or better without the project to operate at LOS E or F with the project, a quantitative screening is required. According to the TIA prepared for the Project, upon full buildout, 15 of the 50 intersections analyzed would operate at LOS E or F and have project related increases in average delay before inclusion of the recommended traffic mitigation measures (MBI 2019):

- Pacific Heights Boulevard at Mira Mesa Boulevard for the PM peak hour,
- Camino Santa Fe at Mira Mesa Boulevard for both the AM and PM peak hours,
- Camino Ruiz at Mira Mesa Boulevard for both the AM and PM peak hours,
- Camino Santa Fe at Carroll Road for both the AM and PM peak hours,
- Eastgate mall at Judicial Drive for the AM peak hour,
- Towne Center Drive at La Jolla Village Drive for the PM peak hour,
- La Jolla Village Drive at the I-805 Southbound Ramps for the AM peak hour,
- Eastgate Mall at Miramar Road for the PM peak hour,
- Camino Santa Fe at Miramar Road for both the AM and PM peak hours,
- Camino Ruiz at Miramar Road for the AM peak hour,
- Mitscher Way at Miramar Road for the PM peak hour,
- Kearny Villa Road at Miramar Road for both the AM and PM peak hours,

- Flanders Road at Camino Santa Fe for the PM peak hour,
- Trade Street at Camino Santa Fe for the PM peak hour, and
- Carroll Canyon Road at Camino Ruiz for the PM peak hour.

The Transportation Project-Level Carbon Monoxide Protocol (Caltrans 1998) requires the modeler to model the intersections that have worst LOS and the highest traffic volumes. If the selected intersections do not show an exceedance of the NAAQS, none of the other intersections will show an exceedance. Based on these requirements, the following intersections were selected for modeling:

- La Jolla Village Drive at the I-805 Southbound Ramps for having the highest AM traffic volume,
- Carroll Canyon Road at Camino Ruiz for having the highest PM traffic volume,
- Camino Santa Fe at Miramar Road for having the worst AM LOS, and
- Camino Santa Fe at Carroll Road for having the worst PM LOS.

As recommended in the Protocol, receptors were located at locations that were approximately 3 meters (10 feet) from the edge of the roadway, and at a height of 1.8 meters (6 feet). Emission factors from the EMFAC2014 model for the year 2025 at a temperature of 60 degrees Fahrenheit and 50 percent humidity were used in the CALINE4 model.

In accordance with the Protocol, it is also necessary to estimate future background CO concentrations in the project vicinity to determine the potential impact plus background and evaluate the potential for CO hotspots due to the Project. The existing maximum 1-hour and 8-hour background concentrations of CO of 1.7 and 1.2 ppm were used to represent future maximum background 1-hour and 8-hour CO concentrations (USEPA 2017b). CO concentrations in the future may be lower as inspection and maintenance programs and more stringent emission controls are placed on vehicles.

Modeled 1-hour CO concentrations were scaled to evaluate maximum predicted 8-hour CO concentrations using the recommended persistence scaling factor of 0.7 for urban locations. The CALINE4 model outputs are provided at the end of Appendix A of this report. Table 14, *CO Hotspots Modeling Results*, presents a summary of the predicted CO concentrations (impact plus background) for the affected intersections. As shown in Table 14, the predicted CO concentrations would be substantially below the 1-hour and 8-hour NAAQS and CAAQS for CO. Therefore, no exceedances of the CO 1-hour or 8-hour standards are predicted, and the Project would not cause or contribute to a violation of the air quality standard. The Project would not expose sensitive receptors to a CO hotspot; therefore, impacts would be less than significant.

**Table 14**  
**CO HOTSPOTS MODELING RESULTS**

Intersection	Peak Period	Maximum 1-hour Concentration	Maximum 8-hour Concentration
La Jolla Village Road at I-805 Southbound Ramps	AM	4.0	2.8
	PM	3.8	2.7
Carroll Canyon Road at Camino Ruiz	AM	3.7	2.6
	PM	4.1	2.9
Camino Santa Fe at Miramar Road	AM	4.2	3.0
	PM	4.3	3.0
Camino Santa Fe at Carroll Road	AM	3.2	2.3
	PM	3.3	2.3
Ambient Air Quality Standard		20	9.0
Significant Impact?		No	No

Source: CALINE4 dispersion model (output sheets are provided in Appendix B)

Note: Peak hour traffic volumes are based on the TIA (MBI 2019).

#### 5.4.1.2 Exposure to Toxic Air Contaminants

In addition to impacts from criteria pollutants, project impacts may include emissions of pollutants identified by the state as TACs. State law has established the framework for California's TAC identification and control program, which is generally more stringent than the federal program. The state has formally identified more than 200 substances as TACs and is adopting appropriate control measures for their sources. The greatest potential for TAC emissions during construction would be emissions of DPM from heavy equipment operations and heavy-duty trucks. The following measures are required by state law to reduce DPM emissions:

- Fleet owners of mobile construction equipment are subject to the CARB Regulation for In-use Off-road Diesel Vehicles (13 CCR 2449), the purpose of which is to reduce DPM and criteria pollutant emissions from in-use (existing) off-road diesel-fueled vehicles.
- All commercial diesel vehicles are subject to Title 13, Section 2485 of the California Code of Regulations, limiting engine idling time. Idling of heavy-duty diesel construction equipment and trucks during loading and unloading shall be limited to five minutes; electric auxiliary power units should be used whenever possible.

Health effects from carcinogenic air toxics are usually described in terms of cancer risk. As shown in Table 8, the City recommends an incremental cancer risk threshold of 10 in a million. "Incremental cancer risk" is the net increased likelihood that a person continuously exposed to concentrations of TACs resulting from a project over a 9-, 30-, and 70-year exposure period will develop cancer based on the use of standard Office of Environmental Health Hazard Assessment (OEHHA) risk-assessment methodology.

The heavy-duty construction equipment required for project construction, is subject to a CARB Airborne Toxics Control Measure for in-use diesel construction equipment to reduce DPM emissions. The Project would not involve extensive use of diesel trucks, which are also subject to a CARB Airborne Toxics Control Measure.

As shown in Table 9, maximum daily particulate matter (i.e., PM<sub>10</sub> or PM<sub>2.5</sub>) emissions generated by construction equipment operation and haul-truck trips during construction (exhaust particulate matter,

or DPM), combined with fugitive dust generated by equipment operation and vehicle travel, would be well below the City's screening-level thresholds. Moreover, total construction of the Project would last approximately 26 months, after which Project-related TAC emissions would cease. Thus, the Project would not result in a long-term source of TAC emissions. No residual TAC emissions and corresponding cancer risk are anticipated after construction, and no long-term sources of TAC emissions are anticipated during operation of the Project. Therefore, the exposure of Project-related TAC emission impacts to sensitive receptors would be less than significant.

Additionally, CARB has published the *Air Quality and Land Use Handbook: A Community Health Perspective* (CARB 2005), which identifies certain types of facilities or sources that may emit substantial quantities of TACs and therefore could conflict with sensitive land uses, such as "schools and schoolyards, parks and playgrounds, daycare centers, nursing homes, hospitals, and residential communities." The *Air Quality and Land Use Handbook* is a guide for siting new sensitive land uses. The enumerated facilities or sources include the following:

- High-traffic freeways and roads,
- Distribution centers,
- Rail yards,
- Ports,
- Refineries,
- Chrome plating facilities,
- Dry cleaners, and
- Large gas dispensing facilities.

CARB recommends that sensitive receptors not be located downwind or in proximity to such sources to avoid potential health hazards.

The Project would not include any of the previously listed land uses, so it would not expose visitors, residents, or employees of the Project to TAC emissions from these sources. Impacts would be less than significant.

#### **5.4.2 Significance of Impacts**

The analysis indicated there would be no potential for exposure of sensitive receptors to substantial concentrations of pollutants. The impact would be less than significant.

#### **5.4.3 Mitigation Framework**

Because there would be no significant impacts with respect to exposure of sensitive receptors to pollutants, no mitigation measures are required.

#### **5.4.4 Significance After Mitigation**

The impact would be less than significant.

## **5.5 ODORS**

### **5.5.1 Impacts**

As discussed above, the California Health and Safety Code Sections 41700 and 41705, and SDAPCD Rule 51, prohibit emissions from any source whatsoever in such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to the public health or damage to property. Any unreasonable odor discernible at the property line will be considered a significant odor impact.

The following analysis is applicable to all project components. The Project could produce odors during proposed construction activities of both Phase 1 and Phase 2 resulting from construction equipment exhaust, application of asphalt, and/or the application of architectural coatings; however, standard construction practices would minimize the odor emissions and their associated impacts. Furthermore, odors emitted during construction would be temporary, short-term, and intermittent in nature, and would cease upon the completion of the respective phase of construction. Accordingly, the Project would not create objectionable odors affecting a substantial number of people during construction, and short-term impacts would be less than significant.

During project operation, the temporary storage of refuse could be a potential source of odor; however, Project-generated refuse is required to be stored in covered containers and removed at regular intervals in compliance with the SDMC solid waste regulations, thereby precluding significant odor impacts. Furthermore, the Project would be required to comply with the aforementioned SDAPCD Rule 51 which prohibits the discharge of odorous emissions that would create a public nuisance. As such, long-term operation of the Project would not create objectionable odors affecting a substantial number of people.

### **5.5.2 Significance of Impacts**

Impacts associated with odors are anticipated to be less than significant.

### **5.5.3 Mitigation Framework**

Because there would be no significant impacts with respect to odors, no mitigation measures are required.

### **5.5.4 Significance After Mitigation**

Impacts related to odors would be less than significant.

## **5.6 ALTERATION OF AIR MOVEMENT**

### **5.6.1 Impacts**

This issue is usually associated with placement of high structures in proximity to one-another that can result in tunneling of air movement in an area that was previously unobstructed. In the case of the Project, structures would be placed within a canyon setting. Structures would not exceed the heights of the surrounding mesa, and the highest (a parking structure) would not exceed 65 feet in height. Residential only structures would range from 42 to 45 feet in height. Project buildings also would not be



of consistent and considerable massing. Some buildings would be stand alone, and others would vary in placement, orientation, and specifics in massing. They also would be at different elevations associated with underlying pads. The southern portion of the project would be bisected in an east-west direction by Carroll Canyon Creek, a large open space park, and Carroll Canyon Road. These would retain general air flow patterns travelling unobstructed east-west along the canyon. All of these considerations result in air flow continuing to follow geographic cues in this area and winding through and around project-related built structures. Although localized effects would vary from the existing condition of the open mined area, substantial alteration of air movement would not occur.

### **5.6.2 Significance of Impacts**

Impacts associated with air movement are anticipated to be less than significant.

### **5.6.3 Mitigation Framework**

Because there would be no significant impacts with respect to air movement, no mitigation measures are required.

### **5.6.4 Significance After Mitigation**

Impacts related to air movement would be less than significant.

## **6.0 LIST OF PREPARERS**

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Project Manager

Victor Ortiz

Senior Air Quality Specialist

Joanne M. Dramko, AICP

Senior Technical Specialist, Quality Assurance Reviewer

## 7.0 REFERENCES

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# Appendix A

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CalEEMod Outputs

3 Roots San Diego - Phase I - San Diego County, Winter

**3 Roots San Diego - Phase I**  
**San Diego County, Winter**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments High Rise	609.00	Dwelling Unit	9.82	609,000.00	1742
Condo/Townhouse	393.00	Dwelling Unit	24.56	393,000.00	1124
Single Family Housing	435.00	Dwelling Unit	141.23	783,000.00	1244
Strip Mall	16.00	1000sqft	0.37	16,000.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.6	<b>Precipitation Freq (Days)</b>	40
<b>Climate Zone</b>	13			<b>Operational Year</b>	2022
<b>Utility Company</b>	San Diego Gas & Electric				
<b>CO2 Intensity (lb/MWhr)</b>	720.49	<b>CH4 Intensity (lb/MWhr)</b>	0.029	<b>N2O Intensity (lb/MWhr)</b>	0.006

**1.3 User Entered Comments & Non-Default Data**

3 Roots San Diego - Phase I - San Diego County, Winter

Project Characteristics -

Land Use -

Construction Phase - Assumptions provided by JT Kruer & Co.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Assumptions provided by JT Kruer & Co.

Off-road Equipment - Assumptions provided by JT Kruer & Co.

Off-road Equipment - Assumptions provided by JT Kruer & Co.

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Off-road Equipment - Assumptions provided by JT Kruer & Co.

Off-road Equipment - Assumptions provided by JT Kruer & Co.

Off-road Equipment - Assumptions provided by JT Kruer & Co.

Trips and VMT - Assumptions provided by JT Kruer & Co.

Grading -

Architectural Coating - SDAPCD Rule 67

Vehicle Trips - STC Traffic Inc. 2018

Woodstoves - No Hearth

Area Coating - SDAPCD Rule 67

Construction Off-road Equipment Mitigation - Tier 3 Offroad and Dust BMPs

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	100.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	100.00

3 Roots San Diego - Phase I - San Diego County, Winter

tblArchitecturalCoating	EF_Residential_Interior	250.00	50.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	100
tblAreaCoating	Area_EF_Nonresidential_Interior	250	100
tblAreaCoating	Area_EF_Residential_Exterior	250	100
tblAreaCoating	Area_EF_Residential_Interior	250	50
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	15.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	14.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	11.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3

3 Roots San Diego - Phase I - San Diego County, Winter

tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
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tblConstEquipMitigation	Tier	No Change	Tier 3
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tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
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tblConstructionPhase	NumDays	220.00	436.00
tblConstructionPhase	NumDays	3,100.00	458.00
tblConstructionPhase	NumDays	310.00	33.00
tblConstructionPhase	NumDays	310.00	55.00
tblConstructionPhase	NumDays	220.00	24.00
tblConstructionPhase	NumDays	220.00	13.00
tblConstructionPhase	NumDays	220.00	30.00
tblConstructionPhase	NumDays	220.00	120.00
tblConstructionPhase	NumDays	120.00	13.00
tblConstructionPhase	NumDays	120.00	26.00
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFireplaces	NumberGas	348.15	0.00
tblFireplaces	NumberGas	215.60	0.00

3 Roots San Diego - Phase I - San Diego County, Winter

tblFireplaces	NumberGas	240.90	0.00
tblFireplaces	NumberNoFireplace	63.30	633.00
tblFireplaces	NumberNoFireplace	39.20	392.00
tblFireplaces	NumberNoFireplace	43.80	438.00
tblFireplaces	NumberWood	221.55	0.00
tblFireplaces	NumberWood	137.20	0.00
tblFireplaces	NumberWood	153.30	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00



3 Roots San Diego - Phase I - San Diego County, Winter

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblTripsAndVMT	HaulingTripNumber	0.00	754.00
tblTripsAndVMT	VendorTripLength	7.30	7.80
tblTripsAndVMT	VendorTripNumber	0.00	25.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	25.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblVehicleTrips	CC_TL	7.30	12.45
tblVehicleTrips	CC_TTP	64.40	100.00
tblVehicleTrips	CNW_TL	7.30	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CW_TL	9.50	0.00
tblVehicleTrips	CW_TTP	16.60	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	40.00	0.00
tblVehicleTrips	HO_TL	7.50	0.00
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tblVehicleTrips	HO_TTP	39.60	0.00
tblVehicleTrips	HO_TTP	39.60	0.00
tblVehicleTrips	HO_TTP	39.60	0.00
tblVehicleTrips	HS_TL	7.30	0.00

## 3 Roots San Diego - Phase I - San Diego County, Winter

tblVehicleTrips	HS_TL	7.30	0.00
tblVehicleTrips	HS_TL	7.30	0.00
tblVehicleTrips	HS_TTP	18.80	0.00
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tblVehicleTrips	HW_TL	10.80	10.07
tblVehicleTrips	HW_TL	10.80	7.55
tblVehicleTrips	HW_TL	10.80	6.04
tblVehicleTrips	HW_TTP	41.60	100.00
tblVehicleTrips	HW_TTP	41.60	100.00
tblVehicleTrips	HW_TTP	41.60	100.00
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tblVehicleTrips	PB_TP	3.00	0.00
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tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	45.00	100.00
tblVehicleTrips	ST_TR	4.98	6.00
tblVehicleTrips	ST_TR	5.67	8.00
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tblVehicleTrips	ST_TR	42.04	40.00
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tblVehicleTrips	SU_TR	4.84	8.00
tblVehicleTrips	SU_TR	8.62	10.00
tblVehicleTrips	SU_TR	20.43	40.00

## 3 Roots San Diego - Phase I - San Diego County, Winter

tblVehicleTrips	WD_TR	4.20	6.00
tblVehicleTrips	WD_TR	5.81	8.00
tblVehicleTrips	WD_TR	9.52	10.00
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tblWoodstoves	NumberCatalytic	19.60	0.00
tblWoodstoves	NumberCatalytic	21.90	0.00
tblWoodstoves	NumberNoncatalytic	31.65	0.00
tblWoodstoves	NumberNoncatalytic	19.60	0.00
tblWoodstoves	NumberNoncatalytic	21.90	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00

## 2.0 Emissions Summary

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3 Roots San Diego - Phase I - San Diego County, Winter

**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					
2019	13.2644	158.1291	83.6599	0.1713	22.9367	6.3430	29.2797	7.8418	5.8356	13.6774						
2020	49.5787	147.0941	123.5294	0.3198	10.7279	5.4985	16.2264	2.8743	5.0941	7.9685						
2021	48.5201	137.4271	112.1929	0.2987	16.7849	5.0840	21.8688	3.4761	4.7055	8.1816						
<b>Maximum</b>	<b>49.5787</b>	<b>158.1291</b>	<b>123.5294</b>	<b>0.3198</b>	<b>22.9367</b>	<b>6.3430</b>	<b>29.2797</b>	<b>7.8418</b>	<b>5.8356</b>	<b>13.6774</b>						

**Mitigated 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					
2019	4.2974	80.1851	90.7652	0.1713	10.4797	3.0395	13.5191	3.5708	3.0393	6.6101						
2020	42.7788	112.7954	147.9921	0.3198	10.7279	4.5353	15.2632	2.8743	4.5255	7.3998						
2021	41.9959	103.2799	132.9038	0.2987	13.2852	4.1830	17.4683	3.0982	4.1764	7.2746						
<b>Maximum</b>	<b>42.7788</b>	<b>112.7954</b>	<b>147.9921</b>	<b>0.3198</b>	<b>13.2852</b>	<b>4.5353</b>	<b>17.4683</b>	<b>3.5708</b>	<b>4.5255</b>	<b>7.3998</b>						

## 3 Roots San Diego - Phase I - San Diego County, Winter

	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
Percent Reduction	20.02	33.07	-16.37	0.00	31.63	30.53	31.35	32.76	24.91	28.64	0.00	0.00	0.00	0.00	0.00	0.00

3 Roots San Diego - Phase I - San Diego County, Winter

**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	46.0528	1.3688	118.6836	6.2600e-003		0.6558	0.6558		0.6558	0.6558						
Energy	0.6023	5.1476	2.1945	0.0329		0.4161	0.4161		0.4161	0.4161						
Mobile	19.1110	83.5818	229.6644	0.7977	73.1487	0.6754	73.8240	19.5497	0.6307	20.1804						
<b>Total</b>	<b>65.7661</b>	<b>90.0982</b>	<b>350.5425</b>	<b>0.8368</b>	<b>73.1487</b>	<b>1.7472</b>	<b>74.8959</b>	<b>19.5497</b>	<b>1.7026</b>	<b>21.2523</b>						

**Mitigated 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	46.0528	1.3688	118.6836	6.2600e-003		0.6558	0.6558		0.6558	0.6558						
Energy	0.6023	5.1476	2.1945	0.0329		0.4161	0.4161		0.4161	0.4161						
Mobile	19.1110	83.5818	229.6644	0.7977	73.1487	0.6754	73.8240	19.5497	0.6307	20.1804						
<b>Total</b>	<b>65.7661</b>	<b>90.0982</b>	<b>350.5425</b>	<b>0.8368</b>	<b>73.1487</b>	<b>1.7472</b>	<b>74.8959</b>	<b>19.5497</b>	<b>1.7026</b>	<b>21.2523</b>						

## 3 Roots San Diego - Phase I - San Diego County, Winter

	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
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

### 3.0 Construction Detail

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#### Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Clear & Grub	Site Preparation	8/5/2019	8/21/2019	5	13	
2	Mass Excavation	Grading	8/22/2019	10/7/2019	5	33	
3	Finish Grading	Grading	10/8/2019	12/23/2019	5	55	
4	Wet Utilities	Trenching	10/8/2019	12/22/2020	5	316	
5	Building Construction	Building Construction	4/1/2020	12/31/2021	5	458	
6	Architectural Coating	Architectural Coating	5/1/2020	12/31/2021	5	436	
7	Frontage & Intersections	Paving	8/26/2020	2/9/2021	5	120	
8	Dry Utilities	Trenching	12/11/2020	5/17/2021	5	112	
9	Street Improvements - Balance & Subgrade Prep	Site Preparation	4/14/2021	5/19/2021	5	26	
10	Street Improvements - Curb & Gutter	Paving	5/20/2021	6/22/2021	5	24	
11	Street Improvements - Base & Pave	Paving	6/23/2021	7/9/2021	5	13	
12	Street Improvements - Concrete Flatwork	Paving	7/10/2021	8/20/2021	5	30	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 3,672,135; Residential Outdoor: 1,224,045; Non-Residential Indoor: 24,000; Non-Residential Outdoor: 8,000; Striped Parking Area: 0 (Architectural Coating – sqft)

## 3 Roots San Diego - Phase I - San Diego County, Winter

**OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Clear & Grub	Crawler Tractors	4	8.00	212	0.43
Clear & Grub	Rubber Tired Dozers	0	8.00	247	0.40
Clear & Grub	Rubber Tired Loaders	2	8.00	203	0.36
Clear & Grub	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Mass Excavation	Crawler Tractors	3	8.00	212	0.43
Mass Excavation	Excavators	0	8.00	158	0.38
Mass Excavation	Graders	1	8.00	187	0.41
Mass Excavation	Rubber Tired Dozers	2	8.00	247	0.40
Mass Excavation	Scrapers	8	8.00	367	0.48
Mass Excavation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48
Finish Grading	Crawler Tractors	2	8.00	212	0.43
Finish Grading	Excavators	0	8.00	158	0.38
Finish Grading	Graders	4	8.00	187	0.41
Finish Grading	Rubber Tired Dozers	0	8.00	247	0.40
Finish Grading	Scrapers	0	8.00	367	0.48
Finish Grading	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Wet Utilities	Excavators	4	8.00	158	0.38
Wet Utilities	Rubber Tired Loaders	4	8.00	203	0.36
Wet Utilities	Skid Steer Loaders	4	8.00	65	0.37



3 Roots San Diego - Phase I - San Diego County, Winter

Dry Utilities	Rubber Tired Loaders	4	8.00	203	0.36
Dry Utilities	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Street Improvements - Balance & Subgrade Prep	Graders	4	8.00	187	0.41
Street Improvements - Balance & Subgrade Prep	Rollers	4	8.00	80	0.38
Street Improvements - Balance & Subgrade Prep	Rubber Tired Dozers	0	8.00	247	0.40
Street Improvements - Balance & Subgrade Prep	Scrapers	4	8.00	367	0.48
Street Improvements - Balance & Subgrade Prep	Skid Steer Loaders	2	8.00	65	0.37
Street Improvements - Balance & Subgrade Prep	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Street Improvements - Curb & Gutter	Pavers	0	8.00	130	0.42
Street Improvements - Curb & Gutter	Paving Equipment	2	8.00	132	0.36
Street Improvements - Curb & Gutter	Rollers	0	8.00	80	0.38
Street Improvements - Base & Pave	Graders	4	8.00	187	0.41
Street Improvements - Base & Pave	Pavers	2	8.00	130	0.42
Street Improvements - Base & Pave	Paving Equipment	0	8.00	132	0.36
Street Improvements - Base & Pave	Rollers	4	8.00	80	0.38
Street Improvements - Concrete Flatwork	Pavers	0	8.00	130	0.42
Street Improvements - Concrete Flatwork	Paving Equipment	0	8.00	132	0.36
Street Improvements - Concrete Flatwork	Rollers	0	8.00	80	0.38
Street Improvements - Concrete Flatwork	Skid Steer Loaders	4	8.00	65	0.37
Frontage & Intersections	Graders	2	8.00	187	0.41
Frontage & Intersections	Pavers	1	8.00	130	0.42
Frontage & Intersections	Paving Equipment	1	8.00	132	0.36
Frontage & Intersections	Rollers	1	8.00	80	0.38
Frontage & Intersections	Scrapers	2	8.00	367	0.48
Frontage & Intersections	Skid Steer Loaders	1	8.00	65	0.37

3 Roots San Diego - Phase I - San Diego County, Winter

**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
Clear & Grub	6	15.00	0.00	754.00	10.80	7.80	20.00	LD_Mix	HDT_Mix	HHDT
Mass Excavation	14	35.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	901.00	159.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	180.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Finish Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Wet Utilities	12	30.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Dry Utilities	8	20.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Street Improvements - Balance & Subgrade	14	35.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Street Improvements - Curb & Gutter	2	5.00	25.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Street Improvements - Race & Pave	10	25.00	6.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Street Improvements - Concrete Flatwork	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Frontage & Intersections	8	20.00	25.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

3 Roots San Diego - Phase I - San Diego County, Winter

**3.2 Clear & Grub - 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					
Fugitive Dust					2.1210	0.0000	2.1210	0.2290	0.0000	0.2290						
Off-Road	3.2388	41.6290	13.6760	0.0439		1.5295	1.5295		1.4071	1.4071						
<b>Total</b>	<b>3.2388</b>	<b>41.6290</b>	<b>13.6760</b>	<b>0.0439</b>	<b>2.1210</b>	<b>1.5295</b>	<b>3.6505</b>	<b>0.2290</b>	<b>1.4071</b>	<b>1.6361</b>						

**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	0.5176	17.6002	4.0302	0.0453	1.0135	0.0673	1.0808	0.2778	0.0644	0.3421						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0666	0.0462	0.4386	1.2300e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335						
<b>Total</b>	<b>0.5843</b>	<b>17.6463</b>	<b>4.4688</b>	<b>0.0465</b>	<b>1.1367</b>	<b>0.0682</b>	<b>1.2049</b>	<b>0.3104</b>	<b>0.0652</b>	<b>0.3756</b>						

3 Roots San Diego - Phase I - San Diego County, Winter

**3.2 Clear & Grub - 2019**

**Mitigated 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					0.9545	0.0000	0.9545	0.1031	0.0000	0.1031						
Off-Road	1.0811	20.9008	23.4233	0.0439		0.7928	0.7928		0.7928	0.7928						
<b>Total</b>	<b>1.0811</b>	<b>20.9008</b>	<b>23.4233</b>	<b>0.0439</b>	<b>0.9545</b>	<b>0.7928</b>	<b>1.7472</b>	<b>0.1031</b>	<b>0.7928</b>	<b>0.8959</b>						

**Mitigated 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	0.5176	17.6002	4.0302	0.0453	1.0135	0.0673	1.0808	0.2778	0.0644	0.3421						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0666	0.0462	0.4386	1.2300e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335						
<b>Total</b>	<b>0.5843</b>	<b>17.6463</b>	<b>4.4688</b>	<b>0.0465</b>	<b>1.1367</b>	<b>0.0682</b>	<b>1.2049</b>	<b>0.3104</b>	<b>0.0652</b>	<b>0.3756</b>						

3 Roots San Diego - Phase I - San Diego County, Winter

**3.3 Mass Excavation - 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					
Fugitive Dust					22.6492	0.0000	22.6492	7.7656	0.0000	7.7656						
Off-Road	13.1089	158.0214	82.6365	0.1684		6.3410	6.3410		5.8337	5.8337						
<b>Total</b>	<b>13.1089</b>	<b>158.0214</b>	<b>82.6365</b>	<b>0.1684</b>	<b>22.6492</b>	<b>6.3410</b>	<b>28.9902</b>	<b>7.7656</b>	<b>5.8337</b>	<b>13.5993</b>						

**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						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.1554	0.1077	1.0234	2.8700e-003	0.2875	2.0500e-003	0.2896	0.0763	1.8900e-003	0.0782						
<b>Total</b>	<b>0.1554</b>	<b>0.1077</b>	<b>1.0234</b>	<b>2.8700e-003</b>	<b>0.2875</b>	<b>2.0500e-003</b>	<b>0.2896</b>	<b>0.0763</b>	<b>1.8900e-003</b>	<b>0.0782</b>						

3 Roots San Diego - Phase I - San Diego County, Winter

**3.3 Mass Excavation - 2019**

**Mitigated 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					10.1921	0.0000	10.1921	3.4945	0.0000	3.4945						
Off-Road	4.1419	80.0774	89.7419	0.1684		3.0374	3.0374		3.0374	3.0374						
<b>Total</b>	<b>4.1419</b>	<b>80.0774</b>	<b>89.7419</b>	<b>0.1684</b>	<b>10.1921</b>	<b>3.0374</b>	<b>13.2296</b>	<b>3.4945</b>	<b>3.0374</b>	<b>6.5319</b>						

**Mitigated 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						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.1554	0.1077	1.0234	2.8700e-003	0.2875	2.0500e-003	0.2896	0.0763	1.8900e-003	0.0782						
<b>Total</b>	<b>0.1554</b>	<b>0.1077</b>	<b>1.0234</b>	<b>2.8700e-003</b>	<b>0.2875</b>	<b>2.0500e-003</b>	<b>0.2896</b>	<b>0.0763</b>	<b>1.8900e-003</b>	<b>0.0782</b>						

3 Roots San Diego - Phase I - San Diego County, Winter

**3.4 Finish Grading - 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					
Fugitive Dust					3.1815	0.0000	3.1815	0.3435	0.0000	0.3435						
Off-Road	3.1675	42.3065	12.5114	0.0423		1.4476	1.4476		1.3318	1.3318						
<b>Total</b>	<b>3.1675</b>	<b>42.3065</b>	<b>12.5114</b>	<b>0.0423</b>	<b>3.1815</b>	<b>1.4476</b>	<b>4.6291</b>	<b>0.3435</b>	<b>1.3318</b>	<b>1.6753</b>						

**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						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0666	0.0462	0.4386	1.2300e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335						
<b>Total</b>	<b>0.0666</b>	<b>0.0462</b>	<b>0.4386</b>	<b>1.2300e-003</b>	<b>0.1232</b>	<b>8.8000e-004</b>	<b>0.1241</b>	<b>0.0327</b>	<b>8.1000e-004</b>	<b>0.0335</b>						

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**3.4 Finish Grading - 2019**

**Mitigated 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					1.4317	0.0000	1.4317	0.1546	0.0000	0.1546						
Off-Road	1.0349	20.0088	22.4237	0.0423		0.7590	0.7590		0.7590	0.7590						
<b>Total</b>	<b>1.0349</b>	<b>20.0088</b>	<b>22.4237</b>	<b>0.0423</b>	<b>1.4317</b>	<b>0.7590</b>	<b>2.1906</b>	<b>0.1546</b>	<b>0.7590</b>	<b>0.9135</b>						

**Mitigated 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						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0666	0.0462	0.4386	1.2300e-003	0.1232	8.8000e-004	0.1241	0.0327	8.1000e-004	0.0335						
<b>Total</b>	<b>0.0666</b>	<b>0.0462</b>	<b>0.4386</b>	<b>1.2300e-003</b>	<b>0.1232</b>	<b>8.8000e-004</b>	<b>0.1241</b>	<b>0.0327</b>	<b>8.1000e-004</b>	<b>0.0335</b>						



3 Roots San Diego - Phase I - San Diego County, Winter

**3.5 Wet Utilities - 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	2.9763	34.5391	25.3286	0.0539		1.3711	1.3711		1.2614	1.2614						
<b>Total</b>	<b>2.9763</b>	<b>34.5391</b>	<b>25.3286</b>	<b>0.0539</b>		<b>1.3711</b>	<b>1.3711</b>		<b>1.2614</b>	<b>1.2614</b>						

**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						
Vendor	9.6000e-003	0.2482	0.0710	5.4000e-004	0.0135	1.7600e-003	0.0153	3.9000e-003	1.6800e-003	5.5800e-003						
Worker	0.1332	0.0923	0.8772	2.4600e-003	0.2464	1.7600e-003	0.2482	0.0654	1.6200e-003	0.0670						
<b>Total</b>	<b>0.1428</b>	<b>0.3405</b>	<b>0.9482</b>	<b>3.0000e-003</b>	<b>0.2600</b>	<b>3.5200e-003</b>	<b>0.2635</b>	<b>0.0693</b>	<b>3.3000e-003</b>	<b>0.0726</b>						

3 Roots San Diego - Phase I - San Diego County, Winter

**3.5 Wet Utilities - 2019**

**Mitigated 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	1.3306	26.4368	35.3545	0.0539		1.2539	1.2539		1.2539	1.2539						
<b>Total</b>	<b>1.3306</b>	<b>26.4368</b>	<b>35.3545</b>	<b>0.0539</b>		<b>1.2539</b>	<b>1.2539</b>		<b>1.2539</b>	<b>1.2539</b>						

**Mitigated 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						
Vendor	9.6000e-003	0.2482	0.0710	5.4000e-004	0.0135	1.7600e-003	0.0153	3.9000e-003	1.6800e-003	5.5800e-003						
Worker	0.1332	0.0923	0.8772	2.4600e-003	0.2464	1.7600e-003	0.2482	0.0654	1.6200e-003	0.0670						
<b>Total</b>	<b>0.1428</b>	<b>0.3405</b>	<b>0.9482</b>	<b>3.0000e-003</b>	<b>0.2600</b>	<b>3.5200e-003</b>	<b>0.2635</b>	<b>0.0693</b>	<b>3.3000e-003</b>	<b>0.0726</b>						

3 Roots San Diego - Phase I - San Diego County, Winter

**3.5 Wet Utilities - 2020**

**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	2.7959	31.5383	25.1731	0.0539		1.2370	1.2370		1.1380	1.1380						
<b>Total</b>	<b>2.7959</b>	<b>31.5383</b>	<b>25.1731</b>	<b>0.0539</b>		<b>1.2370</b>	<b>1.2370</b>		<b>1.1380</b>	<b>1.1380</b>						

**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						
Vendor	7.8300e-003	0.2253	0.0638	5.3000e-004	0.0135	1.1200e-003	0.0147	3.9000e-003	1.0800e-003	4.9700e-003						
Worker	0.1247	0.0833	0.8017	2.3800e-003	0.2464	1.7300e-003	0.2482	0.0654	1.5900e-003	0.0670						
<b>Total</b>	<b>0.1325</b>	<b>0.3086</b>	<b>0.8655</b>	<b>2.9100e-003</b>	<b>0.2600</b>	<b>2.8500e-003</b>	<b>0.2628</b>	<b>0.0693</b>	<b>2.6700e-003</b>	<b>0.0719</b>						

3 Roots San Diego - Phase I - San Diego County, Winter

**3.5 Wet Utilities - 2020**

**Mitigated 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	1.3306	26.4368	35.3545	0.0539		1.2539	1.2539		1.2539	1.2539						
<b>Total</b>	<b>1.3306</b>	<b>26.4368</b>	<b>35.3545</b>	<b>0.0539</b>		<b>1.2539</b>	<b>1.2539</b>		<b>1.2539</b>	<b>1.2539</b>						

**Mitigated 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						
Vendor	7.8300e-003	0.2253	0.0638	5.3000e-004	0.0135	1.1200e-003	0.0147	3.9000e-003	1.0800e-003	4.9700e-003						
Worker	0.1247	0.0833	0.8017	2.3800e-003	0.2464	1.7300e-003	0.2482	0.0654	1.5900e-003	0.0670						
<b>Total</b>	<b>0.1325</b>	<b>0.3086</b>	<b>0.8655</b>	<b>2.9100e-003</b>	<b>0.2600</b>	<b>2.8500e-003</b>	<b>0.2628</b>	<b>0.0693</b>	<b>2.6700e-003</b>	<b>0.0719</b>						

3 Roots San Diego - Phase I - San Diego County, Winter

**3.6 Building Construction - 2020**

**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	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503						
<b>Total</b>	<b>2.1198</b>	<b>19.1860</b>	<b>16.8485</b>	<b>0.0269</b>		<b>1.1171</b>	<b>1.1171</b>		<b>1.0503</b>	<b>1.0503</b>						

**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						
Vendor	0.6223	17.9141	5.0690	0.0424	1.0764	0.0894	1.1658	0.3099	0.0855	0.3954						
Worker	3.7446	2.5012	24.0790	0.0715	7.4015	0.0519	7.4534	1.9632	0.0479	2.0111						
<b>Total</b>	<b>4.3669</b>	<b>20.4153</b>	<b>29.1479</b>	<b>0.1140</b>	<b>8.4779</b>	<b>0.1413</b>	<b>8.6192</b>	<b>2.2731</b>	<b>0.1334</b>	<b>2.4064</b>						

3 Roots San Diego - Phase I - San Diego County, Winter

**3.6 Building Construction - 2020**

**Mitigated 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	0.6739	14.2261	17.8738	0.0269		0.9036	0.9036		0.9036	0.9036						
<b>Total</b>	<b>0.6739</b>	<b>14.2261</b>	<b>17.8738</b>	<b>0.0269</b>		<b>0.9036</b>	<b>0.9036</b>		<b>0.9036</b>	<b>0.9036</b>						

**Mitigated 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						
Vendor	0.6223	17.9141	5.0690	0.0424	1.0764	0.0894	1.1658	0.3099	0.0855	0.3954						
Worker	3.7446	2.5012	24.0790	0.0715	7.4015	0.0519	7.4534	1.9632	0.0479	2.0111						
<b>Total</b>	<b>4.3669</b>	<b>20.4153</b>	<b>29.1479</b>	<b>0.1140</b>	<b>8.4779</b>	<b>0.1413</b>	<b>8.6192</b>	<b>2.2731</b>	<b>0.1334</b>	<b>2.4064</b>						

3 Roots San Diego - Phase I - San Diego County, Winter

**3.6 Building Construction - 2021**

**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	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013						
<b>Total</b>	<b>1.9009</b>	<b>17.4321</b>	<b>16.5752</b>	<b>0.0269</b>		<b>0.9586</b>	<b>0.9586</b>		<b>0.9013</b>	<b>0.9013</b>						

**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						
Vendor	0.5068	16.1478	4.5942	0.0420	1.0764	0.0354	1.1117	0.3099	0.0338	0.3437						
Worker	3.5341	2.2727	22.4642	0.0691	7.4015	0.0511	7.4526	1.9632	0.0471	2.0103						
<b>Total</b>	<b>4.0409</b>	<b>18.4205</b>	<b>27.0584</b>	<b>0.1111</b>	<b>8.4779</b>	<b>0.0865</b>	<b>8.5644</b>	<b>2.2731</b>	<b>0.0809</b>	<b>2.3540</b>						

3 Roots San Diego - Phase I - San Diego County, Winter

**3.6 Building Construction - 2021**

**Mitigated 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	0.6739	14.2261	17.8738	0.0269		0.9036	0.9036		0.9036	0.9036						
<b>Total</b>	<b>0.6739</b>	<b>14.2261</b>	<b>17.8738</b>	<b>0.0269</b>		<b>0.9036</b>	<b>0.9036</b>		<b>0.9036</b>	<b>0.9036</b>						

**Mitigated 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						
Vendor	0.5068	16.1478	4.5942	0.0420	1.0764	0.0354	1.1117	0.3099	0.0338	0.3437						
Worker	3.5341	2.2727	22.4642	0.0691	7.4015	0.0511	7.4526	1.9632	0.0471	2.0103						
<b>Total</b>	<b>4.0409</b>	<b>18.4205</b>	<b>27.0584</b>	<b>0.1111</b>	<b>8.4779</b>	<b>0.0865</b>	<b>8.5644</b>	<b>2.2731</b>	<b>0.0809</b>	<b>2.3540</b>						



3 Roots San Diego - Phase I - San Diego County, Winter

**3.7 Architectural Coating - 2020**

**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					
Archit. Coating	32.8714					0.0000	0.0000		0.0000	0.0000						
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109						
<b>Total</b>	<b>33.1136</b>	<b>1.6838</b>	<b>1.8314</b>	<b>2.9700e-003</b>		<b>0.1109</b>	<b>0.1109</b>		<b>0.1109</b>	<b>0.1109</b>						

**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						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.7481	0.4997	4.8104	0.0143	1.4787	0.0104	1.4890	0.3922	9.5600e-003	0.4018						
<b>Total</b>	<b>0.7481</b>	<b>0.4997</b>	<b>4.8104</b>	<b>0.0143</b>	<b>1.4787</b>	<b>0.0104</b>	<b>1.4890</b>	<b>0.3922</b>	<b>9.5600e-003</b>	<b>0.4018</b>						

3 Roots San Diego - Phase I - San Diego County, Winter

**3.7 Architectural Coating - 2020**

**Mitigated 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					
Archit. Coating	32.8714					0.0000	0.0000		0.0000	0.0000						
Off-Road	0.0594	1.3570	1.8324	2.9700e-003		0.0951	0.0951		0.0951	0.0951						
<b>Total</b>	<b>32.9309</b>	<b>1.3570</b>	<b>1.8324</b>	<b>2.9700e-003</b>		<b>0.0951</b>	<b>0.0951</b>		<b>0.0951</b>	<b>0.0951</b>						

**Mitigated 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						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.7481	0.4997	4.8104	0.0143	1.4787	0.0104	1.4890	0.3922	9.5600e-003	0.4018						
<b>Total</b>	<b>0.7481</b>	<b>0.4997</b>	<b>4.8104</b>	<b>0.0143</b>	<b>1.4787</b>	<b>0.0104</b>	<b>1.4890</b>	<b>0.3922</b>	<b>9.5600e-003</b>	<b>0.4018</b>						

3 Roots San Diego - Phase I - San Diego County, Winter

**3.7 Architectural Coating - 2021**

**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					
Archit. Coating	32.8714					0.0000	0.0000		0.0000	0.0000						
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941						
<b>Total</b>	<b>33.0903</b>	<b>1.5268</b>	<b>1.8176</b>	<b>2.9700e-003</b>		<b>0.0941</b>	<b>0.0941</b>		<b>0.0941</b>	<b>0.0941</b>						

**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						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.7060	0.4540	4.4879	0.0138	1.4787	0.0102	1.4889	0.3922	9.4100e-003	0.4016						
<b>Total</b>	<b>0.7060</b>	<b>0.4540</b>	<b>4.4879</b>	<b>0.0138</b>	<b>1.4787</b>	<b>0.0102</b>	<b>1.4889</b>	<b>0.3922</b>	<b>9.4100e-003</b>	<b>0.4016</b>						

3 Roots San Diego - Phase I - San Diego County, Winter

**3.7 Architectural Coating - 2021**

**Mitigated 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					
Archit. Coating	32.8714					0.0000	0.0000		0.0000	0.0000						
Off-Road	0.0594	1.3570	1.8324	2.9700e-003		0.0951	0.0951		0.0951	0.0951						
<b>Total</b>	<b>32.9309</b>	<b>1.3570</b>	<b>1.8324</b>	<b>2.9700e-003</b>		<b>0.0951</b>	<b>0.0951</b>		<b>0.0951</b>	<b>0.0951</b>						

**Mitigated 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						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.7060	0.4540	4.4879	0.0138	1.4787	0.0102	1.4889	0.3922	9.4100e-003	0.4016						
<b>Total</b>	<b>0.7060</b>	<b>0.4540</b>	<b>4.4879</b>	<b>0.0138</b>	<b>1.4787</b>	<b>0.0102</b>	<b>1.4889</b>	<b>0.3922</b>	<b>9.4100e-003</b>	<b>0.4016</b>						

3 Roots San Diego - Phase I - San Diego County, Winter

**3.8 Frontage & Intersections - 2020**

**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	3.6957	44.2504	27.2622	0.0570		1.7436	1.7436		1.6041	1.6041						
Paving	0.0000					0.0000	0.0000		0.0000	0.0000						
<b>Total</b>	<b>3.6957</b>	<b>44.2504</b>	<b>27.2622</b>	<b>0.0570</b>		<b>1.7436</b>	<b>1.7436</b>		<b>1.6041</b>	<b>1.6041</b>						

**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						
Vendor	0.0978	2.8167	0.7970	6.6700e-003	0.1692	0.0141	0.1833	0.0487	0.0134	0.0622						
Worker	0.0831	0.0555	0.5345	1.5900e-003	0.1643	1.1500e-003	0.1655	0.0436	1.0600e-003	0.0446						
<b>Total</b>	<b>0.1810</b>	<b>2.8722</b>	<b>1.3315</b>	<b>8.2600e-003</b>	<b>0.3335</b>	<b>0.0152</b>	<b>0.3487</b>	<b>0.0923</b>	<b>0.0145</b>	<b>0.1068</b>						

3 Roots San Diego - Phase I - San Diego County, Winter

**3.8 Frontage & Intersections - 2020**

**Mitigated 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	1.4016	27.5003	33.4049	0.0570		1.1709	1.1709		1.1709	1.1709						
Paving	0.0000					0.0000	0.0000		0.0000	0.0000						
<b>Total</b>	<b>1.4016</b>	<b>27.5003</b>	<b>33.4049</b>	<b>0.0570</b>		<b>1.1709</b>	<b>1.1709</b>		<b>1.1709</b>	<b>1.1709</b>						

**Mitigated 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						
Vendor	0.0978	2.8167	0.7970	6.6700e-003	0.1692	0.0141	0.1833	0.0487	0.0134	0.0622						
Worker	0.0831	0.0555	0.5345	1.5900e-003	0.1643	1.1500e-003	0.1655	0.0436	1.0600e-003	0.0446						
<b>Total</b>	<b>0.1810</b>	<b>2.8722</b>	<b>1.3315</b>	<b>8.2600e-003</b>	<b>0.3335</b>	<b>0.0152</b>	<b>0.3487</b>	<b>0.0923</b>	<b>0.0145</b>	<b>0.1068</b>						

3 Roots San Diego - Phase I - San Diego County, Winter

**3.8 Frontage & Intersections - 2021**

**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	3.4681	40.7178	26.2603	0.0570		1.5878	1.5878		1.4608	1.4608						
Paving	0.0000					0.0000	0.0000		0.0000	0.0000						
<b>Total</b>	<b>3.4681</b>	<b>40.7178</b>	<b>26.2603</b>	<b>0.0570</b>		<b>1.5878</b>	<b>1.5878</b>		<b>1.4608</b>	<b>1.4608</b>						

**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						
Vendor	0.0797	2.5390	0.7224	6.6000e-003	0.1692	5.5600e-003	0.1748	0.0487	5.3200e-003	0.0540						
Worker	0.0785	0.0505	0.4987	1.5300e-003	0.1643	1.1300e-003	0.1654	0.0436	1.0500e-003	0.0446						
<b>Total</b>	<b>0.1581</b>	<b>2.5894</b>	<b>1.2210</b>	<b>8.1300e-003</b>	<b>0.3335</b>	<b>6.6900e-003</b>	<b>0.3402</b>	<b>0.0923</b>	<b>6.3700e-003</b>	<b>0.0987</b>						

3 Roots San Diego - Phase I - San Diego County, Winter

**3.8 Frontage & Intersections - 2021**

**Mitigated 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	1.4016	27.5003	33.4049	0.0570		1.1709	1.1709		1.1709	1.1709						
Paving	0.0000					0.0000	0.0000		0.0000	0.0000						
<b>Total</b>	<b>1.4016</b>	<b>27.5003</b>	<b>33.4049</b>	<b>0.0570</b>		<b>1.1709</b>	<b>1.1709</b>		<b>1.1709</b>	<b>1.1709</b>						

**Mitigated 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						
Vendor	0.0797	2.5390	0.7224	6.6000e-003	0.1692	5.5600e-003	0.1748	0.0487	5.3200e-003	0.0540						
Worker	0.0785	0.0505	0.4987	1.5300e-003	0.1643	1.1300e-003	0.1654	0.0436	1.0500e-003	0.0446						
<b>Total</b>	<b>0.1581</b>	<b>2.5894</b>	<b>1.2210</b>	<b>8.1300e-003</b>	<b>0.3335</b>	<b>6.6900e-003</b>	<b>0.3402</b>	<b>0.0923</b>	<b>6.3700e-003</b>	<b>0.0987</b>						



3 Roots San Diego - Phase I - San Diego County, Winter

**3.9 Dry Utilities - 2020**

**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	2.3343	26.0589	15.6605	0.0374		1.1180	1.1180		1.0286	1.0286						
<b>Total</b>	<b>2.3343</b>	<b>26.0589</b>	<b>15.6605</b>	<b>0.0374</b>		<b>1.1180</b>	<b>1.1180</b>		<b>1.0286</b>	<b>1.0286</b>						

**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						
Vendor	7.8300e-003	0.2253	0.0638	5.3000e-004	0.0135	1.1200e-003	0.0147	3.9000e-003	1.0800e-003	4.9700e-003						
Worker	0.0831	0.0555	0.5345	1.5900e-003	0.1643	1.1500e-003	0.1655	0.0436	1.0600e-003	0.0446						
<b>Total</b>	<b>0.0910</b>	<b>0.2809</b>	<b>0.5983</b>	<b>2.1200e-003</b>	<b>0.1778</b>	<b>2.2700e-003</b>	<b>0.1801</b>	<b>0.0475</b>	<b>2.1400e-003</b>	<b>0.0496</b>						

3 Roots San Diego - Phase I - San Diego County, Winter

**3.9 Dry Utilities - 2020**

**Mitigated 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	0.9225	18.8987	22.7729	0.0374		0.9398	0.9398		0.9398	0.9398						
<b>Total</b>	<b>0.9225</b>	<b>18.8987</b>	<b>22.7729</b>	<b>0.0374</b>		<b>0.9398</b>	<b>0.9398</b>		<b>0.9398</b>	<b>0.9398</b>						

**Mitigated 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						
Vendor	7.8300e-003	0.2253	0.0638	5.3000e-004	0.0135	1.1200e-003	0.0147	3.9000e-003	1.0800e-003	4.9700e-003						
Worker	0.0831	0.0555	0.5345	1.5900e-003	0.1643	1.1500e-003	0.1655	0.0436	1.0600e-003	0.0446						
<b>Total</b>	<b>0.0910</b>	<b>0.2809</b>	<b>0.5983</b>	<b>2.1200e-003</b>	<b>0.1778</b>	<b>2.2700e-003</b>	<b>0.1801</b>	<b>0.0475</b>	<b>2.1400e-003</b>	<b>0.0496</b>						

3 Roots San Diego - Phase I - San Diego County, Winter

**3.9 Dry Utilities - 2021**

**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	2.1211	23.0383	15.4357	0.0374		0.9625	0.9625		0.8855	0.8855						
<b>Total</b>	<b>2.1211</b>	<b>23.0383</b>	<b>15.4357</b>	<b>0.0374</b>		<b>0.9625</b>	<b>0.9625</b>		<b>0.8855</b>	<b>0.8855</b>						

**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						
Vendor	6.3700e-003	0.2031	0.0578	5.3000e-004	0.0135	4.5000e-004	0.0140	3.9000e-003	4.3000e-004	4.3200e-003						
Worker	0.0785	0.0505	0.4987	1.5300e-003	0.1643	1.1300e-003	0.1654	0.0436	1.0500e-003	0.0446						
<b>Total</b>	<b>0.0848</b>	<b>0.2536</b>	<b>0.5564</b>	<b>2.0600e-003</b>	<b>0.1778</b>	<b>1.5800e-003</b>	<b>0.1794</b>	<b>0.0475</b>	<b>1.4800e-003</b>	<b>0.0489</b>						

3 Roots San Diego - Phase I - San Diego County, Winter

**3.9 Dry Utilities - 2021**

**Mitigated 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	0.9225	18.8987	22.7729	0.0374		0.9398	0.9398		0.9398	0.9398						
<b>Total</b>	<b>0.9225</b>	<b>18.8987</b>	<b>22.7729</b>	<b>0.0374</b>		<b>0.9398</b>	<b>0.9398</b>		<b>0.9398</b>	<b>0.9398</b>						

**Mitigated 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						
Vendor	6.3700e-003	0.2031	0.0578	5.3000e-004	0.0135	4.5000e-004	0.0140	3.9000e-003	4.3000e-004	4.3200e-003						
Worker	0.0785	0.0505	0.4987	1.5300e-003	0.1643	1.1300e-003	0.1654	0.0436	1.0500e-003	0.0446						
<b>Total</b>	<b>0.0848</b>	<b>0.2536</b>	<b>0.5564</b>	<b>2.0600e-003</b>	<b>0.1778</b>	<b>1.5800e-003</b>	<b>0.1794</b>	<b>0.0475</b>	<b>1.4800e-003</b>	<b>0.0489</b>						

3 Roots San Diego - Phase I - San Diego County, Winter

**3.10 Street Improvements - Balance & Subgrade Prep - 2021**

**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					6.3630	0.0000	6.3630	0.6871	0.0000	0.6871						
Off-Road	6.4387	76.2134	45.3892	0.1018		2.9685	2.9685		2.7310	2.7310						
<b>Total</b>	<b>6.4387</b>	<b>76.2134</b>	<b>45.3892</b>	<b>0.1018</b>	<b>6.3630</b>	<b>2.9685</b>	<b>9.3315</b>	<b>0.6871</b>	<b>2.7310</b>	<b>3.4181</b>						

**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						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.1373	0.0883	0.8726	2.6900e-003	0.2875	1.9900e-003	0.2895	0.0763	1.8300e-003	0.0781						
<b>Total</b>	<b>0.1373</b>	<b>0.0883</b>	<b>0.8726</b>	<b>2.6900e-003</b>	<b>0.2875</b>	<b>1.9900e-003</b>	<b>0.2895</b>	<b>0.0763</b>	<b>1.8300e-003</b>	<b>0.0781</b>						

3 Roots San Diego - Phase I - San Diego County, Winter

**3.10 Street Improvements - Balance & Subgrade Prep - 2021**

**Mitigated 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					2.8634	0.0000	2.8634	0.3092	0.0000	0.3092						
Off-Road	2.4996	49.5818	57.4493	0.1018		2.1443	2.1443		2.1443	2.1443						
<b>Total</b>	<b>2.4996</b>	<b>49.5818</b>	<b>57.4493</b>	<b>0.1018</b>	<b>2.8634</b>	<b>2.1443</b>	<b>5.0076</b>	<b>0.3092</b>	<b>2.1443</b>	<b>2.4535</b>						

**Mitigated 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						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.1373	0.0883	0.8726	2.6900e-003	0.2875	1.9900e-003	0.2895	0.0763	1.8300e-003	0.0781						
<b>Total</b>	<b>0.1373</b>	<b>0.0883</b>	<b>0.8726</b>	<b>2.6900e-003</b>	<b>0.2875</b>	<b>1.9900e-003</b>	<b>0.2895</b>	<b>0.0763</b>	<b>1.8300e-003</b>	<b>0.0781</b>						

3 Roots San Diego - Phase I - San Diego County, Winter

**3.11 Street Improvements - Curb & Gutter - 2021**

**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	0.3841	3.8805	5.0828	8.1500e-003		0.1916	0.1916		0.1763	0.1763						
Paving	0.0000					0.0000	0.0000		0.0000	0.0000						
<b>Total</b>	<b>0.3841</b>	<b>3.8805</b>	<b>5.0828</b>	<b>8.1500e-003</b>		<b>0.1916</b>	<b>0.1916</b>		<b>0.1763</b>	<b>0.1763</b>						

**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						
Vendor	0.0797	2.5390	0.7224	6.6000e-003	0.1692	5.5600e-003	0.1748	0.0487	5.3200e-003	0.0540						
Worker	0.0196	0.0126	0.1247	3.8000e-004	0.0411	2.8000e-004	0.0414	0.0109	2.6000e-004	0.0112						
<b>Total</b>	<b>0.0993</b>	<b>2.5516</b>	<b>0.8470</b>	<b>6.9800e-003</b>	<b>0.2103</b>	<b>5.8400e-003</b>	<b>0.2162</b>	<b>0.0596</b>	<b>5.5800e-003</b>	<b>0.0652</b>						

3 Roots San Diego - Phase I - San Diego County, Winter

**3.11 Street Improvements - Curb & Gutter - 2021**

**Mitigated 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	0.2012	3.8888	6.2020	8.1500e-003		0.1877	0.1877		0.1877	0.1877						
Paving	0.0000					0.0000	0.0000		0.0000	0.0000						
<b>Total</b>	<b>0.2012</b>	<b>3.8888</b>	<b>6.2020</b>	<b>8.1500e-003</b>		<b>0.1877</b>	<b>0.1877</b>		<b>0.1877</b>	<b>0.1877</b>						

**Mitigated 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						
Vendor	0.0797	2.5390	0.7224	6.6000e-003	0.1692	5.5600e-003	0.1748	0.0487	5.3200e-003	0.0540						
Worker	0.0196	0.0126	0.1247	3.8000e-004	0.0411	2.8000e-004	0.0414	0.0109	2.6000e-004	0.0112						
<b>Total</b>	<b>0.0993</b>	<b>2.5516</b>	<b>0.8470</b>	<b>6.9800e-003</b>	<b>0.2103</b>	<b>5.8400e-003</b>	<b>0.2162</b>	<b>0.0596</b>	<b>5.5800e-003</b>	<b>0.0652</b>						



3 Roots San Diego - Phase I - San Diego County, Winter

**3.12 Street Improvements - Base & Pave - 2021**

**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	3.0624	36.5853	20.4001	0.0464		1.4721	1.4721		1.3544	1.3544						
Paving	0.0000					0.0000	0.0000		0.0000	0.0000						
<b>Total</b>	<b>3.0624</b>	<b>36.5853</b>	<b>20.4001</b>	<b>0.0464</b>		<b>1.4721</b>	<b>1.4721</b>		<b>1.3544</b>	<b>1.3544</b>						

**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						
Vendor	0.0191	0.6094	0.1734	1.5800e-003	0.0406	1.3400e-003	0.0420	0.0117	1.2800e-003	0.0130						
Worker	0.0981	0.0631	0.6233	1.9200e-003	0.2054	1.4200e-003	0.2068	0.0545	1.3100e-003	0.0558						
<b>Total</b>	<b>0.1172</b>	<b>0.6724</b>	<b>0.7967</b>	<b>3.5000e-003</b>	<b>0.2460</b>	<b>2.7600e-003</b>	<b>0.2487</b>	<b>0.0662</b>	<b>2.5900e-003</b>	<b>0.0688</b>						

3 Roots San Diego - Phase I - San Diego County, Winter

**3.12 Street Improvements - Base & Pave - 2021**

**Mitigated 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	1.1375	22.8933	29.1244	0.0464		1.1035	1.1035		1.1035	1.1035						
Paving	0.0000					0.0000	0.0000		0.0000	0.0000						
<b>Total</b>	<b>1.1375</b>	<b>22.8933</b>	<b>29.1244</b>	<b>0.0464</b>		<b>1.1035</b>	<b>1.1035</b>		<b>1.1035</b>	<b>1.1035</b>						

**Mitigated 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						
Vendor	0.0191	0.6094	0.1734	1.5800e-003	0.0406	1.3400e-003	0.0420	0.0117	1.2800e-003	0.0130						
Worker	0.0981	0.0631	0.6233	1.9200e-003	0.2054	1.4200e-003	0.2068	0.0545	1.3100e-003	0.0558						
<b>Total</b>	<b>0.1172</b>	<b>0.6724</b>	<b>0.7967</b>	<b>3.5000e-003</b>	<b>0.2460</b>	<b>2.7600e-003</b>	<b>0.2487</b>	<b>0.0662</b>	<b>2.5900e-003</b>	<b>0.0688</b>						

3 Roots San Diego - Phase I - San Diego County, Winter

**3.13 Street Improvements - Concrete Flatwork - 2021**

**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	0.3020	4.0141	5.5598	8.2700e-003		0.1633	0.1633		0.1503	0.1503						
Paving	0.0000					0.0000	0.0000		0.0000	0.0000						
<b>Total</b>	<b>0.3020</b>	<b>4.0141</b>	<b>5.5598</b>	<b>8.2700e-003</b>		<b>0.1633</b>	<b>0.1633</b>		<b>0.1503</b>	<b>0.1503</b>						

**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						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0392	0.0252	0.2493	7.7000e-004	0.0822	5.7000e-004	0.0827	0.0218	5.2000e-004	0.0223						
<b>Total</b>	<b>0.0392</b>	<b>0.0252</b>	<b>0.2493</b>	<b>7.7000e-004</b>	<b>0.0822</b>	<b>5.7000e-004</b>	<b>0.0827</b>	<b>0.0218</b>	<b>5.2000e-004</b>	<b>0.0223</b>						

3 Roots San Diego - Phase I - San Diego County, Winter

**3.13 Street Improvements - Concrete Flatwork - 2021**

**Mitigated 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	0.2036	4.6489	6.2777	8.2700e-003		0.3258	0.3258		0.3258	0.3258						
Paving	0.0000					0.0000	0.0000		0.0000	0.0000						
<b>Total</b>	<b>0.2036</b>	<b>4.6489</b>	<b>6.2777</b>	<b>8.2700e-003</b>		<b>0.3258</b>	<b>0.3258</b>		<b>0.3258</b>	<b>0.3258</b>						

**Mitigated 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						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0392	0.0252	0.2493	7.7000e-004	0.0822	5.7000e-004	0.0827	0.0218	5.2000e-004	0.0223						
<b>Total</b>	<b>0.0392</b>	<b>0.0252</b>	<b>0.2493</b>	<b>7.7000e-004</b>	<b>0.0822</b>	<b>5.7000e-004</b>	<b>0.0827</b>	<b>0.0218</b>	<b>5.2000e-004</b>	<b>0.0223</b>						

**4.0 Operational Detail - Mobile**

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3 Roots San Diego - Phase I - San Diego County, Winter

**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	19.1110	83.5818	229.6644	0.7977	73.1487	0.6754	73.8240	19.5497	0.6307	20.1804						
Unmitigated	19.1110	83.5818	229.6644	0.7977	73.1487	0.6754	73.8240	19.5497	0.6307	20.1804						

**4.2 Trip Summary Information**

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments High Rise	3,654.00	3,654.00	3654.00	13,393,664	13,393,664
Condo/Townhouse	3,144.00	3,144.00	3144.00	8,640,341	8,640,341
Single Family Housing	4,350.00	4,350.00	4350.00	9,563,736	9,563,736
Strip Mall	640.00	640.00	640.00	2,900,352	2,900,352
<b>Total</b>	<b>11,788.00</b>	<b>11,788.00</b>	<b>11,788.00</b>	<b>34,498,093</b>	<b>34,498,093</b>

**4.3 Trip Type Information**

3 Roots San Diego - Phase I - San Diego County, Winter

Land Use	Miles			Trip %			Trip Purpose %		
	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
Apartments High Rise	10.07	0.00	0.00	100.00	0.00	0.00	100	0	0
Condo/Townhouse	7.55	0.00	0.00	100.00	0.00	0.00	100	0	0
Single Family Housing	6.04	0.00	0.00	100.00	0.00	0.00	100	0	0
Strip Mall	0.00	12.45	0.00	0.00	100.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments High Rise	0.598645	0.040929	0.181073	0.106149	0.015683	0.005479	0.016317	0.023976	0.001926	0.001932	0.006016	0.000753	0.001122
Condo/Townhouse	0.598645	0.040929	0.181073	0.106149	0.015683	0.005479	0.016317	0.023976	0.001926	0.001932	0.006016	0.000753	0.001122
Single Family Housing	0.598645	0.040929	0.181073	0.106149	0.015683	0.005479	0.016317	0.023976	0.001926	0.001932	0.006016	0.000753	0.001122
Strip Mall	0.598645	0.040929	0.181073	0.106149	0.015683	0.005479	0.016317	0.023976	0.001926	0.001932	0.006016	0.000753	0.001122

5.0 Energy Detail

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Historical Energy Use: N

5.1 Mitigation Measures Energy

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3 Roots San Diego - Phase I - San Diego County, Winter

	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	0.6023	5.1476	2.1945	0.0329		0.4161	0.4161		0.4161	0.4161						
NaturalGas Unmitigated	0.6023	5.1476	2.1945	0.0329		0.4161	0.4161		0.4161	0.4161						

**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					
Apartments High Rise	12394.8	0.1337	1.1423	0.4861	7.2900e-003		0.0924	0.0924		0.0924	0.0924						
Condo/Townhouse	15486.2	0.1670	1.4272	0.6073	9.1100e-003		0.1154	0.1154		0.1154	0.1154						
Single Family Housing	27872.1	0.3006	2.5686	1.0930	0.0164		0.2077	0.2077		0.2077	0.2077						
Strip Mall	97.7534	1.0500e-003	9.5800e-003	8.0500e-003	6.0000e-005		7.3000e-004	7.3000e-004		7.3000e-004	7.3000e-004						
<b>Total</b>		<b>0.6023</b>	<b>5.1476</b>	<b>2.1944</b>	<b>0.0329</b>		<b>0.4161</b>	<b>0.4161</b>		<b>0.4161</b>	<b>0.4161</b>						

3 Roots San Diego - Phase I - San Diego County, Winter

**5.2 Energy by Land Use - NaturalGas**

**Mitigated**

	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					
Apartments High Rise	12.3948	0.1337	1.1423	0.4861	7.2900e-003		0.0924	0.0924		0.0924	0.0924						
Condo/Townhouse	15.4862	0.1670	1.4272	0.6073	9.1100e-003		0.1154	0.1154		0.1154	0.1154						
Single Family Housing	27.8721	0.3006	2.5686	1.0930	0.0164		0.2077	0.2077		0.2077	0.2077						
Strip Mall	0.0977534	1.0500e-003	9.5800e-003	8.0500e-003	6.0000e-005		7.3000e-004	7.3000e-004		7.3000e-004	7.3000e-004						
<b>Total</b>		<b>0.6023</b>	<b>5.1476</b>	<b>2.1944</b>	<b>0.0329</b>		<b>0.4161</b>	<b>0.4161</b>		<b>0.4161</b>	<b>0.4161</b>						

**6.0 Area Detail**

**6.1 Mitigation Measures Area**



3 Roots San Diego - Phase I - San Diego County, Winter

	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	46.0528	1.3688	118.6836	6.2600e-003		0.6558	0.6558		0.6558	0.6558						
Unmitigated	46.0528	1.3688	118.6836	6.2600e-003		0.6558	0.6558		0.6558	0.6558						

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					
Architectural Coating	3.9266					0.0000	0.0000		0.0000	0.0000						
Consumer Products	38.5414					0.0000	0.0000		0.0000	0.0000						
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						
Landscaping	3.5848	1.3688	118.6836	6.2600e-003		0.6558	0.6558		0.6558	0.6558						
<b>Total</b>	<b>46.0528</b>	<b>1.3688</b>	<b>118.6836</b>	<b>6.2600e-003</b>		<b>0.6558</b>	<b>0.6558</b>		<b>0.6558</b>	<b>0.6558</b>						

3 Roots San Diego - Phase I - San Diego County, Winter

**6.2 Area by SubCategory**

**Mitigated**

	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					
Architectural Coating	3.9266					0.0000	0.0000		0.0000	0.0000						
Consumer Products	38.5414					0.0000	0.0000		0.0000	0.0000						
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						
Landscaping	3.5848	1.3688	118.6836	6.2600e-003		0.6558	0.6558		0.6558	0.6558						
<b>Total</b>	<b>46.0528</b>	<b>1.3688</b>	<b>118.6836</b>	<b>6.2600e-003</b>		<b>0.6558</b>	<b>0.6558</b>		<b>0.6558</b>	<b>0.6558</b>						

**7.0 Water Detail**

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**7.1 Mitigation Measures Water**

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

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

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3 Roots San Diego - Phase I - San Diego County, Winter

**Fire Pumps and Emergency Generators**

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

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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**User Defined Equipment**

Equipment Type	Number
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**11.0 Vegetation**

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3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

**3 Roots San Diego - Phase II (Mitigated)**  
**San Diego County, Winter**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	23.46	1000sqft	0.54	23,460.00	0
City Park	25.40	Acre	25.40	1,106,424.00	0
High Turnover (Sit Down Restaurant)	86.40	1000sqft	1.98	86,400.00	0
Apartments High Rise	609.00	Dwelling Unit	9.82	609,000.00	1742
Condo/Townhouse	643.00	Dwelling Unit	40.19	643,000.00	1839
Single Family Housing	548.00	Dwelling Unit	177.92	986,400.00	1567
Regional Shopping Center	20.70	1000sqft	0.48	20,700.00	0
Strip Mall	29.60	1000sqft	0.68	29,600.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.6	<b>Precipitation Freq (Days)</b>	40
<b>Climate Zone</b>	13			<b>Operational Year</b>	2023
<b>Utility Company</b>	San Diego Gas & Electric				
<b>CO2 Intensity (lb/MWhr)</b>	720.49	<b>CH4 Intensity (lb/MWhr)</b>	0.029	<b>N2O Intensity (lb/MWhr)</b>	0.006

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics -

Land Use -

Construction Phase - Assumptions provided by JT Krueer & Co.

3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

Off-road Equipment - Assumptions provided by JT Krueer & Co.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Assumptions provided by JT Krueer & Co.

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Off-road Equipment - Assumptions provided by JT Krueer & Co.

Off-road Equipment - Assumptions provided by JT Krueer & Co.

Trips and VMT - Assumptions provided by JT Krueer & Co.

Grading -

Architectural Coating - SDAPCD Rule 67

Vehicle Trips - STC Traffic Inc. 2018

Woodstoves - No Hearth

Area Coating - SDAPCD Rule 67

Construction Off-road Equipment Mitigation - Tier 3 Offroad Equipment & Dust BMPs

Mobile Land Use Mitigation -

Area Mitigation -

## 3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Residential_Exterior	1,510,920.00	1,503,900.00
tblArchitecturalCoating	ConstArea_Residential_Interior	4,532,760.00	4,511,700.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	100.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	50.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	100
tblAreaCoating	Area_EF_Nonresidential_Interior	250	100
tblAreaCoating	Area_EF_Residential_Exterior	250	100
tblAreaCoating	Area_EF_Residential_Interior	250	50
tblAreaCoating	Area_Residential_Exterior	1510920	1503900
tblAreaCoating	Area_Residential_Interior	4532760	4511700
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	12.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00

3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	15.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	12.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
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tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
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tblConstructionPhase	NumDays	330.00	326.00
tblConstructionPhase	NumDays	4,650.00	347.00
tblConstructionPhase	NumDays	465.00	7.00
tblConstructionPhase	NumDays	465.00	50.00
tblConstructionPhase	NumDays	465.00	58.00

## 3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

tblConstructionPhase	NumDays	465.00	75.00
tblConstructionPhase	NumDays	465.00	34.00
tblConstructionPhase	NumDays	465.00	28.00
tblConstructionPhase	NumDays	330.00	8.00
tblConstructionPhase	NumDays	330.00	17.00
tblConstructionPhase	NumDays	330.00	22.00
tblConstructionPhase	NumDays	330.00	52.00
tblConstructionPhase	NumDays	180.00	11.00
tblConstructionPhase	NumDays	180.00	49.00
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFireplaces	NumberGas	334.95	0.00
tblFireplaces	NumberGas	353.65	0.00
tblFireplaces	NumberGas	301.40	0.00
tblFireplaces	NumberNoFireplace	60.90	633.00
tblFireplaces	NumberNoFireplace	64.30	632.00
tblFireplaces	NumberNoFireplace	54.80	535.00
tblFireplaces	NumberWood	213.15	0.00
tblFireplaces	NumberWood	225.05	0.00
tblFireplaces	NumberWood	191.80	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00



3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	8.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00

3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblSolidWaste	SolidWasteGenerationRate	280.14	291.18
tblSolidWaste	SolidWasteGenerationRate	295.78	290.72
tblSolidWaste	SolidWasteGenerationRate	642.47	627.30
tblTripsAndVMT	HaulingTripLength	20.00	7.80
tblTripsAndVMT	HaulingTripLength	20.00	7.80
tblTripsAndVMT	HaulingTripNumber	0.00	698.00
tblTripsAndVMT	HaulingTripNumber	0.00	1,918.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblTripsAndVMT	VendorTripNumber	0.00	25.00
tblTripsAndVMT	VendorTripNumber	400.00	241.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	25.00
tblTripsAndVMT	WorkerTripNumber	1,623.00	727.00
tblTripsAndVMT	WorkerTripNumber	325.00	145.00
tblVehicleTrips	CC_TL	7.30	9.59
tblVehicleTrips	CC_TL	7.30	21.86
tblVehicleTrips	CC_TL	7.30	5.05

## 3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

tblVehicleTrips	CC_TL	7.30	14.59
tblVehicleTrips	CC_TTP	48.00	100.00
tblVehicleTrips	CC_TTP	48.00	100.00
tblVehicleTrips	CC_TTP	72.50	100.00
tblVehicleTrips	CC_TTP	64.70	100.00
tblVehicleTrips	CC_TTP	64.40	100.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CW_TTP	33.00	0.00
tblVehicleTrips	CW_TTP	33.00	0.00
tblVehicleTrips	CW_TTP	8.50	0.00
tblVehicleTrips	CW_TTP	16.30	0.00
tblVehicleTrips	CW_TTP	16.60	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	19.00	0.00
tblVehicleTrips	DV_TP	20.00	0.00
tblVehicleTrips	DV_TP	35.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	40.00	0.00
tblVehicleTrips	HO_TTP	39.60	0.00
tblVehicleTrips	HO_TTP	39.60	0.00
tblVehicleTrips	HO_TTP	39.60	0.00

## 3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

tblVehicleTrips	HS_TTP	18.80	0.00
tblVehicleTrips	HS_TTP	18.80	0.00
tblVehicleTrips	HS_TTP	18.80	0.00
tblVehicleTrips	HW_TL	10.80	10.56
tblVehicleTrips	HW_TL	10.80	7.92
tblVehicleTrips	HW_TL	10.80	6.34
tblVehicleTrips	HW_TTP	41.60	100.00
tblVehicleTrips	HW_TTP	41.60	100.00
tblVehicleTrips	HW_TTP	41.60	100.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PB_TP	43.00	0.00
tblVehicleTrips	PB_TP	11.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	15.00	0.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	77.00	100.00
tblVehicleTrips	PR_TP	37.00	100.00
tblVehicleTrips	PR_TP	54.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	45.00	100.00
tblVehicleTrips	ST_TR	4.98	5.69
tblVehicleTrips	ST_TR	22.75	47.39

## 3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

tblVehicleTrips	ST_TR	5.67	7.58
tblVehicleTrips	ST_TR	2.46	22.79
tblVehicleTrips	ST_TR	158.37	98.58
tblVehicleTrips	ST_TR	49.97	68.23
tblVehicleTrips	ST_TR	9.91	9.48
tblVehicleTrips	ST_TR	42.04	34.14
tblVehicleTrips	SU_TR	3.65	5.69
tblVehicleTrips	SU_TR	16.74	47.39
tblVehicleTrips	SU_TR	4.84	7.58
tblVehicleTrips	SU_TR	1.05	22.79
tblVehicleTrips	SU_TR	131.84	98.58
tblVehicleTrips	SU_TR	25.24	68.23
tblVehicleTrips	SU_TR	8.62	9.48
tblVehicleTrips	SU_TR	20.43	34.14
tblVehicleTrips	WD_TR	4.20	5.69
tblVehicleTrips	WD_TR	1.89	47.39
tblVehicleTrips	WD_TR	5.81	7.58
tblVehicleTrips	WD_TR	11.03	22.79
tblVehicleTrips	WD_TR	127.15	98.58
tblVehicleTrips	WD_TR	42.70	68.23
tblVehicleTrips	WD_TR	9.52	9.48
tblVehicleTrips	WD_TR	44.32	34.14
tblWater	IndoorWaterUseRate	39,678,801.60	41,242,498.22
tblWater	IndoorWaterUseRate	41,894,038.47	41,177,344.19
tblWater	IndoorWaterUseRate	35,704,406.04	34,857,403.71
tblWater	OutdoorWaterUseRate	25,014,896.66	26,000,705.40
tblWater	OutdoorWaterUseRate	26,411,459.04	25,959,630.03

3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

tblWater	OutdoorWaterUseRate	22,509,299.46	21,975,319.73
tblWoodstoves	NumberCatalytic	30.45	0.00
tblWoodstoves	NumberCatalytic	32.15	0.00
tblWoodstoves	NumberCatalytic	27.40	0.00
tblWoodstoves	NumberNoncatalytic	30.45	0.00
tblWoodstoves	NumberNoncatalytic	32.15	0.00
tblWoodstoves	NumberNoncatalytic	27.40	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00

**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					
2020	12.7129	142.0720	82.1121	0.1873	21.3460	5.6722	27.0181	7.6700	5.2184	12.8885						
2021	6.6186	106.7767	44.8894	0.1834	8.8224	2.5398	11.3622	3.9902	2.3403	6.3306						
2022	63.8763	42.1430	44.9440	0.1572	8.7947	0.9854	9.7801	2.3697	0.9317	3.3014						
2023	63.4034	35.6951	42.7097	0.1531	8.7947	0.8407	9.6355	2.3697	0.7947	3.1643						
<b>Maximum</b>	<b>63.8763</b>	<b>142.0720</b>	<b>82.1121</b>	<b>0.1873</b>	<b>21.3460</b>	<b>5.6722</b>	<b>27.0181</b>	<b>7.6700</b>	<b>5.2184</b>	<b>12.8885</b>						



3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

**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	61.0439	1.7124	148.5543	7.8400e-003		0.8222	0.8222		0.8222	0.8222						
Energy	1.2480	10.9173	6.3882	0.0681		0.8623	0.8623		0.8623	0.8623						
Mobile	38.3912	149.5784	457.3301	1.6229	153.9123	1.2736	155.1860	41.1323	1.1862	42.3184						
<b>Total</b>	<b>100.6832</b>	<b>162.2081</b>	<b>612.2726</b>	<b>1.6988</b>	<b>153.9123</b>	<b>2.9581</b>	<b>156.8704</b>	<b>41.1323</b>	<b>2.8706</b>	<b>44.0029</b>						

**Mitigated 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	61.0439	1.7124	148.5543	7.8400e-003		0.8222	0.8222		0.8222	0.8222						
Energy	1.2480	10.9173	6.3882	0.0681		0.8623	0.8623		0.8623	0.8623						
Mobile	36.5283	139.9732	416.4497	1.4423	135.7507	1.1411	136.8917	36.2787	1.0626	37.3413						
<b>Total</b>	<b>98.8203</b>	<b>152.6029</b>	<b>571.3923</b>	<b>1.5182</b>	<b>135.7507</b>	<b>2.8256</b>	<b>138.5762</b>	<b>36.2787</b>	<b>2.7471</b>	<b>39.0257</b>						



## 3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

	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
Percent Reduction	1.85	5.92	6.68	10.63	11.80	4.48	11.66	11.80	4.30	11.31	0.00	0.00	0.00	0.00	0.00	0.00

### 3.0 Construction Detail

#### Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Clear & Grub	Site Preparation	2/4/2020	2/18/2020	5	11	
2	Mass Excavation	Grading	2/19/2020	4/28/2020	5	50	
3	Finish Grading	Grading	4/29/2020	7/17/2020	5	58	
4	Arch Culvert Crossing	Grading	4/29/2020	8/11/2020	5	75	
5	Wet Utilities	Trenching	5/11/2020	2/9/2021	5	197	
6	Drop Structures and Casing	Grading	8/12/2020	9/28/2020	5	34	
7	Pedestrian Bridge	Grading	9/29/2020	11/5/2020	5	28	
8	Dry Utilities	Trenching	11/12/2020	4/23/2021	5	117	
9	Street Improvements - Balance & Subgrade Prep	Site Preparation	4/8/2021	6/15/2021	5	49	
10	Street Improvements - Curb & Gutter	Paving	6/16/2021	6/25/2021	5	8	
11	Street Improvements - Base & Pave	Paving	6/26/2021	7/20/2021	5	17	
12	Street Improvements - Concrete Flatwork	Paving	7/21/2021	8/19/2021	5	22	
13	Off-Site Carroll Canyon Road	Paving	7/31/2021	10/12/2021	5	52	
14	Import Excavation	Grading	9/23/2021	10/1/2021	5	7	
15	Building Construction	Building Construction	4/1/2022	7/31/2023	5	347	
16	Architectural Coating	Architectural Coating	5/1/2022	7/31/2023	5	326	

Acres of Grading (Site Preparation Phase): 0

## 3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

**Acres of Grading (Grading Phase): 0****Acres of Paving: 0****Residential Indoor: 4,511,700; Residential Outdoor: 1,503,900; Non-Residential Indoor: 240,240; Non-Residential Outdoor: 80,080; Striped Parking Area: 0 (Architectural Coating – sqft)****OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Clear & Grub	Crawler Tractors	4	8.00	212	0.43
Clear & Grub	Rubber Tired Dozers	0	8.00	247	0.40
Clear & Grub	Rubber Tired Loaders	2	8.00	203	0.36
Clear & Grub	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Mass Excavation	Excavators	0	8.00	158	0.38
Mass Excavation	Graders	1	8.00	187	0.41
Mass Excavation	Off-Highway Trucks	3	8.00	402	0.38
Mass Excavation	Rubber Tired Dozers	2	8.00	247	0.40
Mass Excavation	Scrapers	8	8.00	367	0.48
Mass Excavation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Finish Grading	Crawler Tractors	2	8.00	212	0.43
Finish Grading	Excavators	0	8.00	158	0.38
Finish Grading	Graders	4	8.00	187	0.41
Finish Grading	Rubber Tired Dozers	0	8.00	247	0.40
Finish Grading	Scrapers	0	8.00	367	0.48
Finish Grading	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Arch Culvert Crossing	Crawler Tractors	1	8.00	212	0.43
Arch Culvert Crossing	Excavators	2	8.00	158	0.38
Arch Culvert Crossing	Graders	0	8.00	187	0.41
Arch Culvert Crossing	Rubber Tired Dozers	0	8.00	247	0.40

3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

Arch Culvert Crossing	Rubber Tired Loaders	1	8.00	203	0.36
Arch Culvert Crossing	Scrapers	0	8.00	367	0.48
Arch Culvert Crossing	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Wet Utilities	Excavators	4	8.00	158	0.38
Wet Utilities	Rubber Tired Loaders	4	8.00	203	0.36
Wet Utilities	Skid Steer Loaders	4	8.00	65	0.37
Drop Structures and Casing	Excavators	1	8.00	158	0.38
Drop Structures and Casing	Graders	0	8.00	187	0.41
Drop Structures and Casing	Rubber Tired Dozers	0	8.00	247	0.40
Drop Structures and Casing	Rubber Tired Loaders	2	8.00	203	0.36
Drop Structures and Casing	Scrapers	0	8.00	367	0.48
Drop Structures and Casing	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Pedestrian Bridge	Cranes	1	8.00	231	0.29
Pedestrian Bridge	Excavators	1	8.00	158	0.38
Pedestrian Bridge	Graders	0	8.00	187	0.41
Pedestrian Bridge	Rubber Tired Dozers	0	8.00	247	0.40
Pedestrian Bridge	Rubber Tired Loaders	1	8.00	203	0.36
Pedestrian Bridge	Scrapers	0	8.00	367	0.48
Pedestrian Bridge	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Dry Utilities	Rubber Tired Loaders	4	8.00	203	0.36
Dry Utilities	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Street Improvements - Balance & Subgrade Prep	Graders	2	8.00	187	0.41
Street Improvements - Balance & Subgrade Prep	Rollers	1	8.00	80	0.38
Street Improvements - Balance & Subgrade Prep	Rubber Tired Dozers	0	8.00	247	0.40
Street Improvements - Balance & Subgrade Prep	Scrapers	2	8.00	367	0.48
Street Improvements - Balance & Subgrade Prep	Skid Steer Loaders	1	8.00	65	0.37

3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

Street Improvements - Balance & Subgrade Prep	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Street Improvements - Curb & Gutter	Pavers	0	8.00	130	0.42
Street Improvements - Curb & Gutter	Paving Equipment	1	8.00	132	0.36
Street Improvements - Curb & Gutter	Rollers	0	8.00	80	0.38
Street Improvements - Base & Pave	Graders	2	8.00	187	0.41
Street Improvements - Base & Pave	Pavers	1	8.00	130	0.42
Street Improvements - Base & Pave	Paving Equipment	0	8.00	132	0.36
Street Improvements - Base & Pave	Rollers	1	8.00	80	0.38
Street Improvements - Concrete Flatwork	Pavers	0	8.00	130	0.42
Street Improvements - Concrete Flatwork	Paving Equipment	0	8.00	132	0.36
Street Improvements - Concrete Flatwork	Rollers	0	8.00	80	0.38
Street Improvements - Concrete Flatwork	Skid Steer Loaders	2	8.00	65	0.37
Off-Site Carroll Canyon Road	Graders	2	8.00	187	0.41
Off-Site Carroll Canyon Road	Pavers	1	8.00	130	0.42
Off-Site Carroll Canyon Road	Paving Equipment	1	8.00	132	0.36
Off-Site Carroll Canyon Road	Rollers	1	8.00	80	0.38
Off-Site Carroll Canyon Road	Scrapers	2	8.00	367	0.48
Off-Site Carroll Canyon Road	Skid Steer Loaders	1	8.00	65	0.37
Import Excavation	Excavators	0	8.00	158	0.38
Import Excavation	Graders	1	8.00	187	0.41
Import Excavation	Rubber Tired Dozers	1	8.00	247	0.40
Import Excavation	Rubber Tired Loaders	1	8.00	203	0.36
Import Excavation	Scrapers	0	8.00	367	0.48
Import Excavation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20

3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48

**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
Clear & Grub	6	15.00	0.00	698.00	10.80	7.30	7.80	LD_Mix	HDT_Mix	HHDT
Mass Excavation	14	35.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Finish Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Arch Culvert Crossing	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Wet Utilities	12	30.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Drop Structures and Casings	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Pedestrian Bridge	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Dry Utilities	8	20.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Street Improvements - Balance & Subgrade	6	15.00	25.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Street Improvements - Curb & Gutter	1	3.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Street Improvements - Base & Pave	4	10.00	6.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Street Improvements - Concrete Flatwork	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Off-Site Carroll Canyon Road	8	20.00	25.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Import Excavation	3	8.00	0.00	1,918.00	10.80	7.30	7.80	LD_Mix	HDT_Mix	HHDT
Building Construction	9	727.00	241.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	145.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

**3.2 Clear & Grub - 2020**

**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					2.1210	0.0000	2.1210	0.2290	0.0000	0.2290						
Off-Road	3.0636	38.6098	13.2707	0.0439		1.4154	1.4154		1.3021	1.3021						
<b>Total</b>	<b>3.0636</b>	<b>38.6098</b>	<b>13.2707</b>	<b>0.0439</b>	<b>2.1210</b>	<b>1.4154</b>	<b>3.5364</b>	<b>0.2290</b>	<b>1.3021</b>	<b>1.5312</b>						

3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

**3.2 Clear & Grub - 2020**

**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	0.2765	10.5721	2.3263	0.0226	0.4332	0.0253	0.4585	0.1188	0.0242	0.1430						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0623	0.0416	0.4009	1.1900e-003	0.1232	8.6000e-004	0.1241	0.0327	8.0000e-004	0.0335						
<b>Total</b>	<b>0.3388</b>	<b>10.6138</b>	<b>2.7272</b>	<b>0.0238</b>	<b>0.5565</b>	<b>0.0261</b>	<b>0.5826</b>	<b>0.1515</b>	<b>0.0250</b>	<b>0.1764</b>						

**Mitigated 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					0.9545	0.0000	0.9545	0.1031	0.0000	0.1031						
Off-Road	1.0811	20.9008	23.4233	0.0439		0.7928	0.7928		0.7928	0.7928						
<b>Total</b>	<b>1.0811</b>	<b>20.9008</b>	<b>23.4233</b>	<b>0.0439</b>	<b>0.9545</b>	<b>0.7928</b>	<b>1.7472</b>	<b>0.1031</b>	<b>0.7928</b>	<b>0.8959</b>						

3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

**3.2 Clear & Grub - 2020**

**Mitigated 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	0.2765	10.5721	2.3263	0.0226	0.4332	0.0253	0.4585	0.1188	0.0242	0.1430						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0623	0.0416	0.4009	1.1900e-003	0.1232	8.6000e-004	0.1241	0.0327	8.0000e-004	0.0335						
<b>Total</b>	<b>0.3388</b>	<b>10.6138</b>	<b>2.7272</b>	<b>0.0238</b>	<b>0.5565</b>	<b>0.0261</b>	<b>0.5826</b>	<b>0.1515</b>	<b>0.0250</b>	<b>0.1764</b>						

**3.3 Mass Excavation - 2020**

**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					21.0584	0.0000	21.0584	7.5938	0.0000	7.5938						
Off-Road	12.5674	141.9749	81.1768	0.1845		5.6702	5.6702		5.2166	5.2166						
<b>Total</b>	<b>12.5674</b>	<b>141.9749</b>	<b>81.1768</b>	<b>0.1845</b>	<b>21.0584</b>	<b>5.6702</b>	<b>26.7286</b>	<b>7.5938</b>	<b>5.2166</b>	<b>12.8103</b>						



3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

**3.3 Mass Excavation - 2020**

**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						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.1455	0.0972	0.9354	2.7800e-003	0.2875	2.0200e-003	0.2895	0.0763	1.8600e-003	0.0781						
<b>Total</b>	<b>0.1455</b>	<b>0.0972</b>	<b>0.9354</b>	<b>2.7800e-003</b>	<b>0.2875</b>	<b>2.0200e-003</b>	<b>0.2895</b>	<b>0.0763</b>	<b>1.8600e-003</b>	<b>0.0781</b>						

**Mitigated 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					9.4763	0.0000	9.4763	3.4172	0.0000	3.4172						
Off-Road	4.5331	87.6390	98.2161	0.1845		3.3242	3.3242		3.3242	3.3242						
<b>Total</b>	<b>4.5331</b>	<b>87.6390</b>	<b>98.2161</b>	<b>0.1845</b>	<b>9.4763</b>	<b>3.3242</b>	<b>12.8005</b>	<b>3.4172</b>	<b>3.3242</b>	<b>6.7414</b>						

3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

**3.3 Mass Excavation - 2020**

**Mitigated 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						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.1455	0.0972	0.9354	2.7800e-003	0.2875	2.0200e-003	0.2895	0.0763	1.8600e-003	0.0781						
<b>Total</b>	<b>0.1455</b>	<b>0.0972</b>	<b>0.9354</b>	<b>2.7800e-003</b>	<b>0.2875</b>	<b>2.0200e-003</b>	<b>0.2895</b>	<b>0.0763</b>	<b>1.8600e-003</b>	<b>0.0781</b>						

**3.4 Finish Grading - 2020**

**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					3.1815	0.0000	3.1815	0.3435	0.0000	0.3435						
Off-Road	3.0610	40.1975	12.2578	0.0422		1.3702	1.3702		1.2606	1.2606						
<b>Total</b>	<b>3.0610</b>	<b>40.1975</b>	<b>12.2578</b>	<b>0.0422</b>	<b>3.1815</b>	<b>1.3702</b>	<b>4.5517</b>	<b>0.3435</b>	<b>1.2606</b>	<b>1.6041</b>						

3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

**3.4 Finish Grading - 2020**

**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						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0623	0.0416	0.4009	1.1900e-003	0.1232	8.6000e-004	0.1241	0.0327	8.0000e-004	0.0335						
<b>Total</b>	<b>0.0623</b>	<b>0.0416</b>	<b>0.4009</b>	<b>1.1900e-003</b>	<b>0.1232</b>	<b>8.6000e-004</b>	<b>0.1241</b>	<b>0.0327</b>	<b>8.0000e-004</b>	<b>0.0335</b>						

**Mitigated 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					1.4317	0.0000	1.4317	0.1546	0.0000	0.1546						
Off-Road	1.0349	20.0088	22.4237	0.0422		0.7590	0.7590		0.7590	0.7590						
<b>Total</b>	<b>1.0349</b>	<b>20.0088</b>	<b>22.4237</b>	<b>0.0422</b>	<b>1.4317</b>	<b>0.7590</b>	<b>2.1906</b>	<b>0.1546</b>	<b>0.7590</b>	<b>0.9135</b>						

3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

**3.4 Finish Grading - 2020**

**Mitigated 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						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0623	0.0416	0.4009	1.1900e-003	0.1232	8.6000e-004	0.1241	0.0327	8.0000e-004	0.0335						
<b>Total</b>	<b>0.0623</b>	<b>0.0416</b>	<b>0.4009</b>	<b>1.1900e-003</b>	<b>0.1232</b>	<b>8.6000e-004</b>	<b>0.1241</b>	<b>0.0327</b>	<b>8.0000e-004</b>	<b>0.0335</b>						

**3.5 Arch Culvert Crossing - 2020**

**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					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573						
Off-Road	1.4429	16.6825	10.6710	0.0244		0.6608	0.6608		0.6079	0.6079						
<b>Total</b>	<b>1.4429</b>	<b>16.6825</b>	<b>10.6710</b>	<b>0.0244</b>	<b>0.5303</b>	<b>0.6608</b>	<b>1.1910</b>	<b>0.0573</b>	<b>0.6079</b>	<b>0.6652</b>						

3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

**3.5 Arch Culvert Crossing - 2020**

**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						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0416	0.0278	0.2673	7.9000e-004	0.0822	5.8000e-004	0.0827	0.0218	5.3000e-004	0.0223						
<b>Total</b>	<b>0.0416</b>	<b>0.0278</b>	<b>0.2673</b>	<b>7.9000e-004</b>	<b>0.0822</b>	<b>5.8000e-004</b>	<b>0.0827</b>	<b>0.0218</b>	<b>5.3000e-004</b>	<b>0.0223</b>						

**Mitigated 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					0.2386	0.0000	0.2386	0.0258	0.0000	0.0258						
Off-Road	0.6018	11.6338	15.3675	0.0244		0.4921	0.4921		0.4921	0.4921						
<b>Total</b>	<b>0.6018</b>	<b>11.6338</b>	<b>15.3675</b>	<b>0.0244</b>	<b>0.2386</b>	<b>0.4921</b>	<b>0.7307</b>	<b>0.0258</b>	<b>0.4921</b>	<b>0.5179</b>						

3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

**3.5 Arch Culvert Crossing - 2020**

**Mitigated 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						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0416	0.0278	0.2673	7.9000e-004	0.0822	5.8000e-004	0.0827	0.0218	5.3000e-004	0.0223						
<b>Total</b>	<b>0.0416</b>	<b>0.0278</b>	<b>0.2673</b>	<b>7.9000e-004</b>	<b>0.0822</b>	<b>5.8000e-004</b>	<b>0.0827</b>	<b>0.0218</b>	<b>5.3000e-004</b>	<b>0.0223</b>						

**3.6 Wet Utilities - 2020**

**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	2.7959	31.5383	25.1731	0.0539		1.2370	1.2370		1.1380	1.1380						
<b>Total</b>	<b>2.7959</b>	<b>31.5383</b>	<b>25.1731</b>	<b>0.0539</b>		<b>1.2370</b>	<b>1.2370</b>		<b>1.1380</b>	<b>1.1380</b>						

3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

**3.6 Wet Utilities - 2020**

**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						
Vendor	7.8300e-003	0.2253	0.0638	5.3000e-004	0.0135	1.1200e-003	0.0147	3.9000e-003	1.0800e-003	4.9700e-003						
Worker	0.1247	0.0833	0.8017	2.3800e-003	0.2464	1.7300e-003	0.2482	0.0654	1.5900e-003	0.0670						
<b>Total</b>	<b>0.1325</b>	<b>0.3086</b>	<b>0.8655</b>	<b>2.9100e-003</b>	<b>0.2600</b>	<b>2.8500e-003</b>	<b>0.2628</b>	<b>0.0693</b>	<b>2.6700e-003</b>	<b>0.0719</b>						

**Mitigated 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	1.3306	26.4368	35.3545	0.0539		1.2539	1.2539		1.2539	1.2539						
<b>Total</b>	<b>1.3306</b>	<b>26.4368</b>	<b>35.3545</b>	<b>0.0539</b>		<b>1.2539</b>	<b>1.2539</b>		<b>1.2539</b>	<b>1.2539</b>						

3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

**3.6 Wet Utilities - 2020**

**Mitigated 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						
Vendor	7.8300e-003	0.2253	0.0638	5.3000e-004	0.0135	1.1200e-003	0.0147	3.9000e-003	1.0800e-003	4.9700e-003						
Worker	0.1247	0.0833	0.8017	2.3800e-003	0.2464	1.7300e-003	0.2482	0.0654	1.5900e-003	0.0670						
<b>Total</b>	<b>0.1325</b>	<b>0.3086</b>	<b>0.8655</b>	<b>2.9100e-003</b>	<b>0.2600</b>	<b>2.8500e-003</b>	<b>0.2628</b>	<b>0.0693</b>	<b>2.6700e-003</b>	<b>0.0719</b>						

**3.6 Wet Utilities - 2021**

**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	2.5907	28.0828	25.0418	0.0539		1.0965	1.0965		1.0087	1.0087						
<b>Total</b>	<b>2.5907</b>	<b>28.0828</b>	<b>25.0418</b>	<b>0.0539</b>		<b>1.0965</b>	<b>1.0965</b>		<b>1.0087</b>	<b>1.0087</b>						



3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

**3.6 Wet Utilities - 2021**

**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						
Vendor	6.3700e-003	0.2031	0.0578	5.3000e-004	0.0135	4.5000e-004	0.0140	3.9000e-003	4.3000e-004	4.3200e-003						
Worker	0.1177	0.0757	0.7480	2.3000e-003	0.2464	1.7000e-003	0.2482	0.0654	1.5700e-003	0.0669						
<b>Total</b>	<b>0.1240</b>	<b>0.2788</b>	<b>0.8058</b>	<b>2.8300e-003</b>	<b>0.2600</b>	<b>2.1500e-003</b>	<b>0.2621</b>	<b>0.0693</b>	<b>2.0000e-003</b>	<b>0.0713</b>						

**Mitigated 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	1.3306	26.4368	35.3545	0.0539		1.2539	1.2539		1.2539	1.2539						
<b>Total</b>	<b>1.3306</b>	<b>26.4368</b>	<b>35.3545</b>	<b>0.0539</b>		<b>1.2539</b>	<b>1.2539</b>		<b>1.2539</b>	<b>1.2539</b>						

3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

**3.6 Wet Utilities - 2021**

**Mitigated 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						
Vendor	6.3700e-003	0.2031	0.0578	5.3000e-004	0.0135	4.5000e-004	0.0140	3.9000e-003	4.3000e-004	4.3200e-003						
Worker	0.1177	0.0757	0.7480	2.3000e-003	0.2464	1.7000e-003	0.2482	0.0654	1.5700e-003	0.0669						
<b>Total</b>	<b>0.1240</b>	<b>0.2788</b>	<b>0.8058</b>	<b>2.8300e-003</b>	<b>0.2600</b>	<b>2.1500e-003</b>	<b>0.2621</b>	<b>0.0693</b>	<b>2.0000e-003</b>	<b>0.0713</b>						

**3.7 Drop Structures and Casing - 2020**

**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						
Off-Road	0.9932	11.2318	6.5387	0.0177		0.4096	0.4096		0.3769	0.3769						
<b>Total</b>	<b>0.9932</b>	<b>11.2318</b>	<b>6.5387</b>	<b>0.0177</b>	<b>0.0000</b>	<b>0.4096</b>	<b>0.4096</b>	<b>0.0000</b>	<b>0.3769</b>	<b>0.3769</b>						

3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

**3.7 Drop Structures and Casing - 2020**

**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						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0333	0.0222	0.2138	6.4000e-004	0.0657	4.6000e-004	0.0662	0.0174	4.2000e-004	0.0179						
<b>Total</b>	<b>0.0333</b>	<b>0.0222</b>	<b>0.2138</b>	<b>6.4000e-004</b>	<b>0.0657</b>	<b>4.6000e-004</b>	<b>0.0662</b>	<b>0.0174</b>	<b>4.2000e-004</b>	<b>0.0179</b>						

**Mitigated 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						
Off-Road	0.4364	8.4373	10.6204	0.0177		0.3455	0.3455		0.3455	0.3455						
<b>Total</b>	<b>0.4364</b>	<b>8.4373</b>	<b>10.6204</b>	<b>0.0177</b>	<b>0.0000</b>	<b>0.3455</b>	<b>0.3455</b>	<b>0.0000</b>	<b>0.3455</b>	<b>0.3455</b>						

3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

**3.7 Drop Structures and Casing - 2020**

**Mitigated 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						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0333	0.0222	0.2138	6.4000e-004	0.0657	4.6000e-004	0.0662	0.0174	4.2000e-004	0.0179						
<b>Total</b>	<b>0.0333</b>	<b>0.0222</b>	<b>0.2138</b>	<b>6.4000e-004</b>	<b>0.0657</b>	<b>4.6000e-004</b>	<b>0.0662</b>	<b>0.0174</b>	<b>4.2000e-004</b>	<b>0.0179</b>						

**3.8 Pedestrian Bridge - 2020**

**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						
Off-Road	1.0725	12.2137	7.0186	0.0172		0.4855	0.4855		0.4467	0.4467						
<b>Total</b>	<b>1.0725</b>	<b>12.2137</b>	<b>7.0186</b>	<b>0.0172</b>	<b>0.0000</b>	<b>0.4855</b>	<b>0.4855</b>	<b>0.0000</b>	<b>0.4467</b>	<b>0.4467</b>						

3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

**3.8 Pedestrian Bridge - 2020**

**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						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0333	0.0222	0.2138	6.4000e-004	0.0657	4.6000e-004	0.0662	0.0174	4.2000e-004	0.0179						
<b>Total</b>	<b>0.0333</b>	<b>0.0222</b>	<b>0.2138</b>	<b>6.4000e-004</b>	<b>0.0657</b>	<b>4.6000e-004</b>	<b>0.0662</b>	<b>0.0174</b>	<b>4.2000e-004</b>	<b>0.0179</b>						

**Mitigated 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						
Off-Road	0.4235	8.1881	10.3411	0.0172		0.3360	0.3360		0.3360	0.3360						
<b>Total</b>	<b>0.4235</b>	<b>8.1881</b>	<b>10.3411</b>	<b>0.0172</b>	<b>0.0000</b>	<b>0.3360</b>	<b>0.3360</b>	<b>0.0000</b>	<b>0.3360</b>	<b>0.3360</b>						

3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

**3.8 Pedestrian Bridge - 2020**

**Mitigated 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						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0333	0.0222	0.2138	6.4000e-004	0.0657	4.6000e-004	0.0662	0.0174	4.2000e-004	0.0179						
<b>Total</b>	<b>0.0333</b>	<b>0.0222</b>	<b>0.2138</b>	<b>6.4000e-004</b>	<b>0.0657</b>	<b>4.6000e-004</b>	<b>0.0662</b>	<b>0.0174</b>	<b>4.2000e-004</b>	<b>0.0179</b>						

**3.9 Dry Utilities - 2020**

**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	2.3343	26.0589	15.6605	0.0374		1.1180	1.1180		1.0286	1.0286						
<b>Total</b>	<b>2.3343</b>	<b>26.0589</b>	<b>15.6605</b>	<b>0.0374</b>		<b>1.1180</b>	<b>1.1180</b>		<b>1.0286</b>	<b>1.0286</b>						

3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

**3.9 Dry Utilities - 2020**

**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						
Vendor	7.8300e-003	0.2253	0.0638	5.3000e-004	0.0135	1.1200e-003	0.0147	3.9000e-003	1.0800e-003	4.9700e-003						
Worker	0.0831	0.0555	0.5345	1.5900e-003	0.1643	1.1500e-003	0.1655	0.0436	1.0600e-003	0.0446						
<b>Total</b>	<b>0.0910</b>	<b>0.2809</b>	<b>0.5983</b>	<b>2.1200e-003</b>	<b>0.1778</b>	<b>2.2700e-003</b>	<b>0.1801</b>	<b>0.0475</b>	<b>2.1400e-003</b>	<b>0.0496</b>						

**Mitigated 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	0.9225	18.8987	22.7729	0.0374		0.9398	0.9398		0.9398	0.9398						
<b>Total</b>	<b>0.9225</b>	<b>18.8987</b>	<b>22.7729</b>	<b>0.0374</b>		<b>0.9398</b>	<b>0.9398</b>		<b>0.9398</b>	<b>0.9398</b>						

3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

**3.9 Dry Utilities - 2020**

**Mitigated 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						
Vendor	7.8300e-003	0.2253	0.0638	5.3000e-004	0.0135	1.1200e-003	0.0147	3.9000e-003	1.0800e-003	4.9700e-003						
Worker	0.0831	0.0555	0.5345	1.5900e-003	0.1643	1.1500e-003	0.1655	0.0436	1.0600e-003	0.0446						
<b>Total</b>	<b>0.0910</b>	<b>0.2809</b>	<b>0.5983</b>	<b>2.1200e-003</b>	<b>0.1778</b>	<b>2.2700e-003</b>	<b>0.1801</b>	<b>0.0475</b>	<b>2.1400e-003</b>	<b>0.0496</b>						

**3.9 Dry Utilities - 2021**

**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	2.1211	23.0383	15.4357	0.0374		0.9625	0.9625		0.8855	0.8855						
<b>Total</b>	<b>2.1211</b>	<b>23.0383</b>	<b>15.4357</b>	<b>0.0374</b>		<b>0.9625</b>	<b>0.9625</b>		<b>0.8855</b>	<b>0.8855</b>						



3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

**3.9 Dry Utilities - 2021**

**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						
Vendor	6.3700e-003	0.2031	0.0578	5.3000e-004	0.0135	4.5000e-004	0.0140	3.9000e-003	4.3000e-004	4.3200e-003						
Worker	0.0785	0.0505	0.4987	1.5300e-003	0.1643	1.1300e-003	0.1654	0.0436	1.0500e-003	0.0446						
<b>Total</b>	<b>0.0848</b>	<b>0.2536</b>	<b>0.5564</b>	<b>2.0600e-003</b>	<b>0.1778</b>	<b>1.5800e-003</b>	<b>0.1794</b>	<b>0.0475</b>	<b>1.4800e-003</b>	<b>0.0489</b>						

**Mitigated 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	0.9225	18.8987	22.7729	0.0374		0.9398	0.9398		0.9398	0.9398						
<b>Total</b>	<b>0.9225</b>	<b>18.8987</b>	<b>22.7729</b>	<b>0.0374</b>		<b>0.9398</b>	<b>0.9398</b>		<b>0.9398</b>	<b>0.9398</b>						

3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

**3.9 Dry Utilities - 2021**

**Mitigated 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						
Vendor	6.3700e-003	0.2031	0.0578	5.3000e-004	0.0135	4.5000e-004	0.0140	3.9000e-003	4.3000e-004	4.3200e-003						
Worker	0.0785	0.0505	0.4987	1.5300e-003	0.1643	1.1300e-003	0.1654	0.0436	1.0500e-003	0.0446						
<b>Total</b>	<b>0.0848</b>	<b>0.2536</b>	<b>0.5564</b>	<b>2.0600e-003</b>	<b>0.1778</b>	<b>1.5800e-003</b>	<b>0.1794</b>	<b>0.0475</b>	<b>1.4800e-003</b>	<b>0.0489</b>						

**3.10 Street Improvements - Balance & Subgrade Prep - 2021**

**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					3.1815	0.0000	3.1815	0.3435	0.0000	0.3435						
Off-Road	3.0299	36.1825	20.8142	0.0483		1.3666	1.3666		1.2573	1.2573						
<b>Total</b>	<b>3.0299</b>	<b>36.1825</b>	<b>20.8142</b>	<b>0.0483</b>	<b>3.1815</b>	<b>1.3666</b>	<b>4.5481</b>	<b>0.3435</b>	<b>1.2573</b>	<b>1.6008</b>						

3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

**3.10 Street Improvements - Balance & Subgrade Prep - 2021**

**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						
Vendor	0.0797	2.5390	0.7224	6.6000e-003	0.1692	5.5600e-003	0.1748	0.0487	5.3200e-003	0.0540						
Worker	0.0588	0.0378	0.3740	1.1500e-003	0.1232	8.5000e-004	0.1241	0.0327	7.8000e-004	0.0335						
<b>Total</b>	<b>0.1385</b>	<b>2.5768</b>	<b>1.0964</b>	<b>7.7500e-003</b>	<b>0.2925</b>	<b>6.4100e-003</b>	<b>0.2989</b>	<b>0.0814</b>	<b>6.1000e-003</b>	<b>0.0875</b>						

**Mitigated 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					1.4317	0.0000	1.4317	0.1546	0.0000	0.1546						
Off-Road	1.1854	23.3218	26.7409	0.0483		0.9692	0.9692		0.9692	0.9692						
<b>Total</b>	<b>1.1854</b>	<b>23.3218</b>	<b>26.7409</b>	<b>0.0483</b>	<b>1.4317</b>	<b>0.9692</b>	<b>2.4009</b>	<b>0.1546</b>	<b>0.9692</b>	<b>1.1238</b>						

3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

**3.10 Street Improvements - Balance & Subgrade Prep - 2021**

**Mitigated 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						
Vendor	0.0797	2.5390	0.7224	6.6000e-003	0.1692	5.5600e-003	0.1748	0.0487	5.3200e-003	0.0540						
Worker	0.0588	0.0378	0.3740	1.1500e-003	0.1232	8.5000e-004	0.1241	0.0327	7.8000e-004	0.0335						
<b>Total</b>	<b>0.1385</b>	<b>2.5768</b>	<b>1.0964</b>	<b>7.7500e-003</b>	<b>0.2925</b>	<b>6.4100e-003</b>	<b>0.2989</b>	<b>0.0814</b>	<b>6.1000e-003</b>	<b>0.0875</b>						

**3.11 Street Improvements - Curb & Gutter - 2021**

**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	0.1920	1.9403	2.5414	4.0700e-003		0.0958	0.0958		0.0882	0.0882						
Paving	0.0000					0.0000	0.0000		0.0000	0.0000						
<b>Total</b>	<b>0.1920</b>	<b>1.9403</b>	<b>2.5414</b>	<b>4.0700e-003</b>		<b>0.0958</b>	<b>0.0958</b>		<b>0.0882</b>	<b>0.0882</b>						

3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

**3.11 Street Improvements - Curb & Gutter - 2021**

**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						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0118	7.5700e-003	0.0748	2.3000e-004	0.0246	1.7000e-004	0.0248	6.5400e-003	1.6000e-004	6.6900e-003						
<b>Total</b>	<b>0.0118</b>	<b>7.5700e-003</b>	<b>0.0748</b>	<b>2.3000e-004</b>	<b>0.0246</b>	<b>1.7000e-004</b>	<b>0.0248</b>	<b>6.5400e-003</b>	<b>1.6000e-004</b>	<b>6.6900e-003</b>						

**Mitigated 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	0.1006	1.9444	3.1010	4.0700e-003		0.0939	0.0939		0.0939	0.0939						
Paving	0.0000					0.0000	0.0000		0.0000	0.0000						
<b>Total</b>	<b>0.1006</b>	<b>1.9444</b>	<b>3.1010</b>	<b>4.0700e-003</b>		<b>0.0939</b>	<b>0.0939</b>		<b>0.0939</b>	<b>0.0939</b>						

3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

**3.11 Street Improvements - Curb & Gutter - 2021**

**Mitigated 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						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0118	7.5700e-003	0.0748	2.3000e-004	0.0246	1.7000e-004	0.0248	6.5400e-003	1.6000e-004	6.6900e-003						
<b>Total</b>	<b>0.0118</b>	<b>7.5700e-003</b>	<b>0.0748</b>	<b>2.3000e-004</b>	<b>0.0246</b>	<b>1.7000e-004</b>	<b>0.0248</b>	<b>6.5400e-003</b>	<b>1.6000e-004</b>	<b>6.6900e-003</b>						

**3.12 Street Improvements - Base & Pave - 2021**

**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	1.3417	16.3684	8.3196	0.0206		0.6184	0.6184		0.5690	0.5690						
Paving	0.0000					0.0000	0.0000		0.0000	0.0000						
<b>Total</b>	<b>1.3417</b>	<b>16.3684</b>	<b>8.3196</b>	<b>0.0206</b>		<b>0.6184</b>	<b>0.6184</b>		<b>0.5690</b>	<b>0.5690</b>						

3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

**3.12 Street Improvements - Base & Pave - 2021**

**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						
Vendor	0.0191	0.6094	0.1734	1.5800e-003	0.0406	1.3400e-003	0.0420	0.0117	1.2800e-003	0.0130						
Worker	0.0392	0.0252	0.2493	7.7000e-004	0.0822	5.7000e-004	0.0827	0.0218	5.2000e-004	0.0223						
<b>Total</b>	<b>0.0583</b>	<b>0.6346</b>	<b>0.4227</b>	<b>2.3500e-003</b>	<b>0.1228</b>	<b>1.9100e-003</b>	<b>0.1247</b>	<b>0.0335</b>	<b>1.8000e-003</b>	<b>0.0353</b>						

**Mitigated 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	0.5044	9.9775	12.5784	0.0206		0.4488	0.4488		0.4488	0.4488						
Paving	0.0000					0.0000	0.0000		0.0000	0.0000						
<b>Total</b>	<b>0.5044</b>	<b>9.9775</b>	<b>12.5784</b>	<b>0.0206</b>		<b>0.4488</b>	<b>0.4488</b>		<b>0.4488</b>	<b>0.4488</b>						

3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

**3.12 Street Improvements - Base & Pave - 2021**

**Mitigated 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						
Vendor	0.0191	0.6094	0.1734	1.5800e-003	0.0406	1.3400e-003	0.0420	0.0117	1.2800e-003	0.0130						
Worker	0.0392	0.0252	0.2493	7.7000e-004	0.0822	5.7000e-004	0.0827	0.0218	5.2000e-004	0.0223						
<b>Total</b>	<b>0.0583</b>	<b>0.6346</b>	<b>0.4227</b>	<b>2.3500e-003</b>	<b>0.1228</b>	<b>1.9100e-003</b>	<b>0.1247</b>	<b>0.0335</b>	<b>1.8000e-003</b>	<b>0.0353</b>						

**3.13 Street Improvements - Concrete Flatwork - 2021**

**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	0.1510	2.0071	2.7799	4.1400e-003		0.0817	0.0817		0.0751	0.0751						
Paving	0.0000					0.0000	0.0000		0.0000	0.0000						
<b>Total</b>	<b>0.1510</b>	<b>2.0071</b>	<b>2.7799</b>	<b>4.1400e-003</b>		<b>0.0817</b>	<b>0.0817</b>		<b>0.0751</b>	<b>0.0751</b>						



3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

**3.13 Street Improvements - Concrete Flatwork - 2021**

**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						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0196	0.0126	0.1247	3.8000e-004	0.0411	2.8000e-004	0.0414	0.0109	2.6000e-004	0.0112						
<b>Total</b>	<b>0.0196</b>	<b>0.0126</b>	<b>0.1247</b>	<b>3.8000e-004</b>	<b>0.0411</b>	<b>2.8000e-004</b>	<b>0.0414</b>	<b>0.0109</b>	<b>2.6000e-004</b>	<b>0.0112</b>						

**Mitigated 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	0.1018	2.3245	3.1389	4.1400e-003		0.1629	0.1629		0.1629	0.1629						
Paving	0.0000					0.0000	0.0000		0.0000	0.0000						
<b>Total</b>	<b>0.1018</b>	<b>2.3245</b>	<b>3.1389</b>	<b>4.1400e-003</b>		<b>0.1629</b>	<b>0.1629</b>		<b>0.1629</b>	<b>0.1629</b>						

3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

**3.13 Street Improvements - Concrete Flatwork - 2021**

**Mitigated 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						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0196	0.0126	0.1247	3.8000e-004	0.0411	2.8000e-004	0.0414	0.0109	2.6000e-004	0.0112						
<b>Total</b>	<b>0.0196</b>	<b>0.0126</b>	<b>0.1247</b>	<b>3.8000e-004</b>	<b>0.0411</b>	<b>2.8000e-004</b>	<b>0.0414</b>	<b>0.0109</b>	<b>2.6000e-004</b>	<b>0.0112</b>						

**3.14 Off-Site Carroll Canyon Road - 2021**

**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	3.4681	40.7178	26.2603	0.0570		1.5878	1.5878		1.4608	1.4608						
Paving	0.0000					0.0000	0.0000		0.0000	0.0000						
<b>Total</b>	<b>3.4681</b>	<b>40.7178</b>	<b>26.2603</b>	<b>0.0570</b>		<b>1.5878</b>	<b>1.5878</b>		<b>1.4608</b>	<b>1.4608</b>						

3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

**3.14 Off-Site Carroll Canyon Road - 2021**

**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						
Vendor	0.0797	2.5390	0.7224	6.6000e-003	0.1692	5.5600e-003	0.1748	0.0487	5.3200e-003	0.0540						
Worker	0.0785	0.0505	0.4987	1.5300e-003	0.1643	1.1300e-003	0.1654	0.0436	1.0500e-003	0.0446						
<b>Total</b>	<b>0.1581</b>	<b>2.5894</b>	<b>1.2210</b>	<b>8.1300e-003</b>	<b>0.3335</b>	<b>6.6900e-003</b>	<b>0.3402</b>	<b>0.0923</b>	<b>6.3700e-003</b>	<b>0.0987</b>						

**Mitigated 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	1.4016	27.5003	33.4049	0.0570		1.1709	1.1709		1.1709	1.1709						
Paving	0.0000					0.0000	0.0000		0.0000	0.0000						
<b>Total</b>	<b>1.4016</b>	<b>27.5003</b>	<b>33.4049</b>	<b>0.0570</b>		<b>1.1709</b>	<b>1.1709</b>		<b>1.1709</b>	<b>1.1709</b>						

3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

**3.14 Off-Site Carroll Canyon Road - 2021**

**Mitigated 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						
Vendor	0.0797	2.5390	0.7224	6.6000e-003	0.1692	5.5600e-003	0.1748	0.0487	5.3200e-003	0.0540						
Worker	0.0785	0.0505	0.4987	1.5300e-003	0.1643	1.1300e-003	0.1654	0.0436	1.0500e-003	0.0446						
<b>Total</b>	<b>0.1581</b>	<b>2.5894</b>	<b>1.2210</b>	<b>8.1300e-003</b>	<b>0.3335</b>	<b>6.6900e-003</b>	<b>0.3402</b>	<b>0.0923</b>	<b>6.3700e-003</b>	<b>0.0987</b>						

**3.15 Import Excavation - 2021**

**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					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675						
Off-Road	1.8423	20.7596	7.4037	0.0214		0.8490	0.8490		0.7811	0.7811						
<b>Total</b>	<b>1.8423</b>	<b>20.7596</b>	<b>7.4037</b>	<b>0.0214</b>	<b>6.5523</b>	<b>0.8490</b>	<b>7.4013</b>	<b>3.3675</b>	<b>0.7811</b>	<b>4.1486</b>						

3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

**3.15 Import Excavation - 2021**

**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	1.1186	42.6897	9.8049	0.0962	1.8708	0.0958	1.9666	0.5130	0.0917	0.6047						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0314	0.0202	0.1995	6.1000e-004	0.0657	4.5000e-004	0.0662	0.0174	4.2000e-004	0.0179						
<b>Total</b>	<b>1.1500</b>	<b>42.7099</b>	<b>10.0044</b>	<b>0.0968</b>	<b>1.9365</b>	<b>0.0963</b>	<b>2.0328</b>	<b>0.5304</b>	<b>0.0921</b>	<b>0.6225</b>						

**Mitigated 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					2.9486	0.0000	2.9486	1.5154	0.0000	1.5154						
Off-Road	0.5260	10.1701	11.3976	0.0214		0.3858	0.3858		0.3858	0.3858						
<b>Total</b>	<b>0.5260</b>	<b>10.1701</b>	<b>11.3976</b>	<b>0.0214</b>	<b>2.9486</b>	<b>0.3858</b>	<b>3.3343</b>	<b>1.5154</b>	<b>0.3858</b>	<b>1.9011</b>						

3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

**3.15 Import Excavation - 2021**

**Mitigated 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	1.1186	42.6897	9.8049	0.0962	1.8708	0.0958	1.9666	0.5130	0.0917	0.6047						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0314	0.0202	0.1995	6.1000e-004	0.0657	4.5000e-004	0.0662	0.0174	4.2000e-004	0.0179						
<b>Total</b>	<b>1.1500</b>	<b>42.7099</b>	<b>10.0044</b>	<b>0.0968</b>	<b>1.9365</b>	<b>0.0963</b>	<b>2.0328</b>	<b>0.5304</b>	<b>0.0921</b>	<b>0.6225</b>						

**3.16 Building Construction - 2022**

**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	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612						
<b>Total</b>	<b>1.7062</b>	<b>15.6156</b>	<b>16.3634</b>	<b>0.0269</b>		<b>0.8090</b>	<b>0.8090</b>		<b>0.7612</b>	<b>0.7612</b>						

3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

**3.16 Building Construction - 2022**

**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						
Vendor	0.7146	23.1136	6.5933	0.0629	1.6315	0.0462	1.6777	0.4697	0.0442	0.5139						
Worker	2.7023	1.6718	16.8191	0.0537	5.9721	0.0404	6.0125	1.5841	0.0372	1.6213						
<b>Total</b>	<b>3.4169</b>	<b>24.7854</b>	<b>23.4125</b>	<b>0.1166</b>	<b>7.6036</b>	<b>0.0866</b>	<b>7.6902</b>	<b>2.0537</b>	<b>0.0814</b>	<b>2.1351</b>						

**Mitigated 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	0.6739	14.2261	17.8738	0.0269		0.9036	0.9036		0.9036	0.9036						
<b>Total</b>	<b>0.6739</b>	<b>14.2261</b>	<b>17.8738</b>	<b>0.0269</b>		<b>0.9036</b>	<b>0.9036</b>		<b>0.9036</b>	<b>0.9036</b>						

3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

**3.16 Building Construction - 2022**

**Mitigated 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						
Vendor	0.7146	23.1136	6.5933	0.0629	1.6315	0.0462	1.6777	0.4697	0.0442	0.5139						
Worker	2.7023	1.6718	16.8191	0.0537	5.9721	0.0404	6.0125	1.5841	0.0372	1.6213						
<b>Total</b>	<b>3.4169</b>	<b>24.7854</b>	<b>23.4125</b>	<b>0.1166</b>	<b>7.6036</b>	<b>0.0866</b>	<b>7.6902</b>	<b>2.0537</b>	<b>0.0814</b>	<b>2.1351</b>						

**3.16 Building Construction - 2023**

**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	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584						
<b>Total</b>	<b>1.5728</b>	<b>14.3849</b>	<b>16.2440</b>	<b>0.0269</b>		<b>0.6997</b>	<b>0.6997</b>		<b>0.6584</b>	<b>0.6584</b>						



3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

**3.16 Building Construction - 2023**

**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						
Vendor	0.5516	18.1765	5.9556	0.0612	1.6315	0.0227	1.6542	0.4697	0.0217	0.4914						
Worker	2.5660	1.5263	15.5896	0.0517	5.9721	0.0396	6.0117	1.5841	0.0364	1.6205						
<b>Total</b>	<b>3.1176</b>	<b>19.7028</b>	<b>21.5452</b>	<b>0.1129</b>	<b>7.6036</b>	<b>0.0623</b>	<b>7.6659</b>	<b>2.0537</b>	<b>0.0581</b>	<b>2.1119</b>						

**Mitigated 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	0.6739	14.2261	17.8738	0.0269		0.9036	0.9036		0.9036	0.9036						
<b>Total</b>	<b>0.6739</b>	<b>14.2261</b>	<b>17.8738</b>	<b>0.0269</b>		<b>0.9036</b>	<b>0.9036</b>		<b>0.9036</b>	<b>0.9036</b>						

3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

**3.16 Building Construction - 2023**

**Mitigated 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						
Vendor	0.5516	18.1765	5.9556	0.0612	1.6315	0.0227	1.6542	0.4697	0.0217	0.4914						
Worker	2.5660	1.5263	15.5896	0.0517	5.9721	0.0396	6.0117	1.5841	0.0364	1.6205						
<b>Total</b>	<b>3.1176</b>	<b>19.7028</b>	<b>21.5452</b>	<b>0.1129</b>	<b>7.6036</b>	<b>0.0623</b>	<b>7.6659</b>	<b>2.0537</b>	<b>0.0581</b>	<b>2.1119</b>						

**3.17 Architectural Coating - 2022**

**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					
Archit. Coating	58.0096					0.0000	0.0000		0.0000	0.0000						
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817						
<b>Total</b>	<b>58.2141</b>	<b>1.4085</b>	<b>1.8136</b>	<b>2.9700e-003</b>		<b>0.0817</b>	<b>0.0817</b>		<b>0.0817</b>	<b>0.0817</b>						

3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

**3.17 Architectural Coating - 2022**

**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						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.5390	0.3334	3.3546	0.0107	1.1911	8.0500e-003	1.1992	0.3160	7.4100e-003	0.3234						
<b>Total</b>	<b>0.5390</b>	<b>0.3334</b>	<b>3.3546</b>	<b>0.0107</b>	<b>1.1911</b>	<b>8.0500e-003</b>	<b>1.1992</b>	<b>0.3160</b>	<b>7.4100e-003</b>	<b>0.3234</b>						

**Mitigated 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					
Archit. Coating	58.0096					0.0000	0.0000		0.0000	0.0000						
Off-Road	0.0594	1.3570	1.8324	2.9700e-003		0.0951	0.0951		0.0951	0.0951						
<b>Total</b>	<b>58.0690</b>	<b>1.3570</b>	<b>1.8324</b>	<b>2.9700e-003</b>		<b>0.0951</b>	<b>0.0951</b>		<b>0.0951</b>	<b>0.0951</b>						

3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

**3.17 Architectural Coating - 2022**

**Mitigated 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						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.5390	0.3334	3.3546	0.0107	1.1911	8.0500e-003	1.1992	0.3160	7.4100e-003	0.3234						
<b>Total</b>	<b>0.5390</b>	<b>0.3334</b>	<b>3.3546</b>	<b>0.0107</b>	<b>1.1911</b>	<b>8.0500e-003</b>	<b>1.1992</b>	<b>0.3160</b>	<b>7.4100e-003</b>	<b>0.3234</b>						

**3.17 Architectural Coating - 2023**

**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					
Archit. Coating	58.0096					0.0000	0.0000		0.0000	0.0000						
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708						
<b>Total</b>	<b>58.2012</b>	<b>1.3030</b>	<b>1.8111</b>	<b>2.9700e-003</b>		<b>0.0708</b>	<b>0.0708</b>		<b>0.0708</b>	<b>0.0708</b>						

3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

**3.17 Architectural Coating - 2023**

**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						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.5118	0.3044	3.1094	0.0103	1.1911	7.8900e-003	1.1990	0.3160	7.2700e-003	0.3232						
<b>Total</b>	<b>0.5118</b>	<b>0.3044</b>	<b>3.1094</b>	<b>0.0103</b>	<b>1.1911</b>	<b>7.8900e-003</b>	<b>1.1990</b>	<b>0.3160</b>	<b>7.2700e-003</b>	<b>0.3232</b>						

**Mitigated 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					
Archit. Coating	58.0096					0.0000	0.0000		0.0000	0.0000						
Off-Road	0.0594	1.3570	1.8324	2.9700e-003		0.0951	0.0951		0.0951	0.0951						
<b>Total</b>	<b>58.0690</b>	<b>1.3570</b>	<b>1.8324</b>	<b>2.9700e-003</b>		<b>0.0951</b>	<b>0.0951</b>		<b>0.0951</b>	<b>0.0951</b>						

3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

**3.17 Architectural Coating - 2023**

**Mitigated 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						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.5118	0.3044	3.1094	0.0103	1.1911	7.8900e-003	1.1990	0.3160	7.2700e-003	0.3232						
<b>Total</b>	<b>0.5118</b>	<b>0.3044</b>	<b>3.1094</b>	<b>0.0103</b>	<b>1.1911</b>	<b>7.8900e-003</b>	<b>1.1990</b>	<b>0.3160</b>	<b>7.2700e-003</b>	<b>0.3232</b>						

**4.0 Operational Detail - Mobile**

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**4.1 Mitigation Measures Mobile**

Increase Density

Increase Diversity

Increase Transit Accessibility

Integrate Below Market Rate Housing

Improve Pedestrian Network

Provide Traffic Calming Measures

3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

	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	36.5283	139.9732	416.4497	1.4423	135.7507	1.1411	136.8917	36.2787	1.0626	37.3413						
Unmitigated	38.3912	149.5784	457.3301	1.6229	153.9123	1.2736	155.1860	41.1323	1.1862	42.3184						

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments High Rise	3,465.21	3,465.21	3465.21	13,319,713	11,747,987
City Park	1,203.71	1,203.71	1203.71	4,201,849	3,706,031
Condo/Townhouse	4,873.94	4,873.94	4873.94	14,050,984	12,392,968
General Office Building	534.65	534.65	534.65	4,254,258	3,752,256
High Turnover (Sit Down Restaurant)	8,517.31	8,517.31	8517.31	15,656,523	13,809,053
Regional Shopping Center	1,412.36	1,412.36	1412.36	3,752,926	3,310,080
Single Family Housing	5,195.04	5,195.04	5195.04	11,988,906	10,574,215
Strip Mall	1,010.54	1,010.54	1010.54	5,366,757	4,733,479
<b>Total</b>	<b>26,212.77</b>	<b>26,212.77</b>	<b>26,212.77</b>	<b>72,591,915</b>	<b>64,026,069</b>

4.3 Trip Type Information

3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

Land Use	Miles			Trip %			Trip Purpose %		
	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
Apartments High Rise	10.56	7.30	7.50	100.00	0.00	0.00	100	0	0
City Park	9.50	9.59	7.30	0.00	100.00	0.00	100	0	0
Condo/Townhouse	7.92	7.30	7.50	100.00	0.00	0.00	100	0	0
General Office Building	9.50	21.86	7.30	0.00	100.00	0.00	100	0	0
High Turnover (Sit Down)	9.50	5.05	7.30	0.00	100.00	0.00	100	0	0
Regional Shopping Center	9.50	7.30	7.30	0.00	100.00	0.00	100	0	0
Single Family Housing	6.34	7.30	7.50	100.00	0.00	0.00	100	0	0
Strip Mall	9.50	14.59	7.30	0.00	100.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments High Rise	0.602700	0.040134	0.179939	0.104242	0.014985	0.005435	0.016642	0.024350	0.001934	0.001888	0.005938	0.000757	0.001056
City Park	0.602700	0.040134	0.179939	0.104242	0.014985	0.005435	0.016642	0.024350	0.001934	0.001888	0.005938	0.000757	0.001056
Condo/Townhouse	0.602700	0.040134	0.179939	0.104242	0.014985	0.005435	0.016642	0.024350	0.001934	0.001888	0.005938	0.000757	0.001056
General Office Building	0.602700	0.040134	0.179939	0.104242	0.014985	0.005435	0.016642	0.024350	0.001934	0.001888	0.005938	0.000757	0.001056
High Turnover (Sit Down Restaurant)	0.602700	0.040134	0.179939	0.104242	0.014985	0.005435	0.016642	0.024350	0.001934	0.001888	0.005938	0.000757	0.001056
Regional Shopping Center	0.602700	0.040134	0.179939	0.104242	0.014985	0.005435	0.016642	0.024350	0.001934	0.001888	0.005938	0.000757	0.001056
Single Family Housing	0.602700	0.040134	0.179939	0.104242	0.014985	0.005435	0.016642	0.024350	0.001934	0.001888	0.005938	0.000757	0.001056
Strip Mall	0.602700	0.040134	0.179939	0.104242	0.014985	0.005435	0.016642	0.024350	0.001934	0.001888	0.005938	0.000757	0.001056

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy



3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

	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	1.2480	10.9173	6.3882	0.0681		0.8623	0.8623		0.8623	0.8623						
NaturalGas Unmitigated	1.2480	10.9173	6.3882	0.0681		0.8623	0.8623		0.8623	0.8623						

3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

**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					
Apartments High Rise	12394.8	0.1337	1.1423	0.4861	7.2900e-003		0.0924	0.0924		0.0924	0.0924						
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						
Condo/Townhouse	25337.5	0.2733	2.3350	0.9936	0.0149		0.1888	0.1888		0.1888	0.1888						
General Office Building	1297.69	0.0140	0.1272	0.1069	7.6000e-004		9.6700e-003	9.6700e-003		9.6700e-003	9.6700e-003						
High Turnover (Sit Down Restaurant)	41277.9	0.4452	4.0469	3.3994	0.0243		0.3076	0.3076		0.3076	0.3076						
Regional Shopping Center	126.468	1.3600e-003	0.0124	0.0104	7.0000e-005		9.4000e-004	9.4000e-004		9.4000e-004	9.4000e-004						
Single Family Housing	35112.4	0.3787	3.2359	1.3770	0.0207		0.2616	0.2616		0.2616	0.2616						
Strip Mall	180.844	1.9500e-003	0.0177	0.0149	1.1000e-004		1.3500e-003	1.3500e-003		1.3500e-003	1.3500e-003						
<b>Total</b>		<b>1.2480</b>	<b>10.9173</b>	<b>6.3882</b>	<b>0.0681</b>		<b>0.8623</b>	<b>0.8623</b>		<b>0.8623</b>	<b>0.8623</b>						

3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

**5.2 Energy by Land Use - NaturalGas**

**Mitigated**

	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					
Apartments High Rise	12.3948	0.1337	1.1423	0.4861	7.2900e-003		0.0924	0.0924		0.0924	0.0924						
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						
Condo/Townhouse	25.3375	0.2733	2.3350	0.9936	0.0149		0.1888	0.1888		0.1888	0.1888						
General Office Building	1.29769	0.0140	0.1272	0.1069	7.6000e-004		9.6700e-003	9.6700e-003		9.6700e-003	9.6700e-003						
High Turnover (Sit Down Restaurant)	41.2779	0.4452	4.0469	3.3994	0.0243		0.3076	0.3076		0.3076	0.3076						
Regional Shopping Center	0.126468	1.3600e-003	0.0124	0.0104	7.0000e-005		9.4000e-004	9.4000e-004		9.4000e-004	9.4000e-004						
Single Family Housing	35.1124	0.3787	3.2359	1.3770	0.0207		0.2616	0.2616		0.2616	0.2616						
Strip Mall	0.180844	1.9500e-003	0.0177	0.0149	1.1000e-004		1.3500e-003	1.3500e-003		1.3500e-003	1.3500e-003						
<b>Total</b>		<b>1.2480</b>	<b>10.9173</b>	<b>6.3882</b>	<b>0.0681</b>		<b>0.8623</b>	<b>0.8623</b>		<b>0.8623</b>	<b>0.8623</b>						

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

	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	61.0439	1.7124	148.5543	7.8400e-003		0.8222	0.8222		0.8222	0.8222						
Unmitigated	61.0439	1.7124	148.5543	7.8400e-003		0.8222	0.8222		0.8222	0.8222						

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					
Architectural Coating	5.1811					0.0000	0.0000		0.0000	0.0000						
Consumer Products	51.3862					0.0000	0.0000		0.0000	0.0000						
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						
Landscaping	4.4766	1.7124	148.5543	7.8400e-003		0.8222	0.8222		0.8222	0.8222						
<b>Total</b>	<b>61.0439</b>	<b>1.7124</b>	<b>148.5543</b>	<b>7.8400e-003</b>		<b>0.8222</b>	<b>0.8222</b>		<b>0.8222</b>	<b>0.8222</b>						

3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

**6.2 Area by SubCategory**

**Mitigated**

	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					
Architectural Coating	5.1811					0.0000	0.0000		0.0000	0.0000						
Consumer Products	51.3862					0.0000	0.0000		0.0000	0.0000						
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						
Landscaping	4.4766	1.7124	148.5543	7.8400e-003		0.8222	0.8222		0.8222	0.8222						
<b>Total</b>	<b>61.0439</b>	<b>1.7124</b>	<b>148.5543</b>	<b>7.8400e-003</b>		<b>0.8222</b>	<b>0.8222</b>		<b>0.8222</b>	<b>0.8222</b>						

**7.0 Water Detail**

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**7.1 Mitigation Measures Water**

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

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

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3 Roots San Diego - Phase II (Mitigated) - San Diego County, Winter

**Fire Pumps and Emergency Generators**

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

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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**User Defined Equipment**

Equipment Type	Number
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**11.0 Vegetation**

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3Roots - Active Park - San Diego County, Winter

**3Roots - Active Park**  
**San Diego County, Winter**

**1.0 Project Characteristics**

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**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	25.40	Acre	25.40	1,106,424.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.6	<b>Precipitation Freq (Days)</b>	40
<b>Climate Zone</b>	13			<b>Operational Year</b>	2020
<b>Utility Company</b>	San Diego Gas & Electric				
<b>CO2 Intensity (lb/MWhr)</b>	720.49	<b>CH4 Intensity (lb/MWhr)</b>	0.029	<b>N2O Intensity (lb/MWhr)</b>	0.006

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics -

Land Use -

Construction Phase - No Construction

Vehicle Trips - 3Roots TIA

## 3Roots - Active Park - San Diego County, Winter

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	35.00	0.00
tblConstructionPhase	PhaseEndDate	7/22/2020	6/3/2020
tblVehicleTrips	ST_TR	22.75	50.00
tblVehicleTrips	SU_TR	16.74	50.00
tblVehicleTrips	WD_TR	1.89	50.00

## 2.0 Emissions Summary

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3Roots - Active Park - San Diego County, Winter

**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	0.0573	2.0000e-005	2.6100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		5.5600e-003	5.5600e-003	1.0000e-005		5.9300e-003
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	2.1101	8.6679	22.7014	0.0681	5.7495	0.0704	5.8198	1.5368	0.0660	1.6028		6,906.8469	6,906.8469	0.4027		6,916.9143
<b>Total</b>	<b>2.1674</b>	<b>8.6679</b>	<b>22.7040</b>	<b>0.0681</b>	<b>5.7495</b>	<b>0.0704</b>	<b>5.8198</b>	<b>1.5368</b>	<b>0.0660</b>	<b>1.6028</b>		<b>6,906.8525</b>	<b>6,906.8525</b>	<b>0.4027</b>	<b>0.0000</b>	<b>6,916.9203</b>

**Mitigated 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	0.0573	2.0000e-005	2.6100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		5.5600e-003	5.5600e-003	1.0000e-005		5.9300e-003
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	2.1101	8.6679	22.7014	0.0681	5.7495	0.0704	5.8198	1.5368	0.0660	1.6028		6,906.8469	6,906.8469	0.4027		6,916.9143
<b>Total</b>	<b>2.1674</b>	<b>8.6679</b>	<b>22.7040</b>	<b>0.0681</b>	<b>5.7495</b>	<b>0.0704</b>	<b>5.8198</b>	<b>1.5368</b>	<b>0.0660</b>	<b>1.6028</b>		<b>6,906.8525</b>	<b>6,906.8525</b>	<b>0.4027</b>	<b>0.0000</b>	<b>6,916.9203</b>

3Roots - Active Park - San Diego County, Winter

	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
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

### 3.0 Construction Detail

#### Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Architectural Coating	Architectural Coating	6/4/2020	6/3/2020	5	0	

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; Striped Parking Area: 0 (Architectural Coating – sqft)

#### OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48

#### 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
Architectural Coating	1	93.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

### 3.1 Mitigation Measures Construction



3Roots - Active Park - San Diego County, Winter

**3.2 Architectural Coating - 2020**

**Mitigated 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					
Archit. Coating	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
Off-Road	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
<b>Total</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**Mitigated 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	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	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
<b>Total</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**4.0 Operational Detail - Mobile**

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3Roots - Active Park - San Diego County, Winter

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	2.1101	8.6679	22.7014	0.0681	5.7495	0.0704	5.8198	1.5368	0.0660	1.6028		6,906.8469	6,906.8469	0.4027		6,916.9143
Unmitigated	2.1101	8.6679	22.7014	0.0681	5.7495	0.0704	5.8198	1.5368	0.0660	1.6028		6,906.8469	6,906.8469	0.4027		6,916.9143

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	1,270.00	1,270.00	1270.00	2,711,263	2,711,263
Total	1,270.00	1,270.00	1,270.00	2,711,263	2,711,263

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271

3Roots - Active Park - San Diego County, Winter

**5.0 Energy Detail**

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Historical Energy Use: N

**5.1 Mitigation Measures Energy**

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	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

3Roots - Active Park - San Diego County, Winter

**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					
City Park	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
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**Mitigated**

	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					
City Park	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
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**



3Roots - Active Park - San Diego County, Winter

	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	0.0573	2.0000e-005	2.6100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		5.5600e-003	5.5600e-003	1.0000e-005		5.9300e-003
Unmitigated	0.0573	2.0000e-005	2.6100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		5.5600e-003	5.5600e-003	1.0000e-005		5.9300e-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	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0570					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.5000e-004	2.0000e-005	2.6100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		5.5600e-003	5.5600e-003	1.0000e-005		5.9300e-003
<b>Total</b>	<b>0.0573</b>	<b>2.0000e-005</b>	<b>2.6100e-003</b>	<b>0.0000</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>5.5600e-003</b>	<b>5.5600e-003</b>	<b>1.0000e-005</b>		<b>5.9300e-003</b>

3Roots - Active Park - San Diego County, Winter

**6.2 Area by SubCategory**

Mitigated

	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					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0570					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.5000e-004	2.0000e-005	2.6100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		5.5600e-003	5.5600e-003	1.0000e-005		5.9300e-003
<b>Total</b>	<b>0.0573</b>	<b>2.0000e-005</b>	<b>2.6100e-003</b>	<b>0.0000</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>5.5600e-003</b>	<b>5.5600e-003</b>	<b>1.0000e-005</b>		<b>5.9300e-003</b>

**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
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**10.0 Stationary Equipment**

Fire Pumps and Emergency Generators

3Roots - Active Park - San Diego County, Winter

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

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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**User Defined Equipment**

Equipment Type	Number
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**11.0 Vegetation**

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3Roots - Industrial - San Diego County, Winter

**3Roots - Industrial**  
**San Diego County, Winter**

**1.0 Project Characteristics**

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**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	3,850.70	1000sqft	88.40	3,850,700.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.6	<b>Precipitation Freq (Days)</b>	40
<b>Climate Zone</b>	13			<b>Operational Year</b>	2020
<b>Utility Company</b>	San Diego Gas & Electric				
<b>CO2 Intensity (lb/MW hr)</b>	720.49	<b>CH4 Intensity (lb/MW hr)</b>	0.029	<b>N2O Intensity (lb/MW hr)</b>	0.006

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics -

Land Use -

Construction Phase - No Construction

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	110.00	0.00
tblConstructionPhase	PhaseEndDate	3/25/2026	10/22/2025

**2.0 Emissions Summary**

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3Roots - Industrial - San Diego County, Winter

**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	106.8915	3.6500e-003	0.3957	3.0000e-005		1.4200e-003	1.4200e-003		1.4200e-003	1.4200e-003		0.8427	0.8427	2.2600e-003		0.8992
Energy	1.3152	11.9565	10.0435	0.0717		0.9087	0.9087		0.9087	0.9087		14,347.8137	14,347.8137	0.2750	0.2630	14,433.0756
Mobile	50.3455	220.7962	602.2598	1.9300	166.1641	1.9673	168.1314	44.4140	1.8464	46.2603		195,840.172	195,840.172	10.8211		196,110.6450
<b>Total</b>	<b>158.5522</b>	<b>232.7564</b>	<b>612.6989</b>	<b>2.0018</b>	<b>166.1641</b>	<b>2.8774</b>	<b>169.0415</b>	<b>44.4140</b>	<b>2.7565</b>	<b>47.1704</b>		<b>210,188.7736</b>	<b>210,188.7736</b>	<b>11.0984</b>	<b>0.2630</b>	<b>210,544.6198</b>

**Mitigated 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	106.8915	3.6500e-003	0.3957	3.0000e-005		1.4200e-003	1.4200e-003		1.4200e-003	1.4200e-003		0.8427	0.8427	2.2600e-003		0.8992
Energy	1.3152	11.9565	10.0435	0.0717		0.9087	0.9087		0.9087	0.9087		14,347.8137	14,347.8137	0.2750	0.2630	14,433.0756
Mobile	50.3455	220.7962	602.2598	1.9300	166.1641	1.9673	168.1314	44.4140	1.8464	46.2603		195,840.172	195,840.172	10.8211		196,110.6450
<b>Total</b>	<b>158.5522</b>	<b>232.7564</b>	<b>612.6989</b>	<b>2.0018</b>	<b>166.1641</b>	<b>2.8774</b>	<b>169.0415</b>	<b>44.4140</b>	<b>2.7565</b>	<b>47.1704</b>		<b>210,188.7736</b>	<b>210,188.7736</b>	<b>11.0984</b>	<b>0.2630</b>	<b>210,544.6198</b>

3Roots - Industrial - San Diego County, Winter

	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
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

### 3.0 Construction Detail

#### Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Architectural Coating	Architectural Coating	10/23/2025	10/22/2025	5	0	

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: 5,776,050; Non-Residential Outdoor: 1,925,350; Striped Parking Area: 0 (Architectural Coating – sqft)

#### OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48

#### 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
Architectural Coating	1	323.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

### 3.1 Mitigation Measures Construction





3Roots - Industrial - San Diego County, Winter

**3.2 Architectural Coating - 2025**

**Mitigated 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					
Archit. Coating	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
Off-Road	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
<b>Total</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**Mitigated 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	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	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
<b>Total</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**4.0 Operational Detail - Mobile**

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3Roots - Industrial - San Diego County, Winter

**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	50.3455	220.7962	602.2598	1.9300	166.1641	1.9673	168.1314	44.4140	1.8464	46.2603		195,840.172	195,840.172	10.8211		196,110.6450
Unmitigated	50.3455	220.7962	602.2598	1.9300	166.1641	1.9673	168.1314	44.4140	1.8464	46.2603		195,840.172	195,840.172	10.8211		196,110.6450

**4.2 Trip Summary Information**

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	26,839.38	5,082.92	2618.48	59,181,950	59,181,950
Total	26,839.38	5,082.92	2,618.48	59,181,950	59,181,950

**4.3 Trip Type Information**

Land Use	Miles			Trip %			Trip Purpose %		
	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
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3

**4.4 Fleet Mix**

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.588316	0.042913	0.184449	0.110793	0.017294	0.005558	0.015534	0.023021	0.001902	0.002024	0.006181	0.000745	0.001271

3Roots - Industrial - San Diego County, Winter

**5.0 Energy Detail**

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	1.3152	11.9565	10.0435	0.0717		0.9087	0.9087		0.9087	0.9087		14,347.8137	14,347.8137	0.2750	0.2630	14,433.0756
NaturalGas Unmitigated	1.3152	11.9565	10.0435	0.0717		0.9087	0.9087		0.9087	0.9087		14,347.8137	14,347.8137	0.2750	0.2630	14,433.0756

3Roots - Industrial - San Diego County, Winter

**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					
General Light Industry	121956	1.3152	11.9565	10.0435	0.0717		0.9087	0.9087		0.9087	0.9087		14,347.8137	14,347.8137	0.2750	0.2630	14,433.0756
<b>Total</b>		<b>1.3152</b>	<b>11.9565</b>	<b>10.0435</b>	<b>0.0717</b>		<b>0.9087</b>	<b>0.9087</b>		<b>0.9087</b>	<b>0.9087</b>		<b>14,347.8137</b>	<b>14,347.8137</b>	<b>0.2750</b>	<b>0.2630</b>	<b>14,433.0756</b>

**Mitigated**

	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					
General Light Industry	121.956	1.3152	11.9565	10.0435	0.0717		0.9087	0.9087		0.9087	0.9087		14,347.8137	14,347.8137	0.2750	0.2630	14,433.0756
<b>Total</b>		<b>1.3152</b>	<b>11.9565</b>	<b>10.0435</b>	<b>0.0717</b>		<b>0.9087</b>	<b>0.9087</b>		<b>0.9087</b>	<b>0.9087</b>		<b>14,347.8137</b>	<b>14,347.8137</b>	<b>0.2750</b>	<b>0.2630</b>	<b>14,433.0756</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

3Roots - Industrial - San Diego County, Winter

	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	106.8915	3.6500e-003	0.3957	3.0000e-005		1.4200e-003	1.4200e-003		1.4200e-003	1.4200e-003		0.8427	0.8427	2.2600e-003		0.8992
Unmitigated	106.8915	3.6500e-003	0.3957	3.0000e-005		1.4200e-003	1.4200e-003		1.4200e-003	1.4200e-003		0.8427	0.8427	2.2600e-003		0.8992

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					
Architectural Coating	24.4493					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	82.4050					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0372	3.6500e-003	0.3957	3.0000e-005		1.4200e-003	1.4200e-003		1.4200e-003	1.4200e-003		0.8427	0.8427	2.2600e-003		0.8992
<b>Total</b>	<b>106.8915</b>	<b>3.6500e-003</b>	<b>0.3957</b>	<b>3.0000e-005</b>		<b>1.4200e-003</b>	<b>1.4200e-003</b>		<b>1.4200e-003</b>	<b>1.4200e-003</b>		<b>0.8427</b>	<b>0.8427</b>	<b>2.2600e-003</b>		<b>0.8992</b>

3Roots - Industrial - San Diego County, Winter

**6.2 Area by SubCategory**

**Mitigated**

	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					
Architectural Coating	24.4493					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	82.4050					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0372	3.6500e-003	0.3957	3.0000e-005		1.4200e-003	1.4200e-003		1.4200e-003	1.4200e-003		0.8427	0.8427	2.2600e-003		0.8992
<b>Total</b>	<b>106.8915</b>	<b>3.6500e-003</b>	<b>0.3957</b>	<b>3.0000e-005</b>		<b>1.4200e-003</b>	<b>1.4200e-003</b>		<b>1.4200e-003</b>	<b>1.4200e-003</b>		<b>0.8427</b>	<b>0.8427</b>	<b>2.2600e-003</b>		<b>0.8992</b>

**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
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**10.0 Stationary Equipment**

**Fire Pumps and Emergency Generators**

3Roots - Industrial - San Diego County, Winter

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

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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**User Defined Equipment**

Equipment Type	Number
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**11.0 Vegetation**

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# Appendix B

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Caline4 Outputs



CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL  
 JUNE 1989 VERSION  
 PAGE 1

JOB: LA JOLLA VILLAGE RD AND I805 SB RAMPS AMWP  
 RUN: Hour 1 (WORST CASE ANGLE)  
 POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= .5 M/S                      Z0= 100. CM                      ALT= 0. (M)  
 BRG= WORST CASE              VD= .0 CM/S  
 CLAS= 7 (G)                    VS= .0 CM/S  
 MIXH= 1000. M                AMB= .0 PPM  
 SIGTH= 5. DEGREES            TEMP= 15.6 DEGREE (C)

II. LINK VARIABLES

LINK DESCRIPTION	* X1	* Y1	* X2	* Y2	* TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. NF	2	-450	2	-150	* AG	0	1.4	.0	10.5
B. NA	2	-150	2	0	* AG	0	2.3	.0	9.9
C. ND	2	0	2	150	* AG	622	2.0	.0	9.9
D. NE	2	150	2	450	* AG	622	1.4	.0	10.5
E. SF	-2	450	-2	150	* AG	2631	1.4	.0	10.5
F. SA	-2	150	-2	0	* AG	1793	2.7	.0	9.9
G. SD	-2	0	-2	-150	* AG	485	1.8	.0	9.9
H. SE	-2	-150	-2	-450	* AG	485	1.4	.0	10.5
I. WF	450	2	150	2	* AG	2561	1.4	.0	10.5
J. WA	150	2	0	2	* AG	2561	2.6	.0	9.9
K. WD	0	2	-150	2	* AG	3732	1.9	.0	9.9
L. WE	-150	2	-450	2	* AG	3732	1.4	.0	10.5
M. EF	-450	-2	-150	-2	* AG	1734	1.4	.0	10.5
N. EA	-150	-2	0	-2	* AG	1734	2.6	.0	9.9
O. ED	0	-2	150	-2	* AG	2087	1.9	.0	9.9
P. EE	150	-2	450	-2	* AG	2087	1.4	.0	10.5
Q. NL	0	0	2	-150	* AG	0	2.3	.0	9.9
R. SL	0	0	-2	150	* AG	838	2.7	.0	9.9
S. WL	0	0	150	2	* AG	0	2.0	.0	9.9
T. EL	0	0	-150	-2	* AG	0	2.0	.0	9.9

III. RECEPTOR LOCATIONS

RECEPTOR	* X	* Y	* Z
1. NE3	8	8	1.8
2. SE3	8	-8	1.8
3. SW3	-8	-8	1.8
4. NW3	-8	8	1.8

IV. MODEL RESULTS (WORST CASE WIND ANGLE )

RECEPTOR	* BRG (DEG)	* PRED CONC (PPM)	* A	B	C	CONC/LINK (PPM)					
						D	E	F	G	H	
1. NE3	265.	2.3	.0	.0	.0	.0	.0	.2	.0	.0	
2. SE3	354.	1.7	.0	.0	.2	.0	.0	.4	.0	.0	
3. SW3	5.	2.1	.0	.0	.1	.0	.0	.8	.0	.0	
4. NW3	95.	2.3	.0	.0	.0	.0	.0	.3	.0	.0	

RECEPTOR	* I	J	K	L	M	N	O	P	Q	R	S	T
1. NE3	.0	.2	1.1	.0	.0	.4	.0	.0	.0	.1	.0	.0
2. SE3	.0	.3	.0	.0	.0	.0	.3	.0	.0	.3	.0	.0
3. SW3	.0	.0	.4	.0	.0	.3	.0	.0	.0	.3	.0	.0
4. NW3	.0	1.1	.2	.0	.0	.0	.3	.0	.0	.1	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL  
 JUNE 1989 VERSION  
 PAGE 1

JOB: LA JOLLA VILLAGE RD AND I805 SB RAMPS PMWP  
 RUN: Hour 1 (WORST CASE ANGLE)  
 POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= .5 M/S                      Z0= 100. CM                      ALT= 0. (M)  
 BRG= WORST CASE              VD= .0 CM/S  
 CLAS= 7 (G)                    VS= .0 CM/S  
 MIXH= 1000. M                AMB= .0 PPM  
 SIGTH= 5. DEGREES            TEMP= 15.6 DEGREE (C)

II. LINK VARIABLES

LINK DESCRIPTION	* X1	* Y1	* X2	* Y2	* TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. NF	2	-450	2	-150	* AG	0	1.4	.0	10.5
B. NA	2	-150	2	0	* AG	0	2.7	.0	9.9
C. ND	2	0	2	150	* AG	945	2.7	.0	9.9
D. NE	2	150	2	450	* AG	945	1.4	.0	10.5
E. SF	-2	450	-2	150	* AG	1119	1.4	.0	10.5
F. SA	-2	150	-2	0	* AG	877	2.7	.0	9.9
G. SD	-2	0	-2	-150	* AG	1260	2.7	.0	9.9
H. SE	-2	-150	-2	-450	* AG	1260	1.4	.0	10.5
I. WF	450	2	150	2	* AG	2426	1.4	.0	10.5
J. WA	150	2	0	2	* AG	2426	2.4	.0	9.9
K. WD	0	2	-150	2	* AG	2358	1.7	.0	9.9
L. WE	-150	2	-450	2	* AG	2358	1.4	.0	10.5
M. EF	-450	-2	-150	-2	* AG	3544	1.4	.0	10.5
N. EA	-150	-2	0	-2	* AG	3544	2.4	.0	9.9
O. ED	0	-2	150	-2	* AG	2526	1.7	.0	9.9
P. EE	150	-2	450	-2	* AG	2526	1.4	.0	10.5
Q. NL	0	0	2	-150	* AG	0	2.7	.0	9.9
R. SL	0	0	-2	150	* AG	242	2.7	.0	9.9
S. WL	0	0	150	2	* AG	0	1.8	.0	9.9
T. EL	0	0	-150	-2	* AG	0	1.8	.0	9.9

III. RECEPTOR LOCATIONS

RECEPTOR	* X	* Y	* Z
1. NE3	8	8	1.8
2. SE3	8	-8	1.8
3. SW3	-8	-8	1.8
4. NW3	-8	8	1.8

IV. MODEL RESULTS (WORST CASE WIND ANGLE )

RECEPTOR	* BRG (DEG)	* PRED CONC (PPM)	* A	B	C	CONC/LINK (PPM)					
						D	E	F	G	H	
1. NE3	* 264.	* 1.9	* .0	.0	.2	.0	.0	.1	.0	.0	
2. SE3	* 275.	* 2.1	* .0	.0	.0	.0	.0	.0	.2	.0	
3. SW3	* 275.	* 2.1	* .0	.0	.0	.0	.0	.0	.0	.0	
4. NW3	* 95.	* 1.9	* .0	.0	.1	.0	.0	.2	.0	.0	

RECEPTOR	* I	J	K	L	M	CONC/LINK (PPM)						
						N	O	P	Q	R	S	T
1. NE3	* .0	.2	.6	.0	.0	.7	.0	.0	.0	.0	.0	.0
2. SE3	* .0	.0	.3	.0	.0	1.4	.1	.0	.0	.0	.0	.0
3. SW3	* .0	.0	.3	.1	.0	1.6	.0	.0	.0	.0	.0	.0
4. NW3	* .0	1.0	.1	.0	.0	.0	.3	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL  
 JUNE 1989 VERSION  
 PAGE 1

JOB: CARROLL CANYON ROAD AND CAMINO RUIZ AMWP  
 RUN: Hour 1 (WORST CASE ANGLE)  
 POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= .5 M/S                      Z0= 100. CM                      ALT= 0. (M)  
 BRG= WORST CASE              VD= .0 CM/S  
 CLAS= 7 (G)                    VS= .0 CM/S  
 MIXH= 1000. M                AMB= .0 PPM  
 SIGTH= 5. DEGREES            TEMP= 15.6 DEGREE (C)

II. LINK VARIABLES

LINK DESCRIPTION	* X1	* Y1	* X2	* Y2	* TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. NF	2	-450	2	-150	* AG	602	1.4	.0	10.5
B. NA	2	-150	2	0	* AG	351	2.2	.0	9.9
C. ND	2	0	2	150	* AG	614	1.7	.0	9.9
D. NE	2	150	2	450	* AG	614	1.4	.0	10.5
E. SF	-2	450	-2	150	* AG	2637	1.4	.0	10.5
F. SA	-2	150	-2	0	* AG	2010	2.7	.0	9.9
G. SD	-2	0	-2	-150	* AG	2129	2.4	.0	9.9
H. SE	-2	-150	-2	-450	* AG	2129	1.4	.0	10.5
I. WF	450	2	150	2	* AG	1913	1.4	.0	10.5
J. WA	150	2	0	2	* AG	1536	2.7	.0	9.9
K. WD	0	2	-150	2	* AG	2041	2.4	.0	9.9
L. WE	-150	2	-450	2	* AG	2041	1.4	.0	10.5
M. EF	-450	-2	-150	-2	* AG	1363	1.4	.0	10.5
N. EA	-150	-2	0	-2	* AG	1217	2.7	.0	9.9
O. ED	0	-2	150	-2	* AG	1731	2.4	.0	9.9
P. EE	150	-2	450	-2	* AG	1731	1.4	.0	10.5
Q. NL	0	0	2	-150	* AG	251	2.2	.0	9.9
R. SL	0	0	-2	150	* AG	627	2.4	.0	9.9
S. WL	0	0	150	2	* AG	377	2.2	.0	9.9
T. EL	0	0	-150	-2	* AG	146	2.2	.0	9.9

III. RECEPTOR LOCATIONS

RECEPTOR	* X	* Y	* Z
1. NE3	8	8	1.8
2. SE3	8	-8	1.8
3. SW3	-8	-8	1.8
4. NW3	-8	8	1.8

IV. MODEL RESULTS (WORST CASE WIND ANGLE )

RECEPTOR	* BRG (DEG)	* PRED CONC (PPM)	* A	B	C	CONC/LINK (PPM)					
						D	E	F	G	H	
1. NE3	265.	1.8	.0	.0	.0	.0	.0	.3	.0	.0	
2. SE3	275.	1.6	.0	.0	.0	.0	.0	.0	.3	.0	
3. SW3	5.	2.0	.0	.0	.1	.0	.0	.9	.1	.0	
4. NW3	95.	2.0	.0	.0	.0	.0	.0	.4	.0	.0	

RECEPTOR	* I	J	K	L	M	CONC/LINK (PPM)						
						N	O	P	Q	R	S	T
1. NE3	.0	.1	.8	.0	.0	.3	.0	.0	.0	.0	.0	.0
2. SE3	.0	.0	.4	.0	.0	.6	.1	.0	.0	.0	.0	.0
3. SW3	.0	.0	.3	.0	.0	.2	.0	.0	.0	.2	.0	.0
4. NW3	.0	.7	.1	.0	.0	.0	.3	.0	.0	.0	.1	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL  
 JUNE 1989 VERSION  
 PAGE 1

JOB: CARROLL CANYON ROAD AND CAMINO RUIZ PMWP  
 RUN: Hour 1 (WORST CASE ANGLE)  
 POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= .5 M/S                      Z0= 100. CM                      ALT= 0. (M)  
 BRG= WORST CASE              VD= .0 CM/S  
 CLAS= 7 (G)                    VS= .0 CM/S  
 MIXH= 1000. M                AMB= .0 PPM  
 SIGTH= 5. DEGREES            TEMP= 15.6 DEGREE (C)

II. LINK VARIABLES

LINK DESCRIPTION	* X1	* Y1	* X2	* Y2	* TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. NF	2	-450	2	-150	* AG	2062	1.4	.0	10.5
B. NA	2	-150	2	0	* AG	1753	2.7	.0	9.9
C. ND	2	0	2	150	* AG	2551	2.6	.0	9.9
D. NE	2	150	2	450	* AG	2551	1.4	.0	10.5
E. SF	-2	450	-2	150	* AG	1556	1.4	.0	10.5
F. SA	-2	150	-2	0	* AG	1095	2.7	.0	9.9
G. SD	-2	0	-2	-150	* AG	1370	2.6	.0	9.9
H. SE	-2	-150	-2	-450	* AG	1370	1.4	.0	10.5
I. WF	450	2	150	2	* AG	2142	1.4	.0	10.5
J. WA	150	2	0	2	* AG	1867	2.7	.0	9.9
K. WD	0	2	-150	2	* AG	1802	2.3	.0	9.9
L. WE	-150	2	-450	2	* AG	1802	1.4	.0	10.5
M. EF	-450	-2	-150	-2	* AG	1974	1.4	.0	10.5
N. EA	-150	-2	0	-2	* AG	1454	2.7	.0	9.9
O. ED	0	-2	150	-2	* AG	2011	2.3	.0	9.9
P. EE	150	-2	450	-2	* AG	2011	1.4	.0	10.5
Q. NL	0	0	2	-150	* AG	309	2.2	.0	9.9
R. SL	0	0	-2	150	* AG	461	2.4	.0	9.9
S. WL	0	0	150	2	* AG	275	2.2	.0	9.9
T. EL	0	0	-150	-2	* AG	520	2.2	.0	9.9

III. RECEPTOR LOCATIONS

RECEPTOR	* X	* Y	* Z
1. NE3	8	8	1.8
2. SE3	8	-8	1.8
3. SW3	-8	-8	1.8
4. NW3	-8	8	1.8

IV. MODEL RESULTS (WORST CASE WIND ANGLE )

RECEPTOR	* BRG (DEG)	* PRED CONC (PPM)	* A	* B	* C	CONC/LINK (PPM)					
						D	E	F	G	H	
1. NE3	264.	2.2	.0	.0	.5	.0	.0	.2	.0	.0	
2. SE3	355.	2.4	.0	.1	1.1	.0	.0	.3	.0	.0	
3. SW3	85.	2.1	.0	.2	.0	.0	.0	.0	.3	.0	
4. NW3	95.	2.2	.0	.0	.3	.0	.0	.2	.0	.0	

RECEPTOR	* I	* J	* K	* L	* M	* N	* O	* P	* Q	* R	* S	* T
1. NE3	.0	.1	.7	.0	.0	.4	.0	.0	.0	.0	.0	.2
2. SE3	.0	.3	.0	.0	.0	.0	.3	.0	.0	.2	.0	.0
3. SW3	.0	.4	.0	.0	.0	.1	.8	.0	.0	.0	.0	.0
4. NW3	.0	.9	.1	.0	.0	.0	.4	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL  
 JUNE 1989 VERSION  
 PAGE 1

JOB: CAMINO SANTA FE AND MIRAMAR ROAD AMW  
 RUN: Hour 1 (WORST CASE ANGLE)  
 POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= .5 M/S                      Z0= 100. CM                      ALT= 0. (M)  
 BRG= WORST CASE              VD= .0 CM/S  
 CLAS= 7 (G)                    VS= .0 CM/S  
 MIXH= 1000. M                AMB= .0 PPM  
 SIGTH= 5. DEGREES            TEMP= 15.6 DEGREE (C)

II. LINK VARIABLES

LINK DESCRIPTION	* X1	* Y1	* X2	* Y2	* TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. NF	2	-450	2	-150	* AG	36	1.4	.0	10.5
B. NA	2	-150	2	0	* AG	14	2.5	.0	9.9
C. ND	2	0	2	150	* AG	1298	2.7	.0	9.9
D. NE	2	150	2	450	* AG	1298	1.4	.0	10.5
E. SF	-2	450	-2	150	* AG	1503	1.4	.0	10.5
F. SA	-2	150	-2	0	* AG	1426	2.7	.0	9.9
G. SD	-2	0	-2	-150	* AG	53	1.8	.0	9.9
H. SE	-2	-150	-2	-450	* AG	53	1.4	.0	10.5
I. WF	450	2	150	2	* AG	2516	1.4	.0	10.5
J. WA	150	2	0	2	* AG	2494	2.4	.0	9.9
K. WD	0	2	-150	2	* AG	3820	1.7	.0	9.9
L. WE	-150	2	-450	2	* AG	3820	1.4	.0	10.5
M. EF	-450	-2	-150	-2	* AG	2558	1.4	.0	10.5
N. EA	-150	-2	0	-2	* AG	1382	2.4	.0	9.9
O. ED	0	-2	150	-2	* AG	1442	1.7	.0	9.9
P. EE	150	-2	450	-2	* AG	1442	1.4	.0	10.5
Q. NL	0	0	2	-150	* AG	22	2.5	.0	9.9
R. SL	0	0	-2	150	* AG	77	2.5	.0	9.9
S. WL	0	0	150	2	* AG	22	1.8	.0	9.9
T. EL	0	0	-150	-2	* AG	1176	2.4	.0	9.9

III. RECEPTOR LOCATIONS

RECEPTOR	* X	* Y	* Z
1. NE3	8	8	1.8
2. SE3	8	-8	1.8
3. SW3	-8	-8	1.8
4. NW3	-8	8	1.8

IV. MODEL RESULTS (WORST CASE WIND ANGLE )

RECEPTOR	* BRG (DEG)	* PRED CONC (PPM)	* A	B	C	CONC/LINK (PPM)					
						D	E	F	G	H	
1. NE3	265.	2.5	.0	.0	.2	.0	.0	.0	.0	.0	
2. SE3	275.	1.7	.0	.0	.0	.0	.0	.0	.0	.0	
3. SW3	5.	1.9	.0	.0	.3	.0	.0	.7	.0	.0	
4. NW3	265.	2.0	.0	.0	.0	.0	.0	.0	.0	.0	

RECEPTOR	* I	J	K	L	M	N	O	P	Q	R	S	T
1. NE3	.0	.2	1.0	.0	.0	.3	.0	.0	.0	.0	.0	.3
2. SE3	.0	.0	.5	.1	.0	.6	.0	.0	.0	.0	.0	.4
3. SW3	.0	.0	.3	.0	.0	.2	.0	.0	.0	.0	.0	.2
4. NW3	.0	.0	1.2	.0	.1	.3	.0	.0	.0	.0	.0	.3

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL  
 JUNE 1989 VERSION  
 PAGE 1

JOB: CAMINO SANTA FE AND MIRAMAR ROAD PMW  
 RUN: Hour 1 (WORST CASE ANGLE)  
 POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= .5 M/S                      Z0= 100. CM                      ALT= 0. (M)  
 BRG= WORST CASE              VD= .0 CM/S  
 CLAS= 7 (G)                    VS= .0 CM/S  
 MIXH= 1000. M                AMB= .0 PPM  
 SIGTH= 5. DEGREES            TEMP= 15.6 DEGREE (C)

II. LINK VARIABLES

LINK DESCRIPTION	* X1	* Y1	* X2	* Y2	* TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. NF	2	-450	2	-150	* AG	130	1.4	.0	10.5
B. NA	2	-150	2	0	* AG	76	2.4	.0	9.9
C. ND	2	0	2	150	* AG	1541	2.7	.0	9.9
D. NE	2	150	2	450	* AG	1541	1.4	.0	10.5
E. SF	-2	450	-2	150	* AG	1967	1.4	.0	10.5
F. SA	-2	150	-2	0	* AG	1814	2.7	.0	9.9
G. SD	-2	0	-2	-150	* AG	127	1.7	.0	9.9
H. SE	-2	-150	-2	-450	* AG	127	1.4	.0	10.5
I. WF	450	2	150	2	* AG	1524	1.4	.0	10.5
J. WA	150	2	0	2	* AG	1504	2.4	.0	9.9
K. WD	0	2	-150	2	* AG	3294	1.7	.0	9.9
L. WE	-150	2	-450	2	* AG	3294	1.4	.0	10.5
M. EF	-450	-2	-150	-2	* AG	3744	1.4	.0	10.5
N. EA	-150	-2	0	-2	* AG	2347	2.4	.0	9.9
O. ED	0	-2	150	-2	* AG	2403	1.7	.0	9.9
P. EE	150	-2	450	-2	* AG	2403	1.4	.0	10.5
Q. NL	0	0	2	-150	* AG	54	2.4	.0	9.9
R. SL	0	0	-2	150	* AG	153	2.4	.0	9.9
S. WL	0	0	150	2	* AG	20	1.8	.0	9.9
T. EL	0	0	-150	-2	* AG	1397	2.4	.0	9.9

III. RECEPTOR LOCATIONS

RECEPTOR	* X	* Y	* Z
1. NE3	8	8	1.8
2. SE3	8	-8	1.8
3. SW3	-8	-8	1.8
4. NW3	-8	8	1.8

IV. MODEL RESULTS (WORST CASE WIND ANGLE )

RECEPTOR	* BRG (DEG)	* PRED CONC (PPM)	* A	* B	* C	CONC/LINK (PPM)					
						D	E	F	G	H	
1. NE3	264.	2.6	.0	.0	.3	.0	.0	.3	.0	.0	
2. SE3	275.	2.1	.0	.0	.0	.0	.0	.0	.0	.0	
3. SW3	5.	2.3	.0	.0	.4	.0	.0	.9	.0	.0	
4. NW3	264.	2.0	.0	.0	.0	.0	.0	.0	.0	.0	

RECEPTOR	* I	* J	* K	* L	* M	* N	* O	* P	* Q	* R	* S	* T
1. NE3	.0	.1	.9	.0	.0	.5	.0	.0	.0	.0	.0	.4
2. SE3	.0	.0	.4	.1	.0	.9	.1	.0	.0	.0	.0	.4
3. SW3	.0	.0	.3	.0	.0	.4	.0	.0	.0	.0	.0	.2
4. NW3	.0	.0	1.1	.0	.1	.4	.0	.0	.0	.0	.0	.4



CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL  
 JUNE 1989 VERSION  
 PAGE 1

JOB: CAMINO SANTA FE AND CARROLL RD PMWP  
 RUN: Hour 1 (WORST CASE ANGLE)  
 POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= .5 M/S                      Z0= 100. CM                      ALT= 0. (M)  
 BRG= WORST CASE              VD= .0 CM/S  
 CLAS= 7 (G)                    VS= .0 CM/S  
 MIXH= 1000. M                AMB= .0 PPM  
 SIGTH= 5. DEGREES            TEMP= 15.6 DEGREE (C)

II. LINK VARIABLES

LINK DESCRIPTION	* X1	* Y1	* X2	* Y2	* TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. NF	2	-450	2	-150	* AG	2218	1.4	.0	10.5
B. NA	2	-150	2	0	* AG	2089	2.4	.0	9.9
C. ND	2	0	2	150	* AG	2593	1.7	.0	9.9
D. NE	2	150	2	450	* AG	2593	1.4	.0	10.5
E. SF	-2	450	-2	150	* AG	1812	1.4	.0	10.5
F. SA	-2	150	-2	0	* AG	1706	2.4	.0	9.9
G. SD	-2	0	-2	-150	* AG	2156	1.7	.0	9.9
H. SE	-2	-150	-2	-450	* AG	2156	1.4	.0	10.5
I. WF	450	2	150	2	* AG	332	1.4	.0	10.5
J. WA	150	2	0	2	* AG	243	2.4	.0	9.9
K. WD	0	2	-150	2	* AG	297	1.8	.0	9.9
L. WE	-150	2	-450	2	* AG	297	1.4	.0	10.5
M. EF	-450	-2	-150	-2	* AG	1160	1.4	.0	10.5
N. EA	-150	-2	0	-2	* AG	747	2.7	.0	9.9
O. ED	0	-2	150	-2	* AG	476	2.4	.0	9.9
P. EE	150	-2	450	-2	* AG	476	1.4	.0	10.5
Q. NL	0	0	2	-150	* AG	129	1.8	.0	9.9
R. SL	0	0	-2	150	* AG	106	1.8	.0	9.9
S. WL	0	0	150	2	* AG	89	2.4	.0	9.9
T. EL	0	0	-150	-2	* AG	413	2.7	.0	9.9

III. RECEPTOR LOCATIONS

RECEPTOR	* X	* Y	* Z
1. NE3	8	8	1.8
2. SE3	8	-8	1.8
3. SW3	-8	-8	1.8
4. NW3	-8	8	1.8

IV. MODEL RESULTS (WORST CASE WIND ANGLE )

RECEPTOR	* BRG (DEG)	* PRED CONC (PPM)	* A	* B	* C	CONC/LINK (PPM)					
						D	E	F	G	H	
1. NE3	185.	1.5	.0	.8	.1	.0	.0	.0	.3	.0	
2. SE3	355.	1.5	.0	.1	.7	.0	.0	.3	.0	.0	
3. SW3	5.	1.6	.0	.0	.3	.0	.0	.7	.0	.0	
4. NW3	175.	1.5	.0	.4	.0	.0	.0	.1	.6	.0	

RECEPTOR	* I	* J	* K	* L	* M	* N	* O	* P	* Q	* R	* S	* T
1. NE3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2. SE3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
3. SW3	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0
4. NW3	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0



# Appendix C

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AERMOD Outputs

# 3Roots Project AERMOD Output File

```
**
*****
** AERMOD Input Produced by:
** AERMOD View Ver. 9.6.1
** Lakes Environmental Software Inc.
** Date: 3/20/2019
** File: F:\Work\STP 29 - 3 Roots\AQ_GHG\PM Modeling\3Roots\3Roots.ADI
*****
**
**
*****
** AERMOD Control Pathway
*****
**
**
CO STARTING
TITLE ONE F:\Work\STP 29 - 3 Roots\AQ_GHG\PM Modeling\3Roots\3Roots.isc
MODELOPT CONC FLAT ELEV
AVERTIME 24 PERIOD
POLLUTID PM_10
RUNORNOT RUN
ERRORFIL 3Roots.err
CO FINISHED
**
*****
** AERMOD Source Pathway
*****
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
**
*****
** Line Source Represented by Area Sources
** LINE AREA Source ID = ARLN1
** DESCRSRC 58% 0.42mi
** PREFIX
** Length of Side = 30.00
** Ratio = 10
** Vertical Dimension = 0.00
** Emission Rate = 1.4855E-13
** Nodes = 11
** 484311.397, 3639620.766, 88.20, 0.00
** 484322.516, 3639563.583, 84.66, 0.00
** 484324.899, 3639526.255, 82.32, 0.00
** 484324.899, 3639510.371, 81.90, 0.00
** 484318.545, 3639448.423, 79.47, 0.00
** 484290.748, 3639299.113, 78.46, 0.00
** 484283.600, 3639257.814, 79.31, 0.00
** 484278.041, 3639182.365, 81.90, 0.00
** 484280.423, 3639149.802, 84.18, 0.00
** 484299.484, 3639017.170, 92.55, 0.00
** 484312.191, 3638951.251, 97.02, 0.00
**
*****
LOCATION A0000001 AREA 484296.673 3639617.903 87.69
LOCATION A0000002 AREA 484307.546 3639562.628 84.45
LOCATION A0000003 AREA 484309.899 3639526.255 82.39
LOCATION A0000004 AREA 484309.977 3639511.902 81.62
LOCATION A0000005 AREA 484303.798 3639451.169 79.23

LOCATION A0000006 AREA 484275.968 3639301.671 78.18
LOCATION A0000007 AREA 484268.641 3639258.916 78.80
LOCATION A0000008 AREA 484263.081 3639181.270 81.55
LOCATION A0000009 AREA 484265.576 3639147.668 83.16
LOCATION A0000010 AREA 484284.755 3639014.331 93.28
** End of LINE AREA Source ID = ARLN1
**
*****
** Line Source Represented by Area Sources
** LINE AREA Source ID = ARLN2
** DESCRSRC 35% 0.31mi
** PREFIX
** Length of Side = 30.00
** Ratio = 10
** Vertical Dimension = 0.00
** Emission Rate = 9.0995E-14
** Nodes = 11
** 484045.592, 3640029.712, 94.03, 0.00
** 484062.176, 3639981.423, 95.21, 0.00
** 484090.467, 3639932.159, 96.21, 0.00
** 484112.416, 3639901.429, 96.66, 0.00
** 484136.317, 3639873.139, 96.74, 0.00
** 484199.726, 3639809.730, 95.86, 0.00
** 484214.359, 3639794.609, 95.53, 0.00
** 484240.698, 3639764.367, 94.67, 0.00
** 484274.354, 3639712.664, 92.73, 0.00
** 484295.328, 3639669.253, 90.32, 0.00
** 484310.937, 3639622.916, 88.24, 0.00
**
*****
LOCATION A0000011 AREA 484031.406 3640024.840 94.19
LOCATION A0000012 AREA 484049.169 3639973.953 96.45
LOCATION A0000013 AREA 484078.261 3639923.440 96.92
LOCATION A0000014 AREA 484100.958 3639891.749 97.02
LOCATION A0000015 AREA 484125.710 3639862.533 97.52
LOCATION A0000016 AREA 484188.947 3639799.298 96.14
LOCATION A0000017 AREA 484203.048 3639784.757 95.86
LOCATION A0000018 AREA 484228.127 3639756.184 94.45
LOCATION A0000019 AREA 484260.848 3639706.139 92.36
LOCATION A0000020 AREA 484281.113 3639664.465 90.34
** End of LINE AREA Source ID = ARLN2
**
*****
** Line Source Represented by Area Sources
** LINE AREA Source ID = ARLN3
** DESCRSRC 38% 0.47mi
** PREFIX
** Length of Side = 30.00
** Ratio = 10
** Vertical Dimension = 0.00
** Emission Rate = 9.8538E-14
** Nodes = 11
** 484009.693, 3640774.162, 111.79, 0.00
** 484015.085, 3640710.058, 108.45, 0.00
** 484031.261, 3640570.167, 98.79, 0.00
** 484054.108, 3640384.840, 88.27, 0.00
** 484049.389, 3640286.762, 85.48, 0.00
** 484036.768, 3640219.457, 87.11, 0.00
** 484031.793, 3640181.311, 87.80, 0.00
** 484029.305, 3640149.385, 89.06, 0.00
** 484029.305, 3640129.068, 89.92, 0.00
** 484031.793, 3640092.581, 91.38, 0.00
** 484045.061, 3640031.630, 93.60, 0.00
**
*****
```

### 3Roots Project AERMOD Output File

```
LOCATION A0000042 AREA 483994.746 3640772.904 111.62
LOCATION A0000043 AREA 484000.185 3640708.335 108.42
LOCATION A0000044 AREA 484016.374 3640568.332 99.25
LOCATION A0000045 AREA 484039.126 3640385.561 88.05
LOCATION A0000046 AREA 484034.646 3640289.526 86.07
LOCATION A0000047 AREA 484021.894 3640221.397 84.18
LOCATION A0000048 AREA 484016.838 3640182.477 87.93
LOCATION A0000049 AREA 484014.305 3640149.385 89.38
LOCATION A0000050 AREA 484014.340 3640128.048 90.71
LOCATION A0000051 AREA 484017.136 3640089.390 92.38
** End of LINE AREA Source ID = ARLN3
**
** Line Source Represented by Area Sources
** LINE AREA Source ID = ARLN4
** DESCRSRC 4% 0.50mi
** PREFIX
** Length of Side = 9.00
** Ratio = 10
** Vertical Dimension = 0.00
** Emission Rate = 3.3699E-14
** Nodes = 5
** 484313.322, 3638950.040, 97.17, 0.00
** 484369.566, 3638960.944, 97.94, 0.00
** 484961.850, 3638956.927, 117.28, 0.00
** 485002.024, 3638963.240, 119.20, 0.00
** 485122.547, 3639001.692, 123.85, 0.00
**
LOCATION A0000031 AREA 484314.178 3638945.622 97.47
LOCATION A0000032 AREA 484369.535 3638956.444 98.15
LOCATION A0000033 AREA 484454.147 3638955.870 104.15
LOCATION A0000034 AREA 484538.759 3638955.296 107.99
LOCATION A0000035 AREA 484623.371 3638954.722 109.00
LOCATION A0000036 AREA 484707.983 3638954.148 110.18
LOCATION A0000037 AREA 484792.595 3638953.574 111.20
LOCATION A0000038 AREA 484877.207 3638953.001 112.98
LOCATION A0000039 AREA 484962.548 3638952.481 117.59
LOCATION A0000040 AREA 485003.392 3638958.953 119.24
LOCATION A0000041 AREA 485063.653 3638978.179 122.06
** End of LINE AREA Source ID = ARLN4
**
** Line Source Represented by Area Sources
** LINE AREA Source ID = ARLN5
** DESCRSRC 2% 0.25mi
** PREFIX
** Length of Side = 9.00
** Ratio = 10
** Vertical Dimension = 0.00
** Emission Rate = 1.6707E-14
** Nodes = 7
** 485127.712, 3638995.953, 123.63, 0.00
** 485143.782, 3638902.404, 124.54, 0.00
** 485144.356, 3638851.899, 124.81, 0.00
** 485138.617, 3638800.247, 125.17, 0.00
** 485128.860, 3638755.481, 125.40, 0.00
** 485099.016, 3638692.924, 125.97, 0.00
** 485053.677, 3638604.541, 126.49, 0.00
**
LOCATION A0000052 AREA 485123.277 3638995.191 123.63
LOCATION A0000053 AREA 485131.312 3638948.417 124.26
LOCATION A0000054 AREA 485139.282 3638902.353 124.45
LOCATION A0000055 AREA 485139.883 3638852.396 124.79

LOCATION A0000056 AREA 485134.220 3638801.205 125.13
LOCATION A0000057 AREA 485124.799 3638757.419 125.41
LOCATION A0000058 AREA 485095.012 3638694.978 125.97
LOCATION A0000059 AREA 485072.343 3638650.786 126.36
** End of LINE AREA Source ID = ARLN5
**
** Line Source Represented by Area Sources
** LINE AREA Source ID = ARLN6
** DESCRSRC 2% 0.82mi
** PREFIX
** Length of Side = 12.00
** Ratio = 10
** Vertical Dimension = 0.00
** Emission Rate = 1.2699E-14
** Nodes = 9
** 485130.582, 3639002.266, 123.98, 0.00
** 485158.704, 3639006.857, 124.37, 0.00
** 485184.530, 3639008.005, 124.72, 0.00
** 485652.274, 3639003.988, 123.70, 0.00
** 485657.340, 3639531.184, 117.96, 0.00
** 485845.496, 3639529.033, 122.17, 0.00
** 485864.572, 3639529.863, 122.79, 0.00
** 485898.992, 3639539.815, 124.10, 0.00
** 485933.700, 3639560.697, 125.58, 0.00
**
LOCATION A0000060 AREA 485131.549 3638996.345 123.69
LOCATION A0000061 AREA 485158.970 3639000.863 124.60
LOCATION A0000062 AREA 485184.479 3639002.006 125.06
LOCATION A0000063 AREA 485301.415 3639001.001 126.66
LOCATION A0000064 AREA 485418.350 3638999.997 125.61
LOCATION A0000065 AREA 485535.286 3638998.992 125.85
LOCATION A0000066 AREA 485658.274 3639003.930 123.65
LOCATION A0000067 AREA 485659.287 3639109.369 121.44
LOCATION A0000068 AREA 485660.300 3639214.809 118.67
LOCATION A0000069 AREA 485661.313 3639320.248 116.85
LOCATION A0000070 AREA 485662.326 3639425.687 117.25
LOCATION A0000071 AREA 485657.271 3639525.185 117.87
LOCATION A0000072 AREA 485751.349 3639524.109 119.96
LOCATION A0000073 AREA 485845.757 3639523.039 122.37
LOCATION A0000074 AREA 485866.239 3639524.099 123.04
LOCATION A0000075 AREA 485902.085 3639534.674 124.29
** End of LINE AREA Source ID = ARLN6
**
** Line Source Represented by Area Sources
** LINE AREA Source ID = ARLN7
** DESCRSRC 54% 0.22mi
** PREFIX
** Length of Side = 30.00
** Ratio = 10
** Vertical Dimension = 0.00
** Emission Rate = 1.3816E-13
** Nodes = 4
** 484311.707, 3638947.417, 97.55, 0.00
** 484366.036, 3638769.916, 110.53, 0.00
** 484376.819, 3638712.269, 115.12, 0.00
** 484378.477, 3638601.538, 120.05, 0.00
**
LOCATION A0000076 AREA 484297.364 3638943.027 98.15
LOCATION A0000077 AREA 484351.291 3638767.158 111.92
LOCATION A0000078 AREA 484361.820 3638712.044 115.37
** End of LINE AREA Source ID = ARLN7
```

### 3Roots Project AERMOD Output File

```
**-----  
** Line Source Represented by Area Sources  
** LINE AREA Source ID = ARLN8  
** DESCRSRC 15% 0.23mi  
** PREFIX  
** Length of Side = 10.00  
** Ratio = 10  
** Vertical Dimension = 0.00  
** Emission Rate = 1.1891E-13  
** Nodes = 2  
** 484384.706, 3638601.275, 120.12, 0.00  
** 484742.786, 3638631.540, 123.11, 0.00  
**-----  
LOCATION A0000079 AREA 484385.127 3638596.293 120.23  
LOCATION A0000080 AREA 484474.647 3638603.859 121.47  
LOCATION A0000081 AREA 484564.167 3638611.425 121.81  
LOCATION A0000082 AREA 484653.687 3638618.992 122.44  
** End of LINE AREA Source ID = ARLN8  
**-----  
** Line Source Represented by Area Sources  
** LINE AREA Source ID = ARLN9  
** DESCRSRC 12% 0.52mi  
** PREFIX  
** Length of Side = 10.00  
** Ratio = 10  
** Vertical Dimension = 0.00  
** Emission Rate = 9.293E-14  
** Nodes = 16  
** 484742.786, 3638631.839, 123.11, 0.00  
** 484852.756, 3638640.829, 124.41, 0.00  
** 484880.923, 3638640.529, 124.78, 0.00  
** 484922.275, 3638637.233, 125.19, 0.00  
** 484953.738, 3638631.839, 125.34, 0.00  
** 484977.410, 3638626.146, 125.60, 0.00  
** 484995.688, 3638620.453, 125.67, 0.00  
** 485054.719, 3638597.380, 126.47, 0.00  
** 485143.715, 3638562.022, 127.94, 0.00  
** 485179.373, 3638539.848, 128.46, 0.00  
** 485204.843, 3638520.670, 128.76, 0.00  
** 485227.017, 3638498.196, 128.97, 0.00  
** 485227.721, 3638497.200, 128.96, 0.00  
** 485268.476, 3638439.550, 129.49, 0.00  
** 485319.082, 3638347.797, 129.55, 0.00  
** 485383.785, 3638229.219, 130.42, 0.00  
**-----  
LOCATION A0000127 AREA 484743.193 3638626.856 123.09  
LOCATION A0000128 AREA 484798.178 3638631.351 123.80  
LOCATION A0000129 AREA 484852.703 3638635.829 124.31  
LOCATION A0000130 AREA 484880.526 3638635.545 124.75  
LOCATION A0000131 AREA 484921.430 3638632.305 125.13  
LOCATION A0000132 AREA 484952.569 3638626.978 125.22  
LOCATION A0000133 AREA 484975.923 3638621.372 125.50  
LOCATION A0000134 AREA 484993.868 3638615.796 125.58  
LOCATION A0000135 AREA 485052.873 3638592.733 126.40  
LOCATION A0000136 AREA 485141.074 3638557.776 127.91  
LOCATION A0000137 AREA 485176.365 3638535.853 128.37  
LOCATION A0000138 AREA 485201.284 3638517.158 128.66  
LOCATION A0000139 AREA 485222.934 3638495.310 128.86  
LOCATION A0000140 AREA 485223.638 3638494.314 128.86  
LOCATION A0000141 AREA 485264.097 3638437.135 129.39  
LOCATION A0000142 AREA 485289.400 3638391.259 129.70  
  
LOCATION A0000143 AREA 485314.693 3638345.402 129.56  
LOCATION A0000144 AREA 485347.044 3638286.113 129.84  
** End of LINE AREA Source ID = ARLN9  
**-----  
** Line Source Represented by Area Sources  
** LINE AREA Source ID = ARLN10  
** DESCRSRC 3% 0.46mi  
** PREFIX  
** Length of Side = 10.00  
** Ratio = 10  
** Vertical Dimension = 0.00  
** Emission Rate = 2.3865E-14  
** Nodes = 12  
** 484742.327, 3638625.048, 123.08, 0.00  
** 484761.957, 3638468.013, 121.41, 0.00  
** 484766.631, 3638443.709, 121.18, 0.00  
** 484761.022, 3638387.625, 120.13, 0.00  
** 484746.066, 3638317.520, 119.83, 0.00  
** 484738.588, 3638271.718, 120.14, 0.00  
** 484737.654, 3638236.198, 120.54, 0.00  
** 484738.588, 3638198.809, 120.93, 0.00  
** 484740.458, 3638176.375, 121.21, 0.00  
** 484747.001, 3638135.247, 121.68, 0.00  
** 484756.348, 3638086.640, 123.59, 0.00  
** 484792.803, 3637918.388, 128.34, 0.00  
**-----  
LOCATION A0000096 AREA 484737.366 3638624.428 123.02  
LOCATION A0000097 AREA 484747.181 3638545.910 122.00  
LOCATION A0000098 AREA 484757.047 3638467.068 121.49  
LOCATION A0000099 AREA 484761.655 3638444.207 121.21  
LOCATION A0000100 AREA 484756.132 3638388.668 120.01  
LOCATION A0000101 AREA 484741.132 3638318.326 119.91  
LOCATION A0000102 AREA 484733.590 3638271.850 120.16  
LOCATION A0000103 AREA 484732.655 3638236.073 120.65  
LOCATION A0000104 AREA 484733.606 3638198.393 120.93  
LOCATION A0000105 AREA 484735.520 3638175.589 121.16  
LOCATION A0000106 AREA 484742.091 3638134.302 121.73  
LOCATION A0000107 AREA 484751.462 3638085.582 123.34  
LOCATION A0000108 AREA 484769.689 3638001.455 125.37  
** End of LINE AREA Source ID = ARLN10  
**-----  
** Line Source Represented by Area Sources  
** LINE AREA Source ID = ARLN11  
** DESCRSRC 34% 0.36mi  
** PREFIX  
** Length of Side = 30.00  
** Ratio = 10  
** Vertical Dimension = 0.00  
** Emission Rate = 8.6694E-14  
** Nodes = 11  
** 484376.846, 3638595.137, 120.24, 0.00  
** 484376.846, 3638476.425, 119.91, 0.00  
** 484374.041, 3638445.579, 119.09, 0.00  
** 484363.759, 3638397.907, 116.97, 0.00  
** 484338.522, 3638340.888, 113.86, 0.00  
** 484307.675, 3638294.152, 110.24, 0.00  
** 484272.155, 3638253.958, 106.82, 0.00  
** 484214.202, 3638219.373, 103.05, 0.00  
** 484174.008, 3638197.874, 101.61, 0.00  
** 484009.229, 3638175.440, 99.76, 0.00  
** 484078.665, 3638169.832, 99.23, 0.00
```

### 3Roots Project AERMOD Output File

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**-----
LOCATION A0000109 AREA 484361.846 3638595.137 120.25
LOCATION A0000110 AREA 484361.907 3638477.783 119.88
LOCATION A0000111 AREA 484359.379 3638448.741 119.47
LOCATION A0000112 AREA 484350.043 3638403.979 116.88
LOCATION A0000113 AREA 484326.002 3638349.151 114.26
LOCATION A0000114 AREA 484296.435 3638304.085 111.34
LOCATION A0000115 AREA 484264.468 3638266.839 106.73
LOCATION A0000116 AREA 484207.127 3638232.600 103.39
LOCATION A0000117 AREA 484169.698 3638212.241 101.49
LOCATION A0000118 AREA 484095.282 3638189.912 100.29
** End of LINE AREA Source ID = ARLN11
**-----
** Line Source Represented by Area Sources
** LINE AREA Source ID = ARLN12
** DESCRSRC 31% 0.32mi
** PREFIX
** Length of Side = 30.00
** Ratio = 10
** Vertical Dimension = 0.00
** Emission Rate = 8.2032E-14
** Nodes = 9
** 484075.861, 3638171.701, 99.45, 0.00
** 484008.560, 3638145.529, 100.02, 0.00
** 483965.562, 3638120.291, 101.98, 0.00
** 483927.238, 3638086.640, 105.11, 0.00
** 483898.261, 3638043.642, 108.37, 0.00
** 483875.827, 3637993.167, 112.03, 0.00
** 483866.480, 3637938.017, 116.13, 0.00
** 483858.067, 3637844.544, 121.35, 0.00
** 483851.413, 3637775.537, 124.07, 0.00
**-----
LOCATION A0000119 AREA 484070.424 3638185.681 99.84
LOCATION A0000120 AREA 484000.967 3638158.465 101.07
LOCATION A0000121 AREA 483955.665 3638131.562 102.50
LOCATION A0000122 AREA 483914.799 3638095.023 105.89
LOCATION A0000123 AREA 483884.554 3638049.735 109.03
LOCATION A0000124 AREA 483861.038 3637995.673 112.90
LOCATION A0000125 AREA 483851.540 3637939.362 116.29
LOCATION A0000126 AREA 483843.137 3637845.983 121.38
** End of LINE AREA Source ID = ARLN12
**-----
** Line Source Represented by Area Sources
** LINE AREA Source ID = ARLN13
** DESCRSRC 31% 0.80mi
** PREFIX
** Length of Side = 30.00
** Ratio = 10
** Vertical Dimension = 0.00
** Emission Rate = 7.9228E-14
** Nodes = 4
** 483845.983, 3637756.301, 124.76, 0.00
** 483600.125, 3637787.151, 124.76, 0.00
** 482764.394, 3637647.862, 121.64, 0.00
** 482567.147, 3637652.536, 120.29, 0.00
**-----
LOCATION A0000145 AREA 483847.850 3637771.185 124.29
LOCATION A0000146 AREA 483597.659 3637801.946 124.96
LOCATION A0000147 AREA 483319.082 3637755.517 123.08
LOCATION A0000148 AREA 483040.505 3637709.087 122.19
LOCATION A0000149 AREA 482764.750 3637662.858 120.87
**-----
** End of LINE AREA Source ID = ARLN13
**-----
** Line Source Represented by Area Sources
** LINE AREA Source ID = ARLN14
** DESCRSRC 26% 0.28mi
** PREFIX
** Length of Side = 30.00
** Ratio = 10
** Vertical Dimension = 0.00
** Emission Rate = 6.8006E-14
** Nodes = 3
** 482567.147, 3637652.536, 120.29, 0.00
** 482411.966, 3637651.601, 119.57, 0.00
** 482128.715, 3637606.730, 117.61, 0.00
**-----
LOCATION A0000150 AREA 482567.056 3637667.536 120.02
LOCATION A0000151 AREA 482409.619 3637666.417 120.02
** End of LINE AREA Source ID = ARLN14
**-----
** Line Source Represented by Area Sources
** LINE AREA Source ID = ARLN15
** DESCRSRC 12% 0.40mi
** PREFIX
** Length of Side = 30.00
** Ratio = 10
** Vertical Dimension = 0.00
** Emission Rate = 3.0721E-14
** Nodes = 2
** 482126.846, 3637608.600, 117.60, 0.00
** 481492.102, 3637493.617, 111.43, 0.00
**-----
LOCATION A0000152 AREA 482124.172 3637623.359 117.14
LOCATION A0000153 AREA 481912.591 3637585.032 115.92
LOCATION A0000154 AREA 481701.009 3637546.704 114.18
** End of LINE AREA Source ID = ARLN15
**-----
** Line Source Represented by Area Sources
** LINE AREA Source ID = ARLN16
** DESCRSRC 14% 0.60mi
** PREFIX
** Length of Side = 30.00
** Ratio = 10
** Vertical Dimension = 0.00
** Emission Rate = 3.6728E-14
** Nodes = 8
** 482126.846, 3637587.099, 117.18, 0.00
** 482133.390, 3637559.054, 108.21, 0.00
** 482142.738, 3637484.268, 110.37, 0.00
** 482139.933, 3637419.766, 115.92, 0.00
** 482134.324, 3637365.546, 116.57, 0.00
** 482113.758, 3637300.108, 117.27, 0.00
** 482054.865, 3637205.691, 118.26, 0.00
** 481709.915, 3636788.761, 115.99, 0.00
**-----
LOCATION A0000155 AREA 482112.238 3637583.690 117.18
LOCATION A0000156 AREA 482118.505 3637557.194 111.29
LOCATION A0000157 AREA 482127.752 3637484.920 108.18
LOCATION A0000158 AREA 482125.013 3637421.309 116.64
LOCATION A0000159 AREA 482120.014 3637370.043 116.50
LOCATION A0000160 AREA 482101.031 3637308.047 116.96
LOCATION A0000161 AREA 482043.307 3637215.253 117.74

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### 3Roots Project AERMOD Output File

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LOCATION A0000162 AREA 481870.833 3637006.788 117.13
** End of LINE AREA Source ID = ARLN16
**
-----
** Line Source Represented by Area Sources
** LINE AREA Source ID = ARLN19
** DESCRSRC 18% 0.25mi
** PREFIX
** Length of Side = 50.00
** Ratio = 10
** Vertical Dimension = 0.00
** Emission Rate = 3.2992E-14
** Nodes = 2
** 482021.898, 3636544.005, 104.32, 0.00
** 482234.174, 3636281.135, 77.49, 0.00
**
-----
LOCATION A0000177 AREA 482002.448 3636528.299 103.97
** End of LINE AREA Source ID = ARLN19
**
-----
** Line Source Represented by Area Sources
** LINE AREA Source ID = ARLN20
** DESCRSRC 5% 0.66mi
** PREFIX
** Length of Side = 50.00
** Ratio = 10
** Vertical Dimension = 0.00
** Emission Rate = 7.2603E-15
** Nodes = 7
** 482020.827, 3636544.232, 104.33, 0.00
** 481715.050, 3636928.103, 108.46, 0.00
** 481586.360, 3637087.590, 107.11, 0.00
** 481518.165, 3637176.684, 105.55, 0.00
** 481484.068, 3637233.879, 104.55, 0.00
** 481453.270, 3637277.876, 103.67, 0.00
** 481365.277, 3637454.963, 100.89, 0.00
**
-----
LOCATION A0000178 AREA 482040.382 3636559.808 104.33
LOCATION A0000179 AREA 481734.507 3636943.802 108.25
LOCATION A0000180 AREA 481606.212 3637102.786 106.84
LOCATION A0000181 AREA 481539.639 3637189.485 105.27
LOCATION A0000182 AREA 481504.549 3637248.216 104.32
LOCATION A0000183 AREA 481475.659 3637289.001 103.42
** End of LINE AREA Source ID = ARLN20
**
-----
** Line Source Represented by Area Sources
** LINE AREA Source ID = ARLN21
** DESCRSRC 3% 0.32mi
** PREFIX
** Length of Side = 10.00
** Ratio = 10
** Vertical Dimension = 0.00
** Emission Rate = 2.3116E-14
** Nodes = 10
** 481664.592, 3637023.399, 107.90, 0.00
** 481581.944, 3637141.014, 106.15, 0.00
** 481531.878, 3637218.894, 104.86, 0.00
** 481506.448, 3637270.549, 104.25, 0.00
** 481495.322, 3637303.132, 104.25, 0.00
** 481493.732, 3637337.304, 104.87, 0.00
** 481500.090, 3637374.654, 105.83, 0.00
** 481516.779, 3637431.872, 109.05, 0.00
** 481518.368, 3637455.713, 110.28, 0.00

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** 481514.395, 3637485.912, 111.36, 0.00
**
-----
LOCATION A0000184 AREA 481668.683 3637026.274 107.79
LOCATION A0000185 AREA 481627.359 3637085.081 107.03
LOCATION A0000186 AREA 481586.149 3637143.718 106.08
LOCATION A0000187 AREA 481536.364 3637221.103 104.58
LOCATION A0000188 AREA 481511.179 3637272.165 103.59
LOCATION A0000189 AREA 481500.316 3637303.364 103.82
LOCATION A0000190 AREA 481498.662 3637336.465 104.35
LOCATION A0000191 AREA 481504.890 3637373.254 105.68
LOCATION A0000192 AREA 481521.768 3637431.540 109.45
LOCATION A0000193 AREA 481523.325 3637456.366 110.66
** End of LINE AREA Source ID = ARLN21
**
-----
** Line Source Represented by Area Sources
** LINE AREA Source ID = ARLN22
** DESCRSRC 5% 10.58mi
** PREFIX
** Length of Side = 10.00
** Ratio = 10
** Vertical Dimension = 0.00
** Emission Rate = 3.8494E-13
** Nodes = 18
** 482568.532, 3637667.753, 120.05, 0.00
** 482569.508, 3637698.499, 120.31, 0.00
** 482566.092, 3637716.069, 120.39, 0.00
** 482549.986, 3637752.185, 120.07, 0.00
** 482499.718, 3637827.832, 119.14, 0.00
** 482459.698, 3637910.312, 117.83, 0.00
** 482426.999, 3637964.973, 117.27, 0.00
** 482415.286, 3637980.591, 117.48, 0.00
** 482369.409, 3638030.859, 117.56, 0.00
** 482345.007, 3638049.893, 117.66, 0.00
** 482106.305, 3638220.109, 117.45, 0.00
** 482050.208, 3638249.092, 117.09, 0.00
** 481995.045, 3638257.507, 116.93, 0.00
** 481939.883, 3638258.442, 116.55, 0.00
** 481897.810, 3638249.092, 116.65, 0.00
** 481664.070, 3638230.393, 113.48, 0.00
** 481581.432, 3638220.503, 112.60, 0.00
** 481178.132, 3638099.354, 93.59, 0.00
**
-----
LOCATION A0000194 AREA 482573.530 3637667.594 120.08
LOCATION A0000195 AREA 482574.416 3637699.454 120.41
LOCATION A0000196 AREA 482570.659 3637718.106 120.45
LOCATION A0000197 AREA 482554.151 3637754.952 120.15
LOCATION A0000198 AREA 482504.216 3637830.015 119.10
LOCATION A0000199 AREA 482463.989 3637912.879 118.23
LOCATION A0000200 AREA 482430.999 3637967.973 117.86
LOCATION A0000201 AREA 482418.979 3637983.961 117.84
LOCATION A0000202 AREA 482372.484 3638034.802 117.96
LOCATION A0000203 AREA 482347.910 3638053.964 117.99
LOCATION A0000204 AREA 482268.342 3638110.703 118.27
LOCATION A0000205 AREA 482188.775 3638167.441 117.95
LOCATION A0000206 AREA 482108.600 3638224.551 117.99
LOCATION A0000207 AREA 482050.962 3638254.035 118.09
LOCATION A0000208 AREA 481995.130 3638262.506 117.73
LOCATION A0000209 AREA 481938.798 3638263.323 117.14
LOCATION A0000210 AREA 481897.411 3638254.077 116.33
LOCATION A0000211 AREA 481819.498 3638247.843 115.58
LOCATION A0000212 AREA 481741.585 3638241.610 114.94

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### 3Roots Project AERMOD Output File

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LOCATION A0000213 AREA 481663.476 3638235.358 113.45
LOCATION A0000214 AREA 481579.994 3638225.291 112.49
LOCATION A0000215 AREA 481499.334 3638201.062 112.05
LOCATION A0000216 AREA 481418.674 3638176.832 112.87
LOCATION A0000217 AREA 481338.013 3638152.602 115.20
LOCATION A0000218 AREA 481257.353 3638128.373 114.50
** End of LINE AREA Source ID = ARLN22
**
** Line Source Represented by Area Sources
** LINE AREA Source ID = ARLN23
** DESCRSRC 2% 1.15mi
** PREFIX
** Length of Side = 50.00
** Ratio = 10
** Vertical Dimension = 0.00
** Emission Rate = 3.0658E-15
** Nodes = 9
** 480706.891, 3639174.610, 43.73, 0.00
** 480803.828, 3639086.103, 54.99, 0.00
** 480909.194, 3638951.235, 48.14, 0.00
** 481004.023, 3638772.113, 55.70, 0.00
** 481090.423, 3638418.084, 85.77, 0.00
** 481223.184, 3637912.328, 96.20, 0.00
** 481267.437, 3637731.099, 98.51, 0.00
** 481313.798, 3637570.943, 99.16, 0.00
** 481353.837, 3637465.577, 100.69, 0.00
**
LOCATION A0000219 AREA 480690.035 3639156.148 43.84
LOCATION A0000220 AREA 480784.127 3639070.712 56.25
LOCATION A0000221 AREA 480887.099 3638939.537 43.15
LOCATION A0000222 AREA 480979.736 3638766.185 62.05
LOCATION A0000223 AREA 481066.242 3638411.736 85.53
LOCATION A0000224 AREA 481132.623 3638158.858 92.51
LOCATION A0000225 AREA 481198.897 3637906.398 96.57
LOCATION A0000226 AREA 481243.423 3637724.147 98.08
LOCATION A0000227 AREA 481290.429 3637562.062 99.80
** End of LINE AREA Source ID = ARLN23
**
** Line Source Represented by Area Sources
** LINE AREA Source ID = ARLN24
** DESCRSRC 5% 0.85mi
** PREFIX
** Length of Side = 50.00
** Ratio = 10
** Vertical Dimension = 0.00
** Emission Rate = 7.7048E-15
** Nodes = 8
** 479632.161, 3639996.463, 26.36, 0.00
** 479760.707, 3639827.878, 30.25, 0.00
** 479872.395, 3639711.975, 33.01, 0.00
** 479988.297, 3639608.717, 34.94, 0.00
** 480173.741, 3639486.493, 37.11, 0.00
** 480348.648, 3639400.093, 39.62, 0.00
** 480582.560, 3639284.190, 46.39, 0.00
** 480704.784, 3639180.932, 43.70, 0.00
**
LOCATION A0000228 AREA 479612.280 3639981.304 26.00
LOCATION A0000229 AREA 479742.705 3639810.530 30.88
LOCATION A0000230 AREA 479855.764 3639693.309 33.29
LOCATION A0000231 AREA 479974.539 3639587.843 35.18
LOCATION A0000232 AREA 480162.668 3639464.078 37.38

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LOCATION A0000233 AREA 480337.548 3639377.692 39.56
LOCATION A0000234 AREA 480566.426 3639265.093 45.75
** End of LINE AREA Source ID = ARLN24
**
** Line Source Represented by Area Sources
** LINE AREA Source ID = ARLN25
** DESCRSRC 1% 1.57mi
** PREFIX
** Length of Side = 10.00
** Ratio = 10
** Vertical Dimension = 0.00
** Emission Rate = 7.7052E-15
** Nodes = 26
** 480916.884, 3638933.048, 48.30, 0.00
** 480979.310, 3638963.500, 34.38, 0.00
** 481029.556, 3639006.132, 32.48, 0.00
** 481088.937, 3639047.242, 43.90, 0.00
** 481148.317, 3639073.126, 44.90, 0.00
** 481207.698, 3639083.784, 46.35, 0.00
** 481375.183, 3639112.713, 51.01, 0.00
** 481448.267, 3639129.461, 51.53, 0.00
** 481771.055, 3639222.339, 52.99, 0.00
** 482013.146, 3639313.694, 46.74, 0.00
** 482078.617, 3639362.417, 46.90, 0.00
** 482116.682, 3639397.437, 48.39, 0.00
** 482183.675, 3639429.411, 50.64, 0.00
** 482230.876, 3639438.546, 51.35, 0.00
** 482285.689, 3639443.114, 51.85, 0.00
** 482373.999, 3639424.843, 49.71, 0.00
** 482648.064, 3639350.236, 50.25, 0.00
** 482678.516, 3639335.011, 52.37, 0.00
** 482701.354, 3639313.694, 54.75, 0.00
** 482724.193, 3639287.810, 57.79, 0.00
** 482734.851, 3639260.404, 60.01, 0.00
** 482756.168, 3639191.887, 65.64, 0.00
** 482786.619, 3639112.713, 70.27, 0.00
** 482815.548, 3639080.739, 71.67, 0.00
** 482864.271, 3639050.287, 73.62, 0.00
** 483130.724, 3638963.500, 87.73, 0.00
**
LOCATION A0000235 AREA 480919.077 3638928.554 47.91
LOCATION A0000236 AREA 480982.545 3638959.687 33.58
LOCATION A0000237 AREA 481032.402 3639002.021 32.27
LOCATION A0000238 AREA 481090.935 3639042.658 43.86
LOCATION A0000239 AREA 481149.201 3639068.204 44.80
LOCATION A0000240 AREA 481208.549 3639078.857 46.14
LOCATION A0000241 AREA 481292.292 3639093.321 48.85
LOCATION A0000242 AREA 481376.300 3639107.839 50.84
LOCATION A0000243 AREA 481449.649 3639124.656 51.50
LOCATION A0000244 AREA 481530.346 3639147.876 52.44
LOCATION A0000245 AREA 481611.043 3639171.095 53.31
LOCATION A0000246 AREA 481691.740 3639194.315 53.82
LOCATION A0000247 AREA 481772.820 3639217.661 53.00
LOCATION A0000248 AREA 481853.517 3639248.113 51.20
LOCATION A0000249 AREA 481934.214 3639278.565 48.84
LOCATION A0000250 AREA 482016.131 3639309.683 46.88
LOCATION A0000251 AREA 482082.002 3639358.737 46.86
LOCATION A0000252 AREA 482118.835 3639392.924 48.59
LOCATION A0000253 AREA 482184.626 3639424.502 50.88
LOCATION A0000254 AREA 482231.291 3639433.564 51.65
LOCATION A0000255 AREA 482284.676 3639438.218 51.77

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### 3Roots Project AERMOD Output File

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LOCATION A0000256 AREA 482372.685 3639420.019 49.69
LOCATION A0000257 AREA 482464.040 3639395.150 47.23
LOCATION A0000258 AREA 482555.396 3639370.281 47.54
LOCATION A0000259 AREA 482645.828 3639345.764 50.47
LOCATION A0000260 AREA 482675.104 3639331.355 52.44
LOCATION A0000261 AREA 482697.605 3639310.386 54.94
LOCATION A0000262 AREA 482719.533 3639285.998 57.55
LOCATION A0000263 AREA 482730.077 3639258.919 59.92
LOCATION A0000264 AREA 482751.501 3639190.093 66.06
LOCATION A0000265 AREA 482782.912 3639109.358 70.37
LOCATION A0000266 AREA 482812.898 3639076.499 71.94
LOCATION A0000267 AREA 482862.723 3639045.533 73.79
LOCATION A0000268 AREA 482951.540 3639016.604 77.40
LOCATION A0000269 AREA 483040.358 3638987.675 83.72
** End of LINE AREA Source ID = ARLN25
**
** Line Source Represented by Area Sources
** LINE AREA Source ID = ARLN26
** DESCRSRC 2% 0.48mi
** PREFIX
** Length of Side = 10.00
** Ratio = 10
** Vertical Dimension = 0.00
** Emission Rate = 1.5495E-14
** Nodes = 13
** 483130.724, 3638963.500, 87.73, 0.00
** 483168.788, 3638942.183, 88.54, 0.00
** 483219.033, 3638908.687, 91.18, 0.00
** 483308.866, 3638847.783, 97.40, 0.00
** 483333.227, 3638838.648, 98.34, 0.00
** 483360.634, 3638829.512, 99.65, 0.00
** 483485.486, 3638831.035, 103.60, 0.00
** 483523.551, 3638824.944, 104.85, 0.00
** 483550.957, 3638815.809, 105.16, 0.00
** 483599.680, 3638774.699, 105.69, 0.00
** 483669.719, 3638713.796, 106.76, 0.00
** 483719.964, 3638665.073, 107.11, 0.00
** 483765.642, 3638598.079, 110.93, 0.00
**
LOCATION A0000270 AREA 483128.281 3638959.137 87.72
LOCATION A0000271 AREA 483166.015 3638938.023 88.54
LOCATION A0000272 AREA 483216.228 3638904.548 91.12
LOCATION A0000273 AREA 483261.144 3638874.096 94.65
LOCATION A0000274 AREA 483307.110 3638843.102 97.61
LOCATION A0000275 AREA 483331.646 3638833.904 98.30
LOCATION A0000276 AREA 483360.695 3638824.513 99.33
LOCATION A0000277 AREA 483423.121 3638825.274 100.72
LOCATION A0000278 AREA 483484.696 3638826.098 103.43
LOCATION A0000279 AREA 483521.969 3638820.201 104.92
LOCATION A0000280 AREA 483547.733 3638811.987 105.17
LOCATION A0000281 AREA 483596.399 3638770.926 105.65
LOCATION A0000282 AREA 483666.238 3638710.206 106.45
LOCATION A0000283 AREA 483715.833 3638662.256 107.15
** End of LINE AREA Source ID = ARLN26
**
** Line Source Represented by Area Sources
** LINE AREA Source ID = ARLN27
** DESCRSRC 1% 0.34
** PREFIX
** Length of Side = 10.00
** Ratio = 10
** Vertical Dimension = 0.00
** Emission Rate = 7.6139E-15
** Nodes = 8
** 483765.642, 3638591.989, 111.29, 0.00
** 483724.532, 3638579.808, 113.90, 0.00
** 483700.170, 3638584.376, 115.16, 0.00
** 483407.834, 3638712.273, 117.69, 0.00
** 483386.518, 3638713.796, 117.51, 0.00
** 483333.227, 3638701.615, 116.92, 0.00
** 483304.298, 3638701.615, 116.63, 0.00
** 483247.963, 3638725.976, 116.05, 0.00
**
LOCATION A0000284 AREA 483764.221 3638596.783 110.98
LOCATION A0000285 AREA 483725.453 3638584.723 113.46
LOCATION A0000286 AREA 483702.175 3638588.957 115.41
LOCATION A0000287 AREA 483629.090 3638620.931 117.82
LOCATION A0000288 AREA 483556.006 3638652.905 118.54
LOCATION A0000289 AREA 483482.922 3638684.860 118.61
LOCATION A0000290 AREA 483408.190 3638717.260 117.81
LOCATION A0000291 AREA 483385.404 3638718.670 117.58
LOCATION A0000292 AREA 483333.227 3638706.615 117.02
LOCATION A0000293 AREA 483306.283 3638706.204 116.79
** End of LINE AREA Source ID = ARLN27
**
** Line Source Represented by Area Sources
** LINE AREA Source ID = ARLN28
** DESCRSRC 3% 0.15mi
** PREFIX
** Length of Side = 10.00
** Ratio = 10
** Vertical Dimension = 0.00
** Emission Rate = 2.2804E-14
** Nodes = 5
** 483768.687, 3638595.034, 111.06, 0.00
** 483794.571, 3638573.718, 113.10, 0.00
** 483828.068, 3638555.447, 115.34, 0.00
** 483887.448, 3638553.924, 117.03, 0.00
** 484000.120, 3638566.105, 122.72, 0.00
**
LOCATION A0000294 AREA 483765.508 3638591.174 111.38
LOCATION A0000295 AREA 483792.176 3638569.328 113.41
LOCATION A0000296 AREA 483827.939 3638550.448 116.65
LOCATION A0000297 AREA 483887.986 3638548.953 117.07
LOCATION A0000298 AREA 483944.322 3638555.044 119.88
** End of LINE AREA Source ID = ARLN28
**
** Line Source Represented by Area Sources
** LINE AREA Source ID = ARLN29
** DESCRSRC 2% 0.14mi
** PREFIX
** Length of Side = 10.00
** Ratio = 10
** Vertical Dimension = 0.00
** Emission Rate = 1.5237E-14
** Nodes = 8
** 483997.646, 3638573.468, 122.39, 0.00
** 483999.598, 3638615.934, 120.62, 0.00
** 483995.205, 3638636.435, 118.94, 0.00
** 483983.002, 3638659.864, 116.99, 0.00
** 483972.264, 3638674.996, 115.49, 0.00
** 483955.668, 3638691.592, 113.67, 0.00

```



### 3Roots Project AERMOD Output File

```
** 483932.238, 3638724.784, 110.75, 0.00
** 483918.083, 3638777.989, 105.73, 0.00
**
LOCATION A0000299 AREA 484002.641 3638573.238 122.77
LOCATION A0000300 AREA 484004.487 3638616.982 120.87
LOCATION A0000301 AREA 483999.640 3638638.744 119.00
LOCATION A0000302 AREA 483987.080 3638662.758 117.16
LOCATION A0000303 AREA 483975.799 3638678.532 115.63
LOCATION A0000304 AREA 483959.753 3638694.475 113.91
LOCATION A0000305 AREA 483937.070 3638726.070 110.39
** End of LINE AREA Source ID = ARLN29
**
** Line Source Represented by Area Sources
** LINE AREA Source ID = ARLN30
** DESCRSRC 5% 0.23mi
** PREFIX
** Length of Side = 10.00
** Ratio = 10
** Vertical Dimension = 0.00
** Emission Rate = 3.9078E-14
** Nodes = 2
** 484001.063, 3638567.122, 122.81, 0.00
** 484364.222, 3638598.362, 120.21, 0.00
**
LOCATION A0000306 AREA 484001.491 3638562.141 122.66
LOCATION A0000307 AREA 484092.281 3638569.950 126.30
LOCATION A0000308 AREA 484183.071 3638577.760 126.65
LOCATION A0000309 AREA 484273.861 3638585.570 123.65
** End of LINE AREA Source ID = ARLN30
**
** Line Source Represented by Area Sources
** LINE AREA Source ID = ARLN31
** DESCRSRC 12% 1.55mi
** PREFIX
** Length of Side = 30.00
** Ratio = 10
** Vertical Dimension = 0.00
** Emission Rate = 3.0794E-14
** Nodes = 8
** 485390.971, 3638220.834, 130.57, 0.00
** 485913.077, 3638571.873, 134.84, 0.00
** 486860.778, 3639225.768, 134.69, 0.00
** 487183.247, 3639444.331, 137.09, 0.00
** 487242.366, 3639474.786, 137.37, 0.00
** 487330.149, 3639501.659, 138.27, 0.00
** 487376.728, 3639508.825, 138.39, 0.00
** 487494.967, 3639508.825, 139.52, 0.00
**
LOCATION A0000310 AREA 485399.340 3638208.386 130.44
LOCATION A0000311 AREA 485573.376 3638325.399 131.58
LOCATION A0000312 AREA 485747.411 3638442.412 132.90
LOCATION A0000313 AREA 485921.596 3638559.527 134.39
LOCATION A0000314 AREA 486158.521 3638723.001 135.68
LOCATION A0000315 AREA 486395.446 3638886.474 131.44
LOCATION A0000316 AREA 486632.371 3639049.948 133.30
LOCATION A0000317 AREA 486869.193 3639213.352 134.54
LOCATION A0000318 AREA 487030.428 3639322.633 135.73
LOCATION A0000319 AREA 487190.116 3639430.996 136.31
LOCATION A0000320 AREA 487246.757 3639460.443 136.59
LOCATION A0000321 AREA 487332.430 3639486.833 136.85
LOCATION A0000322 AREA 487376.728 3639493.825 137.66
```

```
** End of LINE AREA Source ID = ARLN31
**
** Line Source Represented by Area Sources
** LINE AREA Source ID = ARLN32
** DESCRSRC 8% 0.80mi
** PREFIX
** Length of Side = 30.00
** Ratio = 10
** Vertical Dimension = 0.00
** Emission Rate = 2.0622E-14
** Nodes = 2
** 487498.205, 3639508.029, 139.52, 0.00
** 488779.406, 3639523.927, 154.65, 0.00
**
LOCATION A0000323 AREA 487498.391 3639493.030 139.35
LOCATION A0000324 AREA 487754.631 3639496.210 143.65
LOCATION A0000325 AREA 488010.872 3639499.389 146.29
LOCATION A0000326 AREA 488267.112 3639502.569 148.85
LOCATION A0000327 AREA 488523.352 3639505.749 151.13
** End of LINE AREA Source ID = ARLN32
**
** Line Source Represented by Area Sources
** LINE AREA Source ID = ARLN33
** DESCRSRC 1% 0.40mi
** PREFIX
** Length of Side = 10.00
** Ratio = 10
** Vertical Dimension = 0.00
** Emission Rate = 7.7806E-15
** Nodes = 8
** 487492.939, 3639529.259, 139.21, 0.00
** 487487.437, 3639579.873, 138.38, 0.00
** 487466.532, 3639635.987, 136.57, 0.00
** 487377.408, 3639741.615, 130.15, 0.00
** 487430.222, 3639792.229, 131.26, 0.00
** 487469.833, 3639809.833, 132.11, 0.00
** 487495.139, 3639815.335, 132.67, 0.00
** 487740.504, 3639816.435, 140.09, 0.00
**
LOCATION A0000328 AREA 487497.909 3639529.799 139.27
LOCATION A0000329 AREA 487492.123 3639581.618 138.66
LOCATION A0000330 AREA 487470.353 3639639.212 136.81
LOCATION A0000331 AREA 487425.791 3639692.026 133.35
LOCATION A0000332 AREA 487380.868 3639738.005 130.30
LOCATION A0000333 AREA 487432.253 3639787.660 131.17
LOCATION A0000334 AREA 487470.895 3639804.948 132.05
LOCATION A0000335 AREA 487495.162 3639810.335 132.71
LOCATION A0000336 AREA 487576.950 3639810.702 135.11
LOCATION A0000337 AREA 487658.738 3639811.068 137.69
** End of LINE AREA Source ID = ARLN33
**
** Line Source Represented by Area Sources
** LINE AREA Source ID = ARLN34
** DESCRSRC 55% 0.17mi
** PREFIX
** Length of Side = 20.00
** Ratio = 10
** Vertical Dimension = 0.00
** Emission Rate = 2.0635E-13
** Nodes = 4
** 484331.353, 3639625.114, 88.64, 0.00
```

### 3Roots Project AERMOD Output File

```
** 484469.211, 3639661.302, 98.49, 0.00
** 484521.482, 3639673.939, 93.65, 0.00
** 484595.581, 3639714.147, 88.39, 0.00
**
-----
LOCATION A0000338 AREA 484333.892 3639615.442 88.32
LOCATION A0000339 AREA 484471.561 3639651.582 101.44
LOCATION A0000340 AREA 484526.252 3639665.149 93.47
** End of LINE AREA Source ID = ARLN34
**
-----
** Line Source Represented by Area Sources
** LINE AREA Source ID = ARLN35
** DESCRSRC 45% 0.50mi
** PREFIX
** Length of Side = 20.00
** Ratio = 10
** Vertical Dimension = 0.00
** Emission Rate = 1.7345E-13
** Nodes = 21
** 484065.977, 3640036.390, 93.67, 0.00
** 484121.694, 3640050.750, 116.42, 0.00
** 484188.326, 3640085.789, 112.68, 0.00
** 484232.555, 3640109.340, 99.79, 0.00
** 484254.383, 3640115.658, 98.41, 0.00
** 484286.550, 3640118.530, 100.10, 0.00
** 484321.588, 3640117.956, 98.50, 0.00
** 484352.032, 3640112.212, 98.36, 0.00
** 484379.604, 3640100.149, 98.43, 0.00
** 484443.363, 3640064.536, 101.16, 0.00
** 484478.402, 3640049.602, 104.54, 0.00
** 484504.250, 3640028.348, 108.32, 0.00
** 484518.610, 3640013.414, 108.22, 0.00
** 484534.119, 3639990.437, 100.93, 0.00
** 484543.884, 3639963.440, 91.52, 0.00
** 484549.628, 3639935.294, 89.04, 0.00
** 484553.649, 3639846.835, 92.86, 0.00
** 484554.798, 3639814.094, 93.04, 0.00
** 484560.542, 3639791.692, 93.56, 0.00
** 484576.051, 3639754.930, 93.96, 0.00
** 484593.283, 3639725.061, 88.05, 0.00
**
-----
LOCATION A0000341 AREA 484068.473 3640026.707 93.71
LOCATION A0000342 AREA 484126.349 3640041.899 116.03
LOCATION A0000343 AREA 484193.026 3640076.963 112.33
LOCATION A0000344 AREA 484235.336 3640099.734 98.70
LOCATION A0000345 AREA 484255.272 3640105.698 98.20
LOCATION A0000346 AREA 484286.386 3640108.532 98.46
LOCATION A0000347 AREA 484319.734 3640108.129 98.38
LOCATION A0000348 AREA 484348.024 3640103.050 99.16
LOCATION A0000349 AREA 484374.727 3640091.419 99.79
LOCATION A0000350 AREA 484439.442 3640055.337 102.63
LOCATION A0000351 AREA 484472.051 3640041.877 104.26
LOCATION A0000352 AREA 484497.042 3640021.417 108.48
LOCATION A0000353 AREA 484510.322 3640007.819 108.63
LOCATION A0000354 AREA 484524.716 3639987.036 107.63
LOCATION A0000355 AREA 484534.086 3639961.441 98.88
LOCATION A0000356 AREA 484539.639 3639934.840 94.20
LOCATION A0000357 AREA 484543.655 3639846.485 92.63
LOCATION A0000358 AREA 484545.111 3639811.610 92.90
LOCATION A0000359 AREA 484551.329 3639787.805 97.58
LOCATION A0000360 AREA 484567.389 3639749.933 98.38
** End of LINE AREA Source ID = ARLN35
```

```
**
-----
** Line Source Represented by Area Sources
** LINE AREA Source ID = ARLN36
** DESCRSRC 7% 1.23mi
** PREFIX
** Length of Side = 30.00
** Ratio = 10
** Vertical Dimension = 0.00
** Emission Rate = 1.7994E-14
** Nodes = 15
** 480740.933, 3639190.971, 45.23, 0.00
** 480810.818, 3639251.896, 49.42, 0.00
** 480903.997, 3639327.156, 55.71, 0.00
** 480973.881, 3639371.953, 58.83, 0.00
** 481045.557, 3639393.456, 60.18, 0.00
** 481136.944, 3639402.416, 62.07, 0.00
** 481459.487, 3639407.791, 69.18, 0.00
** 481540.123, 3639423.919, 71.08, 0.00
** 481629.718, 3639465.132, 74.97, 0.00
** 481740.816, 3639542.184, 82.49, 0.00
** 481780.238, 3639583.398, 84.53, 0.00
** 482049.024, 3639963.282, 100.73, 0.00
** 482142.203, 3640094.091, 106.58, 0.00
** 482195.960, 3640144.264, 108.75, 0.00
** 482285.556, 3640221.316, 111.32, 0.00
**
-----
LOCATION A0000361 AREA 480750.790 3639179.664 47.66
LOCATION A0000362 AREA 480820.243 3639240.226 49.15
LOCATION A0000363 AREA 480912.092 3639314.527 55.60
LOCATION A0000364 AREA 480978.191 3639357.586 58.03
LOCATION A0000365 AREA 481047.021 3639378.528 59.55
LOCATION A0000366 AREA 481137.194 3639387.418 61.63
LOCATION A0000367 AREA 481298.466 3639390.106 64.33
LOCATION A0000368 AREA 481462.429 3639393.083 69.38
LOCATION A0000369 AREA 481546.392 3639410.291 70.75
LOCATION A0000370 AREA 481638.267 3639452.807 75.94
LOCATION A0000371 AREA 481751.656 3639531.816 83.03
LOCATION A0000372 AREA 481792.483 3639574.734 85.15
LOCATION A0000373 AREA 481926.876 3639764.676 92.09
LOCATION A0000374 AREA 482061.241 3639954.579 100.36
LOCATION A0000375 AREA 482152.438 3640083.125 105.69
LOCATION A0000376 AREA 482205.741 3640132.892 108.33
** End of LINE AREA Source ID = ARLN36
**
-----
** Line Source Represented by Area Sources
** LINE AREA Source ID = ARLN37
** DESCRSRC 3% 0.25mi
** PREFIX
** Length of Side = 20.00
** Ratio = 10
** Vertical Dimension = 0.00
** Emission Rate = 1.1732E-14
** Nodes = 3
** 482273.012, 3640237.444, 111.06, 0.00
** 482206.712, 3640292.993, 108.42, 0.00
** 481912.839, 3640389.756, 96.90, 0.00
**
-----
LOCATION A0000377 AREA 482279.435 3640245.109 111.20
LOCATION A0000378 AREA 482209.839 3640302.491 108.60
LOCATION A0000379 AREA 482062.903 3640350.872 100.54
** End of LINE AREA Source ID = ARLN37
```

### 3Roots Project AERMOD Output File

```
**-----  
** Line Source Represented by Area Sources  
** LINE AREA Source ID = ARLN38  
** DESCRSRC 1% 0.23mi  
** PREFIX  
** Length of Side = 20.00  
** Ratio = 10  
** Vertical Dimension = 0.00  
** Emission Rate = 3.8876E-15  
** Nodes = 7  
** 482297.741, 3640212.627, 111.13, 0.00  
** 482335.819, 3640141.040, 109.08, 0.00  
** 482355.619, 3640087.731, 106.59, 0.00  
** 482355.619, 3640000.912, 100.37, 0.00  
** 482346.481, 3639944.557, 95.78, 0.00  
** 482323.634, 3639876.016, 89.66, 0.00  
** 482317.541, 3639865.354, 88.46, 0.00  
**  
LOCATION A0000380 AREA 482288.912 3640207.931 110.99  
LOCATION A0000381 AREA 482326.444 3640137.558 108.92  
LOCATION A0000382 AREA 482345.619 3640087.731 106.41  
LOCATION A0000383 AREA 482345.748 3640002.513 99.91  
LOCATION A0000384 AREA 482336.994 3639947.719 95.37  
LOCATION A0000385 AREA 482314.951 3639880.978 89.71  
** End of LINE AREA Source ID = ARLN38  
**  
** Line Source Represented by Area Sources  
** LINE AREA Source ID = ARLN39  
** DESCRSRC 12% 0.85mi  
** PREFIX  
** Length of Side = 30.00  
** Ratio = 10  
** Vertical Dimension = 0.00  
** Emission Rate = 3.0944E-14  
** Nodes = 6  
** 482294.694, 3640233.951, 111.50, 0.00  
** 482527.732, 3640422.818, 115.77, 0.00  
** 483069.965, 3640820.353, 117.34, 0.00  
** 483135.459, 3640858.432, 116.37, 0.00  
** 483191.815, 3640884.325, 117.12, 0.00  
** 483435.515, 3640943.727, 120.13, 0.00  
**  
LOCATION A0000386 AREA 482304.139 3640222.297 111.37  
LOCATION A0000387 AREA 482536.601 3640410.721 115.68  
LOCATION A0000388 AREA 482717.346 3640543.233 117.25  
LOCATION A0000389 AREA 482898.090 3640675.744 115.82  
LOCATION A0000390 AREA 483077.504 3640807.386 116.39  
LOCATION A0000391 AREA 483141.722 3640844.801 115.88  
LOCATION A0000392 AREA 483195.367 3640869.751 116.43  
** End of LINE AREA Source ID = ARLN39  
**  
** Line Source Represented by Area Sources  
** LINE AREA Source ID = ARLN40  
** DESCRSRC 11% 0.52mi  
** PREFIX  
** Length of Side = 20.00  
** Ratio = 10  
** Vertical Dimension = 0.00  
** Emission Rate = 4.2348E-14  
** Nodes = 18  
** 483440.772, 3640927.399, 120.07, 0.00  
** 483447.375, 3640888.883, 120.81, 0.00  
** 483448.475, 3640869.075, 120.94, 0.00  
** 483445.174, 3640778.836, 120.04, 0.00  
** 483445.174, 3640757.928, 119.67, 0.00  
** 483449.576, 3640729.315, 119.30, 0.00  
** 483461.681, 3640697.402, 118.81, 0.00  
** 483479.288, 3640674.292, 118.62, 0.00  
** 483521.106, 3640641.278, 118.15, 0.00  
** 483546.417, 3640632.475, 117.94, 0.00  
** 483600.340, 3640622.570, 117.48, 0.00  
** 483710.386, 3640617.068, 118.47, 0.00  
** 483735.697, 3640621.470, 117.94, 0.00  
** 483763.208, 3640626.972, 117.17, 0.00  
** 483889.762, 3640733.717, 112.41, 0.00  
** 483917.273, 3640754.626, 111.91, 0.00  
** 483961.292, 3640766.731, 111.29, 0.00  
** 483989.904, 3640774.435, 111.54, 0.00  
**  
LOCATION A0000393 AREA 483430.916 3640925.710 119.99  
LOCATION A0000394 AREA 483437.390 3640888.328 120.87  
LOCATION A0000395 AREA 483438.482 3640869.440 120.87  
LOCATION A0000396 AREA 483435.174 3640778.836 120.60  
LOCATION A0000397 AREA 483435.290 3640756.407 120.22  
LOCATION A0000398 AREA 483440.226 3640725.769 120.01  
LOCATION A0000399 AREA 483453.727 3640691.342 119.38  
LOCATION A0000400 AREA 483473.092 3640666.443 118.73  
LOCATION A0000401 AREA 483517.821 3640631.833 118.98  
LOCATION A0000402 AREA 483544.610 3640622.639 118.16  
LOCATION A0000403 AREA 483599.840 3640612.583 117.80  
LOCATION A0000404 AREA 483712.099 3640607.216 118.64  
LOCATION A0000405 AREA 483737.658 3640611.664 118.05  
LOCATION A0000406 AREA 483769.656 3640619.328 117.29  
LOCATION A0000407 AREA 483895.813 3640725.756 112.32  
LOCATION A0000408 AREA 483919.925 3640744.984 111.90  
LOCATION A0000409 AREA 483963.892 3640757.075 111.16  
** End of LINE AREA Source ID = ARLN40  
**  
** Line Source Represented by Area Sources  
** LINE AREA Source ID = ARLN41  
** DESCRSRC 6% 0.34mi  
** PREFIX  
** Length of Side = 30.00  
** Ratio = 10  
** Vertical Dimension = 0.00  
** Emission Rate = 1.5262E-14  
** Nodes = 2  
** 483438.571, 3640945.007, 120.18, 0.00  
** 483980.000, 3641051.752, 123.42, 0.00  
**  
LOCATION A0000410 AREA 483441.473 3640930.290 120.05  
LOCATION A0000411 AREA 483712.187 3640983.662 124.90  
** End of LINE AREA Source ID = ARLN41  
**  
** Line Source Represented by Area Sources  
** LINE AREA Source ID = ARLN42  
** DESCRSRC 23% 0.16mi  
** PREFIX  
** Length of Side = 30.00  
** Ratio = 10  
** Vertical Dimension = 0.00  
** Emission Rate = 5.7898E-14
```

### 3Roots Project AERMOD Output File

```

** Nodes = 3
** 483983.301, 3641038.546, 123.19, 0.00
** 484003.110, 3640902.088, 119.01, 0.00
** 484009.712, 3640777.736, 111.76, 0.00
**
-----
LOCATION A0000412 AREA 483968.457 3641036.391 123.24
LOCATION A0000413 AREA 483988.131 3640901.293 118.78
** End of LINE AREA Source ID = ARLN42
**
-----
** Line Source Represented by Area Sources
** LINE AREA Source ID = ARLN43
** DESCRSRC 4% 0.99mi
** PREFIX
** Length of Side = 10.00
** Ratio = 10
** Vertical Dimension = 0.00
** Emission Rate = 3.0685E-14
** Nodes = 20
** 484025.119, 3640778.836, 111.58, 0.00
** 484115.357, 3640779.937, 115.03, 0.00
** 484228.705, 3640816.252, 122.01, 0.00
** 484269.422, 3640818.453, 122.91, 0.00
** 484290.331, 3640819.554, 123.08, 0.00
** 484796.545, 3640812.951, 123.75, 0.00
** 484847.166, 3640816.252, 123.53, 0.00
** 484890.084, 3640836.061, 123.19, 0.00
** 484939.605, 3640859.170, 122.75, 0.00
** 484978.121, 3640892.184, 124.01, 0.00
** 485026.542, 3640914.194, 123.27, 0.00
** 485071.661, 3640925.198, 122.39, 0.00
** 485103.574, 3640931.801, 121.87, 0.00
** 485286.251, 3641012.135, 118.59, 0.00
** 485319.265, 3641027.541, 118.95, 0.00
** 485358.882, 3641024.240, 119.08, 0.00
** 485402.901, 3641015.436, 118.70, 0.00
** 485465.627, 3640979.121, 118.88, 0.00
** 485503.043, 3640963.714, 118.96, 0.00
** 485554.765, 3640958.212, 118.74, 0.00
**
-----
LOCATION A0000414 AREA 484025.180 3640773.837 111.63
LOCATION A0000415 AREA 484116.883 3640775.175 115.03
LOCATION A0000416 AREA 484173.556 3640793.333 119.73
LOCATION A0000417 AREA 484228.975 3640811.259 121.99
LOCATION A0000418 AREA 484269.685 3640813.460 122.94
LOCATION A0000419 AREA 484290.266 3640814.554 123.00
LOCATION A0000420 AREA 484374.635 3640813.454 122.34
LOCATION A0000421 AREA 484459.004 3640812.353 121.78
LOCATION A0000422 AREA 484543.373 3640811.253 121.02
LOCATION A0000423 AREA 484627.742 3640810.152 120.70
LOCATION A0000424 AREA 484712.110 3640809.052 122.20
LOCATION A0000425 AREA 484796.870 3640807.961 123.78
LOCATION A0000426 AREA 484849.261 3640811.712 123.54
LOCATION A0000427 AREA 484892.199 3640831.530 123.20
LOCATION A0000428 AREA 484942.859 3640855.374 122.71
LOCATION A0000429 AREA 484980.190 3640887.632 123.81
LOCATION A0000430 AREA 485027.727 3640909.336 123.63
LOCATION A0000431 AREA 485072.674 3640920.302 122.58
LOCATION A0000432 AREA 485105.587 3640927.224 121.94
LOCATION A0000433 AREA 485196.926 3640967.391 120.13
LOCATION A0000434 AREA 485288.366 3641007.604 118.69
LOCATION A0000435 AREA 485318.850 3641022.559 118.99

```

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LOCATION A0000436 AREA 485357.902 3641019.337 119.13
LOCATION A0000437 AREA 485400.396 3641011.109 118.78
LOCATION A0000438 AREA 485463.723 3640974.498 118.93
LOCATION A0000439 AREA 485502.514 3640958.743 118.89
** End of LINE AREA Source ID = ARLN43
**
-----
** Line Source Represented by Area Sources
** LINE AREA Source ID = ARLN44
** DESCRSRC 13% 0.94mi
** PREFIX
** Length of Side = 30.00
** Ratio = 10
** Vertical Dimension = 0.00
** Emission Rate = 3.3343E-14
** Nodes = 6
** 483977.799, 3641052.852, 123.43, 0.00
** 484992.427, 3641257.539, 125.27, 0.00
** 485220.224, 3641302.658, 125.66, 0.00
** 485329.170, 3641330.169, 126.58, 0.00
** 485405.102, 3641357.681, 127.40, 0.00
** 485451.321, 3641382.992, 127.43, 0.00
**
-----
LOCATION A0000440 AREA 483980.765 3641038.148 123.22
LOCATION A0000441 AREA 484234.422 3641089.320 125.20
LOCATION A0000442 AREA 484488.079 3641140.492 125.41
LOCATION A0000443 AREA 484741.737 3641191.663 125.39
LOCATION A0000444 AREA 484995.342 3641242.824 125.14
LOCATION A0000445 AREA 485223.896 3641288.114 126.39
LOCATION A0000446 AREA 485334.279 3641316.066 127.32
LOCATION A0000447 AREA 485412.306 3641344.524 128.44
** End of LINE AREA Source ID = ARLN44
**
-----
** Line Source Represented by Area Sources
** LINE AREA Source ID = ARLN45
** DESCRSRC 4% 0.22mi
** PREFIX
** Length of Side = 30.00
** Ratio = 10
** Vertical Dimension = 0.00
** Emission Rate = 1.0432E-14
** Nodes = 4
** 483974.643, 3641068.991, 123.34, 0.00
** 483951.256, 3641248.597, 116.37, 0.00
** 483936.289, 3641324.368, 110.48, 0.00
** 483907.290, 3641409.494, 104.40, 0.00
**
-----
LOCATION A0000448 AREA 483989.517 3641070.928 123.19
LOCATION A0000449 AREA 483965.972 3641251.504 115.97
LOCATION A0000450 AREA 483950.488 3641329.205 110.50
** End of LINE AREA Source ID = ARLN45
**
-----
** Line Source Represented by Area Sources
** LINE AREA Source ID = ARLN46
** DESCRSRC 2% 0.38mi
** PREFIX
** Length of Side = 10.00
** Ratio = 10
** Vertical Dimension = 0.00
** Emission Rate = 1.5219E-14
** Nodes = 9
** 485443.295, 3641397.333, 127.07, 0.00

```

### 3Roots Project AERMOD Output File

```
** 485416.167, 3641444.106, 127.63, 0.00
** 485400.264, 3641484.330, 127.88, 0.00
** 485398.393, 3641508.651, 127.76, 0.00
** 485399.329, 3641782.737, 127.88, 0.00
** 485389.974, 3641836.993, 128.60, 0.00
** 485373.136, 3641899.668, 129.28, 0.00
** 485363.782, 3641962.343, 129.38, 0.00
** 485360.975, 3642001.632, 129.05, 0.00
**
-----
LOCATION A0000451 AREA 485447.620 3641399.842 127.10
LOCATION A0000452 AREA 485420.816 3641445.944 127.56
LOCATION A0000453 AREA 485405.249 3641484.713 127.85
LOCATION A0000454 AREA 485403.393 3641508.634 127.69
LOCATION A0000455 AREA 485403.705 3641599.996 127.61
LOCATION A0000456 AREA 485404.017 3641691.358 127.58
LOCATION A0000457 AREA 485404.256 3641783.587 127.91
LOCATION A0000458 AREA 485394.803 3641838.291 128.53
LOCATION A0000459 AREA 485378.081 3641900.406 129.25
LOCATION A0000460 AREA 485368.769 3641962.699 129.48
** End of LINE AREA Source ID = ARLN46
**
-----
** Line Source Represented by Area Sources
** LINE AREA Source ID = ARLN47
** DESCRSRC 11% 0.40mi
** PREFIX
** Length of Side = 30.00
** Ratio = 10
** Vertical Dimension = 0.00
** Emission Rate = 2.856E-14
** Nodes = 5
** 485452.649, 3641385.172, 127.46, 0.00
** 485610.740, 3641479.653, 129.02, 0.00
** 485675.286, 3641506.780, 129.69, 0.00
** 485734.219, 3641526.425, 129.61, 0.00
** 486047.593, 3641590.035, 129.43, 0.00
**
-----
LOCATION A0000461 AREA 485460.344 3641372.297 127.39
LOCATION A0000462 AREA 485616.552 3641465.824 128.85
LOCATION A0000463 AREA 485680.029 3641492.550 129.43
LOCATION A0000464 AREA 485737.203 3641511.725 129.66
LOCATION A0000465 AREA 485893.890 3641543.530 128.93
** End of LINE AREA Source ID = ARLN47
**
-----
** Line Source Represented by Area Sources
** LINE AREA Source ID = ARLN48
** DESCRSRC 1% 0.38mi
** PREFIX
** Length of Side = 10.00
** Ratio = 10
** Vertical Dimension = 0.00
** Emission Rate = 7.7459E-15
** Nodes = 11
** 486049.464, 3641575.068, 129.37, 0.00
** 486059.754, 3641523.619, 129.78, 0.00
** 486080.334, 3641444.106, 130.34, 0.00
** 486099.043, 3641394.527, 130.70, 0.00
** 486122.429, 3641345.884, 130.42, 0.00
** 486148.622, 3641304.724, 130.19, 0.00
** 486212.232, 3641231.759, 127.89, 0.00
** 486265.553, 3641186.858, 128.16, 0.00
** 486303.906, 3641161.601, 130.08, 0.00

** 486369.387, 3641131.666, 132.19, 0.00
** 486400.257, 3641120.441, 132.48, 0.00
**
-----
LOCATION A0000466 AREA 486044.561 3641574.088 129.34
LOCATION A0000467 AREA 486054.914 3641522.366 129.78
LOCATION A0000468 AREA 486075.656 3641442.340 130.42
LOCATION A0000469 AREA 486094.537 3641392.360 130.66
LOCATION A0000470 AREA 486118.211 3641343.199 130.48
LOCATION A0000471 AREA 486144.853 3641301.438 130.19
LOCATION A0000472 AREA 486209.011 3641227.934 127.83
LOCATION A0000473 AREA 486262.803 3641182.682 127.85
LOCATION A0000474 AREA 486301.827 3641157.053 130.00
LOCATION A0000475 AREA 486367.679 3641126.967 132.35
** End of LINE AREA Source ID = ARLN48
**
-----
** Line Source Represented by Area Sources
** LINE AREA Source ID = ARLN49
** DESCRSRC 10% 0.62mi
** PREFIX
** Length of Side = 30.00
** Ratio = 10
** Vertical Dimension = 0.00
** Emission Rate = 2.5647E-14
** Nodes = 4
** 486047.593, 3641591.906, 129.43, 0.00
** 486169.202, 3641610.615, 130.97, 0.00
** 486196.330, 3641609.680, 131.11, 0.00
** 487043.845, 3641634.937, 134.39, 0.00
**
-----
LOCATION A0000476 AREA 486049.874 3641577.081 129.40
LOCATION A0000477 AREA 486168.685 3641595.624 130.75
LOCATION A0000478 AREA 486196.776 3641594.686 131.15
LOCATION A0000479 AREA 486479.281 3641603.105 132.44
LOCATION A0000480 AREA 486761.786 3641611.524 132.65
** End of LINE AREA Source ID = ARLN49
**
-----
** Line Source Represented by Area Sources
** LINE AREA Source ID = ARLN50
** DESCRSRC 2% 0.58mi
** PREFIX
** Length of Side = 10.00
** Ratio = 10
** Vertical Dimension = 0.00
** Emission Rate = 1.5489E-14
** Nodes = 16
** 487048.522, 3641614.357, 134.42, 0.00
** 487051.328, 3641551.682, 134.68, 0.00
** 487039.167, 3641477.782, 134.19, 0.00
** 487018.588, 3641416.042, 133.84, 0.00
** 486991.460, 3641349.625, 133.70, 0.00
** 486960.590, 3641303.788, 133.02, 0.00
** 486915.688, 3641248.597, 133.33, 0.00
** 486853.949, 3641194.341, 133.53, 0.00
** 486810.918, 3641166.278, 133.72, 0.00
** 486768.823, 3641142.892, 134.13, 0.00
** 486700.536, 3641116.699, 134.60, 0.00
** 486637.861, 3641100.796, 134.09, 0.00
** 486572.379, 3641093.313, 133.88, 0.00
** 486514.382, 3641093.313, 133.41, 0.00
** 486462.932, 3641104.538, 133.07, 0.00
** 486432.998, 3641111.086, 132.76, 0.00
```

### 3Roots Project AERMOD Output File

```

** -----
LOCATION A0000481 AREA 487043.527 3641614.133 134.31
LOCATION A0000482 AREA 487046.395 3641552.494 134.65
LOCATION A0000483 AREA 487034.424 3641479.363 134.22
LOCATION A0000484 AREA 487013.959 3641417.933 133.82
LOCATION A0000485 AREA 486987.312 3641352.418 133.31
LOCATION A0000486 AREA 486956.711 3641306.944 132.88
LOCATION A0000487 AREA 486912.388 3641252.353 132.98
LOCATION A0000488 AREA 486851.218 3641198.529 133.44
LOCATION A0000489 AREA 486808.490 3641170.649 133.80
LOCATION A0000490 AREA 486767.033 3641147.560 134.10
LOCATION A0000491 AREA 486699.306 3641121.545 134.56
LOCATION A0000492 AREA 486637.293 3641105.764 134.10
LOCATION A0000493 AREA 486572.379 3641098.313 133.76
LOCATION A0000494 AREA 486515.447 3641098.198 133.45
LOCATION A0000495 AREA 486464.000 3641109.423 133.10
** End of LINE AREA Source ID = ARLN50
** -----
** Line Source Represented by Area Sources
** LINE AREA Source ID = ARLN51
** DESCRSRC 7% 1.41mi
** PREFIX
** Length of Side = 30.00
** Ratio = 10
** Vertical Dimension = 0.00
** Emission Rate = 1.8005E-14
** Nodes = 11
** 487046.557, 3641635.903, 134.40, 0.00
** 487375.423, 3641637.198, 137.91, 0.00
** 487458.286, 3641660.503, 138.41, 0.00
** 487507.487, 3641683.809, 139.07, 0.00
** 487897.205, 3642034.684, 142.19, 0.00
** 487955.468, 3642073.527, 143.27, 0.00
** 488013.732, 3642092.948, 143.92, 0.00
** 488084.943, 3642104.601, 144.77, 0.00
** 488176.870, 3642107.190, 145.99, 0.00
** 489002.917, 3642121.432, 155.35, 0.00
** 489149.223, 3642100.716, 152.66, 0.00
** -----
LOCATION A0000496 AREA 487046.616 3641620.903 134.20
LOCATION A0000497 AREA 487211.049 3641621.550 136.09
LOCATION A0000498 AREA 487379.484 3641622.758 138.40
LOCATION A0000499 AREA 487464.708 3641646.947 139.29
LOCATION A0000500 AREA 487517.523 3641672.661 139.82
LOCATION A0000501 AREA 487712.382 3641848.099 138.58
LOCATION A0000502 AREA 487905.525 3642022.204 142.09
LOCATION A0000503 AREA 487960.212 3642059.297 142.84
LOCATION A0000504 AREA 488016.154 3642078.145 143.84
LOCATION A0000505 AREA 488085.365 3642089.607 144.68
LOCATION A0000506 AREA 488177.128 3642092.192 145.84
LOCATION A0000507 AREA 488452.477 3642096.940 149.82
LOCATION A0000508 AREA 488727.827 3642101.687 153.30
LOCATION A0000509 AREA 489000.814 3642106.580 155.11
** End of LINE AREA Source ID = ARLN51
** -----
** Line Source Represented by Area Sources
** LINE AREA Source ID = ARLN52
** DESCRSRC 2% 0.90mi
** PREFIX
** Length of Side = 10.00
** Ratio = 10

```

```

** Vertical Dimension = 0.00
** Emission Rate = 1.5325E-14
** Nodes = 8
** 486955.925, 3640818.919, 135.31, 0.00
** 486643.892, 3640804.677, 134.29, 0.00
** 486237.342, 3640802.087, 130.50, 0.00
** 485878.697, 3640799.488, 129.08, 0.00
** 485648.233, 3640802.087, 127.32, 0.00
** 485630.106, 3640804.677, 127.16, 0.00
** 485599.032, 3640815.035, 126.41, 0.00
** 485516.169, 3640862.940, 122.71, 0.00
** -----
LOCATION A0000510 AREA 486955.697 3640823.914 135.33
LOCATION A0000511 AREA 486877.689 3640820.353 135.73
LOCATION A0000512 AREA 486799.680 3640816.793 135.40
LOCATION A0000513 AREA 486721.672 3640813.232 134.83
LOCATION A0000514 AREA 486643.860 3640809.677 134.30
LOCATION A0000515 AREA 486562.550 3640809.159 133.90
LOCATION A0000516 AREA 486481.240 3640808.641 133.57
LOCATION A0000517 AREA 486399.930 3640808.123 131.99
LOCATION A0000518 AREA 486318.620 3640807.605 131.83
LOCATION A0000519 AREA 486237.306 3640807.087 130.42
LOCATION A0000520 AREA 486147.645 3640806.440 129.75
LOCATION A0000521 AREA 486057.983 3640805.792 129.25
LOCATION A0000522 AREA 485968.322 3640805.145 128.83
LOCATION A0000523 AREA 485878.754 3640804.497 128.82
LOCATION A0000524 AREA 485801.932 3640805.361 128.39
LOCATION A0000525 AREA 485725.110 3640806.224 128.00
LOCATION A0000526 AREA 485648.940 3640807.037 127.42
LOCATION A0000527 AREA 485631.687 3640809.420 127.16
LOCATION A0000528 AREA 485601.535 3640819.363 126.42
** End of LINE AREA Source ID = ARLN52
** -----
** Line Source Represented by Area Sources
** LINE AREA Source ID = ARLN53
** DESCRSRC 1% 0.66mi
** PREFIX
** Length of Side = 10.00
** Ratio = 10
** Vertical Dimension = 0.00
** Emission Rate = 7.6916E-15
** Nodes = 26
** 484029.838, 3640026.715, 94.28, 0.00
** 483967.236, 3640006.865, 97.09, 0.00
** 483911.758, 3639990.578, 100.84, 0.00
** 483886.819, 3639979.890, 103.24, 0.00
** 483869.005, 3639970.729, 104.78, 0.00
** 483857.808, 3639961.567, 106.03, 0.00
** 483842.539, 3639945.280, 107.91, 0.00
** 483832.869, 3639936.628, 109.06, 0.00
** 483817.600, 3639895.402, 112.88, 0.00
** 483816.073, 3639884.714, 113.60, 0.00
** 483813.528, 3639793.609, 117.64, 0.00
** 483815.564, 3639644.483, 119.24, 0.00
** 483826.484, 3639604.549, 119.46, 0.00
** 483841.753, 3639582.154, 118.66, 0.00
** 483846.843, 3639575.537, 118.13, 0.00
** 483864.148, 3639562.304, 117.11, 0.00
** 483894.177, 3639546.526, 114.08, 0.00
** 483921.153, 3639537.874, 111.85, 0.00
** 483941.003, 3639536.856, 110.40, 0.00

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### 3Roots Project AERMOD Output File

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** 483970.014, 3639541.436, 108.05, 0.00
** 484017.857, 3639559.250, 104.17, 0.00
** 484096.748, 3639590.807, 97.08, 0.00
** 484122.196, 3639602.513, 94.86, 0.00
** 484141.537, 3639606.076, 93.23, 0.00
** 484217.883, 3639606.076, 88.09, 0.00
** 484294.228, 3639617.273, 87.36, 0.00
**
LOCATION A0000529 AREA 484028.327 3640031.481 94.01
LOCATION A0000530 AREA 483965.827 3640011.663 96.97
LOCATION A0000531 AREA 483909.789 3639995.174 101.00
LOCATION A0000532 AREA 483884.532 3639984.336 103.15
LOCATION A0000533 AREA 483865.839 3639974.598 104.76
LOCATION A0000534 AREA 483854.161 3639964.987 106.01
LOCATION A0000535 AREA 483839.205 3639949.007 107.66
LOCATION A0000536 AREA 483828.180 3639938.365 108.87
LOCATION A0000537 AREA 483812.650 3639896.109 112.28
LOCATION A0000538 AREA 483811.075 3639884.853 113.19
LOCATION A0000539 AREA 483808.529 3639793.541 117.82
LOCATION A0000540 AREA 483809.547 3639718.978 118.57
LOCATION A0000541 AREA 483810.741 3639643.164 119.24
LOCATION A0000542 AREA 483822.353 3639601.732 119.41
LOCATION A0000543 AREA 483837.790 3639579.105 118.52
LOCATION A0000544 AREA 483843.806 3639571.566 118.04
LOCATION A0000545 AREA 483861.822 3639557.878 116.94
LOCATION A0000546 AREA 483892.650 3639541.765 114.27
LOCATION A0000547 AREA 483920.897 3639532.880 111.95
LOCATION A0000548 AREA 483941.782 3639531.917 110.37
LOCATION A0000549 AREA 483971.759 3639536.751 108.00
LOCATION A0000550 AREA 484019.714 3639554.608 103.89
LOCATION A0000551 AREA 484098.837 3639586.264 97.21
LOCATION A0000552 AREA 484123.102 3639597.596 94.85
LOCATION A0000553 AREA 484141.537 3639601.076 93.39
LOCATION A0000554 AREA 484218.608 3639601.129 88.04
** End of LINE AREA Source ID = ARLN53
LOCATION PAREA1 AREAPOLY 484076.208 3640217.622 95.140
** DESCRSRC Area&Energy
** Source Parameters **
** LINE AREA Source ID = ARLN1
SRCPARAM A0000001 1.4855E-13 0.000 58.254 30.000 78.996
SRCPARAM A0000002 1.4855E-13 0.000 37.404 30.000 86.348
SRCPARAM A0000003 1.4855E-13 0.000 15.884 30.000 90.000
SRCPARAM A0000004 1.4855E-13 0.000 62.273 30.000 95.856
SRCPARAM A0000005 1.4855E-13 0.000 151.876 30.000 100.546
SRCPARAM A0000006 1.4855E-13 0.000 41.913 30.000 99.819
SRCPARAM A0000007 1.4855E-13 0.000 75.654 30.000 94.214
SRCPARAM A0000008 1.4855E-13 0.000 32.649 30.000 85.815
SRCPARAM A0000009 1.4855E-13 0.000 133.995 30.000 81.822
SRCPARAM A0000010 1.4855E-13 0.000 67.133 30.000 79.089
**
** LINE AREA Source ID = ARLN2
SRCPARAM A0000011 9.0995E-14 0.000 51.057 30.000 71.046
SRCPARAM A0000012 9.0995E-14 0.000 56.809 30.000 60.133
SRCPARAM A0000013 9.0995E-14 0.000 37.763 30.000 54.462
SRCPARAM A0000014 9.0995E-14 0.000 37.035 30.000 49.808
SRCPARAM A0000015 9.0995E-14 0.000 89.675 30.000 45.000
SRCPARAM A0000016 9.0995E-14 0.000 21.042 30.000 45.939
SRCPARAM A0000017 9.0995E-14 0.000 40.104 30.000 48.945
SRCPARAM A0000018 9.0995E-14 0.000 61.692 30.000 56.938
SRCPARAM A0000019 9.0995E-14 0.000 48.212 30.000 64.213
SRCPARAM A0000020 9.0995E-14 0.000 48.896 30.000 71.384

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** -----
** LINE AREA Source ID = ARLN3
SRCPARAM A0000042 9.8538E-14 0.000 64.330 30.000 85.192
SRCPARAM A0000043 9.8538E-14 0.000 140.823 30.000 83.404
SRCPARAM A0000044 9.8538E-14 0.000 186.730 30.000 82.972
SRCPARAM A0000045 9.8538E-14 0.000 98.192 30.000 92.755
SRCPARAM A0000046 9.8538E-14 0.000 68.478 30.000 100.621
SRCPARAM A0000047 9.8538E-14 0.000 38.469 30.000 97.431
SRCPARAM A0000048 9.8538E-14 0.000 32.023 30.000 94.456
SRCPARAM A0000049 9.8538E-14 0.000 20.317 30.000 90.000
SRCPARAM A0000050 9.8538E-14 0.000 36.572 30.000 86.100
SRCPARAM A0000051 9.8538E-14 0.000 62.378 30.000 77.719
** -----
** LINE AREA Source ID = ARLN4
SRCPARAM A0000031 3.3699E-14 0.000 57.291 9.000 -10.972
SRCPARAM A0000032 3.3699E-14 0.000 84.614 9.000 0.389
SRCPARAM A0000033 3.3699E-14 0.000 84.614 9.000 0.389
SRCPARAM A0000034 3.3699E-14 0.000 84.614 9.000 0.389
SRCPARAM A0000035 3.3699E-14 0.000 84.614 9.000 0.389
SRCPARAM A0000036 3.3699E-14 0.000 84.614 9.000 0.389
SRCPARAM A0000037 3.3699E-14 0.000 84.614 9.000 0.389
SRCPARAM A0000038 3.3699E-14 0.000 84.614 9.000 0.389
SRCPARAM A0000039 3.3699E-14 0.000 40.667 9.000 -8.931
SRCPARAM A0000040 3.3699E-14 0.000 63.254 9.000 -17.695
SRCPARAM A0000041 3.3699E-14 0.000 63.254 9.000 -17.695
** -----
** LINE AREA Source ID = ARLN5
SRCPARAM A0000052 1.6707E-14 0.000 47.459 9.000 80.253
SRCPARAM A0000053 1.6707E-14 0.000 47.459 9.000 80.253
SRCPARAM A0000054 1.6707E-14 0.000 50.508 9.000 89.349
SRCPARAM A0000055 1.6707E-14 0.000 51.971 9.000 96.340
SRCPARAM A0000056 1.6707E-14 0.000 45.817 9.000 102.295
SRCPARAM A0000057 1.6707E-14 0.000 69.311 9.000 115.504
SRCPARAM A0000058 1.6707E-14 0.000 49.667 9.000 117.157
SRCPARAM A0000059 1.6707E-14 0.000 49.667 9.000 117.157
** -----
** LINE AREA Source ID = ARLN6
SRCPARAM A0000060 1.2699E-14 0.000 28.494 12.000 -9.273
SRCPARAM A0000061 1.2699E-14 0.000 25.852 12.000 -2.545
SRCPARAM A0000062 1.2699E-14 0.000 116.940 12.000 0.492
SRCPARAM A0000063 1.2699E-14 0.000 116.940 12.000 0.492
SRCPARAM A0000064 1.2699E-14 0.000 116.940 12.000 0.492
SRCPARAM A0000065 1.2699E-14 0.000 116.940 12.000 0.492
SRCPARAM A0000066 1.2699E-14 0.000 105.444 12.000 -89.449
SRCPARAM A0000067 1.2699E-14 0.000 105.444 12.000 -89.449
SRCPARAM A0000068 1.2699E-14 0.000 105.444 12.000 -89.449
SRCPARAM A0000069 1.2699E-14 0.000 105.444 12.000 -89.449
SRCPARAM A0000070 1.2699E-14 0.000 105.444 12.000 -89.449
SRCPARAM A0000071 1.2699E-14 0.000 94.084 12.000 0.655
SRCPARAM A0000072 1.2699E-14 0.000 94.084 12.000 0.655
SRCPARAM A0000073 1.2699E-14 0.000 19.094 12.000 -2.490
SRCPARAM A0000074 1.2699E-14 0.000 35.830 12.000 -16.128
SRCPARAM A0000075 1.2699E-14 0.000 40.505 12.000 -31.032
** -----
** LINE AREA Source ID = ARLN7
SRCPARAM A0000076 1.3816E-13 0.000 185.630 30.000 72.982
SRCPARAM A0000077 1.3816E-13 0.000 58.646 30.000 79.405
SRCPARAM A0000078 1.3816E-13 0.000 110.744 30.000 89.142
** -----
** LINE AREA Source ID = ARLN8
SRCPARAM A0000079 1.1891E-13 0.000 89.839 10.000 -4.831

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SRCPARAM A0000080 1.1891E-13 0.000 89.839 10.000 -4.831
SRCPARAM A0000081 1.1891E-13 0.000 89.839 10.000 -4.831
SRCPARAM A0000082 1.1891E-13 0.000 89.839 10.000 -4.831
**
** LINE AREA Source ID = ARLN9
SRCPARAM A0000127 9.293E-14 0.000 55.169 10.000 -4.673
SRCPARAM A0000128 9.293E-14 0.000 55.169 10.000 -4.673
SRCPARAM A0000129 9.293E-14 0.000 28.169 10.000 0.610
SRCPARAM A0000130 9.293E-14 0.000 41.483 10.000 4.557
SRCPARAM A0000131 9.293E-14 0.000 31.922 10.000 9.728
SRCPARAM A0000132 9.293E-14 0.000 24.347 10.000 13.523
SRCPARAM A0000133 9.293E-14 0.000 19.145 10.000 17.301
SRCPARAM A0000134 9.293E-14 0.000 63.380 10.000 21.349
SRCPARAM A0000135 9.293E-14 0.000 95.762 10.000 21.668
SRCPARAM A0000136 9.293E-14 0.000 41.990 10.000 31.875
SRCPARAM A0000137 9.293E-14 0.000 31.883 10.000 36.978
SRCPARAM A0000138 9.293E-14 0.000 31.571 10.000 45.385
SRCPARAM A0000139 9.293E-14 0.000 1.220 10.000 54.742
SRCPARAM A0000140 9.293E-14 0.000 70.600 10.000 54.742
SRCPARAM A0000141 9.293E-14 0.000 52.392 10.000 61.121
SRCPARAM A0000142 9.293E-14 0.000 52.392 10.000 61.121
SRCPARAM A0000143 9.293E-14 0.000 67.541 10.000 61.380
SRCPARAM A0000144 9.293E-14 0.000 67.541 10.000 61.380
**
** LINE AREA Source ID = ARLN10
SRCPARAM A0000096 2.3865E-14 0.000 79.129 10.000 82.875
SRCPARAM A0000097 2.3865E-14 0.000 79.129 10.000 82.875
SRCPARAM A0000098 2.3865E-14 0.000 24.748 10.000 79.114
SRCPARAM A0000099 2.3865E-14 0.000 56.364 10.000 95.711
SRCPARAM A0000100 2.3865E-14 0.000 71.683 10.000 102.043
SRCPARAM A0000101 2.3865E-14 0.000 46.408 10.000 99.273
SRCPARAM A0000102 2.3865E-14 0.000 35.532 10.000 91.507
SRCPARAM A0000103 2.3865E-14 0.000 37.401 10.000 88.568
SRCPARAM A0000104 2.3865E-14 0.000 22.511 10.000 85.236
SRCPARAM A0000105 2.3865E-14 0.000 41.646 10.000 80.961
SRCPARAM A0000106 2.3865E-14 0.000 49.497 10.000 79.114
SRCPARAM A0000107 2.3865E-14 0.000 86.078 10.000 77.775
SRCPARAM A0000108 2.3865E-14 0.000 86.078 10.000 77.775
**
** LINE AREA Source ID = ARLN11
SRCPARAM A0000109 8.6694E-14 0.000 118.711 30.000 90.000
SRCPARAM A0000110 8.6694E-14 0.000 30.973 30.000 95.194
SRCPARAM A0000111 8.6694E-14 0.000 48.768 30.000 102.171
SRCPARAM A0000112 8.6694E-14 0.000 62.355 30.000 113.875
SRCPARAM A0000113 8.6694E-14 0.000 55.998 30.000 123.425
SRCPARAM A0000114 8.6694E-14 0.000 53.640 30.000 131.468
SRCPARAM A0000115 8.6694E-14 0.000 67.489 30.000 149.172
SRCPARAM A0000116 8.6694E-14 0.000 45.582 30.000 151.858
SRCPARAM A0000117 8.6694E-14 0.000 78.071 30.000 163.301
SRCPARAM A0000118 8.6694E-14 0.000 21.315 30.000 164.745
**
** LINE AREA Source ID = ARLN12
SRCPARAM A0000119 8.2032E-14 0.000 72.211 30.000 158.749
SRCPARAM A0000120 8.2032E-14 0.000 49.857 30.000 149.589
SRCPARAM A0000121 8.2032E-14 0.000 51.001 30.000 138.715
SRCPARAM A0000122 8.2032E-14 0.000 51.850 30.000 123.977
SRCPARAM A0000123 8.2032E-14 0.000 55.236 30.000 113.962
SRCPARAM A0000124 8.2032E-14 0.000 55.936 30.000 99.620
SRCPARAM A0000125 8.2032E-14 0.000 93.851 30.000 95.143
SRCPARAM A0000126 8.2032E-14 0.000 69.327 30.000 95.508
**
** LINE AREA Source ID = ARLN13
SRCPARAM A0000145 7.9228E-14 0.000 247.786 30.000 -172.848
SRCPARAM A0000146 7.9228E-14 0.000 282.419 30.000 170.538
SRCPARAM A0000147 7.9228E-14 0.000 282.419 30.000 170.538
SRCPARAM A0000148 7.9228E-14 0.000 282.419 30.000 170.538
SRCPARAM A0000149 7.9228E-14 0.000 197.303 30.000 -178.643
**
** LINE AREA Source ID = ARLN14
SRCPARAM A0000150 6.8006E-14 0.000 155.183 30.000 179.655
SRCPARAM A0000151 6.8006E-14 0.000 286.783 30.000 170.998
**
** LINE AREA Source ID = ARLN15
SRCPARAM A0000152 3.0721E-14 0.000 215.025 30.000 169.732
SRCPARAM A0000153 3.0721E-14 0.000 215.025 30.000 169.732
SRCPARAM A0000154 3.0721E-14 0.000 215.025 30.000 169.732
**
** LINE AREA Source ID = ARLN16
SRCPARAM A0000155 3.6728E-14 0.000 28.798 30.000 76.866
SRCPARAM A0000156 3.6728E-14 0.000 75.368 30.000 82.875
SRCPARAM A0000157 3.6728E-14 0.000 64.564 30.000 92.490
SRCPARAM A0000158 3.6728E-14 0.000 54.509 30.000 95.906
SRCPARAM A0000159 3.6728E-14 0.000 68.593 30.000 107.447
SRCPARAM A0000160 3.6728E-14 0.000 111.279 30.000 121.954
SRCPARAM A0000161 3.6728E-14 0.000 270.565 30.000 129.603
SRCPARAM A0000162 3.6728E-14 0.000 270.565 30.000 129.603
**
** LINE AREA Source ID = ARLN19
SRCPARAM A0000177 3.2992E-14 0.000 337.878 50.000 51.078
**
** LINE AREA Source ID = ARLN20
SRCPARAM A0000178 7.2603E-15 0.000 490.771 50.000 -128.539
SRCPARAM A0000179 7.2603E-15 0.000 204.933 50.000 -128.900
SRCPARAM A0000180 7.2603E-15 0.000 112.197 50.000 -127.432
SRCPARAM A0000181 7.2603E-15 0.000 66.588 50.000 -120.801
SRCPARAM A0000182 7.2603E-15 0.000 53.705 50.000 -124.992
SRCPARAM A0000183 7.2603E-15 0.000 197.743 50.000 -116.423
**
** LINE AREA Source ID = ARLN21
SRCPARAM A0000184 2.3116E-14 0.000 71.875 10.000 -125.096
SRCPARAM A0000185 2.3116E-14 0.000 71.875 10.000 -125.096
SRCPARAM A0000186 2.3116E-14 0.000 92.585 10.000 -122.735
SRCPARAM A0000187 2.3116E-14 0.000 57.576 10.000 -116.211
SRCPARAM A0000188 2.3116E-14 0.000 34.430 10.000 -108.853
SRCPARAM A0000189 2.3116E-14 0.000 34.209 10.000 -92.663
SRCPARAM A0000190 2.3116E-14 0.000 37.888 10.000 -80.340
SRCPARAM A0000191 2.3116E-14 0.000 59.602 10.000 -73.740
SRCPARAM A0000192 2.3116E-14 0.000 23.894 10.000 -86.186
SRCPARAM A0000193 2.3116E-14 0.000 30.459 10.000 -97.496
**
** LINE AREA Source ID = ARLN22
SRCPARAM A0000194 3.8494E-13 0.000 30.762 10.000 -88.182
SRCPARAM A0000195 3.8494E-13 0.000 17.899 10.000 -101.004
SRCPARAM A0000196 3.8494E-13 0.000 39.544 10.000 -114.034
SRCPARAM A0000197 3.8494E-13 0.000 90.827 10.000 -123.605
SRCPARAM A0000198 3.8494E-13 0.000 91.676 10.000 -115.883
SRCPARAM A0000199 3.8494E-13 0.000 63.695 10.000 -120.888
SRCPARAM A0000200 3.8494E-13 0.000 19.522 10.000 -126.870
SRCPARAM A0000201 3.8494E-13 0.000 68.056 10.000 -132.384
SRCPARAM A0000202 3.8494E-13 0.000 30.948 10.000 -142.046
SRCPARAM A0000203 3.8494E-13 0.000 97.725 10.000 -144.508
SRCPARAM A0000204 3.8494E-13 0.000 97.725 10.000 -144.508

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SRCPARAM A0000205	3.8494E-13	0.000	97.725	10.000	-144.508	SRCPARAM A0000260	7.7052E-15	0.000	31.241	10.000	43.025
SRCPARAM A0000206	3.8494E-13	0.000	63.142	10.000	-152.676	SRCPARAM A0000261	7.7052E-15	0.000	34.519	10.000	48.576
SRCPARAM A0000207	3.8494E-13	0.000	55.801	10.000	-171.327	SRCPARAM A0000262	7.7052E-15	0.000	29.406	10.000	68.749
SRCPARAM A0000208	3.8494E-13	0.000	55.170	10.000	-179.029	SRCPARAM A0000263	7.7052E-15	0.000	71.756	10.000	72.719
SRCPARAM A0000209	3.8494E-13	0.000	43.099	10.000	167.471	SRCPARAM A0000264	7.7052E-15	0.000	84.829	10.000	68.962
SRCPARAM A0000210	3.8494E-13	0.000	78.162	10.000	175.426	SRCPARAM A0000265	7.7052E-15	0.000	43.119	10.000	47.862
SRCPARAM A0000211	3.8494E-13	0.000	78.162	10.000	175.426	SRCPARAM A0000266	7.7052E-15	0.000	57.456	10.000	32.005
SRCPARAM A0000212	3.8494E-13	0.000	78.162	10.000	175.426	SRCPARAM A0000267	7.7052E-15	0.000	93.410	10.000	18.041
SRCPARAM A0000213	3.8494E-13	0.000	83.228	10.000	173.175	SRCPARAM A0000268	7.7052E-15	0.000	93.410	10.000	18.041
SRCPARAM A0000214	3.8494E-13	0.000	84.221	10.000	163.280	SRCPARAM A0000269	7.7052E-15	0.000	93.410	10.000	18.041
SRCPARAM A0000215	3.8494E-13	0.000	84.221	10.000	163.280	**					
SRCPARAM A0000216	3.8494E-13	0.000	84.221	10.000	163.280	** LINE AREA Source ID = ARLN26					
SRCPARAM A0000217	3.8494E-13	0.000	84.221	10.000	163.280	SRCPARAM A0000270	1.5495E-14	0.000	43.627	10.000	29.249
SRCPARAM A0000218	3.8494E-13	0.000	84.221	10.000	163.280	SRCPARAM A0000271	1.5495E-14	0.000	60.387	10.000	33.690
**						SRCPARAM A0000272	1.5495E-14	0.000	54.266	10.000	34.136
** LINE AREA Source ID = ARLN23						SRCPARAM A0000273	1.5495E-14	0.000	54.266	10.000	34.136
SRCPARAM A0000219	3.0658E-15	0.000	131.264	50.000	42.397	SRCPARAM A0000274	1.5495E-14	0.000	26.018	10.000	20.556
SRCPARAM A0000220	3.0658E-15	0.000	171.147	50.000	52.001	SRCPARAM A0000275	1.5495E-14	0.000	28.889	10.000	18.435
SRCPARAM A0000221	3.0658E-15	0.000	202.675	50.000	62.103	SRCPARAM A0000276	1.5495E-14	0.000	62.431	10.000	-0.699
SRCPARAM A0000222	3.0658E-15	0.000	364.419	50.000	76.285	SRCPARAM A0000277	1.5495E-14	0.000	62.431	10.000	-0.699
SRCPARAM A0000223	3.0658E-15	0.000	261.445	50.000	75.292	SRCPARAM A0000278	1.5495E-14	0.000	38.549	10.000	9.090
SRCPARAM A0000224	3.0658E-15	0.000	261.445	50.000	75.292	SRCPARAM A0000279	1.5495E-14	0.000	28.889	10.000	18.435
SRCPARAM A0000225	3.0658E-15	0.000	186.554	50.000	76.278	SRCPARAM A0000280	1.5495E-14	0.000	63.749	10.000	40.156
SRCPARAM A0000226	3.0658E-15	0.000	166.731	50.000	73.856	SRCPARAM A0000281	1.5495E-14	0.000	92.815	10.000	41.009
SRCPARAM A0000227	3.0658E-15	0.000	112.717	50.000	69.193	SRCPARAM A0000282	1.5495E-14	0.000	69.989	10.000	44.119
**						SRCPARAM A0000283	1.5495E-14	0.000	81.084	10.000	55.713
** LINE AREA Source ID = ARLN24						**					
SRCPARAM A0000228	7.7048E-15	0.000	212.003	50.000	52.674	** LINE AREA Source ID = ARLN27					
SRCPARAM A0000229	7.7048E-15	0.000	160.958	50.000	46.061	SRCPARAM A0000284	7.6139E-15	0.000	42.876	10.000	163.496
SRCPARAM A0000230	7.7048E-15	0.000	155.228	50.000	41.698	SRCPARAM A0000285	7.6139E-15	0.000	24.786	10.000	-169.380
SRCPARAM A0000231	7.7048E-15	0.000	222.099	50.000	33.389	SRCPARAM A0000286	7.6139E-15	0.000	79.772	10.000	-156.371
SRCPARAM A0000232	7.7048E-15	0.000	195.083	50.000	26.288	SRCPARAM A0000287	7.6139E-15	0.000	79.772	10.000	-156.371
SRCPARAM A0000233	7.7048E-15	0.000	261.052	50.000	26.358	SRCPARAM A0000288	7.6139E-15	0.000	79.772	10.000	-156.371
SRCPARAM A0000234	7.7048E-15	0.000	160.003	50.000	40.192	SRCPARAM A0000289	7.6139E-15	0.000	79.772	10.000	-156.371
**						SRCPARAM A0000290	7.6139E-15	0.000	21.371	10.000	-175.914
** LINE AREA Source ID = ARLN25						SRCPARAM A0000291	7.6139E-15	0.000	54.665	10.000	167.125
SRCPARAM A0000235	7.7052E-15	0.000	69.457	10.000	-26.003	SRCPARAM A0000292	7.6139E-15	0.000	28.929	10.000	180.000
SRCPARAM A0000236	7.7052E-15	0.000	65.895	10.000	-40.314	SRCPARAM A0000293	7.6139E-15	0.000	61.377	10.000	-156.615
SRCPARAM A0000237	7.7052E-15	0.000	72.223	10.000	-34.695	**					
SRCPARAM A0000238	7.7052E-15	0.000	64.777	10.000	-23.552	** LINE AREA Source ID = ARLN28					
SRCPARAM A0000239	7.7052E-15	0.000	60.330	10.000	-10.176	SRCPARAM A0000294	2.2804E-14	0.000	33.531	10.000	39.472
SRCPARAM A0000240	7.7052E-15	0.000	84.982	10.000	-9.800	SRCPARAM A0000295	2.2804E-14	0.000	38.156	10.000	28.610
SRCPARAM A0000241	7.7052E-15	0.000	84.982	10.000	-9.800	SRCPARAM A0000296	2.2804E-14	0.000	59.400	10.000	1.469
SRCPARAM A0000242	7.7052E-15	0.000	74.979	10.000	-12.907	SRCPARAM A0000297	2.2804E-14	0.000	56.664	10.000	-6.170
SRCPARAM A0000243	7.7052E-15	0.000	83.971	10.000	-16.052	SRCPARAM A0000298	2.2804E-14	0.000	56.664	10.000	-6.170
SRCPARAM A0000244	7.7052E-15	0.000	83.971	10.000	-16.052	**					
SRCPARAM A0000245	7.7052E-15	0.000	83.971	10.000	-16.052	** LINE AREA Source ID = ARLN29					
SRCPARAM A0000246	7.7052E-15	0.000	83.971	10.000	-16.052	SRCPARAM A0000299	1.5237E-14	0.000	42.511	10.000	-87.368
SRCPARAM A0000247	7.7052E-15	0.000	86.251	10.000	-20.674	SRCPARAM A0000300	1.5237E-14	0.000	20.966	10.000	-102.095
SRCPARAM A0000248	7.7052E-15	0.000	86.251	10.000	-20.674	SRCPARAM A0000301	1.5237E-14	0.000	26.417	10.000	-117.512
SRCPARAM A0000249	7.7052E-15	0.000	86.251	10.000	-20.674	SRCPARAM A0000302	1.5237E-14	0.000	18.555	10.000	-125.362
SRCPARAM A0000250	7.7052E-15	0.000	81.611	10.000	-36.656	SRCPARAM A0000303	1.5237E-14	0.000	23.470	10.000	-135.000
SRCPARAM A0000251	7.7052E-15	0.000	51.723	10.000	-42.614	SRCPARAM A0000304	1.5237E-14	0.000	40.628	10.000	-125.218
SRCPARAM A0000252	7.7052E-15	0.000	74.233	10.000	-25.514	SRCPARAM A0000305	1.5237E-14	0.000	55.056	10.000	-104.899
SRCPARAM A0000253	7.7052E-15	0.000	48.076	10.000	-10.954	**					
SRCPARAM A0000254	7.7052E-15	0.000	55.003	10.000	-4.764	** LINE AREA Source ID = ARLN30					
SRCPARAM A0000255	7.7052E-15	0.000	90.180	10.000	11.689	SRCPARAM A0000306	3.9078E-14	0.000	91.125	10.000	-4.917
SRCPARAM A0000256	7.7052E-15	0.000	94.680	10.000	15.228	SRCPARAM A0000307	3.9078E-14	0.000	91.125	10.000	-4.917
SRCPARAM A0000257	7.7052E-15	0.000	94.680	10.000	15.228	SRCPARAM A0000308	3.9078E-14	0.000	91.125	10.000	-4.917
SRCPARAM A0000258	7.7052E-15	0.000	94.680	10.000	15.228	SRCPARAM A0000309	3.9078E-14	0.000	91.125	10.000	-4.917
SRCPARAM A0000259	7.7052E-15	0.000	34.046	10.000	26.565	**					

### 3Roots Project AERMOD Output File

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** LINE AREA Source ID = ARLN31
SRCPARAM A0000310 3.0794E-14 0.000 209.715 30.000 -33.915
SRCPARAM A0000311 3.0794E-14 0.000 209.715 30.000 -33.915
SRCPARAM A0000312 3.0794E-14 0.000 209.715 30.000 -33.915
SRCPARAM A0000313 3.0794E-14 0.000 287.849 30.000 -34.605
SRCPARAM A0000314 3.0794E-14 0.000 287.849 30.000 -34.605
SRCPARAM A0000315 3.0794E-14 0.000 287.849 30.000 -34.605
SRCPARAM A0000316 3.0794E-14 0.000 287.849 30.000 -34.605
SRCPARAM A0000317 3.0794E-14 0.000 194.779 30.000 -34.129
SRCPARAM A0000318 3.0794E-14 0.000 194.779 30.000 -34.129
SRCPARAM A0000319 3.0794E-14 0.000 66.503 30.000 -27.255
SRCPARAM A0000320 3.0794E-14 0.000 91.804 30.000 -17.021
SRCPARAM A0000321 3.0794E-14 0.000 47.127 30.000 -8.746
SRCPARAM A0000322 3.0794E-14 0.000 118.239 30.000 0.000
**
** LINE AREA Source ID = ARLN32
SRCPARAM A0000323 2.0622E-14 0.000 256.260 30.000 -0.711
SRCPARAM A0000324 2.0622E-14 0.000 256.260 30.000 -0.711
SRCPARAM A0000325 2.0622E-14 0.000 256.260 30.000 -0.711
SRCPARAM A0000326 2.0622E-14 0.000 256.260 30.000 -0.711
SRCPARAM A0000327 2.0622E-14 0.000 256.260 30.000 -0.711
**
** LINE AREA Source ID = ARLN33
SRCPARAM A0000328 7.7806E-15 0.000 50.912 10.000 -96.203
SRCPARAM A0000329 7.7806E-15 0.000 59.883 10.000 -110.433
SRCPARAM A0000330 7.7806E-15 0.000 69.102 10.000 -130.156
SRCPARAM A0000331 7.7806E-15 0.000 69.102 10.000 -130.156
SRCPARAM A0000332 7.7806E-15 0.000 73.151 10.000 -43.781
SRCPARAM A0000333 7.7806E-15 0.000 43.346 10.000 -23.962
SRCPARAM A0000334 7.7806E-15 0.000 25.898 10.000 -12.265
SRCPARAM A0000335 7.7806E-15 0.000 81.789 10.000 -0.257
SRCPARAM A0000336 7.7806E-15 0.000 81.789 10.000 -0.257
SRCPARAM A0000337 7.7806E-15 0.000 81.789 10.000 -0.257
**
** LINE AREA Source ID = ARLN34
SRCPARAM A0000338 2.0635E-13 0.000 142.528 20.000 -14.708
SRCPARAM A0000339 2.0635E-13 0.000 53.777 20.000 -13.591
SRCPARAM A0000340 2.0635E-13 0.000 84.305 20.000 -28.486
**
** LINE AREA Source ID = ARLN35
SRCPARAM A0000341 1.7345E-13 0.000 57.538 20.000 -14.452
SRCPARAM A0000342 1.7345E-13 0.000 75.283 20.000 -27.738
SRCPARAM A0000343 1.7345E-13 0.000 50.109 20.000 -28.034
SRCPARAM A0000344 1.7345E-13 0.000 22.724 20.000 -16.144
SRCPARAM A0000345 1.7345E-13 0.000 32.295 20.000 -5.102
SRCPARAM A0000346 1.7345E-13 0.000 35.044 20.000 0.939
SRCPARAM A0000347 1.7345E-13 0.000 30.981 20.000 10.685
SRCPARAM A0000348 1.7345E-13 0.000 30.095 20.000 23.629
SRCPARAM A0000349 1.7345E-13 0.000 73.031 20.000 29.186
SRCPARAM A0000350 1.7345E-13 0.000 38.089 20.000 23.085
SRCPARAM A0000351 1.7345E-13 0.000 33.464 20.000 39.428
SRCPARAM A0000352 1.7345E-13 0.000 20.719 20.000 46.123
SRCPARAM A0000353 1.7345E-13 0.000 27.721 20.000 55.981
SRCPARAM A0000354 1.7345E-13 0.000 28.709 20.000 70.115
SRCPARAM A0000355 1.7345E-13 0.000 28.726 20.000 78.465
SRCPARAM A0000356 1.7345E-13 0.000 88.550 20.000 87.397
SRCPARAM A0000357 1.7345E-13 0.000 32.761 20.000 87.990
SRCPARAM A0000358 1.7345E-13 0.000 23.127 20.000 75.619
SRCPARAM A0000359 1.7345E-13 0.000 39.900 20.000 67.126
SRCPARAM A0000360 1.7345E-13 0.000 34.484 20.000 60.018

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** LINE AREA Source ID = ARLN36
SRCPARAM A0000361 1.7994E-14 0.000 92.713 30.000 -41.082
SRCPARAM A0000362 1.7994E-14 0.000 119.777 30.000 -38.928
SRCPARAM A0000363 1.7994E-14 0.000 83.010 30.000 -32.661
SRCPARAM A0000364 1.7994E-14 0.000 74.832 30.000 -16.699
SRCPARAM A0000365 1.7994E-14 0.000 91.825 30.000 -5.599
SRCPARAM A0000366 1.7994E-14 0.000 161.294 30.000 -0.955
SRCPARAM A0000367 1.7994E-14 0.000 161.294 30.000 -0.955
SRCPARAM A0000368 1.7994E-14 0.000 82.233 30.000 -11.310
SRCPARAM A0000369 1.7994E-14 0.000 98.620 30.000 -24.702
SRCPARAM A0000370 1.7994E-14 0.000 135.203 30.000 -34.743
SRCPARAM A0000371 1.7994E-14 0.000 57.032 30.000 -46.273
SRCPARAM A0000372 1.7994E-14 0.000 232.679 30.000 -54.719
SRCPARAM A0000373 1.7994E-14 0.000 232.679 30.000 -54.719
SRCPARAM A0000374 1.7994E-14 0.000 160.603 30.000 -54.537
SRCPARAM A0000375 1.7994E-14 0.000 73.534 30.000 -43.025
SRCPARAM A0000376 1.7994E-14 0.000 118.171 30.000 -40.696
**
** LINE AREA Source ID = ARLN37
SRCPARAM A0000377 1.1732E-14 0.000 86.495 20.000 -140.042
SRCPARAM A0000378 1.1732E-14 0.000 154.697 20.000 -161.775
SRCPARAM A0000379 1.1732E-14 0.000 154.697 20.000 -161.775
**
** LINE AREA Source ID = ARLN38
SRCPARAM A0000380 3.8876E-15 0.000 81.084 20.000 61.991
SRCPARAM A0000381 3.8876E-15 0.000 56.868 20.000 69.624
SRCPARAM A0000382 3.8876E-15 0.000 86.818 20.000 90.000
SRCPARAM A0000383 3.8876E-15 0.000 57.092 20.000 99.211
SRCPARAM A0000384 3.8876E-15 0.000 72.248 20.000 108.435
SRCPARAM A0000385 3.8876E-15 0.000 12.280 20.000 119.745
**
** LINE AREA Source ID = ARLN39
SRCPARAM A0000386 3.0944E-14 0.000 299.963 30.000 -39.023
SRCPARAM A0000387 3.0944E-14 0.000 224.116 30.000 -36.247
SRCPARAM A0000388 3.0944E-14 0.000 224.116 30.000 -36.247
SRCPARAM A0000389 3.0944E-14 0.000 224.116 30.000 -36.247
SRCPARAM A0000390 3.0944E-14 0.000 75.759 30.000 -30.174
SRCPARAM A0000391 3.0944E-14 0.000 62.019 30.000 -24.677
SRCPARAM A0000392 3.0944E-14 0.000 250.835 30.000 -13.699
**
** LINE AREA Source ID = ARLN40
SRCPARAM A0000393 4.2348E-14 0.000 39.078 20.000 80.272
SRCPARAM A0000394 4.2348E-14 0.000 19.839 20.000 86.820
SRCPARAM A0000395 4.2348E-14 0.000 90.298 20.000 92.095
SRCPARAM A0000396 4.2348E-14 0.000 20.909 20.000 90.000
SRCPARAM A0000397 4.2348E-14 0.000 28.949 20.000 81.254
SRCPARAM A0000398 4.2348E-14 0.000 34.132 20.000 69.228
SRCPARAM A0000399 4.2348E-14 0.000 29.053 20.000 52.696
SRCPARAM A0000400 4.2348E-14 0.000 53.279 20.000 38.290
SRCPARAM A0000401 4.2348E-14 0.000 26.798 20.000 19.179
SRCPARAM A0000402 4.2348E-14 0.000 54.825 20.000 10.408
SRCPARAM A0000403 4.2348E-14 0.000 110.184 20.000 2.862
SRCPARAM A0000404 4.2348E-14 0.000 25.691 20.000 -9.866
SRCPARAM A0000405 4.2348E-14 0.000 28.056 20.000 -11.310
SRCPARAM A0000406 4.2348E-14 0.000 165.561 20.000 -40.147
SRCPARAM A0000407 4.2348E-14 0.000 34.555 20.000 -37.235
SRCPARAM A0000408 4.2348E-14 0.000 45.653 20.000 -15.376
SRCPARAM A0000409 4.2348E-14 0.000 29.631 20.000 -15.068
**
** LINE AREA Source ID = ARLN41
SRCPARAM A0000410 1.5262E-14 0.000 275.925 30.000 -11.153

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### 3Roots Project AERMOD Output File

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SRCPARAM A0000411 1.5262E-14 0.000 275.925 30.000 -11.153
**
** LINE AREA Source ID = ARLN42
SRCPARAM A0000412 5.7898E-14 0.000 137.888 30.000 81.741
SRCPARAM A0000413 5.7898E-14 0.000 124.528 30.000 86.961
**
** LINE AREA Source ID = ARLN43
SRCPARAM A0000414 3.0685E-14 0.000 90.245 10.000 -0.699
SRCPARAM A0000415 3.0685E-14 0.000 59.512 10.000 -17.765
SRCPARAM A0000416 3.0685E-14 0.000 59.512 10.000 -17.765
SRCPARAM A0000417 3.0685E-14 0.000 40.777 10.000 -3.094
SRCPARAM A0000418 3.0685E-14 0.000 20.938 10.000 -3.013
SRCPARAM A0000419 3.0685E-14 0.000 84.376 10.000 0.747
SRCPARAM A0000420 3.0685E-14 0.000 84.376 10.000 0.747
SRCPARAM A0000421 3.0685E-14 0.000 84.376 10.000 0.747
SRCPARAM A0000422 3.0685E-14 0.000 84.376 10.000 0.747
SRCPARAM A0000423 3.0685E-14 0.000 84.376 10.000 0.747
SRCPARAM A0000424 3.0685E-14 0.000 84.376 10.000 0.747
SRCPARAM A0000425 3.0685E-14 0.000 50.729 10.000 -3.731
SRCPARAM A0000426 3.0685E-14 0.000 47.269 10.000 -24.775
SRCPARAM A0000427 3.0685E-14 0.000 54.648 10.000 -25.017
SRCPARAM A0000428 3.0685E-14 0.000 50.729 10.000 -40.601
SRCPARAM A0000429 3.0685E-14 0.000 53.188 10.000 -24.444
SRCPARAM A0000430 3.0685E-14 0.000 46.442 10.000 -13.707
SRCPARAM A0000431 3.0685E-14 0.000 32.589 10.000 -11.689
SRCPARAM A0000432 3.0685E-14 0.000 99.780 10.000 -23.738
SRCPARAM A0000433 3.0685E-14 0.000 99.780 10.000 -23.738
SRCPARAM A0000434 3.0685E-14 0.000 36.432 10.000 -25.017
SRCPARAM A0000435 3.0685E-14 0.000 39.754 10.000 4.764
SRCPARAM A0000436 3.0685E-14 0.000 44.890 10.000 11.310
SRCPARAM A0000437 3.0685E-14 0.000 72.480 10.000 30.069
SRCPARAM A0000438 3.0685E-14 0.000 40.464 10.000 22.380
SRCPARAM A0000439 3.0685E-14 0.000 52.014 10.000 6.072
**
** LINE AREA Source ID = ARLN44
SRCPARAM A0000440 3.3343E-14 0.000 258.767 30.000 -11.406
SRCPARAM A0000441 3.3343E-14 0.000 258.767 30.000 -11.406
SRCPARAM A0000442 3.3343E-14 0.000 258.767 30.000 -11.406
SRCPARAM A0000443 3.3343E-14 0.000 258.767 30.000 -11.406
SRCPARAM A0000444 3.3343E-14 0.000 232.222 30.000 -11.203
SRCPARAM A0000445 3.3343E-14 0.000 112.366 30.000 -14.172
SRCPARAM A0000446 3.3343E-14 0.000 80.762 30.000 -19.916
SRCPARAM A0000447 3.3343E-14 0.000 52.696 30.000 -28.706
**
** LINE AREA Source ID = ARLN45
SRCPARAM A0000448 1.0432E-14 0.000 181.122 30.000 -97.419
SRCPARAM A0000449 1.0432E-14 0.000 77.235 30.000 -101.174
SRCPARAM A0000450 1.0432E-14 0.000 89.930 30.000 -108.812
**
** LINE AREA Source ID = ARLN46
SRCPARAM A0000451 1.5219E-14 0.000 54.070 10.000 -120.114
SRCPARAM A0000452 1.5219E-14 0.000 43.254 10.000 -111.571
SRCPARAM A0000453 1.5219E-14 0.000 24.393 10.000 -94.399
SRCPARAM A0000454 1.5219E-14 0.000 91.363 10.000 -89.804
SRCPARAM A0000455 1.5219E-14 0.000 91.363 10.000 -89.804
SRCPARAM A0000456 1.5219E-14 0.000 91.363 10.000 -89.804
SRCPARAM A0000457 1.5219E-14 0.000 55.056 10.000 -99.782
SRCPARAM A0000458 1.5219E-14 0.000 64.897 10.000 -105.038
SRCPARAM A0000459 1.5219E-14 0.000 63.369 10.000 -98.489
SRCPARAM A0000460 1.5219E-14 0.000 39.389 10.000 -94.086

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** LINE AREA Source ID = ARLN47
SRCPARAM A0000461 2.856E-14 0.000 184.171 30.000 -30.864
SRCPARAM A0000462 2.856E-14 0.000 70.015 30.000 -22.797
SRCPARAM A0000463 2.856E-14 0.000 62.121 30.000 -18.435
SRCPARAM A0000464 2.856E-14 0.000 159.883 30.000 -11.474
SRCPARAM A0000465 2.856E-14 0.000 159.883 30.000 -11.474
**
** LINE AREA Source ID = ARLN48
SRCPARAM A0000466 7.7459E-15 0.000 52.468 10.000 78.690
SRCPARAM A0000467 7.7459E-15 0.000 82.133 10.000 75.489
SRCPARAM A0000468 7.7459E-15 0.000 52.991 10.000 69.326
SRCPARAM A0000469 7.7459E-15 0.000 53.973 10.000 64.323
SRCPARAM A0000470 7.7459E-15 0.000 48.787 10.000 57.529
SRCPARAM A0000471 7.7459E-15 0.000 96.800 10.000 48.918
SRCPARAM A0000472 7.7459E-15 0.000 69.708 10.000 40.101
SRCPARAM A0000473 7.7459E-15 0.000 45.923 10.000 33.366
SRCPARAM A0000474 7.7459E-15 0.000 71.999 10.000 24.567
SRCPARAM A0000475 7.7459E-15 0.000 32.847 10.000 19.983
**
** LINE AREA Source ID = ARLN49
SRCPARAM A0000476 2.5647E-14 0.000 123.039 30.000 -8.746
SRCPARAM A0000477 2.5647E-14 0.000 27.144 30.000 1.975
SRCPARAM A0000478 2.5647E-14 0.000 282.630 30.000 -1.707
SRCPARAM A0000479 2.5647E-14 0.000 282.630 30.000 -1.707
SRCPARAM A0000480 2.5647E-14 0.000 282.630 30.000 -1.707
**
** LINE AREA Source ID = ARLN50
SRCPARAM A0000481 1.5489E-14 0.000 62.738 10.000 87.436
SRCPARAM A0000482 1.5489E-14 0.000 74.894 10.000 99.345
SRCPARAM A0000483 1.5489E-14 0.000 65.079 10.000 108.435
SRCPARAM A0000484 1.5489E-14 0.000 71.743 10.000 112.218
SRCPARAM A0000485 1.5489E-14 0.000 55.263 10.000 123.959
SRCPARAM A0000486 1.5489E-14 0.000 71.149 10.000 129.130
SRCPARAM A0000487 1.5489E-14 0.000 82.192 10.000 138.691
SRCPARAM A0000488 1.5489E-14 0.000 51.373 10.000 146.889
SRCPARAM A0000489 1.5489E-14 0.000 48.155 10.000 150.945
SRCPARAM A0000490 1.5489E-14 0.000 73.139 10.000 159.015
SRCPARAM A0000491 1.5489E-14 0.000 64.661 10.000 165.763
SRCPARAM A0000492 1.5489E-14 0.000 65.908 10.000 173.480
SRCPARAM A0000493 1.5489E-14 0.000 57.998 10.000 180.000
SRCPARAM A0000494 1.5489E-14 0.000 52.660 10.000 -167.692
SRCPARAM A0000495 1.5489E-14 0.000 30.642 10.000 -167.661
**
** LINE AREA Source ID = ARLN51
SRCPARAM A0000496 1.8005E-14 0.000 164.434 30.000 -0.226
SRCPARAM A0000497 1.8005E-14 0.000 164.434 30.000 -0.226
SRCPARAM A0000498 1.8005E-14 0.000 86.079 30.000 -15.709
SRCPARAM A0000499 1.8005E-14 0.000 54.441 30.000 -25.346
SRCPARAM A0000500 1.8005E-14 0.000 262.199 30.000 -41.998
SRCPARAM A0000501 1.8005E-14 0.000 262.199 30.000 -41.998
SRCPARAM A0000502 1.8005E-14 0.000 70.024 30.000 -33.690
SRCPARAM A0000503 1.8005E-14 0.000 61.415 30.000 -18.435
SRCPARAM A0000504 1.8005E-14 0.000 72.158 30.000 -9.293
SRCPARAM A0000505 1.8005E-14 0.000 91.963 30.000 -1.614
SRCPARAM A0000506 1.8005E-14 0.000 275.390 30.000 -0.988
SRCPARAM A0000507 1.8005E-14 0.000 275.390 30.000 -0.988
SRCPARAM A0000508 1.8005E-14 0.000 275.390 30.000 -0.988
SRCPARAM A0000509 1.8005E-14 0.000 147.766 30.000 8.059
**
** LINE AREA Source ID = ARLN52
SRCPARAM A0000510 1.5325E-14 0.000 78.090 10.000 177.387

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### 3Roots Project AERMOD Output File

SRCPARAM A0000511	1.5325E-14	0.000	78.090	10.000	177.387	AREAVERT PAREA1	485045.575	3639756.680	485057.448	3639749.260
SRCPARAM A0000512	1.5325E-14	0.000	78.090	10.000	177.387	AREAVERT PAREA1	485118.297	3639718.093	485133.880	3639719.577
SRCPARAM A0000513	1.5325E-14	0.000	78.090	10.000	177.387	AREAVERT PAREA1	485154.287	3639729.595	485208.457	3639753.341
SRCPARAM A0000514	1.5325E-14	0.000	81.312	10.000	179.635	AREAVERT PAREA1	485300.843	3639785.620	485327.011	3639792.255
SRCPARAM A0000515	1.5325E-14	0.000	81.312	10.000	179.635	AREAVERT PAREA1	485391.205	3639788.660	485433.316	3639777.875
SRCPARAM A0000516	1.5325E-14	0.000	81.312	10.000	179.635	AREAVERT PAREA1	485446.668	3639755.793	485513.430	3639783.524
SRCPARAM A0000517	1.5325E-14	0.000	81.312	10.000	179.635	AREAVERT PAREA1	485531.917	3639785.579	485559.135	3639803.039
SRCPARAM A0000518	1.5325E-14	0.000	81.312	10.000	179.635	AREAVERT PAREA1	485587.381	3639802.012	485610.490	3639817.419
SRCPARAM A0000519	1.5325E-14	0.000	89.663	10.000	179.586	AREAVERT PAREA1	485638.222	3639823.581	485677.765	3639842.069
SRCPARAM A0000520	1.5325E-14	0.000	89.663	10.000	179.586	AREAVERT PAREA1	485713.714	3639855.935	485738.877	3639861.584
SRCPARAM A0000521	1.5325E-14	0.000	89.663	10.000	179.586	AREAVERT PAREA1	485746.581	3639861.070	485760.960	3639876.990
SRCPARAM A0000522	1.5325E-14	0.000	89.663	10.000	179.586	AREAVERT PAREA1	485817.450	3639892.910	485921.187	3639908.317
SRCPARAM A0000523	1.5325E-14	0.000	76.826	10.000	-179.356	AREAVERT PAREA1	485938.786	3639920.049	485958.452	3639932.665
SRCPARAM A0000524	1.5325E-14	0.000	76.826	10.000	-179.356	AREAVERT PAREA1	485982.570	3639942.312	486025.613	3639947.136
SRCPARAM A0000525	1.5325E-14	0.000	76.826	10.000	-179.356	AREAVERT PAREA1	486050.473	3639944.538	486061.605	3639942.683
SRCPARAM A0000526	1.5325E-14	0.000	18.310	10.000	-171.870	AREAVERT PAREA1	486072.737	3639931.922	486070.881	3639794.261
SRCPARAM A0000527	1.5325E-14	0.000	32.755	10.000	-161.565	AREAVERT PAREA1	486065.687	3639787.953	486048.989	3639778.676
SRCPARAM A0000528	1.5325E-14	0.000	95.715	10.000	-149.967	AREAVERT PAREA1	486048.618	3639773.853	486042.681	3639767.174
**						AREAVERT PAREA1	486041.197	3639754.558	486047.134	3639743.055
** LINE AREA Source ID = ARLN53						AREAVERT PAREA1	486038.229	3639734.521	486033.034	3639736.747
SRCPARAM A0000529	7.6916E-15	0.000	65.674	10.000	162.408	AREAVERT PAREA1	485998.155	3639731.552	485993.331	3639736.005
SRCPARAM A0000530	7.6916E-15	0.000	57.818	10.000	163.639	AREAVERT PAREA1	485983.312	3639746.394	485972.923	3639744.539
SRCPARAM A0000531	7.6916E-15	0.000	27.133	10.000	156.801	AREAVERT PAREA1	485965.873	3639739.344	485959.936	3639731.181
SRCPARAM A0000532	7.6916E-15	0.000	20.031	10.000	152.784	AREAVERT PAREA1	485949.917	3639726.729	485928.396	3639725.244
SRCPARAM A0000533	7.6916E-15	0.000	14.467	10.000	140.711	AREAVERT PAREA1	485906.875	3639723.760	485888.322	3639727.471
SRCPARAM A0000534	7.6916E-15	0.000	22.325	10.000	133.152	AREAVERT PAREA1	485880.901	3639735.263	485857.895	3639754.929
SRCPARAM A0000535	7.6916E-15	0.000	12.976	10.000	138.180	AREAVERT PAREA1	485844.166	3639731.552	485833.406	3639725.615
SRCPARAM A0000536	7.6916E-15	0.000	43.963	10.000	110.323	AREAVERT PAREA1	485808.545	3639742.684	485757.439	3639725.915
SRCPARAM A0000537	7.6916E-15	0.000	10.797	10.000	98.130	AREAVERT PAREA1	485723.028	3639718.211	485700.430	3639718.725
SRCPARAM A0000538	7.6916E-15	0.000	91.140	10.000	91.600	AREAVERT PAREA1	485670.128	3639717.184	485633.149	3639691.504
SRCPARAM A0000539	7.6916E-15	0.000	74.570	10.000	89.218	AREAVERT PAREA1	485402.958	3639328.986	485387.068	3639337.349
SRCPARAM A0000540	7.6916E-15	0.000	74.570	10.000	89.218	AREAVERT PAREA1	485382.886	3639294.697	485242.062	3639271.511
SRCPARAM A0000541	7.6916E-15	0.000	41.400	10.000	74.706	AREAVERT PAREA1	485146.721	3639276.529	484942.658	3639279.874
SRCPARAM A0000542	7.6916E-15	0.000	27.105	10.000	55.713	AREAVERT PAREA1	484888.297	3639294.092	484852.335	3639308.309
SRCPARAM A0000543	7.6916E-15	0.000	8.348	10.000	52.431	AREAVERT PAREA1	484820.555	3639320.018	484756.994	3639314.164
SRCPARAM A0000544	7.6916E-15	0.000	21.785	10.000	37.405	AREAVERT PAREA1	484716.851	3639299.946	484676.707	3639286.565
SRCPARAM A0000545	7.6916E-15	0.000	33.922	10.000	27.719	AREAVERT PAREA1	484532.023	3639213.805	484481.844	3639154.426
SRCPARAM A0000546	7.6916E-15	0.000	28.329	10.000	17.784	AREAVERT PAREA1	484339.333	3639168.254	484331.513	3639213.751
SRCPARAM A0000547	7.6916E-15	0.000	19.876	10.000	2.936	AREAVERT PAREA1	484310.186	3639257.827	484348.042	3639484.463
SRCPARAM A0000548	7.6916E-15	0.000	29.371	10.000	-8.973	AREAVERT PAREA1	484344.696	3639512.064	484343.860	3639573.118
SRCPARAM A0000549	7.6916E-15	0.000	51.052	10.000	-20.422	AREAVERT PAREA1	484336.333	3639614.937	484311.242	3639688.537
SRCPARAM A0000550	7.6916E-15	0.000	84.968	10.000	-21.801	AREAVERT PAREA1	484280.296	3639747.083	484243.496	3639796.429
SRCPARAM A0000551	7.6916E-15	0.000	28.012	10.000	-24.702	AREAVERT PAREA1	484213.387	3639829.883	484178.259	3639864.175
SRCPARAM A0000552	7.6916E-15	0.000	19.666	10.000	-10.437	AREAVERT PAREA1	484141.459	3639900.975	484147.314	3639911.011
SRCPARAM A0000553	7.6916E-15	0.000	76.346	10.000	0.000	AREAVERT PAREA1	484166.550	3639911.848	484161.532	3639926.902
SRCPARAM A0000554	7.6916E-15	0.000	77.162	10.000	-8.344	AREAVERT PAREA1	484169.059	3639934.429	484156.514	3639960.357
**						AREAVERT PAREA1	484142.295	3639961.193	484113.022	3639944.466
SRCPARAM PAREA1	5.9685E-09	0.000	126			AREAVERT PAREA1	484103.822	3639951.993	484071.075	3640025.772
AREAVERT PAREA1	484076.208	3640217.622	484094.972	3640221.643		AREAVERT PAREA1	484058.385	3640071.094	484059.593	3640127.898
AREAVERT PAREA1	484128.746	3640235.046	484158.231	3640229.953		AREAVERT PAREA1	484066.845	3640182.889	484073.492	3640211.290
AREAVERT PAREA1	484191.469	3640244.159	484195.490	3640269.088		SRCGROUP ALL				
AREAVERT PAREA1	484199.779	3640273.377	484212.109	3640279.274		SO FINISHED				
AREAVERT PAREA1	484229.264	3640283.026	484253.121	3640287.583		**				
AREAVERT PAREA1	484291.720	3640291.604	484371.331	3640291.336		*****				
AREAVERT PAREA1	484445.310	3640271.631	484554.387	3640228.594		** AERMOD Receptor Pathway				
AREAVERT PAREA1	484635.267	3640164.038	484716.628	3640069.230		*****				
AREAVERT PAREA1	484862.810	3640004.673	484882.103	3639993.542		**				
AREAVERT PAREA1	484893.234	3639975.362	484919.576	3639904.127		**				
AREAVERT PAREA1	484930.927	3639878.007	484946.511	3639863.908		RE STARTING				
AREAVERT PAREA1	484983.614	3639844.614	484999.939	3639830.515		INCLUDED 3Roots.rou				
AREAVERT PAREA1	485022.201	3639785.249	485037.042	3639765.956		RE FINISHED				

# 3Roots Project AERMOD Output File

```
**
*****
** AERMOD Meteorology Pathway
*****
**
**
ME STARTING
SURFFILE MetData\722931.SFC
PROFFILE MetData\722931.PFL
SURFDATA 93107 2009
UAIRDATA 3190 2009
PROFBASE 145.4 METERS
STARTEND 2013 1 1 1 2013 12 31 24
ME FINISHED
**
*****
** AERMOD Output Pathway
*****
**
**
OU STARTING
RECTABLE ALLAVE 1ST
RECTABLE 24 1ST
** Auto-Generated Plotfiles
PLOTFILE 24 ALL 1ST 3Roots.AD\24H1GALL.PLT 31
PLOTFILE PERIOD ALL 3Roots.AD\PE00GALL.PLT 32
SUMMFILE 3Roots.sum
OU FINISHED

*** Message Summary For AERMOD Model Setup ***

----- Summary of Total Messages -----
A Total of      0 Fatal Error Message(s)
A Total of      2 Warning Message(s)
A Total of      0 Informational Message(s)

***** FATAL ERROR MESSAGES *****
*** NONE ***

***** WARNING MESSAGES *****
RE W213  378  RECAR: ELEV Input Inconsistent With Option: Input Ignored  UCART1
RE W213  633  RECAR: ELEV Input Inconsistent With Option: Input Ignored  UCART2

*****
*** SETUP Finishes Successfully ***
*****

*** AERMOD - VERSION 18081 ***   *** F:\Work\STP 29 - 3 Roots\AQ_GHG\PM Modeling\3Roots\3Roots.isc   ***
03/20/19
*** AERMET - VERSION 14134 ***   ***                               ***   10:12:43

*** MODELOPTs:  NonDEFAULT CONC FLAT and ELEV RURAL

*** MODEL SETUP OPTIONS SUMMARY ***
-----
```

```
**Model Is Setup For Calculation of Average CONCentration Values.

-- DEPOSITION LOGIC --
**NO GAS DEPOSITION Data Provided.
**NO PARTICLE DEPOSITION Data Provided.
**Model Uses NO DRY DEPLETION. DRYDPLT = F
**Model Uses NO WET DEPLETION. WETDPLT = F

**Model Uses RURAL Dispersion Only.

**Model Allows User-Specified Options:
  1. Stack-tip Downwash.
  2. Allow FLAT/ELEV Terrain Option by Source,
     with 0 FLAT and 518 ELEV Source(s).
  3. Use Calms Processing Routine.
  4. Use Missing Data Processing Routine.
  5. No Exponential Decay.
  6. Full Conversion Assumed for NO2.

**Other Options Specified:
  CCVR_Sub - Meteorological data includes CCVR substitutions
  TEMP_Sub - Meteorological data includes TEMP substitutions

**Model Assumes No FLAGPOLE Receptor Heights.

**The User Specified a Pollutant Type of: PM_10

**Model Calculates 1 Short Term Average(s) of: 24-HR
and Calculates PERIOD Averages

**This Run Includes:  518 Source(s);  1 Source Group(s); and  1796 Receptor(s)

with:  0 POINT(s), including
       0 POINTCAP(s) and  0 POINTHOR(s)
and:  0 VOLUME source(s)
and:  518 AREA type source(s)
and:  0 LINE source(s)
and:  0 OPENPIT source(s)
and:  0 BUOYANT LINE source(s) with  0 line(s)

**Model Set To Continue RUNNING After the Setup Testing.

**The AERMET Input Meteorological Data Version Date: 14134

**Output Options Selected:
  Model Outputs Tables of PERIOD Averages by Receptor
  Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)
  Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)
  Model Outputs Separate Summary File of High Ranked Values (SUMMFILE Keyword)

**NOTE: The Following Flags May Appear Following CONC Values:  c for Calm Hours
                                                m for Missing Hours
                                                b for Both Calm and Missing Hours

**Misc. Inputs: Base Elev. for Pot. Temp. Profile (m MSL) = 145.40 ; Decay Coef. = 0.000 ; Rot. Angle = 0.0
                Emission Units = GRAMS/SEC ; Emission Rate Unit Factor = 0.10000E+07
                Output Units = MICROGRAMS/M**3

**Approximate Storage Requirements of Model = 5.0 MB of RAM.
```

### 3Roots Project AERMOD Output File

\*\*Input Runstream File: aermod.inp  
\*\*Output Print File: aermod.out

\*\*Detailed Error/Message File: 3Roots.err  
\*\*File for Summary of Results: 3Roots.sum

\*\*\* AERMOD - VERSION 18081 \*\*\* \*\* F:\Work\STP 29 - 3 Roots\AQ\_GHG\PM Modeling\3Roots\3Roots.isc \*\*\*

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\*\*\* MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL

\*\*\* AREA SOURCE DATA \*\*\*

NUMBER EMISSION RATE COORD (SW CORNER) BASE RELEASE X-DIM Y-DIM ORIENT. INIT.  
URBAN EMISSION RATE  
SOURCE PART. (GRAMS/SEC X Y ELEV. HEIGHT OF AREA OF AREA OF AREA SZ SOURCE  
SCALAR VARY  
ID CATS. /METER\*\*2) (METERS) (METERS) (METERS) (METERS) (METERS) (METERS) (DEG.) (METERS)  
BY

-----  
A0000001 0 0.14855E-12 484296.7 3639617.9 87.7 0.00 58.25 30.00 79.00 0.00 NO  
A0000002 0 0.14855E-12 484307.5 3639562.6 84.5 0.00 37.40 30.00 86.35 0.00 NO  
A0000003 0 0.14855E-12 484309.9 3639526.3 82.4 0.00 15.88 30.00 90.00 0.00 NO  
A0000004 0 0.14855E-12 484310.0 3639511.9 81.6 0.00 62.27 30.00 95.86 0.00 NO  
A0000005 0 0.14855E-12 484303.8 3639451.2 79.2 0.00 151.88 30.00 100.55 0.00 NO  
A0000006 0 0.14855E-12 484276.0 3639301.7 78.2 0.00 41.91 30.00 99.82 0.00 NO  
A0000007 0 0.14855E-12 484268.6 3639258.9 78.8 0.00 75.65 30.00 94.21 0.00 NO  
A0000008 0 0.14855E-12 484263.1 3639181.3 81.5 0.00 32.65 30.00 85.81 0.00 NO  
A0000009 0 0.14855E-12 484265.6 3639147.7 83.2 0.00 134.00 30.00 81.82 0.00 NO  
A0000010 0 0.14855E-12 484284.8 3639014.3 93.3 0.00 67.13 30.00 79.09 0.00 NO  
A0000011 0 0.90995E-13 484031.4 3640024.8 94.2 0.00 51.06 30.00 71.05 0.00 NO  
A0000012 0 0.90995E-13 484049.2 3639974.0 96.5 0.00 56.81 30.00 60.13 0.00 NO  
A0000013 0 0.90995E-13 484078.3 3639923.4 96.9 0.00 37.76 30.00 54.46 0.00 NO  
A0000014 0 0.90995E-13 484101.0 3639891.7 97.0 0.00 37.04 30.00 49.81 0.00 NO  
A0000015 0 0.90995E-13 484125.7 3639862.5 97.5 0.00 89.67 30.00 45.00 0.00 NO  
A0000016 0 0.90995E-13 484188.9 3639799.3 96.1 0.00 21.04 30.00 45.94 0.00 NO  
A0000017 0 0.90995E-13 484203.0 3639784.8 95.9 0.00 40.10 30.00 48.95 0.00 NO  
A0000018 0 0.90995E-13 484228.1 3639756.2 94.5 0.00 61.69 30.00 56.94 0.00 NO  
A0000019 0 0.90995E-13 484260.8 3639706.1 92.4 0.00 48.21 30.00 64.21 0.00 NO  
A0000020 0 0.90995E-13 484281.1 3639664.5 90.3 0.00 48.90 30.00 71.38 0.00 NO  
A0000042 0 0.98538E-13 483994.7 3640772.9 111.6 0.00 64.33 30.00 85.19 0.00 NO  
A0000043 0 0.98538E-13 484000.2 3640708.3 108.4 0.00 140.82 30.00 83.40 0.00 NO  
A0000044 0 0.98538E-13 484016.4 3640568.3 99.2 0.00 186.73 30.00 82.97 0.00 NO  
A0000045 0 0.98538E-13 484039.1 3640385.6 88.0 0.00 98.19 30.00 92.75 0.00 NO  
A0000046 0 0.98538E-13 484034.6 3640289.5 86.1 0.00 68.48 30.00 100.62 0.00 NO  
A0000047 0 0.98538E-13 484021.9 3640221.4 84.2 0.00 38.47 30.00 97.43 0.00 NO  
A0000048 0 0.98538E-13 484016.8 3640182.5 87.9 0.00 32.02 30.00 94.46 0.00 NO  
A0000049 0 0.98538E-13 484014.3 3640149.4 89.4 0.00 20.32 30.00 90.00 0.00 NO  
A0000050 0 0.98538E-13 484014.3 3640128.0 90.7 0.00 36.57 30.00 86.10 0.00 NO  
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A0000036 0 0.33699E-13 484708.0 3638954.1 110.2 0.00 84.61 9.00 0.39 0.00 NO  
A0000037 0 0.33699E-13 484792.6 3638953.6 111.2 0.00 84.61 9.00 0.39 0.00 NO  
A0000038 0 0.33699E-13 484877.2 3638953.0 113.0 0.00 84.61 9.00 0.39 0.00 NO

A0000039 0 0.33699E-13 484962.5 3638952.5 117.6 0.00 40.67 9.00 -8.93 0.00 NO  
A0000040 0 0.33699E-13 485003.4 3638959.0 119.2 0.00 63.25 9.00 -17.70 0.00 NO

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\*\*\* MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL

\*\*\* AREA SOURCE DATA \*\*\*

NUMBER EMISSION RATE COORD (SW CORNER) BASE RELEASE X-DIM Y-DIM ORIENT. INIT.  
URBAN EMISSION RATE  
SOURCE PART. (GRAMS/SEC X Y ELEV. HEIGHT OF AREA OF AREA OF AREA SZ SOURCE  
SCALAR VARY  
ID CATS. /METER\*\*2) (METERS) (METERS) (METERS) (METERS) (METERS) (METERS) (DEG.) (METERS)  
BY

-----  
A0000041 0 0.33699E-13 485063.7 3638978.2 122.1 0.00 63.25 9.00 -17.70 0.00 NO  
A0000052 0 0.16707E-13 485123.3 3638995.2 123.6 0.00 47.46 9.00 80.25 0.00 NO  
A0000053 0 0.16707E-13 485131.3 3638948.4 124.3 0.00 47.46 9.00 80.25 0.00 NO  
A0000054 0 0.16707E-13 485139.3 3638902.4 124.5 0.00 50.51 9.00 89.35 0.00 NO  
A0000055 0 0.16707E-13 485139.9 3638852.4 124.8 0.00 51.97 9.00 96.34 0.00 NO  
A0000056 0 0.16707E-13 485134.2 3638801.2 125.1 0.00 45.82 9.00 102.30 0.00 NO  
A0000057 0 0.16707E-13 485124.8 3638757.4 125.4 0.00 69.31 9.00 115.50 0.00 NO  
A0000058 0 0.16707E-13 485095.0 3638695.0 126.0 0.00 49.67 9.00 117.16 0.00 NO  
A0000059 0 0.16707E-13 485072.3 3638650.8 126.4 0.00 49.67 9.00 117.16 0.00 NO  
A0000060 0 0.12699E-13 485131.5 3638996.3 123.7 0.00 28.49 12.00 -9.27 0.00 NO  
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A0000063 0 0.12699E-13 485301.4 3639001.0 126.7 0.00 116.94 12.00 0.49 0.00 NO  
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A0000065 0 0.12699E-13 485535.3 3638999.0 125.8 0.00 116.94 12.00 0.49 0.00 NO  
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A0000068 0 0.12699E-13 485660.3 3639214.8 118.7 0.00 105.44 12.00 -89.45 0.00 NO  
A0000069 0 0.12699E-13 485661.3 3639320.2 116.8 0.00 105.44 12.00 -89.45 0.00 NO  
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A0000071 0 0.12699E-13 485657.3 3639525.2 117.9 0.00 94.08 12.00 0.66 0.00 NO  
A0000072 0 0.12699E-13 485751.3 3639524.1 120.0 0.00 94.08 12.00 0.66 0.00 NO  
A0000073 0 0.12699E-13 485845.8 3639523.0 122.4 0.00 19.09 12.00 -2.49 0.00 NO  
A0000074 0 0.12699E-13 485866.2 3639524.1 123.0 0.00 35.83 12.00 -16.13 0.00 NO  
A0000075 0 0.12699E-13 485902.1 3639534.7 124.3 0.00 40.51 12.00 -31.03 0.00 NO  
A0000076 0 0.13816E-12 484297.4 3638943.0 98.1 0.00 185.63 30.00 72.98 0.00 NO  
A0000077 0 0.13816E-12 484351.3 3638767.2 111.9 0.00 58.65 30.00 79.41 0.00 NO  
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3Roots Project AERMOD Output File

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\*\*\* MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL

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\*\*\* MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL

\*\*\* AREA SOURCE DATA \*\*\*

\*\*\* AREA SOURCE DATA \*\*\*

NUMBER EMISSION RATE COORD (SW CORNER) BASE RELEASE X-DIM Y-DIM ORIENT. INIT. URBAN EMISSION RATE SOURCE PART. (GRAMS/SEC X Y ELEV. HEIGHT OF AREA OF AREA OF AREA SZ SOURCE SCALAR VARY ID CATS. /METER\*\*2) (METERS) (METERS) (METERS) (METERS) (METERS) (METERS) (DEG.) (METERS) BY

NUMBER EMISSION RATE COORD (SW CORNER) BASE RELEASE X-DIM Y-DIM ORIENT. INIT. URBAN EMISSION RATE SOURCE PART. (GRAMS/SEC X Y ELEV. HEIGHT OF AREA OF AREA OF AREA SZ SOURCE SCALAR VARY ID CATS. /METER\*\*2) (METERS) (METERS) (METERS) (METERS) (METERS) (METERS) (DEG.) (METERS) BY

Table with columns: ID, CATS., /METER\*\*2, (METERS), (METERS), (METERS), (METERS), (METERS), (METERS), (DEG.), (METERS), BY. Rows include source IDs like A0000135, A0000136, etc.

Table with columns: ID, CATS., /METER\*\*2, (METERS), (METERS), (METERS), (METERS), (METERS), (METERS), (DEG.), (METERS), BY. Rows include source IDs like A0000126, A0000145, etc.

\*\*\* AERMOD - VERSION 18081 \*\*\* F:\Work\STP 29 - 3 Roots\IAQ\_GHG\IPM Modeling\3Roots\3Roots.isc 03/20/19

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\*\*\* AERMET - VERSION 14134 \*\*\*

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\*\*\* MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL

3Roots Project AERMOD Output File

\*\*\* AREA SOURCE DATA \*\*\*

NUMBER EMISSION RATE COORD (SW CORNER) BASE RELEASE X-DIM Y-DIM ORIENT. INIT.  
 URBAN EMISSION RATE  
 SOURCE PART. (GRAMS/SEC X Y ELEV. HEIGHT OF AREA OF AREA OF AREA SZ SOURCE  
 SCALAR VARY  
 ID CATS. /METER\*\*2) (METERS) (METERS) (METERS) (METERS) (METERS) (DEG.) (METERS)  
 BY

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\*\*\* MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL

\*\*\* AREA SOURCE DATA \*\*\*

NUMBER EMISSION RATE COORD (SW CORNER) BASE RELEASE X-DIM Y-DIM ORIENT. INIT.  
 URBAN EMISSION RATE  
 SOURCE PART. (GRAMS/SEC X Y ELEV. HEIGHT OF AREA OF AREA OF AREA SZ SOURCE  
 SCALAR VARY  
 ID CATS. /METER\*\*2) (METERS) (METERS) (METERS) (METERS) (METERS) (DEG.) (METERS)  
 BY

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\*\*\* AERMET - VERSION 14134 \*\*\*

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\*\*\* MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL

\*\*\* AREA SOURCE DATA \*\*\*

NUMBER EMISSION RATE COORD (SW CORNER) BASE RELEASE X-DIM Y-DIM ORIENT. INIT.  
 URBAN EMISSION RATE



3Roots Project AERMOD Output File

SOURCE PART. (GRAMS/SEC X Y ELEV. HEIGHT OF AREA OF AREA OF AREA SZ SOURCE
SCALAR VARY
ID CATS. /METER\*\*2) (METERS)(METERS)(METERS)(METERS)(METERS)(METERS) (DEG.) (METERS)
BY

Table with columns: SOURCE ID, PART. CATS., X, Y, ELEV., HEIGHT OF AREA, OF AREA, OF AREA, SZ, SOURCE SCALAR VARY, BY. Contains 37 rows of source data.

\*\*\* AERMOD - VERSION 18081 \*\*\* F:\Work\STP 29 - 3 Roots\IAQ\_GHG\PM Modeling\3Roots\3Roots.isc
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\*\*\* AERMET - VERSION 14134 \*\*\* 10:12:43
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\*\*\* MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL

\*\*\* AREA SOURCE DATA \*\*\*

NUMBER EMISSION RATE COORD (SW CORNER) BASE RELEASE X-DIM Y-DIM ORIENT. INIT.
URBAN EMISSION RATE
SOURCE PART. (GRAMS/SEC X Y ELEV. HEIGHT OF AREA OF AREA OF AREA SZ SOURCE
SCALAR VARY

ID CATS. /METER\*\*2) (METERS)(METERS)(METERS)(METERS)(METERS)(METERS) (DEG.) (METERS)
BY

Table with columns: SOURCE ID, PART. CATS., X, Y, ELEV., HEIGHT OF AREA, OF AREA, OF AREA, SZ, SOURCE SCALAR VARY, BY. Contains 37 rows of source data.

\*\*\* AERMOD - VERSION 18081 \*\*\* F:\Work\STP 29 - 3 Roots\IAQ\_GHG\PM Modeling\3Roots\3Roots.isc
03/20/19
\*\*\* AERMET - VERSION 14134 \*\*\* 10:12:43
PAGE 10
\*\*\* MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL

\*\*\* AREA SOURCE DATA \*\*\*

NUMBER EMISSION RATE COORD (SW CORNER) BASE RELEASE X-DIM Y-DIM ORIENT. INIT.
URBAN EMISSION RATE
SOURCE PART. (GRAMS/SEC X Y ELEV. HEIGHT OF AREA OF AREA OF AREA SZ SOURCE
SCALAR VARY
BY



3Roots Project AERMOD Output File

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\*\*\* AERMOD - VERSION 18081 \*\*\* F:\Work\STP 29 - 3 Roots\AQ\_GHG\IPM Modeling\3Roots\3Roots.isc 03/20/19  
 \*\*\* AERMET - VERSION 14134 \*\*\* 10:12:43  
 \*\*\* MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL  
 \*\*\* AREA SOURCE DATA \*\*\*

\*\*\* AREA SOURCE DATA \*\*\*  
 NUMBER EMISSION RATE COORD (SW CORNER) BASE RELEASE X-DIM Y-DIM ORIENT. INIT.  
 URBAN EMISSION RATE  
 SOURCE PART. (GRAMS/SEC X Y ELEV. HEIGHT OF AREA OF AREA OF AREA SZ SOURCE  
 SCALAR VARY  
 ID CATS. /METER\*\*2) (METERS) (METERS) (METERS) (METERS) (METERS) (METERS) (DEG.) (METERS)  
 BY

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 A0000489 0 0.15489E-13 486808.5 3641170.6 133.8 0.00 48.16 10.00 150.94 0.00 NO  
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 A0000491 0 0.15489E-13 486699.3 3641121.5 134.6 0.00 64.66 10.00 165.76 0.00 NO  
 A0000492 0 0.15489E-13 486637.3 3641105.8 134.1 0.00 65.91 10.00 173.48 0.00 NO  
 A0000493 0 0.15489E-13 486572.4 3641098.3 133.8 0.00 58.00 10.00 180.00 0.00 NO  
 A0000494 0 0.15489E-13 486515.4 3641098.2 133.5 0.00 52.66 10.00 -167.69 0.00 NO  
 A0000495 0 0.15489E-13 486464.0 3641109.4 133.1 0.00 30.64 10.00 -167.66 0.00 NO  
 A0000496 0 0.18005E-13 487046.6 3641620.9 134.2 0.00 164.43 30.00 -0.23 0.00 NO  
 A0000497 0 0.18005E-13 487211.0 3641621.5 136.1 0.00 164.43 30.00 -0.23 0.00 NO  
 A0000498 0 0.18005E-13 487379.5 3641622.8 138.4 0.00 86.08 30.00 -15.71 0.00 NO  
 A0000499 0 0.18005E-13 487464.7 3641646.9 139.3 0.00 54.44 30.00 -25.35 0.00 NO  
 A0000500 0 0.18005E-13 487517.5 3641672.7 139.8 0.00 262.20 30.00 -42.00 0.00 NO  
 A0000501 0 0.18005E-13 487712.4 3641848.1 138.6 0.00 262.20 30.00 -42.00 0.00 NO  
 A0000502 0 0.18005E-13 487905.5 3642022.2 142.1 0.00 70.02 30.00 -33.69 0.00 NO  
 A0000503 0 0.18005E-13 487960.2 3642059.3 142.8 0.00 61.41 30.00 -18.43 0.00 NO  
 A0000504 0 0.18005E-13 488016.2 3642078.1 143.8 0.00 72.16 30.00 -9.29 0.00 NO  
 A0000505 0 0.18005E-13 488085.4 3642089.6 144.7 0.00 91.96 30.00 -1.61 0.00 NO  
 A0000506 0 0.18005E-13 488177.1 3642092.2 145.8 0.00 275.39 30.00 -0.99 0.00 NO  
 A0000507 0 0.18005E-13 488452.5 3642096.9 149.8 0.00 275.39 30.00 -0.99 0.00 NO  
 A0000508 0 0.18005E-13 488727.8 3642101.7 153.3 0.00 275.39 30.00 -0.99 0.00 NO  
 A0000509 0 0.18005E-13 489000.8 3642106.6 155.1 0.00 147.77 30.00 8.06 0.00 NO  
 A0000510 0 0.15325E-13 486955.7 3640823.9 135.3 0.00 78.09 10.00 177.39 0.00 NO  
 A0000511 0 0.15325E-13 486877.7 3640820.4 135.7 0.00 78.09 10.00 177.39 0.00 NO  
 A0000512 0 0.15325E-13 486799.7 3640816.8 135.4 0.00 78.09 10.00 177.39 0.00 NO  
 A0000513 0 0.15325E-13 486721.7 3640813.2 134.8 0.00 78.09 10.00 177.39 0.00 NO  
 A0000514 0 0.15325E-13 486643.9 3640809.7 134.3 0.00 81.31 10.00 179.63 0.00 NO  
 A0000515 0 0.15325E-13 486562.5 3640809.2 133.9 0.00 81.31 10.00 179.63 0.00 NO  
 A0000516 0 0.15325E-13 486481.2 3640808.6 133.6 0.00 81.31 10.00 179.63 0.00 NO  
 A0000517 0 0.15325E-13 486399.9 3640808.1 132.0 0.00 81.31 10.00 179.63 0.00 NO

\*\*\* AERMOD - VERSION 18081 \*\*\* F:\Work\STP 29 - 3 Roots\AQ\_GHG\IPM Modeling\3Roots\3Roots.isc 03/20/19  
 \*\*\* AERMET - VERSION 14134 \*\*\* 10:12:43  
 \*\*\* MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL  
 \*\*\* AREA SOURCE DATA \*\*\*

NUMBER EMISSION RATE COORD (SW CORNER) BASE RELEASE X-DIM Y-DIM ORIENT. INIT.  
 URBAN EMISSION RATE  
 SOURCE PART. (GRAMS/SEC X Y ELEV. HEIGHT OF AREA OF AREA OF AREA SZ SOURCE  
 SCALAR VARY  
 ID CATS. /METER\*\*2) (METERS) (METERS) (METERS) (METERS) (METERS) (METERS) (DEG.) (METERS)  
 BY

A0000518 0 0.15325E-13 486318.6 3640807.6 131.8 0.00 81.31 10.00 179.63 0.00 NO  
 A0000519 0 0.15325E-13 486237.3 3640807.1 130.4 0.00 89.66 10.00 179.59 0.00 NO  
 A0000520 0 0.15325E-13 486147.6 3640806.4 129.8 0.00 89.66 10.00 179.59 0.00 NO  
 A0000521 0 0.15325E-13 486058.0 3640805.8 129.2 0.00 89.66 10.00 179.59 0.00 NO  
 A0000522 0 0.15325E-13 485968.3 3640805.1 128.8 0.00 89.66 10.00 179.59 0.00 NO  
 A0000523 0 0.15325E-13 485878.8 3640804.5 128.8 0.00 76.83 10.00 -179.36 0.00 NO  
 A0000524 0 0.15325E-13 485801.9 3640805.4 128.4 0.00 76.83 10.00 -179.36 0.00 NO  
 A0000525 0 0.15325E-13 485725.1 3640806.2 128.0 0.00 76.83 10.00 -179.36 0.00 NO  
 A0000526 0 0.15325E-13 485648.9 3640807.0 127.4 0.00 18.31 10.00 -171.87 0.00 NO  
 A0000527 0 0.15325E-13 485631.7 3640809.4 127.2 0.00 32.76 10.00 -161.56 0.00 NO  
 A0000528 0 0.15325E-13 485601.5 3640819.4 126.4 0.00 95.72 10.00 -149.97 0.00 NO

### 3Roots Project AERMOD Output File

```

A0000529 0 0.76916E-14 484028.3 3640031.5 94.0 0.00 65.67 10.00 162.41 0.00 NO
A0000530 0 0.76916E-14 483965.8 3640011.7 97.0 0.00 57.82 10.00 163.64 0.00 NO
A0000531 0 0.76916E-14 483909.8 3639995.2 101.0 0.00 27.13 10.00 156.80 0.00 NO
A0000532 0 0.76916E-14 483884.5 3639984.3 103.1 0.00 20.03 10.00 152.78 0.00 NO
A0000533 0 0.76916E-14 483865.8 3639974.6 104.8 0.00 14.47 10.00 140.71 0.00 NO
A0000534 0 0.76916E-14 483854.2 3639965.0 106.0 0.00 22.32 10.00 133.15 0.00 NO
A0000535 0 0.76916E-14 483839.2 3639949.0 107.7 0.00 12.98 10.00 138.18 0.00 NO
A0000536 0 0.76916E-14 483828.2 3639938.4 108.9 0.00 43.96 10.00 110.32 0.00 NO
A0000537 0 0.76916E-14 483812.6 3639896.1 112.3 0.00 10.80 10.00 98.13 0.00 NO
A0000538 0 0.76916E-14 483811.1 3639884.9 113.2 0.00 91.14 10.00 91.60 0.00 NO
A0000539 0 0.76916E-14 483808.5 3639793.5 117.8 0.00 74.57 10.00 89.22 0.00 NO
A0000540 0 0.76916E-14 483809.5 3639719.0 118.6 0.00 74.57 10.00 89.22 0.00 NO
A0000541 0 0.76916E-14 483810.7 3639643.2 119.2 0.00 41.40 10.00 74.71 0.00 NO
A0000542 0 0.76916E-14 483822.4 3639601.7 119.4 0.00 27.11 10.00 55.71 0.00 NO
A0000543 0 0.76916E-14 483837.8 3639579.1 118.5 0.00 8.35 10.00 52.43 0.00 NO
A0000544 0 0.76916E-14 483843.8 3639571.6 118.0 0.00 21.78 10.00 37.41 0.00 NO
A0000545 0 0.76916E-14 483861.8 3639557.9 116.9 0.00 33.92 10.00 27.72 0.00 NO
A0000546 0 0.76916E-14 483892.6 3639541.8 114.3 0.00 28.33 10.00 17.78 0.00 NO
A0000547 0 0.76916E-14 483920.9 3639532.9 112.0 0.00 19.88 10.00 2.94 0.00 NO
A0000548 0 0.76916E-14 483941.8 3639531.9 110.4 0.00 29.37 10.00 -8.97 0.00 NO
A0000549 0 0.76916E-14 483971.8 3639536.8 108.0 0.00 51.05 10.00 -20.42 0.00 NO
A0000550 0 0.76916E-14 484019.7 3639554.6 103.9 0.00 84.97 10.00 -21.80 0.00 NO
A0000551 0 0.76916E-14 484098.8 3639586.3 97.2 0.00 28.01 10.00 -24.70 0.00 NO
A0000552 0 0.76916E-14 484123.1 3639597.6 94.8 0.00 19.67 10.00 -10.44 0.00 NO
A0000553 0 0.76916E-14 484141.5 3639601.1 93.4 0.00 76.35 10.00 0.00 0.00 NO
A0000554 0 0.76916E-14 484218.6 3639601.1 88.0 0.00 77.16 10.00 -8.34 0.00 NO

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*** AERMOD - VERSION 18081 *** *** F:\Work\STP 29 - 3 Roots\AQ_GHG\IPM Modeling\3Roots\3Roots.isc ***
03/20/19
*** AERMET - VERSION 14134 *** ***
*** MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL
*** AREAPOLY SOURCE DATA ***

```

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NUMBER EMISSION RATE LOCATION OF AREA BASE RELEASE NUMBER INIT. URBAN EMISSION
RATE
SOURCE PART. (GRAMS/SEC X Y ELEV. HEIGHT OF VERTS. SZ SOURCE SCALAR VARY
ID CATS. /METER**2) (METERS) (METERS) (METERS) (METERS) (METERS) BY
-----
PAREA1 0 0.59685E-08 484076.2 3640217.6 95.1 0.00 126 0.00 NO

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*** AERMOD - VERSION 18081 *** *** F:\Work\STP 29 - 3 Roots\AQ_GHG\IPM Modeling\3Roots\3Roots.isc ***
03/20/19
*** AERMET - VERSION 14134 *** ***
*** MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL

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*** SOURCE IDs DEFINING SOURCE GROUPS ***
SRCGROUP ID SOURCE IDs
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ALL A0000001 , A0000002 , A0000003 , A0000004 , A0000005 , A0000006 , A0000007 , A0000008 ,
A0000009 , A0000010 , A0000011 , A0000012 , A0000013 , A0000014 , A0000015 , A0000016 ,

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*** AERMOD - VERSION 18081 *** *** F:\Work\STP 29 - 3 Roots\AQ_GHG\IPM Modeling\3Roots\3Roots.isc ***
03/20/19
*** AERMET - VERSION 14134 *** ***
*** MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL

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*** SOURCE IDs DEFINING SOURCE GROUPS ***
SRCGROUP ID SOURCE IDs
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A0000206 , A0000207 , A0000208 , A0000209 , A0000210 , A0000211 , A0000212 , A0000213 ,
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### 3Roots Project AERMOD Output File

A0000246 , A0000247 , A0000248 , A0000249 , A0000250 , A0000251 , A0000252 , A0000253 ,  
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\*\*\* AERMOD - VERSION 18081 \*\*\* F:\Work\STP 29 - 3 Roots\AQ\_GHG\PM Modeling\3Roots\3Roots.isc \*\*\*  
 03/20/19  
 \*\*\* AERMET - VERSION 14134 \*\*\* \*\*\* 10:12:43  
 PAGE 18  
 \*\*\* MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL

\*\*\* SOURCE IDs DEFINING SOURCE GROUPS \*\*\*

SRCGROUP ID	SOURCE IDs
A0000358	A0000359 , A0000360 , A0000361 , A0000362 , A0000363 , A0000364 , A0000365 ,
A0000366	A0000367 , A0000368 , A0000369 , A0000370 , A0000371 , A0000372 , A0000373 ,
A0000374	A0000375 , A0000376 , A0000377 , A0000378 , A0000379 , A0000380 , A0000381 ,
A0000382	A0000383 , A0000384 , A0000385 , A0000386 , A0000387 , A0000388 , A0000389 ,
A0000390	A0000391 , A0000392 , A0000393 , A0000394 , A0000395 , A0000396 , A0000397 ,
A0000398	A0000399 , A0000400 , A0000401 , A0000402 , A0000403 , A0000404 , A0000405 ,
A0000406	A0000407 , A0000408 , A0000409 , A0000410 , A0000411 , A0000412 , A0000413 ,
A0000414	A0000415 , A0000416 , A0000417 , A0000418 , A0000419 , A0000420 , A0000421 ,
A0000422	A0000423 , A0000424 , A0000425 , A0000426 , A0000427 , A0000428 , A0000429 ,
A0000430	A0000431 , A0000432 , A0000433 , A0000434 , A0000435 , A0000436 , A0000437 ,

A0000438 , A0000439 , A0000440 , A0000441 , A0000442 , A0000443 , A0000444 , A0000445 ,  
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\*\*\* AERMOD - VERSION 18081 \*\*\* F:\Work\STP 29 - 3 Roots\AQ\_GHG\PM Modeling\3Roots\3Roots.isc \*\*\*  
 03/20/19  
 \*\*\* AERMET - VERSION 14134 \*\*\* \*\*\* 10:12:43  
 PAGE 19  
 \*\*\* MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL

\*\*\* SOURCE IDs DEFINING SOURCE GROUPS \*\*\*

SRCGROUP ID	SOURCE IDs
A0000518	A0000519 , A0000520 , A0000521 , A0000522 , A0000523 , A0000524 , A0000525 ,
A0000526	A0000527 , A0000528 , A0000529 , A0000530 , A0000531 , A0000532 , A0000533 ,
A0000534	A0000535 , A0000536 , A0000537 , A0000538 , A0000539 , A0000540 , A0000541 ,
A0000542	A0000543 , A0000544 , A0000545 , A0000546 , A0000547 , A0000548 , A0000549 ,
A0000550	A0000551 , A0000552 , A0000553 , A0000554 , PAREA1 ,

\*\*\* AERMOD - VERSION 18081 \*\*\* F:\Work\STP 29 - 3 Roots\AQ\_GHG\PM Modeling\3Roots\3Roots.isc \*\*\*  
 03/20/19  
 \*\*\* AERMET - VERSION 14134 \*\*\* \*\*\* 10:12:43  
 PAGE 20  
 \*\*\* MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL

\*\*\* GRIDDED RECEPTOR NETWORK SUMMARY \*\*\*

\*\*\* NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART \*\*\*

\*\*\* X-COORDINATES OF GRID \*\*\*  
 (METERS)

479500.0, 479750.0, 480000.0, 480250.0, 480500.0, 480750.0, 481000.0, 481250.0, 481500.0, 481750.0,  
 482000.0, 482250.0, 482500.0, 482750.0, 483000.0, 483250.0, 483500.0, 483750.0, 484000.0, 484250.0,  
 484500.0, 484750.0, 485000.0, 485250.0, 485500.0, 485750.0, 486000.0, 486250.0, 486500.0, 486750.0,  
 487000.0, 487250.0, 487500.0, 487750.0, 488000.0, 488250.0, 488500.0, 488750.0, 489000.0, 489250.0,

### 3Roots Project AERMOD Output File

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*** Y-COORDINATES OF GRID ***
(METERS)

3636075.0, 3636325.0, 3636575.0, 3636825.0, 3637075.0, 3637325.0, 3637575.0, 3637825.0, 3638075.0, 3638325.0,
3638575.0, 3638825.0, 3639075.0, 3639325.0, 3639575.0, 3639825.0, 3640075.0, 3640325.0, 3640575.0, 3640825.0,
3641075.0, 3641325.0, 3641575.0, 3641825.0, 3642075.0, 3642325.0,

*** AERMOD - VERSION 18081 *** *** F:\Work\STP 29 - 3 Roots\IAQ_GHG\PM Modeling\3Roots\3Roots.isc ***
03/20/19
*** AERMET - VERSION 14134 *** ***                               *** 10:12:43
                               PAGE 21
*** MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

* ELEVATION HEIGHTS IN METERS *

Y-COORD | X-COORD (METERS)
(METERS) | 479500.0 479750.0 480000.0 480250.0 480500.0 480750.0 481000.0 481250.0
481500.0
-----
3642325.0 | 97.80 99.70 109.00 111.90 119.00 68.10 53.30 22.40 19.30
3642075.0 | 111.30 107.90 91.10 66.60 77.30 73.40 29.10 17.70 27.70
3641825.0 | 85.00 116.70 104.20 111.80 86.60 15.60 19.00 40.60 85.30
3641575.0 | 93.10 111.90 58.50 68.90 50.50 14.50 53.80 90.70 105.90
3641325.0 | 51.00 106.60 42.40 13.50 13.90 14.50 57.80 76.70 68.10
3641075.0 | 41.40 37.50 12.20 13.70 14.20 20.00 41.20 44.10 32.20
3640825.0 | 9.60 13.00 14.20 36.00 76.80 38.20 45.10 97.10 100.90
3640575.0 | 13.70 14.60 57.30 91.60 111.70 51.60 78.30 103.90 103.90
3640325.0 | 39.40 67.20 100.00 105.40 113.80 93.10 97.30 106.90 91.70
3640075.0 | 19.30 43.60 66.20 118.00 115.20 93.60 83.60 84.70 88.30
3639825.0 | 14.40 30.30 49.40 72.40 108.10 86.30 82.80 85.40 96.50
3639575.0 | 20.90 18.50 35.40 55.40 70.80 62.50 73.30 75.90 91.60
3639325.0 | 33.60 20.30 18.60 36.70 43.40 51.10 58.60 56.40 53.70
3639075.0 | 92.40 44.20 78.90 23.20 27.50 52.10 41.70 47.10 34.30
3638825.0 | 67.20 105.80 105.80 113.90 32.50 28.30 40.40 79.10 76.30
3638575.0 | 52.20 100.20 111.00 116.20 106.60 81.10 79.60 105.00 84.50
3638325.0 | 86.50 79.20 110.70 120.20 127.80 119.30 104.10 116.70 110.10
3638075.0 | 109.90 107.00 105.90 119.00 128.90 121.20 117.60 106.60 104.80
3637825.0 | 105.40 108.20 112.60 119.40 123.10 116.10 114.30 97.40 108.60
3637575.0 | 102.60 108.40 110.70 121.70 121.50 111.70 111.70 100.50 115.30
3637325.0 | 109.90 108.40 111.70 116.70 118.00 106.70 100.90 92.90 104.00
3637075.0 | 105.80 105.30 111.40 116.40 116.70 102.80 98.90 106.70 112.80
3636825.0 | 103.30 110.40 111.70 113.90 107.30 94.30 98.10 97.20 110.70
3636575.0 | 103.00 105.30 104.00 106.80 85.30 88.50 93.50 96.40 107.10
3636325.0 | 106.80 96.30 96.00 100.20 87.50 86.30 88.30 95.10 105.60
3636075.0 | 97.00 91.30 85.50 89.40 64.50 64.50 66.40 68.80 68.70

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*** AERMOD - VERSION 18081 *** *** F:\Work\STP 29 - 3 Roots\IAQ_GHG\PM Modeling\3Roots\3Roots.isc ***
03/20/19
*** AERMET - VERSION 14134 *** ***                               *** 10:12:43
                               PAGE 22
*** MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

* ELEVATION HEIGHTS IN METERS *

Y-COORD | X-COORD (METERS)

```

```

(METERS) | 481750.0 482000.0 482250.0 482500.0 482750.0 483000.0 483250.0 483500.0
483750.0
-----
3642325.0 | 21.20 29.40 22.40 66.60 85.80 116.70 117.20 122.90 127.10
3642075.0 | 42.30 55.80 104.50 114.10 109.40 82.90 109.80 121.00 99.20
3641825.0 | 110.00 111.60 111.20 70.00 67.60 107.60 98.10 85.10 63.30
3641575.0 | 82.30 69.00 72.40 51.70 46.60 51.30 73.20 105.70 106.70
3641325.0 | 48.00 36.20 72.90 92.90 102.00 101.60 92.20 115.10 108.40
3641075.0 | 36.80 96.50 97.30 105.60 107.90 108.20 112.20 117.10 119.80
3640825.0 | 86.90 98.10 108.80 112.10 113.90 115.90 115.80 121.50 124.90
3640575.0 | 100.50 100.50 106.70 114.00 117.10 111.00 105.50 118.00 110.50
3640325.0 | 95.80 101.80 109.40 115.70 108.90 106.80 103.60 111.70 101.50
3640075.0 | 95.80 104.50 106.20 100.30 110.20 70.50 99.50 81.50 70.60
3639825.0 | 99.10 93.50 91.60 92.80 100.00 61.80 68.90 76.30 117.80
3639575.0 | 82.80 82.50 67.10 59.50 65.70 55.10 86.00 88.20 119.80
3639325.0 | 64.50 47.30 45.30 56.70 52.80 63.50 58.50 71.80 85.70
3639075.0 | 39.40 63.70 89.00 97.90 88.40 99.40 99.70 100.20 75.20
3638825.0 | 97.60 59.80 73.30 84.10 104.60 110.30 115.40 104.10 108.50
3638575.0 | 98.70 86.20 84.20 112.70 63.50 83.70 87.90 107.20 112.90
3638325.0 | 111.40 115.00 103.10 70.40 107.90 108.60 117.70 99.40 107.00
3638075.0 | 100.30 116.50 117.40 99.30 99.70 116.50 122.10 121.80 108.30
3637825.0 | 118.30 114.80 119.30 119.20 117.40 121.90 124.70 123.60 124.10
3637575.0 | 118.50 116.80 104.30 119.80 120.20 121.50 123.00 122.50 117.90
3637325.0 | 118.20 110.90 106.30 117.10 116.60 120.60 121.60 112.60 118.80
3637075.0 | 110.80 116.90 118.80 119.30 117.40 113.10 110.80 100.40 94.40
3636825.0 | 113.10 111.00 115.60 107.40 105.80 94.50 84.40 102.70 111.40
3636575.0 | 118.10 104.90 103.70 99.60 80.80 99.00 117.00 115.40 120.00
3636325.0 | 105.90 84.30 90.00 77.20 101.50 96.10 113.90 117.50 120.20
3636075.0 | 70.40 96.00 105.00 88.50 115.10 116.40 117.10 117.20 118.20

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*** AERMOD - VERSION 18081 *** *** F:\Work\STP 29 - 3 Roots\IAQ_GHG\PM Modeling\3Roots\3Roots.isc ***
03/20/19
*** AERMET - VERSION 14134 *** ***                               *** 10:12:43
                               PAGE 23
*** MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

* ELEVATION HEIGHTS IN METERS *

Y-COORD | X-COORD (METERS)
(METERS) | 484000.0 484250.0 484500.0 484750.0 485000.0 485250.0 485500.0 485750.0
486000.0
-----
3642325.0 | 111.90 93.60 78.40 101.00 124.00 127.50 128.60 127.60 130.10
3642075.0 | 69.30 76.50 121.80 124.20 126.00 128.00 128.80 124.00 129.20
3641825.0 | 91.90 123.10 109.20 122.90 121.40 128.40 129.50 126.60 130.50
3641575.0 | 122.10 124.80 100.30 122.90 126.20 127.50 128.60 129.70 129.00
3641325.0 | 122.10 124.70 124.70 124.80 125.20 125.40 127.00 128.00 130.60
3641075.0 | 123.60 123.50 124.50 124.00 128.00 124.30 122.40 122.40 126.60
3640825.0 | 114.30 122.60 121.20 123.30 123.40 122.60 123.70 128.60 128.90
3640575.0 | 104.80 120.10 121.80 120.70 100.20 123.90 123.60 128.30 128.70
3640325.0 | 87.80 83.40 88.40 119.30 122.20 122.50 127.60 128.40 112.80
3640075.0 | 95.20 99.90 103.00 108.50 125.30 127.00 128.10 126.30 81.70
3639825.0 | 110.40 95.00 109.90 74.10 97.70 119.30 83.60 104.60 102.40
3639575.0 | 110.80 94.30 90.80 69.30 77.00 89.10 86.00 120.00 126.80
3639325.0 | 92.00 74.30 68.20 78.50 80.50 84.90 114.50 119.20 123.40
3639075.0 | 77.00 93.90 103.90 108.00 115.10 125.40 125.60 123.30 125.00
3638825.0 | 121.30 114.00 111.00 121.10 123.40 127.40 133.20 127.30 130.20

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### 3Roots Project AERMOD Output File

3638575.00	122.60	125.60	122.20	122.20	126.70	128.30	132.60	132.40	134.50
3638325.00	123.20	115.80	119.50	119.70	126.30	129.20	131.60	132.00	132.50
3638075.00	103.40	114.20	121.50	123.90	126.70	126.10	130.00	131.50	129.30
3637825.00	123.80	126.20	128.10	129.00	130.90	131.40	130.10	116.50	115.50
3637575.00	120.80	123.70	124.10	126.20	120.50	105.40	111.80	127.90	134.20
3637325.00	118.10	112.80	98.40	104.50	120.10	126.60	131.90	132.60	134.10
3637075.00	92.90	107.90	117.00	109.70	128.60	127.30	127.30	125.20	133.00
3636825.00	117.90	125.50	126.70	128.20	129.80	129.60	131.30	131.70	134.20
3636575.00	120.60	124.60	133.10	129.30	130.30	130.70	131.90	133.10	133.40
3636325.00	119.80	126.00	129.50	130.80	130.20	129.90	130.70	131.00	130.20
3636075.00	120.40	124.10	131.00	128.90	128.10	129.60	128.30	128.30	132.30

\* ELEVATION HEIGHTS IN METERS \*

Y-COORD (METERS)	488500.00	488750.00	489000.00	489250.00
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3642325.00	148.20	146.90	157.90	164.30
3642075.00	150.80	154.00	157.30	153.10
3641825.00	153.50	156.70	162.00	165.40
3641575.00	153.20	157.00	163.20	164.90
3641325.00	153.40	157.20	159.30	154.50
3641075.00	151.80	153.90	146.50	158.20
3640825.00	144.90	144.30	141.10	154.20
3640575.00	133.40	144.00	153.80	156.70
3640325.00	131.60	138.40	142.50	146.10
3640075.00	136.10	137.30	145.90	157.30
3639825.00	148.30	148.00	135.00	151.30
3639575.00	150.40	154.70	156.60	151.00
3639325.00	151.30	152.90	157.20	150.60
3639075.00	149.30	152.20	154.40	154.60
3638825.00	147.70	149.60	152.20	152.60
3638575.00	147.90	148.30	150.40	149.30
3638325.00	142.80	144.60	147.80	149.00
3638075.00	140.30	142.40	151.80	148.40
3637825.00	145.80	148.40	149.30	149.90
3637575.00	148.10	149.20	151.10	152.60
3637325.00	147.50	149.40	151.30	153.40
3637075.00	147.40	149.30	150.80	144.50
3636825.00	146.90	142.80	137.90	134.80
3636575.00	131.00	130.10	147.60	149.90
3636325.00	132.60	145.50	146.30	145.10
3636075.00	141.70	143.80	142.40	144.30

\*\*\* AERMOD - VERSION 18081 \*\*\* F:\Work\STP 29 - 3 Roots\AQ\_GHG\PM Modeling\3Roots\3Roots.isc \*\*\*  
03/20/19

\*\*\* AERMET - VERSION 14134 \*\*\*

\*\*\* 10:12:43

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\*\*\* MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL

\*\*\* NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART \*\*\*

\* ELEVATION HEIGHTS IN METERS \*

Y-COORD (METERS)	486250.00	486500.00	486750.00	487000.00	487250.00	487500.00	487750.00	488000.00
---------------------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------

3642325.00	133.40	129.40	131.80	132.20	131.20	134.40	140.90	143.50
3642075.00	133.20	132.90	133.80	133.60	136.10	136.00	141.80	143.80
3641825.00	132.40	133.20	134.70	134.20	137.50	137.90	140.30	144.80
3641575.00	132.30	132.20	133.60	133.50	137.00	139.30	143.00	146.10
3641325.00	131.00	130.10	133.50	133.60	138.40	140.00	142.20	146.20
3641075.00	131.40	134.00	135.50	135.50	137.50	139.60	142.80	145.80
3640825.00	131.40	134.20	135.30	135.70	137.50	138.60	142.70	144.30
3640575.00	131.10	133.70	134.70	135.00	137.50	139.20	135.00	130.70
3640325.00	114.70	119.70	116.00	121.20	130.70	130.60	117.00	115.70
3640075.00	91.20	79.30	103.20	94.60	108.70	127.70	116.80	125.30
3639825.00	104.10	114.90	133.70	134.60	123.50	133.10	140.10	143.70
3639575.00	132.40	132.50	134.00	134.50	137.20	139.00	141.80	145.50
3639325.00	132.30	132.10	134.40	135.70	137.70	141.90	144.70	146.80
3639075.00	127.30	133.10	134.00	134.80	139.00	141.70	142.40	145.90
3638825.00	134.30	132.90	135.00	136.90	138.10	140.10	142.60	144.70
3638575.00	135.20	135.90	137.10	137.60	138.80	140.50	141.50	144.20
3638325.00	133.50	134.80	135.40	136.70	137.20	138.00	140.60	142.00
3638075.00	131.20	132.50	131.50	126.40	128.50	136.50	137.20	137.20
3637825.00	122.60	129.20	132.20	132.40	136.00	138.10	140.10	142.20
3637575.00	135.30	135.30	136.60	138.00	140.60	141.80	142.40	144.00
3637325.00	135.90	136.70	137.30	138.90	140.40	141.80	143.20	144.40
3637075.00	135.30	137.10	138.00	139.30	139.90	141.80	143.40	144.80
3636825.00	135.10	136.80	138.20	139.30	140.00	141.50	142.40	144.50
3636575.00	133.60	135.50	136.60	136.90	138.80	140.90	142.30	143.20
3636325.00	131.20	134.20	136.20	137.50	138.00	139.50	141.80	142.10
3636075.00	133.80	135.00	136.00	133.20	137.20	138.30	138.60	122.30

\*\*\* AERMOD - VERSION 18081 \*\*\* F:\Work\STP 29 - 3 Roots\AQ\_GHG\PM Modeling\3Roots\3Roots.isc \*\*\*  
03/20/19

\*\*\* AERMET - VERSION 14134 \*\*\*

\*\*\* 10:12:43

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\*\*\* MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL

\*\*\* NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART \*\*\*

\* HILL HEIGHT SCALES IN METERS \*

Y-COORD (METERS)	479500.00	479750.00	480000.00	480250.00	480500.00	480750.00	481000.00	481250.00
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3642325.00	118.70	118.70	118.00	111.90	119.00	120.30	120.30	120.30	123.60
3642075.00	116.40	120.00	119.20	120.30	120.30	120.30	120.30	120.30	119.60
3641825.00	120.00	116.70	119.20	117.90	118.10	120.30	120.30	111.30	111.20
3641575.00	117.30	116.40	119.50	119.20	119.20	120.30	110.10	90.70	105.90
3641325.00	118.10	106.60	119.20	120.10	120.20	119.90	104.50	104.30	108.80
3641075.00	118.10	119.20	120.00	119.80	119.80	119.10	113.50	108.30	111.00
3640825.00	119.80	119.80	119.80	119.80	115.70	118.30	115.70	100.40	102.50
3640575.00	119.80	119.80	119.80	118.30	111.70	119.80	107.70	103.90	103.90
3640325.00	119.80	119.30	116.80	118.30	113.80	113.80	97.30	106.90	106.00
3640075.00	119.80	119.80	119.80	118.00	115.20	115.90	84.30	84.70	102.90
3639825.00	119.80	119.80	119.80	119.80	113.10	116.20	82.80	97.10	96.50
3639575.00	119.80	119.80	119.80	119.80	117.20	116.90	75.60	94.10	91.60

\*\*\* AERMOD - VERSION 18081 \*\*\* F:\Work\STP 29 - 3 Roots\AQ\_GHG\PM Modeling\3Roots\3Roots.isc \*\*\*  
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\*\*\* AERMET - VERSION 14134 \*\*\*

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\*\*\* MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL

\*\*\* NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART \*\*\*





### 3Roots Project AERMOD Output File

3640325.00	136.70	136.70	135.00	136.20	134.70	134.30	139.00	147.00	139.60
3640075.00	136.70	136.70	135.50	137.80	137.20	131.10	141.50	147.00	146.30
3639825.00	134.50	134.50	133.70	134.60	138.50	137.70	140.40	143.70	145.80
3639575.00	132.40	132.50	134.00	134.50	137.20	139.00	143.30	145.50	148.10
3639325.00	132.30	132.10	134.40	135.70	137.70	141.90	144.70	146.80	149.50
3639075.00	127.30	133.10	134.00	134.80	139.00	141.70	142.40	145.90	148.20
3638825.00	134.30	132.90	135.00	136.90	138.10	140.10	142.60	144.70	146.30
3638575.00	135.20	135.90	137.10	137.60	138.80	140.50	141.50	144.20	145.20
3638325.00	133.50	135.50	135.40	136.70	137.20	138.00	140.60	142.00	141.90
3638075.00	131.20	132.50	133.20	136.50	136.10	136.50	137.20	137.20	141.20
3637825.00	133.80	129.70	132.20	132.40	136.00	138.10	140.10	144.50	145.40
3637575.00	135.30	135.30	136.60	138.00	140.60	141.80	142.40	144.00	146.80
3637325.00	135.90	136.70	137.30	138.90	140.40	141.80	143.20	144.40	145.80
3637075.00	135.30	137.10	138.00	139.30	139.90	141.80	143.40	144.80	146.20
3636825.00	135.10	136.80	138.20	139.30	140.00	141.50	142.40	144.50	145.10
3636575.00	133.60	135.50	136.60	136.90	138.80	140.90	142.30	143.20	145.00
3636325.00	131.20	134.20	136.20	137.50	138.00	139.50	141.80	142.10	140.50
3636075.00	133.80	135.00	136.00	133.20	137.20	138.30	138.30	138.60	143.00

\*\*\* AERMOD - VERSION 18081 \*\*\* F:\Work\STP 29 - 3 Roots\AQ\_GHG\PM Modeling\3Roots\3Roots.isc 03/20/19 \*\*\*

\*\*\* AERMET - VERSION 14134 \*\*\*

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\*\*\* MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL

\*\*\* NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART \*\*\*

\* HILL HEIGHT SCALES IN METERS \*

Y-COORD (METERS)	X-COORD (METERS)			
	488500.00	488750.00	489000.00	489250.00

3642325.00	150.00	287.80	297.70	299.80
3642075.00	150.80	155.50	287.80	299.80
3641825.00	153.50	158.30	264.70	287.80
3641575.00	153.20	157.00	163.20	266.60
3641325.00	153.40	157.20	160.00	160.20
3641075.00	151.80	153.90	157.00	158.20
3640825.00	144.90	149.20	154.70	158.50
3640575.00	133.40	153.20	153.80	156.70
3640325.00	131.60	147.60	142.50	146.10
3640075.00	146.10	144.70	145.90	157.30
3639825.00	148.30	148.00	159.20	162.10
3639575.00	150.40	154.70	156.60	151.00
3639325.00	151.30	152.90	157.20	157.40
3639075.00	149.30	152.20	154.40	154.60
3638825.00	147.70	149.60	152.20	152.60
3638575.00	147.90	148.30	150.40	149.30
3638325.00	142.80	145.60	147.80	149.00
3638075.00	140.30	151.00	152.80	153.40
3637825.00	145.80	148.40	149.30	149.90
3637575.00	148.10	149.20	151.10	152.60
3637325.00	147.50	149.40	151.30	153.40
3637075.00	147.40	149.30	150.80	151.40
3636825.00	146.90	146.40	149.60	153.40
3636575.00	147.00	147.50	148.50	149.90
3636325.00	144.00	145.50	146.30	145.10
3636075.00	141.70	143.80	142.40	144.30

\*\*\* AERMOD - VERSION 18081 \*\*\* F:\Work\STP 29 - 3 Roots\AQ\_GHG\PM Modeling\3Roots\3Roots.isc 03/20/19 \*\*\*

\*\*\* AERMET - VERSION 14134 \*\*\*

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\*\*\* MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL

\*\*\* GRIDDED RECEPTOR NETWORK SUMMARY \*\*\*

\*\*\* NETWORK ID: UCART2 ; NETWORK TYPE: GRIDCART \*\*\*

\*\*\* X-COORDINATES OF GRID (METERS)

484040.0	484090.0	484140.0	484190.0	484240.0	484290.0	484340.0	484390.0	484440.0	484490.0
484540.0	484590.0	484640.0	484690.0	484740.0	484790.0	484840.0	484890.0	484940.0	484990.0
485040.0	485090.0	485140.0	485190.0	485240.0	485290.0	485340.0	485390.0	485440.0	485490.0
485540.0	485590.0	485640.0	485690.0	485740.0	485790.0	485840.0	485890.0	485940.0	485990.0
486040.0	486090.0								

\*\*\* Y-COORDINATES OF GRID (METERS)

3639450.0	3639500.0	3639550.0	3639600.0	3639650.0	3639700.0	3639750.0	3639800.0	3639850.0	3639900.0
3639950.0	3640000.0	3640050.0	3640100.0	3640150.0	3640200.0	3640250.0	3640300.0		

\*\*\* AERMOD - VERSION 18081 \*\*\* F:\Work\STP 29 - 3 Roots\AQ\_GHG\PM Modeling\3Roots\3Roots.isc 03/20/19 \*\*\*

\*\*\* AERMET - VERSION 14134 \*\*\*

\*\*\* 10:12:43

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\*\*\* MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL

\*\*\* NETWORK ID: UCART2 ; NETWORK TYPE: GRIDCART \*\*\*

\* ELEVATION HEIGHTS IN METERS \*

Y-COORD (METERS)	X-COORD (METERS)								
484440.00	484040.00	484090.00	484140.00	484190.00	484240.00	484290.00	484340.00	484390.00	

3640300.00	86.50	78.70	78.60	84.20	91.90	95.00	95.80	95.60	88.40
3640250.00	76.40	79.70	91.70	107.40	116.60	119.50	118.80	114.40	110.90
3640200.00	87.40	104.20	112.00	113.70	112.20	105.00	102.00	91.50	90.50
3640150.00	88.60	105.50	115.80	110.30	101.00	99.10	100.80	98.00	90.00
3640100.00	90.90	106.10	116.10	109.60	98.70	98.10	99.90	98.30	102.50
3640050.00	93.10	103.50	116.70	117.80	97.60	97.30	98.40	108.00	103.70
3640000.00	95.10	99.50	118.20	124.20	97.70	95.90	96.60	106.00	105.00
3639950.00	105.60	95.70	110.90	123.70	96.50	97.90	100.80	100.50	108.40
3639900.00	109.40	97.70	96.20	102.90	93.80	95.00	93.90	97.10	99.90
3639850.00	109.30	109.00	96.90	97.10	94.90	93.60	92.90	92.20	92.80
3639800.00	110.20	109.50	108.40	96.00	96.00	92.60	93.30	92.20	108.20
3639750.00	109.90	109.40	108.70	110.80	94.00	94.70	93.20	91.90	107.00
3639700.00	109.70	109.90	109.40	116.50	96.50	92.20	92.00	94.30	96.90
3639650.00	109.60	108.80	106.50	101.00	96.80	89.50	91.00	101.10	101.50
3639600.00	109.30	98.20	93.50	89.60	87.40	87.30	88.00	91.40	93.70
3639550.00	104.00	108.80	111.10	106.70	103.30	90.80	84.60	91.80	99.20
3639500.00	113.70	113.90	112.80	108.60	107.10	88.70	82.10	95.30	89.20
3639450.00	113.90	114.00	113.50	101.20	105.00	83.40	81.00	89.30	88.40

\*\*\* AERMOD - VERSION 18081 \*\*\* F:\Work\STP 29 - 3 Roots\AQ\_GHG\PM Modeling\3Roots\3Roots.isc 03/20/19 \*\*\*

### 3Roots Project AERMOD Output File

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*** AERMET - VERSION 14134 *** ***
                                     *** 10:12:43
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*** MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL

*** NETWORK ID: UCART2 ; NETWORK TYPE: GRIDCART ***

* ELEVATION HEIGHTS IN METERS *

Y-COORD | X-COORD (METERS)
(METERS) | 484490.00 484540.00 484590.00 484640.00 484690.00 484740.00 484790.00 484840.00
484890.00

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3640300.00	99.80	104.80	112.10	117.00	122.60	122.30	121.70	121.70	121.80
3640250.00	95.70	94.80	112.00	121.90	122.50	122.50	122.20	122.80	122.50
3640200.00	110.40	113.90	98.40	111.80	109.70	116.50	122.80	122.90	123.80
3640150.00	88.40	113.00	120.70	104.10	114.50	115.20	117.50	123.00	123.70
3640100.00	91.40	86.60	93.50	121.30	110.90	113.00	121.10	123.90	123.70
3640050.00	105.50	101.50	86.10	86.40	92.60	118.50	113.80	114.40	120.60
3640000.00	110.70	101.20	86.70	86.40	85.50	84.40	87.10	123.70	120.50
3639950.00	113.90	94.70	87.90	87.40	86.00	83.80	82.80	84.00	98.30
3639900.00	112.10	93.40	94.50	93.00	87.70	83.10	85.90	91.20	92.40
3639850.00	109.90	92.60	92.70	92.70	90.70	88.50	82.20	78.90	125.50
3639800.00	107.30	95.20	92.90	89.00	94.70	72.70	71.10	116.80	101.10
3639750.00	106.10	107.80	93.10	94.90	94.20	70.20	72.00	120.10	76.80
3639700.00	95.60	92.90	86.70	94.00	86.20	69.80	86.70	110.00	77.00
3639650.00	102.90	93.10	91.40	93.20	78.60	69.00	117.30	99.60	71.30
3639600.00	95.80	101.00	90.70	90.80	73.90	68.70	107.70	82.50	72.60
3639550.00	90.20	91.10	98.40	86.40	81.20	70.90	76.70	77.70	76.80
3639500.00	94.60	96.10	85.70	85.90	78.30	77.60	76.00	78.50	78.50
3639450.00	87.20	86.40	84.20	80.50	76.10	75.00	78.70	78.80	79.80

```

*** AERMOD - VERSION 18081 *** *** F:\Work\STP 29 - 3 Roots\AQ_GHG\PM Modeling\3Roots\3Roots.isc ***
03/20/19
*** AERMET - VERSION 14134 *** ***
                                     *** 10:12:43
                                     PAGE 34
*** MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL

*** NETWORK ID: UCART2 ; NETWORK TYPE: GRIDCART ***

* ELEVATION HEIGHTS IN METERS *

Y-COORD | X-COORD (METERS)
(METERS) | 484940.00 484990.00 485040.00 485090.00 485140.00 485190.00 485240.00 485290.00
485340.00

```

3640300.00	122.40	122.70	123.30	122.20	122.90	122.40	123.80	123.30	125.00
3640250.00	124.50	123.80	124.00	123.60	124.30	124.10	123.70	124.10	124.90
3640200.00	124.40	125.10	124.10	124.90	124.40	124.90	124.30	125.70	125.00
3640150.00	124.70	125.00	125.60	124.70	125.30	125.70	125.60	125.90	126.40
3640100.00	124.00	125.50	125.50	125.40	127.10	125.70	125.60	125.90	126.30
3640050.00	124.60	125.00	125.20	127.50	126.90	126.50	126.20	126.70	127.10
3640000.00	117.70	123.20	124.90	125.90	126.50	126.70	126.90	127.00	127.20
3639950.00	117.70	124.60	124.10	125.40	126.10	126.40	126.80	127.00	127.10
3639900.00	122.40	124.80	125.70	125.50	126.10	126.20	126.50	127.00	127.00
3639850.00	103.60	102.50	121.30	126.50	126.30	126.30	125.10	124.80	120.70
3639800.00	95.80	83.40	108.90	123.30	122.20	115.30	104.10	98.60	
3639750.00	76.20	77.20	92.20	103.60	107.60	97.40	93.50	96.20	87.80
3639700.00	75.20	75.40	76.70	81.00	84.40	85.50	84.80	84.10	81.90
3639650.00	72.80	74.40	77.70	82.20	81.00	82.80	86.40	82.50	83.10

```

3639600.00 | 79.90 79.70 78.70 80.50 84.70 82.10 91.40 89.30 83.00
3639550.00 | 76.00 79.60 81.30 81.80 87.60 89.90 82.50 82.80 83.30
3639500.00 | 78.60 81.80 83.60 82.70 83.00 82.80 82.90 85.10 83.70
3639450.00 | 81.10 82.00 82.50 82.70 87.90 85.40 85.40 85.50 85.70

*** AERMOD - VERSION 18081 *** *** F:\Work\STP 29 - 3 Roots\AQ_GHG\PM Modeling\3Roots\3Roots.isc ***
03/20/19
*** AERMET - VERSION 14134 *** ***
                                     *** 10:12:43
                                     PAGE 35
*** MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL

*** NETWORK ID: UCART2 ; NETWORK TYPE: GRIDCART ***

* ELEVATION HEIGHTS IN METERS *

Y-COORD | X-COORD (METERS)
(METERS) | 485390.00 485440.00 485490.00 485540.00 485590.00 485640.00 485690.00 485740.00
485790.00

```

3640300.00	124.70	125.10	125.80	127.90	128.80	129.90	130.10	129.50	112.70
3640250.00	124.80	124.80	125.60	128.20	128.80	129.30	130.00	128.60	87.80
3640200.00	124.70	125.40	126.40	128.80	128.60	129.50	129.90	128.50	86.20
3640150.00	126.70	127.20	127.50	128.30	128.40	127.80	130.20	128.90	108.70
3640100.00	126.70	127.10	127.60	127.70	128.30	127.40	126.30	128.60	107.90
3640050.00	127.40	127.80	127.90	127.40	126.70	127.20	120.70	117.40	120.60
3640000.00	127.40	127.80	128.20	127.90	123.80	127.80	122.50	111.80	106.50
3639950.00	127.20	127.30	119.40	126.00	107.90	107.00	96.90	91.40	88.90
3639900.00	118.90	124.10	113.00	104.00	95.00	85.20	85.30	86.20	86.50
3639850.00	109.90	100.70	94.10	83.70	84.20	84.70	87.60	93.70	98.70
3639800.00	92.00	87.80	82.70	82.90	88.50	93.00	99.80	118.60	117.90
3639750.00	84.20	84.40	86.60	87.20	91.50	92.00	103.50	118.70	114.10
3639700.00	85.60	91.10	85.30	88.50	87.00	96.00	103.20	112.40	119.50
3639650.00	83.70	84.10	86.30	85.90	86.30	111.20	118.80	119.60	119.80
3639600.00	84.00	91.80	84.50	85.40	101.50	118.00	119.10	119.70	119.80
3639550.00	83.90	83.30	83.80	91.50	116.30	118.00	119.20	119.90	120.90
3639500.00	88.40	83.60	84.10	105.50	117.70	117.90	119.90	120.50	121.80
3639450.00	84.30	83.80	94.40	114.90	115.00	116.90	118.10	120.30	121.60

```

*** AERMOD - VERSION 18081 *** *** F:\Work\STP 29 - 3 Roots\AQ_GHG\PM Modeling\3Roots\3Roots.isc ***
03/20/19
*** AERMET - VERSION 14134 *** ***
                                     *** 10:12:43
                                     PAGE 36
*** MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL

*** NETWORK ID: UCART2 ; NETWORK TYPE: GRIDCART ***

* ELEVATION HEIGHTS IN METERS *

Y-COORD | X-COORD (METERS)
(METERS) | 485840.00 485890.00 485940.00 485990.00 486040.00 486090.00

```

3640300.00	112.70	99.20	97.40	97.50	90.70	94.20			
3640250.00	87.00	96.80	90.40	83.10	84.40	71.90			
3640200.00	80.30	85.20	83.40	82.60	81.90	80.80			
3640150.00	101.10	92.60	80.70	82.30	81.60	80.50			
3640100.00	96.20	92.10	76.60	81.60	83.60	81.40			
3640050.00	112.00	102.50	89.20	84.90	91.80	100.60			
3640000.00	102.50	97.00	97.10	91.00	90.80	92.20			
3639950.00	88.60	88.30	88.60	95.80	97.30	91.00			

### 3Roots Project AERMOD Output File

3639900.00	91.70	96.70	104.30	99.50	99.10	92.70			
3639850.00	108.60	114.00	111.70	102.00	100.10	98.70			
3639800.00	117.70	115.80	114.40	104.10	99.50	100.70			
3639750.00	113.20	118.30	118.60	118.90	120.00	123.50			
3639700.00	125.40	126.70	129.80	130.10	130.70	133.70			
3639650.00	129.70	130.40	130.90	131.10	131.20	133.20			
3639600.00	130.60	130.40	130.90	128.10	129.70	130.50			
3639550.00	126.40	124.50	125.40	126.50	126.50	132.20			
3639500.00	122.80	124.40	125.20	125.90	125.90	132.00			
3639450.00	122.00	123.90	123.60	124.90	125.00	132.40			

\*\*\* AERMOD - VERSION 18081 \*\*\* F:\Work\STP 29 - 3 Roots\AQ\_GHG\PM Modeling\3Roots\3Roots.isc 03/20/19 \*\*\*  
 \*\*\* AERMET - VERSION 14134 \*\*\* PAGE 37 \*\*\* 10:12:43  
 \*\*\* MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL

\*\*\* NETWORK ID: UCART2 ; NETWORK TYPE: GRIDCART \*\*\*

\* HILL HEIGHT SCALES IN METERS \*

Y-COORD (METERS)	X-COORD (METERS)								
484400.00	484040.00	484090.00	484140.00	484190.00	484240.00	484290.00	484340.00	484390.00	484440.00

3640300.00	124.70	126.50	126.50	126.50	124.70	123.20	121.80	122.60	124.80
3640250.00	126.50	126.50	124.60	121.40	121.40	121.10	119.00	118.60	112.40
3640200.00	124.60	121.40	117.00	121.40	121.40	121.40	121.40	124.60	124.60
3640150.00	124.60	124.50	115.80	121.40	124.60	124.60	124.60	124.60	124.60
3640100.00	124.60	124.60	116.10	124.60	124.60	124.60	124.60	124.60	121.60
3640050.00	124.60	124.60	124.50	124.60	124.60	124.60	124.60	111.90	121.60
3640000.00	124.60	124.60	124.60	124.20	124.60	124.60	124.60	111.90	116.10
3639950.00	124.60	124.60	124.60	124.10	124.60	124.60	124.60	124.60	116.10
3639900.00	123.70	124.60	124.60	124.60	124.60	124.60	124.60	124.60	116.10
3639850.00	109.30	124.50	124.60	124.60	124.60	124.60	124.60	124.60	124.60
3639800.00	110.20	109.50	116.40	124.60	124.60	124.60	124.60	124.60	109.60
3639750.00	109.90	116.30	117.00	117.00	124.60	124.60	124.60	124.60	109.20
3639700.00	109.70	109.90	117.00	117.00	124.60	124.60	124.60	117.00	109.90
3639650.00	111.10	108.80	117.00	117.00	124.60	117.00	102.80	106.40	106.40
3639600.00	109.30	117.00	117.00	117.00	124.50	124.10	117.00	117.00	109.90
3639550.00	116.40	116.40	116.40	116.40	116.40	117.00	117.00	117.00	101.20
3639500.00	113.70	113.90	116.40	116.40	116.30	117.00	117.00	95.50	106.40
3639450.00	113.90	114.00	113.50	116.40	116.20	117.00	117.00	116.40	101.30

\*\*\* AERMOD - VERSION 18081 \*\*\* F:\Work\STP 29 - 3 Roots\AQ\_GHG\PM Modeling\3Roots\3Roots.isc 03/20/19 \*\*\*  
 \*\*\* AERMET - VERSION 14134 \*\*\* PAGE 38 \*\*\* 10:12:43  
 \*\*\* MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL

\*\*\* NETWORK ID: UCART2 ; NETWORK TYPE: GRIDCART \*\*\*

\* HILL HEIGHT SCALES IN METERS \*

Y-COORD (METERS)	X-COORD (METERS)								
484890.00	484490.00	484540.00	484590.00	484640.00	484690.00	484740.00	484790.00	484840.00	484890.00

3640300.00	123.20	123.20	123.20	123.20	122.60	122.30	121.70	121.70	121.80
------------	--------	--------	--------	--------	--------	--------	--------	--------	--------

3640250.00	124.20	124.20	123.20	121.90	122.50	122.50	122.20	122.80	122.50
3640200.00	121.20	121.20	125.80	123.20	124.20	124.20	122.80	122.90	123.80
3640150.00	127.80	121.60	120.70	126.30	122.30	123.70	123.80	123.00	123.70
3640100.00	126.30	128.60	128.60	122.30	126.30	126.70	123.50	123.90	123.70
3640050.00	122.30	122.30	128.80	128.80	128.80	126.30	128.60	128.80	128.00
3640000.00	110.70	122.30	128.80	128.80	128.80	128.80	128.80	127.80	128.80
3639950.00	116.10	127.80	128.80	128.80	128.80	128.80	128.80	128.80	128.80
3639900.00	115.00	127.80	128.60	128.80	128.80	128.80	128.80	128.80	128.80
3639850.00	112.70	127.80	128.60	128.80	128.80	128.80	128.80	128.80	127.60
3639800.00	111.50	116.10	128.00	128.80	128.80	128.80	128.80	127.60	128.80
3639750.00	109.90	108.30	127.60	127.80	128.80	128.80	128.80	126.20	128.80
3639700.00	112.70	125.60	128.00	127.60	128.80	128.80	128.80	127.60	128.80
3639650.00	106.40	120.00	127.40	127.60	128.80	128.80	120.00	127.60	128.80
3639600.00	106.40	101.00	126.20	127.60	128.80	128.80	125.20	128.80	128.80
3639550.00	106.40	120.00	119.80	127.60	127.60	128.80	128.80	128.80	128.80
3639500.00	101.20	96.10	126.20	127.40	127.60	128.80	128.80	128.80	128.80
3639450.00	101.60	120.00	125.20	127.40	127.60	127.60	127.60	127.60	127.60

\*\*\* AERMOD - VERSION 18081 \*\*\* F:\Work\STP 29 - 3 Roots\AQ\_GHG\PM Modeling\3Roots\3Roots.isc 03/20/19 \*\*\*  
 \*\*\* AERMET - VERSION 14134 \*\*\* PAGE 39 \*\*\* 10:12:43  
 \*\*\* MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL

\*\*\* NETWORK ID: UCART2 ; NETWORK TYPE: GRIDCART \*\*\*

\* HILL HEIGHT SCALES IN METERS \*

Y-COORD (METERS)	X-COORD (METERS)								
485340.00	484940.00	484990.00	485040.00	485090.00	485140.00	485190.00	485240.00	485290.00	485340.00

3640300.00	122.40	122.70	123.30	122.20	123.70	122.40	123.80	123.30	125.00
3640250.00	124.50	123.80	124.00	123.60	124.30	124.10	123.70	125.90	124.90
3640200.00	124.40	125.10	124.10	124.90	124.40	124.90	124.30	125.70	125.00
3640150.00	124.70	125.00	125.60	124.70	125.30	125.70	125.60	125.90	126.40
3640100.00	124.00	125.50	125.50	125.40	127.10	125.70	125.60	125.90	126.30
3640050.00	124.60	125.00	125.20	127.50	126.90	126.50	126.20	126.70	127.10
3640000.00	128.80	125.60	124.90	127.60	126.50	126.70	126.90	127.00	127.20
3639950.00	128.80	124.60	124.10	125.40	126.10	126.40	126.80	127.00	127.10
3639900.00	128.80	125.90	125.70	125.50	126.10	126.20	126.50	127.00	127.00
3639850.00	128.80	128.80	126.60	126.50	126.30	126.30	125.10	124.80	127.30
3639800.00	128.80	128.80	128.80	124.00	125.10	125.70	127.10	128.70	128.70
3639750.00	128.80	128.80	128.80	127.60	126.80	127.80	128.70	128.70	128.70
3639700.00	128.80	128.80	128.80	128.80	128.80	128.80	128.80	128.80	128.70
3639650.00	128.80	128.80	128.80	128.80	128.80	128.80	128.70	128.70	128.70
3639600.00	128.80	128.80	128.80	128.80	128.80	128.80	127.40	127.50	128.70
3639550.00	128.80	128.80	128.80	128.80	127.60	127.30	127.80	128.70	128.70
3639500.00	128.80	128.80	127.60	127.60	127.60	127.40	127.40	127.40	127.40
3639450.00	127.60	127.60	127.60	127.40	126.50	126.60	132.50	132.50	127.30

\*\*\* AERMOD - VERSION 18081 \*\*\* F:\Work\STP 29 - 3 Roots\AQ\_GHG\PM Modeling\3Roots\3Roots.isc 03/20/19 \*\*\*  
 \*\*\* AERMET - VERSION 14134 \*\*\* PAGE 40 \*\*\* 10:12:43  
 \*\*\* MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL

\*\*\* NETWORK ID: UCART2 ; NETWORK TYPE: GRIDCART \*\*\*

\* HILL HEIGHT SCALES IN METERS \*



### 3Roots Project AERMOD Output File

```

09 01 01 1 14 123.1 0.388 1.276 0.007 601. 579. -42.1 0.19 1.32 0.21 3.36 289. 10.0 289.9 2.0
09 01 01 1 15 80.6 0.385 1.155 0.007 681. 574. -63.2 0.21 1.32 0.24 3.36 312. 10.0 289.9 2.0
09 01 01 1 16 21.3 0.314 0.746 0.007 694. 426. -129.9 0.21 1.32 0.33 2.86 304. 10.0 287.5 2.0
09 01 01 1 17 -999.0 -9.000 -9.000 -9.000 -999. -999. -999999.0 0.25 1.32 0.61 999.00 999. -9.0 283.8 2.0
09 01 01 1 18 -999.0 -9.000 -9.000 -9.000 -999. -999. -999999.0 0.25 1.32 1.00 0.00 0. 10.0 283.1 2.0
09 01 01 1 19 -999.0 -9.000 -9.000 -9.000 -999. -999. -999999.0 0.25 1.32 1.00 0.00 0. 10.0 283.1 2.0
09 01 01 1 20 -999.0 -9.000 -9.000 -9.000 -999. -999. -999999.0 0.25 1.32 1.00 0.00 0. 10.0 282.5 2.0
09 01 01 1 21 -999.0 -9.000 -9.000 -9.000 -999. -999. -999999.0 0.25 1.32 1.00 0.00 0. 10.0 282.5 2.0
09 01 01 1 22 -999.0 -9.000 -9.000 -9.000 -999. -999. -999999.0 0.25 1.32 1.00 0.00 0. 10.0 282.5 2.0
09 01 01 1 23 -999.0 -9.000 -9.000 -9.000 -999. -999. -999999.0 0.25 1.32 1.00 0.00 0. 10.0 282.0 2.0
09 01 01 1 24 -999.0 -9.000 -9.000 -9.000 -999. -999. -999999.0 0.25 1.32 1.00 0.00 0. 10.0 282.0 2.0

```

```

First hour of profile data
YR MO DY HR HEIGHT F WDIR WSPD AMB_TMP sigmaA sigmaW sigmaV
09 01 01 01 10.0 1 341. 1.76 281.5 99.0 -99.00 -99.00

```

F indicates top of profile (=1) or below (=0)

```

*** AERMOD - VERSION 18081 *** *** F:\Work\STP 29 - 3 Roots\IAQ_GHG\PM Modeling\3Roots\3Roots.isc ***
03/20/19

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*** AERMET - VERSION 14134 *** ***

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10:12:43

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*** MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL

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*** THE PERIOD ( 8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): A0000001 ,A0000002 ,A0000003 ,A0000004 ,A0000005 ,
A0000006 ,A0000007 ,A0000008 ,A0000009 ,A0000010 ,A0000011 ,A0000012 ,A0000013 ,
A0000014 ,A0000015 ,A0000016 ,A0000017 ,A0000018 ,A0000019 ,A0000020 ,A0000042 ,
A0000043 ,A0000044 ,A0000045 ,A0000046 ,A0000047 ,A0000048 ,A0000049 , ...

```

\*\*\* NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART \*\*\*

\*\* CONC OF PM\_10 IN MICROGRAMS/M\*\*3 \*\*

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Y-COORD | X-COORD (METERS)
(METERS) | 479500.00 479750.00 480000.00 480250.00 480500.00 480750.00 481000.00 481250.00
481500.00
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3642325.00 | 0.00035 0.00036 0.00037 0.00038 0.00039 0.00047 0.00051 0.00051 0.00053
3642075.00 | 0.00037 0.00039 0.00041 0.00041 0.00045 0.00048 0.00046 0.00051 0.00058
3641825.00 | 0.00039 0.00039 0.00044 0.00046 0.00049 0.00043 0.00046 0.00054 0.00069
3641575.00 | 0.00040 0.00041 0.00043 0.00048 0.00049 0.00047 0.00056 0.00066 0.00070
3641325.00 | 0.00040 0.00044 0.00044 0.00043 0.00046 0.00050 0.00061 0.00070 0.00074
3641075.00 | 0.00047 0.00047 0.00046 0.00048 0.00051 0.00055 0.00062 0.00067 0.00070
3640825.00 | 0.00053 0.00055 0.00057 0.00063 0.00073 0.00068 0.00074 0.00089 0.00095
3640575.00 | 0.00063 0.00066 0.00078 0.00088 0.00090 0.00090 0.00103 0.00112 0.00120
3640325.00 | 0.00074 0.00085 0.00095 0.00101 0.00104 0.00118 0.00128 0.00137 0.00152
3640075.00 | 0.00076 0.00087 0.00100 0.00103 0.00116 0.00135 0.00147 0.00163 0.00183
3639825.00 | 0.00080 0.00089 0.00102 0.00118 0.00131 0.00146 0.00162 0.00182 0.00207
3639575.00 | 0.00086 0.00093 0.00105 0.00121 0.00138 0.00150 0.00172 0.00196 0.00229
3639325.00 | 0.00094 0.00099 0.00108 0.00124 0.00139 0.00158 0.00180 0.00201 0.00226
3639075.00 | 0.00110 0.00111 0.00130 0.00127 0.00141 0.00166 0.00180 0.00205 0.00223
3638825.00 | 0.00112 0.00125 0.00137 0.00147 0.00150 0.00165 0.00187 0.00229 0.00252
3638575.00 | 0.00116 0.00134 0.00145 0.00156 0.00177 0.00189 0.00204 0.00223 0.00239
3638325.00 | 0.00127 0.00136 0.00148 0.00148 0.00139 0.00161 0.00185 0.00185 0.00207
3638075.00 | 0.00123 0.00129 0.00134 0.00131 0.00121 0.00140 0.00154 0.00173 0.00179
3637825.00 | 0.00111 0.00115 0.00118 0.00118 0.00119 0.00133 0.00136 0.00141 0.00137
3637575.00 | 0.00101 0.00104 0.00108 0.00105 0.00104 0.00109 0.00106 0.00114 0.00107
3637325.00 | 0.00090 0.00092 0.00092 0.00086 0.00082 0.00089 0.00096 0.00102 0.00107

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3637075.00 | 0.00077 0.00075 0.00072 0.00069 0.00072 0.00084 0.00090 0.00093 0.00093
3636825.00 | 0.00063 0.00061 0.00062 0.00067 0.00075 0.00080 0.00083 0.00085 0.00082
3636575.00 | 0.00056 0.00059 0.00064 0.00068 0.00071 0.00072 0.00074 0.00074 0.00071
3636325.00 | 0.00054 0.00059 0.00062 0.00063 0.00064 0.00064 0.00065 0.00065 0.00064
3636075.00 | 0.00054 0.00056 0.00056 0.00057 0.00055 0.00055 0.00055 0.00055 0.00053

```

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*** AERMOD - VERSION 18081 *** *** F:\Work\STP 29 - 3 Roots\IAQ_GHG\PM Modeling\3Roots\3Roots.isc ***
03/20/19

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*** AERMET - VERSION 14134 *** ***

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10:12:43

PAGE 45

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*** MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL

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*** THE PERIOD ( 8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): A0000001 ,A0000002 ,A0000003 ,A0000004 ,A0000005 ,
A0000006 ,A0000007 ,A0000008 ,A0000009 ,A0000010 ,A0000011 ,A0000012 ,A0000013 ,
A0000014 ,A0000015 ,A0000016 ,A0000017 ,A0000018 ,A0000019 ,A0000020 ,A0000042 ,
A0000043 ,A0000044 ,A0000045 ,A0000046 ,A0000047 ,A0000048 ,A0000049 , ...

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\*\*\* NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART \*\*\*

\*\* CONC OF PM\_10 IN MICROGRAMS/M\*\*3 \*\*

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Y-COORD | X-COORD (METERS)
(METERS) | 481750.00 482000.00 482250.00 482500.00 482750.00 483000.00 483250.00 483500.00
483750.00
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3642325.00 | 0.00053 0.00056 0.00059 0.00072 0.00076 0.00069 0.00069 0.00064 0.00062
3642075.00 | 0.00065 0.00069 0.00078 0.00078 0.00088 0.00089 0.00087 0.00076 0.00092
3641825.00 | 0.00078 0.00084 0.00088 0.00090 0.00095 0.00106 0.00108 0.00108 0.00103
3641575.00 | 0.00079 0.00087 0.00099 0.00099 0.00102 0.00110 0.00126 0.00134 0.00134
3641325.00 | 0.00075 0.00079 0.00104 0.00125 0.00140 0.00152 0.00160 0.00150 0.00168
3641075.00 | 0.00078 0.00105 0.00117 0.00131 0.00151 0.00173 0.00186 0.00176 0.00177
3640825.00 | 0.00104 0.00116 0.00125 0.00136 0.00150 0.00167 0.00195 0.00191 0.00193
3640575.00 | 0.00131 0.00143 0.00152 0.00154 0.00160 0.00163 0.00281 0.00247 0.00394
3640325.00 | 0.00168 0.00185 0.00198 0.00199 0.00257 0.00310 0.00389 0.00413 0.00702
3640075.00 | 0.00206 0.00230 0.00261 0.00310 0.00341 0.00411 0.00587 0.00770 0.01104
3639825.00 | 0.00237 0.00274 0.00321 0.00384 0.00470 0.00516 0.00686 0.00955 0.00925
3639575.00 | 0.00262 0.00305 0.00342 0.00394 0.00487 0.00563 0.00815 0.01065 0.00858
3639325.00 | 0.00268 0.00291 0.00333 0.00401 0.00464 0.00579 0.00690 0.00915 0.01282
3639075.00 | 0.00254 0.00309 0.00376 0.00437 0.00509 0.00605 0.00721 0.00860 0.00938
3638825.00 | 0.00286 0.00295 0.00345 0.00399 0.00452 0.00481 0.00470 0.00581 0.00557
3638575.00 | 0.00262 0.00283 0.00306 0.00315 0.00323 0.00362 0.00373 0.00362 0.00312
3638325.00 | 0.00219 0.00224 0.00248 0.00239 0.00248 0.00252 0.00208 0.00274 0.00241
3638075.00 | 0.00183 0.00166 0.00162 0.00198 0.00206 0.00174 0.00138 0.00123 0.00164
3637825.00 | 0.00125 0.00135 0.00132 0.00137 0.00141 0.00114 0.00093 0.00087 0.00076
3637575.00 | 0.00109 0.00119 0.00138 0.00111 0.00101 0.00091 0.00077 0.00069 0.00076
3637325.00 | 0.00101 0.00112 0.00113 0.00103 0.00092 0.00073 0.00062 0.00072 0.00060
3637075.00 | 0.00096 0.00085 0.00079 0.00076 0.00071 0.00066 0.00065 0.00063 0.00060
3636825.00 | 0.00078 0.00078 0.00073 0.00071 0.00063 0.00059 0.00054 0.00051 0.00047
3636575.00 | 0.00064 0.00070 0.00064 0.00058 0.00051 0.00048 0.00038 0.00039 0.00035
3636325.00 | 0.00062 0.00057 0.00052 0.00046 0.00043 0.00040 0.00034 0.00033 0.00031
3636075.00 | 0.00050 0.00047 0.00043 0.00039 0.00033 0.00029 0.00029 0.00030 0.00029

```

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*** AERMOD - VERSION 18081 *** *** F:\Work\STP 29 - 3 Roots\IAQ_GHG\PM Modeling\3Roots\3Roots.isc ***
03/20/19

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*** AERMET - VERSION 14134 *** ***

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10:12:43

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*** MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL

```

\*\*\* THE PERIOD ( 8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL \*\*\*

### 3Roots Project AERMOD Output File

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INCLUDING SOURCE(S): A0000001 ,A0000002 ,A0000003 ,A0000004 ,A0000005 ,
A0000006 ,A0000007 ,A0000008 ,A0000009 ,A0000010 ,A0000011 ,A0000012 ,A0000013 ,
A0000014 ,A0000015 ,A0000016 ,A0000017 ,A0000018 ,A0000019 ,A0000020 ,A0000042 ,
A0000043 ,A0000044 ,A0000045 ,A0000046 ,A0000047 ,A0000048 ,A0000049 , ... ,

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

Y-COORD | X-COORD (METERS)
(METERS) | 484000.00 484250.00 484500.00 484750.00 485000.00 485250.00 485500.00 485750.00
486000.00
-----
3642325.00 | 0.00079 0.00084 0.00087 0.00097 0.00082 0.00079 0.00079 0.00081 0.00074
3642075.00 | 0.00092 0.00097 0.00087 0.00089 0.00091 0.00090 0.00090 0.00099 0.00085
3641825.00 | 0.00116 0.00096 0.00125 0.00109 0.00119 0.00104 0.00101 0.00106 0.00093
3641575.00 | 0.00112 0.00111 0.00163 0.00133 0.00127 0.00125 0.00121 0.00113 0.00107
3641325.00 | 0.00138 0.00136 0.00146 0.00158 0.00160 0.00159 0.00147 0.00134 0.00115
3641075.00 | 0.00167 0.00180 0.00189 0.00206 0.00189 0.00199 0.00196 0.00178 0.00145
3640825.00 | 0.00286 0.00248 0.00285 0.00282 0.00273 0.00259 0.00227 0.00182 0.00163
3640575.00 | 0.00535 0.00408 0.00428 0.00433 0.00660 0.00325 0.00294 0.00231 0.00202
3640325.00 | 0.01061 0.01866 0.01917 0.00756 0.00572 0.00480 0.00362 0.00310 0.00446
3640075.00 | 0.03170 0.08898 0.07198 0.02789 0.00864 0.00623 0.00514 0.00481 0.00894
3639825.00 | 0.01712 0.13875 0.05514 0.12736 0.07355 0.01439 0.02907 0.04825 0.05131
3639575.00 | 0.01538 0.03850 0.14185 0.13442 0.13461 0.13508 0.11454 0.01045 0.00612
3639325.00 | 0.01856 0.02909 0.12224 0.11880 0.12301 0.11702 0.01609 0.00797 0.00514
3639075.00 | 0.01123 0.01493 0.01896 0.01684 0.01130 0.00709 0.00632 0.00518 0.00385
3638825.00 | 0.00338 0.00422 0.00628 0.00525 0.00509 0.00454 0.00364 0.00370 0.00278
3638575.00 | 0.00194 0.00164 0.00235 0.00329 0.00336 0.00337 0.00296 0.00268 0.00221
3638325.00 | 0.00129 0.00173 0.00187 0.00254 0.00264 0.00267 0.00252 0.00232 0.00204
3638075.00 | 0.00161 0.00134 0.00131 0.00164 0.00206 0.00242 0.00227 0.00204 0.00199
3637825.00 | 0.00073 0.00067 0.00084 0.00112 0.00143 0.00175 0.00196 0.00285 0.00263
3637575.00 | 0.00064 0.00060 0.00083 0.00104 0.00160 0.00277 0.00283 0.00183 0.00144
3637325.00 | 0.00057 0.00070 0.00113 0.00145 0.00135 0.00140 0.00142 0.00145 0.00134
3637075.00 | 0.00059 0.00064 0.00079 0.00118 0.00089 0.00110 0.00142 0.00160 0.00129
3636825.00 | 0.00043 0.00039 0.00053 0.00066 0.00075 0.00092 0.00109 0.00120 0.00115
3636575.00 | 0.00036 0.00037 0.00039 0.00058 0.00066 0.00078 0.00091 0.00104 0.00107
3636325.00 | 0.00033 0.00033 0.00039 0.00050 0.00060 0.00070 0.00082 0.00097 0.00107
3636075.00 | 0.00030 0.00031 0.00034 0.00049 0.00058 0.00063 0.00077 0.00090 0.00093

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*** AERMOD - VERSION 18081 *** F:\Work\STP 29 - 3 Roots\IAQ_GHG\PM Modeling\3Roots\3Roots.isc ***
03/20/19
*** AERMET - VERSION 14134 *** *** 10:12:43
*** MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL
*** THE PERIOD ( 8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): A0000001 ,A0000002 ,A0000003 ,A0000004 ,A0000005 ,
A0000006 ,A0000007 ,A0000008 ,A0000009 ,A0000010 ,A0000011 ,A0000012 ,A0000013 ,
A0000014 ,A0000015 ,A0000016 ,A0000017 ,A0000018 ,A0000019 ,A0000020 ,A0000042 ,
A0000043 ,A0000044 ,A0000045 ,A0000046 ,A0000047 ,A0000048 ,A0000049 , ... ,

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

Y-COORD | X-COORD (METERS)
(METERS) | 486750.00 486500.00 486750.00 487000.00 487250.00 487500.00 487750.00 488000.00
488250.00
-----
3642325.00 | 0.00023 0.00022 0.00017 0.00015
3642075.00 | 0.00023 0.00021 0.00020 0.00020
3641825.00 | 0.00024 0.00022 0.00019 0.00017
3641575.00 | 0.00026 0.00023 0.00020 0.00020
3641325.00 | 0.00029 0.00027 0.00026 0.00029
3641075.00 | 0.00036 0.00035 0.00039 0.00028
3640825.00 | 0.00048 0.00045 0.00045 0.00033
3640575.00 | 0.00069 0.00051 0.00041 0.00037
3640325.00 | 0.00086 0.00068 0.00058 0.00050
3640075.00 | 0.00075 0.00067 0.00051 0.00039
3639825.00 | 0.00057 0.00052 0.00063 0.00042
3639575.00 | 0.00056 0.00047 0.00042 0.00043
3639325.00 | 0.00055 0.00049 0.00042 0.00044

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3642325.00 | 0.00068 0.00070 0.00062 0.00057 0.00054 0.00046 0.00038 0.00033 0.00028
3642075.00 | 0.00075 0.00069 0.00063 0.00059 0.00050 0.00044 0.00036 0.00031 0.00026
3641825.00 | 0.00083 0.00074 0.00067 0.00060 0.00049 0.00044 0.00038 0.00031 0.00027
3641575.00 | 0.00091 0.00083 0.00072 0.00063 0.00053 0.00046 0.00038 0.00033 0.00029
3641325.00 | 0.00103 0.00095 0.00077 0.00069 0.00055 0.00047 0.00041 0.00036 0.00032
3641075.00 | 0.00116 0.00096 0.00082 0.00071 0.00060 0.00052 0.00046 0.00042 0.00039
3640825.00 | 0.00133 0.00108 0.00092 0.00079 0.00069 0.00064 0.00056 0.00054 0.00050
3640575.00 | 0.00165 0.00132 0.00108 0.00096 0.00085 0.00079 0.00082 0.00084 0.00074
3640325.00 | 0.00349 0.00235 0.00231 0.00183 0.00122 0.00111 0.00151 0.00144 0.00102
3640075.00 | 0.00655 0.00456 0.00390 0.00329 0.00261 0.00143 0.00171 0.00123 0.00076
3639825.00 | 0.01043 0.00473 0.00205 0.00166 0.00192 0.00126 0.00094 0.00077 0.00066
3639575.00 | 0.00385 0.00275 0.00206 0.00167 0.00132 0.00110 0.00091 0.00075 0.00064
3639325.00 | 0.00320 0.00247 0.00188 0.00153 0.00126 0.00100 0.00084 0.00072 0.00062
3639075.00 | 0.00298 0.00209 0.00171 0.00142 0.00114 0.00096 0.00085 0.00073 0.00064
3638825.00 | 0.00212 0.00181 0.00144 0.00120 0.00102 0.00088 0.00076 0.00068 0.00061
3638575.00 | 0.00182 0.00154 0.00125 0.00106 0.00092 0.00079 0.00071 0.00061 0.00055
3638325.00 | 0.00175 0.00144 0.00122 0.00101 0.00088 0.00077 0.00066 0.00059 0.00055
3638075.00 | 0.00167 0.00145 0.00125 0.00120 0.00098 0.00075 0.00067 0.00060 0.00053
3637825.00 | 0.00193 0.00144 0.00122 0.00101 0.00082 0.00070 0.00062 0.00054 0.00046
3637575.00 | 0.00127 0.00115 0.00103 0.00091 0.00073 0.00063 0.00057 0.00051 0.00045
3637325.00 | 0.00117 0.00102 0.00094 0.00085 0.00075 0.00062 0.00054 0.00049 0.00045
3637075.00 | 0.00112 0.00096 0.00084 0.00078 0.00073 0.00064 0.00053 0.00047 0.00042
3636825.00 | 0.00108 0.00093 0.00080 0.00071 0.00068 0.00063 0.00057 0.00047 0.00042
3636575.00 | 0.00106 0.00093 0.00081 0.00071 0.00064 0.00060 0.00056 0.00051 0.00042
3636325.00 | 0.00105 0.00093 0.00080 0.00069 0.00061 0.00056 0.00053 0.00051 0.00048
3636075.00 | 0.00091 0.00087 0.00079 0.00076 0.00061 0.00054 0.00051 0.00051 0.00048

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*** AERMOD - VERSION 18081 *** F:\Work\STP 29 - 3 Roots\IAQ_GHG\PM Modeling\3Roots\3Roots.isc ***
03/20/19
*** AERMET - VERSION 14134 *** *** 10:12:43
*** MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL
*** THE PERIOD ( 8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): A0000001 ,A0000002 ,A0000003 ,A0000004 ,A0000005 ,
A0000006 ,A0000007 ,A0000008 ,A0000009 ,A0000010 ,A0000011 ,A0000012 ,A0000013 ,
A0000014 ,A0000015 ,A0000016 ,A0000017 ,A0000018 ,A0000019 ,A0000020 ,A0000042 ,
A0000043 ,A0000044 ,A0000045 ,A0000046 ,A0000047 ,A0000048 ,A0000049 , ... ,

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

Y-COORD | X-COORD (METERS)
(METERS) | 488500.00 488750.00 489000.00 489250.00
-----
3642325.00 | 0.00023 0.00022 0.00017 0.00015
3642075.00 | 0.00023 0.00021 0.00020 0.00020
3641825.00 | 0.00024 0.00022 0.00019 0.00017
3641575.00 | 0.00026 0.00023 0.00020 0.00020
3641325.00 | 0.00029 0.00027 0.00026 0.00029
3641075.00 | 0.00036 0.00035 0.00039 0.00028
3640825.00 | 0.00048 0.00045 0.00045 0.00033
3640575.00 | 0.00069 0.00051 0.00041 0.00037
3640325.00 | 0.00086 0.00068 0.00058 0.00050
3640075.00 | 0.00075 0.00067 0.00051 0.00039
3639825.00 | 0.00057 0.00052 0.00063 0.00042
3639575.00 | 0.00056 0.00047 0.00042 0.00043
3639325.00 | 0.00055 0.00049 0.00042 0.00044

```

### 3Roots Project AERMOD Output File

```

3639075.00 | 0.00058 0.00051 0.00045 0.00042
3638825.00 | 0.00055 0.00050 0.00045 0.00042
3638575.00 | 0.00050 0.00047 0.00043 0.00041
3638325.00 | 0.00050 0.00045 0.00040 0.00038
3638075.00 | 0.00049 0.00044 0.00036 0.00035
3637825.00 | 0.00042 0.00039 0.00036 0.00033
3637575.00 | 0.00040 0.00036 0.00033 0.00031
3637325.00 | 0.00040 0.00036 0.00032 0.00029
3637075.00 | 0.00040 0.00035 0.00032 0.00032
3636825.00 | 0.00038 0.00039 0.00038 0.00037
3636575.00 | 0.00049 0.00047 0.00033 0.00030
3636325.00 | 0.00048 0.00034 0.00033 0.00032
3636075.00 | 0.00043 0.00036 0.00033 0.00031

```

```

INCLUDING SOURCE(S): A0000001 ,A0000002 ,A0000003 ,A0000004 ,A0000005 ,
A0000006 ,A0000007 ,A0000008 ,A0000009 ,A0000010 ,A0000011 ,A0000012 ,A0000013 ,
A0000014 ,A0000015 ,A0000016 ,A0000017 ,A0000018 ,A0000019 ,A0000020 ,A0000042 ,
A0000043 ,A0000044 ,A0000045 ,A0000046 ,A0000047 ,A0000048 ,A0000049 , ... ,

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\*\*\* NETWORK ID: UCART2 ; NETWORK TYPE: GRIDCART \*\*\*

\*\* CONC OF PM<sub>10</sub> IN MICROGRAMS/M\*\*3 \*\*

Y-COORD (METERS)	484490.00	484540.00	484590.00	484640.00	484690.00	484740.00	484790.00	484840.00
484890.00								

\*\*\* AERMOD - VERSION 18081 \*\*\* \*\* F:\Work\STP 29 - 3 Roots\IAQ\_GHG\PM Modeling\3Roots\3Roots.isc \*\*\*  
03/20/19

\*\*\* AERMET - VERSION 14134 \*\*\* \*\* \*\* \*\* 10:12:43  
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\*\*\* MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL

\*\*\* THE PERIOD ( 8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL \*\*\*  
INCLUDING SOURCE(S): A0000001 ,A0000002 ,A0000003 ,A0000004 ,A0000005 ,  
A0000006 ,A0000007 ,A0000008 ,A0000009 ,A0000010 ,A0000011 ,A0000012 ,A0000013 ,  
A0000014 ,A0000015 ,A0000016 ,A0000017 ,A0000018 ,A0000019 ,A0000020 ,A0000042 ,  
A0000043 ,A0000044 ,A0000045 ,A0000046 ,A0000047 ,A0000048 ,A0000049 , ... ,

\*\*\* NETWORK ID: UCART2 ; NETWORK TYPE: GRIDCART \*\*\*

\*\* CONC OF PM<sub>10</sub> IN MICROGRAMS/M\*\*3 \*\*

Y-COORD (METERS)	484040.00	484090.00	484140.00	484190.00	484240.00	484290.00	484340.00	484390.00
484440.00								

3640300.00	0.02464	0.01852	0.01260	0.00983	0.00765	0.00737	0.00719	0.00690	0.00661
3640250.00	0.08348	0.03923	0.01613	0.00999	0.00903	0.00844	0.00805	0.00749	0.00722
3640200.00	0.03808	0.03151	0.05554	0.01881	0.01807	0.01229	0.00908	0.00849	0.00779
3640150.00	0.11739	0.03684	0.02777	0.04642	0.01825	0.01540	0.01278	0.00972	0.00886
3640100.00	0.12765	0.11939	0.12773	0.02844	0.03342	0.02057	0.01329	0.01096	0.01014
3640050.00	0.06216	0.08222	0.12176	0.11859	0.12012	0.02858	0.02250	0.01872	0.01319
3640000.00	0.04879	0.08833	0.12695	0.12486	0.12138	0.11610	0.11083	0.02526	0.01730
3639950.00	0.04384	0.15425	0.13175	0.13010	0.12698	0.12270	0.11814	0.11261	0.07582
3639900.00	0.04838	0.14715	0.15415	0.14443	0.13206	0.12636	0.12485	0.12588	0.11868
3639850.00	0.05461	0.14583	0.14636	0.14588	0.13944	0.13400	0.12655	0.12203	0.02930
3639800.00	0.06359	0.16967	0.14877	0.13950	0.15960	0.12861	0.12678	0.04020	0.08825
3639750.00	0.06869	0.06338	0.15082	0.16575	0.15672	0.13030	0.12954	0.03757	0.12709
3639700.00	0.15549	0.14967	0.13874	0.15691	0.13887	0.13190	0.13840	0.05698	0.13067
3639650.00	0.08469	0.15074	0.14704	0.15372	0.13523	0.13312	0.04380	0.11128	0.13224
3639600.00	0.14893	0.10031	0.14581	0.14720	0.13465	0.13403	0.06777	0.13811	0.13424
3639550.00	0.13974	0.14469	0.11926	0.14068	0.13751	0.13473	0.13619	0.13646	0.13593
3639500.00	0.15629	0.14332	0.13835	0.13977	0.13586	0.13598	0.13559	0.13636	0.13618
3639450.00	0.13403	0.13611	0.13608	0.13500	0.13398	0.13396	0.13513	0.13508	0.13530

\*\*\* AERMOD - VERSION 18081 \*\*\* \*\* F:\Work\STP 29 - 3 Roots\IAQ\_GHG\PM Modeling\3Roots\3Roots.isc \*\*\*  
03/20/19

\*\*\* AERMET - VERSION 14134 \*\*\* \*\* \*\* \*\* 10:12:43  
PAGE 51

\*\*\* MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL

\*\*\* THE PERIOD ( 8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL \*\*\*  
INCLUDING SOURCE(S): A0000001 ,A0000002 ,A0000003 ,A0000004 ,A0000005 ,  
A0000006 ,A0000007 ,A0000008 ,A0000009 ,A0000010 ,A0000011 ,A0000012 ,A0000013 ,  
A0000014 ,A0000015 ,A0000016 ,A0000017 ,A0000018 ,A0000019 ,A0000020 ,A0000042 ,  
A0000043 ,A0000044 ,A0000045 ,A0000046 ,A0000047 ,A0000048 ,A0000049 , ... ,

\*\*\* NETWORK ID: UCART2 ; NETWORK TYPE: GRIDCART \*\*\*

\*\* CONC OF PM<sub>10</sub> IN MICROGRAMS/M\*\*3 \*\*

Y-COORD (METERS)	484940.00	484990.00	485040.00	485090.00	485140.00	485190.00	485240.00	485290.00
485340.00								

\*\*\* AERMOD - VERSION 18081 \*\*\* \*\* F:\Work\STP 29 - 3 Roots\IAQ\_GHG\PM Modeling\3Roots\3Roots.isc \*\*\*  
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\*\*\* MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL

\*\*\* THE PERIOD ( 8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL \*\*\*

3640300.00	0.00624	0.00595	0.00562	0.00561	0.00529	0.00520	0.00482	0.00475	0.00438
3640250.00	0.00647	0.00633	0.00602	0.00584	0.00549	0.00532	0.00520	0.00498	0.00471
3640200.00	0.00724	0.00672	0.00659	0.00612	0.00595	0.00562	0.00551	0.00510	0.00506
3640150.00	0.00804	0.00749	0.00694	0.00676	0.00631	0.00596	0.00575	0.00549	0.00524
3640100.00	0.00929	0.00823	0.00770	0.00728	0.00655	0.00653	0.00627	0.00598	0.00571
3640050.00	0.01040	0.00939	0.00866	0.00755	0.00726	0.00699	0.00674	0.00638	0.00608
3640000.00	0.01544	0.01132	0.00980	0.00882	0.00813	0.00765	0.00726	0.00695	0.00667

### 3Roots Project AERMOD Output File

```

3639950.00 | 0.01836 0.01237 0.01132 0.00998 0.00912 0.00855 0.00807 0.00772 0.00746
3639900.00 | 0.01905 0.01417 0.01214 0.01112 0.01016 0.00960 0.00913 0.00872 0.00849
3639850.00 | 0.06165 0.04526 0.01617 0.01219 0.01137 0.01080 0.01089 0.01082 0.01229
3639800.00 | 0.13326 0.10949 0.03262 0.01532 0.01447 0.01445 0.01864 0.03262 0.04383
3639750.00 | 0.12386 0.11889 0.11588 0.04665 0.03487 0.06284 0.11349 0.10968 0.11296
3639700.00 | 0.12858 0.12648 0.12381 0.12085 0.11911 0.12085 0.12129 0.12128 0.12029
3639650.00 | 0.13174 0.13110 0.13062 0.13057 0.12781 0.12726 0.12889 0.12570 0.12515
3639600.00 | 0.13589 0.13512 0.13376 0.13303 0.13355 0.13030 0.13894 0.13354 0.12642
3639550.00 | 0.13530 0.13596 0.13584 0.13474 0.13753 0.13883 0.12991 0.12820 0.12626
3639500.00 | 0.13584 0.13670 0.13687 0.13497 0.13346 0.13146 0.12956 0.12871 0.12511
3639450.00 | 0.13556 0.13543 0.13476 0.13356 0.13621 0.13173 0.12952 0.12703 0.12384

```

```

A0000014 , A0000015 , A0000016 , A0000017 , A0000018 , A0000019 , A0000020 , A0000042 ,
A0000043 , A0000044 , A0000045 , A0000046 , A0000047 , A0000048 , A0000049 , ... ,

```

\*\*\* NETWORK ID: UCART2 ; NETWORK TYPE: GRIDCART \*\*\*

\*\* CONC OF PM<sub>10</sub> IN MICROGRAMS/M<sup>3</sup> \*\*

Y-COORD (METERS)	X-COORD (METERS)					
	485840.00	485890.00	485940.00	485990.00	486040.00	486090.00

\*\*\* AERMOD - VERSION 18081 \*\*\* F:\Work\STP 29 - 3 Roots\IAQ\_GHG\IPM Modeling\3Roots\3Roots.isc \*\*\*  
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\*\*\* MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL

\*\*\* THE PERIOD ( 8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL \*\*\*  
INCLUDING SOURCE(S): A0000001 , A0000002 , A0000003 , A0000004 , A0000005 ,  
A0000006 , A0000007 , A0000008 , A0000009 , A0000010 , A0000011 , A0000012 , A0000013 ,  
A0000014 , A0000015 , A0000016 , A0000017 , A0000018 , A0000019 , A0000020 , A0000042 ,  
A0000043 , A0000044 , A0000045 , A0000046 , A0000047 , A0000048 , A0000049 , ... ,

\*\*\* NETWORK ID: UCART2 ; NETWORK TYPE: GRIDCART \*\*\*

\*\* CONC OF PM<sub>10</sub> IN MICROGRAMS/M<sup>3</sup> \*\*

Y-COORD (METERS)	X-COORD (METERS)							
	485390.00	485440.00	485490.00	485540.00	485590.00	485640.00	485690.00	485740.00

485790.00

```

3640300.00 | 0.00511 0.00633 0.00615 0.00595 0.00572 0.00558
3640250.00 | 0.00696 0.00693 0.00664 0.00611 0.00597 0.00527
3640200.00 | 0.00723 0.00728 0.00693 0.00666 0.00640 0.00612
3640150.00 | 0.00866 0.00850 0.00751 0.00737 0.00708 0.00673
3640100.00 | 0.01005 0.00969 0.00825 0.00833 0.00817 0.00761
3640050.00 | 0.00815 0.01097 0.01093 0.01012 0.01045 0.00961
3640000.00 | 0.01352 0.01463 0.01462 0.01407 0.01346 0.01227
3639950.00 | 0.01858 0.01926 0.02110 0.03123 0.02916 0.01815
3639900.00 | 0.04165 0.06538 0.03892 0.05913 0.05548 0.02932
3639850.00 | 0.03698 0.02931 0.03132 0.05311 0.05613 0.03193
3639800.00 | 0.02769 0.02878 0.02929 0.04560 0.05861 0.02850
3639750.00 | 0.03059 0.02499 0.02438 0.02203 0.01970 0.00921
3639700.00 | 0.01037 0.00921 0.00827 0.00766 0.00725 0.00608
3639650.00 | 0.00742 0.00682 0.00648 0.00626 0.00603 0.00542
3639600.00 | 0.00663 0.00627 0.00592 0.00616 0.00568 0.00532
3639550.00 | 0.00706 0.00702 0.00650 0.00603 0.00579 0.00475
3639500.00 | 0.00751 0.00670 0.00620 0.00580 0.00556 0.00449
3639450.00 | 0.00732 0.00647 0.00618 0.00565 0.00540 0.00421

```

\*\*\* AERMOD - VERSION 18081 \*\*\* F:\Work\STP 29 - 3 Roots\IAQ\_GHG\IPM Modeling\3Roots\3Roots.isc \*\*\*  
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\*\*\* MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL

\*\*\* THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL

\*\*\*

INCLUDING SOURCE(S): A0000001 , A0000002 , A0000003 , A0000004 , A0000005 ,  
A0000006 , A0000007 , A0000008 , A0000009 , A0000010 , A0000011 , A0000012 , A0000013 ,  
A0000014 , A0000015 , A0000016 , A0000017 , A0000018 , A0000019 , A0000020 , A0000042 ,  
A0000043 , A0000044 , A0000045 , A0000046 , A0000047 , A0000048 , A0000049 , ... ,

\*\*\* NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART \*\*\*

\*\* CONC OF PM<sub>10</sub> IN MICROGRAMS/M<sup>3</sup> \*\*

Y-COORD (METERS)	X-COORD (METERS)				
	479500.00	479750.00	480000.00	480250.00	480500.00

```

3642325.0 | 0.00500c(13122824) 0.00524b(13110724) 0.00564b(13083024) 0.00638b(13121124)
0.00738b(13121124)
3642075.0 | 0.00676b(13112024) 0.00588b(13031124) 0.00553c(13122824) 0.00549b(13110724)
0.00559b(13083024)
3641825.0 | 0.00725b(13112024) 0.00825b(13112024) 0.00783b(13112024) 0.00649b(13112024)
0.00615c(13122824)
3641575.0 | 0.00763c(13040924) 0.00822c(13040924) 0.00783c(13040924) 0.00819b(13112024)
0.00782b(13112024)
3641325.0 | 0.00647c(13040924) 0.00763c(13040924) 0.00760c(13040924) 0.00757c(13040924)
0.00801c(13040924)

```

\*\*\* AERMOD - VERSION 18081 \*\*\* F:\Work\STP 29 - 3 Roots\IAQ\_GHG\IPM Modeling\3Roots\3Roots.isc \*\*\*  
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\*\*\* MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL

\*\*\* THE PERIOD ( 8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL \*\*\*  
INCLUDING SOURCE(S): A0000001 , A0000002 , A0000003 , A0000004 , A0000005 ,  
A0000006 , A0000007 , A0000008 , A0000009 , A0000010 , A0000011 , A0000012 , A0000013 ,



### 3Roots Project AERMOD Output File

```

3641075.0 | 0.00635c(13040924) 0.00677c(13040924) 0.00686c(13040924) 0.00747c(13040924)
0.00813c(13040924)
3640825.0 | 0.00735c(13122924) 0.00740c(13122924) 0.00738c(13122924) 0.00787c(13040924)
0.00998c(13040924)
3640575.0 | 0.00838c(13122924) 0.00879c(13122924) 0.01060c(13122924) 0.01217c(13122924)
0.01282c(13122924)
3640325.0 | 0.00796c(13020924) 0.00895c(13020924) 0.01017c(13122924) 0.01131c(13122924)
0.01160c(13122924)
3640075.0 | 0.00766c(13020924) 0.00871c(13020924) 0.00992c(13020924) 0.01020c(13020924)
0.01111c(13020924)
3639825.0 | 0.00740c(13032324) 0.00816c(13032324) 0.00918c(13032324) 0.01043c(13032324)
0.01193c(13032324)
3639575.0 | 0.00674b(13092824) 0.00700b(13092824) 0.00772b(13092824) 0.00877b(13092824)
0.00994b(13031024)
3639325.0 | 0.00805b(13092824) 0.00799b(13092824) 0.00823b(13092824) 0.00925b(13031024)
0.01022b(13031024)
3639075.0 | 0.00769c(13013124) 0.00760b(13021124) 0.00940b(13021124) 0.00883b(13021124)
0.00992b(13021124)
3638825.0 | 0.00863b(13021124) 0.01010c(13112324) 0.01180c(13112324) 0.01354c(13112324)
0.01217c(13112324)
3638575.0 | 0.00977c(13112324) 0.01156b(13010424) 0.01305b(13010424) 0.01312b(13010424)
0.01409b(13010424)
3638325.0 | 0.01004b(13021124) 0.01060b(13021124) 0.01205b(13021124) 0.01152b(13021124)
0.01052c(13100724)
3638075.0 | 0.01129c(13100724) 0.01203c(13100724) 0.01182c(13100724) 0.01082c(13112324)
0.00983c(13112324)
3637825.0 | 0.00996c(13112324) 0.01076c(13112324) 0.01073c(13112324) 0.01055c(13112424)
0.01197c(13112424)
3637575.0 | 0.00987c(13112424) 0.01135c(13112424) 0.01276c(13112424) 0.01243c(13112424)
0.01130c(13112424)
3637325.0 | 0.01166c(13112424) 0.01130c(13112424) 0.00979c(13112424) 0.00985b(13111024)
0.01093b(13111024)
3637075.0 | 0.00788c(13112424) 0.00844b(13111024) 0.00948b(13111024) 0.00890b(13111024)
0.00796b(13111024)
3636825.0 | 0.00763b(13111024) 0.00777b(13111024) 0.00742b(13030724) 0.00838b(13030724)
0.00879b(13021424)
3636575.0 | 0.00684b(13030724) 0.00775b(13030724) 0.00782b(13030724) 0.00885b(13021424)
0.01050b(13021424)
3636325.0 | 0.00741b(13030724) 0.00736b(13021424) 0.00876b(13021424) 0.00987b(13021424)
0.01014b(13021424)
3636075.0 | 0.00732b(13021424) 0.00836b(13021424) 0.00899b(13021424) 0.00909b(13021424)
0.00804b(13021424)

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PAGE 55
*** MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL
*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL
***
INCLUDING SOURCE(S): A0000001 , A0000002 , A0000003 , A0000004 , A0000005 ,
A0000006 , A0000007 , A0000008 , A0000009 , A0000010 , A0000011 , A0000012 , A0000013 ,
A0000014 , A0000015 , A0000016 , A0000017 , A0000018 , A0000019 , A0000020 , A0000042 ,
A0000043 , A0000044 , A0000045 , A0000046 , A0000047 , A0000048 , A0000049 , ... ,
*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***
** CONC OF PM_10 IN MICROGRAMS/M**3 **
Y-COORD | X-COORD (METERS)

```

```

(METERS) | 480750.00 481000.00 481250.00 481500.00 481750.00
-----
3642325.0 | 0.00826b(13121124) 0.00762b(13121124) 0.00808 (13092524) 0.00961 (13092524) 0.00910
(13092524)
3642075.0 | 0.00756b(13121124) 0.00779b(13121124) 0.00799b(13121124) 0.00816 (13092524) 0.01106
(13092524)
3641825.0 | 0.00507c(13122824) 0.00561b(13121124) 0.00817b(13121124) 0.01144b(13121124)
0.01173b(13121124)
3641575.0 | 0.00634b(13112024) 0.00623c(13122824) 0.00728c(13122824) 0.00909b(13121124)
0.01209b(13121124)
3641325.0 | 0.00816c(13040924) 0.00913b(13112024) 0.00936b(13112024) 0.00779b(13112024)
0.00735c(13122824)
3641075.0 | 0.00893c(13040924) 0.01020c(13040924) 0.01079c(13040924) 0.01037c(13040924)
0.00986c(13040924)
3640825.0 | 0.00973c(13040924) 0.01093c(13040924) 0.01384c(13040924) 0.01511c(13040924)
0.01605c(13040924)
3640575.0 | 0.01175c(13122924) 0.01361c(13122924) 0.01474c(13122924) 0.01537c(13040924)
0.01742c(13040924)
3640325.0 | 0.01315c(13122924) 0.01434c(13122924) 0.01572c(13122924) 0.01712c(13122924)
0.01875c(13122924)
3640075.0 | 0.01235c(13020924) 0.01296c(13020924) 0.01381c(13020924) 0.01486c(13020924)
0.01609c(13020924)
3639825.0 | 0.01214c(13032324) 0.01289c(13032324) 0.01384c(13032324) 0.01493c(13032324)
0.01601c(13032324)
3639575.0 | 0.01065b(13031024) 0.01213b(13031024) 0.01382b(13031024) 0.01519b(13031024)
0.01735b(13031024)
3639325.0 | 0.01131b(13031024) 0.01253b(13031024) 0.01340b(13031024) 0.01442b(13031024)
0.01666b(13031024)
3639075.0 | 0.01196b(13021124) 0.01283b(13021124) 0.01456c(13112324) 0.01565c(13112324)
0.01749c(13112324)
3638825.0 | 0.01303c(13112324) 0.01433c(13112324) 0.01711c(13112324) 0.01777c(13112324)
0.01913c(13112324)
3638575.0 | 0.01321b(13021124) 0.01392b(13021124) 0.01551c(13100724) 0.01713c(13100724)
0.01903c(13100724)
3638325.0 | 0.01332c(13100724) 0.01425c(13100724) 0.01432c(13112324) 0.01548c(13112324)
0.01808c(13101924)
3638075.0 | 0.01160c(13112324) 0.01301c(13112424) 0.01733c(13101924) 0.01814c(13101924)
0.01755b(13111024)
3637825.0 | 0.01495c(13101924) 0.01462c(13112424) 0.01450b(13111024) 0.01557b(13111024)
0.01318b(13111024)
3637575.0 | 0.01214b(13111024) 0.01326b(13111024) 0.01274b(13111024) 0.01077b(13111024)
0.01180b(13021424)
3637325.0 | 0.01094b(13111024) 0.01049b(13111024) 0.01175b(13021424) 0.01426b(13021424)
0.01304b(13021424)
3637075.0 | 0.00932b(13030724) 0.01151b(13021424) 0.01350b(13021424) 0.01328b(13021424)
0.01308b(13021424)
3636825.0 | 0.01115b(13021424) 0.01245b(13021424) 0.01250b(13021424) 0.01155b(13021424)
0.00953b(13021424)
3636575.0 | 0.01128b(13021424) 0.01106b(13021424) 0.01026b(13021424) 0.00861b(13021424)
0.00763b(13121324)
3636325.0 | 0.00970b(13021424) 0.00887b(13021424) 0.00791b(13021424) 0.00819b(13121324)
0.00704b(13121324)
3636075.0 | 0.00725b(13021424) 0.00661b(13021424) 0.00676b(13121324) 0.00581b(13042024)
0.00610b(13122224)

*** AERMOD - VERSION 18081 *** *** F:\Work\STP 29 - 3 Roots\AQ_GHG\PM Modeling\3Roots\3Roots.isc ***
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*** MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL

```

### 3Roots Project AERMOD Output File

\*\*\* THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL  
 INCLUDING SOURCE(S): A0000001 , A0000002 , A0000003 , A0000004 , A0000005 ,  
 A0000006 , A0000007 , A0000008 , A0000009 , A0000010 , A0000011 , A0000012 , A0000013 ,  
 A0000014 , A0000015 , A0000016 , A0000017 , A0000018 , A0000019 , A0000020 , A0000042 ,  
 A0000043 , A0000044 , A0000045 , A0000046 , A0000047 , A0000048 , A0000049 , . . . ,

\*\*\* NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART \*\*\*

\*\* CONC OF PM<sub>10</sub> IN MICROGRAMS/M<sup>3</sup> \*\*

Y-COORD   (METERS)	482000.00	X-COORD (METERS) 482250.00	482500.00	482750.00	483000.00
3642325.0   0.00723 (13092524)	0.00626b(13052824)	0.00746b(13052824)	0.01014b(13062024)		
0.00820b(13062024)					
3642075.0   0.01174 (13092524)	0.01037 (13092524)	0.00816b(13052824)	0.00991b(13062024)		
0.01131b(13062024)					
3641825.0   0.01375 (13092524)	0.01523 (13092524)	0.01235 (13092524)	0.01013 (13092524)		
0.01221b(13062024)					
3641575.0   0.01331b(13121124)	0.01384 (13092524)	0.01512 (13092524)	0.01396 (13092524)	0.01200	
(13092524)					
3641325.0   0.00974b(13121124)	0.01501b(13121124)	0.01801b(13121124)	0.02024 (13092524)	0.02119	
(13092524)					
3641075.0   0.01118b(13112024)	0.01115b(13121124)	0.01639b(13121124)	0.02080b(13121124)		
0.02252b(13121124)					
3640825.0   0.01679c(13040924)	0.01601c(13040924)	0.01482b(13112024)	0.01437b(13062024)		
0.01810b(13121124)					
3640575.0   0.01978c(13040924)	0.02212c(13040924)	0.02130c(13040924)	0.01892c(13040924)		
0.02133c(13040924)					
3640325.0   0.02059c(13122924)	0.02142c(13122924)	0.02074c(13040924)	0.02783c(13040924)		
0.03326c(13040924)					
3640075.0   0.01757c(13122924)	0.01969c(13122924)	0.02328c(13122924)	0.02549c(13040924)		
0.03042c(13040924)					
3639825.0   0.01723c(13032324)	0.01890c(13020924)	0.02104c(13020924)	0.02494b(13011624)		
0.02640c(13112724)					
3639575.0   0.01923b(13031024)	0.01996b(13031024)	0.02136c(13112724)	0.02696c(13112724)		
0.02991c(13112724)					
3639325.0   0.01690b(13031024)	0.01893c(13112324)	0.02255c(13112324)	0.02550b(13031024)		
0.03288b(13031024)					
3639075.0   0.02094c(13112324)	0.02475c(13112324)	0.02710c(13112324)	0.02981c(13112324)		
0.03416c(13112324)					
3638825.0   0.01833c(13112324)	0.02177c(13100724)	0.02555c(13100724)	0.02767c(13100724)		
0.02977b(13111024)					
3638575.0   0.01880c(13100724)	0.02168b(13111024)	0.02315c(13101924)	0.02431b(13111024)		
0.02959b(13111024)					
3638325.0   0.02050c(13101924)	0.02140b(13111024)	0.02140b(13111024)	0.02260b(13111024)		
0.02384b(13021424)					
3638075.0   0.01687b(13111024)	0.01578b(13111024)	0.01953b(13021424)	0.02298b(13021424)		
0.01982b(13021424)					
3637825.0   0.01309b(13021424)	0.01324b(13021424)	0.01470b(13021424)	0.01651b(13021424)		
0.01333b(13021424)					
3637575.0   0.01396b(13021424)	0.01789b(13021424)	0.01324b(13021424)	0.01144b(13021424)		
0.00989c(13101424)					
3637325.0   0.01485b(13021424)	0.01487b(13021424)	0.00973b(13021424)	0.01049c(13101424)		
0.00908b(13010824)					
3637075.0   0.01064b(13021424)	0.00824b(13122224)	0.00890b(13121324)	0.00882b(13010824)		
0.01124b(13010824)					

3636825.0   0.00897b(13121324)	0.00874b(13121324)	0.00902b(13010824)	0.01171b(13010824)		
0.00961b(13010824)					
3636575.0   0.00815b(13121324)	0.00793b(13122224)	0.01026b(13010824)	0.00957b(13010824)		
0.00774b(13010824)					
3636325.0   0.00700b(13122224)	0.00891b(13010824)	0.00935b(13010824)	0.00766b(13010824)		
0.00729b(13010824)					
3636075.0   0.00776b(13010824)	0.00942b(13010824)	0.00798b(13010824)	0.00585b(13010824)		
0.00613b(13010824)					

\*\*\* AERMOD - VERSION 18081 \*\*\* \*\* F:\Work\STP 29 - 3 Roots\IAQ\_GHG\PM Modeling\3Roots\3Roots.isc \*\*\*  
 03/20/19

\*\*\* AERMET - VERSION 14134 \*\*\* \*\* \*\* 10:12:43

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\*\*\* MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL

\*\*\* THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL

INCLUDING SOURCE(S): A0000001 , A0000002 , A0000003 , A0000004 , A0000005 ,  
 A0000006 , A0000007 , A0000008 , A0000009 , A0000010 , A0000011 , A0000012 , A0000013 ,  
 A0000014 , A0000015 , A0000016 , A0000017 , A0000018 , A0000019 , A0000020 , A0000042 ,  
 A0000043 , A0000044 , A0000045 , A0000046 , A0000047 , A0000048 , A0000049 , . . . ,

\*\*\* NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART \*\*\*

\*\* CONC OF PM<sub>10</sub> IN MICROGRAMS/M<sup>3</sup> \*\*

Y-COORD   (METERS)	483250.00	X-COORD (METERS) 483500.00	483750.00	484000.00	484250.00
3642325.0   0.01006b(13051924)	0.00861b(13051924)	0.00643b(13040624)	0.00976b(13040724)		
0.00884b(13040724)					
3642075.0   0.00905b(13062024)	0.00971b(13051924)	0.01320b(13051924)	0.01091b(13040724)		
0.01019b(13040724)					
3641825.0   0.01270b(13062024)	0.01468b(13051924)	0.01345b(13051924)	0.01313b(13040724)		
0.01001b(13040724)					
3641575.0   0.01342b(13062024)	0.01389b(13062024)	0.01688b(13051924)	0.01030b(13040724)		
0.01115b(13040724)					
3641325.0   0.01821 (13092524)	0.01353b(13062024)	0.01781b(13051924)	0.01106b(13040724)		
0.01255b(13040724)					
3641075.0   0.02458 (13092524)	0.01790 (13092524)	0.01569c(13031724)	0.01296 (13050524)		
0.01492b(13040724)					
3640825.0   0.02251b(13121124)	0.02098 (13092524)	0.01712 (13092524)	0.02148c(13031724)		
0.01867b(13040724)					
3640575.0   0.02667b(13062024)	0.02157b(13121124)	0.03920 (13092524)	0.05032 (13092524)		
0.02777b(13040724)					
3640325.0   0.04006c(13040924)	0.03693c(13040924)	0.05577c(13040924)	0.07996b(13062024)	0.09407	
(13092524)					
3640075.0   0.04227c(13040924)	0.05071c(13040924)	0.06108c(13040924)	0.12906c(13040924)		
0.15990c(13040924)					
3639825.0   0.03606c(13112724)	0.04727c(13112724)	0.03590c(13112724)	0.05937c(13122924)		
0.28092b(13010824)					
3639575.0   0.04140c(13112724)	0.04956c(13112724)	0.03294c(13112724)	0.05782c(13112724)		
0.13111b(13031024)					
3639325.0   0.03741b(13031024)	0.04696b(13031024)	0.06404b(13031024)	0.08604b(13031024)		
0.11047b(13010824)					
3639075.0   0.03996c(13112324)	0.04643c(13112324)	0.04839b(13010824)	0.06468b(13111024)		
0.10793b(13021424)					
3638825.0   0.02933c(13112424)	0.04292b(13111024)	0.04251b(13021424)	0.02159b(13021424)		
0.03375b(13021424)					

### 3Roots Project AERMOD Output File

```

3638575.0 | 0.03119b(13111024) 0.03764b(13021424) 0.03135b(13021424) 0.01805b(13021424)
0.01495b(13012424)
3638325.0 | 0.02135b(13021424) 0.03429b(13021424) 0.02930b(13021424) 0.01369b(13012424)
0.01617b(13012424)
3638075.0 | 0.01562b(13021424) 0.01230b(13021424) 0.02096b(13021424) 0.01839b(13012424)
0.01367b(13012424)
3637825.0 | 0.00910c(13101424) 0.00970b(13021424) 0.00919b(13012424) 0.01214b(13012424)
0.00731b(13012424)
3637575.0 | 0.00883b(13010824) 0.00826b(13021424) 0.01224b(13012424) 0.01081b(13012424)
0.00629c(13102024)
3637325.0 | 0.00771b(13021424) 0.00879b(13012424) 0.01201b(13012424) 0.00878c(13102024)
0.00912c(13102024)
3637075.0 | 0.00796b(13021424) 0.00996b(13012424) 0.01083b(13012424) 0.01109c(13102024)
0.00963b(13092824)
3636825.0 | 0.00795b(13010824) 0.00979b(13012424) 0.00860b(13012424) 0.00842c(13102024)
0.00551b(13092824)
3636575.0 | 0.00657b(13012424) 0.00889b(13012424) 0.00637b(13012424) 0.00714c(13102024)
0.00586b(13092824)
3636325.0 | 0.00739 (13122724) 0.00774b(13012424) 0.00601c(13102024) 0.00680c(13102024)
0.00545b(13092824)
3636075.0 | 0.00712b(13012424) 0.00673b(13012424) 0.00621c(13102024) 0.00617c(13102024)
0.00569b(13092824)

*** AERMOD - VERSION 18081 *** ** F:\Work\STP 29 - 3 Roots\AQ_GHG\PM Modeling\3Roots\3Roots.isc ***
03/20/19
*** AERMET - VERSION 14134 *** ** 10:12:43
*** MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL
*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL
***
INCLUDING SOURCE(S): A0000001 ,A0000002 ,A0000003 ,A0000004 ,A0000005 ,
A0000006 ,A0000007 ,A0000008 ,A0000009 ,A0000010 ,A0000011 ,A0000012 ,A0000013 ,
A0000014 ,A0000015 ,A0000016 ,A0000017 ,A0000018 ,A0000019 ,A0000020 ,A0000042 ,
A0000043 ,A0000044 ,A0000045 ,A0000046 ,A0000047 ,A0000048 ,A0000049 , . . . ,
*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***
** CONC OF PM_10 IN MICROGRAMS/M**3 **

```

```

3640325.0 | 0.08642c(13100324) 0.03725 (13012724) 0.02998 (13012724) 0.02421 (13012724) 0.01877
(13012724)
3640075.0 | 0.13245b(13021824) 0.09439c(13100324) 0.03170 (13012724) 0.02220 (13012724) 0.02177
(13012724)
3639825.0 | 0.08354c(13040924) 0.20061b(13082824) 0.17898c(13100324) 0.03726b(13100224)
0.09510c(13080324)
3639575.0 | 0.25453b(13010824) 0.22730b(13010824) 0.22290b(13082824) 0.23147b(13072224)
0.22010b(13072224)
3639325.0 | 0.23823b(13010824) 0.23722b(13010824) 0.24766b(13082824) 0.24666b(13082824)
0.05491b(13071324)
3639075.0 | 0.08054b(13021424) 0.06650b(13021424) 0.05042b(13082824) 0.03057b(13082824)
0.02949b(13082824)
3638825.0 | 0.03288b(13021424) 0.02321b(13091324) 0.02324b(13091124) 0.02208b(13082824)
0.01820c(13102424)
3638575.0 | 0.01279b(13081724) 0.01716b(13082524) 0.01795b(13091124) 0.01726b(13091124)
0.01629m(13090824)
3638325.0 | 0.01219b(13081724) 0.01524b(13051424) 0.01621b(13091324) 0.01613b(13091124)
0.01398m(13090824)
3638075.0 | 0.01011b(13081724) 0.01080b(13082524) 0.01335b(13091324) 0.01534b(13091324)
0.01361b(13091124)
3637825.0 | 0.00765b(13081724) 0.00750b(13081724) 0.00922b(13091124) 0.01229b(13091324)
0.01295b(13091124)
3637575.0 | 0.00824b(13080424) 0.00793c(13071724) 0.01266b(13051424) 0.02174b(13091324)
0.02306b(13091324)
3637325.0 | 0.01219b(13080424) 0.01396c(13102024) 0.01223b(13051424) 0.01076b(13091324)
0.01149b(13091324)
3637075.0 | 0.00984b(13080424) 0.01079c(13102024) 0.00742b(13082524) 0.00801b(13082524)
0.01183b(13091324)
3636825.0 | 0.00702b(13080424) 0.00688b(13081724) 0.00628c(13071724) 0.00734b(13051424)
0.00911b(13091324)
3636575.0 | 0.00552b(13080424) 0.00643b(13081724) 0.00615c(13071724) 0.00692b(13082524)
0.00775b(13091324)
3636325.0 | 0.00615b(13080424) 0.00588b(13081724) 0.00604c(13071724) 0.00688b(13051424)
0.00645b(13051424)
3636075.0 | 0.00575b(13080424) 0.00558b(13081724) 0.00615c(13071724) 0.00636b(13082524)
0.00694b(13051424)

*** AERMOD - VERSION 18081 *** ** F:\Work\STP 29 - 3 Roots\AQ_GHG\PM Modeling\3Roots\3Roots.isc ***
03/20/19
*** AERMET - VERSION 14134 *** ** 10:12:43
*** MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL
*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL
***
INCLUDING SOURCE(S): A0000001 ,A0000002 ,A0000003 ,A0000004 ,A0000005 ,
A0000006 ,A0000007 ,A0000008 ,A0000009 ,A0000010 ,A0000011 ,A0000012 ,A0000013 ,
A0000014 ,A0000015 ,A0000016 ,A0000017 ,A0000018 ,A0000019 ,A0000020 ,A0000042 ,
A0000043 ,A0000044 ,A0000045 ,A0000046 ,A0000047 ,A0000048 ,A0000049 , . . . ,
*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***
** CONC OF PM_10 IN MICROGRAMS/M**3 **

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Y-COORD   (METERS)	X-COORD (METERS)				
	484500.00	484750.00	485000.00	485250.00	485500.00
3642325.0   (13012724)	0.00830b(13021824)	0.01049b(13100124)	0.00882b(13100124)	0.00781 (13012724)	0.00813
3642075.0   (13012724)	0.00754b(13040724)	0.00918b(13100124)	0.00936b(13100124)	0.00848 (13012724)	0.00881
3641825.0   (13012724)	0.01155b(13021824)	0.01053b(13100124)	0.01162b(13100124)	0.00961 (13012724)	0.00954
3641575.0   (13012724)	0.01400b(13021824)	0.01234b(13100124)	0.01062b(13100124)	0.01150 (13012724)	0.01067
3641325.0   (13012724)	0.01158b(13100124)	0.01361b(13100124)	0.01318 (13012724)	0.01374 (13012724)	0.01229
3641075.0   (13012724)	0.01447b(13100124)	0.01584b(13100124)	0.01478 (13012724)	0.01539 (13012724)	0.01662
3640825.0   (13012724)	0.02051b(13100124)	0.01833b(13100124)	0.01980 (13012724)	0.01956 (13012724)	0.01878
3640575.0   (13012724)	0.02454b(13100124)	0.02736 (13012724)	0.04656 (13012724)	0.02192 (13012724)	0.01985

Y-COORD   (METERS)	X-COORD (METERS)				
	485750.00	486000.00	486250.00	486500.00	486750.00
3642325.0   (13012724)	0.00821 (13012724)	0.00783 (13012724)	0.00764 (13012724)	0.00687 (13012724)	0.00548

### 3Roots Project AERMOD Output File

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3642075.0 | 0.00994 (13012724) 0.00908 (13012724) 0.00765 (13012724) 0.00635 (13012724)
0.00554b(13042224)
3641825.0 | 0.01028 (13012724) 0.00951 (13012724) 0.00769 (13012724) 0.00646 (13012724) 0.00587
(13012724)
3641575.0 | 0.01077 (13012724) 0.01021 (13012724) 0.00833 (13012724) 0.00743 (13012724) 0.00608
(13012724)
3641325.0 | 0.01249 (13012724) 0.01082 (13012724) 0.00910 (13012724) 0.00827 (13012724) 0.00605
(13012724)
3641075.0 | 0.01659 (13012724) 0.01218 (13012724) 0.00952 (13012724) 0.00742 (13012724) 0.00584
(13012724)
3640825.0 | 0.01459 (13012724) 0.01166 (13012724) 0.01065 (13012724) 0.00718 (13012724)
0.00616c(13042424)
3640575.0 | 0.01502 (13012724) 0.01274 (13012724) 0.01051 (13012724) 0.00854c(13080324)
0.00781c(13080324)
3640325.0 | 0.01639 (13012724) 0.02956c(13080324) 0.02599c(13080324) 0.02062b(13081424)
0.03152b(13081424)
3640075.0 | 0.01972 (13012724) 0.04634c(13080324) 0.06902b(13081424) 0.05909c(13080324)
0.06403c(13080324)
3639825.0 | 0.14105c(13080324) 0.16863c(13080324) 0.09193c(13080324) 0.04436b(13030524)
0.02232b(13030524)
3639575.0 | 0.04412b(13030524) 0.02902b(13030524) 0.02109b(13030524) 0.01760b(13030524)
0.01452b(13030524)
3639325.0 | 0.02995b(13071324) 0.02193b(13081724) 0.01497b(13071324) 0.01385b(13072824)
0.01245b(13072824)
3639075.0 | 0.02320b(13082824) 0.01866b(13072224) 0.01504b(13072224) 0.00941b(13051124)
0.00966b(13071324)
3638825.0 | 0.02110b(13082824) 0.01464c(13102424) 0.01164b(13072224) 0.01225b(13072224)
0.00814b(13051124)
3638575.0 | 0.01508b(13082824) 0.01506c(13102424) 0.01174c(13102424) 0.00943b(13072224)
0.00962b(13072224)
3638325.0 | 0.01455m(13090824) 0.01250b(13082824) 0.01363c(13102424) 0.01087c(13102424)
0.00790b(13040424)
3638075.0 | 0.01288m(13090824) 0.01379m(13090824) 0.01195b(13072124) 0.01259c(13102424)
0.01051c(13102424)
3637825.0 | 0.01885b(13082824) 0.02186b(13082824) 0.01684b(13082824) 0.01238b(13072124)
0.01134c(13102424)
3637575.0 | 0.01222b(13091124) 0.00987b(13102524) 0.00958m(13090824) 0.00860b(13072124)
0.00931b(13072124)
3637325.0 | 0.00976b(13091324) 0.00901b(13091124) 0.00889b(13102524) 0.00843b(13102524)
0.00785b(13072124)
3637075.0 | 0.01373b(13091324) 0.00908b(13091124) 0.00795b(13102524) 0.00817b(13102524)
0.00729b(13102524)
3636825.0 | 0.01082b(13091324) 0.00856b(13091324) 0.00763b(13091124) 0.00761b(13102524)
0.00754b(13102524)
3636575.0 | 0.00911b(13091324) 0.00950b(13091324) 0.00723b(13091124) 0.00661m(13090824)
0.00750b(13102524)
3636325.0 | 0.00867b(13091324) 0.01085b(13091324) 0.00861b(13091324) 0.00665b(13091124)
0.00654m(13090824)
3636075.0 | 0.00855b(13091324) 0.00903b(13091324) 0.00871b(13091324) 0.00655b(13090324)
0.00579c(13071724)

*** AERMOD - VERSION 18081 *** *** F:\Work\STP 29 - 3 Roots\IAQ_GHG\PM Modeling\3Roots\3Roots.isc ***
03/20/19
*** AERMET - VERSION 14134 *** ***
***
*** MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL
***
*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL
***
INCLUDING SOURCE(S): A0000001 , A0000002 , A0000003 , A0000004 , A0000005 ,
A0000006 , A0000007 , A0000008 , A0000009 , A0000010 , A0000011 , A0000012 , A0000013 ,

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A0000014 , A0000015 , A0000016 , A0000017 , A0000018 , A0000019 , A0000020 , A0000042 ,
A0000043 , A0000044 , A0000045 , A0000046 , A0000047 , A0000048 , A0000049 , ... ,

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

Y-COORD | X-COORD (METERS)
(METERS) | 487000.00 487250.00 487500.00 487750.00 488000.00
-----|-----
3642325.0 | 0.00484b(13042224) 0.00495b(13032524) 0.00462b(13032524) 0.00422b(13032524)
0.00423b(13032524)
3642075.0 | 0.00489b(13071424) 0.00444b(13032524) 0.00468b(13032524) 0.00410b(13032524)
0.00349b(13032524)
3641825.0 | 0.00492b(13032524) 0.00449b(13032524) 0.00480b(13032524) 0.00404b(13032524)
0.00303c(13070124)
3641575.0 | 0.00543b(13032524) 0.00498b(13032524) 0.00423b(13032524) 0.00322c(13070124) 0.00293
(13100924)
3641325.0 | 0.00574b(13032524) 0.00440b(13032524) 0.00362c(13020824) 0.00354 (13100924) 0.00325
(13100924)
3641075.0 | 0.00536c(13042424) 0.00450c(13020824) 0.00412 (13100924) 0.00389b(13081424)
0.00445b(13081424)
3640825.0 | 0.00539c(13020824) 0.00554c(13080324) 0.00608b(13081424) 0.00610b(13081424)
0.00661b(13060924)
3640575.0 | 0.00818b(13081424) 0.00883b(13081424) 0.00915b(13072524) 0.01212b(13072524)
0.01320c(13080324)
3640325.0 | 0.02366c(13080324) 0.01537b(13072524) 0.01478c(13080324) 0.02610c(13080324)
0.02786c(13080324)
3640075.0 | 0.05732c(13080324) 0.04513c(13080324) 0.01758b(13030524) 0.02408c(13080324)
0.01688b(13030524)
3639825.0 | 0.01950b(13030524) 0.02421b(13030524) 0.01721b(13030524) 0.01309b(13030524)
0.01095b(13030524)
3639575.0 | 0.01239b(13030524) 0.01055b(13072824) 0.00951b(13072824) 0.00853b(13072824)
0.00754b(13072824)
3639325.0 | 0.01143b(13072824) 0.01036b(13072824) 0.00898b(13072824) 0.00796b(13072824)
0.00709b(13072824)
3639075.0 | 0.00907b(13071324) 0.00759b(13081724) 0.00677b(13081724) 0.00633b(13081724)
0.00547b(13081724)
3638825.0 | 0.00716b(13051124) 0.00647b(13071324) 0.00616b(13071324) 0.00579b(13071324)
0.00529b(13050924)
3638575.0 | 0.00875b(13072224) 0.00599b(13051124) 0.00556b(13111824) 0.00471b(13072324)
0.00474b(13050924)
3638325.0 | 0.00842b(13072224) 0.00899b(13072224) 0.00760b(13072224) 0.00530b(13111824)
0.00502b(13111824)
3638075.0 | 0.00947b(13082824) 0.00931b(13072224) 0.00841b(13072224) 0.00853b(13072224)
0.00672b(13072224)
3637825.0 | 0.00965c(13102424) 0.00620b(13082824) 0.00562c(13062824) 0.00617b(13072224)
0.00689b(13072224)
3637575.0 | 0.00940c(13102424) 0.00801c(13102424) 0.00550c(13102424) 0.00471c(13062824)
0.00417b(13072224)
3637325.0 | 0.00857b(13072124) 0.00834c(13102424) 0.00747c(13102424) 0.00540c(13102424)
0.00424b(13082824)
3637075.0 | 0.00737b(13072124) 0.00820b(13072124) 0.00755c(13102424) 0.00693c(13102424)
0.00524c(13102424)
3636825.0 | 0.00606b(13080124) 0.00729b(13072124) 0.00746b(13072124) 0.00692c(13102424)
0.00648c(13102424)
3636575.0 | 0.00715b(13102524) 0.00602b(13080124) 0.00711b(13072124) 0.00701b(13072124)
0.00634c(13102424)
3636325.0 | 0.00701b(13102524) 0.00624b(13102524) 0.00584b(13080124) 0.00669b(13072124)
0.00692b(13072124)

```

### 3Roots Project AERMOD Output File

```

3636075.0 | 0.00711b(13102524) 0.00665b(13102524) 0.00543b(13102524) 0.00577b(13080124)
0.00728b(13072124)

*** AERMOD - VERSION 18081 *** ** F:\Work\STP 29 - 3 Roots\IAQ_GHG\PM Modeling\3Roots\3Roots.isc ***
03/20/19
*** AERMET - VERSION 14134 *** ** ** ** ** 10:12:43
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*** MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL
***
INCLUDING SOURCE(S): A0000001 ,A0000002 ,A0000003 ,A0000004 ,A0000005 ,
A0000006 ,A0000007 ,A0000008 ,A0000009 ,A0000010 ,A0000011 ,A0000012 ,A0000013 ,
A0000014 ,A0000015 ,A0000016 ,A0000017 ,A0000018 ,A0000019 ,A0000020 ,A0000042 ,
A0000043 ,A0000044 ,A0000045 ,A0000046 ,A0000047 ,A0000048 ,A0000049 , . . . ,

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

Y-COORD | X-COORD (METERS)
(METERS) | 488250.00 488500.00 488750.00 489000.00 489250.00
-----|-----
3642325.0 | 0.00350b(13032524) 0.00261c(13070124) 0.00225c(13020824) 0.00179(13100924) 0.00173
(13100924)
3642075.0 | 0.00279c(13070124) 0.00221c(13020824) 0.00212(13100924) 0.00200(13100924)
0.00225b(13072524)
3641825.0 | 0.00244(13100924) 0.00241(13100924) 0.00230b(13072524) 0.00223b(13072524)
0.00209b(13072524)
3641575.0 | 0.00282(13100924) 0.00270b(13072524) 0.00259b(13072524) 0.00221b(13072524) 0.00232
(13100924)
3641325.0 | 0.00313b(13072524) 0.00329b(13081424) 0.00312b(13081424) 0.00281b(13091924)
0.00398b(13072524)
3641075.0 | 0.00471b(13081424) 0.00436b(13060924) 0.00494b(13072524) 0.00684b(13072524)
0.00412b(13072524)
3640825.0 | 0.00729b(13072524) 0.00725b(13072524) 0.00703c(13080324) 0.00753c(13080324)
0.00472c(13080324)
3640575.0 | 0.01178c(13080324) 0.01045c(13080324) 0.00730c(13080324) 0.00537c(13080324)
0.00459c(13080324)
3640325.0 | 0.01711c(13080324) 0.01302c(13080324) 0.00939b(13030524) 0.00843b(13030524)
0.00749b(13030524)
3640075.0 | 0.01184b(13030524) 0.01254b(13030524) 0.01175b(13030524) 0.00918b(13030524)
0.00671b(13030524)
3639825.0 | 0.00952b(13030524) 0.00830b(13030524) 0.00786b(13030524) 0.01015b(13030524)
0.00659b(13030524)
3639575.0 | 0.00683b(13072824) 0.00622b(13072824) 0.00542b(13072824) 0.00495b(13072824)
0.00525b(13072824)
3639325.0 | 0.00630b(13072824) 0.00586b(13072824) 0.00557b(13072824) 0.00504b(13072824)
0.00566b(13072824)
3639075.0 | 0.00488b(13081724) 0.00445b(13081724) 0.00400b(13081224) 0.00379b(13081224)
0.00379b(13081224)
3638825.0 | 0.00484b(13081724) 0.00471b(13081724) 0.00441b(13081724) 0.00400b(13081724)
0.00377b(13081724)
3638575.0 | 0.00489b(13050924) 0.00466b(13050924) 0.00445b(13050924) 0.00400b(13050924)
0.00375b(13050924)
3638325.0 | 0.00418c(13090624) 0.00425b(13072324) 0.00431b(13072324) 0.00420b(13050924)
0.00416b(13050924)
3638075.0 | 0.00524b(13111824) 0.00512b(13111824) 0.00385b(13111824) 0.00304b(13072324)
0.00356b(13072324)

```

```

3637825.0 | 0.00603b(13072224) 0.00458b(13072224) 0.00390b(13070224) 0.00373b(13111824)
0.00311b(13070624)
3637575.0 | 0.00514b(13072224) 0.00565b(13072224) 0.00487b(13072224) 0.00358b(13072224)
0.00348b(13070224)
3637325.0 | 0.00404c(13062824) 0.00406b(13072224) 0.00489b(13072224) 0.00490b(13072224)
0.00391b(13072224)
3637075.0 | 0.00389b(13082824) 0.00384c(13062824) 0.00292b(13072224) 0.00391b(13072224)
0.00574b(13072224)
3636825.0 | 0.00515c(13102424) 0.00357b(13082824) 0.00415c(13062824) 0.00425c(13062824)
0.00550b(13072224)
3636575.0 | 0.00610c(13102424) 0.00588c(13102424) 0.00528c(13090524) 0.00336b(13082824)
0.00325c(13062824)
3636325.0 | 0.00608c(13102424) 0.00660c(13102424) 0.00491c(13102424) 0.00341c(13102424)
0.00349b(13082824)
3636075.0 | 0.01196b(13072124) 0.00556c(13102424) 0.00554c(13102424) 0.00493c(13102424)
0.00361c(13102424)

*** AERMOD - VERSION 18081 *** ** F:\Work\STP 29 - 3 Roots\IAQ_GHG\PM Modeling\3Roots\3Roots.isc ***
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*** AERMET - VERSION 14134 *** ** ** ** ** 10:12:43
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*** MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL
***
INCLUDING SOURCE(S): A0000001 ,A0000002 ,A0000003 ,A0000004 ,A0000005 ,
A0000006 ,A0000007 ,A0000008 ,A0000009 ,A0000010 ,A0000011 ,A0000012 ,A0000013 ,
A0000014 ,A0000015 ,A0000016 ,A0000017 ,A0000018 ,A0000019 ,A0000020 ,A0000042 ,
A0000043 ,A0000044 ,A0000045 ,A0000046 ,A0000047 ,A0000048 ,A0000049 , . . . ,

*** NETWORK ID: UCART2 ; NETWORK TYPE: GRIDCART ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

Y-COORD | X-COORD (METERS)
(METERS) | 484040.00 484090.00 484140.00 484190.00 484240.00
-----|-----
3640300.0 | 0.08442b(13062024) 0.07883b(13062024) 0.08253b(13062024) 0.09986(13092524)
0.12671b(13021824)
3640250.0 | 0.08891b(13062024) 0.09881b(13112024) 0.11957b(13112024) 0.08210b(13021824)
0.06121b(13021824)
3640200.0 | 0.12553c(13040924) 0.11130c(13040924) 0.07001b(13112024) 0.06507b(13021824)
0.07336b(13021824)
3640150.0 | 0.13857c(13040924) 0.10782c(13040924) 0.06189c(13010624) 0.07784b(13112024)
0.14109c(13040924)
3640100.0 | 0.14938c(13040924) 0.10728c(13040924) 0.06353c(13010624) 0.08352c(13040924)
0.16829c(13040924)
3640050.0 | 0.14888c(13040924) 0.12931c(13040924) 0.06390c(13010624) 0.06142c(13010624)
0.18428c(13040924)
3640000.0 | 0.13317b(13011624) 0.16253c(13040924) 0.06126c(13010624) 0.05229c(13010624)
0.18881b(13011624)
3639950.0 | 0.08805c(13040924) 0.16440b(13010824) 0.07404c(13040924) 0.05317c(13010624)
0.21592b(13010824)
3639900.0 | 0.06934c(13040924) 0.12447c(13122924) 0.18910b(13011624) 0.13737b(13011624)
0.25330b(13010824)
3639850.0 | 0.06651c(13122924) 0.07390c(13122924) 0.14595b(13010824) 0.19083b(13010824)
0.27458b(13010824)
3639800.0 | 0.06128c(13122924) 0.06823c(13122924) 0.07626c(13122924) 0.15092b(13010824)
0.22170b(13011624)

```

### 3Roots Project AERMOD Output File

```

3639750.0 | 0.06174c(13112724) 0.06581c(13112724) 0.07138c(13112724) 0.06697c(13122924)
0.15844b(13010824)
3639700.0 | 0.06207c(13112724) 0.06352c(13112724) 0.06778c(13112724) 0.04745c(13112724)
0.14098b(13010824)
3639650.0 | 0.06235c(13112724) 0.06731c(13112724) 0.07899c(13112724) 0.10868b(13010824)
0.13160b(13010824)
3639600.0 | 0.06370c(13112724) 0.09316b(13010824) 0.10161b(13010824) 0.10540b(13010824)
0.11452b(13031024)
3639550.0 | 0.07839c(13112724) 0.06873c(13112724) 0.06369c(13112724) 0.08533b(13031024)
0.11147b(13031024)
3639500.0 | 0.05273b(13031024) 0.05413b(13031024) 0.05988b(13031024) 0.08048b(13031024)
0.09398b(13031024)
3639450.0 | 0.05485b(13031024) 0.05586b(13031024) 0.05891b(13031024) 0.11169b(13031024)
0.10605b(13031024)

*** AERMOD - VERSION 18081 *** *** F:\Work\STP 29 - 3 Roots\AQ_GHG\PM Modeling\3Roots\3Roots.isc ***
03/20/19
*** AERMET - VERSION 14134 *** *** 10:12:43
*** MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL
*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL
***
INCLUDING SOURCE(S): A0000001 ,A0000002 ,A0000003 ,A0000004 ,A0000005 ,
A0000006 ,A0000007 ,A0000008 ,A0000009 ,A0000010 ,A0000011 ,A0000012 ,A0000013 ,
A0000014 ,A0000015 ,A0000016 ,A0000017 ,A0000018 ,A0000019 ,A0000020 ,A0000042 ,
A0000043 ,A0000044 ,A0000045 ,A0000046 ,A0000047 ,A0000048 ,A0000049 , ... ,

*** NETWORK ID: UCART2 ; NETWORK TYPE: GRIDCART ***
** CONC OF PM_10 IN MICROGRAMS/M**3
**
Y-COORD | X-COORD (METERS)
(METERS) | 484290.00 484340.00 484390.00 484440.00 484490.00
-----
3640300.0 | 0.15413b(13021824) 0.15452b(13021824) 0.14067c(13100324) 0.11136c(13100324)
0.10796c(13100324)
3640250.0 | 0.05773b(13040724) 0.06059b(13040724) 0.07173b(13021824) 0.08524b(13021824)
0.23003c(13100324)
3640200.0 | 0.11058b(13021824) 0.13458b(13021824) 0.21175c(13100324) 0.21319c(13100324)
0.08806b(13021824)
3640150.0 | 0.15374c(13040924) 0.14499b(13021824) 0.17279b(13021824) 0.21018c(13100324)
0.21138c(13100324)
3640100.0 | 0.17024c(13040924) 0.14987c(13040924) 0.16836b(13021824) 0.13748b(13021824)
0.21767c(13100324)
3640050.0 | 0.18615c(13040924) 0.16941c(13040924) 0.09611b(13021824) 0.12602b(13021824)
0.11423b(13021824)
3640000.0 | 0.22384b(13010824) 0.20171b(13011624) 0.10441b(13021824) 0.11454b(13021824)
0.08512b(13021824)
3639950.0 | 0.18980b(13011624) 0.15537c(13040924) 0.15635c(13040924) 0.09240b(13021824)
0.07124b(13021824)
3639900.0 | 0.27755b(13010824) 0.25211b(13010824) 0.20261b(13011624) 0.16501b(13011624)
0.07503b(13021824)
3639850.0 | 0.25635b(13010824) 0.25037b(13010824) 0.24341b(13010824) 0.24363b(13010824)
0.08317c(13040924)
3639800.0 | 0.25104b(13010824) 0.25738b(13010824) 0.24894b(13010824) 0.09490c(13040924)
0.09959c(13040924)
3639750.0 | 0.26577b(13010824) 0.25807b(13010824) 0.25032b(13010824) 0.10468b(13011624)
0.10980b(13011624)

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3639700.0 | 0.17164b(13010824) 0.24693b(13010824) 0.27106b(13010824) 0.22348b(13010824)
0.26864b(13010824)
3639650.0 | 0.14449b(13031024) 0.23896b(13010824) 0.16526b(13011624) 0.16085b(13011624)
0.14367b(13011624)
3639600.0 | 0.13345b(13031024) 0.22171b(13031024) 0.24873b(13010824) 0.26729b(13010824)
0.26439b(13010824)
3639550.0 | 0.14260b(13031024) 0.18172b(13010824) 0.25475b(13031024) 0.19968b(13031024)
0.25441b(13010824)
3639500.0 | 0.13873b(13031024) 0.17741b(13010824) 0.29781b(13010824) 0.25464b(13010824)
0.29240b(13010824)
3639450.0 | 0.12975b(13031024) 0.19618b(13010824) 0.25589b(13010824) 0.25694b(13010824)
0.25532b(13010824)

*** AERMOD - VERSION 18081 *** *** F:\Work\STP 29 - 3 Roots\AQ_GHG\PM Modeling\3Roots\3Roots.isc ***
03/20/19
*** AERMET - VERSION 14134 *** *** 10:12:43
*** MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL
*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL
***
INCLUDING SOURCE(S): A0000001 ,A0000002 ,A0000003 ,A0000004 ,A0000005 ,
A0000006 ,A0000007 ,A0000008 ,A0000009 ,A0000010 ,A0000011 ,A0000012 ,A0000013 ,
A0000014 ,A0000015 ,A0000016 ,A0000017 ,A0000018 ,A0000019 ,A0000020 ,A0000042 ,
A0000043 ,A0000044 ,A0000045 ,A0000046 ,A0000047 ,A0000048 ,A0000049 , ... ,

*** NETWORK ID: UCART2 ; NETWORK TYPE: GRIDCART ***
** CONC OF PM_10 IN MICROGRAMS/M**3
**
Y-COORD | X-COORD (METERS)
(METERS) | 484540.00 484590.00 484640.00 484690.00 484740.00
-----
3640300.0 | 0.07997c(13100324) 0.05379 (13012724) 0.04359 (13012724) 0.03486 (13012724) 0.03438
(13012724)
3640250.0 | 0.15970c(13100324) 0.06517c(13100324) 0.03864c(13100324) 0.03684 (13012724) 0.03553
(13012724)
3640200.0 | 0.07395c(13100324) 0.18349c(13100324) 0.07233c(13100324) 0.07333c(13100324)
0.04705c(13100324)
3640150.0 | 0.07759b(13021824) 0.05787b(13040724) 0.13509c(13100324) 0.06466c(13100324)
0.05636c(13100324)
3640100.0 | 0.21229c(13100324) 0.23993c(13100324) 0.05598c(13100324) 0.09070c(13100324)
0.07087c(13100324)
3640050.0 | 0.15060c(13100324) 0.21472c(13100324) 0.21861c(13100324) 0.23888c(13100324)
0.06410c(13100324)
3640000.0 | 0.15113c(13100324) 0.21266c(13100324) 0.21559c(13100324) 0.21662c(13100324)
0.21667c(13100324)
3639950.0 | 0.23861c(13100324) 0.21164c(13100324) 0.21418c(13100324) 0.21436c(13100324)
0.21288c(13100324)
3639900.0 | 0.22820b(13010824) 0.23708c(13100324) 0.22848c(13100324) 0.21432c(13100324)
0.20898c(13100324)
3639850.0 | 0.23227b(13010824) 0.22741b(13082824) 0.22834b(13082824) 0.21841b(13082824)
0.21428c(13100324)
3639800.0 | 0.27942b(13010824) 0.23708b(13010824) 0.21999b(13082824) 0.25545b(13082824)
0.20416b(13082824)
3639750.0 | 0.09531c(13040924) 0.24591b(13010824) 0.26676b(13010824) 0.25415b(13082824)
0.20962b(13082824)
3639700.0 | 0.25379b(13010824) 0.22792b(13010824) 0.25703b(13010824) 0.22459b(13082824)
0.21409b(13082824)

```

### 3Roots Project AERMOD Output File

```

3639650.0 | 0.26027b(13010824) 0.24826b(13010824) 0.25656b(13010824) 0.22031b(13010824)
0.21766b(13082824)
3639600.0 | 0.17115c(13013124) 0.25227b(13010824) 0.25118b(13010824) 0.22670b(13010824)
0.22334b(13010824)
3639550.0 | 0.26000b(13010824) 0.20928b(13010824) 0.24579b(13010824) 0.23748b(13010824)
0.23168b(13010824)
3639500.0 | 0.26295b(13010824) 0.24952b(13010824) 0.24960b(13010824) 0.24088b(13010824)
0.24001b(13010824)
3639450.0 | 0.25392b(13010824) 0.24993b(13010824) 0.24560b(13010824) 0.24278b(13010824)
0.24171b(13010824)

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*** AERMOD - VERSION 18081 *** *** F:\Work\STP 29 - 3 Roots\IAQ_GHG\IPM Modeling\3Roots\3Roots.isc ***
03/20/19
*** AERMET - VERSION 14134 *** ***

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\*\*\* 10:12:43  
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\*\*\* MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL

\*\*\* THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL

```

INCLUDING SOURCE(S): A0000001 ,A0000002 ,A0000003 ,A0000004 ,A0000005 ,
A0000006 ,A0000007 ,A0000008 ,A0000009 ,A0000010 ,A0000011 ,A0000012 ,A0000013 ,
A0000014 ,A0000015 ,A0000016 ,A0000017 ,A0000018 ,A0000019 ,A0000020 ,A0000042 ,
A0000043 ,A0000044 ,A0000045 ,A0000046 ,A0000047 ,A0000048 ,A0000049 , . . . ,

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\*\*\* NETWORK ID: UCART2 ; NETWORK TYPE: GRIDCART \*\*\*

\*\* CONC OF PM<sub>10</sub> IN MICROGRAMS/M<sup>3</sup> \*\*

Y-COORD   (METERS)	484790.00	484840.00	484890.00	484940.00	484990.00
3640300.0	0.03409 (13012724)	0.03325 (13012724)	0.03257 (13012724)	0.03141 (13012724)	0.03020
3640250.0	0.03474 (13012724)	0.03322 (13012724)	0.03313 (13012724)	0.03045 (13012724)	0.03015
3640200.0	0.03534 (13012724)	0.03458 (13012724)	0.03311 (13012724)	0.03181 (13012724)	0.03001
3640150.0	0.04604c(13100324)	0.03629 (13012724)	0.03494 (13012724)	0.03296 (13012724)	0.03117
3640100.0	0.04327c(13100324)	0.03764 (13012724)	0.03711 (13012724)	0.03534 (13012724)	0.03160
3640050.0	0.07125c(13100324)	0.06009c(13100324)	0.04472 (13012724)	0.03619 (13012724)	0.03273
3640000.0	0.22195c(13100324)	0.05142b(13100224)	0.05077 (13012724)	0.04728 (13012724)	0.03504
3639950.0	0.21273c(13100324)	0.21463c(13100324)	0.18178c(13100324)	0.04932c(13100324)	0.03399
3639900.0	0.21434c(13100324)	0.22812c(13100324)	0.23246c(13100324)	0.04312b(13072524)	0.03545
3639850.0	0.20590c(13100324)	0.20409c(13100324)	0.04780b(13100224)	0.13265c(13100324)	
3639800.0	0.20177b(13082824)	0.06265b(13100224)	0.15528c(13100324)	0.23150c(13100324)	
3639750.0	0.20873b(13082824)	0.05383b(13030524)	0.20471b(13082824)	0.20467b(13072224)	
3639700.0	0.22615b(13082824)	0.07981c(13020924)	0.21269b(13082824)	0.20876b(13072224)	
3639650.0	0.06024c(13012524)	0.18502b(13082824)	0.21721b(13082824)	0.21538b(13082824)	
0.21288b(13072224)					

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3639600.0 | 0.10193b(13021124) 0.22930b(13082824) 0.22259b(13082824) 0.22491b(13082824)
0.22194b(13082824)
3639550.0 | 0.23250b(13010824) 0.23158b(13010824) 0.22895b(13010824) 0.22763b(13082824)
0.22826b(13082824)
3639500.0 | 0.23807b(13010824) 0.23715b(13010824) 0.23473b(13010824) 0.23355b(13082824)
0.23574b(13082824)
3639450.0 | 0.24194b(13010824) 0.24005b(13010824) 0.23891b(13010824) 0.23968b(13082824)
0.24047b(13082824)

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*** AERMOD - VERSION 18081 *** *** F:\Work\STP 29 - 3 Roots\IAQ_GHG\IPM Modeling\3Roots\3Roots.isc ***
03/20/19
*** AERMET - VERSION 14134 *** ***

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\*\*\* 10:12:43  
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\*\*\* MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL

\*\*\* THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL

```

INCLUDING SOURCE(S): A0000001 ,A0000002 ,A0000003 ,A0000004 ,A0000005 ,
A0000006 ,A0000007 ,A0000008 ,A0000009 ,A0000010 ,A0000011 ,A0000012 ,A0000013 ,
A0000014 ,A0000015 ,A0000016 ,A0000017 ,A0000018 ,A0000019 ,A0000020 ,A0000042 ,
A0000043 ,A0000044 ,A0000045 ,A0000046 ,A0000047 ,A0000048 ,A0000049 , . . . ,

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\*\*\* NETWORK ID: UCART2 ; NETWORK TYPE: GRIDCART \*\*\*

\*\* CONC OF PM<sub>10</sub> IN MICROGRAMS/M<sup>3</sup> \*\*

Y-COORD   (METERS)	485040.00	485090.00	485140.00	485190.00	485240.00
3640300.0	0.02856 (13012724)	0.02845 (13012724)	0.02671 (13012724)	0.02574 (13012724)	0.02369
3640250.0	0.02882 (13012724)	0.02799 (13012724)	0.02608 (13012724)	0.02486 (13012724)	0.02408
3640200.0	0.02960 (13012724)	0.02753 (13012724)	0.02635 (13012724)	0.02464 (13012724)	0.02394
3640150.0	0.02902 (13012724)	0.02812 (13012724)	0.02597 (13012724)	0.02431 (13012724)	0.02319
3640100.0	0.02964 (13012724)	0.02782 (13012724)	0.02486 (13012724)	0.02439 (13012724)	0.02322
3640050.0	0.03019 (13012724)	0.02632 (13012724)	0.02511 (13012724)	0.02386 (13012724)	0.02298
3640000.0	0.03079 (13012724)	0.02785 (13012724)	0.02551 (13012724)	0.02420c(13100324)	
0.02294c(13100324)					
3639950.0	0.03225 (13012724)	0.02866 (13012724)	0.02655c(13100324)	0.02526c(13100324)	
0.02399c(13100324)					
3639900.0	0.03172 (13012724)	0.02960b(13072524)	0.02736b(13072524)	0.02624b(13030524)	
0.02526b(13030524)					
3639850.0	0.04016b(13072524)	0.03173b(13072524)	0.02992b(13072524)	0.02844b(13030524)	
0.02849b(13030524)					
3639800.0	0.07872c(13100324)	0.03727b(13072524)	0.03538b(13072524)	0.03501b(13030524)	
0.04702b(13100224)					
3639750.0	0.22085c(13100324)	0.10872c(13100324)	0.07903c(13100324)	0.15232c(13100324)	
0.21544c(13080324)					
3639700.0	0.20198b(13072224)	0.19787b(13021124)	0.19821c(13080324)	0.20332c(13080324)	
0.20601c(13080324)					
3639650.0	0.21314b(13021124)	0.21583b(13021124)	0.21326b(13021124)	0.20787b(13021124)	
0.20914c(13080324)					
3639600.0	0.21938b(13021124)	0.21888b(13021124)	0.22220b(13010824)	0.21966b(13010824)	
0.23505b(13072224)					

### 3Roots Project AERMOD Output File

```

3639550.0 | 0.22651b(13010824) 0.22764b(13010824) 0.23524b(13010824) 0.23925b(13010824)
0.22223b(13010824)
3639500.0 | 0.23583b(13082824) 0.23392b(13010824) 0.23215b(13010824) 0.22809b(13010824)
0.22652b(13072224)
3639450.0 | 0.23992b(13082824) 0.23732b(13082824) 0.24266b(13082824) 0.23234b(13082824)
0.23195b(13072224)

*** AERMOD - VERSION 18081 *** *** F:\Work\STP 29 - 3 Roots\IAQ_GHG\PM Modeling\3Roots\3Roots.isc ***
03/20/19
*** AERMET - VERSION 14134 *** *** 10:12:43 ***
*** MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL ***
*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): A0000001 ,A0000002 ,A0000003 ,A0000004 ,A0000005 ,
A0000006 ,A0000007 ,A0000008 ,A0000009 ,A0000010 ,A0000011 ,A0000012 ,A0000013 ,
A0000014 ,A0000015 ,A0000016 ,A0000017 ,A0000018 ,A0000019 ,A0000020 ,A0000042 ,
A0000043 ,A0000044 ,A0000045 ,A0000046 ,A0000047 ,A0000048 ,A0000049 , . . . ,

*** NETWORK ID: UCART2 ; NETWORK TYPE: GRIDCART ***
** CONC OF PM_10 IN MICROGRAMS/M**3 **

Y-COORD | X-COORD (METERS)
(METERS) | 485290.00 485340.00 485390.00 485440.00 485490.00
-----|-----
3640300.0 | 0.02324 (13012724) 0.02163 (13012724) 0.02134 (13012724) 0.02069 (13012724) 0.01993
(13012724)
3640250.0 | 0.02300 (13012724) 0.02187 (13012724) 0.02148 (13012724) 0.02112 (13012724) 0.02044
(13012724)
3640200.0 | 0.02216 (13012724) 0.02197 (13012724) 0.02178 (13012724) 0.02120 (13012724) 0.02059
(13012724)
3640150.0 | 0.02212 (13012724) 0.02133 (13012724) 0.02097 (13012724) 0.02078 (13012724) 0.02073
(13012724)
3640100.0 | 0.02231 (13012724) 0.02180 (13012724) 0.02166 (13012724) 0.02169 (13012724) 0.02159
(13012724)
3640050.0 | 0.02222 (13012724) 0.02193 (13012724) 0.02210 (13012724) 0.02226 (13012724) 0.02240
(13012724)
3640000.0 | 0.02259 (13012724) 0.02274 (13012724) 0.02323 (13012724) 0.02346 (13012724) 0.02325
(13012724)
3639950.0 | 0.02342 (13012724) 0.02407 (13012724) 0.02485 (13012724) 0.02524 (13012724) 0.03271
(13012724)
3639900.0 | 0.02478 (13012724) 0.02596 (13012724) 0.03567 (13012724) 0.03023 (13012724) 0.04480
(13012724)
3639850.0 | 0.02908 (13012724) 0.03588 (13012724) 0.05810 (13012724) 0.08840 (13012724)
0.08858b(13081424)
3639800.0 | 0.09144c(13100324) 0.12992b(13100224) 0.13521c(13080324) 0.12970c(13080324)
0.11827c(13080324)
3639750.0 | 0.21486c(13080324) 0.21608c(13080324) 0.21405c(13080324) 0.21811c(13080324)
0.22472c(13080324)
3639700.0 | 0.20870c(13080324) 0.20936c(13080324) 0.21805c(13080324) 0.23567c(13080324)
0.22351c(13080324)
3639650.0 | 0.20677c(13080324) 0.21071c(13080324) 0.21444c(13080324) 0.21755c(13080324)
0.22350c(13080324)
3639600.0 | 0.22938b(13072224) 0.21697b(13072224) 0.21624b(13072224) 0.23355c(13080324)
0.21633c(13080324)
3639550.0 | 0.22571b(13072224) 0.22853b(13072224) 0.22927b(13072224) 0.22669b(13072224)
0.22450b(13072224)

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3639500.0 | 0.23250b(13072224) 0.23327b(13072224) 0.24431b(13072224) 0.23567b(13072224)
0.23462b(13072224)
3639450.0 | 0.23399b(13072224) 0.23672b(13072224) 0.23668b(13072224) 0.23788b(13072224)
0.22511b(13072224)

*** AERMOD - VERSION 18081 *** *** F:\Work\STP 29 - 3 Roots\IAQ_GHG\PM Modeling\3Roots\3Roots.isc ***
03/20/19
*** AERMET - VERSION 14134 *** *** 10:12:43 ***
*** MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL ***
*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): A0000001 ,A0000002 ,A0000003 ,A0000004 ,A0000005 ,
A0000006 ,A0000007 ,A0000008 ,A0000009 ,A0000010 ,A0000011 ,A0000012 ,A0000013 ,
A0000014 ,A0000015 ,A0000016 ,A0000017 ,A0000018 ,A0000019 ,A0000020 ,A0000042 ,
A0000043 ,A0000044 ,A0000045 ,A0000046 ,A0000047 ,A0000048 ,A0000049 , . . . ,

*** NETWORK ID: UCART2 ; NETWORK TYPE: GRIDCART ***
** CONC OF PM_10 IN MICROGRAMS/M**3 **

Y-COORD | X-COORD (METERS)
(METERS) | 485540.00 485590.00 485640.00 485690.00 485740.00
-----|-----
3640300.0 | 0.01855 (13012724) 0.01786 (13012724) 0.01713 (13012724) 0.01667 (13012724) 0.01626
(13012724)
3640250.0 | 0.01888 (13012724) 0.01845 (13012724) 0.01797 (13012724) 0.01715 (13012724) 0.01689
(13012724)
3640200.0 | 0.01925 (13012724) 0.01923 (13012724) 0.01893 (13012724) 0.01755 (13012724) 0.01721
(13012724)
3640150.0 | 0.02030 (13012724) 0.02002 (13012724) 0.01985 (13012724) 0.01776 (13012724) 0.01740
(13012724)
3640100.0 | 0.02147 (13012724) 0.02077 (13012724) 0.02059 (13012724) 0.02019 (13012724) 0.01819
(13012724)
3640050.0 | 0.02252 (13012724) 0.02251 (13012724) 0.02139 (13012724) 0.02500 (13012724)
0.02733c(13080324)
3640000.0 | 0.02311 (13012724) 0.02576 (13012724) 0.02221 (13012724) 0.02483 (13012724)
0.04029c(13080324)
3639950.0 | 0.02602 (13012724) 0.05123c(13080324) 0.05370b(13060924) 0.06502b(13081424)
0.06542c(13080324)
3639900.0 | 0.06531b(13060924) 0.07546b(13081424) 0.07051b(13060924) 0.07188c(13080324)
0.07603c(13080324)
3639850.0 | 0.08097c(13080324) 0.08566c(13080324) 0.09077c(13080324) 0.12323b(13100224)
0.21980c(13080324)
3639800.0 | 0.11835c(13080324) 0.21137c(13080324) 0.24428c(13080324) 0.19288c(13080324)
0.06853b(13030524)
3639750.0 | 0.22915c(13080324) 0.24522c(13080324) 0.25011c(13080324) 0.15468c(13080324)
0.07402b(13030524)
3639700.0 | 0.23299c(13080324) 0.23153c(13080324) 0.24184c(13080324) 0.13018c(13080324)
0.06785b(13030524)
3639650.0 | 0.22454c(13080324) 0.22676c(13080324) 0.07901b(13072524) 0.05418b(13030524)
0.04949b(13030524)
3639600.0 | 0.21928c(13080324) 0.14950c(13080324) 0.05641b(13030524) 0.05037b(13030524)
0.04646b(13030524)
3639550.0 | 0.23757b(13072224) 0.06067b(13030524) 0.05250b(13030524) 0.04701b(13030524)
0.04328b(13030524)
3639500.0 | 0.10921b(13072224) 0.05294b(13030524) 0.04856b(13030524) 0.04237b(13030524)
0.03902b(13030524)

```



### 3Roots Project AERMOD Output File

3639450.0 | 0.05779b(13081724) 0.05240b(13081724) 0.04482b(13030524) 0.03990b(13030524)  
0.03470b(13081724)

\*\*\* AERMOD - VERSION 18081 \*\*\* F:\Work\STP 29 - 3 Roots\IAQ\_GHG\IPM Modeling\3Roots\3Roots.isc  
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\*\*\* MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL

\*\*\* THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL

INCLUDING SOURCE(S): A0000001 , A0000002 , A0000003 , A0000004 , A0000005 ,  
A0000006 , A0000007 , A0000008 , A0000009 , A0000010 , A0000011 , A0000012 , A0000013 ,  
A0000014 , A0000015 , A0000016 , A0000017 , A0000018 , A0000019 , A0000020 , A0000042 ,  
A0000043 , A0000044 , A0000045 , A0000046 , A0000047 , A0000048 , A0000049 , ...

\*\*\* NETWORK ID: UCART2 ; NETWORK TYPE: GRIDCART \*\*\*

\*\* CONC OF PM<sub>10</sub> IN MICROGRAMS/M<sup>3</sup> \*\*

Y-COORD	X-COORD (METERS)			
(METERS)	485790.00	485840.00	485890.00	485940.00
3640300.0	0.03029c(13080324)	0.03023c(13080324)	0.03939c(13080324)	0.03923c(13080324)
0.03908c(13080324)				
3640250.0	0.04175c(13080324)	0.04110c(13080324)	0.04188c(13080324)	0.04129c(13080324)
0.03932c(13080324)				
3640200.0	0.04361c(13080324)	0.04094c(13080324)	0.04246c(13080324)	0.04161c(13080324)
0.04101c(13080324)				
3640150.0	0.04063c(13080324)	0.04622c(13080324)	0.04622c(13080324)	0.04242c(13080324)
0.04258c(13080324)				
3640100.0	0.04296c(13080324)	0.04897c(13080324)	0.04869c(13080324)	0.04297c(13080324)
0.04469c(13080324)				
3640050.0	0.02365 (13012724)	0.03834c(13080324)	0.05188c(13080324)	0.05226c(13080324)
0.05045b(13081424)				
3640000.0	0.05187c(13080324)	0.05781c(13080324)	0.05983c(13080324)	0.06120b(13032524)
0.06580b(13081424)				
3639950.0	0.06592c(13080324)	0.06704c(13080324)	0.07330b(13081424)	0.08398b(13081424)
0.11457b(13100224)				
3639900.0	0.08613b(13100224)	0.12493b(13100224)	0.18075c(13080324)	0.12815c(13080324)
0.18557c(13080324)				
3639850.0	0.18642c(13080324)	0.10907c(13080324)	0.08005c(13080324)	0.09563c(13080324)
0.17618c(13080324)				
3639800.0	0.07244b(13030524)	0.07465b(13030524)	0.08055b(13030524)	0.08453b(13030524)
0.14455c(13080324)				
3639750.0	0.08698b(13030524)	0.08796b(13030524)	0.07121b(13030524)	0.06984b(13030524)
0.06789b(13030524)				
3639700.0	0.05057b(13030524)	0.04027b(13030524)	0.03736b(13030524)	0.03378b(13030524)
0.03247b(13030524)				
3639650.0	0.04673b(13030524)	0.03366b(13030524)	0.03182b(13030524)	0.03034b(13030524)
0.02927b(13030524)				
3639600.0	0.04401b(13030524)	0.03106b(13030524)	0.02993b(13030524)	0.02843b(13030524)
0.02934b(13030524)				
3639550.0	0.03974b(13030524)	0.03217b(13030524)	0.03245b(13030524)	0.03030b(13030524)
0.02822b(13030524)				
3639500.0	0.03530b(13030524)	0.03241b(13030524)	0.02938b(13030524)	0.02786b(13081724)
0.02683b(13081724)				
3639450.0	0.03189b(13081724)	0.03078b(13081724)	0.02794b(13081724)	0.02811b(13081724)
0.02633b(13081724)				

\*\*\* AERMOD - VERSION 18081 \*\*\* F:\Work\STP 29 - 3 Roots\IAQ\_GHG\IPM Modeling\3Roots\3Roots.isc  
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\*\*\* AERMET - VERSION 14134 \*\*\* PAGE 70 \*\*\* 10:12:43

\*\*\* MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL

\*\*\* THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL

INCLUDING SOURCE(S): A0000001 , A0000002 , A0000003 , A0000004 , A0000005 ,  
A0000006 , A0000007 , A0000008 , A0000009 , A0000010 , A0000011 , A0000012 , A0000013 ,  
A0000014 , A0000015 , A0000016 , A0000017 , A0000018 , A0000019 , A0000020 , A0000042 ,  
A0000043 , A0000044 , A0000045 , A0000046 , A0000047 , A0000048 , A0000049 , ...

\*\*\* NETWORK ID: UCART2 ; NETWORK TYPE: GRIDCART \*\*\*

\*\* CONC OF PM<sub>10</sub> IN MICROGRAMS/M<sup>3</sup> \*\*

Y-COORD	X-COORD (METERS)	
(METERS)	486040.00	486090.00

3640300.0	0.03869c(13080324)	0.03860c(13080324)
3640250.0	0.03939c(13080324)	0.03482c(13080324)
3640200.0	0.04012c(13080324)	0.03882c(13080324)
3640150.0	0.04154c(13080324)	0.04044c(13080324)
3640100.0	0.04536b(13081424)	0.04579b(13081424)
3640050.0	0.05615b(13081424)	0.06040b(13081424)
3640000.0	0.07264b(13081424)	0.08243b(13081424)
3639950.0	0.13915c(13080324)	0.14275c(13080324)
3639900.0	0.19860c(13080324)	0.19682c(13080324)
3639850.0	0.19703c(13080324)	0.18981c(13080324)
3639800.0	0.18316c(13080324)	0.14979c(13080324)
3639750.0	0.06402b(13030524)	0.04591b(13030524)
3639700.0	0.03109b(13030524)	0.02787b(13030524)
3639650.0	0.02825b(13030524)	0.02602b(13030524)
3639600.0	0.02722b(13030524)	0.02580b(13030524)
3639550.0	0.02721b(13030524)	0.02269b(13030524)
3639500.0	0.02652b(13081724)	0.02032b(13030524)
3639450.0	0.02590b(13081724)	0.01820b(13081724)

\*\*\* AERMOD - VERSION 18081 \*\*\* F:\Work\STP 29 - 3 Roots\IAQ\_GHG\IPM Modeling\3Roots\3Roots.isc  
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\*\*\* AERMET - VERSION 14134 \*\*\* PAGE 71 \*\*\* 10:12:43

\*\*\* MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL

\*\*\* THE SUMMARY OF MAXIMUM PERIOD ( 8760 HRS) RESULTS \*\*\*

\*\* CONC OF PM<sub>10</sub> IN MICROGRAMS/M<sup>3</sup> \*\*

GROUP ID	AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE GRID-ID
----------	--------------	--	-----------------

ALL 1ST HIGHEST VALUE IS 0.16967 AT ( 484540.00, 3639800.00, 95.20, 116.10, 0.00) GC UCART2  
2ND HIGHEST VALUE IS 0.16575 AT ( 484640.00, 3639750.00, 94.90, 127.80, 0.00) GC UCART2  
3RD HIGHEST VALUE IS 0.15960 AT ( 484690.00, 3639800.00, 94.70, 128.80, 0.00) GC UCART2  
4TH HIGHEST VALUE IS 0.15691 AT ( 484640.00, 3639700.00, 94.00, 127.60, 0.00) GC UCART2  
5TH HIGHEST VALUE IS 0.15672 AT ( 484690.00, 3639750.00, 94.20, 128.80, 0.00) GC UCART2  
6TH HIGHEST VALUE IS 0.15629 AT ( 484490.00, 3639500.00, 94.60, 101.20, 0.00) GC UCART2

### 3Roots Project AERMOD Output File

7TH HIGHEST VALUE IS 0.15549 AT ( 484490.00, 3639700.00, 95.60, 112.70, 0.00) GC UCART2  
8TH HIGHEST VALUE IS 0.15425 AT ( 484540.00, 3639950.00, 94.70, 127.80, 0.00) GC UCART2  
9TH HIGHEST VALUE IS 0.15415 AT ( 484590.00, 3639900.00, 94.50, 128.60, 0.00) GC UCART2  
10TH HIGHEST VALUE IS 0.15372 AT ( 484640.00, 3639650.00, 93.20, 127.60, 0.00) GC UCART2

\*\*\* RECEPTOR TYPES: GC = GRIDCART  
GP = GRIDPOLR  
DC = DISCCART  
DP = DISCPOLR

\*\*\* AERMOD - VERSION 18081 \*\*\* F:\Work\STP 29 - 3 Roots\AQ\_GHG\PM Modeling\3Roots\3Roots.isc \*\*\*  
03/20/19

\*\*\* AERMET - VERSION 14134 \*\*\* 10:12:43

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\*\*\* MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL

\*\*\* THE SUMMARY OF HIGHEST 24-HR RESULTS \*\*\*

\*\* CONC OF PM\_10 IN MICROGRAMS/M\*\*3 \*\*

GROUP ID	DATE	NETWORK
TYPE GRID-ID	AVERAGE CONC (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG) OF

-----  
ALL HIGH 1ST HIGH VALUE IS 0.29781b ON 13010824: AT ( 484390.00, 3639500.00, 95.30, 95.50, 0.00) GC UCART2

\*\*\* RECEPTOR TYPES: GC = GRIDCART  
GP = GRIDPOLR  
DC = DISCCART  
DP = DISCPOLR

\*\*\* AERMOD - VERSION 18081 \*\*\* F:\Work\STP 29 - 3 Roots\AQ\_GHG\PM Modeling\3Roots\3Roots.isc \*\*\*  
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\*\*\* AERMET - VERSION 14134 \*\*\* 10:12:43

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\*\*\* MODELOPTs: NonDEFAULT CONC FLAT and ELEV RURAL

\*\*\* Message Summary : AERMOD Model Execution \*\*\*

----- Summary of Total Messages -----

A Total of 0 Fatal Error Message(s)  
A Total of 2 Warning Message(s)  
A Total of 11311 Informational Message(s)  
  
A Total of 8760 Hours Were Processed  
  
A Total of 1692 Calm Hours Identified  
  
A Total of 411 Missing Hours Identified ( 4.69 Percent)

\*\*\*\*\* FATAL ERROR MESSAGES \*\*\*\*\*  
\*\*\* NONE \*\*\*

\*\*\*\*\* WARNING MESSAGES \*\*\*\*\*  
RE W213 378 RECAP: ELEV Input Inconsistent With Option: Input Ignored UCART1  
RE W213 633 RECAP: ELEV Input Inconsistent With Option: Input Ignored UCART2

\*\*\*\*\*  
\*\*\* AERMOD Finishes Successfully \*\*\*  
\*\*\*\*\*