PURE WATER SOQUEL: GROUNDWATER REPLENISHMENT AND SEAWATER INTRUSION PREVENTION PROJECT

Addendum to the Environmental Impact Report

Prepared for
Soquel Creek Water District

November 2020

ESA

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TABLE OF CONTENTS

Pure Water Soquel: Groundwater Replenishment and Seawater Intrusion Prevention Project Addendum to the Environmental Impact Report

Appendices

List of Figures

List of Tables

SECTION 1
Background and Purpose of this Addendum

Project Title

Soquel Creek Water District Pure Water Soquel: Groundwater Replenishment and Seawater Intrusion Prevention Project EIR Addendum

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Project Location

The previously approved Project includes facilities in portions of the cities of Santa Cruz and Capitola, and in the Live Oak, Soquel, and Aptos communities of unincorporated Santa Cruz County, California. The approved Project treatment system includes components at the Santa Cruz Wastewater Treatment Facility (SC WWTF) and the property on the southwest corner of the Soquel Avenue-Chanticleer Avenue intersection (Chanticleer Site). In addition to project locations included in the approved Project, this addendum considers the addition of a parcel located at 2455 Chanticleer Avenue, Santa Cruz, CA APN 029-013-57 (New Parcel), which is adjacent to the Chanticleer Site.

1.1 Background

The Soquel Creek Water District (hereafter referred to as the District) is a County water district formed under the Water Code to provide potable drinking water and groundwater resource management in Santa Cruz County. Its only source of water comes from the Santa Cruz Mid-County groundwater basin (Basin), which has been designated by the State of California's Department of Water Resources (DWR) as both "high priority" and "critically overdrafted" due to the active seawater intrusion that is contaminating this region's sole source of supply. For these reasons, a supplemental water supply is urgently required to restore groundwater levels to ensure water supplies and help meet the Sustainable Groundwater Management Act (SGMA) requirement that the basin be sustainable by 2040. To provide the new water supply the District proposed the Soquel Creek Water District Pure Water Soquel: Groundwater Replenishment and Seawater Intrusion Prevention Project (Project) that would supplement the natural recharge of the Basin with purified water. The Project would increase the sustainability of the District's groundwater sources, reduce the degree of overdraft conditions in the local groundwater basin, protect against further seawater

intrusion, and reduce discharge of treated wastewater to the Monterey Bay National Marine Sanctuary. The District served as the lead agency for the Project Environmental Impact Report (EIR).

The EIR evaluated potential environmental impacts that could occur as a result of implementing the Project and/or alternatives and provided applicable mitigation to reduce the intensity of potential environmental impacts. This included evaluation of Tertiary Treatment at the SC WWTF and an Advanced Water Purification Facility (AWPF) at the Chanticleer Site. The District certified the EIR, adopted a Mitigation Monitoring and Reporting Program (MMRP, included as **Appendix A**), adopted a Statement of Overriding Considerations, and approved the Project on December 18, 2018.

Subsequent to adoption of the EIR and approval of the Project, a parcel adjacent to the Chanticleer Site was listed for sale and the District proposes to acquire it and incorporate it into the design of the Project, specifically into the construction plans for the Chanticleer Site AWPF. Further, during the ongoing project design process, several required treatment process and facility layout refinements to the treatment systems at the Chanticleer Site and the SC WWTF were identified. Therefore, this Addendum to the EIR has been prepared to meet the requirements of the California Environmental Quality Act (CEQA) as to the Modified Project.

1.2 Purpose of This Addendum

The CEQA Guidelines (Sections 15162 and 15164) require that a lead agency prepare an addendum to a previously certified EIR if some changes or additions to the environmental evaluation of a project are necessary, but none of the following occurs:

1. There are no substantial changes in the project which require major revisions to the previous EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
2. There are no substantial changes with respect to the circumstances under which the project is undertaken which require major revisions to the previous EIR due to involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
3. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete, which shows any of the following:
    a. The project will have one or more significant effects not discussed in the previous EIR;
    b. Significant effects previously examined will be substantially more severe than shown in the previous EIR;
    c. Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; The project will result in impacts substantially more adverse than those disclosed in the EIR; or
    d. Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

CEQA Guidelines section 15164 requires that an addendum include a brief explanation of the decision not to prepare a subsequent EIR pursuant to Section 15162. CEQA Guidelines Section 15162 pertaining to subsequent EIRs indicates that:

> (a) When an EIR has been certified or a negative declaration adopted for a project, no subsequent EIR shall be prepared for that project unless the lead agency determines, on the basis of substantial evidence in the light of the whole record, one or more of the following:
>
> (1) Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
>
> (2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or Negative Declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
>
> (3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the Negative Declaration was adopted, shows any of the following:
>
> (A) The project will have one or more significant effects not discussed in the previous EIR or negative declaration;
>
> (B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;
>
> (C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or
>
> (D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.
>
> (b) If changes to a project or its circumstances occur or new information becomes available after adoption of a negative declaration, the lead agency shall prepare a subsequent EIR if required under subdivision (a). Otherwise the lead agency shall determine whether to prepare a subsequent negative declaration, an addendum, or no further documentation.
>
> (c) Once a project has been approved, the lead agency's role in project approval is completed, unless further discretionary approval on that project is required. Information appearing after an approval does not require reopening of that approval. If after the project is approved, any of the conditions described in subdivision (a) occurs, a subsequent EIR or negative declaration shall only be prepared by the public agency which grants the next discretionary approval for the project, if any. In this situation no other responsible agency shall grant an approval for the project until the subsequent EIR has been certified or subsequent negative declaration adopted.

> (d) A subsequent EIR or subsequent negative declaration shall be given the same notice and public review as required under Section 15087 or Section 15072. A subsequent EIR or negative declaration shall state where the previous document is available and can be reviewed.

The District proposes to modify the Project to: (1) add the New Parcel, which includes a building and parking area, as part of the Chanticleer Site, as well as (2) include water treatment process revisions and facility layout refinements to the Tertiary Treatment System (TTS) at the SC WWTF and the Advanced Water Purification Facility (AWPF) at the Chanticleer Site, collectively referred to as "Modified Project".

1.3 Determination and Addendum Conclusion

Site specific environmental review, described in Section 3, of the proposals for the New Parcel, and the treatment facility revisions, along with environmental review prepared for the Project EIR have led the District to conclude that the Modified Project would not result in any new impacts not previously disclosed in the certified EIR; nor would it result in a substantial increase in the magnitude of any significant environmental impact previously identified. It is also noted that the Modified Project is subject to the mitigation measures already adopted as part of the MMRP (Appendix A). For these reasons, an addendum to the certified EIR would be sufficient to meet the requirements of CEQA Section 15164 and that an addendum need not be circulated for public review but can be included in or attached to the final EIR. This Addendum also serves as documentation that the potential changes to the Project do not trigger any of the conditions described above in CEQA Guidelines Section 15162; therefore, a subsequent EIR is not required.

SECTION 2
Project Description

2.1 Project Overview

The District is a nonprofit, local government agency that provides potable water service and groundwater resource management within its service area (see EIR Figure 2-1). The District serves a population of about 40,400 through approximately 14,400 service connections within Santa Cruz County. The District water supply system consists of 18 production wells (15 of which are currently active), approximately 166 miles of pipeline, and 18 water storage tanks. The total estimated production capacity of the system is about 7 million gallons per day (mgd), and the total storage capacity is 7.5 million gallons.

The purpose of the Project is to allow for advanced purified groundwater replenishment to supplement natural recharge of the Basin with purified water. The District prepared the EIR to provide the public, and responsible and trustee agencies reviewing the Project, with information about the potential physical effects, both beneficial and adverse, on the local and regional environment associated with implementation of the Project. The EIR was prepared and certified for the Project in compliance with CEQA (California Public Resources Code, Sections 21000 et seq.), and the CEQA Guidelines (Code of Regulations Title 14, Chapter 3, Sections 15000 et seq.).

2.2 Project Description

In the Project as described in the certified EIR, the District proposed to supplement natural recharge of the Santa Cruz Mid-County Groundwater Basin with purified water. The approved Project allows for purified water to be produced from existing secondary effluent from the SC WWTF recharged into the aquifer. The Project setting is predominantly urban, characterized by mostly residential and commercial development, interspersed with patches of more naturalistic undeveloped areas primarily along major drainages and riparian corridors.

2.3 Proposed Changes to the Project

The Project, analyzed in the EIR and as approved by the Soquel Creek Water District Board of Directors on December 18, 2018, included the following direction by the Board of Directors regarding prioritization of project development and siting for:

- Tertiary treatment at the SC WWTF and AWPF at the Chanticleer Site; while also coordinating with the City of Santa Cruz on the potential to site the full advanced water purification treatment at the SC WWTF provided no delay occurs to project schedule; and
- Recharge wells at Twin Lakes Church, Monterey Avenue, and Willowbrook Lane.

Following project approval, District staff coordinated with the City of Santa Cruz regarding treatment options as directed and, on March 5, 2019, a joint recommendation was made by the City of Santa Cruz and District staff to the District Board that tertiary treatment at the SC WWTF and AWPF at the Chanticleer site be implemented rather than the full advanced water purification treatment facility solely at the SC WWTF. Thus, project development and siting focused on that that design option from that point on.

As part of the District's project development process, an evaluation of the 2019 SC WWTF secondary effluent water quality was conducted which showed that nitrite levels in the secondary effluent had increased in recent years (Black & Veatch, 2020). Nitrite and other organic and inorganic compounds are found in secondary effluent, and are among the compounds that are removed during advanced purification through the ultra-violet (UV) and advanced oxidation processes (UV-AOP) described in the project description of the approved EIR (Section 3.7.1, Facilities Operations and Maintenance). The evaluation indicated that if nitrite levels were to remain at 2019 levels in the future, project operations would need to either increase the sizing of the UV-AOP processes from that described in the EIR or include pretreatment that would reduce nitrite and ammonia levels prior to membrane treatment (while retaining the UV-AOP processes as described in the EIR). As compared to increased UV-AOP processing, pretreatment provides flexibility to adjust for seasonal water quality fluctuations (Black & Veatch, 2020). The District reviewed the evaluation and has opted to revise the Project treatment steps, and associated facility layouts, at SC WWTF and AWPF to accommodate and include pretreatment.[1]

In addition, subsequent to the certification of the EIR, a parcel adjacent to the Chanticleer Site, 2455 Chanticleer Avenue ("New Parcel"), was listed for sale and became available to acquire. The District proposes to acquire the New Parcel and incorporate it into the design of the approved Project, specifically the design of the AWPF at the Chanticleer Site. The updated Project, referred to here as the Modified Project, is described below.

Updates to the Proposed Project

SC WWTF

The approved Project at SC WWTF would have utilized ultrafiltration (UF)/ microfiltration (MF) to yield a tertiary-level of treatment, followed by reverse osmosis (RO),) and an ultraviolet light-based advanced oxidation process (UV-AOP) at the Chanticleer site. Under the Modified Project, the MF system would be moved to the Chanticleer site and a pretreatment step would be added at the SC WWTF. The pretreatment process is a nitrification biological aerated filter (nBAF) that would be used to convert ammonia and nitrite remaining in the SC WWTF secondary treatment effluent into nitrate. The tertiary effluent from the nBAF would be dosed with sodium hypochlorite and liquid ammonium sulfate to form a chloramine residual before being transported through the approximately 5-mile conveyance line to the Chanticleer Site. At the Chanticleer Site, the tertiary effluent would go through the MF system followed by RO-UV-AOP.

[1] As with the approved Project, the treatment process would be required to meet the regulations that set forth specific requirements for operations, monitoring, and reporting (CCR Title 22, Division 4, Chapter 3, Water Recycling Criteria.

To accommodate this treatment approach, a revised treatment facility would include a new chemical storage area within the SC WWTF's existing ferric chloride chemical area. Walls would be added in the existing containment area to create separate containment areas for each of the treatment chemicals. The new chemicals include one 9,300-gallon tank for sodium hydroxide and one 1,500-gallon tank for liquid ammonium sulfate. As disclosed on EIR page 3-41, any chemicals used during the treatment process would be stored at the treatment facility at SC WWTF's in accordance with applicable regulatory requirements. The Modified Project's chemical storage facilities would include secondary concrete containment, alarm notification systems, and fire sprinklers.

The SC WWTF has an existing sodium hypochlorite storage system. Under the Modified Project, chemical metering pumps would be added near the existing sodium hypochlorite system that would allow for connection to the SC WWTF existing bulk storage tank.

In addition, a small chemical containment area would be added in the location of the future nBAF tanks. The chemical containment area would include 330-gallon portable chemical storage containers, or totes, for aluminum chlorohydrate (ACH) and phosphoric acid. Table 2-1 lists the facility requirements at the SC WWTF under the Modified Project compared to the facility requirements evaluated in the EIR for the SC WWTF. Refer to **Figure 1** for an illustration of the changes at the SC WWTF associated with the proposed Modified Project.

TABLE 2-1
COMPONENTS FOR TREATMENT CONFIGURATIONS[a]

EIR Description of TTS at SC WWTF	Modified Project Description of TTS at SC WWTF
Tertiary Treatment System	***Tertiary Treatment System***
• Secondary effluent pump station • Equalization tank (24 ft. in height) • UF or MF system • Tertiary ultraviolet (UV disinfection system) • Tertiary effluent pump station • Electrical and control room These components would be sited on an unenclosed concrete pad. The UF/MF and UV AOP systems would be covered by a canopy. **Total Disturbance Area: 15,000 ft^2**	• Secondary effluent pump station and strainers (outdoors on a concrete pad) • nBAF system consisting of concrete tanks 26 ft. tall • Equalization tank (underground) • nBAF process and backwash blowers and pumps (outdoors on a concrete pad) • Non-potable reuse facilities (outdoors on a concrete pad): - Cloth filters - Tertiary ultraviolet (UV disinfection system) • Tertiary effluent pump station - Chemical storage and metering pumps at the City's existing chemical areas - Chemical tote storage area • Electrical building • Electrical substation (on an unenclosed concrete pad) **Total Disturbance Area: 22,000 ft^2**

NOTE:
[a] Structure dimensions and overall footprint values are approximate.

SOURCE: Brown and Caldwell; SqCWD, 2020

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Figure 1

SC WWTF Site Plan under Modified Project

Construction

Under the Modified Project the estimated construction duration at the SC WWTF would be extended an additional 14 months beyond that described in the EIR, for a revised total construction period of 24 months. The overall Project construction duration would remain at approximately 36 months, as described in the EIR. The permanent and temporary construction area would increase by approximately 7,000 square feet (sf) for a total of 22,000 sf. The increase in disturbance area, and related extension of the construction duration, is primarily associated with the addition of the underground equalization tank. However, as under the approved Project, all construction and operation activities would be within the existing WWTF. Project construction would include demolition of the existing SC WWTF structures located at the proposed Project facilities. Unlike the approved Project evaluated in the EIR, the Modified Project would result in an excavation depth of 4 feet at the SC WWTF, with the exception of the backwash basin, which would require an excavation depth of 15 feet. As described in the Project EIR, piles would need to be installed during to support project components. However, under the Modified Project, the total number of piles required is reduced from approximately 270 piles to approximately 230 piles. The method for installation of the piles would remain as described in the EIR.

The same types of construction equipment would be required for construction activities at SC WWTF as identified in the EIR for the approved Project; however, the number of hours per day of use for some of the equipment would increase under the Modified Project, due to the increase in overall construction activities. Same as for the approved Project, an average of 12 (and up to 16) construction workers per day would be required.

As noted in the EIR, construction activities would primarily occur during normal working hours; weekdays between the hours of 8 a.m. and 5 p.m., and possibly on Saturdays between the hours of 9 a.m. and 5 p.m. However, in order to provide flexibility in construction crew scheduling and in order to meet the request of the SCWWTF staff in order to coordinate Project construction activities with the ongoing SC WWTF operations, construction activities may begin at 7 a.m., and 10 and 12 hour long shifts may be considered. Further, limited night time construction may occur, in order to complete connection points between the Project and existing SC WWTF facilities (such as connection to the SC WWTF secondary effluent source, connection with existing chemical storage/feed lines, etc.) during SC WWTF low flow time periods, which are typically overnight. These activities would require small hand tools, such as drills and impact wrenches, along with an air compressor and extended reach forklift. If the connection work occurs at night, construction lighting would be required.

It is estimated that a total of approximately 935 truck round trips would be required to import materials and export debris to/from the SC WWTF under the Modified Project, which would be 732 additional round trips compared to the approved Project. The increase in import and export truck trips is primarily associated with the excavation and construction associated with the addition of an equalization tank and the nBAF tanks.

Operation

The SC WWTF UV-disinfected secondary effluent would flow into the Project's Secondary Effluent Pump Station and then to the nBAF tertiary treatment facility. The nBAF process includes alkalinity adjustment using sodium hydroxide, prior to nBAF filtration which utilizes a biologically active medium for nitrification, aeration to support ammonia removal, and backwash. Water treated by the nBAF tertiary system would be discharged to the tertiary effluent pump station and from there would be split, with a majority of the water being pumped from the Tertiary Effluent Pump Station through the tertiary pipeline to the Chanticleer Site; and a small portion of the water being diverted to the SC WWTF non-potable reuse facilities. To maintain the nBAF effluent quality during conveyance, liquid ammonium sulfate and sodium hypochlorite would be dosed into the pipeline after the tertiary effluent pump station.

As noted above, the sodium hydroxide, liquid ammonium sulfate, and sodium hypochlorite tanks would be stored in an area with secondary containment. The flow from the nBAF to the non-potable reuse facilities would be further treated by the SC WWTF to meet the Title 22 requirements for disinfected tertiary recycled water, and would replace the current WWTF recycled water treatment facilities system.

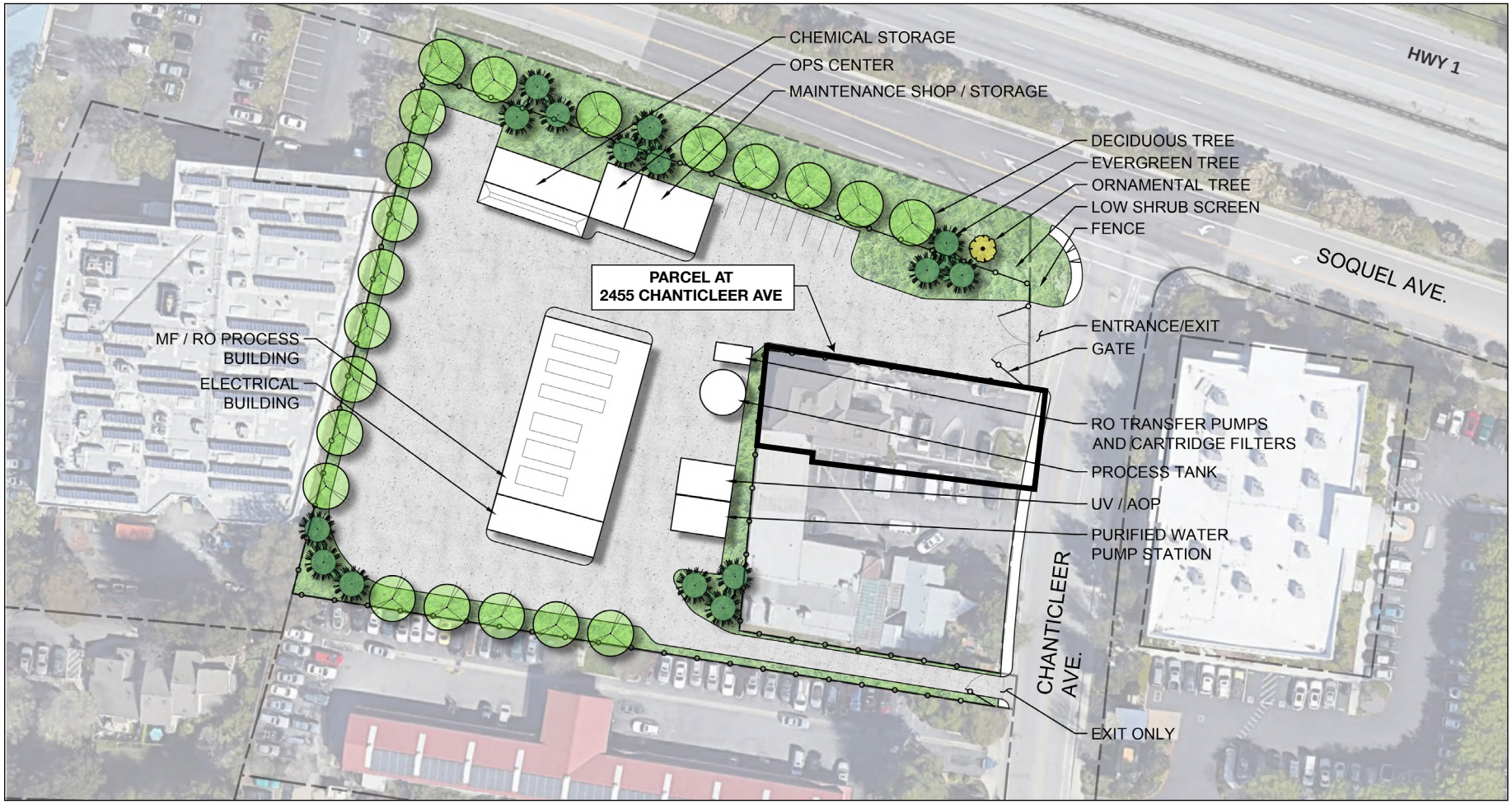
The total annual operational power usage under the Modified Project (including both the TTS and AWPF) would increase to 6,200 megawatt-hour (MWh), which is an increase of 2,600 MWh per year compared to the approved Project. The power usage increased due to the addition of the nBAF process, which requires additional pumps and air blowers. The operational water use would remain the same as described in the certified EIR.

Chanticleer Site

Under the Modified Project, the District would acquire the parcel adjacent to the Chanticleer Site. The parcel is at 2455 Chanticleer Avenue and includes an approximately 2,200 square foot building with a six-space parking area that is currently operated as Provision Glass (referred to throughout this addendum as the "New Parcel"). Refer to **Figure 2** for the location of the New Parcel relative to the approved AWPF at the Chanticleer Site.

The Chanticleer AWPF treatment process would be similar to that described in the EIR, with the purified water treatment being initiated with an MF system and followed by the treatment process of RO, UV-AOP as identified for the approved Project.

The original proposed chemical storage area would be revised to include four above ground tanks; one 5,800-gallon tank for sodium hypochlorite, one 1,500-gallon tank for sodium hydroxide, one 3,500-gallon tank for sodium bisulfite, one 1,500-gallon tank for Liquid Ammonium Sulfate, and one 16,000-gallon tank for calcium hydroxide. In addition, the chemical storage area would include numerous storage totes, including two 330-gallon totes for citric acid, two 330-gallon totes for sulfuric acid, two 330 gallon totes for threshold inhibitor storage, and two 330 gallon totes of hydrogen peroxide. In addition, a carbon dioxide feed system would also be located adjacent to the chemical storage area. The chemicals are hazardous and would be stored in an area with secondary containment.



SOURCE: Brown and Caldwell; SqCWD, 2017

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Figure 2

Approved AWPF at Chanticleer Site and Parcel at 2455 Chanticleer Ave

The project description evaluated in the EIR assumed that the facility wastewater stream would be connected to the County sewer main on Chanticleer Avenue, immediately adjacent to the Chanticleer site. However, as facility design has progressed, the point of connection to the sewer main has been revised to Soquel Avenue and 17th Avenue, approximately 200 feet to the west of the site. The Modified Project includes a lift station and equalization tank at the northwest end of the site (see Figure 3) to store and pump the facility waste stream to the sewer main, and an extension of a 4-inch wastewater pipeline to Soquel Avenue and 17th Avenue. The lift station would include two submersible pumps (one active, one standby), that would be between 2- and 5-horsepower each.

Table 2-2 lists the AWPF requirements at the Chanticleer Site under the Modified Project compared to the AWPF requirements at the Chanticleer Site evaluated in the EIR for the Chanticleer Site.

TABLE 2-2
COMPONENTS FOR TREATMENT AT CHANTICLEER SITE[a]

EIR Description of AWPF at Chanticleer Site	Modified Project Description of AWPF at Chanticleer Site
AWPF (with Tertiary Treatment at SC WWTF)	***AWPF (with Tertiary Treatment at SC WWTF)***
• Process building (25-30 ft. in height) to house major facility equipment including: - RO system - UV AOP system • Operation building/lab (to be enclosed, 20 ft. in height) and maintenance/storage (to be covered by a canopy) • Educational program area (signage and walk-through area) • Electrical and instrumentation equipment building (13 ft. in height) • Purified water & brine pump stations (to be enclosed, 20 ft. in height) • RO process tank to be used during cleaning of the RO units (10 ft. in height) • RO transfer pumps and cartridge filters (may be located outdoors) • Paved access road/vehicle parking areas • Exterior nighttime security lighting • 1,600 ft. long, 10-foot-tall iron/chain-link fence with privacy slats around the site's perimeter **Total Disturbance Area: 60,000 ft^2**	• Process building (25-30 ft. in height) to house major facility equipment including: - MF system (indoors) - RO system (indoors) - UV AOP system (under canopy) - electrical room (indoors) - Cartridge filters (outdoor) - Chemical storage (under canopy) • Operation building and maintenance/storage (to be occupied at the New Parcel existing building) • Educational program area (signage and walk-through area) (to be occupied at the New Parcel existing building) • Purified water and brine pump stations and wet wells (wet wells, 20 ft. in height, pumps located outdoors) • MF Feed Tank (50,000 gallons, 25 ft. tall), RO feed tank (24 ft. in height, located outdoors) • MF backwash pumps, RO feed tank and RO transfer pumps (located outdoors) • Two 10,000-gallon neutralization tanks located outdoors • Paved access road/vehicle parking areas • Exterior nighttime security lighting • 1,600 ft. long, 8 to 10-foot-tall iron/chain-link fence with privacy slats or similar around the site's perimeter **Total Disturbance Area: 75,000 ft^2** [b]

NOTES:

[a] Structure dimensions and overall footprint values are approximate.

[b] Conversion of the New Parcel existing building to Project use does not require additional areas of construction disturbance.

Construction

The District proposes to use the existing building and parking area at the New Parcel to be acquired during construction of the Project as an on-site construction office and worker parking associated with construction activities at the Chanticleer Site. Upon completion of construction activities, the building would be converted to serve as the District's education center and treatment facility office. Use of the building would reduce the number of on-site construction trailers at the Chanticleer Site; as well as avoid the need for construction of a proposed new education center/treatment office building and storage at the Chanticleer Site included in the EIR Project Description. No major physical revisions (e.g., structural changes, additional power, internet) would be required to use the New Parcel building or parking area for construction activities. The only minor revisions to the new parcel would consist of the following:

- Striping of the parking area, addition of an additional restroom stall, and minor changes to the internal building layout, to make the new parcel building and parking area compliant with the Americans with Disabilities Act (ADA). [2]
- Painting the exterior to be consistent with other structures at the Chanticleer site and potentially match the appearance of the interior of the existing building with other District facilities.
- Adding some new landscaping consistent with other District facilities to the exterior portions of the parcel.
- Changing the location of the approved iron/chain-link fence with privacy slats or similar to include the New Parcel within the Chanticleer Site fence line.
- Allowing some staging of construction equipment or supplies at the New Parcel site.

The Modified Project would also eliminate the need for construction of the operations building and maintenance shop/storage buildings at the Chanticleer Site because the existing building at the New Parcel would be used to house the operations of those facilities.

The estimated construction duration, permanent and temporary construction area, and depth of excavation at the Chanticleer Site would be the same as described in the EIR. The Modified Project would result in 1,840 fewer cubic yards of exported material for the Chanticleer site compared to the approved Project for a total of 1,500 cubic yards of exported material; however, the Modified Project would result in an additional 820 cubic yards of imported fill material compared to the approved Project for a total of 850 cubic yards of imported material. The same types of construction equipment would be required for construction activities at the Chanticleer Site as identified in the EIR for the approved Project; however, the hours of operation per day for some of the equipment would increase under the Modified Project. Same as for the approved Project, an average of 12 (and up to 16) construction workers per day would be required, and the construction period would be approximately 24 months. Construction hours would occur during normal working hours; weekdays between the hours of 8:00 a.m. and 5:00 p.m., and possibly on Saturdays between the hours of 9:00 a.m. and 5:00 p.m.

[2] The EIR Project Description included two onsite restroom stalls as part of the Chanticleer site education center and office; thus, the addition of a restroom stall to the existing structure at the new parcel would result in the same total number of restroom stalls as described in the EIR.

It is estimated that a total of approximately 2,030 truck round trips would be required to import materials and export debris to/from the Chanticleer Site under the Modified Project, which would be 280 additional round trips compared to the approved Project. Refer to **Figure 3** for an illustration of the changes at the Chanticleer site associated with the proposed Modified Project.

The Project includes landscaping along the site fence lines as shown on Figure 3, and including the Soquel Avenue frontage, outside the proposed Project site fence line but within the overall Chanticleer parcel purchased by the District. However, since approval of the Project, Santa Cruz County has approached the District regarding the frontage area, and asked the District to consider a land use agreement where the County would utilize the entire frontage area for a portion of their proposed Highway 1 pedestrian overcrossing project.[3] Thus, landscaping proposed for this area would not be installed under the Project as initially proposed in order to avoid expenditure of public funds by the District on landscaping that may be removed soon after and replaced by the overcrossing project. If a land use agreement is not executed and the County does not move forward with the overcrossing project by the completion of the PWS Chanticleer construction phase, the District would then hydroseed the area, confer with the County on the status of their pedestrian-overcrossing project, and then proceed with installing the landscaping as originally planned if the County ultimately does not proceed with their project within four years of completion of construction.

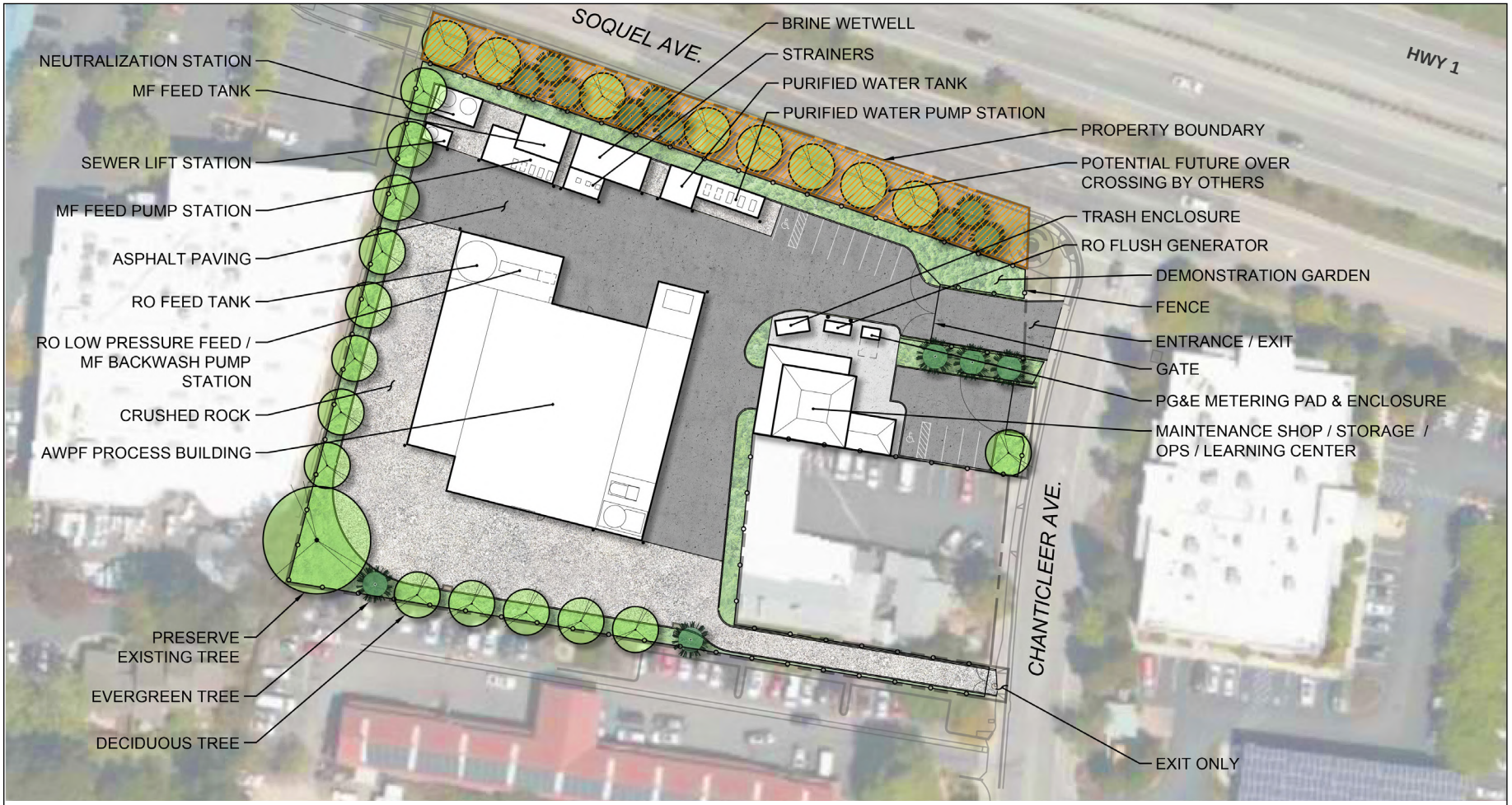
Operation

During the operational phase of the Modified Project, the same parameters identified in the certified EIR related to the operations building, the education program, and the maintenance shop/storage would apply, with the only exception that those facilities and the program would be housed at the existing building at the New Parcel. The same long-term functions that would have taken place at the northwestern portion of the Chanticleer Site would now instead take place at the existing building on the New Parcel. Consistent with its ongoing public outreach and education initiatives, the District's educational program would continue to focus on water use, reuse, treatment, and conservation. As part of this program, the District would offer tours of the AWPF at the New Parcel and Chanticleer Site to members of the public. Up to four tours would be offered per month, for groups of up to 30 people each. The purified water and brine pumps would be sited in the northern portion of the site, closer to Soquel Avenue than proposed in the EIR project description. The operational water use would remain the same as described in the certified EIR.

References

Black & Veatch, 2020. Pure Water Soquel Treatment Process Design. May 29, 2020.

[3] The proposed overcrossing is a County-initiated transportation project, with separate and independent utility from the District's Project. Additionally, the Santa Cruz County Regional Transportation Commission, in cooperation with the California Department of Transportation and Federal Highway Administration, has undertaken separate CEQA/NPA review for this proposal. Nonetheless, the District is disclosing the status of the County's project for public transparency purposes.



SOURCE: Brown and Caldwell; SqCWD, 2020

Pure Water Soquel: Groundwater Replenishment and Seawater Intrusion Prevention .160164

Figure 3

Chanticleer Site Plan under Modified Project

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SECTION 3
Environmental Setting, Checklist, and Discussion of Impacts

This chapter describes any changes that have occurred in the existing environmental conditions within and near the Project area, as well as environmental impacts associated with the Modified Project, based on the current Project footprint. As explained in pages 4.1-3 and 4.1-4 of the certified EIR, the District determined that the environmental conditions and potential impacts relevant to Agricultural and Forest Resources, Mineral Resources, Public Services would not be significant, primarily because the resources do not occur in the project area, and so did not need to be discussed in detail in the EIR. The overall project area remains unchanged from the EIR, and therefore, no additional analysis of these topics is required for this Addendum.

In addition, subsequent to the certification of the EIR, the CEQA Guidelines were revised to include Wildfire as a new environmental topic in its Appendix G. While an addendum need not consider revisions to the CEQA guidelines that occur after EIR certification (CEQA Guidelines Section 15007), it is noted for informational purposes that the Wildfire environmental topic considers whether a project is in or near state responsibility areas or lands classified as very high fire hazard severity zones, and if so whether the project would include conditions that would exacerbate wildfire risks. The project area is not in a state responsibility area or on land classified as having a very high fire hazard. Further, the project does not include conditions, such as creation of slopes or the addition of infrastructure such as roads, power lines, or fuel breaks, that could exacerbate existing fire risks. Therefore, this issue area is not applicable to the Modified Project and the wildfire issue area is not addressed in this addendum.

The following sections provide analysis relative to the environmental impacts provided in the certified EIR. For the purposes of this Addendum, the impacts have been evaluated to clarify any potential changes that would result from implementation of the Modified Project, as compared to approved Project implementation as discussed in the certified EIR. It is noted that the proposed changes to the Project are subject to the mitigation measures adopted as part of the MMRP (Appendix A). As shown below, no new significant environmental impacts or substantially more severe environmental impacts were identified.

The following discussion reviews revisions to setting information provided in the certified EIR and discusses potential resulting changes in environmental impacts for each remaining CEQA resource area.

Environmental Checklist

3.1 Aesthetics

Setting

The setting surrounding the New Parcel to be acquired is the same as that described in the certified EIR for the Chanticleer Site. Affected viewers and exposure conditions associated with the New Parcel are limited to numerous motorists, bicyclists, and pedestrians traveling along Chanticleer Avenue, Soquel Avenue, and Highway 1; with exposure for brief periods, within an existing commercial and light industrial area.

Findings of Previously Certified EIR

The certified EIR identified less-than-significant impacts associated with the approved Project for potential to degrade existing visual character or quality of the site or surroundings, and to create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area. As discussed on EIR page 4.2-20, impacts associated with scenic vistas and scenic resources are not applicable to this Project.

Project Change Analysis

Impacts (and Supporting Information Sources):	*New Potentially Significant Impact*	*New Less Than Significant with Mitigation Incorporated*	*New Less Than Significant Impact*	*Same Impact as Approved Project*	*Less Impact than Approved Project*
AESTHETICS					
Impact 4.2-1: The Project would not substantially degrade the existing visual character or quality of the site and its surroundings.	☐	☐	☐	☒	☐
Impact 4.2-2: The Project would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.	☐	☐	☐	☒	☐

Discussion

The changes to the SC WWTF site would not be visible from public areas, as they are interior to the existing WWTF. The changes to the Chanticleer Site layout would not include minor rearrangement of site features within a site that is currently enclosed by fencing that restricts views of the site. As discussed in Section 2.3, Proposed Changes to the Project, overnight work may be preferred when connections to existing SC WWTF facilities are made, which would require construction lighting. As discussed on EIR Page 4.2-29, standard construction lighting includes shielding and the ability to focus light downward towards the work area and away from adjacent areas. Further, the use of lighting would be within the existing SC WWTF which includes night lighting and would not be distinct from existing lighting. Thus, use of night lighting would not result on light and glare effects on adjacent areas.

The rearrangement of site elements within the main portion of the Chanticleer site would continue to be obscured by fencing, as occurs under existing conditions. While the Modified Project would change the commercial nature of the New Parcel site due to the proposed 50-foot fence that would be installed along its Chanticleer Avenue frontage. This portion of the New Parcel currently includes signage, emergency water pipes, and other infrastructure. Thus, addition of fencing would be consistent with the commercial/industrial appearance of the site and Project would not substantially degrade the existing visual character or quality of the site or surroundings and the associated impact would be less than significant. Finally, conversion of use of the existing structure for use under the Modified Project would not include addition of lighting. There are no zoning or other regulations governing scenic quality that apply to the project sites. While most of the proposed landscaping would be implemented by the completion of construction as described in the EIR, as discussed in Section 2.3, Proposed Changes to the Project, the Soquel Avenue frontage, which currently consists of unmaintained grass and bare soil areas, would be hydroseeded after construction until the Santa Cruz County overcrossing project[4] is implemented in this area. If the overcrossing project does not require use of the frontage area, or construction of that project does not occur within 4 years of completion of Project construction, the proposed Project landscaping would be installed along the frontage. Thus, for up to 4 years following completion of construction, the vegetation of the Soquel Avenue frontage area would appear similar to existing conditions. Therefore, all potential impacts on aesthetic resources that would be associated with the Modified Project would be the same as the approved Project.

Conclusion

Implementation of the Modified Project would not result in any new or more significant impacts regarding degradation of the existing visual character or quality of the site or surroundings than those identified in the previously certified EIR. **(Same Impact as Previously Approved Project [Less than Significant])**

Implementation of the Modified Project would not result in any new or more significant impacts associated with the creation of a new source of light or glare that could adversely affect daytime or nighttime views in the area. **(Same Impact as Previously Approved Project [Less than Significant])**

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[4] The proposed overcrossing is a County-initiated transportation project, with separate and independent utility from the District's Project. Additionally, the County has undertaken separate CEQA review for this proposal, including consideration of aesthetic resources effects. Nonetheless, the District is disclosing the status of the County's project for public transparency purposes.

3.2 Air Quality

Setting

The parcel site proposed to be acquired is located in unincorporated Santa Cruz County within the North Central Coast Air Basin (Air Basin). The air quality setting relevant to the Modified Project, including applicable regulations and air quality conditions, has not appreciably changed since certification of the EIR. The Monterey Bay Air Resources District (MBARD) maintains regional authority for air quality management in the Project area and vicinity. The attainment designations, air quality plans, and other regulatory setting information discussed in the certified EIR continue to apply to the Modified Project. The nearest sensitive receptors to the parcel site to be acquired are residences, as close as approximately 200 feet to the south.

Findings of Previously Certified EIR

The certified EIR identified less-than-significant impacts with mitigation for the potential to generate emissions of criteria air pollutants that could contribute to a violation of an ambient air quality standard during construction, to conflict with or obstruct implementation of the applicable air quality plan, and to expose sensitive receptors to substantial pollutant concentrations; and identified less-than-significant impacts regarding the potential to generate a long-term increase of criteria pollutant emissions during operations, and create objectionable odors that would affect a substantial number of people.

Project Change Analysis

Impacts (and Supporting Information Sources):	*New Potentially Significant Impact*	*New Less Than Significant with Mitigation Incorporated*	*New Less Than Significant Impact*	*Same Impact as Approved Project*	*Less Impact than Approved Project*
AIR QUALITY					
Impact 4.3-1: The Project could generate emissions of criteria air pollutants that could contribute to a violation of an ambient air quality standard during construction.	☐	☐	☐	☒	☐
Impact 4.3-2: The Project would not generate a long-term increase of criteria pollutant emissions during operations.	☐	☐	☐	☒	☐
Impact 4.3-3: Project construction activities could conflict with implementation of the applicable air quality plan.	☐	☐	☐	☒	☐
Impact 4.3-4: Project construction could expose sensitive receptors to substantial pollutant concentrations.					
Impact 4.3-5: The Project would not be expected to create objectionable odors that would affect a substantial number of people.	☐	☐	☐	☒	☐

Discussion

Subsequent to the release of the Final EIR, the CEQA Guidelines were updated, including its Appendix G, *Environmental Checklist Form*, which was used in the EIR as a guide for the establishment of CEQA significance criteria. While an addendum need not consider revisions to the CEQA guidelines that occur after EIR certification (CEQA Guidelines Section 15007), it is noted for informational purposes that for air quality, the criteria were reduced from five impact issues to four, with the primary change being the removal of the following criterion: "violate any air quality standard or contribute substantially to an existing or projected air quality violation" because the analysis required for that criterion is essentially the same as required for one of the other criteria: "result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard." New analysis under the revisions to the CEQA Guidelines would not result in different impact conclusions.

To consider the air quality effects associated with the Modified Project, the California Emissions Estimator Model runs and the screening-level construction period Health Risk Assessment prepared for the EIR have been revised to reflect the changes in construction activities that would occur at the SC WWTF and Chanticleer Site.

Generation of Criteria Pollutants and Consistency with the Air Quality Plan

Construction

Construction activities at the Chanticleer Site and SC WWTF under the Modified Project would involve the use of the same off-road diesel-fueled equipment, as described in the EIR for the approved Project, including concrete trucks, a skip loader, backhoe, fork lift, crane, scissor lift, and wire pulling machine, and work at each of sites would require the use of up to five concrete delivery trucks, instead of one. In addition, several pieces of equipment (i.e., concrete trucks, backhoe, and crane) would operate for longer periods of time during the workday. Increased fugitive dust would also be generated at the sites due to increased on-site ground disturbance and material handling activities. Due to the increased activity, onsite exhaust and fugitive dust emissions would approximately double at the Chanticleer Site and SC WWTF under the Modified Project compared to the emissions presented in the Final EIR for the approved Project.

With regard to off-site emissions, the Modified Project would result in an addition of approximately 1,010 haul truck roundtrips over the course of the construction period compared to the approved Project. However, the maximum day haul truck trips used in the EIR to calculate the off-site haul truck emissions associated with construction activities at the Chanticleer Site and SC WWTF were overestimated by factors of approximately four and two, respectively. The initial truck trip data provided by the project design team conservatively estimated construction activity requirements based on available information known at that time. This information has been further refined as

the Project design progressed after EIR certification.[5] Therefore, the off-site vehicle emissions that would be associated with the Modified Project are less than those estimated for the EIR.

The most conservative daily emissions scenario continues to include simultaneous construction activities at the Chanticleer Site, one of the recharge well sites, and at two pipeline sites. A summary of the estimated maximum daily construction emissions that would be associated with the Modified Project is presented in **Table 3.2-1**. As shown in the table, emissions associated with construction of the Modified Project would result be slightly higher than those associated with the approved Project with respect to ROG, CO, PM_{10}, and $PM_{2.5}$, but would be reduced with respect to NO_x given the difference in the NO_x emissions profile of haul truck emissions factors. The certified EIR determined that construction emissions associated with the approved Project as a whole would exceed the MBARD's significance threshold for NO_x, resulting in a significant impact relative to the generation of emissions of criteria air pollutants that could contribute to a violation of an ambient air quality standard during construction, and conflicting with implementation of the applicable air quality plan. Same as identified in the EIR for the approved Project, Modified Project emissions would exceed the significance threshold for NO_x, which would result in a significant impact.

TABLE 3.2-1
ESTIMATED MAXIMUM DAILY CONSTRUCTION EMISSIONS (POUNDS/DAY)

Project Component	Project Emissions (pounds/day)				
	ROG	NOx	CO	PM_{10}	$PM_{2.5}$
Approved Project					
Chanticleer AWPF	2.78	58.24	22.18	14.64	3.90
Other Project Components [a]	10.55	187.22	88.55	16.93	6.83
Total Emissions Disclosed in Final EIR	13.33	245.46	110.73	31.58	10.73
Modified Project					
Chanticleer AWPF	3.42	41.88	23.45	31.97	7.61
Other Unchanged Project Components [a]	10.55	187.22	88.55	16.93	6.83
Total Emissions for Modified Project	13.97	229.10	112.00	48.90	14.44
MBARD Significance Threshold	137	137	550	82	55
Significant Impact?	No	Yes	No	No	No
Modified Project - Approved Project					
Difference in Emissions	+1.05	-16.36	+1.27	+17.32	+3.71

NOTE:

[a] Other project components associated with the most conservative daily emissions scenario include one of the recharge well sites, and two pipeline sites.

SOURCE: ESA, 2020. See Appendix B.

[5] As discussed in Section 2.3, Proposed Changes to the Project, fewer piles per square foot are required to support proposed structures. Thus, the total construction activities associated with pile construction is reduced compared to that described in the EIR. In addition, the EIR air quality analysis conservatively assumed that the Chanticleer site would include both tertiary and advanced treatment facilities.

The EIR recommended implementation of Mitigation Measures 4.3-1a (Construction Emissions Reduction Plan) and 4.3-1b (Idling Restrictions) (see Appendix A) to reduce maximum construction-related emissions of NO_x to less than the 137 pounds-per-day significance threshold, reducing the construction impacts to less than significant. And, the District's Board imposed those mitigation measures as part of the approval of the PWS. Since the approach for Mitigation Measure 4.3-1a requires the District to demonstrate that emissions would not exceed 137 pounds NO_x per day, there is no difference between the approved Project and Modified Project mitigated emissions (i.e., each could both generate up to 137 pounds NO_x per day). Therefore, implementation of Mitigation Measures 4.3-1a and 4.3-1b would also reduce the Modified Project significant impact regarding the generation of emissions of criteria air pollutants that could contribute to a violation of an ambient air quality standard during construction, and conflicts with implementation of the applicable air quality plan to a less-than-significant level.

Operation

The only daily emission sources that would be associated with the Modified Project would be limited to on-road vehicles. Mobile emission sources associated with the Modified Project would include the same amount of daily commute trips (up to six facility operators and support personnel) as the approved Project. Emissions associated with these trips would be negligible (i.e., well under 1 pound per day for each of the criteria pollutants and precursors) and would not exceed the MBARD significance thresholds. As disclosed for the approved Project, the Modified Project would result in a long-term impact would be less than significant.

Toxic Air Contaminants and Odors

The screening-level construction period Health Risk Assessment that was prepared for the EIR has been revised to reflect the changes in construction activities that would occur at the SC WWTF and Chanticleer Site under the Modified Project based on Office of Environmental Health Hazard Assessment guidelines. As discussed on EIR page 4.3-15, the hazard identification process is undertaken to determine what toxic air contaminants would potentially be present in the assessment area, and if present, identifies what the pollutants of concern are along with their potential adverse health effects. Under the Modified Project, the amount of short-term diesel particulate matter (DPM) that would be generated from the use of off-road diesel construction equipment at the Chanticleer Site would slightly decreased under the Modified Project compared to the approved Project even with the slightly increased construction activities because the emissions for the Modified Project were modelled with a 2020 start date instead of the 2019 start date modelled for the approved Project. The decrease in DPM emissions and corresponding decrease in cancer risk reflects the California Emissions Estimator Model's default construction equipment assumptions that show year on year improvement in emissions from off-road equipment due to increases in new, more efficient equipment, and decreases in older, more polluting equipment in the overall equipment inventory for the area. The amount of short-term DPM and associated cancer risk that would be generated from the use of off-road diesel construction equipment at the SC WWTF would increase under the Modified Project compared to the approved Project, primarily due to the increased construction period of 480 workdays, compared to 200 workdays under the approved Project.

As shown in Final EIR **Table 3.2-2**, construction under the Modified Project would result in a cancer risk of 61 in one million (down by approximately 4 in one million relative to the approved Project) in the vicinity of the Chanticleer Site and up to 22 in one million (up by approximately 7 in one million) in the vicinity of the SC WWTF, which would exceed the significance threshold of 10 in one million, and same as the approved Project, would result in significant impacts. The maximum non-cancer risk would be well below the significance threshold for construction activities at both sites.

Implementation of EIR Mitigation Measure 4.3-4 (Equipment with Tier 4 Engines), which would require that all off-road construction equipment have engines that meet USEPA's most stringent emission standards for particulate matter or are otherwise equipped with Level 3 diesel particulate filters, continues to be recommended for the Modified Project to reduce maximum construction-related emissions of DPM at the Chanticleer Site and SC WWTF to a level that would reduce the associated cancer risk impact to less than significant with mitigation. The mitigated cancer risk associated with construction activities at the Chanticleer Site and SC WWTF under the Modified Project would be higher than for the approved Project by 3 in one million; however, as shown in Table 3.2-2, it would continue to be well under the significance threshold.

TABLE 3.2-2
MAXIMUM HEALTH RISK FOR SENSITIVE RECEPTORS FROM CONSTRUCTION EMISSIONS

Construction Site	Maximum Cancer Risk (# in one million) [a]		Maximum Non-Cancer Risk (Chronic Hazard Index) [a]	
	Unmitigated	Mitigated	Unmitigated	Mitigated
Approved Project				
Chanticleer Site	64.6	3.0	0.04	<0.01
SC WWTF Site	15.3	0.6	0.02	<0.01
Modified Project				
Chanticleer Site	61.4	3.4	0.04	<0.01
SC WWTF Site	21.8	1.5	0.02	<0.01
Significance Thresholds	10.0	10.0	1.0	1.0
Exceeds Threshold?	Yes	No	No	No
SC WWTF Site	15.3	0.6	0.02	<0.01

NOTES:

[a] Health risks for each site were not added to determine total risk, because sensitive receptors are unique to each individual site. There are no individual sensitive receptors that are within 1,000 feet of more than one construction site (i.e. all sites are at least 2,000 feet apart).

Health risk calculations are provided in Appendix B.

As discussed in the EIR for the approved Project, construction activities that would be associated with the Modified Project could result in temporary odors from use of diesel-fueled equipment. These odors would dissipate quickly, and would therefore not be concentrated enough for sufficiently long periods of time to create objectionable odors that would affect a substantial number of people (EIR p. 4.3-22). As discussed in the EIR for the approved Project, operations at the Chanticleer

Site under the Modified Project would involve no odor sources. The odor impact under the Modified Project would be the same as under the approved Project, less than significant.

Conclusion

Implementation of the Modified Project would result in the same significant impacts as the approved Project relative to the generation of emissions of criteria air pollutants that could contribute to a violation of an ambient air quality standard during construction, conflicts with implementation of the applicable air quality plan, and construction emissions that could expose sensitive receptors to substantial pollutant concentrations. These significant impacts would be reduced to less-than-significant levels with implementation of mitigation. **(Same Impact as Previously Approved Project [Less than Significant with Mitigation])**

Implementation of the Modified Project would not result in a substantial long-term increase of criteria pollutant emissions during operations, or odorous emissions during construction or operations that would adversely affect a substantial number of people. **(Same Impact as Previously Approved Project [Less than Significant])**

3.3 Biological Resources

Setting

The change in setting under the Modified Project relevant to biological resources is due to the proposed expansion of the Chanticleer Site to include the parcel at 2455 Chanticleer Avenue. The setting discussions from the certified EIR for biological resources are applicable to the Modified Project. As detailed below, the Chanticleer Site under the Modified Project does not include any natural habitats. The additional property included as the Modified Project is similar in kind to the commercial developments in the area of the Chanticleer Site that were evaluated in the certified EIR.

Findings of Previously Certified EIR

The certified EIR identified the potential for less-than-significant impacts with mitigation due to a substantial adverse effect, either directly or through habitat modifications, on species identified as candidate, sensitive, or special-status; as well as due to a substantial adverse effect on a riparian habitat or other sensitive natural community; and due to the potential to conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

The certified EIR identified less-than-significant impacts regarding the potential for the approved Project to interfere substantially with the movement of native resident, migratory fish, wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites; and identified no impact related to the potential for the approved Project to have a substantial adverse effect on federally protected wetlands.

Project Change Analysis

Impacts (and Supporting Information Sources):	*New Potentially Significant Impact*	*New Less Than Significant with Mitigation Incorporated*	*New Less Than Significant Impact*	*Same Impact as Approved Project*	*Less Impact than Approved Project*
BIOLOGICAL RESOURCES					
Impact 4.4-1: Project construction and operation could have a substantial adverse effect, either directly or through habitat modifications, on a species identified as candidate, sensitive or special-status in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, or National Oceanic and Atmospheric Administration.	☐	☐	☐	☒	☐
Impact 4.4-2: Project construction could have a substantial adverse effect on a riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations (indigenous stands of Monterey pine) or by the California Department of Fish and Wildlife, U.S. Fish and Wildlife Service (coastal terrace prairie north of Schwan Lagoon, coastal brackish marsh in San Lorenzo River, and north central coast drainage Sacramento sucker/roach river in the San Lorenzo River), or National Oceanic and Atmospheric Administration.	☐	☐	☐	☒	☐

Impacts (and Supporting Information Sources):	*New Potentially Significant Impact*	*New Less Than Significant with Mitigation Incorporated*	*New Less Than Significant Impact*	*Same Impact as Approved Project*	*Less Impact than Approved Project*
Impact 4.4-3: Project construction and operation would not have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.	☐	☐	☐	☒	☐
Impact 4.4-4: Project construction and operation would not interfere substantially with the movement of native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.	☐	☐	☐	☒	☐
Impact 4.4-5: Project construction and operation could conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	☐	☐	☐	☒	☐

Discussion

The increased construction activities under the Modified Project at the SC WWTF and Chanticleer Site, including at the New Parcel, would occur on previously developed properties. The Chanticleer Site is surrounded by an urban landscape that includes roads, offices, and parking lots; however, there are a limited number of trees and shrubs at the site, which could provide nesting and roosting opportunities for birds and bats, respectively. North of the SC WWTF is Neary Lagoon, which supports trees and shrubs that could also provide nesting and roosting opportunities for birds and bats, respectively. Thus, without mitigation construction activities associated with the Modified Project at the Chanticleer Site and SC WWTF could have a significant impact on nesting birds and roosting bats, including special-status species, similar to the approved Project evaluated in the certified EIR. As with the approved Project, Mitigation Measures 4.4-1a (Perform preconstruction nesting bird survey in areas that provide suitable habitat) and 4.4-1b (Perform preconstruction bat surveys) would require preconstruction nesting bird and bat surveys, respectively, and, in the event, that an active nest or roost is discovered, avoidance buffers would be adhered to, to ensure that the impacts would be reduced to less-than-significant levels.

Construction and operational activities at the Chanticleer Site and the SC WWTF under the Modified Project would not affect riparian habitat or other sensitive natural community or federally protected wetlands; substantially interfere with the movement of fish or wildlife specifies; or conflict with a tree preservation policy or ordinance. Therefore, as with the approved Project, EIR Impacts 4.4-2 through 4.4-5 are not applicable to proposed activities at the Chanticleer Site or SC WWTF under the Modified Project.

Two small trees at the New Parcel site along the Chanticleer frontage may need to be removed. However, no local tree ordinances apply to the New Parcel; the County's tree ordinance pertains only to areas within the Coastal Zone and thus, is not applicable to the New Parcel. Thus, as with

the EIR for the approved Project, impacts associated with local tree ordinances would be less than significant.

Conclusion

Implementation of mitigation measures included in the certified EIR would reduce potential significant impacts to nesting birds and roosting bats, including special-status species, to less-than significant levels for the Modified Project. The Modified Project would not result in any new or more severe significant impacts than those identified in the previously certified EIR. **(Same Impact as Previously Approved Project [Less than Significant with Mitigation])**

3.4 Cultural Resources

Setting

The change in setting relevant to cultural resources associated with the Modified Project is due to the expansion of the Chanticleer Site to include the New Parcel located at 2455 Chanticleer Avenue. The setting discussions from the certified EIR for historical resources, archaeological resources, and human remains are applicable to the Modified Project.

Findings of Previously Certified EIR

The certified EIR identified less-than-significant impacts with mitigation for the potential to adversely affect historical and archeological resources and the potential to disturb human remains.

Project Change Analysis

Impacts (and Supporting Information Sources):	*New Potentially Significant Impact*	*New Less Than Significant with Mitigation Incorporated*	*New Less Than Significant Impact*	*Same Impact as Approved Project*	*Less Impact than Approved Project*
CULTURAL RESOURCES					
Impact 4.5-1: The Project could cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5.	☐	☐	☐	☒	☐
Impact 4.5-2: The Project could cause a substantial adverse change in the significance of an archaeological resource, including those determined to be a historical resource defined in Section 15064.5 or a unique archaeological resource defined in PRC 21083.2.	☐	☐	☐	☒	☐
Impact 4.5-3: The Project could potentially disturb human remains, including those interred outside of dedicated cemeteries.	☐	☐	☐	☒	☐

Discussion

Architectural/Structural Historical Resources

The existing building proposed to be incorporated as part of the Modified Project at 2455 Chanticleer Avenue was constructed in 2007 (C&C, 2020). Therefore, it is not considered to be an architectural or structural resource that would qualify as a historical resource, as defined in CEQA Guidelines Section 15064.5. The Modified Project would result in no new impacts to historical resources.

Archaeological Resources

Based on the analysis completed for the certified EIR, eight archaeological resources are within, or immediately adjacent to, the approved Project area; however, none of these identified resources are within or adjacent to the Chanticleer Site or the SC WWTF (Draft EIR page 4.5-10). During the preparation of the EIR, the Chanticleer Site was not accessible and an archaeological resources identification survey was not feasible. Therefore, the EIR disclosed that Project construction

could cause impacts to as-yet-unknown archaeological resources, a significant impact. Mitigation Measure 4.5-2b (Cultural Resources Study of the Chanticleer Site) was recommended to reduce the potential for such impacts through a pre-construction cultural resources identification study to determine whether previously unrecorded archaeological resources are present. This mitigation measure has been completed and no previously unrecorded resources were identified.

If a previously unrecorded archaeological resource is identified at the Chanticleer Site or SC WWTF due to increased ground disturbance at the sites and is found to qualify as a historical resource per CEQA Guidelines Section 15064.5 or a unique archaeological resource, as defined in Public Resources Code (PRC) Section 21083.2(g), any impacts to the resource resulting from the Modified Project could be potentially significant. Any such potential significant impacts would be reduced to a less than significant level by implementing Mitigation Measure 4.5-2c (Inadvertent Discovery of Cultural Resources) from the certified EIR, which ensures that work would halt in the vicinity of a find until a qualified archaeologist can make an assessment and provide additional recommendations if necessary, including contacting Native American tribes.

Human Remains

Based on the analysis completed for the certified EIR, the records search and background research indicate that no human remains are known to exist at the Chanticleer Site or SC WWTF. However, given that there would be ground distance activities at the Chanticleer Site and SC WWTF associated with the Modified Project, as with the approved Project, the possibility of encountering human remains, cannot be entirely discounted. Modified Project-related disturbance of human remains would be a significant impact. The potential for such an impact would be reduced to a less-than-significant level through implementation of Mitigation Measure 4.5-3 (Inadvertent Discovery of Human Remains).

Conclusion

Implementation of the Modified Project would not result in any new or more severe significant impacts to historical or archeological resources or human remains than those identified in the previously certified EIR. **(Same Impact as Previously Approved Project [Less than Significant with Mitigation])**

References

C&C Real Estate, Property Management & Realty (C&C), 2020. Search for 2455 Chanticleer Avenue, Santa Cruz, CA 95062 (MLS # ML81791700).

3.5 Energy

Setting

The energy environmental and regulatory setting for the Modified Project is the same as described in the certified EIR for the approved Project. None of the modifications proposed as part of the Modified Project would change the energy setting discussed in the certified EIR.

Findings of Previously Certified EIR

The certified EIR identified a less-than-significant impact with mitigation regarding the use of large amounts of fuel or energy in an unnecessary, wasteful, or inefficient manner; and a less-than-significant impact for the potential that the Project would constrain local or regional energy supplies, or cause environmental effects associated with changes to electrical generation or transmission facilities.

Project Change Analysis

Impacts (and Supporting Information Sources):	*New Potentially Significant Impact*	*New Less Than Significant with Mitigation Incorporated*	*New Less Than Significant Impact*	*Same Impact as Approved Project*	*Less Impact than Approved Project*
ENERGY — Would the project:					
Impact 4.6-1: The Project could use large amounts of fuel or energy in an unnecessary, wasteful, or inefficient manner.	☐	☐	☐	☒	☐
Impact 4.6-2: Project would not constrain local or regional energy supplies, require additional capacity, affect peak and base periods of electrical demand, or otherwise require or result in the construction of new electrical generation and/or transmission facilities, or expansion of existing facilities, the construction of which could cause significant environmental effects.	☐	☐	☐	☒	☐

Discussion

Energy Use

As described below, both construction and operation of the Modified Project would involve expenditure of energy during construction and operation that would be greater than that required for the approved Project.

Construction

As was disclosed in the EIR for the approved Project, construction activities associated with the Modified Project would require the use of fuels (primarily gasoline and diesel) for the operation of heavy-duty construction equipment and construction vehicle trips. Although there would be a net reduction in fuel use associated with any renovations for the operation building/lab and maintenance shop/storage compared to the approved Project due to the use of the existing building on the New Parcel, which would eliminate the need to construct structures for those

facilities, there would be an overall increase in fuel use associated with increased use of off-road equipment and increased haul trips associated with construction at the Chanticleer Site and SC WWTF. The Modified Project would result in the consumption of a total of 235,312 gallons of diesel during the construction period. This diesel consumption rate is less than that identified in the EIR for the approved Project (i.e., 252,579 gallons) because the average daily truck trips for the Chanticleer Site used in the EIR fuels analysis was over estimated (see footnote 5, above). With regard to gasoline, the Modified Project would result in the consumption of a total of 17,760 gallons during the construction period. This gasoline consumption rate is approximately 3,500 gallons greater than that identified in the EIR for the approved Project (i.e., 14,254 gallons).

Construction activities under the Modified Project could result in wasteful or inefficient use of energy if construction equipment is not well maintained, if equipment is left to idle when not in use, or if haul trips are not planned efficiently. The potential for construction to require the use of large amounts of fuel or energy in a wasteful or inefficient manner is considered a significant impact. However, as reported in the EIR for the approved Project, with implementation of Mitigation Measures 4.6-1 (Construction Equipment Efficiency Plan) and 4.3-1b (Idling Restrictions), which would ensure construction activities are conducted in a fuel-efficient manner and minimize idling times for construction equipment and vehicles, the short-term fuel use impact would be reduced to a less-than-significant level.

Operation

Once operational, the Modified Project would require an electrical demand beyond what was analyzed in the certified EIR in order to operate the added pretreatment process. Implementation of the Modified Project would increase the District's total electrical demand by approximately 6,200 MWh per year, which is 2,600 MWh per year greater than the approved Project. The project would use power from the Central Coast Community Energy, which intends to reduce greenhouse gas emissions through the deployment of clean and renewable utility scale energy supplies. Central Coast Community Energy intends to increase contracts for new long-term energy supply to achieve 60 percent of renewable resources by 2025, and then increase to 100 percent renewable resources by 2030.[6] In 2019 and 2020, most if not all energy sources are from clean or renewable resources (https://3cenergy.org/understanding-clean-energy/).

The electrical equipment and pumps that would consume the electricity would be properly maintained and would not be operated in a wasteful or inefficient manner. Energy use from worker operation/maintenance trips to and from the Chanticleer Site would remain the same. Therefore, the Modified Project's operational energy use impact would continue to be considered less than significant.

Local and Regional Energy Supplies

As disclosed in the certified EIR for the approved Project, it is reasonable to expect that the Modified Project energy demands could be accommodated within the capacity of existing available electrical generation and transmission facilities. The Modified Project would be

6 Information on Central Coast Community Energy adapted from https://3cenergy.org/understanding-clean-energy/.

accommodated by the existing local and regional energy supplies and transmission infrastructure, and the impact would be less than significant.

State or Local Plans

The local government building permit application review process would ensure that the Modified Project would be compliant with all applicable State and local energy conservation standards. In addition, the Modified Project would not conflict with applicable plans, policies, or regulations related to energy use and conservation. Therefore, same as with the approved Project, no impact would occur related to compliance with applicable energy conservation standards.

Conclusion

Implementation of the Modified Project would result in the same potentially significant environmental impact as the approved Project due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction; however, implementation of mitigation identified in the certified EIR would reduce the impact to a less-than-significant level. **(Same Impact as Previously Approved Project [Less than Significant with Mitigation])**

The Modified Project would be accommodated by the existing local and regional energy supplies and transmission infrastructure, and the associated impact would be less than significant. **(Same Impact as Previously Approved Project [Less than Significant])**

Implementation of the Modified Project would not conflict with or obstruct a state or local plan adopted for renewable energy or energy efficiency. **(Same as the Previously Approved Project [No Impact])**

3.6 Geology and Paleontology

Setting

Due to the proximity of the New Parcel under the Modified Project to the adjacent approved Chanticleer Site, the environmental setting relevant to Geology and Paleontological Resources for the parcel is the same to that described for the Chanticleer Site in the certified EIR.

Findings of Previously Certified EIR

The certified EIR identified less-than-significant impacts regarding the potential for the Project to expose people or structures to substantial seismic shaking or seismically-induced ground failure, including liquefaction or lateral spreading, potential to result in substantial soil erosion, and be located on expansive or corrosive soil such that substantial risks could occur.

Due to the nature of the Project, the EIR did not include analysis for the following significance criteria: risk of loss, injury, or death involving fault rupture and landslides because none of the components intersect any active faults or landslide susceptible areas; located on a geologic unit or soils that are unstable or that would be unstable as a result of the Project, which could result in subsidence or collapse because the volume of water extracted under the Project would not exceed the volume of water recharged; result in substantial loss of topsoil because the entire Project footprint is in a disturbed urban area that does not have valuable topsoil in the sense of agricultural farmland soil; have soils incapable of adequately supporting use of septic tanks or alternative wastewater disposal systems because the Project would not use septic tanks or other on-site wastewater disposal systems; or directly or indirectly destroy a unique paleontological resource or site or unique geologic feature because the certified EIR found that the Project is not in areas with paleontological resources. Therefore, there would be no impact related to these significance criteria.

Project Change Analysis

Impacts (and Supporting Information Sources):	*New Potentially Significant Impact*	*New Less Than Significant with Mitigation Incorporated*	*New Less Than Significant Impact*	*Same Impact as Approved Project*	*Less Impact than Approved Project*
GEOLOGY AND SOILS					
Impact 4.7-1: The Project would not expose people or structures to substantial seismic shaking or seismically-induced ground failure, including liquefaction or lateral spreading.	☐	☐	☐	☒	☐
Impact 4.7-2: The Project would not result in substantial soil erosion.	☐	☐	☐	☒	☐
Impact 4.7-3: The Project would not be located on expansive or corrosive soil such that substantial risks could occur.	☐	☐	☐	☒	☐

Discussion

Because the Modified Project would not result in construction activities that would include actions that would exacerbate the exposure of people or structures to substantial adverse effects

involving seismic hazards (e.g., hydraulic fracking), impacts during its construction relative to seismicity would be same as identified in the EIR for the approved Project, less than significant. As explained in the EIR, for operations, a geotechnical investigation is required that would include any necessary recommendations for soils remediation and/or foundation systems necessary to reduce seismic-related hazards to less than significant. With compliance with existing regulations, including the State's requirements for the Construction General Permit and standard geotechnical engineering practices identified in the building code, the impact relative to soil erosion, or potential to cause a substantial risk relative to expansive or corrosive soil that would be associated with the Modified Project would be the same as identified in the EIR for the approved Project, less than significant.

Conclusion

Implementation of the Modified Project would not result in any new or more severe significant impacts related to the potential for exposure to fault rupture, seismic-related ground shaking and subsequent ground failure, soil erosion and/or loss of topsoil, and soil expansion than those identified in the previously certified EIR. **(Same Impacts as Previously Approved Project [Less than Significant])**

3.7 Greenhouse Gas Emissions

Setting

The Greenhouse Gas (GHG) emissions environmental and regulatory setting for the Modified Project is the same as described in the certified EIR for the approved Project. None of the modifications proposed as part of the Modified Project would change the GHG emissions setting discussed in the certified EIR.

Findings of Previously Certified EIR

The certified EIR identified less-than-significant impacts with respect to generation of GHGs, and regarding the potential for the Project to conflict with the Executive Order B-30-15 Emissions Reduction Goal.

Project Change Analysis

Impacts (and Supporting Information Sources):	*New Potentially Significant Impact*	*New Less Than Significant with Mitigation Incorporated*	*New Less Than Significant Impact*	*Same Impact as Approved Project*	*Less Impact than Approved Project*
GREENHOUSE GAS EMISSIONS					
Impact 4.8-1: The Project would not generate an amount of GHG emissions that would contribute substantially to climate change.	☐	☐	☐	☒	☐
Impact 4.8-2: The Project would not conflict with the Executive Order B-30-15 Emissions Reduction Goal.	☐	☐	☐	☒	☐

Discussion

Construction

To consider the GHG effects associated with the Modified Project, the California Emissions Estimator Model runs prepared for the EIR have been revised to reflect the changes in construction activities that would occur at the SC WWTF and Chanticleer Site. Although there would be some emissions generated associated with any revisions to the appearance of the interior of the existing building on the parcel to be acquired, the net construction GHG emissions associated with the operation building/lab and maintenance shop/storage facilities would be reduced under the Modified Project with the use of the existing building on the New Parcel. However, overall construction activities and associated GHG emissions generated by the Modified Project would be more than what was previously analyzed in the certified EIR given that the activities at the Chanticleer Site and SC WWTF would require the use of five concrete delivery trucks, instead of one, several pieces of equipment (i.e., concrete trucks, backhoe, and crane) would operate for longer periods of time during the workday, and there would be an addition of more than 1,010 haul truck roundtrips under the Modified Project over the course of the construction period compared to the approved Project. In addition, the overall number of workdays for the SC WWTF would increase under the Modified Project from 200 to 480.

As shown in **Table 3.7-1**, GHG emissions generated by construction of the Modified Project would total approximately 1,139 metric tons CO_2e, which is approximately 336 metric tons more than would be generated under the approved Project. This equates to a 50-year amortized annual average value of approximately 23 metric tons CO_2e, which is approximately 7 metric tons greater than would be generated under the approved Project.

TABLE 3.7-1
TOTAL GHG EMISSIONS FROM PROJECT CONSTRUCTION

Construction Emission Source	CO_2e (metric tons)		
	Approved Project	Modified Project	Difference
Chanticleer AWPF	152.63	329.39	+176.76
SC WWTF Facilities	73.24	232.75	+159.51
Other Project Components [a]	577.05	577.05	0.00
Total Emissions	803.07	1,139.19	+336.12
50-Year Amortized Annual Average	16.06	22.78	+6.72

NOTE:
[a] Other unchanged project components include the recharge wells and pipelines.

SOURCE: ESA, 2020. See Appendix B.

Operations

The Modified Project would generate long-term GHG emissions associated with electrical power consumption and vehicle travel. Indirect emissions would increase under the Modified Project due to an increase in electricity demand of approximately 6,200 MWh per year (approximately 2,600 MWh per year greater than the approved Project). The other operational emission sources (16 one-way vehicle trips per day associated with commuting workers and chemical/supply deliveries) would be the same as the approved Project. The estimated annual emissions that would be associated with these operational sources are presented in **Table 3.7-2**. As indicated in the table, total net CO_2e emissions associated with operation of the Modified Project would be approximately 663 metric tons CO_2e per year, which is approximately 273 metric tons greater than would be associated with the approved Project.

The project would use power from Central Coast Community Energy (formerly known as Monterey Bay Community Power), which currently utilizes clean and renewable energy sources (see Energy discussion above). However, in keeping with the methods used to analyze emissions in the EIR prepared in 2018, the indirect emissions associated with the Modified Project's electricity use were estimated using an emission factor for a conservative scenario of the published energy portfolio for Central Coast Community Energy's third year of operation (i.e., 0.104 metric tons CO_2 per MWh; PEA, 2016), which at the time of EIR preparation was assumed to be approximately the first year (i.e., 2021) when some of the Project components may become operational. This emission factor is approximately 25 percent less than PG&E's annual emission factor for that year (PEA, 2016). Use of this emission factor is conservative because as discussed

above, Central Coast Community Energy intends to increase contracts for new long-term energy supply to achieve 100 percent renewable resources (i.e., carbon free) electricity generation by 2030. N_2O and CH_4 emission factors for electricity use were obtained from The Climate Registry (TCR, 2017).

TABLE 3.7-2
TOTAL GHG EMISSIONS PER YEAR FROM PROJECT OPERATIONS

	CO_2e (metric tons)		
Operation Emissions Source	**Approved Project**	**Modified Project**	**Difference**
Net Increase in Electricity Consumption	377.70	650.48	+272.78
Vehicle Trips	12.78	12.78	0.00
Total	390.48	663.26	+272.78

SOURCE: ESA, 2020. See Appendix B.

Impact Conclusion

As shown in **Table 3.7-3**, the sum of the 50-year amortized construction GHG emissions and the total net operation emissions that would be associated with the Modified Project is 684 metric tons CO_2e per year, which is 277 metric tons greater than would be associated with the approved Project.

TABLE 3.7-3
TOTAL AMORTIZED GHG EMISSIONS

	CO_2e (metric tons)		
Emissions Source	**Approved Project**	**Modified Project**	**Difference**
50-Year Amortized Construction Emissions	16	23	+7
Total Net Operational Emissions	390	661	+270
Total Project Emissions	406	684	+277
Significance Threshold	1,100	1,100	-
Significant Impact?	No	No	-

SOURCE: ESA, 2020. See Appendix B.

Based on the analysis above, although the emissions associated with the Modified Project would be higher than those associated with the approved Project, the Modified Project's amortized emissions would continue to be well below the 1,100 metric tons per year significance threshold; therefore, a less-than-significant impact would occur, and the Modified Project would not be considered to contribute substantially to the primary and secondary adverse effects of climate change, such as increases in global temperatures, global rise in sea level, ocean acidification, impacts on agriculture, changes in disease vectors, and changes in habitat and biodiversity. Similarly, this low level of amortized emissions would not conflict with the Executive Order B-30-15 Emissions Reduction Goal.

Conclusion

Implementation of the Modified Project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, and would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. **(Same Impacts as the Previously Approved Project [Less than Significant])**

References

Pacific Energy Advisors (PEA), 2016. Monterey Bay Community Power Technical Study, May 4, 2016.

The Climate Registry (TCR), 2017. Climate Registry 2017 Default Emission Factors, released March 2017.

3.8 Hazards and Hazardous Materials

Setting

The environmental and regulatory setting relevant to Hazards and Hazardous Materials for the Modified Project site is the same as that described in the certified EIR for the approved Project. The existing building on the parcel to be acquired was constructed in 2007 (C&C, 2020), which was subsequent to the nationwide ban on the use of asbestos-containing materials (ACM) and lead-based paint (LBP) in building construction materials. The setting discussion from the certified EIR for this issue area is therefore applicable to the Modified Project.

Findings of Previously Certified EIR

The certified EIR identified less-than-significant impacts related to the potential for the approved Project to create a significant hazard to the public or the environment through the routine transport, use, disposal, or accidental release of hazardous materials; and due to the potential to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. The certified EIR identified less-than-significant impacts with mitigation related to the potential for the approved Project to be located on or adjacent to a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5, and for the potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

Project Change Analysis

Impacts (and Supporting Information Sources):	*New Potentially Significant Impact*	*New Less Than Significant with Mitigation Incorporated*	*New Less Than Significant Impact*	*Same Impact as Approved Project*	*Less Impact than Approved Project*
HAZARDS AND HAZARDOUS MATERIALS					
Impact 4.9-1: The Project would not create a significant hazard to the public or the environment through the routine transport, use, disposal, or accidental release of hazardous materials.	☐	☐	☐	☒	☐
Impact 4.9-2: The Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.	☐	☐	☐	☒	☐
Impact 4.9-3: The Project would be located on or adjacent to a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, could create a significant hazard to the public or the environment.	☐	☐	☐	☒	☐
Impact 4.9-4: The Project could impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	☐	☐	☐	☒	☐

Discussion

Release of Hazardous Materials

A Phase I Environmental Site Assessment investigation was conducted on behalf of the District for the New Parcel at the Chanticleer Site (ESA, 2020). The Phase I investigation found that the current business at the New Parcel uses adhesives, cleaning solvents, paints, and thinners. Little to no products are stored on the property for any extended period of time, and all of the chemicals are stored inside the building. According to the Phase I investigation, the business exhibits good housekeeping, with no evidence of spills, and only one minor floor stain was observed during a site visit. In addition, a regulatory agency database search for hazardous materials sites and a review of the State Water Resources Control Board (SWRCB) GeoTracker and Department of Toxic Substances Control (DTSC) EnviroStor websites was conducted for the New Parcel. The agency searches revealed that the New Parcel is not listed on any of the searched regulatory databases, or the GeoTracker and EnviroStor websites. In addition, none of the adjacent properties are considered to be able to adversely affect the New Parcel (ESA, 2020).

A1994 site investigation report cited in the EIR with regard to potential existing contamination at the SC WWTF indicates that, during post construction upgrades at the SC WWTF, some of the then-existing fill and soil contained total petroleum hydrocarbons in the diesel and motor oil range. The upgrades included the excavation and removal of about 300,000 cubic yards of fill and soil, some of which consisted of buried road demolition debris (asphalt) and garbage (glass bottles, cans, newspaper, telephone poles, and automobile parts). The excavated area was adjacent and northwest of the proposed Modified Project SC WWTF improvements. The area where garbage and road debris were encountered was about 500 feet west of the proposed improvements. As disclosed in the EIR, should Project construction require demolition of SC WWTF structures that were constructed prior to 1968, which pre-dates the nationwide ban on the use of asbestos-containing materials (ACM) and lead-based paint (LBP) in building construction materials. However, as discussed on EIR page 4.9-15, numerous existing laws and regulations require that demolition activities that may disturb or require the removal of materials that consist of, contain or are coated with ACM and/or LBP must be inspected and/or tested for the presence of hazardous materials. If present, the hazardous materials must be managed and disposed of in accordance with applicable laws and regulations. The Modified Project would not include additional ground disturbance to an area that would intersect any known hazardous materials sites.

However, construction activities at Chanticleer Site and SW WWTF would require the use of limited quantities of hazardous materials such as fuels, oils, lubricants, paint, and solvents. The improper use, storage, handling, transport, or disposal of hazardous materials during construction or an accidental release could expose construction workers, the public, and the environment, including soil and/or ground or surface water, to adverse effects. Like the approved Project, the Modified Project would not be expected to pose a risk of accidental release of hazardous materials or wastes, as these materials would not be used or stored on-site in significant quantities. Required compliance with the numerous laws and regulations discussed in EIR Section 4.9, *Hazards and Hazardous Materials*, that governs the transportation, use, handling, and disposal of hazardous materials, would limit the potential for the Modified Project to create of hazardous conditions due to

the use or accidental release of hazardous materials, and would render this impact less than significant.

Once operational, the water treatment chemicals discussed in Section 2.3, above, and in EIR Section 3.7.1, *Facilities Operations and Maintenance,* would be stored at Chanticleer Site and SC WWTF. As detailed in the certified EIR the District will be required to prepare and implement a Hazardous Materials Business Plan (HMBP) that will identify the hazardous materials to be used in the treatment process, procedures for the safe transportation, storage, use and disposal of chemicals, and spill response procedures in the event of a spill. The Cal EPA Unified Hazardous Waste and Hazardous Materials Regulatory Program will not issue a facility operating permit without compliance, and a facility that uses hazardous materials without an approved HMBP is subject to closure and fines. The requirements include primary and secondary containment of all hazardous materials, training for the use of hazardous materials, routine facility inspections, and the establishment of spill prevention and response procedures in the event of a skill. The transportation regulations enforced by the California Highway Patrol and Caltrans includes periodic inspections of vehicles and containers used to transport hazardous materials to ensure compliance with container requirements. Collectively, the HMBP and transportation requirements will ensure compliance with the numerous applicable regulations. The required implementation and compliance with these existing regulations will limit the potential for creation of hazardous conditions associated with the Modified Project due to the use or accidental release of hazardous materials and would render this impact less than significant.

The New Parcel is within one-quarter mile of Good Shepard School, located across Highway 1 on Mattison Lane. However, as discussed above, the required compliance with the numerous laws and regulations that govern the transportation, use, handling, and disposal of hazardous materials will limit the potential for creation of hazardous conditions due to the use or accidental release of hazardous materials, and would render this impact less than significant.

Other Hazards

The Modified Project would not be within 0.25-mile of a school or within 2 miles of an airport, such that additional impacts could occur. Additionally, changes during construction or operation under the Modified Project would not increase exposure to wildfires because same as for the approved Project, the Modified Project would not be located within an area designated as a Critical Fire Hazard Area.

As discussed above and in the EIR, the proposed modifications site at the SC WWTF is adjacent to an area of reported existing contamination. As previously discussed, excavation activities at SC WWTF may encounter soil with residual levels of petroleum hydrocarbons that could expose workers, the public, and the environment to hazardous materials, which would be a significant impact. The Modified Project components at the Chanticleer Site would not be on or adjacent to known hazardous materials sites. This condition does not mean that there are no unknown contamination issues that may be encountered, given that the properties have long been developed. Same as for the approved Project, the impact of encountering hazardous materials would be reduced to less than significant through the implementation of Mitigation Measures 4.9-3a (Health and Safety Plan), and 4.9-3b (Soil Management Plan) by ensuring that workers are

provided appropriate training in the recognition and response to encountering hazardous materials, and ensuring that plans are in place that provide procedures for the testing, handling, and disposal of hazardous materials.

Also, construction and operational activities at the Chanticleer Site and SC WWTF would not result in any new temporary road or lane closures; therefore, the Modified Project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan beyond that identified in the certified EIR for the approved Project. All potential impacts related to other hazards would be the same as described for the approved Project in the certified EIR.

Conclusion

Implementation of the Modified Project would not create a significant hazard to the public or the environment through the routine transport, use, disposal, or accidental release of hazardous materials; or an increased potential to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school beyond what was identified for the approved Project in the certified EIR. **(Same Impact as Previously Approved Project [Less than Significant])**

Implementation of the Modified Project would not increase the potential for the project to be located on or adjacent to a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5, or increase the potential to encounter soil with residual contamination that could expose workers, the public, and the environment to hazardous materials beyond what was disclosed for the approved Project in the certified EIR. (**Same Impact as Previously Approved Project [Less than Significant with Mitigation])**

Implementation of the Modified Project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan beyond what was disclosed for the approved Project in the certified EIR. (**Same Impact as Previously Approved Project [Less than Significant with Mitigation for pipeline construction only])**

References

C&C Real Estate, Property Management & Realty (C&C), 2020. Search for 2455 Chanticleer Avenue, Santa Cruz, CA 95062 (MLS # ML81791700).

Environmental Science Associates (ESA), 2020. PURE Water Soquel: Groundwater Replenishment and Seawater Intrusion Prevention Project – Glass Shop Site, Santa Cruz, California, Phase I Environmental Site Assessment, July 2020.

3.9 Hydrology Resources - Groundwater

Setting

The environmental and regulatory setting relevant to Hydrology Resources - Groundwater for the Modified Project site is the same as that described in the certified EIR for the approved Project. Due to the proximity of the New Parcel under the Modified Project to the adjacent approved Chanticleer Site, the environmental setting relevant to groundwater hydrology resources for the parcel is assumed to be the same to that described for the Chanticleer Site in the certified EIR.

Findings of Previously Certified EIR

The certified EIR identified less-than-significant impacts related to permanently drawing down local groundwater levels, generating water during well construction that would degrade ambient groundwater quality or violate groundwater quality standards, causing unfavorable groundwater conditions in the groundwater basin, degrading aquifer water quality or violating water quality standards, degrading groundwater quality due to soil leaching of metals and other constituents from the aquifer materials as a result of injecting purified water, degrading groundwater quality by inducing flows that intersect groundwater contaminant plumes or existing shallow soil contamination, and causing increased flooding and hydromodification in local streams.

Project Change Analysis

Impacts (and Supporting Information Sources):	*New Potentially Significant Impact*	*New Less Than Significant with Mitigation Incorporated*	*New Less Than Significant Impact*	*Same Impact as Approved Project*	*Less Impact than Approved Project*
HYDROLOGY RESOURCES - GROUNDWATER					
Impact 4.10-1: Borehole drilling, construction and development of the recharge wells and monitoring wells would not permanently draw local groundwater levels down to the extent that the operation of nearby District and non-District production wells are adversely affected, nor would water generated during well construction degrade ambient groundwater quality or violate groundwater quality standards.	☐	☐	☐	☒	☐
Impact 4.10-2: Managed active aquifer recharge of purified water would not cause unfavorable groundwater conditions in the Basin such that nearby District non-District wells are damaged, experience substantial loss of yield, or can no longer be operated.	☐	☐	☐	☒	☐
Impact 4.10-3: Introducing advanced purified wastewater into the existing groundwater supply of the Purisima aquifer units would not degrade aquifer water quality or violate water quality standards.	☐	☐	☐	☒	☐
Impact 4.10-4: Soil leaching of metals and other constituents from the aquifer materials, which could occur as a result of injecting purified water, would not degrade groundwater quality	☐	☐	☐	☒	☐
Impact 4.10-5: Elevated local groundwater levels caused by the Project would not degrade groundwater quality by inducing flows that intersect groundwater contaminant plumes or existing shallow soil contamination.	☐	☐	☐	☒	☐

Impacts (and Supporting Information Sources):	*New Potentially Significant Impact*	*New Less Than Significant with Mitigation Incorporated*	*New Less Than Significant Impact*	*Same Impact as Approved Project*	*Less Impact than Approved Project*
Impact 4.10-6: Groundwater replenishment would not cause increased flooding and hydromodification in local streams.	☐	☐	☐	☒	☐

Discussion

Because the Modified Project would not result in any ground disturbance at the parcel to be acquired, groundwater resources at the New Parcel site would not be affected. The Modified Project does not include any activities or installations of facilities that would impact the local groundwater table beyond the less-than-significant level that was addressed in the certified EIR. During construction, the Modified Project would not result in any additional construction activities that would require dewatering. Additionally, the Modified Project would have the same impact on groundwater infiltration compared to the approved Project because it would include the installation of a similar amount of impervious surfaces that allow for groundwater infiltration at the Chanticleer Site and SC WWTF as disclosed in the certified EIR. The Modified Project would also not result in any significant impacts with respect to the depletion or recharge of groundwater supplies or more severe less-than-significant impacts than those identified in the certified EIR.

Regarding the potential that introducing advanced purified wastewater into the existing groundwater supply could degrade aquifer water quality or violate water quality standards, the Modified Project includes a revision to the proposed treatment approach to include nitrate removal pretreatment, and other associated treatment revisions that would optimize project operations, resulting in advanced purified wastewater of the same or better quality as under the approved Project. As under the EIR, the Modified Project would result in an advanced purified water source for injection that meets the California Department of Drinking Water's adopted regulations for potable reuse through groundwater recharge. The proposed recharge locations and estimated residence time would not be revised from that considered in the EIR. Thus, the Modified Project would adequately treat and remove the chemicals of concern present in the wastewater stream generated by the SC WWTF. The potential for degradation of the ambient potable groundwater would remain negligible and the impact is still considered less than significant.

Conclusion

Same as documented in the certified EIR for the approved Project, implementation of the Modified Project would not result in any significant impacts associated with permanently drawing down local groundwater levels, generating water during well construction that would degrade ambient groundwater quality or violate groundwater quality standards, causing unfavorable groundwater conditions in the groundwater basin, degrading aquifer water quality or violating water quality standards, degrading groundwater quality due to soil leaching of metals and other constituents from the aquifer materials as a result of injecting purified water, degrading groundwater quality by inducing flows that intersect groundwater contaminant plumes or existing shallow soil contamination, or causing increased flooding and hydromodification in local streams beyond

those impacts identified in the previously certified EIR. **(Same Impact as Previously Approved Project [Less than Significant])**

3.10 Hydrology Resources – Surface Water

Setting

The environmental and regulatory setting relevant to Hydrology Resources – Surface Water for the Modified Project site is the same as that described in the certified EIR for the approved Project. Due to the proximity of the New Parcel under the Modified Project to the adjacent approved Chanticleer Site, the environmental setting relevant to surface water hydrology resources for the New Parcel is the same as that described for the Chanticleer Site in the certified EIR.

Findings of Previously Certified EIR

The certified EIR identified a less-than-significant impact with mitigation related to the potential for construction of the approved Project to result in a violation of water quality standards and/or waste discharge requirements, substantial additional sources of polluted runoff, or otherwise substantially degrade water quality. The certified EIR identified less-than-significant impacts related to the potential for approved Project operation to result in a violation of water quality standards and/or waste discharge requirements, substantial additional sources of polluted runoff, or otherwise substantially degrade water quality; result in altered drainage patterns such that there is a resultant increase in erosion, siltation, flooding or the rate or amount of surface runoff; and for the potential to impede or redirect flood flows or expose people or structures to a significant risk of loss, injury, or death involving flooding.

Project Change Analysis

Impacts (and Supporting Information Sources):	*New Potentially Significant Impact*	*New Less Than Significant with Mitigation Incorporated*	*New Less Than Significant Impact*	*Same Impact as Approved Project*	*Less Impact than Approved Project*
HYDROLOGY RESOURCES – SURFACE WATER					
Impact 4.11-1: Project construction could result in a violation of water quality standards and/or waste discharge requirements, substantial additional sources of polluted runoff, or otherwise substantially degrade water quality.	☐	☐	☐	☒	☐
Impact 4.11-2: Project operation would not violate water quality standards and/or waste discharge requirements, provide substantial additional sources of polluted runoff, or otherwise substantially degrade water quality.	☐	☐	☐	☒	☐
Impact 4.11-3: Project facilities would not alter drainage patterns such that there is a resultant increase in erosion, siltation, flooding or the rate or amount of surface runoff such that the capacity of an existing or planned stormwater drainage system is exceeded.	☐	☐	☐	☒	☐
Impact 4.11-4: Project facilities would not be located within a 100-year flood hazard area and impede or redirect flood flows or could expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee, or coastal flooding due to tsunami or sea-level rise.	☐	☐	☐	☒	☐

Discussion

The Modified Project would not result in any ground disturbance or other alterations to the ground surface at the New Parcel, such as site clearing, earthmoving, excavation, soil stockpiling, etc., that could affect surface water quality; however, the New Parcel may be used for construction staging (instead of the main Chanticleer site). Therefore, construction-related chemicals, such as fuels and lubricants, may be stored at the New Parcel rather than at the main Chanticleer site. In addition, the Modified Project would not substantially change the existing on-site drainage patterns or the slope of areas at the Chanticleer Site or SC WWTF. Since overall construction activities associated with the Modified Project, including those at the Chanticleer Site and SC WWTF, would disturb more than one acre of soil, the project would remain subject to the requirements of the National Pollutant Discharge Elimination System (NPDES) Construction General Permit (CGP) and best management practices (BMPs), such as installing overflow structures designed to capture and contain any materials that are inadvertently released from storage containers on the construction site, would be required. Implementation of the required BMPs would ensure that impacts related to potential spills associated with stored chemicals at the Chanticleer Site and SC WWTF would be less than significant.

The Modified Project facilities would not be located in a FEMA-designated 100-year flood hazard zone (1 percent annual flood risk); however, as discussed in EIR Section 4.11.2, the SC WWTF is located on land adjacent to the Neary Lagoon outlet channel in a section of downtown Santa Cruz, which is within a flood hazard A99 zone. An A99 flood hazard zone is an area protected from a 100-year flood by a federal flood protection system for which no base flood elevations have been determined. Same as disclosed in the EIR for the approved Project, the Modified Project facilities located at SC WWTF would be located in areas that are already developed within the SC WWTF site with existing flood mitigation. The topography of the SC WWTF is such that the site would only be at risk from flooding due to flows from Neary Lagoon, but an existing 10 to15 foot high concrete wall serves as a flood barrier between Neary Lagoon and the SC WWTF site. A gate in the wall can be fitted with duck boards that drop in in the event of a heavy rain event. Any precipitation that falls on the SC WWTF site under the Modified Project would continue to be collected into the headworks, treated through the plant, and discharged through the ocean outfall.

Further, the A99 Zone containing the SC WWTF site is an overflow area from the San Lorenzo River, not an area that conveys flood flows, and because the site is not in an area of flood conveyance and the new levees constructed on the San Lorenzo River will reduce flooding in this area, the construction of proposed facilities at the SC WWTF would not cause any change in flooding as shown on the FEMA flood maps in terms of impeding or redirecting flood flows. As disclosed in the EIR for the approved Project, staff located at the SC WWTF would not be exposed to increased flood risk as a result of Modified Project implementation.

The Modified Project would not substantially change impervious surfaces beyond the amount disclosed in the certified EIR. For the reasons described above, the Modified Project would have a less-than-significant impact related to drainage, runoff, and flooding associated with construction pollutants. The Modified Project would not result in any significant impacts or new

or more severe less-than-significant significant impacts to surface water than those identified for the approved Project in the previously certified EIR.

Conclusion

Implementation of the Modified Project would not result in any new or more severe significant impacts associated with a violation of water quality standards and/or waste discharge requirements, substantial additional sources of polluted runoff, or would otherwise substantially degrade water quality beyond those disclosed for the approved Project in the certified EIR. **(Same Impact as Previously Approved Project [Less than Significant with Mitigation for pipeline directional drilling activities only])**

As with the Previously Approved Project, implementation of the Modified Project would not result in any significant impacts, and would not result in new or more severe less-than-significant impacts related to the potential for operations to result in a violation of water quality standards and/or waste discharge requirements, substantial additional sources of polluted runoff, or otherwise substantially degrade water quality; result in altered drainage patterns such that there is a resultant increase in erosion, siltation, flooding or the rate or amount of surface runoff; and the potential to impede or redirect flood flows or expose people or structures to a significant risk of loss, injury, or death involving flooding beyond those disclosed in the certified EIR for the approved Project. **(Same Impact as Previously Approved Project [Less than Significant]**

3.11 Land Use and Planning

Setting

The Modified Project would expand the area of the approved Chanticleer Site identified in the certified EIR to include the New Parcel. The New Parcel is located in unincorporated Santa Cruz County in the Live Oak Planning Area. The land use setting for the proposed New Parcel [(i.e., land use designation Service Commercial (C-S) and zoning designation Light Industrial (M-1; Santa Cruz County, 2020)] is the same as identified in the certified EIR for the approved Chanticleer Site. As shown in Draft EIR Table 4.12-1, *Coastal Zone within the Project Vicinity*, the New Parcel is not within the coastal zone as defined by the California Coastal Act (CCA).

Findings of Previously Certified EIR

The certified EIR identified a less-than-significant impact related to a potential conflict with applicable land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect. The certified EIR identified no impact with regard to the potential to physically divide an established community, conflict with any applicable habitat conservation plan or natural community conservation plan, increase the use of existing neighborhood and regional parks or other recreational facilities, or include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

Project Change Analysis

Impacts (and Supporting Information Sources):	*New Potentially Significant Impact*	*New Less Than Significant with Mitigation Incorporated*	*New Less Than Significant Impact*	*Same Impact as Approved Project*	*Less Impact than Approved Project*
LAND USE AND PLANNING					
Impact 4.12-1: The Proposed Project would not conflict with applicable land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect.	☐	☐	☐	☒	☐

Discussion

For the same reasons as identified for the approved Project in Draft EIR Table 4.12-5, *Applicable County of Santa Cruz County - Relevant Plans and Policies*, the changes proposed for the AWPF Chanticleer Site under the Modified Project would not conflict with the Santa Cruz County General Plan and Local Coastal Plan goals, policies, or objectives; and for the same reasons as identified for the approved Project in Draft EIR Table 4.12-6, *Applicable City of Santa Cruz Land Use Plans and Policies*, the changes proposed for the SC WWTF under the Modified Project would not conflict with the Santa Cruz County General Plan and Local Coastal Program policies or the Nearly Lagoon Management Plan.

Same as identified in the certified EIR for the approved Project, given the land use conditions at the SC WWTF and Chanticleer Site, including the New Parcel, no impact would occur under the

Modified Project with regard to the potential to physically divide an established community, conflict with any applicable habitat conservation plan or natural community conservation plan, increase the use of existing neighborhood and regional parks or other recreational facilities, or include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

Conclusion

Implementation of the Modified Project would result in the same impact relative to a potential conflict with applicable land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect that is identified for the approved Project in the previously certified EIR. (**Same Impact as Previously Approved Project [Less than Significant]**)

References

Santa Cruz County, 2020. Santa Cruz County Geographic Information Services, 2020. Accessed webpage (https://gis.santacruzcounty.us/gisweb/) August 6, 2020.

3.12 Noise and Vibration

Setting

Noise related setting information for the Modified Project is the same as discussed in the certified EIR for the approved Chanticleer Site and the SC WWTF. As shown in Draft EIR Table 4.13-2, *24-hour Long-Term Ambient Noise Monitoring Results*, a noise survey conducted near the Chanticleer Site suggests that the 24-hour day and night A-weighted noise exposure level (L_{dn}) in the area is 58 dBA, the instantaneous maximum noise level (L_{min}) is 38 dBA, and the instantaneous maximum noise level (L_{max}) is 77 dBA; and a noise survey conducted near the SC WWTF suggests that the L_{dn} in the area is 58 dBA, the L_{min} is 38 dBA, and the L_{max} is 77 dBA. No new sources of noise have been added to the Project area subsequent to certification of the EIR. In addition, policies of the City of Santa Cruz and County of Santa Cruz General Plans and Municipal Codes have not changed since certified of the EIR and they continue to be applicable to the Modified Project.

Findings of Previously Certified EIR

The certified EIR identified a significant and unavoidable impact even with implementation of mitigation related to a potential for the construction of the Project to result in exposure of persons to, or generation of, noise levels in excess of standards established in the local general plans or noise ordinances; and related to a potential for construction of the approved Project to result in a substantial temporary or periodic increase in ambient noise levels in the vicinity above levels existing without the Project. The certified EIR identified a less-than-significant impact with mitigation regarding exposure of persons to, or generation of, excessive groundborne vibration. The certified EIR identified less-than-significant impacts regarding exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance; and for the potential to result in a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project.

Project Change Analysis

Impacts (and Supporting Information Sources):	*New Potentially Significant Impact*	*New Less Than Significant with Mitigation Incorporated*	*New Less Than Significant Impact*	*Same Impact as Approved Project*	*Less Impact than Approved Project*
NOISE and VIBRATION					
Impact 4.13-1: Construction of the Project would result in exposure of persons to, or generation of, noise levels in excess of standards established in the local general plans or noise ordinances.	☐	☐	☐	☒	☐
Impact 4.13-2: Project construction would result in a substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project.	☐	☐	☐	☒	☐
Impact 4.13-3: Operation of the Project could result in exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance.	☐	☐	☐	☒	☐

Impacts (and Supporting Information Sources):	*New Potentially Significant Impact*	*New Less Than Significant with Mitigation Incorporated*	*New Less Than Significant Impact*	*Same Impact as Approved Project*	*Less Impact than Approved Project*
Impact 4.13-4: The Project could result in exposure of persons to, or generation of, excessive groundborne vibration.	☐	☐	☐	☒	☐
Impact 4.13-5: The Project would not result in a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project.	☐	☐	☐	☒	☐

Discussion

Noise

Construction

Construction activities associated with the Modified Project would be similar to those discussed in the certified EIR for the Chanticleer Site and at the SC WWTF. The same construction hours and general methods associated with the other construction activities would apply to the Modified Project as described in the certified EIR, with the exception that construction activities at the SC WWTF would occur over a 2-year period as opposed to 10 months under the approved Project and some periodic night or extended work hours may occur as described in Section 2.3, Proposed Changes to the Project. Extended work hours would include 10- and 12-hour work days that could begin at 7:00 a.m. Night time work could include connections to SC WWTF facilities, such as the secondary effluent source water or treatment chemical feed lines. This work would require use of hand tools, air compressors, and a fork lift.

As discussed on EIR Page 4.13-4, sensitive receptors near the SC WWTF site consist of single-family residences south of Bay Street. These residences are approximately 520 feet from the nearest Project site boundary within the SC WWTF. The City of Santa Cruz Municipal Code indicates that construction and other offensive noise is not permitted between the hours of 10:00 p.m. and 8:00 a.m., within 100 feet of any building or place regularly used for sleeping purposes or which disturbs any person within hearing distance of such noise, without approval of the director of public works (EIR Page 4.13-13 and 4.13-14). Further, as discussed on EIR Page 4.13-17, a nighttime noise standard of 60 dBA L_{eq} was used to evaluate whether construction would cause a substantial temporary or periodic increase in ambient noise levels at sensitive receptors near the Project sites.

To quantify construction-related nighttime noise exposure that could occur at the nearest sensitive receptors, it was assumed that a fork lift and an air compressor would operate simultaneously at the closest location of the Project site to the nearest off-site sensitive receptors. As shown on EIR Page 4.13-19, use of a fork lift would generate 81 dBA L_{eq} at 50 feet and use of an air compressor would generate 76 dBA L_{eq} at 50 feet. The estimated nighttime combined noise level of these two pieces of equipment operating simultaneously at the nearest sensitive receptors in the vicinity of the SC WWTF would be approximately 57 dBA L_{eq}, which would be under the nighttime noise significance threshold established for the EIR. In addition, the nearest receptors are more than 100 feet from construction activities. Further, the occasional nighttime construction activities

would be consistent with ongoing and periodic nighttime activities that currently take place at the SC WWTF. Thus, under the Modified Project the nearest sensitive receptors to the SW WWTF would continue to be exposed to construction noise levels that would result in a **less-than-significant impact**, while the nearest sensitive receptors to the Chanticleer Site would continue to be exposed to construction activities that would result in the same **significant impacts** identified in the certified EIR with respect to exposure of persons to, or generation of, noise levels in excess of local standards, and generation of a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project. Implementation of Mitigation Measure 4.13-1a (Construction Reduction Plan) would reduce construction noise levels at nearby sensitive receptors through implementation of a construction noise reduction Plan; however, as with the approved Project, the impact in the vicinity of Chanticleer Site would remain significant and unavoidable with mitigation.

Operation

Exposure of Persons to, or Generation of, Noise Levels in Excess of Standards

The SC WWTF Site is within the jurisdiction of the City of Santa Cruz. The primary stationary noise sources associated with the Santa Cruz WWTF site under the Modified Project include multiple unenclosed pump stations and blowers. As shown in **Table 3.12-1**, the nearest sensitive receptors to the SC WWTF site could be exposed to a combined maximum operational noise level of 38 dBA L_{eq} under the Modified Project. This noise level is approximately 26 dBA L_{eq} greater than the noise level disclosed in the EIR for the SC WWTF under the approved Project. The increased noise level under the Modified Project is primarily associated with additional noise sources, including three unenclosed blowers. Since the City of Santa Cruz general plan and noise ordinance do not contain any stationary noise standards, same as identified for the approved Project in the EIR, there would be **no impact** with respect to exposure of persons to, or generation of, noise levels in excess of local general plan standards or ordinances.

The Chanticleer Site is within an unincorporated area of Santa Cruz County. The primary stationary noise sources under the Modified Project associated with the AWPF at the Chanticleer Site would be multiple unenclosed pump stations at the northern portion of the site. Since the proposed facilities would operate 24 hours a day, the combined operational pump station noise was compared to County's nighttime stationary noise standard of 45 dBA L_{eq}. As shown in Table 3.12-1, the nearest sensitive receptor to the Chanticleer Site could be exposed to a combined maximum noise level of 41 dBA L_{eq} during Modified Project operation, which would be approximately 9 dBA L_{eq} greater than the noise level disclosed in the EIR for the Chanticleer Site under the approved Project primarily because of the three pump stations at the northern portion of the site are now proposed to be unenclosed. The Modified Project noise level for the Chanticleer Site would not exceed the County's nighttime stationary noise standard of 45 dBA L_{eq}. Therefore, there would be a **less-than-significant impact** with respect to exposure of persons to, or generation of, noise levels in excess of the local general plan standards.

TABLE 3.12-1
SUMMARY OF MODIFIED PROJECT OPERATIONAL NOISE EXPOSURE AT SENSITIVE RECEPTORS LOCATIONS – STATIONARY SOURCES

Project Facility	Loudest Noise Source	Noise Level at 50 feet (dBA L_{eq})[a]	Distance to nearest Sensitive Receptor (feet)[b]	Attenuated Noise Level (dBA L_{eq})[c]
SC WWTF Site	Tertiary Effluent Pump Station	62	520	27
	Secondary Effluent Pump Station	62	520	27
	nBAF Pump Station	62	550	26
	nBAF Blower 1	68	550	32
	nBAF Blower 2	68	555	32
	nBAF Blower 3	68	560	32
			Combined Noise Levels	**38**
Chanticleer Site	MF Feed Pump Station	59	300	40
	Purified Water Pump Station	59	350	28
	MF Backwash/RO Feed Pump Station	59	270	31
	MF/RO Pump Station 1	62	250	20
	MF/RO Pump Station 2	62	250	20
	MF/RO Pump Station 3	62	240	20
	MF/RO Pump Station 4	62	220	21
	MF/RO Pump Station 5	62	220	21
	MF/RO Blower	68	260	25
			Combined Noise Level	**41**

NOTES:

[a] Based on information provided by the District, it is assumed that the outdoor pump stations at the Chanticleer Site would be low pressure with average ratings of 20 kilowatts at 1,700 RPM, resulting in an estimated sound pressure level of 59 dBA at approximately 50 feet based on Flow Fab, 2010. It is assumed that all the other pump stations would result in the same reference noise level as disclosed in the EIR, i.e., 62 dBA at 50 feet. Air blowers are assumed to result in a noise level of 68 dBA at 50 feet based on PD Blowers, 2018.

[b] Measured distances are from the nearest sensitive receptor to the proposed noise source location.

[c] Assumed an attenuation rate of 7.5 dB per doubling of distance (i.e., soft site). In addition, the Purified Water, MF Feed, and MF Backwash/RO Feed pump stations at the Chanticleer Site would not be enclosed, and the other pump stations and the blower at the Chanticleer Site would be enclosed, resulting in an additional assumed interior to exterior attenuation of 25 dBA. It is assumed the unenclosed Chanticleer Site Purified Water Pump station and MF Backwash/RO Feed pump station noise levels would include an additional attenuate by 10 dBA due to shielding caused by the proposed process building to the south. The sources at the SC WWTF would not be enclosed but noise levels would be attenuated by 10 dBA due to shielding caused by the existing sedimentation tanks.

SOURCES:

District EIR, 2018.

PD Blowers, 2018; and Flow Fab, 2010.

PD Blowers, 2018. Air Backwash Blower System for Water Treatment Plant, posted at: https://www.pdblowers.com/air-backwash-blower-system-for-water-treatment-plant/ on May 30, 2018.

Flow Fab, 2010. Typical Sound Power Levels of Pumpsets, June 22, 2010.

Increase in Ambient Noise Levels

As described in EIR Section 4.13, the evaluation relative to increases in ambient noise levels uses a 5 dB increase in noise exposure, which is considered a readily perceptible increase in noise levels, to assess the significance of operational noise. That is, a significant impact would occur if

the Modified Project would cause an increase in noise levels of 5 dBA or greater, relative to ambient noise levels.

As previously discussed, the nearest sensitive receptors to the proposed facilities at SC WWTF consist of single-family residences approximately 520 feet south the onsite effluent pump station. Based on the noise survey conducted from January 31, 2018, to February 2, 2018, the existing ambient noise level in the vicinity of these sensitive receptors is 65 dBA L_{dn} (see LT-5 in EIR Table 4.13-2). As shown in **Table 3.12-2**, the operation of the on-site pumps and blowers at the SC WWTF would result in an ambient level of 65 dBA L_{dn} at the nearest sensitive receptors, and same as the approved Project, would not increase existing ambient noise levels in the vicinity of the Modified Project site. The nearest sensitive receptors to the Chanticleer Site consist of single-family residences approximately 220 feet to the southwest of the closest noise sources. Based on the noise survey conducted from January 31, 2018, to February 2, 2018, the existing ambient noise level at these sensitive receptors is 58 dBA L_{dn} (see LT-4 in EIR Table 4.13-2). As shown in Table 3.12-2, the operation of the on-site pumps and blower at the Chanticleer Site would result in an ambient noise level of 58 dBA L_{dn} at the nearest sensitive receptors; and like the approved Project, would not increase existing ambient noise levels in the vicinity of the Project site.

TABLE 3.12-2
MODIFIED PROJECT OPERATIONAL STATIONARY NOISE SOURCES INCREASE OF OVER AMBIENT

Project Component	Loudest Noise Source	Attenuated Noise Levels (dBA L_{eq})[a]	Attenuated Noise Levels (dBA L_{dn})[b]	Ambient (dBA L_{dn})[c]	Project plus Ambient (dBA L_{dn})	Increase Over Ambient (dB)
Potential AWPF Sites						
Santa Cruz WWTF Site	One Effluent Pump Station	38	44	65	65	0
Chanticleer Site	One Purified Water Pump Station	41	47	58	58	0

NOTES:

[a] See Table 3.12- 1, above, for details.

[b] The pump stations and blowers would operate 24-hours a day.

[c] Measured ambient noise levels were obtained from a baseline noise survey conducted on January and February, 2018.

SOURCES:

District EIR, 2018.

PD Blowers, 2018; and Flow Fab, 2010.

PD Blowers, 2018. Air Backwash Blower System for Water Treatment Plant, posted at: https://www.pdblowers.com/air-backwash-blower-system-for-water-treatment-plant/ on May 30, 2018.

Flow Fab, 2010. Typical Sound Power Levels of Pumpsets, June 22, 2010.

The nearest sensitive receptors to the Chanticleer Site and SC WWTF under the Modified Project would not be exposed to operational noise that would exceed the applied 5-dB substantial increase threshold. Same as disclosed for the approved Project in the certified EIR, there would be a **less-than-significant impact** with respect to a substantial permanent increase in ambient noise levels in the vicinity of the Chanticleer Site under the Modified Project.

Groundborne Vibration or Noise Levels

The types of equipment used for construction of the Modified Project would be similar to that analyzed for the approved Project in the certified EIR, and the associated vibration impact would be the same. As described in the certified EIR, there would be a less-than-significant impact with respect to exposure of persons and structures to construction-related vibration levels near the Chanticleer and SC WWTF sites that would be considered strongly perceptible or result in building damage. However, construction of the pipelines under the Modified Project, which would be same as for the approved Project, would require the use of a vibratory roller during soil compaction, which would exceed the applied human annoyance threshold. Implementation of Mitigation Measure 4.13-4 (Vibration Monitoring for Pipeline Installation in the Vicinity of Historic Buildings) would reduce this impact to a less-than significant level by ensuring that vibration generated during pipeline construction does not exceed the applied 0.25 in/sec PPV historic building damage threshold. Once operational, the Modified Project would not include any new sources of vibration; therefore, there would be no impact with regard to long-term ground-borne vibration.

Conclusion

Implementation of the Modified Project would not result in any new or more severe significant impacts associated with a potential for construction of the project to result in exposure of persons to, or generation of, noise levels in excess of standards established in the local general plans or noise ordinances; and related to a potential for construction of the project to result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project. **(Same Impact as Previously Approved Project [Significant and Unavoidable])**

Implementation of the Modified Project would not result in any new or more severe significant impacts regarding exposure of persons to, or generation of, excessive groundborne vibration. **(Same Impact as Previously Approved Project [Less than Significant with Mitigation associated with pipeline construction only])**

Implementation of the Modified Project would not result in any new or more severe significant impacts regarding exposure of persons to, or generation of, operational noise levels in excess of standards established in the local general plan or noise ordinance; and for the potential to result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. **(Same Impact as Previously Approved Project [Less than Significant])**

3.13 Population and Housing

Setting

The population and housing environmental and regulatory setting for the Modified Project is the same as described in the certified EIR for the approved Project. None of the modifications proposed as part of the Modified Project would change the population and housing setting discussed in the certified EIR.

Findings of Previously Certified EIR

The certified EIR identified no impact associated with displacing a substantial number of people that would necessitate the construction of replacement housing. The certified EIR identified a less-than-significant impact with respect to inducing population growth. Due to the nature of the Project, the EIR did not analyze the significance criteria relative to the displacement of a substantial number of existing housing or people, necessitating the construction of replacement housing elsewhere because Project activities would involve the removal of housing or otherwise displace people.

Project Change Analysis

Impacts (and Supporting Information Sources):	*New Potentially Significant Impact*	*New Less Than Significant with Mitigation Incorporated*	*New Less Than Significant Impact*	*Same Impact as Approved Project*	*Less Impact than Approved Project*
POPULATION AND HOUSING					
Impact 4.14-1: The Project would not induce substantial population growth directly during Project construction or operation.	☐	☐	☐	☒	☐

Discussion

Construction and operation of the Modified Project would require approximately the same amount of workers as identified for the certified EIR for the approved Project, which would consist of a construction workforce of between 29 to 58 workers, and an operational workforce of approximately six additional District staff members. Therefore, the Modified Project would result in the same population and housing impacts as the approved Project. As described in the certified EIR, construction and operation employment demands related to the approved Project would be anticipated to be met by the existing labor pool within the study area. Therefore, construction and operation of the Modified Project would not directly induce a substantial increase in the local population or demand for housing, and the associated impact would be less than significant.

Conclusion

Implementation of the Modified Project would not result in any new or more severe significant impacts than those identified in the previously certified EIR related to inducing population growth. **(Same Impact as Previously Approved Project [Less than Significant])**

3.14 Transportation

Setting

The transportation environmental and regulatory setting for the Modified Project is the same as described in the certified EIR for the approved Project. None of the modifications proposed as part of the Modified Project would change the transportation setting discussed in the certified EIR.

Findings of Previously Certified EIR

The certified EIR identified less-than-significant impacts with mitigation associated with lane closures that would cause temporary and intermittent conflicts with all modes of travel, temporary and intermittent impedance to adjacent roadways and land uses, and temporary decreases to the performance of alternative transportation facilities. The certified EIR identified less-than-significant impacts for temporary construction-related and long-term operation-related increases in traffic volumes on area roadways.

Project Change Analysis

Impacts (and Supporting Information Sources):	*New Potentially Significant Impact*	*New Less Than Significant with Mitigation Incorporated*	*New Less Than Significant Impact*	*Same Impact as Approved Project*	*Less Impact than Approved Project*
TRANSPORTATION					
Impact 4.15-1: Closure of travel lanes during Project construction could temporarily reduce roadway capacity and increase traffic delays on area roadways, causing temporary and intermittent conflicts with all modes of travel.	☐	☐	☐	☒	☐
Impact 4.15-2: Project construction would cause temporary increases in traffic volumes on area roadways, but would not cause substantial conflicts with the performance of the circulation system.	☐	☐	☐	☒	☐
Impact 4.15-3: Pipeline construction could cause temporary and intermittent impedance to access to adjacent roadways and land uses.	☐	☐	☐	☒	☐
Impact 4.15-4: Pipeline construction would not substantially impair access to alternative transportation facilities (public transit, bicycle, or pedestrian facilities), although it could temporarily decrease the performance of such facilities.	☐	☐	☐	☒	☐
Impact 4.15-5: Project operations and maintenance activities would cause some increases in traffic volumes on area roadways, but would not substantially alter transportation conditions and would not cause conflicts with alternative travel modes, including vehicles, emergency vehicles, transit, pedestrians, and bicycle traffic.	☐	☐	☐	☒	☐

Discussion

Subsequent to the release of the Final EIR, the CEQA Guidelines were updated, including its Appendix G, *Environmental Checklist Form*, which was used in the EIR as a guide for the

establishment of CEQA significance criteria. While an addendum need not consider revisions to the CEQA guidelines that occur after EIR certification (CEQA Guidelines Section 15007), it is noted for informational purposes that for transportation, the criteria were reduced from six impact issues to four, with the primary change being with regard to the evaluation of whether the project would conflict with or be inconsistent with CEQA Guidelines Section 15064.3, which focuses on reducing project-related automobile (i.e., passenger cars and light-duty trucks) vehicle miles traveled (VMT), instead of focusing on traffic congestion in terms of roadway level of service evaluations. Vehicle miles traveled per person (or per capita) is a measurement of the amount and distance that a resident, employee, or visitor drives, accounting for the number of passengers within a vehicle. In general, higher VMT areas are associated with more air pollution, including greenhouse gas emissions, and energy usage than lower VMT areas. Many interdependent factors affect the amount and distance a person might drive. In particular, the built environment affects how many places a person can access within a given distance, time, and cost, using different ways of travel (e.g., private vehicle, public transit, bicycling, walking, etc.). Typically, low-density development located at great distances from other land uses and in areas with few options for ways of travel provides less access than a location with high density, mix of land uses, and numerous ways of travel. Therefore, low-density development typically generates more VMT compared to a similarly sized development located in urban areas. The project is an infrastructure project with transportation features that would not generate new travel demand therefore, VMT per capita is not considered applicable.

Construction access for the Modified Project would be the same as described for the approved Project in the certified EIR; however, the Modified Project would result in an addition of approximately 1,010 haul truck roundtrips over the course of the 2-year construction period compared to the approved Project, which on average would be an increase of approximately two trips per workday. Therefore, the District has determined that the Modified Project would result in the approximately the same traffic volumes and associated impacts as identified in the certified EIR for the approved Project.

As disclosed in the certified EIR, the impact related to temporary increases in traffic volume associated with construction vehicle traffic would be a lessening of their traffic-carrying capacities due to the slower movement and larger turning radii of trucks, which potentially could significantly affect traffic and transit operations. However, due to its temporary nature and limited magnitude, the effect of this construction-related increase in traffic and truck volume on traffic and transit operations under the Modified Project would not be substantial, and the impact is considered to be less than significant.

Construction of the pipelines under the Modified Project, which would be the same as for the approved Project, would cause temporary and intermittent impedance to access to adjacent roadways and land uses, and could temporarily decrease the performance of alternative transportation facilities, which would be considered significant impacts; however, implementation of Mitigation Measure 4.15-1 [Traffic Control Plan (Pipeline Construction)] would reduce these impacts to less-than significant levels.

Long-term facility operations and maintenance impacts associated with the Modified Project would be the same as identified in the certified EIR for the approved Project. Since the education center would only be moved approximately 100 feet from its originally proposed location to the New Parcel under the Modified Project, it would result in the same amount of trips to Chanticleer Site as would have occurred under the approved Project. Operations and maintenance activities would cause increases in traffic volumes on area roadways, but would not substantially alter transportation conditions, and would not cause conflicts with alternative travel modes, including vehicles, emergency vehicles, transit, pedestrians, and bicycle traffic, resulting in a less-than-significant impact. The long-term automobile VMT that would occur under the Modified Project would be the same as would occur under the approved Project and would be associated with six additional staffers that would commute to the project site(s) on a daily basis and up to 30 people, that would drive to Chanticleer Site approximately four times per months for tours at the site.

Conclusion

Implementation of the Modified Project would not result in any new or more severe significant impacts than those identified in the previously certified EIR associated with lane closures that would cause temporary and intermittent conflicts with all modes of travel, temporary and intermittent impedance to adjacent roadways and land uses, or temporary decreases to the performance of alternative transportation facilities. **(Same Impact as Previously Approved Project [Less than Significant with Mitigation for pipeline construction only])**

Implementation of the Modified Project would not result in any new or more severe significant impacts than those identified in the previously certified EIR related to temporary construction-related and long-term operation-related increases in traffic volumes on area roadways. (**Same Impact as Previously Approved Project [Less than Significant Impact])**

3.15 Tribal Cultural Resources

Setting

The tribal cultural resources environmental and regulatory setting for the Modified Project is the same as described in the certified EIR for the approved Project. None of the modifications proposed as part of the Modified Project would change the tribal cultural resources setting discussed in the certified EIR.

Findings of Previously Certified EIR

The certified EIR identified a less-than-significant impact with mitigation regarding causing a substantial adverse change in the significance of a tribal cultural resource.

Project Change Analysis

Impacts (and Supporting Information Sources):	*New Potentially Significant Impact*	*New Less Than Significant with Mitigation Incorporated*	*New Less Than Significant Impact*	*Same Impact as Approved Project*	*Less Impact than Approved Project*
TRIBAL CULTURAL RESOURCES					
Impact 4.16-1: The Project could cause a substantial adverse change in the significance of a tribal cultural resource.	☐	☐	☐	☒	☐

Discussion

The Modified Project would result in the same impacts to tribal cultural resources as identified in the certified EIR for the approved Project. As discussed in the certified EIR, there may be archaeological resources and/or human remains that could be considered tribal cultural resources in the project area and the project could have an impact on those known resources. Further, if archaeological resources or human remains are uncovered during either the implementation of an Archaeological Research Design and Treatment Plan or during ground disturbing activities, impacts to tribal cultural resources could be potentially significant. Mitigation Measures 4.5-2a through 4.5-2c, and Mitigation Measure 4.5-3 would apply to archaeological resources and human remains that are considered tribal cultural resources and would reduce impacts associated with the Modified Project to a less-than-significant level.

Conclusion

Implementation of the Modified Project would not result in any new or more severe significant impacts than those identified in the previously certified EIR associated causing a substantial adverse change in the significance of a tribal cultural resource. **(Same Impact as Previously Approved Project [Less than Significant with Mitigation])**

3.16 Utilities and Service Systems

Setting

The utilities and service systems setting in the vicinity of the parcel site to be acquired is the same as that described for the approved Chanticleer Site in the certified EIR. The New Parcel is served by the same utility and service systems that serve the Chanticleer Site. None of the modifications proposed as part of the Modified Project would change the utilities and service systems setting discussed in the certified EIR.

Findings of Previously Certified EIR

The certified EIR identified less-than-significant impacts related to water treatment requirements and wastewater treatment capacity, water supply and entitlements, and landfill capacity and solid waste statutes and regulations.

Due to the nature of the Project, the EIR did not analyze the significance criteria relative to requiring or resulting in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects since the primary purpose of the Project is the construction of new water treatment facilities for advanced water purification, and accordingly, the potential environmental effects of constructing and operating the proposed facilities were the primary subject of EIR, and significant effects that could result from the Project were addressed in the topical sections of the EIR that correspond to those types of effects. In addition, the EIR did not analyze whether the Project would require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. The Project does not include construction or expansion stormwater drainage facilities and would not substantially increase the rate or amount of stormwater runoff. Thus, Project implementation was not found to cause an exceedance of existing stormwater drainage capacity that would necessitate the construction or expansion of infrastructure. Therefore, the criterion related to the construction or expansion of stormwater drainage facilities was not analyzed in the EIR.

Project Change Analysis

Impacts (and Supporting Information Sources):	*New Potentially Significant Impact*	*New Less Than Significant with Mitigation Incorporated*	*New Less Than Significant Impact*	*Same Impact as Approved Project*	*Less Impact than Approved Project*
UTILITIES AND SERVICE SYSTEMS					
Impact 4.17-1: The Project would not exceed water treatment requirements or result in a determination by the wastewater treatment provider that there is insufficient capacity to serve the project.	☐	☐	☐	☒	☐
Impact 4.17-2: The Project would not have sufficient water supplies from existing entitlements and resources, and would not require new or expanded entitlements.	☐	☐	☐	☒	☐

Impacts (and Supporting Information Sources):	*New Potentially Significant Impact*	*New Less Than Significant with Mitigation Incorporated*	*New Less Than Significant Impact*	*Same Impact as Approved Project*	*Less Impact than Approved Project*
Impact 4.17-3: Disposal of project-related construction waste would not result in adverse effects on landfill capacity and conflict with solid waste statutes and regulations.	☐	☐	☐	☒	☐

Discussion

Under the Modified Project the operations building/lab and maintenance shop/storage buildings would no longer need to be constructed as proposed under the approved Project, and because the existing building at the New Parcel site would now house those facilities that are already serviced by utilities and service systems, such as water, wastewater, electricity, etc., there would be less utilities and service system connections required for the Chanticleer Site under the Modified Project as compared to the approved Project. However, the Modified Project would result in the same overall utilities and service system requirements and the same associated impacts identified in the certified EIR for the approved Project.

The Modified Project does not change the need for water use, or wastewater or stormwater discharges, which is primarily associated with dust abatement, pipe flushing, and equipment testing during construction and filtration waste and brine discharge. As identified in the certified EIR for the approved Project, substantial sewer and stormwater discharges are not anticipated during construction or operation of Project, and therefore would not be expected to exceed wastewater treatment provider capacities. For these reasons, project construction and operation would have a less-than-significant impact related to exceeding water treatment requirements or wastewater treatment provider capacities. The certified EIR concluded that the construction phase water supply needs for the approved Project would be for dust abatement, pipe flushing, equipment testing and well drilling during construction, and for potential water faucets and bathrooms facilities during operations, and that this water would be provided by the District and can be accomplished within its existing available water supply.

The Modified Project does not change the treatment capacity of the Project. Pursuant to the District and City of Santa Cruz memorandum of understanding (MOU) regarding the provision of secondary effluent from the SC WWTF for the project's operational source water and the project design, the Modified Project operation would not require more water supply than would be available through the MOU, nor would it require new or expanded water supply resources or entitlements; therefore, the Modified Project would continue to have a less-than-significant impact related to source water supply availability.

As described in the certified EIR, given the small amount of solid waste that would be generated relative to the above-described remaining capacity of nearby landfills, the approved Project construction and operation and maintenance activities would not contribute substantial amounts of solid wastes that could exceed remaining landfill capacity. For these same reasons, the Modified Project would result in a less-than-significant on landfill capacity.

Conclusion

Implementation of the Modified Project would not result in any new or more severe significant impacts to utilities and service systems than those identified for the approved Project in the previously certified EIR. **(Same Impact as Previously Approved Project [Less than Significant])**

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SECTION 4
Report Preparers

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APPENDIX A

Adopted EIR Mitigation Monitoring and Reporting Program

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APPENDIX A
Adopted EIR Mitigation Monitoring and Reporting Program

Introduction

The California Environmental Quality Act (CEQA) requires that when a public agency makes findings pursuant to Public Resource Code Section 21081 before approving a project that would result in one or more significant impacts on the environment, the agency must adopt a reporting or monitoring program for mitigation measures incorporated into a project or imposed as conditions of approval. The program must be designed to ensure compliance during project implementation (Public Resource Code Section 21081.6).

This Mitigation Monitoring and Reporting Plan (MMRP) for the Pure Water Soquel: Groundwater Replenishment and Seawater Intrusion Prevention Project (Project) will be in place through all phases of the Project, including design and construction, and will help ensure that Project objectives are achieved. As the CEQA Lead Agency, the Soquel Creek Water District (District) is responsible for verifying that the provisions of the MMRP as a whole are carried out, pursuant to Section 15097(a) of the CEQA Guidelines. The District may delegate reporting or monitoring responsibilities to a private entity such as a Project contractor who accepts the delegation; however, until mitigation measures have been completed, the District remains responsible for ensuring that implementation of the mitigation measures occurs in accordance with the program. The District will ensure that monitoring is documented through periodic reports and that deficiencies are promptly corrected.

The following table identifies the mitigation measures by resource area. The table also provides the specific mitigation monitoring requirements, including implementation documentation, monitoring activity, timing, and responsible monitoring party. The District and its contractor(s) shall be responsible for implementation of all mitigation measures. The MMRP table presents the mitigation measures adopted for the Project by the District. The table also includes improvement measures which are not required under CEQA to reduce an impact to a less-than-significant level, but have been added to the Project at the suggestion of regulatory agencies with jurisdiction over the corresponding resource. The purpose of the table is to provide a single comprehensive list of the measures that will be implemented to avoid or reduce impacts of the Project on the environment, the timing for their implementation, and related monitoring and reporting requirements.

Impact	Mitigation Measure	Implementation Responsibility	Implementation Timing	Monitoring, Enforcement, and Reporting Responsibility
Air Quality				
Impact 4.3-1: The Project could generate emissions of criteria air pollutants that could contribute to a violation of an ambient air quality standard during construction.	*Mitigation Measure 4.3-1a applies to all Project components.* **Mitigation Measure 4.3-1a: Construction Emissions Reduction Plan.** The District (and/or its construction contractor(s)) shall develop and implement a Construction Emissions Reduction Plan to substantiate that Project construction- related NO_x emissions would not exceed the Monterey Bay Air Resources District (MBARD)'s significance threshold of 137 pounds per day. The plan shall identify a feasible approach to reduce daily emissions that includes limits on the amount of construction activity that shall be conducted simultaneously on any given day, and if necessary to reduce emissions to below the NO_x significance threshold, include a commitment for certain diesel-fueled off-road construction equipment of more than 50 horsepower to meet U.S. Environmental Protection Agency (USEPA) Tier 4 emission standards, and/or a commitment to use alternative fuels for certain construction equipment and vehicles. The plan shall identify the parameters for phasing construction activities associated with each of the Project components to reduce daily construction emissions of NO_x. For example, limiting daily construction activities to activities at one pipeline site and at either the Chanticleer Site or at one of the well sites would be sufficient to reduce NO_x emissions to less than 137 pounds per day. In addition, although off-road construction equipment at the Chanticleer, Headquarters-West Annex, SC WWTF, Willowbrook Lane Recharge Well, and Monterey Avenue Recharge Well Sites would be required to meet USEPA Tier 4 emission standards or otherwise be equipped with Level 3 diesel particulate filters per requirements of Mitigation Measure 4.3-4, the Construction Emissions Reduction Plan may include an additional commitment to use a certain percentage of Tier 4 compliant equipment and/or equipment fueled by alternative fuels associated with pipeline construction. The identified construction phasing parameters and the percentage of Tier 4 compliant equipment and/or equipment fueled by alternative fuels associated with pipeline construction would be substantiated within the Plan to define how the resulting emissions would be less than 137 pounds NO_x per day using either the air emissions calculations prepared for the Environmental Impact Report or other air emissions calculations estimated using the CalEEMod emissions model. If the Plan includes a commitment that a certain percentage of pipeline-related off-road equipment would be Tier 4 compliant and/or fueled by alternative fuels, then it shall identify the initial pipeline construction equipment listing with each off-road unit's horsepower, certified tier specification status, and the associated maximum daily NO_x emissions. As new or replacement construction equipment are required, the District shall document each unit's horsepower, certified engine tier status, and associated maximum daily NO_x emissions, consistent with the Plan prior to use on the Project.	The District will be responsible for implementation. The District will ensure that contractor specifications adhere to the Construction Emissions Reduction Plan. The District will document each unit's horsepower, certified engine tier status, and associated maximum daily NO_x emissions, consistent with the Plan prior to use on the Project.	Plan will be developed prior to commencement of construction. Plan will be implemented during construction	The District will be responsible for monitoring and enforcement, as well as documenting compliance.

Impact	Mitigation Measure	Implementation Responsibility	Implementation Timing	Monitoring, Enforcement, and Reporting Responsibility
Air Quality (cont.)				
Impact 4.3-1 (cont.)	*Mitigation Measure 4.3-1b applies to all Project components.* **Mitigation Measure 4.3-1b: Idling Restrictions.** To ensure that idling time for on road vehicles with a gross vehicular weight rating of 10,000 pounds or greater does not exceed the five-minute limit established in Section 2485 of Title 13 CCR Section 2485, and that idling time for off-road engines does not exceed the five minute limit established in Title 13 CCR Section 2449(d)(3), the District and/or its construction contractor(s) shall prepare and implement a written idling policy and distribute it to all equipment operators. Clear signage of these requirements shall be provided for construction workers at all access points to construction areas.	The District will be responsible for implementation. The District will ensure that contractor specifications adhere to the idling restrictions policy.	Policy will be developed and signs posted prior to commencement of construction. Policy will be implemented during construction.	The District will be responsible for monitoring and enforcement, as well as documenting compliance.
	Improvement Measure 4.3-1x applies to all Project components. **Improvement Measure 4.3-1x. Construction Dust Best Management Practices** To the extent feasible, the District should implement the following best management practices during construction: • Prohibit all grading activities during periods of high wind (over 15 mph) • Water all active construction areas at least twice daily. Frequency should be based on the type of operation, soil, and wind exposure. • Apply chemical soil stabilizers on inactive construction areas (disturbed lands within construction projects that are unused for at least four consecutive days) • Apply non-toxic binders (e.g., latex acrylic copolymer) to exposed areas after cut and fill operations, or hydro-seed area. • Maintain at least 2'0" of freeboard in haul trucks. • Cover all trucks hauling dirt, sand, or loose materials. • Plant vegetative ground cover in disturbed areas as soon as possible. • Cover inactive storage piles. • Install wheel washers or other appropriately effective track-out capture methods at the construction site for all exiting trucks. • Post a publicly visible sign which specifies the telephone number and person to contact regarding dust complaints. This person shall respond to complaints and take corrective action within 48 hours. The phone number of the Air District shall be visible to ensure compliance with Rule 402 (Nuisance).	The District will ensure that contractor specifications include construction dust best management practices, as feasible. Construction contractor will be responsible for implementation.	Best Management Practices to be implemented during construction, as feasible.	The District will be responsible for monitoring.

Impact	Mitigation Measure	Implementation Responsibility	Implementation Timing	Monitoring, Enforcement, and Reporting Responsibility
Air Quality (Cont.)				
Impact 4.3-3: Project construction activities could conflict with implementation of the applicable air quality plan.	**Mitigation Measure 4.3-1a: Construction Emissions Reduction Plan.** (See Impact 4.3-1 in Section 4.3, *Air Quality* for description.)			
	Mitigation Measure 4.3-1b: Idling Restrictions. (See Impact 4.3-1 in Section 4.3, *Air Quality* for description.)			
Impact 4.3-4: Project construction could expose sensitive receptors to substantial pollutant concentrations.	*Mitigation Measure 4.3-4 would apply to all on-site construction activities at the Chanticleer, Headquarters-West Annex, SC WWTF, Willowbrook Lane Recharge Well, and Monterey Avenue Recharge Well Sites.* **Mitigation Measure 4.3-4: Equipment with Tier 4 Engines.** The District (and/or its construction contractor(s)) shall ensure that any Project-related diesel-powered equipment used during construction activities at the Chanticleer, Headquarters-West Annex, SC WWTF, Willowbrook Lane Recharge Well, and/or Monterey Avenue Recharge Well sites have engines that meet USEPA-certified Tier 4 standards or are otherwise equipped with Level 3 diesel particulate filters.	The District will ensure that all diesel-powered equipment at the specified Project sites have engines that meet Tier 4 standards or are otherwise equipment with Level 3 diesel particulate filters.	District will ensure implementation during construction.	The District will be responsible for monitoring and enforcement, as well as for documenting compliance.
Biological Resources				
Impact 4.4-1: Project construction and operation could have a substantial adverse effect, either directly or through habitat modifications, on a species identified as candidate, sensitive or special-status in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, or National Oceanic and Atmospheric Administration.	**Mitigation Measure 4.4-1a: Perform preconstruction nesting bird surveys in areas that provide suitable habitat.** *Mitigation Measure 4.4-1 applies to all Project components.* Project construction activities should avoid the nesting season of February 15 through August 31, if feasible. If seasonal avoidance is not possible, then no sooner than 30 days prior to the start of any Project activity, a biologist experienced in conducting nesting bird surveys shall survey the Project area and all accessible areas within 500 feet for nesting birds. If nesting birds are identified, the biologist shall define a suitable protective buffer around the nest and no activities shall occur within this buffered area. The buffer area limits would ensure that construction activities would not cause an adult to abandon an active nest or young or change an adult's behavior so it could not care for an active nest or young. Typical buffers are 150 feet for songbirds and 300 feet for raptors, but may be decreased in coordination with CDFW according to site-specific, Project-specific, activity-specific considerations such as visual barriers between the nest and the type of activity, decibel levels associated with the activity relative to baseline noise levels, and the species of nesting bird and its tolerance of the activity. Construction activities that are conducted within any reduced buffers may be conducted in the presence of a qualified biological monitor, until the biological monitor determines that the reduced buffer is effective.	The District will ensure this requirement is incorporated in the contractor's specifications. The District will be responsible for engaging the qualified biologist and ensuring site access. The qualified biologist will be responsible for implementation on site.	Prior to and during construction.	The District will be responsible for monitoring and enforcement, as well as documenting compliance. The buffer area limits would ensure that construction activities would not cause an adult to abandon an active nest of eggs or young, or change an adult's behavior such that it would interfere with incubation, brooding or feeding. If work is stopped for a period of 14 days or more during the nesting bird season, a new pre-construction survey will be conducted prior to the commencement of construction activities.

Impact	Mitigation Measure	Implementation Responsibility	Implementation Timing	Monitoring, Enforcement, and Reporting Responsibility
Biological Resources (cont.)				
Impact 4.4-1 (cont.)	**Mitigation Measure 4.4-1b: Perform preconstruction bat surveys.** *Applies to Headquarters-West Annex site, Chanticleer site, conveyance pipeline stream crossings 3 - 18, and the Willowbrook Lane. Twin Lakes Church, and Cabrillo College South Recharge Well sites.* In advance of tree and structure removal, a preconstruction survey for special-status bats shall be conducted by a qualified biologist to characterize potential bat habitat and identify active roost sites within the Project site. Should potential roosting habitat or active bat roosts be found in trees and/or structures to be removed under the Project, the following measures shall be implemented: • Removal of trees and structures shall occur when bats are active, approximately between the periods of March 1 to April 15 and August 15 to October 15, and outside of bat maternity roosting season (approximately April 15 – August 31) and outside of months of winter torpor (approximately October 15 – February 28), to the extent feasible. • If removal of trees and structures during the periods when bats are active is not feasible and active bat roosts being used for maternity or hibernation purposes are found on or in the immediate vicinity of the Project site where tree and structure removal is planned, a no-disturbance buffer of 100 feet shall be established around these roost sites until they are determined to be no longer active by the qualified biologist. • The qualified biologist shall be present during tree and structure removal if active bat roosts, which are not being used for maternity or hibernation purposes, are present. Trees and structures with active roosts shall be removed only when no rain is occurring or is forecast to occur for three days and when daytime temperatures are at least 50°F. • Removal of trees with active or potentially active roost sites shall follow a two-step removal process: 1. On the first day of tree removal and under supervision of the qualified biologist, branches and limbs not containing cavities or fissures in which bats could roost, shall be cut only using chainsaws. 2. On the following day and under the supervision of the qualified biologist, the remainder of the tree may be removed, either using chainsaws or other equipment (e.g. excavator or backhoe).	The District will ensure this measure is incorporated in the contractor's specifications The district will be responsible for engaging the qualified biologist and ensuring site access. The qualified biologist will be responsible for implementation on site.	Prior to and during construction.	The District will be responsible for monitoring and enforcement, as well as documenting compliance.

Impact	Mitigation Measure	Implementation Responsibility	Implementation Timing	Monitoring, Enforcement, and Reporting Responsibility
Biological Resources (cont.)				
Impact 4.4-1 (cont.)	Removal of structures containing or suspected to contain active bat roosts, which are not being used for maternity or hibernation purposes, shall be dismantled under the supervision of the qualified biologist in the evening and after bats have emerged from the roost to forage. Structures shall be partially dismantled to significantly change the roost conditions, causing bats to abandon and not return to the roost.			
	Mitigation Measure 4.4-1c: Provide Construction Monitoring near Sensitive Habitats. *Applies to sensitive habitats within the Project site, including conveyance pipeline stream crossings, and coastal terrace prairie.* Construction activities, including equipment staging, spoils piles, parking or development of bore pits, occurring off pavement and within 100 feet of mixed riparian woodland and within 100 feet of coastal terrace prairie habitat between 7th Ave. and 17th Ave. shall be monitored by a qualified biologist.[1] Prior to the initiation of construction, the District and/or representatives of the District shall retain a qualified biologist to oversee compliance with avoidance and minimization measures for all special-status species and sensitive habitats. The qualified biologist shall be onsite daily during all fencing, grading and ground disturbance activities in the above areas. The qualified biologist shall have in their possession a copy of all compliance measures while work is being conducted onsite, and shall ensure that District's onsite representatives and contractors also maintain copies of the compliance measures on the site. To facilitate the qualified biologist's role, District shall ensure that the qualified biologist is fully apprised of all decisions that change or materially affect the schedule, methods, and location of work that is subject to the protective measures for biological resources.	The District will ensure this measure is incorporated in the contractor's specifications. The District will be responsible for engaging the qualified biologist and ensuring site access. The qualified biologist will be responsible for implementation on site.	Prior to construction for engaging biologist and monitoring during construction.	The District will be responsible for monitoring and enforcement, as well as documenting compliance.
	Mitigation Measure 4.4-1d: Construction Worker Environmental Awareness Training and Education Program. *Applies to the entire Project area including water purification facilities, conveyance system and recharge wells.* Prior to starting work, all construction workers at the Project areas shall attend a Construction Worker Environmental Awareness Training and Education Program developed and presented by a qualified biologist.	The District will ensure this measure is incorporated in the contractor's specifications. The District will be responsible for engaging the qualified biologist and ensuring site access.	Within 24 hours of the start of construction, (e.g., the morning of the first day of construction).	The District will be responsible for enforcement and documenting compliance by maintaining a record of workers who have received Environmental Awareness Training (e.g., sign-in sheet).

[1] The term "qualified biologist" is defined as an individual who shall possess, at a minimum, a bachelor's degree in biology, ecology, wildlife biology or closely related field. The term "biological monitor" or "qualified biological monitor" is defined as holding similar educational credentials to those of a qualified biologist and who has functioned as an environmental inspector or monitor on at least two construction projects within the preceding two years.

Impact	Mitigation Measure	Implementation Responsibility	Implementation Timing	Monitoring, Enforcement, and Reporting Responsibility
Biological Resources (cont.)				
Impact 4.4-1 (cont.)	The program shall include information on federal and state-listed species in the study area, as well as other special-status wildlife and plant species and sensitive natural communities that may be encountered during construction activities. The training shall include: information on special-status species' life history and legal protections; the definition of "take" under the Federal Endangered Species Act (FESA) and California Endangered Species Act (CESA); the measures the District and/or its contractors have committed to implementing to protect special-status species and sensitive natural communities; reporting requirements and communication protocols; specific measures that each worker shall employ to avoid "take" of special-status species; and penalties for violation of FESA and/or CESA. Training shall be documented as follows: 1. An acknowledgement form shall be signed by each worker indicating that environmental training has been completed. 2. A sticker shall be placed on hard hats indicating that the workers have completed the environmental training. Construction workers shall not be permitted to operate equipment within the construction area unless they have attended the training and are wearing hard hats with the required sticker. 3. A copy of the training transcript/training video and/or DVD, as well as a list of the names of all personnel who attended the training and copies of the signed acknowledgement forms, shall be submitted to the District.	The qualified biologist will be responsible for implementation on site, including having recipients of the training sign a sign-in sheet.		
	Mitigation Measure 4.4-1e: General Avoidance and Protection Measures. *Applies to the entire Project area including water purification facilities and recharge wells.* The District shall ensure that the following general measures are implemented by the contractor(s) during construction to avoid or minimize impacts on biological resources: • Within natural habitat, the construction contractor(s) shall minimize the extent of the construction disturbance as much as feasible by defining the project boundary with stakes, rope or equivalent and working within that area at all times. • Staging areas shall be located at least 50 feet from riparian habitat, creeks, and wetlands. • If vehicle or equipment fueling or maintenance is necessary, it shall be performed at least 50 feet from riparian habitat, creeks, and wetlands.	The District will ensure this measure is incorporated in the contractor's specifications.	During construction.	The District will be responsible for monitoring and enforcement, as well as documenting compliance.

Impact	Mitigation Measure	Implementation Responsibility	Implementation Timing	Monitoring, Enforcement, and Reporting Responsibility
Biological Resources (cont.)				
Impact 4.4-1 (cont.)	**Mitigation Measure 4.4-1f: Avoidance and Minimization Measures for Western Pond Turtle and Santa Cruz Black Salamander.** *Applies to all conveyance pipelines within 100 feet of streams (pond turtle) and within 100 feet of the pipeline alignment along the railroad tracks north of Schwan Lagoon, between 7th Avenue and the parking lot for Simpkins Family Swim Center (pond turtle and black salamander).* Preconstruction surveys for western pond turtle (WPT) and Santa Cruz black salamander (SCBS) shall be conducted by a qualified biologist prior to vegetation removal, development of bore pits, equipment staging or other off pavement construction-related activity, as specified below: 1. Prior to conducting the surveys, the qualified biologist shall prepare a relocation plan that describes the appropriate survey and handling methods for WPT and SCBS and identify nearby relocation sites where individuals would be relocated if found during the preconstruction surveys. The relocation plan shall be submitted to CDFW for review prior to the start of construction activities and any relocations. The animal shall be relocated to a similar type of habitat or better from where it was relocated. 2. Preconstruction surveys shall be conducted within 5 days prior to, and again immediately prior to, vegetation removal or grading to identify any WPT and SCBS. 3. If WPT or SCBS are observed within the construction area, a qualified biologist shall relocate the individual according to the relocation plan above. 4. The qualified biologist shall monitor vegetation removal and grading in the vicinity of Schwann Lagoon, between 7th Ave and the parking lot for Simpkins Family Swim Center to identify and relocate pond turtle and black salamander as necessary.	The District will be responsible for preparing the plan and submitting to CDFW. The District will ensure this measure is incorporated in the contractor's specifications, and that the contractor has the CDFW-approved plan. District will be responsible for engaging qualified biologist and ensuring they have site access. The qualified biologist will be responsible for implementation on site.	Relocation plan submitted to CDFW prior to construction. Pre-construction surveys to occur within 5 days of start of construction and immediately before vegetation removal or grading. Biological monitoring of vegetation removal will occur during construction.	The District will be responsible for monitoring and enforcement, as well as documenting compliance. CDFW will review any relocation plan for WPT and SCBS prior to construction. Qualified Biologist will be responsible for monitoring for WPT and SCBS during construction.
	Mitigation Measure 4.4-1g: Avoidance and Protection Measures for Ohlone Tiger Beetle. *Applies to coastal terrace prairie north of Schwan Lagoon within 100 feet of the pipeline alignment along the railroad tracks north of Schwan Lagoon, between 7th Avenue and the parking lot for Simpkins Family Swim Center.* A habitat survey for Ohlone tiger beetle (OTB) shall be conducted within 100 feet of the pipeline alignment by a qualified entomologist to determine if suitable OTB habitat is present. The survey should be conducted prior to the start of construction-related activity, including clearing and grubbing, materials staging, and installation of fencing near coastal terrace prairie	The District will ensure this measure is incorporated in the contractor's specifications The District will be responsible for engaging the qualified entomologist and ensuring site access. The qualified entomologist will be responsible for implementation of surveys on site.	Habitat survey and presence/absence survey, and marking avoidance buffers prior to construction, including prior to clearing and grubbing, staging and installing fencing near coastal prairie habitat. Habitat restoration to occur following construction, as applicable.	The District will be responsible for monitoring and enforcement, as well as documenting compliance.

Impact	Mitigation Measure	Implementation Responsibility	Implementation Timing	Monitoring, Enforcement, and Reporting Responsibility
Biological Resources (cont.)				
Impact 4.4-1 (cont.)	habitat. The exact timing shall be decided in consultation with the entomologist to allow enough time for completion of presence/absence surveys, if necessary, prior to the start of construction. If the entomologist determines that there is no suitable OTB habitat within 100 feet of the study area, no further action is required. If suitable OTB habitat is present, the qualified entomologist shall conduct a presence/absence survey to determine if OTB is present within 100 feet of the Project area. If OTB is not present, no further action is required. If OTB is present within 100 feet of the Project area, the entomologist will identify the configuration of occupied habitat and shall mark areas occupied by OTB with pin flags, rope, or another equivalent method. Project construction activities shall avoid areas occupied by OTB. If occupied habitat cannot be avoided, the entomologist shall be consulted to determine whether relocation of OTB is feasible and to identify a relocation site. If relocation is not feasible, the District shall compensate for permanent impacts to OTB by restoring habitat per **Mitigation Measure 4.4-1l (Habitat Monitoring Plan)**.	The District will be responsible for restoring OTB habitat.		
	Mitigation Measure 4.4-1h: Avoidance and Protection of Overwintering Monarch Butterfly Colonies. *Applies to Soquel Creek riparian corridor directly adjacent to the conveyance pipeline alignment on Wharf Road, between Pacific Coast Manor on the southern end and Soquel Wharf Road on the northern end; the eucalyptus grove adjacent to the pipeline alignment at Kennedy Road and Park Avenue; and the eucalyptus grove adjacent to Cabrillo College Drive near Stream Crossing 17.* Construction activities in and around documented butterfly overwintering sites shall occur outside of the overwintering season (November 1 to March 31), to the greatest extent feasible, to avoid potential impacts on overwintering monarch butterflies. However, when it is not feasible to avoid the overwintering season and construction activities take place during this time, the following measures shall apply: • Preconstruction surveys shall be conducted for overwintering monarch butterfly sites within 100 feet of the construction areas. • Surveys for overwintering aggregations of monarch butterflies shall be conducted over the winter season (November to first week of March) prior to construction activities. A minimum of two surveys shall be conducted: one in late November and the other during the week of January 1. Surveys shall follow survey methods specified by the Xerces Society for Invertebrate Conservation (Xerces, 2004).	The District will ensure measure's construction scheduling restrictions are incorporated in the contract specifications, to the extent feasible. The District will be responsible for engaging a qualified biologist and ensuring site access for preconstruction surveys. The qualified biologist will be responsible for implementation on site. The qualified biologist will document findings of surveys and develop avoidance measures as appropriate. The qualified biologist will coordinate with CDFW on avoidance measures.	Prior to and throughout construction.	The District will be responsible for monitoring and enforcement, as well as documenting compliance.

Impact	Mitigation Measure	Implementation Responsibility	Implementation Timing	Monitoring, Enforcement, and Reporting Responsibility
Biological Resources (cont.)				
Impact 4.4-1 (cont.)	• If an active overwintering site is located, work activities shall be delayed within 100 feet of the site location until avoidance measures have been implemented. Appropriate avoidance measures shall include the following measures (which may be modified as a result of coordination with the CDFW to provide equally effective measures): – If the qualified biologist determines that construction activities would not affect an active overwintering site, activities may proceed without restriction. – A minimum 100-foot no-disturbance buffer shall be established around the overwintering site to avoid disturbance or destruction until after the overwintering period has ended. If site conditions warrant a smaller buffer, the extent of the no-disturbance buffer may be decreased by the qualified biologist in coordination with CDFW. – Throughout the year, the District shall avoid removing or trimming trees utilized by monarch butterflies or trees adjacent to the winter roost to prevent indirect changes to the humidity, wind exposure, and temperature within the immediate vicinity of the roost site. Any routine tree trimming shall be done between April and August to eliminate the risk of disturbance to monarch colonies, and shall be conducted under the guidance of a qualified monarch butterfly specialist if butterflies have been documented in the Project area.	The District will implement tree trimming restrictions as determined by qualified biologist.		
	Mitigation Measure 4-4.1i: Avoidance and Minimization Measures for Special-Status Plants. *Applies to the conveyance pipeline alignment along the railroad tracks north of Schwan Lagoon, between the Simpkins Family Swim center parking lot and Stream Crossing-15.* Botanical surveys shall be conducted in accordance with CDFW's *Protocols for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Natural Communities* (CDFG, 2009). Surveys shall maximize the likelihood of locating special-status species, be floristic in nature, include areas of potential indirect impacts, be conducted in the field at the time of year when species are both evident and identifiable, and be replicated and spaced throughout the growing season to accurately determine what plants exist on the site. Special care shall be taken to survey the area north of Schwan Lagoon and immediately south of the Southern Pacific Rail Road alignment where Santa Cruz tarplant populations were observed between 1986 and 2007 (CDFW, 2018). If no special-status plants are identified, no further action is required to avoid or minimize impacts to these species.	The District will ensure this measure is incorporated in the contractor's specifications. The District will be responsible for engaging qualified biologist and ensuring they have site access The qualified biologist will be responsible for implementation on site.	Prior to construction at the time of year when species are evident and identifiable. Following construction for implementation of the Habitat Monitoring Plan.	The District will be responsible for monitoring and enforcement, as well as documenting compliance. The District will work in coordination with USFWS and/or CDFW, as applicable.

Impact	Mitigation Measure	Implementation Responsibility	Implementation Timing	Monitoring, Enforcement, and Reporting Responsibility
Biological Resources (cont.)				
Impact 4.4-1 (cont.)	If special-status plants are encountered in the work area, they should be avoided. If they cannot be avoided, the District shall, in coordination with the USFWS and/or CDFW (as applicable based on plant rarity), avoid plants through Project design, protect plants from construction activities through the use of exclusion fencing and signage, or relocate plants to other suitable habitat nearby. Prior to construction, staging areas shall be identified that avoid impacts to Santa Cruz tarplants and any other special-status plants identified, and construction exclusion fencing shall be used to define the work area and minimize disturbance to these areas. The fencing shall be maintained through the construction phase and monitored on a weekly basis during construction to ensure protection of tarplants and their habitat. If avoidance is not feasible, rare plants and their seeds shall be salvaged and relocated, and habitat restoration shall be provided to replace any destroyed special-status plant occurrences at a minimum 1:1 ratio (i.e., no net loss) or as specified by resource agencies based on area of lost habitat. Compensation for loss of special-status plant populations shall include the restoration or enhancement of temporarily impacted areas, and management of restored areas. Restoration or reintroduction shall be located on-site (i.e., at Schwan Lagoon). At a minimum, the restoration areas shall meet the following performance standards by the fifth year: a. The compensation area shall be at least the same size as the impact area. b. Vegetation cover and composition in special-status plant restoration areas near Schwan Lagoon shall emulate existing Santa Cruz tarplant reference populations. c. Monitoring shall demonstrate the continued presence of rare plants in the restoration area. d. Invasive species cover shall be less than or equal to the invasive species cover in the impact area. Additionally, restored populations shall have greater than the number of individuals of the impacted population, in an area greater than or equal to the size of the impacted population, for at least 3 consecutive years without irrigation, weeding, or other manipulation of the restoration site. The Habitat Monitoring Plan to be prepared in accordance with **Mitigation Measure 4.4-1l (Habitat Monitoring Plan)** shall detail the monitoring requirements and success criteria.			

Impact	Mitigation Measure	Implementation Responsibility	Implementation Timing	Monitoring, Enforcement, and Reporting Responsibility
Biological Resources (cont.)				
Impact 4.4-1 (cont.)	**Mitigation Measure 4.4-1j: Avoidance and Minimization Measures for Native Stands of Monterey Pine.** *Applies to the pipeline alignment between Soquel Avenue and 7th Avenue; the pipeline alignment between the Simpkins Family Swim Center parking lot and 7th Avenue; the pipeline alignment along Wharf Road between Grace Street and Soquel Wharf Road; the pipeline alignment along Kennedy Drive; and the Willowbrook Recharge Well site.* A qualified botanist or arborist shall conduct surveys for native stands of Monterey pine prior to completion of final Project design documents. Individual Monterey pine trees existing within the construction work area shall be evaluated to determine if they are native occurrences, relics, or otherwise naturally-occurring remnants of the past historic range. Maps depicting the results of these surveys shall be prepared for consideration during final facility design. Native stands of Monterey pine could occur at the identified facility sites and pipeline alignments based on the historical extent of native Monterey pines and biological reconnaissance surveys. Project construction activities shall be planned to avoid impacts on native stands of Monterey pine. Any native stands of Monterey pines located within the anticipated construction disturbance area shall be fenced or flagged for avoidance prior to construction, and a biological monitor shall be present to ensure compliance with off-limits areas. If removal of native stands of Monterey pine cannot be avoided, trees of a minimum dbh of 8 inches shall be replaced at a 2:1 ratio for trees removed or directly impacted by construction activities. Only local Monterey pine genetic stock shall be used for replanting at the Project site. Replacement plantings shall be planted contiguous with other individuals of the same species in areas that are determined to have suitable site conditions. Protective fencing shall be installed around the seedlings to protect against disturbance. Replacement trees shall be maintained and monitored for a period of five years and have a minimum of 70 percent survival in the fifth monitoring year to ensure success. The Habitat Monitoring Plan to be prepared in accordance with **Mitigation Measure 4.4-1l (Habitat Monitoring Plan)** shall detail the monitoring requirements and success criteria. This mitigation measures applies to native stands of Monterey pines. Independent of whether Monterey pines in the Project area are considered native stands, individual trees may be subject to local tree ordinances; see **Mitigation Measure 4.4-5 (Compliance with Local Tree Policies and Ordinances)**.	The District will ensure this measure is incorporated in the contractor's specifications. The District will be responsible for engaging qualified biologist or arborist and ensuring they have site access. The qualified biologist or arborist will be responsible for implementation on site. The District will be responsible for replacement/replanting and subsequent 5 year maintenance, if applicable.	Prior to construction for survey. Following construction for replacement of trees.	The District will be responsible for monitoring and enforcement, as well as documenting compliance.

Impact	Mitigation Measure	Implementation Responsibility	Implementation Timing	Monitoring, Enforcement, and Reporting Responsibility
Biological Resources (cont.)				
Impact 4.4-1 (cont.)	**Mitigation Measure 4.4-1k: Control Measures for Spread of Invasive Plants.** *Applies to coastal terrace prairie north of Schwan Lagoon along the pipeline alignment along the railroad tracks north of Schwan Lagoon, from the Simpkins Family Swim Center parking lot to Stream Crossing-15.* Construction best management practices shall be implemented in construction areas within or adjacent to lands with native plant communities that may be susceptible to non-native plant species invasion to prevent the spread of invasive plants, seed, propagules, and pathogens through the following actions: 1. Avoid driving in or operating equipment in weed-infested areas outside of fenced work areas and restrict travel to established roads and rights of way. 2. Avoid leaving exposed soil or construction materials in areas with the potential for invasive plants (e.g., in staging areas). Non-active stockpiles shall be covered with plastic or a comparable material. 3. Clean tools, equipment, and vehicles before transporting materials and before entering and leaving worksites (e.g., wheel washing stations at Project site access points). Inspect vehicles and equipment for weed seeds and/or propagules stuck in tire treads or mud on the vehicle to minimize the risk of carrying them to unaffected areas. Designate areas within active construction sites for cleaning and inspections. 4. Only certified, weed-free, plastic-free imported erosion control materials (or rice straw in upland areas) shall be used for the Project.	The District will ensure this measure is incorporated in the contractor's specifications.	During construction.	The District will be responsible for monitoring and enforcement, as well as documenting compliance.
	Mitigation Measure 4.4-1l: Habitat Monitoring Plan. *Applies to any riparian, wetland or coastal terrace prairie habitat temporarily impacted by construction activities.* If temporary disturbance to riparian, wetland or coastal terrace prairie habitat within the Project area cannot be avoided, and will be temporarily impacted by construction activities, the District shall develop and submit a Habitat Monitoring Plan (HMP) to the appropriate resource agencies (CCC, CDFW, CCRWQCB, USACE, USFWS, and local agencies that require a habitat mitigation and monitoring plan) for approval prior to Project construction. The HMP shall be a comprehensive document that describes all of restoration requirements, including the required performance standards, identified in Mitigation Measures 4-4.1i (Avoidance and Minimization Measures for Special Status Plants), 4.4-1j (Avoidance and Minimization Measures for Native Stands of Monterey	The District will ensure this measure is incorporated in the contractor's specifications. The District will be responsible for engaging qualified biologist or arborist and ensuring they have site access The qualified biologist or arborist will be responsible for implementation on site.	Prior to construction.	The District will be responsible for monitoring and enforcement, as well as documenting compliance, in coordination with the appropriate resource agencies (CCC, CDFW, CCRWQCB, USACE, USFWS, and local agencies that require a habitat mitigation and monitoring plan).

Impact	Mitigation Measure	Implementation Responsibility	Implementation Timing	Monitoring, Enforcement, and Reporting Responsibility
Biological Resources (cont.)				
Impact 4.4-1 (cont.)	Pine), 4.4-2a (Minimize Disturbance to Riparian Habitat), and 4.4-2b (Avoidance and Protection of Coastal Terrace Prairie). The MMP shall be implemented at all riparian, wetland or coastal terrace prairie habitats temporarily impacted by construction activities. The HMP shall outline measures to restore, improve, or re-establish riparian, wetland or coastal terrace prairie habitats on the site, and shall include the following elements: 1. Name and contact information for the property owner of the land on which the mitigation will take place. 2. Identification of the water source for supplemental irrigation, if needed. 3. Identification of depth to groundwater. 4. Topsoil salvage and storage methods for areas that support special-status plants. 5. Site preparation guidelines to prepare for planting, including coarse and fine grading. 6. Plant material procurement, including assessment of risk of introduction of plant pathogens through use of nursery-grown container stock vs. collection and propagation of site-specific plant materials, or use of seeds. 7. Planting plan outlining species selection, planting locations and spacing, for each vegetation type to be restored. 8. Planting methods, including containers, hydroseed or hydromulch, weed barriers and cages, as needed. 9. Soil amendment recommendations, if needed. 10. Irrigation plan, with proposed rates (in gallons per minute), schedule (i.e. recurrence interval), and seasonal guidelines for watering. 11. Site protection plan to prevent unauthorized access, accidental damage and vandalism. 12. Weeding and other vegetation maintenance tasks and schedule, with specific thresholds for acceptance of invasive species. 13. Performance standards by which successful completion of mitigation can be assessed in comparison to a relevant baseline or reference site, and by which remedial actions will be triggered.			

Impact	Mitigation Measure	Implementation Responsibility	Implementation Timing	Monitoring, Enforcement, and Reporting Responsibility
Biological Resources (cont.)				
Impact 4.4-1 (cont.)	14. Success criteria shall include the minimum performance standards described in Mitigation Measures 4-4.1i (Avoidance and Minimization Measures for Special Status Plants), 4.4-1j (Avoidance and Minimization Measures for Native Stands of Monterey Pine), 4.4-2a (Minimize Disturbance to Riparian Habitat), and 4.4-2b (Avoidance and Protection of Coastal Terrace Prairie) (see **Table 4.4-5**). 15. Monitoring methods and schedule. 16. Reporting requirements and schedule. 17. Adaptive management and corrective actions, such as re-seeding, changes to the irrigation regime, and increased effort to control non-natives, to achieve the established success criteria. 18. Educational outreach program to inform operations and maintenance departments of local land management and utility agencies of the mitigation purpose of restored areas to prevent accidental damages.			
Impact 4.4-2: Project construction could have a substantial adverse effect on a riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, or National Oceanic and Atmospheric Administration.	**Measure 4.4-2a: Minimize Disturbance to Riparian Habitat.** *Applies to all stream crossings, Riparian Corridor-1, and riparian habitat within Willowbrook Park.* If work is proposed adjacent to riparian habitat, riparian areas shall be clearly delineated with flagging by a qualified biologist. Riparian areas shall be separated and protected from the work area through silt fencing, amphibian-friendly fiber rolls, or other appropriate erosion control material. Bore pit locations, material staging, and all other Project-related activity shall be located as far possible from riparian areas. If riparian areas cannot be avoided, any temporarily impacted areas shall be restored to pre-construction conditions or better at the end of construction. Compensation for permanent impacts shall be provided at a 2:1 ratio, or at a ratio defined by the relevant regulatory agencies (e.g., CDFW and the USACE). Compensation for loss of riparian areas may be in the form of on-site or off-site creation, restoration, or enhancement of habitat. At a minimum the restoration or compensation sites shall meet the following performance standards by the fifth year following restoration: a. Temporarily impacted areas are returned to pre-Project conditions or greater b. Native vegetation cover shall be at least 70 percent of baseline/impact area native vegetation cover c. No more cover by invasives than the baseline/impact area Restoration and mitigation activities shall be described in the Mitigation and Monitoring Plan prescribed by **Mitigation Measure 4.4-1l (Habitat Monitoring Plan)**.	The District will ensure this measure is incorporated in the contractor's specifications. The District will be responsible for engaging qualified biologist and ensuring they have site access. The qualified biologist will be responsible for implementation on site.	Prior to, during and following construction.	The District will be responsible for monitoring and enforcement, as well as documenting compliance. The District will coordinate with relevant agencies (e.g., CDFW and USACE), if necessary.

Impact	Mitigation Measure	Implementation Responsibility	Implementation Timing	Monitoring, Enforcement, and Reporting Responsibility
Biological Resources (cont.)				
Impact 4.4-2 (cont.)	**Measure 4.4-2b: Avoidance and Protection of Coastal Terrace Prairie.** *Applies to coastal terrace prairie between 7th Ave and 17th Ave, north of Schwan Lagoon.* A qualified botanist shall conduct a survey to define the presence and extent of coastal terrace prairie habitat in the area north of Schwan Lagoon within 100 feet of the proposed conveyance pipeline alignment. If coastal terrace prairie is identified, the qualified botanist shall clearly delineate the northern edge of the habitat so that it can be avoided during Project construction. If coastal terrace prairie can be fully avoided, no further action is required to avoid or mitigate losses to this habitat type; however, Mitigation Measure 4.4-1k (Control Measures for Spread of Invasive Plants) would still apply to reduce the potential for weed introduction into off-site habitat. If identified, coastal terrace prairie habitat shall be separated and protected from the work area through the placement of construction fencing (e.g., orange fencing). Excavation, vehicular traffic, material staging, and all other Project-related activity shall be located outside of coastal terrace prairie habitat to the extent possible. If coastal terrace prairie cannot be avoided, any temporarily-impacted areas shall be restored to pre-construction conditions or better at the end of construction. Compensation for permanent impacts shall be provided at a ratio of 1:1 (i.e., no net loss) or as specified by resource agencies. Compensation may be in the form of permanent on-site or off-site creation, restoration, enhancement of habitat. At a minimum the restoration or compensation sites shall meet the following performance standards by the fifth year following restoration: a. Temporarily impacted areas are returned to pre-Project conditions or better. b. Native vegetation cover shall be at least 70 percent of baseline/impact area native vegetation cover. c. No more cover by invasive plants than the baseline/impact area Restoration and mitigation activities shall be described in the Mitigation and Monitoring Plan prescribed by **Mitigation Measure 4.4-1l (Mitigation and Monitoring Plan)**.	The District will ensure this measure is incorporated in the contractor's specifications. The District will be responsible for engaging qualified botanist and ensuring they have site access. The qualified biologist will be responsible for implementation on site.	Prior to, during and following construction.	The District will be responsible for monitoring and enforcement, as well as documenting compliance.

Impact	Mitigation Measure	Implementation Responsibility	Implementation Timing	Monitoring, Enforcement, and Reporting Responsibility
Biological Resources (cont.)				
Impact 4.4-5: Project construction could conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	**Measure 4.4-5: Comply with Local Tree Ordinances.** The District shall comply with all applicable local tree protection ordinances, including by obtaining any necessary tree trimming or removal permits, replanting trees in accordance with the required tree replacement ratios, and monitoring and maintaining the replacement plantings in according with applicable requirements. For tree removal requiring a tree removal permit, the following re-planting policies shall be followed: The City of Capitola requires tree replacement at a ratio of at least 2:1 on the subject property, or if all other locations on site are found infeasible, payment of in-lieu fees to compensate for the planting and maintenance of trees by the City. Planting of replacement follows the procedures outlined in City of Capitola Municipal Code 12.12.190 (Tree replacement). Replacement trees and/or in-lieu fees are not required if post-removal tree canopy coverage on the site or parcel will be 30 percent or more. Tree removal within the City of Santa Cruz requires tree mitigation in the form of replanting or payment of an in-lieu fee per tree. Replanting requires three 15-gallon or one 24-inch size specimen or payment of the current value, which is determined by the City. For trees removed within the jurisdiction of County of Santa Cruz, the County requires planting a tree of suitable species in the immediate vicinity of the removed tree or at a location deemed more suitable as determined by the Department of Public Works. Trees under 12 inches in diameter, measured one foot from the base, shall be replaced with trees of one -gallon size. Those over 12 inches in diameter shall be replaced with five-gallon trees.	The District will ensure this measure is incorporated in the contractor's specifications. The District will be responsible for engaging qualified botanist and ensuring they have site access. The qualified biologist will be responsible for implementation on site.	Prior to construction to obtain trimming or removal permits. Following construction for any replacement and maintenance.	The District will be responsible for monitoring and enforcement, as well as documenting compliance.
Cultural Resources				
Impact 4.5-1: The Project could cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5.	**Measure 4.13-3: Vibration Monitoring for Pipeline Installation in the Vicinity of Historic Buildings (applies to buildings listed in Table 4.13-9).** (See Impact 4.13-4 in Section 4.13, *Noise and Vibration,* for description.)			

Impact	Mitigation Measure	Implementation Responsibility	Implementation Timing	Monitoring, Enforcement, and Reporting Responsibility
Cultural Resources (cont.)				
Impact 4.5-2: The Project could cause a substantial adverse change in the significance of an archaeological resource, including those determined to be a historical resource defined in Section 15064.5 or a unique archaeological resource defined in PRC 21083.2.	**Measure 4.5-2a: Archaeological Research Design and Treatment Plan.** This mitigation measure only applies to pipeline alignments in the vicinity of known archaeological sites (CA-SCR-12/H; CA-SCR-80; CA-SCR-93/H; CA-SCR-168/H; CA-SCR-269/H; CA-SCR-292/H; CA-SCR-293; and P-44-000302). Prior to the 30% design plans for the Project, the District shall: 1. Relocate Project components to a location that would not potentially affect historical resources. 2. Or if relocation is infeasible and historical resources would potentially be affected, design and implement an Archaeological Research Design and Treatment Plan (ARDTP) to determine whether site constituents of the known historical resources extend into the Project area. The investigation would be completed under the methods and research design outlined in an ARDTP. A qualified archaeologist (defined as one meeting the Secretary of the Interior's Professional Qualification Standards for archaeology) shall prepare the ARDTP in consultation with the affiliated Native American tribe(s) of the Project area. The ARDTP shall addresses, at a minimum, the following: the establishment of Environmentally Sensitive Areas; treatment and recovery of important scientific data contained within the portions of the historical resources located within and adjacent to the Project area; construction worker cultural resources sensitivity training; archaeological and Native American monitoring; inadvertent discovery protocols; and provisions for curation of recovered materials. The ARDTP shall address the methods for subsurface investigation at each of the nine historical resources that could be affected by components of the selected Project (CA-SCR-12/H; CA-SCR-80; CA-SCR-93/H; CA-SCR-168/H; CA-SCR-269/H; CA-SCR-292/H; CA-SCR-293; and P-44-000302) to determine whether the site constituents within the Project area contribute to each of the sites' overall eligibility. The subsurface investigation shall address whether the portions of the sites within the Project area contain important scientific data (Criterion 4) or other archaeological materials of traditional/cultural value to Native American tribes (Criteria 1, 2, and 3). The ARDTP shall include the specific methods that will be employed at each site location (i.e., the length and depth of excavation, the type of equipment utilized, the percent of area investigated at each site location). The investigation may include trenching or coring in the Project area adjacent to the known site components. The ARDTP shall identify how the proposed plan would preserve any significant historical information obtained and identify the scientific/historic research questions applicable	The District will ensure this measure is incorporated in the contractor's specifications. The District will be responsible for engaging a qualified archaeologist and ensuring they have site access.	Prior to construction by incorporating into 30% design plans. Prior to construction by incorporating into 30% to develop ARDTP, if necessary.	The District will be responsible for monitoring and enforcement, as well as documenting compliance, in coordination with a qualified archaeologist and the affiliated Native American tribe(s).

Impact	Mitigation Measure	Implementation Responsibility	Implementation Timing	Monitoring, Enforcement, and Reporting Responsibility
Cultural Resources (cont.)				
Impact 4.5-2 (cont.)	to the resources, the data classes the resource is expected to possess, and how the expected data classes would address the applicable research questions. The results of the investigation shall be documented in a technical report that provides a full artifact catalog, analysis of items collected, results of any special studies conducted, and interpretations of the resource within a regional and local context. All technical documents shall be placed on file at the Northwest Information Center of the California Historical Resources Information System. The results report shall include recommendations for archaeological and Native American monitoring in Environmentally Sensitive Areas of the proposed Project to the extent deemed appropriate by the qualified archaeologist who carried out the work described here.			
	Measure 4.5-2b: Cultural Resources Study of the Chanticleer Site. If the Chanticleer Site is chosen as the location for the AWPF and pump station, the District shall conduct an archaeological resources investigation for the Chanticleer Site Project area that includes, at a minimum: • An updated records search at the NWIC; • An intensive archaeological resources survey of the Chanticleer Site Project area; • A memorandum disseminating the results of this research; and, • If a potential archaeological resource is identified, develop and implement an Archaeological Research Design and Treatment Plan per Mitigation Measure 4.5-2a.	The District will ensure this measure is incorporated in the contractor's specifications. The District will be responsible for engaging a qualified archaeologist and ensuring they have site access.	Prior to construction for an archaeological resources investigation. Prior to construction by incorporating into 30% to develop ARDTP, if necessary.	The District will be responsible for monitoring and enforcement, as well as documenting compliance, in coordination, in coordination with the affiliated Native American tribe(s), if applicable.
	Measure 4.5-2c: Inadvertent Discovery of Cultural Resources. If prehistoric or historic-era archaeological resources are encountered by construction personnel during Project implementation, all construction activities within 100 feet shall halt until a qualified archaeologist, defined as one meeting the Secretary of the Interior's Professional Qualification Standards for archaeology, can assess the significance of the find. Prehistoric archaeological materials might include obsidian and chert flaked-stone tools (e.g., projectile points, knives, scrapers) or toolmaking debris; culturally darkened soil (midden) containing heat-affected rocks, artifacts, or shellfish remains; stone milling equipment (e.g., mortars, pestles, hand stones, or milling slabs); and battered stone tools, such as hammer stones and pitted stones. Historic-era materials might include stone, concrete, or adobe footings and walls; filled wells or privies; and deposits of metal, glass, and/or ceramic refuse.	The District or its contracted designee will implement the provisions of the mitigation plan. A qualified archaeologist who meets the Secretary of the Interior's Professional Qualification Standards (36 CFR 61) and a Native American monitor retained by the District will be responsible for conducting the survey and data recovery described in this measure, as required.	During construction.	The District will be responsible for monitoring and enforcement, as well as documenting compliance. If required, the District will prepare a written report documenting the outcome of the mitigation plan and/or the treatment plan.

Impact	Mitigation Measure	Implementation Responsibility	Implementation Timing	Monitoring, Enforcement, and Reporting Responsibility
Cultural Resources (cont.)				
Impact 4.5-2 (cont.)	If a find is evaluated and determined to be significant, a mitigation plan shall be developed that recommends preservation in place as a preference or, if preservation in place is not feasible, data recovery through excavation. The mitigation plan shall be developed in consultation with the affiliated Native American tribe(s), as appropriate. If preservation in place is feasible, this may be accomplished through one of the following means: (1) modifying the construction plan to avoid the resource; (2) incorporating the resource within open space; (3) capping and covering the resource before building appropriate facilities on the resource site; or (4) deeding the resource site into a permanent conservation easement. If preservation in place is not feasible, a qualified archaeologist shall prepare and implement a detailed treatment plan to recover scientifically consequential information from the resource prior to any excavation at the site. Treatment for most resources would consist of (but would not necessarily be limited to) sample excavation, artifact collection, site documentation, and historical research, with the aim to target the recovery of important scientific data contained in the portion(s) of the significant resource to be impacted by the Project. The treatment plan shall include provisions for analysis of data in a regional context; reporting of results within a timely manner; curation of artifacts and data at an approved facility; and dissemination of reports to local and state repositories, libraries, and interested professionals.	If required, the qualified archeologist will prepare a treatment plan.		
Impact 4.5-3: The Project could disturb human remains, including those interred outside of dedicated cemeteries.	**Mitigation Measure 4.5-3: Inadvertent Discovery of Human Remains.** In the event human remains are uncovered during construction activities for the Project, the District shall immediately halt work, contact the Santa Cruz County Coroner to evaluate the remains, and follow the procedures and protocols pursuant to Section 15064.5(e)(1) of the CEQA Guidelines. State Health and Safety Code Section 7050.5 requires that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to PRC Section 5097.98. If the remains are determined to be of Native American descent, the coroner has 48 hours to notify the Native American Heritage Commission (NAHC). The NAHC will then identify the person thought to be the Most Likely Descendent of the deceased Native American. The Most Likely Descendent will make recommendations for means of treating, with appropriate dignity, the human remains and any associated grave goods as provided in PRC Section 5097.98.	The District will incorporate measures into the construction contract specifications. A qualified archaeologist who meets the Secretary of the Interior's Professional Qualification Standards (36 CFR 61) and a Native American monitor (if the remains are determined to be of Native American descent) identified by the NAHC and retained by the District will be responsible for ensuring that all protection criteria have been met.	During construction.	The District will be responsible for enforcement and documenting compliance. The construction manager and qualified professional archeologist and/or Native American monitor will certify that all protection criteria have been met.

Impact	Mitigation Measure	Implementation Responsibility	Implementation Timing	Monitoring, Enforcement, and Reporting Responsibility
Energy Conservation				
Impact 4.6-1: The Project could use large amounts of fuel or energy in an unnecessary, wasteful, or inefficient manner.	**Measure 4.6-1: Construction Equipment Efficiency Plan.** The District shall contract a qualified professional (i.e., construction planner/energy efficiency expert) to prepare a Construction Equipment Efficiency Plan that identifies the specific measures that the District (and its construction contractors) will implement as part of Project construction and decommissioning to increase the efficient use of construction equipment to the maximum extent feasible. Such measures shall include, but not necessarily be limited to: procedures to ensure that all construction equipment is properly tuned and maintained at all times; a commitment to utilize existing electricity sources where feasible rather than portable diesel-powered generators; and identification of procedures (including the routing of haul trips identified in implementation of Mitigation Measure 4.15-1) that will be followed to ensure that all materials and debris hauling is conducted in a fuel-efficient manner. The plan shall be implemented throughout the construction and decommissioning periods.	The District will be responsible for implementation.	The plan will be prepared prior to commencement of construction. The plan will be implemented during construction and decommissioning.	The District will be responsible for monitoring and enforcement, as well as for documenting compliance.
	Mitigation Measure 4.3-1b: Idling Restrictions. (See Impact 4.3-1 in Section 4.3, *Air Quality*, for description.)			
Hazards and Hazardous Materials				
Impact 4.9-3: The Project would be located on or adjacent to a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, could create a significant hazard to the public or the environment.	**Mitigation Measure 4.9-3a: Health and Safety Plan.** The District or its construction contractor(s) shall prepare and implement site-specific Health and Safety Plans (HASP) in accordance with 29 CFR 1910.120 to protect construction workers and the public during all excavation and grading activities. This HASP shall be submitted to the District for review and approval prior to commencement of demolition and construction activities. The HASP shall include, but is not limited to, the following elements: • Designation of a trained, experienced site safety and health supervisor who has the responsibility and authority to develop and implement the site HASP; • A summary of all potential risks to demolition and construction workers and maximum exposure limits for all known and reasonably foreseeable site chemicals; • Specified personal protective equipment and decontamination procedures, if needed; • Emergency procedures, including route to the nearest hospital; and	The District will prepare or contract a qualified environmental firm to prepare the HASP.	The plan will be prepared prior to construction. The plan will be implemented during construction.	The District will be responsible for monitoring and enforcement as well as for documenting compliance.

Impact	Mitigation Measure	Implementation Responsibility	Implementation Timing	Monitoring, Enforcement, and Reporting Responsibility
Hazards and Hazardous Materials (cont.)				
Impact 4.9-3 (cont.)	• Procedures to be followed in the event that evidence of potential soil or groundwater contamination (such as soil staining, noxious odors, debris or buried storage containers) is encountered. These procedures shall be in accordance with hazardous waste operations regulations and specifically include, but are not limited to, the following: immediately stopping work in the vicinity of the unknown hazardous materials release, and notifying Santa Cruz County EHS.			
	Mitigation Measure 4.9-3b: Soil Management Plan. In support of the HASP described above in Mitigation Measure HAZ-1, the contractor shall develop and implement a Soil Management Plan (SMP) that describes the procedures for managing excavated soil. The SMP shall include procedures for monitoring soil for possible contamination, identifying the specific stockpiling locations and measures to contain the stockpiled soil to prevent run on and run off, and materials disposal specifying how the construction contractor(s) will remove, handle, transport, and dispose of all excavated materials in a safe, appropriate, and lawful manner. The SMP shall specify the contractor will segregate and dispose of soil with chemical concentrations above US EPA RSLs and RWQCB ESLs screening levels. Soil with chemical concentrations below screening levels may be reused or recycled. Soil with chemical concentrations above screening levels shall be disposed of in accordance with the applicable provisions of CCR Title 22, Chapter 11, Article 3, Section 66261 (i.e., Class III (non-hazardous waste), Class II (non-hazardous and "designated" waste), or Class I (non-hazardous and hazardous waste)). The SMP must identify protocols for soil testing and disposal, identify the approved disposal sites, and include written documentation that the disposal site can accept the waste. Contract specifications shall mandate full compliance with all applicable local, state, and federal regulations related to the identification, transportation, and disposal of hazardous materials, including those encountered in excavated soil. This SMP shall be submitted to the District and the Santa Cruz County EHS for review and approval prior to commencement of construction.	The District will prepare or contract a qualified environmental firm to prepare the SMP.	The plan will be prepared prior to construction. The plan will be implemented during construction.	The District and Santa Cruz County EHS will be responsible for enforcement, monitoring, and documenting compliance.
Impact 4.9-4: The Project could impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	**Mitigation Measure 4.15-1: Traffic Control Plan (Pipeline Construction).** (See Impact 4.15-1 in Section 4.15, *Transportation,* for description.)			

Impact	Mitigation Measure	Implementation Responsibility	Implementation Timing	Monitoring, Enforcement, and Reporting Responsibility
Hydrology Resources – Surface Water				
Impact 4.11-1: Project construction could result in a violation of water quality standards and/or waste discharge requirements, substantial additional sources of polluted runoff, or otherwise substantially degrade water quality.	**Mitigation Measure 4.11-1: HDD Pipeline Leak Contingency Measures for Surface Water Crossings.** The District shall implement the measures defined below to minimize and/or avoid water quality impacts associated with HDD pipeline installation. The measures shall be implemented at all areas where HDD installation under a waterway would occur to avoid, minimize, or mitigate for Project impacts to water quality and/or biological resources. Once final pipeline alignments are identified for the Project and the Project design is finalized, the District and/or its contractor shall further develop and implement the following minimization and avoidance measures as appropriate based on site-specific constraints and scale of work (e.g., the final siting and sizing of a containment area). The measures shall include, at a minimum: • Training of construction personnel about a) staff coordination and contact list of key Project proponents, biological monitor, and agency staff in the event of an accidental release during HDD pipeline installation b) monitoring procedures, equipment, materials and procedures in place for the prevention, containment, clean-up (such as creating a containment area and using a pump, using a vacuum truck, etc.); and, c) disposal of released drilling fluids, and agency notification protocols. • Methods for preventing accidental release during HDD pipeline installation including: a) maintaining pressure in the borehole to avoid exceeding the strength of the overlying soil; b) maintaining the minimum drilling pressure necessary to maintain fluid circulation; and, c) continuous monitoring of slurry circulation volumes at the exit and entry pits to determine if slurry circulation has been lost. • In the event an accidental release during HDD pipeline installation occurs, the on-site monitor, in coordination with the contractor, shall: a) verify that a release has occurred and identify the location of the release; b) immediately stop all drilling operations; c) deploy clean-up measures to contain drilling fluids released into surface waters; d) contact the appropriate District representative to notify of drilling fluid release occurrence (District would have responsibility to notify permit agency); e) contact the Project biological monitor to identify and relocate species potentially in the area; and, f) implement and monitor clean-up operations to contain, clean-up, and dispose of the released drilling fluids.	The District will ensure this measure is incorporated in the contractor's specifications.	During construction.	The District will be responsible for monitoring and enforcement, as well as documenting compliance.

Impact	Mitigation Measure	Implementation Responsibility	Implementation Timing	Monitoring, Enforcement, and Reporting Responsibility
Noise and Vibration				
Impact 4.13-1: Construction of the Project would result in exposure of persons to, or generation of, noise levels in excess of standards established in the local general plans or noise ordinances.	**Mitigation Measure 4.13-1a: Construction Noise Reduction Plan.** The District shall implement for the Chanticleer Site or Headquarters-West Annex Site (for the first 2.5 months of construction); the Willowbrook Lane, Cabrillo College, and Monterey Avenue Recharge Well Sites; and pipeline alignment, as applicable, a Construction Noise Reduction Plan prior to initiating construction. A disturbance coordinator shall be designated for the Project to implement the provisions of the plan. At a minimum, the Construction Noise Reduction Plan shall implement the following measures: • Distribute to the potentially affected residences and other sensitive receptors within 200 feet of the Project construction site boundaries a "hotline" telephone number, which shall be attended during active construction working hours, for use by the public to register complaints. The distribution shall identify a noise disturbance coordinator who would be responsible for responding to any local complaints about construction noise. The disturbance coordinator would determine the cause of the noise complaints and institute actions warranted to correct the problem. All complaints shall be logged noting date, time, complainant's name, nature of complaint, and any corrective action taken. The distribution shall also include the construction schedule. • All construction equipment shall have intake and exhaust mufflers recommended by the manufacturers thereof, to meet relevant noise limitations. • Maintain maximum physical separation, as far as practicable, between noise sources (construction equipment) and sensitive noise receptors. Separation may be achieved by locating stationary equipment to minimize noise impacts on the community. • Impact tools (e.g., jack hammers, pavement breakers) used during construction activities shall be hydraulically or electrically powered to avoid noise associated with compressed air exhaust from pneumatically powered tools. Where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used. • Use construction noise barriers such as paneled noise shields, blankets, and/or enclosures adjacent to noisy stationary and off-road equipment. Noise control shields, blankets and/or enclosures shall be made featuring a solid panel and a weather-protected, sound-absorptive material on the construction-activity side of the noise shield.	The District will be responsible for implementation.	The plan will be prepared prior to construction. The plan will be implemented at the specified sites during construction.	The District will be responsible for monitoring and enforcement, as well as for documenting compliance.

Impact	Mitigation Measure	Implementation Responsibility	Implementation Timing	Monitoring, Enforcement, and Reporting Responsibility
Noise and Vibration (cont.)				
Impact 4.13-1 (cont.)	**Mitigation Measure 4.13-1b: Off-site Accommodations for Substantially Affected Nighttime Receptors.** The District shall provide temporary hotel accommodations for all residences within 200 feet of the Willowbrook Lane and Monterey Avenue Recharge Well Sites during Project-related well drilling. The accommodations shall be provided for the duration of nighttime drilling activities. The District shall provide accommodations reasonably similar to those of the impacted residents in terms of number of beds and amenities.	The District will identify residences within 200 feet and arrange the temporary accommodations.	Arrangements will be completed prior to construction. Accommodations will be provided to the applicable residences during construction.	The District will be responsible for ensuring compliance.
Impact 4.13-2: Project construction would result in a substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project.	Implement Mitigation Measure 4.13-1a. (See Impact 4.13-1 in Section 4.13, *Noise and Vibration,* for description.)			
Impact 4.13-4: Project construction could result in exposure of persons to, or generation of, excessive groundborne vibration.	**Mitigation Measure 4.13-4: Vibration Monitoring for Pipeline Installation in the Vicinity of Historic Buildings.** The District shall construct the pipeline as close as possible to the centerlines of the road right-of-way to reduce indirect impacts from construction vibration to below the 0.25 in/sec PPV threshold. If the District determines that pipelines cannot be located near the centerline of the street due to traffic concerns or existing utilities, the historical resources identified in Table 4.13-9, shall be monitored for vibration during pipeline construction, especially during the use of vibratory rollers. If construction vibration levels exceed 0.20 in/sec PPV (which is below the historic building damage threshold of 0.4 in/sec PPV), construction shall be halted and other feasible construction methods shall be employed to reduce the vibration levels below the damage threshold. Alternative construction methods may include using concrete saws instead of jackhammers or hoe-rams to open excavation trenches, the use of non-vibratory rollers, and hand excavation, or other equally effective means.	The District will be responsible for implementing the measure as defined.	Construction plans documenting the location of the pipeline near the centerline of the street will be prepared prior to construction. Monitoring and continued compliance, as defined, will occur during construction.	The District will be responsible for monitoring and enforcement, as well as documenting compliance.
Transportation				
Impact 4.15-1: Closure of travel lanes during pipeline construction could temporarily reduce roadway capacity and increase traffic delays on area roadways, causing temporary and intermittent conflicts with all modes of travel.	**Mitigation Measure 4.15-1: Traffic Control Plan (Pipeline Construction)** Prior to commencement of Project construction, the District and/or contractor(s) shall arrange for Traffic Control Plans (TCPs) to be prepared by a licensed traffic engineer. The TCPs shall comply with requirements in agreements executed between the District and the public works departments of the cities of Santa Cruz and Capitola, and Santa Cruz County (which have jurisdiction over the public roads in the area), and will include, but not be limited to, the following elements:	The District will ensure this measure is incorporated in the contractor's specifications. The District will be responsible for engaging a licensed traffic engineer.	The plan will be prepared prior to construction. The plan will be implemented at the specified sites during construction.	The District will be responsible for monitoring and enforcement, as well as documenting compliance.

Impact	Mitigation Measure	Implementation Responsibility	Implementation Timing	Monitoring, Enforcement, and Reporting Responsibility
Transportation (cont.)				
Impact 4.15-1 (cont.)	• Circulation and detour routes shall be developed to minimize impacts on local street circulation during lane and road closures. For example, lane closures shall generally avoid the AM and PM peak commute hours. Flaggers and/or signage shall be used to guide vehicles through and/or around the construction zone. Roadside construction safety protocols shall be implemented. • Truck routes designated by affected jurisdictions shall be identified. Haul routes that both minimize truck traffic on local roadways and residential streets, and maximize fuel efficiency per Mitigation Measure 4.6-1 (Construction Equipment Efficiency Plan), shall be utilized. • Sufficient staging areas shall be developed for trucks accessing construction zones to minimize disruption of access to adjacent land uses, particularly at entries to on-site pipeline construction within residential neighborhoods. • Construction vehicle movement shall be controlled and monitored through the enforcement of standard construction specifications by on-site inspectors. • If deemed necessary by the affected jurisdictions, truck trips shall be scheduled to minimize trips during the peak morning and evening commute hours. • Roads shall be restored to the pre-Project number of lanes, with all trenches covered with steel plates or the equivalent outside of allowed working hours or when work is not in progress. • Construction shall be coordinated with Santa Cruz Metro Transit District to determine any temporary rerouting for bus lines in work zones that may be needed. • Bicycle and pedestrian access and circulation shall be maintained during Project construction where safe to do so. The contractor shall be required to maintain bicycle lanes/lane widths to accommodate bicycle traffic or seek a permit from the appropriate jurisdiction to address bicycle route detours and signage for any lane closures. Where construction activities encroach on a bicycle lane, advance warning signs (e.g., “Bicyclists Allowed Use of Full Lane” and/or “Share the Road”) shall be posted to indicate that bicycles and vehicles are sharing the lane and to warn bicyclists and drivers of upcoming traffic hazards. If construction activities encroach on a sidewalk, safe crossings and appropriate signage shall be provided for pedestrians.			

Impact	Mitigation Measure	Implementation Responsibility	Implementation Timing	Monitoring, Enforcement, and Reporting Responsibility
Transportation (cont.)				
Impact 4.15-1 (cont.)	• All equipment and materials shall be stored in designated contractor staging areas on or adjacent to the worksite, such that traffic obstruction is minimized. • Construction shall be coordinated with facility owners or administrators of police and fire stations (including all fire protection agencies), hospitals, and schools. Facility owners or operators shall be notified in advance of the timing, location, and duration of construction activities and the locations of detours and lane closures. Emergency service vehicles shall be given priority for access. • A public information plan shall be developed to provide adjacent residents and businesses with regularly updated information regarding Project construction in their area, including construction activities, durations, peak construction vehicle activities (e.g., excavation), bus stop relocations, travel lane closures, and other lane closures. This information shall also be presented on the District website and shall be updated regularly as construction conditions change. • Portable changeable message signs shall be used to provide advance notice of lane closures.			
Impact 4.15-3: Pipeline construction could cause temporary and intermittent impedance to access to adjacent roadways and land uses.	**Mitigation Measure 4.15-1: Traffic Control Plan (Pipeline Construction)** (See Impact 4.5-1 in Section 4.5, Transportation and Traffic, for description.)			
Impact 4.15-4: Pipeline construction would not substantially impair access to alternative transportation facilities (public transit, bicycle, or pedestrian facilities), although it could temporarily decrease the performance of such facilities.	**Mitigation Measure 4.15-1: Traffic Control Plan (Pipeline Construction)** (See Impact 4.5-1 in Section 4.5, Transportation and Traffic, for description.)			

Impact	Mitigation Measure	Implementation Responsibility	Implementation Timing	Monitoring, Enforcement, and Reporting Responsibility
Tribal Cultural Resources				
Impact 4.16-1: The Project could cause a substantial adverse change in the significance of a tribal cultural resource.	**Mitigation Measure 4.5-2a: Archaeological Research Design and Treatment Plan** (See Impact 4.5-2 in Section 4.5, *Cultural Resources,* for description.)			
	Mitigation Measure 4.5-2b: Cultural Resources Study of the Chanticleer Site (See Impact 4.5-2 in Section 4.5, *Cultural Resources,* for description.)			
	Mitigation Measure 4.5-2c: Inadvertent Discovery of Cultural Resources (See Impact 4.5-2 in Section 4.5, *Cultural Resources,* for description.)			
	Mitigation Measure 4.5-3: Inadvertent Discovery of Human Remains (See Impact 4.5-3 in Section 4.5, *Cultural Resources,* for description.)			

APPENDIX B

Construction Emissions Estimates

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Total PM Exhaust and CO_2e Construction Emissions

Configurations 1 and 2

Chanticleer Facilities

	Unmitigated			Onsite Mitigated (Tier 4 Off-road)	
	(metric tons)	(tons)	(tons)	(tons)	(tons)
Emissions	**CO_2e**	**PM_{10}**	**$PM_{2.5}$**	**PM_{10}**	**$PM_{2.5}$**
Off-road Equipment - 2020	10.8121	0.0045	0.0041	0.0002	0.0002
Off-road Equipment - 2021	64.1335	0.0226	0.0208	0.0012	0.0012
Off-road Equipment - 2022	43.0157	0.0128	0.0118	0.0008	0.0008
Off-road Equipment - subtotal	117.9613	0.0399	0.0367	0.0022	0.0022
On-road Vehicles - 2020	19.7922				
On-road Vehicles - 2021	115.5400				
On-road Vehicles - 2022	76.0980				
On-road Vehicles - subtotal	211.4302				
Total	329.3915				

Temporary Construction Disturbance Area: 20,000 square feet.

SC WWTF Facilities

	Unmitigated			Onsite Mitigated (Tier 4 Off-road)	
	(metric tons)	(tons)	(tons)	(tons)	(tons)
Emissions	**CO_2e**	**PM_{10}**	**$PM_{2.5}$**	**PM_{10}**	**$PM_{2.5}$**
Off-road Equipment - 2020	9.7343	0.0032	0.0030	0.0002	0.0002
Off-road Equipment - 2021	57.7482	0.0163	0.0150	0.0011	0.0011
Off-road Equipment - 2022	38.7349	0.0091	0.0084	0.0007	0.0007
Off-road Equipment - subtotal	106.2174	0.0286	0.0264	0.0020	0.0020
On-road Vehicles - 2020	11.8891				
On-road Vehicles - 2021	69.2280				
On-road Vehicles - 2022	45.4120				
On-road Vehicles - subtotal	126.5291				
Total	232.7465				

Temporary Construction Disturbance Area: 5,000 square feet.

Worst-Case GHG Emissions

	CO2e (metric tons)		
Project Component	Approved Project	Modified Project	**Difference**
Chanticleer AWPF	152.63	329.39	176.76
SC WWTF Facilities	73.24	232.75	159.51
Recharge Wells and Pipelines	577.05	577.05	0.00
Total	803.07	1,139.19	336.12
Amortized (50 years)	16.06	22.78	6.72

Indirect Emissions from Electricity Consumption

GHGs from Electricity Consumption				
				CO_2e*
GHG	Emission Factor (lb/kWh)	Electricity Consumption kWhr	metric tons	(metric tons)
CO_2	0.22928	6,200,000	644.80	644.80
CH_4	0.000033	6,200,000	0.09	2.33
N_20	0.000004	6,200,000	0.01	3.35
			Total =	650.48

Notes: The emission factor for CO_2 was obtained from PEA, 2016. Emission factors for CH_4 and N_2O are from TCR, 2017.

Project electricity consumption estimates provided by District (see Addendum RFI).

*Global Warming Potential for CH_4 = 25; GWP for N_2O = 298 (CARB, 2017a).

Pacific Energy Advisors (PEA), 2016. Monterey Bay Community Power Technical Study, May 4, 2016.

The Climate Registry (TCR), 2017. The Climate Registry 2017 Default Emission Factors, last updated March 2017.

Operation Emissions Source	**CO_2e (metric tons)**		
	Approved Project	**Modified Project**	**Difference**
Net Increase in Electricity Consumption	377.7	650.48	272.78
Vehicle Trips	12.78	12.78	0.00
Total	390.48	663.26	272.78

Maximum Day Construction Emissions (Unmitigated)

Summary of Emisions for Configurations 1 and 2

Project Component	Project Emissions (pounds/day)				
	ROG	NOx	CO	PM_{10}	$PM_{2.5}$
Chanticleer AWPF	3.42	41.88	23.45	31.97	7.61
Recharge Wells (From FEIR)	2.42	29.28	17.68	3.88	1.57
Pipelines (From FEIR)	8.13	157.94	70.87	13.05	5.26
Total	13.97	229.10	112.00	48.90	14.44
MBARB Significance Threshold	137	137	550	82	55
Significant Impact?	No	Yes	No	No	No
Other Unchanged Project Components	10.55	187.22	88.55	16.93	6.83

Project	Project Emissions (pounds/day)				
	ROG	NOx	CO	PM_{10}	$PM_{2.5}$
Total Emissions for Modified Projec	13.97	229.10	112.00	48.90	14.44
Total Emissions Disclosed in Final I	13.33	245.46	110.73	31.58	10.73
Difference	0.64	-16.36	1.27	17.32	3.71
MBARD Significance Threshold	137	137	550	82	55
Significant Impact?	No	Yes	No	No	No
	1.05	0.93	1.01	1.55	1.35

Emisions for Configurations 1 and 2

Project Component	Source	Project Emissions (pounds/day)				
		ROG	NOx	CO	PM_{10}	$PM_{2.5}$
	on-site	2.9763	29.8689	19.5811	1.2192	1.1216
	on-site fugitive dust	0.0000	0.0000	0.0000	29.8439	6.2075
	off-site	0.4409	12.0132	3.8736	0.9028	0.2795
Chanticleer AWPF	Subtotal	3.4172	41.8821	23.4547	31.9659	7.6086
	on-site	3.2276	33.1280	21.3769	1.3040	1.1997
	on-site fugitive dust	0.0000	0.0000	0.0000	8.2645	1.7190
	off-site	0.2922	5.73	2.4758	0.5652	0.1695
SC WWTF Facilities	Subtotal	3.5198	38.8580	23.8527	10.1337	3.0882

On-site and off-site emissions estimated using CalEEMod (see output files). Off-site emissions include fugitive road dust from vehicle travel. See below for on-site fugitive dust emissions calculations

Maximum Day Construction Emissions (Mitigated)

Summary of Emisions for Configurations 1 and 2

Project Component	Mitigated Emissions (pounds/day)				
	ROG	NOx	CO	PM_{10}	$PM_{2.5}$
Chanticleer AWPF	1.14	16.12	31.00	11.44	2.54
Recharge Well	0.76	6.49	25.53	1.25	0.35
Pipelines	4.10	119.37	75.02	7.74	2.46
Total	6.00	141.98	131.56	20.42	5.35
MBARB Significance Threshold	137	137	550	82	55
Significant Impact?	No	Yes	No	No	No

Project	Project Emissions (pounds/day)				
	ROG	NOx	CO	PM_{10}	$PM_{2.5}$
Total Emissions for Modifie	6.00	141.98	131.56	20.42	5.35
Total Emissions Disclosed	13	242.62	107.93	31.41	10.56
Difference	7.00	100.64	-23.63	10.99	5.21
MBARD Significance Thres	137	137	550	82	55
Significant Impact?	No	Yes	No	No	No
	0.46	0.59	1.22	0.65	0.51

Emissions for Configurations 1 and 2

Project Component	Source	Mitigated Emissions (pounds/day)				
		ROG	NOx	CO	PM_{10}	$PM_{2.5}$
	on-site	0.6957	4.1033	27.1286	0.0888	0.0888
	on-site fugitive dust	0.0000	0.0000	0.0000	10.4454	2.1726
	off-site	0.4409	12.0132	3.8736	0.9028	0.2795
Chanticleer AWPF	Subtotal	1.1366	16.1165	31.0022	11.4370	2.5409
	on-site	0.8079	4.5894	31.1234	0.1038	0.1038
	on-site fugitive dust	0.0000	0.0000	0.0000	2.8926	0.6017
	off-site	0.2922	5.73	2.4758	0.5652	0.1695
SC WWTF Facilities	Subtotal	1.1001	10.3194	33.5992	3.5616	0.8750

On-site and off-site emissions estimated using CalEEMod (see output files). Off-site emissions include fugitive road dust from vehicle travel. See below for on-site fugitive dust emissions calculations

Unchanged Project Emissions From the EIR

Project Component	Source	Mitigated Emissions (pounds/day)				
		ROG	NOx	CO	PM_{10}	$PM_{2.5}$
	on-site	0.6154	3.3731	24.3094	0.0795	0.0795
	on-site fugitive dust	0.0000	0.0000	0.0000	0.9100	0.1893
	off-site	0.1469	3.1204	1.2210	0.2560	0.0820
Recharge Well	Subtotal	0.7623	6.4935	25.5304	1.2455	0.3508
	on-site	0.8868	6.3609	47.4587	0.1092	0.1092
	on-site fugitive dust	0.0000	0.0000	0.0000	1.5255	0.2310
	off-site	3.213	113.0049	27.5662	6.1031	2.1204
Pipelines	Subtotal	4.0998	119.3658	75.0249	7.7378	2.4606

On-site and off-site emissions estimated using CalEEMod (see output files). Off-site emissions include fugitive road dust from vehicle travel. See below for on-site fugitive dust emissions calculations

CONSTRUCTION FUGITIVE DUST

Grading and Earth Moving Fugitive Dust

Fugitive dust from Soil Disturbance

Project Site	Area Disturbed (acres)	Emission Factor (pounds/acre) [1] PM10	Project Emissions (pounds/day) PM10	Project Emissions (pounds/day) PM2.5 [3]	Mitigated Emissions [2] (pounds/day) PM10	Mitigated Emissions [2] (pounds/day) PM2.5 [3]
Chanticleer Site	1.49	20	29.8	6.2	10.4	2.2
SC WWTF	0.41	20	8.3	1.7	2.9	0.6
Recharge Well	0.13	20	2.6	0.5	0.9	0.2
	2.04					

Fugitive dust from Pipeline Construction Earth Moving Activities

Soil Disturbed [4] (cubic yards/day)	Emission Factor (pounds/cubic yard) [5] PM10	Emission Factor (pounds/cubic yard) [5] PM2.5	Project Emissions (pounds/day) PM10	Project Emissions (pounds/day) PM2.5	Mitigated Emissions (pounds/day) PM10	Mitigated Emissions (pounds/day) PM2.5
2,667	0.001634267	0.000247475	4.4	0.7	1.5	0.2

1 The Midwest Research Institute has derived a value of 0.11 tons/acre/month, which converts to 10 pounds per day. The California Air Resources Board review has reviewed this factor and concluded that it represents PM10 emissions with watering. Consequently, CARB concludes that 20 pounds per acre day is more appropriate for unmitigated fugitive dust conditions (CARB, 2002).

2 Mitigation is assumed to reduce emissions by 65 percent, based SCAQMD, 2007.

3 PM2.5 fractions for soil disturbance and earth moving were obtained from SCAQMD, 2006.

4 Assumes 1,333 cubic yards of soil x 2 = daily trench dimensions (9 feet * 10 feet * 400 feet) = 36,000 ft3 = 1,333 cubic yards x 2 = 2,666. Assumes two pipeline segments would be constructed concurrently at a rate of 200 feet per day each.

5 is 2.5% based on AP42. See CalEEMod users manual Appendix A page 10 (http://www.aqmd.gov/caleemod/doc/AppendixA.pdf).
Based on AP-42 Emission Factor: EF (lbs/ton) = k (0.0032)(U/5)^1.3 / (M/2)^1.4

Where:

EF = emission rate in pounds PM10 per ton material handled.

k = particle size multiplier (assumed 0.35 for PM10 and 0.053 for PM2.5 per CalEEMod Users Guide, Appendix A)

U = mean wind speed

M = material moisture content (%).

Particulate Matter size	per ton material	tons material per cubic yard	pounds PM per cubic yard
PM10	0.00129	1.26417	0.00163
PM2.5	0.00020	1.26417	0.00025

Construction Fuel Use

Total Fuel Use During Contruction (Configuration 1 and 2, 3 Recharge Wells, Pipelines

Fuel Type	Off-road Eq. only	Haul Truck only	Fuel Consumed (gal/proj)	Fuel Consumed (av. gal/yr)	in Santa Cruz County in 2016	% Project gal/County gal	Total hours
Gasoline			17,760	13,586	95,000,000	0.014%	
Diesel	71,283	164,029	235,312	145,503	6,000,000	2.425%	27,234

Construction Equipment Total Diesel Fuel Use

Configurations 1 and 2

Project Component	HP	OffRoadEquipmentType	Unit Amount	Ave. Hrs/day	Workdays	Fuel Consumption (gal/hr)	Total Hours	Diesel Fuel Consumed (gal/proj)	Diesel Fuel Consumed (av. gal/yr)
	63	Aerial Lifts	1	1.3	480	1.18	624	736	368
	231	Cranes	1	2	480	3.24	960	3,107	1,554
	89	Forklifts	1	2.5	480	0.85	1200	1,025	513
	402	Off-Highway Trucks	5	0.1	480	7.39	240	1,773	887
	172	Other Construction Equipment	1	1.3	480	3.26	624	2,033	1,017
	65	Skid Steer Loaders	1	2	480	1.34	960	1,289	644
Chanticleer AWPF	97	Tractors/Loaders/Backhoes	1	2.6	480	1.58	1248	1,977	988
	63	Aerial Lifts	1	1	480	1.18	480	566	283
	221	Bore/Drill Rigs	1	0.3	480	5.33	144	768	384
	231	Cranes	1	1.5	480	3.24	720	2,330	1,165
	89	Forklifts	1	0.8	480	0.85	384	328	164
	402	Off-Highway Trucks	5	0.2	480	7.39	480	3,546	1,773
	172	Other Construction Equipment	1	1	480	3.26	480	1,564	782
	65	Skid Steer Loaders	1	1.5	480	1.34	720	967	483
SC WWTF Facilities	97	Tractors/Loaders/Backhoes	1	1	480	1.58	480	760	380
						Total	9,744	22,771	11,386
						Average gallons/hour	2.3		

All Configurations - Recharge Wells

Project Component	HP	OffRoadEquipmentType	Unit Amount	Ave. Hrs/day	Workdays	Fuel Consumption (gal/hr)	Total Hours	Diesel Fuel Consumed (gal/proj)	Diesel Fuel Consumed (av. gal/yr)
	221	Bore/Drill Rigs	3	2	180	5.33	1080	5,761	5,761
	231	Cranes	3	0.2	180	3.24	108	350	350
	89	Forklifts	3	1	180	0.85	540	461	461
	402	Off-Highway Trucks	3	0.3	180	7.39	162	1,197	1,197
	172	Other Construction Equipment	3	0.5	180	3.26	270	880	880
3 Recharge	65	Skid Steer Loaders	3	2	180	1.34	1080	1,450	1,450
Wells	97	Tractors/Loaders/Backhoes	3	1	180	1.58	540	855	855
						Total*	3,780	10,955	10,955
						Average gallons/hour		2.9	

All Configurations - Pipeline Segments

Component	HP	OffRoadEquipmentType	Unit Amount	Ave. Hrs/day	Workdays	Fuel Consumption (gal/hr)	Total Hours	Diesel Fuel Consumed (gal/proj)	Diesel Fuel Consumed (av. gal/yr)
	63	Aerial Lifts	1	0.3	80	1.18	24	28	17
	78	Air Compressors	1	0.3	80	1.75	24	42	25
	81	Concrete/Industrial Saws	1	0.2	80	1.75	16	28	17
	158	Excavators	1	5.2	80	2.88	416	1,199	720
	89	Forklifts	1	0.6	80	0.85	48	41	25
	84	Generator Sets	1	1.7	80	1.75	136	238	143
	187	Graders	1	8	80	4.35	640	2,781	1,669
	402	Off-Highway Trucks	1	0.2	80	7.39	16	118	71
	402	Off-Highway Trucks	1	1.7	80	7.39	136	1,005	603
	130	Pavers	1	0.1	80	3.40	8	27	16
	8	Plate Compactors	1	3.5	80	0.91	280	255	153
	8	Plate Compactors	1	0.2	80	0.91	16	15	9
	84	Pumps	1	1.7	80	1.75	136	238	143
	80	Rollers	1	0.1	80	1.69	8	14	8
	65	Skid Steer Loaders	1	0.9	80	1.34	72	97	58
	65	Skid Steer Loaders	1	0.1	80	1.34	8	11	6
	64	Sweepers/Scrubbers	1	0.9	80	1.83	72	132	79
	64	Sweepers/Scrubbers	1	0	80	1.83	0	0	0
	97	Tractors/Loaders/Backhoes	1	5.2	80	1.58	416	659	395
Segment 1A	97	Tractors/Loaders/Backhoes	1	1	80	1.58	80	127	76
	63	Aerial Lifts	1	0.3	60	1.18	18	21	13
	78	Air Compressors	1	0.3	60	1.75	18	32	19
	81	Concrete/Industrial Saws	1	0.3	60	1.75	18	32	19

	158	Excavators	1	4.7	60	2.88	282	813	488
	89	Forklifts	1	0.5	60	0.85	30	26	15
	84	Generator Sets	1	1.6	60	1.75	96	168	101
	187	Graders	1	8	60	4.35	480	2,086	1,251
	402	Off-Highway Trucks	1	0.3	60	7.39	18	133	80
	402	Off-Highway Trucks	1	1.6	60	7.39	96	709	426
	130	Pavers	1	0.1	60	3.40	6	20	12
	8	Plate Compactors	1	3.1	60	0.91	186	170	102
	8	Plate Compactors	1	0.2	60	0.91	12	11	7
	84	Pumps	1	1.6	60	1.75	96	168	101
	80	Rollers	1	0.1	60	1.69	6	10	6
	65	Skid Steer Loaders	1	0.8	60	1.34	48	64	39
	65	Skid Steer Loaders	1	0.1	60	1.34	6	8	5
	64	Sweepers/Scrubbers	1	0.8	60	1.83	48	88	53
	64	Sweepers/Scrubbers	1	0	60	1.83	0	0	0
	97	Tractors/Loaders/Backhoes	1	5.2	60	1.58	312	494	297
Segment B	97	Tractors/Loaders/Backhoes	1	1.3	60	1.58	78	124	74
	63	Aerial Lifts	1	0.1	160	1.18	16	19	11
	78	Air Compressors	1	0.3	160	1.75	48	84	50
	81	Concrete/Industrial Saws	1	0.3	160	1.75	48	84	50
	158	Excavators	1	6	160	2.88	960	2,768	1,661
	89	Forklifts	1	0.7	160	0.85	112	96	57
	84	Generator Sets	1	2	160	1.75	320	560	336
	187	Graders	1	8	160	4.35	1280	5,562	3,337
	402	Off-Highway Trucks	1	0.3	160	7.39	48	355	213
	402	Off-Highway Trucks	1	2	160	7.39	320	2,364	1,419
	130	Pavers	1	0.1	160	3.40	16	54	33
	8	Plate Compactors	1	4	160	0.91	640	584	350
	8	Plate Compactors	1	0.2	160	0.91	32	29	18
	84	Pumps	1	2	160	1.75	320	560	336
	80	Rollers	1	0.1	160	1.69	16	27	16
	65	Skid Steer Loaders	1	1	160	1.34	160	215	129
	65	Skid Steer Loaders	1	0.1	160	1.34	16	21	13
	64	Sweepers/Scrubbers	1	1	160	1.83	160	293	176
	64	Sweepers/Scrubbers	1	0	160	1.83	0	0	0
	97	Tractors/Loaders/Backhoes	1	6	160	1.58	960	1,521	912
Segment C5	97	Tractors/Loaders/Backhoes	1	1.3	160	1.58	208	329	198
	63	Aerial Lifts	1	0.8	20	1.18	16	19	11
	78	Air Compressors	1	0.4	20	1.75	8	14	8
	81	Concrete/Industrial Saws	1	0.3	20	1.75	6	11	6
	158	Excavators	1	6	20	2.88	120	346	208
	89	Forklifts	1	0.7	20	0.85	14	12	7
	84	Generator Sets	1	2.2	20	1.75	44	77	46
	187	Graders	1	8	20	4.35	160	695	417
	402	Off-Highway Trucks	1	0.4	20	7.39	8	59	35
	402	Off-Highway Trucks	1	2	20	7.39	40	296	177

	130	Pavers	1	0.1	20	3.40	2	7	4
	8	Plate Compactors	1	4	20	0.91	80	73	44
	8	Plate Compactors	1	0.2	20	0.91	4	4	2
	84	Pumps	1	2.2	20	1.75	44	77	46
	80	Rollers	1	0.1	20	1.69	2	3	2
	65	Skid Steer Loaders	1	1	20	1.34	20	27	16
	65	Skid Steer Loaders	1	0.2	20	1.34	4	5	3
	64	Sweepers/Scrubbers	1	1	20	1.83	20	37	22
	64	Sweepers/Scrubbers	1	0	20	1.83	0	0	0
	97	Tractors/Loaders/Backhoes	1	6	20	1.58	120	190	114
Segment D3	97	Tractors/Loaders/Backhoes	1	1.6	20	1.58	32	51	30
	63	Aerial Lifts	1	0.3	80	1.18	24	28	17
	78	Air Compressors	1	0	80	1.75	0	0	0
	81	Concrete/Industrial Saws	1	0.3	80	1.75	24	42	25
	158	Excavators	1	6	80	2.88	480	1,384	830
	89	Forklifts	1	1	80	0.85	80	68	41
	84	Generator Sets	1	2	80	1.75	160	280	168
	187	Graders	1	8	80	4.35	640	2,781	1,669
	402	Off-Highway Trucks	1	0.3	80	7.39	24	177	106
	402	Off-Highway Trucks	1	2	80	7.39	160	1,182	709
	130	Pavers	1	0.1	80	3.40	8	27	16
	8	Plate Compactors	1	4	80	0.91	320	292	175
	8	Plate Compactors	1	0.2	80	0.91	16	15	9
	84	Pumps	1	2	80	1.75	160	280	168
	80	Rollers	1	0.1	80	1.69	8	14	8
	65	Skid Steer Loaders	1	1	80	1.34	80	107	64
	65	Skid Steer Loaders	1	0.2	80	1.34	16	21	13
	64	Sweepers/Scrubbers	1	1	80	1.83	80	147	88
	64	Sweepers/Scrubbers	1	0	80	1.83	0	0	0
Well Injection	97	Tractors/Loaders/Backhoes	1	6	80	1.58	480	760	456
Pipe	97	Tractors/Loaders/Backhoes	1	1.5	80	1.58	120	190	114
						Total	13,710	37,558	22,535
						Average gallons/hour	2.7		

Construction Vehicles Total Fuel Use

Project Component	Fuel Type	Vehicle Type	Miles/trip	Trip/day	Workdays	Total Miles Travelled	Ave consum. rate (miles/gallon)	Total Gallons	
								gal/proj	gal/year
Chanticleer	gasoline	Light Duty Truck	10.8	24	480	124,416	20.7	6,010	3,005
AWPF	diesel	Heavy Duty Truck	20	8	480	81,200	7.0	11,600	5,800
SC WWTF	gasoline	Light Duty Truck	10.8	24	480	124,416	20.7	6,010	6,010
Facilities	diesel	Heavy Duty Truck	20	4	480	37,400	7.0	5,343	5,343

3 Recharge Wells	gasoline	Light Duty Truck	10.8	30	180	58,320	20.7	2,817	2,817
	diesel	Heavy Duty Truck	20	6	180	21,600	7.0	3,086	3,086
Pipelines	gasoline	Light Duty Truck	10.8	14	400	60,480	20.7	2,922	1,753
	diesel	Heavy Duty Truck	20	126	400	1,008,000	7.0	144,000	86,400
Total Fuel Use	gasoline					367,632		17,760	13,586
	diesel					1,148,200		164,029	100,629

diesel fuel economcy obtained from http://www.dieselforum.org/about-clean-diesel/trucking

Pipeline Trips

Pipe Seg.	workdays	trips	Weighted Ave.
1A	80	142	28.4
B	60	120	18
C5	160	140	56
D5	20	152	7.6
Injection	80	80	16
Weighted Average			126

Operational Fuel Use

Total Trips	Fuel Type	Vehicle Type	Total Miles Travelled per year	Ave consum. rate (miles/gallon)	Total Gallons gal/year
Total Fuel Use	gasoline	Light Duty Truck	46,712	20.7	2,257

0.002940184

diesel fuel economcy obtained from http://www.dieselforum.org/about-clean-diesel/trucking

Per CalEEMod output, there would be 46,712 vehicle miles travelled; it is assumed 100% would be LDA.

Calendar Year	Air Basin	Equipment Type	HP Bin	BSFC (lbs/yr)	Activity (hrs/yr)	BSFC (gal/hr)*
2020	NCC	Bore/Drill Rigs	50	5451.111569	663.7132358	1.16
2020	NCC	Bore/Drill Rigs	120	33991.33463	2279.677593	2.10
2020	NCC	Bore/Drill Rigs	175	39319.65022	1418.389186	3.90
2020	NCC	Bore/Drill Rigs	250	55440.06379	1463.198127	5.33
2020	NCC	Bore/Drill Rigs	500	62621.14732	983.348563	8.97
2020	NCC	Cranes	50	1793.381941	380.5012769	0.66
2020	NCC	Cranes	120	42805.12726	4572.626514	1.32
2020	NCC	Cranes	175	112905.0545	7182.090784	2.21
2020	NCC	Cranes	250	190726.6722	8296.987494	3.24
2020	NCC	Cranes	500	292523.1628	8222.624952	5.01
2020	NCC	Excavators	50	218757.1971	39241.45111	0.78
2020	NCC	Excavators	120	284783.9835	25059.02803	1.60
2020	NCC	Excavators	175	598702.4392	29235.29428	2.88
2020	NCC	Excavators	250	760386.0716	24841.65938	4.31
2020	NCC	Excavators	500	1262496.192	27511.36173	6.46
2020	NCC	Graders	50	1446.311871	235.8313517	0.86
2020	NCC	Graders	120	38901.56261	2866.663406	1.91
2020	NCC	Graders	175	359422.1289	15993.95819	3.16
2020	NCC	Graders	250	627107.0243	20319.38362	4.35
2020	NCC	Graders	500	179278.9874	4077.629516	6.19
2020	NCC	Off-Highway Trucks	50	8722.122051	1967.962774	0.62
2020	NCC	Off-Highway Trucks	120	10613.49759	883.2765081	1.69
2020	NCC	Off-Highway Trucks	175	205629.2663	9272.154914	3.12
2020	NCC	Off-Highway Trucks	250	422773.2884	14352.16699	4.15
2020	NCC	Off-Highway Trucks	500	1787207.708	34057.52601	7.39
2020	NCC	Other Construction Equipment	50	48925.81208	7549.731789	0.91
2020	NCC	Other Construction Equipment	120	153657.2044	12353.2971	1.75
2020	NCC	Other Construction Equipment	175	83514.69588	3608.260013	3.26
2020	NCC	Other Construction Equipment	250	107082.8491	3217.893134	4.69
2020	NCC	Other Construction Equipment	500	365435.9229	6672.123895	7.71
2020	NCC	Pavers	50	5991.84676	912.8363334	0.92
2020	NCC	Pavers	120	58092.61619	4810.285894	1.70

2020	NCC	Pavers	175	78963.74523	3270.442623	3.40
2020	NCC	Pavers	250	53141.32015	1632.196287	4.58
2020	NCC	Pavers	500	20025.79569	406.2732834	6.94
2020	NCC	Rollers	50	123145.4409	22500.22154	0.77
2020	NCC	Rollers	120	192405.2301	16025.13785	1.69
2020	NCC	Rollers	175	198948.8254	10051.77361	2.79
2020	NCC	Rollers	250	31420.90368	1067.07514	4.15
2020	NCC	Rollers	500	19882.19787	424.633713	6.59
2020	NCC	Skid Steer Loaders	50	93199.4409	14180.36967	0.93
2020	NCC	Skid Steer Loaders	120	494276.666	51831.59996	1.34
2020	NCC	Skid Steer Loaders	175	3340.839217	162.900464	2.89
2020	NCC	Skid Steer Loaders	250	2550.163088	96.3087076	3.73
2020	NCC	Skid Steer Loaders	500	705.9182035	19.37405488	5.13
2020	NCC	Tractors/Loaders/Backhoes	50	184398.1704	32571.9368	0.80
2020	NCC	Tractors/Loaders/Backhoes	120	2959467.07	263040.0017	1.58
2020	NCC	Tractors/Loaders/Backhoes	175	512166.6053	26566.93127	2.71
2020	NCC	Tractors/Loaders/Backhoes	250	297922.544	10822.77853	3.88
2020	NCC	Tractors/Loaders/Backhoes	500	397543.498	9256.797293	6.05
2020	NCC	Sweepers/Scrubbers	50	56778.99708	8574.760819	0.93
2020	NCC	Sweepers/Scrubbers	120	87753.82295	6740.253102	1.83
2020	NCC	Sweepers/Scrubbers	175	21889.30876	819.0635807	3.76
2020	NCC	Sweepers/Scrubbers	250	11666.11931	342.7315342	4.79
2020	NCC	Sweepers/Scrubbers	500	3254.694706	64.34800677	7.12
2020	NCC	Aerial Lifts	50	99121.19045	17085.81022	0.82
2020	NCC	Aerial Lifts	120	172954.7533	20655.47494	1.18
2020	NCC	Aerial Lifts	175	10570.2991	716.3083714	2.08
2020	NCC	Aerial Lifts	250	384.4872666	16.1869106	3.34
2020	NCC	Aerial Lifts	500	695.7388635	16.1869106	6.05
2020	NCC	Forklifts	50	66712.54275	19156.27955	0.49
2020	NCC	Forklifts	120	803711.755	132422.7699	0.85
2020	NCC	Forklifts	175	253779.8842	24347.47628	1.47
2020	NCC	Forklifts	250	53616.44942	3482.447131	2.17
2020	NCC	Forklifts	500	15676.0344	616.2238746	3.58

Pure Water Soquel Project - Config. 1 and 2 Maximum Day

Santa Cruz County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	1.00	1000sqft	0.02	1,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	1.8	**Precipitation Freq (Days)**	61
Climate Zone	5			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Pure Water Soquel Project - Config. 1 and 2 Maximum Day - Santa Cruz County, Annual

Project Characteristics -

Land Use - Unit amount set to 1 for ease of incorporating project assumptions.

Construction Phase - Configuration 1; obtained from Addendum RFI responses.

Off-road Equipment - Average daily hours per day based on Addendum RFI

Off-road Equipment - Equipment assumptions obtained from RFI responses. Well rig: 24 hrs per day per PD.

Off-road Equipment - Assumptions obtained from RFI responses.

Trips and VMT - Worker trips obtained from RFI. Total truck trips obtained from Addendum 2 RFI responses.

Vehicle Trips - 16 trips per day

Construction Off-road Equipment Mitigation - Tier 4 mitigation scenario

Fleet Mix - Light duty autos

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Parking	150	0
tblAreaCoating	Area_Nonresidential_Exterior	500	0
tblAreaCoating	Area_Nonresidential_Interior	1500	0
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final

tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	1.00	480.00
tblConstructionPhase	NumDays	1.00	480.00
tblFleetMix	HHD	0.01	0.00
tblFleetMix	LDA	0.57	1.00
tblFleetMix	LDT1	0.03	0.00
tblFleetMix	LDT2	0.21	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	5.0760e-003	0.00
tblFleetMix	MCY	5.9380e-003	0.00
tblFleetMix	MDV	0.12	0.00
tblFleetMix	MH	1.1450e-003	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	OBUS	1.2360e-003	0.00
tblFleetMix	SBUS	1.0050e-003	0.00
tblFleetMix	UBUS	2.8270e-003	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	5.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Chanticleer AWPF
tblOffRoadEquipment	PhaseName		SC WWTF Facilities
tblOffRoadEquipment	PhaseName		SC WWTF Facilities
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tblOffRoadEquipment	PhaseName		Chanticleer AWPF
tblOffRoadEquipment	PhaseName		SC WWTF Facilities
tblOffRoadEquipment	PhaseName		Chanticleer AWPF
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tblOffRoadEquipment	UsageHours	8.00	1.00
tblTripsAndVMT	HaulingTripNumber	0.00	4,060.00
tblTripsAndVMT	HaulingTripNumber	0.00	1,870.00
tblTripsAndVMT	WorkerTripNumber	28.00	32.00
tblTripsAndVMT	WorkerTripNumber	30.00	32.00
tblVehicleTrips	ST_TR	1.50	16.00
tblVehicleTrips	SU_TR	1.50	16.00
tblVehicleTrips	WD_TR	1.50	16.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.0234	0.2615	0.1898	5.7000e-004	0.0498	8.1300e-003	0.0580	0.0126	7.5000e-003	0.0201	0.0000	52.0304	52.0304	7.8900e-003	0.0000	52.2277
2021	0.1265	1.3847	1.0749	3.3200e-003	0.1103	0.0414	0.1517	0.0292	0.0382	0.0674	0.0000	305.4920	305.4920	0.0465	0.0000	306.6549
2022	0.0770	0.8184	0.6904	2.2000e-003	0.0863	0.0235	0.1098	0.0226	0.0217	0.0443	0.0000	202.4856	202.4856	0.0310	0.0000	203.2607
Maximum	**0.1265**	**1.3847**	**1.0749**	**3.3200e-003**	**0.1103**	**0.0414**	**0.1517**	**0.0292**	**0.0382**	**0.0674**	**0.0000**	**305.4920**	**305.4920**	**0.0465**	**0.0000**	**306.6549**

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	tons/yr										MT/yr					
2020	0.0118	0.1285	0.2120	5.7000e-004	0.0498	8.6000e-004	0.0507	0.0126	8.4000e-004	0.0134	0.0000	52.0303	52.0303	7.8900e-003	0.0000	52.2276
2021	0.0665	0.7106	1.2240	3.3200e-003	0.1103	4.8300e-003	0.1151	0.0292	4.7000e-003	0.0339	0.0000	305.4919	305.4919	0.0465	0.0000	306.6548
2022	0.0425	0.4462	0.8003	2.2000e-003	0.0863	3.0600e-003	0.0894	0.0226	2.9800e-003	0.0256	0.0000	202.4855	202.4855	0.0310	0.0000	203.2606
Maximum	**0.0665**	**0.7106**	**1.2240**	**3.3200e-003**	**0.1103**	**4.8300e-003**	**0.1151**	**0.0292**	**4.7000e-003**	**0.0339**	**0.0000**	**305.4919**	**305.4919**	**0.0465**	**0.0000**	**306.6548**

Pure Water Soquel Project - Config. 1 and 2 Maximum Day - Santa Cruz County, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**46.74**	**47.85**	**-14.39**	**0.00**	**0.00**	**88.02**	**20.12**	**0.00**	**87.35**	**44.64**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
7	**9-4-2020**	**12-3-2020**	0.1487	0.0736
8	**12-4-2020**	**3-3-2021**	0.3878	0.1975
9	**3-4-2021**	**6-3-2021**	0.3785	0.1937
10	**6-4-2021**	**9-3-2021**	0.3769	0.1921
11	**9-4-2021**	**12-3-2021**	0.3766	0.1938
12	**12-4-2021**	**3-3-2022**	0.3440	0.1849
13	**3-4-2022**	**6-3-2022**	0.3345	0.1818
14	**6-4-2022**	**9-3-2022**	0.3294	0.1784
		Highest	0.3878	0.1975

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	3.9100e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Energy	1.3000e-004	1.2100e-003	1.0200e-003	1.0000e-005		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	3.5200	3.5200	1.2000e-004	4.0000e-005	3.5365
Mobile	3.0700e-003	4.6400e-003	0.0492	1.4000e-004	0.0171	1.3000e-004	0.0172	4.5500e-003	1.2000e-004	4.6700e-003	0.0000	12.7689	12.7689	3.7000e-004	0.0000	12.7782
Waste						0.0000	0.0000		0.0000	0.0000	0.2517	0.0000	0.2517	0.0149	0.0000	0.6236
Water						0.0000	0.0000		0.0000	0.0000	0.0734	0.3640	0.4374	7.5500e-003	1.8000e-004	0.6802
Total	**7.1100e-003**	**5.8500e-003**	**0.0502**	**1.5000e-004**	**0.0171**	**2.2000e-004**	**0.0173**	**4.5500e-003**	**2.1000e-004**	**4.7600e-003**	**0.3251**	**16.6529**	**16.9780**	**0.0229**	**2.2000e-004**	**17.6186**

2.2 Overall Operational

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	tons/yr										MT/yr					
Area	3.9100e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Energy	1.3000e-004	1.2100e-003	1.0200e-003	1.0000e-005		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	3.5200	3.5200	1.2000e-004	4.0000e-005	3.5365
Mobile	3.0700e-003	4.6400e-003	0.0492	1.4000e-004	0.0171	1.3000e-004	0.0172	4.5500e-003	1.2000e-004	4.6700e-003	0.0000	12.7689	12.7689	3.7000e-004	0.0000	12.7782
Waste						0.0000	0.0000		0.0000	0.0000	0.2517	0.0000	0.2517	0.0149	0.0000	0.6236
Water						0.0000	0.0000		0.0000	0.0000	0.0734	0.3640	0.4374	7.5500e-003	1.8000e-004	0.6802
Total	**7.1100e-003**	**5.8500e-003**	**0.0502**	**1.5000e-004**	**0.0171**	**2.2000e-004**	**0.0173**	**4.5500e-003**	**2.1000e-004**	**4.7600e-003**	**0.3251**	**16.6529**	**16.9780**	**0.0229**	**2.2000e-004**	**17.6186**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	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	Chanticleer AWPF	Site Preparation	11/2/2020	9/2/2022	5	480	(UF-RO-UV AOP) + Purified Water Pump Station
2	SC WWTF Facilities	Site Preparation	11/2/2020	9/2/2022	5	480	Secondary Lift Station, EQ Tank, Source Water Pump Station

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
Chanticleer AWPF	Aerial Lifts	1	1.30	63	0.31
Chanticleer AWPF	Cranes	1	2.00	231	0.29
Chanticleer AWPF	Forklifts	1	2.50	89	0.20
Chanticleer AWPF	Off-Highway Trucks	5	0.10	402	0.38
Chanticleer AWPF	Other Construction Equipment	1	1.30	172	0.42
Chanticleer AWPF	Skid Steer Loaders	1	2.00	65	0.37
Chanticleer AWPF	Tractors/Loaders/Backhoes	1	2.60	97	0.37
SC WWTF Facilities	Aerial Lifts	1	1.00	63	0.31
SC WWTF Facilities	Bore/Drill Rigs	1	0.30	221	0.50
SC WWTF Facilities	Cranes	1	1.50	231	0.29
SC WWTF Facilities	Forklifts	1	0.80	89	0.20
SC WWTF Facilities	Off-Highway Trucks	5	0.20	402	0.38
SC WWTF Facilities	Other Construction Equipment	1	1.00	172	0.42
SC WWTF Facilities	Skid Steer Loaders	1	1.50	65	0.37
SC WWTF Facilities	Tractors/Loaders/Backhoes	1	1.00	97	0.37

Trips and VMT

Pure Water Soquel Project - Config. 1 and 2 Maximum Day - Santa Cruz County, Annual

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
Chanticleer AWPF	11	32.00	0.00	4,060.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
SC WWTF Facilities	12	32.00	0.00	1,870.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

3.2 Chanticleer AWPF - 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	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.2400e-003	0.0892	0.0676	1.2000e-004		4.4500e-003	4.4500e-003		4.0900e-003	4.0900e-003	0.0000	10.7254	10.7254	3.4700e-003	0.0000	10.8121
Total	**8.2400e-003**	**0.0892**	**0.0676**	**1.2000e-004**	**0.0000**	**4.4500e-003**	**4.4500e-003**	**0.0000**	**4.0900e-003**	**4.0900e-003**	**0.0000**	**10.7254**	**10.7254**	**3.4700e-003**	**0.0000**	**10.8121**

3.2 Chanticleer AWPF - 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	tons/yr										MT/yr					
Hauling	1.5100e-003	0.0649	0.0140	1.5000e-004	0.0265	2.6000e-004	0.0267	6.5900e-003	2.5000e-004	6.8400e-003	0.0000	14.6366	14.6366	5.9000e-004	0.0000	14.6513
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	3.1800e-003	2.9200e-003	0.0259	6.0000e-005	5.5700e-003	5.0000e-005	5.6200e-003	1.4800e-003	4.0000e-005	1.5300e-003	0.0000	5.1354	5.1354	2.2000e-004	0.0000	5.1409
Total	**4.6900e-003**	**0.0678**	**0.0399**	**2.1000e-004**	**0.0321**	**3.1000e-004**	**0.0324**	**8.0700e-003**	**2.9000e-004**	**8.3700e-003**	**0.0000**	**19.7719**	**19.7719**	**8.1000e-004**	**0.0000**	**19.7922**

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	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7100e-003	0.0153	0.0772	1.2000e-004		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	10.7253	10.7253	3.4700e-003	0.0000	10.8121
Total	**1.7100e-003**	**0.0153**	**0.0772**	**1.2000e-004**	**0.0000**	**2.0000e-004**	**2.0000e-004**	**0.0000**	**2.0000e-004**	**2.0000e-004**	**0.0000**	**10.7253**	**10.7253**	**3.4700e-003**	**0.0000**	**10.8121**

3.2 Chanticleer AWPF - 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	tons/yr										MT/yr					
Hauling	1.5100e-003	0.0649	0.0140	1.5000e-004	0.0265	2.6000e-004	0.0267	6.5900e-003	2.5000e-004	6.8400e-003	0.0000	14.6366	14.6366	5.9000e-004	0.0000	14.6513
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	3.1800e-003	2.9200e-003	0.0259	6.0000e-005	5.5700e-003	5.0000e-005	5.6200e-003	1.4800e-003	4.0000e-005	1.5300e-003	0.0000	5.1354	5.1354	2.2000e-004	0.0000	5.1409
Total	**4.6900e-003**	**0.0678**	**0.0399**	**2.1000e-004**	**0.0321**	**3.1000e-004**	**0.0324**	**8.0700e-003**	**2.9000e-004**	**8.3700e-003**	**0.0000**	**19.7719**	**19.7719**	**8.1000e-004**	**0.0000**	**19.7922**

3.2 Chanticleer AWPF - 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	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0438	0.4680	0.3921	7.2000e-004		0.0226	0.0226		0.0208	0.0208	0.0000	63.6191	63.6191	0.0206	0.0000	64.1335
Total	**0.0438**	**0.4680**	**0.3921**	**7.2000e-004**	**0.0000**	**0.0226**	**0.0226**	**0.0000**	**0.0208**	**0.0208**	**0.0000**	**63.6191**	**63.6191**	**0.0206**	**0.0000**	**64.1335**

3.2 Chanticleer AWPF - 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	tons/yr										MT/yr					
Hauling	8.4300e-003	0.3520	0.0785	8.8000e-004	0.0302	1.3800e-003	0.0316	7.9600e-003	1.3200e-003	9.2800e-003	0.0000	85.7798	85.7798	3.4700e-003	0.0000	85.8665
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	0.0175	0.0155	0.1403	3.3000e-004	0.0331	2.8000e-004	0.0333	8.7900e-003	2.6000e-004	9.0500e-003	0.0000	29.6493	29.6493	1.1700e-003	0.0000	29.6786
Total	**0.0260**	**0.3675**	**0.2188**	**1.2100e-003**	**0.0633**	**1.6600e-003**	**0.0650**	**0.0168**	**1.5800e-003**	**0.0183**	**0.0000**	**115.4291**	**115.4291**	**4.6400e-003**	**0.0000**	**115.5452**

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	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0102	0.0910	0.4581	7.2000e-004		1.1900e-003	1.1900e-003		1.1900e-003	1.1900e-003	0.0000	63.6191	63.6191	0.0206	0.0000	64.1335
Total	**0.0102**	**0.0910**	**0.4581**	**7.2000e-004**	**0.0000**	**1.1900e-003**	**1.1900e-003**	**0.0000**	**1.1900e-003**	**1.1900e-003**	**0.0000**	**63.6191**	**63.6191**	**0.0206**	**0.0000**	**64.1335**

3.2 Chanticleer AWPF - 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	tons/yr										MT/yr					
Hauling	8.4300e-003	0.3520	0.0785	8.8000e-004	0.0302	1.3800e-003	0.0316	7.9600e-003	1.3200e-003	9.2800e-003	0.0000	85.7798	85.7798	3.4700e-003	0.0000	85.8665
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	0.0175	0.0155	0.1403	3.3000e-004	0.0331	2.8000e-004	0.0333	8.7900e-003	2.6000e-004	9.0500e-003	0.0000	29.6493	29.6493	1.1700e-003	0.0000	29.6786
Total	**0.0260**	**0.3675**	**0.2188**	**1.2100e-003**	**0.0633**	**1.6600e-003**	**0.0650**	**0.0168**	**1.5800e-003**	**0.0183**	**0.0000**	**115.4291**	**115.4291**	**4.6400e-003**	**0.0000**	**115.5452**

3.2 Chanticleer AWPF - 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	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0262	0.2725	0.2580	4.9000e-004		0.0128	0.0128		0.0118	0.0118	0.0000	42.6707	42.6707	0.0138	0.0000	43.0157
Total	**0.0262**	**0.2725**	**0.2580**	**4.9000e-004**	**0.0000**	**0.0128**	**0.0128**	**0.0000**	**0.0118**	**0.0118**	**0.0000**	**42.6707**	**42.6707**	**0.0138**	**0.0000**	**43.0157**

3.2 Chanticleer AWPF - 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	tons/yr										MT/yr					
Hauling	5.3100e-003	0.2168	0.0500	5.9000e-004	0.0288	8.1000e-004	0.0296	7.4100e-003	7.8000e-004	8.1900e-003	0.0000	56.8304	56.8304	2.3100e-003	0.0000	56.8881
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	0.0110	9.3200e-003	0.0858	2.1000e-004	0.0222	1.8000e-004	0.0224	5.9000e-003	1.7000e-004	6.0600e-003	0.0000	19.1923	19.1923	7.0000e-004	0.0000	19.2099
Total	**0.0163**	**0.2261**	**0.1358**	**8.0000e-004**	**0.0509**	**9.9000e-004**	**0.0519**	**0.0133**	**9.5000e-004**	**0.0143**	**0.0000**	**76.0227**	**76.0227**	**3.0100e-003**	**0.0000**	**76.0980**

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	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.8200e-003	0.0610	0.3071	4.9000e-004		8.0000e-004	8.0000e-004		8.0000e-004	8.0000e-004	0.0000	42.6707	42.6707	0.0138	0.0000	43.0157
Total	**6.8200e-003**	**0.0610**	**0.3071**	**4.9000e-004**	**0.0000**	**8.0000e-004**	**8.0000e-004**	**0.0000**	**8.0000e-004**	**8.0000e-004**	**0.0000**	**42.6707**	**42.6707**	**0.0138**	**0.0000**	**43.0157**

3.2 Chanticleer AWPF - 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	tons/yr										MT/yr					
Hauling	5.3100e-003	0.2168	0.0500	5.9000e-004	0.0288	8.1000e-004	0.0296	7.4100e-003	7.8000e-004	8.1900e-003	0.0000	56.8304	56.8304	2.3100e-003	0.0000	56.8881
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	0.0110	9.3200e-003	0.0858	2.1000e-004	0.0222	1.8000e-004	0.0224	5.9000e-003	1.7000e-004	6.0600e-003	0.0000	19.1923	19.1923	7.0000e-004	0.0000	19.2099
Total	**0.0163**	**0.2261**	**0.1358**	**8.0000e-004**	**0.0509**	**9.9000e-004**	**0.0519**	**0.0133**	**9.5000e-004**	**0.0143**	**0.0000**	**76.0227**	**76.0227**	**3.0100e-003**	**0.0000**	**76.0980**

3.3 SC WWTF Facilities - 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	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.6100e-003	0.0717	0.0499	1.1000e-004		3.2000e-003	3.2000e-003		2.9500e-003	2.9500e-003	0.0000	9.6563	9.6563	3.1200e-003	0.0000	9.7343
Total	**6.6100e-003**	**0.0717**	**0.0499**	**1.1000e-004**	**0.0000**	**3.2000e-003**	**3.2000e-003**	**0.0000**	**2.9500e-003**	**2.9500e-003**	**0.0000**	**9.6563**	**9.6563**	**3.1200e-003**	**0.0000**	**9.7343**

3.3 SC WWTF Facilities - 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	tons/yr										MT/yr					
Hauling	7.0000e-004	0.0299	6.4500e-003	7.0000e-005	0.0122	1.2000e-004	0.0123	3.0300e-003	1.2000e-004	3.1500e-003	0.0000	6.7415	6.7415	2.7000e-004	0.0000	6.7483
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	3.1800e-003	2.9200e-003	0.0259	6.0000e-005	5.5700e-003	5.0000e-005	5.6200e-003	1.4800e-003	4.0000e-005	1.5300e-003	0.0000	5.1354	5.1354	2.2000e-004	0.0000	5.1409
Total	**3.8800e-003**	**0.0328**	**0.0324**	**1.3000e-004**	**0.0178**	**1.7000e-004**	**0.0179**	**4.5100e-003**	**1.6000e-004**	**4.6800e-003**	**0.0000**	**11.8768**	**11.8768**	**4.9000e-004**	**0.0000**	**11.8891**

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	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.5100e-003	0.0125	0.0625	1.1000e-004		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	9.6563	9.6563	3.1200e-003	0.0000	9.7343
Total	**1.5100e-003**	**0.0125**	**0.0625**	**1.1000e-004**	**0.0000**	**1.8000e-004**	**1.8000e-004**	**0.0000**	**1.8000e-004**	**1.8000e-004**	**0.0000**	**9.6563**	**9.6563**	**3.1200e-003**	**0.0000**	**9.7343**

3.3 SC WWTF Facilities - 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	tons/yr										MT/yr					
Hauling	7.0000e-004	0.0299	6.4500e-003	7.0000e-005	0.0122	1.2000e-004	0.0123	3.0300e-003	1.2000e-004	3.1500e-003	0.0000	6.7415	6.7415	2.7000e-004	0.0000	6.7483
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	3.1800e-003	2.9200e-003	0.0259	6.0000e-005	5.5700e-003	5.0000e-005	5.6200e-003	1.4800e-003	4.0000e-005	1.5300e-003	0.0000	5.1354	5.1354	2.2000e-004	0.0000	5.1409
Total	**3.8800e-003**	**0.0328**	**0.0324**	**1.3000e-004**	**0.0178**	**1.7000e-004**	**0.0179**	**4.5100e-003**	**1.6000e-004**	**4.6800e-003**	**0.0000**	**11.8768**	**11.8768**	**4.9000e-004**	**0.0000**	**11.8891**

3.3 SC WWTF Facilities - 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	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0353	0.3714	0.2876	6.5000e-004		0.0163	0.0163		0.0150	0.0150	0.0000	57.2851	57.2851	0.0185	0.0000	57.7482
Total	**0.0353**	**0.3714**	**0.2876**	**6.5000e-004**	**0.0000**	**0.0163**	**0.0163**	**0.0000**	**0.0150**	**0.0150**	**0.0000**	**57.2851**	**57.2851**	**0.0185**	**0.0000**	**57.7482**

3.3 SC WWTF Facilities - 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	tons/yr										MT/yr					
Hauling	3.8800e-003	0.1621	0.0362	4.1000e-004	0.0139	6.4000e-004	0.0146	3.6600e-003	6.1000e-004	4.2700e-003	0.0000	39.5094	39.5094	1.6000e-003	0.0000	39.5494
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	0.0175	0.0155	0.1403	3.3000e-004	0.0331	2.8000e-004	0.0333	8.7900e-003	2.6000e-004	9.0500e-003	0.0000	29.6493	29.6493	1.1700e-003	0.0000	29.6786
Total	**0.0214**	**0.1777**	**0.1764**	**7.4000e-004**	**0.0470**	**9.2000e-004**	**0.0479**	**0.0125**	**8.7000e-004**	**0.0133**	**0.0000**	**69.1587**	**69.1587**	**2.7700e-003**	**0.0000**	**69.2280**

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	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.9800e-003	0.0744	0.3707	6.5000e-004		1.0700e-003	1.0700e-003		1.0700e-003	1.0700e-003	0.0000	57.2850	57.2850	0.0185	0.0000	57.7482
Total	**8.9800e-003**	**0.0744**	**0.3707**	**6.5000e-004**	**0.0000**	**1.0700e-003**	**1.0700e-003**	**0.0000**	**1.0700e-003**	**1.0700e-003**	**0.0000**	**57.2850**	**57.2850**	**0.0185**	**0.0000**	**57.7482**

3.3 SC WWTF Facilities - 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	tons/yr										MT/yr					
Hauling	3.8800e-003	0.1621	0.0362	4.1000e-004	0.0139	6.4000e-004	0.0146	3.6600e-003	6.1000e-004	4.2700e-003	0.0000	39.5094	39.5094	1.6000e-003	0.0000	39.5494
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	0.0175	0.0155	0.1403	3.3000e-004	0.0331	2.8000e-004	0.0333	8.7900e-003	2.6000e-004	9.0500e-003	0.0000	29.6493	29.6493	1.1700e-003	0.0000	29.6786
Total	**0.0214**	**0.1777**	**0.1764**	**7.4000e-004**	**0.0470**	**9.2000e-004**	**0.0479**	**0.0125**	**8.7000e-004**	**0.0133**	**0.0000**	**69.1587**	**69.1587**	**2.7700e-003**	**0.0000**	**69.2280**

3.3 SC WWTF Facilities - 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	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0211	0.2106	0.1878	4.4000e-004		9.1400e-003	9.1400e-003		8.4100e-003	8.4100e-003	0.0000	38.4242	38.4242	0.0124	0.0000	38.7349
Total	**0.0211**	**0.2106**	**0.1878**	**4.4000e-004**	**0.0000**	**9.1400e-003**	**9.1400e-003**	**0.0000**	**8.4100e-003**	**8.4100e-003**	**0.0000**	**38.4242**	**38.4242**	**0.0124**	**0.0000**	**38.7349**

3.3 SC WWTF Facilities - 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	tons/yr										MT/yr					
Hauling	2.4400e-003	0.0999	0.0230	2.7000e-004	0.0132	3.7000e-004	0.0136	3.4200e-003	3.6000e-004	3.7700e-003	0.0000	26.1756	26.1756	1.0600e-003	0.0000	26.2022
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	0.0110	9.3200e-003	0.0858	2.1000e-004	0.0222	1.8000e-004	0.0224	5.9000e-003	1.7000e-004	6.0600e-003	0.0000	19.1923	19.1923	7.0000e-004	0.0000	19.2099
Total	**0.0134**	**0.1092**	**0.1088**	**4.8000e-004**	**0.0354**	**5.5000e-004**	**0.0360**	**9.3200e-003**	**5.3000e-004**	**9.8300e-003**	**0.0000**	**45.3679**	**45.3679**	**1.7600e-003**	**0.0000**	**45.4120**

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	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.0200e-003	0.0499	0.2486	4.4000e-004		7.2000e-004	7.2000e-004		7.2000e-004	7.2000e-004	0.0000	38.4242	38.4242	0.0124	0.0000	38.7349
Total	**6.0200e-003**	**0.0499**	**0.2486**	**4.4000e-004**	**0.0000**	**7.2000e-004**	**7.2000e-004**	**0.0000**	**7.2000e-004**	**7.2000e-004**	**0.0000**	**38.4242**	**38.4242**	**0.0124**	**0.0000**	**38.7349**

3.3 SC WWTF Facilities - 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	tons/yr										MT/yr					
Hauling	2.4400e-003	0.0999	0.0230	2.7000e-004	0.0132	3.7000e-004	0.0136	3.4200e-003	3.6000e-004	3.7700e-003	0.0000	26.1756	26.1756	1.0600e-003	0.0000	26.2022
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	0.0110	9.3200e-003	0.0858	2.1000e-004	0.0222	1.8000e-004	0.0224	5.9000e-003	1.7000e-004	6.0600e-003	0.0000	19.1923	19.1923	7.0000e-004	0.0000	19.2099
Total	**0.0134**	**0.1092**	**0.1088**	**4.8000e-004**	**0.0354**	**5.5000e-004**	**0.0360**	**9.3200e-003**	**5.3000e-004**	**9.8300e-003**	**0.0000**	**45.3679**	**45.3679**	**1.7600e-003**	**0.0000**	**45.4120**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.0700e-003	4.6400e-003	0.0492	1.4000e-004	0.0171	1.3000e-004	0.0172	4.5500e-003	1.2000e-004	4.6700e-003	0.0000	12.7689	12.7689	3.7000e-004	0.0000	12.7782
Unmitigated	3.0700e-003	4.6400e-003	0.0492	1.4000e-004	0.0171	1.3000e-004	0.0172	4.5500e-003	1.2000e-004	4.6700e-003	0.0000	12.7689	12.7689	3.7000e-004	0.0000	12.7782

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Heavy Industry	16.00	16.00	16.00	46,712	46,712
Total	16.00	16.00	16.00	46,712	46,712

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Heavy 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 Heavy Industry	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

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	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2.1993	2.1993	1.0000e-004	2.0000e-005	2.2079
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2.1993	2.1993	1.0000e-004	2.0000e-005	2.2079
NaturalGas Mitigated	1.3000e-004	1.2100e-003	1.0200e-003	1.0000e-005		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	1.3208	1.3208	3.0000e-005	2.0000e-005	1.3286
NaturalGas Unmitigated	1.3000e-004	1.2100e-003	1.0200e-003	1.0000e-005		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	1.3208	1.3208	3.0000e-005	2.0000e-005	1.3286

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Heavy Industry	24750	1.3000e-004	1.2100e-003	1.0200e-003	1.0000e-005		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	1.3208	1.3208	3.0000e-005	2.0000e-005	1.3286
Total		**1.3000e-004**	**1.2100e-003**	**1.0200e-003**	**1.0000e-005**		**9.0000e-005**	**9.0000e-005**		**9.0000e-005**	**9.0000e-005**	**0.0000**	**1.3208**	**1.3208**	**3.0000e-005**	**2.0000e-005**	**1.3286**

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	tons/yr										MT/yr					
General Heavy Industry	24750	1.3000e-004	1.2100e-003	1.0200e-003	1.0000e-005		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	1.3208	1.3208	3.0000e-005	2.0000e-005	1.3286
Total		**1.3000e-004**	**1.2100e-003**	**1.0200e-003**	**1.0000e-005**		**9.0000e-005**	**9.0000e-005**		**9.0000e-005**	**9.0000e-005**	**0.0000**	**1.3208**	**1.3208**	**3.0000e-005**	**2.0000e-005**	**1.3286**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Heavy Industry	7560	2.1993	1.0000e-004	2.0000e-005	2.2079
Total		**2.1993**	**1.0000e-004**	**2.0000e-005**	**2.2079**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Heavy Industry	7560	2.1993	1.0000e-004	2.0000e-005	2.2079
Total		**2.1993**	**1.0000e-004**	**2.0000e-005**	**2.2079**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.9100e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Unmitigated	3.9100e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.9100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Total	**3.9100e-003**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**3.0000e-005**

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	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.9100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Total	**3.9100e-003**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**3.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.4374	7.5500e-003	1.8000e-004	0.6802
Unmitigated	0.4374	7.5500e-003	1.8000e-004	0.6802

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Heavy Industry	0.23125 / 0	0.4374	7.5500e-003	1.8000e-004	0.6802
Total		**0.4374**	**7.5500e-003**	**1.8000e-004**	**0.6802**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Heavy Industry	0.23125 / 0	0.4374	7.5500e-003	1.8000e-004	0.6802
Total		**0.4374**	**7.5500e-003**	**1.8000e-004**	**0.6802**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.2517	0.0149	0.0000	0.6236
Unmitigated	0.2517	0.0149	0.0000	0.6236

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Heavy Industry	1.24	0.2517	0.0149	0.0000	0.6236
Total		**0.2517**	**0.0149**	**0.0000**	**0.6236**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Heavy Industry	1.24	0.2517	0.0149	0.0000	0.6236
Total		**0.2517**	**0.0149**	**0.0000**	**0.6236**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Pure Water Soquel Project - Config. 1 and 2 Maximum Day

Santa Cruz County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	1.00	1000sqft	0.02	1,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	1.8	**Precipitation Freq (Days)**	61
Climate Zone	5			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Pure Water Soquel Project - Config. 1 and 2 Maximum Day - Santa Cruz County, Winter

Project Characteristics -

Land Use - Unit amount set to 1 for ease of incorporating project assumptions.

Construction Phase - Configuration 1; obtained from RFI responses.

Off-road Equipment - Maximum Day

Off-road Equipment - Equipment assumptions obtained from RFI responses. Well rig: 24 hrs per day per PD.

Off-road Equipment - Assumptions obtained from RFI responses.

Trips and VMT - Worker trips obtained from RFI. Truck trips obtained from Addendum 2 RFI responses.

Vehicle Trips - 16 trips per day

Construction Off-road Equipment Mitigation - Tier 4 mitigation scenario

Fleet Mix - Light duty autos

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Parking	150	0
tblAreaCoating	Area_Nonresidential_Exterior	500	0
tblAreaCoating	Area_Nonresidential_Interior	1500	0
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final

Pure Water Soquel Project - Config. 1 and 2 Maximum Day - Santa Cruz County, Winter

tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblFleetMix	HHD	0.01	0.00
tblFleetMix	LDA	0.57	1.00
tblFleetMix	LDT1	0.03	0.00
tblFleetMix	LDT2	0.21	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	5.0760e-003	0.00
tblFleetMix	MCY	5.9380e-003	0.00
tblFleetMix	MDV	0.12	0.00
tblFleetMix	MH	1.1450e-003	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	OBUS	1.2360e-003	0.00
tblFleetMix	SBUS	1.0050e-003	0.00
tblFleetMix	UBUS	2.8270e-003	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		SC WWTF Facilities
tblOffRoadEquipment	PhaseName		SC WWTF Facilities
tblOffRoadEquipment	PhaseName		SC WWTF Facilities

tblOffRoadEquipment	PhaseName		SC WWTF Facilities
tblOffRoadEquipment	PhaseName		SC WWTF Facilities
tblOffRoadEquipment	PhaseName		SC WWTF Facilities
tblOffRoadEquipment	PhaseName		SC WWTF Facilities
tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblTripsAndVMT	HaulingTripNumber	0.00	34.00
tblTripsAndVMT	HaulingTripNumber	0.00	16.00
tblTripsAndVMT	WorkerTripNumber	28.00	32.00
tblTripsAndVMT	WorkerTripNumber	30.00	32.00
tblVehicleTrips	ST_TR	1.50	16.00
tblVehicleTrips	SU_TR	1.50	16.00
tblVehicleTrips	WD_TR	1.50	16.00

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	6.9370	80.7401	47.3074	0.1632	1.3916	2.5996	3.9912	0.3761	2.3943	2.7704	0.0000	16,216.8324	16,216.8324	3.8877	0.0000	16,314.0235
Maximum	**6.9370**	**80.7401**	**47.3074**	**0.1632**	**1.3916**	**2.5996**	**3.9912**	**0.3761**	**2.3943**	**2.7704**	**0.0000**	**16,216.8324**	**16,216.8324**	**3.8877**	**0.0000**	**16,314.0235**

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					
2020	2.2367	26.4358	64.6012	0.1632	1.3916	0.2690	1.6606	0.3761	0.2656	0.6417	0.0000	16,216.8324	16,216.8324	3.8877	0.0000	16,314.0235
Maximum	**2.2367**	**26.4358**	**64.6012**	**0.1632**	**1.3916**	**0.2690**	**1.6606**	**0.3761**	**0.2656**	**0.6417**	**0.0000**	**16,216.8324**	**16,216.8324**	**3.8877**	**0.0000**	**16,314.0235**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**67.76**	**67.26**	**-36.56**	**0.00**	**0.00**	**89.65**	**58.39**	**0.00**	**88.91**	**76.84**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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	0.0214	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	7.3000e-004	6.6500e-003	5.5800e-003	4.0000e-005		5.1000e-004	5.1000e-004		5.1000e-004	5.1000e-004		7.9774	7.9774	1.5000e-004	1.5000e-004	8.0248
Mobile	0.0166	0.0278	0.2835	7.8000e-004	0.0975	7.3000e-004	0.0982	0.0258	6.8000e-004	0.0265		77.3630	77.3630	2.2900e-003		77.4203
Total	**0.0387**	**0.0344**	**0.2892**	**8.2000e-004**	**0.0975**	**1.2400e-003**	**0.0987**	**0.0258**	**1.1900e-003**	**0.0270**		**85.3406**	**85.3406**	**2.4400e-003**	**1.5000e-004**	**85.4453**

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	0.0214	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	7.3000e-004	6.6500e-003	5.5800e-003	4.0000e-005		5.1000e-004	5.1000e-004		5.1000e-004	5.1000e-004		7.9774	7.9774	1.5000e-004	1.5000e-004	8.0248
Mobile	0.0166	0.0278	0.2835	7.8000e-004	0.0975	7.3000e-004	0.0982	0.0258	6.8000e-004	0.0265		77.3630	77.3630	2.2900e-003		77.4203
Total	**0.0387**	**0.0344**	**0.2892**	**8.2000e-004**	**0.0975**	**1.2400e-003**	**0.0987**	**0.0258**	**1.1900e-003**	**0.0270**		**85.3406**	**85.3406**	**2.4400e-003**	**1.5000e-004**	**85.4453**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	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	Chanticleer AWPF	Site Preparation	11/2/2020	11/2/2020	5	1	(UF-RO-UV AOP) + Purified Water Pump Station
2	SC WWTF Facilities	Site Preparation	11/2/2020	11/2/2020	5	1	Secondary Lift Station, EQ Tank, Source Water Pump Station

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
Chanticleer AWPF	Aerial Lifts	1	4.00	63	0.31
Chanticleer AWPF	Cranes	1	6.00	231	0.29
Chanticleer AWPF	Forklifts	1	3.00	89	0.20
Chanticleer AWPF	Off-Highway Trucks	5	5.00	402	0.38
Chanticleer AWPF	Other Construction Equipment	1	4.00	172	0.42
Chanticleer AWPF	Skid Steer Loaders	1	6.00	65	0.37
Chanticleer AWPF	Tractors/Loaders/Backhoes	1	7.00	97	0.37
SC WWTF Facilities	Aerial Lifts	1	4.00	63	0.31
SC WWTF Facilities	Bore/Drill Rigs	1	8.00	221	0.50
SC WWTF Facilities	Cranes	1	6.00	231	0.29
SC WWTF Facilities	Forklifts	1	3.00	89	0.20
SC WWTF Facilities	Off-Highway Trucks	5	5.00	402	0.38
SC WWTF Facilities	Other Construction Equipment	1	4.00	172	0.42
SC WWTF Facilities	Skid Steer Loaders	1	6.00	65	0.37
SC WWTF Facilities	Tractors/Loaders/Backhoes	1	6.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Chanticleer AWPF	11	32.00	0.00	34.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
SC WWTF Facilities	12	32.00	0.00	16.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

3.2 Chanticleer AWPF - 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			0.0000			0.0000
Off-Road	2.9763	29.8689	19.5811	0.0544		1.2192	1.2192		1.1216	1.1216		5,264.3085	5,264.3085	1.7026		5,306.8731
Total	**2.9763**	**29.8689**	**19.5811**	**0.0544**	**0.0000**	**1.2192**	**1.2192**	**0.0000**	**1.1216**	**1.1216**		**5,264.3085**	**5,264.3085**	**1.7026**		**5,306.8731**

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	0.2810	11.8684	2.6403	0.0274	0.5888	0.0490	0.6377	0.1609	0.0468	0.2078		2,925.2391	2,925.2391	0.1212		2,928.2680
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1600	0.1449	1.2333	2.5900e-003	0.2629	2.2000e-003	0.2651	0.0697	2.0300e-003	0.0718		257.0912	257.0912	0.0111		257.3689
Total	**0.4409**	**12.0132**	**3.8736**	**0.0300**	**0.8517**	**0.0512**	**0.9028**	**0.2306**	**0.0489**	**0.2795**		**3,182.3303**	**3,182.3303**	**0.1323**		**3,185.6369**

3.2 Chanticleer AWPF - 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					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.6957	4.1033	27.1286	0.0544		0.0888	0.0888		0.0888	0.0888	0.0000	5,264.3085	5,264.3085	1.7026		5,306.8731
Total	**0.6957**	**4.1033**	**27.1286**	**0.0544**	**0.0000**	**0.0888**	**0.0888**	**0.0000**	**0.0888**	**0.0888**	**0.0000**	**5,264.3085**	**5,264.3085**	**1.7026**		**5,306.8731**

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	0.2810	11.8684	2.6403	0.0274	0.5888	0.0490	0.6377	0.1609	0.0468	0.2078		2,925.2391	2,925.2391	0.1212		2,928.2680
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1600	0.1449	1.2333	2.5900e-003	0.2629	2.2000e-003	0.2651	0.0697	2.0300e-003	0.0718		257.0912	257.0912	0.0111		257.3689
Total	**0.4409**	**12.0132**	**3.8736**	**0.0300**	**0.8517**	**0.0512**	**0.9028**	**0.2306**	**0.0489**	**0.2795**		**3,182.3303**	**3,182.3303**	**0.1323**		**3,185.6369**

3.3 SC WWTF Facilities - 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			0.0000			0.0000
Off-Road	3.2276	33.1280	21.3769	0.0634		1.3040	1.3040		1.1997	1.1997		6,136.5193	6,136.5193	1.9847		6,186.1362
Total	**3.2276**	**33.1280**	**21.3769**	**0.0634**	**0.0000**	**1.3040**	**1.3040**	**0.0000**	**1.1997**	**1.1997**		**6,136.5193**	**6,136.5193**	**1.9847**		**6,186.1362**

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	0.1322	5.5851	1.2425	0.0129	0.2771	0.0230	0.3001	0.0757	0.0220	0.0978		1,376.5831	1,376.5831	0.0570		1,378.0085
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1600	0.1449	1.2333	2.5900e-003	0.2629	2.2000e-003	0.2651	0.0697	2.0300e-003	0.0718		257.0912	257.0912	0.0111		257.3689
Total	**0.2922**	**5.7300**	**2.4758**	**0.0155**	**0.5399**	**0.0252**	**0.5652**	**0.1455**	**0.0241**	**0.1695**		**1,633.6743**	**1,633.6743**	**0.0681**		**1,635.3774**

3.3 SC WWTF Facilities - 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					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.8079	4.5894	31.1234	0.0634		0.1038	0.1038		0.1038	0.1038	0.0000	6,136.5193	6,136.5193	1.9847		6,186.1362
Total	**0.8079**	**4.5894**	**31.1234**	**0.0634**	**0.0000**	**0.1038**	**0.1038**	**0.0000**	**0.1038**	**0.1038**	**0.0000**	**6,136.5193**	**6,136.5193**	**1.9847**		**6,186.1362**

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	0.1322	5.5851	1.2425	0.0129	0.2771	0.0230	0.3001	0.0757	0.0220	0.0978		1,376.5831	1,376.5831	0.0570		1,378.0085
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1600	0.1449	1.2333	2.5900e-003	0.2629	2.2000e-003	0.2651	0.0697	2.0300e-003	0.0718		257.0912	257.0912	0.0111		257.3689
Total	**0.2922**	**5.7300**	**2.4758**	**0.0155**	**0.5399**	**0.0252**	**0.5652**	**0.1455**	**0.0241**	**0.1695**		**1,633.6743**	**1,633.6743**	**0.0681**		**1,635.3774**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0166	0.0278	0.2835	7.8000e-004	0.0975	7.3000e-004	0.0982	0.0258	6.8000e-004	0.0265		77.3630	77.3630	2.2900e-003		77.4203
Unmitigated	0.0166	0.0278	0.2835	7.8000e-004	0.0975	7.3000e-004	0.0982	0.0258	6.8000e-004	0.0265		77.3630	77.3630	2.2900e-003		77.4203

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Heavy Industry	16.00	16.00	16.00	46,712	46,712
Total	16.00	16.00	16.00	46,712	46,712

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Heavy 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 Heavy Industry	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

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	7.3000e-004	6.6500e-003	5.5800e-003	4.0000e-005		5.1000e-004	5.1000e-004		5.1000e-004	5.1000e-004		7.9774	7.9774	1.5000e-004	1.5000e-004	8.0248
NaturalGas Unmitigated	7.3000e-004	6.6500e-003	5.5800e-003	4.0000e-005		5.1000e-004	5.1000e-004		5.1000e-004	5.1000e-004		7.9774	7.9774	1.5000e-004	1.5000e-004	8.0248

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 Heavy Industry	67.8082	7.3000e-004	6.6500e-003	5.5800e-003	4.0000e-005		5.1000e-004	5.1000e-004		5.1000e-004	5.1000e-004		7.9774	7.9774	1.5000e-004	1.5000e-004	8.0248
Total		**7.3000e-004**	**6.6500e-003**	**5.5800e-003**	**4.0000e-005**		**5.1000e-004**	**5.1000e-004**		**5.1000e-004**	**5.1000e-004**		**7.9774**	**7.9774**	**1.5000e-004**	**1.5000e-004**	**8.0248**

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 Heavy Industry	0.0678082	7.3000e-004	6.6500e-003	5.5800e-003	4.0000e-005		5.1000e-004	5.1000e-004		5.1000e-004	5.1000e-004		7.9774	7.9774	1.5000e-004	1.5000e-004	8.0248
Total		**7.3000e-004**	**6.6500e-003**	**5.5800e-003**	**4.0000e-005**		**5.1000e-004**	**5.1000e-004**		**5.1000e-004**	**5.1000e-004**		**7.9774**	**7.9774**	**1.5000e-004**	**1.5000e-004**	**8.0248**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0214	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	0.0214	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

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	0.0214					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	**0.0214**	**0.0000**	**1.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**		**2.3000e-004**

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	0.0214					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	**0.0214**	**0.0000**	**1.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**		**2.3000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

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Construction Health Risk Assessment

date	September 29, 2020
to	Matthew Fagundes, ESA
from	Brian Schuster and Sarah Patterson, ESA
subject	Pure Water Soquel: Groundwater Replenishment and Seawater Intrusion Prevention Project – Construction Period Health Risk Assessment

Executive Summary

The Soquel Creek Water District (District) proposes an advanced purified groundwater replenishment project – Pure Water Soquel: Groundwater Replenishment and Seawater Intrusion Prevention Project (Project) – to supplement natural recharge of the Santa Cruz Mid-County Groundwater Basin with purified water. The Project would help increase the sustainability of the District's groundwater sources, upon which it currently relies on for 100 percent of its water supply, reduce the degree of overdraft conditions in the local groundwater basin, protect against further seawater intrusion of the groundwater basin, and promote beneficial reuse by reducing discharge of treated wastewater to the Monterey Bay National Marine Sanctuary. The Project would provide sufficient treatment capacity to offset the groundwater supply impacts attributable to District pumping.

Construction of the Project would generate diesel particulate matter (DPM) emissions from operation of off-road equipment and heavy-duty trucks. DPM is recognized as a carcinogen by the Office of Environmental Health Hazard Assessment (OEHHA) and based on Proposition 65. Proposition 65, also known as the Safe Drinking Water and Toxic Enforcement Act of 1986, requires California to maintain and update a list of chemicals known to cause cancer. In March 2015, OEHHA revised its health risk assessment guidelines to consider short-term emissions such as construction activities, while clarifying that, "[t]here is considerable uncertainty in trying to evaluate the cancer risk from projects that will only last a small fraction of a lifetime" (OEHHA, 2015). The Monterey Bay Air Resources District (MBARD) does not have specific health risk assessment (HRA) guidelines. Consequently, Environmental Science Associates (ESA) has prepared a screening-level construction period HRA for the Project based on the revised OEHHA guidelines.

Table ES-1, Maximum Increase in Health Risk from Construction Emissions for Off-Site Sensitive Receptors, summarizes the incremental increase in lifetime cancer risk and non-cancer chronic hazards for the maximally exposed sensitive receptors that would be caused by construction of the Project as proposed, and by construction of the Project with incorporation of mitigation. As shown in the table, the Project would result in a significant cancer risk for sensitive receptors in the vicinity of all configurations and construction sites. However,

with mitigation, the cancer risk for residential and daycare land uses would be below the MBARD-recommended project threshold of 10 in one million for cancer (MBUAPCD, 2016).

TABLE ES-1
MAXIMUM INCREASE IN HEALTH RISK FROM CONSTRUCTION EMISSIONS FOR OFF-SITE SENSITIVE RECEPTORS

Category	Health Risks by Configuration and Site							
	Configurations 1 and 2			Configurations 3 and 4			Configuration 5	
	Chanticleer AWPF	SC WWTF Facilities	Recharge Wells [a]	West Annex AWPF	SC WWTF Facilities	Recharge Wells [a]	SC WWTF Facilities	Recharge Wells [a]
Unmitigated Health Risk								
Maximum Cancer Risk (# in one million)	**61.4**	**21.8**	**89.4**	**120.6**	**21.8**	**89.4**	**21.8**	**89.4**
MBARD Threshold	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Exceeds Threshold?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Maximum Non-Cancer Risk (Chronic Hazard Index)	**0.04**	**0.02**	**0.21**	**0.09**	**0.02**	**0.21**	**0.02**	**0.21**
MBARD Threshold	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Exceeds Threshold?	No	No	No	No	No	No	No	No
Mitigated Health Risk								
Maximum Cancer Risk (# in one million)	**3.4**	**1.5**	**5.4**	**5.5**	**1.5**	**5.4**	**1.5**	**5.4**
MBARD Threshold	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Exceeds Threshold?	No	No	No	No	No	No	No	No
Maximum Non-Cancer Risk (Chronic Hazard Index)	<0.01	<0.01	0.01	<0.01	<0.01	0.01	<0.01	0.01
MBARD Threshold	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Exceeds Threshold?	No	No	No	No	No	No	No	No

Bold = value exceeds threshold.

NOTES:

[a] Health risks were estimated for all five recharge well sites to determine the maximum risks to sensitive receptors surrounding each site. The Monterey recharge well site has the largest health risks of the five well sites, and is presented in this table.

Health risk calculations are provided in Attachment A.

Introduction

The District proposes the Project to supplement natural recharge of the Santa Cruz Mid-County Groundwater Basin with purified water. The Project would help increase the sustainability of the District's groundwater sources, upon which it currently relies on for 100 percent of its water supply, reduce the degree of overdraft conditions in the local groundwater basin, protect against further seawater intrusion of the groundwater basin, and promote beneficial reuse by reducing discharge of treated wastewater to the Monterey Bay National Marine Sanctuary. The Project would provide sufficient treatment capacity to offset the groundwater supply impacts attributable to District pumping.

The Project could comprise the following components:

- **Advanced Water Treatment Facility or Facilities**, which could consist of a tertiary treatment system at the Santa Cruz Wastewater Treatment Facility (SC WWTF) in conjunction with an Advanced Water Purification Facility (AWPF) at the Chanticleer Site or Headquarters-West Annex Site; or a stand-alone AWPF at SC WWTF, Chanticleer Site, or Headquarters-West Annex Site.
- **Conveyance System**, pump stations and pipelines to convey secondary or tertiary effluent, brine concentrate, and purified water.
- **Recharge and Monitoring Wells**, recharge wells at two or three of five sites (Monterey Avenue Recharge Well, Willowbrook Lane Recharge Well, Cabrillo College North Recharge Well, Cabrillo College South Recharge Well, and/or Twin Lakes Church Recharge Well) to recharge purified water directly into the basin. Each recharge well would be accompanied by two nearby monitoring wells.

The District is considering three potential locations for the required Project treatment system – the SC WWTF, Chanticleer Site, and Headquarters-West Annex Site. Among those sites, the District is considering a number of treatment system configurations:

1. A new tertiary treatment system at the SC WWTF, coupled with an AWPF at the Chanticleer Site for advanced purification of the tertiary effluent; or
2. A new tertiary treatment system at the SC WWTF, coupled with an AWPF at the Headquarters-West Annex Site for advanced purification of the tertiary effluent; or
3. A new AWPF at the Chanticleer Site for advanced purification of secondary effluent from the SC WWTF; or
4. A new AWPF at the Headquarters-West Annex Site for advanced purification of secondary effluent from the SC WWTF; or
5. A new AWPF at the SC WWTF for advanced purification of secondary effluent from the SC WWTF.

Construction of the Project would result in emissions of DPM resulting from operation of equipment and heavy duty trucks. Diesel exhaust is a complex mixture of pollutants, including more than 40 cancer-causing substances in addition to very small carbon particles, or "soot" coated with numerous organic compounds. In 1998, California identified DPM as a toxic air contaminant (TAC) based on its potential to cause cancer (CARB, 1998). Other agencies, such as the National Toxicology Program, the U.S. Environmental Protection Agency, and the National Institute of Occupational Safety and Health, concluded that exposure to diesel exhaust likely causes cancer (CARB, 2016). The most recent assessment (2012) came from the World Health Organization's International Agency for Research on Cancer (IARC). IARC's extensive literature review led to the conclusion

that diesel engine exhaust is "carcinogenic to humans," thereby substantiating and further strengthening California's earlier TAC determination (CARB, 2016).

Construction health risks were calculated for components 1 and 2 (SC WWTF tertiary treatment, AWPF at Chanticleer or Headquarters-West Annex, and recharge wells) components 3 and 4 (SC WWTF tertiary treatment, AWPF without tertiary treatment at Headquarters-West Annex or Chanticleer, and recharge wells), and component 5 (AWPF at SC WWTF and recharge wells).[1] Health risks were analyzed for these three separate scenarios since the construction emissions and health risks are identical for a number of the configurations. The scenarios are:

1. **Configurations 1 and 2:** a new tertiary treatment system at the SC WWTF, the AWPF at the Chanticleer Site or Headquarters-West Annex Site for advanced purification of the tertiary effluent, and three recharge wells.

2. **Configurations 3 and 4:** a new tertiary treatment system at the SC WWTF, the AWPF without tertiary treatment at the Headquarters-West Annex Site or the Chanticleer Site for advanced purification of the tertiary effluent, and three recharge wells.

3. **Configuration 5:** a new AWPF at the SC WWTF for advanced purification of secondary effluent from the SC WWTF and three recharge wells.

Pipeline construction would involve construction activities along the entire pipeline at a rate of 100-200 feet per day, so no single receptor within 1,000 feet of pipeline construction activities would be exposed to TAC emissions for more than a few days. Therefore, health risk impacts associated with pipeline construction are expected to be less than significant.

In March 2015, the OEHHA adopted a revised guidance manual for use in the Air Toxics Hot Spots Program or for the permitting of existing, new, or modified stationary sources, the *Air Toxics Hot Spots Program Guidance Manual for the Preparation of Health Risk Assessments*. Unlike previous iterations of this manual, the revised manual provides considerations for short-term temporary exposure for durations as short as two months, such as during construction activities, while noting that there is "considerable uncertainty in trying to evaluate the cancer risk from projects that will only last a small fraction of a lifetime." The revised OEHHA's guidance also considers more conservative assumptions and updated scientific research. Health risk impacts calculated in accordance with the OEHHA's revised manual are approximately two to ten times higher than those calculated in accordance with the previous methodology.

A screening-level HRA was conducted to estimate the health risk impact associated with construction of the Project. The methodology used to evaluate the health risks from on-site construction activities is summarized below, along with the results of the HRA. Due to the short-term nature of construction activities, the screening-level approach is appropriate to estimate the worst-case health risks associated with Project construction.

[1] The MBARD does not specify a distance for sensitive receptors to be considered in an HRA. As such, the standard 1,000-foot distance was used in this analysis. This is consistent with the BAAQMD 2017 CEQA guidelines (BAAQMD, 2017).

Methods

The methods and assumptions used in this HRA are consistent with the guidance recommended by OEHHA's *Air Toxic Hot Spots Program Risk Assessment Guidelines* (2015). In absence of specific HRA guidelines from the MBARD, this HRA also follows the approach recommended by the Bay Area Air Quality Management District (BAAQMD) *Recommended Methods for Screening and Modeling Local Risks and Hazards* (2012) and the BAAQMD's *Air Toxics NSR Program Health Risk Assessment Guidelines* (2016). The OEHHA methodology used in this assessment uses a dose-response assessment to characterize risk from cancer due to inhaled TACs. Refer to Attachment A for the calculation and modeling files used in the screening HRA.

Based on the OEHHA guidance, the evaluation of potential health risks uses the following standard four-step risk assessment process:

1. hazard identification;
2. exposure assessment;
3. dose-response assessment; and
4. risk characterization.

Each step is described in detail below.

Hazard Identification

The hazard identification process is undertaken to determine what TACs would potentially be present in the assessment area, and if present, identifies what the pollutants of concern are along with their potential adverse health effects. In this HRA, the primary hazard is DPM emissions from operation of off-road construction equipment. DPM from heavy duty trucks was not considered, since the vast majority of truck DPM emissions would occur along the truck haul routes away from the sensitive receptors surrounding the Project sites. In addition, total on-road truck emissions for all travel locations are minor compared to off-road construction equipment emissions (on-road truck emissions represent approximately 0.2 percent of total DPM emissions from construction).

DPM historically has been used as a surrogate measure of exposure for whole diesel exhaust emissions. Diesel exhaust is a complex mixture of thousands of gases and fine particles (commonly known as soot). Diesel exhaust particles and gases are suspended in the air due to thermal buoyancy and the small size of the particles. The composition of diesel exhaust varies depending on engine type, operating conditions, fuel composition, lubricating oil, and presence of an emission control system. One of the main characteristics of diesel exhaust is the release of particles at a relative rate approximately 20 times greater than from gasoline exhaust, on an equivalent fuel basis. Diesel particulates are mainly aggregates of spherical carbon particles coated with inorganic and organic substances. The inorganic fraction primarily consists of small carbon (elemental carbon) particles ranging from 0.01 to 0.08 micron in diameter. The organic fraction consists of soluble organic compounds (CARB, 1998).

Exposure Assessment

The degree of the residences exposure to DPM from project construction activities was evaluated under the exposure assessment portion of the HRA. This assessment involves the quantification of DPM emissions and dispersion modeling. The amount of DPM emissions generated by construction activities was determined using particulate matter with an aerodynamic diameter equal to or less than 10 microns (PM10) from diesel exhaust as a surrogate. OEHHA guidance indicates that the cancer potency factor to be used to evaluate cancer risks were developed based on whole (gas and particulate matter) diesel exhaust, and that the surrogate for whole diesel exhaust is DPM, with PM10 serving as the basis for the potential risk calculations (OEHHA, 2003). In addition to evaluating the effects of TAC concentrations and associated cancer risk, this screening HRA also evaluates non-cancer chronic risk. This is consistent with MBARD's CEQA Guidelines (MBUAPCD, 2016).

The greatest potential for TAC emissions would be related to DPM emissions associated with off-road heavy equipment operations during demolition, grading and excavation, and construction activities. The potential exposure through other pathways (e.g., ingestion) requires substance and site-specific data, and the specific parameters for DPM are not known for these pathways (CARB, 1998). OEHHA developed necessary data to evaluate carcinogenicity of DPM through the inhalation pathway only. Once determined, the dose is multiplied by the compound-specific inhalation cancer potency factor to derive the cancer risk estimate. The dose takes into account the concentration at a sensitive receptor. The cancer potency factor is compound-specific.

Emissions Inventory

Emissions analyzed in the HRA were based on the air quality emissions estimates for the Project prepared for the Draft Environmental Impact Report (DEIR). The construction emissions were estimated using the California Emissions Estimator Model (CalEEMod) model (version 2016.3.2). The air quality analysis prepared for the DEIR estimated average daily emissions for each construction phase. The construction emissions used in this HRA assumed the same construction schedule and equipment types as the analysis prepared for the DEIR.

The emissions estimates represent the average daily emissions from each phase that would be expected from construction of the Project using annual average daily heavy-duty construction equipment activity levels. For the purposes of this quantitative construction HRA, the use of average daily emissions to estimate health risks results in a reasonable approximation of impacts because construction-related health risks are calculated based on long-term emissions and not short-term maximum daily emissions.

The U.S. Environmental Protection Agency (USEPA) sets emissions standards for off-road (construction) equipment ranging from Tier 0 through Tier 4. Tier 4 emissions compliant equipment is the most stringent standard and is required for model years 2015 and newer. The Project evaluated impacts under an unmitigated scenario where emissions were uncontrolled and a mitigated scenario where construction equipment would be compliant with Tier 4 final emissions standards.

Total DPM emissions for all years of construction for each component and site are presented in **Table 1, Total Construction DPM Emissions by Project Component and Site**.

TABLE 1
TOTAL CONSTRUCTION DPM EMISSIONS BY PROJECT COMPONENT AND SITE

Configurations	Construction Site	Total DPM Emissions (pounds)	
		Unmitigated	Mitigated (Tier 4 Final)
Configurations 1 and 2	Chanticleer AWPF [a]	79.70	4.38
	SC WWTF Facilities [b]	57.28	3.94
	Recharge Wells [c]	26.40	1.60
Configurations 3 and 4	Headquarters-West Annex AWPF [a]	100.66	4.60
	SC WWTF Facilities [b]	57.28	3.94
	Recharge Wells [c]	26.40	1.60
Configuration 5	SC WWTF Facilities [b]	57.28	3.94
	Recharge Wells [c]	26.40	1.60

NOTES:
[a] DPM emissions represent construction activities from 11/2/2020 through 9/2/2022.
[b] DPM emissions represent construction activities from 11/2/2020 through 9/2/2022.
[c] DPM emissions represent construction activities from 3/4/2019 through 11/8/2019.

Emission calculations are provided in Attachment A.

ABBREVIATIONS: AWPF = Advanced Water Purification Facility; SC WWTF = Santa Cruz Wastewater Treatment Facility; DPM = diesel particulate matter

Emission Rates

Because each emission source was modeled separately within AERSCREEN (see section below), ESA used a unitized emission rate concept for each source, where each source is modeled with a unitized emission rate of 1 gram/second (g/s). The modeled concentration at each receptor ([μ/m^3]/[g/s]) represents a "dispersion factor," which was then multiplied by the actual emission rate of each source to determine actual concentrations, and the final result from all the sources was superimposed. This approach is called the "Summation Concept," where the concentration and deposition fluxes at each receptor are the linear addition of the resulting values from each source.

Actual emission rates from construction activities were based on the anticipated hours of activity for each source and other information as described in the *Emissions Inventory* section above. A total emission rate in terms of grams per second was calculated for each emission source to multiply with the AERSCREEN dispersion factors to estimate actual concentrations for each source. The emission rates would vary day to day, with some days having no emissions. For simplicity, the model assumed a constant emission rate during an entire year, and is based on the total duration of construction activities for each configuration and construction site, 24 hours per day, and 3,600 seconds per hour, consistent with AERSCREEN dispersion parameters. The following number of days and years was used to calculate emission rates in g/s for each configuration and construction site:

1. **Configurations 1 and 2:** 670 calendar days (1.84 years) for the Chanticleer AWPF, 670 calendar days (1.84 years) for the SC WWTF facilities, and 249 calendar days (0.68 years) for each recharge well.
2. **Configurations 3 and 4:** 667 calendar days (1.83 years) for the West Annex AWPF, 670 calendar days (1.84 years) for the SC WWTF facilities, and 249 calendar days (0.68 years) for each recharge well.
3. **Configuration 5:** 670 calendar days (1.84 years) for the SC WWTF facilities, and 249 calendar days (0.68 years) for each recharge well.

It was assumed that only one of the two or three total well sites would be constructed at a time, so exposure of sensitive receptors to construction emissions would occur in sequence (not concurrently). Because of the proximity of the two Cabrillo College well sites and the Twin Lakes well site, the same sensitive receptors (e.g. the Children's Enrichment Center) may be exposed to emissions from construction of two separate well sites. For this combined exposure, it was assumed that the same receptors would be exposed to 249 calendar days (180 work days) of construction at the first well site, followed by exposure to 249 calendar days (180 work days) of construction at the second well site.

Dispersion Modeling

Dispersion modeling predicts the air pollutant concentrations due to emissions from a source at defined receptor point locations. Dispersion modeling was performed using the USEPA approved AERSCREEN model. The model estimates "worst-case" 1-hour concentrations for a single source. AERSCREEN is based on the American Meteorological Society/USEPA regulatory air dispersion model (AERMOD version 09292). AERSCREEN is intended to produce concentration estimates that are equal to or greater than the estimates produced by AERMOD with a fully developed set of meteorological and terrain data, but the degree of conservatism will vary depending on the application. The AERSCREEN model requires numerous inputs, such as general meteorological data, source parameters, topographical data, and receptor characteristics. Where project-specific information is not available, ESA used default parameter sets that are designed to produce conservative (i.e., overestimates of) air concentrations (USEPA 2016a, 2016b). **Table 2**, **Overall AERSCREEN Modeling Parameters**, summarizes the overall modeling parameters used in AERSCREEN. For values not listed, defaults were used. Refer to Attachment A for the AERSCREEN modeling outputs used in the screening HRA.

TABLE 2
OVERALL AERSCREEN MODELING PARAMETERS

Pathway	Description	Parameter
Control	Rural/Urban	Urban
	Urban Population	110,898 [a]
	Model Version	AERSCREEN v 16216
Receptor	Receptor Height	1.5 m [b]
Meteorology	Minimum ambient temperature	40° F [c]
	Maximum ambient temperature	76° F [c]
	Dominant surface profile	7 (Urban)
	Dominant climate profile	1 (Average Moisture)

NOTES:
[a] For July 1, 2017, Santa Cruz City, California (US Census Bureau, 2018).
[b] From BAAQMD (2012).
[c] From Intellicast (2018).

ABBREVIATIONS: m = meters; F = Fahrenheit

SOURCES:
1. United States Census Bureau. 2018. QuickFacts: Santa Cruz city, California. Available at https://www.census.gov/quickfacts/fact/table/santacruzcitycalifornia,US/PST045217. Accessed February 2018.
2. Bay Area Air Quality Management District. 2012. *Recommended Methods for Screening and Modeling Local Risks and Hazards*. Available at http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/risk-modeling-approach-may-2012.pdf. Accessed January 2018.
3. Intellicast. 2018. *Historic Average: Santa Cruz, CA*. Available at http://www.intellicast.com/Local/History.aspx?location=USCA1020. Accessed February 2013

Source Parameters

Source parameters are required to model the dispersion of emissions. Off-road construction equipment was modeled as an area source within AERSCREEN using the same release parameters used in the San Francisco Citywide HRA, which evaluates the cumulative lifetime cancer risks and annual average exhaust $PM_{2.5}$ concentrations from existing known sources of air pollution as part of the development of a Community Risk Reduction Plan (CRRP) (referred to as the CRRP-HRA). Parameters from the CRRP-HRA include a release height of 3.89 meters and an initial vertical dimension of 1.4 meters (BAAQMD, SF DPH & SF Planning, 2012). Construction activities at each site were modeled as single area sources based on the total temporary disturbance area for each site (see *Chapter 3.0, Project Description,* Table 3.6). **Table 3**, **Source Modeling Parameters for Off-Road Construction Equipment**, summarizes the source modeling parameters used in AERSCREEN for each construction site. The modeling parameters for sites common to each component are the same. For values not listed, AERSCREEN defaults were used.

TABLE 3
SOURCE MODELING PARAMETERS FOR OFF-ROAD CONSTRUCTION EQUIPMENT

Construction Site	Source Type	Source Dimension [m] [a]	Source Area [ft²] [a]	Number of Sources	Release Height [m] [b]	Initial Vertical Dimension [m] [b]
Chanticleer AWPF	Area	91 x 47	66,000	1	3.89	1.4
SC WWTF Facilities	Area	40 x 30	13,000	1	3.89	1.4
West Annex AWPF	Area	76 x 43	35,000	1	3.89	1.4
Recharge Well - Monterey	Area	20 x 20	4,096	1	3.89	1.4
Recharge Well - Willowbrook	Area	25 x 25	6,889	1	3.89	1.4
Recharge Well - Cabrillo College North	Area	28 x 28	8,649	1	3.89	1.4
Recharge Well - Cabrillo College South	Area	28 x 28	8,649	1	3.89	1.4
Recharge Well - Twin Lakes	Area	27 x 12	3,600	1	3.89	1.4

NOTES:
[a] Based on Chapter 3.0, Project Description, Table 3.6.
[b] From the CRRP-HRA (BAAQMD, SF DPH & SF Planning, 2012)

ABBREVIATIONS: m = meters; ft² = square feet; AWPF = Advanced Water Purification Facility; SC WWTF = Santa Cruz Wastewater Treatment Facility

SOURCE: Bay Area Air Quality Management District, San Francisco Department of Public Health, and San Francisco Planning Department. 2012. *The San Francisco Community Risk Reduction Plan: Technical Support Documentation.* December. Available at http://www.gsweventcenter.com/Appeal_Response_References/2012_1201_BAAQMD.pdf. Accessed March 2017.

Sensitive Receptors

Table 4, Sensitive Receptor Locations, presents the sensitive receptors within 1,000 feet of each construction site considered in the HRA. Receptor heights were set at 1.5 meters to represent flagpole receptor concentrations, consistent with BAAQMD modeling guidance (BAAQMD, 2012). The Project does not include any residential uses and will not include any sensitive receptors on site. Consequently, no onsite receptors were modeled.

TABLE 4
SENSITIVE RECEPTOR LOCATIONS

Construction Site	Residential Receptors	Hospital Receptors	Daycare Receptors	School Receptors
Chanticleer AWPF	30 ft. south (single-family homes)	950 ft. north (Palo Alto Medical Foundation)	none	200 ft. southeast (Boy School)
SC WWTF Facilities	300 ft. south (single-family homes)	none	none	none
Headquarters - West Annex AWPF	30 ft. south (single-family homes)	none	none	none
Recharge Well – Monterey Avenue	30 ft. south (single-family homes)	none	230 ft. southeast (Capitola Childcare)	1,000 ft. southeast (Soquel Elementary School)
Recharge Well - Willowbrook Lane	60 ft. west (single-family homes)	none	50 ft. north (Santa Cruz Montessori Preschool)	50 ft. north (Santa Cruz Montessori Preschool)
Recharge Well - Cabrillo College North	1,000 ft. east (single-family homes)	none	430 ft. west (Children's Enrichment Center)	250 ft. east (Delta Alternative High School)
Recharge Well - Cabrillo College South	650 ft. east (single-family homes)	none	1,000 ft. west (Children's Enrichment Center)	450 ft. north (Delta Alternative High School)
Recharge Well – Twin Lakes	800 ft. south (single-family homes)	none	235 ft. west (Children's Enrichment Center)	500 ft. east (Delta Alternative High School)

ABBREVIATIONS: m = meters; ft. = feet; AWPF = Advanced Water Purification Facility; SC WWTF = Santa Cruz Wastewater Treatment Facility

Dose-Response Assessment

The dose-response assessment is the process of characterizing the relationship between exposure to diesel exhaust and the incidence of an adverse health effect in exposed populations.

The estimation of potential inhalation cancer risk posed by exposure to DPM requires a cancer potency factor. Cancer potency factors are expressed as the upper bound probability of developing cancer assuming continuous lifetime exposure to diesel exhaust at a dose of one milligram per kilogram of body weight, and are expressed in units of inverse dose as a potency slope (i.e., $[mg/kg/day]^{-1}$). A cancer potency factor when multiplied by the dose of a carcinogen gives the associated lifetime cancer risk. OEHHA's recommended cancer potency factor for DPM is 1.1 $(mg/kg/day)^{-1}$. The estimation of potential inhalation chronic non-cancer effects posed by exposure to DPM requires a chronic reference exposure level (REL). A chronic REL is a concentration level (that is expressed in units of $\mu g/m^3$ for inhalation exposures), at or below which no adverse health effects are anticipated following long-term exposure. OEEHA's recommended chronic REL for DPM is 5 $\mu g/m^3$ (CARB & OEHHA, 2017). The chronic hazard index target organ for DPM is the respiratory system.

Risk Characterization

Risk characterization combines the maximum annual average ground-level DPM concentration from the exposure assessment and the cancer potency factor and chronic REL from the dose-response analysis to estimate the potential inhalation cancer risk from exposure to DPM emissions.

In performing health risk calculations, carcinogenic compounds are not considered to have threshold levels (i.e., dose levels below which there are no risks). Any exposure, therefore, will have some associated risk. Incremental health risks associated with exposure to carcinogenic compounds is defined in terms of the probability of developing cancer as a result of exposure to a chemical at a given concentration. Under a deterministic approach (i.e., point estimate methodology), the cancer risk probability is determined by multiplying the chemical's annual concentration by its unit risk factor (URF). The URF for DPM recommended by the Scientific Review Panel[2] is 3.0×10^{-4} µg/m^3 (CARB, 1998). This value corresponds to a Cancer Potency Factor (CPF) of 1.1 per milligram/kilogram (body weight) per day (mg/kg(bw)-day) (CARB & OEHHA, 2017). The URF for DPM means that for receptors with an annual average concentration of 1 µg/m^3 in the ambient air, the probability of contracting cancer over a 70-year lifetime of exposure is 300 in 1 million. The URF also assumes that a person is exposed continuously for a 70-year lifetime. This approach for calculating cancer risk is intended to result in conservative (i.e., health protective) estimates of health impacts and is used for assessing risks to sensitive receptors. The estimation of cancer risk generally uses the following algorithms (OEHHA, 2015):

Cancer Risk = Dose inhalation × Inhalation CPF × ASF × ED/AT × FAH (Equation 1)

Where:

Cancer Risk = residential inhalation cancer risk

Dose inhalation (mg/kg-day) = C_{AIR} × DBR × A × EF × 10^{-6} (Equation 2)

Inhalation CPF = inhalation cancer potency factor ([mg/kg/day]$^{-1}$)

ASF = age sensitivity factor for a specified age group (unitless)

ED = exposure duration for a specified age group (years)

AT = averaging time period over which exposure is averaged in days (years)

FAH = fraction of time at home (unitless)

[2] The Scientific Review Panel is charged with evaluating the risk assessments of substances proposed for identification as toxic air contaminants by CARB, OEHHA, and the Department of Pesticide Regulation (DPR), and the review of guidelines prepared by OEHHA.

Where:

C_{AIR} = concentration of compound in air in micrograms per cubic meter ($\mu g/m^3$)

DBR = daily breathing rate in liter per kilogram of body weight per day (L/kg-body weight/day)

A = inhalation absorption factor (1 for DPM, unitless)

EF = exposure frequency in days per year (unitless, days/365 days)

10^{-6} = micrograms to milligrams conversion, liters to cubic meters conversion

The OEHHA-recommended values for the parameters listed above were used in the HRA analysis. The daily breathing rate (DBR) used in the analysis was based on OEHHA recommendations, which vary depending on age, as shown in **Table 5, Daily Breathing Rates, Fraction of Time at Home, and Age Sensitivity Factors**. The recommended residential exposure frequency (EF) is 350 days per year, which is equivalent to 0.96 (350 days / 365 days a year). The recommended school exposure frequency (EF) is 180 days per year, which is equivalent to 0.49 (180 days / 365 days a year). The inhalation absorption factor (A) is assumed to be 1 for inhalation based risk assessment. As indicated in Equation 1 above, each age group has different exposure parameters that require cancer risk to be calculated separately for each age group. Values for fraction of time at home (FAH) also vary depending on age, as shown in Table 5. Once dose is calculated, cancer risk is calculated by accounting for cancer potency of the specific pollutant, and the age sensitivity factor (ASF), which also varies by age as shown in Table 5.

The estimation of non-cancer inhalation chronic risk uses the following algorithm (OEHHA, 2015):

Hazard Quotient = C_{air} / REL (Equation 3)

Where:

Hazard Quotient = chronic non-cancer hazard

C_{AIR} = concentration of compound in air in micrograms per cubic meter ($\mu g/m^3$)

REL = Chronic non-cancer Reference Exposure Level for substance ($\mu g/m^3$)

As noted above, the REL for DPM is 5 $\mu g/m^3$ (CARB & OEHHA, 2017). The chronic hazard index target organ for DPM is the respiratory system.

TABLE 5
DAILY BREATHING RATES, FRACTION OF TIME AT HOME, AND AGE SENSITIVITY FACTORS

Parameter	3rd Trimester	Age 0 < 2	Age 2 < 9
Daily Breathing Rate (DBR) X(L/kg-body weight/day)			
Residential Child Receptor [a]	361	1,090	631
Hospital Receptor [a]	361	1,090	631
Daycare Receptor [b]	n/a	1,200	640
School Receptor [c]	n/a	n/a	640
Exposure Frequency (EF)			
Residential Child Receptor [d]	0.96	0.96	0.96
Hospital Receptor [e]	1.00	1.00	1.00
Daycare Receptor [f]	0.68	0.68	0.68
School Receptor [g]	0.49	0.49	0.49
Fraction of Time at Home (FAH) for residential receptors [h]	1.0	1.0	1.0
Age Sensitivity Factor (ASF) [i]	10	10	3

NOTES:

[a] Daily breathing rate for residential and hospital receptors are based on the OEHHA 95th percentile values (Table 5.6).

[b] Daily breathing rate for daycare receptor is based on the OEHHA 95th percentile 8-hour moderate intensity breathing rates (Table 5.8). Daycare receptor assumed to start exposure as early as age 0.

[c] Daily breathing rate for school receptor is based on the OEHHA 95th percentile 8-hour moderate intensity breathing rates (Table 5.8). School receptor assumed to start exposure as early as age 2 (e.g. preschool).

[d] The recommended residential exposure frequency (EF) is 350 days per year, which is equivalent to 0.96 (350 days / 365 days a year).

[e] Assumed hospital receptors are exposed 365 days per year.

[f] Assumed daycare receptors are exposed 250 days per year, which is equivalent to 0.68 (250 days / 365 days a year).

[g] The recommended school EF is 180 days per year, which is equivalent to 0.49 (180 days / 365 days a year).

[h] Fraction of time at home is set to 1.0 for residential since the nearest school has an unmitigated cancer risk of 5.4 per million (see Table 6 below). Since this is greater than one in a million, FAH = 1 was used per OEHHA Table 5.8. FAH is not applicable to other receptors.

[i] ASF is the same for all receptors.

ABBREVIATIONS: DBR = daily breathing rate; EF = exposure frequency; FAH = fraction of time at home; ASF = age sensitivity factor

SOURCE: Office of Environmental Health Hazard Assessment, 2015. *Air Toxics Hot Spots Program Guidance Manual for the Preparation of Health Risk Assessments*. February. Available at http://oehha.ca.gov/air/hot_spots/hotspots2015.html. Accessed March 2017.

Health Risk Calculations

The resulting health risk calculations were performed using a spreadsheet tool consistent with the OEHHA guidance. The spreadsheet tool incorporates the algorithms, equations, and the variables described above as well as in the OEHHA guidance, and incorporates the results of the AERSCREEN dispersion model.

Table 6, Maximum Increase in Health Risk from Construction Emissions for Off-Site Sensitive Receptors - Unmitigated summarizes the carcinogenic and non-cancer chronic risk for the maximum impacted sensitive receptors for the unmitigated scenario. **Table 7, Maximum Increase in Health Risk from Construction Emissions for Off-Site Sensitive Receptors - Mitigated** summarizes the carcinogenic and non-cancer chronic risk for the maximum impacted sensitive receptors for the mitigated scenario. **Table 8, Maximum Increase in Health Risk from Construction Emissions for Each Recharge Well Site for Off-Site Sensitive Receptors –**

Unmitigated and Mitigated summarizes the carcinogenic and non-cancer chronic risk for the maximum impacted sensitive receptors for each recharge well site for both unmitigated and mitigated scenarios.

For carcinogenic exposures, the cancer risk from DPM emissions for the unmitigated construction scenario is estimated to result in a maximum carcinogenic risk of approximately 89.4 per one million for configurations 1 and 2, 120.6 per one million for configurations 3 and 4, and 89.4 per one million for configuration 5. Under the mitigated construction scenario, the Project is estimated to result in a maximum incremental increase in carcinogenic risk of 5.4 per one million for configurations 1 and 2, 5.5 per one million for configurations 3 and 4, and 5.4 per one million for configuration 5. The non-cancer chronic risk from DPM emissions for the unmitigated construction scenario is estimated to be a maximum hazard index of approximately 0.2 for configurations 1 and 2, 0.2 for configurations 3 and 4, and 0.2 for configuration 5. Under the mitigated construction scenario, the Project is estimated to result in a maximum hazard index of 0.01 for configurations 1 and 2, 0.01 for configurations 3 and 4, and 0.01 for component 5. The maximum impact for all configurations would occur at the residential land uses directly south and west of the recharge well site at Monterey (see Table 8).[3]

As discussed previously, the lifetime exposure under OEHHA guidelines takes into account early life (infant and children) exposure. It should be noted that the calculated cancer risk assumes sensitive receptors (residential uses) would not have any emission controls such as mechanical filtration and exposure would occur with windows open. This HRA focuses on residential and school impacts and does not include impacts for on-site or off-site workers. Although off-site workers may be in close proximity to the Project site, their intermittent exposure duration would be less than that of a residence (8 hours compared to 24 hours) and adult breathing rates compared to children are also lower (e.g. 261 for age 16<30 versus 1,090 for age 0<2 years). Therefore, worker impacts would be less than that of a residence.

[3] Health risks were estimated for all four recharge well sites to determine the maximum risks to sensitive receptors surrounding each site. Maximum unmitigated cancer risks are 89.4 for the Monterey site, 71.1 for the Willowbrook site, 1.8 for the Cabrillo College North site, 3.2 for the Cabrillo College South site, and 2.7 for the Twin Lakes Church site. The cancer risk for the Monterey and Willowbrook sites, which occur at residential sensitive receptors, are over the MBARD threshold of 10. The cancer risk for the Cabrillo and Twin Lakes Church sites, which occurs at daycare sensitive receptors, is under the threshold of 10. Therefore, mitigation is not required for the Cabrillo College site or the Twin Lakes Church site. Mitigated cancer risks are 5.4 for the Monterey site and 4.3 for the Willowbrook site. The unmitigated non-cancer chronic hazard indices for all four well sites are under the MBARD threshold of 1.0.

TABLE 6
MAXIMUM INCREASE IN HEALTH RISK FROM CONSTRUCTION EMISSIONS FOR OFF-SITE SENSITIVE RECEPTORS - UNMITIGATED

	Configurations 1 and 2			Configurations 3 and 4			Configuration 5	
Sensitive Receptor Type	**Chanticleer AWPF**	**SC WWTF Facilities**	**Recharge Wells [a]**	**West Annex AWPF**	**SC WWTF Facilities**	**Recharge Wells [a]**	**SC WWTF Facilities**	**Recharge Wells [a]**
Maximum Cancer Risk (# in one million)								
Residential Receptor	**61.4**	**21.6**	**89.4**	**120.6**	**21.6**	**89.4**	**21.6**	**89.4**
Hospital Receptor	7.8	-	-	-	-	-	-	-
Daycare Receptor	-	-	**57.5**	-	-	**57.5**	-	**57.5**
School Receptor	6.4	-	8.5	-	-	8.5	-	8.5
Maximum Risk [b]	**61.4**	**21.6**	**89.4**	**120.6**	**21.6**	**89.4**	**21.6**	**89.4**
MBARD Threshold	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Exceeds Threshold?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Maximum Non-Cancer Risk (Chronic Hazard Index)								
Residential Receptor	0.04	0.02	0.21	0.09	0.02	0.21	0.02	0.21
Hospital Receptor	<0.01	-	-	-	-	-	-	-
Daycare Receptor	-	-	0.17	-	-	0.17	-	0.17
School Receptor	0.04	-	0.17	-	-	0.17	-	0.17
Maximum Risk [b]	0.04	0.02	0.21	0.09	0.02	0.21	0.02	0.21
MBARD Threshold	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Exceeds Threshold?	No	No	No	No	No	No	No	No

Bold = value exceeds threshold.
"-" means there is no sensitive receptor of this type within 1,000 feet of the construction site.

NOTES:

[a] Health risks were estimated for all four recharge well sites to determine the maximum risks to sensitive receptors surrounding each site. The Monterey recharge well site has the largest health risks of the four wells, and is presented in this table.

[b] Health risks for each site were not added to determine total risk, because sensitive receptors are unique to each individual site. There are no individual sensitive receptors that are within 1,000 feet of more than one construction site (i.e. all sites are at least 2,000 feet apart)

ABBREVIATIONS: AWPF = Advanced Water Purification Facility; SC WWTF = Santa Cruz Wastewater Treatment Facility; MBARD = Monterey Bay Air Resources District.

Health risk calculations are provided in Attachment A

TABLE 7
MAXIMUM INCREASE IN HEALTH RISK FROM CONSTRUCTION EMISSIONS FOR OFF-SITE SENSITIVE RECEPTORS - MITIGATED

	Configurations 1 and 2			Configurations 3 and 4			Configuration 5	
Sensitive Receptor Type	**Chanticleer AWPF**	**SC WWTF Facilities**	**Recharge Wells [a]**	**West Annex AWPF**	**SC WWTF Facilities**	**Recharge Wells [a]**	**SC WWTF Facilities**	**Recharge Wells [a]**
Maximum Cancer Risk (# in one million)								
Residential Receptor	3.4	1.5	5.4	5.5	1.5	5.4	1.5	5.4
Hospital Receptor	0.4	-	-	-	-	-	-	-
Daycare Receptor	-	-	3.5	-	-	3.5	-	3.5
School Receptor	0.3	-	0.5	-	-	0.5	-	0.5
Maximum Risk [b]	3.4	1.5	5.4	5.5	1.5	5.4	1.5	5.4
MBARD Threshold	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Exceeds Threshold?	No	No	No	No	No	No	No	No
Maximum Non-Cancer Risk (Chronic Hazard Index)								
Residential Receptor	<0.01	<0.01	0.01	<0.01	<0.01	0.01	<0.01	0.01
Hospital Receptor	<0.01	-	-	-	-	-	-	-
Daycare Receptor	-	-	0.01	-	-	0.01	-	0.01
School Receptor	<0.01	-	0.01	-	-	0.01	-	0.01
Maximum Risk [b]	<0.01	<0.01	0.01	<0.01	<0.01	0.01	<0.01	0.01
MBARD Threshold	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Exceeds Threshold?	No	No	No	No	No	No	No	No

"-" means there is no sensitive receptor of this type within 1,000 feet of the construction site.

NOTES:

[a] Health risks were estimated for all four recharge well sites to determine the maximum risks to sensitive receptors surrounding each site. The Monterey recharge well site has the largest health risks of the four wells, and is presented in this table.

[b] Health risks for each site were not added to determine total risk, because sensitive receptors are unique to each individual site. There are no individual sensitive receptors that are within 1,000 feet of more than one construction site (i.e. all sites are at least 2,000 feet apart)

ABBREVIATIONS: AWPF = Advanced Water Purification Facility; SC WWTF = Santa Cruz Wastewater Treatment Facility; MBARD = Monterey Bay Air Resources District.

Health risk calculations are provided in Attachment A

TABLE 8
MAXIMUM INCREASE IN HEALTH RISK FROM CONSTRUCTION EMISSIONS FOR EACH RECHARGE WELL SITE FOR OFF-SITE SENSITIVE RECEPTORS – UNMITIGATED AND MITIGATED

	Unmitigated					Mitigated				
Sensitive Receptor Type	**Monterey**	**Willowbrook**	**Cabrillo North**	**Cabrillo South**	**Twin Lakes**	**Monterey**	**Willowbrook**	**Cabrillo North**	**Cabrillo South**	**Twin Lakes**
Maximum Cancer Risk (# in one million)										
Residential Receptor	**89.4**	**71.1**	1.8	3.2	2.7	5.4	4.3	**0.1**	**0.2**	**0.2**
Hospital Receptor	-	-	-	-	-	**-**	**-**	**-**	**-**	**-**
Daycare Receptor	**12.9**	**57.5**	1.0	0.3	2.1	**0.8**	**3.5**	**<0.1**	**<0.1**	**0.1**
School Receptor	3.1	8.5	1.5	0.7	0.6	**0.2**	**0.5**	**<0.1**	**<0.1**	**<0.1**
Maximum Risk [b]	**89.4**	**71.1**	1.8	3.2	2.7	5.4	4.3	**0.1**	**0.2**	**0.2**
MBARD Threshold	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Exceeds Threshold?	Yes	Yes	No	No	No	No	No	No	No	No
Maximum Non-Cancer Risk (Chronic Hazard Index)										
Residential Receptor	0.21	0.17	<0.01	<0.01	<0.01	0.01	0.01	<0.01	<0.01	<0.01
Hospital Receptor	-	-	-	-	-	-	-	-	-	-
Daycare Receptor	0.03	0.17	0.01	<0.01	0.03	<0.01	0.01	<0.01	<0.01	<0.01
School Receptor	<0.01	0.17	0.03	0.01	0.01	<0.01	0.01	<0.01	<0.01	<0.01
Maximum Risk [b]	0.21	0.17	0.03	0.01	0.03	0.0	0.01	<0.01	<0.01	<0.01
MBARD Threshold	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Exceeds Threshold?	No	No	No	No	No	No	No	No	No	No

"-" means there is no sensitive receptor of this type within 1,000 feet of the construction site.

NOTES:

[a] Health risks were estimated for all four recharge well sites to determine the maximum risks to sensitive receptors surrounding each site. The Monterey recharge well site has the largest health risks of the four wells, and is presented in this table.

[b] Health risks for each site were not added to determine total risk, because sensitive receptors are unique to each individual site. There are no individual sensitive receptors that are within 1,000 feet of more than one construction site (i.e. all sites are at least 2,000 feet apart)

ABBREVIATIONS: MBARD = Monterey Bay Air Resources District.

Health risk calculations are provided in Attachment A.

The process of assessing health risks and impacts includes a degree of uncertainty. The level of uncertainty is dependent on the availability of data and the extent to which assumptions are relied upon in cases where the data are incomplete or unknown. All HRAs rely upon scientific studies in order to reduce the level of uncertainty; however, it is not possible to completely eliminate uncertainty from the analysis. Where assumptions are used to substitute for incomplete or unknown data, it is standard practice in performing HRAs to err on the side of health protection in order to avoid underestimating or underreporting the risk to the public by assessing risk on the most sensitive populations, such as children and the elderly.

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ATTACHMENT A
Health Risk Assessment Calculations

Table of Contents:

Appendix A

A-1 Summary Tables

Tables for EIR

Updated: 9/28/2020

Green = use in tech memo

Green = use in EIR Section 4.3 AQ

Summary from EIR Section 4.3 Air Quality — Table 4.3-7

Construction Site	Maximum Cancer Risk (# per million)	Maximum Non-Cancer Risk (Chronic Hazard Index)[a]	
Chanticleer Site	64.3	0.05	
Headquarters-West Annex Site	120.6	0.09	
SC WWTF Site	15.3 - 24.7	0.03	
Willowbrook Lane Recharge Well Site	71.1	0.17	
Monterey Avenue Recharge Well Site	89.4	0.21	
Twin Lakes Church Recharge Well Site	2.7	0.03	
Cabrillo College Recharge North Well Site	1.8	0.03	
Cabrillo College Recharge South Well Site	3.2	0.01	
Combined Cabrillo College / Twin Lakes Well Sites	5.9	0.06	
Significance Thresholds	10.0	1.0	
Exceeds Threshold?	Yes	No	
	120.6	**0.21**	<- max

Summary for Addendum Section 4.3 Air Quality

Maximum Cancer Risk (# per million)	Maximum Non-Cancer Risk (Chronic Hazard Index)[a]	
61.4	**0.04**	
120.6	0.09	
21.6	**0.02**	
71.1	0.17	
89.4	0.21	
2.7	0.03	
1.8	0.03	
3.2	0.01	
5.9	0.06	
10.0	1.0	
Yes	No	
120.6	**0.21**	<- max

Construction Health Risk Summary — Table ES-1

Sensitive Receptor Type	Configurations 1 and 2			Configurations 3 and 4			Configuration 5	
	Chanticleer AWPF	SC WWTF Facilities	Recharge Wells	West Annex AWPF	SC WWTF Facilities	Recharge Wells	SC WWTF Facilities	Recharge Wells
Unmitigated								
Maximum Cancer Risk (# in one million)	61.4	21.6	89.4	120.6	21.6	89.4	21.6	89.4
MBUAPCD Threshold	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Exceeds Threshold?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Maximum Non-Cancer Risk (Chronic Hazard Index)	0.04	0.02	0.21	0.09	0.02	0.21	0.02	0.21
MBUAPCD Threshold	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Exceeds Threshold?	No	No	No	No	No	No	No	No
Mitigated								
Maximum Cancer Risk (# in one million)	3.4	1.5	5.4	5.5	1.5	5.4	1.5	5.4
MBUAPCD Threshold	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Exceeds Threshold?	No	No	No	No	No	No	No	No
Maximum Non-Cancer Risk (Chronic Hazard Index)	<0.01	<0.01	0.01	<0.01	<0.01	0.01	<0.01	0.01
MBUAPCD Threshold	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Exceeds Threshold?	No	No	No	No	No	No	No	No

Construction DPM Emissions — Table 1

Component and Site	Construction Site	DPM Emissions (pounds DPM) Unmitigated	Mitigated (Tier 4)
Configurations 1 and 2	Chanticleer AWPF	79.70	4.38
	SC WWFT Facilities	57.28	3.94
	Recharge Wells	26.40	1.60
Configurations 3 and 4	West Annex AWPF	100.66	4.60
	SC WWFT Facilities	57.28	3.94
	Recharge Wells	26.40	1.60
Configuration 5	SC WWFT Facilities	57.28	3.94
	Recharge Wells	26.40	1.60

For Text

Cancer

Unmit	Mit	
89.4	5.4	Configurations 1 and 2
120.6	5.5	Configurations 3 and 4
89.4	5.4	Configuration 5

Chronic

Unmit	Mit	
0.21	0.01	Configurations 1 and 2
0.21	0.01	Configurations 3 and 4
0.21	0.01	Configuration 5

Unmitigated Construction Health Risk — Table 6

Receptor Type	Configuration / Site							
	Configurations 1 and 2			Configurations 3 and 4			Configuration 5	
	Chanticleer AWPF	SC WWTF Facilities	Recharge Wells	West Annex AWPF	SC WWTF Facilities	Recharge Wells	SC WWTF Facilities	Recharge Wells
Lifetime Cancer Risk								
Residential Receptor	**61.4**	**21.6**	**89.4**	**120.6**	**21.6**	**89.4**	**21.6**	**89.4**
Hospital Receptor	7.5	-	-	-	-	-	-	-
Daycare Receptor	-	-	**57.5**	-	-	**57.5**	-	**57.5**
School Receptor	6.1	-	8.5	-	-	8.5	-	8.5
Maximum Cancer Risk (Residential)	**61.4**	**21.6**	**89.4**	**120.6**	**21.6**	**89.4**	**21.6**	**89.4**
MBUAPCD Threshold	**10.0**	**10.0**	**10.0**	**10.0**	**10.0**	**10.0**	**10.0**	**10.0**
Significant Impact?	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
Chronic Hazard Index								
Residential Receptor	0.04	0.02	0.21	0.09	0.02	0.21	0.02	0.21
Hospital Receptor	<0.01	-	-	-	-	-	-	-
Daycare Receptor	-	-	0.17	-	-	0.17	-	0.17
School Receptor	0.04	-	0.17	-	-	0.17	-	0.17
Maximum Chronic Hazard Index Risk (Residential)	0.04	0.02	0.21	0.09	0.02	0.21	0.02	0.21
MBUAPCD Threshold	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**
Significant Impact?	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**

TEST TABLE

Unmitigated Construction Health Risk — Table 8

Receptor Type	Configuration / Site									
	Configurations 1 and 2		Configurations 3 and 4		Configuration 5	All Configurations: Recharge Wells				
	Chanticleer AWPF	SC WWTF Facilities	West Annex AWPF	SC WWTF Facilities	SC WWTF Facilities	Monterey	Willowbrook	Cabrillo North	Cabrillo South	Twin Lakes
Lifetime Cancer Risk										
Residential Receptor	**61.4**	**21.6**	**120.6**	**21.6**	**21.6**	**89.4**	**71.1**	1.8	3.2	2.7
Hospital Receptor	7.5	-	-	-	-	-	-	-	-	-
Daycare Receptor	-	-	-	-	-	12.9	57.5	1.0	0.3	2.1
School Receptor	6.1	-	-	-	-	3.1	8.5	1.5	0.7	0.6
Maximum Cancer Risk (Residential)	**61.4**	**21.6**	**120.6**	**21.6**	**21.6**	**89.4**	**71.1**	1.8	3.2	2.7
MBUAPCD Threshold	**10.0**	**10.0**	**10.0**	**10.0**	**10.0**	**10.0**	**10.0**	**10.0**	**10.0**	**10.0**
Significant Impact?	**Yes**	**Yes**	**No**	**No**	**No**	**Yes**	**Yes**	**No**	**No**	**No**
Chronic Hazard Index										
Residential Receptor	0.04	0.02	0.09	0.02	-	0.21	0.17	<0.01	<0.01	<0.01
Hospital Receptor	<0.01	-	-	-	-	-	-	-	-	-
Daycare Receptor	-	-	-	-	-	0.03	0.17	0.01	<0.01	0.03
School Receptor	0.04	-	-	-	-	<0.01	0.17	0.03	0.01	0.01
Maximum Chronic Hazard Index Risk (Residential)	0.04	0.02	0.09	0.02	-	0.2	0.17	0.03	0.01	0.03
MBUAPCD Threshold	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**
Significant Impact?	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**

Mitigated Construction Health Risk

Table 7

Receptor Type	Configuration / Site							
	Configurations 1 and 2			Configurations 3 and 4			Configuration 5	
	Chanticleer AWPF	SC WWTF Facilities	Recharge Wells	West Annex AWPF	SC WWTF Facilities	Recharge Wells	SC WWTF Facilities	Recharge Wells
Lifetime Cancer Risk								
Residential Receptor	3.4	1.5	5.4	5.5	1.5	5.4	1.5	5.4
Hospital Receptor	0.4	-	-	-	-	-	-	-
Daycare Receptor	-	-	3.5	-	-	3.5	-	3.5
School Receptor	0.3	-	0.5	-	-	0.5	-	0.5
Maximum Cancer Risk (Residential)	3.4	1.5	5.4	5.5	1.5	5.4	1.5	5.4
MBUAPCD Threshold	**10.0**	**10.0**	**10.0**	**10.0**	**10.0**	**10.0**	**10.0**	**10.0**
Significant Impact?	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**
Chronic Hazard Index								
Residential Receptor	<0.01	<0.01	0.01	<0.01	<0.01	0.01	<0.01	0.01
Hospital Receptor	<0.01	-	-	-	-	-	-	-
Daycare Receptor	-	-	0.01	-	-	0.01	-	0.01
School Receptor	<0.01	-	0.01	-	-	0.01	-	0.01
Maximum Chronic Hazard Index Risk (Residential)	<0.01	<0.01	0.01	<0.01	<0.01	0.01	<0.01	0.01
MBUAPCD Threshold	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**
Significant Impact?	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**

TEST TABLE

Mitigated Construction Health Risk

Table 8

Receptor Type	Configuration / Site									
	Configurations 1 and 2		Configurations 3 and 4		Configuration 5	All Configurations: Recharge Wells				
	Chanticleer AWPF	SC WWTF Facilities	West Annex AWPF	SC WWTF Facilities	SC WWTF Facilities	Monterey	Willowbrook	Cabrillo North	Cabrillo South	Twin Lakes
Lifetime Cancer Risk										
Residential Receptor	**3.4**	**1.5**	**5.5**	**1.5**	**1.5**	**5.4**	**4.3**	0.1	0.2	0.2
Hospital Receptor	0.4	-	-	-	-	-	-	-	-	-
Daycare Receptor	-	-	-	-	-	0.8	3.5	<0.1	<0.1	0.1
School Receptor	0.3	-	-	-	-	0.2	0.5	<0.1	<0.1	<0.1
Maximum Cancer Risk (Residential)	**3.4**	**1.5**	**5.5**	**1.5**	**1.5**	**5.4**	**4.3**	0.1	0.2	0.2
MBUAPCD Threshold	**10.0**	**10.0**	**10.0**	**10.0**	**10.0**	**10.0**	**10.0**	**10.0**	**10.0**	**10.0**
Significant Impact?	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**
Chronic Hazard Index										
Residential Receptor	<0.01	<0.01	<0.01	<0.01	-	0.01	0.01	<0.01	<0.01	<0.01
Hospital Receptor	<0.01	-	-	-	-	-	-	-	-	-
Daycare Receptor	-	-	-	-	-	<0.01	0.01	<0.01	<0.01	<0.01
School Receptor	<0.01	-	-	-	-	<0.01	0.01	<0.01	<0.01	<0.01
Maximum Chronic Hazard Index Risk (Residential)	<0.01	<0.01	<0.01	<0.01	-	0.0	0.01	<0.01	<0.01	<0.01
MBUAPCD Threshold	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**
Significant Impact?	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**

A-2 Construction Info

Construction Info

Updated: 9/28/2020

SCHEDULE

Phase	Start Date	End Date	Work Days	Days/week	Workdays (CalEEMod)	Work Days by Year 2020	2021	2022	Total	Calendar Days by Year (HRA) 2020	2021	2022	Total	Years
Configuration Addendum														
Chanticleer AWPF	11/2/2020	9/2/2022	480	5	480	44	261	175	**480**	60	365	245	**670**	**1.84**
SC WWTF Facilities	11/2/2020	9/2/2022	480	5	200	44	261	175	**480**	60	365	245	**670**	**1.84**

Calendar days for EmissionRates sheet

2019	60	60
2020	365	365
2021	245	245
All	670	670

DPM Emissions

Source: 1 - Addendum Emissions Summary 092920.xlsx, located here: \\sfo-file01\PROJECTS\SFO\16xxxx\D160164.00 - SoquelCreek-WD_Groundwater-Replen\03 Working Documents\11_Addendum_Draft 2 Addendum\AQ and GHG

Total Pounds of DPM

	Configuration Addendum	
	Chanticleer AWPF	SC WWTF Facilities
Unmitigated		
2019	8.90	6.40
2020	45.20	32.60
2021	25.60	18.28
Total	**79.70**	**57.28**
Mitigated		
2019	0.40	0.36
2020	2.38	2.14
2021	1.60	1.44
Total	**4.38**	**3.94**

A-3 HRA Calculations

HRA - Screening

Updated: 9/28/2020

HRA Notes:

Combined risks for receptors at the Cabrillo/Twin Lakes sites

Emission Rates / Scaling Factors

	Configuration - Addendum			
	Chanticleer AWPF	SC WWTF Facilities	MAXIMUM RISK	NOTES
DPM g/s				
Unmitigated				
All Construction	6.25E-04	4.49E-04		
Mitigated				
All Construction	3.43E-05	3.09E-05		

Cancer Risk Calculations

	Configuration - Addendum			
	Chanticleer AWPF	SC WWTF Facilities	MAXIMUM RISK	NOTES
Average Annual Scaler Concentrations (ug/m3)				
Residential	358.76	175.76		
Hospital	41.90	0.00		
Daycare	0.00	0.00		
School	358.76	0.00		
Average Annual SCALED Concentrations (ug/m3)				
Unmitigated				
Residential	2.24E-01	0.078885993		
Hospital	0.026168587	0		
Daycare	0	0		
School	0.224047023	0		
Mitigated				
Residential	1.23E-02	5.43E-03		
Hospital	1.44E-03	0.00E+00		
Daycare	0.00E+00	0.00E+00		
School	1.23E-02	0.00E+00		

Risk Factors				
Residential	274.03	274.03		Sum of all age groups
Hospital	285.78	285.78		Sum of all age groups
Daycare	237.09	237.09		Sum of all age groups
School	27.31	27.31		Sum of all age groups
Cancer Risk - Unmitigated				Green = used in results table
Residential	61.40	21.62		
Hospital	7.48	0.00		
Daycare	0.00	0.00		
School	6.12	0.00		
Cancer Risk - Mitigated				
Residential	3.37	1.49		
Hospital	0.41	0.00		
Daycare	0.00	0.00		
School	0.34	0.00		

Chronic Hazard Index

Chronic REL (µg/m3) 5.0

California Air Resources Board, "Consolidated Table of OEHHA/ARB Approved Risk Assessment Health Values" and "OEHHA/ARB Approved Chronic Reference Exposure Levels and Target Organs," http://www.arb.ca.gov/toxics/healthval/healthval.htm.

Table last updated: February 23, 2017. Downloaded 10/9/17

	Configuration - Addendum			
Chronic Hazard Index	**Chanticleer AWPF**	**SC WWTF Facilities**	**MAXIMUM RISK**	**NOTES**
Unmitigated				
Residential	0.045	0.016		Green = used in results table
Hospital	0.005	0.000		
Daycare	0.000	0.000		
School	0.045	0.000		
Mitigated				
Residential	0.002	0.001		
Hospital	0.000	0.000		
Daycare	0.000	0.000		
School	0.002	0.000		

A-4 Risk Factors

Risk Factors

Updated: 9/28/2020

Notes

Normally, we use a worker adjustment factor to estimate risk for school and daycare receptors, but this is used if AERMOD models sources using a non-continuous emissions schedule (e.g. work hours). However, because we use AERSCREEN, which assumes a continuous emission rate based on the actual construction schedule of 5 days per week and 8 hrs/day (and estimates maximum 1-hr concentrations), concentrations are based on continuous emissions, and we don't need the adjustment factor.

Also modeled school for purposes of fraction of time at home

Dose Calculation

NOT USED = grey

Dose Factors	**3rd Trimester**	**Age 0<2 Years**	**Age 2<9 Years**	**Notes / Source**
Daily Breathing Rate (DBR) [L/kg-day or L/kg-8hrs]				
Residential	361	1090	631	95th percentile 24-hour breathing rates (OEHHA Table 5.6) for 3rd trimester and age 0<2 years and 80th percentile 24-hour breathing rates (OEHHA Table 5.7) for age 2<9 years, age 2<16 years, and age 16<30 years
Hospital	361	1090	631	Same as residential
Daycare		1200	640	95th percentile 8-hour moderate intensity breathing rates (OEHHA Table 5.8) for 3rd trimester, age 0<2 years, and age 2<9 years
School			640	95th percentile 8-hour moderate intensity breathing rates (OEHHA Table 5.8) for age 2<16 years.
Inhalation Absorption Factor (A)	1	1	1	
Exposure Frequency (EF) [days/365 days]				
Residential	0.96	0.96	0.96	OEHHA 2015
Hospital	1.00	1.00	1.00	assume 100% in hospital
Daycare	0.68	0.68	0.68	250 days/yr
School	0.49	0.49	0.49	180 days/yr
Conversion	0.000001	0.000001	0.000001	OEHHA 2015

Dose Factor (no concentration)	**3rd Trimester**	**Age 0<2 Years**	**Age 2<9 Years**	OEHHA 2015
Residential	0.000346164	0.001045205	0.000605068	
Hospital	0.000361	0.00109	0.000631	
Daycare	0	0.000821918	0.000438356	
School	0	0	0.000315616	

Risk Calculation

Risk Factors	**3rd Trimester**	**Age 0<2 Years**	**Age 2<9 Years**		
Inhalation Cancer Potency Factor (CPF)	1.1	1.1	1.1	CARB / OEHHA 2017: https://www.arb.ca.gov/toxics/healthval/healthval.htm	
Age Sensitivity Factor (ASF) [unitless]	10	10	3	OEHHA 2015	
Exposure Duration (ED) [years]					*Total yrs exposure*
Chanticleer AWPF - Configuration Addendum					
Residents	0.25	1.59	0		*1.84*
Hospital	0.25	1.59	0		*1.84*
Daycares	0	1.84	0		*1.84*
Schools	0	0	1.84		*1.84*
SC WWTF Facilities - Configuration Addendum					
Residents	0.25	1.59	0		*1.84*
Hospital	0.25	1.59	0		*1.84*
Daycares	0	1.84	0		*1.84*
Schools	0	0	1.84		*1.84*

Averaging Time (AT) [years]	70	70	70	
Fraction of Time at Home (FAH) [unitless]	1	1	1	Fraction of time at home is set to 1.0 for residential since nearest school has a cancer risk of 5.4 per calcs on the HRA tab, which is greater than one in a million.
Chances per Million	1,000,000	1,000,000	1,000,000	

Risk Factor (no concentration)	**3rd Trimester**	**Age 0<2 Years**	**Age 2<9 Years**
Chanticleer AWPF - Configuration Addendum			
Residents	13.60	260.43	0.00
Hospital	14.18	271.59	0.00
Daycares	0.00	237.09	0.00
Schools	0.00	0.00	27.31
SC WWTF Facilities - Configuration Addendum			
Residents	13.60	260.43	0.00
Hospital	14.18	271.59	0.00
Daycares	0.00	237.09	0.00
Schools	0.00	0.00	27.31

Multiply risk factors by concentration to determine risk

A-5 Emission Rates

DPM and PM2.5 Emission Rates

Updated: 9/28/2020

HRA Notes:

BAAQMD recommends short-term projects "use of actual emission rates over a minimum 3-year duration for cancer risk assessments involving projects lasting 3 years or less." This was not done to be conservative.

Since AERSCREEN calculates maximum 1-hr concentration based on continuous emissions (which is then converted to annual), the 1-hr emission rate should be based on the emission rate during the entire construction period (24 hrs/day, 7 days per week).

DPM Emission Rates

	Configuration Addendum	
	Chanticleer AWPF	**SC WWTF Facilities**
DPM Emissions (lbs)		
Unmitigated		
2020	8.9	6.4
2021	45.2	32.6
2022	25.6	18.28
All Construction	79.7	57.28
Mitigated		
2020	0.4	0.36
2021	2.38	2.14
2022	1.6	1.44
All Construction	4.38	3.94
Time Values for Emission Rates		
Total Calendar Days - 2020	60	60
Total Calendar Days - 2021	365	365
Total Calendar Days - 2022	245	245
Total Calendar Days - All Construction	670	670
Hours per day	24	24
Emission Rates - Scaling Factors (g/s)		
Unmitigated		
2020	7.79E-04	5.60E-04
2021	6.50E-04	4.69E-04
2022	5.49E-04	3.92E-04
All Construction	6.25E-04	4.49E-04
Mitigated		
2020	3.50E-05	3.15E-05
2021	3.42E-05	3.08E-05
2022	3.43E-05	3.09E-05
All Construction	3.43E-05	3.09E-05

A-6 AERSCREEN Output Summary

AERSCREEN Inputs and Outputs

Updated: 3/23/2018

Notes

Concentrations modeled using AERSCREEN worst-case 1-hr, scaled to annual

Project Site Dimensions	**Feet**	**Meters**	**Notes / Source**	
Chanticleer AWPF				
Length:	300	91	*Figure 3-4 Chanticleer Site.PDF* + Google Earth	255
Width	220	67	""	
Total Area (sqft)	66,000	6,132		
Total Area (sqft) - from PD Table 3.6 (temporary)	*65,000*	*1.5*		
SC WWTF Facilities				
Length:	130	40	*Figure 3-3_SCWWTP Site.PDF* + Google Earth	115
Width:	100	30	""	
Total Area (sqft)	13,000	1,208		
Total Area (sqft) - from PD Table 3.6 (temporary)	*13,200*	*0.3*		
West Annex AWPF				
Length:	250	76	*Figure 3-5_Headquarters WestAnnex Site.PDF* + Google Earth	187
Width:	140	43	""	
Total Area (sqft)	35,000	3,252		
Total Area (sqft) - from PD Table 3.6 (temporary)	*35,000*	*0.8*		
Recharge Well - Monterey				
Length:	64	20	*Figure 3-6_RechargeWell Sites.PDF* + Google Earth	64
Width:	64	20	""	
Total Area (sqft)	4,096	381		
Total Area (sqft) - from PD Table 3.6 (temporary)	*4,150*	*0.1*		
Recharge Well - Willowbrook				
Length:	83	25	*Figure 3-6_RechargeWell Sites.PDF* + Google Earth	83
Width:	83	25	""	
Total Area (sqft)	6,889	640		
Total Area (sqft) - from PD Table 3.6 (temporary)	*6,950*	*0.2*		
Recharge Well - Cabrillo College N + S				
Length:	93	28	*Figure 3-6_RechargeWell Sites.PDF* + Google Earth	93
Width:	93	28	""	
Total Area (sqft)	8,649	804		
Total Area (sqft) - from PD Table 3.6 (temporary)	*8,700*	*0.2*		
Recharge Well - Twin Lakes				
Length:	90	27	*Figure 3-8_RechargeWell Sites.PDF* + Google Earth	0
Width:	40	12	""	
Total Area (sqft)	3,600	334		
Total Area (sqft) - from PD Table 3.6 (temporary)		*0.0*		

Input

	Chanticleer AWPF	**SC WWTF Facilities**	**West Annex AWPF**	**Recharge Well - Monterey**	**Recharge Well - Willowbrook**	**Recharge Well - Cabrillo College NORTH**	**Recharge Well - Cabrillo College SOUTH**	**Recharge Well - Twin Lakes**	**Notes**
Title	Chant	SC	Annex	WellMont	WllWill	WellCab	*= Cabrillo N*	TwinLakes	
Units	M	M	M	M	M	M		M	
Source Type	A	A	A	A	A	A		A	
DPM emission rate (g/s)	1	1	1	1	1	1		1	Unit emission rate for scaling
Release Height above ground (meters)	3.89	3.89	3.89	3.89	3.89	3.89		3.89	Release height for off -road construction equipment from the CRRP-HRA (BAAQMD, SF DPH & SF Planning, 2012).
Maximum horizontal dimension of area source (meters)	***91***	***40***	***76***	***20***	***25***	***28***		***27***	*see above*
Minimum horizontal dimension of area source (meters)	***67***	***30***	***43***	***20***	***25***	***28***		***12***	*see above*
Initial Vertical Dimension (meters)	1.4	1.4	1.4	1.4	1.4	1.4		1.4	Initial vertical dimension for off-road construction equipment from the CRRP-HRA (BAAQMD, SF DPH & SF Planning, 2012).
rural/urban	urban	urban	urban	urban	urban	urban		urban	Although CRRP uses rural (page 31), AERSCREEN is already exceedingly conservative, so per the AQTR SOW used urban instead.
population of urban area	64,465	64,465	64,465	64,465	64,465	64,465		64,465	https://www.census.gov/quickfacts/fact/table/santacruzcitycalifornia,US/PST045217
min distance to ambient air (meters)	default	default	default	default	default	default		default	
NO2 chemistry	1	1	1	1	1	1		1	
max distance to probe	default	default	default	default	default	default		default	
include discrete receptors	no	no	no	no	no	no		no	
use flagpole receptors	yes	yes	yes	yes	yes	yes		yes	
flagpole receptor height (meters)	1.5	1.5	1.5	1.5	1.5	1.5		1.5	BAAQMD 2012, Recommended Methods for Screening and Modeling Local Risks and Hazards
source elevation	default	default	default	default	default	default		default	
min ambient temperature (F)	*40*	*40*	*40*	*40*	*40*	*40*		*40*	For Santa Cruz: http://www.intellicast.com/Local/History.aspx?location=USCA1020
max ambient temperature (F)	*76*	*76*	*76*	*76*	*76*	*76*		*76*	For Santa Cruz: http://www.intellicast.com/Local/History.aspx?location=USCA1020
min ambient temperature (K)	277	277	277	277	277	277		277	
max ambient temperature (K)	298	298	298	298	298	298		298	
min wind speed (m/s)	default	default	default	default	default	default		default	
anenometer height (m)	default	default	default	default	default	default		default	
surface characteristics	2	2	2	2	2	2		2	
Dominant surface profile	7	7	7	7	7	7		7	
dominant climate profile	1	1	1	1	1	1		1	
adjust	no	no	no	no	no	no		no	
debug	no	no	no	no	no	no		no	
Output file name	Chant.out	SC.out	Annex.out	WellMont.out	WllWill.out	WellCab.out		TwinLakes.out	

Outputs

	Chanticleer AWPF	**SC WWTF Facilities**	**West Annex AWPF**	**Recharge Well - Monterey**	**Recharge Well - Willowbrook**	**Recharge Well - Cabrillo College NORTH**	**Recharge Well - Cabrillo College SOUTH**	**Recharge Well - Twin Lakes**	**Recharge Well - MAXIMUM CONCENTRATION**
Closest Receptors									
Locations - meters from site									
Residential	10	100	10	10	18	305	198	244	
Hospital	290	0	0	0	0	0	0	0	
Daycare	0	0	0	70	15	131	305	72	
School	61	0	0	305	15	79	137	152	
Concentrations - Maximum 1-hr (ug/m3)									
Residential	3587.60	1757.60	5582.00	18985.00	15111.00	385.48	673.99	578.17	18985.00
Hospital	419.03								0.00
Daycare				2638.60	15111.00	1288.70	385.48	2718.90	15111.00
School	3587.6			812.62	15111.00	2602.50	1288.70	1019.20	15111.00
Concentrations - Average Annual (ug/m3)									
Residential	358.76	175.76	558.2	1898.5	1511.1	38.548	67.399	57.817	1898.50
Hospital	41.903	0	0	0	0	0	0	0	0.00
Daycare	0	0	0	263.86	1511.1	128.87	38.548	271.89	1511.10
School	358.76	0	0	81.262	1511.1	260.25	128.87	101.92	1511.10

All Receptors

Paste from AERSCREEN Output

	Concentrations - Max 1-hr (ug/m3)							
1	2437.1	6412.30	3927.90	9742.80	8119.10	7354.30	*7354.30*	13,464
19.01	3113.1	10396.00	5125.00	**18985.00**	**15111.00**	13349.00	*13349.00*	20,581
25	3583.8	10353.00	**5582.00**	11508.00	11281.00	11122.00	*11122.00*	12,998
50.01	**3587.6**	4545.60	4701.90	4619.00	4565.50	4525.40	*4525.40*	4,872
75	2404.8	2614.60	2633.70	**2638.60**	2620.30	**2602.50**	*2602.50*	**2,719**
100	1580.1	**1757.60**	1760.00	1769.40	1761.80	1752.20	*1752.20*	1,807
125	1183.5	1290.80	1287.80	1296.70	1293.90	**1288.70**	***1288.70***	1,318
150.01	935.13	1003.20	999.43	1006.90	1005.50	1002.50	*1002.50*	**1,019**
175	764.05	810.45	806.99	812.62	812.32	810.44	*810.44*	821
200	640.52	673.86	671.28	675.34	675.59	673.99	***673.99***	681
225	547.83	572.89	570.47	573.99	574.09	573.03	*573.03*	**578**
250	475.95	495.26	493.25	495.82	496.27	495.68	*495.68*	500
275	**419.03**	434.29	432.62	434.59	435.21	434.61	*434.61*	438
300	372.95	385.23	383.65	**385.20**	386.20	**385.48**	***385.48***	388
325	334.82	345.01	343.64	344.82	345.77	345.34	*345.34*	348
350	303.07	311.62	310.44	312.45	312.14	312.01	*312.01*	314
375	276.15	283.53	282.37	284.00	283.84	283.72	*283.72*	285
400	253.09	259.49	258.41	259.76	259.63	259.52	*259.52*	261
425	233.25	238.67	237.71	238.88	238.79	238.77	*238.77*	240
450	215.91	220.56	219.75	220.75	221.61	220.71	*220.71*	222
475	200.7	204.72	204.05	204.88	205.67	204.85	*204.85*	206
500	187.19	190.76	190.17	190.88	191.62	191.69	*191.69*	192
	Distance (m)							
	1	1	1	1	1	1	*1*	
	25	24	25	**14**	17	19.01	*19*	
	50	25	**39**	25	25	25	*25*	
	51	50	50	50.01	**50.01**	50.01	*50*	
	75	75	75	**75**	75	**75**	*75*	
	100	**100**	100	100	100	100	*100*	
	125	125	125	125	125	**125**	*125*	
	150	150	150	150	**150**	150.01	*150*	
	175	175	175	175	175	175	*175*	
	200	200	200	200	200	**200**	*200*	
	225	225	225	225	225	225	*225*	
	250	250	250	250	250	250	*250*	
	275	275	275	275	275	275	*275*	
	300	300	300	**300**	300	300	*300*	
	325	325	325	325	325	325	*325*	
	350	350	350	350	350	350	*350*	
	375	375	375	375	375	375	*375*	
	400	400	400	400	400	400	*400*	
	425	425	425	425	425	425	*425*	
	450	450	450	450	450	450	*450*	
	475	475	475	475	475	475	*475*	
	500	500	500	500	500	500	*500*	

A-7 Sensitive Receptor Locations

Sensitive Receptors

Updated: 4/9/2018

Type	Description	Address	Distance	Meters	Note
Chanticleer AWPF					
Residents	south of site from 10m outward		10m+	10	
Hospital	Alto Medical Foundation | Santa Cruz Char	2907 Chanticleer Ave	950 ft	290	
Daycares	Crystal's Corner After School Care		1300 ft west		beyond 1,000 ft
Schools	Boy School	2400 Chanticleer Ave	200 ft southeast	61	
SC WWTF Facilities					
Residents	Southwest of site 315 ft+		100m	100	
Hospital	None nearby				
Daycares	Tender Blossoms Preschool		1600 ft		beyond 1,000 ft
Schools	None nearby				
West Annex AWPF					
Residents	Surrounding site from 10m outward		10m+	10	
Hospital	Stanford Children		1800 ft		beyond 1,000 ft
Daycares	Soquel Campus Kids Connection	2700 Porter St Soquel, CA	1500 ft west		beyond 1,000 ft
Schools	Soquel Elementary School		1500 ft west		beyond 1,000 ft
Recharge Well - Monterey					
Residents	Residences directly south and west		10m+	10	
Hospital	None nearby				
Daycares	Capitola Childcare	838 Monterey Ave	230 ft southeast	70	3 months+ - http://www.capitolachildcare.com/rates.html
Schools	Soquel Elementary School	620 Monterey Ave	1000 ft southwest	305	
Recharge Well - Willowbrook					
Residents	residences directly west and east		60 ft west	18	
Hospital	None nearby				
Daycares	Santa Cruz Montessori Preschool	6230 Soquel Dr	50 ft north	15	18 months through 3 years - https://scms.org/how-to-apply/
Schools	Santa Cruz Montessori Preschool	6230 Soquel Dr	50 ft north	15	18 months through 3 years - https://scms.org/how-to-apply/
Recharge Well - Cabrillo College - NORTH SITE					
Residents	Residents south and east		1000 ft east	305	
Hospital	None nearby				
Daycares	Children's Enrichment Center	2701 Cabrillo College Dr	430 ft west	131	Ages 2-TK - https://www.childrensenrichmentcenter.com/tuition
Schools	Delta Alternative High School	6500 Soquel Dr	260 ft east	79	
Recharge Well - Cabrillo College - SOUTH SITE					
Residents	Residents south and east		650 ft east	198	
Hospital	None nearby				
Daycares	Children's Enrichment Center	2701 Cabrillo College Dr	1000 ft west	305	Ages 2-TK - https://www.childrensenrichmentcenter.com/tuition
Schools	Delta Alternative High School	6500 Soquel Dr	450 ft north	137	
Recharge Well - Twin Lakes Church					
Residents	Residents south		800 ft south	244	
Hospital	None nearby				
Daycares	Children's Enrichment Center	2701 Cabrillo College Dr	235 ft west	72	
Schools	Delta Alternative High School	6500 Soquel Dr	500 ft east	152	
Recharge Wells - WORST CASE					
Residents	Residences directly south and west		10m+		
Hospital	None nearby	None nearby	None nearby	None nearby	
Daycares	Capitola Childcare	838 Monterey Ave	230 ft southeast	70.104	
Schools	Delta Alternative High School	6500 Soquel Dr	260 ft east	79.248	

A-8 Constants

Constants

Updated:	2/8/2018	
hrs/day	24	
seconds/hr	3,600	
grams per lb	453.592	
1hr to annual concentration	0.1	https://www3.epa.gov/ttn/scram/models/screen/aerscreen_userguide.pdf
square feet per acre	43,560	
feet per meter	3.28084	

A-9 AERSCREEN Inputs – Chanticleer AWPF

Start date and time 02/12/18 11:40:04
AERSCREEN 16216

Chant

Chant

---------- DATA ENTRY VALIDATION ----------

** AREADATA **	METRIC	ENGLISH
Emission Rate:	1.0000 g/s	7.937 lb/hr
Area Height:	3.89 meters	12.76 feet
Area Source Length:	91.00 meters	298.56 feet
Area Source Width:	67.00 meters	219.82 feet
Vertical Dimension:	1.40 meters	4.59 feet
Model Mode:	URBAN	
Population:	66465	
Dist to Ambient Air:	1.0 meters	3. feet

** BUILDING DATA **

No Building Downwash Parameters

** TERRAIN DATA **

No Terrain Elevations
Source Base Elevation: 0.0 meters 0.0 feet

Probe distance: 5000. meters 16404. feet
Flagpole Receptor Height: 1.5 meters 5. feet

No discrete receptors used

** FUMIGATION DATA **

No fumigation requested

** METEOROLOGY DATA **

Min/Max Temperature: 277.0 / 298.0 K 38.9 / 76.7 Deg F

Minimum Wind Speed: 0.5 m/s

Anemometer Height: 10.000 meters

Dominant Surface Profile: Urban
Dominant Climate Type: Average Moisture

Surface friction velocity (u*): not adjusted

DEBUG OPTION OFF

AERSCREEN output file:
Chant.out

*** AERSCREEN Run is Ready to Begin

No terrain used, AERMAP will not be run
****

SURFACE CHARACTERISTICS & MAKEMET
Obtaining surface characteristics...

Using AERMET seasonal surface characteristics for Urban with Average Moisture

Season	Albedo	Bo	zo
Winter	0.35	1.50	1.000
Spring	0.14	1.00	1.000
Summer	0.16	2.00	1.000
Autumn	0.18	2.00	1.000

Creating met files aerscreen_01_01.sfc & aerscreen_01_01.pfl

Creating met files aerscreen_02_01.sfc & aerscreen_02_01.pfl

Creating met files aerscreen_03_01.sfc & aerscreen_03_01.pfl

Creating met files aerscreen_04_01.sfc & aerscreen_04_01.pfl

Buildings and/or terrain present or rectangular area source, skipping probe

FLOWSECTOR   started 02/12/18 11:40:43
****

Running AERMOD
Processing Winter

Processing surface roughness sector 1

****
Processing wind flow sector   1

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector   0

******** WARNING MESSAGES ********
*** NONE ***

****
Processing wind flow sector   2

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector   5

******** WARNING MESSAGES ********
*** NONE ***

****
Processing wind flow sector   3

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector 10

******** WARNING MESSAGES ********
*** NONE ***

****
Processing wind flow sector   4

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector 15

******** WARNING MESSAGES ********

```
               ***  NONE  ***

**************************************************
Processing wind flow sector   5

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  20

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   6

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  25

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   7

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  30

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   8

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  35

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   9

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  40

    ********   WARNING MESSAGES   ********
               ***  NONE  ***
 ****************************************

  Running AERMOD
 Processing Spring

Processing surface roughness sector  1

**************************************************
Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector   0

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector   5

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
```

```
Processing wind flow sector   3

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  10

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

*************************************************
Processing wind flow sector   4

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  15

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

*************************************************
Processing wind flow sector   5

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  20

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

*************************************************
Processing wind flow sector   6

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  25

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

*************************************************
Processing wind flow sector   7

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  30

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

*************************************************
Processing wind flow sector   8

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  35

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

*************************************************
Processing wind flow sector   9

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  40

    ********   WARNING MESSAGES   ********
               ***  NONE  ***
 *****************************************

  Running AERMOD
 Processing Summer

Processing surface roughness sector  1

*************************************************
Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector   0
```

```
    ********   WARNING MESSAGES   ********
               ***  NONE  ***

************************************************
Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector   5

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

************************************************
Processing wind flow sector   3

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  10

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

************************************************
Processing wind flow sector   4

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  15

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

************************************************
Processing wind flow sector   5

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  20

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

************************************************
Processing wind flow sector   6

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  25

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

************************************************
Processing wind flow sector   7

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  30

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

************************************************
Processing wind flow sector   8

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  35

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

************************************************
Processing wind flow sector   9

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  40
```

```
    ********   WARNING MESSAGES   ********
               ***  NONE  ***
 ******************************************

  Running AERMOD
 Processing Autumn

Processing surface roughness sector  1

**************************************************
Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector   0

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector   5

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   3

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  10

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   4

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  15

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   5

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  20

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   6

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  25

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   7

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  30

    ********   WARNING MESSAGES   ********
               ***  NONE  ***
```

```
**************************************************
Processing wind flow sector   8

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  35

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   9

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  40

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

FLOWSECTOR   ended 02/12/18 11:41:09

REFINE       started 02/12/18 11:41:09

 AERMOD Finishes Successfully for REFINE stage 3 Winter sector   0

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

REFINE       ended 02/12/18 11:41:11

 ******************************************
 AERSCREEN Finished Successfully
 With no errors or warnings
 Check log file for details
 ******************************************

 Ending date and time  02/12/18 11:41:12
```

A-10 AERSCREEN Inputs – SC WWTF Facilities

Start date and time 02/12/18 11:00:51
AERSCREEN 16216

SC

SC

---------- DATA ENTRY VALIDATION ----------

** AREADATA **	METRIC	ENGLISH
Emission Rate:	1.0000 g/s	7.937 lb/hr
Area Height:	3.89 meters	12.76 feet
Area Source Length:	40.00 meters	131.23 feet
Area Source Width:	30.00 meters	98.43 feet
Vertical Dimension:	1.40 meters	4.59 feet
Model Mode:	URBAN	
Population:	64465	
Dist to Ambient Air:	1.0 meters	3. feet

** BUILDING DATA **

No Building Downwash Parameters

** TERRAIN DATA **

No Terrain Elevations
Source Base Elevation: 0.0 meters 0.0 feet

Probe distance: 5000. meters 16404. feet
Flagpole Receptor Height: 1.5 meters 5. feet

No discrete receptors used

** FUMIGATION DATA **

No fumigation requested

** METEOROLOGY DATA **

Min/Max Temperature: 277.0 / 298.0 K 38.9 / 76.7 Deg F

Minimum Wind Speed: 0.5 m/s

Anemometer Height: 10.000 meters

Dominant Surface Profile: Urban
Dominant Climate Type: Average Moisture

Surface friction velocity (u*): not adjusted

DEBUG OPTION OFF

AERSCREEN output file:
SC.out

*** AERSCREEN Run is Ready to Begin

No terrain used, AERMAP will not be run

```
************************************************

SURFACE CHARACTERISTICS & MAKEMET
Obtaining surface characteristics...

Using AERMET seasonal surface characteristics for Urban with Average Moisture
Season             Albedo     Bo       zo
Winter              0.35     1.50     1.000
Spring              0.14     1.00     1.000
Summer              0.16     2.00     1.000
Autumn              0.18     2.00     1.000

Creating met files aerscreen_01_01.sfc & aerscreen_01_01.pfl

Creating met files aerscreen_02_01.sfc & aerscreen_02_01.pfl

Creating met files aerscreen_03_01.sfc & aerscreen_03_01.pfl

Creating met files aerscreen_04_01.sfc & aerscreen_04_01.pfl

Buildings and/or terrain present or rectangular area source, skipping probe

FLOWSECTOR   started 02/12/18 11:02:33
 *****************************************

  Running AERMOD
 Processing Winter

Processing surface roughness sector  1

****************************************************
Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector   0

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

****************************************************
Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector   5

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

****************************************************
Processing wind flow sector   3

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  10

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

****************************************************
Processing wind flow sector   4

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  15

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

****************************************************
Processing wind flow sector   5

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  20

    ********   WARNING MESSAGES   ********
               ***  NONE  ***
```

```
**************************************************
Processing wind flow sector   6

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  25

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   7

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  30

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   8

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  35

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   9

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  40

    ********   WARNING MESSAGES   ********
               ***  NONE  ***
 *****************************************

  Running AERMOD
 Processing Spring

Processing surface roughness sector  1

**************************************************
Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector   0

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector   5

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   3

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  10

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   4

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  15

    ********   WARNING MESSAGES   ********
               ***  NONE  ***
```

```
**************************************************
Processing wind flow sector   5

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  20

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   6

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  25

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   7

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  30

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   8

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  35

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   9

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  40

    ********   WARNING MESSAGES   ********
               ***  NONE  ***
 *****************************************

  Running AERMOD
 Processing Summer

Processing surface roughness sector  1

**************************************************
Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector   0

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector   5

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   3

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  10

    ********   WARNING MESSAGES   ********
               ***  NONE  ***
```

```
**************************************************
Processing wind flow sector   4

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  15

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   5

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  20

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   6

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  25

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   7

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  30

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   8

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  35

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   9

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  40

    ********   WARNING MESSAGES   ********
               ***  NONE  ***
 ******************************************

  Running AERMOD
 Processing Autumn

Processing surface roughness sector  1

**************************************************
Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector   0

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector   5

    ********   WARNING MESSAGES   ********
               ***  NONE  ***
```

```
**************************************************
Processing wind flow sector   3

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  10

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   4

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  15

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   5

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  20

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   6

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  25

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   7

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  30

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   8

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  35

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   9

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  40

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

FLOWSECTOR   ended 02/12/18 11:02:53

REFINE       started 02/12/18 11:02:53

 AERMOD Finishes Successfully for REFINE stage 3 Winter sector   0

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

REFINE       ended 02/12/18 11:02:54

 ******************************************
 AERSCREEN Finished Successfully
 With no errors or warnings
```

SC

Check log file for details
****

Ending date and time 02/12/18 11:02:55

A-11 AERSCREEN Inputs – West Annex AWPF

Start date and time 02/12/18 11:51:43
AERSCREEN 16216

Annex

Annex

```
         -----------------  DATA ENTRY VALIDATION  -----------------
                          METRIC              ENGLISH
 ** AREADATA **  ---------------     ----------------

 Emission Rate:       1.0000 g/s             7.937 lb/hr
 Area Height:           3.89 meters          12.76 feet
 Area Source Length:   76.00 meters         249.34 feet
 Area Source Width:    43.00 meters         141.08 feet
 Vertical Dimension:    1.40 meters           4.59 feet
 Model Mode:           URBAN
 Population:           64465
 Dist to Ambient Air:           1.0 meters             3. feet


 ** BUILDING DATA **

 No Building Downwash Parameters


 ** TERRAIN DATA **

 No Terrain Elevations
 Source Base Elevation:   0.0 meters        0.0  feet

 Probe distance:   5000. meters       16404. feet
 Flagpole Receptor Height:      1.5 meters             5. feet

 No discrete receptors used


 ** FUMIGATION DATA **

 No fumigation requested


 ** METEOROLOGY DATA **

 Min/Max Temperature:  277.0 / 298.0 K   38.9 /  76.7 Deg F

 Minimum Wind Speed:     0.5 m/s

 Anemometer Height:   10.000 meters

 Dominant Surface Profile: Urban
 Dominant Climate Type:    Average Moisture

 Surface friction velocity (u*): not adjusted

DEBUG OPTION OFF



 AERSCREEN output file:
 Annex.out


 *** AERSCREEN Run is Ready to Begin



 No terrain used, AERMAP will not be run
```

```
**************************************************

SURFACE CHARACTERISTICS & MAKEMET
Obtaining surface characteristics...

Using AERMET seasonal surface characteristics for Urban with Average Moisture
Season             Albedo     Bo       zo
Winter              0.35     1.50     1.000
Spring              0.14     1.00     1.000
Summer              0.16     2.00     1.000
Autumn              0.18     2.00     1.000

Creating met files aerscreen_01_01.sfc & aerscreen_01_01.pfl

Creating met files aerscreen_02_01.sfc & aerscreen_02_01.pfl

Creating met files aerscreen_03_01.sfc & aerscreen_03_01.pfl

Creating met files aerscreen_04_01.sfc & aerscreen_04_01.pfl

Buildings and/or terrain present or rectangular area source, skipping probe

FLOWSECTOR   started 02/12/18 11:52:28
 ******************************************

  Running AERMOD
 Processing Winter

Processing surface roughness sector  1

**************************************************
Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector   0

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector   5

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   3

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  10

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   4

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  15

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   5

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  20

    ********   WARNING MESSAGES   ********
               ***  NONE  ***
```

```
**************************************************
Processing wind flow sector   6

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  25

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   7

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  30

    ********   WARNING MESSAGES   ********
               ***  NONE  ***
 ****************************************

  Running AERMOD
 Processing Spring

Processing surface roughness sector  1

**************************************************
Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector   0

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector   5

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   3

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  10

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   4

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  15

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   5

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  20

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   6

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  25

    ********   WARNING MESSAGES   ********
               ***  NONE  ***
```

```
**************************************************
Processing wind flow sector   7

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  30

    ********   WARNING MESSAGES   ********
               ***  NONE  ***
 *****************************************

  Running AERMOD
 Processing Summer

Processing surface roughness sector  1

**************************************************
Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector   0

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector   5

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   3

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  10

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   4

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  15

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   5

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  20

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   6

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  25

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   7

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  30

    ********   WARNING MESSAGES   ********
               ***  NONE  ***
 *****************************************
```

```
  Running AERMOD
 Processing Autumn

Processing surface roughness sector  1

*************************************************
Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector   0

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

*************************************************
Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector   5

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

*************************************************
Processing wind flow sector   3

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  10

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

*************************************************
Processing wind flow sector   4

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  15

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

*************************************************
Processing wind flow sector   5

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  20

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

*************************************************
Processing wind flow sector   6

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  25

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

*************************************************
Processing wind flow sector   7

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  30

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

FLOWSECTOR   ended 02/12/18 11:52:46

REFINE       started 02/12/18 11:52:46

 AERMOD Finishes Successfully for REFINE stage 3 Winter sector   0

    ********   WARNING MESSAGES   ********
               ***  NONE  ***
```

```
REFINE       ended 02/12/18 11:52:48

 ********************************************
 AERSCREEN Finished Successfully
 With no errors or warnings
 Check log file for details
 ********************************************

 Ending date and time  02/12/18 11:52:49
```

A-12 AERSCREEN Inputs – Recharge Well: Cabrillo

Start date and time 02/12/18 15:33:09
AERSCREEN 16216

WellCab

WellCab

---------- DATA ENTRY VALIDATION ----------

** AREADATA **	METRIC	ENGLISH
Emission Rate:	1.0000 g/s	7.937 lb/hr
Area Height:	3.89 meters	12.76 feet
Area Source Length:	28.00 meters	91.86 feet
Area Source Width:	28.00 meters	91.86 feet
Vertical Dimension:	1.40 meters	4.59 feet
Model Mode:	URBAN	
Population:	64465	
Dist to Ambient Air:	1.0 meters	3. feet

** BUILDING DATA **

No Building Downwash Parameters

** TERRAIN DATA **

No Terrain Elevations
Source Base Elevation: 0.0 meters 0.0 feet

Probe distance: 5000. meters 16404. feet
Flagpole Receptor Height: 1.5 meters 5. feet

No discrete receptors used

** FUMIGATION DATA **

No fumigation requested

** METEOROLOGY DATA **

Min/Max Temperature: 277.0 / 298.0 K 38.9 / 76.7 Deg F

Minimum Wind Speed: 0.5 m/s

Anemometer Height: 10.000 meters

Dominant Surface Profile: Urban
Dominant Climate Type: Average Moisture

Surface friction velocity (u*): not adjusted

DEBUG OPTION OFF

AERSCREEN output file:
WellCab.out

*** AERSCREEN Run is Ready to Begin

No terrain used, AERMAP will not be run
****

SURFACE CHARACTERISTICS & MAKEMET
Obtaining surface characteristics...

Using AERMET seasonal surface characteristics for Urban with Average Moisture

Season	Albedo	Bo	zo
Winter	0.35	1.50	1.000
Spring	0.14	1.00	1.000
Summer	0.16	2.00	1.000
Autumn	0.18	2.00	1.000

Creating met files aerscreen_01_01.sfc & aerscreen_01_01.pfl

Creating met files aerscreen_02_01.sfc & aerscreen_02_01.pfl

Creating met files aerscreen_03_01.sfc & aerscreen_03_01.pfl

Creating met files aerscreen_04_01.sfc & aerscreen_04_01.pfl

Buildings and/or terrain present or rectangular area source, skipping probe

FLOWSECTOR started 02/12/18 15:33:47
****

Running AERMOD
Processing Winter

Processing surface roughness sector 1

****
Processing wind flow sector 1

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector 0

******** WARNING MESSAGES ********
*** NONE ***

****
Processing wind flow sector 2

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector 5

******** WARNING MESSAGES ********
*** NONE ***

****
Processing wind flow sector 3

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector 10

******** WARNING MESSAGES ********
*** NONE ***

****
Processing wind flow sector 4

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector 15

******** WARNING MESSAGES ********

*** NONE ***

****
Processing wind flow sector 5

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector 20

******** WARNING MESSAGES ********
*** NONE ***

****
Processing wind flow sector 6

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector 25

******** WARNING MESSAGES ********
*** NONE ***

****
Processing wind flow sector 7

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector 30

******** WARNING MESSAGES ********
*** NONE ***

****
Processing wind flow sector 8

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector 35

******** WARNING MESSAGES ********
*** NONE ***

****
Processing wind flow sector 9

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector 40

******** WARNING MESSAGES ********
*** NONE ***

****
Processing wind flow sector 10

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector 45

******** WARNING MESSAGES ********
*** NONE ***

****
Processing wind flow sector 11

AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector 50

******** WARNING MESSAGES ********
*** NONE ***
****

Running AERMOD
Processing Spring

Processing surface roughness sector 1

****

```
Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector   0

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

*************************************************
Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector   5

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

*************************************************
Processing wind flow sector   3

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  10

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

*************************************************
Processing wind flow sector   4

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  15

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

*************************************************
Processing wind flow sector   5

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  20

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

*************************************************
Processing wind flow sector   6

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  25

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

*************************************************
Processing wind flow sector   7

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  30

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

*************************************************
Processing wind flow sector   8

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  35

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

*************************************************
Processing wind flow sector   9
```

```
 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  40

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

***************************************************
Processing wind flow sector  10

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  45

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

***************************************************
Processing wind flow sector  11

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  50

    ********   WARNING MESSAGES   ********
               ***  NONE  ***
 *****************************************

  Running AERMOD
 Processing Summer

Processing surface roughness sector  1

***************************************************
Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector   0

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

***************************************************
Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector   5

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

***************************************************
Processing wind flow sector   3

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  10

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

***************************************************
Processing wind flow sector   4

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  15

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

***************************************************
Processing wind flow sector   5

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  20
```

```
    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   6

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  25

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   7

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  30

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   8

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  35

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   9

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  40

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector  10

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  45

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector  11

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  50

    ********   WARNING MESSAGES   ********
               ***  NONE  ***
 ******************************************

  Running AERMOD
 Processing Autumn

Processing surface roughness sector  1

**************************************************
Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector   0

    ********   WARNING MESSAGES   ********
               ***  NONE  ***
```

```
**************************************************
Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector   5

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   3

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  10

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   4

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  15

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   5

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  20

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   6

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  25

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   7

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  30

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   8

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  35

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   9

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  40

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
```

```
Processing wind flow sector  10

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  45

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

*************************************************
Processing wind flow sector  11

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  50

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

FLOWSECTOR   ended 02/12/18 15:34:11

REFINE       started 02/12/18 15:34:11

 AERMOD Finishes Successfully for REFINE stage 3 Winter sector   0

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

REFINE       ended 02/12/18 15:34:12

 *******************************************
 AERSCREEN Finished Successfully
 With no errors or warnings
 Check log file for details
 *******************************************

 Ending date and time  02/12/18 15:34:13
```

A-13 AERSCREEN Inputs – Recharge Well: Monterey

Start date and time 02/12/18 14:58:23
AERSCREEN 16216

WellMont

WellMont

---------- DATA ENTRY VALIDATION ----------

** AREADATA **	METRIC	ENGLISH
Emission Rate:	1.0000 g/s	7.937 lb/hr
Area Height:	3.89 meters	12.76 feet
Area Source Length:	20.00 meters	65.62 feet
Area Source Width:	20.00 meters	65.62 feet
Vertical Dimension:	1.40 meters	4.59 feet
Model Mode:	URBAN	
Population:	66465	
Dist to Ambient Air:	1.0 meters	3. feet

** BUILDING DATA **

No Building Downwash Parameters

** TERRAIN DATA **

No Terrain Elevations
Source Base Elevation: 0.0 meters 0.0 feet

Probe distance: 5000. meters 16404. feet
Flagpole Receptor Height: 1.5 meters 5. feet

No discrete receptors used

** FUMIGATION DATA **

No fumigation requested

** METEOROLOGY DATA **

Min/Max Temperature: 277.0 / 298.0 K 38.9 / 76.7 Deg F

Minimum Wind Speed: 0.5 m/s

Anemometer Height: 10.000 meters

Dominant Surface Profile: Urban
Dominant Climate Type: Average Moisture

Surface friction velocity (u*): not adjusted

DEBUG OPTION OFF

AERSCREEN output file:
WellMont.out

*** AERSCREEN Run is Ready to Begin

No terrain used, AERMAP will not be run

****

SURFACE CHARACTERISTICS & MAKEMET
Obtaining surface characteristics...

Using AERMET seasonal surface characteristics for Urban with Average Moisture

Season	Albedo	Bo	zo
Winter	0.35	1.50	1.000
Spring	0.14	1.00	1.000
Summer	0.16	2.00	1.000
Autumn	0.18	2.00	1.000

Creating met files aerscreen_01_01.sfc & aerscreen_01_01.pfl

Creating met files aerscreen_02_01.sfc & aerscreen_02_01.pfl

Creating met files aerscreen_03_01.sfc & aerscreen_03_01.pfl

Creating met files aerscreen_04_01.sfc & aerscreen_04_01.pfl

Buildings and/or terrain present or rectangular area source, skipping probe

FLOWSECTOR   started 02/12/18 14:59:09
 ****

  Running AERMOD
 Processing Winter

Processing surface roughness sector 1

****
Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector   0

    ********   WARNING MESSAGES   ********
               *** NONE ***

****
Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector   5

    ********   WARNING MESSAGES   ********
               *** NONE ***

****
Processing wind flow sector   3

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector 10

    ********   WARNING MESSAGES   ********
               *** NONE ***

****
Processing wind flow sector   4

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector 15

    ********   WARNING MESSAGES   ********
               *** NONE ***

****
Processing wind flow sector   5

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector 20

    ********   WARNING MESSAGES   ********
               *** NONE ***

```
**************************************************
Processing wind flow sector   6

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  25

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   7

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  30

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   8

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  35

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   9

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  40

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector  10

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  45

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector  11

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  50

    ********   WARNING MESSAGES   ********
               ***  NONE  ***
 ******************************************

  Running AERMOD
 Processing Spring

Processing surface roughness sector  1

**************************************************
Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector   0

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector   5

    ********   WARNING MESSAGES   ********
               ***  NONE  ***
```

```
**************************************************
Processing wind flow sector   3

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  10

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   4

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  15

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   5

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  20

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   6

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  25

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   7

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  30

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   8

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  35

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   9

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  40

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector  10

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  45

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector  11

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  50

    ********   WARNING MESSAGES   ********
```

```
              ***  NONE  ***
 ******************************************

  Running AERMOD
 Processing Summer

Processing surface roughness sector  1

****************************************************
Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector   0

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

****************************************************
Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector   5

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

****************************************************
Processing wind flow sector   3

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  10

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

****************************************************
Processing wind flow sector   4

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  15

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

****************************************************
Processing wind flow sector   5

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  20

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

****************************************************
Processing wind flow sector   6

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  25

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

****************************************************
Processing wind flow sector   7

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  30

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

****************************************************
Processing wind flow sector   8

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  35

    ********   WARNING MESSAGES   ********
```

```
               ***  NONE  ***

**************************************************
Processing wind flow sector   9

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  40

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector  10

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  45

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector  11

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  50

    ********   WARNING MESSAGES   ********
               ***  NONE  ***
 ******************************************

  Running AERMOD
 Processing Autumn

Processing surface roughness sector  1

**************************************************
Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector   0

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector   5

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   3

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  10

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   4

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  15

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   5

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  20

    ********   WARNING MESSAGES   ********
```

```
               ***  NONE  ***

************************************************
Processing wind flow sector   6

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  25

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

************************************************
Processing wind flow sector   7

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  30

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

************************************************
Processing wind flow sector   8

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  35

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

************************************************
Processing wind flow sector   9

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  40

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

************************************************
Processing wind flow sector  10

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  45

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

************************************************
Processing wind flow sector  11

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  50

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

FLOWSECTOR   ended 02/12/18 14:59:32

REFINE       started 02/12/18 14:59:32

 AERMOD Finishes Successfully for REFINE stage 3 Winter sector   0

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

REFINE       ended 02/12/18 14:59:33

 ********************************************
 AERSCREEN Finished Successfully
 With no errors or warnings
 Check log file for details
 ********************************************

 Ending date and time  02/12/18 14:59:34
```

A-14 AERSCREEN Inputs – Recharge Well: Willowbrook

Start date and time 02/12/18 15:30:07
AERSCREEN 16216

WellWill

WellWill

---------- DATA ENTRY VALIDATION ----------

** AREADATA **	METRIC	ENGLISH
Emission Rate:	1.0000 g/s	7.937 lb/hr
Area Height:	3.89 meters	12.76 feet
Area Source Length:	25.00 meters	82.02 feet
Area Source Width:	25.00 meters	82.02 feet
Vertical Dimension:	1.40 meters	4.59 feet
Model Mode:	URBAN	
Population:	64465	
Dist to Ambient Air:	1.0 meters	3. feet

** BUILDING DATA **

No Building Downwash Parameters

** TERRAIN DATA **

No Terrain Elevations
Source Base Elevation: 0.0 meters 0.0 feet

Probe distance: 5000. meters 16404. feet
Flagpole Receptor Height: 1.5 meters 5. feet

No discrete receptors used

** FUMIGATION DATA **

No fumigation requested

** METEOROLOGY DATA **

Min/Max Temperature: 277.0 / 298.0 K 38.9 / 76.7 Deg F

Minimum Wind Speed: 0.5 m/s

Anemometer Height: 10.000 meters

Dominant Surface Profile: Urban
Dominant Climate Type: Average Moisture

Surface friction velocity (u*): not adjusted

DEBUG OPTION OFF

AERSCREEN output file:
WellWill.out

*** AERSCREEN Run is Ready to Begin

No terrain used, AERMAP will not be run

****

SURFACE CHARACTERISTICS & MAKEMET
Obtaining surface characteristics...

Using AERMET seasonal surface characteristics for Urban with Average Moisture

Season	Albedo	Bo	zo
Winter	0.35	1.50	1.000
Spring	0.14	1.00	1.000
Summer	0.16	2.00	1.000
Autumn	0.18	2.00	1.000

Creating met files aerscreen_01_01.sfc & aerscreen_01_01.pfl

Creating met files aerscreen_02_01.sfc & aerscreen_02_01.pfl

Creating met files aerscreen_03_01.sfc & aerscreen_03_01.pfl

Creating met files aerscreen_04_01.sfc & aerscreen_04_01.pfl

Buildings and/or terrain present or rectangular area source, skipping probe

FLOWSECTOR   started 02/12/18 15:31:18
 ****

  Running AERMOD
 Processing Winter

Processing surface roughness sector 1

****
Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector   0

    ********   WARNING MESSAGES   ********
               *** NONE ***

****
Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector   5

    ********   WARNING MESSAGES   ********
               *** NONE ***

****
Processing wind flow sector   3

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector 10

    ********   WARNING MESSAGES   ********
               *** NONE ***

****
Processing wind flow sector   4

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector 15

    ********   WARNING MESSAGES   ********
               *** NONE ***

****
Processing wind flow sector   5

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector 20

    ********   WARNING MESSAGES   ********
               *** NONE ***

```
**************************************************
Processing wind flow sector   6

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  25

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   7

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  30

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   8

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  35

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   9

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  40

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector  10

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  45

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector  11

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  50

    ********   WARNING MESSAGES   ********
               ***  NONE  ***
 ******************************************

  Running AERMOD
 Processing Spring

Processing surface roughness sector  1

**************************************************
Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector   0

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector   5

    ********   WARNING MESSAGES   ********
               ***  NONE  ***
```

****
Processing wind flow sector   3

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector 10

    ********   WARNING MESSAGES   ********
               *** NONE ***

****
Processing wind flow sector   4

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector 15

    ********   WARNING MESSAGES   ********
               *** NONE ***

****
Processing wind flow sector   5

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector 20

    ********   WARNING MESSAGES   ********
               *** NONE ***

****
Processing wind flow sector   6

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector 25

    ********   WARNING MESSAGES   ********
               *** NONE ***

****
Processing wind flow sector   7

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector 30

    ********   WARNING MESSAGES   ********
               *** NONE ***

****
Processing wind flow sector   8

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector 35

    ********   WARNING MESSAGES   ********
               *** NONE ***

****
Processing wind flow sector   9

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector 40

    ********   WARNING MESSAGES   ********
               *** NONE ***

****
Processing wind flow sector 10

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector 45

    ********   WARNING MESSAGES   ********
               *** NONE ***

****
Processing wind flow sector 11

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector 50

    ********   WARNING MESSAGES   ********

            *** NONE ***
 ****

  Running AERMOD
 Processing Summer

Processing surface roughness sector 1

****
Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector   0

    ********   WARNING MESSAGES   ********
               *** NONE ***

****
Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector   5

    ********   WARNING MESSAGES   ********
               *** NONE ***

****
Processing wind flow sector   3

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector 10

    ********   WARNING MESSAGES   ********
               *** NONE ***

****
Processing wind flow sector   4

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector 15

    ********   WARNING MESSAGES   ********
               *** NONE ***

****
Processing wind flow sector   5

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector 20

    ********   WARNING MESSAGES   ********
               *** NONE ***

****
Processing wind flow sector   6

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector 25

    ********   WARNING MESSAGES   ********
               *** NONE ***

****
Processing wind flow sector   7

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector 30

    ********   WARNING MESSAGES   ********
               *** NONE ***

****
Processing wind flow sector   8

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector 35

    ********   WARNING MESSAGES   ********

```
               ***  NONE  ***

**************************************************
Processing wind flow sector   9

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  40

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector  10

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  45

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector  11

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  50

    ********   WARNING MESSAGES   ********
               ***  NONE  ***
 *****************************************

  Running AERMOD
 Processing Autumn

Processing surface roughness sector  1

**************************************************
Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector   0

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector   5

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   3

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  10

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   4

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  15

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   5

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  20

    ********   WARNING MESSAGES   ********
```

```
               ***  NONE  ***

**************************************************
Processing wind flow sector   6

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  25

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   7

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  30

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   8

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  35

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   9

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  40

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector  10

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  45

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector  11

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  50

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

FLOWSECTOR   ended 02/12/18 15:31:40

REFINE       started 02/12/18 15:31:40

 AERMOD Finishes Successfully for REFINE stage 3 Winter sector   0

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

REFINE       ended 02/12/18 15:31:40

 ********************************************
 AERSCREEN Finished Successfully
 With no errors or warnings
 Check log file for details
 ********************************************

 Ending date and time  02/12/18 15:31:41
```

A-15 AERSCREEN Inputs – Recharge Well: Twin Lakes

Start date and time 04/09/18 11:36:20
AERSCREEN 16216

TwinLakes

TwinLakes

---------- DATA ENTRY VALIDATION ----------

** AREADATA **	METRIC	ENGLISH
Emission Rate:	1.0000 g/s	7.937 lb/hr
Area Height:	3.89 meters	12.76 feet
Area Source Length:	27.00 meters	88.58 feet
Area Source Width:	12.00 meters	39.37 feet
Vertical Dimension:	1.40 meters	4.59 feet
Model Mode:	URBAN	
Population:	64465	
Dist to Ambient Air:	1.0 meters	3. feet

** BUILDING DATA **

No Building Downwash Parameters

** TERRAIN DATA **

No Terrain Elevations
Source Base Elevation: 0.0 meters 0.0 feet

Probe distance: 5000. meters 16404. feet
Flagpole Receptor Height: 1.5 meters 5. feet

No discrete receptors used

** FUMIGATION DATA **

No fumigation requested

** METEOROLOGY DATA **

Min/Max Temperature: 277.0 / 298.0 K 38.9 / 76.7 Deg F

Minimum Wind Speed: 0.5 m/s

Anemometer Height: 10.000 meters

Dominant Surface Profile: Urban
Dominant Climate Type: Average Moisture

Surface friction velocity (u*): not adjusted

DEBUG OPTION OFF

AERSCREEN output file:
TwinLakes.out

 *** AERSCREEN Run is Ready to Begin

 No terrain used, AERMAP will not be run
****

SURFACE CHARACTERISTICS & MAKEMET
Obtaining surface characteristics...

Using AERMET seasonal surface characteristics for Urban with Average Moisture
Season	Albedo	Bo	zo
Winter	0.35	1.50	1.000
Spring	0.14	1.00	1.000
Summer	0.16	2.00	1.000
Autumn	0.18	2.00	1.000

Creating met files aerscreen_01_01.sfc & aerscreen_01_01.pfl

Creating met files aerscreen_02_01.sfc & aerscreen_02_01.pfl

Creating met files aerscreen_03_01.sfc & aerscreen_03_01.pfl

Creating met files aerscreen_04_01.sfc & aerscreen_04_01.pfl

Buildings and/or terrain present or rectangular area source, skipping probe

FLOWSECTOR   started 04/09/18 11:37:32
 ****

  Running AERMOD
 Processing Winter

Processing surface roughness sector 1

****
Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector   0

    ********   WARNING MESSAGES   ********
               *** NONE ***

****
Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector   5

    ********   WARNING MESSAGES   ********
               *** NONE ***

****
Processing wind flow sector   3

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector 10

    ********   WARNING MESSAGES   ********
               *** NONE ***

****
Processing wind flow sector   4

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector 15

    ********   WARNING MESSAGES   ********

```
               ***  NONE  ***

**************************************************
Processing wind flow sector   5

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  20

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   6

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  25

    ********   WARNING MESSAGES   ********
               ***  NONE  ***
 ****************************************

  Running AERMOD
 Processing Spring

Processing surface roughness sector  1

**************************************************
Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector   0

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector   5

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   3

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  10

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   4

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  15

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   5

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  20

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
```

```
Processing wind flow sector   6

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  25

    ********   WARNING MESSAGES   ********
               ***  NONE  ***
 ******************************************

  Running AERMOD
 Processing Summer

Processing surface roughness sector  1

**************************************************
Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector   0

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector   5

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   3

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  10

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   4

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  15

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   5

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  20

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   6

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  25

    ********   WARNING MESSAGES   ********
               ***  NONE  ***
 ******************************************

  Running AERMOD
 Processing Autumn
```

```
Processing surface roughness sector  1

*************************************************
Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector   0

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

*************************************************
Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector   5

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

*************************************************
Processing wind flow sector   3

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  10

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

*************************************************
Processing wind flow sector   4

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  15

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

*************************************************
Processing wind flow sector   5

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  20

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

*************************************************
Processing wind flow sector   6

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  25

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

FLOWSECTOR   ended 04/09/18 11:37:47

REFINE       started 04/09/18 11:37:47

 AERMOD Finishes Successfully for REFINE stage 3 Winter sector   0

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

REFINE       ended 04/09/18 11:37:48

 *****************************************
 AERSCREEN Finished Successfully
 With no errors or warnings
 Check log file for details
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Ending date and time 04/09/18 11:37:49

A-16 AERSCREEN Outputs – Chanticleer AWPF

Concentration	Distance	Elevation	Diag	Season/Month	Zo sector	Date	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	HT	REF TA	HT
0.24371E+04	1.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.31131E+04	25.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.35838E+04	50.00	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
* 0.35876E+04	51.00	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.24048E+04	75.00	0.00	35.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.15801E+04	100.00	0.00	30.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11835E+04	125.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.93513E+03	150.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.76405E+03	175.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.64052E+03	200.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.54783E+03	225.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.47595E+03	250.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.41903E+03	275.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.37295E+03	300.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.33482E+03	325.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.30307E+03	350.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.27615E+03	375.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.25309E+03	400.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.23325E+03	425.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.21591E+03	450.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.20070E+03	475.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.18719E+03	500.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.17517E+03	525.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.16443E+03	550.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.15480E+03	575.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.14611E+03	600.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13824E+03	625.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13109E+03	650.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12456E+03	675.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11855E+03	700.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11303E+03	725.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10791E+03	750.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10319E+03	775.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.98820E+02	800.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.94773E+02	825.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.91001E+02	850.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.87479E+02	875.01	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.84187E+02	900.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.81106E+02	925.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.78215E+02	950.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.75494E+02	975.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.72934E+02	1000.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.70520E+02	1025.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.68249E+02	1050.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.66103E+02	1075.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.64068E+02	1100.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.62143E+02	1125.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.60318E+02	1150.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.58584E+02	1175.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.57273E+02	1200.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.55676E+02	1225.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.54154E+02	1250.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.52703E+02	1275.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.51318E+02	1300.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.49995E+02	1325.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.48730E+02	1350.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.47519E+02	1375.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.46360E+02	1400.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.45248E+02	1425.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.44182E+02	1450.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.43159E+02	1475.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.42176E+02	1500.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.41231E+02	1525.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.40323E+02	1550.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.39448E+02	1575.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.38606E+02	1600.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.37794E+02	1625.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.37012E+02	1650.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.36257E+02	1675.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.35529E+02	1700.00	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.34825E+02	1725.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.34145E+02	1750.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.33488E+02	1775.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.32853E+02	1800.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.32238E+02	1825.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.31642E+02	1850.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.31066E+02	1875.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.30508E+02	1900.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.29966E+02	1924.99	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.29441E+02	1950.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.28932E+02	1975.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.28438E+02	2000.00	0.00	35.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.27958E+02	2025.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.27492E+02	2050.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.27040E+02	2075.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.26600E+02	2100.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.26173E+02	2125.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.25757E+02	2150.00	0.00	30.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.25352E+02	2175.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.24959E+02	2200.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.24575E+02	2225.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.24202E+02	2250.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.23839E+02	2275.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.23485E+02	2300.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.23140E+02	2325.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.22804E+02	2350.00	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.22476E+02	2375.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.22156E+02	2399.99	0.00	35.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.21844E+02	2425.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.21539E+02	2449.99	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.21242E+02	2475.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.20952E+02	2500.00	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.20668E+02	2525.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.20391E+02	2550.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.20121E+02	2575.00	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.19857E+02	2600.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.19598E+02	2625.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.19346E+02	2650.00	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.19099E+02	2675.00	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.18857E+02	2700.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.18621E+02	2725.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.18389E+02	2750.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.18163E+02	2775.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.17941E+02	2800.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.17725E+02	2825.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.17512E+02	2850.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.17304E+02	2875.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.17100E+02	2900.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.16901E+02	2925.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.16705E+02	2950.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.16513E+02	2975.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.16325E+02	3000.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.16141E+02	3025.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.15960E+02	3050.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0

Chant_max_conc_distance

0.15783E+02	3075.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.15609E+02	3100.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.15438E+02	3125.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.15271E+02	3150.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.15107E+02	3175.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.14946E+02	3200.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.14787E+02	3225.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.14632E+02	3250.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.14479E+02	3275.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.14329E+02	3300.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.14182E+02	3325.00	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.14038E+02	3350.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13896E+02	3375.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13756E+02	3400.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13619E+02	3425.00	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13484E+02	3450.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13351E+02	3475.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13221E+02	3500.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13093E+02	3525.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12967E+02	3550.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12843E+02	3575.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12721E+02	3600.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12601E+02	3625.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12484E+02	3650.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12368E+02	3675.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12253E+02	3700.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12141E+02	3725.00	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12031E+02	3750.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11922E+02	3775.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11814E+02	3800.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11709E+02	3825.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11605E+02	3850.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11503E+02	3875.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11402E+02	3900.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11303E+02	3925.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11205E+02	3950.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11109E+02	3975.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11014E+02	4000.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10921E+02	4025.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10828E+02	4050.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10738E+02	4074.99	0.00	35.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10648E+02	4100.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10560E+02	4125.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10473E+02	4150.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10388E+02	4175.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10303E+02	4200.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10220E+02	4225.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10138E+02	4250.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10057E+02	4275.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.99768E+01	4300.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.98980E+01	4325.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.98203E+01	4350.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.97437E+01	4375.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.96680E+01	4400.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.95934E+01	4425.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.95198E+01	4449.99	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.94472E+01	4475.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.93755E+01	4500.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.93047E+01	4525.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.92348E+01	4550.00	0.00	40.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.91659E+01	4575.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.90979E+01	4599.99	0.00	40.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.90307E+01	4625.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.89643E+01	4650.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.88989E+01	4675.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.88342E+01	4700.00	0.00	35.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.87704E+01	4725.00	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.87073E+01	4750.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.86450E+01	4775.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.85835E+01	4800.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.85227E+01	4825.00	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.84627E+01	4850.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.84035E+01	4875.00	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.83449E+01	4899.99	0.00	35.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.82870E+01	4924.99	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.82298E+01	4950.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.81733E+01	4975.00	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.81175E+01	5000.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0

A-17 AERSCREEN Outputs – SC WWTF Facilities

Concentration	Distance	Elevation	Diag	Season/Month	Zo sector	Date	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	HT	REF TA	HT
0.64123E+04	1.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
* 0.10396E+05	24.00	0.00	35.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10353E+05	25.00	0.00	35.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.45456E+04	50.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.26146E+04	75.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.17576E+04	100.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12908E+04	125.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10032E+04	150.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.81045E+03	175.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.67386E+03	200.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.57289E+03	225.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.49526E+03	250.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.43429E+03	275.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.38523E+03	300.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.34501E+03	325.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.31162E+03	350.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.28353E+03	375.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.25949E+03	400.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.23867E+03	425.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.22056E+03	450.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.20472E+03	475.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.19076E+03	500.00	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.17838E+03	525.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.16802E+03	550.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.15804E+03	575.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.14905E+03	600.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.14091E+03	625.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13350E+03	649.99	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12674E+03	675.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12056E+03	700.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11488E+03	725.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10964E+03	749.99	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10481E+03	775.00	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10033E+03	800.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.96179E+02	825.00	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.92313E+02	850.00	0.00	30.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.88709E+02	875.00	0.00	30.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.85341E+02	900.00	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.82190E+02	924.99	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.79234E+02	950.00	0.00	30.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.76457E+02	975.00	0.00	30.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.73845E+02	1000.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.71384E+02	1025.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.69061E+02	1050.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.66867E+02	1075.00	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.64790E+02	1100.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.62822E+02	1125.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.60956E+02	1149.99	0.00	35.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.59184E+02	1175.00	0.00	35.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.57499E+02	1200.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.55896E+02	1224.99	0.00	40.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.54368E+02	1249.99	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.52911E+02	1275.00	0.00	30.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.51521E+02	1300.00	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.50192E+02	1325.00	0.00	30.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.48922E+02	1350.00	0.00	30.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.47707E+02	1375.00	0.00	30.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.46542E+02	1400.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.45427E+02	1425.00	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.44357E+02	1450.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.43329E+02	1475.00	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.42342E+02	1500.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.41394E+02	1525.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.40482E+02	1550.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.39604E+02	1574.99	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.38758E+02	1600.00	0.00	35.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.37943E+02	1625.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.37158E+02	1650.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.36400E+02	1675.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.35669E+02	1700.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.34962E+02	1725.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.34280E+02	1750.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.33620E+02	1775.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.32982E+02	1800.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.32365E+02	1825.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.31767E+02	1850.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.31189E+02	1875.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.30628E+02	1900.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.30084E+02	1924.99	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.29557E+02	1950.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.29046E+02	1975.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.28550E+02	2000.00	0.00	35.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.28069E+02	2025.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.27601E+02	2050.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.27146E+02	2075.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.26705E+02	2100.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.26276E+02	2125.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.25858E+02	2150.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.25452E+02	2175.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.25057E+02	2200.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.24672E+02	2225.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.24298E+02	2250.00	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.23933E+02	2275.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.23577E+02	2300.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.23231E+02	2325.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.22893E+02	2350.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.22564E+02	2375.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.22243E+02	2399.99	0.00	35.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.21930E+02	2425.00	0.00	35.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.21624E+02	2450.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.21326E+02	2475.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.21034E+02	2500.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.20750E+02	2525.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.20472E+02	2550.00	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.20200E+02	2575.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.19935E+02	2600.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.19676E+02	2625.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.19422E+02	2650.00	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.19174E+02	2675.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.18931E+02	2700.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.18694E+02	2725.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.18462E+02	2750.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.18235E+02	2775.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.18012E+02	2800.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.17795E+02	2824.99	0.00	35.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.17581E+02	2850.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.17372E+02	2875.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.17168E+02	2900.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.16967E+02	2925.00	0.00	30.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.16771E+02	2950.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.16578E+02	2975.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.16390E+02	3000.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.16205E+02	3025.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.16023E+02	3050.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0

											SC_max_conc_distance								
0.15845E+02	3074.99	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.15671E+02	3100.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.15499E+02	3125.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.15331E+02	3150.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.15166E+02	3175.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.15005E+02	3200.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.14846E+02	3225.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.14690E+02	3250.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.14536E+02	3275.00	0.00	35.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.14386E+02	3300.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.14238E+02	3325.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.14093E+02	3350.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13950E+02	3375.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13810E+02	3400.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13672E+02	3425.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13537E+02	3450.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13404E+02	3475.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13273E+02	3500.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13145E+02	3525.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13018E+02	3550.00	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12894E+02	3575.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12772E+02	3600.00	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12651E+02	3625.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12533E+02	3650.00	0.00	40.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12416E+02	3675.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12302E+02	3700.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12189E+02	3725.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12078E+02	3750.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11969E+02	3775.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11861E+02	3800.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11755E+02	3825.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11651E+02	3849.99	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11548E+02	3875.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11447E+02	3900.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11347E+02	3925.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11249E+02	3950.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11153E+02	3975.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11057E+02	4000.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10964E+02	4025.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10871E+02	4050.00	0.00	30.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10780E+02	4074.99	0.00	35.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10690E+02	4100.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10602E+02	4125.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10515E+02	4150.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10429E+02	4175.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10344E+02	4200.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10260E+02	4225.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10178E+02	4250.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10096E+02	4275.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10016E+02	4300.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.99371E+01	4325.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.98591E+01	4350.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.97822E+01	4375.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.97062E+01	4400.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.96313E+01	4425.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.95574E+01	4449.99	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.94845E+01	4475.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.94125E+01	4500.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.93414E+01	4525.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.92713E+01	4550.00	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.92021E+01	4575.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.91338E+01	4599.99	0.00	40.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.90663E+01	4625.00	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.89998E+01	4650.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.89340E+01	4675.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.88691E+01	4700.00	0.00	35.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.88050E+01	4725.00	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.87417E+01	4750.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.86791E+01	4775.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.86174E+01	4800.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.85564E+01	4825.00	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.84962E+01	4850.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.84366E+01	4875.00	0.00	30.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.83778E+01	4900.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.83197E+01	4924.99	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.82623E+01	4950.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.82056E+01	4975.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.81496E+01	5000.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0

A-18 AERSCREEN Outputs – West Annex AWPF

Concentration	Distance	Elevation	Diag	Season/Month	Zo sector	Date	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	HT	REF TA	HT
0.39279E+04	1.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.51250E+04	25.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
* 0.55820E+04	39.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.47019E+04	50.00	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.26337E+04	75.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.17600E+04	100.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12878E+04	125.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.99943E+03	150.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.80699E+03	175.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.67128E+03	200.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.57047E+03	225.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.49325E+03	250.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.43262E+03	275.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.38365E+03	300.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.34364E+03	325.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.31044E+03	350.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.28237E+03	375.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.25841E+03	400.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.23771E+03	425.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.21975E+03	450.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.20405E+03	475.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.19017E+03	500.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.17788E+03	525.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.16692E+03	550.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.15707E+03	575.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.14822E+03	600.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.14020E+03	625.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13288E+03	650.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12619E+03	675.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12004E+03	700.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11438E+03	725.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10917E+03	750.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10436E+03	775.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10034E+03	800.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.96184E+02	825.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.92317E+02	850.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.88713E+02	875.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.85345E+02	900.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.82193E+02	925.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.79237E+02	950.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.76461E+02	975.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.73849E+02	1000.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.71387E+02	1025.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.69065E+02	1050.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.66869E+02	1075.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.64793E+02	1100.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.62825E+02	1125.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.60959E+02	1150.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.59187E+02	1175.00	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.57502E+02	1200.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.55898E+02	1225.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.54370E+02	1249.99	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.52913E+02	1275.00	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.51523E+02	1300.00	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.50195E+02	1325.00	0.00	30.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.48924E+02	1350.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.47709E+02	1375.00	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.46545E+02	1400.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.45429E+02	1425.00	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.44359E+02	1450.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.43331E+02	1475.00	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.42345E+02	1500.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.41396E+02	1525.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.40484E+02	1550.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.39606E+02	1574.99	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.38760E+02	1600.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.37945E+02	1625.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.37160E+02	1650.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.36402E+02	1675.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.35670E+02	1700.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.34964E+02	1725.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.34282E+02	1750.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.33622E+02	1775.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.32984E+02	1800.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.32367E+02	1824.99	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.31769E+02	1850.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.31190E+02	1875.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.30629E+02	1899.99	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.30086E+02	1924.99	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.29559E+02	1950.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.29048E+02	1975.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.28551E+02	2000.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.28070E+02	2025.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.27602E+02	2050.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.27148E+02	2075.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.26706E+02	2100.00	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.26277E+02	2124.99	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.25860E+02	2150.00	0.00	30.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.25453E+02	2175.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.25058E+02	2200.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.24674E+02	2225.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.24299E+02	2250.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.23934E+02	2275.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.23579E+02	2300.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.23232E+02	2325.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.22895E+02	2350.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.22565E+02	2375.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.22244E+02	2400.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.21931E+02	2425.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.21625E+02	2449.99	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.21327E+02	2475.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.21035E+02	2500.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.20751E+02	2525.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.20473E+02	2550.00	0.00	30.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.20201E+02	2575.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.19936E+02	2600.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.19677E+02	2625.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.19423E+02	2650.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.19175E+02	2675.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.18932E+02	2700.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.18695E+02	2725.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.18463E+02	2750.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.18236E+02	2775.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.18013E+02	2800.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.17795E+02	2825.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.17582E+02	2850.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.17373E+02	2875.00	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.17169E+02	2900.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.16968E+02	2925.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.16772E+02	2950.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.16579E+02	2975.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.16390E+02	3000.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.16205E+02	3025.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.16024E+02	3050.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0

Annex_max_conc_distance

0.15846E+02	3075.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.15671E+02	3100.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.15500E+02	3125.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.15332E+02	3150.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.15167E+02	3174.99	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.15005E+02	3200.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.14846E+02	3225.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.14690E+02	3250.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.14537E+02	3275.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.14387E+02	3300.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.14239E+02	3325.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.14094E+02	3350.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13951E+02	3375.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13811E+02	3400.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13673E+02	3425.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13538E+02	3450.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13405E+02	3475.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13274E+02	3500.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13145E+02	3525.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13019E+02	3550.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12894E+02	3575.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12772E+02	3600.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12652E+02	3625.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12533E+02	3650.00	0.00	30.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12417E+02	3675.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12302E+02	3700.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12190E+02	3725.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12078E+02	3750.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11969E+02	3775.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11862E+02	3800.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11756E+02	3825.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11651E+02	3850.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11549E+02	3875.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11448E+02	3900.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11348E+02	3925.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11250E+02	3950.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11153E+02	3975.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11058E+02	4000.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10964E+02	4025.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10872E+02	4050.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10781E+02	4075.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10691E+02	4100.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10602E+02	4125.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10515E+02	4150.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10429E+02	4175.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10344E+02	4200.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10261E+02	4225.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10178E+02	4250.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10097E+02	4275.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10017E+02	4300.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.99376E+01	4325.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.98596E+01	4350.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.97826E+01	4375.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.97067E+01	4400.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.96318E+01	4425.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.95578E+01	4449.99	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.94849E+01	4475.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.94129E+01	4500.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.93419E+01	4525.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.92718E+01	4550.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.92025E+01	4575.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.91342E+01	4600.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.90668E+01	4625.00	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.90002E+01	4650.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.89344E+01	4675.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.88695E+01	4700.00	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.88054E+01	4725.00	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.87421E+01	4750.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.86796E+01	4775.00	0.00	30.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.86178E+01	4800.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.85568E+01	4825.00	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.84966E+01	4850.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.84370E+01	4875.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.83782E+01	4900.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.83202E+01	4924.99	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.82627E+01	4950.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.82060E+01	4975.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.81500E+01	5000.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0

A-19 AERSCREEN Outputs – Recharge Well: Cabrillo

Concentration	Distance	Elevation	Diag	Season/Month	Zo sector	Date	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	HT	REF TA	HT
0.73543E+04	1.00	0.00	45.0	Winter	0-360	10013101	-0.83	0.043	-9.000	0.020	-999.	21.	9.1	1.000	1.50	0.35	0.50	10.0	298.0	2.0
* 0.13349E+05	19.01	0.00	45.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11122E+05	25.00	0.00	45.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.45254E+04	50.01	0.00	45.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.26025E+04	75.00	0.00	45.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.17522E+04	100.00	0.00	40.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12887E+04	125.00	0.00	35.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10025E+04	150.01	0.00	45.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.81044E+03	175.00	0.00	30.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.67399E+03	200.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.57303E+03	225.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.49568E+03	250.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.43461E+03	275.00	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.38548E+03	300.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.34534E+03	325.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.31201E+03	350.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.28372E+03	375.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.25952E+03	400.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.23877E+03	425.00	0.00	45.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.22071E+03	450.00	0.00	30.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.20485E+03	475.00	0.00	30.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.19169E+03	500.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.17922E+03	525.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.16809E+03	550.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.15811E+03	575.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.14911E+03	600.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.14097E+03	625.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13356E+03	649.99	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12680E+03	675.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12061E+03	699.99	0.00	45.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11493E+03	725.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10969E+03	749.99	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10486E+03	775.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10038E+03	800.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.96220E+02	825.00	0.00	45.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.92352E+02	850.00	0.00	30.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.88746E+02	875.00	0.00	30.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.85378E+02	900.00	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.82225E+02	924.99	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.79267E+02	950.00	0.00	30.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.76490E+02	975.00	0.00	30.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.73877E+02	1000.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.71414E+02	1024.99	0.00	45.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.69091E+02	1050.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.66895E+02	1075.00	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.64817E+02	1100.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.62849E+02	1125.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.60982E+02	1149.99	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.59209E+02	1175.00	0.00	35.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.57523E+02	1200.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.55919E+02	1224.99	0.00	40.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.54391E+02	1249.99	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.52933E+02	1275.00	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.51542E+02	1300.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.50214E+02	1325.00	0.00	30.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.48943E+02	1349.99	0.00	45.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.47727E+02	1375.00	0.00	30.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.46562E+02	1400.00	0.00	40.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.45446E+02	1425.00	0.00	40.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.44375E+02	1449.99	0.00	45.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.43348E+02	1475.00	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.42360E+02	1500.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.41411E+02	1525.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.40499E+02	1550.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.39621E+02	1574.99	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.38775E+02	1600.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.37959E+02	1625.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.37174E+02	1650.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.36416E+02	1674.99	0.00	45.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.35684E+02	1700.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.34977E+02	1725.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.34294E+02	1750.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.33634E+02	1774.99	0.00	45.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.32996E+02	1800.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.32379E+02	1825.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.31781E+02	1850.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.31202E+02	1875.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.30641E+02	1899.99	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.30097E+02	1924.99	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.29570E+02	1950.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.29059E+02	1975.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.28562E+02	2000.00	0.00	35.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.28080E+02	2025.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.27612E+02	2050.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.27158E+02	2075.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.26716E+02	2100.00	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.26287E+02	2125.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.25869E+02	2150.00	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.25463E+02	2175.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.25068E+02	2200.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.24683E+02	2225.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.24308E+02	2250.00	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.23943E+02	2275.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.23587E+02	2300.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.23241E+02	2325.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.22903E+02	2350.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.22574E+02	2375.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.22253E+02	2399.99	0.00	35.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.21939E+02	2425.00	0.00	35.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.21633E+02	2449.99	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.21335E+02	2475.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.21043E+02	2500.00	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.20759E+02	2525.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.20481E+02	2550.00	0.00	30.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.20209E+02	2575.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.19943E+02	2600.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.19684E+02	2625.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.19430E+02	2650.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.19182E+02	2675.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.18939E+02	2700.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.18702E+02	2725.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.18470E+02	2750.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.18243E+02	2775.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.18020E+02	2800.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.17802E+02	2825.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.17589E+02	2849.99	0.00	45.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.17380E+02	2875.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.17175E+02	2900.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.16975E+02	2925.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.16778E+02	2950.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.16585E+02	2975.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.16397E+02	3000.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.16212E+02	3025.00	0.00	40.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.16030E+02	3050.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0

WellCab_max_conc_distance

0.15852E+02	3075.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.15677E+02	3100.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.15506E+02	3125.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.15338E+02	3150.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.15173E+02	3174.99	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.15011E+02	3200.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.14852E+02	3225.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.14696E+02	3250.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.14542E+02	3275.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.14392E+02	3300.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.14244E+02	3325.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.14099E+02	3350.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13956E+02	3375.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13816E+02	3400.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13678E+02	3425.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13543E+02	3450.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13410E+02	3475.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13279E+02	3499.99	0.00	45.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13150E+02	3525.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13024E+02	3550.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12899E+02	3575.00	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12777E+02	3600.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12657E+02	3625.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12538E+02	3650.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12422E+02	3674.99	0.00	35.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12307E+02	3700.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12194E+02	3725.00	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12083E+02	3750.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11974E+02	3775.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11866E+02	3800.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11760E+02	3825.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11656E+02	3850.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11553E+02	3875.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11452E+02	3900.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11352E+02	3925.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11254E+02	3950.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11158E+02	3975.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11062E+02	4000.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10968E+02	4025.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10876E+02	4050.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10785E+02	4075.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10695E+02	4100.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10606E+02	4125.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10519E+02	4149.99	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10433E+02	4175.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10348E+02	4200.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10264E+02	4225.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10182E+02	4250.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10101E+02	4275.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10021E+02	4300.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.99413E+01	4325.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.98633E+01	4349.99	0.00	45.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.97863E+01	4375.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.97103E+01	4400.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.96354E+01	4425.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.95615E+01	4449.99	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.94885E+01	4475.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.94165E+01	4499.99	0.00	35.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.93454E+01	4525.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.92753E+01	4550.00	0.00	40.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.92060E+01	4575.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.91377E+01	4599.99	0.00	40.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.90702E+01	4625.00	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.90036E+01	4650.00	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.89378E+01	4675.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.88729E+01	4700.00	0.00	35.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.88087E+01	4725.00	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.87454E+01	4750.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.86828E+01	4774.99	0.00	45.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.86211E+01	4800.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.85600E+01	4825.00	0.00	40.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.84998E+01	4850.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.84402E+01	4875.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.83814E+01	4899.99	0.00	35.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.83233E+01	4924.99	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.82659E+01	4950.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.82091E+01	4975.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.81530E+01	4999.99	0.00	45.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0

A-20 AERSCREEN Outputs – Recharge Well: Monterey

WellMont_max_conc_distance

Concentration	Distance	Elevation	Diag	Season/Month	Zo sector	Date	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	HT	REF TA	HT
0.97428E+04	1.00	0.00	45.0	Winter	0-360	10013101	-0.83	0.043	-9.000	0.020	-999.	21.	9.1	1.000	1.50	0.35	0.50	10.0	298.0	2.0
* 0.18985E+05	14.00	0.00	45.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11508E+05	25.00	0.00	45.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.46190E+04	50.01	0.00	45.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.26386E+04	75.00	0.00	40.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.17694E+04	100.00	0.00	45.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12967E+04	125.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10069E+04	150.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.81262E+03	175.00	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.67534E+03	200.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.57399E+03	225.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.49582E+03	250.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.43459E+03	275.00	0.00	30.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.38520E+03	300.00	0.00	30.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.34482E+03	325.00	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.31245E+03	350.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.28400E+03	375.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.25976E+03	400.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.23888E+03	425.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.22075E+03	450.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.20488E+03	475.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.19088E+03	500.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.17846E+03	525.00	0.00	40.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.16738E+03	550.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.15744E+03	575.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.14848E+03	600.00	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.14037E+03	625.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13299E+03	649.99	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12626E+03	675.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12010E+03	699.99	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11444E+03	725.00	0.00	45.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10922E+03	749.99	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10441E+03	775.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.99950E+02	800.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.95811E+02	825.00	0.00	45.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.91960E+02	850.00	0.00	30.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.88369E+02	875.00	0.00	30.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.85015E+02	900.00	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.81875E+02	924.99	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.78930E+02	950.00	0.00	30.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.76165E+02	975.00	0.00	30.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.73562E+02	1000.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.71111E+02	1024.99	0.00	45.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.68797E+02	1050.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.66610E+02	1075.00	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.64542E+02	1100.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.62582E+02	1125.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.60723E+02	1149.99	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.58957E+02	1175.00	0.00	35.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.57278E+02	1200.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.55681E+02	1224.99	0.00	40.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.54159E+02	1249.99	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.52708E+02	1275.00	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.51323E+02	1300.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.50000E+02	1325.00	0.00	30.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.48735E+02	1349.99	0.00	45.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.47524E+02	1375.00	0.00	30.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.46364E+02	1400.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.45253E+02	1425.00	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.44187E+02	1449.99	0.00	45.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.43163E+02	1475.00	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.42180E+02	1500.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.41235E+02	1525.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.40326E+02	1550.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.39452E+02	1574.99	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.38610E+02	1600.00	0.00	35.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.37798E+02	1625.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.37015E+02	1650.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.36261E+02	1674.99	0.00	45.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.35532E+02	1700.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.34828E+02	1725.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.34148E+02	1750.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.33491E+02	1774.99	0.00	45.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.32856E+02	1800.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.32241E+02	1824.99	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.31646E+02	1850.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.31069E+02	1875.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.30510E+02	1900.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.29969E+02	1924.99	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.29444E+02	1950.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.28935E+02	1975.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.28441E+02	2000.00	0.00	35.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.27961E+02	2025.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.27495E+02	2050.00	0.00	40.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.27042E+02	2075.00	0.00	40.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.26603E+02	2100.00	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.26175E+02	2125.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.25759E+02	2150.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.25354E+02	2175.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.24961E+02	2200.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.24578E+02	2225.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.24205E+02	2250.00	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.23841E+02	2275.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.23487E+02	2300.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.23142E+02	2325.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.22806E+02	2350.00	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.22478E+02	2375.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.22158E+02	2400.00	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.21846E+02	2425.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.21541E+02	2449.99	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.21244E+02	2475.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.20954E+02	2500.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.20670E+02	2525.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.20393E+02	2550.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.20123E+02	2575.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.19858E+02	2600.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.19600E+02	2625.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.19347E+02	2650.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.19100E+02	2675.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.18859E+02	2700.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.18622E+02	2725.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.18391E+02	2750.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.18165E+02	2775.00	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.17943E+02	2800.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.17726E+02	2824.99	0.00	35.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.17514E+02	2850.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.17306E+02	2875.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.17102E+02	2900.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.16902E+02	2925.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.16706E+02	2950.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.16515E+02	2975.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.16327E+02	3000.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.16142E+02	3025.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.15962E+02	3050.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0

WellMont_max_conc_distance

0.15784E+02	3075.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.15610E+02	3100.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.15440E+02	3125.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.15272E+02	3150.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.15108E+02	3175.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.14947E+02	3199.99	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.14789E+02	3225.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.14633E+02	3250.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.14481E+02	3274.99	0.00	45.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.14331E+02	3300.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.14184E+02	3325.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.14039E+02	3350.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13897E+02	3375.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13757E+02	3400.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13620E+02	3425.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13485E+02	3450.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13353E+02	3475.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13222E+02	3500.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13094E+02	3525.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12968E+02	3550.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12844E+02	3575.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12722E+02	3600.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12603E+02	3625.00	0.00	40.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12485E+02	3650.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12369E+02	3675.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12255E+02	3700.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12142E+02	3725.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12032E+02	3750.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11923E+02	3775.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11816E+02	3800.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11710E+02	3825.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11606E+02	3850.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11504E+02	3875.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11403E+02	3900.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11304E+02	3924.99	0.00	45.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11206E+02	3950.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11110E+02	3975.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11015E+02	4000.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10922E+02	4025.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10830E+02	4050.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10739E+02	4075.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10649E+02	4100.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10561E+02	4125.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10474E+02	4150.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10389E+02	4175.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10304E+02	4200.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10221E+02	4225.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10139E+02	4250.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10058E+02	4275.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.99777E+01	4300.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.98989E+01	4325.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.98212E+01	4349.99	0.00	45.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.97446E+01	4375.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.96689E+01	4400.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.95943E+01	4425.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.95207E+01	4449.99	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.94480E+01	4475.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.93763E+01	4499.99	0.00	35.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.93055E+01	4525.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.92357E+01	4550.00	0.00	40.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.91667E+01	4575.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.90987E+01	4599.99	0.00	40.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.90315E+01	4625.00	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.89652E+01	4650.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.88997E+01	4674.99	0.00	45.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.88350E+01	4700.00	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.87712E+01	4725.00	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.87081E+01	4750.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.86458E+01	4774.99	0.00	45.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.85843E+01	4800.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.85235E+01	4825.00	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.84635E+01	4850.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.84042E+01	4875.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.83456E+01	4900.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.82878E+01	4924.99	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.82306E+01	4950.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.81741E+01	4975.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.81183E+01	4999.99	0.00	45.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0

A-21 AERSCREEN Outputs – Recharge Well: Willowbrook

WellWill_max_conc_distance

Concentration	Distance	Elevation	Diag	Season/Month	Zo sector	Date	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	HT	REF TA	HT
0.81191E+04	1.00	0.00	45.0	Winter	0-360	10013101	-0.83	0.043	-9.000	0.020	-999.	21.	9.1	1.000	1.50	0.35	0.50	10.0	298.0	2.0
* 0.15111E+05	17.00	0.00	45.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11281E+05	25.00	0.00	45.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.45655E+04	50.01	0.00	45.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.26203E+04	75.00	0.00	45.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.17618E+04	100.00	0.00	40.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12939E+04	125.00	0.00	35.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10055E+04	150.00	0.00	30.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.81232E+03	175.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.67559E+03	200.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.57409E+03	225.00	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.49627E+03	250.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.43521E+03	275.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.38620E+03	300.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.34577E+03	325.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.31214E+03	350.00	0.00	45.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.28384E+03	375.00	0.00	30.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.25963E+03	400.00	0.00	30.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.23879E+03	425.00	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.22161E+03	450.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.20567E+03	475.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.19162E+03	500.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.17915E+03	525.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.16803E+03	550.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.15805E+03	575.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.14905E+03	600.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.14091E+03	625.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13351E+03	649.99	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12675E+03	675.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12056E+03	699.99	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11488E+03	725.00	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10965E+03	749.99	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10482E+03	775.00	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10034E+03	800.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.96184E+02	825.00	0.00	45.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.92317E+02	850.00	0.00	30.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.88713E+02	875.00	0.00	30.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.85345E+02	900.00	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.82193E+02	924.99	0.00	45.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.79237E+02	950.00	0.00	30.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.76461E+02	975.00	0.00	30.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.73848E+02	1000.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.71387E+02	1024.99	0.00	45.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.69064E+02	1050.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.66869E+02	1075.00	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.64792E+02	1100.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.62825E+02	1125.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.60959E+02	1149.99	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.59186E+02	1175.00	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.57501E+02	1200.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.55898E+02	1224.99	0.00	40.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.54370E+02	1249.99	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.52913E+02	1275.00	0.00	30.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.51523E+02	1300.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.50194E+02	1325.00	0.00	30.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.48924E+02	1349.99	0.00	45.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.47709E+02	1375.00	0.00	30.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.46544E+02	1400.00	0.00	40.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.45429E+02	1425.00	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.44359E+02	1449.99	0.00	45.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.43331E+02	1475.00	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.42344E+02	1500.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.41396E+02	1525.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.40483E+02	1550.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.39605E+02	1574.99	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.38760E+02	1600.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.37945E+02	1625.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.37159E+02	1650.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.36402E+02	1674.99	0.00	45.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.35670E+02	1700.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.34964E+02	1725.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.34281E+02	1750.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.33622E+02	1774.99	0.00	45.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.32984E+02	1800.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.32366E+02	1825.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.31769E+02	1850.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.31190E+02	1875.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.30629E+02	1900.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.30086E+02	1924.99	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.29559E+02	1950.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.29047E+02	1975.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.28551E+02	2000.00	0.00	35.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.28070E+02	2025.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.27602E+02	2050.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.27148E+02	2075.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.26706E+02	2100.00	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.26277E+02	2124.99	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.25859E+02	2150.00	0.00	30.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.25453E+02	2175.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.25058E+02	2200.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.24673E+02	2225.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.24299E+02	2250.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.23934E+02	2275.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.23579E+02	2300.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.23232E+02	2325.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.22894E+02	2350.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.22565E+02	2375.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.22244E+02	2399.99	0.00	35.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.21931E+02	2425.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.21625E+02	2449.99	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.21326E+02	2475.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.21035E+02	2500.00	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.20751E+02	2524.99	0.00	45.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.20473E+02	2550.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.20201E+02	2575.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.19936E+02	2600.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.19676E+02	2625.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.19423E+02	2650.00	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.19175E+02	2675.00	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.18932E+02	2700.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.18695E+02	2725.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.18463E+02	2750.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.18236E+02	2775.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.18013E+02	2800.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.17795E+02	2824.99	0.00	35.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.17582E+02	2850.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.17373E+02	2875.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.17169E+02	2900.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.16968E+02	2925.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.16772E+02	2950.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.16579E+02	2975.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.16390E+02	3000.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.16205E+02	3025.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.16024E+02	3050.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0

WellWill_max_conc_distance

0.15846E+02	3075.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.15671E+02	3100.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.15500E+02	3125.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.15332E+02	3150.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.15167E+02	3175.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.15005E+02	3200.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.14846E+02	3225.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.14690E+02	3250.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.14537E+02	3274.99	0.00	45.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.14387E+02	3300.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.14239E+02	3325.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.14094E+02	3350.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13951E+02	3375.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13811E+02	3400.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13673E+02	3425.00	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13538E+02	3450.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13405E+02	3475.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13274E+02	3500.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13145E+02	3525.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13019E+02	3550.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12894E+02	3575.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12772E+02	3600.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12652E+02	3625.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12533E+02	3650.00	0.00	30.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12417E+02	3675.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12302E+02	3700.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12189E+02	3725.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12078E+02	3750.00	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11969E+02	3775.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11862E+02	3800.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11756E+02	3825.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11651E+02	3850.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11549E+02	3875.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11448E+02	3900.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11348E+02	3925.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11250E+02	3950.00	0.00	45.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11153E+02	3975.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11058E+02	4000.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10964E+02	4024.99	0.00	45.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10872E+02	4050.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10781E+02	4075.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10691E+02	4100.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10602E+02	4125.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10515E+02	4150.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10429E+02	4175.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10344E+02	4200.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10261E+02	4225.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10178E+02	4250.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10097E+02	4275.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10017E+02	4300.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.99375E+01	4325.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.98595E+01	4349.99	0.00	45.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.97825E+01	4375.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.97066E+01	4400.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.96317E+01	4425.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.95578E+01	4449.99	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.94848E+01	4475.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.94129E+01	4500.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.93418E+01	4525.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.92717E+01	4550.00	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.92025E+01	4575.00	0.00	45.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.91341E+01	4599.99	0.00	40.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.90667E+01	4625.00	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.90001E+01	4650.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.89344E+01	4674.99	0.00	45.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.88694E+01	4700.00	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.88053E+01	4725.00	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.87420E+01	4750.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.86795E+01	4774.99	0.00	45.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.86178E+01	4800.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.85568E+01	4825.00	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.84965E+01	4850.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.84370E+01	4875.00	0.00	30.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.83782E+01	4899.99	0.00	35.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.83201E+01	4924.99	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.82627E+01	4950.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.82059E+01	4975.00	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.81499E+01	4999.99	0.00	45.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0

A-22 AERSCREEN Outputs – Recharge Well: Twin Lakes

Concentration	Distance	Elevation	Diag	Season/Month	Zo sector	Date	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	HT	REF TA	HT
0.13464E+05	1.00	0.00	0.0	Winter	0-360	10013101	-0.83	0.043	-9.000	0.020	-999.	21.	9.1	1.000	1.50	0.35	0.50	10.0	298.0	2.0
* 0.20581E+05	14.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12998E+05	25.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.48717E+04	50.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.27189E+04	75.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.18069E+04	100.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13180E+04	125.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10192E+04	150.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.82105E+03	175.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.68126E+03	200.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.57817E+03	225.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.50011E+03	250.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.43811E+03	275.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.38829E+03	300.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.34751E+03	325.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.31362E+03	350.00	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.28507E+03	375.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.26073E+03	400.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.23978E+03	425.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.22158E+03	450.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.20565E+03	475.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.19160E+03	500.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.17913E+03	525.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.16801E+03	550.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.15803E+03	575.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.14903E+03	600.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.14090E+03	625.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13349E+03	649.99	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12673E+03	675.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12055E+03	699.99	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11487E+03	725.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10963E+03	749.99	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10480E+03	775.00	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10032E+03	800.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.96170E+02	825.00	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.92304E+02	850.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.88700E+02	875.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.85333E+02	900.00	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.82182E+02	924.99	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.79226E+02	950.00	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.76450E+02	975.00	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.73838E+02	1000.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.71377E+02	1025.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.69055E+02	1050.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.66860E+02	1075.00	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.64784E+02	1100.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.62816E+02	1125.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.60950E+02	1149.99	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.59178E+02	1175.00	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.57493E+02	1200.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.55890E+02	1225.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.54363E+02	1249.99	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.52906E+02	1275.00	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.51516E+02	1300.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.50187E+02	1325.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.48917E+02	1350.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.47702E+02	1375.00	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.46538E+02	1400.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.45422E+02	1425.00	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.44352E+02	1450.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.43325E+02	1475.00	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.42338E+02	1500.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.41390E+02	1525.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.40478E+02	1550.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.39600E+02	1574.99	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.38754E+02	1600.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.37940E+02	1625.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.37154E+02	1650.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.36397E+02	1675.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.35665E+02	1700.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.34959E+02	1725.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.34277E+02	1750.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.33617E+02	1775.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.32979E+02	1800.00	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.32362E+02	1825.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.31764E+02	1850.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.31186E+02	1875.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.30625E+02	1899.99	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.30081E+02	1924.99	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.29555E+02	1950.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.29043E+02	1975.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.28547E+02	2000.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.28066E+02	2025.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.27598E+02	2050.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.27144E+02	2075.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.26702E+02	2100.00	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.26273E+02	2124.99	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.25856E+02	2150.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.25450E+02	2175.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.25055E+02	2200.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.24670E+02	2224.99	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.24295E+02	2250.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.23931E+02	2275.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.23575E+02	2300.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.23229E+02	2325.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.22891E+02	2350.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.22562E+02	2375.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.22241E+02	2400.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.21928E+02	2425.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.21622E+02	2449.99	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.21324E+02	2475.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.21032E+02	2500.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.20748E+02	2525.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.20470E+02	2550.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.20198E+02	2575.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.19933E+02	2600.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.19674E+02	2625.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.19420E+02	2650.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.19172E+02	2675.00	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.18930E+02	2700.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.18692E+02	2725.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.18460E+02	2750.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.18233E+02	2775.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.18011E+02	2800.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.17793E+02	2825.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.17580E+02	2850.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.17371E+02	2875.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.17166E+02	2900.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.16966E+02	2925.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.16769E+02	2950.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.16577E+02	2975.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.16388E+02	3000.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.16203E+02	3025.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.16022E+02	3050.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0

TwinLakes_max_conc_distance

0.15844E+02	3075.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.15669E+02	3100.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.15498E+02	3125.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.15330E+02	3150.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.15165E+02	3175.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.15003E+02	3200.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.14844E+02	3225.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.14688E+02	3250.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.14535E+02	3275.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.14384E+02	3300.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.14237E+02	3325.00	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.14092E+02	3350.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13949E+02	3375.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13809E+02	3400.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13671E+02	3425.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13536E+02	3450.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13403E+02	3475.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13272E+02	3500.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13144E+02	3525.00	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.13017E+02	3550.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12893E+02	3575.00	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12770E+02	3600.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12650E+02	3625.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12532E+02	3650.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12415E+02	3675.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12301E+02	3700.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12188E+02	3725.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.12077E+02	3750.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11968E+02	3775.00	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11860E+02	3800.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11754E+02	3825.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11650E+02	3850.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11547E+02	3875.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11446E+02	3900.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11346E+02	3925.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11248E+02	3950.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11152E+02	3975.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.11057E+02	4000.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10963E+02	4025.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10870E+02	4050.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10779E+02	4075.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10689E+02	4100.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10601E+02	4125.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10514E+02	4150.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10428E+02	4175.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10343E+02	4200.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10259E+02	4225.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10177E+02	4250.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10095E+02	4275.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.10015E+02	4300.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.99362E+01	4325.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.98582E+01	4350.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.97812E+01	4375.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.97053E+01	4400.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.96304E+01	4425.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.95565E+01	4449.99	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.94835E+01	4475.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.94116E+01	4500.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.93405E+01	4525.00	0.00	10.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.92704E+01	4550.00	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.92012E+01	4575.00	0.00	20.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.91329E+01	4600.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.90655E+01	4625.00	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.89989E+01	4650.00	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.89332E+01	4675.00	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.88682E+01	4700.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.88041E+01	4725.00	0.00	25.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.87408E+01	4750.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.86783E+01	4775.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.86166E+01	4800.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.85556E+01	4825.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.84953E+01	4850.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.84358E+01	4875.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.83770E+01	4900.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.83189E+01	4924.99	0.00	15.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.82615E+01	4950.00	0.00	5.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.82048E+01	4975.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0
0.81488E+01	5000.00	0.00	0.0	Winter	0-360	10011001	-1.27	0.043	-9.000	0.020	-999.	21.	5.9	1.000	1.50	0.35	0.50	10.0	298.0	2.0