Appendix F-2

Draft General Conformity Determination

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Koi Nation Fee-to-Trust and Shiloh Resort and Casino Project

March 2024

Lead Agency:

Bureau of Indian Affairs
Pacific Region
2800 Cottage Way
Sacramento, CA 95825

Prepared by:

5170 Golden Foothill Parkway
El Dorado Hills, CA 95762
O: 916-235-8224 | w: www.acorn-env.com

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1. Introduction

The Koi Nation of Northern California's (Koi Nation; Tribe) has submitted a fee-to-trust application to the Bureau of Indian Affairs (BIA), requesting that the U.S. Department of Interior take a 68.6-acre property (project site) in Sonoma County, California into federal trust status. The BIA is the federal agency charged with reviewing and approving tribal applications to take land into federal trust status (Federal Action).

The project site is located in an unincorporated portion of the County adjacent to the Town of Windsor. Regional access to the project site is provided by Highway 101, which runs in a general north-south direction and is located approximately 0.5 miles west of the project site. Local access to the project site is provided by Shiloh Road and Old Redwood Highway.

Following the acquisition of the project site into federal trust, the Tribe proposes to develop a resort facility that includes a casino, hotel, ballroom/meeting space, event center, spa, and associated parking and infrastructure on the project site (Proposed Project). The Proposed Project is referred to as the Shiloh Resort and Casino Project

An Environmental Assessment (EA) was prepared pursuant to the National Environmental Policy Act (NEPA) to assess the environmental impacts resulting from the Proposed Project. The EA addresses three build alternatives:

Alternative A – Proposed Project

Alternative B – Reduced Intensity Alternative

Alternative C – Non-Gaming Alternative

A draft general conformity determination[1] was prepared for Alternative A, which proposes the largest development and potential to effect air quality. A notice of availability (NOA) for the EA and the draft general conformity determination was published in The Press Democrat newspaper on September 12, 2023. The EA and draft general conformity determination were originally made available for public comment for a 45-day period, from September 12, 2023 to October 27, 2023. However, the BIA extended the public comment period for an additional 15-day period that concluded on November 13, 2023, resulting in a total comment period of 60 days. No comments were received on the draft general conformity determination.

The BIA published a Notice of Intent (NOI) in the Federal Register on March 8, 2024, announcing the intent to prepare an Environmental Impact Statement (EIS) for the proposed Federal Action. The EIS reviews the same three build alternatives analyzed in the EA. No changes to the build alternatives have been identified. This revised draft conformity determination addresses Alternative A of the proposed

[1] The original draft general conformity determination was dated November 2022.

Federal Action as presented in the EA and EIS. Alternative A proposes the largest development and has the largest potential to affect air quality. This revised draft conformity determination is being released with the Draft EIS to allow concurrent review. No changes have been made to the analysis contained in the November 2022 draft conformity determination.

2. General Conformity Regulatory Background

The Clean Air Act (CAA) requires the United States Environmental Protection Agency (EPA) to set National Ambient Air Quality Standards (NAAQS) for pollutants that are common in outdoor air, considered harmful to public health and the environment, and that come from numerous and diverse sources. NAAQS have been developed for carbon monoxide (CO), lead (Pb), course and fine particulate matter (PM10 or PM2.5, respectively), sulfur oxides (SOx), and nitrogen dioxide (NO2), ozone (O3) and its precursors, oxides of nitrogen (NOx) and reactive organic gasses (ROGs).

2.1 General Conformity Requirements

Areas of the country that do not meet the NAAQS for any pollutant are designated by the EPA as "nonattainment areas." Areas that were once designated nonattainment, but are now achieving the NAAQS are termed "maintenance areas." Areas which have air pollution levels below the NAAQS are termed "attainment areas." In nonattainment areas, states must develop State Implementation Plans (SIPs) to reduce emissions and bring the area back into attainment of the NAAQS.

The EPA promulgated the General Conformity Rule on November 30, 1993, to implement the conformity provision of Title I, Section 176(c)(1) of the federal Clean Air Act (CAA), which requires that the federal government not engage, support or provide financial assistance for licensing or permitting, or approving any activity not conforming to an approved CAA implementation plan for compliance with the NAAQS. The General Conformity Rule ensures that the actions taken by federal agencies in nonattainment and maintenance areas do not interfere with a state's plans to meet national standards for air quality. CAA conformity is an issue that may be addressed during the NEPA process, and EPA recommends that the conformity process be coupled with NEPA analysis.

Implementation of the existing General Conformity Regulations falls into three phases: applicability analysis, conformity determination, and review process. Only actions which cause emissions in designated nonattainment and maintenance areas are subject to the regulations. In addition, the regulations recognize that the vast majority of federal actions do not result in a significant increase in emissions and, therefore, include a number of exemptions, the most predominantly implemented of which is the de minimis emission levels based on the type and severity of the nonattainment problem. If the action will cause emissions above the de miminis levels in any nonattainment or maintenance area and the action is not otherwise exempt, "presumed to conform," or included in the existing emissions budget of the SIP, the agency must conduct a conformity determination before it takes the action.

40 CFR Sections 93.158 and 93.159 provide the criteria and procedures, respectively, for determining conformity of general Federal actions. For CO, total direct and indirect emissions from the action must be shown by air quality modeling to not cause or contribute to any new violation of any standard or increase the frequency or severity of any existing violation of any standard. The total direct and indirect emissions from the action must be in compliance with all relevant requirements in the applicable SIP.

The applicable SIP is the California State Implementation Plan for Carbon Monoxide, which was most recently updated in 2004[2]. The California Air Resources Control Board (CARB) is the state agency responsible for achieving compliance with the NAAQS. CARB's emission control programs, including strict motor vehicle emission standards and the clean fuels program, have reduced CO emissions dramatically. Ten of the eleven areas of the state originally listed by the EPA in 1991 as non-attainment area have been in attainment with the National CO standards since the mid-1990s, including the San Francisco-Oakland-San Jose Area, which includes the project site. While vehicle miles traveled (VMT) have increased, CO emissions have fallen sharply as the result of CARB's mobile source, clean fuel and stationary source regulations.

As public bodies, federal agencies must make their conformity determinations through a public process. The General Conformity Regulations require federal agencies to provide notice of the draft determination to the applicable EPA Regional Office, the state and local air quality agencies, the local MPO and, where applicable, the Federal Land Manager. In addition, the regulations require federal agencies to provide at least a 30-day comment period on the draft determination and make the final determination public.

2.2 General Conformity Applicability

For the Proposed Action, on-road vehicle trips within the BAAQMD jurisdiction would be subject to the following federal General Conformity Rule de minimis thresholds:

100 tons per year VOC or ROG

100 tons per year NOx

100 tons per year CO

100 tons per year PM2.5

100 tons per year PM10

As detailed in the EIS for the Project Alternatives, associated emissions of ROG, NOx, PM10, and PM2.5 within the BAAQMD jurisdiction would be below the respective General Conformity Rule de minimis thresholds. However, for Alternatives A and B, CO was determined to exceed the 100 ton per year de minimis threshold in the BAAQMD jurisdiction, and as such, is analyzed in greater detail below.

3. Assessment of Conformity Emissions

When the EPA upgraded the CO status of the 10 California areas from moderate non-attainment to maintenance, a revision to the SIP was needed. In 2004, CARB submitted to the EPA a revision to the SIP, and included a Maintenance Plan, in the *Revision to the California State Implementation Plan for Carbon Monoxide, Updated Maintenance Plan for Ten Federal Planning Areas* (CARB, 2004). The Maintenance Plan outlines how the SFBAAB will continue to comply with the NAAQS. CO emission sources resulting from the Proposed Action in the BAAQMD jurisdiction would be primarily indirect emissions from on-road vehicles – patrons, employees, delivery trucks, and buses.

[2] The California Air Resources Control Board issued a proposed 2023 Revision to the California State Implementation Plan for Carbon Monoxide on February 9, 2024 (CARB, 2024). At the time of writing, the 2023 Revision has not been approved.

As described in Section 2.1 above, conformity can be shown by conducting air quality modeling that demonstrates that the emissions will not cause or contribute to new violations of the standards or increase the frequency or severity of any existing violations of the standards. Air modeling analysis was performed concurrently for the EA and the general conformity determination. The results of this analysis are summarized below with model outputs included in **Appendix A**.

4. CO General Conformity Determination

Air quality modeling was performed for the EA and the general conformity determination concurrently. The results of this analysis can be found in the EA, in Section 3.4 as well as Section 3.4 of the EIS. The air quality modeling estimated that Alternative A would generate approximately 263 tons/year of CO, of which 255 tons/year are associated with mobile emissions. By comparison, Alternative B would generate approximately 213 tons/year of CO, of which 207 tons/year are associated with mobile emissions. CO emissions of Alternative C were modeled to fall below the de minimis threshold of 100 tons per year.

Because CO emissions would exceed the de minimis levels, CO concentrations were modeled to determine whether increased traffic associated with the Proposed Project would result in CO emissions that could exceed the NAAQS. CO concentrations at one representative intersection were modeled using AERSCREEN, the screening version of AERMOD. AERSCREEN is the EPA's recommended screening model for most applications, including addressing compliance with CO NAAQS. Likewise, AERMOD is EPA's preferred near-field dispersion modeling system (EPA, 2017).

Mobile emissions rates were sourced from CARB's EMFAC project-level web tool, and reflect 2028 emission rates (proposed opening year) (CARB, 2022). Fleet mix estimates were sourced from the EPA-approved 2020 California Emissions Estimator Model, Version 2020.4.0 (CalEEMod). Intersection level of service (LOS), peak-hour vehicle volumes and queuing lengths were sourced from the Traffic Impact Study (TIS) prepared by TJKM and included the EIS. The 2040 condition traffic scenario was used to provide the most conservative estimate of traffic volumes. The intersection of Shiloh Road and the US 101 north-bound off-ramp was chosen to provide a conservative estimate of potential CO concentrations. Of the intersections analyzed in the TIS, this intersection has relatively high traffic volumes, low LOS, and long queue lengths. This intersection is also near US 101, an adjacent source of CO emissions. CO emissions from US 101 were also modeled to provide a conservative estimate of potential maximum CO emissions. Project trips were added to project 2040 US 101 peak hour volumes. An estimate of background CO levels in the area is based on monitoring data from Sebastopol and provided through EPA's AirData Air Quality Monitors website (EPA, 2022). The representative background level selected is 1.2 ppm (1 hour average) from January 2019. This data point was selected as it represents peak CO emissions during winter when mobile CO emissions are higher. Higher CO emissions have been recorded in summer and fall months but are influenced by wildfires. The 2019 data also captures higher pre-COVID19 pandemic traffic volumes than other more recent data. A persistence factor of 0.7 is used to convert 1-hour concentrations to 8-hour concentrations, consistent with EPA guidelines (EPA, 1992).

Table 1 summarizes the results of the AERSCREEN dispersion modeling conduced for Alternative A of the Proposed Action. Alternative B of the Proposed Action would generate less traffic and mobile emissions

and was not modeled. Alternative A represents the maximum potential emissions from the Proposed Action.

Table 1: Estimated Maximum Carbon Monoxide Concentrations – Proposed Action Alternative A

	Concentrations (ppm)						
Averaging Time (hours)	**Shiloh Road/US 101 NB Off-Ramp Intersection No Action**	**Shiloh Road/US 101 NB Off-Ramp Intersection with Alternative A**	**Project Contribution**	**Background**	**US 101 Contribution**	**Maximum Concentration**	**NAAQS**
1	0.6	0.8	0.2	1.2	3.9	5.9	35
8	0.4	0.6	0.2	0.9	2.7	4.2	9

Notes: Modeled location is the intersection of Shiloh Road and northbound US 101 off-ramp based on 2040 traffic volumes and 2028 EMFAC emission factors. Highest concentrations for intersection and US 101 are combined to provide maximum concentrations.

The Proposed Action would not cause or contribute to violations of the NAAQS as discussed above; therefore, the Proposed Action conforms to the Maintenance Plan and SIP and is consistent with conformity determination criteria.

5. Conclusion

Based on the information and analysis presented above, approval of the Proposed Action would conform to the SIP and CO Maintenance Plan implemented pursuant to the CAA. Modeling of CO shows that the Proposed Action would not cause or contribute to new violations of the standards, or increase the frequency or severity of any existing violations of the standards. 40 CFR 93.158(a)(4)(i), (b) and (c).

This Draft Conformity Determination will be submitted to EPA, CARB, BAAQMD and other applicable agencies per 40 CFR 93.155 (a). After the 30-day comment period for this Draft Conformity Determination, the BIA will make a Final Conformity Determination before taking action on the proposed fee-to-trust application per 40 CFR 93.150 (b).

6. References

California Air Resources Board (CARB), 2004. *Revision to the California State Implementation Plan for Carbon Monoxide, Updated Maintenance Plan for Ten Federal Planning Areas*. Adopted by CARB July 22, 2004.

CARB, 2022. EMFAC project-level web tool. Available at: https://arb.ca.gov/emfac/project-analysis

CARB, 2024. 2023 Revision to the California State Implementation Plan for Carbon Monoxide. February 9, 2024. Available at: https://ww2.arb.ca.gov/resources/documents/2023-carbon-monoxide-sip-revision

United States Environmental Protection Agency (EPA), 1992. Guideline for Modeling Carbon Monoxide from Roadway Intersections.

EPA, 2017. Revisions to the Guideline on Air Quality Models: Enhancements to the AERMOD Dispersion Modeling System and Incorporation of Approaches to Address Ozone and Fine Particulate Matter. Federal Register, Vol. 82, No. 10, January 17, 2017.

EPA, 2022. EPA AirData Air Quality Monitors application. Available at: https://epa.maps.arcgis.com/apps/webappviewer/index.html?id=5f239fd3e72f424f98ef3d5def547eb5&extent=-146.2334,13.1913,-46.3896,56.5319

Appendix A

```
Start date and time  11/10/22 23:13:12
                           AERSCREEN 21112

Koi_Int_2040_NP

            Koi_Int_2040_NP


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

 Emission Rate:       0.6500 g/s             5.159 lb/hr
 Area Height:           0.50 meters           1.64 feet
 Area Source Length:  200.00 meters         656.17 feet
 Area Source Width:   200.00 meters         656.17 feet
 Vertical Dimension:    4.00 meters          13.12 feet
 Model Mode:           URBAN
 Population:           26039
 Dist to Ambient Air:          3.0 meters            10. feet


 ** BUILDING DATA **

 No Building Downwash Parameters


 ** TERRAIN DATA **

 No Terrain Elevations
 Source Base Elevation:   0.0 meters        0.0  feet

 Probe distance:   1000. meters        3281. feet

 No flagpole receptors

 No discrete receptors used


 ** FUMIGATION DATA **

 No fumigation requested


 ** METEOROLOGY DATA **

 Min/Max Temperature:  270.0 / 316.0 K   26.3 / 109.1 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 ON



 AERSCREEN output file:
 Koi_Int_2040_NP.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 11/10/22 23:16:31
 ******************************************

  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 11/10/22 23:16:45

REFINE       started 11/10/22 23:16:45

 AERMOD Finishes Successfully for REFINE stage 3 Winter sector   0

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

REFINE       ended 11/10/22 23:16:46

 ******************************************
 AERSCREEN Finished Successfully
```

```
With no errors or warnings
Check log file for details
**********************************************

Ending date and time  11/10/22 23:16:47
```

Koi_Int_2040_No Project

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
5.10E+02	3	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
5.45E+02	25	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
5.81E+02	50.01	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
6.13E+02	75	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
6.43E+02	100	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
6.71E+02	125	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
* 0.69477E+03	141	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
6.06E+02	150.01	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
4.65E+02	174.99	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
3.91E+02	200	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
3.43E+02	225	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
3.07E+02	250	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
2.80E+02	274.99	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
2.57E+02	300	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
2.38E+02	325	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
2.22E+02	350	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
2.08E+02	375.01	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
1.96E+02	400	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
1.84E+02	425	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
1.74E+02	450	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
1.65E+02	475.01	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
1.57E+02	500	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
1.50E+02	525	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
1.43E+02	550	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
1.37E+02	575.01	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
1.31E+02	599.99	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
1.26E+02	625	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
1.21E+02	650	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
1.17E+02	675	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
1.13E+02	699.99	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
1.09E+02	725	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
1.05E+02	750	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
1.02E+02	775	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
9.85E+01	800.01	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
9.54E+01	825	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
9.25E+01	850	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
8.97E+01	875	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
8.71E+01	900.01	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
8.47E+01	924.99	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
8.23E+01	950	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
8.00E+01	975	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
7.79E+01	1000	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2

Start date and time 11/10/22 22:53:29
AERSCREEN 21112

Koi_Int_2040_A

Koi_Int_2040_A

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

** AREADATA **	METRIC	ENGLISH
Emission Rate:	0.8700 g/s	6.905 lb/hr
Area Height:	0.50 meters	1.64 feet
Area Source Length:	200.00 meters	656.17 feet
Area Source Width:	200.00 meters	656.17 feet
Vertical Dimension:	4.00 meters	13.12 feet
Model Mode:	URBAN	
Population:	26039	
Dist to Ambient Air:	3.0 meters	10. feet

** BUILDING DATA **

No Building Downwash Parameters

** TERRAIN DATA **

No Terrain Elevations
Source Base Elevation: 0.0 meters 0.0 feet

Probe distance: 1000. meters 3281. feet

No flagpole receptors

No discrete receptors used

** FUMIGATION DATA **

No fumigation requested

** METEOROLOGY DATA **

Min/Max Temperature: 270.0 / 316.0 K 26.3 / 109.1 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 ON



 AERSCREEN output file:
 Koi_Int_2040_A.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 11/10/22 22:58:37
 ******************************************

  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 11/10/22 22:58:50

REFINE       started 11/10/22 22:58:50

 AERMOD Finishes Successfully for REFINE stage 3 Winter sector   0

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

REFINE       ended 11/10/22 22:58:52

 ******************************************
 AERSCREEN Finished Successfully
```

```
With no errors or warnings
Check log file for details
**********************************************

Ending date and time  11/10/22 22:58:52
```

Koi_Int_2040_A

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
6.83E+02	3	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
7.30E+02	25	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
7.77E+02	50.01	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
8.21E+02	75	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
8.61E+02	100	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
8.98E+02	125	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
* 0.92992E+03	141	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
8.11E+02	150.01	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
6.22E+02	174.99	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
5.24E+02	200	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
4.59E+02	225	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
4.11E+02	250	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
3.74E+02	274.99	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
3.44E+02	300	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
3.19E+02	325	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
2.97E+02	350	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
2.79E+02	375.01	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
2.62E+02	400	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
2.46E+02	425	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
2.33E+02	450	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
2.21E+02	475.01	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
2.10E+02	500	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
2.00E+02	525	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
1.92E+02	550	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
1.83E+02	575.01	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
1.76E+02	599.99	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
1.69E+02	625	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
1.63E+02	650	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
1.57E+02	675	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
1.51E+02	699.99	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
1.46E+02	725	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
1.41E+02	750	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
1.36E+02	775	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
1.32E+02	800.01	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
1.28E+02	825	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
1.24E+02	850	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
1.20E+02	875	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
1.17E+02	900.01	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
1.13E+02	924.99	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
1.10E+02	950	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
1.07E+02	975	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
1.04E+02	1000	0	45	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2

Start date and time 11/11/22 05:34:50
AERSCREEN 21112

KOI_101_2040

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

** AREADATA **	METRIC	ENGLISH
Emission Rate:	1.6100 g/s	12.778 lb/hr
Area Height:	0.50 meters	1.64 feet
Area Source Length:	400.00 meters	1312.34 feet
Area Source Width:	36.00 meters	118.11 feet
Vertical Dimension:	4.00 meters	13.12 feet
Model Mode:	URBAN	
Population:	26039	
Dist to Ambient Air:	3.0 meters	10. feet

** BUILDING DATA **

No Building Downwash Parameters

** TERRAIN DATA **

No Terrain Elevations
Source Base Elevation: 0.0 meters 0.0 feet

Probe distance: 1000. meters 3281. feet

No flagpole receptors

No discrete receptors used

** FUMIGATION DATA **

No fumigation requested

** METEOROLOGY DATA **

Min/Max Temperature: 270.0 / 316.0 K 26.3 / 109.1 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 ON



 AERSCREEN output file:
 KOI_101_2040.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 11/11/22 05:35:38
 ******************************************

  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  ***
 ******************************************

  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  ***
 ******************************************

  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  ***
 *******************************************

  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  ***

FLOWSECTOR   ended 11/11/22 05:35:45
```

```
REFINE       started 11/11/22 05:35:45

 AERMOD Finishes Successfully for REFINE stage 3 Winter sector   0

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

REFINE       ended 11/11/22 05:35:47

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

 Ending date and time  11/11/22 05:35:48
```

Koi_101_2040

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
3.79E+03	3	0	0	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
3.90E+03	25	0	0	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
4.01E+03	50	0	0	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
4.10E+03	75	0	0	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
4.17E+03	100	0	0	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
4.25E+03	125	0	0	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
4.32E+03	150	0	0	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
4.38E+03	175	0	0	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
4.43E+03	200	0	0	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
* 0.44346E+04	201	0	0	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
3.11E+03	225	0	0	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
2.40E+03	250	0	0	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
1.95E+03	275	0	0	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
1.57E+03	300	0	0	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
1.37E+03	325	0	0	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
1.21E+03	350	0	0	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
1.08E+03	375	0	0	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
9.75E+02	400	0	0	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
8.86E+02	425	0	0	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
8.11E+02	450	0	0	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
7.46E+02	475	0	0	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
6.91E+02	500	0	0	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
6.42E+02	525	0	0	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
5.99E+02	550	0	0	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
5.61E+02	575	0	0	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
5.27E+02	600	0	0	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
4.97E+02	625	0	0	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
4.69E+02	650	0	0	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
4.44E+02	675	0	0	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
4.21E+02	700	0	0	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
4.00E+02	725	0	0	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
3.81E+02	750	0	0	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
3.64E+02	775	0	0	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
3.48E+02	800	0	0	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
3.33E+02	825	0	0	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
3.19E+02	850	0	0	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
3.07E+02	875	0	0	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
2.95E+02	900	0	0	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
2.83E+02	925	0	0	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
2.73E+02	950	0	0	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
2.63E+02	975	0	0	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2
2.54E+02	1000	0	0	Winter	0-360	10011001	-1.31	0.043	-9	0.02	-999	21	6.1	1	1.5	0.35	0.5	10	316	2