Southern California International Gateway Project

TECHNICAL APPENDIX

Revised Draft Environmental Impact Report

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May 2021

CONTENTS

Annexes

List of Figures

List of Tables

1.0 INTRODUCTION

This Technical Appendix supports the Revised Draft EIR for the proposed Southern California International Gateway Project ("SCIG Project" or "Project"), prepared pursuant to the Peremptory Writ of Mandate Following Appeal ("Writ"), issued by the Contra Costa County Superior Court on remand from the California Court of Appeal, First District, in *City of Long Beach v. City of Los Angeles* (2018) 19 Cal.App.5th 465 ("*City of Long Beach*"). This Technical Appendix discloses additional information related to the off-site ambient air pollution concentration impacts (Impact AQ-4) and Cumulative Impact AQ-4 related to operations of the Project.

1.1 Background and Scope of this Analysis

The SCIG Project consists of the construction and operation, by BNSF Railway, of a new near-dock intermodal rail facility that would handle containerized cargo transported through the Ports of Los Angeles and Long Beach, collectively known as the San Pedro Bay Ports ("Ports"). The Project elements include termination or non-renewal of leases and movement of some existing businesses to alternate locations ("Alternate Business Locations"), along with the construction and operation of the new facility.

The Project has undergone extensive review and evaluation under the California Environmental Quality Act ("CEQA") since 2005, including a Draft EIR (2011) and a Recirculated Draft EIR (2012). The Final EIR ("2013 Final EIR") was certified by the Board of Harbor Commissioners on March 7, 2013.

The 2013 Final EIR analyzed eight discrete potential impact areas related to air quality (Impacts AQ-1 through AQ-8). Impact AQ-4 addressed the potential for Project operations to result in offsite ambient air pollutant concentrations that exceed a South Coast Air Quality Management District ("SCAQMD") threshold of significance. The thresholds of significance are based on federal, state and local air quality standards, which defines the maximum amount of a pollutant concentration averaged over a specified period of time. These periods of time (1-hr, 24-hr, annual) are referred to here as averaging periods. This analysis was conducted for the following criteria pollutants: nitrogen dioxide (NO_2) and particulate matter in two size ranges (PM_{10}, less than 10 microns in size and $PM_{2.5}$, less than 2.5 microns in size). The 2013 Final EIR used a "composite emissions scenario" approach (described in more detail in Section 1.3 of this Technical Appendix), under which dispersions of pollutant emissions were modeled for a single analytical scenario that represented peak conditions for emissions of the various sources within the modeling domain.

The Revised Draft EIR and this Technical Appendix disclose additional analysis of ambient air pollution concentrations for the SCIG Project and the Reduced Project Alternative, both with and without the mitigation identified in the 2013 Final EIR, and the No Project Alternative, in a range of discrete "benchmark" analysis years ("Benchmark Years"). Unlike the composite emissions scenario approach used in the 2013 Final EIR, which modeled concentrations based on the peak emissions of each pollutant from each source regardless of the year in which they would occur, the modeling approach in this Technical Appendix is based on the peak emissions that projected to occur in each individual Benchmark Year. This chronological approach allows disclosure of the magnitude and locations of the estimated maximum impacts in each of the Benchmark Years, thereby portraying the forecasted progression of concentration impacts over time.

1.2 Project Description

Comprehensive information for the Project features and assumed operations are available in Chapter 2 of the 2013 Final EIR. The Project is anticipated to reach capacity in 2035, with a throughput of 2.8

million TEUs. The Reduced Project and the Project would have identical throughputs through years 2023, with later years showing lower throughput for the Reduced Project. At full operation, the Reduced Project would handle approximately 1.85 million TEUs per year (instead of the 2.8 million TEU associated with the proposed Project), and it is anticipated it would reach this capacity in 2035. The No Project scenario is defined as what would reasonably be expected to occur if the Project was not built, and the Reduced Project scenario would consist of the same physical facility defined in the Project, but with activity levels (i.e., throughput) limited by lease conditions. Chapter 5 of the 2013 Final EIR discusses in detail the features and operations for the Reduced Project and No Project.

Another key characteristic of the scenarios is the number of truck trips, shown in Table 1. The SCIG Project "would reduce truck trips associated with moving containerized cargo by providing a near-dock intermodal facility that would maximize the direct transfer of cargo from port to rail with minimal surface transportation, congestion, and delay" (Chapter 2, 2012 Recirculated Draft EIR). Note that activity levels in 2066 (the end of the project) are identical to those in 2046; accordingly, the two years are referred to as 2046/2066 in the remainder of this appendix, and 2066 data are not presented separately in subsequent tables and figures.

Table 1. Truck Trip Assumptions for Project, No Project, and Reduced Project Scenarios (Source: 2013 Final EIR Appendix C1)

Year	Truck roundtrips/year				
	Fleet	**No Project**	**Fleet**	**Project**	**Reduced Project**
2016	Hobart trucks	356,887	SCIG Project	205,183	205,183
	non-SCIG tenants	587,488	Relocated non-SCIG tenants	220,037	220,037
	Total 2016	**944,375**	**Total 2016**	**425,220**	**425,220**
2023	Hobart trucks	504,937	SCIG Project	290,299	290,299
	non-SCIG tenants	587,488	Relocated non-SCIG tenants	220,037	220,037
	Total 2023	**1,092,425**	**Total 2023**	**510,336**	**510,336**
2035	Hobart trucks	1,142,159	SCIG Project	997,500	665,000
	non-SCIG tenants	587,488	Relocated non-SCIG tenants	220,037	220,037
	Total 2035	**1,729,647**	**Total 2035**	**1,217,537**	**885,037**
2046	Hobart trucks	1,142,159	SCIG Project	997,500	665,000
	non-SCIG tenants	587,488	Relocated non-SCIG tenants	220,037	220,037
	Total 2046	**1,729,647**	**Total 2046**	**1,217,537**	**885,037**
2066	Hobart trucks	1,142,159	SCIG Project	997,500	665,000
	non-SCIG tenants	587,488	Relocated non-SCIG tenants	220,037	220,037
	Total 2066	**1,729,647**	**Total 2066**	**1,217,537**	**885,037**

1.3 2013 Final EIR Composite Scenario

In the 2013 Final EIR, dispersion modeling of Project operational emissions from onsite and off-site sources was performed to assess the impact of the Project on local ambient air concentrations (Impact AQ-4). A conservative screening approach to predicting concentrations was used in which, rather than modeling the Benchmark Years used under Impact AQ-3 (mass emissions) to identify the maximum pollutant concentrations for each Benchmark Year, a single composite emissions scenario was modeled. The composite scenario combines the peak emissions for each source category (e.g., trucks, locomotives, cargo handling equipment ("CHE"), etc.), regardless of the analysis year in which they occur. Thus, for example, as illustrated in Figure 1, the maximum annual concentrations of NO_2 in the 2013 Final EIR were derived by adding NO_x emissions from different years: 2016 for CHE and non-SCIG tenant onsite and offsite trucks, 2035 for hostlers and locomotives, and 2046/2066 for SCIG trucks. The composite scenario was implemented as a conservative, worst-case scenario for operational emissions, and consequently, ambient concentrations.

The composite scenario was developed for each project scenario (unmitigated Project, mitigated Project, No Project, unmitigated Reduced Project, and mitigated Reduced Project [the "Project Scenarios"]) and for each of the modeled averaging periods relevant to the applicable SCAQMD significance thresholds (annual, 24-hr, 8-hr, 1-hr). Note that emissions of the mitigated Project and mitigated Reduced Project differ from the unmitigated Project and unmitigated Reduced Project emissions, respectively, only with respect to PM_{10} and $PM_{2.5}$ as Mitigation Measure MM AQ-7 (On-Site Sweeping at SCIG Facility) only affects particulate matter emissions.

Composite scenario operational emissions used for dispersion modeling are summarized in Appendix C2 of the 2013 Final EIR (Tables C2.2-3, C2.2-4, C2.2-5), and the resulting maximum off-site concentrations are presented Appendix C2 in Tables C2.5-10, C2.5-11, C2.5-13, C2.5-14, C2.5-16, C2.5-17.

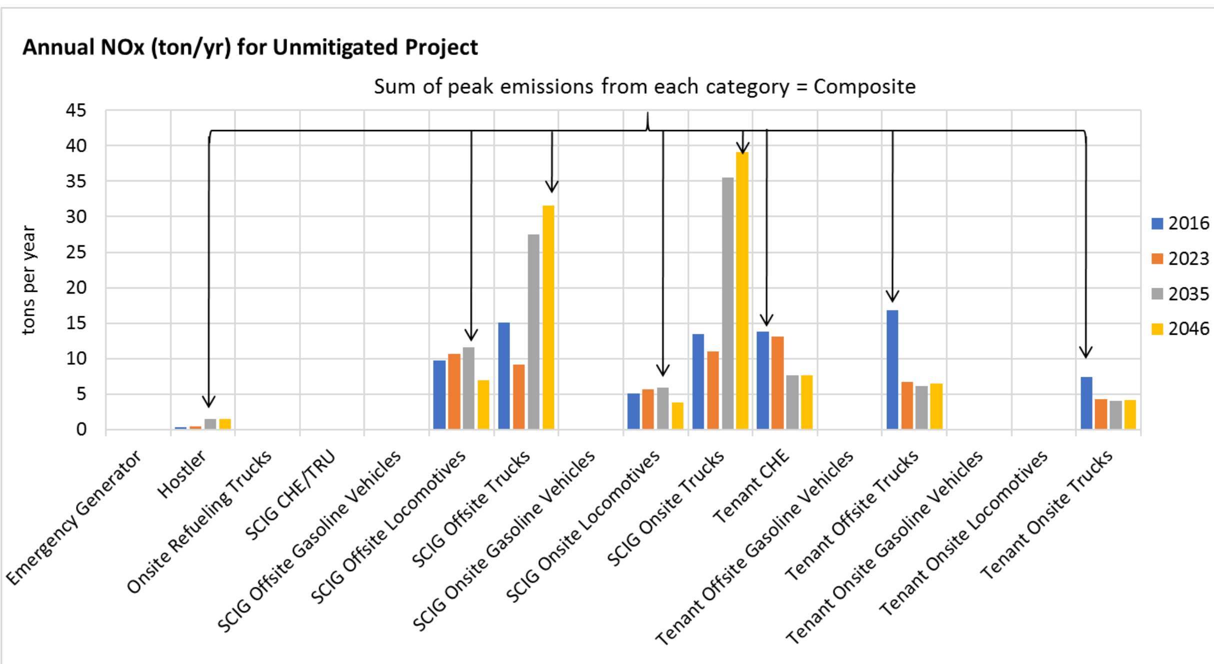

Figure 1. Example of Selection of Maximum Annual NO_x Emissions for Composite Scenario for the SCIG Project in (tons/year)

1.4 Sensitive Receptors Used in the 2013 Final EIR and this Expanded Analysis

The impact of air emissions on sensitive members of the population is a special concern. Sensitive receptor groups include children, the elderly, and the acutely and chronically ill. The locations of these groups include schools, daycare centers, convalescent and retirement homes, and hospitals. Sensitive receptors that could be affected by the Project were identified in the 2013 SCIG Project EIR. They are listed in Table 2 and their locations are shown in Figure 2. A detailed discussion of the selection of sensitive receptors is provided in Appendix C3, Section 3 of the 2013 Final EIR. The nearest sensitive receptors to the Project site are in the West Side neighborhood of Long Beach. Additionally, the Bethune School/Transitional Center for the Homeless and the Hudson K-8 (elementary and middle school) are 425 and 630 feet, respectively, from the eastern boundary of the Project site. The nearest daycare center is the Cabrillo Child Development Center, about 460 feet from the eastern boundary of the Project site. The nearest convalescent homes are Hayes Homes and Pioneer Homes of California, located about 1,330 feet east of the Project boundary and 1,380 feet northeast of the Project boundary, respectively. The nearest healthcare facilities are the VA Long Beach Clinic and Veteran's Support Services, approximately 1,030 feet east of the Project boundary, and the Westside Neighborhood Clinic, approximately 2,600 feet east of the Project site. Finally, Century Villages at Cabrillo provides various supportive services, including housing, for homeless populations and programs.

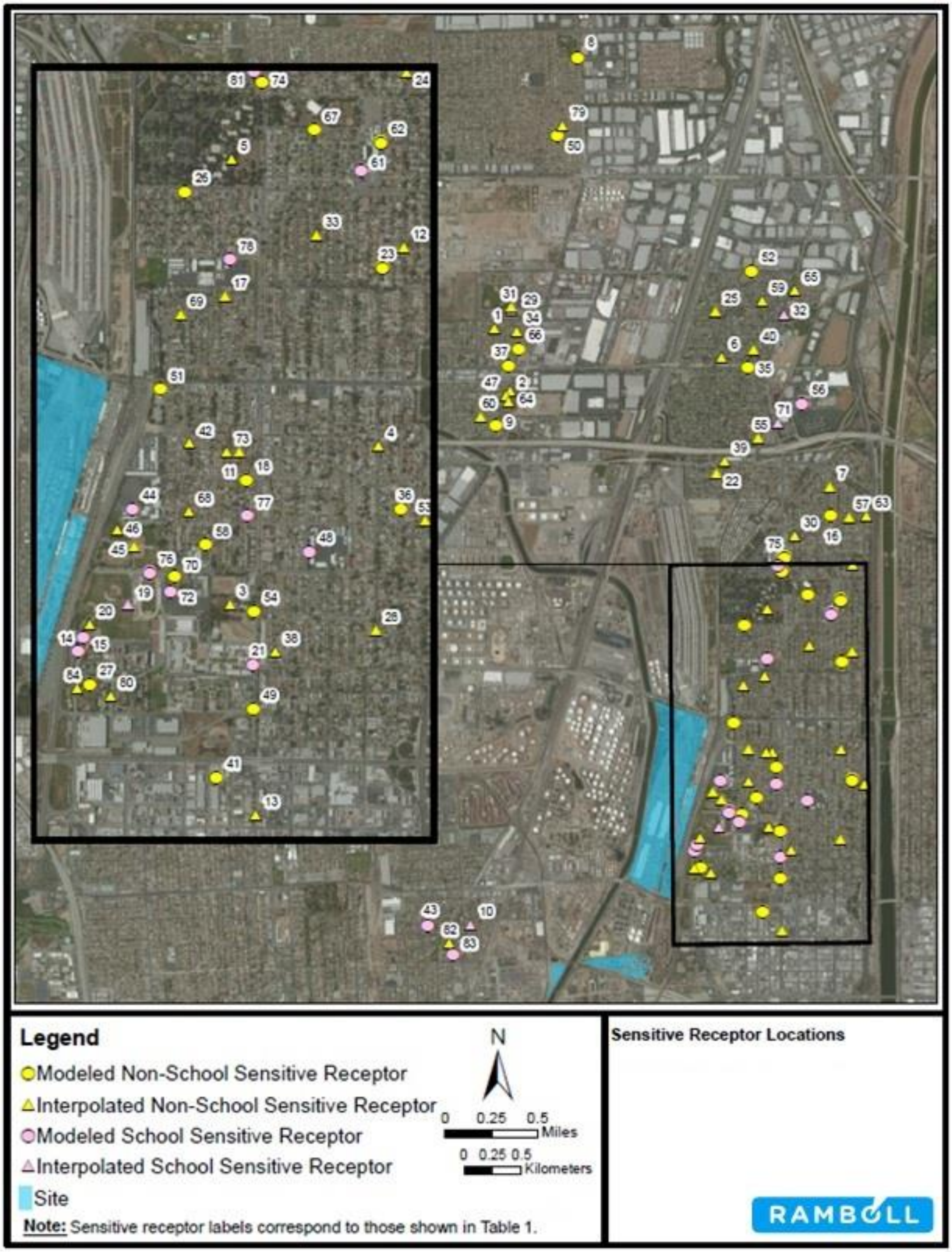

Figure 2. Locations of Sensitive Receptors in the Vicinity of the Project Site (Source: 2013 Final EIR).

Table 2. List of Sensitive Receptors (Source: 2013 Final EIR)

Label	Name
1	A & P Guest Home
2	Acosta Family Home II
3	Admiral Kidd Park
4	Agu Family Child Care
5	American Gold Star Manor Healthcare
6	Am's Residential Facility 3
7	Am's Residential Facility-2
8	Anderson Park
9	Angels Hangout/Saldana Family Child Care
10	Apostolic Faith Center/Apostolic Faith Academy
11	Aquarius Home
12	Babineaux Family Child Care
13	Bay Breeze Care
14	Bethune School Recreational Facilities
15	Bethune Transitional Center for the Homeless
16	Bobo Family Daycare
17	Brown Family Child Care
18	Burnett home Care - Aged People Care
19	Cabrillo High Recreational Facilities
20	Cabrillo Child Development Center - Child Care
21	Cabrillo High School
22	Cameron Home
23	Carol Daycare
24	Casian Family Child Care
25	Cecilia Olivas
26	Ceja Family Child Care
27	Century Villages at Cabrillo Homeless Housing Community
28	Costa Family Child Care
29	Del Amo Elementary School
30	Delgado Family Child Care
31	Dolphin Park
32	Dominguez Elementary School
33	Duran, Ramona Family Day Care
34	Fernandez Guest Home
35	First Baptist Preschool and Daycare
36	Franklin Day Care Center
37	Friendship Children
38	Gallegos Family Child Care
39	Garcia Family Child Care
40	Good Beginnings Head Start
41	Harbor Japanese Community Cultural Center
42	Hayes Home
43	Holy Family School and Pre-School

Label	Name
44	Hudson K-8 School
45	Hudson Park
46	Hudson Park Community Garden
47	Jackson Family Child Care
48	James Garfield Elementary School/Child Development Center and Head Start
49	Job Corp Head Start - Daycare and Nursery
50	Just Being Cute (It Takes A Village Family Day Care)
51	Khemara Buddhikaram Cambodian Buddhist Temple
52	Lakeshore Kids & Company 2695 E Dominguez St
53	Lara Family Day Care
54	LBUSD Child Development Center/Westside Neighborhood Clinic
55	Little Greenwood Daycare
56	Long Beach Unified School District: Gifted & Talented Education
57	Lopez Family Child Care
58	Loram Manor
59	Martin-Luna Family Child Care
60	Merced's Family Home
61	Muir Academy
62	Muir Child Development Center
63	Nero-Morrison Family Child Care
64	Nevarez Family Child Care
65	New Life Homes
66	Pablo Residential Care Home
67	Park Silverado Community Center
68	Patterson Family Child Care
69	Pioneer Homes of California
70	Pramuan Simsriwatna Place of Worship
71	Rancho Dominguez Preparatory
72	Reid Continuation High School
73	Reliable Residential Care
74	Sanders Teeny Tiny Preschool
75	Santa Fe Convalescent Hospital
76	Savannah Academy
77	St. Lucy Church and School
78	Stephens Middle School
79	Stevens Adult Home
80	VA Long Beach Clinic and Veteran's Support Services
81	Webster Elementary School and Head Start
82	Wilmington Park Children's Center (Early Education Center)
83	Wilmington Park Elementary School/Mahar House
84	Cabrillo Center Expansion

2.0 METHODOLOGY

This section provides an overview of the methodology employed in this expanded analysis of operational emissions and ground-level pollutant concentrations (also referred to as ambient off-site concentrations) related to operation of the Project and the alternatives. This expanded analysis included expanding the analysis of ground-level concentrations for nitrogen dioxide (NO_2) and particulate matter in two size ranges (PM_{10}, less than 10 microns in size and $PM_{2.5}$, less than 2.5 microns in size) for each Benchmark Year. Because the expanded analysis focuses on evaluating Impact AQ-4 (ambient concentrations related to operational emissions), as required by the Writ, construction emissions were not used in this expanded analysis. Additional calculations for concentrations of CO and SO_2 were also performed using the methodology described in this Technical Appendix for purposes of consideration in this Revised Draft EIR and confirmed to be below the applicable significance thresholds in every Benchmark Year. This was expected because the 2013 Final EIR composite modeling demonstrated that CO and SO_2 impacts were less than significant, and analyses based on individual Benchmark Year emission rates using the Revised Draft EIR AQ-4 Methodology will necessarily result in equal or lower concentrations. In accordance with the Writ, further disclosures for CO and SO_2 are not necessary.

2.1 Emissions Compilation

The Benchmark Years in the Revised Draft EIR and this Technical Appendix include the years evaluated under Impact AQ-3 in the 2013 Final EIR (2016, 2023, 2036, and 2046/2066), as well as two additional interpolated analysis years (2020 and 2030). Year 2016 was the assumed opening year and first year of operations for the Project; year 2023 is the expected implementation of CARB's Bus and Truck Rule; 2035 is the year expected for the Project (and alternatives) to reach capacity; and year 2066 is expected end of lease date.

Benchmark Years 2046 and 2066 were analyzed in the 2012 Recirculated Draft EIR as part of the emissions impact AQ-3. Because of the limited ability of emission models used during the preparation of the Final EIR (EMFAC, CARB CHE tool, etc.) to predict emissions in year 2066, the emissions for 2046 and 2066 are identical. Therefore, 2046 was selected as the furthest Benchmark Year for which concentration impacts are analyzed, and any concentration estimates for 2066 would be identical; hence, as mentioned in Section 1, the Benchmark Year label is generally represented as 2046/2066.

Two additional Benchmark Years which were included in this analysis, 2020 and 2030, were interpolated and selected to show trends in concentration impacts throughout the project life, thereby obtaining a more complete time series of ambient concentrations. As mentioned above, as in the 2013 Final EIR, the mitigated Project and mitigated Reduced Project includes emissions reductions for PM_{10} and $PM_{2.5}$ from Mitigation Measure MM AQ-7. These translate into 26% control of paved road fugitive dust PM_{10} and $PM_{2.5}$ emissions from on-road vehicles traveling within the SCIG facility. However, because other pollutant emissions are unaffected by that mitigation measure, emissions of oxides of nitrogen, i.e., NO_x[1] (of which NO_2 is a component) are identical for the unmitigated Project and mitigated Project and the unmitigated Reduced Project and mitigated Reduced Project.

In the 2013 Final EIR, operational emissions were estimated for locomotives, on-road trucks, yard hostlers, CHE, and other service and maintenance equipment. By-year emissions remain unchanged

[1] Nitrogen oxides (NOx) is a collective term used to refer to nitrogen monoxide (NO) and nitrogen dioxide (NO_2). Emissions are quantified as NOx, while ambient pollutant concentrations focus on NO_2.

from those disclosed in Appendix C1 of the 2013 Final EIR. Emissions by year and by source category are summarized in Annex 1 of this document.

In comparison to the 2013 Final EIR composite scenario, the total emissions of an individual year are smaller than emissions attributed to the composite scenario because by-year emissions are not based on the peak value for each source category, but instead fluctuate from year to year based on the various factors affecting the source of emissions (e.g., facility throughput, number of truck trips, engine deterioration and turnover, regulations, etc.). Emissions for each scenario are shown next to the 2013 Final EIR Composite in Table 3 for Annual NO_x, 1-hour NO_x, Annual PM_{10}, 24-hour PM_{10}, and 24-hour $PM_{2.5}$, which are the input emissions used in the evaluation of ambient pollutant concentration standards. Emissions by year for each averaging period with source category detail are summarized in Annex 1 of this Technical Appendix.

Table 3. Total Emissions by Scenario for Each Benchmark Year and the 2013 Final EIR Composite

Pollutant /period	Units	Scenario	2016	2020	2023	2030	2035	2046/2066	Composite
NO_x 1-HOUR	lbs/hour	Project	35.5	29.7	25.4	29.8	33.0	33.7	53.1
		Mitigated Project	35.5	29.7	25.4	29.8	33.0	33.7	53.1
		Reduced Project	35.5	29.7	25.4	26.0	26.4	26.8	46.7
		Mitigated Reduced Project	35.5	29.7	25.4	26.0	26.4	26.8	46.7
		No Project	79.5	62.6	49.9	51.0	51.8	56.1	104.3
NO_x ANNUAL	tpy	Project	82.2	70.5	61.7	84.4	100.6	102.0	138.0
		Mitigated Project	82.2	70.5	61.7	84.4	100.6	102.0	138.0
		Reduced Project	82.2	70.5	61.7	69.4	74.9	75.3	113.0
		Mitigated Reduced Project	82.2	70.5	61.7	69.4	74.9	75.3	113.0
		No Project	158.1	124.9	100.0	114.3	124.5	138.2	230.8
PM_{10} 24-HOUR	lb/day	Project	43.7	47.7	50.7	86.4	111.9	111.8	117.3
		Mitigated Project	41.5	44.9	47.5	78.7	101.0	101.0	106.5
		Reduced Project	43.7	47.7	50.7	68.6	81.4	81.1	87.3
		Mitigated Reduced Project	41.5	44.9	47.5	63.1	74.2	73.9	80.1
		No Project	99.0	105.9	111.0	143.5	166.7	166.7	216.3
PM_{10} ANNUAL	tpy	Project	6.6	7.3	7.8	13.6	17.7	17.6	18.5
		Mitigated Project	6.2	6.8	7.2	12.3	16.0	15.9	16.7
		Reduced Project	6.6	7.3	7.8	10.7	12.8	12.7	13.6
		Mitigated Reduced Project	6.2	6.8	7.2	9.8	11.6	11.6	12.4
		No Project	14.7	15.8	16.7	22.0	25.7	25.7	33.5
$PM_{2.5}$ 24-HOUR	lb/day	Project	18.0	19.0	19.7	29.9	37.3	37.2	42.1
		Mitigated Project	17.5	18.3	18.9	28.0	34.6	34.5	39.4
		Reduced Project	18.0	19.0	19.7	24.3	27.6	27.2	32.7
		Mitigated Reduced Project	17.5	18.3	18.9	22.9	25.8	25.4	30.9
		No Project	38.5	40.2	41.5	51.5	58.6	58.5	82.1

Figures 3 through 7 show the differences in emissions among Project Scenarios. As noted earlier, for NO_x, the Project versus the mitigated Project emissions are identical. For PM_{10} and $PM_{2.5}$, however, the figures show slightly lower emissions in the scenarios with mitigation. The emission charts also reflect the throughput differences among Project Scenarios, where the Reduced Project's emissions are slightly lower year-by-year than those of the Project for years after 2023 due to the latter's higher throughput. The No Project scenario's emissions are larger than the Project scenario's, primarily due to longer drayage truck travel distance to BNSF's Hobart yard under the No Project alternative.

Emission trends are consistent with expected throughput versus emission factor trends over the lifespan of the Project. For example, Project throughput increases slowly during the 2016-2023 period while truck NO_x emission rates decrease, reflecting the expected cleaner fleet in 2023 due to CARB's Truck and Bus Rule, causing a dip in emissions in 2023. However, emissions trends increase more sharply after 2023 due to more growth in throughput, and therefore in truck trips, and a slower turnover of the truck fleet as regulatory requirements are fulfilled. Because PM_{10} and $PM_{2.5}$ emissions include fugitive road dust, which is not reduced by regulatory requirements, emissions for PM_{10} show steadier growth in future years.

Figures 3 through 7 also show that the source categories contributing to mass emissions by averaging period vary by scenario and Benchmark Year. These emissions contributions drive the contributions observed in the maximum modeled pollutant concentrations (and increments); however, it must be noted that contributions to maximum modeled concentrations also reflect the geographical location of sources relative to a receptor and are subject to dispersion and meteorology effects. Therefore, the mass emissions contributions may not be identical to the concentration contributions for any given receptor.

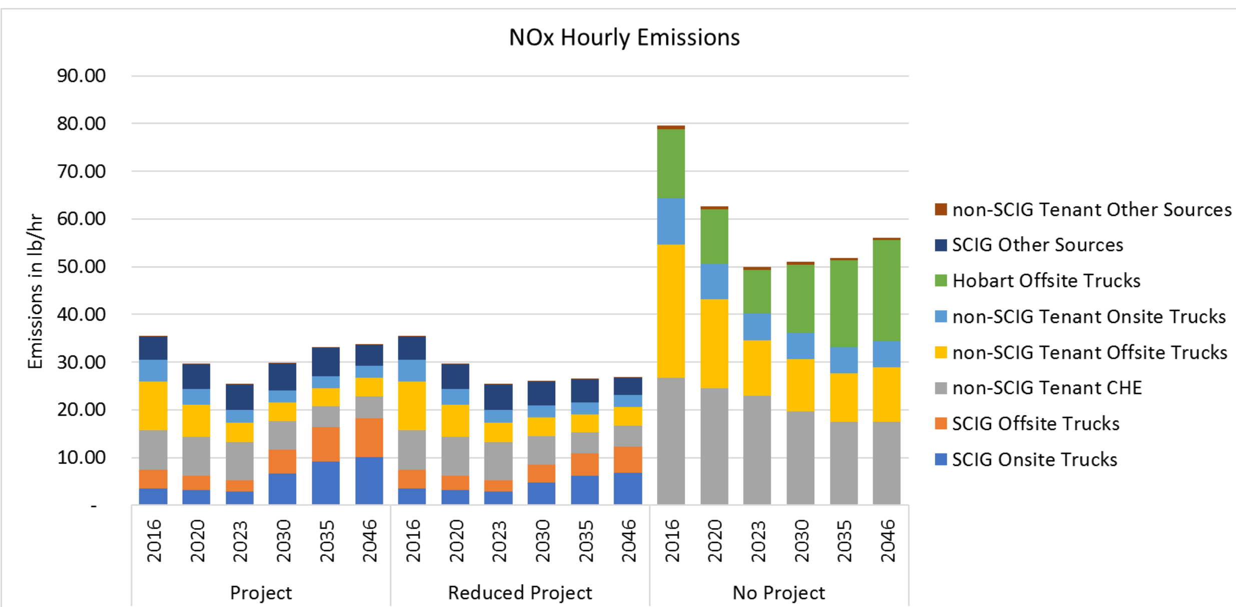

Figure 3. SCIG 1-Hour NO_x Emissions (in tons/yr) by Scenario, by Category

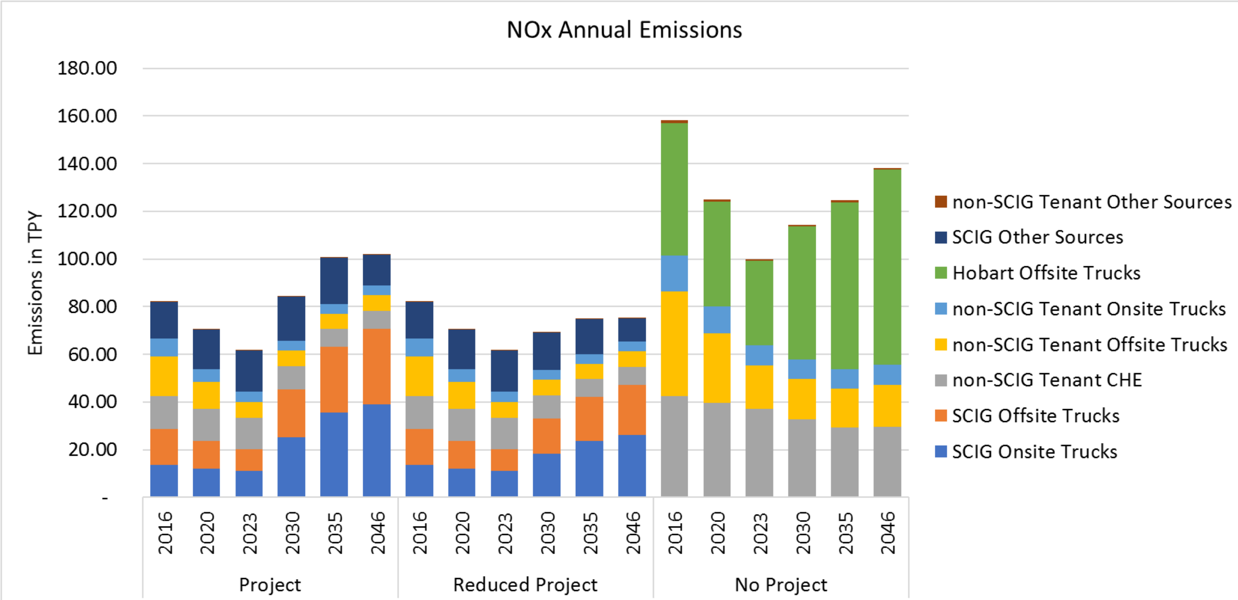

Figure 4. SCIG Annual NO_x Emissions (in lbs/hr) by Scenario by Scenario, by Category

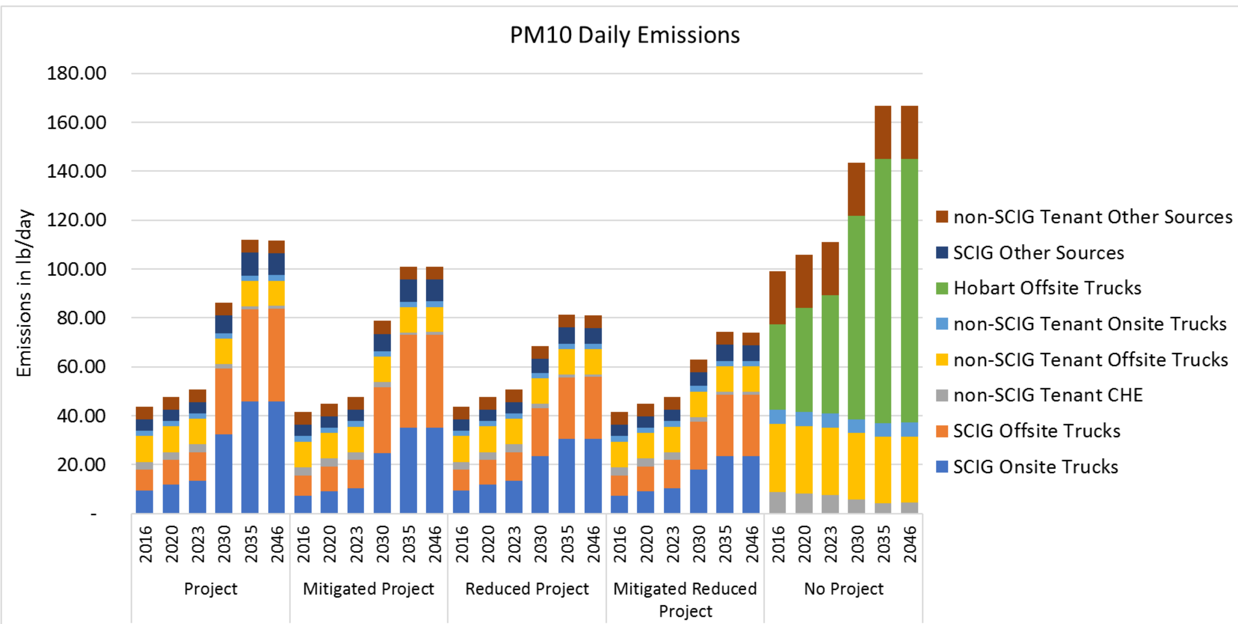

Figure 5. SCIG 24-Hour PM_{10} Emissions (in tons/yr) by Scenario, by Category

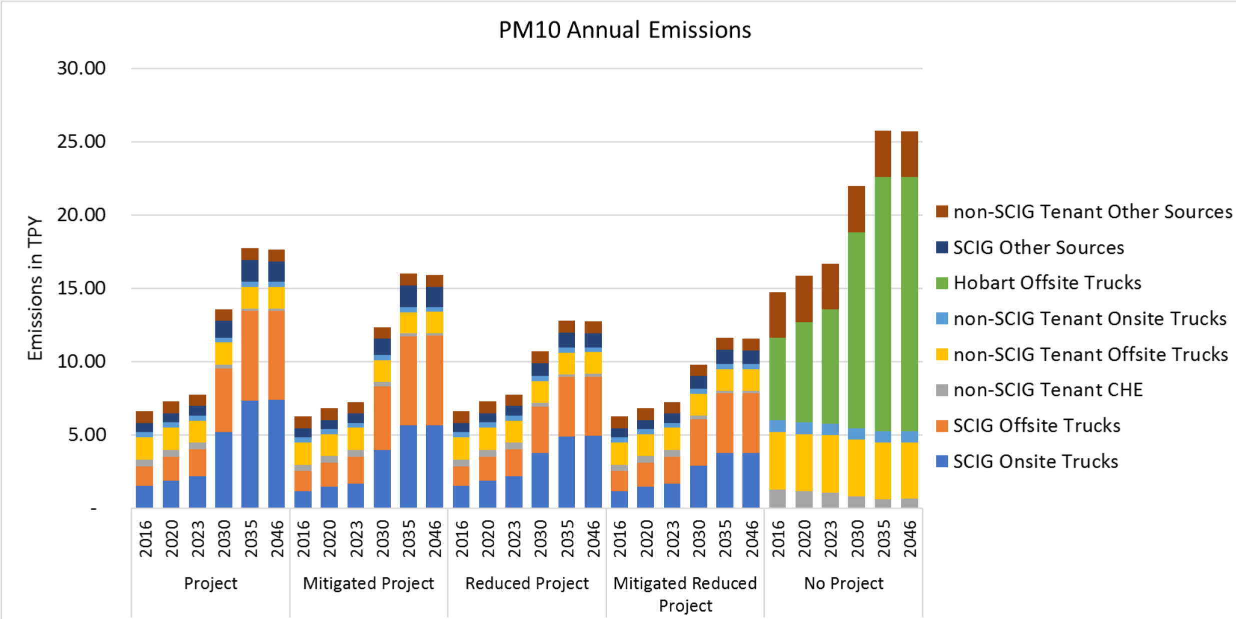

Figure 6. SCIG Annual PM_{10} Emissions (in lbs/day) by Scenario, by Category

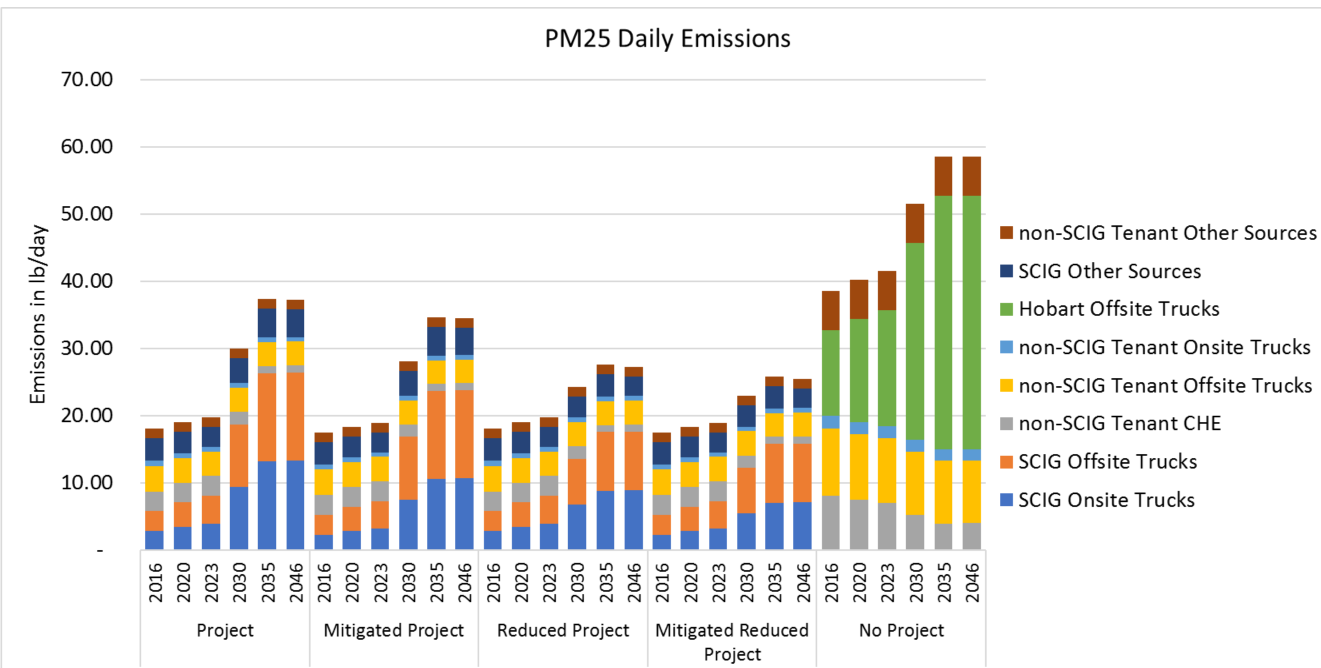

Figure 7. SCIG 24-hour $PM_{2.5}$ Emissions (in lbs/day) by Scenario, by Category

2.2 Dispersion Modeling

2.2.1 Methodology Overview

As explained in Section 3.2.3 of this Revised Draft EIR, LAHD performed analysis of individual Benchmark Years for five project scenarios: the unmitigated and mitigated Project, the unmitigated and mitigated Reduced Project, and the No Project. Maximum ground-level concentration impacts and increments for each Benchmark Year for each Project Scenario are disclosed in Section 3.

The methodology to estimate ambient pollutant concentrations in the Recirculated Draft EIR (consistent with results presented in the 2013 Final EIR) remains mostly unchanged in this expanded analysis. Information on dispersion modeling not disclosed here can be found in Appendix C2 of the Recirculated Draft EIR. The dispersion factors, significance thresholds, meteorology data, and background concentrations remain unchanged from the 2013 SCIG Project EIR. The only difference is that the emissions input in this expanded analysis are based on individual years instead of the composite, thereby producing pollutant concentrations by Benchmark Year.

To determine significant impacts for each Project Scenario, this expanded analysis compared the maximum ground-level concentration in each Benchmark Year to the applicable SCAQMD threshold. For each Benchmark Year, if the highest modeled concentration (for NO_2) or concentration increment (for particulate matter) would exceed the applicable threshold, then a significant impact under CEQA was found for the receptor at that location (i.e., the MEI), regardless of the zoning at that location (e.g., industrial, commercial, residential). These concepts are defined in detail in the following section.

2.2.2 Significance Criteria for Project Air Quality Impacts

Ambient air pollutant concentrations were evaluated for CEQA significance in the 2013 SCIG Project EIR and this Revised Draft EIR by comparing the value of the maximum modeled concentration (or increment) for all receptors to SCAQMD thresholds, shown in Table 4. If any modeled maximum off-site concentrations exceed these thresholds, they represent a significant impact under CEQA.

Table 4. SCAQMD Thresholds for Ambient Air Quality Concentrations Associated with Project Operations

Air Pollutant and Averaging Period	Ambient Concentration Threshold
Nitrogen Dioxide (NO_2) 1-hour average (federal) 1-hour average (state) annual average	188 μg/m^3 [federal] 0.18 ppm (338 μg/m^3) [state] 0.03 ppm (57 μg/m^3)
Particulates 24-hour average (PM_{10} or $PM_{2.5}$) annual average (PM_{10})	2.5 μg/m^3 1.0 μg/m^3

Notes:

a) The NO_2 threshold is an absolute threshold; the maximum predicted impact from proposed Project operations is added to the background concentration for the Project vicinity and compared to the threshold.

b) The PM_{10} threshold is an incremental threshold. For CEQA significance, the maximum increase in concentration relative to the 2010 Baseline is compared to the threshold.

c) To evaluate Project impacts to ambient NO_2 levels, the analysis replaced the use of the current Federal Annual NO_2 thresholds with the more stringent California Ambient Air Quality Standards 57 μg/m^3, and also included the California Ambient Air Quality Standard of 338 ug/m^3 for 1-Hour NO_2.

d) Source: SCAQMD, 2019, EPA, 2020.

When reviewing the AQ-4 Impact results presented in this analysis, the following points should be considered:

<u>Maximum Concentrations and Increments</u>

- Under CEQA, the significance of impacts related to ambient air pollutant concentrations is determined by comparing the maximum value, among all of the receptors, of modeled concentrations (or increments in the case of particulate matter), to the SCAQMD thresholds shown in Table 4. A concentration or increment that exceeds those thresholds represents a significant impact under CEQA.

- The analysis presents NO_2 as **Total Ground-Level Concentrations**, which represent the modeled Project-related concentrations added to the background ambient concentrations:
  - Total Ground-level Concentration (µg/m^3) = the Maximum Modeled Concentration + the Background Concentration*.*
  - A modeled concentration, estimated through dispersion modeling, is a pollutant concentration for a specific time-period related to the emissions from a Project. The maximum modeled concentration is the one with highest value amongst all receptors in the domain.
  - The background concentrations are equivalent to those used in the 2013 Final EIR from the Wilmington Monitoring Station[2] and are measured concentrations in the vicinity of the Project that depict the status of the local air quality.
  - The receptor with the highest ground-level concentration is often referred to as the "maximum exposed individual" or "MEI," but it is important to note that the MEI is not necessarily a place where someone lives, but rather the point on the modeling grid where the impact is greatest, and it often is an industrial, rather than a residential, location. The modeling grid establishes the points at which the model calculates pollutant concentrations, and as the grid points are typically regularly spaced across the area of analysis, the MEI is not associated with a specific address and may even be in a vacant field. The total ground-level concentrations are compared to the appropriate SCAQMD thresholds, which can be found in Table 4. See Section 3.4.1 in the main Revised Draft EIR document for a more detailed discussion on the concept of the MEI.

- For PM_{10} and $PM_{2.5}$, the analysis presents both the maximum modeled project-related concentration (i.e., not including the background concentration) and the **Ground-Level Concentration Increment** (also referred to as CEQA Increment).

  - The increment is derived by subtracting the modeled 2010 Baseline concentration from the appropriate modeled concentration on a receptor by receptor basis, and selecting the maximum value across all receptors. In some cases, the maximum modeled concentration will not correspond spatially with the maximum ground-level concentration increment because the increment is the difference between two independent concentrations:

    - The Ground-Level Concentration Increment (µg/m^3) is the modeled concentration at a receptor minus the 2010 Baseline concentration at that same receptor.
    - The 2010 Baseline concentration is the modeled concentration (through dispersion) related to the Project during the baseline year. In this expanded analysis, as noted above, 2010 is the baseline for the Project as it was in the 2013 Final EIR.

    - The receptor with the highest ground-level concentration increment is often referred to as the "maximum exposed individual" or "MEI". The PM_{10} and $PM_{2.5}$ ground-level concentration increments are compared to the PM_{10} and $PM_{2.5}$ SCAQMD thresholds in Table 4, respectively.

- The location of the maximum receptor may vary from year to year due to changes in the emissions.

[2] Source: Air Quality Monitoring Program at the Port of Los Angeles. Year Eight, Nine, and Ten Data Summaries. San Pedro Bay Ports Clean Air Action Plan - Air Monitoring - Reports. http://caap.airsis.com/Reports.aspx. Website accessed 3/19/2019.

3.0 AMBIENT POLLUTANT CONCENTRATION IMPACTS

3.1 AQ-4 Impacts: Off-site Ambient Air Pollutant Concentrations by Analysis Year

Table 5 summarizes the ambient air pollutant concentrations at the maximum receptors that are estimated to be in exceedance to the thresholds

Table 5. Summary of Exceedances Above Threshold for Maximum-Receptor Off-Site Ambient Air Pollutant Concentrations in the Expanded Analysis

Pollutant/ Period	CEQA Evaluation[a]	Unmitigated Project	Mitigated Project	No Project	Unmitigated Reduced Project	Mitigated Reduced Project
NO_2 1-hour (federal and state)	Total Ground-level Concentrations	All Benchmark Years	All Benchmark Years	All Benchmark Years	All Benchmark Years	All Benchmark Years
NO_2 Annual	Total Ground-level Concentrations	2016, 2035, 2046/2066	2016, 2035, 2046/2066	None	2016, 2046/2066	2016, 2046/2066
PM_{10} 24-hour	Total Ground-level Concentrations	All Benchmark Years	All Benchmark Years	2035, 2046/2066	All Benchmark Years	All Benchmark Years
PM_{10} Annual	Ground-Level Concentration Increment	2020, 2023, 2030, 2035, 2046/2066	2020, 2023, 2030, 2035, 2046/2066	2035, 2046/2066	2020, 2023, 2030, 2035, 2046/2066	2020, 2023, 2030, 2035, 2046/2066
$PM_{2.5}$ 24-hour	Ground-Level Concentration Increment	2016, 2020, 2023	2016, 2020, 2023	None	2016, 2020, 2023	2016, 2020, 2023

[a] Total Ground-level Concentration ($\mu g/m^3$) is the Maximum Modeled Concentration plus the Background Concentration.
Ground-Level Concentration Increment ($\mu g/m^3$) is the subtraction of the 2010 Baseline concentration from the maximum modeled concentration on a receptor-by-receptor basis.

The estimated by-year maximum modeled and total ground-level air pollutant concentrations and increments for the Project, mitigated Project, Reduced Project, mitigated Reduced Project and No Project Alternative are presented in Tables 6 through 13. Mitigation Measure MM AQ-7 On-Site Sweeping at SCIG Facility, as set forth in the 2013 Recirculated Draft EIR, would reduce paved road dust emissions, expressed as PM_{10} and $PM_{2.5}$ from vehicles driving within the SCIG Facility. As a result, the contributions of such emissions to off-site particulate matter concentrations would be reduced in the mitigated scenarios for the Project and Reduced Project. Concentration increments for the mitigated Project and mitigated Reduced Project are presented in Tables 8 and 13, showing that mitigation measure Mitigation Measure MM AQ-7 would marginally reduce emissions and concentration increments for particulate matter for the Project and Reduced Project in earlier years 2016-2023, and have slightly more effect in later years 2030 through 2046/2066. Despite reductions in the predicted increments, the concentration estimates remain above the thresholds, and impact determinations remain the same as those for the unmitigated Project and Reduced Project. Side-by-side contour maps showing the difference in geographic extent of exceedances for particulate matter increments between unmitigated and mitigated scenarios are depicted in figures 3-59 through 3-64 of the Revised Draft EIR and in Annex 3 of this Technical Appendix. The contour maps of particulate matter for the No Project Scenario and all contour maps related to NO_2 scenarios are shown in Annex 4.

Table 6. Maximum Offsite NO_2 Concentrations by Year Associated with Operation of the Unmitigated Project Alternative

Pollutant	Averaging Time	Analysis Year	Maximum Modeled Concentration of Unmitigated Project Alternative (μg/m³)	Background Concentration[b] (μg/m³)	Maximum Total Ground Level Concentration[a] (μg/m³)	SCAQMD Threshold (μg/m³)	Concentration above threshold?
NO_2 [c]	Federal 1-hour [d]	2016	657	142	**799**	188	Yes
		2020	601	142	**743**	188	Yes
		2023	558	142	**700**	188	Yes
		2030	394	142	**536**	188	Yes
		2035	276	142	**418**	188	Yes
		2046	281	142	**423**	188	Yes
	State 1-hour	2016	657	245	**902**	338	Yes
		2020	601	245	**846**	338	Yes
		2023	558	245	**803**	338	Yes
		2030	394	245	**639**	338	Yes
		2035	276	245	**521**	338	Yes
		2046	281	245	**526**	338	Yes
	Annual	2016	18	40	**58**	57	Yes
		2020	17	40	57	57	No
		2023	15	40	55	57	No
		2030	17	40	57	57	No
		2035	23	40	**63**	57	Yes
		2046	26	40	**66**	57	Yes

[a] Exceedances of the thresholds are indicated in **bold**. Modeled concentrations of NO_2 are absolute unmitigated Project Alternative concentrations.

[b] The background concentration values are the same used in the 2013 Final EIR.

[c] NO_2 concentrations were calculated assuming a 75 percent conversion rate from NOx to NO_2 for the annual averaging period and an 80 percent conversion rate from NOx to NO_2 for the 1-hour averaging period.

[d] This comparison is to the federal NAAQS, which is a 98th percentile threshold. Here, the background concentration is the 3-year average of the 8th highest daily maximum 1-hour concentration.

Table 7. Maximum Offsite PM_{10} and $PM_{2.5}$ Concentrations by Year Associated with Operation of the Unmitigated Project Alternative

Pollutant	Averaging Time	Analysis Year	Maximum Modeled Concentration of Unmitigated Project Alternative[b] ($\mu g/m^3$)	Maximum Modeled Concentration of CEQA Baseline[b] ($\mu g/m^3$)	Maximum Ground-Level Concentration CEQA Increment[a,b] ($\mu g/m^3$)	SCAQMD Threshold ($\mu g/m^3$)	Concentration above threshold?
PM_{10}	24-hour	2016	6.2	6.5	**4.9**	2.5	Yes
		2020	6.5	6.5	**5.3**	2.5	Yes
		2023	6.8	6.5	**5.5**	2.5	Yes
		2030	10.5	6.5	**5.8**	2.5	Yes
		2035	15	6.5	**8.9**	2.5	Yes
		2046	15	6.5	**8.9**	2.5	Yes
	Annual	2016	1.6	1.7	0.95	1.0	No
		2020	2.0	1.7	**1.02**	1.0	Yes
		2023	2.3	1.7	**1.20**	1.0	Yes
		2030	5.4	1.7	**3.94**	1.0	Yes
		2035	7.7	1.7	**6.18**	1.0	Yes
		2046	7.7	1.7	**6.18**	1.0	Yes
$PM_{2.5}$	24-hour	2016	4.0	3.8	**3.2**	2.5	Yes
		2020	4.3	3.8	**3.5**	2.5	Yes
		2023	4.5	3.8	**3.7**	2.5	Yes
		2030	3.4	3.8	2.0	2.5	No
		2035	4.6	3.8	2.3	2.5	No
		2046	4.6	3.8	2.3	2.5	No

[a] Exceedances of the threshold are indicated in bold. The thresholds for PM_{10} and $PM_{2.5}$ are incremental thresholds; therefore, the incremental concentration without background is compared to the threshold.

[b] The maximum concentrations and increments presented in this table do not necessarily occur at the same receptor location. The maximum CEQA Increment is the maximum concentration resulting from the 2010 Baseline subtracted from the unmitigated Project Alternative modeled concentration on a receptor-by-receptor basis. Background concentrations are not included in the CEQA Increment. Maximum modeled Baseline concentrations are included for completeness, but do not necessarily correspond to a value used to calculate the maximum CEQA Increment.

Table 8. Maximum Offsite PM_{10} and $PM_{2.5}$ Concentrations by Year Associated with Operation of the Mitigated Project Alternative

Pollutant	Averaging Time	Analysis Year	Maximum Modeled Concentration of Mitigated Project Alternative[b] (µg/m³)	Maximum Modeled Concentration of 2010 Baseline[b] (µg/m³)	Maximum Ground-Level Concentration CEQA Increment[a,b] (µg/m³)	SCAQMD Threshold (µg/m³)	Concentration above threshold?
PM_{10}	24-hour	2016	6.2	6.5	**4.9**	2.5	Yes
		2020	6.5	6.5	**5.2**	2.5	Yes
		2023	6.8	6.5	**5.5**	2.5	Yes
		2030	9.3	6.5	**4.3**	2.5	Yes
		2035	13.0	6.5	**7.1**	2.5	Yes
		2046	13.0	6.5	**7.1**	2.5	Yes
	Annual	2016	1.4	1.7	0.94	1.0	No
		2020	1.8	1.7	**1.00**	1.0	Yes
		2023	2.0	1.7	**1.05**	1.0	Yes
		2030	4.8	1.7	**3.26**	1.0	Yes
		2035	6.7	1.7	**5.22**	1.0	Yes
		2046	6.7	1.7	**5.22**	1.0	Yes
$PM_{2.5}$	24-hour	2016	4.0	3.8	**3.2**	2.5	Yes
		2020	4.3	3.8	**3.5**	2.5	Yes
		2023	4.5	3.8	**3.7**	2.5	Yes
		2030	3.0	3.8	2.0	2.5	No
		2035	4.2	3.8	1.8	2.5	No
		2046	4.2	3.8	1.8	2.5	No

[a] Exceedances of the threshold are indicated in bold. The thresholds for PM_{10} and $PM_{2.5}$ are incremental thresholds; therefore, the incremental concentration without background is compared to the threshold.

[b] The maximum concentrations and increments presented in this table do not necessarily occur at the same receptor location. The maximum CEQA Increment is the maximum concentration resulting from the 2010 Baseline subtracted from the mitigated Project Alternative modeled concentration on a receptor-by-receptor basis. Background concentrations are not included in the CEQA Increment. Maximum modeled 2010 Baseline concentrations are included for completeness, but do not necessarily correspond to a value used to calculate the maximum CEQA Increment.

Table 9. Maximum Offsite NO_2 Concentrations by Year Associated with Operation of the No Project Alternative

Pollutant	Averaging Time	Analysis Year	Maximum Modeled Concentration of No Project Alternative (μg/m³)	Background Concentration[b] (μg/m³)	Maximum Total Ground Level Concentration[a] (μg/m³)	SCAQMD Threshold (μg/m³)	Concentration above threshold?
NO_2	Federal 1-hour	2016	735	142	**877**	188	Yes
		2020	649	142	**791**	188	Yes
		2023	585	142	**727**	188	Yes
		2030	531	142	**673**	188	Yes
		2035	493	142	**635**	188	Yes
		2046	504	142	**646**	188	Yes
	State 1-hour	2016	735	245	**980**	338	Yes
		2020	649	245	**894**	338	Yes
		2023	585	245	**830**	338	Yes
		2030	531	245	**776**	338	Yes
		2035	493	245	**738**	338	Yes
		2046	504	245	**749**	338	Yes
	Annual	2016	16	40	56	57	No
		2020	15	40	55	57	No
		2023	14	40	54	57	No
		2030	14	40	54	57	No
		2035	13	40	53	57	No
		2046	14	40	54	57	No

[a] Exceedances of the thresholds are indicated in **bold**. Modeled concentrations of NO_2 are absolute unmitigated Project Alternative concentrations.

[b] The background concentration values are the same used in the 2013 Final EIR.

[c] NO_2 concentrations were calculated assuming a 75 percent conversion rate from NOx to NO_2 for the annual averaging period and an 80 percent conversion rate from NOx to NO_2 for the 1-hour averaging period.

[d] This comparison is to the federal NAAQS, which is a 98th percentile threshold. Here, the background concentration is the 3-year average of the 8th highest daily maximum 1-hour concentration.

Table 10. Maximum Offsite PM_{10} and $PM_{2.5}$ Concentrations by Year Associated with Operation of the No Project Alternative

Pollutant	Averaging Time	Analysis Year	Maximum Modeled Concentration of No Project Alternative[b] (µg/m³)	Maximum Modeled Concentration of 2010 Baseline[b] (µg/m³)	Maximum Ground-Level Concentration CEQA Increment[a,b] (µg/m³)	SCAQMD Threshold (µg/m³)	Concentration above threshold?
PM_{10}	24-hour	2016	5.3	6.5	0.4	2.5	No
		2020	5.4	6.5	0.4	2.5	No
		2023	5.6	6.5	0.5	2.5	No
		2030	5.6	6.5	1.8	2.5	No
		2035	6.6	6.5	**2.9**	2.5	**Yes**
		2046	6.6	6.5	**2.9**	2.5	**Yes**
	Annual	2016	1.4	1.7	0.1	1.0	No
		2020	1.6	1.7	0.1	1.0	No
		2023	1.7	1.7	0.2	1.0	No
		2030	2.3	1.7	0.9	1.0	No
		2035	2.8	1.7	**1.4**	1.0	**Yes**
		2046	2.8	1.7	**1.4**	1.0	**Yes**
$PM_{2.5}$	24-hour	2016	2.7	3.8	0.0	2.5	No
		2020	2.9	3.8	0.0	2.5	No
		2023	3.0	3.8	0.1	2.5	No
		2030	2.2	3.8	0.5	2.5	No
		2035	2.2	3.8	0.9	2.5	No
		2046	2.2	3.8	0.9	2.5	No

[a] Exceedances of the threshold are indicated in bold. The thresholds for PM_{10} and $PM_{2.5}$ are incremental thresholds; therefore, the incremental concentration without background is compared to the threshold.

[b] The maximum concentrations and increments presented in this table do not necessarily occur at the same receptor location. The maximum CEQA Increment is the maximum concentration resulting from the 2010 Baseline subtracted from the No Project Alternative modeled concentration on a receptor-by-receptor basis. Background concentrations are not included in the CEQA Increment. Maximum modeled 2010 Baseline concentrations are included for completeness, but do not necessarily correspond to a value used to calculate the maximum CEQA Increment.

Table 11. Maximum Offsite NO_2 by Year Associated with Operation of the Unmitigated Reduced Project Alternative

Pollutant	Averaging Time	Analysis Year	Maximum Modeled Concentration of Reduced Project Alternative (µg/m³)	Background Concentration[b] (µg/m³)	Maximum Total Ground Level Concentration[a] (µg/m³)	SCAQMD Threshold (µg/m³)	Concentration above threshold?
NO_2 [c]	Federal 1-hour [d]	2016	657	142	**799**	188	Yes
		2020	601	142	**743**	188	Yes
		2023	558	142	**700**	188	Yes
		2030	387	142	**529**	188	Yes
		2035	265	142	**407**	188	Yes
		2046	269	142	**411**	188	Yes
	State 1-hour	2016	657	245	**902**	338	Yes
		2020	601	245	**846**	338	Yes
		2023	558	245	**803**	338	Yes
		2030	387	245	**632**	338	Yes
		2035	265	245	**510**	338	Yes
		2046	269	245	**514**	338	Yes
	Annual	2016	18	40	**58**	57	Yes
		2020	17	40	57	57	No
		2023	15	40	55	57	No
		2030	13	40	53	57	No
		2035	16	40	56	57	No
		2046	18	40	**58**	57	Yes

[a] Exceedances of the thresholds are indicated in **bold**. Modeled concentrations of NO_2 are absolute unmitigated Project Alternative concentrations.

[b] The background concentration values are the same used in the 2013 Final EIR.

[c] NO_2 concentrations were calculated assuming a 75 percent conversion rate from NOx to NO_2 for the annual averaging period and an 80 percent conversion rate from NOx to NO_2 for the 1-hour averaging period.

[d] This comparison is to the federal NAAQS, which is a 98th percentile threshold. Here, the background concentration is the 3-year average of the 8th highest daily maximum 1-hour concentration.

Table 12. Maximum Offsite PM_{10} and $PM_{2.5}$ Concentrations by Year Associated with Operation of the Unmitigated Reduced Project Alternative

Pollutant	Averaging Time	Analysis Year	Maximum Modeled Concentration of Reduced Project Alternative[b] ($\mu g/m^3$)	Maximum Modeled Concentration of 2010 Baseline[b] ($\mu g/m^3$)	Maximum Ground-Level Concentration CEQA Increment[a,b] ($\mu g/m^3$)	SCAQMD Threshold ($\mu g/m^3$)	Concentration above threshold?
PM_{10}	24-hour	2016	6.2	6.5	**4.9**	2.5	Yes
		2020	6.5	6.5	**5.3**	2.5	Yes
		2023	6.8	6.5	**5.5**	2.5	Yes
		2030	7.7	6.5	**3.9**	2.5	Yes
		2035	9.9	6.5	**5.4**	2.5	Yes
		2046	9.9	6.5	**5.4**	2.5	Yes
	Annual	2016	1.6	1.7	0.95	1.0	No
		2020	2.0	1.7	**1.02**	1.0	Yes
		2023	2.3	1.7	**1.20**	1.0	Yes
		2030	3.9	1.7	**2.47**	1.0	Yes
		2035	5.1	1.7	**3.64**	1.0	Yes
		2046	5.1	1.7	**3.64**	1.0	Yes
$PM_{2.5}$	24-hour	2016	4.0	3.8	**3.2**	2.5	Yes
		2020	4.3	3.8	**3.5**	2.5	Yes
		2023	4.5	3.8	**3.7**	2.5	Yes
		2030	2.7	3.8	1.9	2.5	No
		2035	3.1	3.8	1.4	2.5	No
		2046	3.1	3.8	1.4	2.5	No

a Exceedances of the threshold are indicated in bold. The thresholds for PM_{10} and $PM_{2.5}$ are incremental thresholds; therefore, the incremental concentration without background is compared to the threshold.

b The maximum concentrations and increments presented in this table do not necessarily occur at the same receptor location. The maximum CEQA Increment is the maximum concentration resulting from the 2010 Baseline subtracted from the Reduced Project Alternative modeled concentration on a receptor-by-receptor basis. Background concentrations are not included in the CEQA Increment. Maximum modeled 2010 Baseline concentrations are included for completeness, but do not necessarily correspond to a value used to calculate the maximum CEQA Increment.

Table 13. Maximum Offsite PM_{10} and $PM_{2.5}$ Concentrations by Year Associated with Operation of the Mitigated Reduced Project Alternative

Pollutant	Averaging Time	Analysis Year	Maximum Modeled Concentration of Mitigated Reduced Project Alternative[b] (µg/m³)	Maximum Modeled Concentration of 2010 Baseline[b] (µg/m³)	Maximum Ground-Level Concentration CEQA Increment[a,b] (µg/m³)	SCAQMD Threshold (µg/m³)	Concentration above threshold?
PM_{10}	24-hour	2016	6.2	6.5	**4.9**	2.5	Yes
		2020	6.5	6.5	**5.2**	2.5	Yes
		2023	6.8	6.5	**5.5**	2.5	Yes
		2030	6.8	6.5	**3.7**	2.5	Yes
		2035	8.7	6.5	**4.0**	2.5	Yes
		2046	8.7	6.5	**4.0**	2.5	Yes
	Annual	2016	1.4	1.7	0.94	1.0	No
		2020	1.8	1.7	**1.00**	1.0	Yes
		2023	2.0	1.7	**1.05**	1.0	Yes
		2030	3.5	1.7	**1.97**	1.0	Yes
		2035	4.5	1.7	**3.00**	1.0	Yes
		2046	4.5	1.7	**3.00**	1.0	Yes
$PM_{2.5}$	24-hour	2016	4.0	3.8	**3.2**	2.5	Yes
		2020	4.3	3.8	**3.5**	2.5	Yes
		2023	4.5	3.8	**3.7**	2.5	Yes
		2030	2.7	3.8	1.9	2.5	No
		2035	2.8	3.8	1.1	2.5	No
		2046	2.8	3.8	1.1	2.5	No

[a] Exceedances of the threshold are indicated in bold. The thresholds for PM_{10} and $PM_{2.5}$ are incremental thresholds; therefore, the incremental concentration without background is compared to the threshold.

[b] The maximum concentrations and increments presented in this table do not necessarily occur at the same receptor location. The maximum CEQA Increment is the maximum concentration resulting from the 2010 Baseline subtracted from the mitigated Reduced Project Alternative modeled concentration on a receptor-by-receptor basis. Background concentrations are not included in the CEQA Increment. Maximum modeled 2010 Baseline concentrations are included for completeness, but do not necessarily correspond to a value used to calculate the maximum CEQA Increment.

3.2 Source Contributions and Review of Expanded Analysis AQ-4 Impacts Results

The term "source contributions" refers to the mix of emission sources contributing to the modeled concentration at a receptor. The mix of source contributions varies from receptor to receptor based on the receptor's proximity to various sources and the rate of emissions of those sources in each Benchmark Year. The following section discusses the variation of ground-level concentrations and source contributions for each pollutant in the Benchmark Years at the location of the maximum receptor or the receptor with the maximum increment.

3.2.1 Nitrogen Dioxide (NO_2)

Ground-level pollutant concentrations of NO_2 (maximum modeled concentration + background concentration) are evaluated against 1-hour federal and 1-hour state thresholds, and against a SCAQMD annual threshold. In this section, a source contribution analysis is provided for the maximum modeled concentration for the unmitigated Project, unmitigated Reduced Project and No Project alternatives. The monitored background is not included. As noted earlier, there is no difference in NO_2 concentrations between the mitigated and unmitigated version of any alternative, as mitigation measure Mitigation Measure MM AQ-7 only affects particulate matter.

1-hour NO_2

For the Project, Reduced Project Alternative, and No Project Alternative, total ground-level concentrations would be above both the federal and state 1-hour thresholds for every Benchmark Year. As Figure 8 shows, the main source contributors to the modeled concentration at the maximum receptor in every analysis year are non-SCIG tenant onsite trucks and CHE. For the Project, the maximum receptor is located near the relocated non-SCIG tenant sites, while for the No Project the maximum receptor is near the southern border of the SCIG property (adjacent to existing tenant sites). Maximum receptor locations and concentration contour maps for 1-hour NO_2 for the Project are presented in the Revised Draft EIR, Section 3.5.2.2.

Figure 8 also shows how the 1-hour NO_2 maximum modeled concentrations compare among the alternatives. The Project, No Project, and Reduced Project alternatives have similar source contributions for the maximum 1-hour NO_2 modeled concentrations, mostly from non-SCIG tenant related sources; however, the Project and Reduced Project alternatives have lower emissions from non-SCIG tenant sources than does the No Project Alternative. Therefore, the No Project Alternative shows higher concentrations of 1-hour NO_2 than the Project and the Reduced Project Alternative in all Benchmark Years.

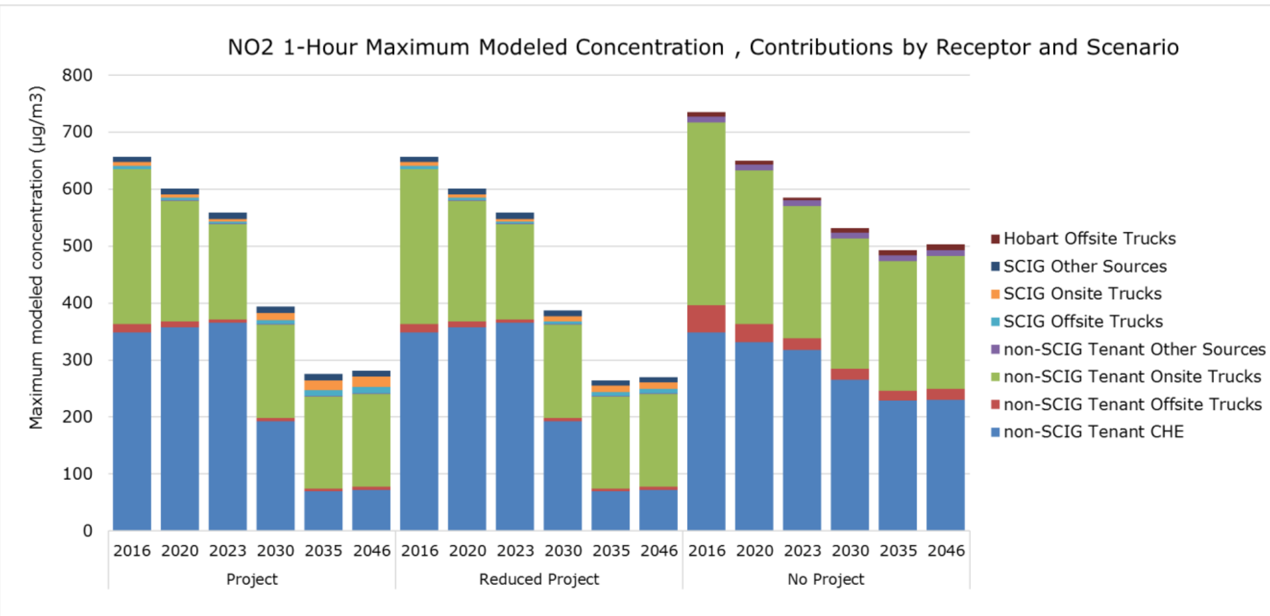

Figure 8. Source Contributions to Maximum Modeled 1-hour NO_2 Concentrations by Benchmark Year for Each Alternative

Annual NO_2.

The expanded analysis results show that for the Project, maximum total ground-level concentrations (MEI) would be above the threshold for years 2016, 2035 and 2046/2066. For the No Project Alternative, total ground-level concentrations would not exceed the threshold in any of the Benchmark Years.

For each scenario (unmitigated Project, unmitigated Reduced Project and No Project), the location of the receptor with the maximum modeled concentration of annual NO_2 changes over time, and so does the mix of source contributions to the maximum receptor, as shown in Figure 9. Note that the contribution figures show only the maximum modeled concentration, not the total ground-level concentration (maximum modeled + background) that is evaluated against the threshold. Figure 9 shows how the concentrations change over time across receptors within an individual scenario, therefore causing the maximum modeled concentration (MEI) to change location. For example, in Figure 9, for the Project scenario, two receptors, referred to here as Receptors 1 and 2, are identified as the location of the maximum modeled concentration at some point across all Benchmark Years.

Note that receptor labels 1 and 2 are unrelated to the sensitive receptors listed in Table 1; these receptors are simply modeling grid locations, and are not necessarily the same between scenarios (specifically, the No Project receptors are different than those of the Project and Reduced Project). In 2016, "Receptor 1" for the Project, which is located near the eastern border of the Alternate Business Locations, experiences the maximum annual NO_2 concentration; its major emission contributors are non-SCIG tenant trucks and CHE, rather than SCIG-related sources. In 2020 and 2023, for the Project, "Receptor 1" remains the maximum receptor, with a similar mix of source contributions, but modeled concentrations are below the threshold; accordingly, there are no significant impacts of annual NO_2 for the Project for 2020 and 2023, as noted in Table 5. In 2030, 2035, and 2046/2066, "Receptor 2" for the Project, which is located to the southern edge of the SCIG facility, is the maximum receptor. This shift in receptor location and source contribution mix is related to the increase in Project throughput over time, which is reflected in an increase in SCIG truck-related emissions. As in 2023, modeled concentrations in 2030 remain below the threshold; accordingly, there is no impact associated with NO_2 annual concentrations in this year for the Project.

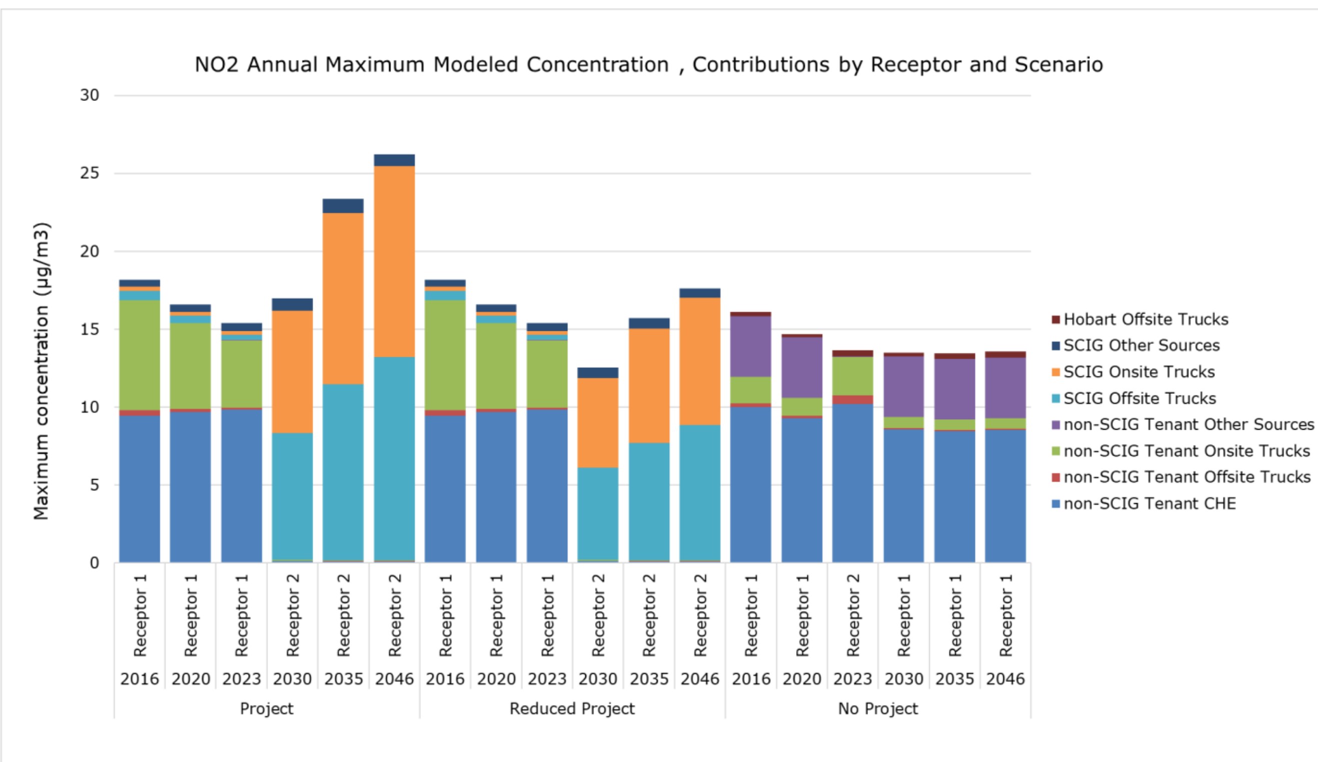

Figure 9. Source Contributions to Maximum Modeled Annual NO_2 Concentrations by Benchmark Year for Each Alternative

The No Project Alternative's ground-level concentrations of annual NO_2 did not exceed significance thresholds. However, for information purposes, contributions to the maximum modeled concentrations of annual NO_2 are presented for that scenario in Figure 9. For the No Project, in years 2016-2020 and years 2030-2046, contributions to the maximum modeled concentration are mainly from non-SCIG tenant CHE and non-SCIG tenant other sources (i.e., onsite gasoline vehicles and switcher locomotives). In year 2023, the contribution is mainly from non-SCIG tenant onsite trucks and CHE, due to a shift of the receptor location. The receptor locations for the No Project maximum of annual NO_2 are located at: Receptor 1, halfway along the rail tracks of the existing railyard facility, near the eastern border of the facility; Receptor 2, by the south lead tracks south of the main facility. The Reduced Project's yearly contributions are very similar to those of the Project, as operational emissions are proportionally smaller but are based on the same array of sources. The receptor locations 1 and 2 of the Reduced Project are the same as those of the Project Alternative.

To illustrate why source contributions may change significantly from year to another, Figure 10 shows how and why the Project's maximum modeled annual NO_2 concentration for each Benchmark Year switches from Receptor 1 to Receptor 2. Receptor 1 concentrations drop over time and, by 2030, are smaller than those at Receptor 2, which then becomes the MEI from 2030 through 2046/2066. Maximum receptor locations and concentration contours for Annual NO_2 for the Project are available in Revised Draft EIR, Section 3.5.2.

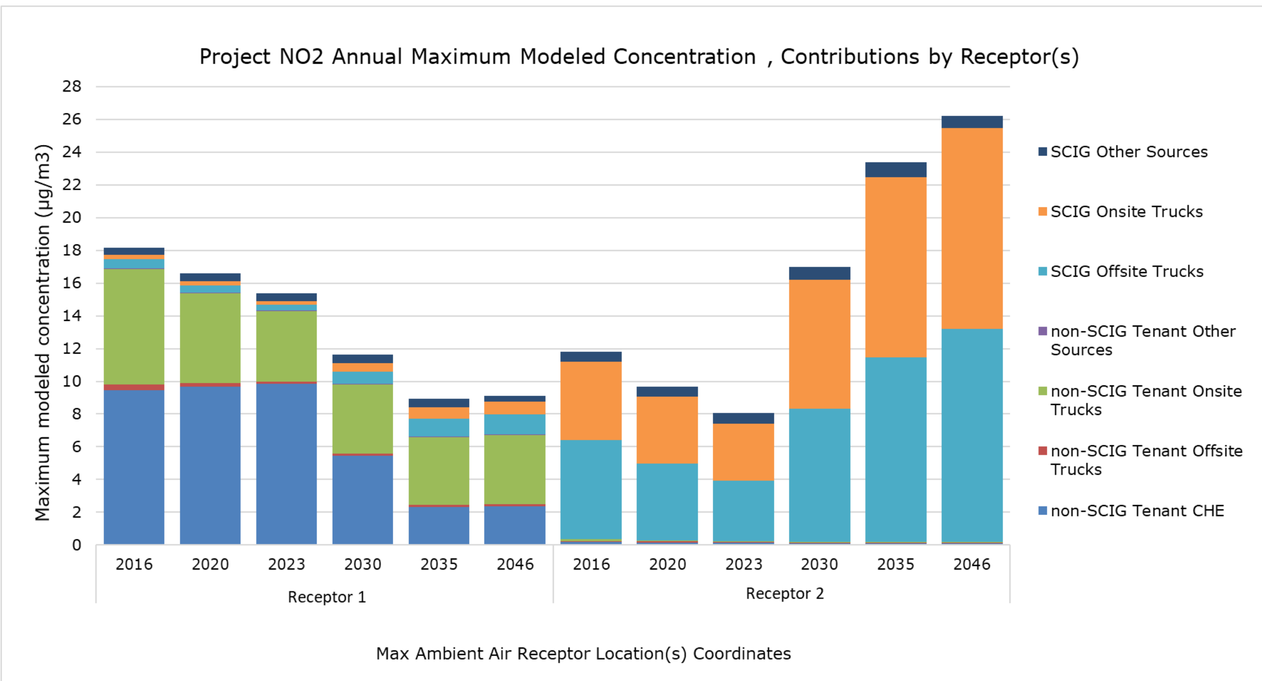

Figure 10. Source Contributions for Annual NO_2 Modeled Concentrations of the Project for Two Receptors by Benchmark Year

3.2.2 Particulate Matter 10 Micrometers or Less (PM_{10})

Maximum ambient air concentrations for PM_{10} are evaluated as increments for the 24-hour threshold and the annual threshold. The ground-level concentration increment is the subtraction of the 2010 Baseline maximum modeled concentration from the maximum modeled concentration for a particular year, on a receptor-by-receptor basis. No background concentrations are included in the increment calculation, as explained in the methodology section above. In each of the bar charts presented below, the contributions from sources that are part of the unmitigated Project, unmitigated Reduced Project, and No Project scenarios are displayed as positive bars (above the X-axis) while contributions from sources that are part of the Baseline at the same receptor are shown as negative bars (below the X-axis). The increment is calculated based on the Project minus the baseline (the difference between the bars above the X-axis and those below).

24-hour PM_{10}

For the Project, the results for every Benchmark Year (2016, 2020, 2023, 2030, 2035, and 2046/2066) show that 24-hour PM_{10} ground-level concentration increments would be above the SCAQMD 24-hour thresholds. Figure 11 shows that for the years 2016, 2020, and 2023, at Receptor 1 located near the relocated non-SCIG tenant sites, the main contributors to 24-hour PM_{10} maximum ground-level concentration increments for the Project are non-SCIG tenant CHE and non-SCIG tenant onsite trucks. For the years 2030, 2035, and 2046/2066, at Receptor 2 located nearer to the Project site, SCIG onsite and off-site trucks are the main contributors. This shift in location of the receptor with the maximum concentration is related to the increase in throughput, reflecting an increase in SCIG truck-traffic-related emissions. The increase in throughput for the SCIG facility after 2030 also results in similar increases in SCIG onsite truck traffic.

For those years and scenarios in which total ground-level concentration increments of 24-hour PM_{10} were found to be in exceedance of the thresholds, exceedance contours are drawn in the maps. Maximum receptor locations and concentration increment contour maps for 24-hour PM_{10} for the Project are presented in the Revised Draft EIR, Section 3.5.2.3.

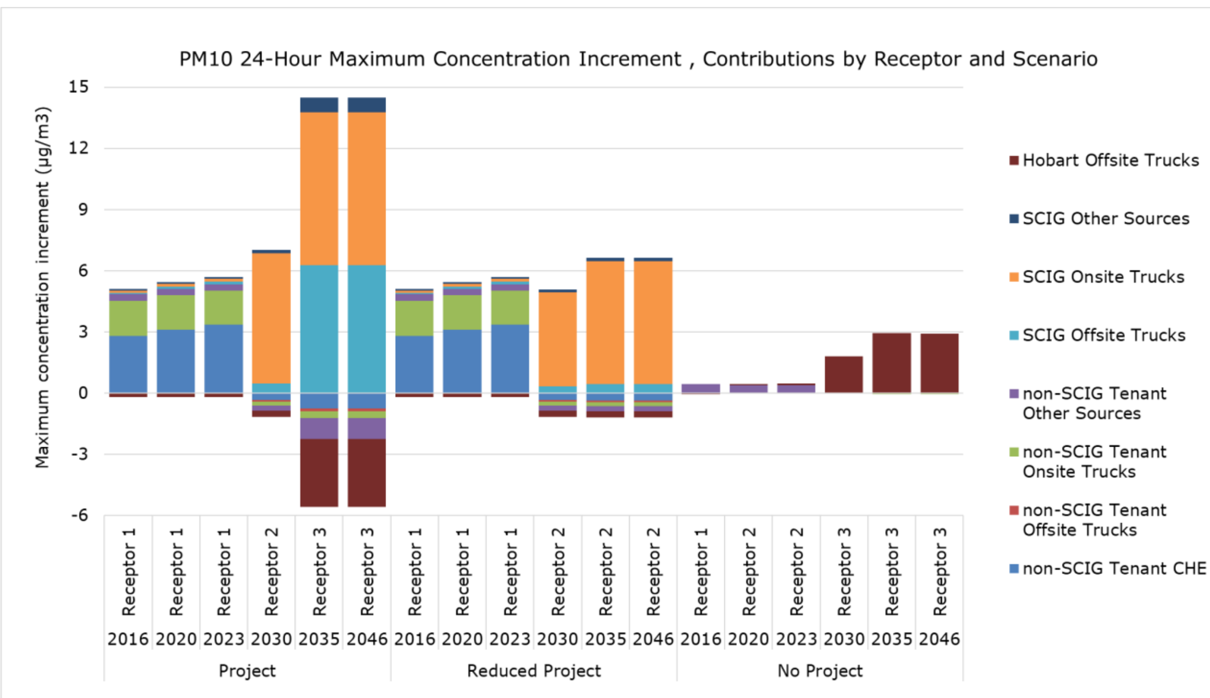

Figure 11. Source Contributions to Maximum 24-hour PM_{10} Concentration Increments (calculated as the maximum modeled minus 2010 Baseline concentration) by Benchmark Year for the Unmitigated Project, Unmitigated Reduced Project, and No Project Scenarios

As shown in Figure 11, the No Project Alternative's maximum ground-level concentration increments in years 2035 and 2046/2066 show exceedances of 24-hour PM_{10} increment thresholds at Receptor 3, which is located near I-710. The main contributors during these years (and in 2030 when impacts would be less than significant) are BNSF Hobart yard off-site trucks. In years 2016, 2020, and 2023 the maximum impact would be less than significant, and contributions would be mainly from non-SCIG tenant off-site gasoline vehicles (under non-SCIG other sources).

The Reduced Project's contributions to maximum modeled increments are very similar to those of the Project, as operational emissions are proportionally smaller but are based on the same array of sources. As shown in Figure 11, the maximum increments for the unmitigated Reduced Project are lower than those of the unmitigated Project in years 2030 through 2046/2066 due to the Reduced Project's lower throughput.

Annual PM_{10}

For the unmitigated Project and unmitigated Reduced Project, the estimated ground-level concentration increments of annual PM_{10} for Benchmark Years 2020, 2023, 2030, 2035, and 2046/2066 would be above the SCAQMD annual thresholds. The main contributors to those increments (Figure 12) are non-SCIG tenant on-site trucks and CHE during years 2016 and 2020, when the maximum receptor is located near the relocated non-SCIG tenant sites, and SCIG onsite and off-site trucks for years 2023, 2030, 2035, and 2046/2066, when the maximum receptor is located near the SCIG property.

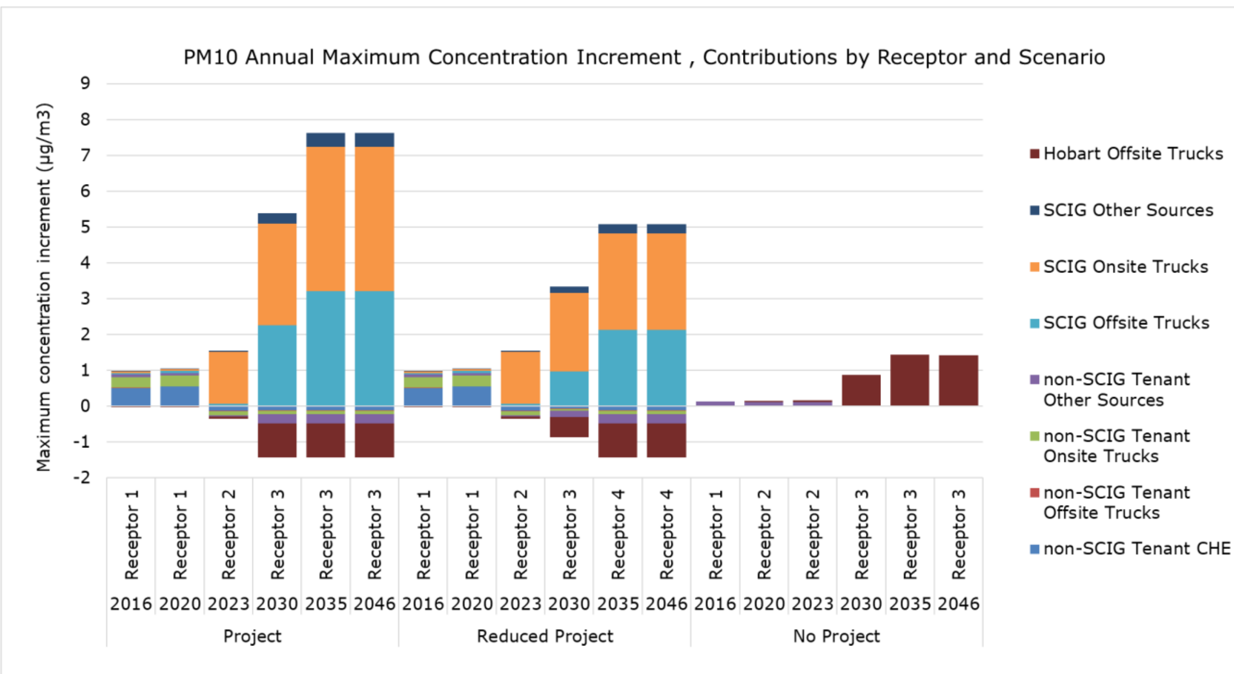

Figure 12. Source Contributions to Maximum Modeled Annual PM_{10} Concentration Increments by Benchmark Year for the Unmitigated Project, Unmitigated Reduced Project, and No Project Scenarios

For the No Project Alternative, the estimated ground-level concentration increments show exceedances of annual PM_{10} concentration thresholds in years 2035 and 2046/2066. The main contributors to the modeled maximum concentrations (Figure 12) are Hobart off-site trucks in years 2030, 2035, and 2046/2066 and non-SCIG tenant off-site gasoline vehicles (non-SCIG other sources) in years 2016, 2020, and 2023. The receptor for the maximum increment in years 2016 through 2023 is located off-site by the intersection of Alameda Street and Sepulveda Boulevard, whereas the receptor location for the maximum increment for years 2030 through 2046 is near the junction of I-710 and SR-91, approximately 1.5 miles north of the Project site, consistent with the major contributions being from Hobart off-site trucks.

3.2.3 Particulate Matter 2.5 Micrometers or Less ($PM_{2.5}$)

Maximum ambient air concentrations for $PM_{2.5}$ are evaluated as increments relative to the 2010 Baseline and compared against a 24-hour threshold. As mentioned earlier, the maximum ground-level increment is the subtraction of the 2010 Baseline concentration from the maximum modeled concentration on a receptor-by-receptor basis. This section only presents source contributions for the unmitigated Project, the unmitigated Reduced Project, and the No Project. The effects of Mitigation Measure MM AQ-7 are discussed in Section 3.2.4.

<u>24-hour $PM_{2.5}$</u>

For the Project, the results for Benchmark Years 2016, 2020, and 2023 show that estimated ground-level concentration increments for 24-hour $PM_{2.5}$ would be above the SCAQMD thresholds. The main contributors (Figure 13) to those maximum increments, located at Receptor 1 near the relocated non-SCIG tenant sites, are non-SCIG tenant CHE and non-SCIG tenant onsite trucks in years 2016, 2020, 2023, and 2030. The concentration increment in year 2030 would be below the threshold. For years 2035, and 2046/2066, concentration increments would also be below the threshold, and the main contributors to the maximum increment (now located near the SCIG property) would be SCIG on-site and off-site trucks.

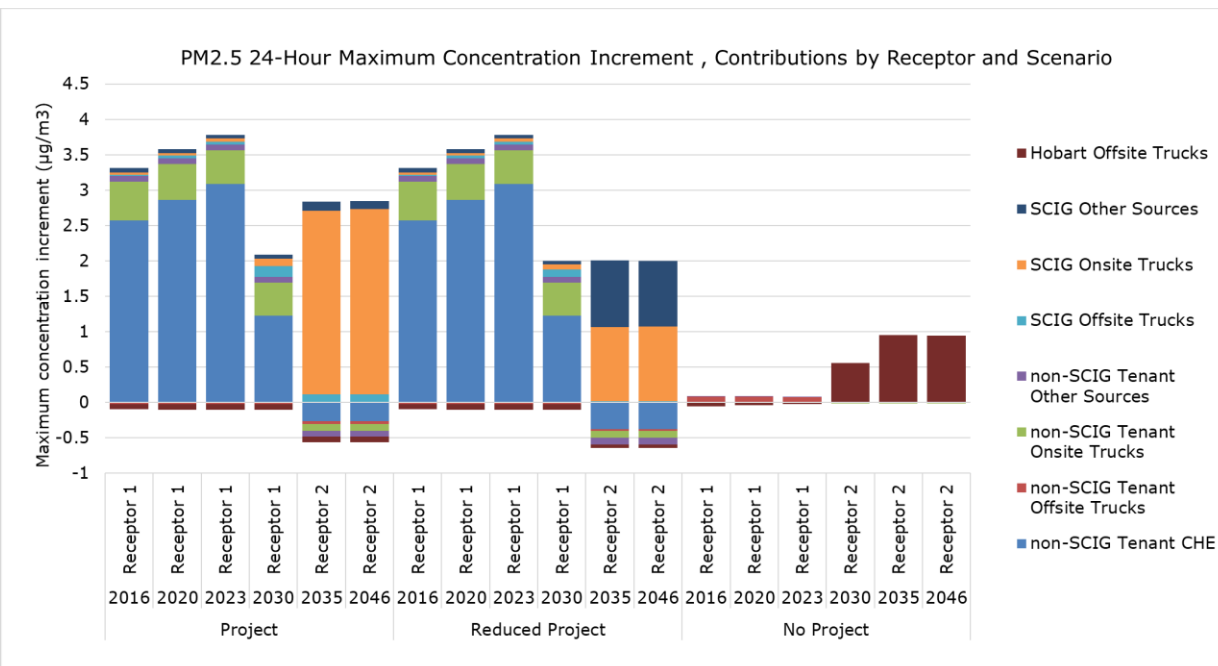

Figure 13. Contributing Sources to Maximum Modeled 24-hour PM2.5 Concentration Increments by Benchmark Year for the Unmitigated Project, Unmitigated Reduced Project, and No Project Scenarios

The No Project Alternative's calculated ground-level concentration increments for 24-hour $PM_{2.5}$ did not exceed significance thresholds. However, for informational purposes, contribution charts are presented for this scenario in Figure 13. The main contributors to the maximum concentration increments for 24-hour $PM_{2.5}$ are Hobart off-site trucks in years 2030, 2035, and 2046/2066 and non-SCIG tenant off-site gasoline vehicles (non-SCIG other sources) in years 2016, 2020, and 2023. The Reduced Project's contributions to maximum increments are very similar to the Project, as shown in Figure 13, as operational emissions are proportionally smaller but are based on the same array of sources.

3.2.4 Effects of Mitigation on Source Contributions

As mentioned in Section 2.1, one mitigation measure proposed in the 2013 Final EIR would affect ambient pollutant concentrations of particulate matter. Mitigation Measure MM AQ-7 (On-Site Sweeping at SCIG Facility) would reduce concentrations, and therefore increments, of particulate matter (PM_{10} and $PM_{2.5}$) attributable to the Project and the Reduced Project. As no mitigation can be applied to the No Project, that scenario is not considered here. The effects of mitigation on the geographical extent of the particulate matter concentration exceedances are depicted in figures 3-59 through 3-64 of the Revised Draft EIR and Annex 3 of this Technical Appendix. For additional information on mitigation effects, see Section 3.5.3.3 of this Revised Draft EIR. While mitigation would not reduce the significant impacts to less than significant under the Project scenario, it would eliminate all significant impacts from particulate matter to residential areas or sensitive receptors.

<u>24-hour PM_{10}</u>

In early years (2016 through 2023) Mitigation Measure MM AQ-7 would have a negligible effect on the Project's concentration increment at the maximum increment receptor. This is because the mitigation measure would affect SCIG onsite truck particulate matter emissions, but the contribution of that source in years 2016 through 2023 at the maximum increment receptor is minimal, as shown in Figure 14. However, in 2030 and thereafter, source contributions of SCIG onsite trucks at the maximum increment receptor are much larger due to the shift in receptor location, as shown in Figure 14, and in those years the mitigation measure would cause discernable, although limited, reductions in the concentration increments.

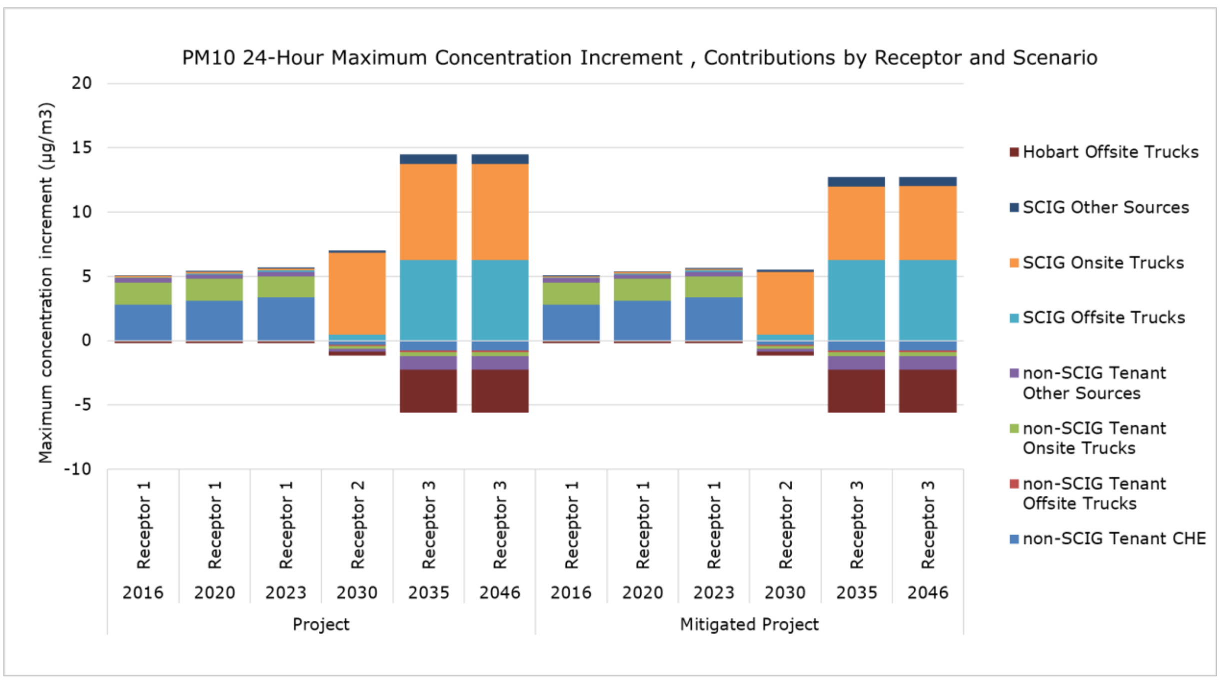

Figure 14. Contributing Sources to Maximum Modeled 24-hour PM_{10} Concentration Increments by Benchmark Year for the Unmitigated Project and Mitigated Project Scenarios

Mitigation would have similar effects on the Reduced Project source contributions compared to the Project. Mitigation would not reduce the significant impacts to less than significant in either scenario.

Annual PM_{10}

In early years (2016 through 2020) the measure would have a negligible effect on the Project's concentration increment maximum receptor. As with 24-hour PM_{10}, this is because the mitigation measure would affect SCIG onsite truck particulate matter emissions, but the contribution of that source at that receptor in years 2016 through 2020 is minimal, as shown in Figure 15. However, in 2023 and thereafter, source contributions of SCIG onsite trucks are much larger due to the shift in receptor location, as shown in Figure 15. The reductions of on-site SCIG truck emissions resulting from the mitigation measure are sufficient that the MEI in 2023 remains at Receptor 1, near the relocated tenants. In years 2030 and later, the mitigation would cause discernable reductions in concentration increments due to reductions in PM_{10} emissions related to SCIG onsite trucks. In particular, with mitigation, there would be no significant impacts to residential areas or sensitive receptors.

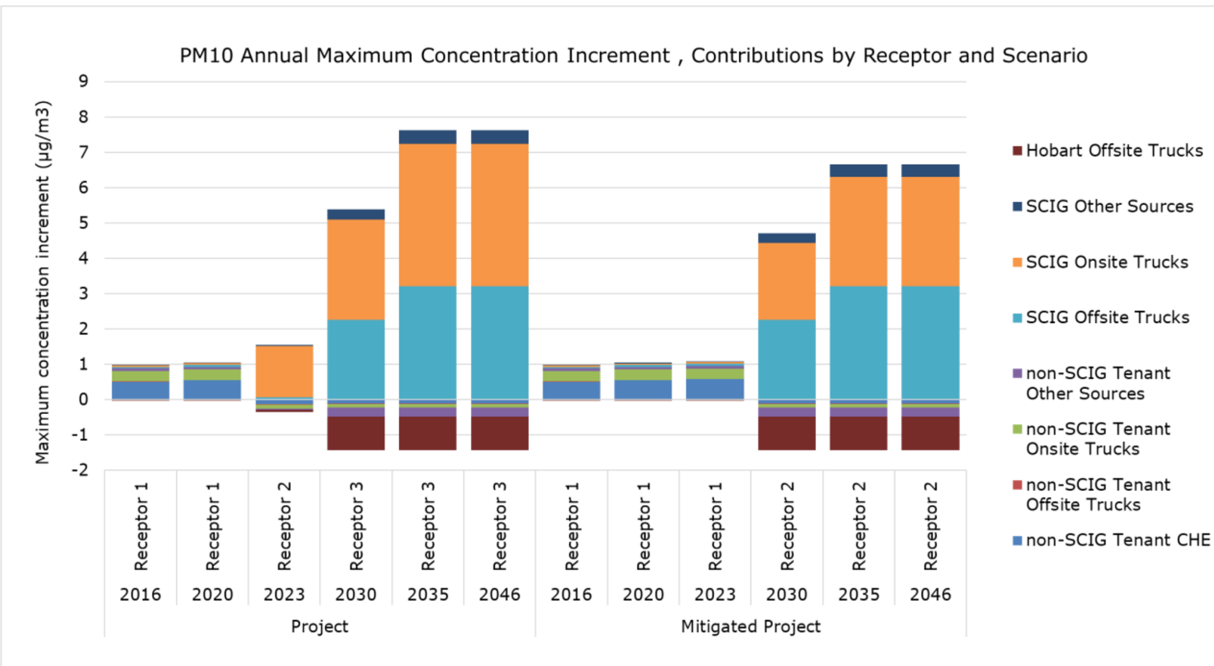

Figure 15. Contributing Sources to Maximum Modeled Annual PM_{10} Concentration Increments by Benchmark Year for the Unmitigated Project and Mitigated Project Scenarios

Mitigation would have similar effects on the Reduced Project source contributions compared to the Project. Mitigation would not reduce the significant impacts to less than significant in either scenario.

24-Hour $PM_{2.5}$

In years 2016 through 2030, Mitigation Measure MM AQ-7 would have a negligible effect on the Project's concentration increment maximum receptor. As with the PM_{10} increments, this is because the mitigation measure would affect SCIG onsite truck particulate matter emissions, but the contribution of that source at that receptor in years 2016 through 2030 is minimal, as shown in Figure 16. However, in 2035 and thereafter, source contributions of SCIG onsite trucks are much larger due to the shift in receptor location, as shown in Figure 16, and the mitigation would cause discernable, although limited, reductions in the concentration increments.

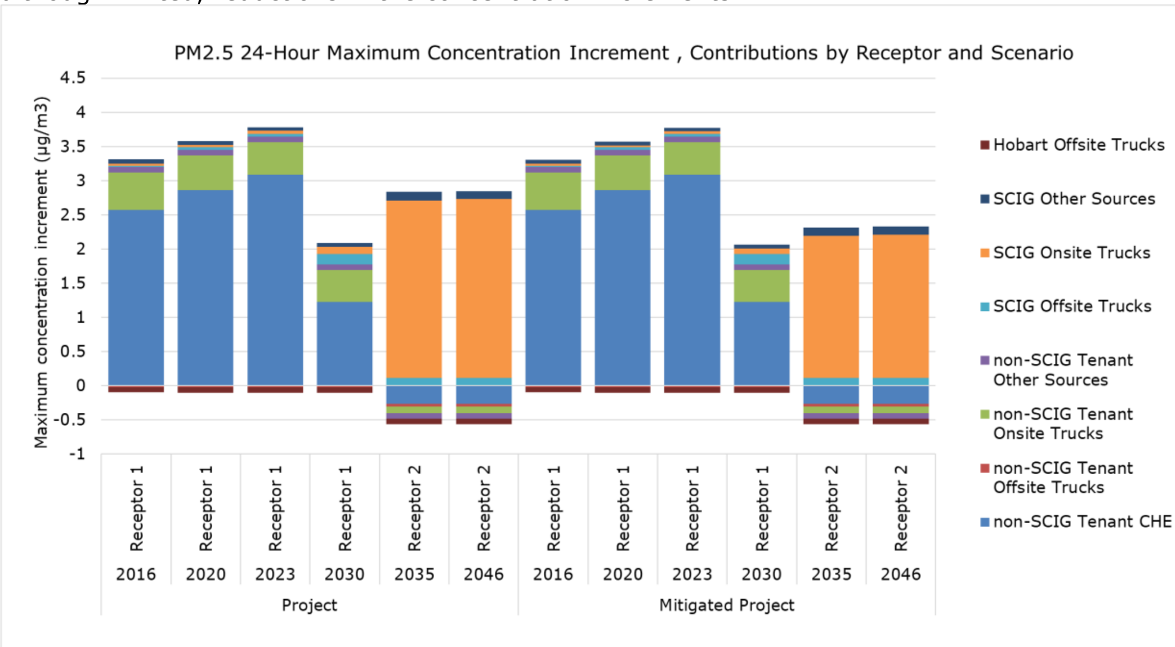

Figure 16. Contributing Sources to Maximum Modeled 24-hour $PM_{2.5}$ Concentration Increments by Benchmark Year for the Unmitigated Project and Mitigated Project

Mitigation would have similar effects on the Reduced Project source contributions compared to the Project. Mitigation would not reduce the significant impacts to less than significant in either scenario.

3.3 Key Findings in This Expanded Analysis

The following are the conclusions of the expanded analysis for the Benchmark Years (2016, 2020, 2023, 2030, 2035 and 2046/2066):

- For **1-hour NO_2**, total ground-level concentrations for the Project, Reduced Project, and No Project scenarios would be above both the federal and state 1-hour thresholds in every Benchmark Year.
- For **annual NO_2**, total ground-level concentrations for the Project and Reduced Project scenarios would be above the threshold in years 2016, 2035, and 2046/2066, and below the threshold in all other Benchmark Years. For the No Project scenario, total ground-level concentrations would not exceed the threshold in any Benchmark Year.
- For **24-hour PM_{10},** ground-level concentration increments for the unmitigated Project and Reduced Project scenarios would be above the SCAQMD 24-hour thresholds in every Benchmark Year. For the No Project scenario, ground-level concentration increments in years 2035 and 2046/2066 would exceed **24-hour PM_{10}** concentration thresholds, but would be below the threshold for all other Benchmark Years.
- For **annual PM_{10},** ground-level concentration increments for the unmitigated Project and unmitigated Reduced Project scenarios would exceed the SCAQMD annual threshold in every Benchmark Year except 2016. For the No Project scenario, ground-level concentration increments would exceed the threshold in years 2035 and 2046/2066, but would be below the threshold in all other Benchmark Years.

- For **24-hour $PM_{2.5}$,** ground-level concentration increments for the unmitigated Project and Reduced Project scenarios would be above the SCAQMD thresholds in Benchmark Years 2016, 2020, and 2023. For the No Project scenario, ground-level concentration increments would not exceed the threshold in any Benchmark Year.
- For the mitigated Project and mitigated Reduced Project scenarios, Mitigation Measure MM AQ-7 would only marginally reduce maximum concentration increments of **annual PM_{10}, 24-hour PM_{10}**, and **24-hour $PM_{2.5}$** in earlier years (2016 through 2023), when the maximum receptor is near the relocated non-SCIG tenant sites, but would have somewhat more effect in later years (2030 through 2046/2066), when the maximum receptor is closer to the SCIG property. Despite those reductions, the concentration increments would remain above the significance thresholds and impact determinations would remain the same as those for the unmitigated Project and unmitigated Reduced Project scenarios. The effect of the mitigation would be to decrease the area of exceedances somewhat, particularly in later years. In particular, under the Project scenario, Mitigation Measure MM AQ-7 would eliminate all significant impacts from particulate matter to residential areas or sensitive receptors.

4.0 COMBINED CUMULATIVE ANALYSIS FOR THE PROJECT

4.1 Introduction

This chapter provides additional information and disclosures about potential operational impacts of cumulative offsite ambient air pollutant concentration impacts ("Cumulative Impact AQ-4") attributable to the Project (Cumulative Impact AQ-4) in combination with the proposed Intermodal Container Transfer Facility Expansion and Modernization Project ("ICTF Expansion Project"; see Figure 17 for the geographical relationship of the two projects), as required by the Superior Court's Writ (see Section 1.1 of the Revised Draft EIR), dated May 18, 2018.

Section 4.3.1 of the Recirculated Draft EIR, as modified by Section 3.2.16 of the Final EIR, sets forth the cumulative air quality analysis for the Project in combination with past, present, and reasonably foreseeable future projects, including the ICTF Expansion Project. The Writ required disclosure of cumulative AQ-4 impacts "in combination with the prospect of the proposed Union Pacific Railroad Intermodal Container Facility (ICTF) expansion project"; accordingly, this chapter provides additional disclosures about the potential combined effects of SCIG and the ICTF Expansion Project on ambient air pollutant concentrations in the vicinity of the two projects. Because the remainder of the 2013 Final EIR's cumulative impact evaluations, conclusions, and disclosures were upheld by the Court of Appeal, they remain unchanged and are not addressed in the Revised Draft EIR.

4.2 Individual Project Cumulative Analysis

The ICTF Expansion Project analysis in the JPA had estimated a conservative "composite" scenario of ambient air pollutant concentrations, similar to SCIG's Project analysis in the 2013 Final EIR. In the JPA analysis, significant impacts (i.e., exceedances of specific air quality standards) were found for ambient pollutant concentrations of NO_2 1-hour (federal), NO_2 1-hour (state), and NO_2 Annual, for the ICTF Expansion Project.

The SCIG Project by-year expanded analysis found significant impacts for NO_2 1-hour (federal), NO_2 1-hour (state), NO_2 Annual, PM_{10} 24-hr, PM_{10} Annual, and $PM_{2.5}$ 24-hour pollutant concentration standards (Table 14). The goal of this review is to evaluate whether the combination of each individual project's impacts under AQ-4 has the potential to cause significant cumulative impacts.

Table 14. Individual Project Impacts for Ambient Pollutant Concentrations Exceeding Thresholds

Pollutant/Period	CEQA Evaluation	Individual Impacts (years affected)
NO_2 1-hour (federal)	Total Ground-level Concentrations	NO_2 1-hour (federal) for ICTF (composite) NO_2 1-hour (federal) for SCIG (All Benchmark Years)
NO_2 1-hour (state)	Total Ground-level Concentrations	NO_2 1-hour (state) for ICTF (composite) NO_2 1-hour (state) for SCIG (All Benchmark Years)
NO_2 Annual	Total Ground-level Concentrations	NO_2 Annual for ICTF (composite) NO_2 Annual for SCIG (Years 2016, 2035 and 2046/2066)
PM_{10} 24-hour	Ground-Level Concentration Increment	PM_{10} 24-hour for SCIG (All Benchmark Years)
PM_{10} Annual	Ground-Level Concentration Increment	PM_{10} Annual for SCIG (Years 2020, 2023, 2030, 2035, 2046/2066)
$PM_{2.5}$ 24-hour	Ground-Level Concentration Increment	$PM_{2.5}$ 24-hour for SCIG (Years 2016, 2020, 2023)

4.3 Methodology

The combined cumulative impact analysis evaluates whether the geographical areas of exceedances of air pollutant concentrations from each Project (if any) overlap, in which case the projects may be causing significant cumulative impacts. In addition, areas close to the significant impact contours are reviewed to determine if these areas, which are less than significant individually, might add together to produce significant cumulative impacts. In this review, the results of the combined cumulative analysis of off-site ambient pollutant concentration modeling were analyzed in one of two ways:

1. For the NO_2 ground-level concentrations, the contour maps of exceedances for each of the two projects were plotted and any overlapping areas were highlighted;
2. For PM_{10} or $PM_{2.5}$ analyses, any contours of exceedances of ground-level concentration increments for the SCIG Project were plotted with the contours of any positive increment for the corresponding ICTF scenario; that is, because the ICTF JPA found no exceedances above the threshold for the PM_{10} or $PM_{2.5}$ standards, therefore, conservatively, any contour map with an estimated increment above zero was plotted in order to see if there is an overlap.

In both approaches described above, the contours of each project are presented showing the geographic extent of exceedance of ambient pollutant concentration and increments to the thresholds. The geographical coverage of the contours is influenced by the location of major contributing emissions sources for each project, combined with meteorological effects on dispersion. ICTF composite results were compared with each of SCIG's expanded analysis by-Benchmark-Year estimates of ambient pollutant concentrations. The comparison includes identifying the overlapping geographic regions of the contours and the locations of sensitive receptors within the contours of concentration exceedances for each pollutant threshold. No quantitative summation of the two projects is presented, but a qualitative discussion describes areas of overlapping or closely located exceedances resulting from both projects.

4.4 Results

The contour maps of this combined cumulative analysis for every Benchmark Year and for every threshold evaluated included in Annex 2 of this Technical Appendix. For brevity, only key examples are shown in this Section.

<u>1-hour NO_2</u>

For both 1-hour NO_2 standards (state and federal), all Benchmark Years evaluated for the SCIG Project and the composite scenario for the ICTF Project had results above the threshold. There were no overlapping regions of exceedance observed for the state standard, but all years had regions of overlapping exceedance for the federal standard; Figure 17 illustrates overlapping exceedances for year 2016, the year with maximum overlap for 1-hour NO_2 federal contours. Overlapping areas include a small area in the northeast corner of the SCIG Project and southeast corner of the ICTF project near the intersection of Sepulveda and Terminal Island Freeway where there is a small residential area along the western side of Webster Avenue. This degree of overlap suggests that the proximity of the ICTF Project and the SCIG Project operations could result in significant cumulative impacts. Most areas of overlap are industrial zones (see Figure 2-1 of the Revised Draft EIR); however, a sensitive receptor (the Buddhist temple) at the northeast corner of the SCIG facility overlapping area may experience a cumulative impact.

For regions outside of the contours for either project, there is a possibility that concentrations below the threshold attributable to the Project and concentrations below the threshold attributable to the ICTF Expansion Project could combine such that, when added to the value of the monitored background, they could result in significant cumulative impacts. This is likeliest to occur where the areas of significant impact for the two projects most closely approach one another. For example, in the residential area of West Long Beach near the eastern edge of the SCIG site, impacts of the two projects, while less than significant from a project-specific perspective, could combine to result in significant cumulative impacts on sensitive receptors. The probability of such impacts would decrease slightly over time after the initial years of the Project as the area of Project impacts decreases, and then rise again slightly in later years as the Project reaches full capacity.

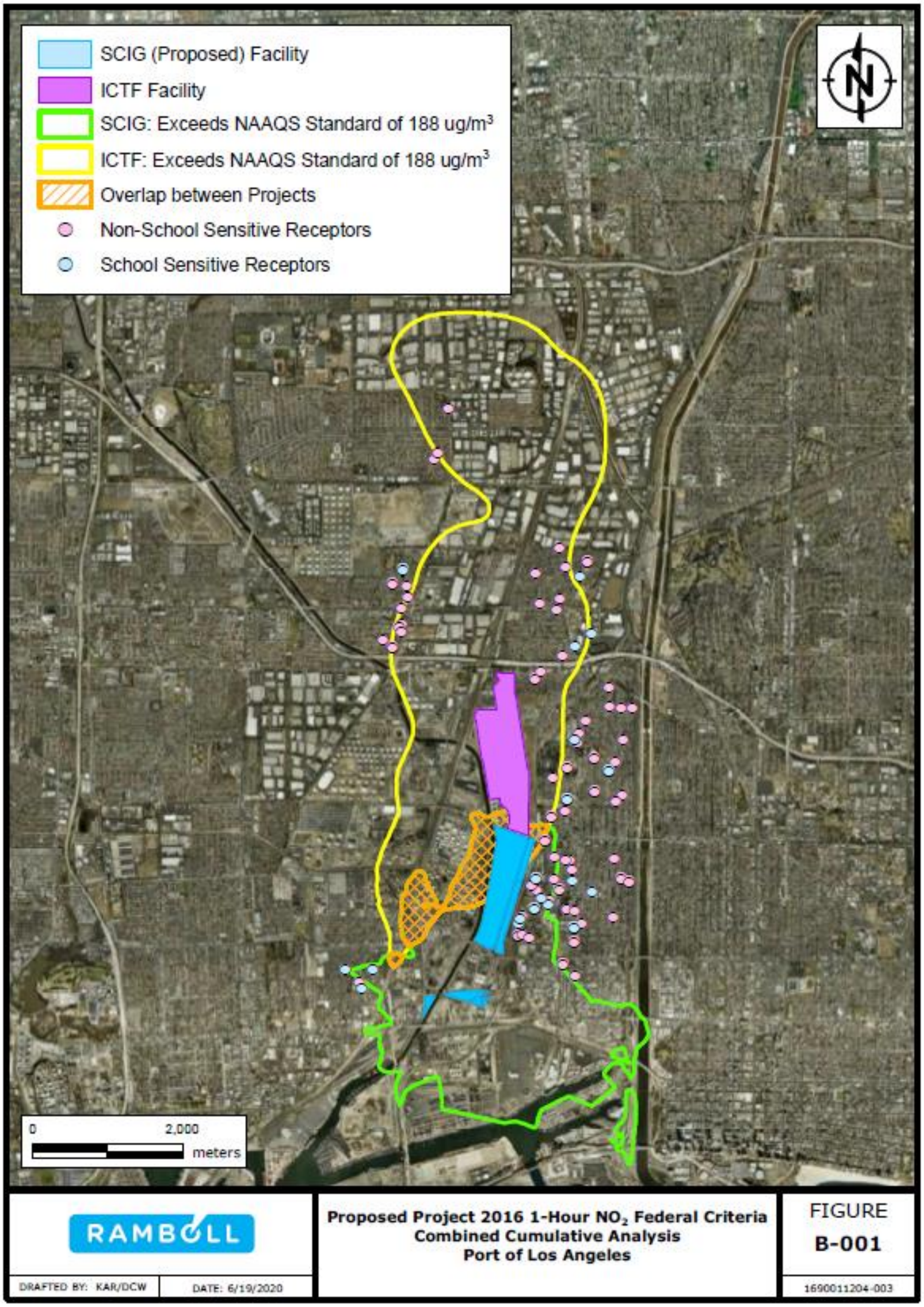

Figure 17. 1-Hour NO_2 Concentration Contours for the SCIG Project (2016) and the ICTF Project Composite Scenario

Annual NO_2

For the annual NO_2 concentrations related to the SCIG Project, the SCIG expanded analysis estimated exceedances during the years of 2035 and 2046/2066. Figure 18 presents on a contour map, the SCIG exceedances for year 2046/2066 and the ICTF Project composite exceedances. As shown in the figure, there were no overlapping areas of exceedance during 2046/2066 (and the same is true for 2035). The ICTF Project exceedances cover an area northeast of the ICTF facility (yellow contour), while the SCIG Project exceedances cover a small area along the east and the south edges of the SCIG facility (green contours).

As with 1-hour NO_2, there is a possibility that concentrations below the threshold attributable to each project could combine to produce significant cumulative impacts. Unlike the 1-hour NO_2 case, however, these regions would be located exclusively in industrial areas on the western side of the SCIG facility and would be very limited in extent.

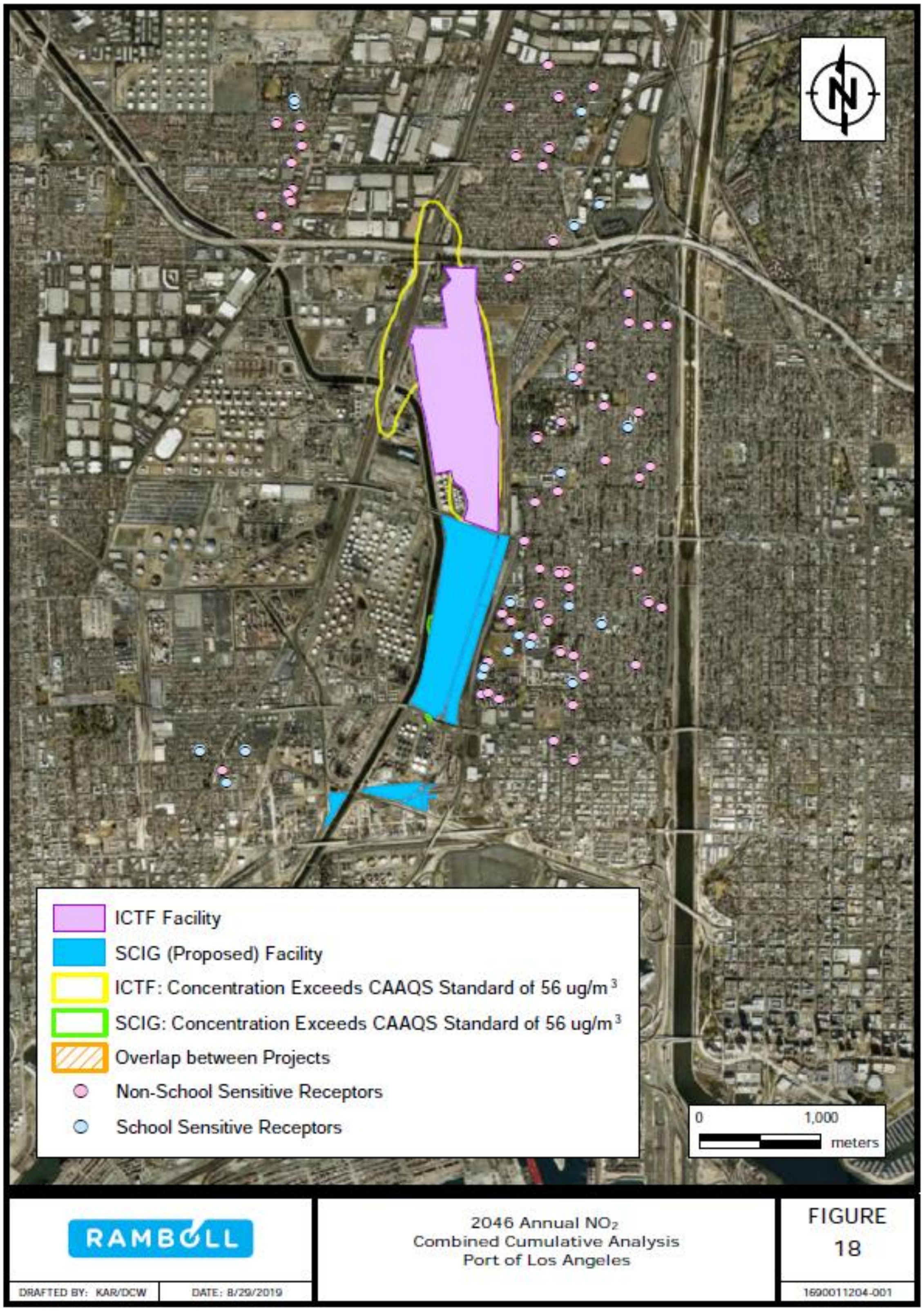

Figure 18. Annual NO_2 Concentration Contours for the SCIG Project (2046/2066) and the ICTF Project Composite Scenario

Particulate Matter (PM_{10} and $PM_{2.5}$)

For ground-level increments of PM_{10} and $PM_{2.5}$ in all averaging periods, there were no exceedances for the ICTF Project according to the JPA. As explained in the methodology, any positive increment for the ICTF Project was plotted in order to conservatively evaluate the minimal effect from the ICTF project on particulate contour maps of the SCIG Project. The Benchmark Year of this expanded SCIG analysis with the largest exceedance of the unmitigated Project (2046/2066 for 24-hour PM_{10}, 2046/2066 for annual PM_{10}, and 2023 for 24-hour $PM_{2.5}$) is plotted alongside the composite equivalent of the ICTF Project. As shown in Figures 19 through 21, plotting the two projects' contour maps together revealed no overlapping regions between the SCIG Project exceedance contours and the positive increment contours for the ICTF scenario. Significant impacts of the SCIG Project related to PM_{10} (24-hour and annual) and $PM_{2.5}$ (24-hour) would be very localized, and there is a very low probability that they would combine with impacts of the ICTF Expansion Project to produce significant cumulative impacts.

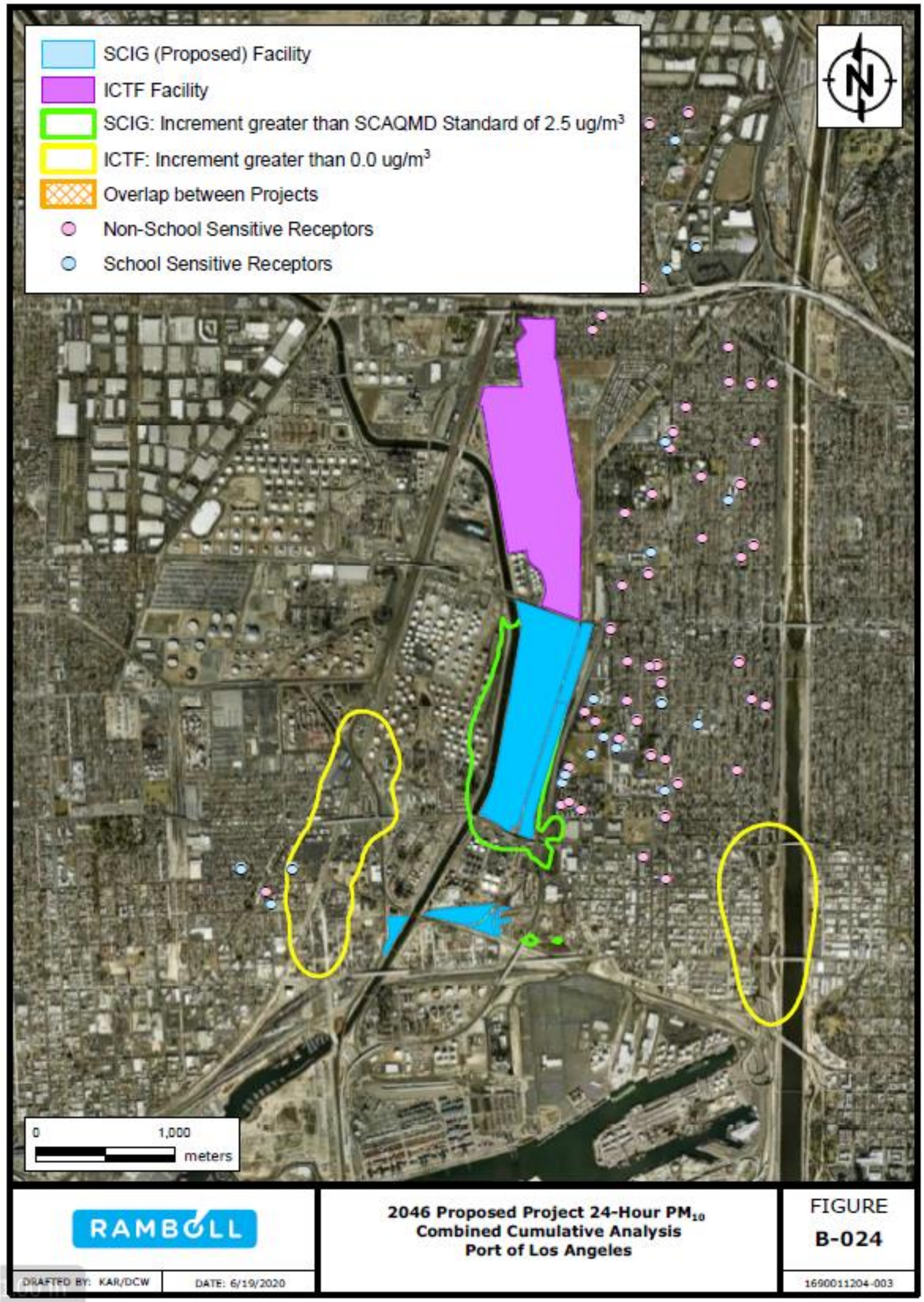

Figure 19. 24-hour PM10 Concentration Contours for the SCIG Project (2046/2066) and the ICTF Project Composite Scenario

Figure 20. Annual PM_{10} Concentration Contours for the SCIG Project (2046/2066) and the ICTF Project Composite Scenario.

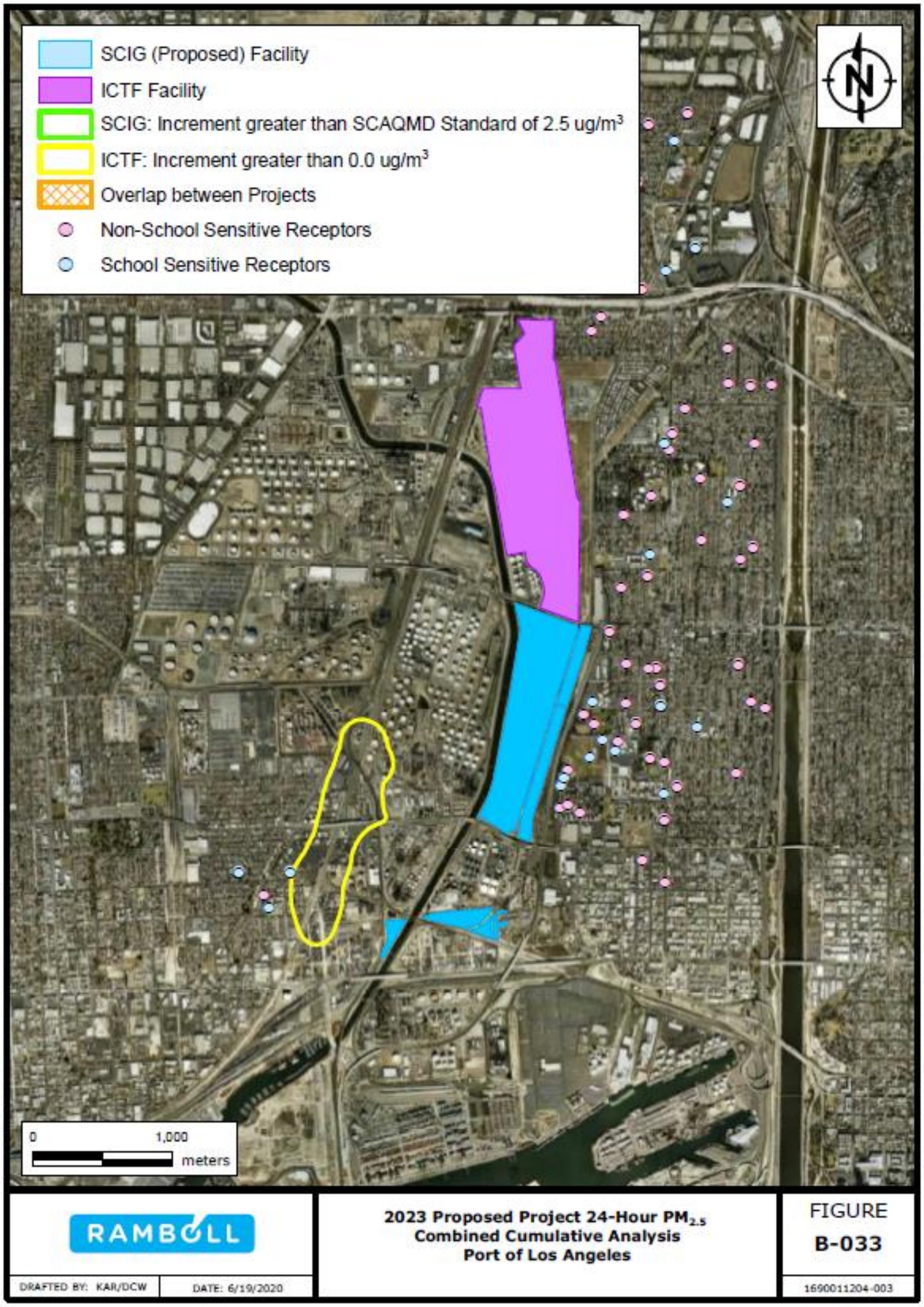

Figure 21. 24-hour $PM_{2.5}$ Concentration Contours for the SCIG Project (2023) and the ICTF Project Composite Scenario.

4.5 Summary of Combined Cumulative Analysis

As summarized in Table 15, the review of the combined cumulative effects of ICTF project and SCIG Project on ambient off-site pollutant concentrations disclosed that:

- There are no overlapping areas of exceedance for PM_{10} and $PM_{2.5}$, and NO_2 annual and 1-hour State contours.
- For 1-hour NO_2 federal standard, there are overlapping geographic exceedance areas resulting from both projects in every benchmark analysis year. The overlapping areas are mostly located in industrial areas along the west of the SCIG Project site and southeast corner of the ICTF facility. One sensitive receptor within overlapping areas may experience a cumulative impact. Areas outside but close to both significant contours have the possibility of less than significant impacts for each project individually adding together to produce significant cumulative impacts.

Table 15. Summary of Findings in Combined Cumulative Analysis for SCIG and ICTF

Pollutant/Period	Type of Contour	Overlapping exceedance areas between SCIG and ICTF Projects
NO_2 Annual	Total Ground-level Concentrations	No overlap
NO_2 1-hour (federal)	Total Ground-level Concentrations	Overlapping areas in years 2016, 2020, 2023, 2030, 2035, 2046/2066 of SCIG Project
NO_2 1-hour (state)	Total Ground-level Concentrations	No overlap
PM_{10} Annual	Ground-Level Concentration Increment	No overlap
PM_{10} 24-hr	Ground-Level Concentration Increment	No overlap
$PM_{2.5}$ 24-hr	Ground-Level Concentration Increment	No overlap

5.0 REFERENCES

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ANNEX 1
OPERATIONAL EMISSIONS BY YEAR

Table A1-1 Peak NOx, CO, SO2, PM10, and PM2.5 Operational Emissions by Source - Unmitigated Project

Year	Emission Source	1-hour NOx (lb/hr)	Annual NOx (ton/yr)	24-hr PM10 (lb/day)	Annual PM10 (ton/yr)	24-hr PM2.5 (lb/day)
2016	Emergency Generator	0.93	0.09	0.985	0.004	0.906
2016	Hostler	0.08	0.30	0.029	0.005	0.027
2016	Onsite Refueling Trucks	0.01	0.05	0.003	0.001	0.001
2016	SCIG CHE/TRU	0.46	0.10	0.351	0.003	0.323
2016	SCIG Offsite Gasoline Vehicles	0.01	0.03	1.213	0.218	0.323
2016	SCIG Offsite Locomotives	2.25	9.73	1.161	0.209	1.068
2016	SCIG Offsite Trucks	3.90	15.06	8.294	1.334	2.969
2016	SCIG Onsite Gasoline Vehicles	0.02	0.07	0.236	0.046	0.126
2016	SCIG Onsite Locomotives	1.17	5.07	0.658	0.118	0.605
2016	SCIG Onsite Trucks	3.49	13.47	9.488	1.525	2.790
2016	Tenant CHE	8.29	13.79	3.184	0.455	2.930
2016	Tenant Offsite Gasoline Vehicles	0.09	0.16	4.935	0.763	1.315
2016	Tenant Offsite Trucks	10.33	16.85	10.611	1.516	3.790
2016	Tenant Onsite Gasoline Vehicles	0.01	0.01	0.285	0.044	0.076
2016	Tenant Onsite Locomotives	0.02	0.05	0.006	0.001	0.005
2016	Tenant Onsite Trucks	4.44	7.40	2.307	0.353	0.752
2016 Total		**35.50**	**82.24**	**43.747**	**6.595**	**18.007**
2020	Emergency Generator	0.93	0.09	0.985	0.004	0.906
2020	Hostler	0.10	0.39	0.037	0.006	0.034
2020	Onsite Refueling Trucks	0.01	0.05	0.004	0.001	0.002
2020	SCIG CHE/TRU	0.47	0.11	0.198	0.003	0.182
2020	SCIG Offsite Gasoline Vehicles	0.01	0.04	1.497	0.269	0.399
2020	SCIG Offsite Locomotives	2.38	10.30	1.004	0.181	0.924
2020	SCIG Offsite Trucks	3.03	11.68	10.171	1.636	3.610
2020	SCIG Onsite Gasoline Vehicles	0.01	0.06	0.269	0.052	0.134
2020	SCIG Onsite Locomotives	1.25	5.41	0.618	0.111	0.568
2020	SCIG Onsite Trucks	3.13	12.09	11.708	1.882	3.428
2020	Tenant CHE	8.11	13.43	3.217	0.458	2.960
2020	Tenant Offsite Gasoline Vehicles	0.07	0.13	4.936	0.763	1.315
2020	Tenant Offsite Trucks	6.78	11.06	10.506	1.501	3.696
2020	Tenant Onsite Gasoline Vehicles	0.01	0.01	0.286	0.044	0.077
2020	Tenant Onsite Locomotives	0.02	0.05	0.006	0.001	0.005
2020	Tenant Onsite Trucks	3.39	5.62	2.263	0.346	0.711
2020 Total		**29.70**	**70.51**	**47.702**	**7.258**	**18.951**
2023	Emergency Generator	0.93	0.09	0.985	0.004	0.906
2023	Hostler	0.12	0.45	0.043	0.007	0.040
2023	Onsite Refueling Trucks	0.01	0.05	0.004	0.001	0.002
2023	SCIG CHE/TRU	0.48	0.11	0.083	0.003	0.076
2023	SCIG Offsite Gasoline Vehicles	0.01	0.04	1.709	0.308	0.456
2023	SCIG Offsite Locomotives	2.48	10.73	0.886	0.160	0.815
2023	SCIG Offsite Trucks	2.37	9.14	11.579	1.863	4.091
2023	SCIG Onsite Gasoline Vehicles	0.01	0.05	0.293	0.056	0.140
2023	SCIG Onsite Locomotives	1.31	5.66	0.588	0.106	0.541
2023	SCIG Onsite Trucks	2.87	11.06	13.372	2.150	3.906
2023	Tenant CHE	7.97	13.16	3.242	0.461	2.983
2023	Tenant Offsite Gasoline Vehicles	0.06	0.10	4.936	0.763	1.315
2023	Tenant Offsite Trucks	4.11	6.72	10.427	1.490	3.625
2023	Tenant Onsite Gasoline Vehicles	0.01	0.01	0.286	0.044	0.077
2023	Tenant Onsite Locomotives	0.02	0.05	0.006	0.001	0.005
2023	Tenant Onsite Trucks	2.60	4.28	2.230	0.341	0.681
2023 Total		**25.36**	**61.72**	**50.669**	**7.755**	**19.659**
2030	Emergency Generator	0.93	0.09	0.985	0.004	0.906
2030	Hostler	0.28	1.07	0.102	0.016	0.094

Table A1-1 Peak NOx, CO, SO2, PM10, and PM2.5 Operational Emissions by Source - Unmitigated Project

Year	Emission Source	1-hour NOx (lb/hr)	Annual NOx (ton/yr)	24-hr PM10 (lb/day)	Annual PM10 (ton/yr)	24-hr PM2.5 (lb/day)
2030	Onsite Refueling Trucks	0.02	0.10	0.008	0.001	0.003
2030	SCIG CHE/TRU	0.48	0.11	0.072	0.002	0.066
2030	SCIG Offsite Gasoline Vehicles	0.02	0.09	4.139	0.745	1.105
2030	SCIG Offsite Locomotives	2.60	11.23	0.920	0.166	0.846
2030	SCIG Offsite Trucks	5.14	19.83	26.937	4.333	9.354
2030	SCIG Onsite Gasoline Vehicles	0.01	0.05	0.571	0.107	0.214
2030	SCIG Onsite Locomotives	1.35	5.84	0.568	0.102	0.522
2030	SCIG Onsite Trucks	6.57	25.34	32.230	5.182	9.332
2030	Tenant CHE	5.88	9.94	2.004	0.288	1.844
2030	Tenant Offsite Gasoline Vehicles	0.05	0.09	4.938	0.763	1.317
2030	Tenant Offsite Trucks	3.92	6.41	10.374	1.482	3.577
2030	Tenant Onsite Gasoline Vehicles	0.01	0.01	0.287	0.044	0.077
2030	Tenant Onsite Locomotives	0.02	0.05	0.006	0.001	0.005
2030	Tenant Onsite Trucks	2.54	4.18	2.224	0.340	0.676
2030 Total		**29.81**	**84.43**	**86.365**	**13.576**	**29.940**
2035	Emergency Generator	0.93	0.09	0.985	0.004	0.906
2035	Hostler	0.39	1.51	0.144	0.023	0.133
2035	Onsite Refueling Trucks	0.03	0.14	0.011	0.002	0.004
2035	SCIG CHE/TRU	0.48	0.11	0.065	0.002	0.059
2035	SCIG Offsite Gasoline Vehicles	0.03	0.12	5.875	1.058	1.569
2035	SCIG Offsite Locomotives	2.68	11.58	0.943	0.170	0.868
2035	SCIG Offsite Trucks	7.12	27.47	37.907	6.097	13.114
2035	SCIG Onsite Gasoline Vehicles	0.01	0.05	0.770	0.142	0.266
2035	SCIG Onsite Locomotives	1.38	5.97	0.554	0.100	0.509
2035	SCIG Onsite Trucks	9.21	35.54	45.700	7.347	13.208
2035	Tenant CHE	4.39	7.65	1.120	0.164	1.030
2035	Tenant Offsite Gasoline Vehicles	0.05	0.09	4.940	0.763	1.319
2035	Tenant Offsite Trucks	3.78	6.18	10.335	1.476	3.542
2035	Tenant Onsite Gasoline Vehicles	0.00	0.01	0.287	0.044	0.078
2035	Tenant Onsite Locomotives	0.02	0.05	0.006	0.001	0.005
2035	Tenant Onsite Trucks	2.49	4.10	2.220	0.340	0.672
2035 Total		**33.00**	**100.65**	**111.863**	**17.734**	**37.284**
2046	Emergency Generator	0.93	0.09	0.985	0.004	0.906
2046	Hostler	0.39	1.51	0.144	0.023	0.133
2046	Onsite Refueling Trucks	0.03	0.14	0.011	0.002	0.004
2046	SCIG CHE/TRU	0.48	0.11	0.067	0.003	0.062
2046	SCIG Offsite Gasoline Vehicles	0.03	0.12	5.875	1.057	1.568
2046	SCIG Offsite Locomotives	1.61	6.94	0.943	0.100	0.868
2046	SCIG Offsite Trucks	8.18	31.59	37.902	6.097	13.101
2046	SCIG Onsite Gasoline Vehicles	0.01	0.05	0.770	0.142	0.266
2046	SCIG Onsite Locomotives	0.89	3.83	0.347	0.063	0.320
2046	SCIG Onsite Trucks	10.13	39.07	45.785	7.361	13.282
2046	Tenant CHE	4.43	7.71	1.158	0.169	1.066
2046	Tenant Offsite Gasoline Vehicles	0.05	0.09	4.939	0.763	1.319
2046	Tenant Offsite Trucks	3.95	6.48	10.339	1.477	3.546
2046	Tenant Onsite Gasoline Vehicles	0.00	0.01	0.287	0.044	0.078
2046	Tenant Onsite Locomotives	0.02	0.05	0.006	0.001	0.005
2046	Tenant Onsite Trucks	2.53	4.18	2.223	0.340	0.675
2046 Total		**33.66**	**101.96**	**111.784**	**17.646**	**37.199**

Table A1-2 Peak NOx, CO, SO2, PM10, and PM2.5 Operational Emissions by Source - Mitigated Project

Year	Emission Source	1-hour NOx (lb/hr)	Annual NOx (ton/yr)	24-hr PM10 (lb/day)	Annual PM10 (ton/yr)	24-hr PM2.5 (lb/day)
2016	Emergency Generator	0.93	0.09	0.985	0.004	0.906
2016	Hostler	0.08	0.30	0.029	0.005	0.027
2016	Onsite Refueling Trucks	0.01	0.05	0.002	0.000	0.001
2016	SCIG CHE/TRU	0.46	0.10	0.351	0.003	0.323
2016	SCIG Offsite Gasoline Vehicles	0.01	0.03	1.213	0.218	0.323
2016	SCIG Offsite Locomotives	2.25	9.73	1.161	0.209	1.068
2016	SCIG Offsite Trucks	3.90	15.06	8.294	1.334	2.969
2016	SCIG Onsite Gasoline Vehicles	0.02	0.07	0.201	0.039	0.117
2016	SCIG Onsite Locomotives	1.17	5.07	0.658	0.118	0.605
2016	SCIG Onsite Trucks	3.49	13.47	7.297	1.173	2.243
2016	Tenant CHE	8.29	13.79	3.184	0.455	2.930
2016	Tenant Offsite Gasoline Vehicles	0.09	0.16	4.935	0.763	1.315
2016	Tenant Offsite Trucks	10.33	16.85	10.611	1.516	3.790
2016	Tenant Onsite Gasoline Vehicles	0.01	0.01	0.285	0.044	0.076
2016	Tenant Onsite Locomotives	0.02	0.05	0.006	0.001	0.005
2016	Tenant Onsite Trucks	4.44	7.40	2.307	0.353	0.752
2016 Total	0	**35.50**	**82.24**	**41.520**	**6.235**	**17.450**
2020	Emergency Generator	0.93	0.09	0.985	0.004	0.906
2020	Hostler	0.10	0.39	0.037	0.006	0.034
2020	Onsite Refueling Trucks	0.01	0.05	0.003	0.001	0.001
2020	SCIG CHE/TRU	0.47	0.11	0.198	0.003	0.182
2020	SCIG Offsite Gasoline Vehicles	0.01	0.04	1.497	0.269	0.399
2020	SCIG Offsite Locomotives	2.38	10.30	1.004	0.181	0.924
2020	SCIG Offsite Trucks	3.03	11.68	10.171	1.636	3.610
2020	SCIG Onsite Gasoline Vehicles	0.01	0.06	0.226	0.043	0.123
2020	SCIG Onsite Locomotives	1.25	5.41	0.618	0.111	0.568
2020	SCIG Onsite Trucks	3.13	12.09	8.997	1.447	2.750
2020	Tenant CHE	8.11	13.43	3.217	0.458	2.960
2020	Tenant Offsite Gasoline Vehicles	0.07	0.13	4.936	0.763	1.315
2020	Tenant Offsite Trucks	6.78	11.06	10.506	1.501	3.696
2020	Tenant Onsite Gasoline Vehicles	0.01	0.01	0.286	0.044	0.077
2020	Tenant Onsite Locomotives	0.02	0.05	0.006	0.001	0.005
2020	Tenant Onsite Trucks	3.39	5.62	2.263	0.346	0.711
2020 Total	0	**29.70**	**70.51**	**44.948**	**6.814**	**18.262**
2023	Emergency Generator	0.93	0.09	0.985	0.004	0.906
2023	Hostler	0.12	0.45	0.043	0.007	0.040
2023	Onsite Refueling Trucks	0.01	0.05	0.003	0.001	0.001
2023	SCIG CHE/TRU	0.48	0.11	0.083	0.003	0.076
2023	SCIG Offsite Gasoline Vehicles	0.01	0.04	1.709	0.308	0.456
2023	SCIG Offsite Locomotives	2.48	10.73	0.886	0.160	0.815
2023	SCIG Offsite Trucks	2.37	9.14	11.579	1.863	4.091
2023	SCIG Onsite Gasoline Vehicles	0.01	0.05	0.244	0.047	0.128
2023	SCIG Onsite Locomotives	1.31	5.66	0.588	0.106	0.541
2023	SCIG Onsite Trucks	2.87	11.06	10.272	1.651	3.131
2023	Tenant CHE	7.97	13.16	3.242	0.461	2.983
2023	Tenant Offsite Gasoline Vehicles	0.06	0.10	4.936	0.763	1.315
2023	Tenant Offsite Trucks	4.11	6.72	10.427	1.490	3.625
2023	Tenant Onsite Gasoline Vehicles	0.01	0.01	0.286	0.044	0.077
2023	Tenant Onsite Locomotives	0.02	0.05	0.006	0.001	0.005
2023	Tenant Onsite Trucks	2.60	4.28	2.230	0.341	0.681
2023 Total	0	**25.36**	**61.72**	**47.519**	**7.247**	**18.871**
2030	Emergency Generator	0.93	0.09	0.985	0.004	0.906

Table A1-2 Peak NOx, CO, SO2, PM10, and PM2.5 Operational Emissions by Source - Mitigated Project

Year	Emission Source	1-hour NOx (lb/hr)	Annual NOx (ton/yr)	24-hr PM10 (lb/day)	Annual PM10 (ton/yr)	24-hr PM2.5 (lb/day)
2030	Hostler	0.28	1.07	0.102	0.016	0.094
2030	Onsite Refueling Trucks	0.02	0.10	0.007	0.001	0.003
2030	SCIG CHE/TRU	0.48	0.11	0.072	0.002	0.066
2030	SCIG Offsite Gasoline Vehicles	0.02	0.09	4.139	0.745	1.105
2030	SCIG Offsite Locomotives	2.60	11.23	0.920	0.166	0.846
2030	SCIG Offsite Trucks	5.14	19.83	26.937	4.333	9.354
2030	SCIG Onsite Gasoline Vehicles	0.01	0.05	0.453	0.084	0.184
2030	SCIG Onsite Locomotives	1.35	5.84	0.568	0.102	0.522
2030	SCIG Onsite Trucks	6.57	25.34	24.725	3.975	7.456
2030	Tenant CHE	5.88	9.94	2.004	0.288	1.844
2030	Tenant Offsite Gasoline Vehicles	0.05	0.09	4.938	0.763	1.317
2030	Tenant Offsite Trucks	3.92	6.41	10.374	1.482	3.577
2030	Tenant Onsite Gasoline Vehicles	0.01	0.01	0.287	0.044	0.077
2030	Tenant Onsite Locomotives	0.02	0.05	0.006	0.001	0.005
2030	Tenant Onsite Trucks	2.54	4.18	2.224	0.340	0.676
2030 Total	0	**29.81**	**84.43**	**78.740**	**12.347**	**28.034**
2035	Emergency Generator	0.93	0.09	0.985	0.004	0.906
2035	Hostler	0.39	1.51	0.144	0.023	0.133
2035	Onsite Refueling Trucks	0.03	0.14	0.009	0.002	0.004
2035	SCIG CHE/TRU	0.48	0.11	0.065	0.002	0.059
2035	SCIG Offsite Gasoline Vehicles	0.03	0.12	5.875	1.058	1.569
2035	SCIG Offsite Locomotives	2.68	11.58	0.943	0.170	0.868
2035	SCIG Offsite Trucks	7.12	27.47	37.907	6.097	13.114
2035	SCIG Onsite Gasoline Vehicles	0.01	0.05	0.602	0.111	0.224
2035	SCIG Onsite Locomotives	1.38	5.97	0.554	0.100	0.509
2035	SCIG Onsite Trucks	9.21	35.54	35.048	5.635	10.545
2035	Tenant CHE	4.39	7.65	1.120	0.164	1.030
2035	Tenant Offsite Gasoline Vehicles	0.05	0.09	4.940	0.763	1.319
2035	Tenant Offsite Trucks	3.78	6.18	10.335	1.476	3.542
2035	Tenant Onsite Gasoline Vehicles	0.00	0.01	0.287	0.044	0.078
2035	Tenant Onsite Locomotives	0.02	0.05	0.006	0.001	0.005
2035	Tenant Onsite Trucks	2.49	4.10	2.220	0.340	0.672
2035 Total	0	**33.00**	**100.65**	**101.041**	**15.990**	**34.578**
2046	Emergency Generator	0.93	0.09	0.985	0.004	0.906
2046	Hostler	0.39	1.51	0.144	0.023	0.133
2046	Onsite Refueling Trucks	0.03	0.14	0.009	0.002	0.004
2046	SCIG CHE/TRU	0.48	0.11	0.067	0.003	0.062
2046	SCIG Offsite Gasoline Vehicles	0.03	0.12	5.875	1.057	1.568
2046	SCIG Offsite Locomotives	1.61	6.94	0.943	0.100	0.868
2046	SCIG Offsite Trucks	8.18	31.59	37.902	6.097	13.101
2046	SCIG Onsite Gasoline Vehicles	0.01	0.05	0.602	0.111	0.224
2046	SCIG Onsite Locomotives	0.89	3.83	0.347	0.063	0.320
2046	SCIG Onsite Trucks	10.13	39.07	35.133	5.648	10.619
2046	Tenant CHE	4.43	7.71	1.158	0.169	1.066
2046	Tenant Offsite Gasoline Vehicles	0.05	0.09	4.939	0.763	1.319
2046	Tenant Offsite Trucks	3.95	6.48	10.339	1.477	3.546
2046	Tenant Onsite Gasoline Vehicles	0.00	0.01	0.287	0.044	0.078
2046	Tenant Onsite Locomotives	0.02	0.05	0.006	0.001	0.005
2046	Tenant Onsite Trucks	2.53	4.18	2.223	0.340	0.675
2046 Total	0	**33.66**	**101.96**	**100.962**	**15.902**	**34.493**

Table A1-3 Peak NOx, CO, SO2, PM10, and PM2.5 Operational Emissions by Source - No Project Alternative

Year	Emission Source	1-hour NOx (lb/hr)	Annual NOx (ton/yr)	24-hr PM10 (lb/day)	Annual PM10 (ton/yr)	24-hr PM2.5 (lb/day)
2016	Hobart Offsite Trucks	14.43	55.67	34.778	5.591	12.702
2016	Tenant CHE	26.69	42.55	8.757	1.229	8.056
2016	Tenant Offsite Gasoline Vehicles	0.43	0.62	20.302	2.929	5.410
2016	Tenant Offsite Trucks	28.02	43.95	27.969	3.949	10.046
2016	Tenant Onsite Gasoline Vehicles	0.04	0.06	1.363	0.195	0.363
2016	Tenant Onsite Locomotives	0.27	0.36	0.051	0.007	0.047
2016	Tenant Onsite Trucks	9.65	14.89	5.819	0.820	1.851
2016 Total	0	**79.52**	**158.10**	**99.039**	**14.721**	**38.476**
2020	Hobart Offsite Trucks	11.41	44.02	42.598	6.849	15.361
2020	Tenant CHE	24.57	39.53	8.096	1.138	7.449
2020	Tenant Offsite Gasoline Vehicles	0.34	0.49	20.303	2.929	5.412
2020	Tenant Offsite Trucks	18.62	29.16	27.709	3.912	9.818
2020	Tenant Onsite Gasoline Vehicles	0.03	0.05	1.365	0.195	0.365
2020	Tenant Onsite Locomotives	0.27	0.36	0.051	0.007	0.047
2020	Tenant Onsite Trucks	7.36	11.30	5.732	0.808	1.771
2020 Total	0	**62.60**	**124.90**	**105.855**	**15.838**	**40.222**
2023	Hobart Offsite Trucks	9.14	35.28	48.464	7.792	17.355
2023	Tenant CHE	22.99	37.26	7.601	1.070	6.993
2023	Tenant Offsite Gasoline Vehicles	0.27	0.39	20.305	2.930	5.414
2023	Tenant Offsite Trucks	11.57	18.06	27.514	3.884	9.647
2023	Tenant Onsite Gasoline Vehicles	0.03	0.04	1.366	0.195	0.366
2023	Tenant Onsite Locomotives	0.27	0.36	0.051	0.007	0.047
2023	Tenant Onsite Trucks	5.64	8.61	5.667	0.798	1.711
2023 Total	0	**49.91**	**100.00**	**110.967**	**16.676**	**41.532**
2030	Hobart Offsite Trucks	14.41	55.60	83.162	13.370	29.292
2030	Tenant CHE	19.72	32.64	5.582	0.796	5.145
2030	Tenant Offsite Gasoline Vehicles	0.24	0.35	20.311	2.931	5.420
2030	Tenant Offsite Trucks	10.85	16.94	27.352	3.861	9.504
2030	Tenant Onsite Gasoline Vehicles	0.03	0.04	1.369	0.195	0.368
2030	Tenant Onsite Locomotives	0.27	0.36	0.051	0.007	0.047
2030	Tenant Onsite Trucks	5.49	8.38	5.651	0.796	1.697
2030 Total	0	**51.01**	**114.30**	**143.479**	**21.958**	**51.474**
2035	Hobart Offsite Trucks	18.17	70.11	107.947	17.355	37.818
2035	Tenant CHE	17.38	29.33	4.140	0.601	3.825
2035	Tenant Offsite Gasoline Vehicles	0.22	0.33	20.316	2.931	5.425
2035	Tenant Offsite Trucks	10.34	16.14	27.236	3.845	9.403
2035	Tenant Onsite Gasoline Vehicles	0.02	0.03	1.370	0.196	0.370
2035	Tenant Onsite Locomotives	0.27	0.36	0.051	0.007	0.047
2035	Tenant Onsite Trucks	5.39	8.22	5.641	0.795	1.687
2035 Total	0	**51.79**	**124.52**	**166.701**	**25.730**	**58.575**
2046	Hobart Offsite Trucks	21.18	81.74	107.827	17.336	37.684
2046	Tenant CHE	17.46	29.50	4.304	0.625	3.957
2046	Tenant Offsite Gasoline Vehicles	0.22	0.33	20.318	2.932	5.426
2046	Tenant Offsite Trucks	11.39	17.74	27.168	3.835	9.336
2046	Tenant Onsite Gasoline Vehicles	0.02	0.03	1.370	0.196	0.370
2046	Tenant Onsite Locomotives	0.27	0.36	0.051	0.007	0.047
2046	Tenant Onsite Trucks	5.58	8.48	5.652	0.796	1.698
2046 Total	0	**56.13**	**138.19**	**166.690**	**25.726**	**58.518**

Table A1-4 Peak NOx, CO, SO2, PM10, and PM2.5 Operational Emissions by Source - Reduced Project

Year	Emission Source	1-hour NOx (lb/hr)	Annual NOx (ton/yr)	24-hr PM10 (lb/day)	Annual PM10 (ton/yr)	24-hr PM2.5 (lb/day)
2016	Emergency Generator	0.93	0.09	0.985	0.004	0.906
2016	Hostler	0.08	0.30	0.029	0.005	0.027
2016	Onsite Refueling Trucks	0.01	0.05	0.003	0.001	0.001
2016	SCIG CHE/TRU	0.46	0.10	0.351	0.003	0.323
2016	SCIG Offsite Gasoline Vehicles	0.01	0.03	1.213	0.218	0.323
2016	SCIG Offsite Locomotives	2.25	9.73	1.161	0.209	1.068
2016	SCIG Offsite Trucks	3.90	15.06	8.294	1.334	2.969
2016	SCIG Onsite Gasoline Vehicles	0.02	0.07	0.236	0.046	0.126
2016	SCIG Onsite Locomotives	1.17	5.07	0.658	0.118	0.605
2016	SCIG Onsite Trucks	3.49	13.47	9.488	1.525	2.790
2016	Tenant CHE	8.29	13.79	3.184	0.455	2.930
2016	Tenant Offsite Gasoline Vehicles	0.09	0.16	4.935	0.763	1.315
2016	Tenant Offsite Trucks	10.33	16.85	10.611	1.516	3.790
2016	Tenant Onsite Gasoline Vehicles	0.01	0.01	0.285	0.044	0.076
2016	Tenant Onsite Locomotives	0.02	0.05	0.006	0.001	0.005
2016	Tenant Onsite Trucks	4.44	7.40	2.307	0.353	0.752
2016 Total	0	**35.50**	**82.24**	**43.747**	**6.595**	**18.007**
2020	Emergency Generator	0.93	0.09	0.985	0.004	0.906
2020	Hostler	0.10	0.39	0.037	0.006	0.034
2020	Onsite Refueling Trucks	0.01	0.05	0.004	0.001	0.002
2020	SCIG CHE/TRU	0.47	0.11	0.198	0.003	0.182
2020	SCIG Offsite Gasoline Vehicles	0.01	0.04	1.497	0.269	0.399
2020	SCIG Offsite Locomotives	2.38	10.30	1.004	0.181	0.924
2020	SCIG Offsite Trucks	3.03	11.68	10.171	1.636	3.610
2020	SCIG Onsite Gasoline Vehicles	0.01	0.06	0.269	0.052	0.134
2020	SCIG Onsite Locomotives	1.25	5.41	0.618	0.111	0.568
2020	SCIG Onsite Trucks	3.13	12.09	11.708	1.882	3.428
2020	Tenant CHE	8.11	13.43	3.217	0.458	2.960
2020	Tenant Offsite Gasoline Vehicles	0.07	0.13	4.936	0.763	1.315
2020	Tenant Offsite Trucks	6.78	11.06	10.506	1.501	3.696
2020	Tenant Onsite Gasoline Vehicles	0.01	0.01	0.286	0.044	0.077
2020	Tenant Onsite Locomotives	0.02	0.05	0.006	0.001	0.005
2020	Tenant Onsite Trucks	3.39	5.62	2.263	0.346	0.711
2020 Total	0	**29.71**	**70.51**	**47.702**	**7.258**	**18.951**
2023	Emergency Generator	0.93	0.09	0.985	0.004	0.906
2023	Hostler	0.12	0.45	0.043	0.007	0.040
2023	Onsite Refueling Trucks	0.01	0.05	0.004	0.001	0.002
2023	SCIG CHE/TRU	0.48	0.11	0.083	0.003	0.076
2023	SCIG Offsite Gasoline Vehicles	0.01	0.04	1.709	0.308	0.456
2023	SCIG Offsite Locomotives	2.48	10.73	0.886	0.160	0.815
2023	SCIG Offsite Trucks	2.37	9.14	11.579	1.863	4.091
2023	SCIG Onsite Gasoline Vehicles	0.01	0.05	0.293	0.056	0.140
2023	SCIG Onsite Locomotives	1.31	5.66	0.588	0.106	0.541
2023	SCIG Onsite Trucks	2.87	11.06	13.372	2.150	3.906
2023	Tenant CHE	7.97	13.16	3.242	0.461	2.983
2023	Tenant Offsite Gasoline Vehicles	0.06	0.10	4.936	0.763	1.315
2023	Tenant Offsite Trucks	4.11	6.72	10.427	1.490	3.625
2023	Tenant Onsite Gasoline Vehicles	0.01	0.01	0.286	0.044	0.077
2023	Tenant Onsite Locomotives	0.02	0.05	0.006	0.001	0.005
2023	Tenant Onsite Trucks	2.60	4.28	2.230	0.341	0.681
2023 Total	0	**25.36**	**61.72**	**50.669**	**7.755**	**19.659**
2030	Emergency Generator	0.93	0.09	0.985	0.004	0.906
2030	Hostler	0.20	0.78	0.074	0.012	0.068
2030	Onsite Refueling Trucks	0.02	0.08	0.006	0.001	0.003
2030	SCIG CHE/TRU	0.48	0.11	0.072	0.002	0.066
2030	SCIG Offsite Gasoline Vehicles	0.01	0.06	2.997	0.539	0.800

Table A1-4 Peak NOx, CO, SO2, PM10, and PM2.5 Operational Emissions by Source - Reduced Project

Year	Emission Source	1-hour NOx (lb/hr)	Annual NOx (ton/yr)	24-hr PM10 (lb/day)	Annual PM10 (ton/yr)	24-hr PM2.5 (lb/day)
2030	SCIG Offsite Locomotives	2.21	9.54	0.782	0.141	0.719
2030	SCIG Offsite Trucks	3.76	14.50	19.574	3.149	6.807
2030	SCIG Onsite Gasoline Vehicles	0.01	0.05	0.441	0.083	0.179
2030	SCIG Onsite Locomotives	1.17	5.07	0.500	0.090	0.460
2030	SCIG Onsite Trucks	4.78	18.43	23.344	3.753	6.764
2030	Tenant CHE	5.88	9.94	2.004	0.288	1.844
2030	Tenant Offsite Gasoline Vehicles	0.05	0.09	4.938	0.763	1.317
2030	Tenant Offsite Trucks	3.92	6.41	10.374	1.482	3.577
2030	Tenant Onsite Gasoline Vehicles	0.01	0.01	0.287	0.044	0.077
2030	Tenant Onsite Locomotives	0.02	0.05	0.006	0.001	0.005
2030	Tenant Onsite Trucks	2.54	4.18	2.224	0.340	0.676
2030 Total	0	**25.99**	**69.39**	**68.607**	**10.692**	**24.270**
2035	Emergency Generator	0.93	0.09	0.985	0.004	0.906
2035	Hostler	0.26	1.01	0.096	0.015	0.089
2035	Onsite Refueling Trucks	0.02	0.10	0.008	0.001	0.003
2035	SCIG CHE/TRU	0.48	0.11	0.065	0.002	0.059
2035	SCIG Offsite Gasoline Vehicles	0.02	0.08	3.917	0.705	1.046
2035	SCIG Offsite Locomotives	2.01	8.69	0.708	0.127	0.651
2035	SCIG Offsite Trucks	4.75	18.32	25.284	4.067	8.747
2035	SCIG Onsite Gasoline Vehicles	0.01	0.05	0.546	0.102	0.207
2035	SCIG Onsite Locomotives	1.08	4.65	0.438	0.079	0.403
2035	SCIG Onsite Trucks	6.14	23.69	30.467	4.898	8.805
2035	Tenant CHE	4.39	7.65	1.120	0.164	1.030
2035	Tenant Offsite Gasoline Vehicles	0.05	0.09	4.940	0.763	1.319
2035	Tenant Offsite Trucks	3.78	6.18	10.335	1.476	3.542
2035	Tenant Onsite Gasoline Vehicles	0.00	0.01	0.287	0.044	0.078
2035	Tenant Onsite Locomotives	0.02	0.05	0.006	0.001	0.005
2035	Tenant Onsite Trucks	2.49	4.10	2.220	0.340	0.672
2035 Total	0	**26.43**	**74.86**	**81.420**	**12.790**	**27.563**
2046	Emergency Generator	0.93	0.09	0.985	0.004	0.906
2046	Hostler	0.26	1.01	0.096	0.015	0.089
2046	Onsite Refueling Trucks	0.02	0.10	0.008	0.001	0.003
2046	SCIG CHE/TRU	0.48	0.11	0.067	0.003	0.062
2046	SCIG Offsite Gasoline Vehicles	0.02	0.08	3.917	0.705	1.046
2046	SCIG Offsite Locomotives	1.20	5.20	0.415	0.075	0.382
2046	SCIG Offsite Trucks	5.46	21.07	25.281	4.067	8.738
2046	SCIG Onsite Gasoline Vehicles	0.01	0.05	0.546	0.102	0.207
2046	SCIG Onsite Locomotives	0.71	3.05	0.283	0.051	0.260
2046	SCIG Onsite Trucks	6.75	26.05	30.524	4.907	8.855
2046	Tenant CHE	4.43	7.71	1.158	0.169	1.066
2046	Tenant Offsite Gasoline Vehicles	0.05	0.09	4.939	0.763	1.319
2046	Tenant Offsite Trucks	3.95	6.48	10.339	1.477	3.546
2046	Tenant Onsite Gasoline Vehicles	0.00	0.01	0.287	0.044	0.078
2046	Tenant Onsite Locomotives	0.02	0.05	0.006	0.001	0.005
2046	Tenant Onsite Trucks	2.53	4.18	2.223	0.340	0.675
2046 Total	0	**26.83**	**75.31**	**81.074**	**12.725**	**27.236**

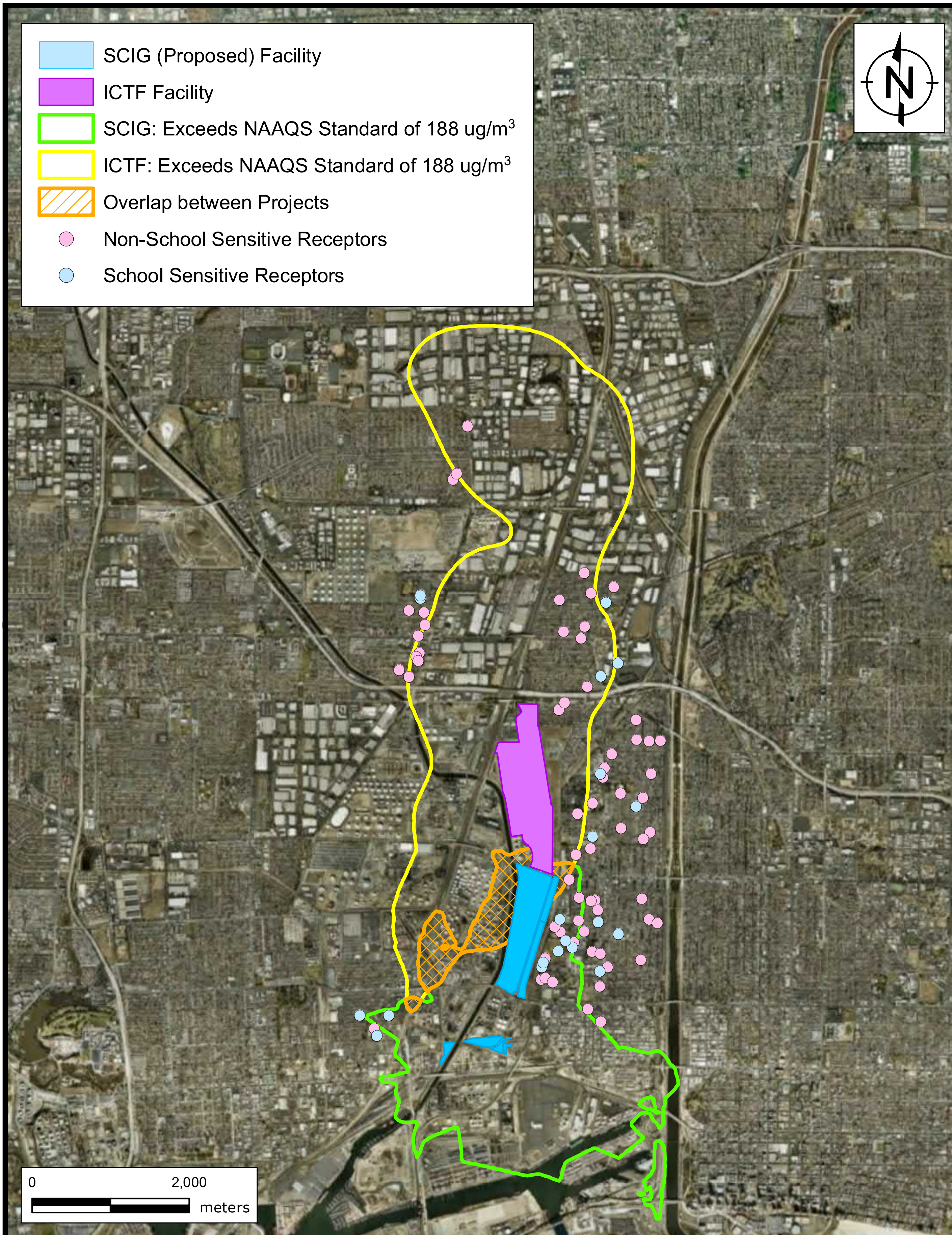
Table A1-5 Peak NOx, CO, SO2, PM10, and PM2.5 Operational Emissions by Source - Mitigated Reduced Project

Year	Emission Source	1-hour NOx (lb/hr)	Annual NOx (ton/yr)	24-hr PM10 (lb/day)	Annual PM10 (ton/yr)	24-hr PM2.5 (lb/day)
2016	Emergency Generator	0.93	0.09	0.985	0.004	0.906
2016	Hostler	0.08	0.30	0.029	0.005	0.027
2016	Onsite Refueling Trucks	0.01	0.05	0.002	0.000	0.001
2016	SCIG CHE/TRU	0.46	0.10	0.351	0.003	0.323
2016	SCIG Offsite Gasoline Vehicles	0.01	0.03	1.213	0.218	0.323
2016	SCIG Offsite Locomotives	2.25	9.73	1.161	0.209	1.068
2016	SCIG Offsite Trucks	3.90	15.06	8.294	1.334	2.969
2016	SCIG Onsite Gasoline Vehicles	0.02	0.07	0.201	0.039	0.117
2016	SCIG Onsite Locomotives	1.17	5.07	0.658	0.118	0.605
2016	SCIG Onsite Trucks	3.49	13.47	7.297	1.173	2.243
2016	Tenant CHE	8.29	13.79	3.184	0.455	2.930
2016	Tenant Offsite Gasoline Vehicles	0.09	0.16	4.935	0.763	1.315
2016	Tenant Offsite Trucks	10.33	16.85	10.611	1.516	3.790
2016	Tenant Onsite Gasoline Vehicles	0.01	0.01	0.285	0.044	0.076
2016	Tenant Onsite Locomotives	0.02	0.05	0.006	0.001	0.005
2016	Tenant Onsite Trucks	4.44	7.40	2.307	0.353	0.752
2016 Total	0	**35.50**	**82.24**	**41.520**	**6.235**	**17.450**
2020	Emergency Generator	0.93	0.09	0.985	0.004	0.906
2020	Hostler	0.10	0.39	0.037	0.006	0.034
2020	Onsite Refueling Trucks	0.01	0.05	0.003	0.001	0.001
2020	SCIG CHE/TRU	0.47	0.11	0.198	0.003	0.182
2020	SCIG Offsite Gasoline Vehicles	0.01	0.04	1.497	0.269	0.399
2020	SCIG Offsite Locomotives	2.38	10.30	1.004	0.181	0.924
2020	SCIG Offsite Trucks	3.03	11.68	10.171	1.636	3.610
2020	SCIG Onsite Gasoline Vehicles	0.01	0.06	0.226	0.043	0.123
2020	SCIG Onsite Locomotives	1.25	5.41	0.618	0.111	0.568
2020	SCIG Onsite Trucks	3.13	12.09	8.997	1.447	2.750
2020	Tenant CHE	8.11	13.43	3.217	0.458	2.960
2020	Tenant Offsite Gasoline Vehicles	0.07	0.13	4.936	0.763	1.315
2020	Tenant Offsite Trucks	6.78	11.06	10.506	1.501	3.696
2020	Tenant Onsite Gasoline Vehicles	0.01	0.01	0.286	0.044	0.077
2020	Tenant Onsite Locomotives	0.02	0.05	0.006	0.001	0.005
2020	Tenant Onsite Trucks	3.39	5.62	2.263	0.346	0.711
2020 Total	0	**29.71**	**70.51**	**44.948**	**6.814**	**18.262**
2023	Emergency Generator	0.93	0.09	0.985	0.004	0.906
2023	Hostler	0.12	0.45	0.043	0.007	0.040
2023	Onsite Refueling Trucks	0.01	0.05	0.003	0.001	0.001
2023	SCIG CHE/TRU	0.48	0.11	0.083	0.003	0.076
2023	SCIG Offsite Gasoline Vehicles	0.01	0.04	1.709	0.308	0.456
2023	SCIG Offsite Locomotives	2.48	10.73	0.886	0.160	0.815
2023	SCIG Offsite Trucks	2.37	9.14	11.579	1.863	4.091
2023	SCIG Onsite Gasoline Vehicles	0.01	0.05	0.244	0.047	0.128
2023	SCIG Onsite Locomotives	1.31	5.66	0.588	0.106	0.541
2023	SCIG Onsite Trucks	2.87	11.06	10.272	1.651	3.131
2023	Tenant CHE	7.97	13.16	3.242	0.461	2.983
2023	Tenant Offsite Gasoline Vehicles	0.06	0.10	4.936	0.763	1.315
2023	Tenant Offsite Trucks	4.11	6.72	10.427	1.490	3.625
2023	Tenant Onsite Gasoline Vehicles	0.01	0.01	0.286	0.044	0.077
2023	Tenant Onsite Locomotives	0.02	0.05	0.006	0.001	0.005
2023	Tenant Onsite Trucks	2.60	4.28	2.230	0.341	0.681
2023 Total	0	**25.36**	**61.72**	**47.519**	**7.247**	**18.871**
2030	Emergency Generator	0.93	0.09	0.985	0.004	0.906
2030	Hostler	0.20	0.78	0.074	0.012	0.068
2030	Onsite Refueling Trucks	0.02	0.08	0.005	0.001	0.002
2030	SCIG CHE/TRU	0.48	0.11	0.072	0.002	0.066
2030	SCIG Offsite Gasoline Vehicles	0.01	0.06	2.997	0.539	0.800

Table A1-5 Peak NOx, CO, SO2, PM10, and PM2.5 Operational Emissions by Source - Mitigated Reduced Project

Year	Emission Source	1-hour NOx (lb/hr)	Annual NOx (ton/yr)	24-hr PM10 (lb/day)	Annual PM10 (ton/yr)	24-hr PM2.5 (lb/day)
2030	SCIG Offsite Locomotives	2.21	9.54	0.782	0.141	0.719
2030	SCIG Offsite Trucks	3.76	14.50	19.574	3.149	6.807
2030	SCIG Onsite Gasoline Vehicles	0.01	0.05	0.355	0.067	0.158
2030	SCIG Onsite Locomotives	1.17	5.07	0.500	0.090	0.460
2030	SCIG Onsite Trucks	4.78	18.43	17.910	2.879	5.405
2030	Tenant CHE	5.88	9.94	2.004	0.288	1.844
2030	Tenant Offsite Gasoline Vehicles	0.05	0.09	4.938	0.763	1.317
2030	Tenant Offsite Trucks	3.92	6.41	10.374	1.482	3.577
2030	Tenant Onsite Gasoline Vehicles	0.01	0.01	0.287	0.044	0.077
2030	Tenant Onsite Locomotives	0.02	0.05	0.006	0.001	0.005
2030	Tenant Onsite Trucks	2.54	4.18	2.224	0.340	0.676
2030 Total	0	**25.99**	**69.39**	**63.086**	**9.802**	**22.890**
2035	Emergency Generator	0.93	0.09	0.985	0.004	0.906
2035	Hostler	0.26	1.01	0.096	0.015	0.089
2035	Onsite Refueling Trucks	0.02	0.10	0.007	0.001	0.003
2035	SCIG CHE/TRU	0.48	0.11	0.065	0.002	0.059
2035	SCIG Offsite Gasoline Vehicles	0.02	0.08	3.917	0.705	1.046
2035	SCIG Offsite Locomotives	2.01	8.69	0.708	0.127	0.651
2035	SCIG Offsite Trucks	4.75	18.32	25.284	4.067	8.747
2035	SCIG Onsite Gasoline Vehicles	0.01	0.05	0.434	0.081	0.179
2035	SCIG Onsite Locomotives	1.08	4.65	0.438	0.079	0.403
2035	SCIG Onsite Trucks	6.14	23.69	23.366	3.757	7.030
2035	Tenant CHE	4.39	7.65	1.120	0.164	1.030
2035	Tenant Offsite Gasoline Vehicles	0.05	0.09	4.940	0.763	1.319
2035	Tenant Offsite Trucks	3.78	6.18	10.335	1.476	3.542
2035	Tenant Onsite Gasoline Vehicles	0.00	0.01	0.287	0.044	0.078
2035	Tenant Onsite Locomotives	0.02	0.05	0.006	0.001	0.005
2035	Tenant Onsite Trucks	2.49	4.10	2.220	0.340	0.672
2035 Total	0	**26.43**	**74.86**	**74.206**	**11.627**	**25.760**
2046	Emergency Generator	0.93	0.09	0.985	0.004	0.906
2046	Hostler	0.26	1.01	0.096	0.015	0.089
2046	Onsite Refueling Trucks	0.02	0.10	0.007	0.001	0.003
2046	SCIG CHE/TRU	0.48	0.11	0.067	0.003	0.062
2046	SCIG Offsite Gasoline Vehicles	0.02	0.08	3.917	0.705	1.046
2046	SCIG Offsite Locomotives	1.20	5.20	0.415	0.075	0.382
2046	SCIG Offsite Trucks	5.46	21.07	25.281	4.067	8.738
2046	SCIG Onsite Gasoline Vehicles	0.01	0.05	0.434	0.081	0.179
2046	SCIG Onsite Locomotives	0.71	3.05	0.283	0.051	0.260
2046	SCIG Onsite Trucks	6.75	26.05	23.422	3.766	7.080
2046	Tenant CHE	4.43	7.71	1.158	0.169	1.066
2046	Tenant Offsite Gasoline Vehicles	0.05	0.09	4.939	0.763	1.319
2046	Tenant Offsite Trucks	3.95	6.48	10.339	1.477	3.546
2046	Tenant Onsite Gasoline Vehicles	0.00	0.01	0.287	0.044	0.078
2046	Tenant Onsite Locomotives	0.02	0.05	0.006	0.001	0.005
2046	Tenant Onsite Trucks	2.53	4.18	2.223	0.340	0.675
2046 Total	0	**26.83**	**75.31**	**73.859**	**11.562**	**25.432**

ANNEX 2
COMBINED CUMULATIVE ANALYSIS BY YEAR

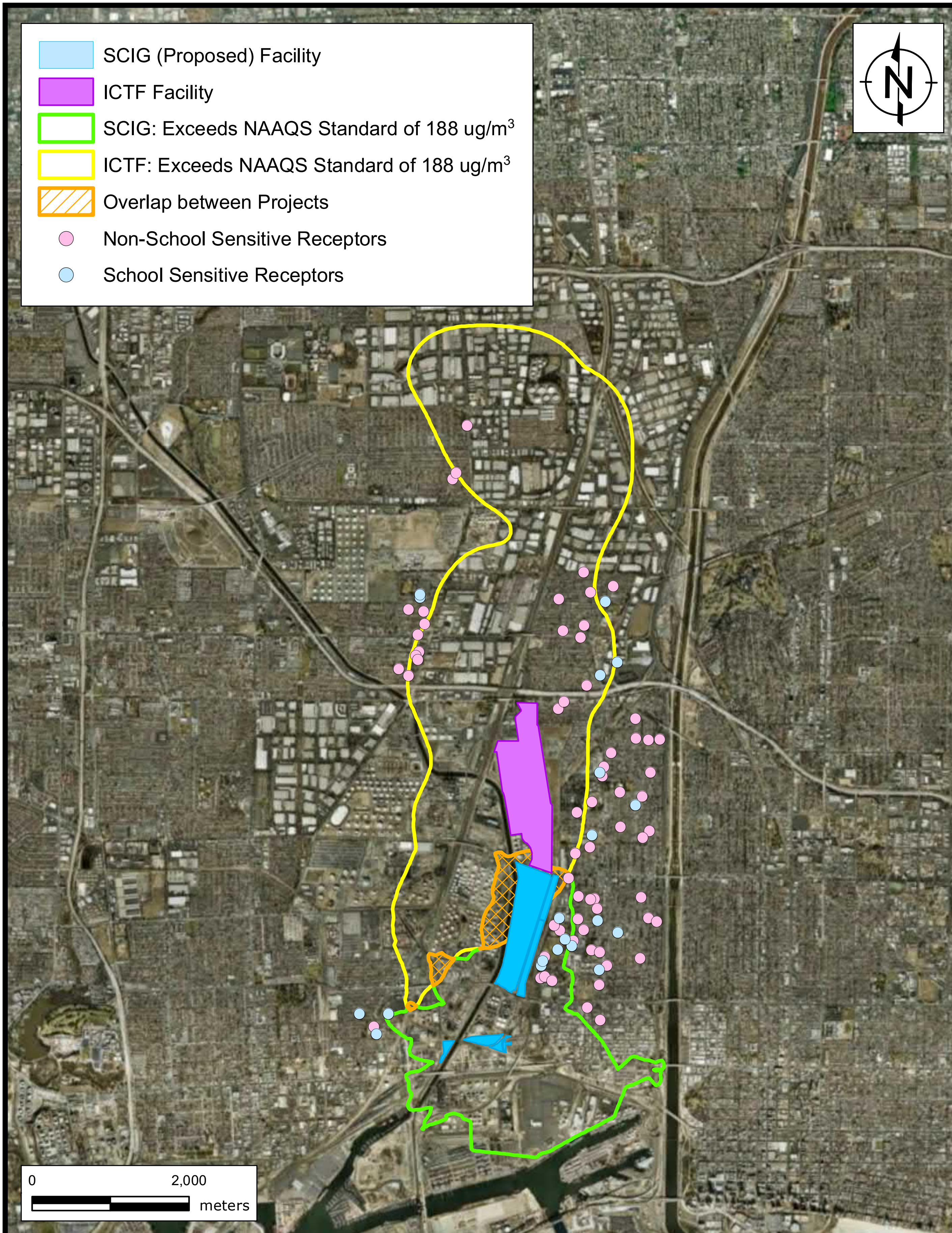


RAMBOLL

Proposed Project 2016 1-Hour NO_2 Federal Criteria
Combined Cumulative Analysis
Port of Los Angeles

FIGURE
B-001

DRAFTED BY: KAR/DCW | DATE: 6/19/2020 | 1690011204-003



RAMBOLL

Proposed Project 2020 1-Hour NO_2 Federal Criteria Combined Cumulative Analysis Port of Los Angeles

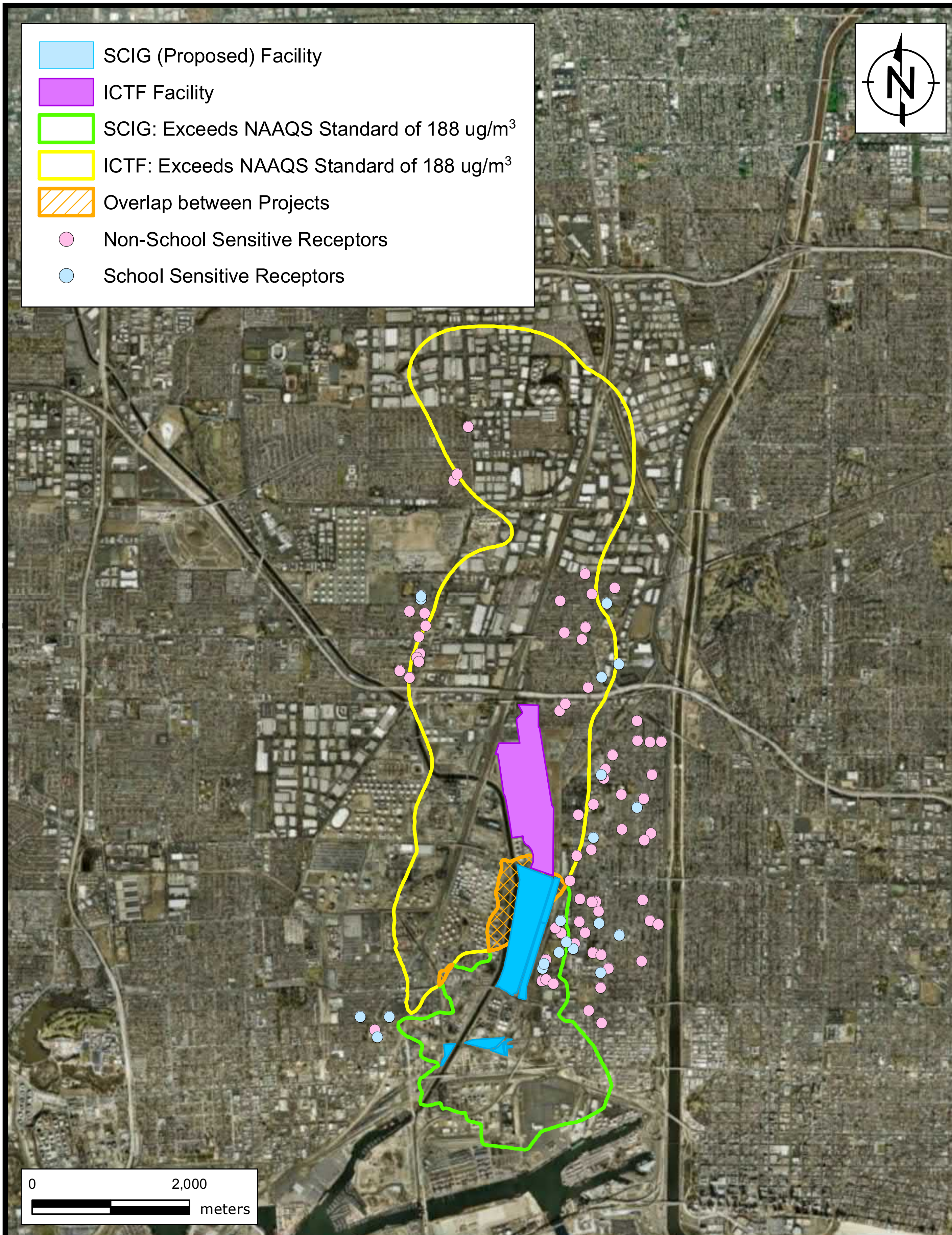
FIGURE

B-002

DRAFTED BY: KAR/DCW

DATE: 6/19/2020

1690011204-003



RAMBOLL

Proposed Project 2023 1-Hour NO_2 Federal Criteria Combined Cumulative Analysis Port of Los Angeles

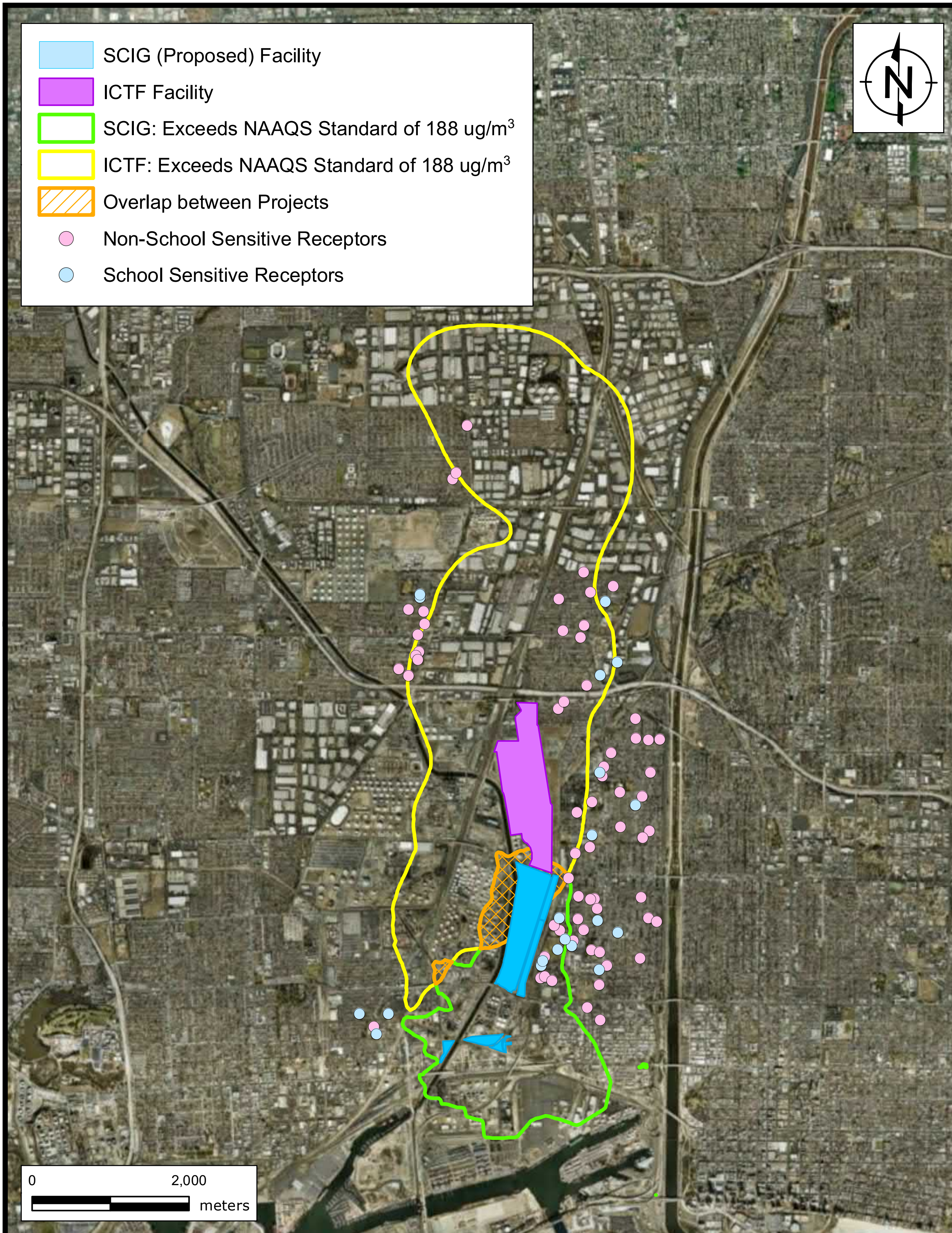
FIGURE

B-003

DRAFTED BY: KAR/DCW

DATE: 6/19/2020

1690011204-003



RAMBOLL

Proposed Project 2030 1-Hour NO_2 Federal Criteria Combined Cumulative Analysis Port of Los Angeles

FIGURE
B-004

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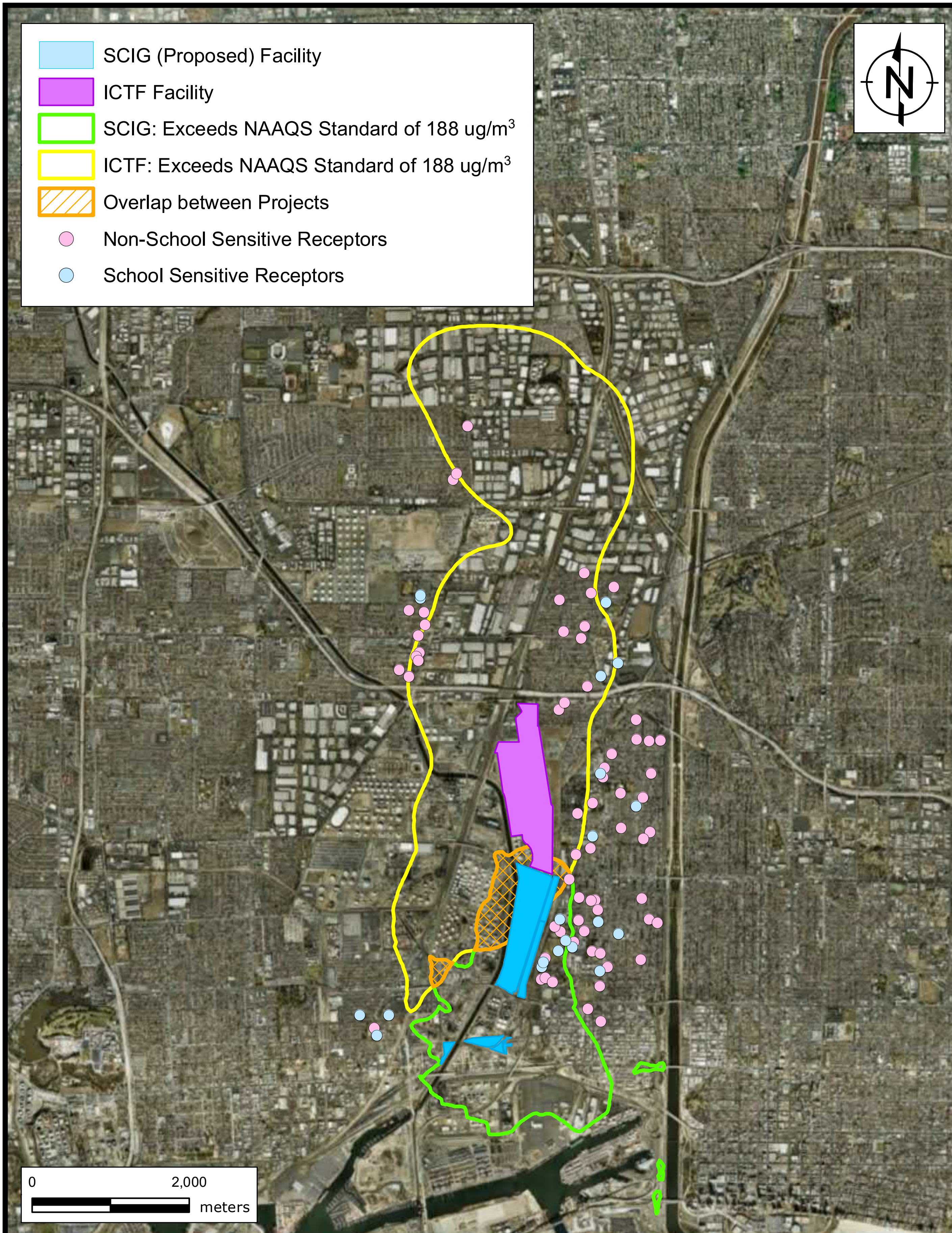

RAMBOLL

Proposed Project 2035 1-Hour NO_2 Federal Criteria Combined Cumulative Analysis Port of Los Angeles

FIGURE **B-005**

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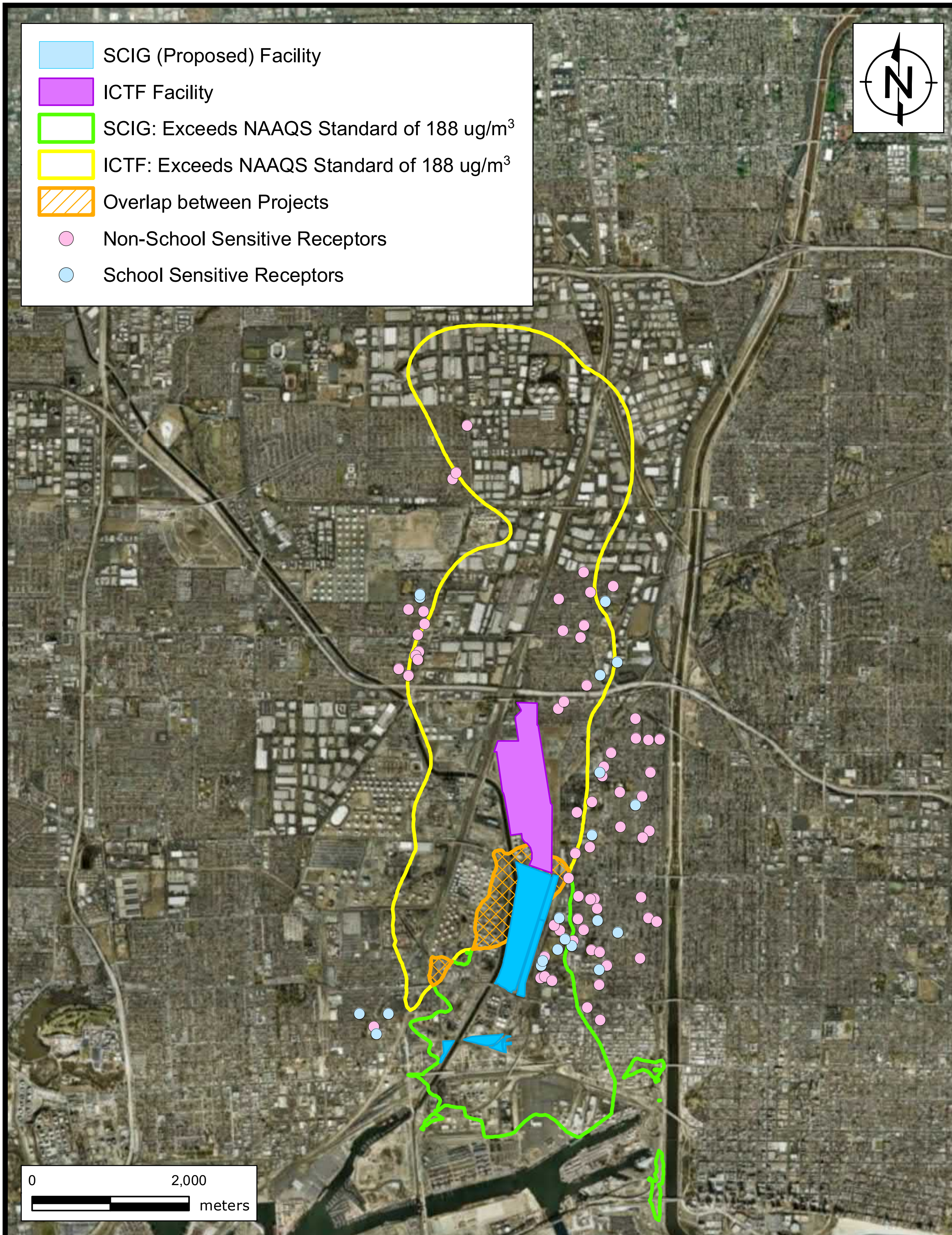

RAMBOLL

Proposed Project 2046 1-Hour NO_2 Federal Criteria Combined Cumulative Analysis Port of Los Angeles

FIGURE **B-006**

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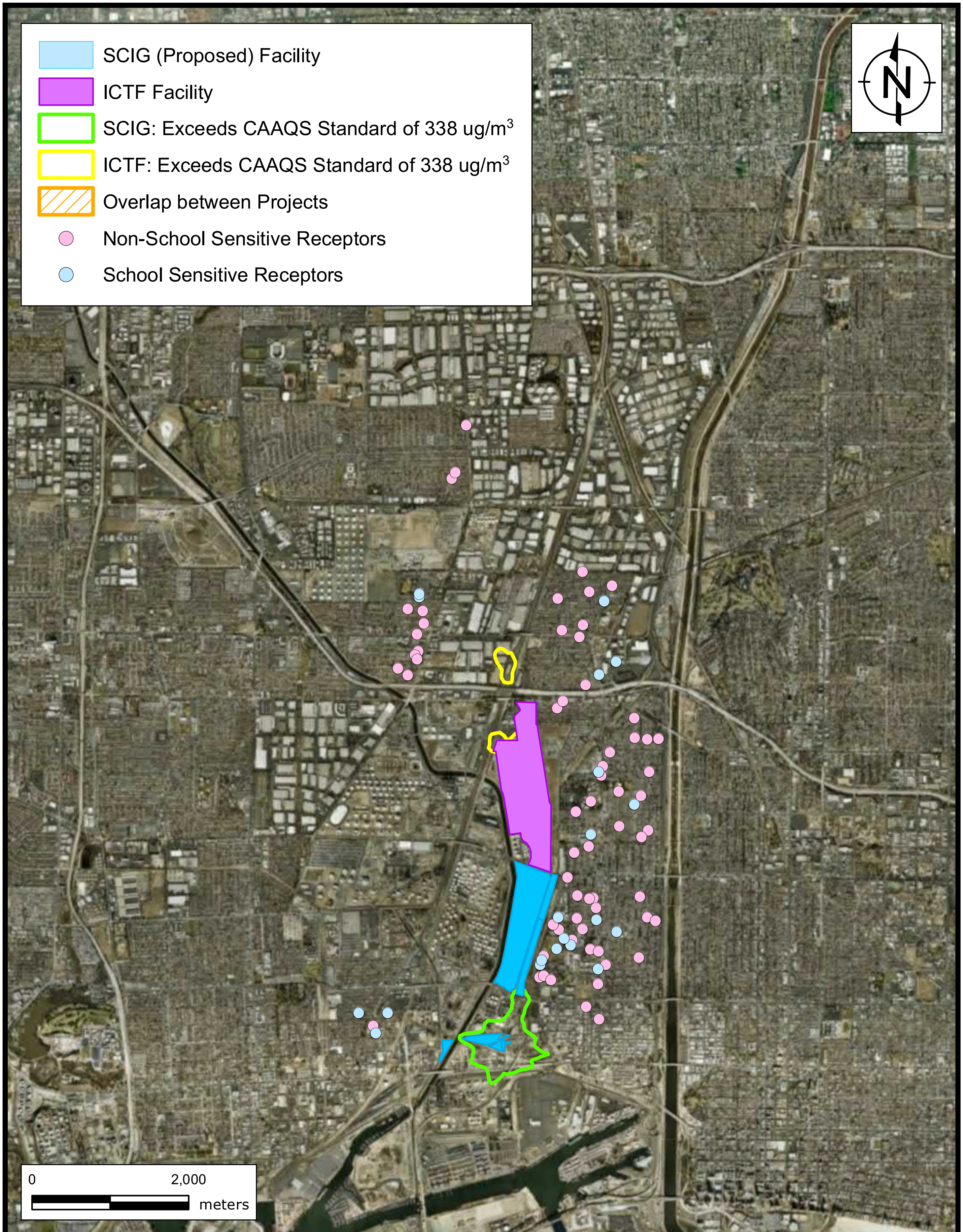

RAMBOLL

Proposed Project 2016 1-Hour NO_2 State Criteria Combined Cumulative Analysis Port of Los Angeles

FIGURE **B-007**

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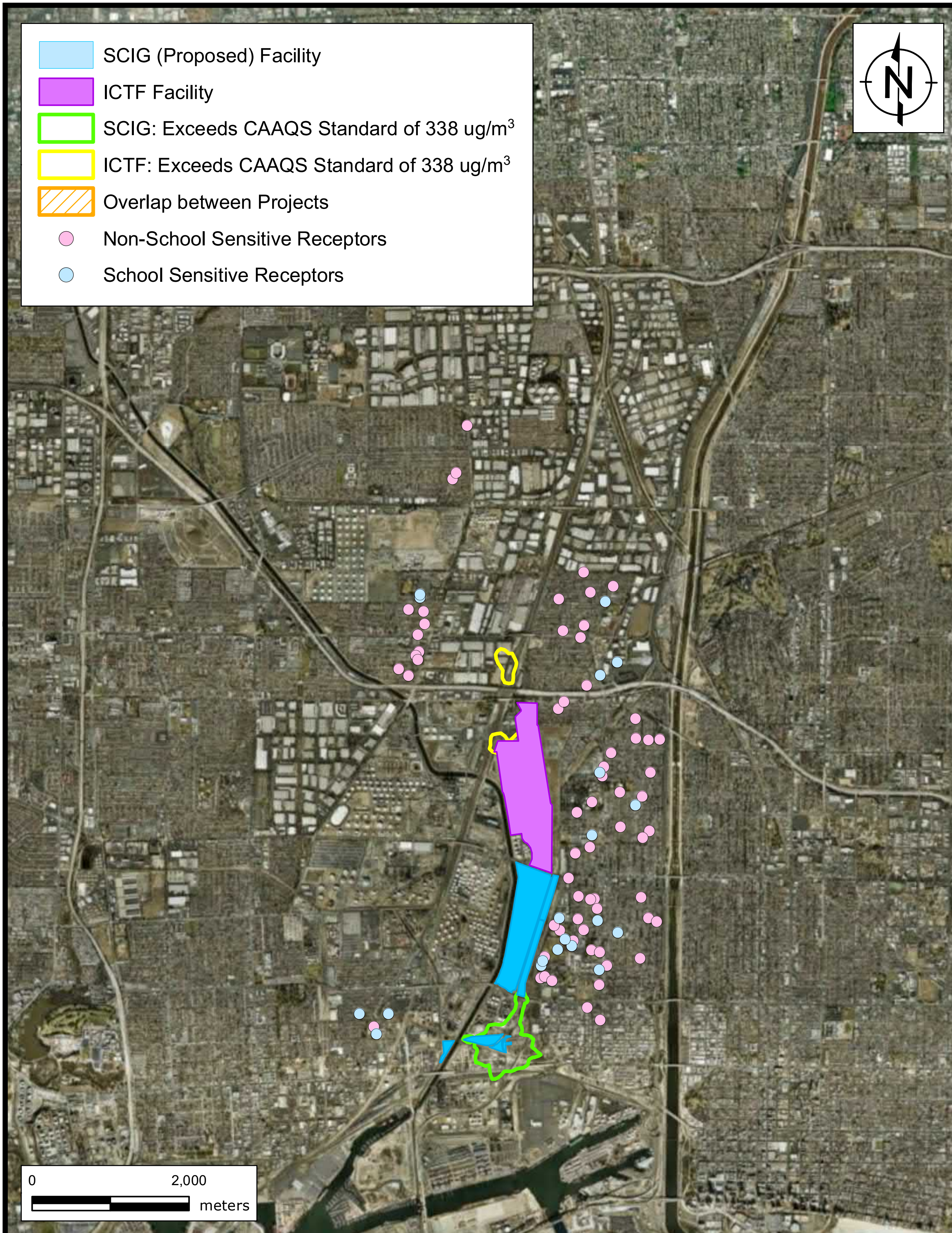

RAMBOLL

Proposed Project 2020 1-Hour NO_2 State Criteria
Combined Cumulative Analysis
Port of Los Angeles

FIGURE
B-008

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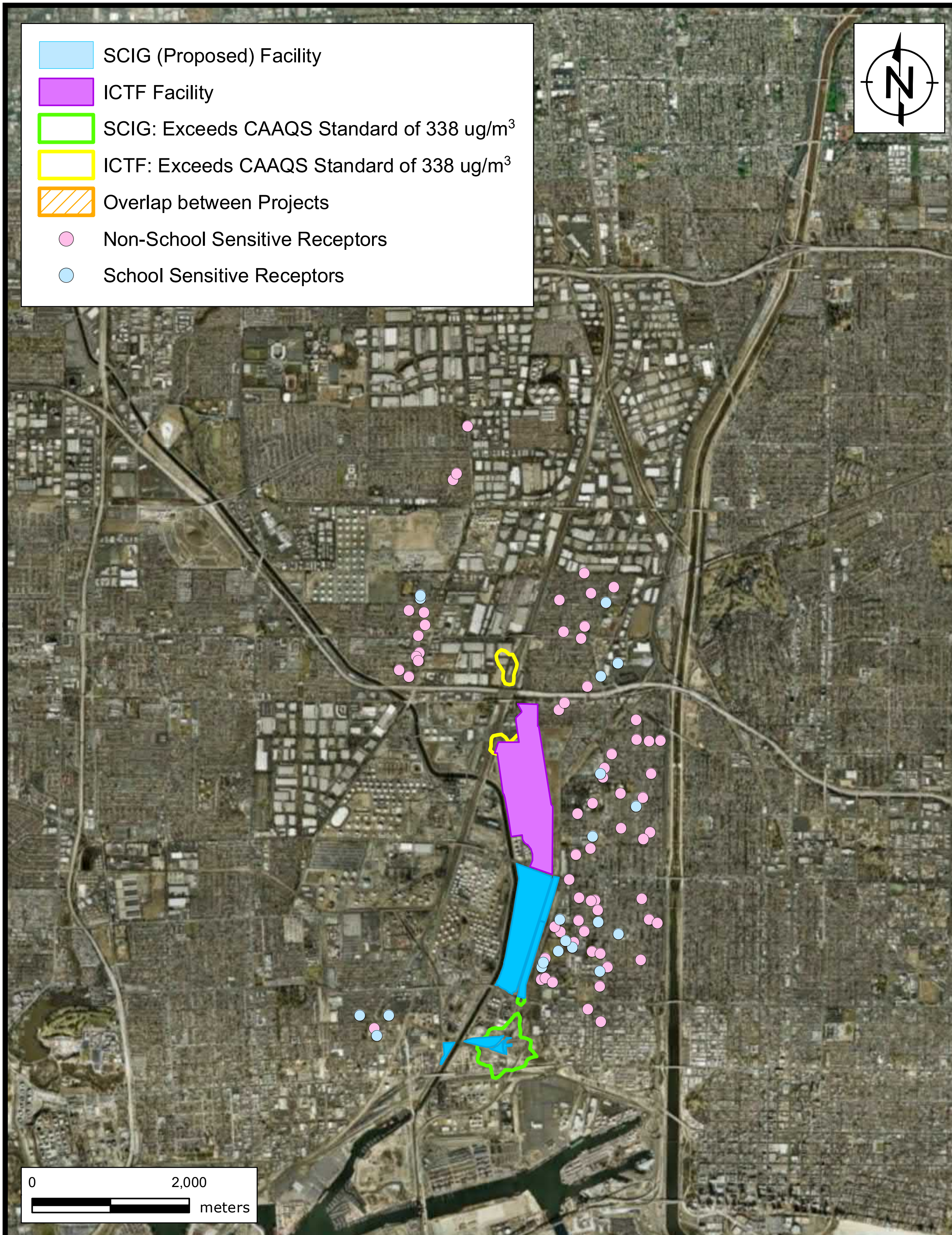

RAMBOLL

Proposed Project 2023 1-Hour NO_2 State Criteria
Combined Cumulative Analysis
Port of Los Angeles

FIGURE
B-009

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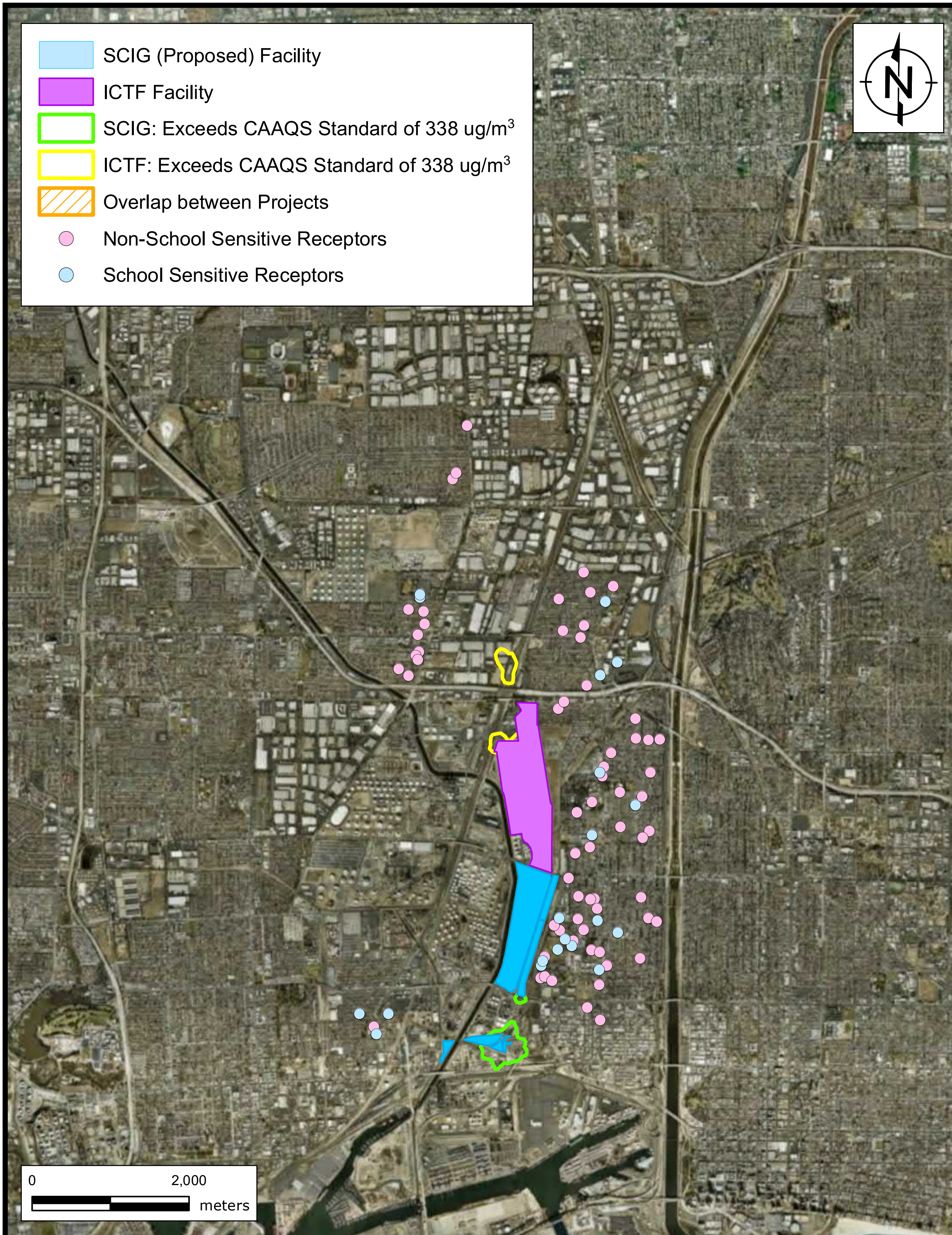
1690011204-003



RAMBOLL

Proposed Project 2030 1-Hour NO_2 State Criteria Combined Cumulative Analysis Port of Los Angeles

FIGURE
B-010

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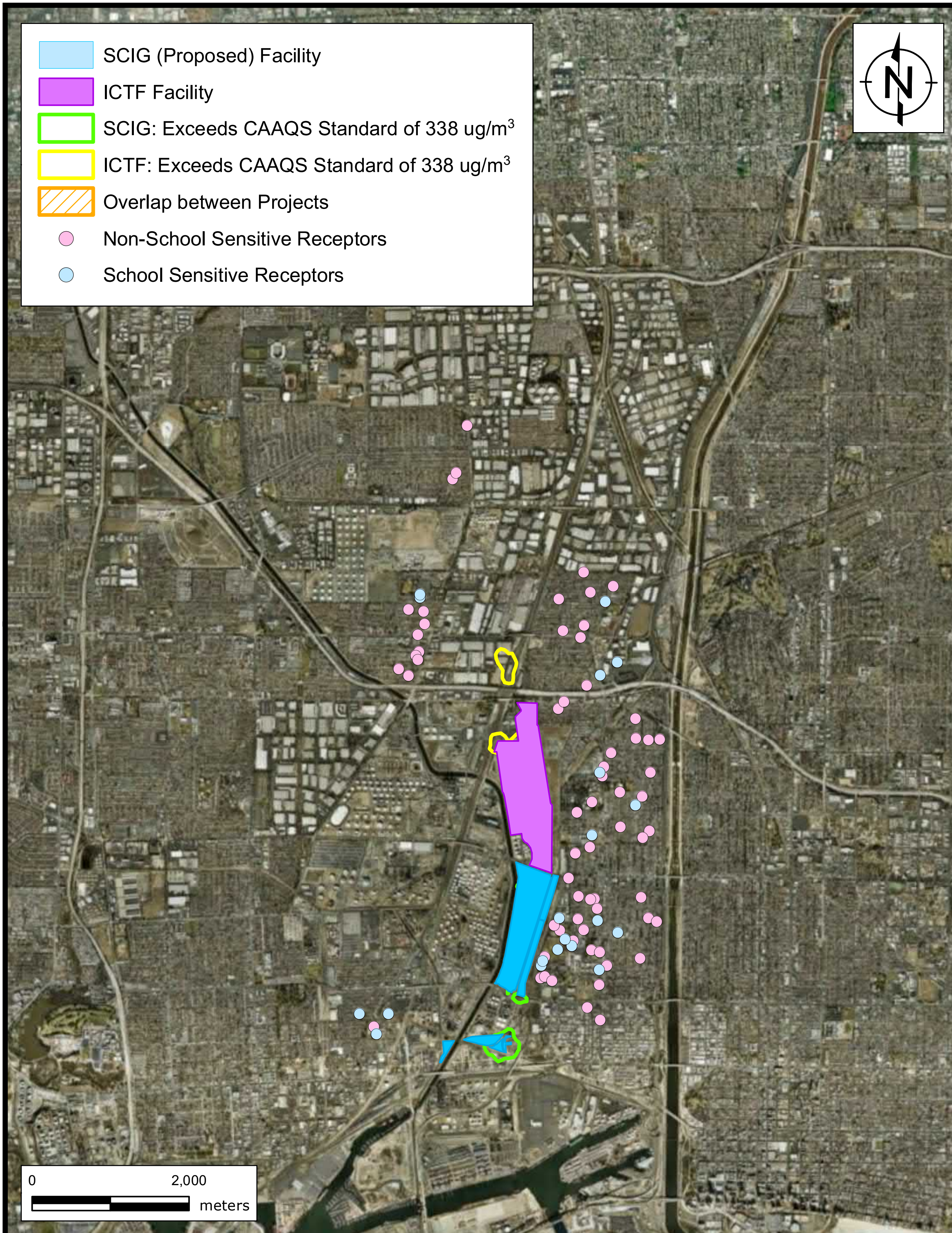
DATE: 6/19/2020

1690011204-003

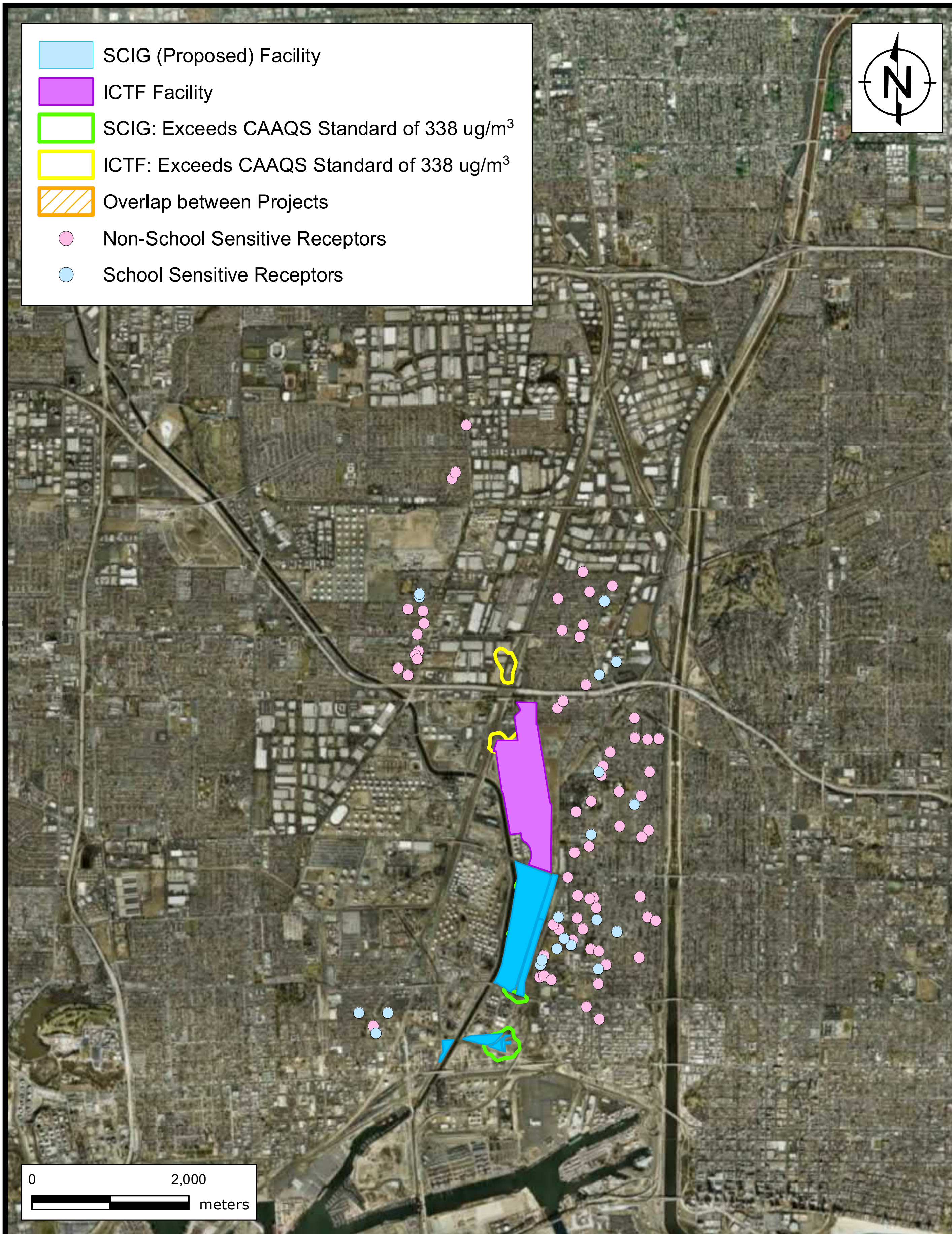


RAMBOLL

Proposed Project 2035 1-Hour NO_2 State Criteria
Combined Cumulative Analysis
Port of Los Angeles

FIGURE
B-011

DRAFTED BY: KAR/DCW | DATE: 6/19/2020 | 1690011204-003



RAMBOLL

Proposed Project 2046 1-Hour NO_2 State Criteria Combined Cumulative Analysis Port of Los Angeles

FIGURE **B-012**

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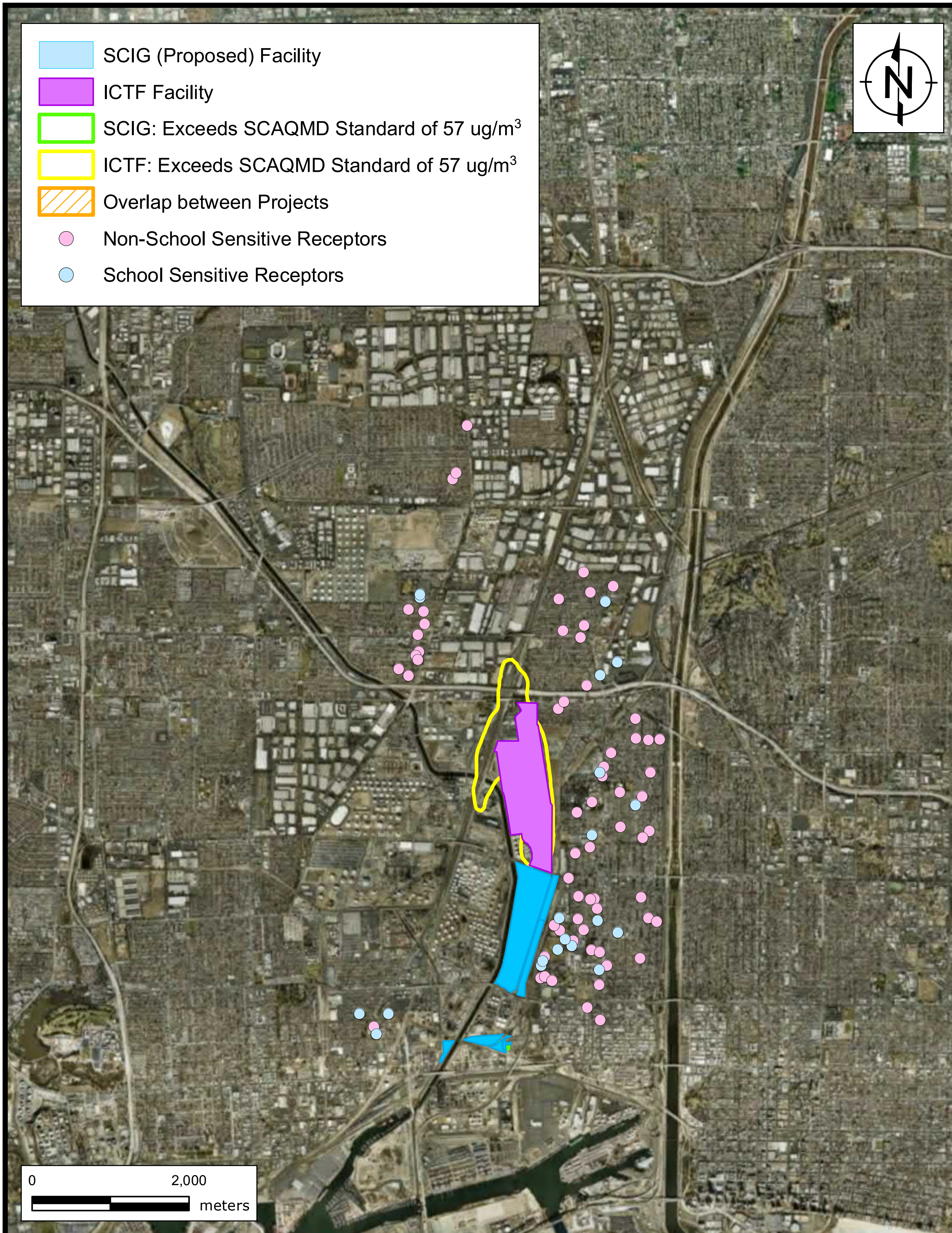
DATE: 6/19/2020

1690011204-003



RAMBOLL

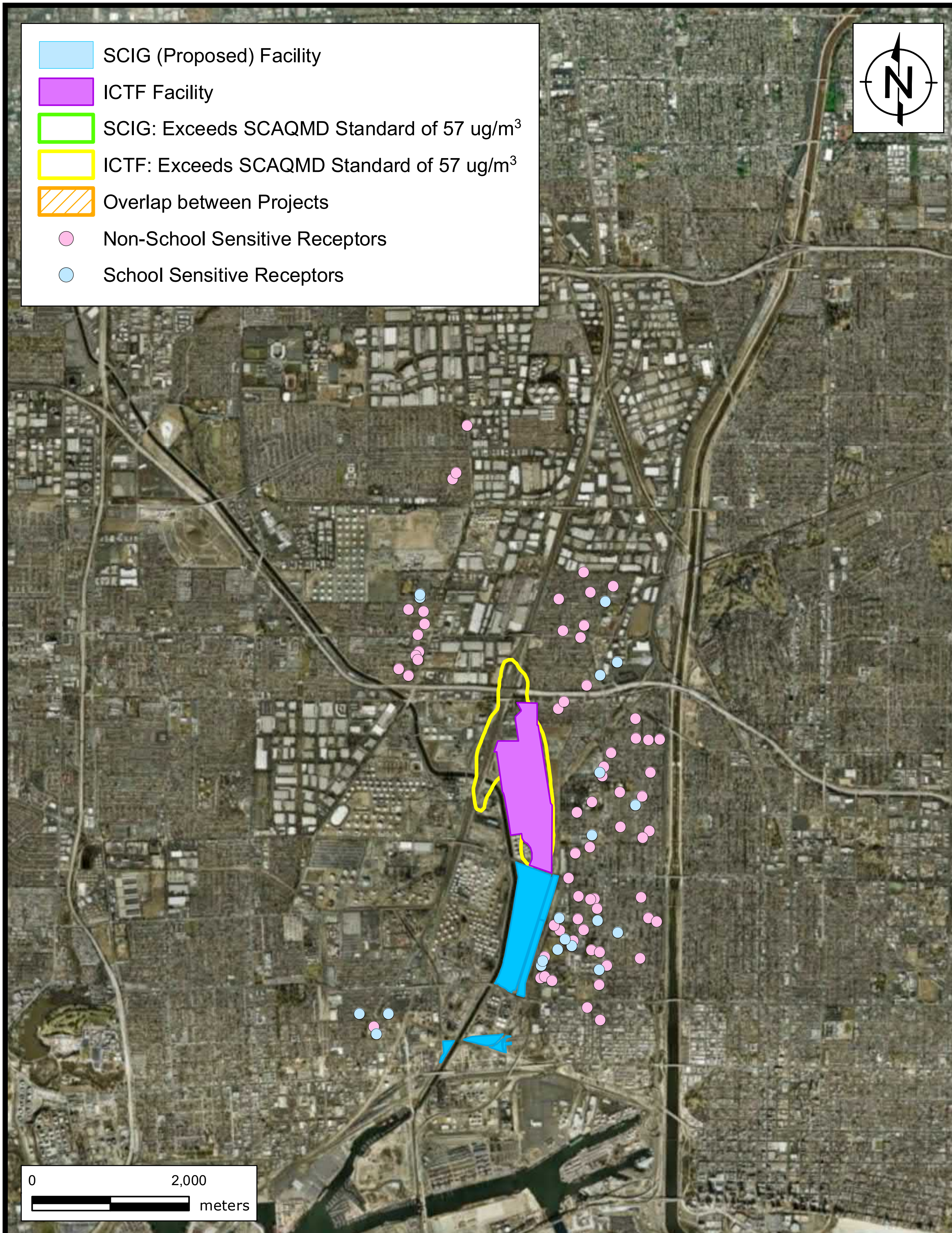
Proposed Project 2016 Annual NO_2
Combined Cumulative Analysis
Port of Los Angeles

FIGURE
B-013

DRAFTED BY: KAR/DCW

DATE: 6/19/2020

1690011204-003



RAMBOLL

Proposed Project 2020 Annual NO_2 Combined Cumulative Analysis Port of Los Angeles

FIGURE

B-014

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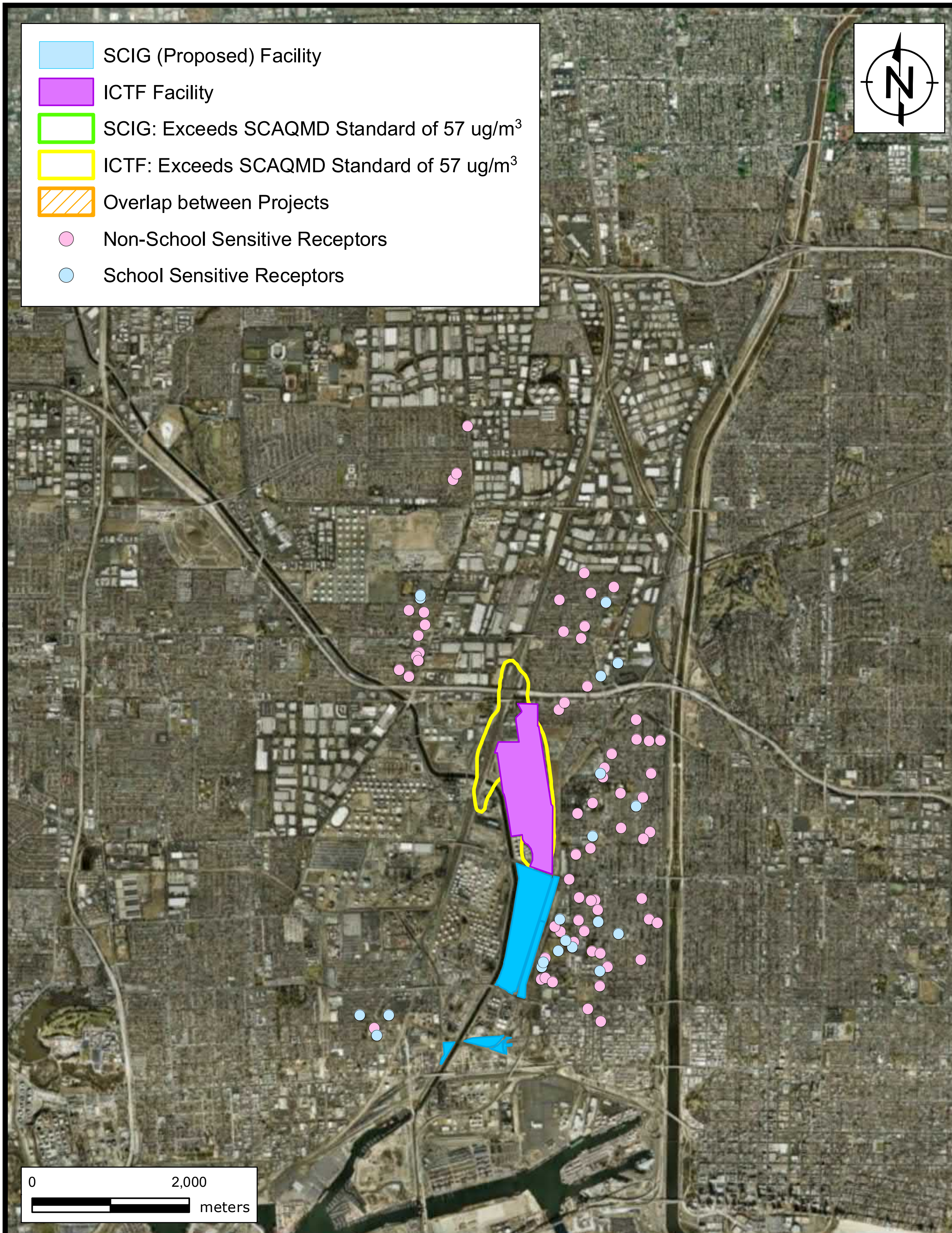
DATE: 6/19/2020

1690011204-003

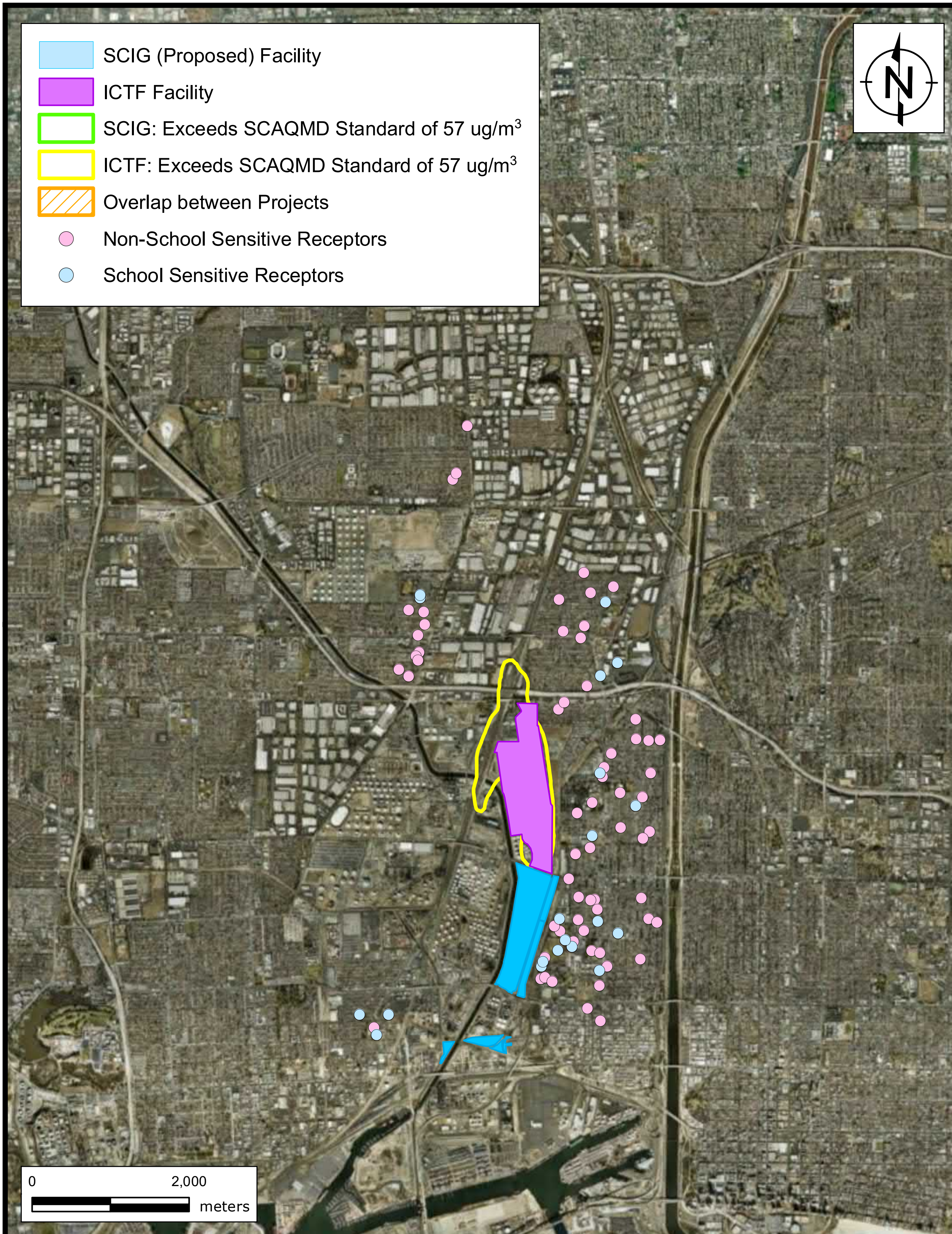


RAMBOLL

Proposed Project 2023 Annual NO_2 Combined Cumulative Analysis Port of Los Angeles

FIGURE
B-015

DRAFTED BY: KAR/DCW | DATE: 6/19/2020 | 1690011204-003



RAMBOLL

Proposed Project 2030 Annual NO_2 Combined Cumulative Analysis Port of Los Angeles

FIGURE
B-016

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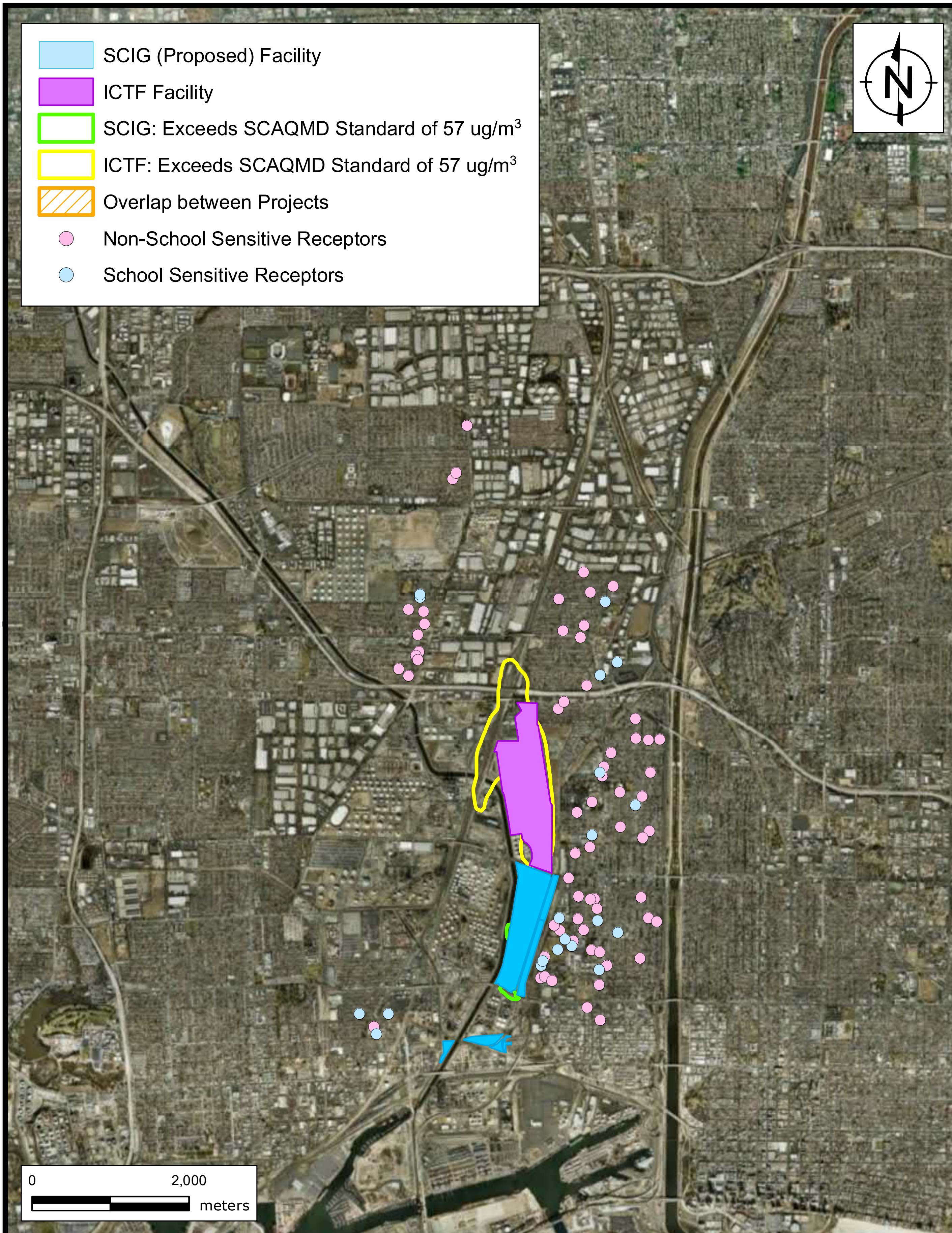

RAMBOLL

Proposed Project 2035 Annual NO_2
Combined Cumulative Analysis
Port of Los Angeles

FIGURE
B-017

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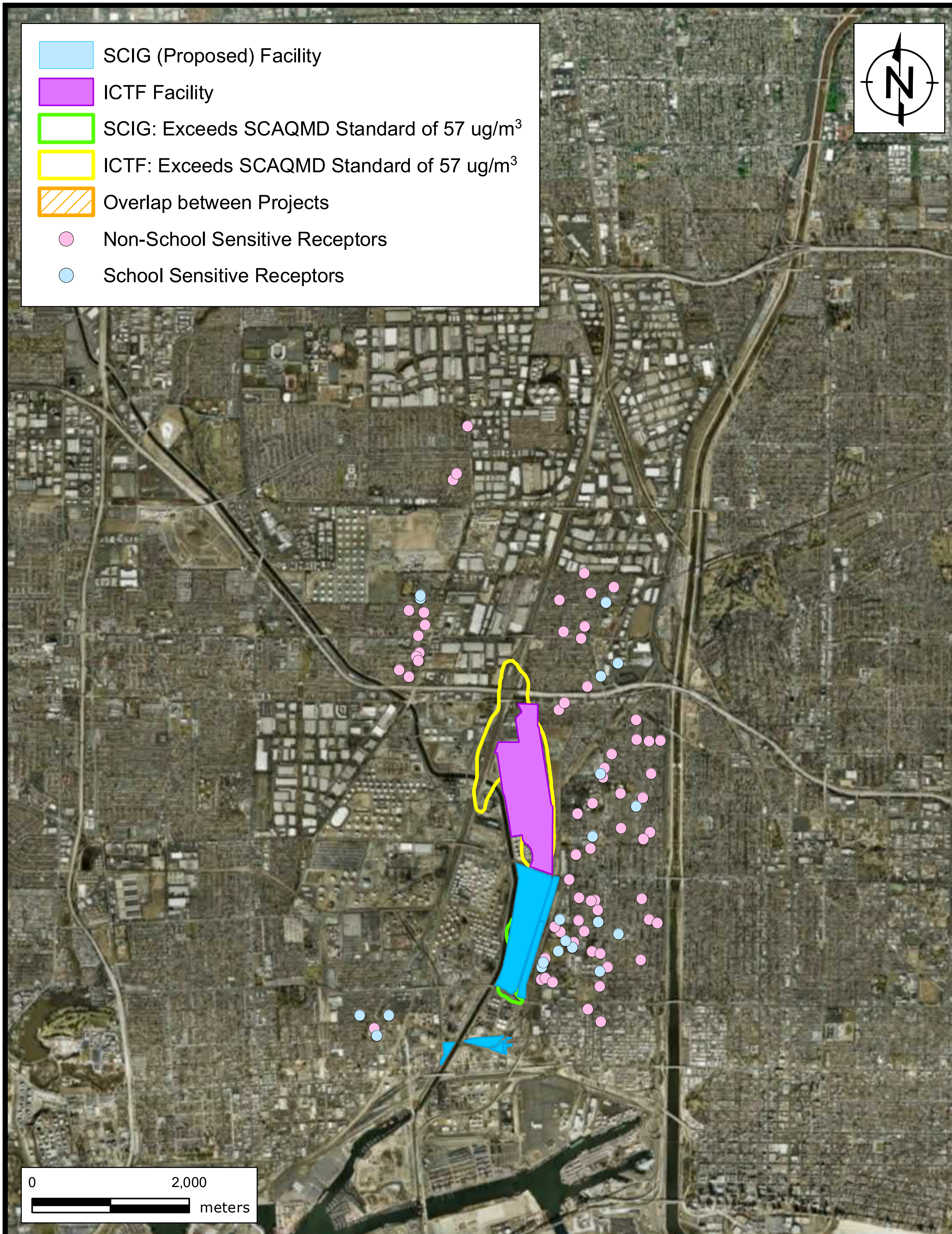


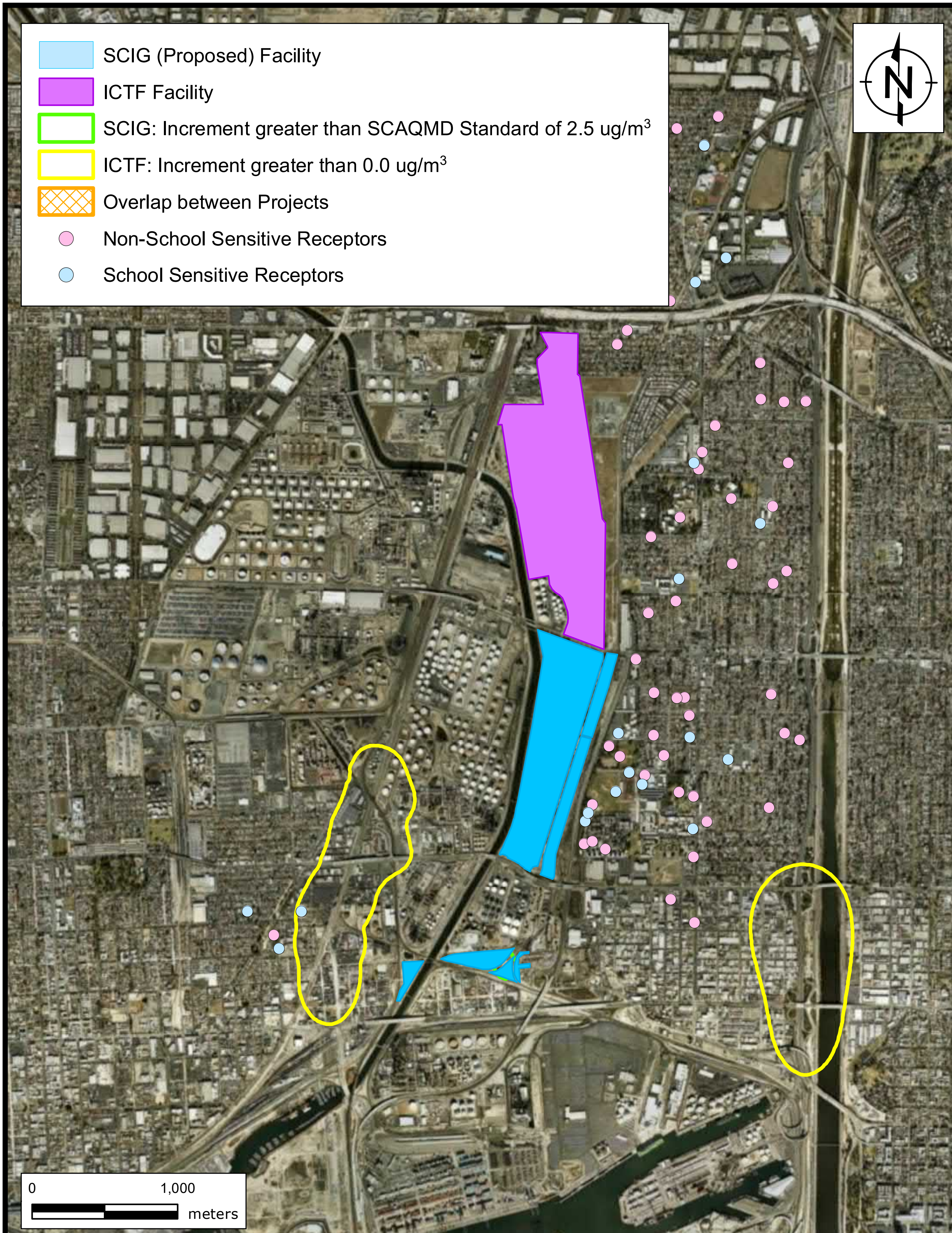
Proposed Project 2046 Annual NO_2
Combined Cumulative Analysis
Port of Los Angeles

FIGURE
B-018

DRAFTED BY: KAR/DCW

DATE: 6/19/2020

1690011204-003



RAMBOLL

2016 Proposed Project 24-Hour PM_{10} Combined Cumulative Analysis Port of Los Angeles

FIGURE **B-019**

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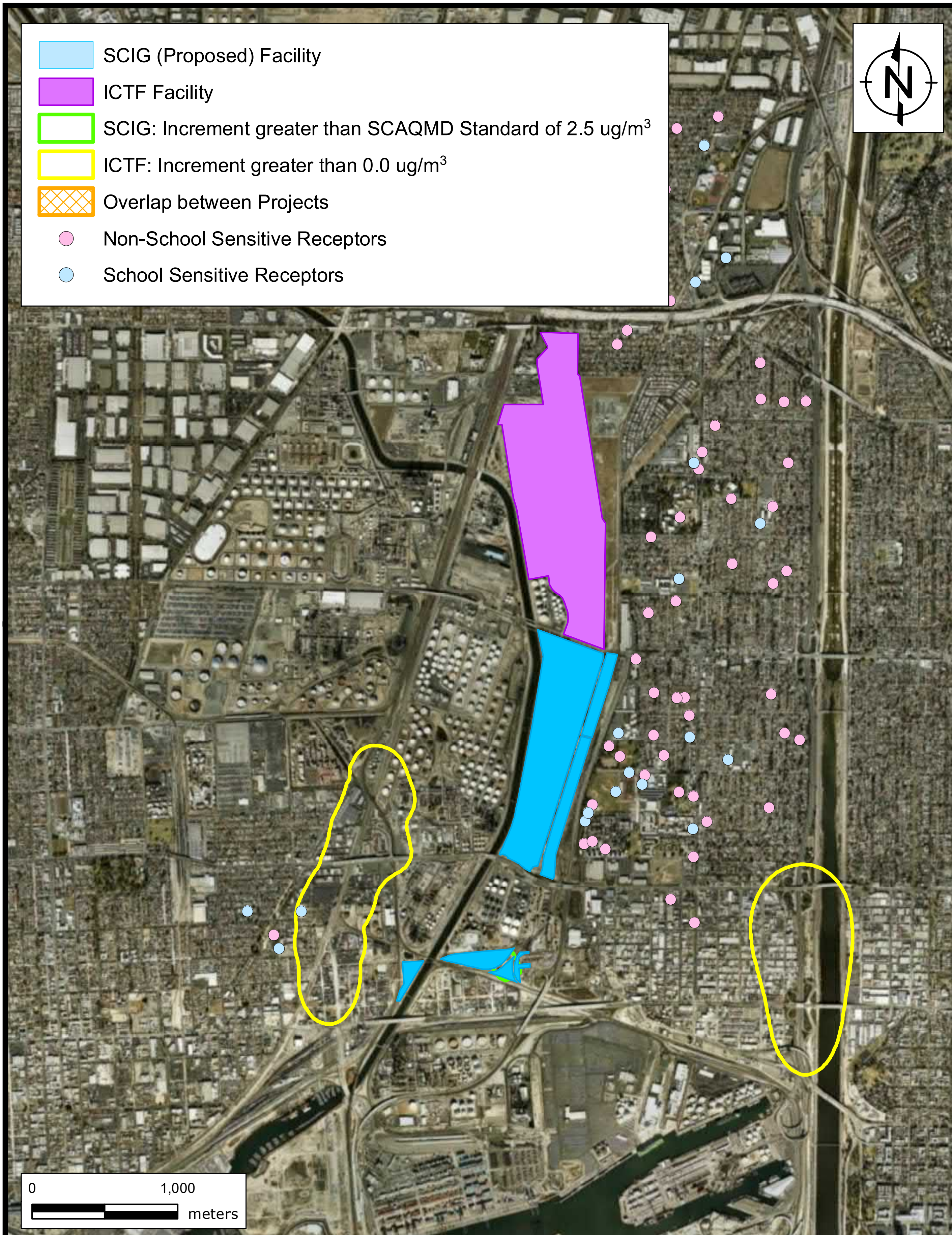
DATE: 6/19/2020

1690011204-003



RAMBOLL

2020 Proposed Project 24-Hour PM_{10}
Combined Cumulative Analysis
Port of Los Angeles

FIGURE
B-020

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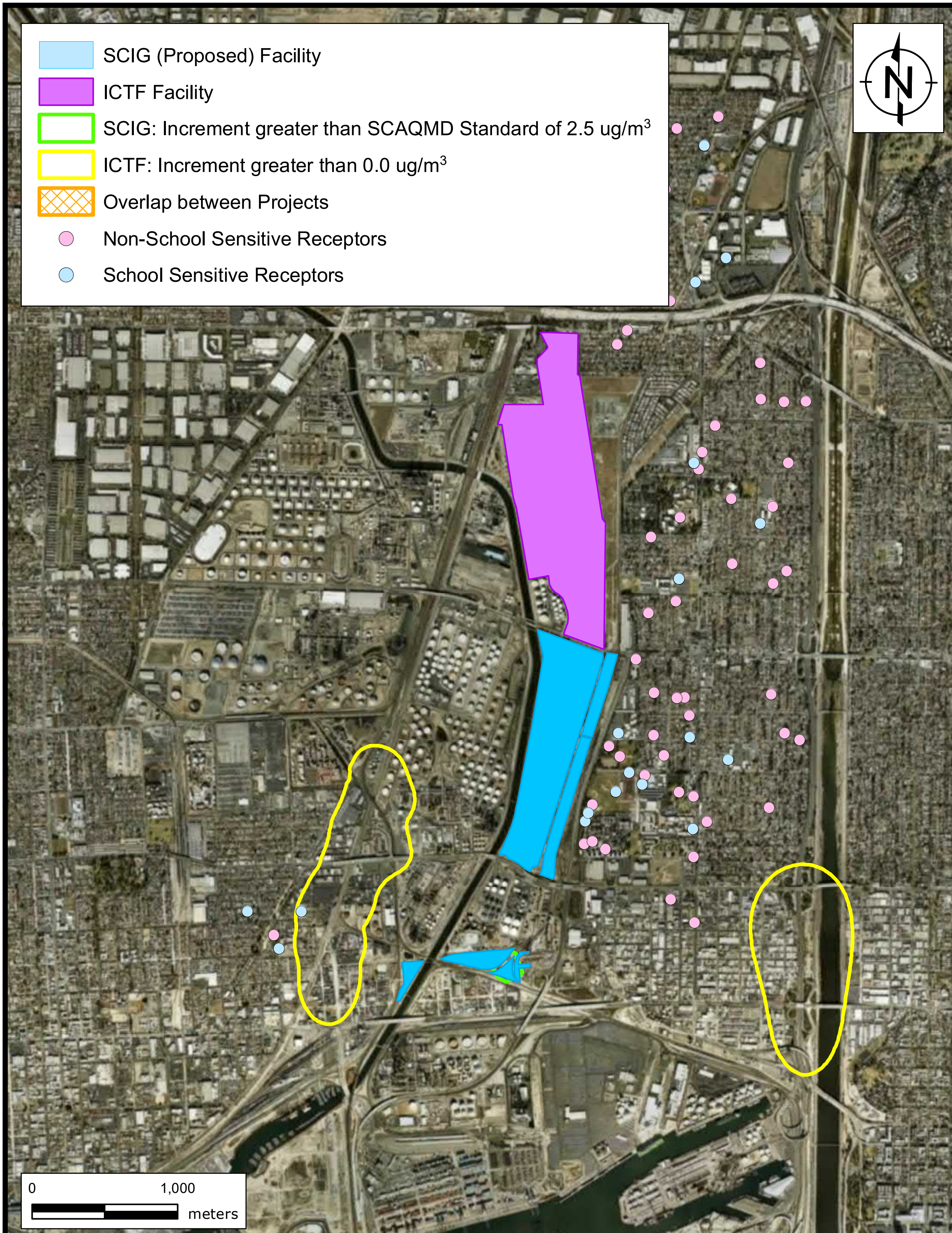
DATE: 6/19/2020

1690011204-003



RAMBOLL

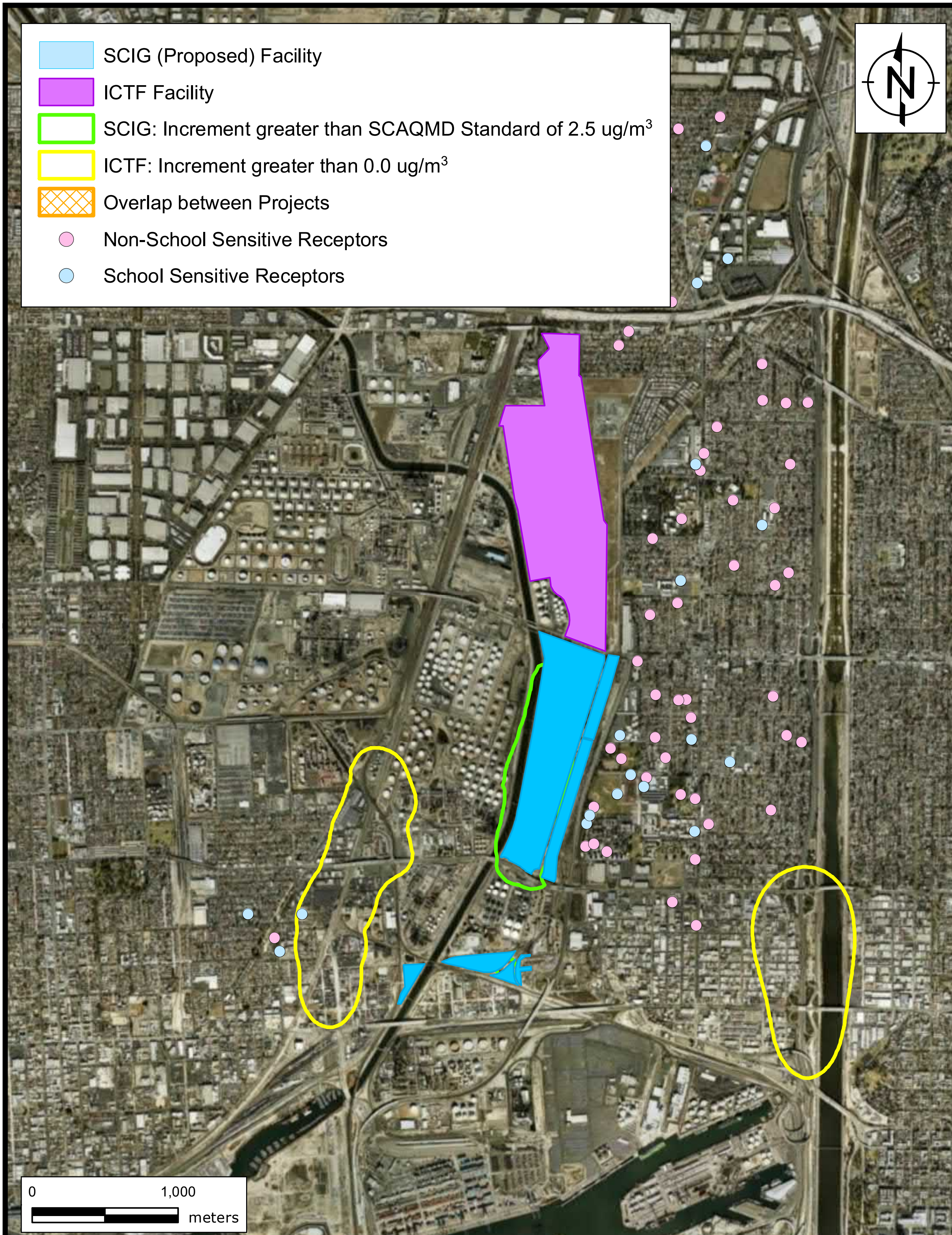
2023 Proposed Project 24-Hour PM_{10} Combined Cumulative Analysis Port of Los Angeles

FIGURE **B-021**

DRAFTED BY: KAR/DCW

DATE: 6/19/2020

1690011204-003



RAMBOLL

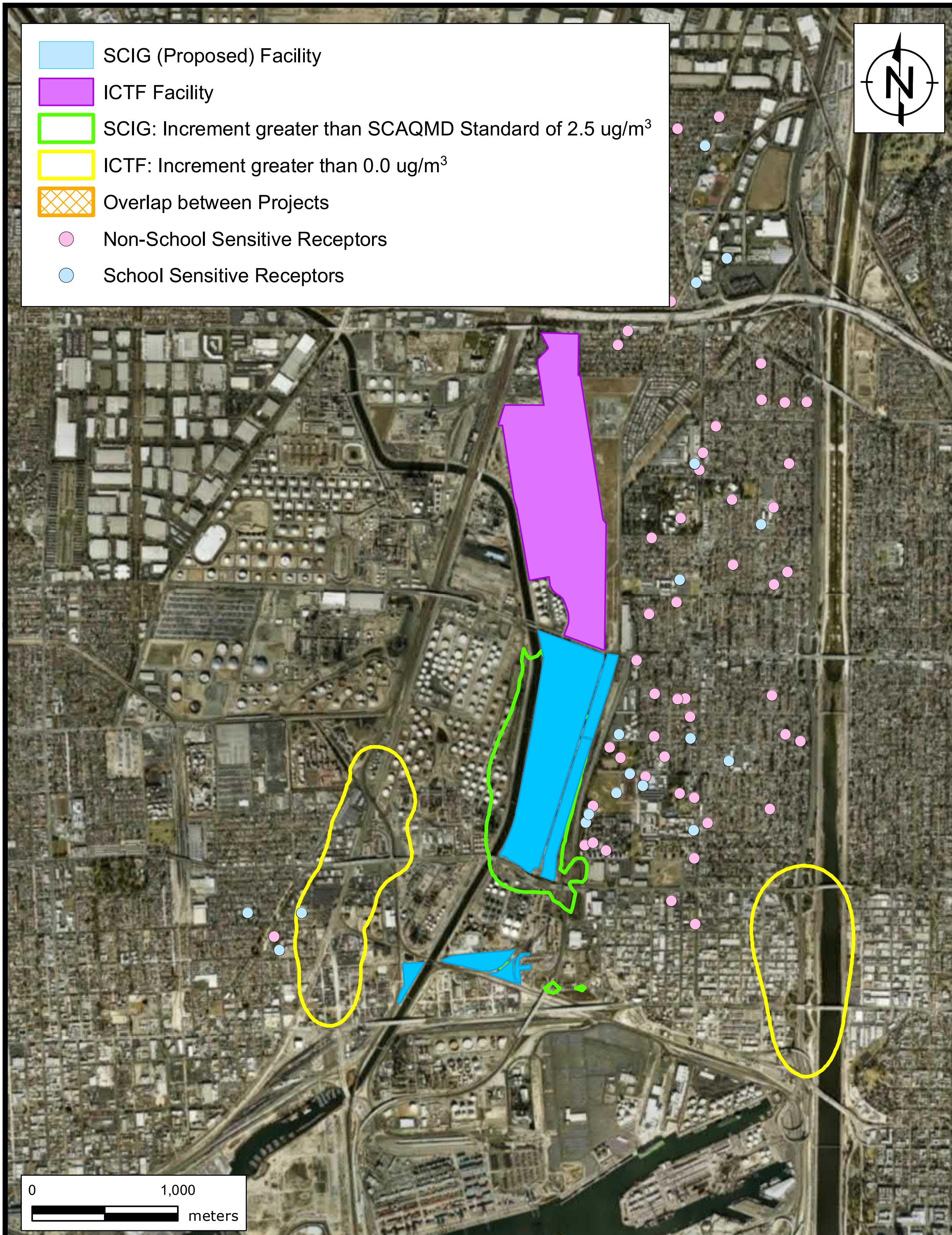
2030 Proposed Project 24-Hour PM_{10}
Combined Cumulative Analysis
Port of Los Angeles

FIGURE
B-022

DRAFTED BY: KAR/DCW

DATE: 6/19/2020

1690011204-003



RAMBOLL

2035 Proposed Project 24-Hour PM_{10} Combined Cumulative Analysis Port of Los Angeles

FIGURE **B-023**

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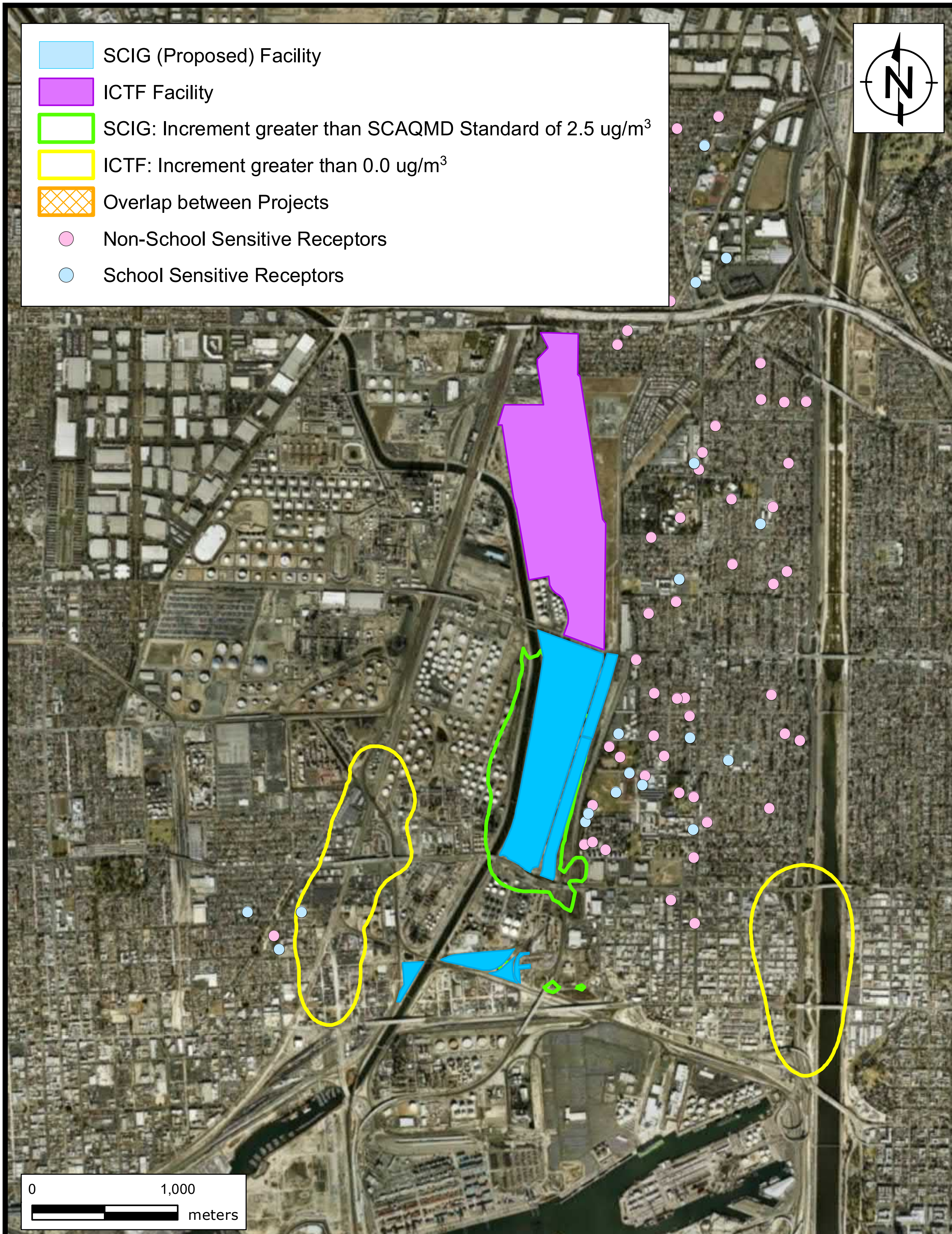

RAMBOLL

2046 Proposed Project 24-Hour PM_{10}
Combined Cumulative Analysis
Port of Los Angeles

FIGURE
B-024

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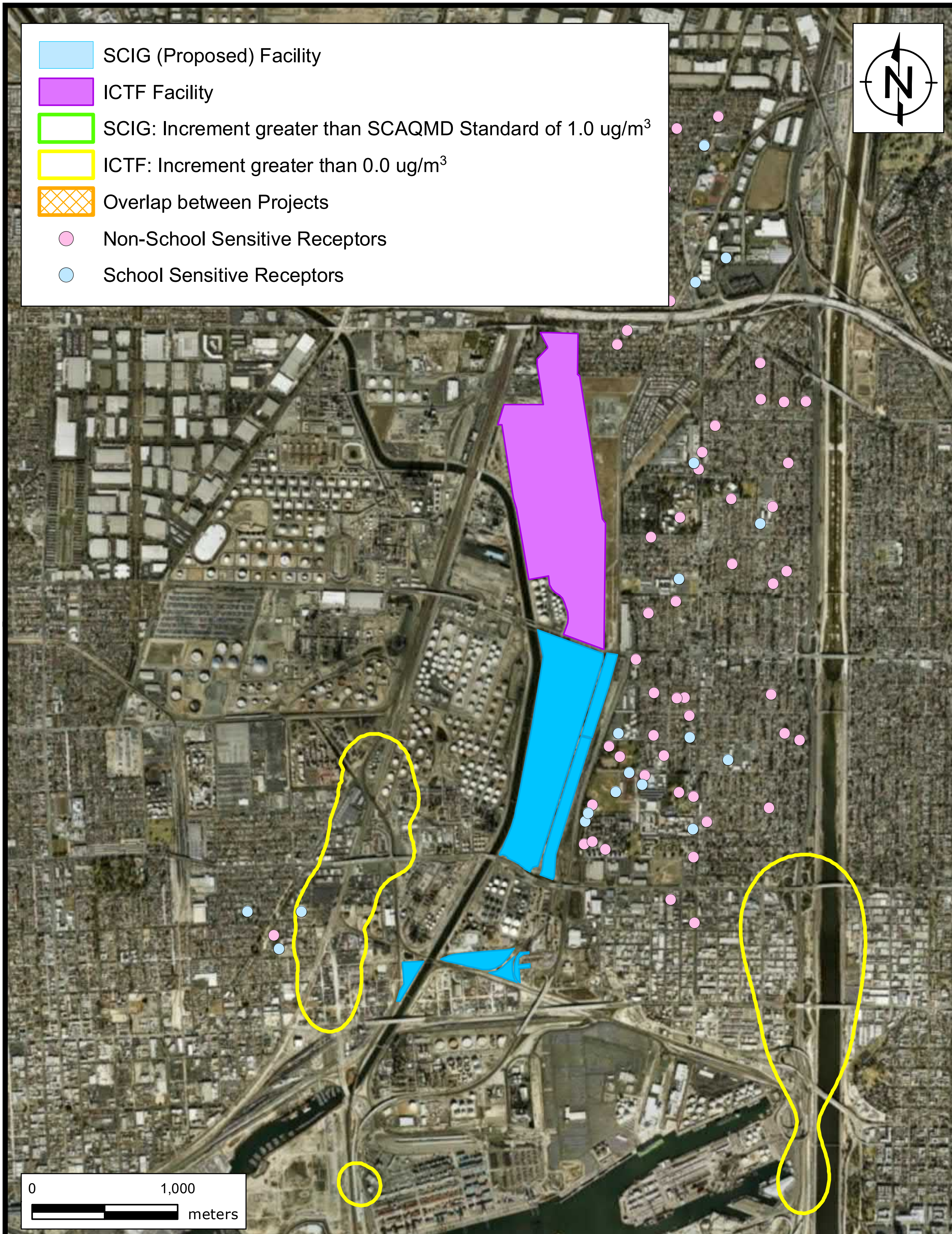
DATE: 6/19/2020
1690011204-003



RAMBOLL

2016 Proposed Project Annual PM_{10} Combined Cumulative Analysis Port of Los Angeles

FIGURE **B-025**

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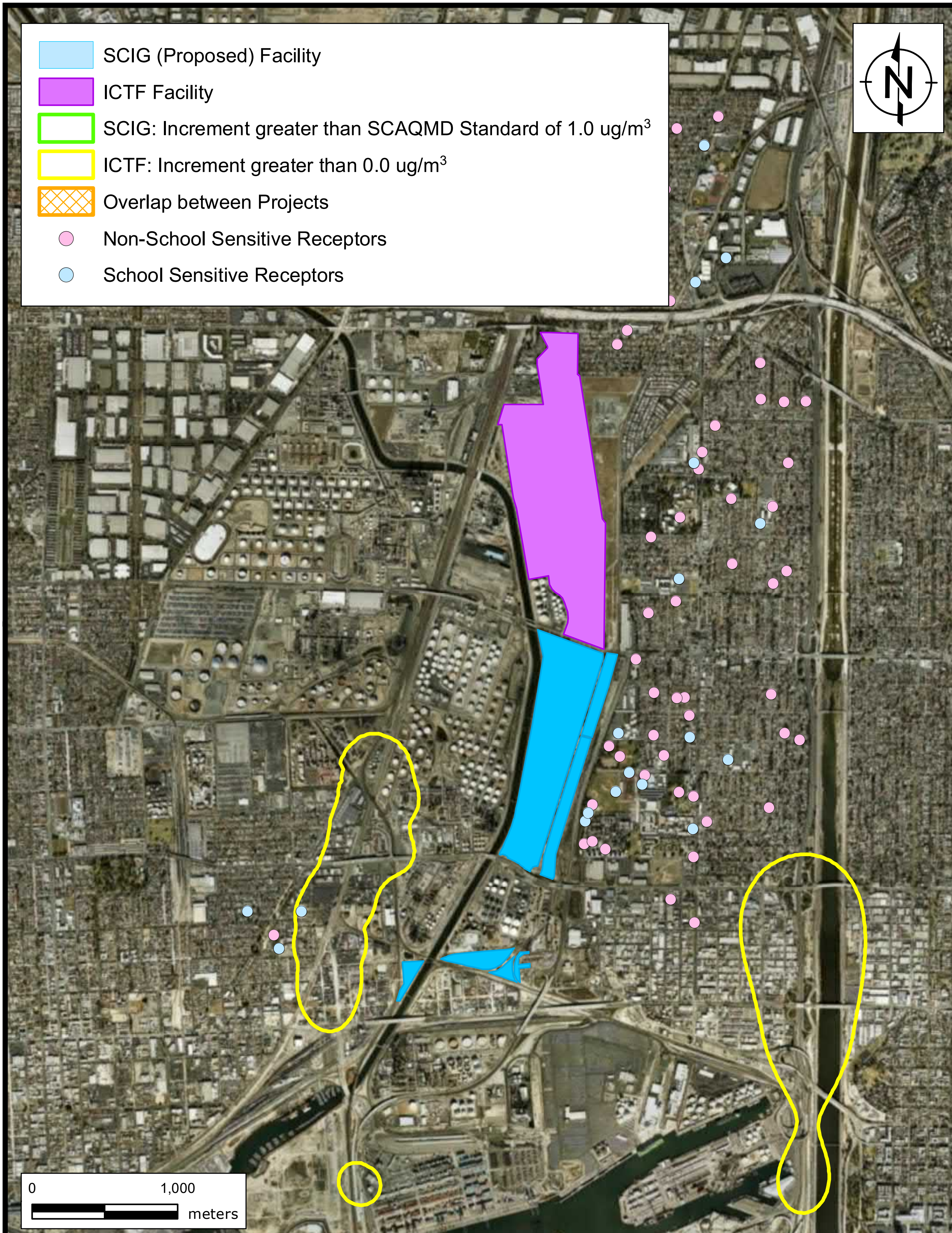
DATE: 6/19/2020

1690011204-003



RAMBOLL

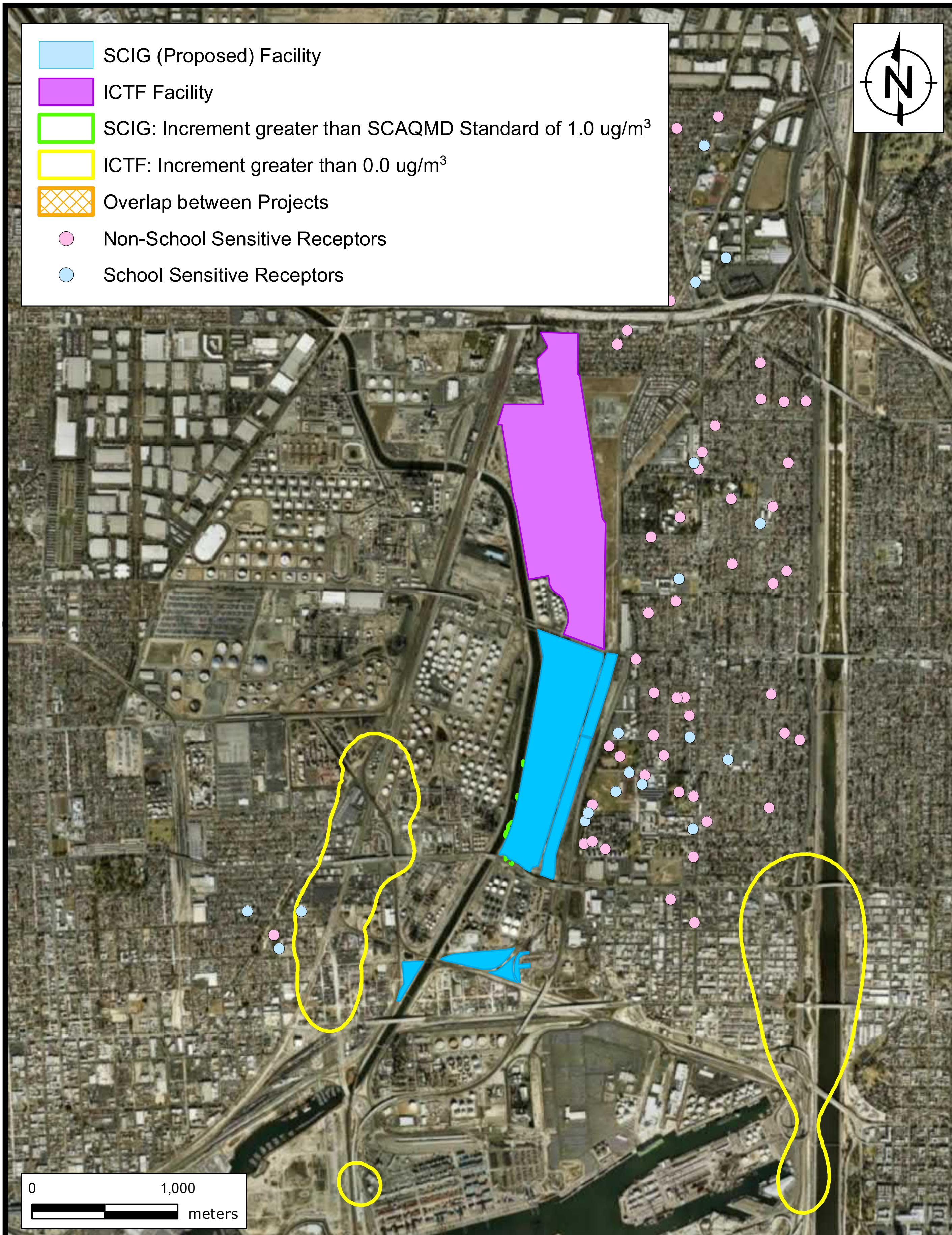
2020 Proposed Project Annual PM_{10} Combined Cumulative Analysis Port of Los Angeles

FIGURE **B-026**

DRAFTED BY: KAR/DCW

DATE: 6/19/2020

1690011204-003

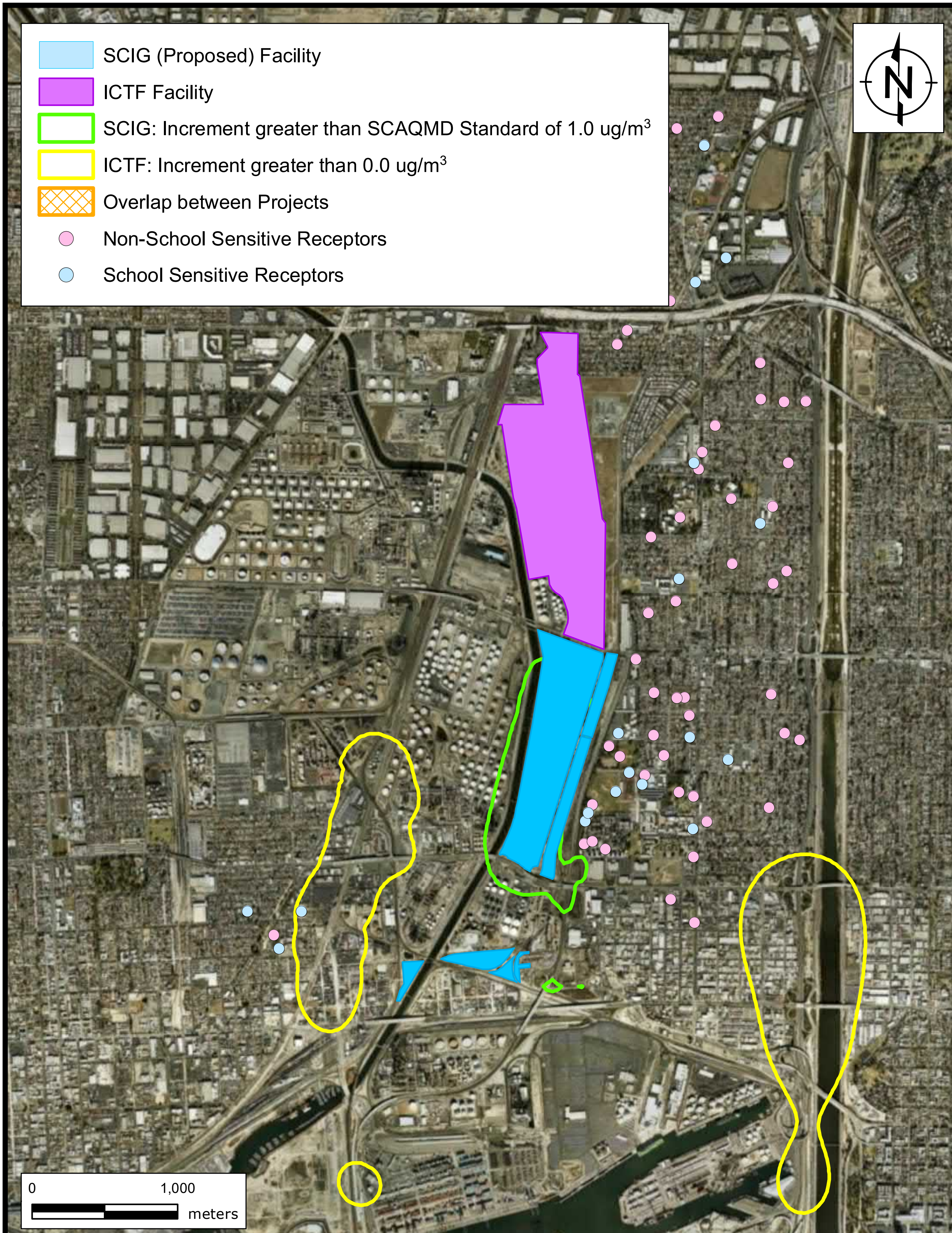


RAMBOLL

2023 Proposed Project Annual PM_{10}
Combined Cumulative Analysis
Port of Los Angeles

FIGURE
B-027

DRAFTED BY: KAR/DCW | DATE: 6/19/2020 | 1690011204-003



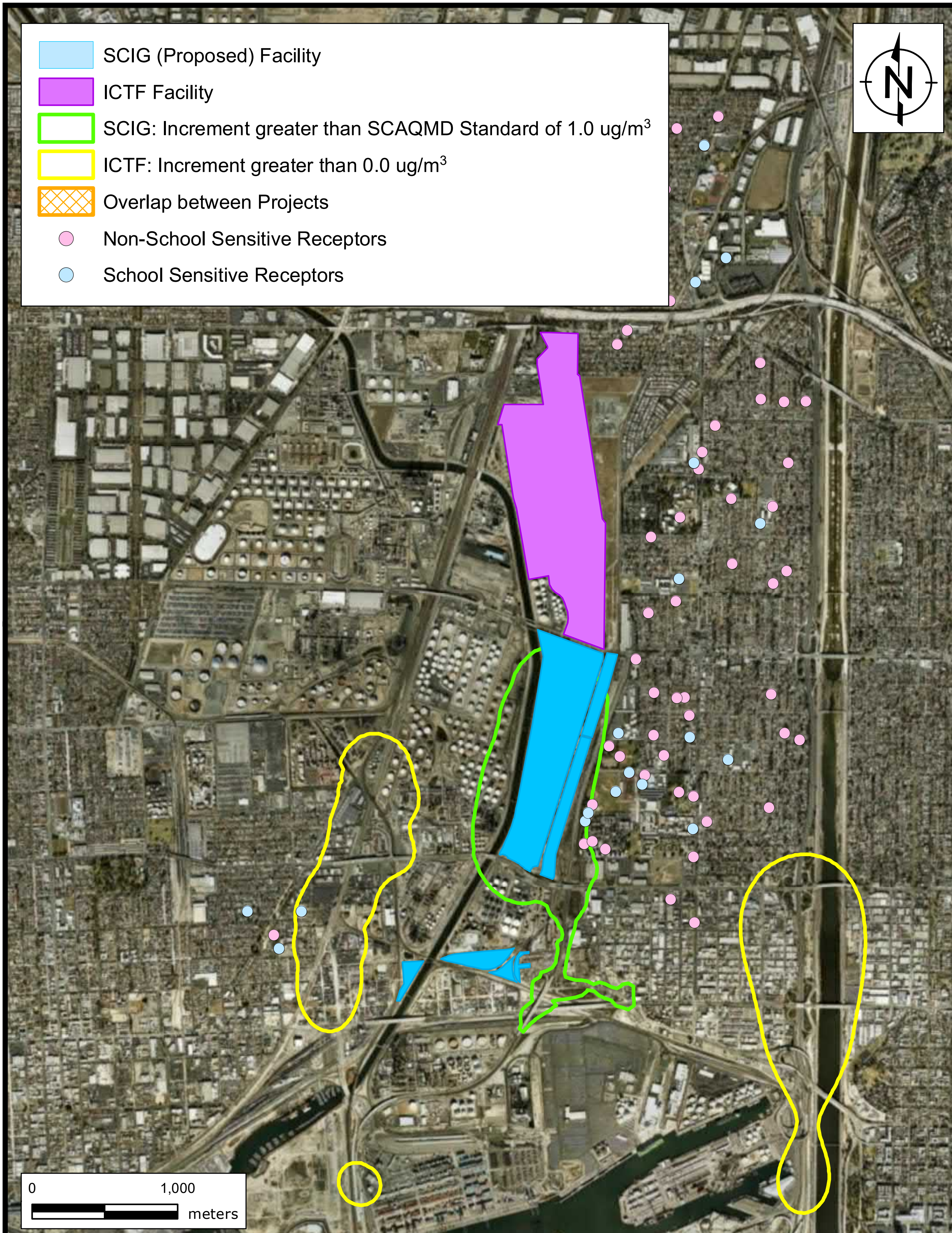
RAMBOLL

2030 Proposed Project Annual PM_{10} Combined Cumulative Analysis Port of Los Angeles

FIGURE **B-028**

DRAFTED BY: KAR/DCW | DATE: 6/19/2020

1690011204-003



RAMBOLL

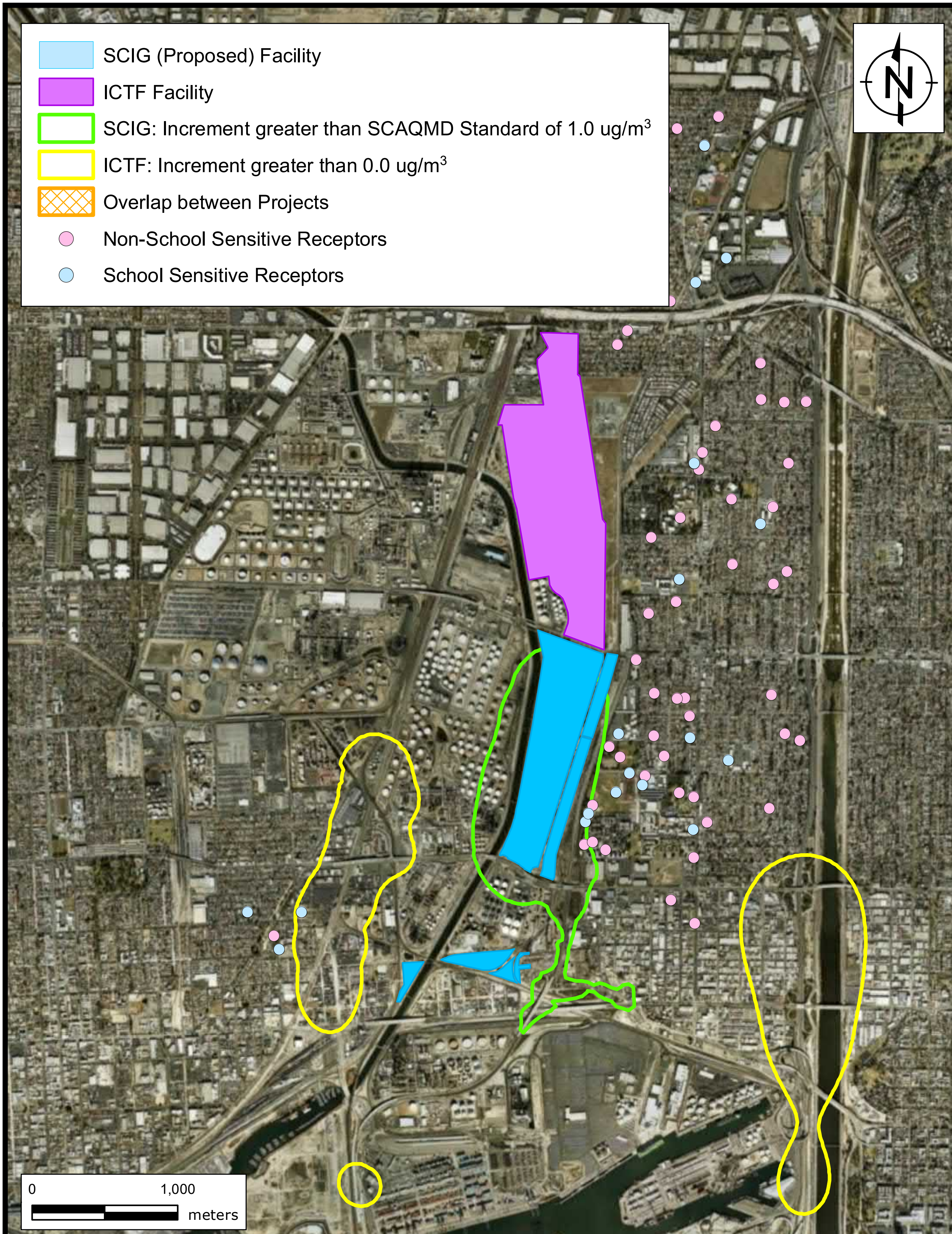
DRAFTED BY: KAR/DCW

DATE: 6/19/2020

2035 Proposed Project Annual PM_{10}
Combined Cumulative Analysis
Port of Los Angeles

FIGURE
B-029

1690011204-003



RAMBOLL

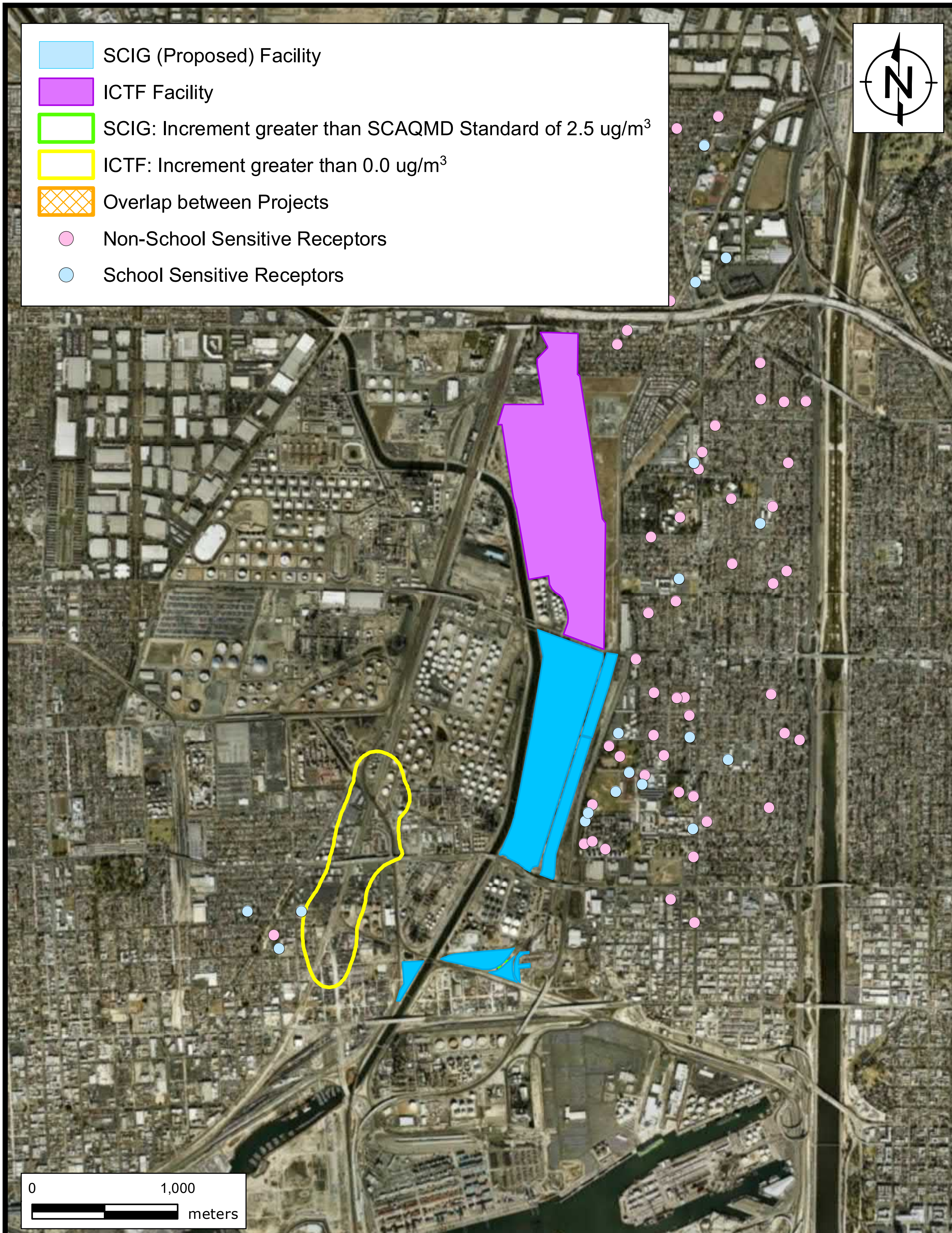
2046 Proposed Project Annual PM_{10} Combined Cumulative Analysis Port of Los Angeles

FIGURE **B-030**

DRAFTED BY: KAR/DCW

DATE: 6/19/2020

1690011204-003



RAMBOLL

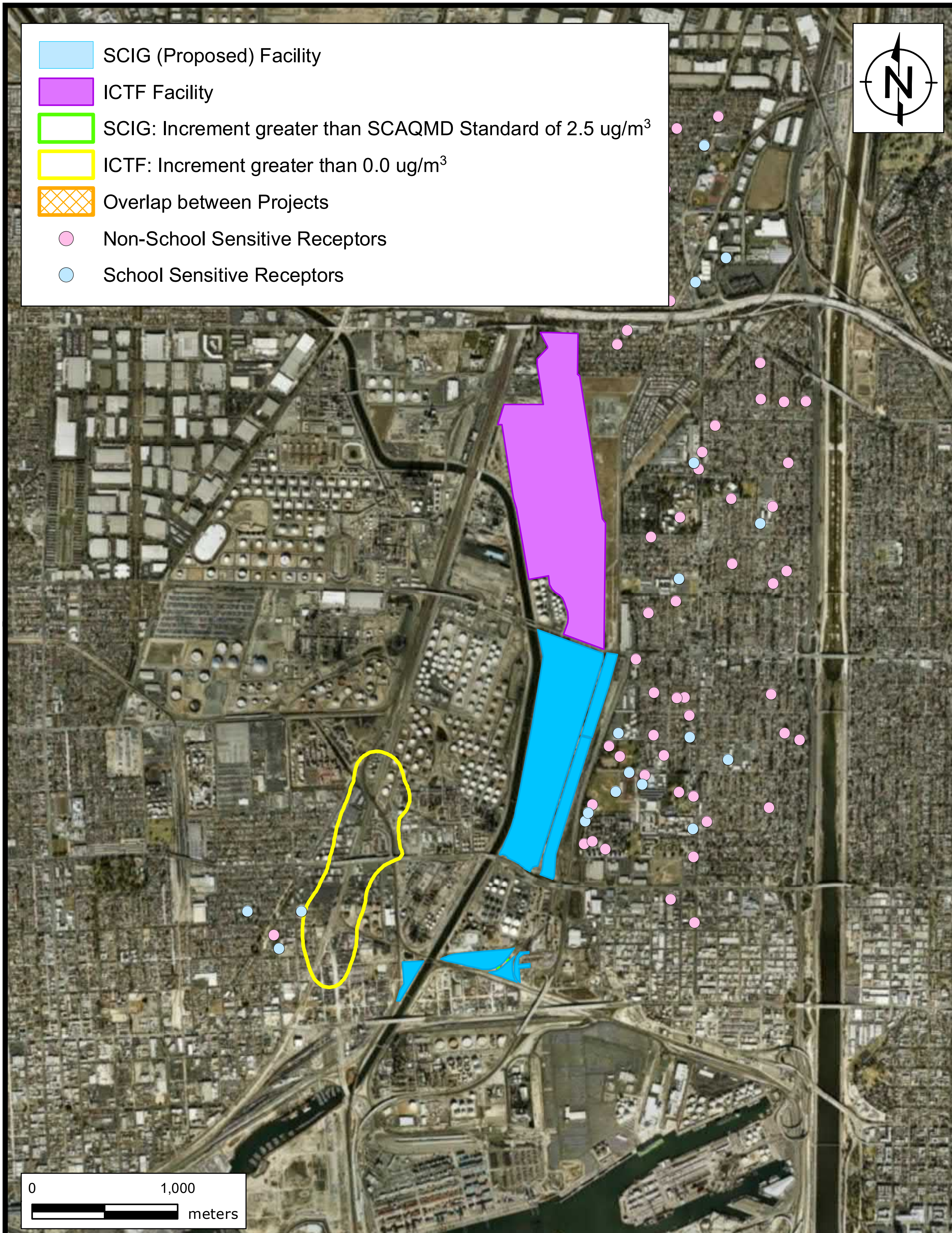
2016 Proposed Project 24-Hour $PM_{2.5}$ Combined Cumulative Analysis Port of Los Angeles

FIGURE **B-031**

DRAFTED BY: KAR/DCW

DATE: 6/19/2020

1690011204-003

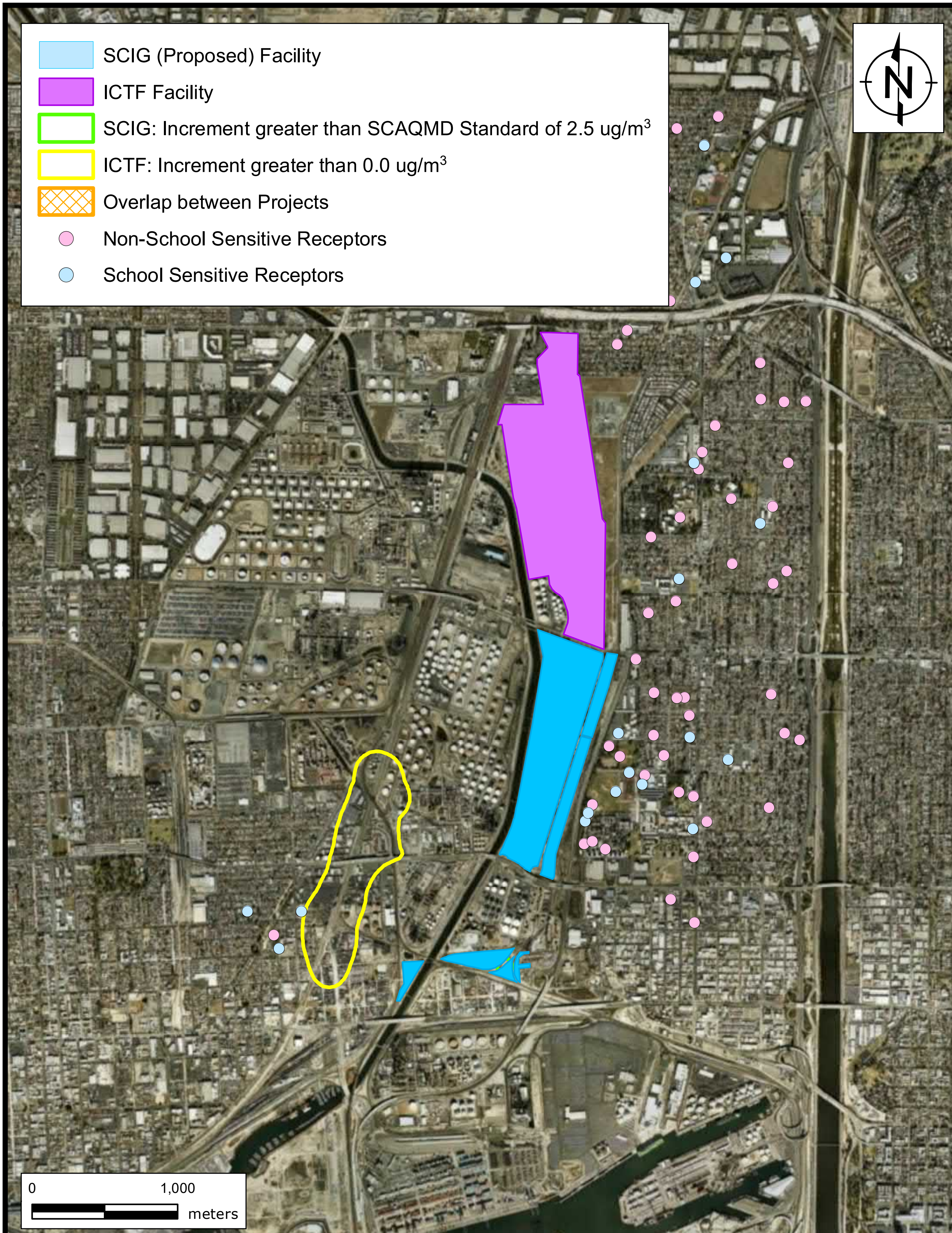


RAMBOLL

2020 Proposed Project 24-Hour $PM_{2.5}$ Combined Cumulative Analysis Port of Los Angeles

FIGURE **B-032**

DRAFTED BY: KAR/DCW | DATE: 6/19/2020 | 1690011204-003



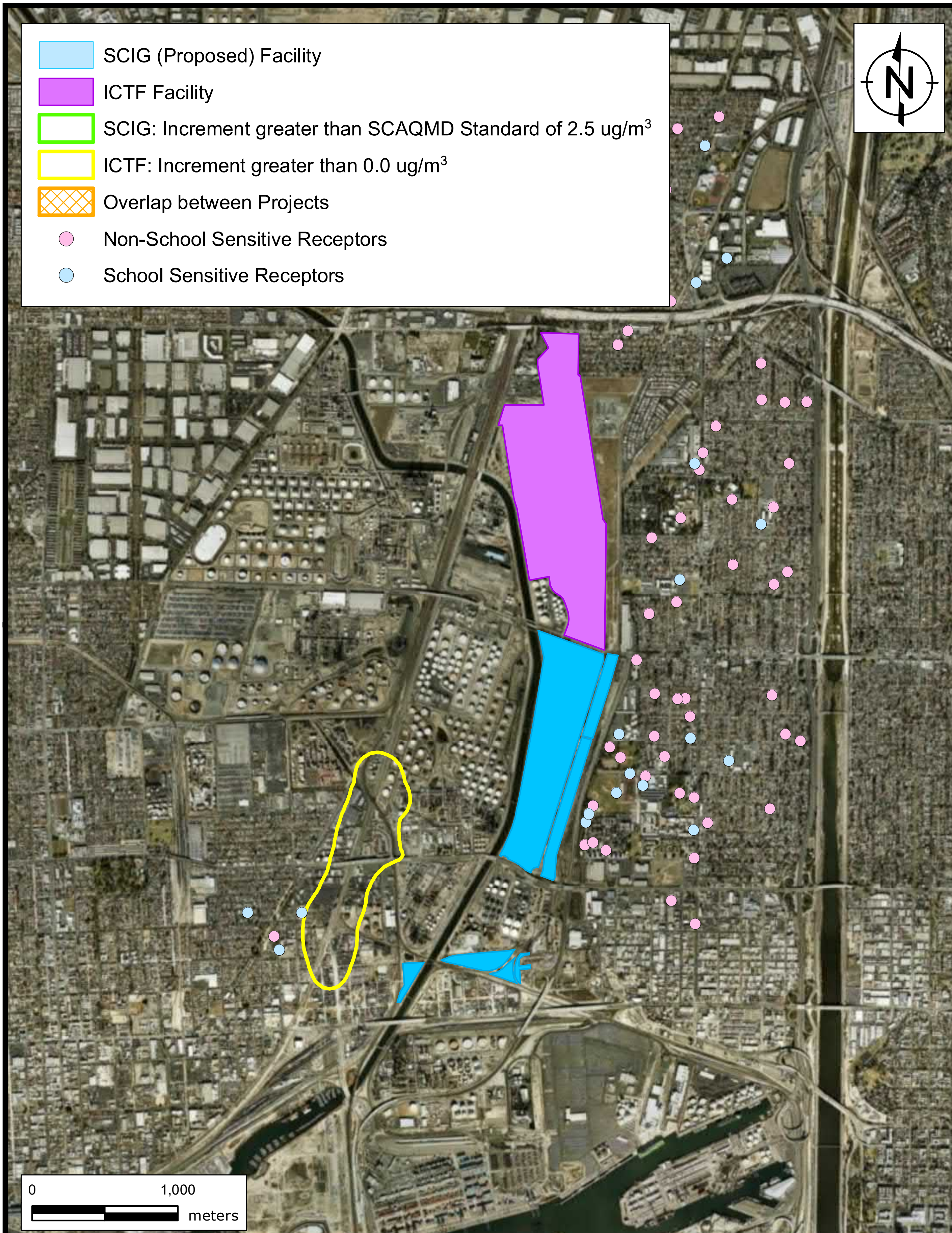
RAMBOLL

2023 Proposed Project 24-Hour $PM_{2.5}$ Combined Cumulative Analysis Port of Los Angeles

FIGURE **B-033**

DRAFTED BY: KAR/DCW | DATE: 6/19/2020

1690011204-003



RAMBOLL

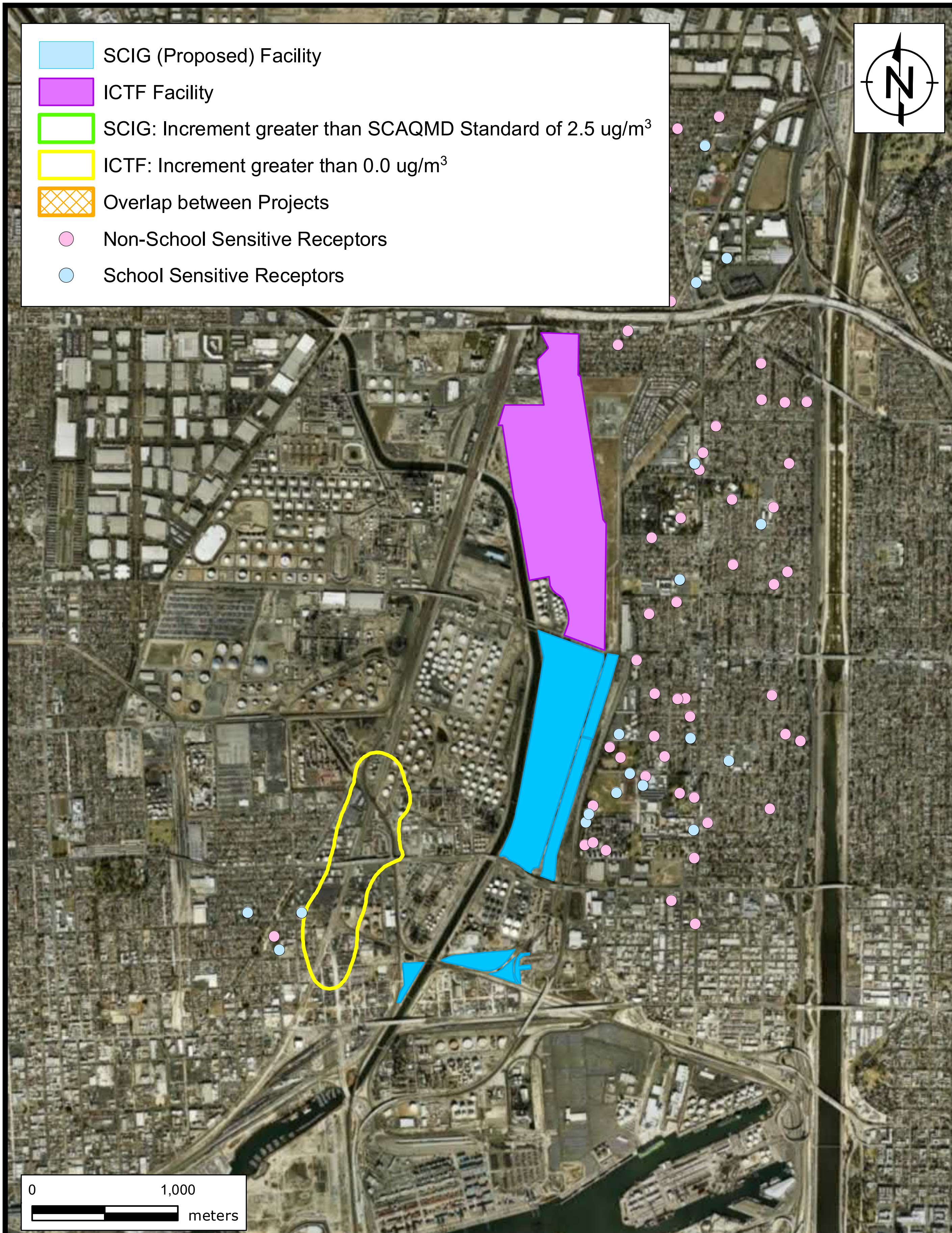
2030 Proposed Project 24-Hour $PM_{2.5}$ Combined Cumulative Analysis Port of Los Angeles

FIGURE **B-034**

DRAFTED BY: KAR/DCW

DATE: 6/19/2020

1690011204-003



RAMBOLL

2035 Proposed Project 24-Hour $PM_{2.5}$
Combined Cumulative Analysis
Port of Los Angeles

FIGURE
B-035

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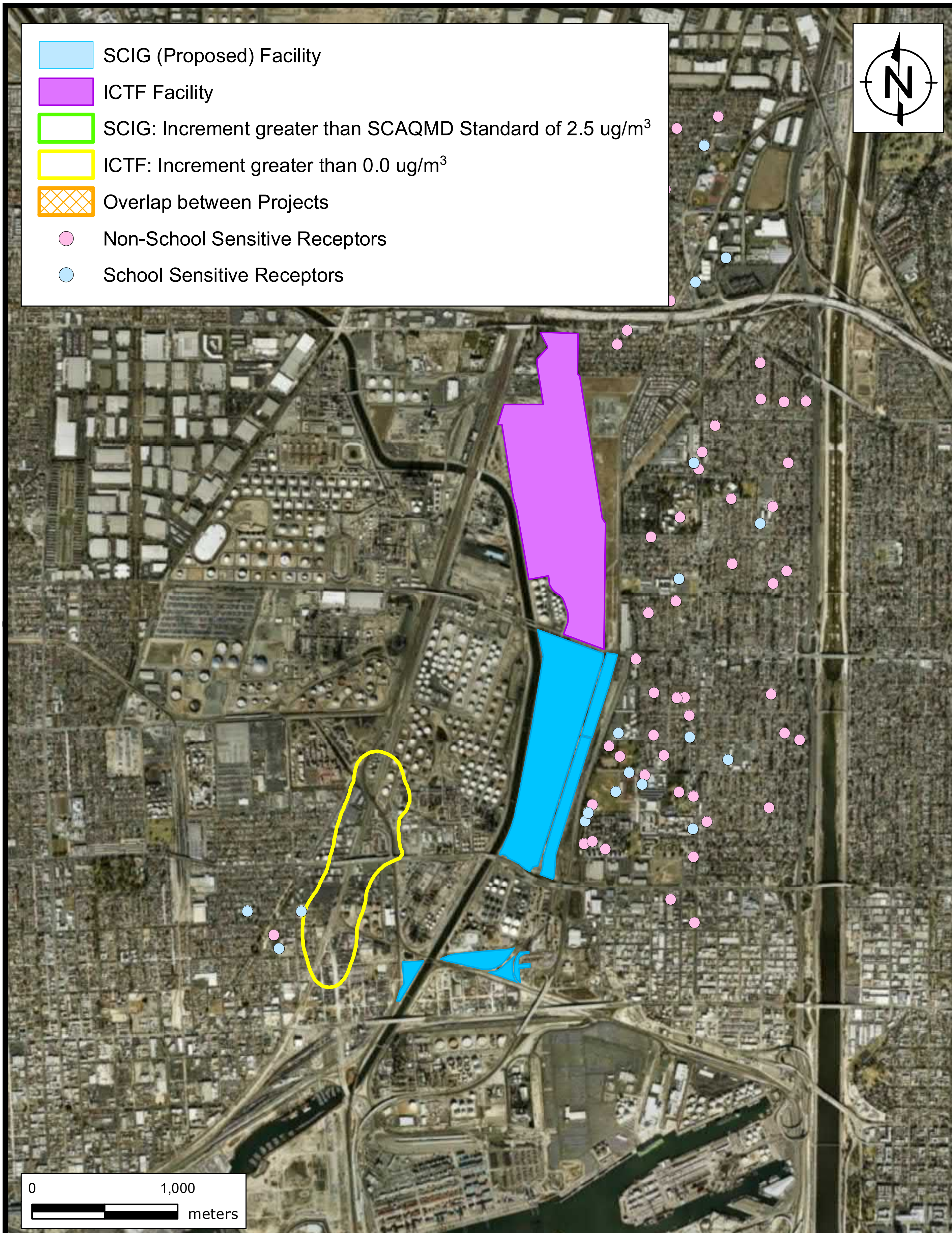


RAMBOLL

2046 Proposed Project 24-Hour $PM_{2.5}$ Combined Cumulative Analysis Port of Los Angeles

FIGURE

B-036

DRAFTED BY: KAR/DCW

DATE: 6/19/2020

1690011204-003

ANNEX 3
PARTICULATE MATTER CONTOUR MAPS (UNMITIGATED VS. MITIGATED)

Figure A3-1: 2016 24-Hour PM_{10} Standard unmitigated Project (left) vs mitigated Project (right)

Figure A3-2: 2020 24-Hour PM_{10} Standard unmitigated Project (left) vs mitigated Project (right)

Figure A3-3: 2023 24-Hour PM_{10} Standard unmitigated Project (left) vs mitigated Project (right)

Figure A3-4: 2030 24-Hour PM_{10} Standard unmitigated Project (left) vs mitigated Project (right)

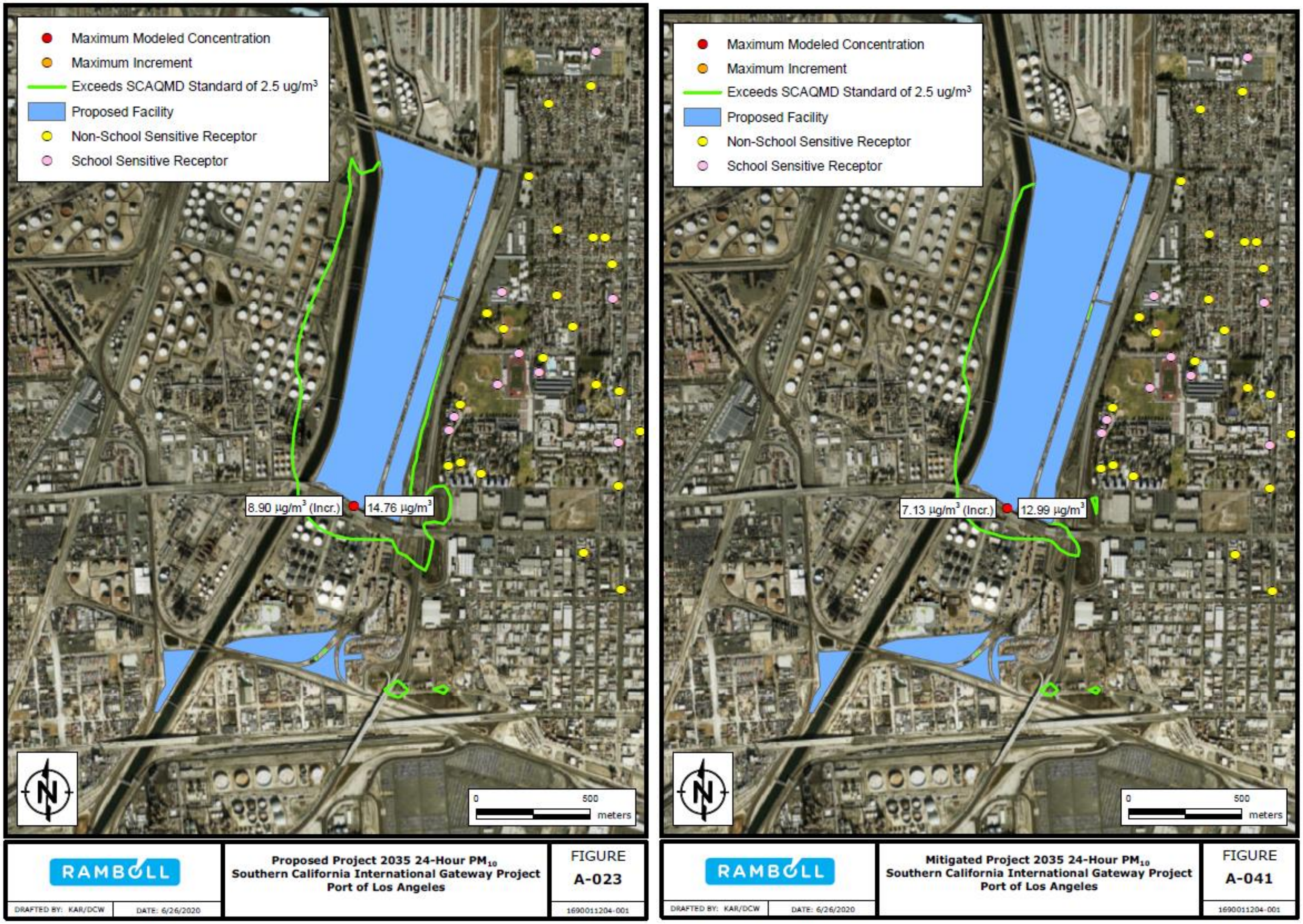


Figure A3-5: 2035 24-Hour PM_{10} Standard unmitigated Project (left) vs mitigated Project (right)

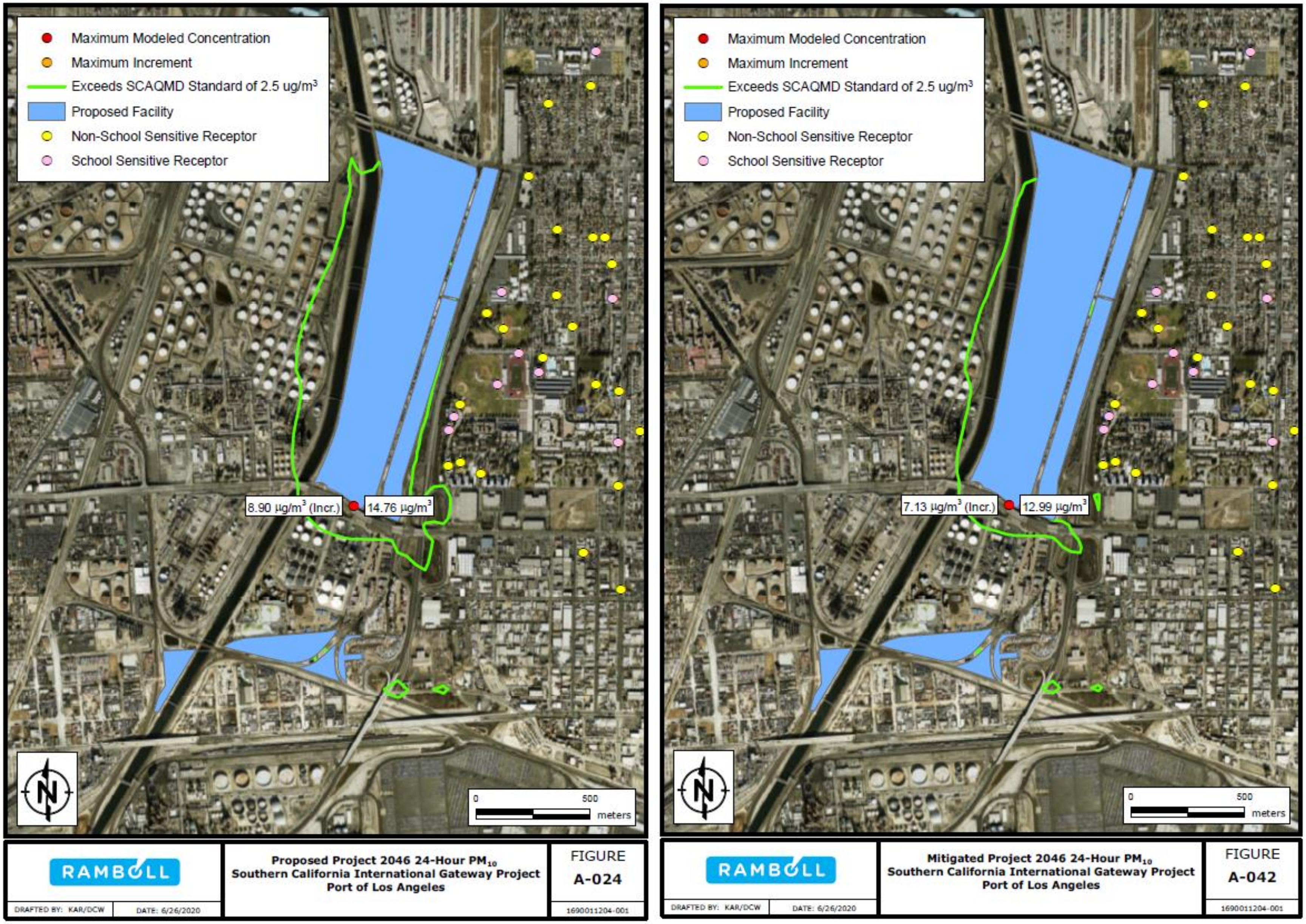


Figure A3-6: 2046/2066 24-Hour PM_{10} Standard unmitigated Project (left) vs mitigated Project (right)

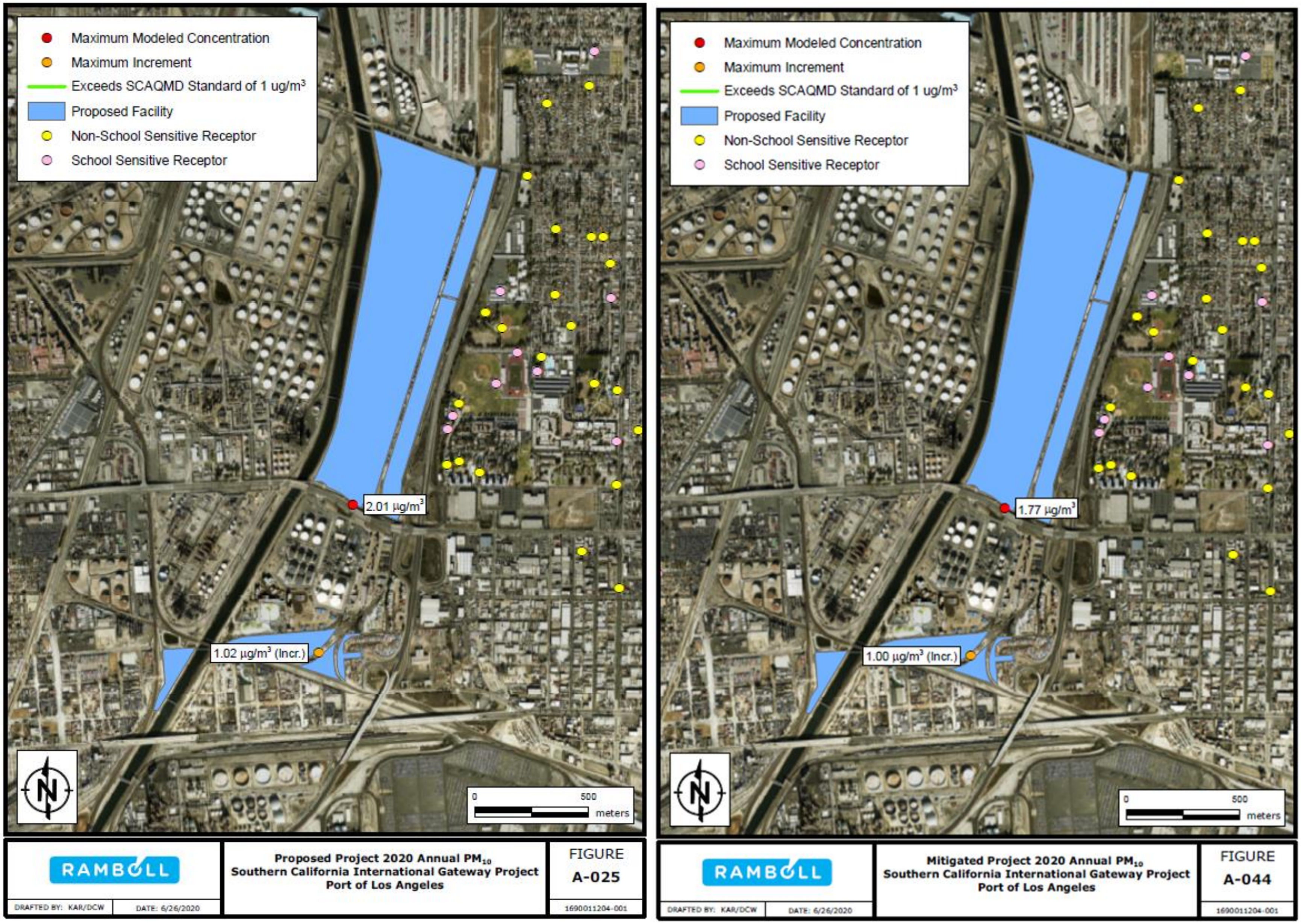


Figure A3-7: 2020 Annual PM_{10} Standard unmitigated Project (left) vs mitigated Project (right)

Figure A3-8: 2023 Annual PM_{10} Standard unmitigated Project (left) vs mitigated Project (right)

Figure A3-9: 2030 Annual PM_{10} Standard unmitigated Project (left) vs mitigated Project (right)

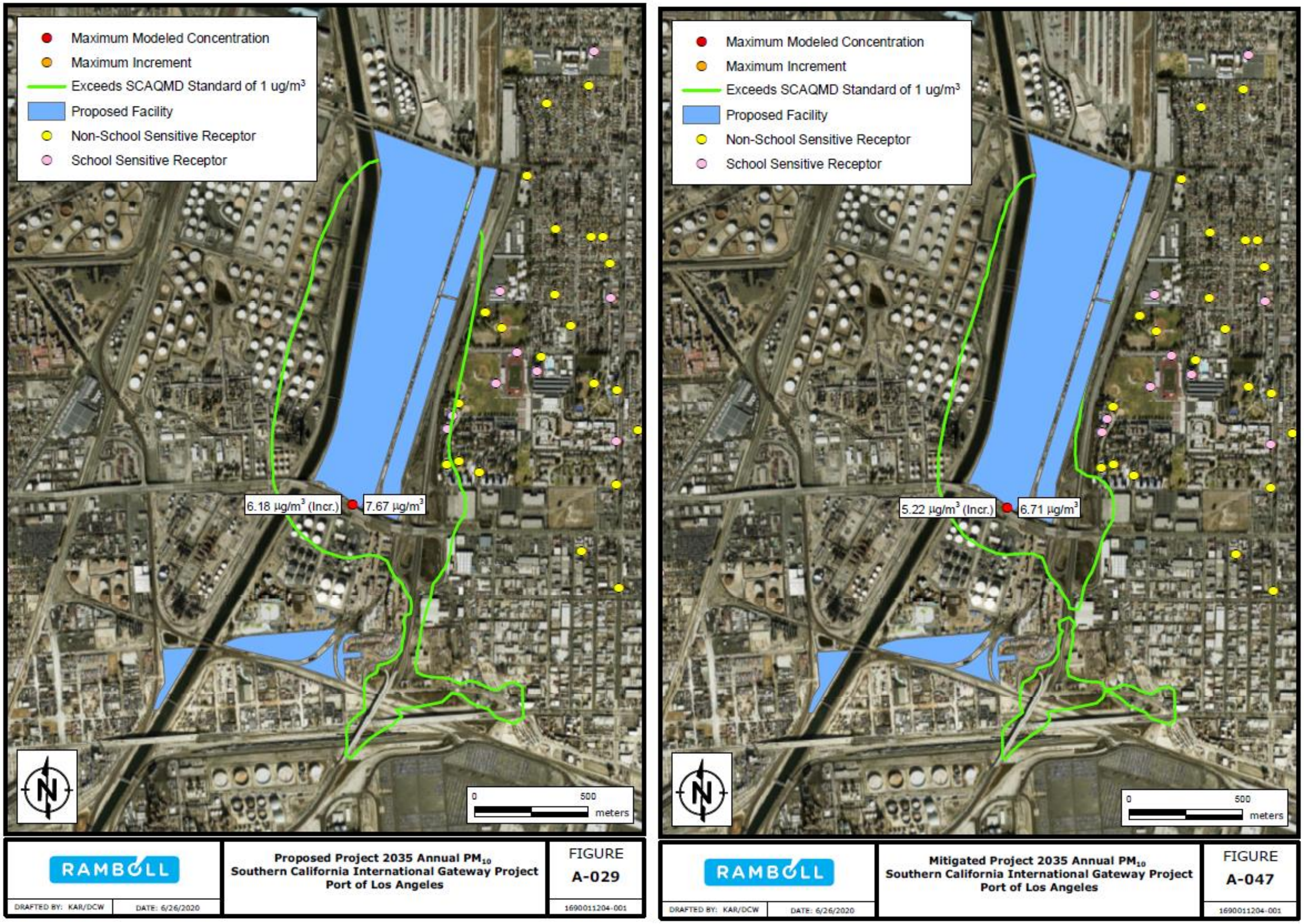


Figure A3-10: 2035 Annual PM_{10} Standard unmitigated Project (left) vs mitigated Project (right)

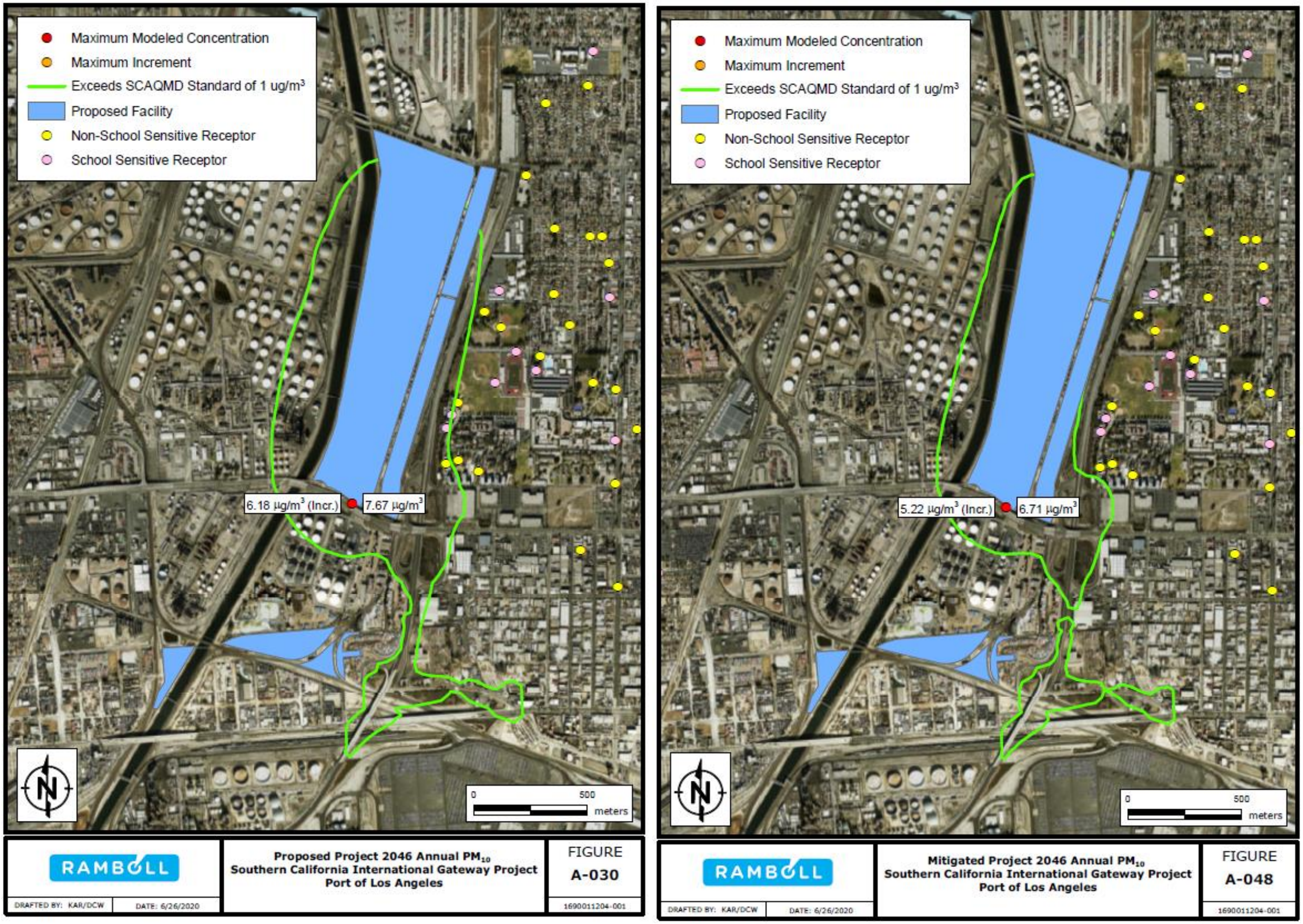


Figure A3-11: 2046/2066 Annual PM_{10} Standard unmitigated Project (left) vs mitigated Project (right)

Figure A3-12: 2016 24-Hour $PM_{2.5}$ Standard unmitigated Project (left) vs mitigated Project (right)

Figure A3-13: 2020 24-Hour $PM_{2.5}$ Standard unmitigated Project (left) vs mitigated Project (right)

Figure A3-14: 2023 24-Hour $PM_{2.5}$ Standard unmitigated Project (left) vs mitigated Project (right)

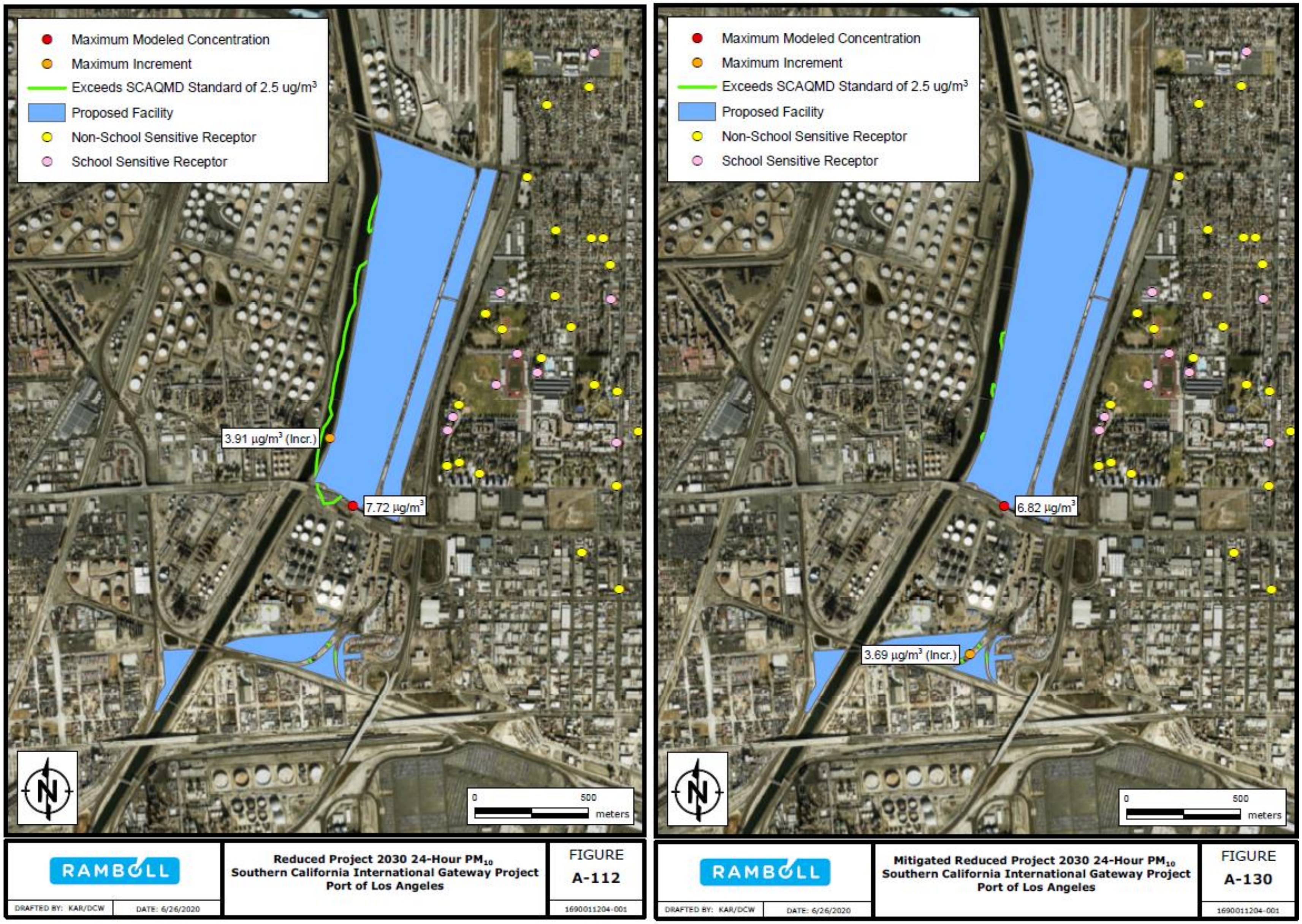


Figure A3-15: 2030 24-Hour PM_{10} Standard unmitigated Reduced Project (left) vs mitigated Reduced Project (right)

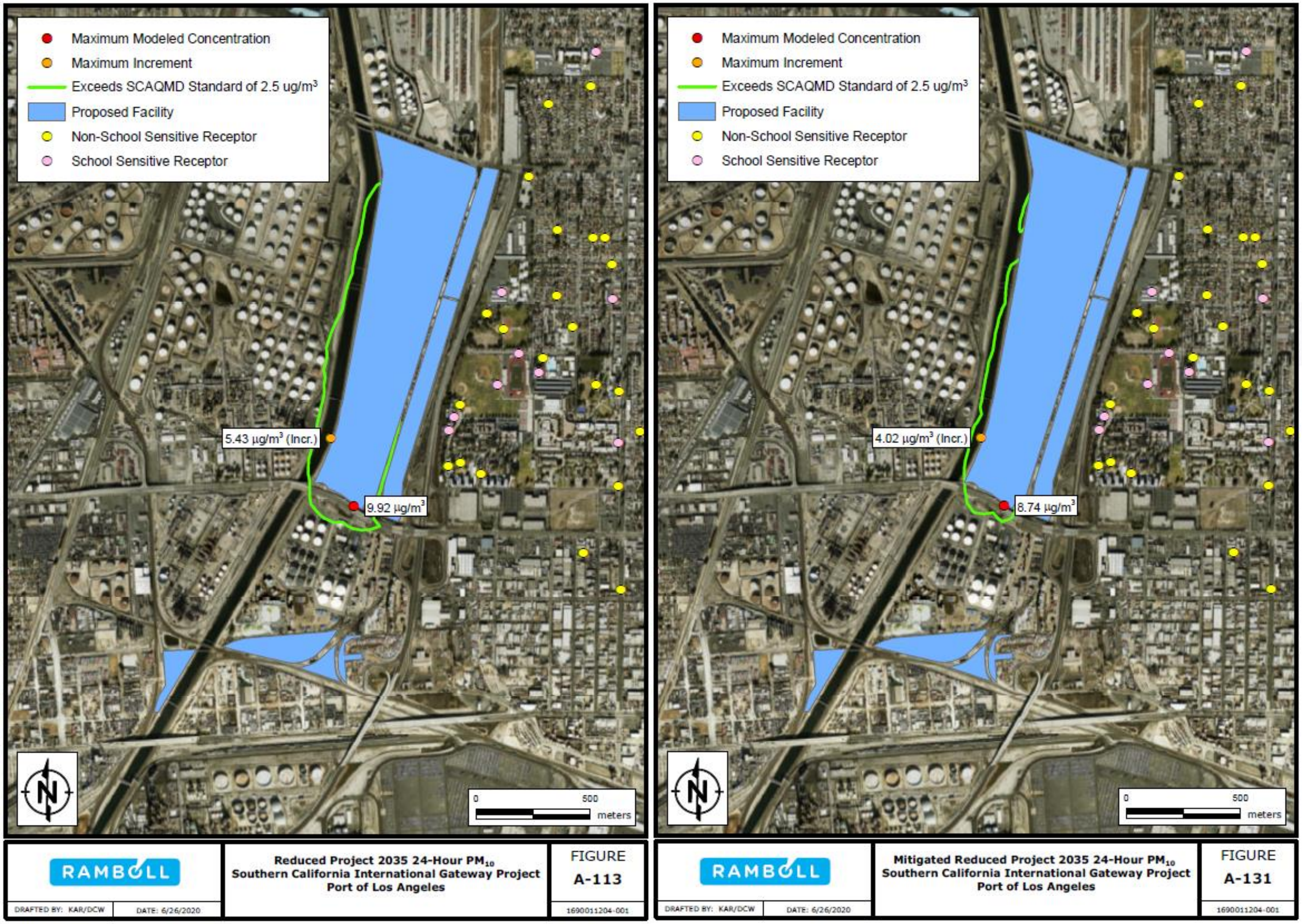


Figure A3-16: 2035 24-Hour PM_{10} Standard unmitigated Reduced Project (left) vs mitigated Reduced Project (right)

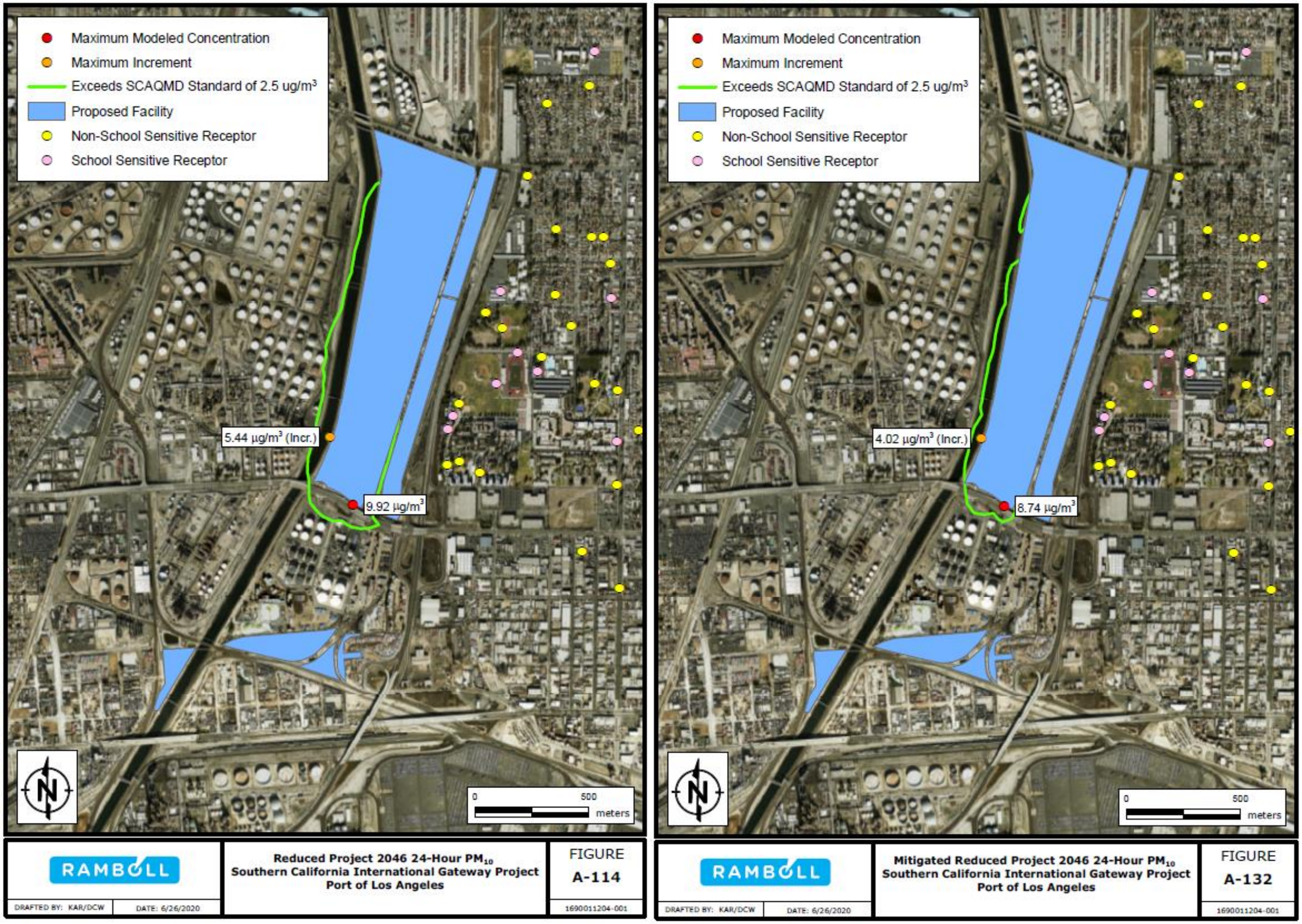


Figure A3-17: 2046/2066 24-Hour PM_{10} Standard unmitigated Reduced Project (left) vs mitigated Reduced Project (right)

Figure A3-18: 2030 Annual PM_{10} Standard unmitigated Reduced Project (left) vs mitigated Reduced Project (right)

Figure A3-19: 2035 Annual PM_{10} Standard unmitigated Reduced Project (left) vs mitigated Reduced Project (right)

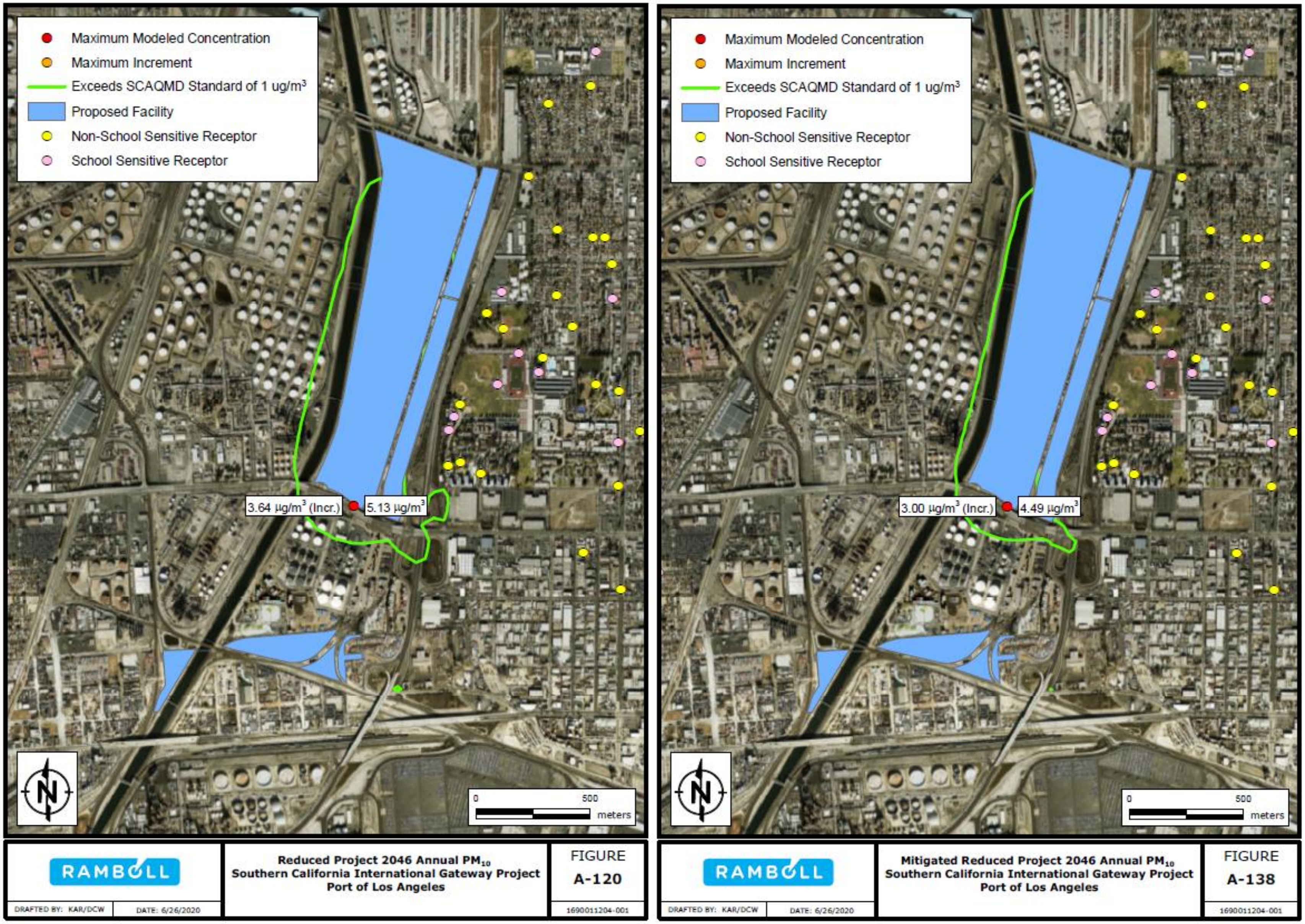
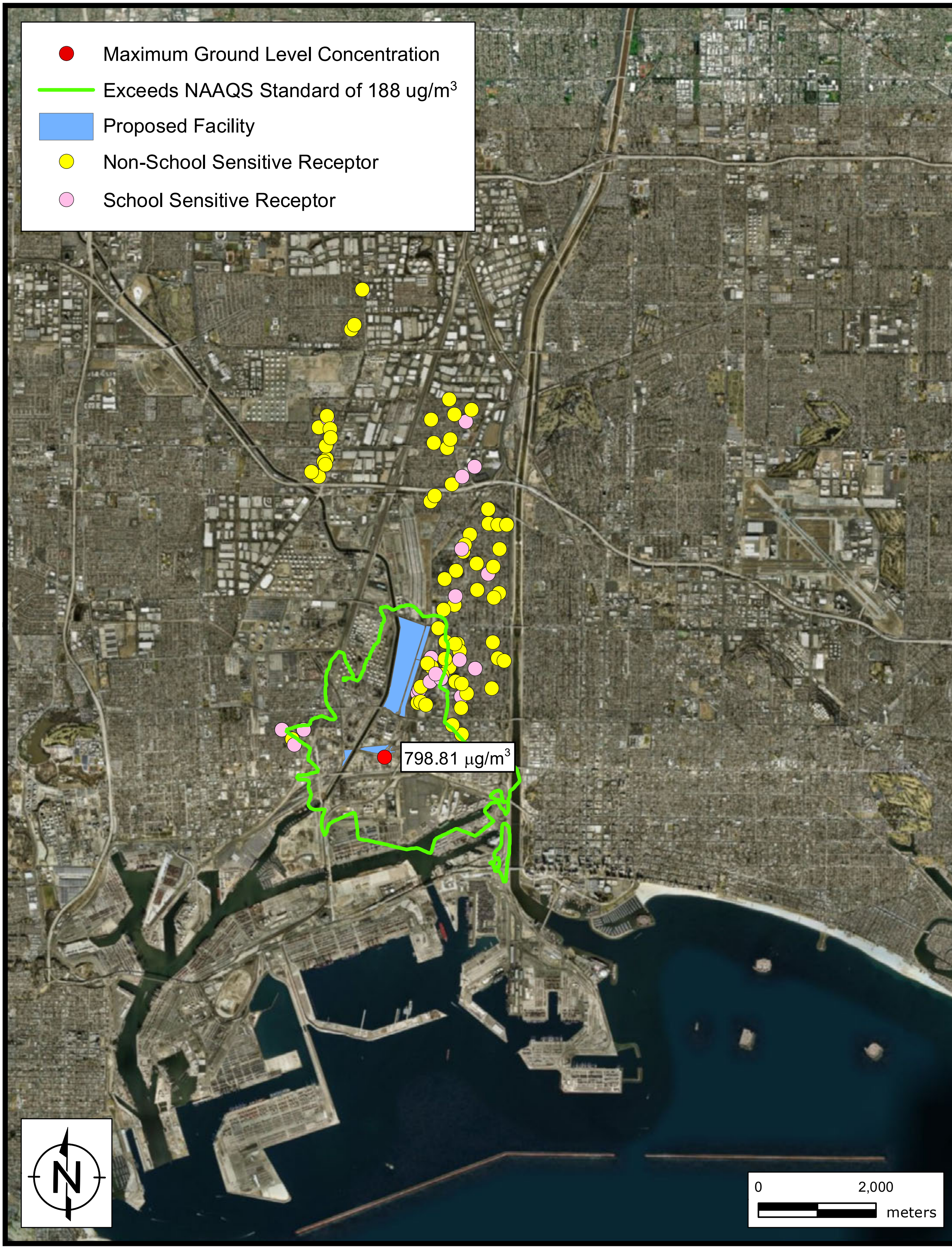


Figure A3-20: 2046/2066 Annual PM_{10} Standard unmitigated Reduced Project (left) vs mitigated Reduced Project (right)

ANNEX 4 CONTOUR MAPS FOR REMAINING SCENARIOS/POLLUTANTS

- **PM_{10} No Project**
  - **24-Hour**
  - **Annual**
- **$PM_{2.5}$ No Project**
  - **24-Hour**
- **NO_2 Unmitigated Project**
  - **Federal 1-Hour**
  - **State 1-Hour**
  - **Annual**
- **NO_2 Unmitigated Reduced Project**
  - **Federal 1-Hour**
  - **State 1-Hour**
  - **Annual**
- **NO_2 No Project**
  - **Federal 1-Hour**
  - **State 1-Hour**
  - **Annual**



RAMBOLL

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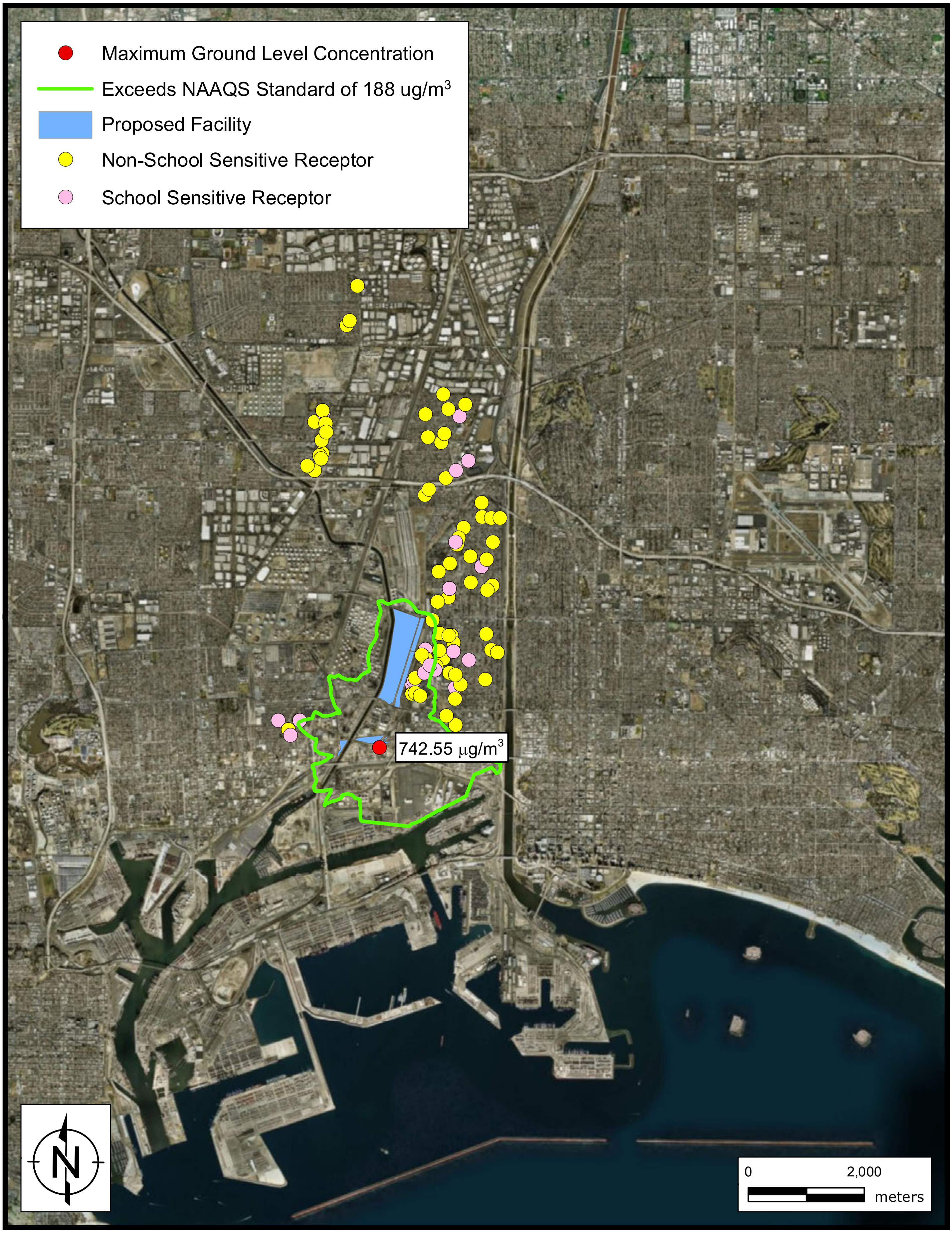
Proposed Project 2016 1-Hour NO_2 Federal Criteria
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-001

1690011204-001



RAMBOLL

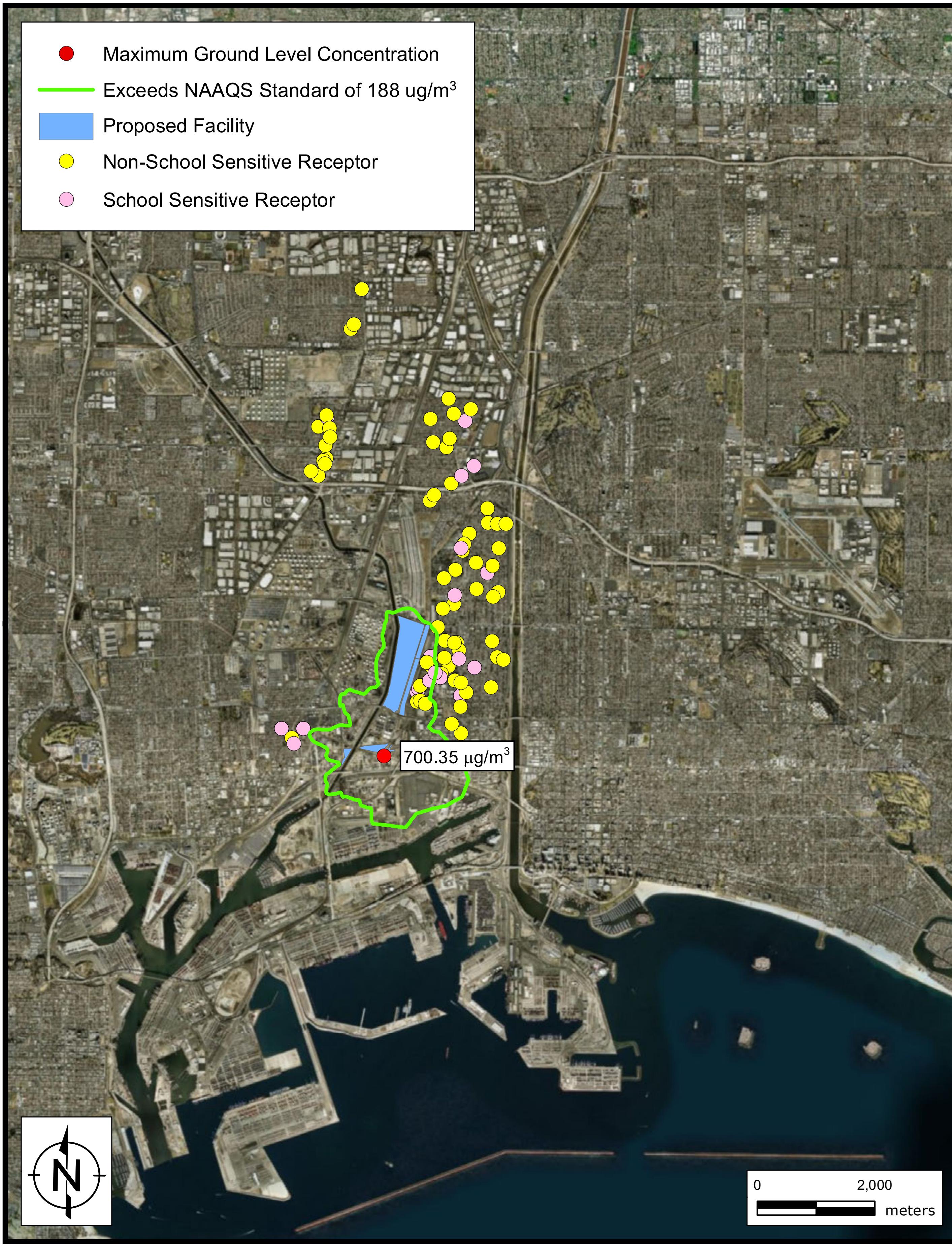
Proposed Project 2020 1-Hour NO_2 Federal Criteria
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-002

DRAFTED BY: KAR/DCW

DATE: 6/26/2020

1690011204-001



RAMBOLL

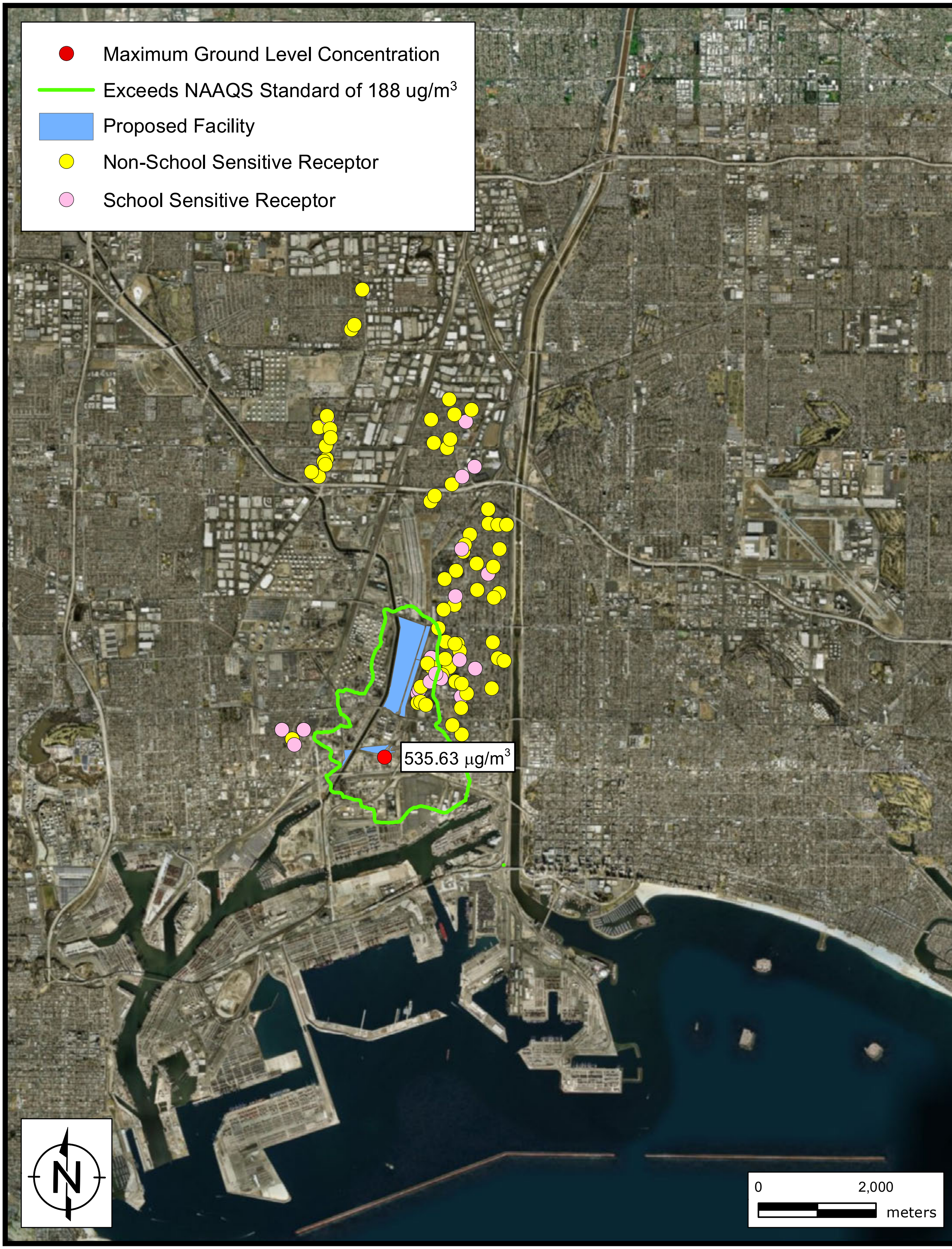
DRAFTED BY: KAR/DCW

DATE: 6/26/2020

Proposed Project 2023 1-Hour NO_2 Federal Criteria
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-003

1690011204-001



RAMBOLL

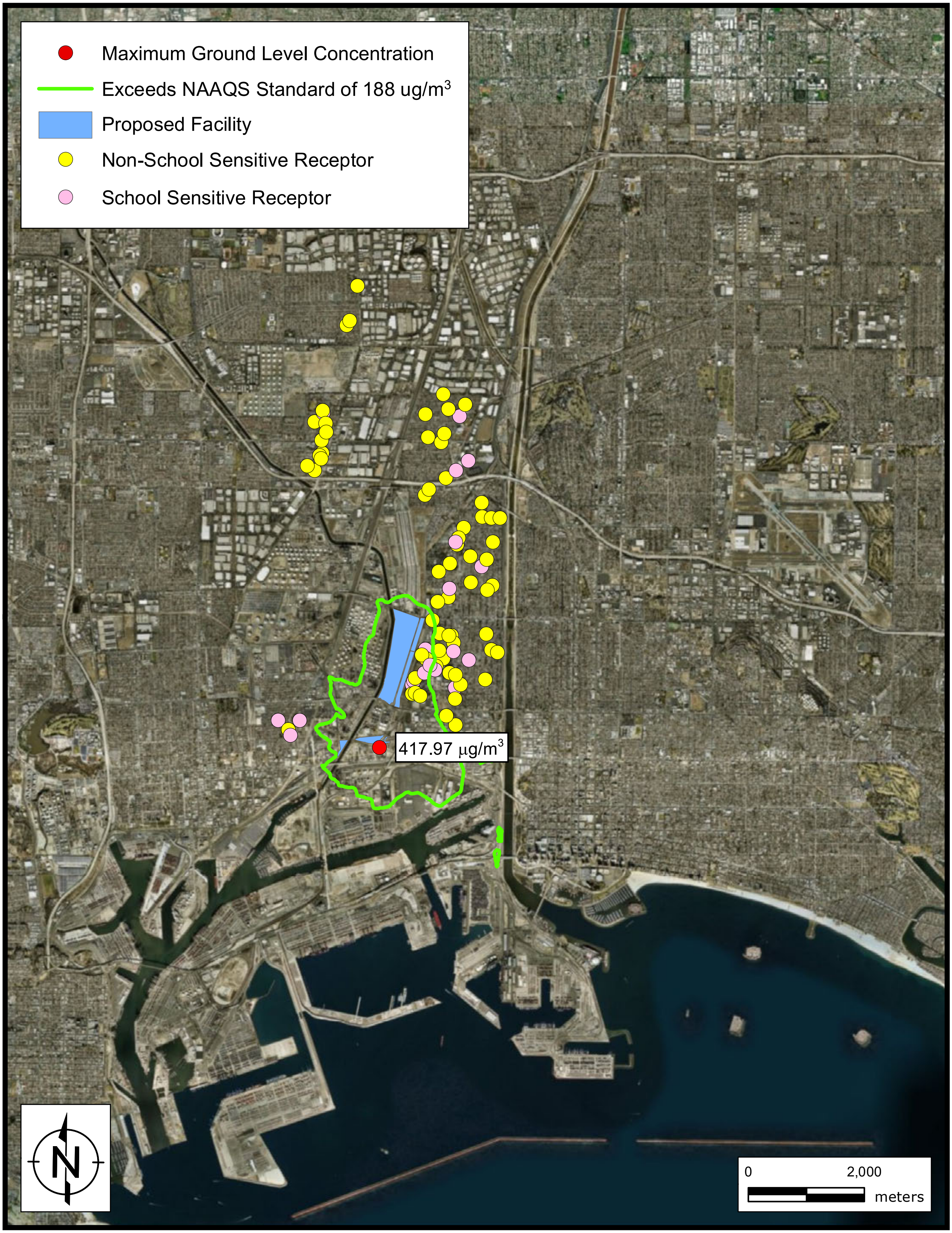
DRAFTED BY: KAR/DCW

DATE: 6/26/2020

Proposed Project 2030 1-Hour NO_2 Federal Criteria
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-004

1690011204-001



RAMBOLL

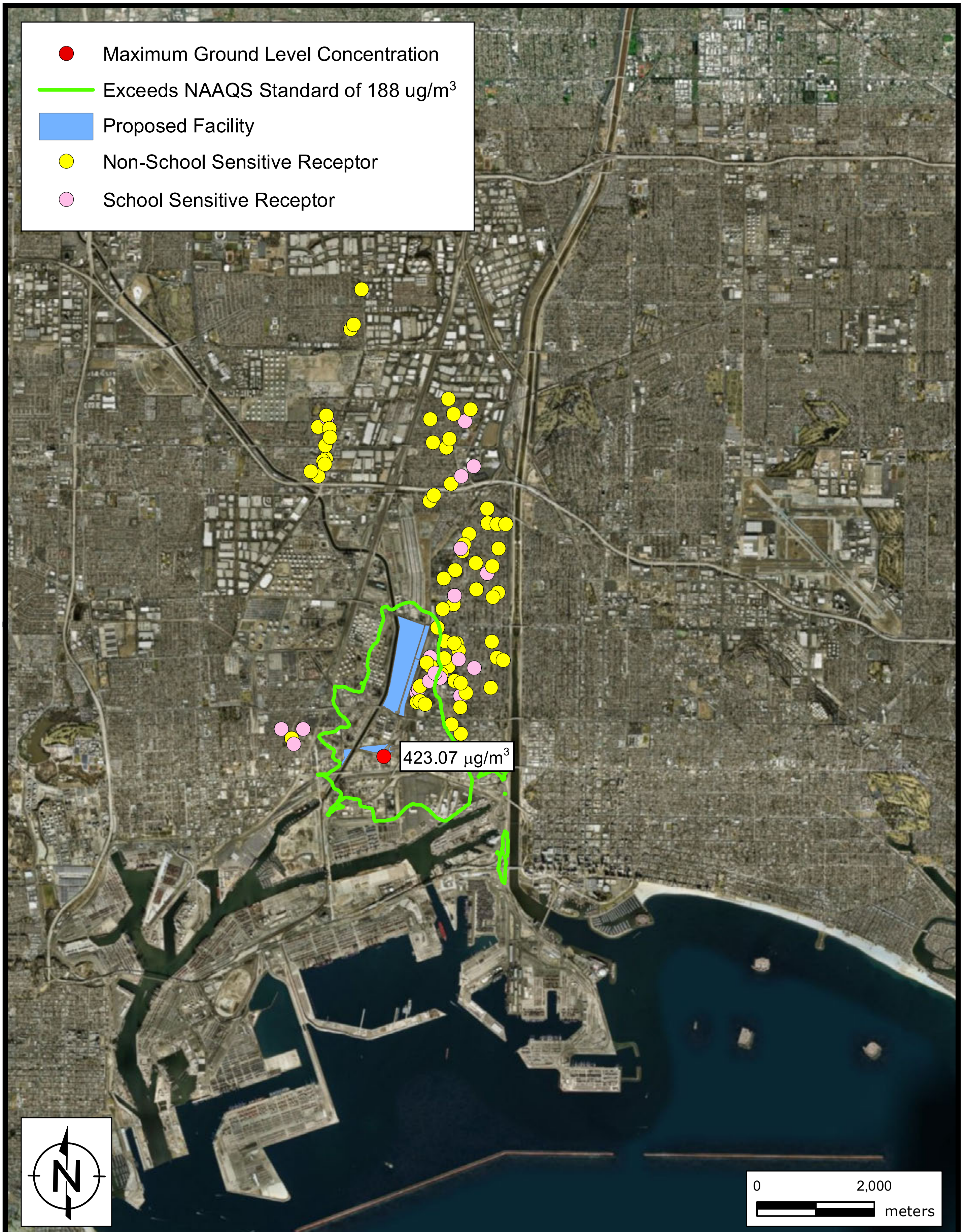
DRAFTED BY: KAR/DCW

DATE: 6/26/2020

Proposed Project 2035 1-Hour NO_2 Federal Criteria
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-005

1690011204-001



RAMBOLL

Proposed Project 2046 1-Hour NO_2 Federal Criteria
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-006

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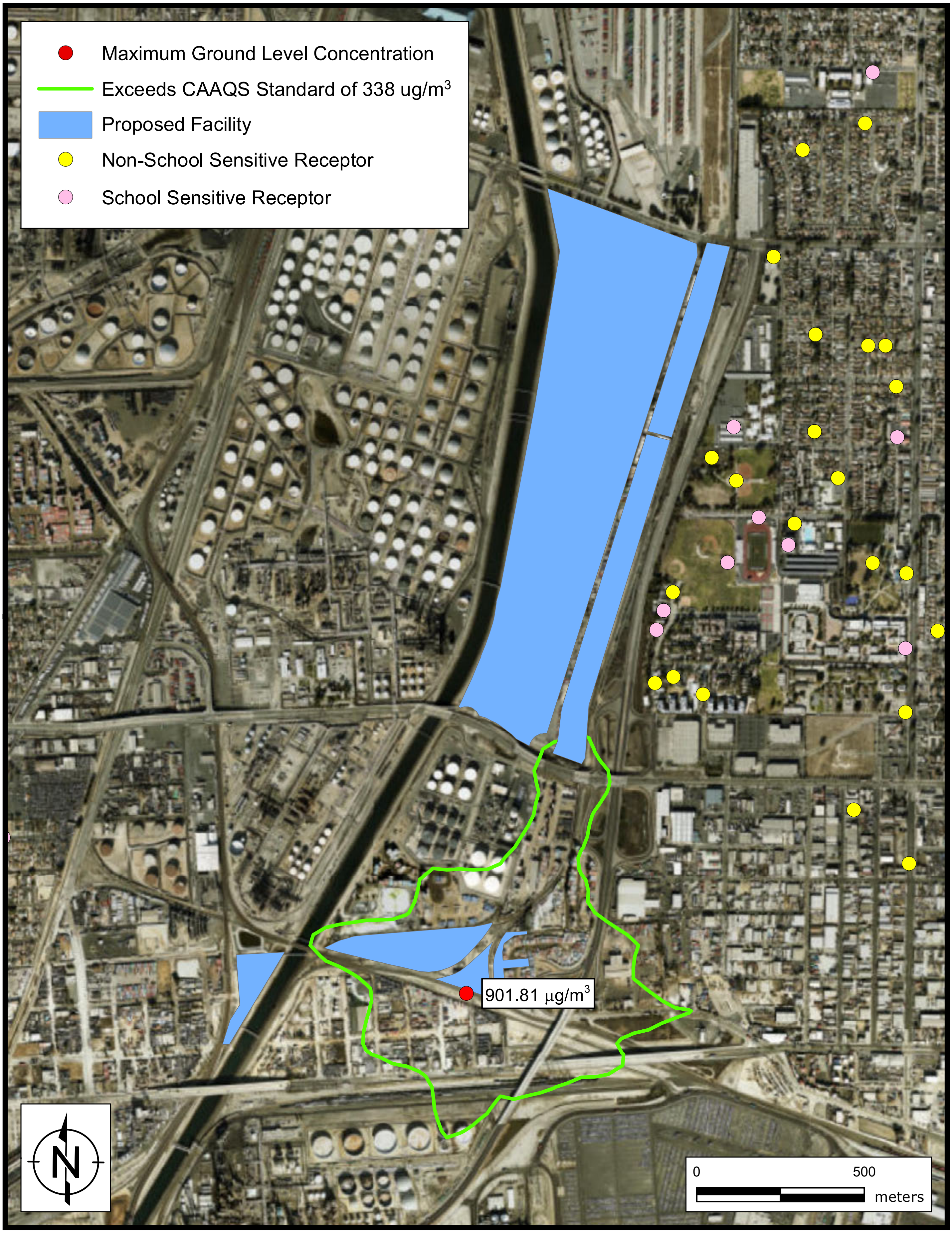
1690011204-001



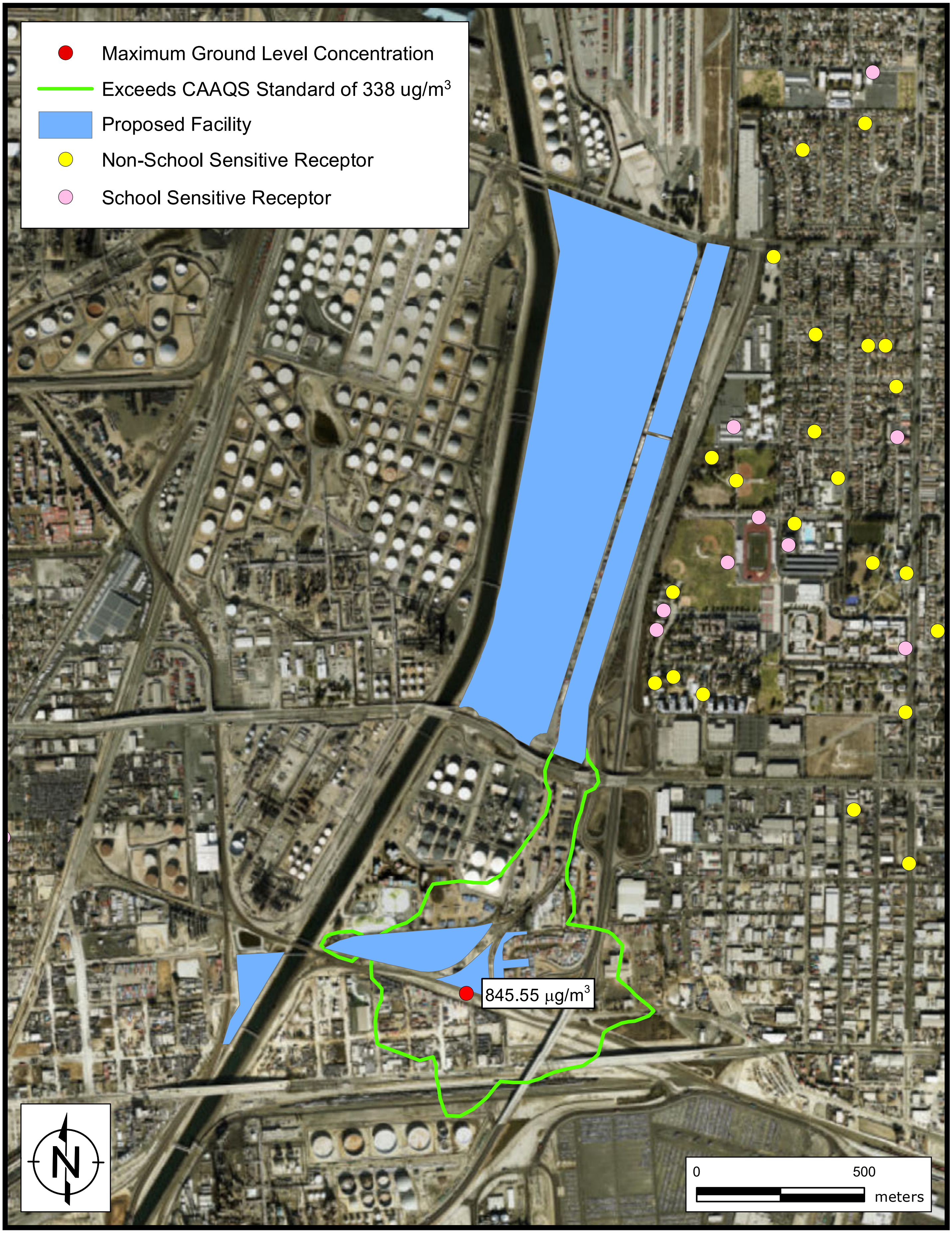
RAMBOLL

DRAFTED BY: KAR/DCW | DATE: 6/26/2020

Proposed Project 2016 1-Hour NO_2 State Criteria
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-007

1690011204-001



RAMBOLL

Proposed Project 2020 1-Hour NO_2 State Criteria
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-008

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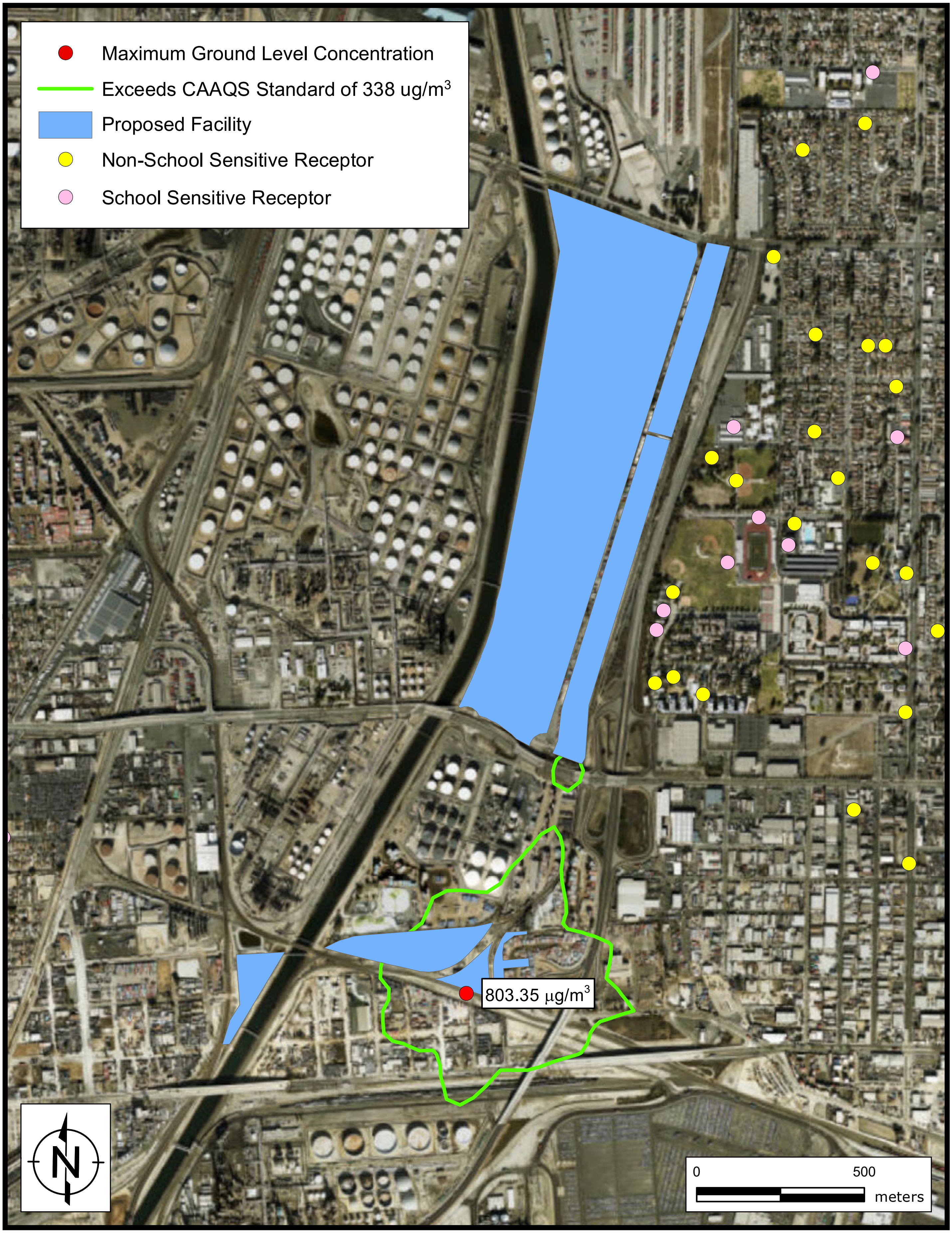

RAMBOLL

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DATE: 6/26/2020

Proposed Project 2023 1-Hour NO_2 State Criteria
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-009

1690011204-001

RAMBOLL

Proposed Project 2030 1-Hour NO_2 State Criteria
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-010

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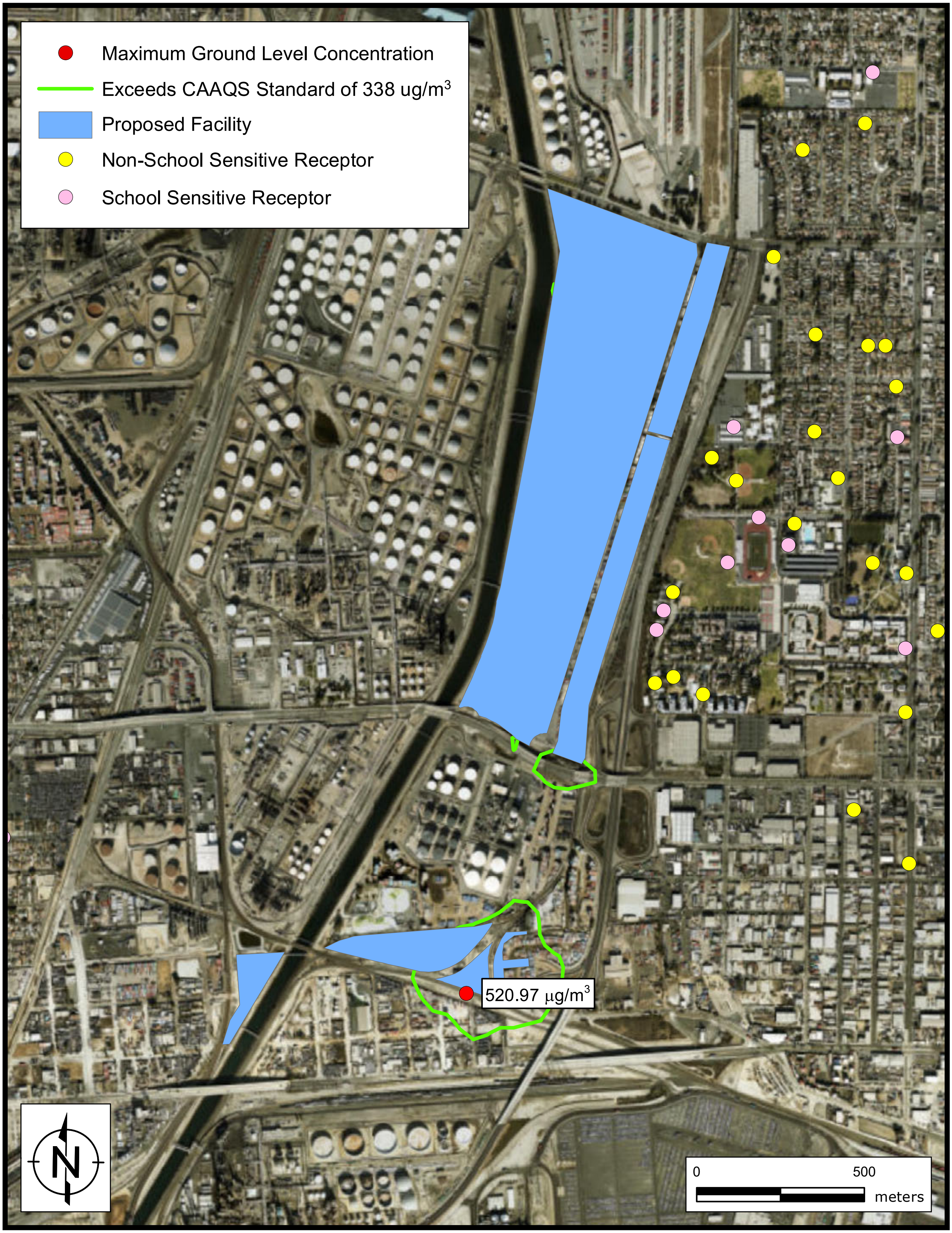

RAMBOLL

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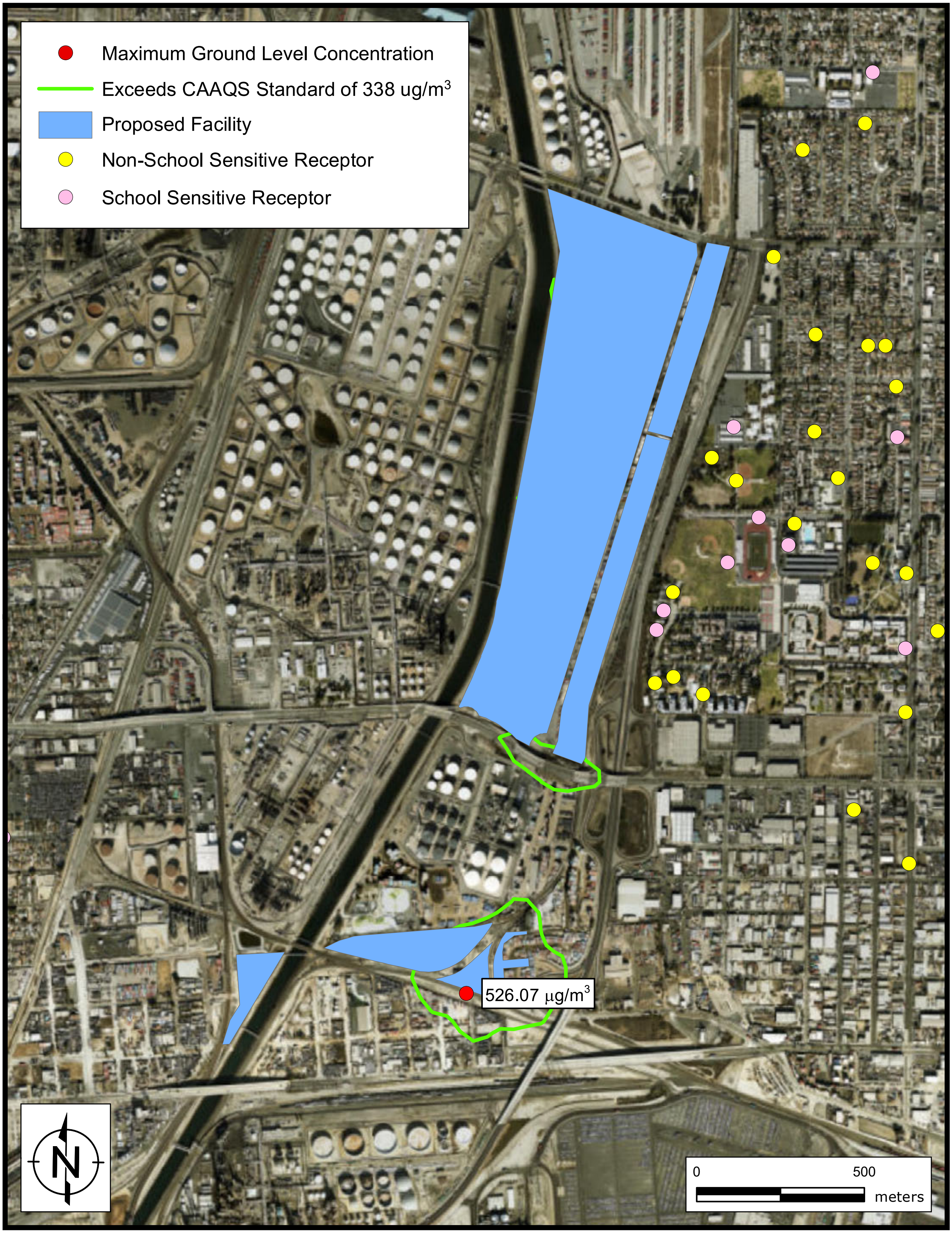
Proposed Project 2035 1-Hour NO_2 State Criteria
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-011

1690011204-001



RAMBOLL

Proposed Project 2046 1-Hour NO_2 State Criteria
Southern California International Gateway Project
Port of Los Angeles

FIGURE **A-012**

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RAMBOLL

Proposed Project 2016 Annual NO_2
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-013

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RAMBOLL

Proposed Project 2020 Annual NO_2
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-014

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RAMBOLL

Proposed Project 2023 Annual NO_2
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-015

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RAMBOLL

Proposed Project 2030 Annual NO_2
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-016

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RAMBOLL

Proposed Project 2035 Annual NO_2
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-017

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RAMBOLL

Proposed Project 2046 Annual NO_2
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-018

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RAMBOLL

Proposed Project 2016 24-Hour PM_{10}
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-019

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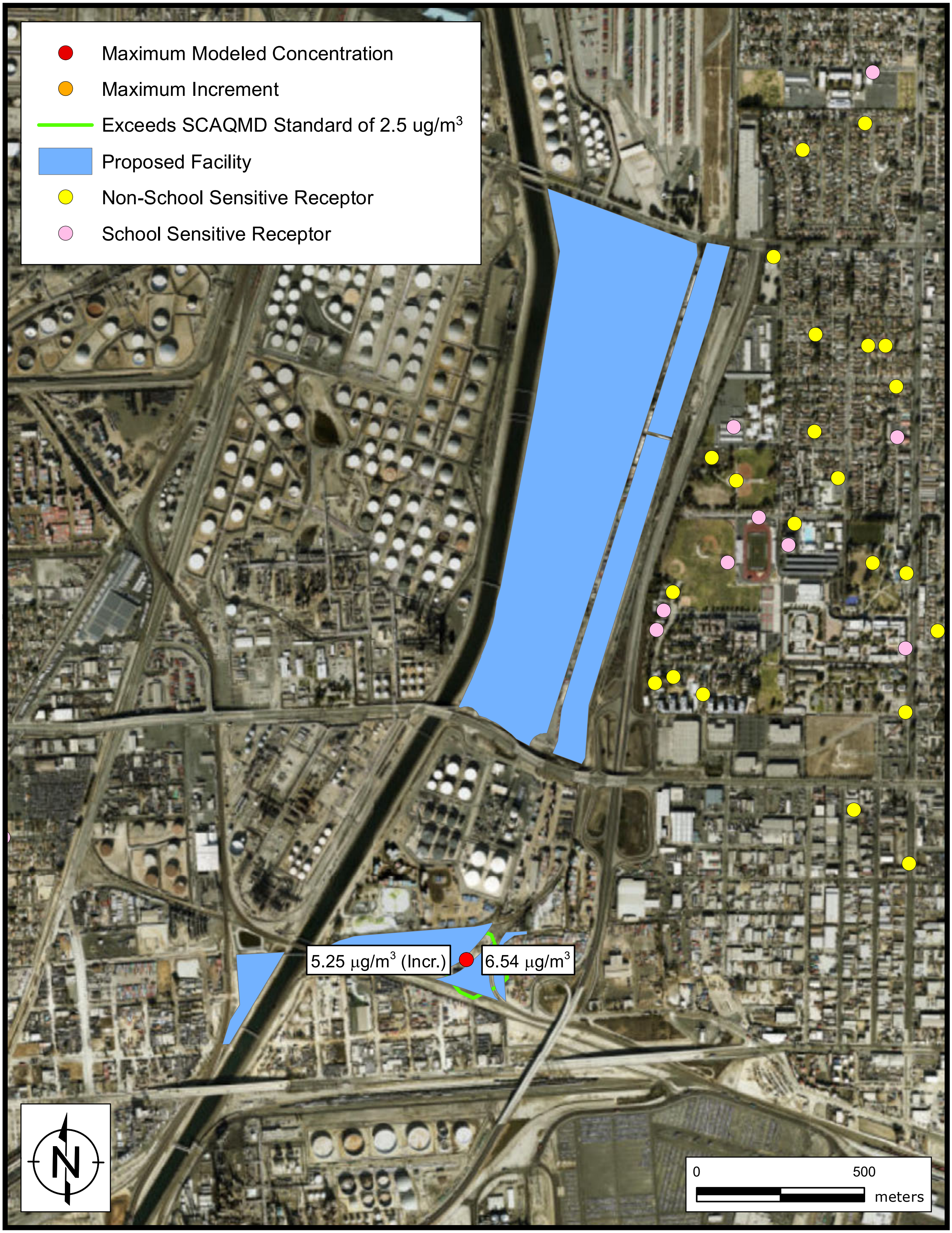

RAMBOLL

Proposed Project 2020 24-Hour PM_{10}
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-020

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RAMBOLL

Proposed Project 2023 24-Hour PM_{10}
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-021

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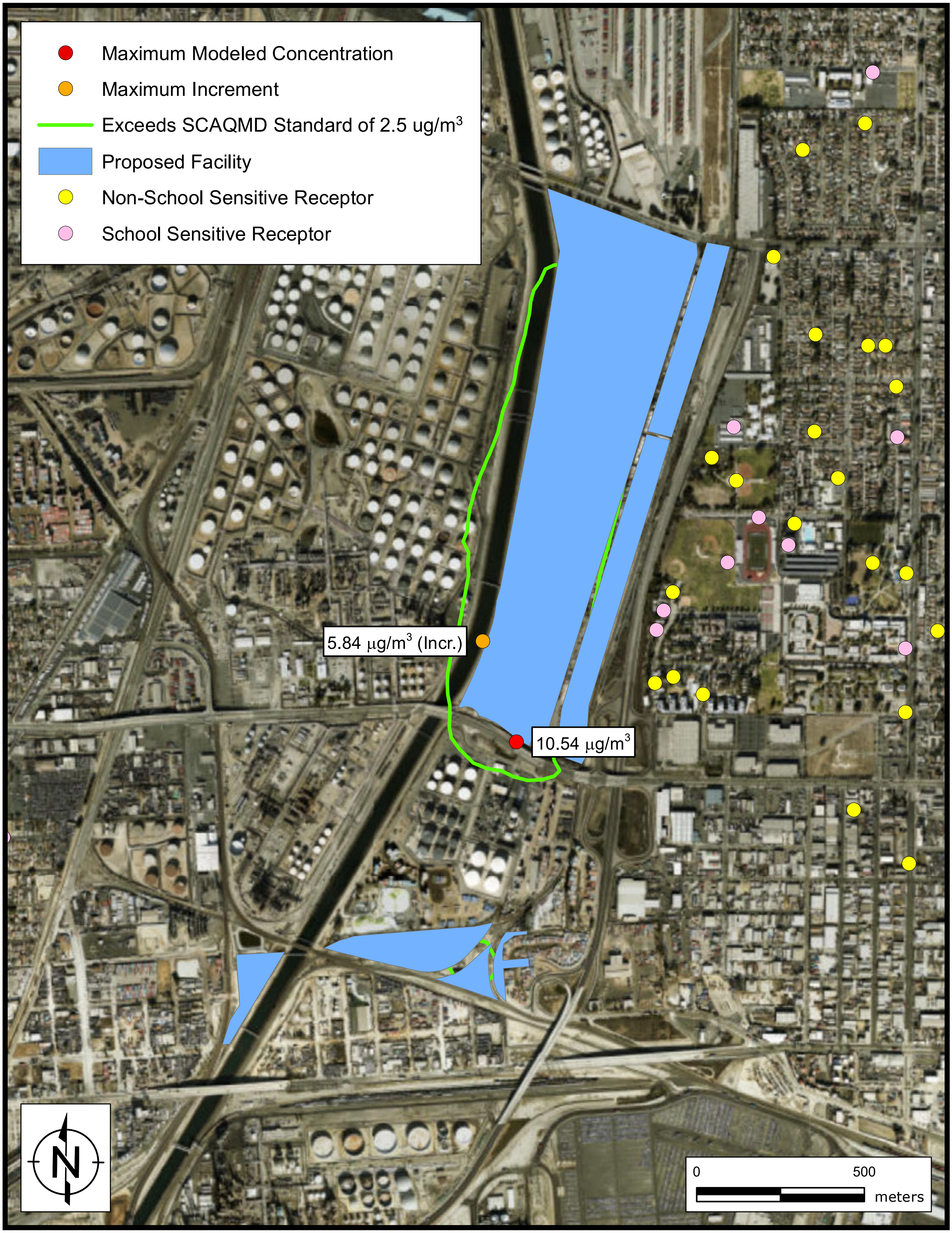

RAMBOLL

Proposed Project 2030 24-Hour PM_{10}
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-022

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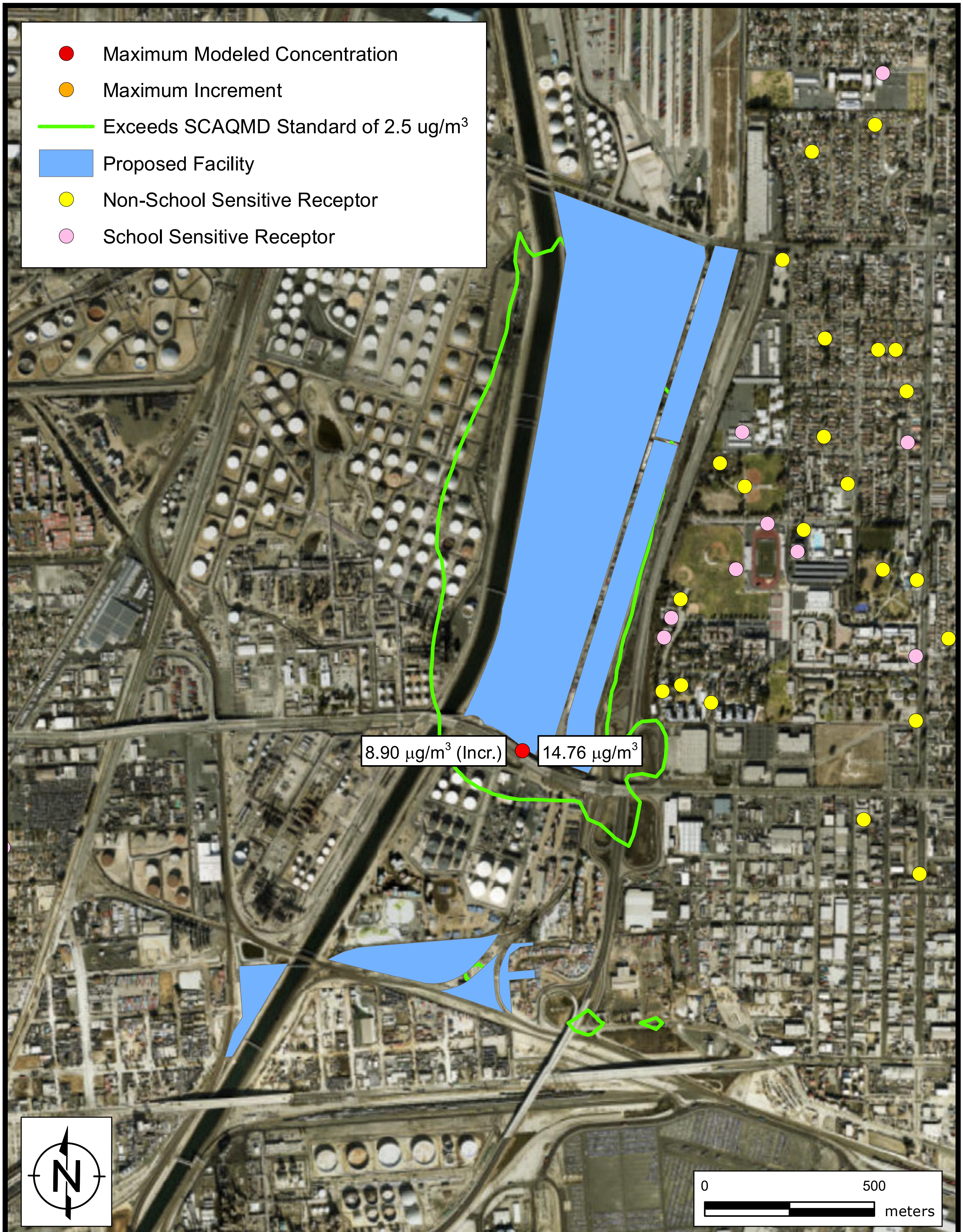

RAMBOLL

Proposed Project 2035 24-Hour PM_{10}
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-023

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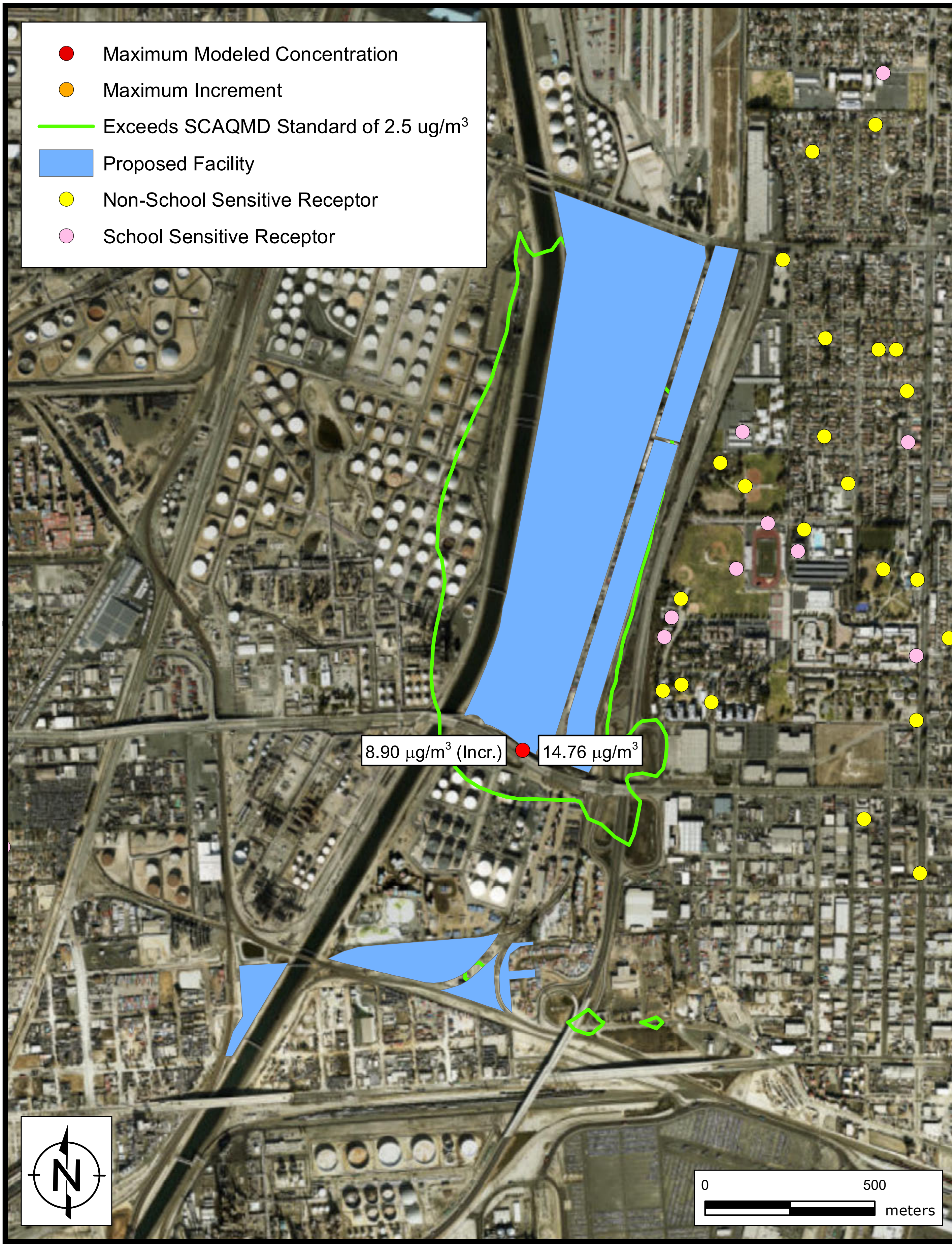

RAMBOLL

Proposed Project 2046 24-Hour PM_{10}
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-024

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RAMBOLL

Proposed Project 2016 Annual PM_{10}
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-025

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RAMBOLL

Proposed Project 2020 Annual PM_{10}
Southern California International Gateway Project
Port of Los Angeles

FIGURE **A-025**

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RAMBOLL

Proposed Project 2023 Annual PM_{10}
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-027

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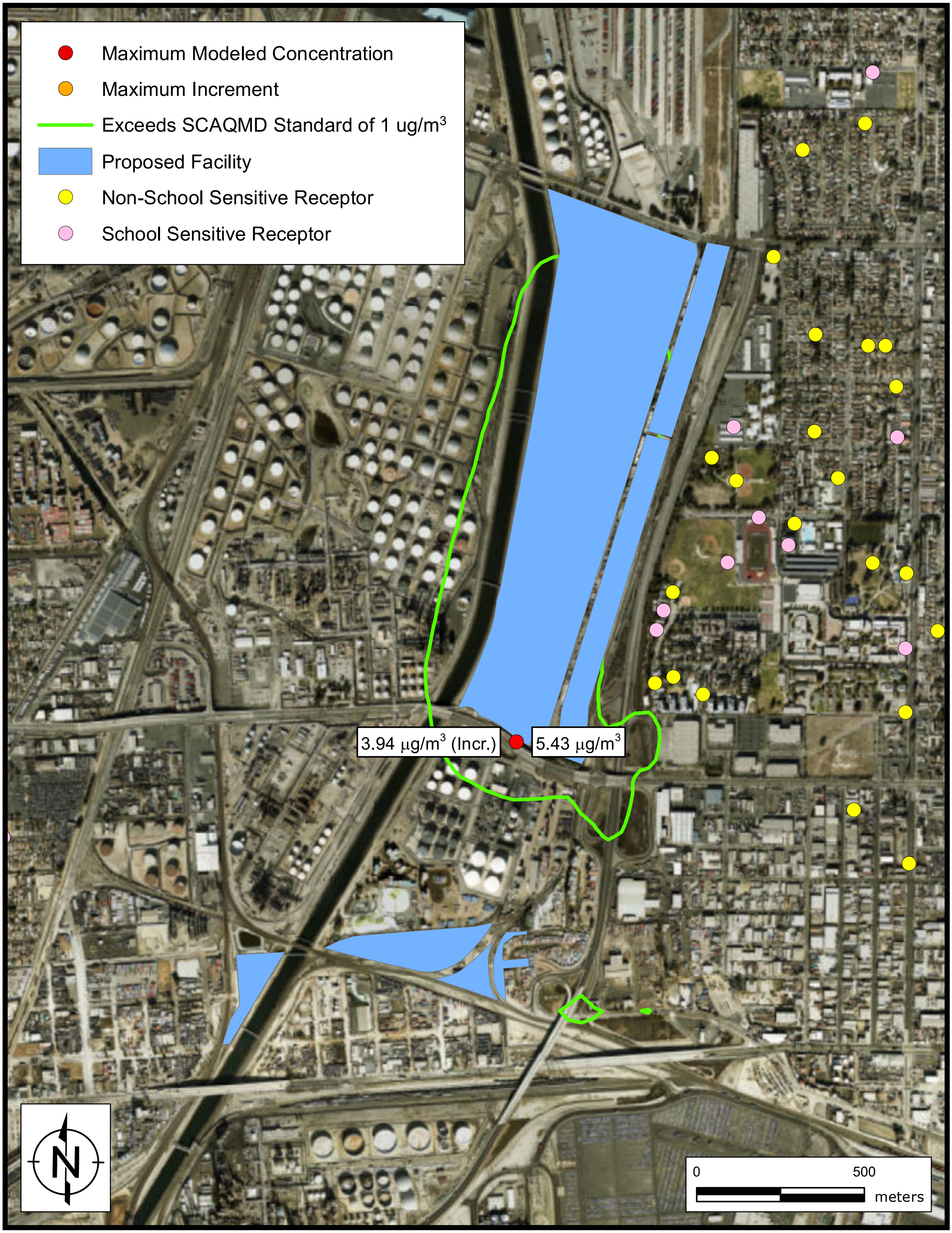

RAMBOLL

Proposed Project 2030 Annual PM_{10}
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-028

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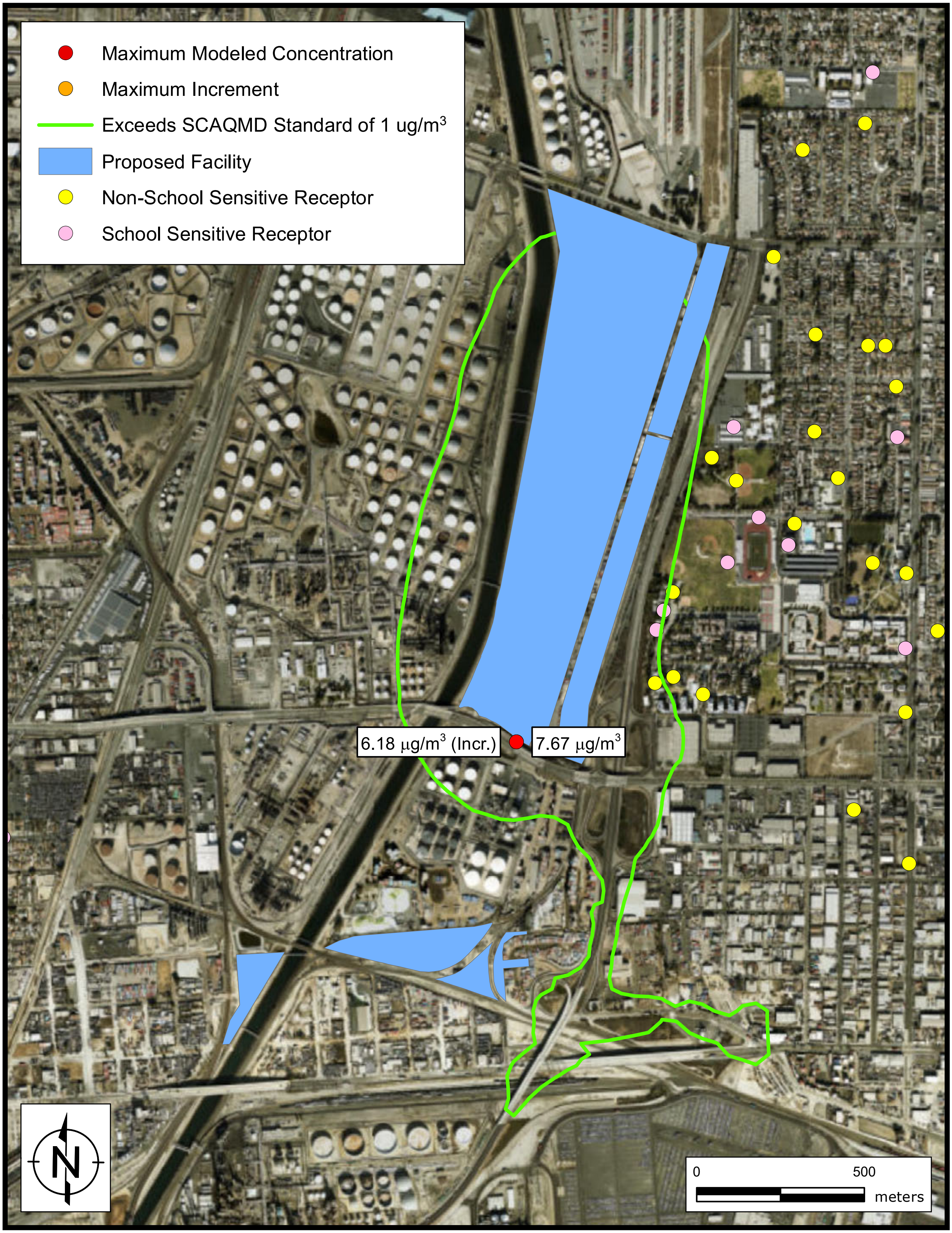
1690011204-001



RAMBOLL

Proposed Project 2035 Annual PM_{10}
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-029

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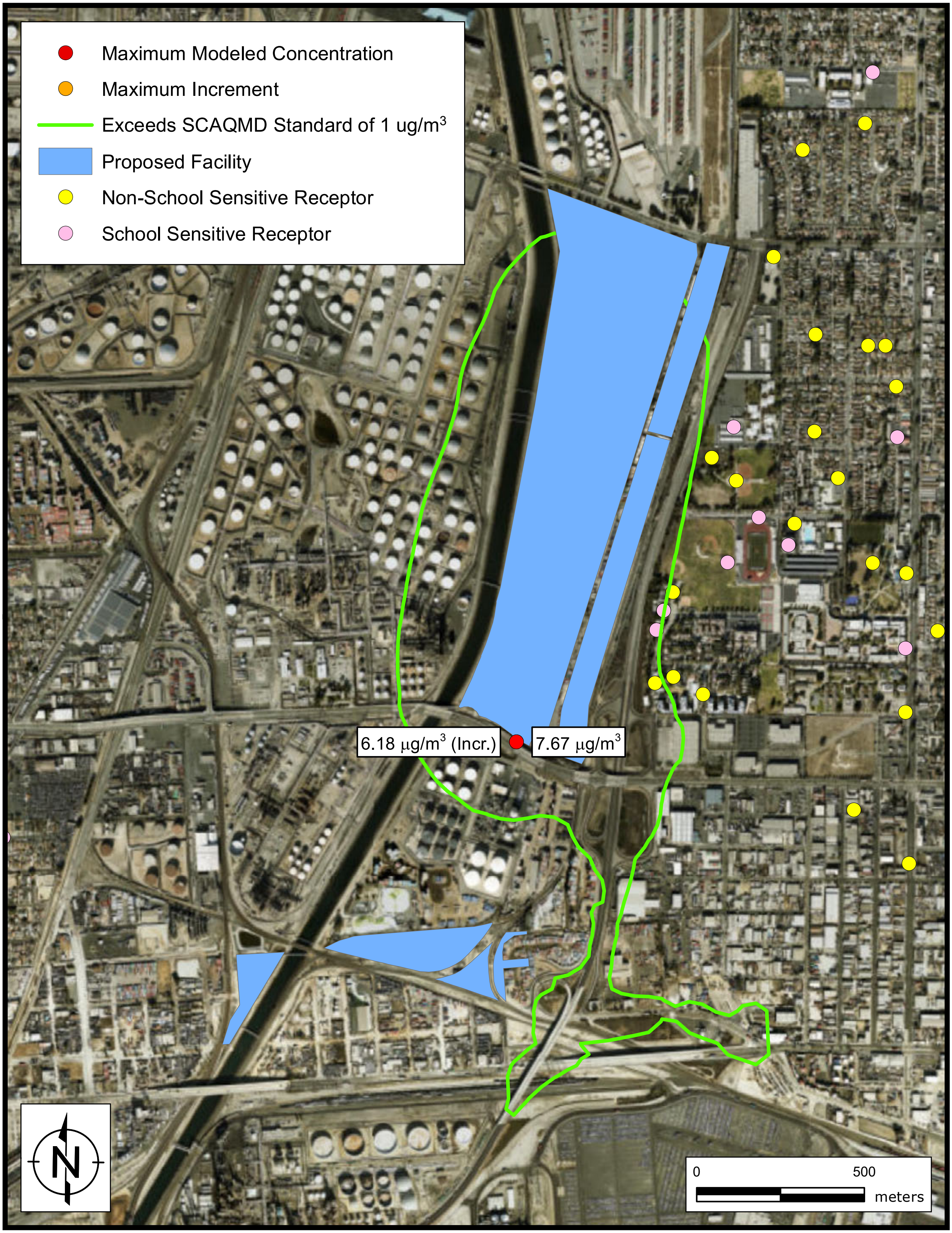

RAMBOLL

Proposed Project 2046 Annual PM_{10}
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-030

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RAMBOLL

Proposed Project 2016 24-Hour $PM_{2.5}$
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-031

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RAMBOLL

Proposed Project 2020 24-Hour $PM_{2.5}$
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-032

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RAMBOLL

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Proposed Project 2023 24-Hour $PM_{2.5}$
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-033

1690011204-001

RAMBOLL

Proposed Project 2030 24-Hour $PM_{2.5}$
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-034

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RAMBOLL

Proposed Project 2035 24-Hour $PM_{2.5}$
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-035

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RAMBOLL

Proposed Project 2046 24-Hour $PM_{2.5}$
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-036

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RAMBOLL

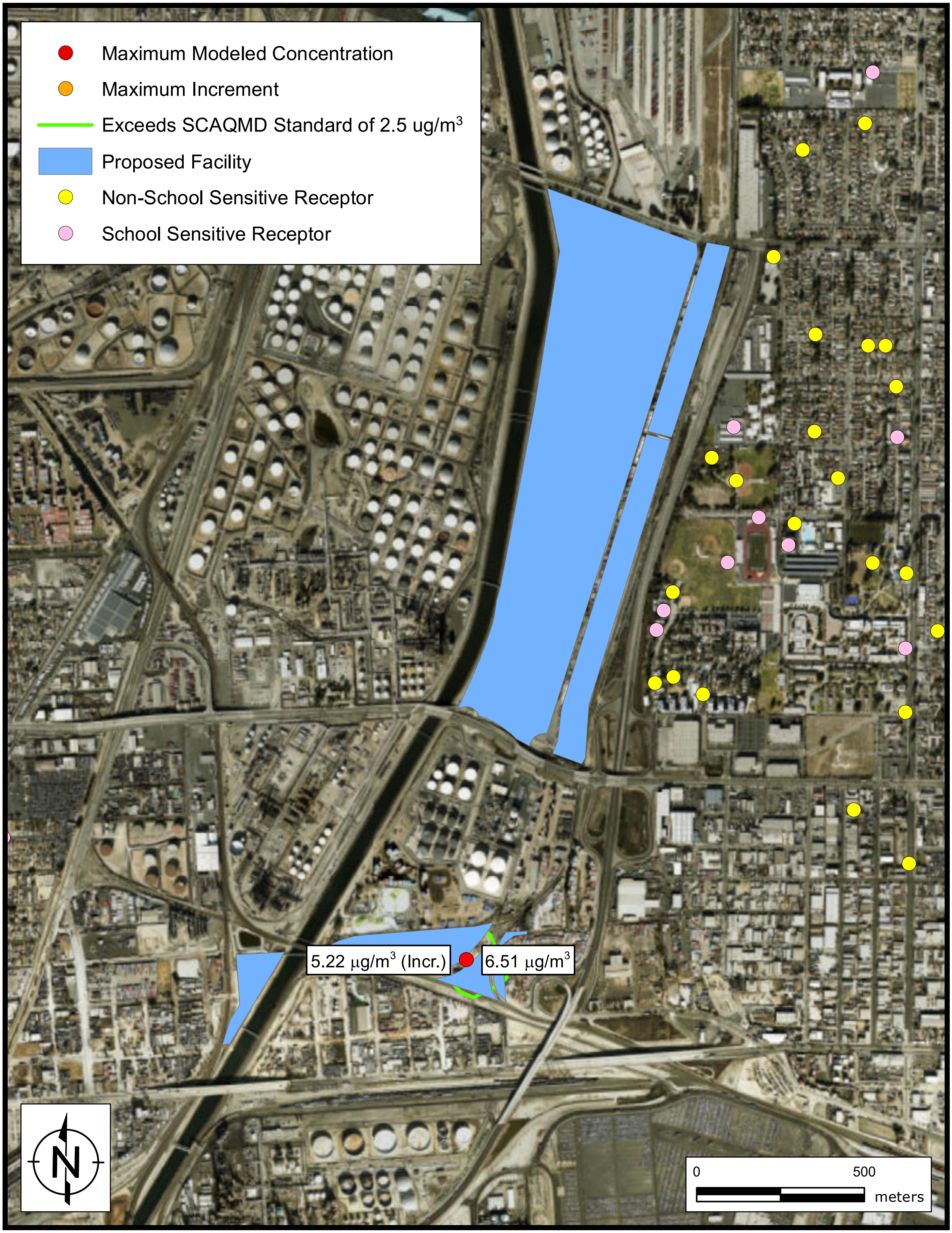
DRAFTED BY: KAR/DCW

DATE: 6/26/2020

Mitigated Project 2016 24-Hour PM_{10}
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-037

1690011204-001



RAMBOLL

Mitigated Project 2020 24-Hour PM_{10}
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-038

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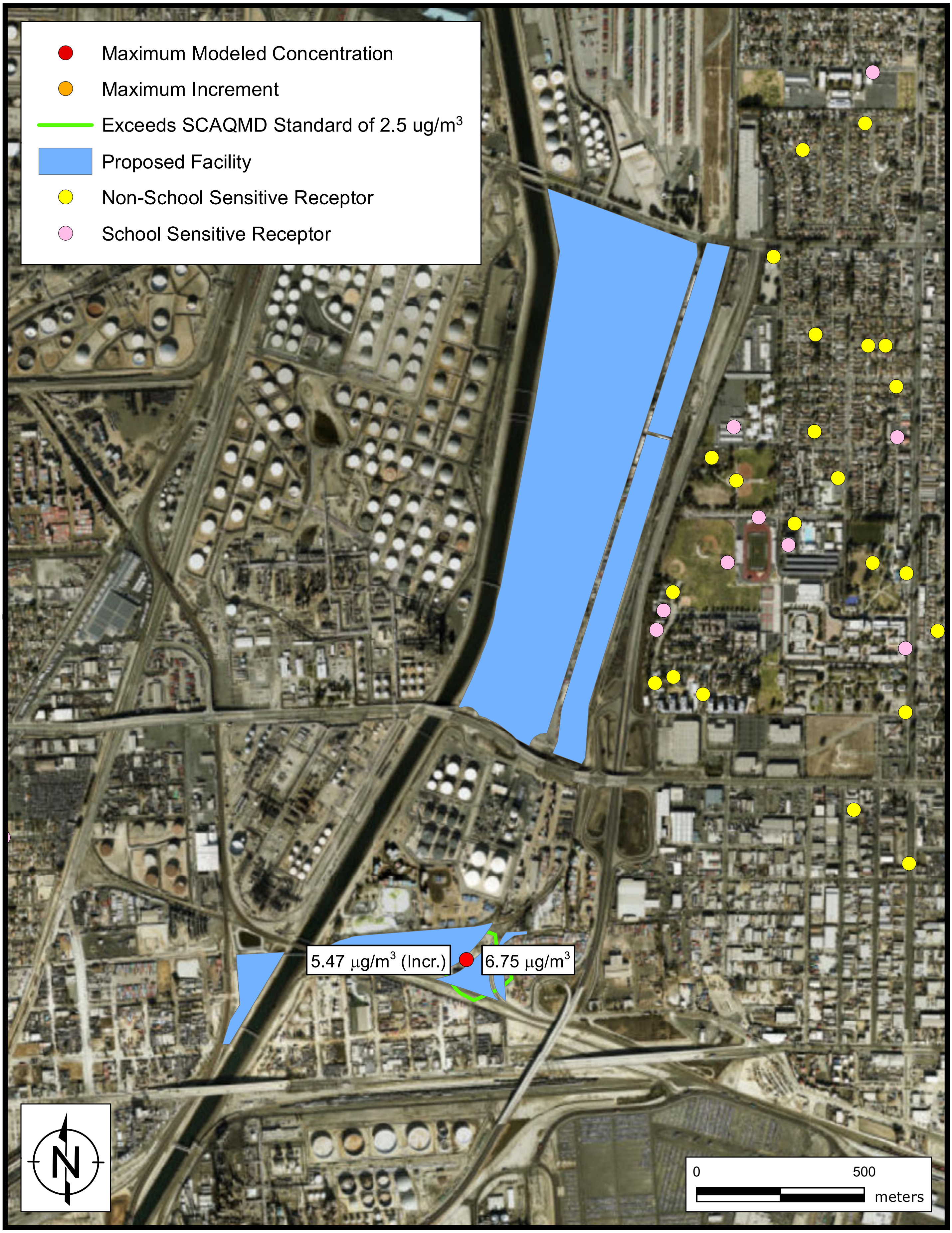
1690011204-001



RAMBOLL

Mitigated Project 2023 24-Hour PM_{10}
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-039

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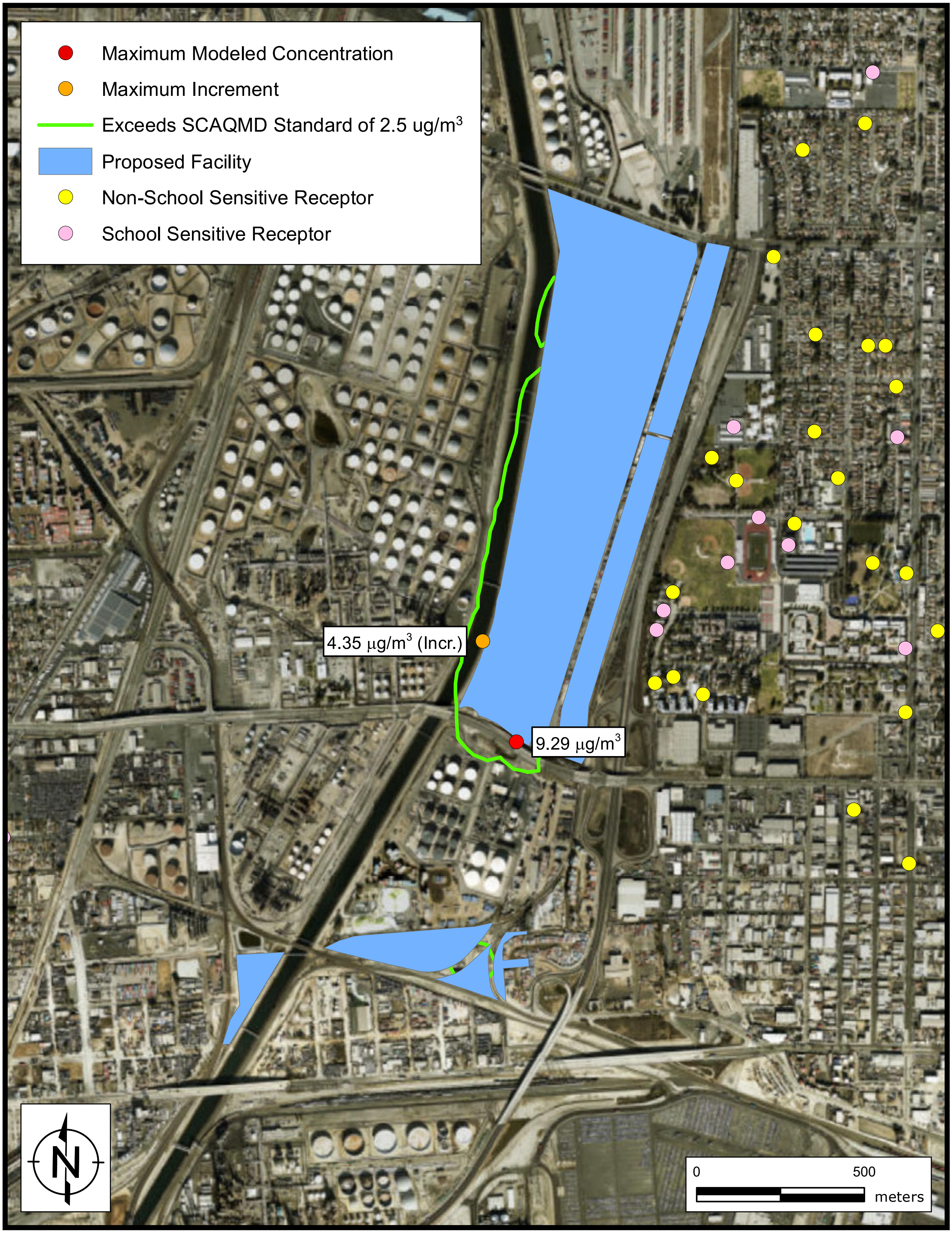

RAMBOLL

Mitigated Project 2030 24-Hour PM_{10}
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-040

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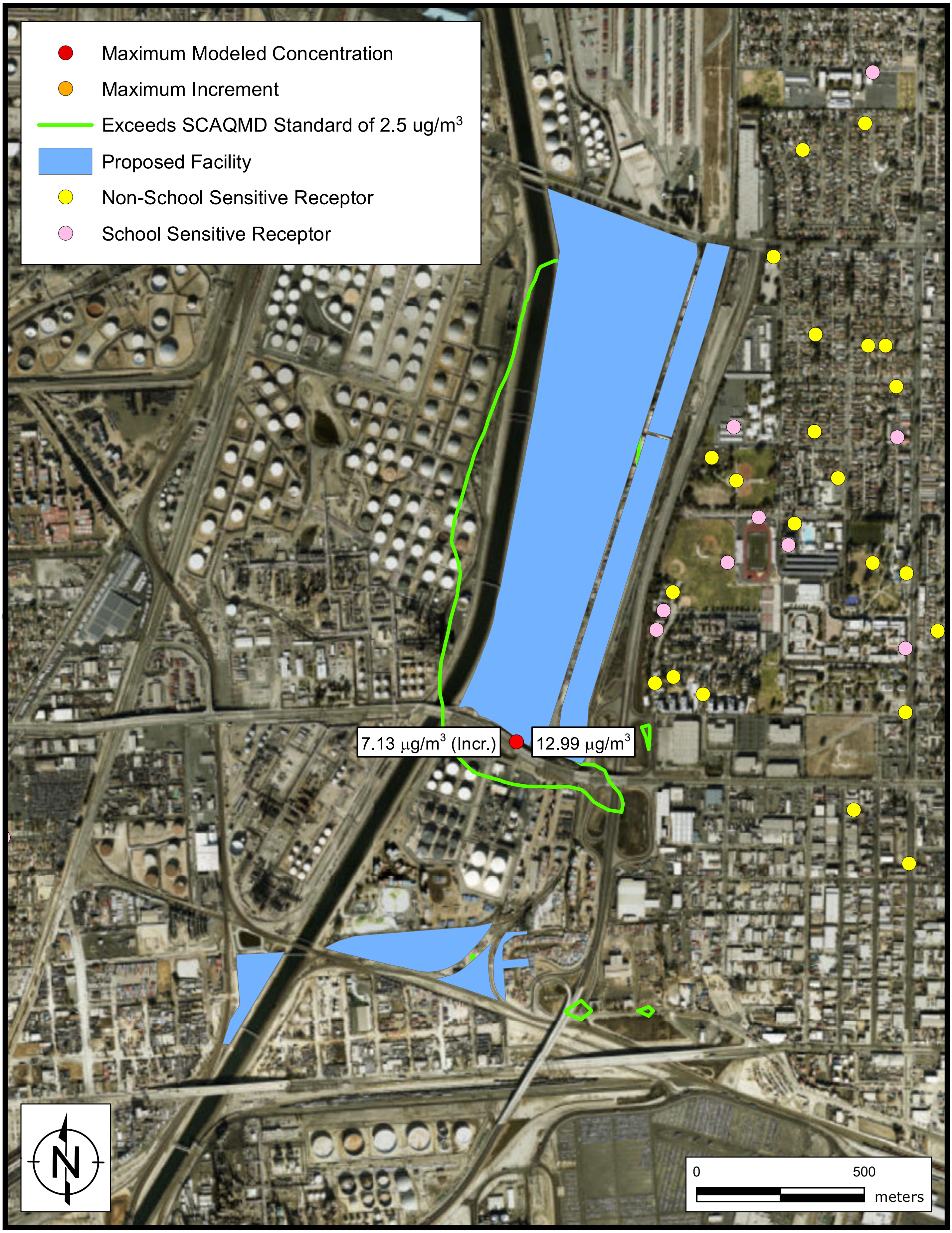
1690011204-001



RAMBOLL

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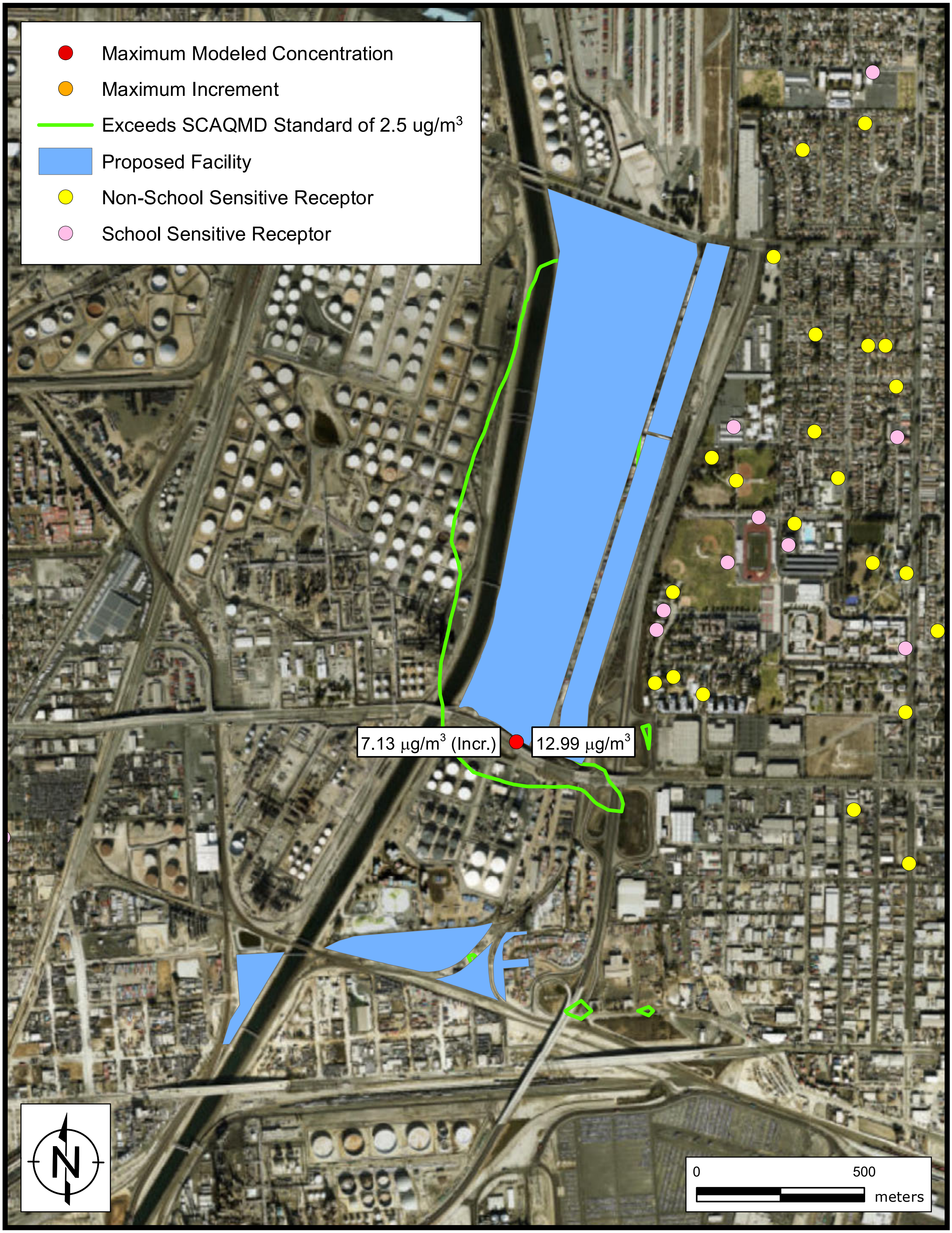
DATE: 6/26/2020

Mitigated Project 2035 24-Hour PM_{10}
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-041

1690011204-001



RAMBOLL

Mitigated Project 2046 24-Hour PM_{10}
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-042

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RAMBOLL

Mitigated Project 2016 Annual PM_{10}
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-043

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RAMBOLL

Mitigated Project 2020 Annual PM_{10}
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-044

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RAMBOLL

Mitigated Project 2023 Annual PM_{10}
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-045

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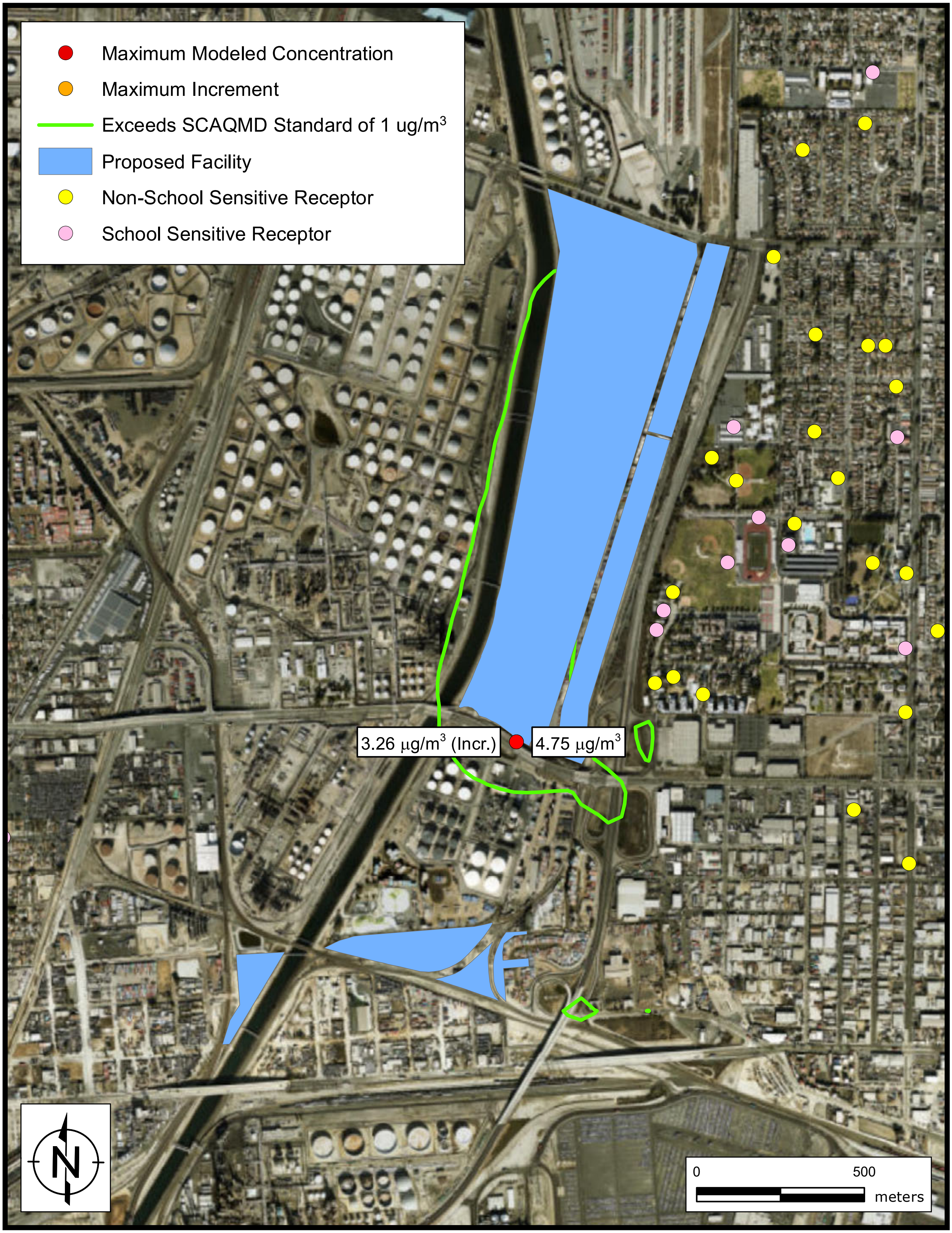
1690011204-001



RAMBOLL

Mitigated Project 2030 Annual PM_{10}
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-046

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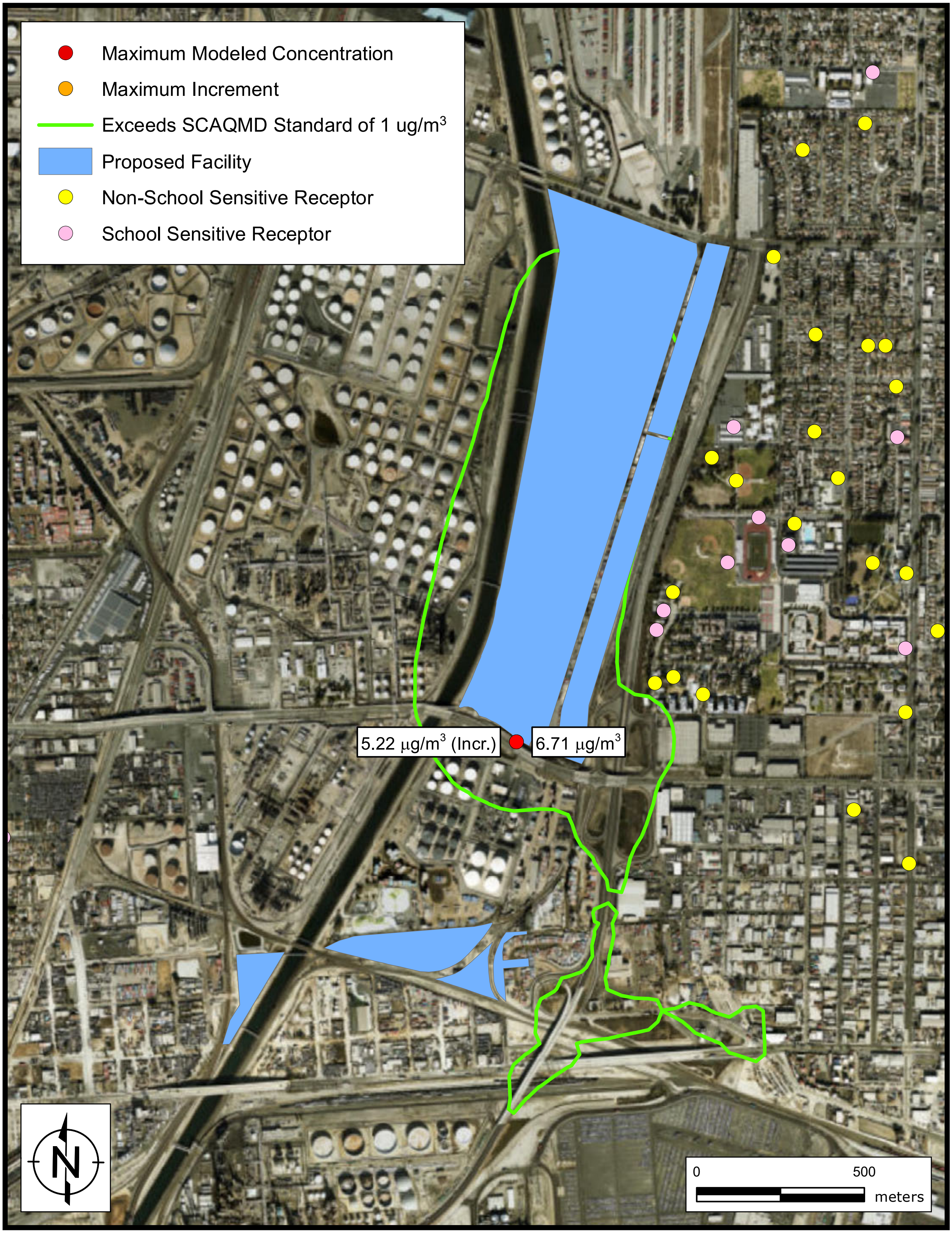


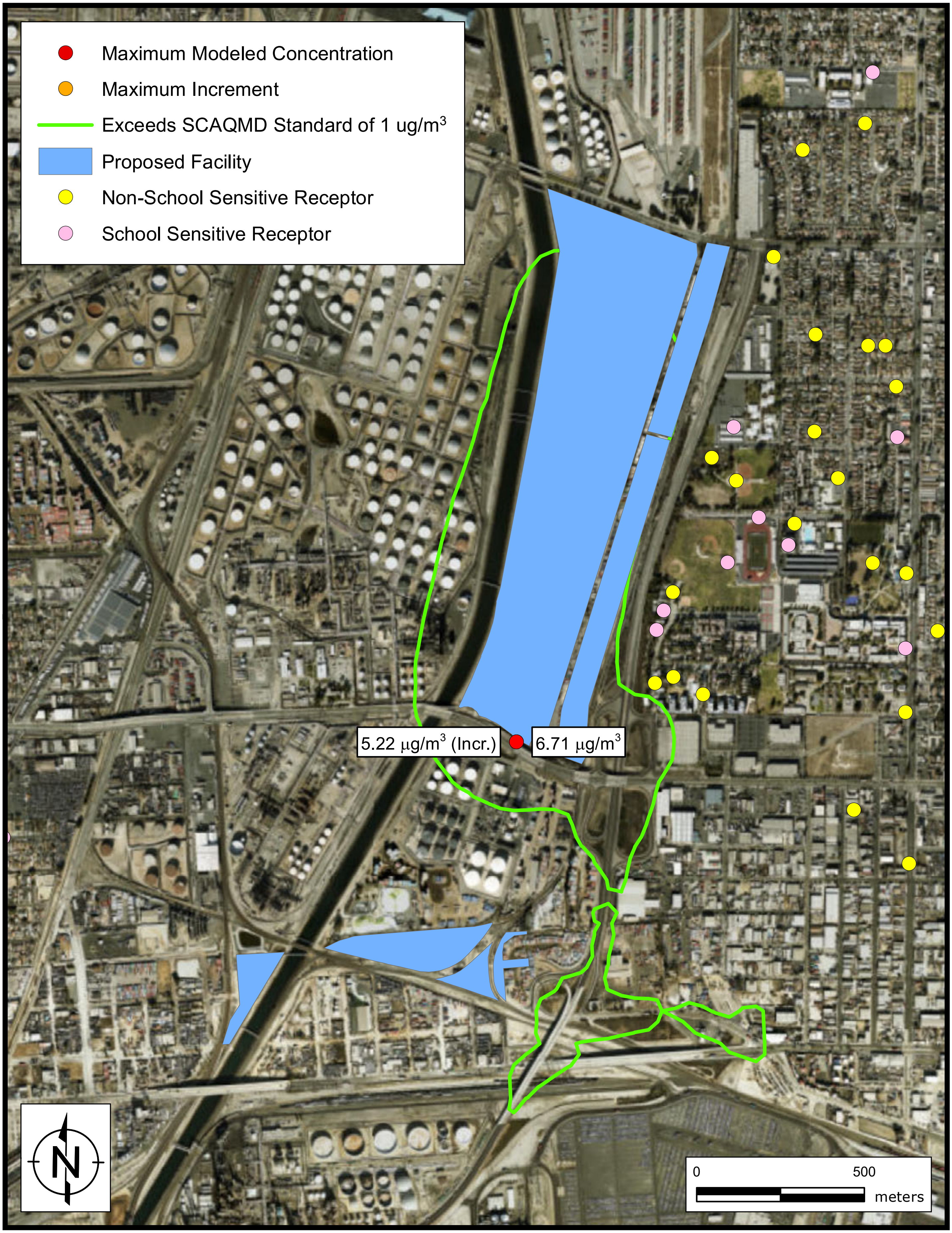
RAMBOLL

DRAFTED BY: KAR/DCW | DATE: 6/26/2020

Mitigated Project 2035 Annual PM_{10}
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-047

1690011204-001



RAMBOLL

Mitigated Project 2046 Annual PM_{10}
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-048

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RAMBOLL

Mitigated Project 2016 24-Hour $PM_{2.5}$
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-049

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RAMBOLL

Mitigated Project 2020 24-Hour $PM_{2.5}$
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-050

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RAMBOLL

Mitigated Project 2023 24-Hour $PM_{2.5}$
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-051

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RAMBOLL

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DATE: 6/26/2020

Mitigated Project 2030 24-Hour $PM_{2.5}$
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-052

1690011204-001

RAMBOLL

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Mitigated Project 2035 24-Hour $PM_{2.5}$
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-053

1690011204-001

RAMBOLL

Mitigated Project 2046 24-Hour $PM_{2.5}$
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-054

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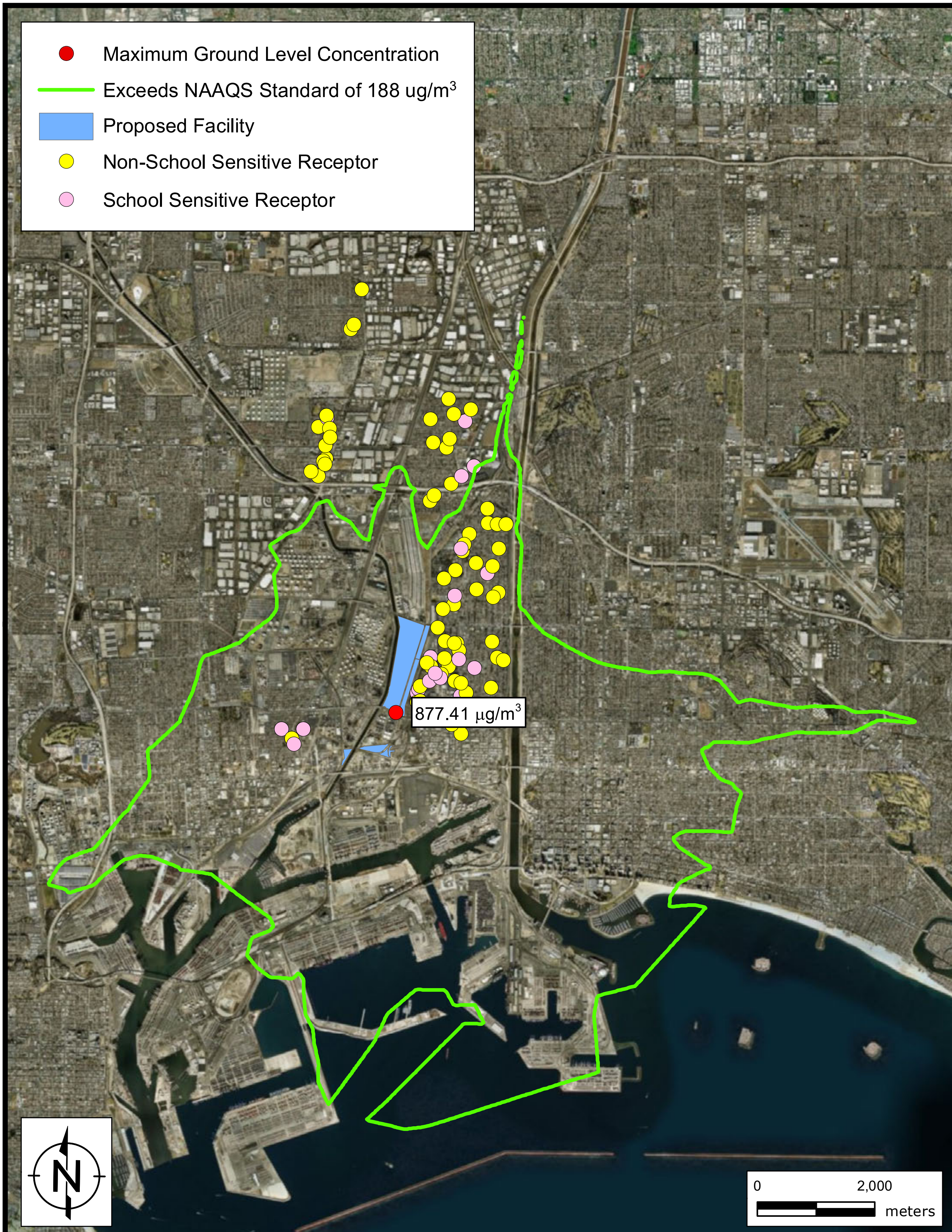


RAMBOLL

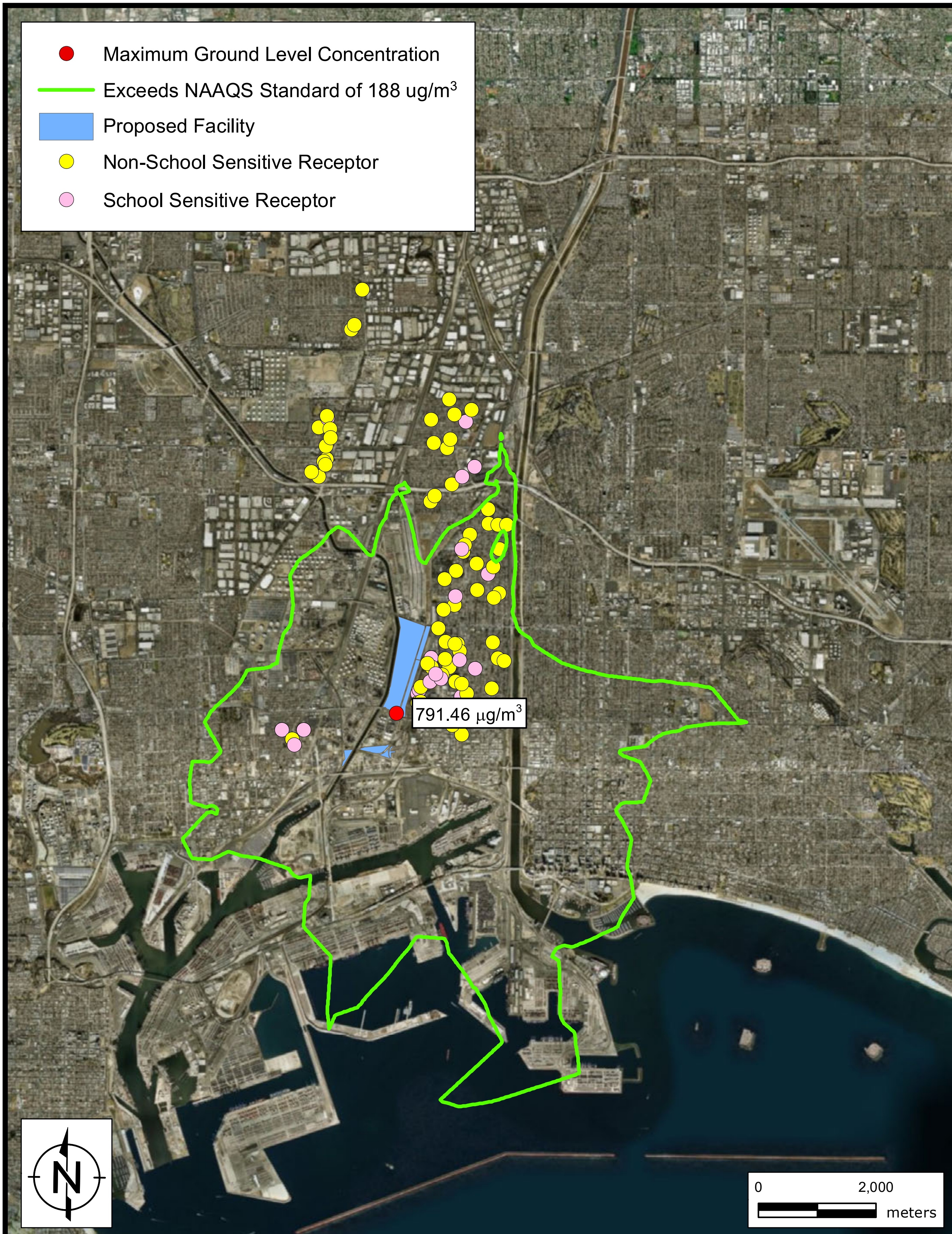
No Project 2016 1-Hour NO_2 Federal Criteria
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-055

DRAFTED BY: KAR/DCW

DATE: 6/26/2020

1690011204-001



RAMBOLL

No Project 2020 1-Hour NO_2 Federal Criteria
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-056

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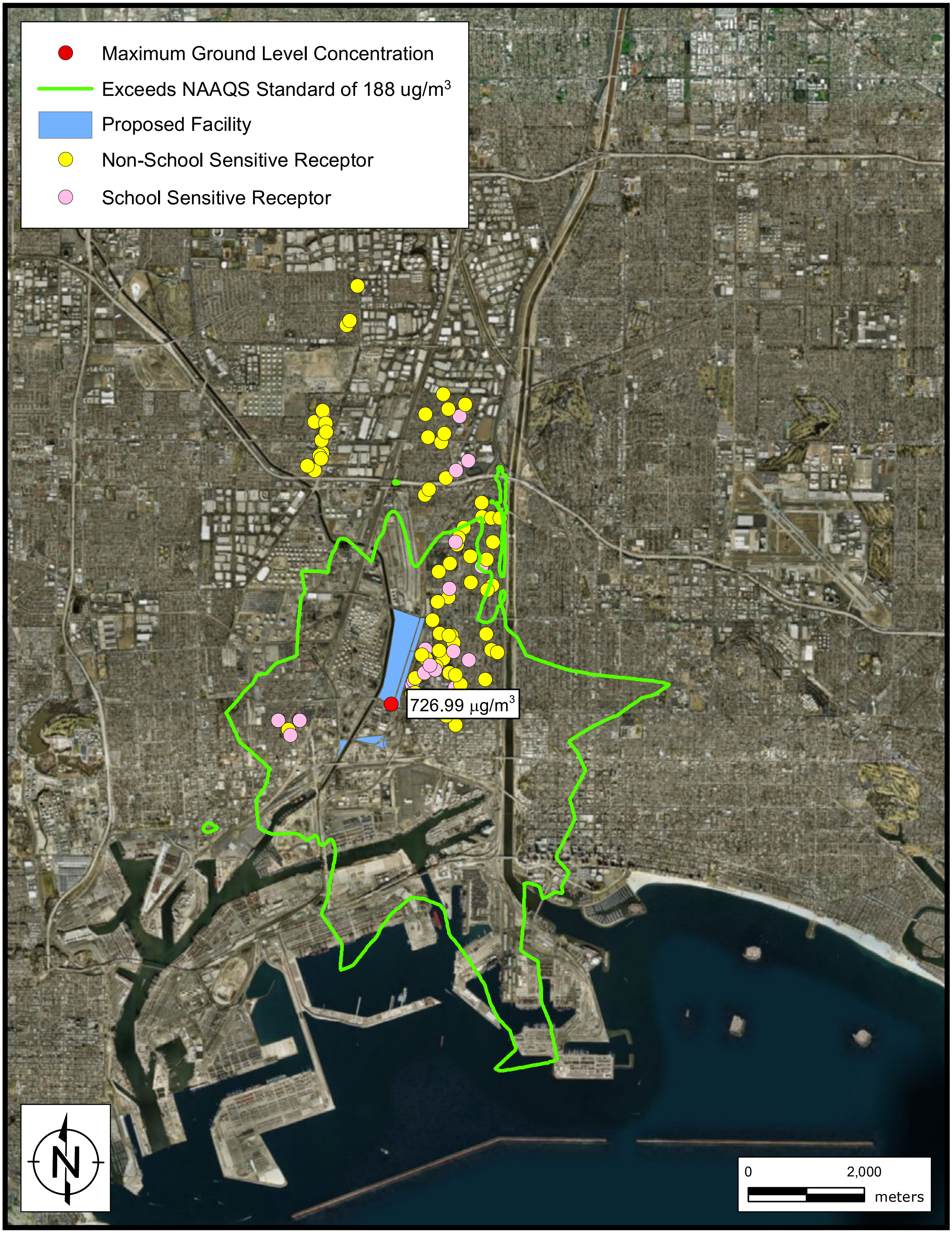
DATE: 6/26/2020

1690011204-001

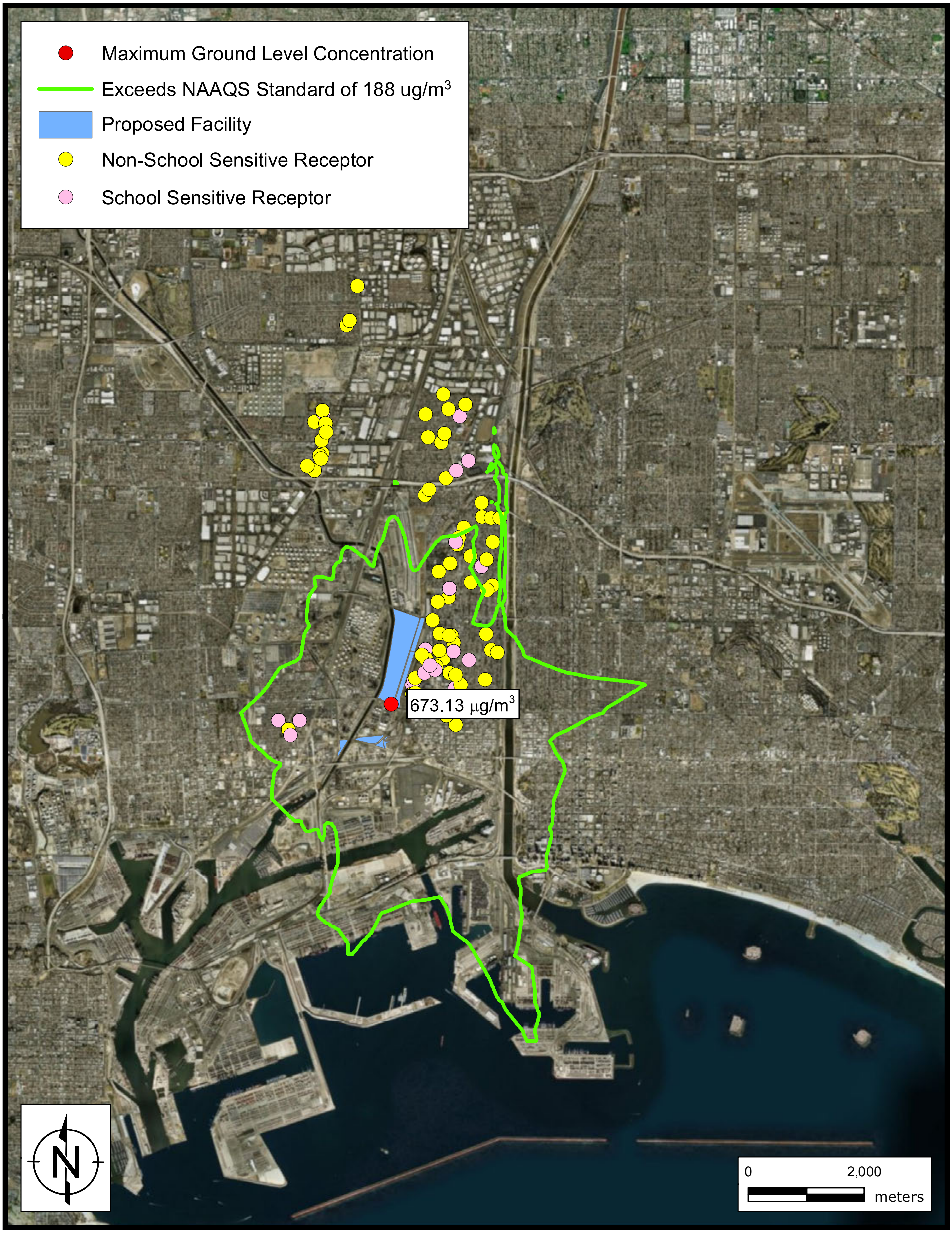


RAMBOLL

No Project 2023 1-Hour NO_2 Federal Criteria
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-057

DRAFTED BY: KAR/DCW | DATE: 6/26/2020 | 1690011204-001

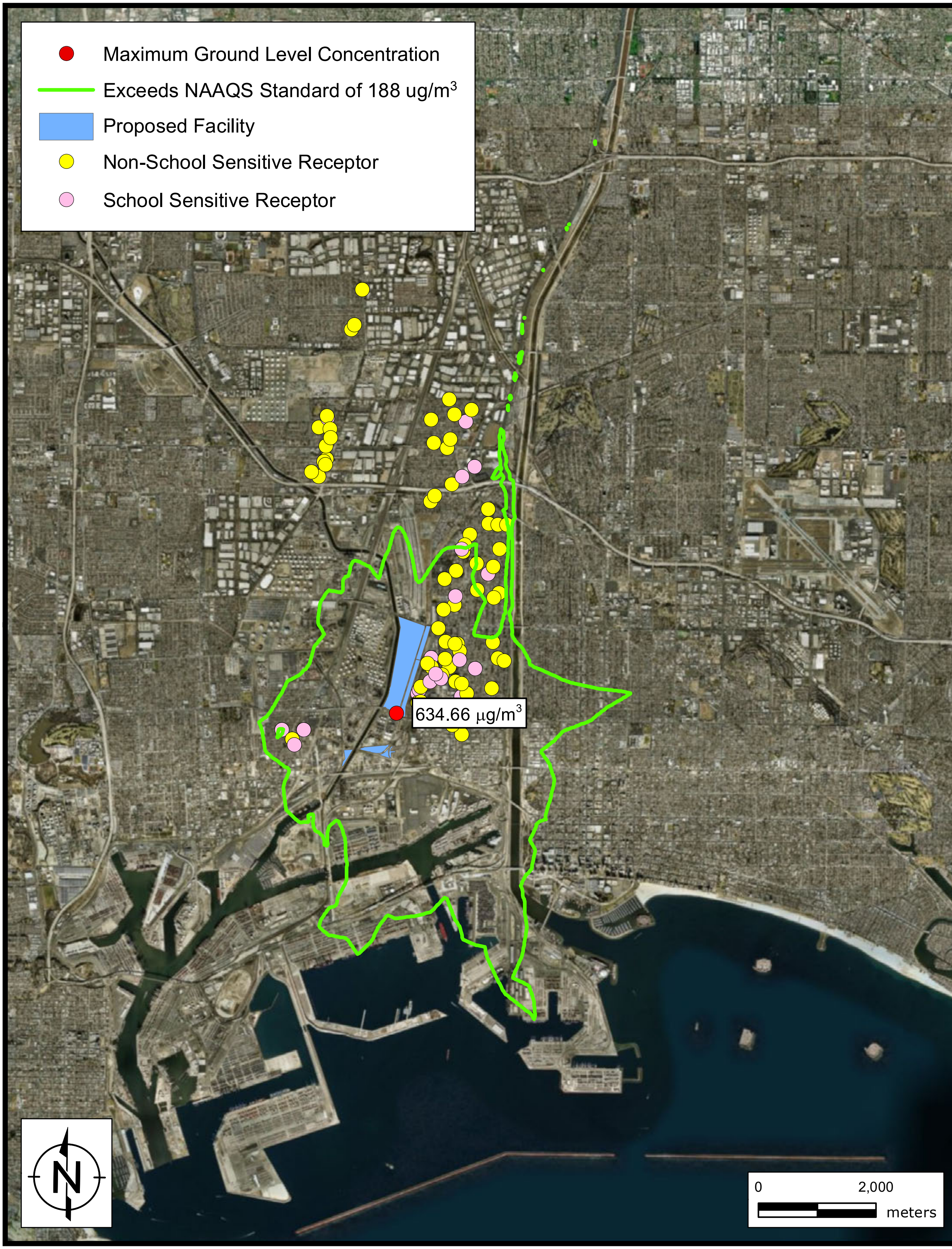


RAMBOLL

No Project 2030 1-Hour NO_2 Federal Criteria
Southern California International Gateway Project
Port of Los Angeles

FIGURE **A-058**

DRAFTED BY: KAR/DCW | DATE: 6/26/2020 | 1690011204-001



RAMBOLL

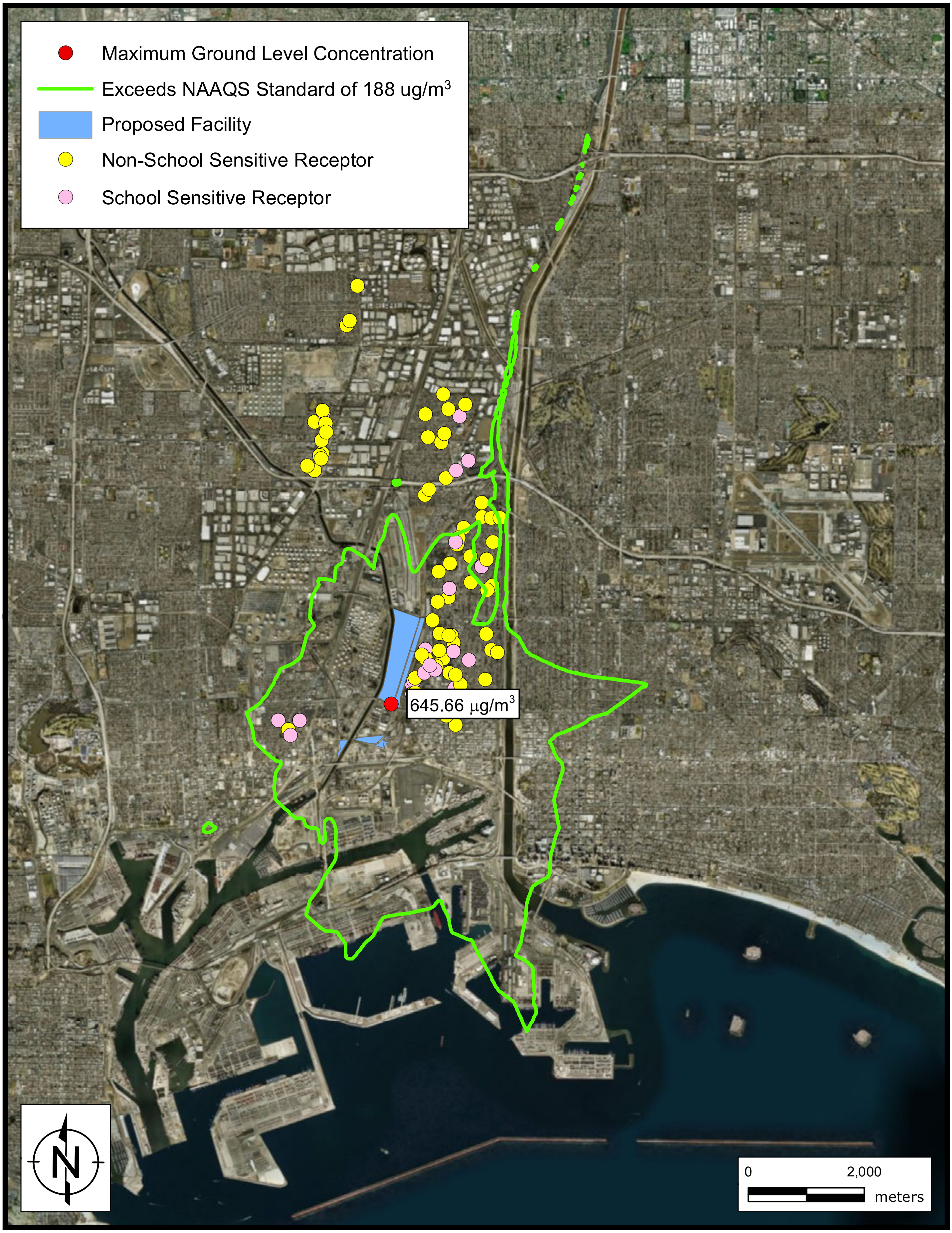
No Project 2035 1-Hour NO_2 Federal Criteria
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-059

DRAFTED BY: KAR/DCW

DATE: 6/26/2020

1690011204-001



RAMBOLL

DRAFTED BY: KAR/DCW

DATE: 6/26/2020

No Project 2046 1-Hour NO_2 Federal Criteria
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-060

1690011204-001

RAMBOLL

No Project 2016 1-Hour NO_2 State Criteria
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-061

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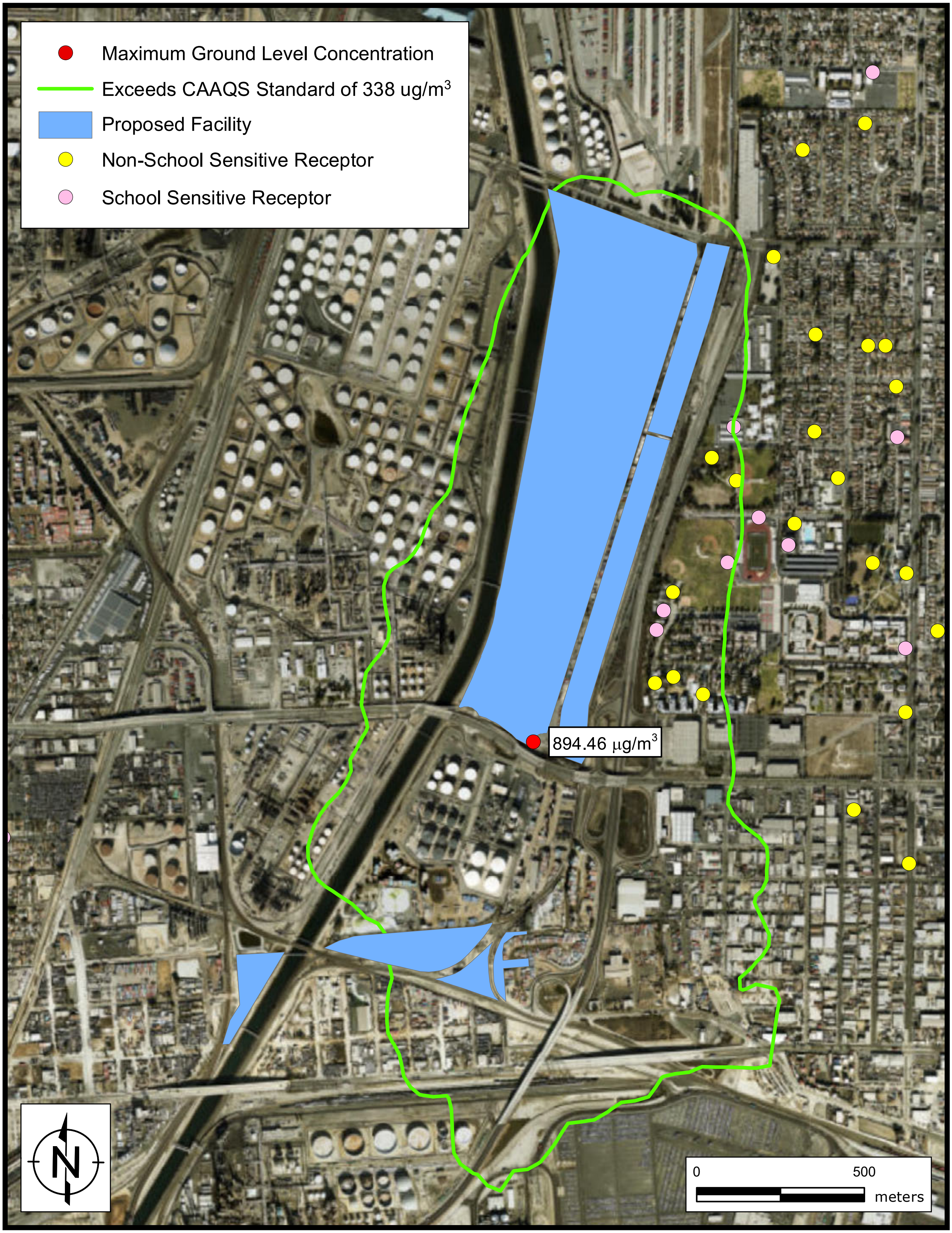
1690011204-001



RAMBOLL

No Project 2020 1-Hour NO_2 State Criteria
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-062

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RAMBOLL

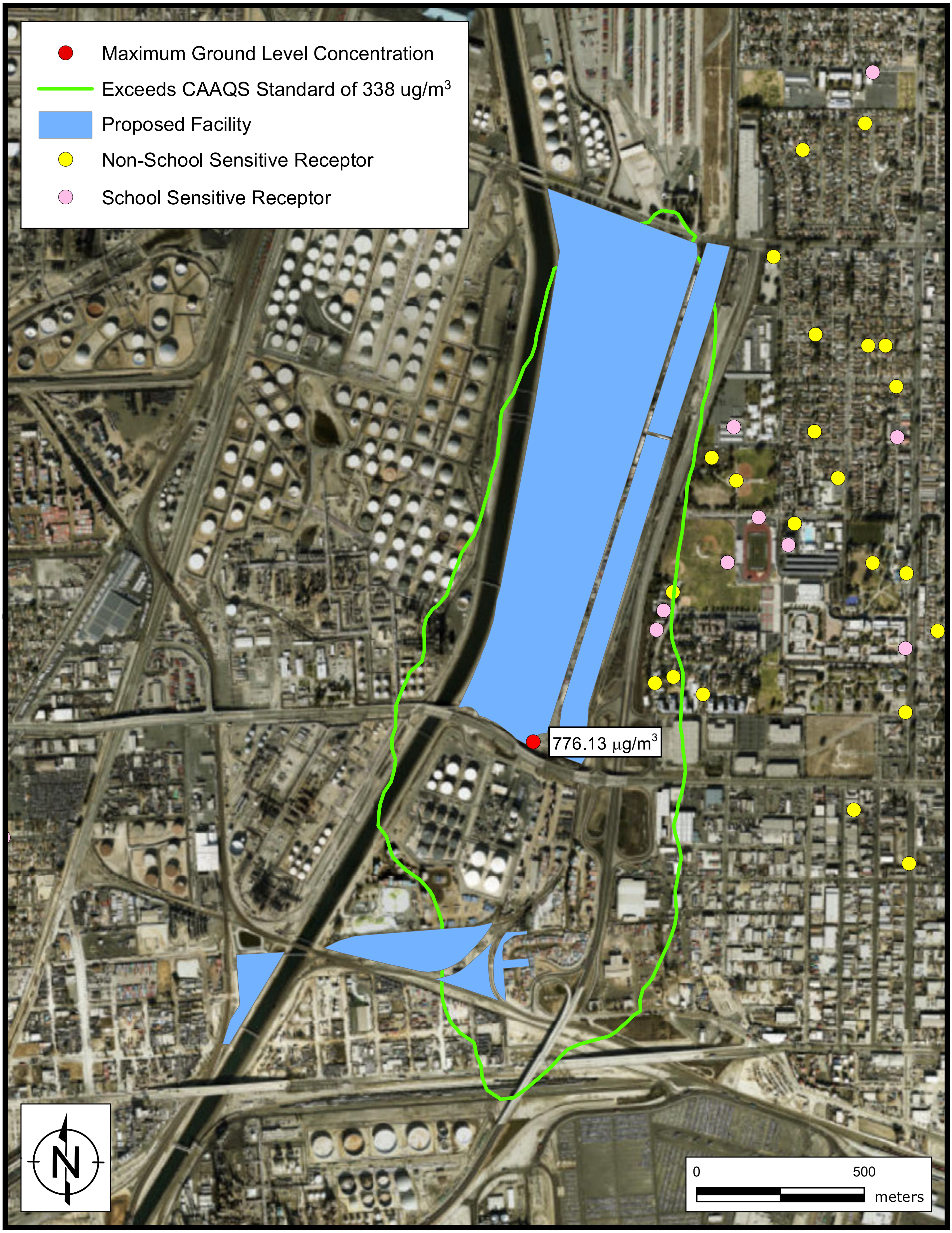
No Project 2023 1-Hour NO_2 State Criteria
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-063

DRAFTED BY: KAR/DCW

DATE: 6/26/2020

1690011204-001



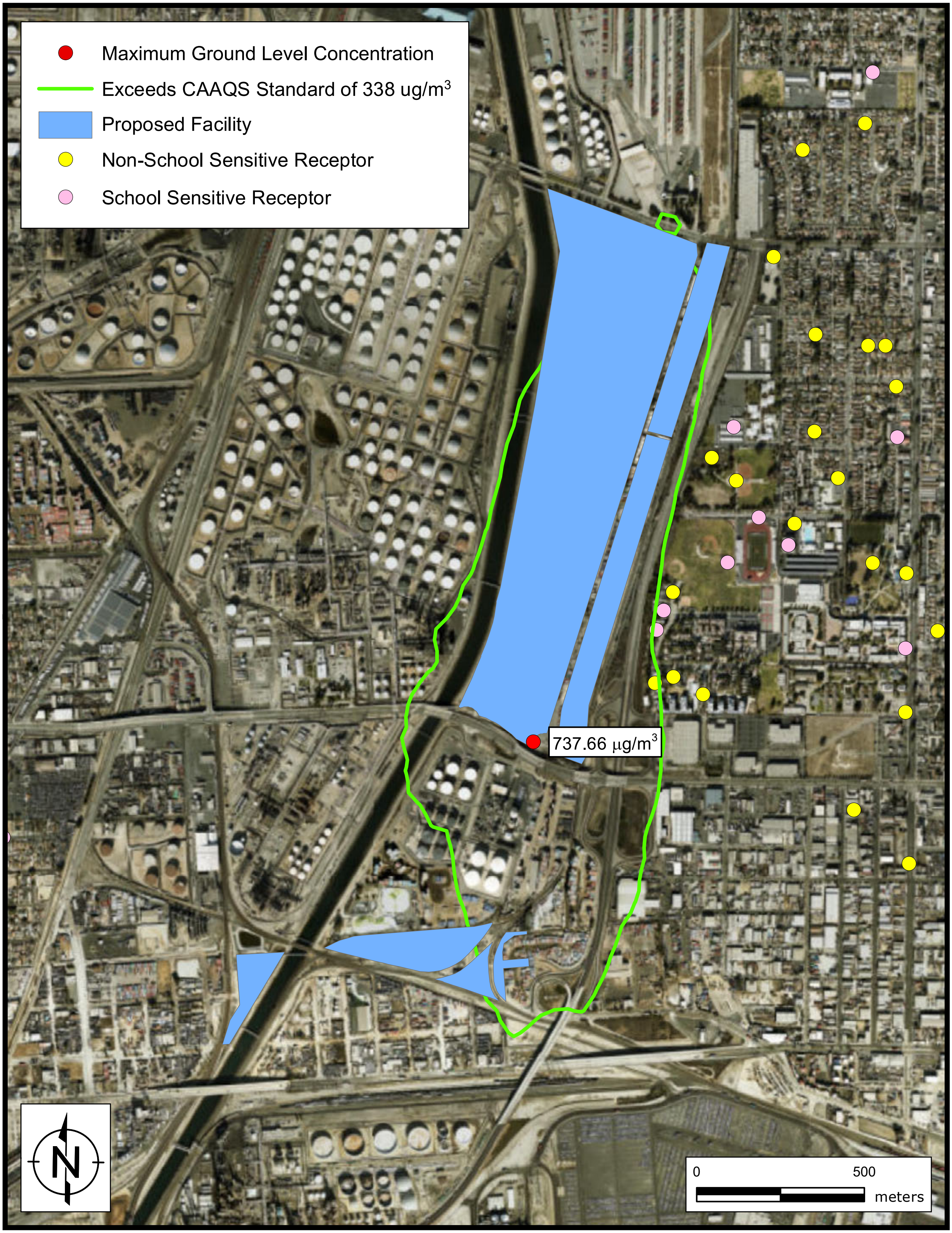
RAMBOLL

No Project 2030 1-Hour NO_2 State Criteria
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-064

DRAFTED BY: KAR/DCW | DATE: 6/26/2020

1690011204-001



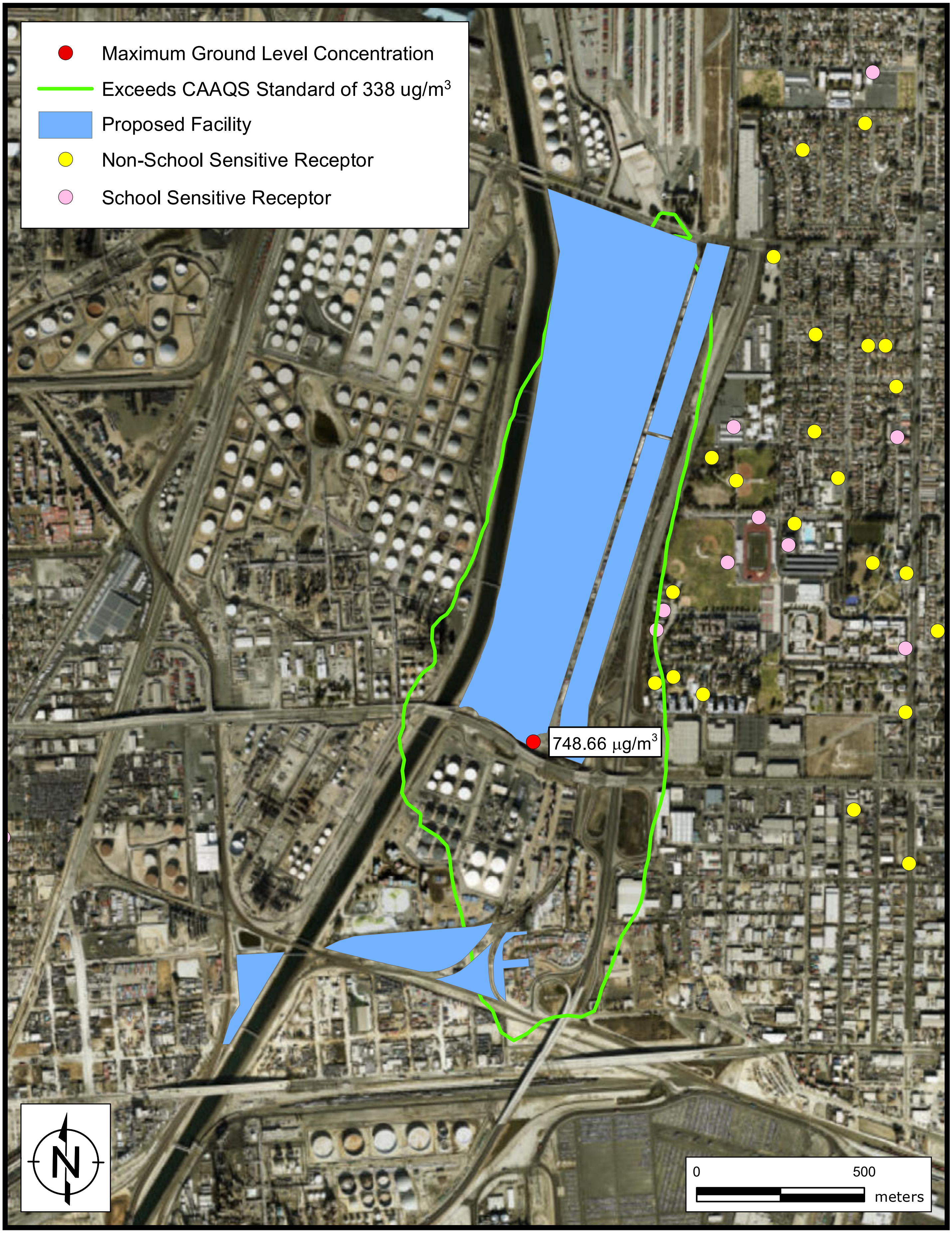
RAMBOLL

No Project 2035 1-Hour NO_2 State Criteria
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-065

DRAFTED BY: KAR/DCW | DATE: 6/26/2020

1690011204-001



RAMBOLL

No Project 2046 1-Hour NO_2 State Criteria
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-066

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1690011204-001

RAMBOLL

No Project 2016 Annual NO_2
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-067

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DATE: 6/26/2020

1690011204-001

RAMBOLL

No Project 2020 Annual NO_2
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-068

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DATE: 6/26/2020

1690011204-001

RAMBOLL

No Project 2023 Annual NO_2
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-069

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1690011204-001

RAMBOLL

No Project 2030 Annual NO_2
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-070

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DATE: 6/26/2020
1690011204-001

RAMBOLL

No Project 2035 Annual NO_2
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-071

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1690011204-001

RAMBOLL

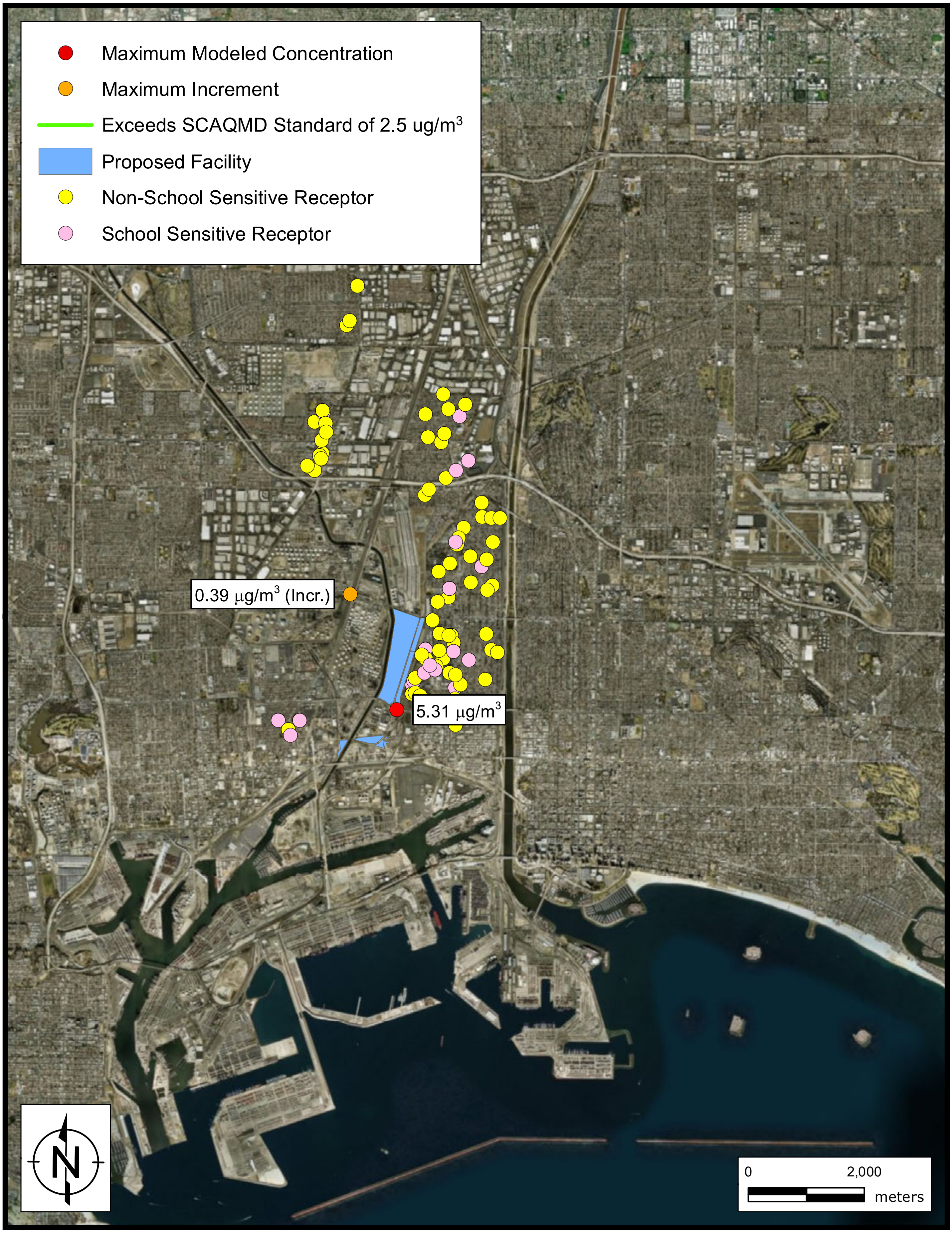
DRAFTED BY: KAR/DCW

DATE: 6/26/2020

No Project 2046 Annual NO_2
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-072

1690011204-001



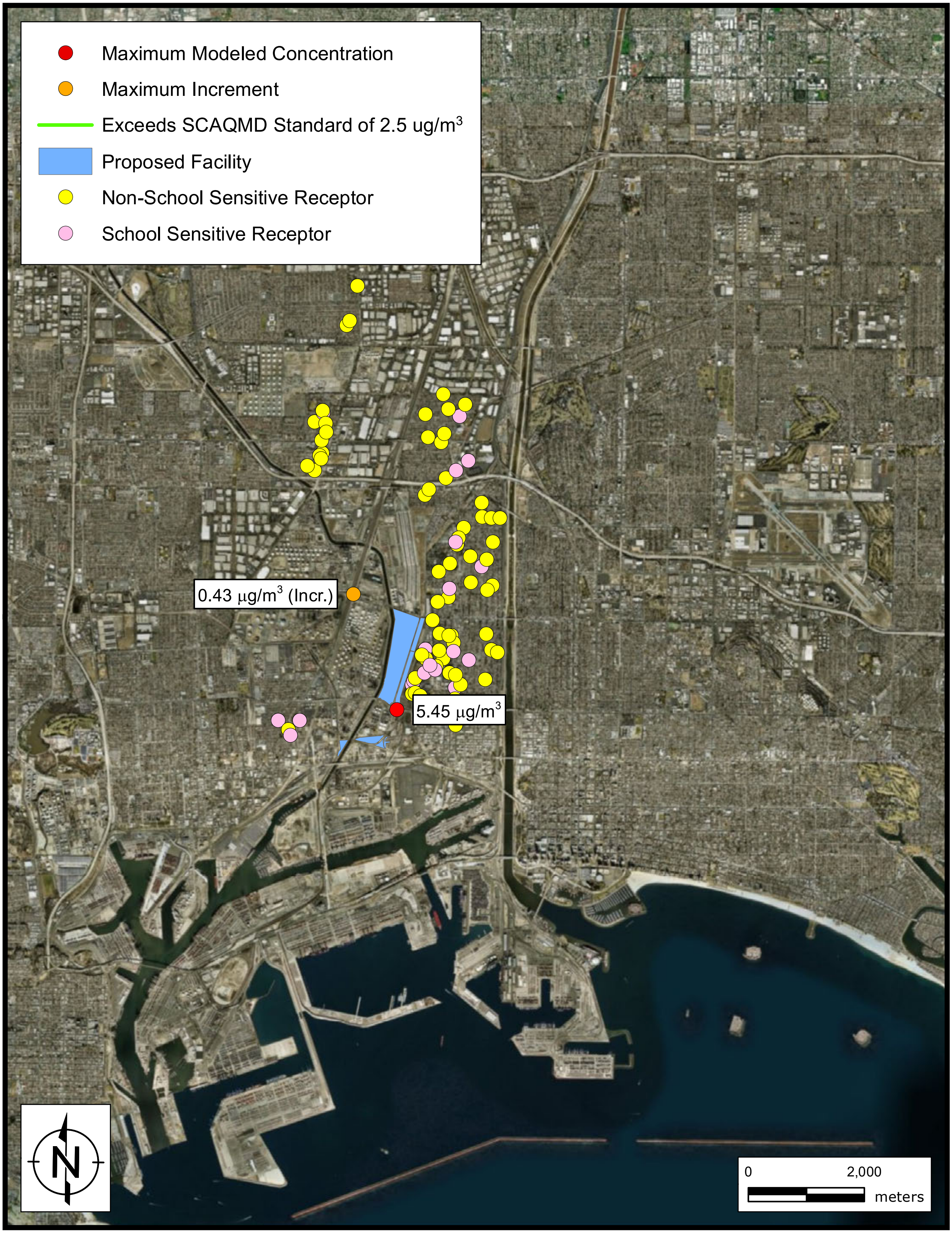
RAMBOLL

No Project 2016 24-Hour PM_{10}
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-073

DRAFTED BY: KAR/DCW | DATE: 6/26/2020

1690011204-001



RAMBOLL

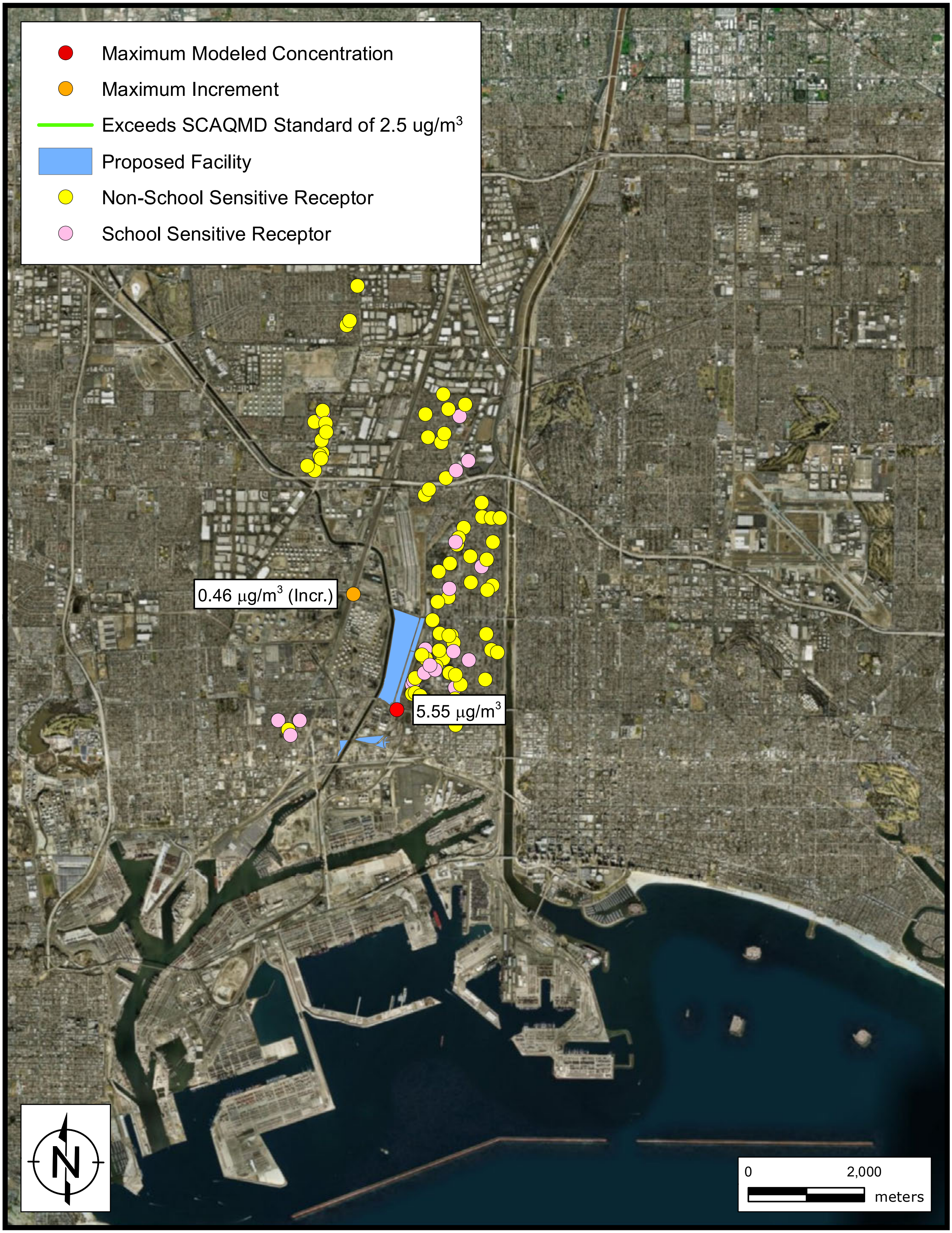
DRAFTED BY: KAR/DCW

DATE: 6/26/2020

No Project 2020 24-Hour PM_{10}
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-074

1690011204-001

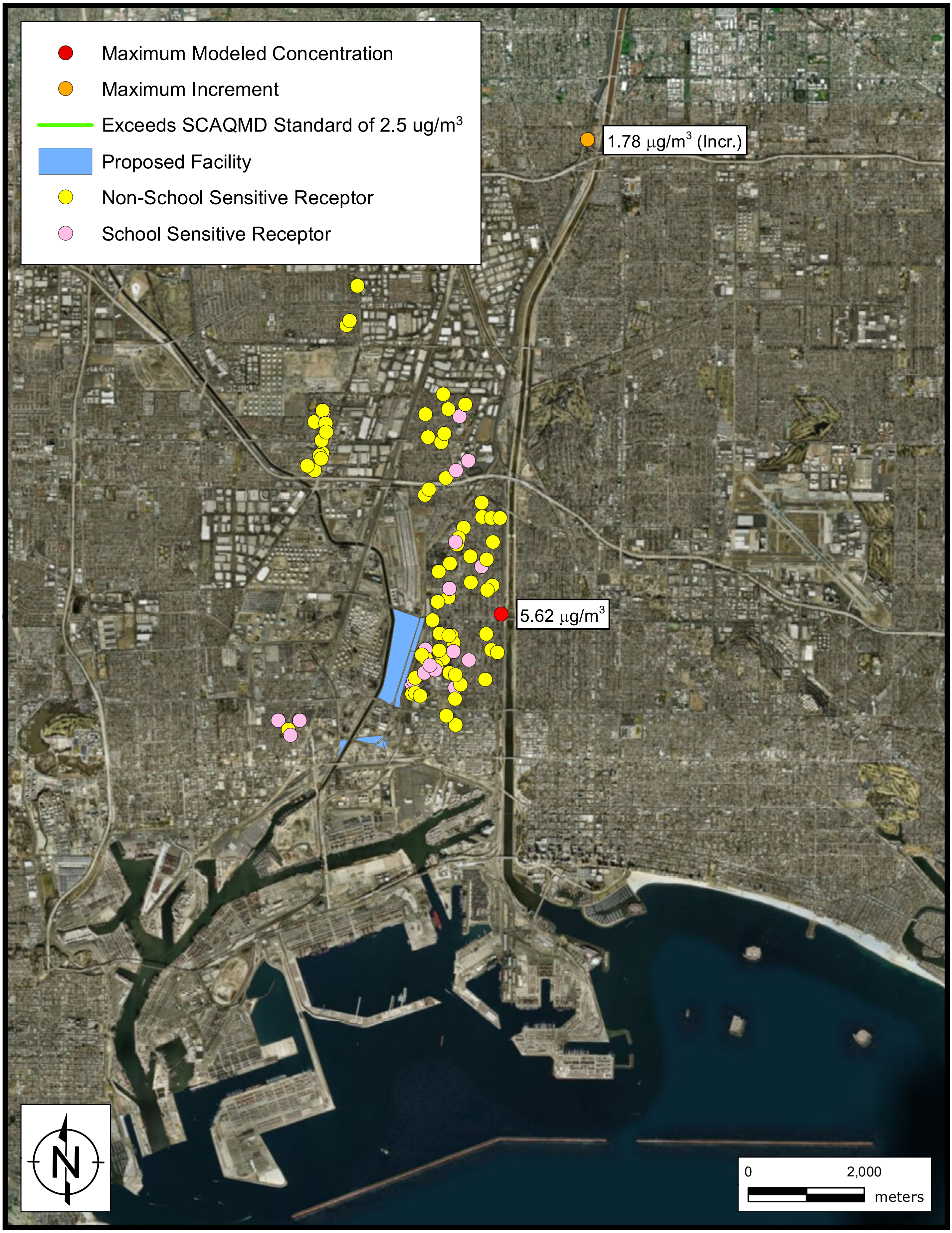


RAMBOLL

No Project 2023 24-Hour PM_{10}
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-075

DRAFTED BY: KAR/DCW | DATE: 6/26/2020 | 1690011204-001

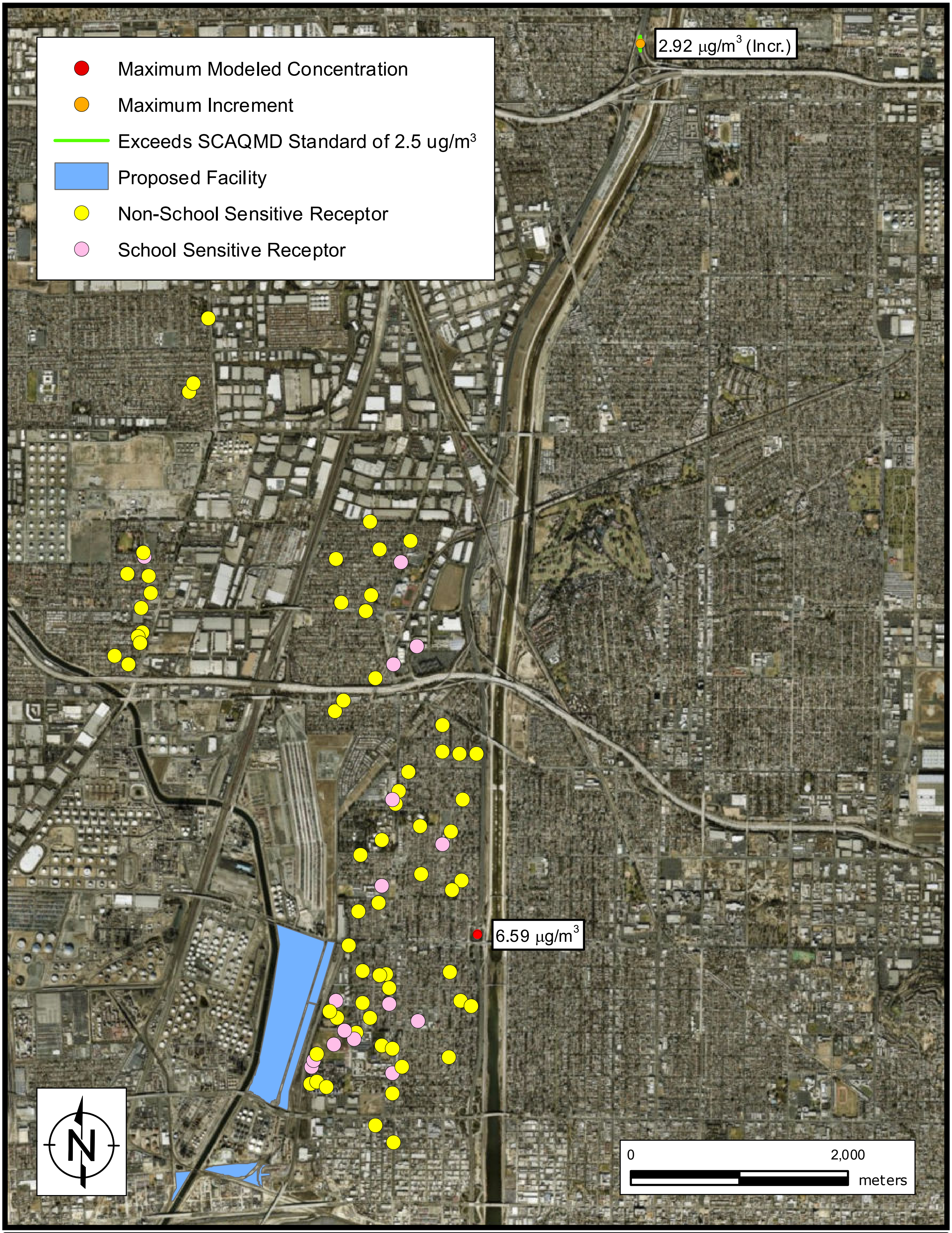


RAMBOLL

No Project 2030 24-Hour PM_{10}
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-076

DRAFTED BY: KAR/DCW | DATE: 6/26/2020 | 1690011204-001



RAMBOLL

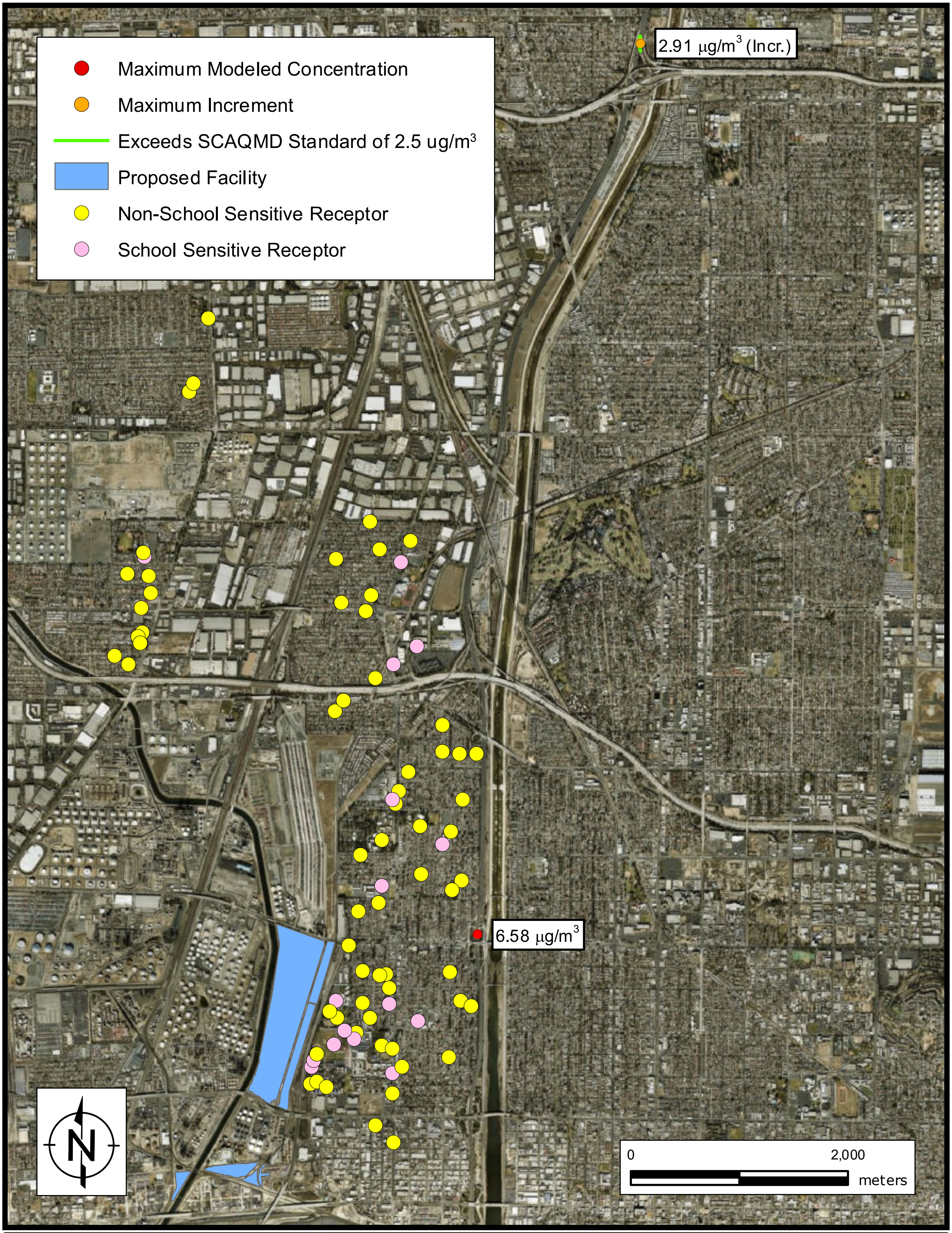
DRAFTED BY: KAR/DCW

DATE: 6/25/2020

No Project 2035 24-Hour PM_{10}
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-077

1690011204-001

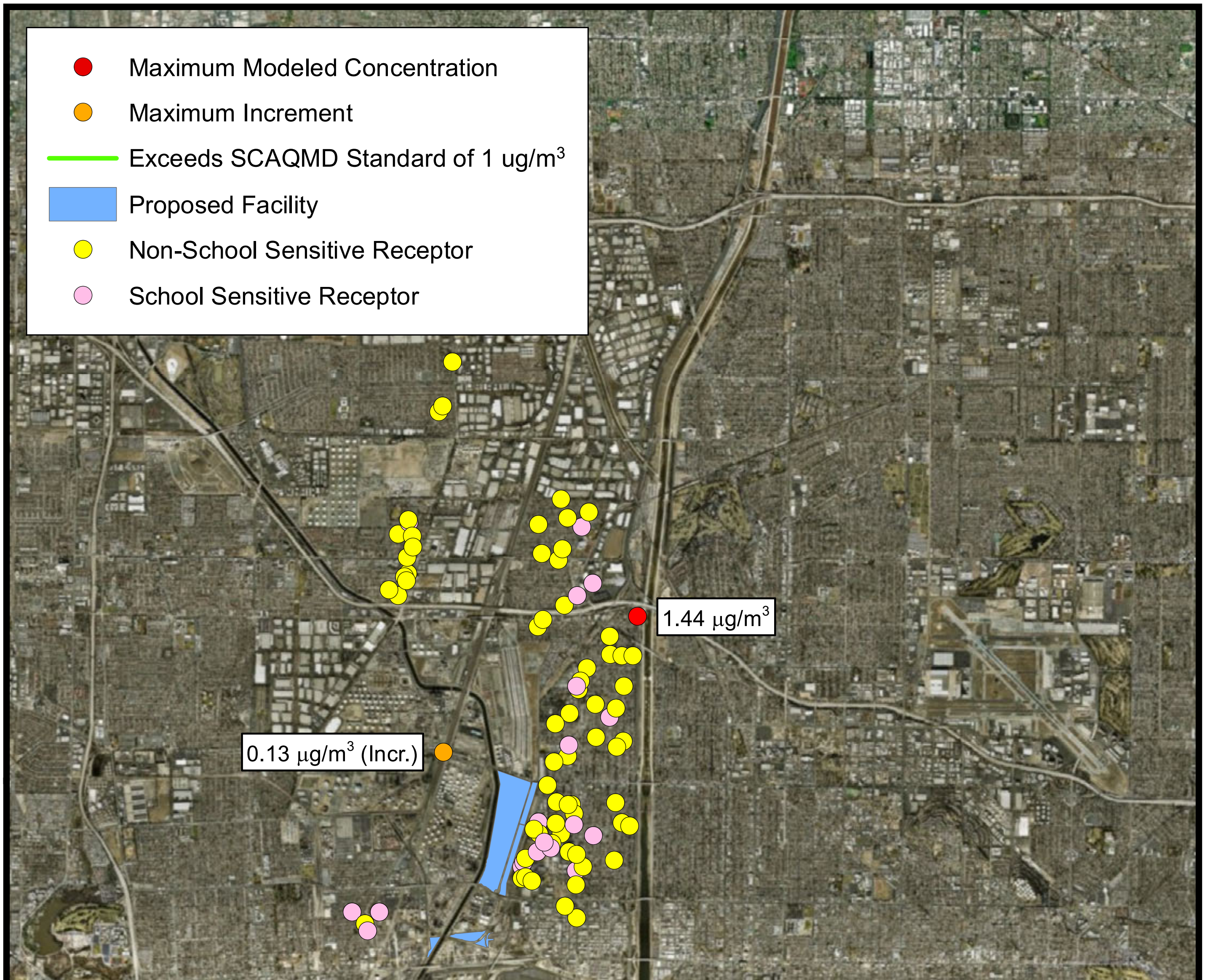


RAMBOLL

No Project 2046 24-Hour PM_{10}
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-078

DRAFTED BY: KAR/DCW | DATE: 6/25/2020 | 1690011204-001



RAMBOLL

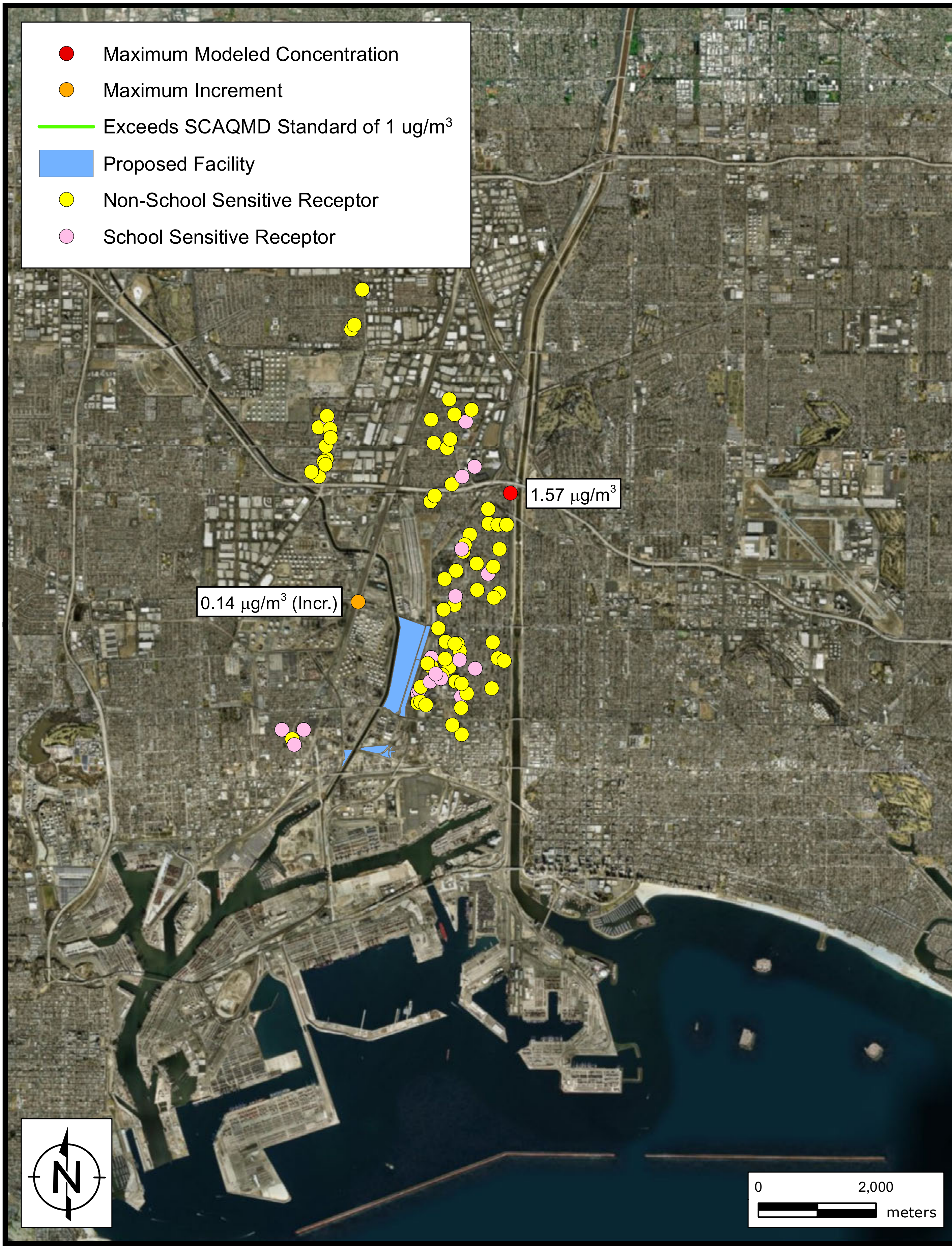
No Project 2016 Annual PM_{10}
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-079

DRAFTED BY: KAR/DCW

DATE: 6/26/2020

1690011204-001



RAMBOLL

No Project 2020 Annual PM_{10}
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-080

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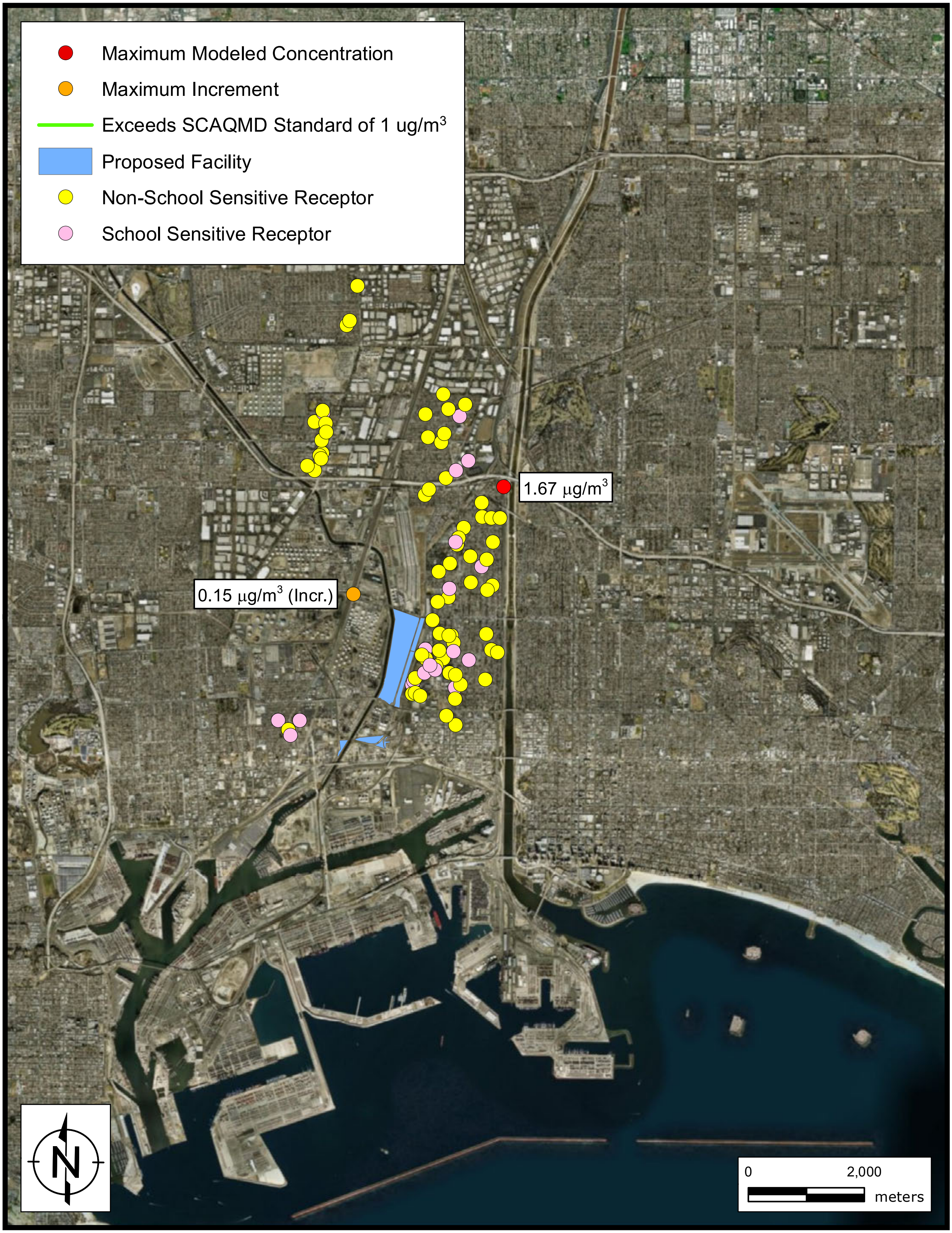


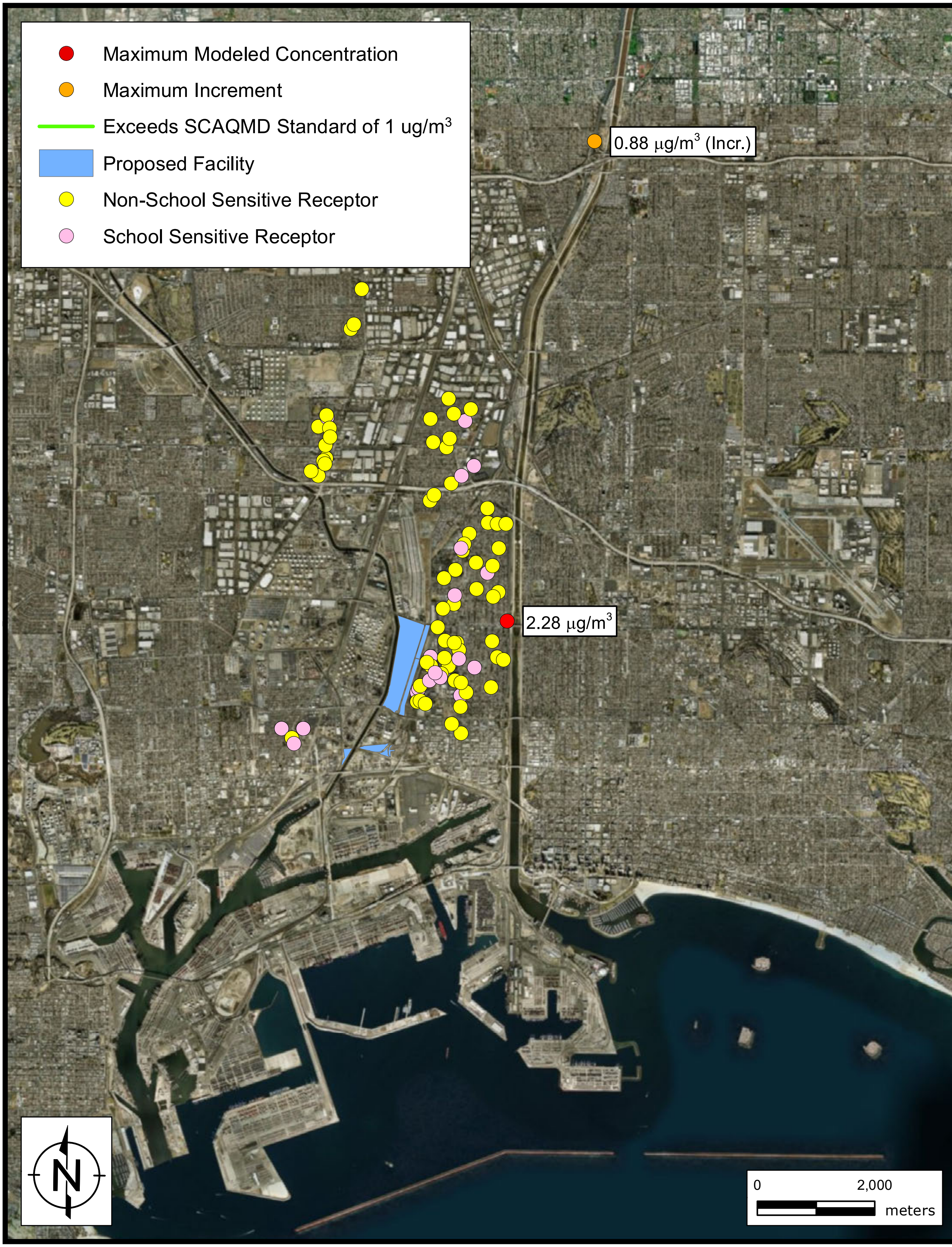
RAMBOLL

DRAFTED BY: KAR/DCW | DATE: 6/26/2020

No Project 2023 Annual PM_{10}
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-081

1690011204-001



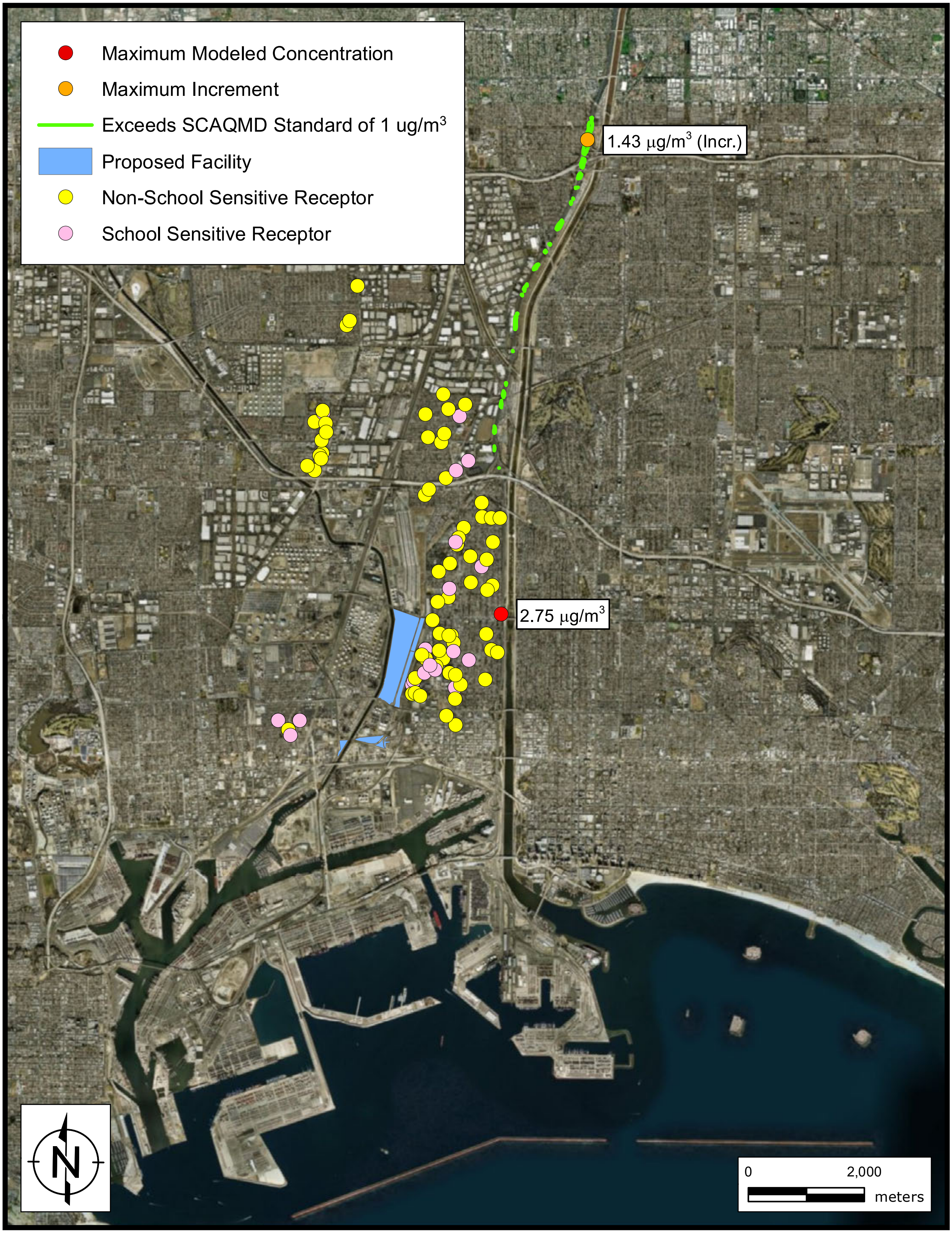
RAMBOLL

No Project 2030 Annual PM_{10}
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-082

DRAFTED BY: KAR/DCW | DATE: 6/26/2020

1690011204-001



RAMBOLL

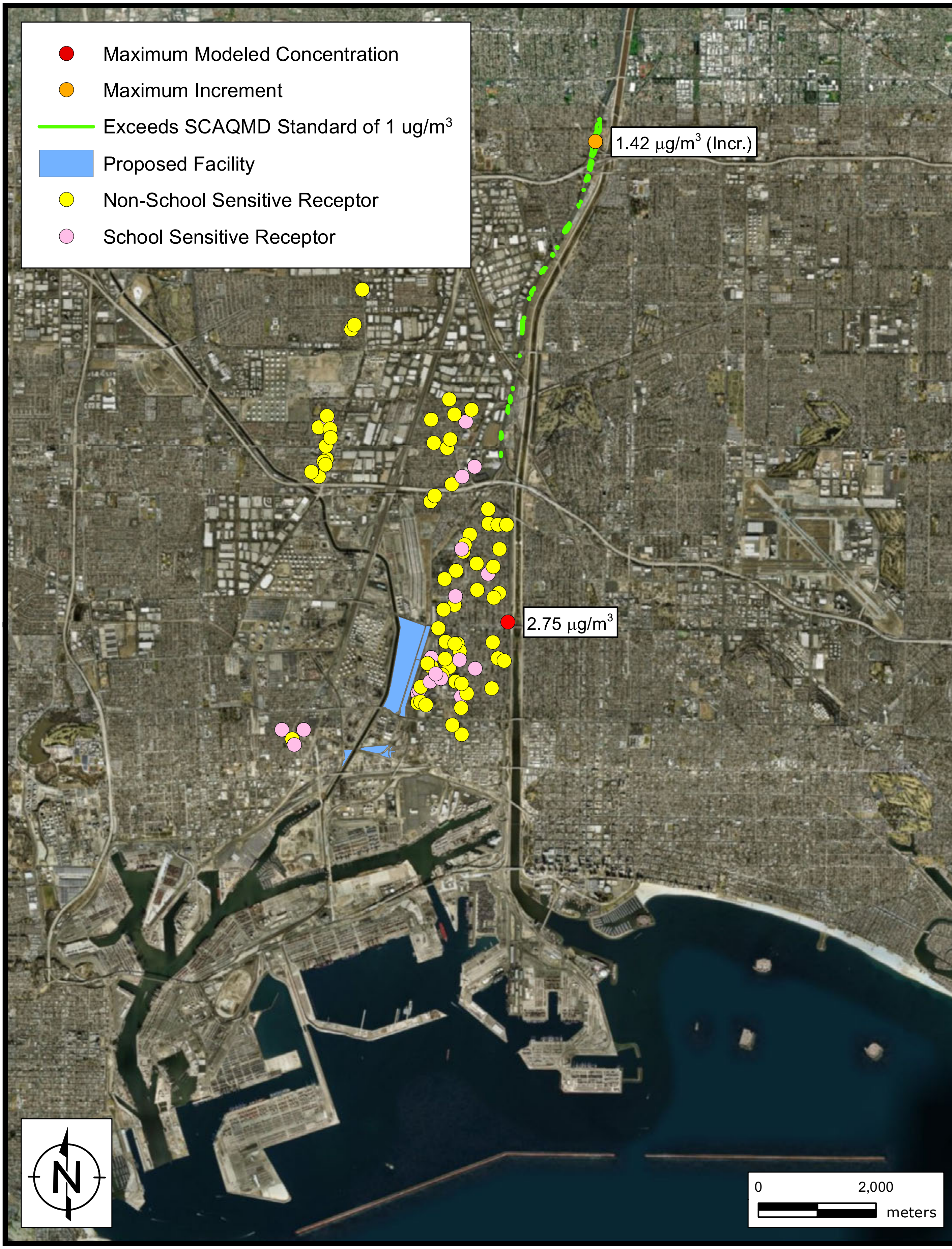
No Project 2035 Annual PM_{10}
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-083

DRAFTED BY: KAR/DCW

DATE: 6/26/2020

1690011204-001



RAMBOLL

No Project 2046 Annual PM_{10}
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-084

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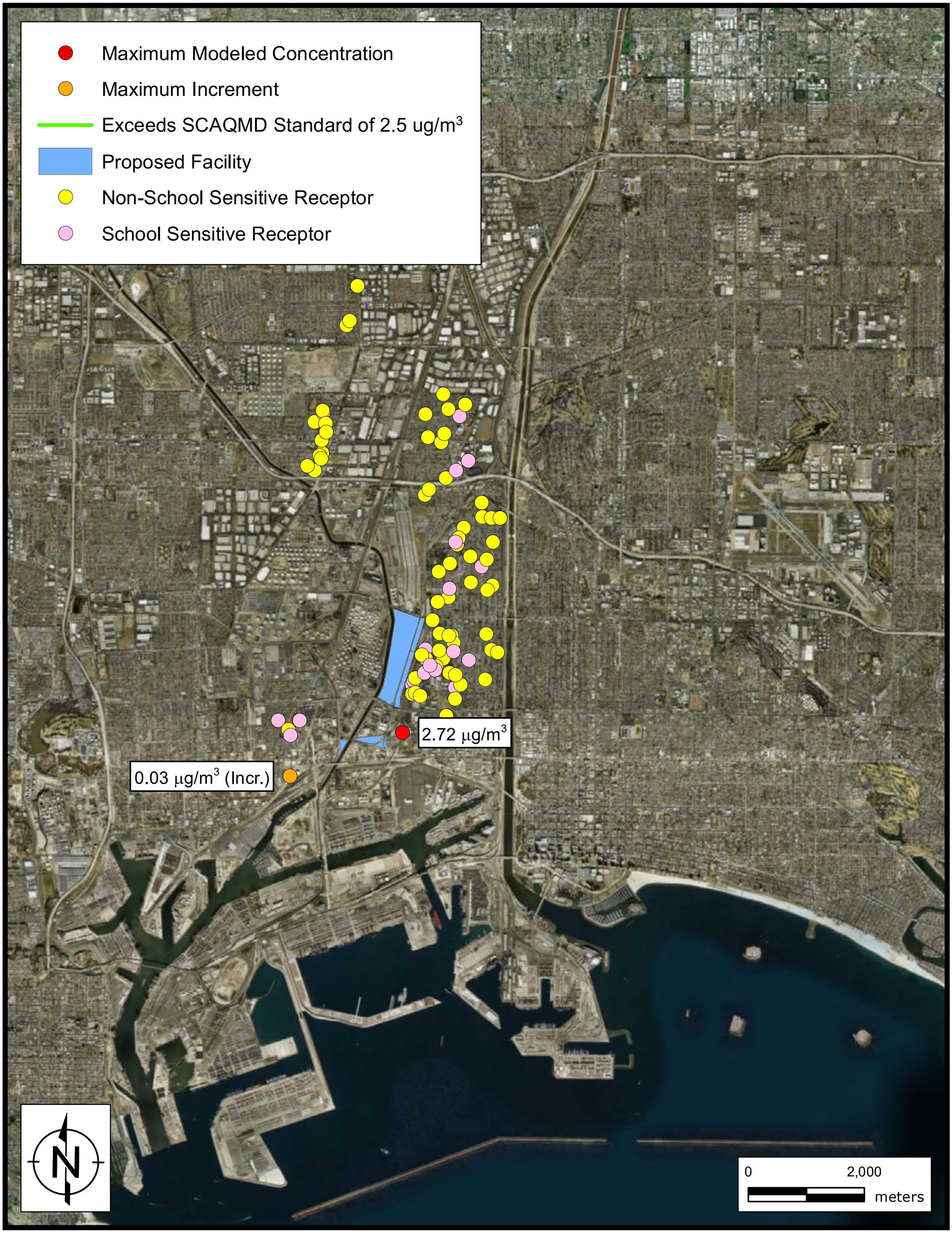


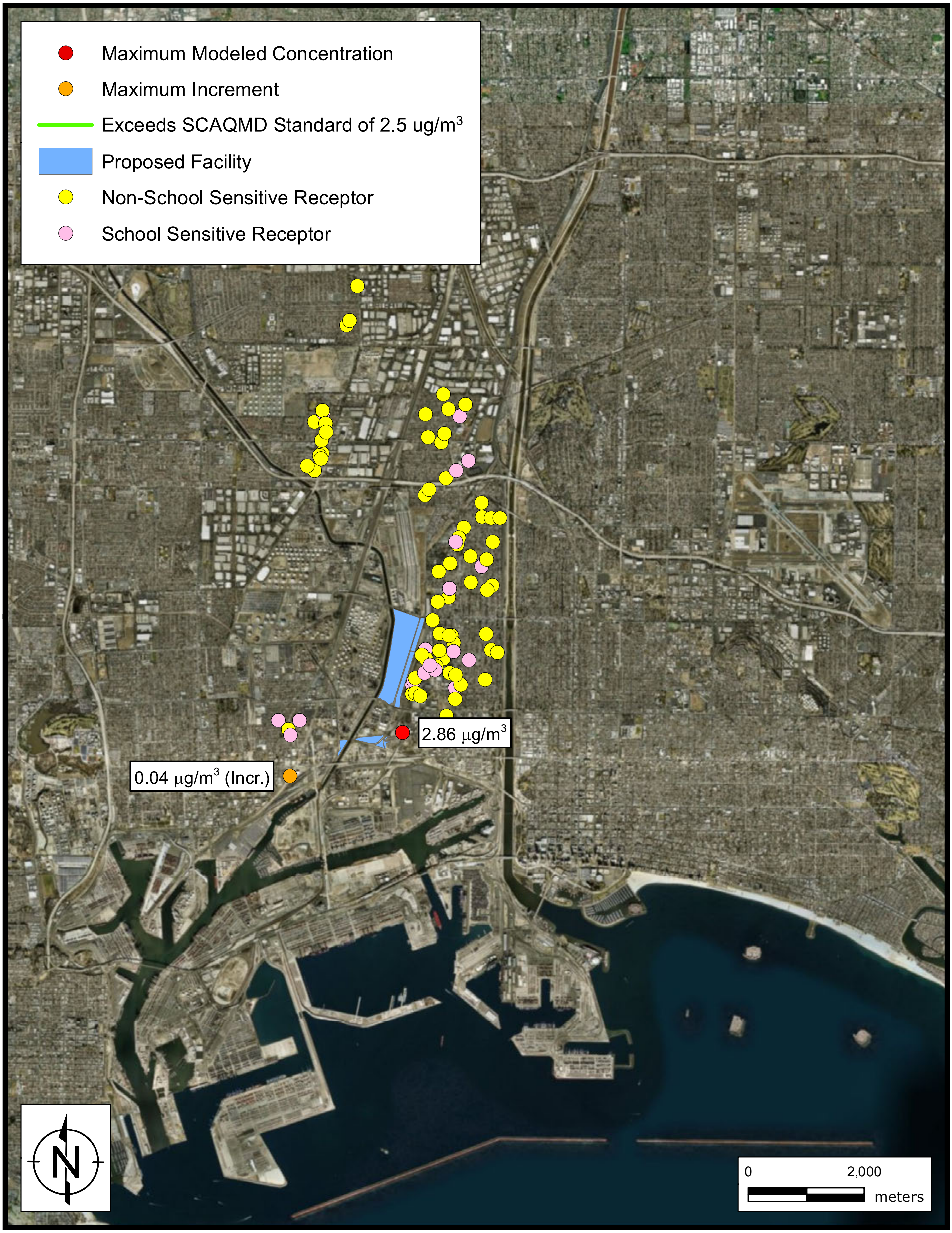
RAMBOLL

No Project 2016 24-Hour $PM_{2.5}$
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-085

DRAFTED BY: KAR/DCW | DATE: 6/26/2020

1690011204-001



RAMBOLL

No Project 2020 24-Hour $PM_{2.5}$
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-086

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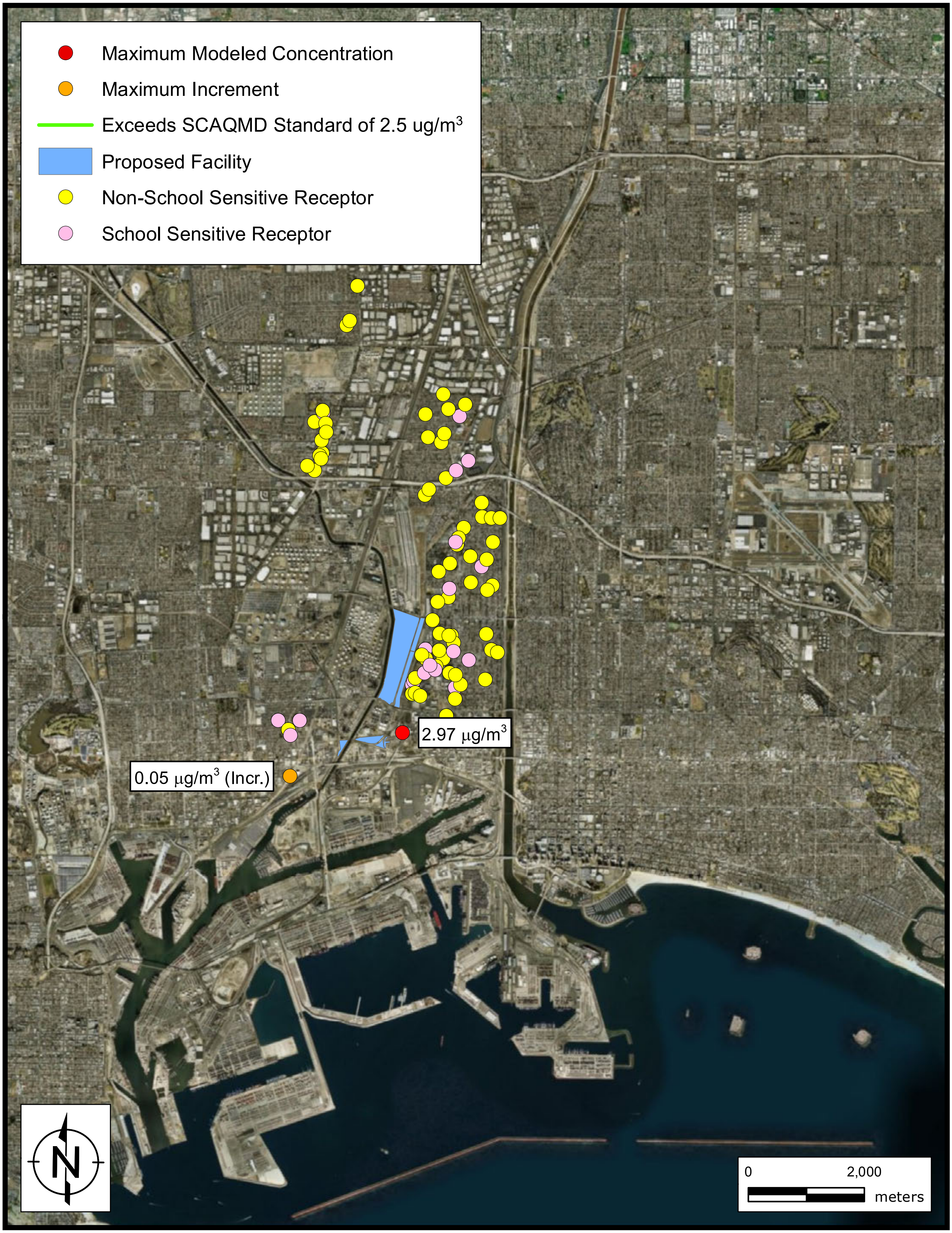
1690011204-001



RAMBOLL

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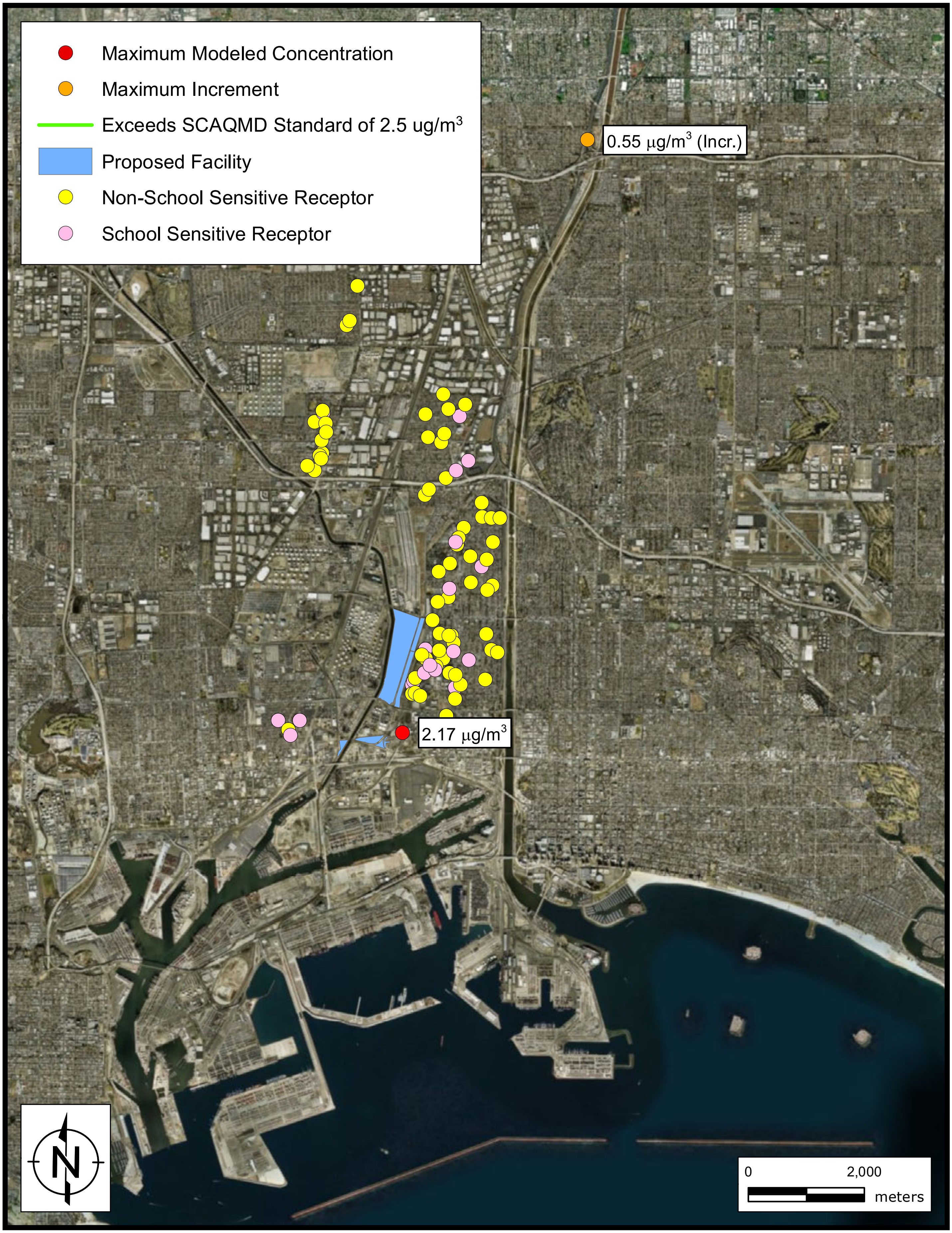
No Project 2023 24-Hour $PM_{2.5}$
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-087

1690011204-001

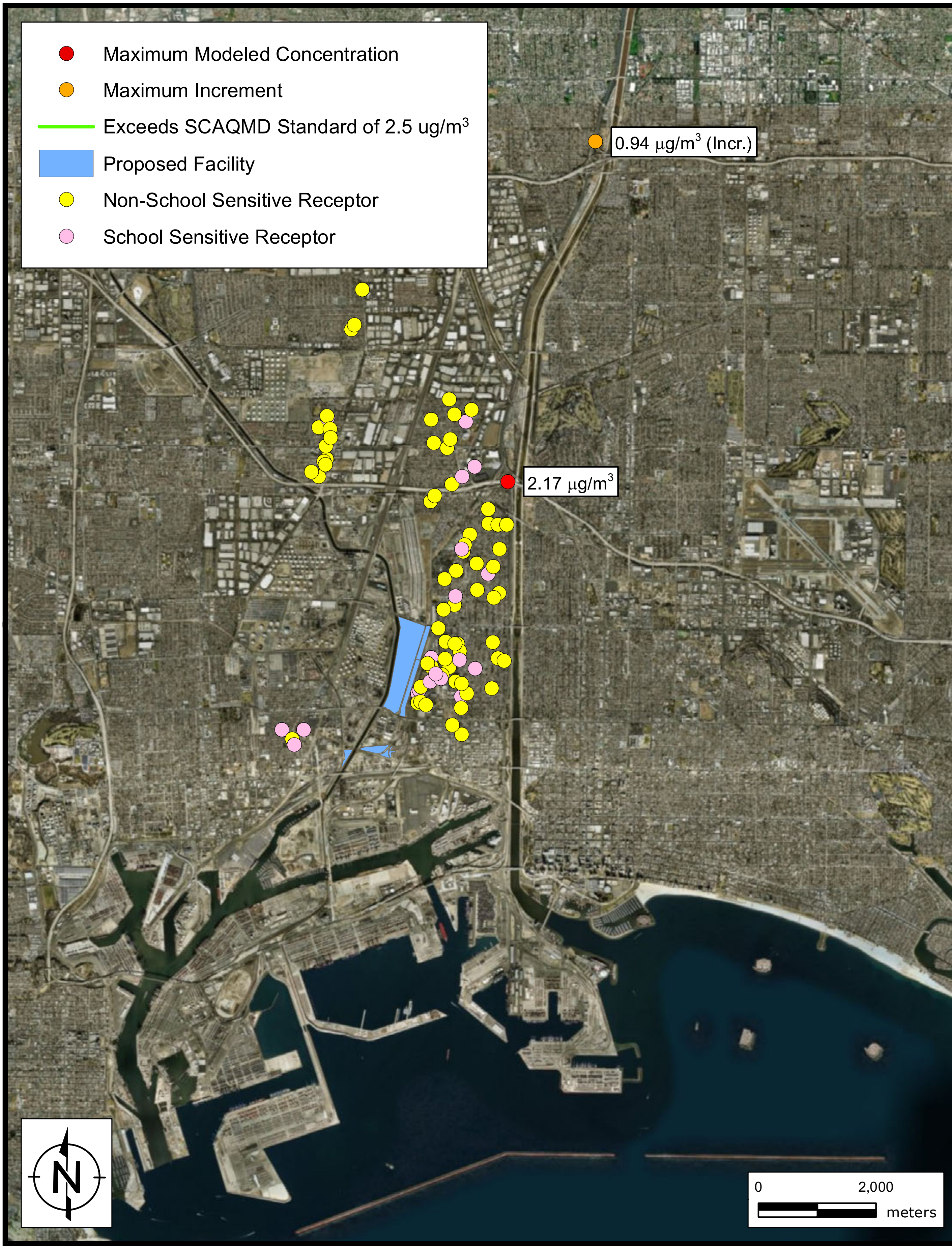


RAMBOLL

No Project 2030 24-Hour $PM_{2.5}$
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-088

DRAFTED BY: KAR/DCW | DATE: 6/26/2020 | 1690011204-001



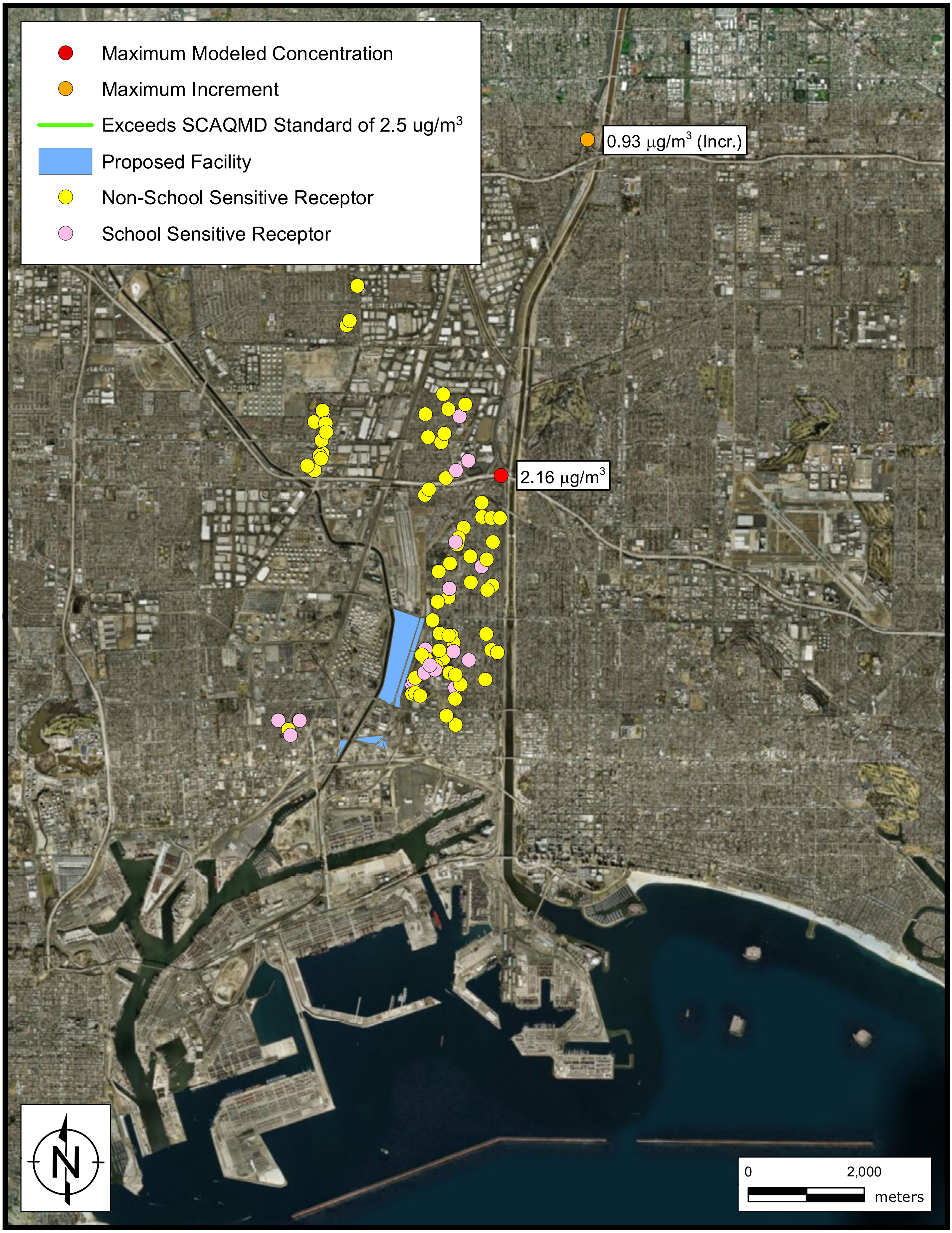
RAMBOLL

No Project 2035 24-Hour $PM_{2.5}$
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-089

DRAFTED BY: KAR/DCW | DATE: 6/26/2020

1690011204-001

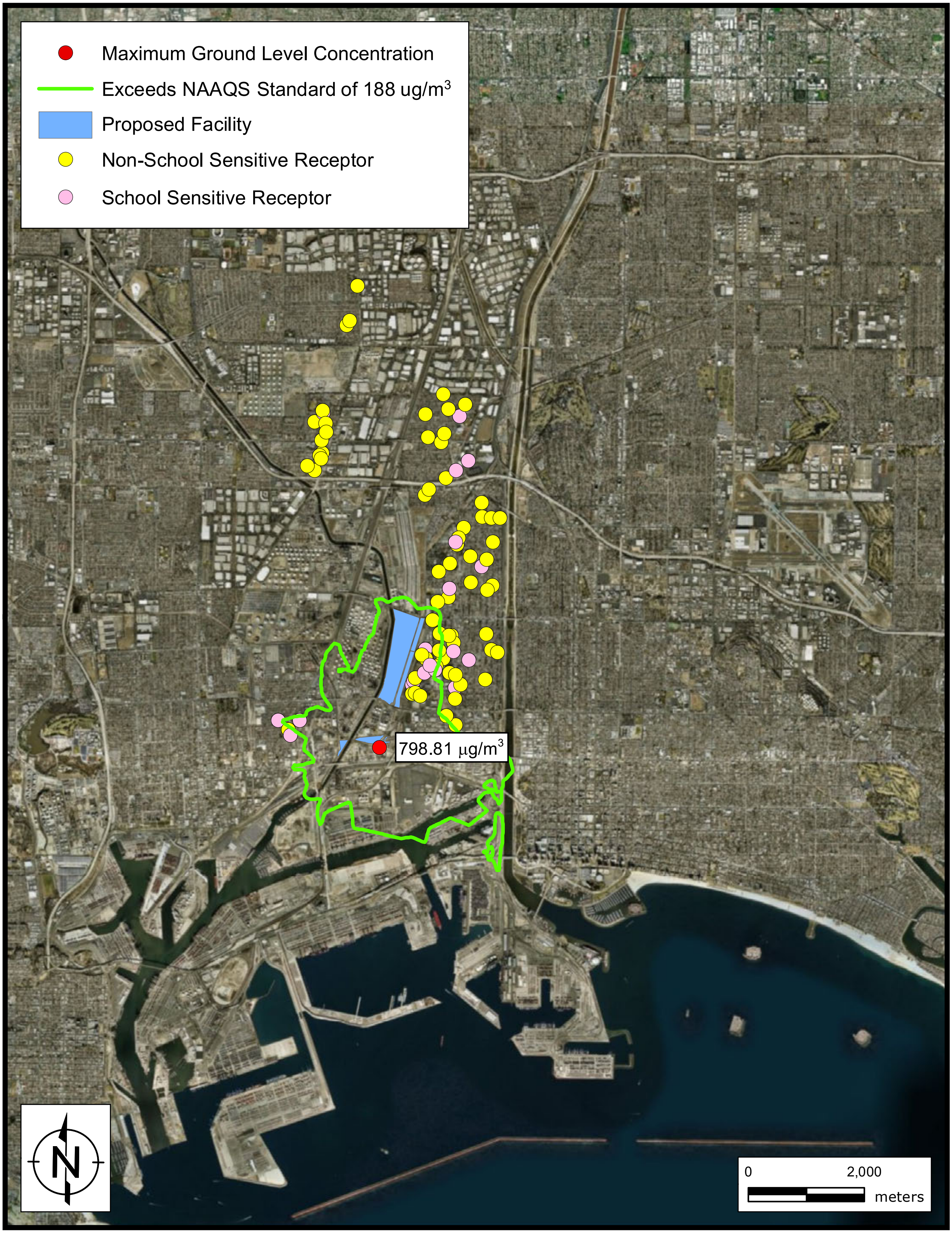


RAMBOLL

No Project 2046 24-Hour $PM_{2.5}$
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-090

DRAFTED BY: KAR/DCW | DATE: 6/26/2020 | 1690011204-001



RAMBOLL

Reduced Project 2016 1-Hour NO_2 Federal Criteria
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-091

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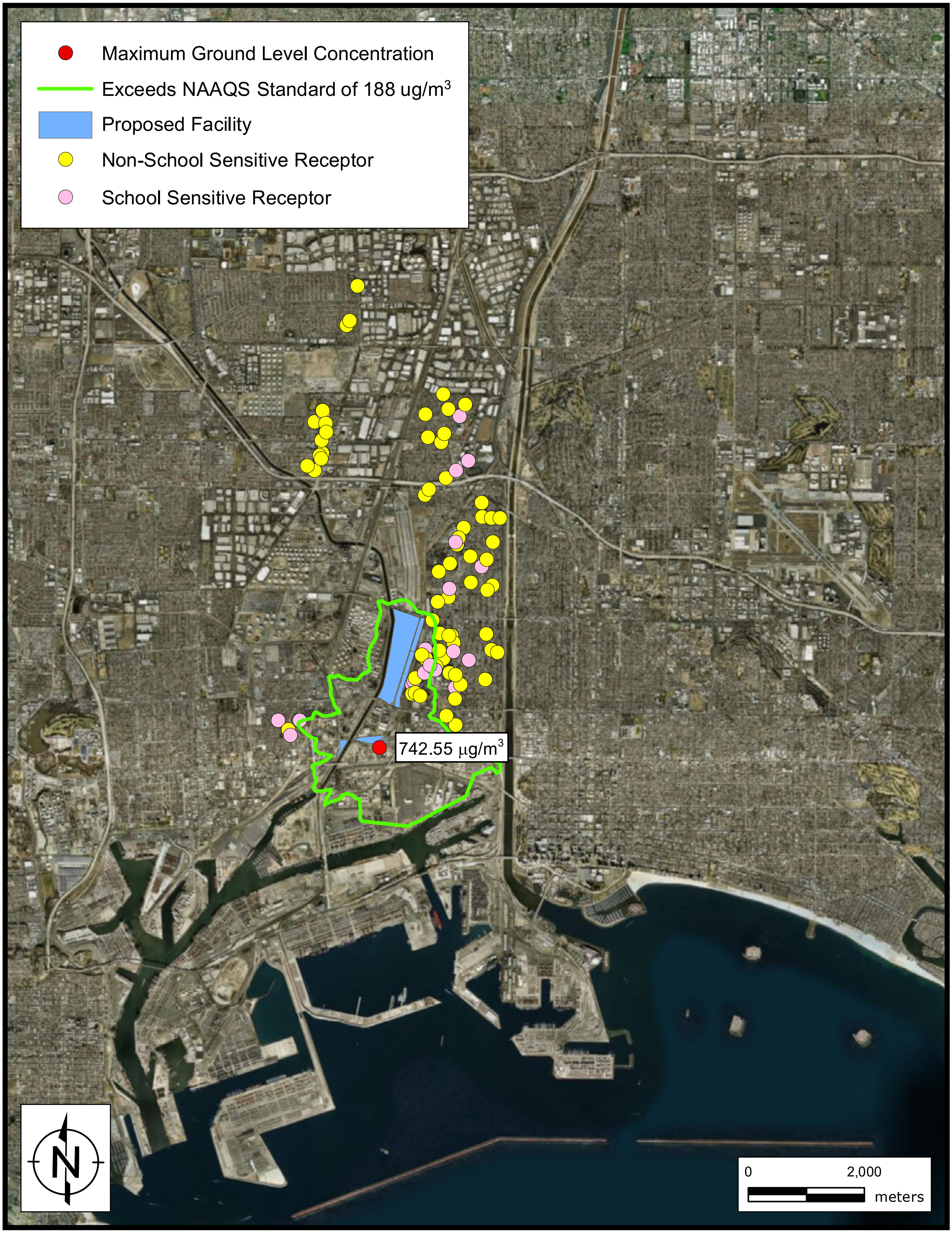
DATE: 6/26/2020

1690011204-001



RAMBOLL

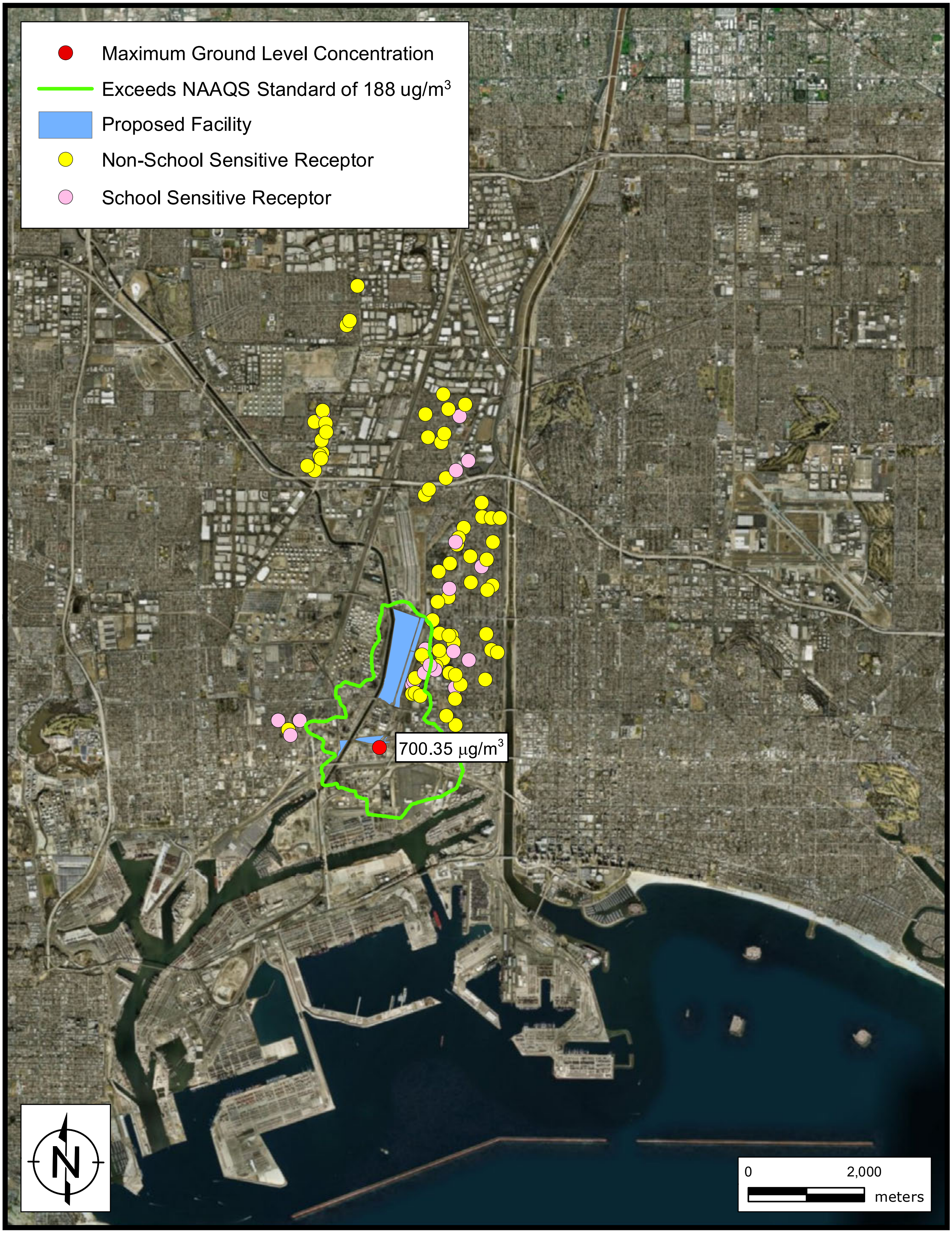
DRAFTED BY: KAR/DCW

DATE: 6/26/2020

Reduced Project 2020 1-Hour NO_2 Federal Criteria
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-092

1690011204-001



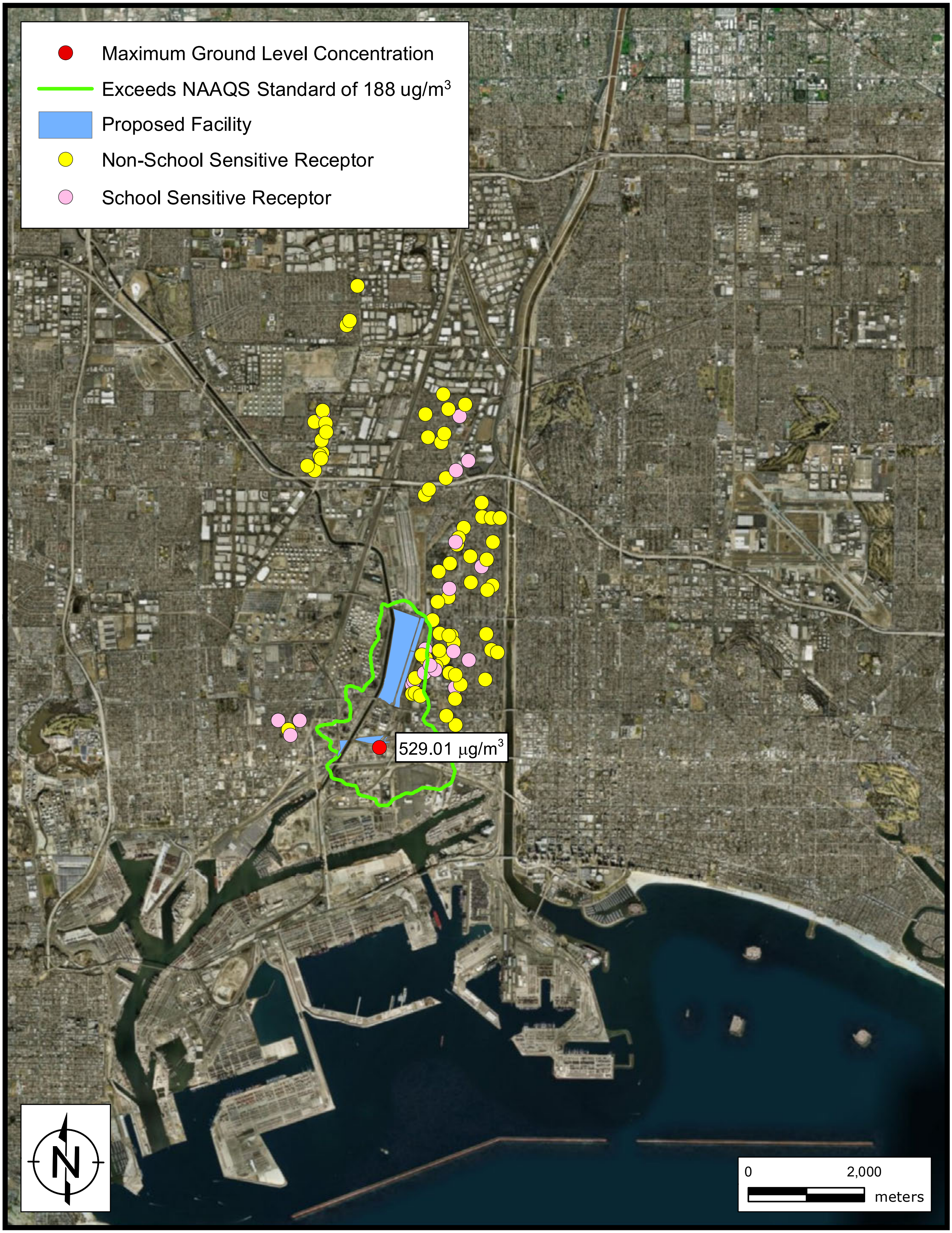
Reduced Project 2023 1-Hour NO_2 Federal Criteria
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-093

DRAFTED BY: KAR/DCW

DATE: 6/26/2020

1690011204-001



RAMBOLL

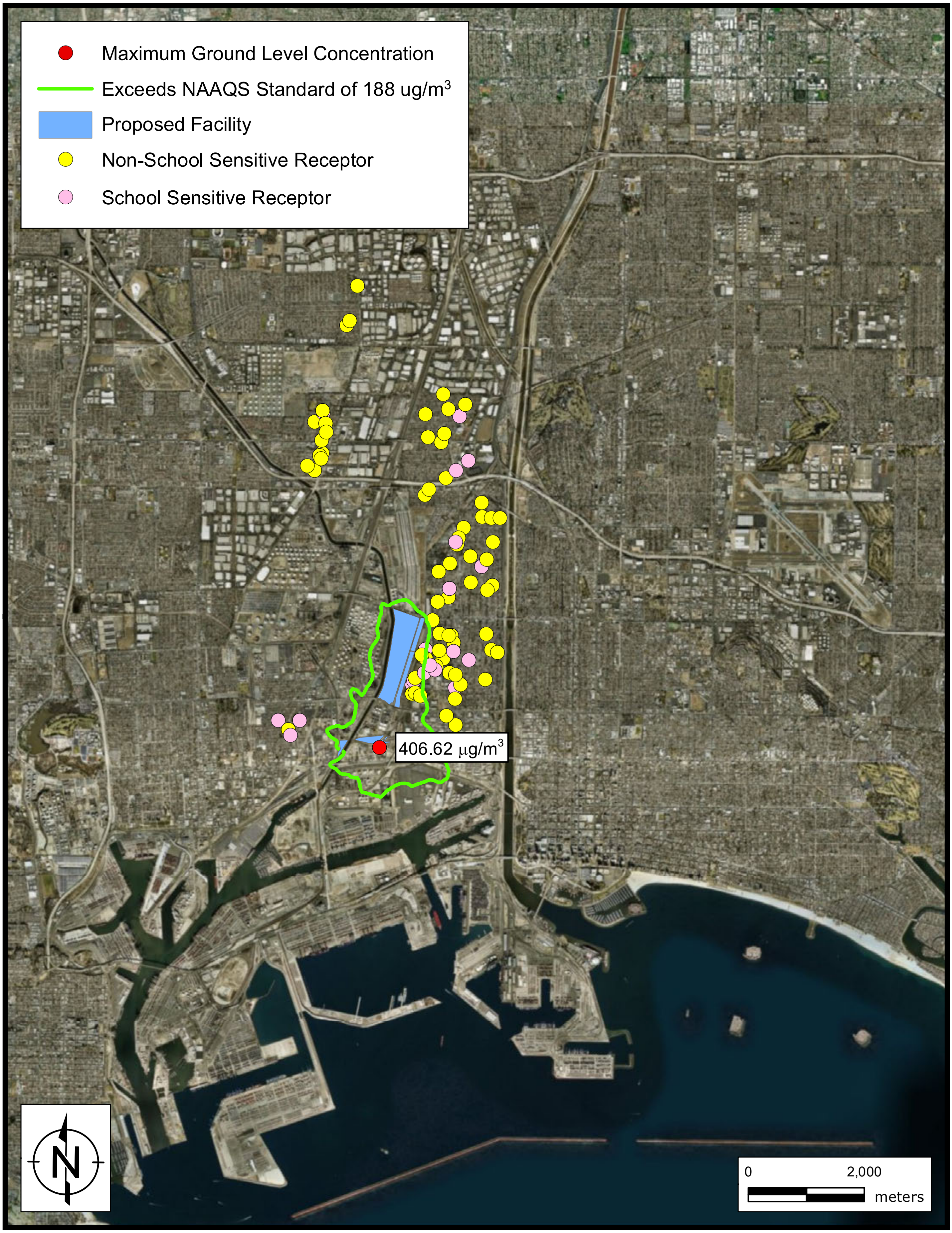
Reduced Project 2030 1-Hour NO_2 Federal Criteria
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-094

DRAFTED BY: KAR/DCW

DATE: 6/26/2020

1690011204-001



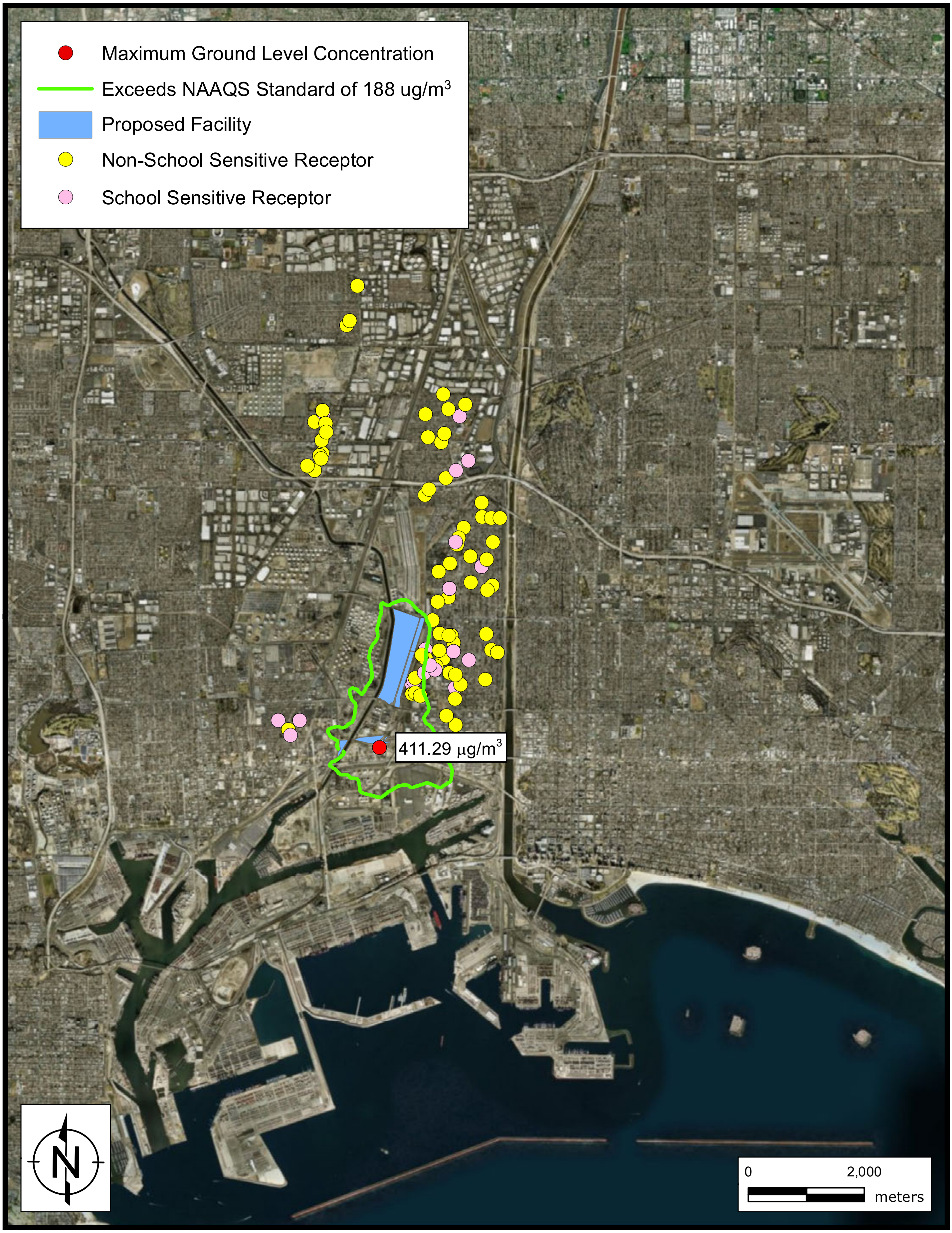
RAMBOLL

Reduced Project 2035 1-Hour NO_2 Federal Criteria
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-095

DRAFTED BY: KAR/DCW | DATE: 6/26/2020

1690011204-001



RAMBOLL

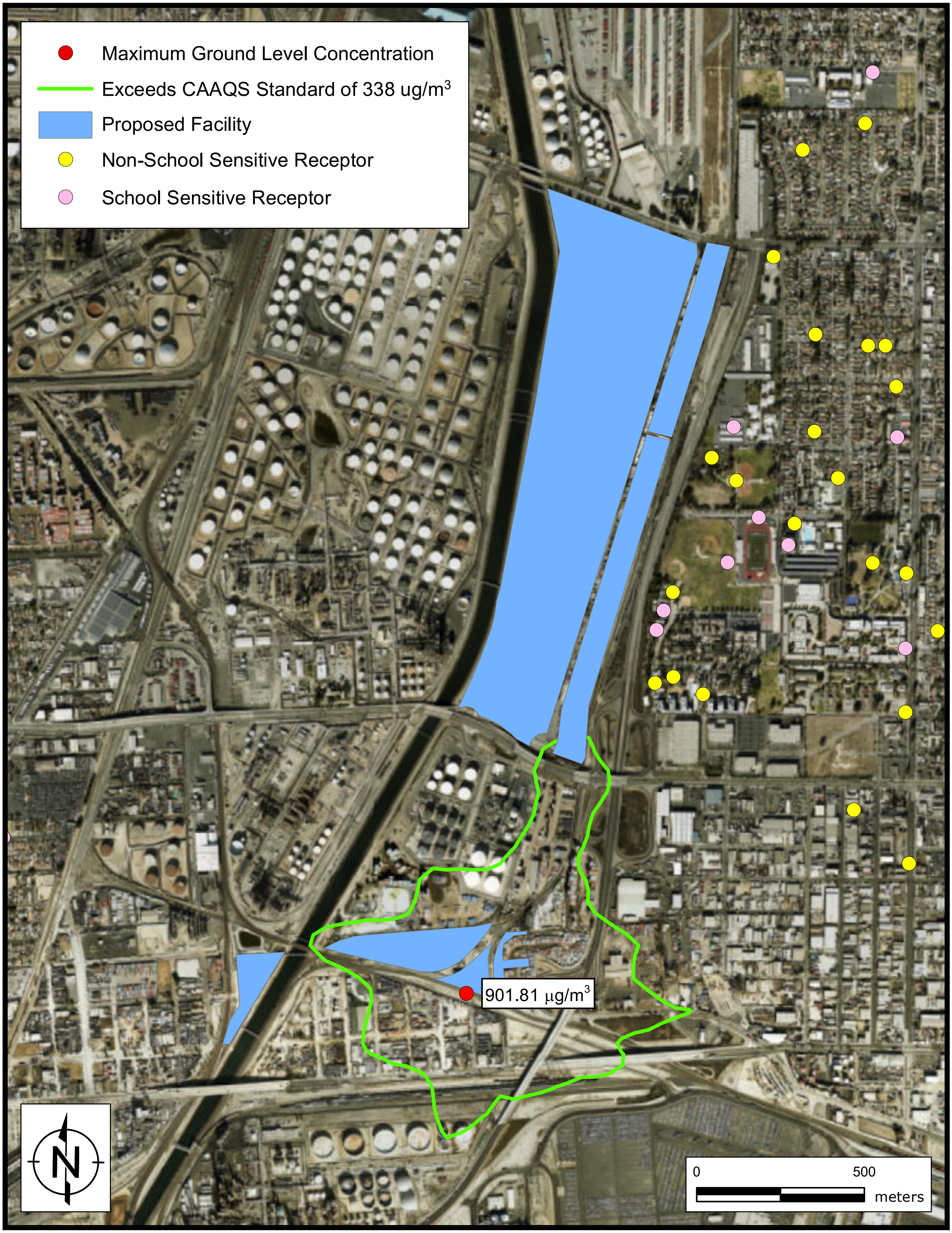
Reduced Project 2046 1-Hour NO_2 Federal Criteria
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-096

DRAFTED BY: KAR/DCW

DATE: 6/26/2020

1690011204-001



RAMBOLL

Reduced Project 2016 1-Hour NO_2 State Criteria
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-097

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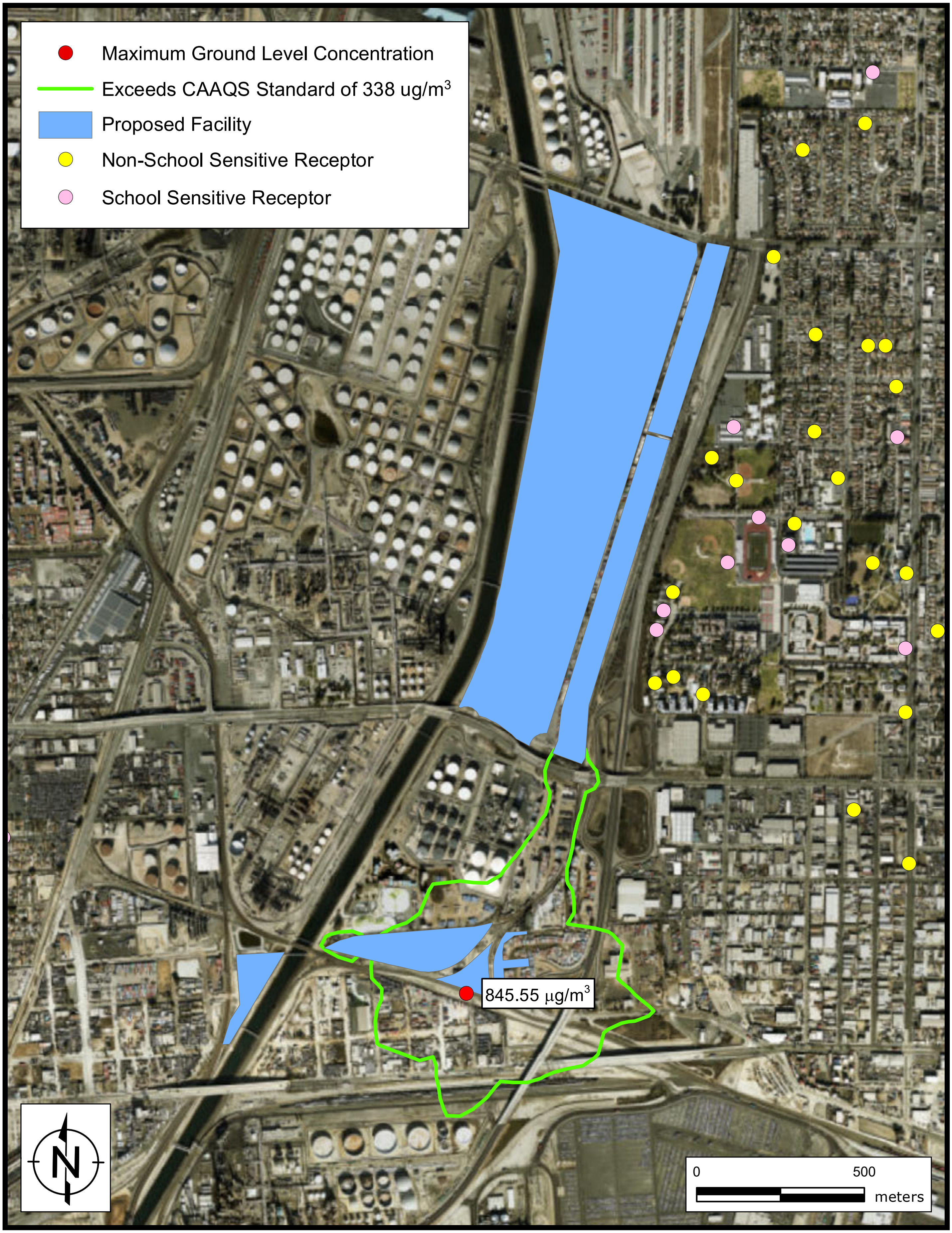
DATE: 6/26/2020

1690011204-001



RAMBOLL

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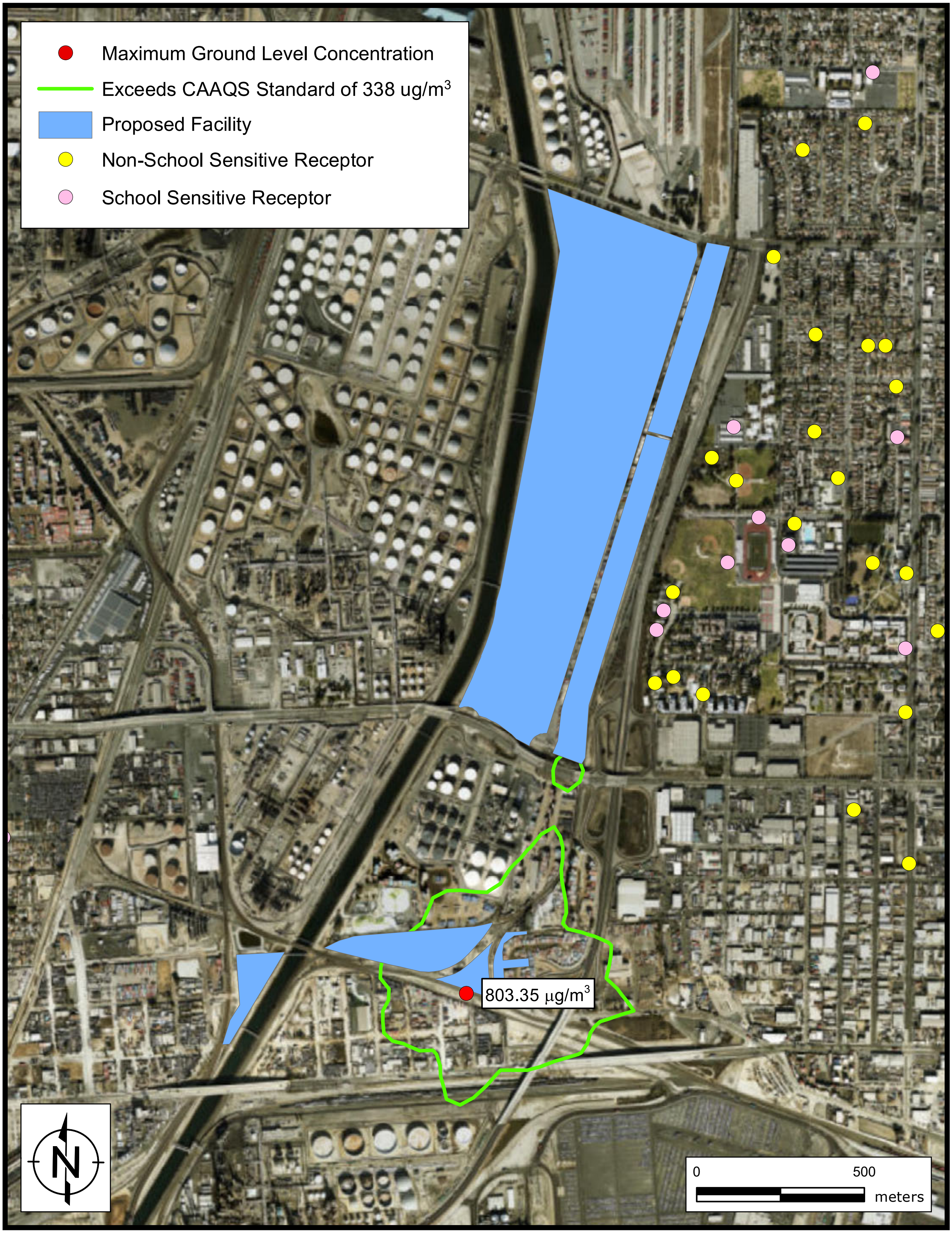
Reduced Project 2020 1-Hour NO_2 State Criteria
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-098

1690011204-001



RAMBOLL

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DATE: 6/26/2020

Reduced Project 2023 1-Hour NO_2 State Criteria
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-099

1690011204-001

RAMBOLL

Reduced Project 2030 1-Hour NO_2 State Criteria
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-100

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RAMBOLL

DRAFTED BY: KAR/DCW

DATE: 6/26/2020

Reduced Project 2035 1-Hour NO_2 State Criteria
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-101

1690011204-001

RAMBOLL

Reduced Project 2046 1-Hour NO_2 State Criteria
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-102

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RAMBOLL

Reduced Project 2016 Annual NO_2
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-103

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DATE: 6/26/2020

1690011204-001

RAMBOLL

Reduced Project 2020 Annual NO_2
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-104

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RAMBOLL

Reduced Project 2023 Annual NO_2
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-105

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1690011204-001

RAMBOLL

Reduced Project 2030 Annual NO_2
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-106

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DATE: 6/26/2020

1690011204-001

RAMBOLL

Reduced Project 2035 Annual NO_2
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-107

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RAMBOLL

Reduced Project 2046 Annual NO_2
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-108

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1690011204-001

RAMBOLL

Reduced Project 2016 24-Hour PM_{10}
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-109

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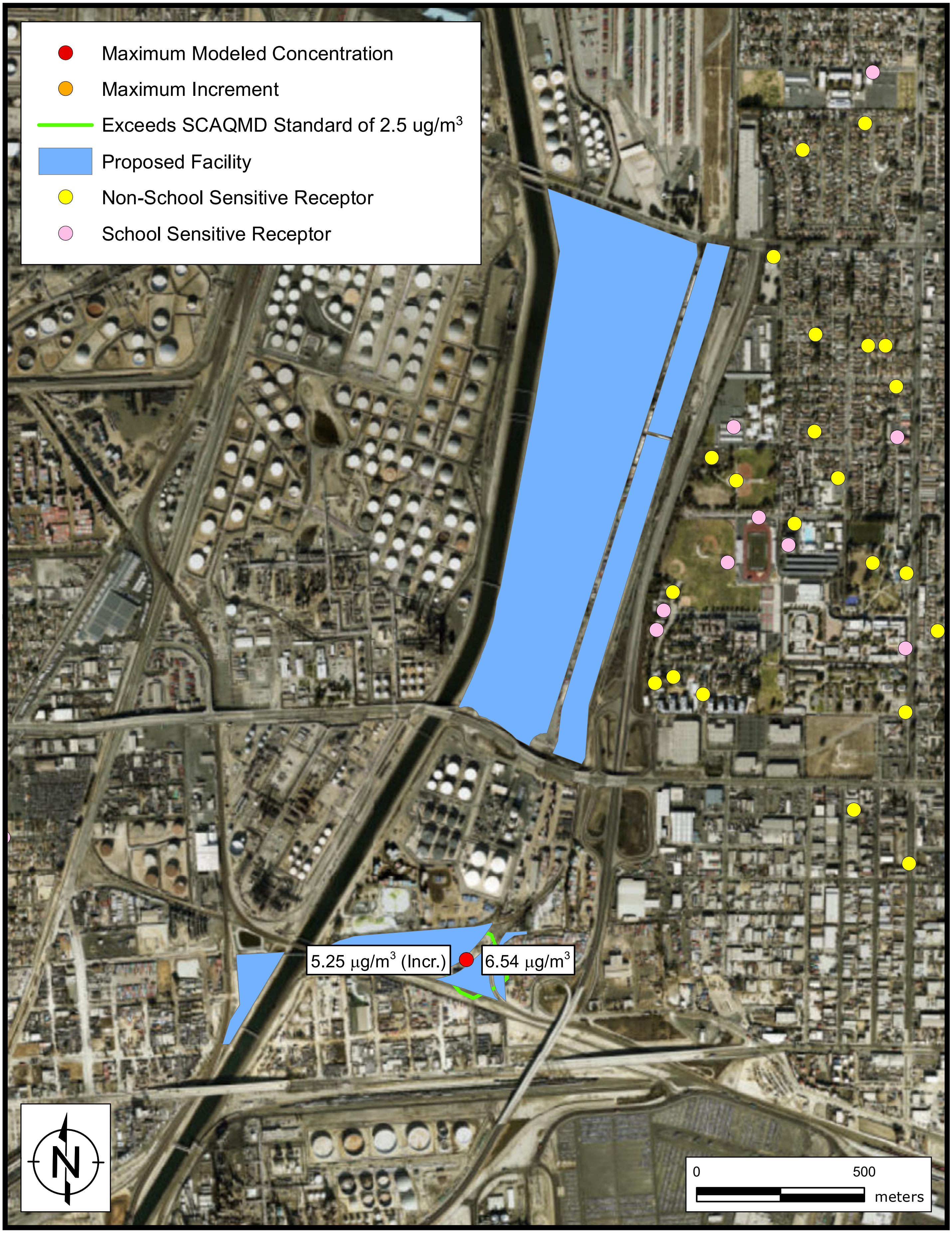
1690011204-001

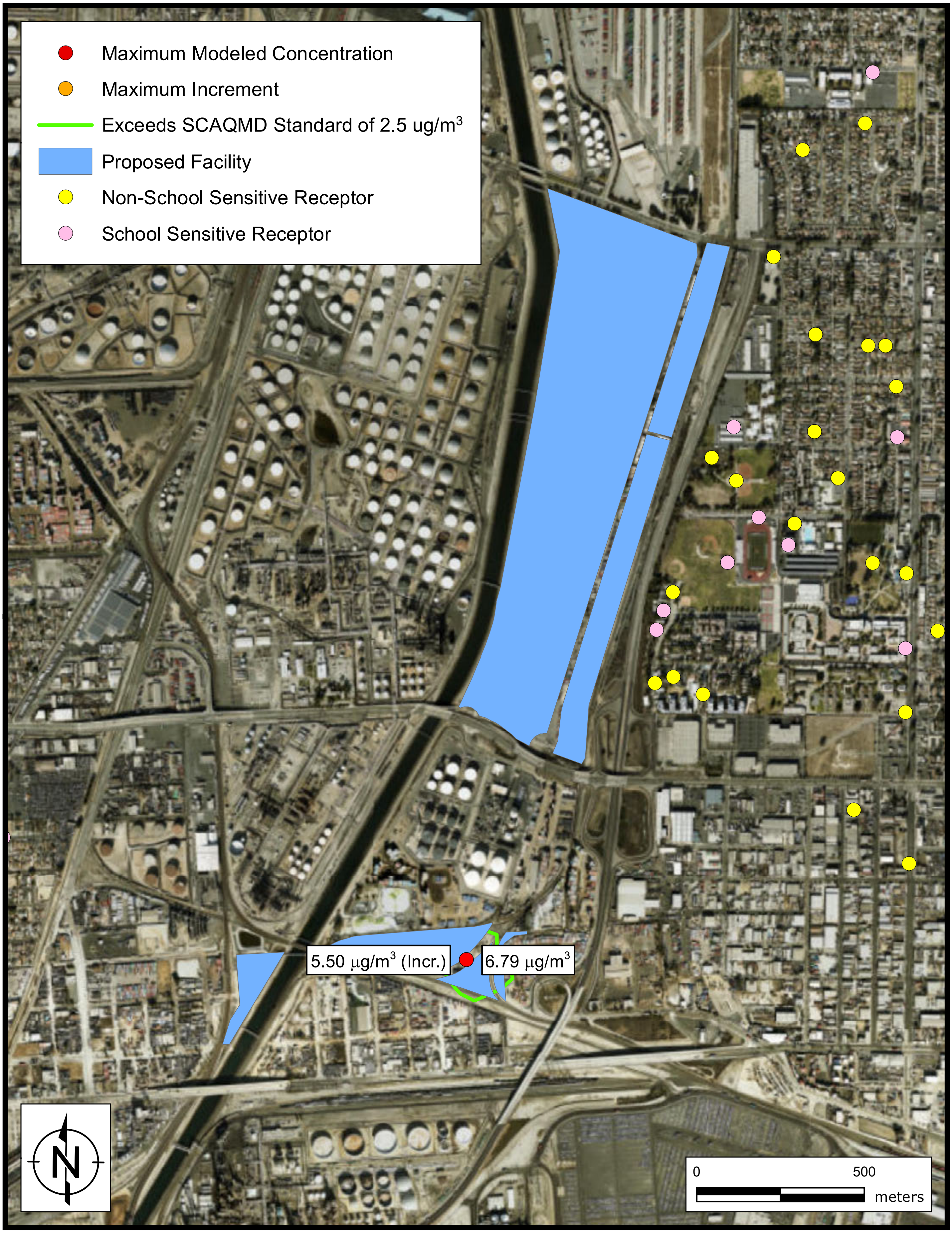


RAMBOLL

Reduced Project 2020 24-Hour PM_{10}
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-110

DRAFTED BY: KAR/DCW | DATE: 6/26/2020 | 1690011204-001



RAMBOLL

Reduced Project 2023 24-Hour PM_{10}
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-111

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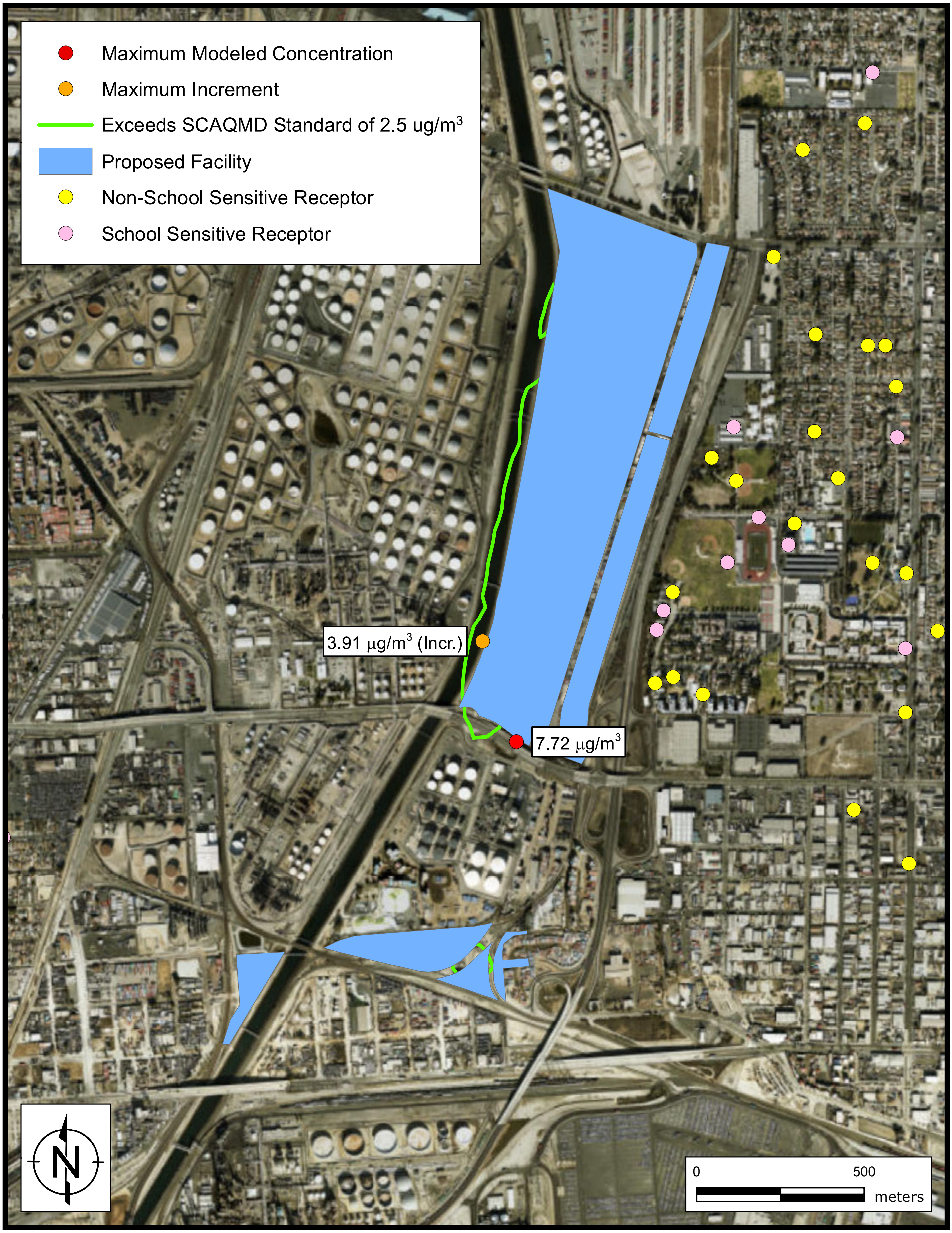

RAMBOLL

Reduced Project 2030 24-Hour PM_{10}
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-112

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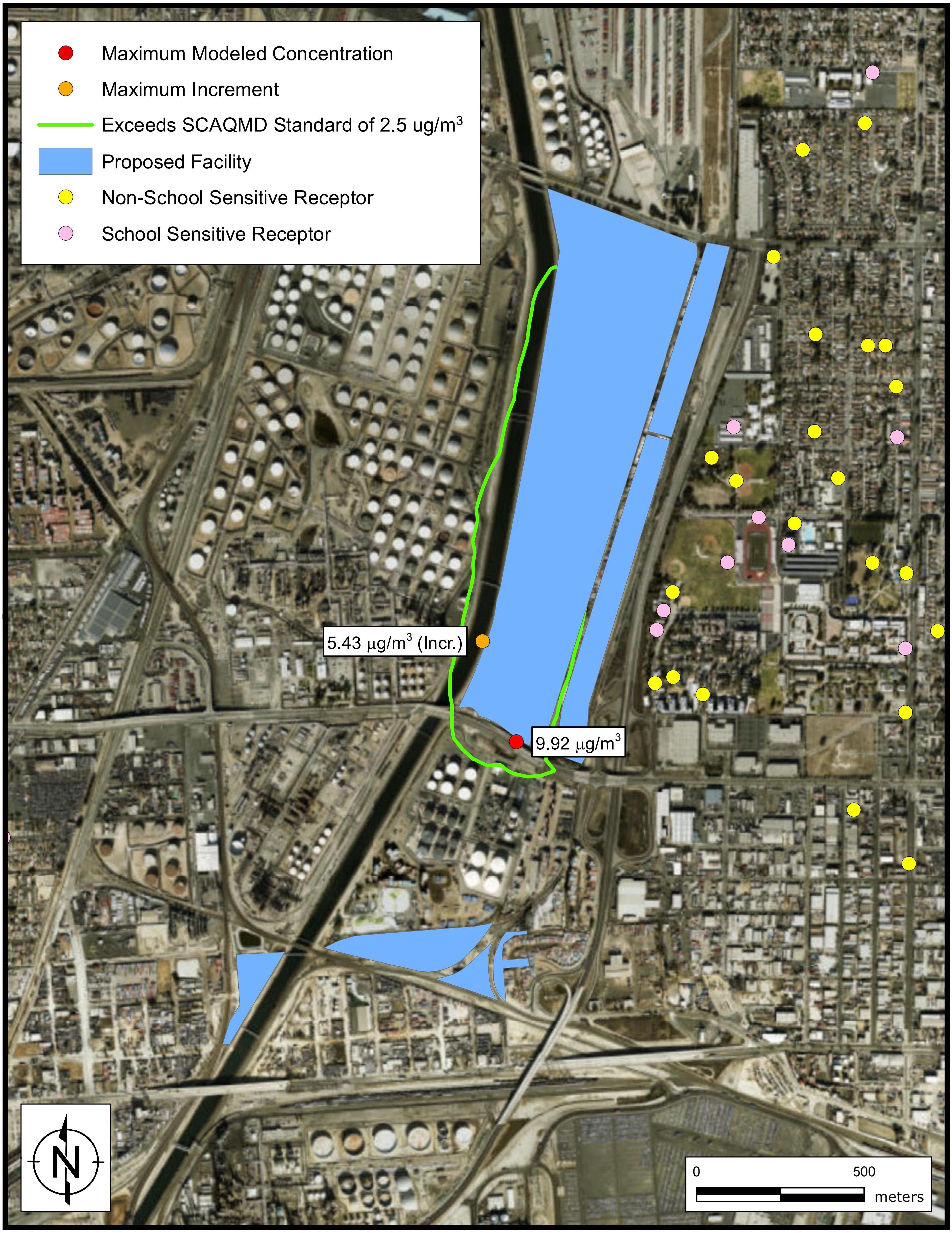
1690011204-001



RAMBOLL

Reduced Project 2035 24-Hour PM_{10}
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-113

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RAMBOLL

Reduced Project 2046 24-Hour PM_{10}
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-114

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RAMBOLL

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Reduced Project 2016 Annual PM_{10}
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-115

1690011204-001

RAMBOLL

Reduced Project 2020 Annual PM_{10}
Southern California International Gateway Project
Port of Los Angeles

FIGURE **A-116**

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DATE: 6/26/2020

1690011204-001

RAMBOLL

Reduced Project 2023 Annual PM_{10}
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-117

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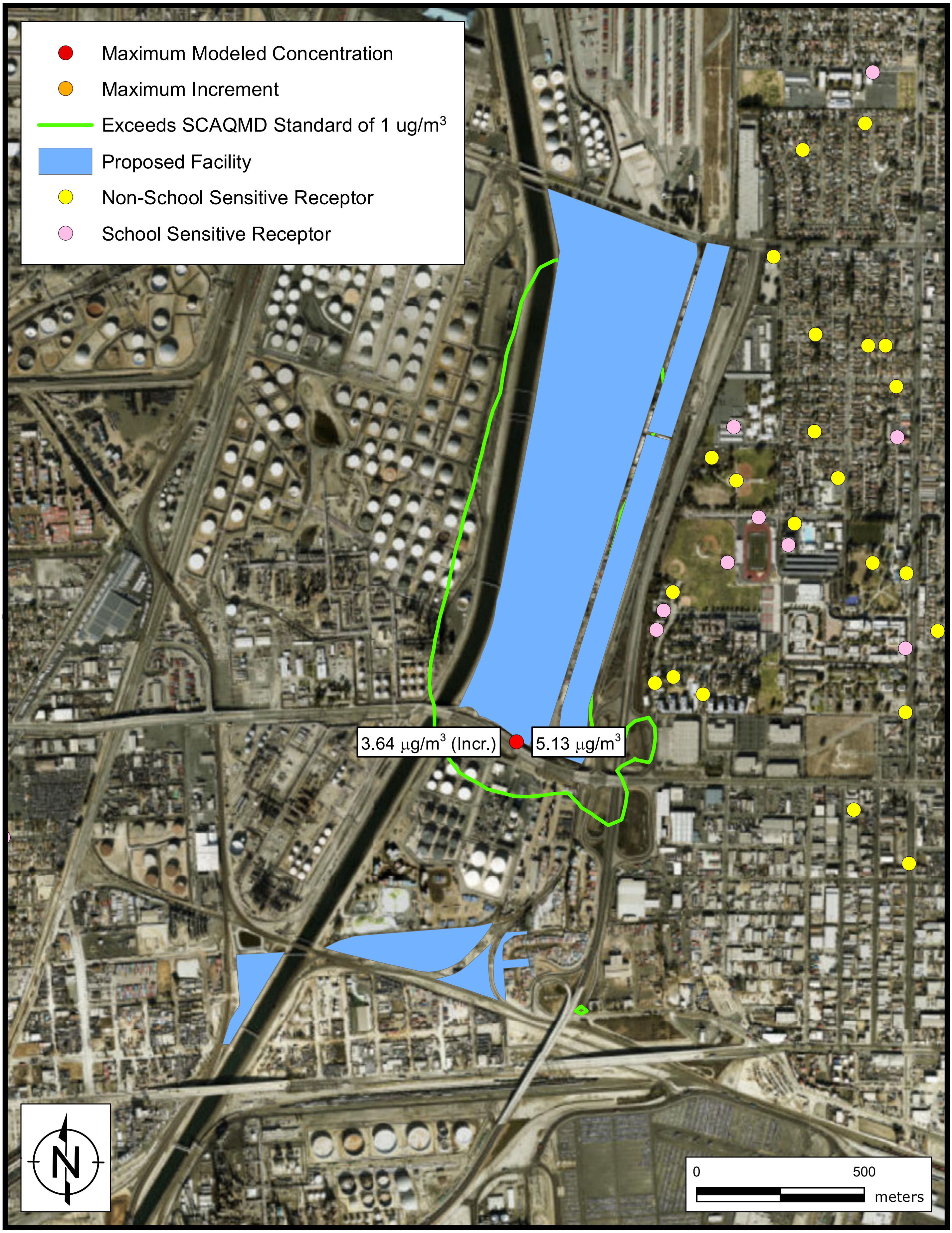
RAMBOLL

DRAFTED BY: KAR/DCW | DATE: 6/26/2020

Reduced Project 2030 Annual PM_{10}
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-118

1690011204-001



RAMBOLL

Reduced Project 2035 Annual PM_{10}
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-119

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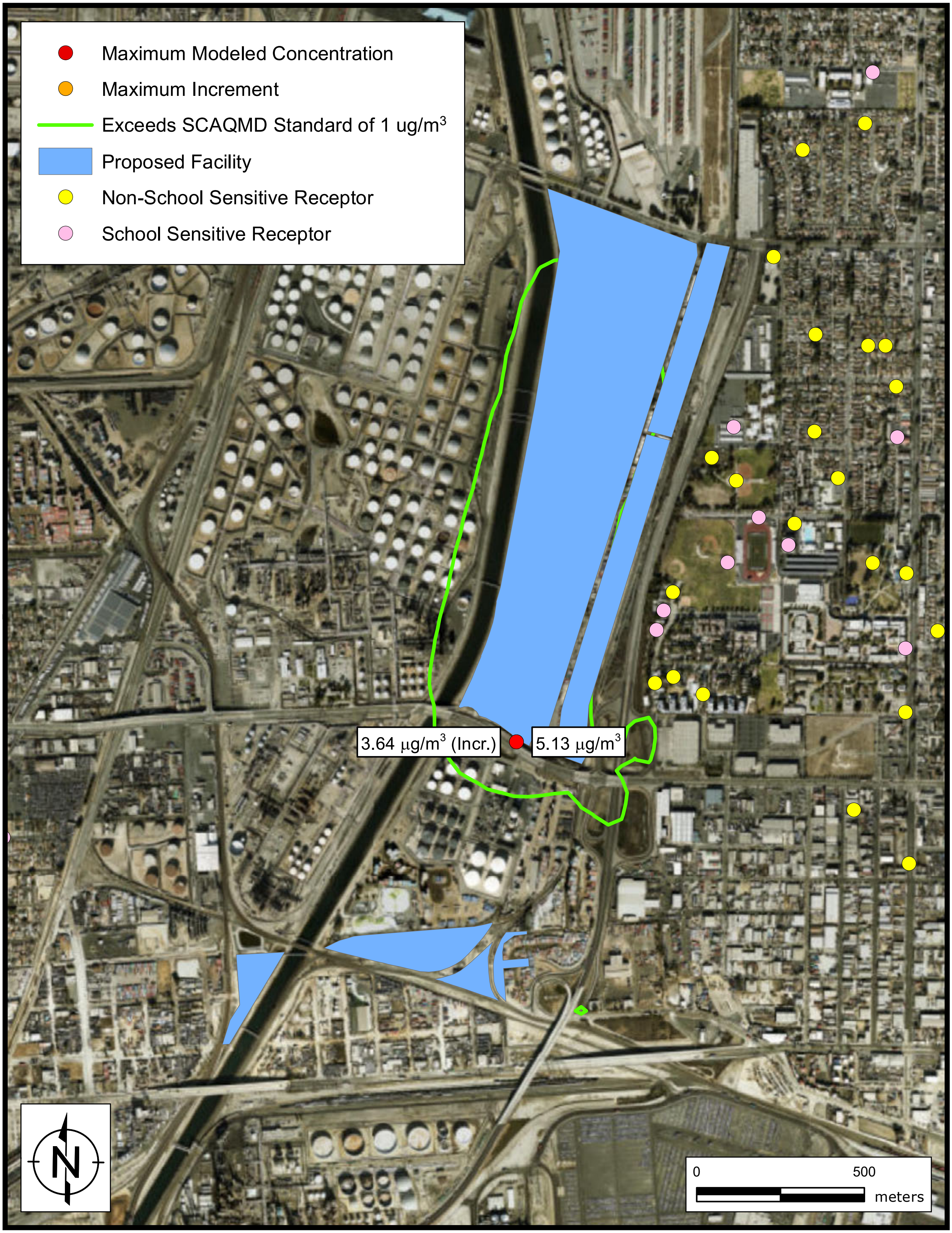
1690011204-001



RAMBOLL

Reduced Project 2046 Annual PM_{10}
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-120

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1690011204-001

RAMBOLL

Reduced Project 2016 24-Hour $PM_{2.5}$
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-121

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DATE: 6/26/2020

1690011204-001

RAMBOLL

Reduced Project 2020 24-Hour $PM_{2.5}$
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-122

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RAMBOLL

Reduced Project 2023 24-Hour $PM_{2.5}$
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-123

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DATE: 6/26/2020

1690011204-001

RAMBOLL

Reduced Project 2030 24-Hour $PM_{2.5}$
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-124

DRAFTED BY: KAR/DCW | DATE: 6/26/2020 | 1690011204-001

RAMBOLL

Reduced Project 2035 24-Hour $PM_{2.5}$
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-125

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RAMBOLL

Reduced Project 2046 24-Hour $PM_{2.5}$
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-126

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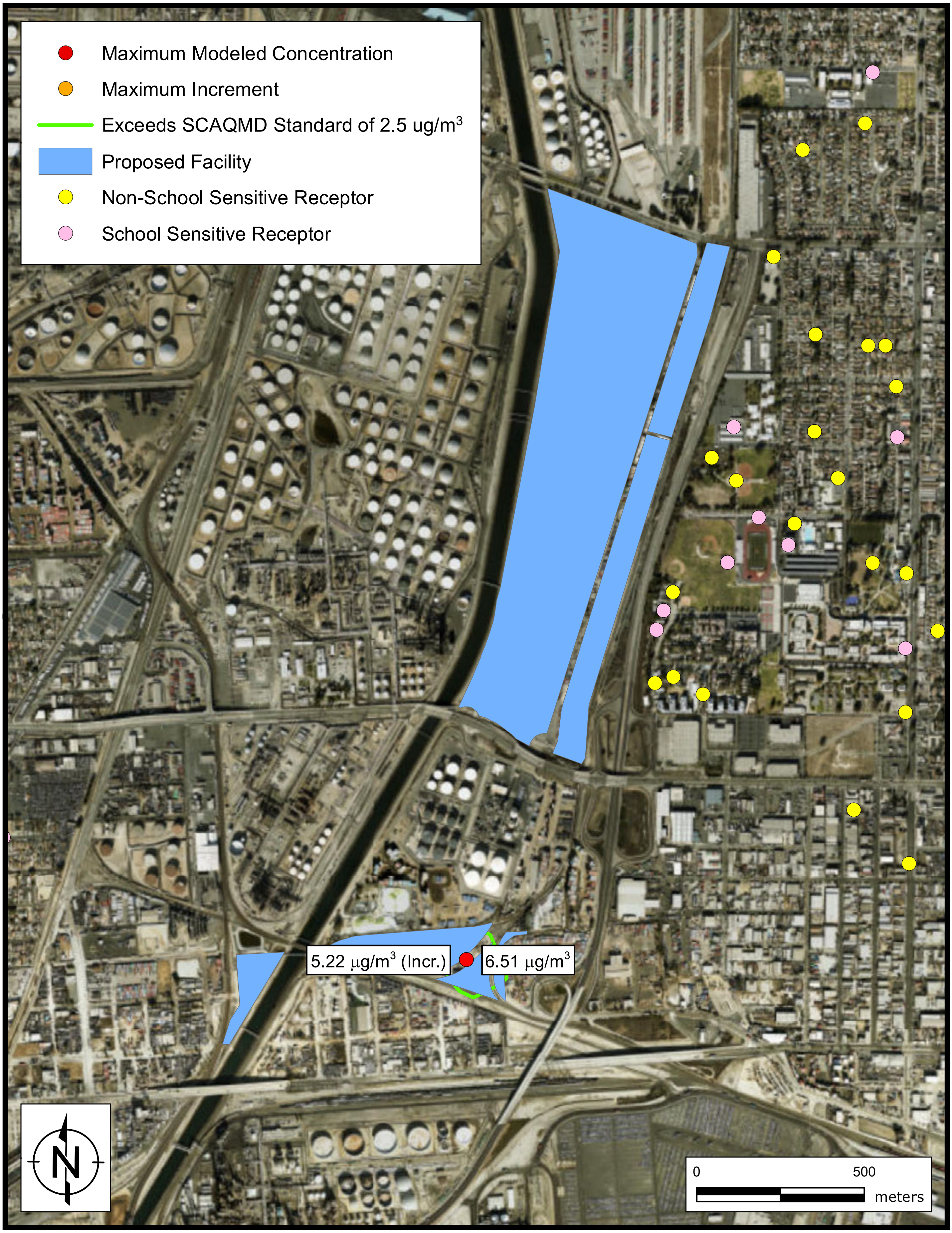
RAMBOLL

Mitigated Reduced Project 2016 24-Hour PM_{10}
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-127

DRAFTED BY: KAR/DCW | DATE: 6/26/2020

1690011204-001



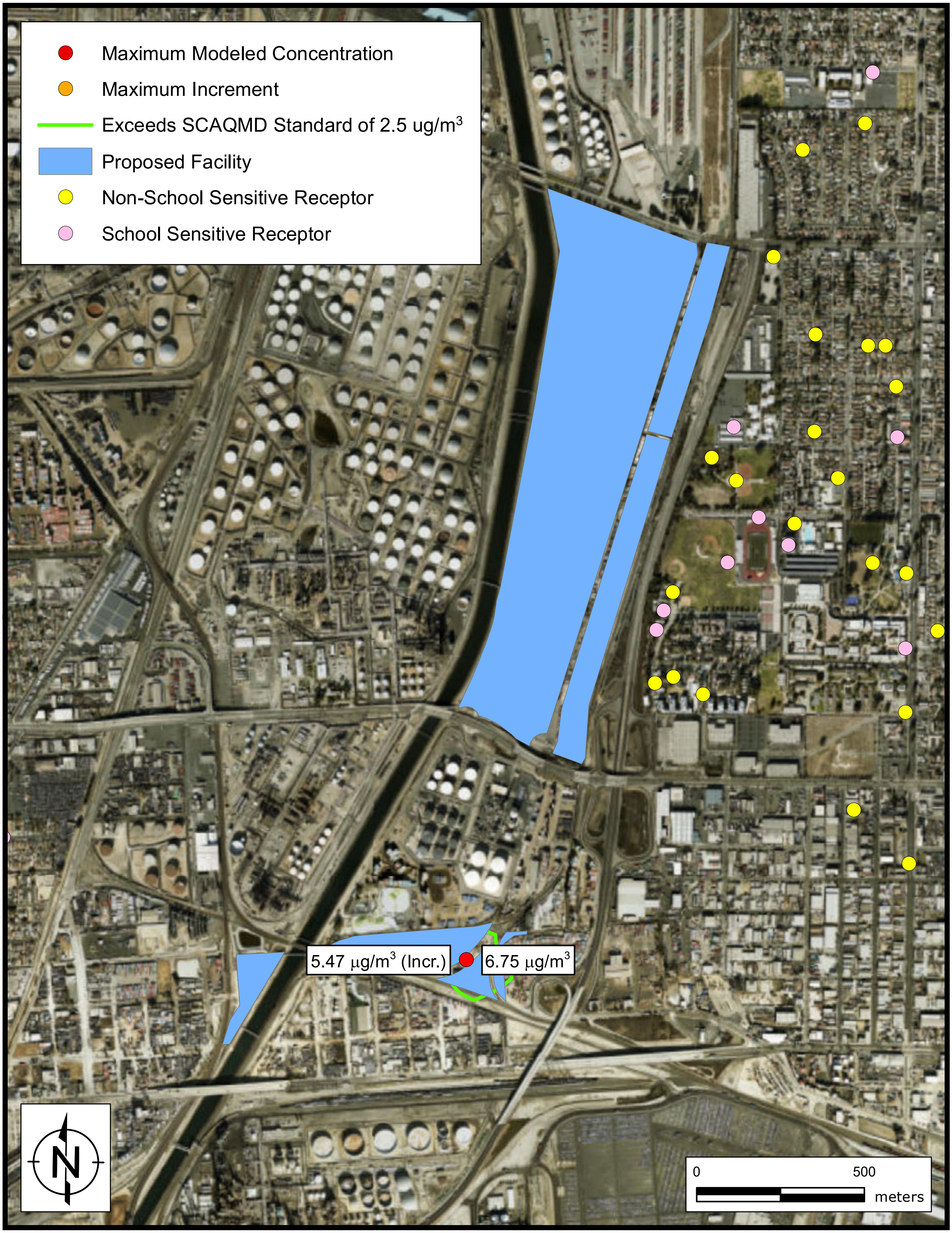
RAMBOLL

Mitigated Reduced Project 2020 24-Hour PM_{10}
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-128

DRAFTED BY: KAR/DCW | DATE: 6/26/2020

1690011204-001



RAMBOLL

Mitigated Reduced Project 2023 24-Hour PM_{10}
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-129

DRAFTED BY: KAR/DCW | DATE: 6/26/2020

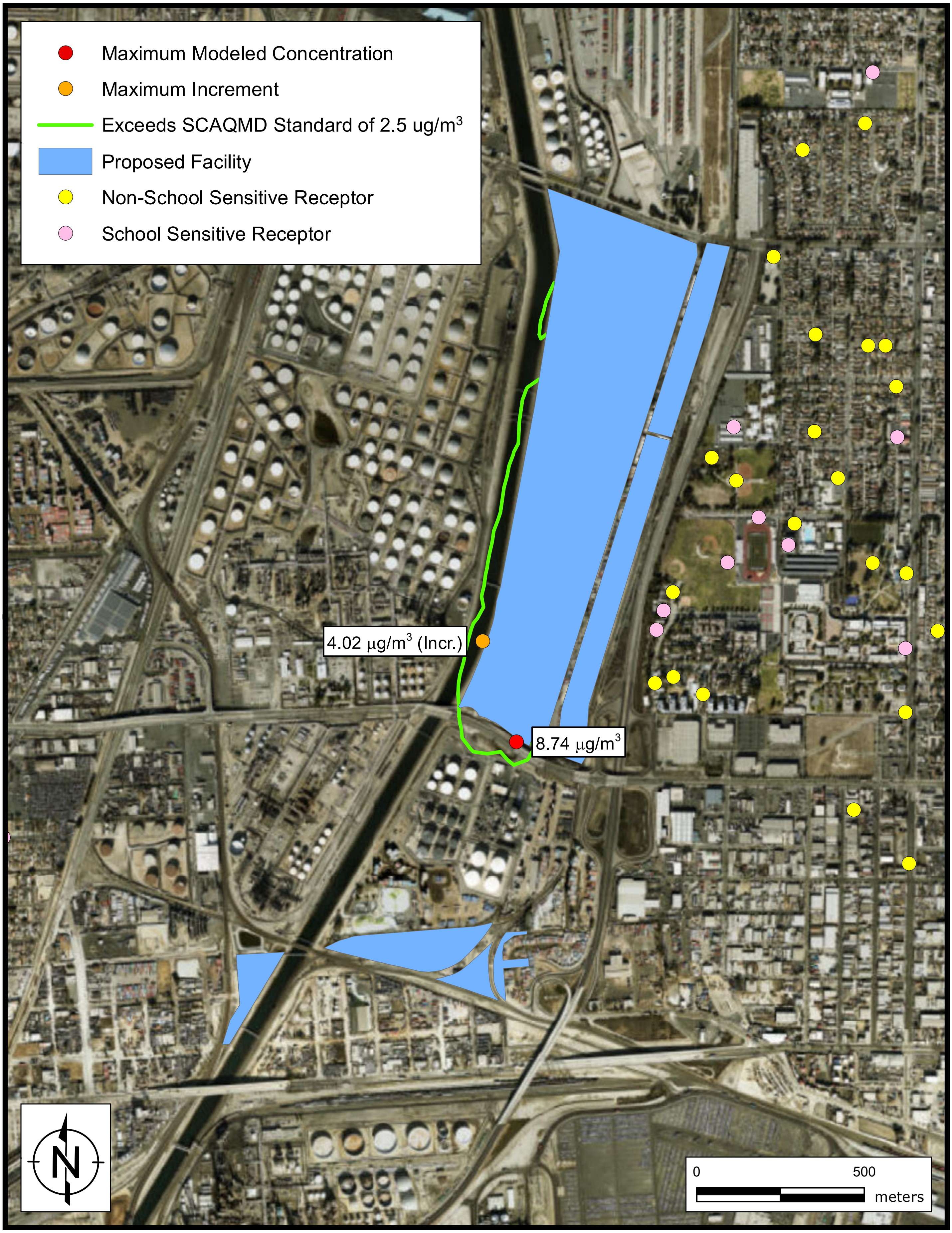
1690011204-001

RAMBOLL

Mitigated Reduced Project 2030 24-Hour PM_{10}
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-130

DRAFTED BY: KAR/DCW | DATE: 6/26/2020 | 1690011204-001



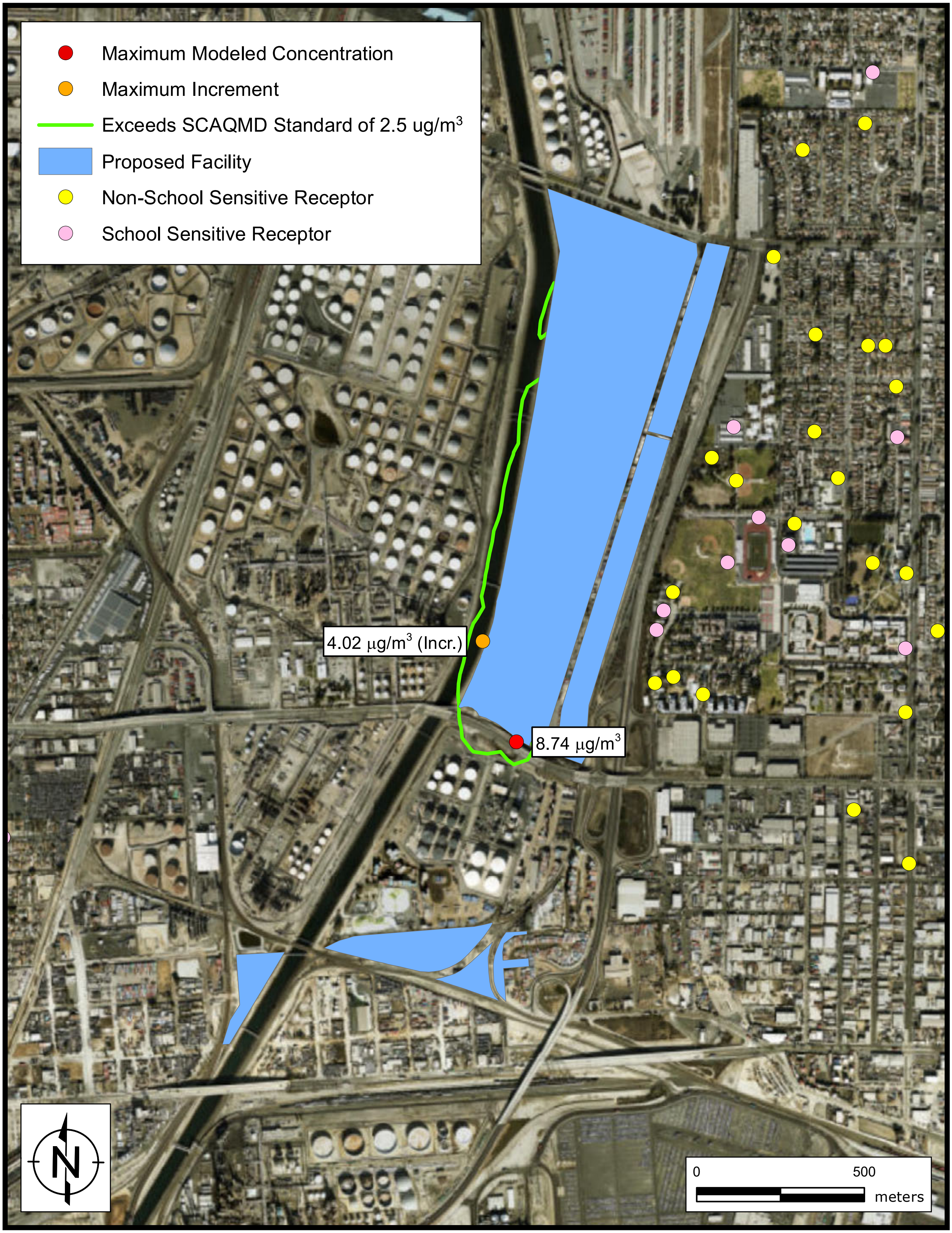
RAMBOLL

DRAFTED BY: KAR/DCW | DATE: 6/26/2020

Mitigated Reduced Project 2035 24-Hour PM_{10}
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-131

1690011204-001



RAMBOLL

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Mitigated Reduced Project 2046 24-Hour PM_{10}
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-132

1690011204-001

RAMBOLL

Mitigated Reduced Project 2016 Annual PM_{10}
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-133

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RAMBOLL

Mitigated Reduced Project 2020 Annual PM_{10}
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-134

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RAMBOLL

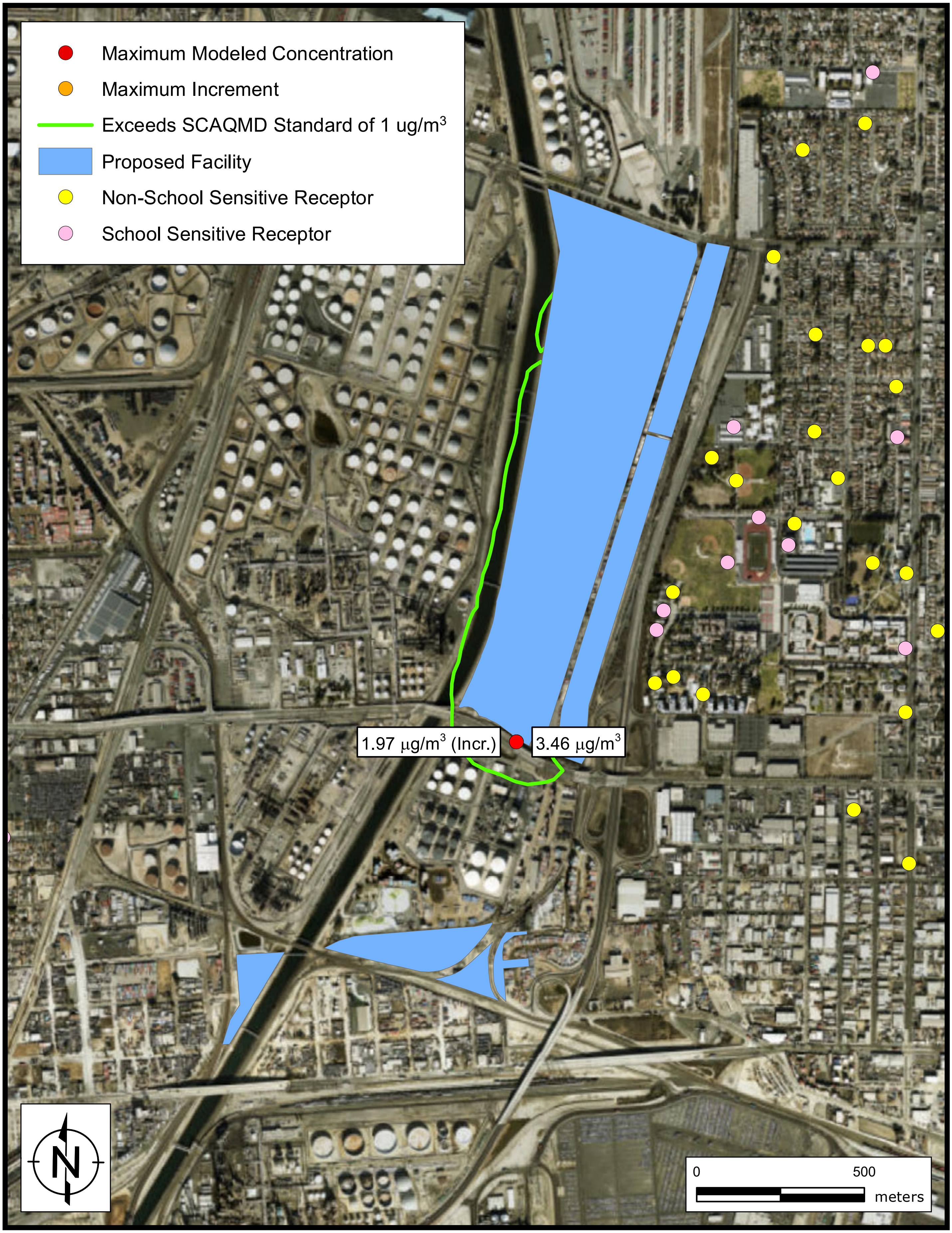
Mitigated Reduced Project 2023 Annual PM_{10}
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-135

DRAFTED BY: KAR/DCW

DATE: 6/26/2020

1690011204-001



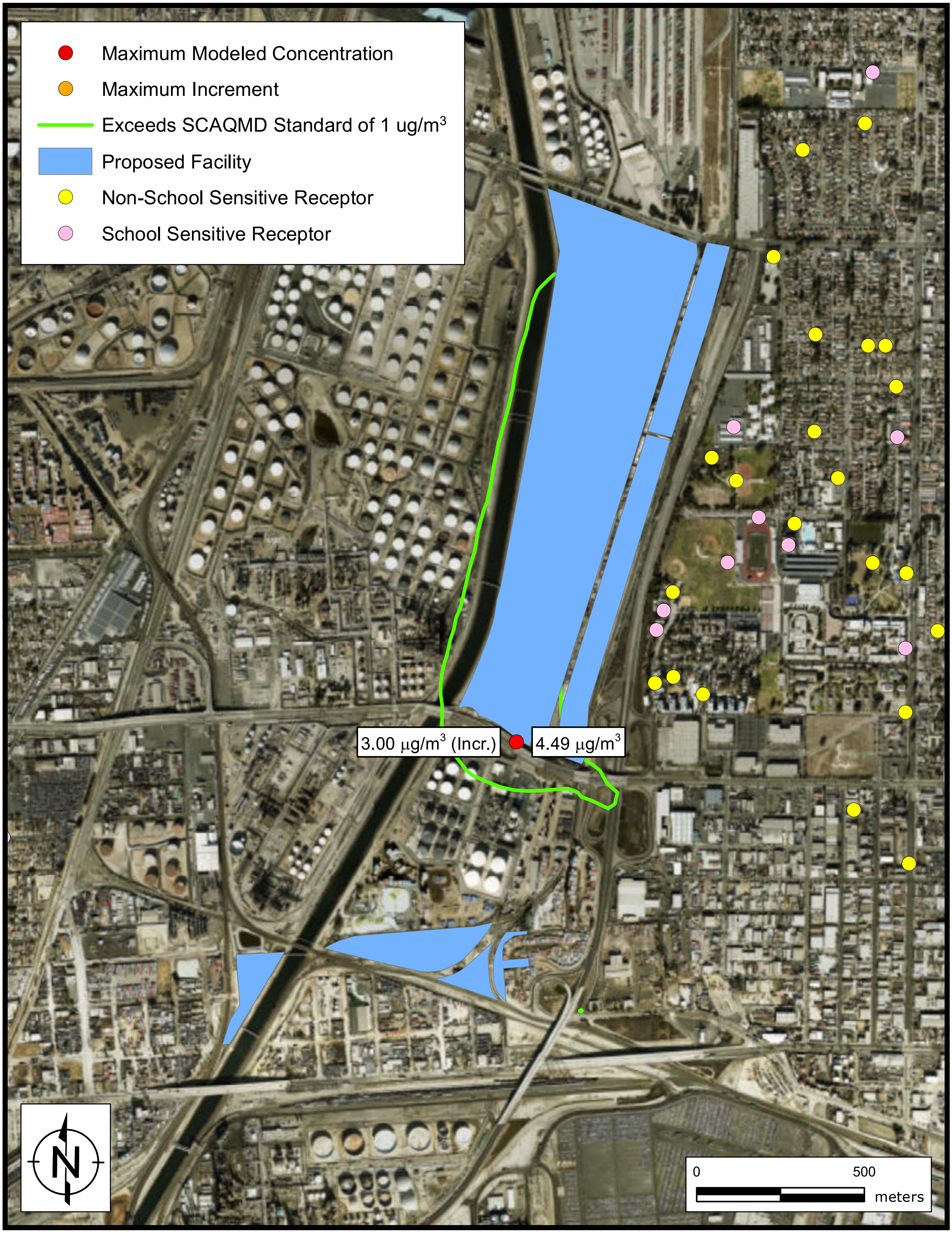
RAMBOLL

DRAFTED BY: KAR/DCW | DATE: 6/26/2020

Mitigated Reduced Project 2030 Annual PM_{10}
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-136

1690011204-001



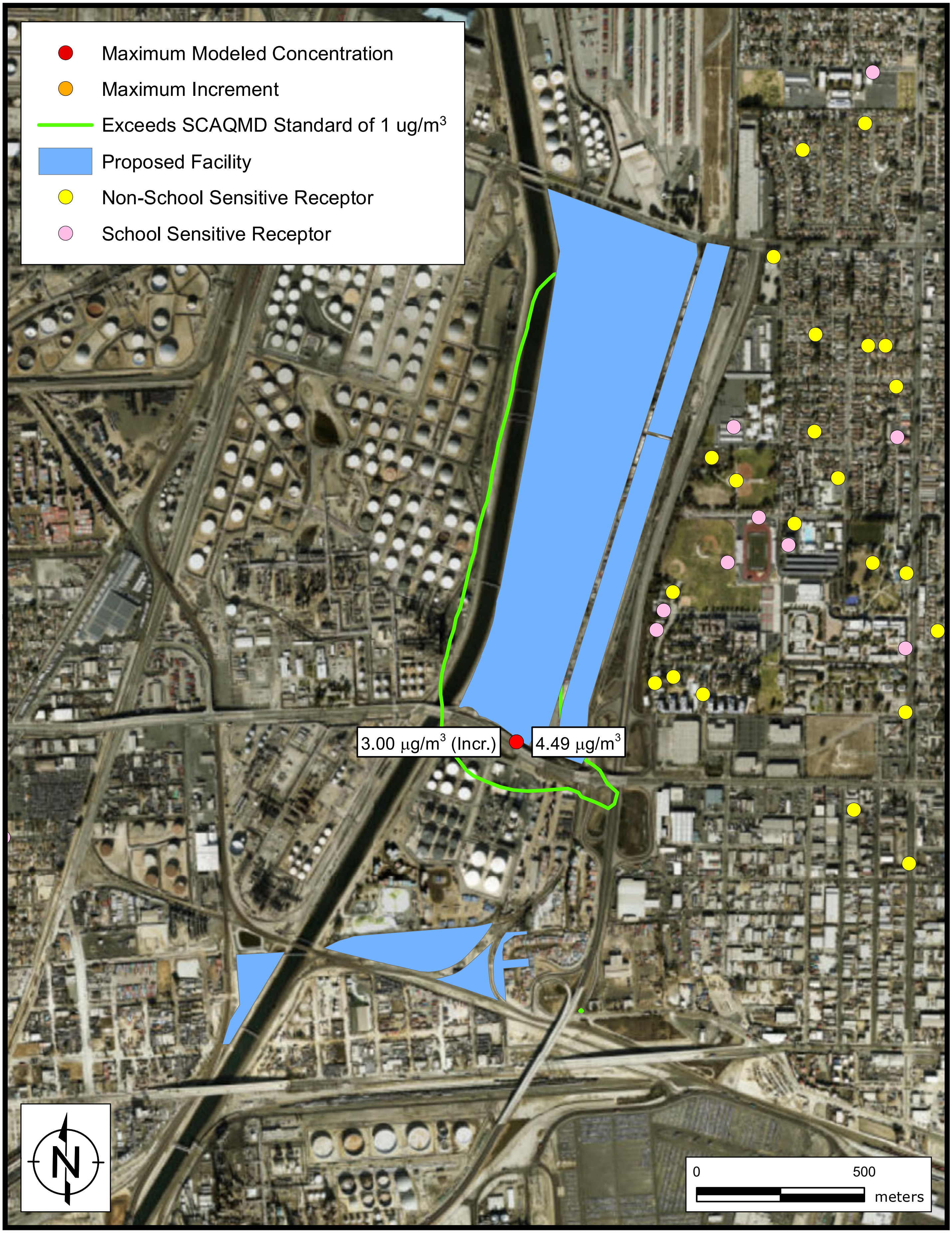
RAMBOLL

Mitigated Reduced Project 2035 Annual PM_{10}
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-137

DRAFTED BY: KAR/DCW | DATE: 6/26/2020

1690011204-001



RAMBOLL

DRAFTED BY: KAR/DCW

DATE: 6/26/2020

Mitigated Reduced Project 2046 Annual PM_{10}
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-138

1690011204-001

RAMBOLL

Mitigated Reduced Project 2016 24-Hour $PM_{2.5}$
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-139

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RAMBOLL

Mitigated Reduced Project 2020 24-Hour $PM_{2.5}$
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-140

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RAMBOLL

Mitigated Reduced Project 2023 24-Hour $PM_{2.5}$
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-141

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RAMBOLL

Mitigated Reduced Project 2030 24-Hour $PM_{2.5}$
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-142

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RAMBOLL

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Mitigated Reduced Project 2035 24-Hour $PM_{2.5}$
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-143

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RAMBOLL

Mitigated Reduced Project 2046 24-Hour $PM_{2.5}$
Southern California International Gateway Project
Port of Los Angeles

FIGURE
A-144

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