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Environmental Assessment
Determinations and Compliance Findings for HUD-assisted Projects
24 CFR Part 58

Project Information

Project Name:	Huntington Beach Senior Housing
Responsible Entity:	**OC Housing & Community Development**
Grant Recipient (if different than Responsible Entity):	
State/Local Identifier:	CA/059
Preparer:	Jaclyn Canzone, OC Housing and Community Development
Certifying Officer Name and Title:	Julia Bidwell, Director OC Housing & Community Development
Grant Recipient (if different than Responsible Entity):	
Consultant (if applicable):	Jonathan Rigg, Dudek 1 SW Columbia Street, Suite 1500 Portland, Oregon 97258 503.956.1444
Direct Comments to:	Jaclyn Canzone, jaclyn.canzone@occr.ocgov.com

Project Location:

The Huntington Beach Senior Housing project (referred to throughout this Environmental Assessment as the proposed project or project) is located at 18431 Beach Boulevard, Huntington Beach, CA 92648. The project site is approximately 0.78 acres and currently a vacant, undeveloped dirt lot. According to a zoning map of Huntington Beach and the APE Record Search Request from OC Community Resources, the proposed project is designated as SP-14 and RMH for Residential Medium High Density housing. In 2019, the City of Huntington Beach adopted a General Plan Amendment (GPA) and Zoning Text Amendment (ZTA) that established an Affordable Housing Overlay within the Beach Edinger Corridor Specific Plan.

Description of the Proposed Project [24 CFR 50.12 & 58.32; 40 CFR 1508.25]**:**

Huntington Beach Senior Housing is an affordable housing development for low and extremely low-income seniors. The proposed project would convert a currently undeveloped dirt lot into a four-story 43-unit residential building. With the exception of a two-bedroom apartment (758 square feet) set aside for the resident property manager, all 42 units would be one-bedroom (559 square feet). Of the 42 affordable rental units, 33 units would be designated as permanent supportive housing (PSH) for seniors experiencing homelessness earning 30% of the Area Median Income (AMI) or below. Of the 33 PSH units, 21 units would be reserved for senior individuals experiencing homelessness who also meet the MHSA eligibility criteria earning at or below 30% AMI. The remaining 9 units would be dedicated to seniors earning 50% AMI or below. As an affordable housing project that supports Huntington Beach's regional housing needs allocation (RHNA) goals, the proposed project is in line with the Housing Element of the General Plan. Overall, the building would be 4-stories consisting of Type V residential units with a single level of Type I partial subterranean parking.

The four-story building would include underground parking that would accommodate up to 24 vehicles. The main floor would house the leasing office, community center, courtyard, social services rooms, and several residences. Floors 2, 3, and 4 would house the remainder of the residential units. The building dimensions would be approximately 160 feet long by 90 feet wide, and approximately 58 feet high at its highest point.

The proposed project includes numerous amenities, such as a 3,800-square-feet community space that would be used to provide residents with social services and case management among other services. The community space would also encompass a leasing office, common area, individual counseling offices, community room with kitchen area, TV lounge, computer room and multi-purpose gathering flex room. An outdoor community courtyard (2,300 square feet) and dog park would provide residents outdoor living space. In addition to these on-site amenities, the proposed project is located near public transit (bus line), grocery stores, public parks, and medical care.

A full-time Case Manager and part-time Supportive Service Coordinator would be available on-site to assist residents. Property management and service providers are committed to the

"Housing First" model, "screening in" applicant referrals form coordinate entry systems regardless of poor credit history, eviction history, criminal justice involvement, use of alcohol or drugs, or completion or participation in services. The Community Impact Team at Housing With Heart, the housing services division of Jamboree Housing Corporation, would provide residents with full wrap-around services for the 33 PSH units. Housing With Heart, which was founded in 1990, has an extensive and successful history providing innovative social services tailored to residents' needs. Case management services for the 21 MSHA would be provided by the Orange County Healthcare Agency. Services would include education, health and wellness, and skill building activities. Behavioral care, medical care, substance abuse counseling, and community events, including Thanksgiving, bingo, and movie nights are some of the numerous programs that would be offered to residents. With connections to community-based support and access to supportive services immediately after move-in, residents would hopefully avoid a return to homelessness.

Statement of Purpose and Need for the Proposal [40 CFR 1508.9(b)]:

As demand increases for Orange County services, and the County's population increases, the need for additional housing and access to government services has also increased.

The proposed project's objectives are as follows:

- Create new affordable, safe, attractive, and service-enriched residences for low-income senior households.
- Create a community that fits into and improves the existing neighborhood in style, texture, scale, and relation to the street.
- Provide housing for low-income seniors.

Existing Conditions and Trends [24 CFR 58.40(a)]:

According to the Environmental Information Form provided by OC Housing and Community Development and the Phase 1 Environmental Assessment (ESA) conducted by Hillmann Consulting, LLC, the proposed development site is currently a vacant, undeveloped dirt lot. The L-shaped lot is approximately 0.78 acres. Review of aerial photos of the project site ranging from 1938 through 2016 reveal that the subject site was agricultural land until around 1963 when it transitioned into undeveloped land. While bordering land parcels became developed with commercial and residential land uses, the project site remained a vacant lot.

North- Beachpoint Circle; Commercial (landscape services, learning center)
South- Ellis Avenue and Main Street; Commercial and Residential (retail, restaurants, apartments)
East- Beach Boulevard (State Route 39); Commercial and Residential (restaurants, retail)
West- Steep Lane; Residential

Funding Information

Grant Number	HUD Program	Funding Amount
	HOME (City of Huntington Beach)	$2,830,697
	33 OCHA Project-Based Vouchers	$10,153,440

Estimated Total HUD Funded Amount: $13,153,440

Estimated Total Project Cost (HUD and non-HUD funds) [24 CFR 58.32(d)]**: $26,448,531**

Compliance with 24 CFR 50.4, 58.5, and 58.6 Laws and Authorities

Record below the compliance or conformance determinations for each statute, executive order, or regulation. Provide credible, traceable, and supportive source documentation for each authority. Where applicable, complete the necessary reviews or consultations and obtain or note applicable permits of approvals. Clearly note citations, dates/names/titles of contacts, and page references. Attach additional documentation as appropriate.

Compliance Factors: Statutes, Executive Orders, and Regulations listed at 24 CFR §58.5 and §58.6	Are formal compliance steps or mitigation required?	Compliance determinations
STATUTES, EXECUTIVE ORDERS, AND REGULATIONS LISTED AT 24 CFR 50.4 and 58.6		
Airport Hazards 24 CFR Part 51 Subpart D	Yes ☐ No ☒	John Wayne Airport is the closest commercial civilian airport, about 7.15 miles southeast of the subject site (see **Attachment 2**; see **Environmental Review Record (ERR) 2**).
Coastal Barrier Resources Coastal Barrier Resources Act, as amended by the Coastal Barrier Improvement Act of 1990 [16 USC 3501]	Yes ☐ No ☒	The Coastal Barrier Resources Act does not apply to this project since no coastal barrier resources protected under this policy occur in California (see **Attachment 3**).
Flood Insurance Flood Disaster Protection Act of 1973 and National Flood Insurance Reform Act of 1994 [42 USC 4001-4128 and 42 USC 5154a]	Yes ☐ No ☒	According to the FEMA Flood Insurance Rate Map (FIRM), the proposed project site does not occur on a floodplain and is an area of minimal flood hazard (see **Attachment 4**). FIRM Panel 06059 C0253J Effective December 2009.
STATUTES, EXECUTIVE ORDERS, AND REGULATIONS LISTED AT 24 CFR 50.4 & 58.5		
Clean Air Clean Air Act, as amended, particularly section 176(c) & (d); 40 CFR Parts 6, 51, 93	Yes ☒ No ☐	The proposed project falls under the jurisdiction of the South Coast Air Quality Management District (SCAQMD) within the South Coast Air Basin. According to the U.S. Environmental Protection Agency (EPA) Air Quality Green Book, the SCAQMD is in nonattainment for federal ozone (8-hour ozone) and particulate matter from greenhouse gasses ($PM_{2.5}$). The EPA classified federal ozone in Orange County as extreme and $PM_{2.5}$ as moderate. Since the

		project site is in a nonattainment zone for these pollutants, it must conform to the State Implementation Plan (SIP) to meet HUD air quality guidelines. To be compliant with the SIP, a comprehensive plan that describes how an area will meet national and ambient air quality standards, the proposed project must ensure its criteria pollutant emissions remain below the local air district's significance thresholds. The project site's location close to public transportation is consistent with regional efforts to improve transit availability and would reduce the amount of emissions ($PM_{2.5}$) associated with motor vehicle travel. By developing affordable housing consistent with the growth anticipated by the General Plan and existing zoning and land use designations, the proposed project is in compliance with Regional Air Quality Strategy (RAQS), the SIP, and the Air Quality Management Plan for this locality. Air quality at the project site could be negatively impacted by fugitive dust (PM_{10}) and other particulate air pollutants ($PM_{2.5}$) released during construction-related activities, such as land clearing or grading. Exhaust emissions (oxides of nitrogen [NO_x] and carbon monoxide [CO]) released by heavy construction vehicles could also temporarily impact air quality. Adverse impacts to air quality during construction would be managed by implementing mitigation measures for fugitive dust control in compliance with SCQAMD Rule 403. This guideline identifies measures to reduce fugitive dust that are required to be implemented at all construction sites within the South Coast Air Basin (**Mitigation Measure 1**). Daily emissions from the proposed project would not exceed the SCAQMD's regional construction or operation emissions thresholds (see Attachment 5). Because the proposed development is consistent with existing zoning and the General Plan, it is compliant with the SIP, RAQS, and the Clean Air Act (see **Mitigation Measure 1**, **Attachment 5**; and **ERR 3**).

Coastal Zone Management Coastal Zone Management Act, sections 307(c) & (d)	Yes ☐ No ☒	The project site is located 2.48 miles from the coast of the Pacific Ocean. The proposed development does not occur within the California Coastal Zone (see **Attachment 6 &7**; see **ERR 4**).
Contamination and Toxic Substances 24 CFR Part 50.3(i) & 58.5(i)(2)	Yes ☐ No ☒	A Phase 1 Environmental Site Assessment (ESA) conducted by Hillmann Consulting LLC in June 2019 analyzed the proposed project site for recognized environmental conditions (RECs), historical recognized environmental conditions (HRECs), and controlled recognized environmental conditions (CRECs). While site investigators did not find evidence of any HRECs or CRECs, a REC was identified on the southeast adjacent property that could pose a vapor intrusion concern to the proposed project. A 550-gallon waste-oil underground storage tank (UST) was removed from the area adjoining the proposed project site in March 1987. Contaminated soil was removed and backfilled on the same day the UST was removed and soil testing to a depth of 10ft tested clean for TPH and chlorinated hydrocarbons. The UST site is considered a REC due to lack of groundwater testing and insufficient sampling data to eliminate the possibility of horizontal delineation. As a result, there could be potential vapor intrusion concern from the former UST that could affect the proposed subject area. Hillmann Consulting conducted a Limited Phase II Subsurface Investigation in June 2019 to investigate for the presence of potential contamination and vapor intrusion from the former oil UST site to the proposed project site. Soil and soil gas sampling were conducted using borings taken at depths of 9-14ft below the surface elevation of the off-site property. Testing revealed both samples were absent of detectable levels of petroleum hydrocarbons. Though lead was detected in the soil samples, the amount fell well below current DTSC levels for residential applications. Soil gas sampling did not find detectable levels of VOC. Based on the results from soil and soil gas sampling, vapor intrusion from the former oil UST site should not

		affect the subject site. Hillmann does not recommend further soil sampling at the proposed project site (see **Attachment 8**; see **ERR 5**). The proposed project site was historically used as agricultural land between 1938 and 1953. Soil contamination from pesticide application is not considered an REC due to the age, potential redevelopment, and grading at the project site. Additionally, no record of historical petroleum or natural gas wells were identified on the subject site. A visual site inspection completed during the ESA did not find evidence of asbestos-containing materials (ACM) or lead-based paints (LBP). Damage from mold was also absent. A data review complied by the USEPA reveal that the project site is located in a 'low risk' area for radon.
Endangered Species Endangered Species Act of 1973, particularly section 7; 50 CFR Part 402	Yes ☐ No ☒	The US Fish and Wildlife Service's (USFWS) Information for Planning and Consultation (IPaC) webpage was used to evaluate the presence of Threatened or Endangered species on the proposed project site. According to this resource, 11 species of Threatened or Endangered species of mammals, birds, crustaceans, and flowering plants have habitat ranges that overlap with the subject site, which is currently a vacant, undeveloped lot. While the habitat range of these species overlap with the proposed project area, they are unlikely to be present on site due to the urban setting of the project. The buildings and roads bordering the subject site also discourage wildlife activity. As a result, the proposed project would not have any impacts on wildlife movement, migration, or nursery sites (see **Attachment 9**; see **ERR 6**).

Explosive and Flammable Hazards 24 CFR Part 51 Subpart C	Yes ☐ No ☒	Explosive and flammable hazardous materials would not be used or stored on the proposed project site, which is a designated Regional Housing Needs Assessment Area (RHNA) under the Huntington Beach General Plan. The ESA Site Reconnaissance did not reveal the presence of any hazardous substances or petroleum products on the property and there was not obvious indication that the proposed project site was previously used for the treatment, storage, disposal, or generation of hazardous substances or petroleum products. A records review of the surrounding properties did not find any evidence of the storage or use of hazardous substances, petroleum products or suspected environmental contamination. Therefore, the proposed project would not expose residents or the surrounding community to dangerous or flammable hazards.
Farmlands Protection Farmland Protection Policy Act of 1981, particularly sections 1504(b) and 1541; 7 CFR Part 658	Yes ☐ No ☒	The California Important Farmland Finder was used to determine the project's proximity to the state's agricultural resources. The proposed project site is located on Urban and Built-Up Land, away from areas categorized as Prime Farmland or Farmland of Statewide Importance. The land surrounding the project site is also categorized as urban (see **Attachment 10).** Within Huntington Beach, the proposed project is located in Supervisor District 2, an area zoned for RMH (Residential Medium High Density). Specifically, this area is designated as a RHNA site under the 2019 Housing Amendment. The proposed project would not affect protected farmlands. This project does not include any activities that could potentially convert agricultural land into a non-agricultural use. Therefore, this project is in compliance with the Farmland Protection Policy Act.

Floodplain Management Executive Order 11988, particularly section 2(a); 24 CFR Part 55	Yes ☐ No ☒	According to FEMA FIRM panel 06059 C0253J, the subject site is not located on a floodplain or floodway. The area is classified by FEMA as an Area of Minimal Flood Hazard. Floodplain management is not expected to be adversely impacted by the proposed project (see **Attachment 4**).
Historic Preservation National Historic Preservation Act of 1966, particularly sections 106 and 110; 36 CFR Part 800	Yes ☒ No ☐	The California State Historic Preservation Office (SHPO) was consulted in September 2020 to identify the presence of any known historical or cultural resources on the proposed project site. Pursuant to 36 CFR 800.4(d), SHPO did not find evidence that any historic resources would be impacted by the proposed development. Consultation with the South Central Coastal Information Center at Cal State Fullerton returned similar results, finding that there are currently no documented archaeological resources on the proposed project area As described in **Mitigation Measure 2**, construction activities would cease and an archaeologist would be contacted in the event that historic or cultural resources were discovered on the project site. Pursuant to Public Resources Code section 21080.3.1 (c), tribes that are traditionally and culturally affiliated with the proposed project site, such as the Kizh Nation, were consulted. Included as **Mitigation Measure 3**, the Kizh Nation requested that a Native American monitor be present during ground-disturbing activities (see **Attachment 11 &12**; see **ERR 7).**
Noise Abatement and Control Noise Control Act of 1972, as amended by the Quiet Communities Act of 1978; 24 CFR Part 51 Subpart B	Yes ☐ No ☒	**Construction noise.** A temporary increase in noise levels would occur during the construction phase of the proposed project as a result of construction equipment and delivery of materials. Noise increases would be short-term and restricted to daytime hours. The increased noise during construction would not exceed applicable standards for construction noise.

		Operational noise. Increases in neighborhood noise levels would still comply with Orange County noise limits. Sources of operational noises include project-generated traffic and recreational open space areas. The noise level for the project site was calculated using the HUD DNL Electronic Assessment Tool. The noise level at the projects site is 65 decibels (dBA), the acceptable HUD noise threshold (Attachment 13). Because the noise level at the project site is at the HUD noise threshold of 65 dBA and the primary source of noise is traffic on Beach Boulevard, additional noise modeling was conducted using the FHWA Traffic Noise Model. The FHWA Traffic Noise Model calculates the day-night average noise level with more inputs than the HUD DNL Electronic Assessment Tool and can therefore provide a more refined noise calculation. The FHWA Traffic Noise Model was calculated at fifteen outdoor locations at the project site, including the building façade and outdoor living areas. One location identified as a common area on the site plans near Beach Boulevard was calculated to be above the 65 dBA threshold; however, upon discussion with the developer, the common area was removed from the project design as an outdoor use area and would not be subject to the HUD 65 dBA noise threshold. All fourteen other locations that were modeled would be at 64 dBA or less under worst case noise scenario as presented in the Noise Technical Memo (Attachment 14). Therefore, this project would comply with federal standards for noise abatement and control (see **Attachments 13 and 14**, **ERR 8**).
Sole Source Aquifers Safe Drinking Water Act of 1974, as amended, particularly section 1424(e); 40 CFR Part 149	Yes ☐ No ☒	The project site is not located on or adjacent to any sole-source aquifers. There are not sole-source aquifers in Orange County. Environmental Policy Act Sole Aquifers Map (EPA 2018) (see **Attachment 15**).

Wetlands Protection Executive Order 11990, particularly sections 2 and 5	Yes ☐ No ☒	The proposed project is not expected to impact any resources protected under E.O. 11990. No wetlands occur on or near the project site. The nearest wetland to the project site is a 6.65 acre freshwater pond classified by USFWS as PUBHx (Palustrine system, Unconsolidated bottom, Permanently flooded, and Excavated), located approximately 0.76 miles west of the project site (see **Attachments 16 &17**; see **ERR 9**).
Wild and Scenic Rivers Wild and Scenic Rivers Act of 1968, particularly section 7(b) and (c)	Yes ☐ No ☒	There are no rivers protected under the Wild and Scenic Rivers Act located on or in the proximity of the proposed project site. Bautista Creek, located approximately 65 miles west of the subject site (see **Attachment 18**; see **ERR 10**).
ENVIRONMENTAL JUSTICE		
Environmental Justice Executive Order 12898	Yes ☐ No ☒	As an affordable housing project, the proposed development would have a positive impact on environmental justice by providing the community members most vulnerable and at-risk of homelessness with housing. The Jamboree Housing Corporation's nonprofit, Housing with Heart, would provide full wrap-around services for residents of the 33 PSH units while the Orange County Health Care Agency would provide case management services for the 21 MSHA units at the subject property. In addition, all residents would have access to additional support, including education, health and wellness, and skill-building activities. Centrally located and within close proximity to numerous restaurants and amenities, the proposed project would not have an adverse impact on the surrounding community, least of all low-income or minority populations. The subject site and the surrounding properties do not contain any environmental hazards outside of what has already been described. Any existing environmental impacts would be mitigated or reduced below acceptable thresholds through incorporation of design features, compliance with applicable regulations and policies, and implementation of mitigation measures. Considering that the proposed project would not adversely impact the surrounding community and environment, it does not violate Executive Order 12898 (see **ERR 11**).

Environmental Assessment Factors [24 CFR 58.40; Ref. 40 CFR 1508.8 &1508.27] Recorded below is the qualitative and quantitative significance of the effects of the proposal on the character, features and resources of the project area. Each factor has been evaluated and documented, as appropriate and in proportion to its relevance to the proposed action. Verifiable source documentation has been provided and described in support of each determination, as appropriate. Credible, traceable and supportive source documentation for each authority has been provided. Where applicable, the necessary reviews or consultations have been completed and applicable permits of approvals have been obtained or noted. Citations, dates/names/titles of contacts, and page references are clear. Additional documentation is attached, as appropriate. **All conditions, attenuation or mitigation measures have been clearly identified.**

Impact Codes: Use an impact code from the following list to make the determination of impact for each factor.

(1) Minor beneficial impact
(2) No impact anticipated
(3) Minor Adverse Impact – May require mitigation
(4) Significant or potentially significant impact requiring avoidance or modification which may require an Environmental Impact Statement

Environmental Assessment Factor	Impact Code	Impact Evaluation
LAND DEVELOPMENT		
Conformance with Plans / Compatible Land Use and Zoning / Scale and Urban Design	2	The approximately 0.78 acre proposed project site is located within Supervisor District 2 of Huntington Beach, CA. Under the Huntington Beach General Plan, the project site is situated on land designated as Residential Medium High Density (RMH). In 2019, Huntington Beach adopted a General Plan Amendment (GPA) and Zoning Text Amendment (ZTA) that established an Affordable Housing Overlay within the Beach Edinger Corridor Specific Plan. The proposed project falls within the new Affordable Housing Overlay and is designated as RHNA.
Soil Suitability/ Slope/ Erosion/ Drainage/ Storm Water Runoff	3	**Soil Stability.** Soil stability would not be adversely impacted by the proposed project as the project site is in an area with low potential for liquefaction, landslides, or seismically induced settlement. Successful prior building development on adjacent parcels indicate that the soils on the site are suitable for the proposed project. **Slope and Drainage.** According to the Phase 1 ESA, the terrain on the project site slopes northwest. The site is currently a vacant, undeveloped lot absent of waterbodies and other significant topographical features. **Erosion and Stormwater Runoff.** The proposed project site is currently a vacant, undeveloped dirt lot. Erosion and stormwater runoff could benefit from the proposed

		development by reducing erosion on site. Runoff from newly paved building areas would likely drain into existing storm drains and into landscaped areas on the property. Covering exposed dirt areas with open green spaces, such as the dog park and courtyard, would decrease water runoff by allowing water to percolate into the ground. The project would also comply with erosion control measures during the construction phase to minimize erosion and stormwater pollution. Best management practices (BMPs) adopted from the Stormwater Quality Management Plan would be applied during and after the construction phase of the project. Additional BMPs that would be utilized to reduce runoff and erosion include maintaining existing drainage pathways and impervious areas, and retaining natural areas where possible (**Mitigation Measure 4**). Therefore, negative impacts to stormwater drainage systems and stormwater pollution are not anticipated as a result of the proposed project.
Hazards and Nuisances including Site Safety and Noise	2	**Hazardous Materials.** The Phase 1 ESA conducted by Hillmann Consulting did not find any HRECs or CRECs on the proposed project site. The former site of a 550-gallon oil UST on an adjacent property was identified as an REC. While contaminated soil was removed and backfilled at the time the UST was removed in March 1987, the lack of groundwater testing and sampling data to provide horizontal delineation suggests a potential vapor intrusion concern onto the subject property. Hillmann conducted a Limited Phase II Subsurface Investigation in which soil and soil gas samples were collected using boring. Two borings were taken in separate areas at depths of 9-14ft below the surface elevation of the off-site property. Results indicated no detectable levels of VOC in soil gas, no detectable levels of petroleum hydrocarbons, and no lead levels greater than current DTSC screening levels. A visual site inspection completed during the ESA did not find evidence of asbestos-containing materials (ACM) or lead-based paints (LBP). Damage from mold was also absent. A data review complied by the USEPA reveal that the project site is located in a 'low risk' area for radon. **Site Safety.** The project would be constructed consistent with the current Orange County requirements for fencing, lighting, and other features related to site safety. No impacts related to hazards, nuisance, or site safety would occur.

		Noise. A temporary increase in noise would occur during the construction phase of the project as a result of materials being transported to the site and heavy machinery use. Noise levels would adhere to standards set by Orange County for construction impacts on noise-sensitive land uses. Increased noise would be limited to daylight hours. Adverse impacts to the surrounding community as a result of increased noise are not foreseen. Sources of noise during the operational phase include project-generated traffic and recreational spaces associated with the project. Adverse impacts from operational phase noise are not expected due to the relatively small size of the development. Operational noise would similarly comply with Orange County Noise Control Ordinances. The noise level from surrounding land uses at the project site are at the HUD 65 dBA noise threshold.
Energy Consumption	2	To obtain building permits, this project would be required to meet energy consumption standards as outlined in the California Building Code, Title 24, 2001 Energy Efficiency Standards. This project would be designed to be LEED certified.

Environmental Assessment Factor	Impact Code	Impact Evaluation
SOCIOECONOMIC		
Employment and Income Patterns	1	The proposed project could temporarily create job opportunities in the community during the construction phase. Job creation would have a positive impact on income patterns in the area, where affordable housing for senior-aged individuals is in demand. Of the 42 available units at the subject site, 33 (80%) of the units would be allocated as Permanent Supportive Housing (PSH) for seniors. Of the 33 PSH units, 21 would be set-aside for individuals living with mental health issues (MSHA units). Jamboree Housing Corporation's nonprofit, Housing With Heart, would provide full wrap-around services for the 33 PSH units. The Orange County Health Care Agency would provide support for the individuals residing in the 21 MSHA units. The proposed project would provide on-site support to residents through a full-time case manager and part-time services coordinator. Services would include education, health and wellness, and skill building activities. Behavioral care, medical care, substance abuse counseling, and community events, including Thanksgiving, bingo, and movie nights are some of the numerous programs that would be offered to residents. In addition, the project site is located in close proximity to public transportation and retail resources.

Demographic Character Changes, Displacement	1	The proposed residential project would not adversely affect community character. The development would feature beach craftsman architecture that would complement other buildings in the surrounding area. A dog park and 2,300 square foot outdoor courtyard area would provide greenspace for residents to enjoy and improve the aesthetic of the project. In addition, the project supports housing goals outlined in the Huntington Beach General Plan by converting a vacant lot into an affordable housing community focused on individuals with very low to moderate incomes and of senior-age. Potable water and sewer services would be provided by the public utility using existing infrastructure. Since the project is consistent with the City's General Plan and zoning, would not displace existing businesses or residents, and increases affordable housing in the area, the proposed development is not anticipated to have a negative impact on the community.

Environmental Assessment Factor	Impact Code	Impact Evaluation
COMMUNITY FACILITIES AND SERVICES		
Educational and Cultural Facilities	2	The proposed development is a senior living facility consisting of 42 single occupancy units for residents and 1 two bedroom unit for the property manager. Of the 42 available units, 33 would be reserved as PSH. Of the 33 PSH units, 21 would be reserved for residents living with mental health issues. The proposed project is located near multiple educational facilities, including: • Lakeview School, approximately 1.4 miles from the project site at 17451 Zeider Ln, Huntington Beach, CA 92647 • Roch Courreges Elementary School, located 1.1 miles east of the project site at 18313 Santa Carlotta St., Fountain Valley, CA 92708 • Mesa View Middle School, only 2.2 miles northwest of the project site at 17601 Avilla Ln, Huntington Beach, CA 92647 • Coast High School, approximately 2.1 miles from the project area at 17231 Gothard St, Huntington Beach, CA 92647 • Huntington Beach High School, about 1.5 miles southwest of the project site at 1905 Main St, Huntington Beach, CA 92648 Since this development is focused on senior-aged individuals and units only have one bedroom, the proposed project would not be housing any school-aged children. As a result, the project is not anticipated to have any adverse impact on educational and cultural facilities in the surrounding community.

Commercial Facilities	2	Adverse impacts to surrounding commercial facilities are not foreseen. The project site is bordered by commercial and residential uses including a Denny's Restaurant, Allen Tire Company, and A-1 Lawnmower & Engine Service.
Health Care and Social Services	2	The proposed development would add 43 residential units to the community, possibly increasing demand for health care and social services in the area. The project site is central to numerous health care facilities, including: • Huntington Beach Hospital, about 0.9 miles north of the project site along Beach Blvd at 17772 Beach Blvd, Huntington Beach, CA 92647 • Memorial Care Orange Coast Medical Center, approximately 2.5 miles west of the project at 18111 Brookhurst St, Fountain Valley, CA 92708 • Pro Care Medical Walk In, approximately 1.5 miles north of the project site along Beach Blvd at 17122 Beach Blvd Unit 104, Huntington Beach, CA 92647 • Optum Primary and Specialty Care, only 1.7 miles southeast from the project area located at 19066 Magnolia St, Huntington Beach, CA 92646 • Hoag Health Center Huntington Beach, approximately 1.3 miles south along Beach Blvd at 19582 Beach Blvd, Huntington Beach, CA 92648 Negative impacts on health care and social service facilities in the area are not anticipated considering the relatively small size of the project and availability of service providers in the area surrounding the project. Many of the social services required by residents would be offered on site by Housing with Hearth and the Orange County Health Care Agency.
Solid Waste Disposal / Recycling	2	The proposed development site is currently a vacant, undeveloped dirt lot. Demolition of an existing structure is not required before construction of the new affordable housing building begins, reducing the amount of waste generated by the project. Trash collection service is required for all properties in Huntington Beach. Solid waste disposal and recycling for the city of Huntington Beach is contracted by Rainbow Environmental/ Republic Services. Republic Services, Inc., of which Rainbow Environmental is now a division, specializes in recycling and non-hazardous solid waste for commercial, industrial, municipal, residential and oil field customers. The property would be subject to residential service fees, however, the Senior Citizen Low Income Discount may apply to this affordable housing development.

Waste Water / Sanitary Sewers	2	The Phase 1 ESA concluded that sanitary sewage and stormwater runoff generated by the project would be discharged into municipal sewer systems, such that the proposed development would utilize existing infrastructure. The City of Huntington Beach maintains 350 miles of wastewater piping and 27 sewage lift stations to transport an estimated 24.3 million gallons a day of wastewater. Orange County Sanitation District (OCSD) would treat wastewater generated by the proposed project. OCSD provides wastewater collection, treatment, and disposal services for nearly 2.6 million people in a 479 square mile area covering central and northwest Orange County. The project is not expected to strain or have negative impacts on existing wastewater and sewage infrastructure.
Water Supply	2	Huntington Beach meets the majority of resident water demands through approximately 10 groundwater wells, ranging in depth from 250- 1,020 feet, located throughout the city. Orange County Water District (OCWD) replenishes water within the Orange County Groundwater Basin using water from the Santa Ana River, local rainfall, and water imported from the Colorado River and Northern California. Water is imported from the Metropolitan Water District of Southern California to fulfill the remainder of Huntington Beach's water demand. Existing infrastructure would be used to carry water to the proposed development. Since the project is not expected to strain the City's water resources, adverse impacts to the water supply of Huntington Beach are not anticipated.
Public Safety - Police, Fire and Emergency Medical	2	The proposed development is located within close proximity to numerous public safety providers, including: • HBFD- Gothard Fire Station 1, about 0.8 miles west of the project site at 18311 Gothard St, Huntington Beach, CA 92648 • HBFD- Edwards Station 6, approximately 1.7 miles west of the project location at 18591 Edwards St, Huntington Beach, CA 92648 • Lake Station 5- City of Huntington Beach, approximately 2.7 miles south of the proposed development at 530 Lake St, Huntington Beach, CA 92648 • Huntington Beach Police Department, only 2.1 miles southwest of the project site at 2000 Main St, Huntington Beach, CA 92648 • Fountain Valley Police Department, approximately 3.2 miles northeast of the project site at 10200 Slater Ave, Fountain Valley, CA 92708 Since existing Police and Fire Departments adequately serve the proposed project area, the development is not expected to increase demand for public safety services in the community.

Parks, Open Space and Recreation	2	Recreational spaces located near the project site include: • Huntington Central Park East, approximately 1.6 miles northwest of the project site at 18000 Goldenwest St, Huntington Beach, CA 92647 • Huntington Central Park West, about 2.3 miles northwest of the project site at 6741 Central Park Dr, Huntington Beach, CA 92648 • Terry Park, approximately 0.6 miles northwest of the proposed development at 7701 Taylor Dr, Huntington Beach, CA 92648 • Fulton Park, approximately 1.5 miles northeast of the project site at 8620 El Lago Ave, Fountain Valley, CA 92708 • Talbert Park, about 1.8 miles southeast of the project area at 19222 Magnolia St, Huntington Beach, CA 92646 Additionally, the dog park and open courtyard at the proposed project would provide open green spaces for residents to enjoy. Given the relatively small size of the proposed project, an adverse impact to parks, open spaces, and recreational areas is not foreseen.
Transportation and Accessibility	2	The proposed project is located near numerous bus stops along Beach Blvd. The stop at Beach-Ellis, situated on the opposite side of Beach Blvd (about 0.05 miles away), is closest to the proposed development (see **Attachment 19**). Bus lines 29 and 29A service this stop. A plethora of restaurants and markets are located along Beach Blvd near the project location. The project site is also located in close proximity to Amtrak services. The Santa Ana station, approximately 12.6 miles northeast (about a 20 minute drive) is nearest to the project area. The project design also incorporates an underground parking lot that can accommodate 24 cars. Readily available public transit near the proposed project site would reduce transportation and accessibility issues, such as limited parking and traffic. As a result, the project is not expected to adversely impact transportation or accessibility in the community.

Environmental Assessment Factor	Impact Code	Impact Evaluation
NATURAL FEATURES		
Unique Natural Features, Water Resources	3	There are no unique natural features located on the proposed project site or on the surrounding properties. The ESA did not find any waterbodies or other significant topographic features on the subject property. Federally protected natural resources, such as rivers, wetlands, coastal zones, and endangered species, are not present on the project site or adjacent properties. According to the EPA map of Sole Source Aquifer

		Locations, there are no sole source aquifers in Huntington Beach. As a result, the project would not result in the alteration of unique natural features or water resources that could result in environmental damage, including siltation, erosion, or flooding, on site or in the surrounding area. Groundwater recharge could be reduced at the project site after construction is completed. Since the site is currently a vacant lot, recharge could be reduced in areas that would be covered by pavement. Areas converted into open green spaces, such as the dog park or courtyard would continue to facilitate or even increase groundwater recharge by supporting vegetation that would reduce runoff and erosion. Mitigation measures employing best management practices (BMPs) to reduce potential adverse contributions to stormwater pollution would be required during and post-construction (**Mitigation Measures 4 and 5**).
Vegetation, Wildlife	1	The proposed project site is currently a vacant, undeveloped lot lacking distinct vegetated areas, though some weeds can probably be found on site. A map of the project site on Google Earth shows trees along the northern boundary of the project site, though it is unclear if the trees are located on the proposed project area. Vegetation at the subject area would increase through landscaping activities for shared outdoor areas including the courtyard and dog park (see Architectural Design Narrative). The habitat ranges of 11 species categorized as Threatened or Endangered by the USFWS overlap with the proposed project area. These species include a mammal, 6 bird species, a crustacean, and 3 flowering plant species. However, according to USFWS' IPaC webpage, the project site is situated outside of critical habitat areas for the flora and fauna that have these areas defined. The highly urbanized areas surrounding the subject property also likely deter settlement by these species.
Other Factors		

Additional Studies Performed:
Phase 1 Environmental Site Assessment. Hillmann Consulting, LLC. 2019.
Limited Phase II Subsurface Investigation Report. Hillmann Consulting, LLC. 2019.

Field Inspections (Date and completed by)**:**
Phase 1 Environmental Site Assessment: June 5, 2019. Hillmann Consulting.
Limited Phase II Subsurface Investigation Report: June 13, 2019. Hillmann Consulting.

List of Sources, Agencies and Persons Consulted [40 CFR 1508.9(b)]:

City of Huntington Beach California. 2020. https://www.huntingtonbeachca.gov/services/

CARB (California Air Resources Board). 2014. "California Air Basin Map." Last reviewed March 14, 2014. Accessed August 2020. https://ww3.arb.ca.gov/ei/maps/2017statemap/abmap.htm.

CCC (California Coastal Commission). 2019. "Maps – Coastal Zone Boundary: Orange County." https://coastal.ca.gov/maps/czb/.

DOC (California Department of Conservation). 2016. California Important Farmland Finder. https://maps.conservation.ca.gov/DLRP/CIFF/.

EPA (U.S. Environmental Protection Agency). 2020. "Current Nonattainment Counties for all Criteria Pollutants." July 31, 2020. Accessed September 2020. https://www3.epa.gov/airquality/greenbook/ancl.html.

EPA. 2020. "Sole Source Aquifers for Drinking Water." Last updated January 14, 2020. Accessed September 2020. https://www.epa.gov/dwssa.

FEMA (Federal Emergency Management Agency). 2012. "FEMA Flood Map Service Center: Flood Insurance Rate Map for Huntington Beach, California." https://msc.fema.gov/portal/search#searchresultsanchor.

Hillmann Consulting, LLC. 2019. *Limited Phase II Subsurface Investigation Report.*

Hillmann Consulting, LLC. 2019. *Phase 1 Environmental Site Assessment*.

League of California Cities. 2020. "California Coastal Commission Regions: Counties and Cities." https://www.cacities.org/Member-Engagement/Coastal-Cities-Group-(CCG)/California-Coastal-Comission-Regions-Counties-and

Republic Services. 2020. "Welcome to Republic Services of Huntington Beach, CA." https://www.republicservices.com/municipality/huntington-beach-ca

SCAG (Southern California Association of Governments). 2020. “Regional Housing Needs Assessment (RHNA) & Housing.” http://www.scag.ca.gov/programs/Pages/Housing.aspx

SCAQMD (South Coast Air Quality Management District). 2005. “Rule 403: Fugitive Dust.” As amended through June 3, 2005. https://www.aqmd.gov/docs/default-source/rule-book/rule-iv/rule-403.pdf?sfvrsn=4.

SCAQMD. 2019. “South Coast AQMD Air Quality Significance Thresholds.” April 2019. Accessed September 2020. http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf.

USFWS (U.S. Fish & Wildlife Service). 2019. “Coastal Barrier Resources System Mapper.” Updated July 31, 2019. Accessed September 2020. https://www.fws.gov/cbra/maps/Mapper.html.

USFWS. 2020. “Information for Planning and Consultation (IPaC).” Accessed September 2020. https://ecos.fws.gov/ipac/location/JACZBM6PXJE25B3BXOS33AMDBE/resources#endangered-species.

USFWS. 2020. “National Wetlands Inventory, Surface Waters and Wetlands Map.” Accessed September 2020. https://www.fws.gov/wetlands/data/mapper.html.

U.S. National Park Service. 2019. “Interactive map of NPS Wild and Scenic Rivers.” https://nps.maps.arcgis.com/apps/View/index.html?appid=ff42a57d0aae43c49a88daee0e353142.

Zoning City of Huntington Beach. Accessed September 2020. https://www.huntingtonbeachca.gov/files/users/planning/zoning-map.pdf

List of Permits Obtained:

Public Outreach [24 CFR 50.23 & 58.43]**:**

The Draft Environmental Assessment will be made available for public review and comment beginning on December 11, 2020 and concluding on December 28, 2020.

Cumulative Impact Analysis [24 CFR 58.32]**:**

The proposed project is not expected to contribute to a significant cumulative impact under the National Environmental Policy Act because it would consist of an urban development project that would be consistent with the city’s General Plan land use and zoning designations and would be located near existing transit services. State and local planning guidelines encourage the development of urban multifamily housing in areas served by transit and near commercial

and cultural amenities because this type of development contributes less to cumulative effects on the environment in comparison to development of previously undisturbed sites in more remote locations with fewer transit connections, many of which contain native vegetation and wildlife species.

Alternatives [24 CFR 58.40(e); 40 CFR 1508.9]

Site identification has proven to be a major obstacle in providing affordable housing units. Multifamily residential sites available at reasonable cost are extremely limited, and sites that do not meet cost and land use criteria are generally eliminated as alternatives. This project was chosen from several properties based on feasibility, location, and affordability. Physical and social constraints were also considered in identifying and rejecting alternatives. No other build alternatives are analyzed or included in this environmental document.

No Action Alternative [24 CFR 58.40(e)]:

The No Action Alternative would not build any additional housing at the project site. There are no benefits to the physical or human environment by not taking the federal action associated with this project. Physical impacts to the environment would occur in urban areas whether units are subsidized with federal funds or built at market rates. If an affordable project were not constructed on this site, the social benefits of providing new affordable housing opportunities on an urban infill parcel would not occur. Should the proposed project not advance, the site could potentially be used for market rate housing or office/retail.
The proposed project must acquire all required permits and approvals prior to construction; therefore, the proposed project would be consistent with all land use plans, policies, and regulations for the project site. Not building on this site could result in more housing constructed outside of the urban area in agricultural and undeveloped areas, contributing to urban sprawl, regional traffic congestion, and regional air quality issues.

Summary of Findings and Conclusions:

Jamboree Housing is proposing the development of the Huntington Beach Senior Housing project in Huntington Beach, California. The project consists of a 43-unit affordable housing community for seniors, including 33 PSH units. The proposed project would contribute to the increased density and availability of mix-used development in an area that would encourage multi-modal activity. The proximity of existing transit options to the project site would reduce long-term air emissions and energy use associated with motor vehicle travel.

The project is located within a developed urban area and would be adequately served by utilities and public services. The project would conform to all applicable federal, state, and regional regulations associated with land use compatibility, air emissions, water quality, geologic hazards, and related environmental resources addressed herein. Based on the analyses of environmental issues contained in this document, the proposed project is not expected to have significant environmental impacts.

Mitigation Measures and Conditions [40 CFR 1505.2(c)]

Summarize below all mitigation measures adopted by the Responsible Entity to reduce, avoid, or eliminate adverse environmental impacts and to avoid non-compliance or non-conformance with the above-listed authorities and factors. These measures/conditions must be incorporated into project contracts, development agreements, and other relevant documents. The staff responsible for implementing and monitoring mitigation measures should be clearly identified in the mitigation plan.

Air Quality – Fugitive Dust

Mitigation Measure 1: The project shall implement the following from the list below, as applicable to the project:

- **Backfilling**: Stabilize backfill material when not actively handling, stabilize backfill material during handling, and stabilize soil at completion of activity.
- **Clearing and Grubbing**: Maintain stability of soil through pre-watering of site prior to clearing and grubbing, stabilize soil during clearing and grubbing activities, and stabilize soil immediately after clearing and grubbing activities.
- **Clearing Forms**: Use water spray, sweeping and water spray, or a vacuum system to clear forms.
- **Crushing**: Stabilize surface soils prior to operation of support equipment and stabilize material after crushing.
- **Cut and Fill**: Pre-water soils prior to cut and fill activities, and stabilize soil during and after cut and fill activities.
- **Demolition** – **Mechanical/Manual:** Stabilize wind erodible surfaces to reduce dust, stabilize surface soil where support equipment and vehicles will operate, stabilize loose soil and demolition debris, and comply with Air Quality Management District Rule 1403.
- **Disturbed Soil**: Stabilize disturbed soil throughout the construction site, and stabilize disturbed soil between structures.
- **Earth-Moving Activities**: Pre-apply water to depth of proposed cuts, re-apply water as necessary to maintain soil in a damp condition and to ensure that visible emissions do not exceed 100 feet in any direction, and stabilize soil once earth-moving activities are complete.
- **Importing/Exporting of Bulk Materials**: Stabilize material while loading to reduce fugitive dust emissions, maintain at least 6 inches of freeboard on haul vehicles, stabilize material while transporting and unloading to reduce fugitive dust emissions, and comply with Vehicle Code Section 23114.
- **Landscaping**: Stabilize soils, materials, slopes.
- **Road Shoulder Maintenance:** Apply water to unpaved shoulders prior to clearing, and apply chemical dust suppressants and/or washed gravel to maintain a stabilized surface after completing road shoulder maintenance.
- **Screening:** Pre-water material prior to screening, limit fugitive dust emissions to opacity and plume length standards, and stabilize material immediately after screening.
- **Staging Areas:** Stabilize staging areas during use, and stabilize staging area soils at project completion.

- **Stockpiles/Bulk Material Handling:** Stabilize stockpiled materials. Stockpiles within 100 yards of off-site occupied buildings must not be greater than 8 feet in height, or must have a road bladed to the top to allow water truck access, or must have an operational water irrigation system that is capable of complete stockpile coverage.
- **Traffic Areas for Construction Activities:** Stabilize all off-road traffic and parking areas, stabilize all haul routes, and direct construction traffic over established haul routes.
- **Trenching:** Stabilize surface soils where trencher or excavator and support equipment will operate, and stabilize soils at the completion of trenching activities.
- **Truck Loading:** Pre-water material prior to loading and ensure that freeboard exceeds 6 inches (CVC 23114).
- **Turf Overseeding:** Apply sufficient water immediately prior to conducting turf vacuuming activities to meet opacity and plume length standards, and cover haul vehicles prior to exiting the site.
- **Unpaved Roads/Parking Lots:** Stabilize soils to meet the applicable performance standards and limit vehicular travel to established unpaved roads (haul routes) and parking lots.
- **Vacant Land:** In instances where vacant lots are 0.10 acres or larger and have a cumulative area of 500 square feet or more that are driven over and/or used by motor vehicles and/or off-road vehicles, prevent motor vehicle and off-road-vehicle trespassing, parking, and access by installing barriers, curbs, fences, gates, posts, signs, shrubs, trees, or other effective control measures.

Historic Preservation (Cultural Resources)

Mitigation Measure 2: In the event that previously unidentified cultural resources are encountered during ground-disturbing activities associated with project construction, work in the immediate area must halt, and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology shall be contacted immediately to evaluate the find. If the discovery proves to be significant under the National Environmental Policy Act, additional work such as data recovery excavation may be warranted to mitigate potential adverse effects.

Mitigation Measure 3: The developer shall be required to retain the services of a qualified Native American monitor during construction-related ground-disturbing activities. The tribal representative from the Gabrieleño Band of Indians – Kizh Nation defines ground disturbance to include pavement removal, potholing, grubbing, weed abatement, boring, grading, excavation, or trenching within the project area. The monitor must be approved by the tribal representative and shall be present on-site during the construction phases that include ground-disturbing activities. The on-site monitoring shall end when the project site grading and excavation activities are

completed, or when the monitor has indicated that the site has a low potential for archaeological resources. If archaeological resources are encountered, they shall be documented by the Native American monitor and collected for preservation.

Unique Natural Features, Water Resources

Mitigation Measure 4: The proposed project shall include best management practices (BMPs) designed according to the guidance of the California Stormwater Quality Association Stormwater Best Management Practice Handbooks for Construction, for New Development/Redevelopment, and for Industrial and Commercial (or other similar source as approved by Orange County). Construction (temporary) BMPs for the proposed project shall include hydroseeding, straw mulch, velocity dissipation devices, silt fencing, fiber rolls, storm drain inlet protection, wind erosion control, and stabilized construction entrances.

Mitigation Measure 5: Prior to construction commencing, the applicant shall provide evidence to Orange County of a Waste Discharge Identification number generated from the State Regional Water Quality Control Board's Stormwater Multiple Application & Reports Tracking System. This serves as the Regional Water Quality Control Board's approval or permit under the National Pollutant Discharge Elimination System construction stormwater quality permit.

Determination:

☒ **Finding of No Significant Impact** [24 CFR 58.40(g)(1); 40 CFR 1508.27]
The project will not result in a significant impact on the quality of the human environment.

☐ **Finding of Significant Impact** [24 CFR 58.40(g)(2); 40 CFR 1508.27]
The project may significantly affect the quality of the human environment.

Preparer Signature: Jaclyn Canzone Date: 12/11/2020

Name/Title/Organization: Jaclyn Canzone / Staff Specialist / OC Housing & Community Development

Certifying Officer Signature: Julie Bidwell Date: 12/11/2020

Name/Title: Julia Bidwell / Director, OC Housing & Community Development

This original, signed document and related supporting material must be retained on file by the Responsible Entity in an Environmental Review Record (ERR) for the activity/project (ref: 24 CFR Part 58.38) and in accordance with recordkeeping requirements for the HUD program(s).

ENVIRONMENTAL REVIEW RECORDS (ERRs)

ERR#1. Airport Hazards

OMB No. 2506-0177
(exp.9/30/2021)

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
WASHINGTON, DC 20410-1000

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Airport Hazards (CEST and EA) – PARTNER

https://www.hudexchange.info/environmental-review/airport-hazards

1. **To ensure compatible land use development, you must determine your site's proximity to civil and military airports. Is your project within 15,000 feet of a military airport or 2,500 feet of a civilian airport?**

   ☒No → *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide a map showing that the site is not within the applicable distances to a military or civilian airport.*

   ☐Yes → *Continue to Question 2.*

2. **Is your project located within a Runway Potential Zone/Clear Zone (RPZ/CZ) or Accident Potential Zone (APZ)?**

   ☐Yes, project is in an APZ → *Continue to Question 3.*

   ☐Yes, project is an RPZ/CZ → *Project cannot proceed at this location.*

   ☐No, project is not within an APZ or RPZ/CZ

   → *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide a map showing that the site is not within either zone.*

3. **Is the project in conformance with DOD guidelines for APZ?**

   ☐Yes, project is consistent with DOD guidelines without further action.

   → *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide any documentation supporting this determination.*

   ☐No, the project cannot be brought into conformance with DOD guidelines and has not been approved. → *Project cannot proceed at this location.*

If mitigation measures have been or will be taken, explain in detail the proposed measures that must be implemented to mitigate for the impact or effect, including the timeline for implementation.

Click here to enter text.

→ *Work with the RE/HUD to develop mitigation measures. Continue to the Worksheet Summary below. Provide any documentation supporting this determination.*

Worksheet Summary

Provide a full description of your determination and a synopsis of the information that it was based on, such as:

The project area is located approximately 7.15 miles from the nearest civilian airport, John Wayne Airport (see Attachment 2).

Include all documentation supporting your findings in your submission to HUD.

Click here to enter text.

ERR#2. Floodplain Management

OMB No. 2506-0177
(exp. 9/30/2021)

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
WASHINGTON, DC 20410-1000

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Floodplain Management (CEST and EA) – PARTNER

https://www.hudexchange.info/environmental-review/floodplain-management

1. **Does 24 CFR 55.12(c) exempt this project from compliance with HUD's floodplain management regulations in Part 55?**

   ☒ Yes

   Provide the applicable citation at 24 CFR 55.12(c) here. If project is exempt under 55.12(c)(6) or (8), provide supporting documentation.

   Click here to enter text.

   → *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Continue to the Worksheet Summary.*

   ☐ No → *Continue to Question 2.*

2. **Provide a FEMA/FIRM map showing the site.**

   The Federal Emergency Management Agency (FEMA) designates floodplains. The FEMA Map Service Center provides this information in the form of FEMA Flood Insurance Rate Maps (FIRMs).

   Does your project occur in a floodplain?

   ☐ No → *Continue to the Worksheet Summary below.*

   ☐ Yes

   Select the applicable floodplain using the FEMA map or the best available information:

   ☐ Floodway → *Continue to Question 3, Floodways*

   ☐ Coastal High Hazard Area (V Zone) → *Continue to Question 4, Coastal High Hazard Areas*

   ☐ 500-year floodplain (B Zone or shaded X Zone) → *Continue to Question 5, 500-year Floodplains*

   ☐ 100-year floodplain (A Zone) → *The 8-Step Process is required. Continue to Question 6, 8-Step Process*

3. **Floodways**

   Is this a functionally dependent use?

   ☐ Yes

The 8-Step Process is required. Work with HUD or the RE to assist with the 8-Step Process.
→ *Continue to Worksheet Summary.*

☐ No → *Federal assistance may not be used at this location unless an exception in 55.12(c) applies. You must either choose an alternate site or cancel the project.*

4. **Coastal High Hazard Area**

Is this a critical action such as a hospital, nursing home, fire station, or police station?

☐ Yes → *Critical actions are prohibited in coastal high hazard areas unless an exception in 55.12(c) applies. You must either choose an alternate site or cancel the project.*

☐ No

Does this action include new construction that is not a functionally dependent use, existing construction (including improvements), or reconstruction following destruction caused by a disaster?

☐ Yes, there is new construction of something that is not a functionally dependent use. New construction must be designed to FEMA standards for V Zones at 44 CFR 60.3(e) (24 CFR 55.1(c)(3)(i)).
→ *Continue to Question 6, 8-Step Process*

☐ No, this action concerns only existing construction.
Existing construction must have met FEMA elevation and construction standards for a coastal high hazard area or other standards applicable at the time of construction.
→ *Continue to Question 6, 8-Step Process*

5. **500-year Floodplain**

Is this a critical action?

☐ No → *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below.*

☐Yes → *Continue to Question 6, 8-Step Process*

6. **8-Step Process**.

Is this 8-Step Process required? Select one of the following options:

☐ 8-Step Process applies.
This project will require mitigation and may require elevating structure or structures. See the link to the HUD Exchange above for information on HUD's elevation requirements.
→ *Work with the RE/HUD to assist with the 8-Step Process. Continue to Worksheet Summary.*

☐ 5-Step Process is applicable per 55.12(a)(1-3).
Provide the applicable citation at 24 CFR 55.12(a) here.
Click here to enter text.
→ *Work with the RE/HUD to assist with the 5-Step Process. Continue to Worksheet Summary.*

☐ 8-Step Process is inapplicable per 55.12(b)(1-4).
Provide the applicable citation at 24 CFR 55.12(b) here.
Click here to enter text.

→ *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below.*

Worksheet Summary

Provide a full description of your determination and a synopsis of the information that it was based on, such as:

FEMA Firm Map 06059 C0253J, effective date 12/3/2009 (See Attachment 4): Project is not in a floodplain.

Include all documentation supporting your findings in your submission to HUD.

Click here to enter text.

ERR#3. Air Quality

OMB No. 2506-0177
(exp.9/30/2021)

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
WASHINGTON, DC 20410-1000

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Air Quality (CEST and EA) – PARTNER

https://www.hudexchange.info/environmental-review/air-quality

1. **Does your project include new construction or conversion of land use facilitating the development of public, commercial, or industrial facilities OR five or more dwelling units?**

   ☒ Yes → *Continue to Question 2.*

   ☐ No → *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Provide any documents used to make your determination.*

2. **Is your project's air quality management district or county in non-attainment or maintenance status for any criteria pollutants?**
   Follow the link below to determine compliance status of project county or air quality management district:
   https://www.epa.gov/green-book

   ☐ No, project's county or air quality management district is in attainment status for all criteria pollutants
   → *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide any documents used to make your determination.*

   ☒ Yes, project's management district or county is in non-attainment or maintenance status for one or more criteria pollutants. → *Continue to Question 3.*

3. **Determine the estimated emissions levels of your project for each of those criteria pollutants that are in non-attainment or maintenance status on your project area. Will your project exceed any of the *de minimis or threshold* emissions levels of non-attainment and maintenance level pollutants or exceed the screening levels established by the state or air quality management district?**

   ☒ No, the project will not exceed *de minimis* or threshold emissions levels or screening levels
   → *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Explain how you determined that the project would not exceed de minimis or threshold emissions.*

☐ Yes, the project exceeds *de minimis* emissions levels or screening levels.

→ *Continue to Question 4. Explain how you determined that the project would not exceed de minimis or threshold emissions in the Worksheet Summary.*

4. **For the project to be brought into compliance with this section, all adverse impacts must be mitigated. Explain in detail the exact measures that must be implemented to mitigate for the impact or effect, including the timeline for implementation.**
   Click here to enter text.

Worksheet Summary

Provide a full description of your determination and a synopsis of the information that it was based on, such as:

Project emissions were calculated using the CalEEMod Air Quality Model. Emissions will be below di minimis thresholds for criteria pollutants (see Attachment 5).

Include all documentation supporting your findings in your submission to HUD.

Click here to enter text.

ERR#4. Coastal Zone Management Act

OMB No. 2506-0177
(exp.9/30/2021)

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
WASHINGTON, DC 20410-1000

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Coastal Zone Management Act (CEST and EA) – PARTNER

https://www.hudexchange.info/environmental-review/coastal-zone-managementh

Projects located in the following states must complete this form.

Alabama	Florida	Louisiana	Mississippi	Ohio	Texas
Alaska	Georgia	Maine	New Hampshire	Oregon	Virgin Islands
American Samoa	Guam	Maryland	New Jersey	Pennsylvania	Virginia
California	Hawaii	Massachusetts	New York	Puerto Rico	Washington
Connecticut	Illinois	Michigan	North Carolina	Rhode Island	Wisconsin
Delaware	Indiana	Minnesota	Northern Mariana Islands	South Carolina	

1. Is the project located in, or does it affect, a Coastal Zone as defined in your state Coastal Management Plan?

☐Yes → *Continue to Question 2.*
☒No → *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide a map showing that the site is not within a Coastal Zone.*

2. Does this project include activities that are subject to state review?

☐Yes → *Continue to Question 3.*
☐No → *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide documentation used to make your determination.*

3. Has this project been determined to be consistent with the State Coastal Management Program?

☐Yes, with mitigation. → *The RE/HUD must work with the State Coastal Management Program to develop mitigation measures to mitigate the impact or effect of the project.*

☐Yes, without mitigation. → *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide documentation used to make your determination.*

☐No → Project cannot proceed at this location.

Worksheet Summary

Provide a full description of your determination and a synopsis of the information that it was based on, such as:

The project is not located in a coastal zone management area (see Attachments 6 and 7).

Include all documentation supporting your findings in your submission to HUD.

Click here to enter text.

ERR#5. Contamination and Toxic Substances (Multifamily and Non-Residential Properties)

Contamination and Toxic Substances (Multifamily and Non-Residential Properties) – PARTNER

This Worksheet was designed to be used by those "Partners" (including Public Housing Authorities, consultants, contractors, and nonprofits) who assist Responsible Entities and HUD in preparing environmental reviews, but legally cannot take full responsibilities for these reviews themselves. Responsible Entities and HUD should use the RE/HUD version of the Worksheet.

General requirements	Legislation	Regulations
It is HUD policy that all properties that are being proposed for use in HUD programs be free of hazardous materials, contamination, toxic chemicals and gases, and radioactive substances, where a hazard could affect the health and safety of the occupants or conflict with the intended utilization of the property.		24 CFR 58.5(i)(2) 24 CFR 50.3(i)
Reference		
https://www.hudexchange.info/programs/environmental-review/site-contamination		

1. **How was site contamination evaluated?** [1] **Select all that apply.**

   ☒ ASTM Phase I ESA
   ☒ ASTM Phase II ESA
   ☐ Remediation or clean-up plan
   ☒ ASTM Vapor Encroachment Screening
   ☐ None of the above

   → *Provide documentation and reports and include an explanation of how site contamination was evaluated in the Worksheet Summary.*
   Continue to Question 2.

2. **Were any on-site or nearby toxic, hazardous, or radioactive substances found that could affect the health and safety of project occupants or conflict with the intended use of the property? (Were any recognized environmental conditions or RECs identified in a Phase I ESA and confirmed in a Phase II ESA?)**

   ☒ No

[1] HUD regulations at 24 CFR § 58.5(i)(2)(ii) require that the environmental review for multifamily housing with five or more dwelling units or non-residential property include the evaluation of previous uses of the site or other evidence of contamination on or near the site. For acquisition and new construction of multifamily and nonresidential properties HUD strongly advises the review include an ASTM Phase I Environmental Site Assessment (ESA) to meet real estate transaction standards of due diligence and to help ensure compliance with HUD's toxic policy at 24 CFR §58.5(i) and 24 CFR §50.3(i). Also note that some HUD programs require an ASTM Phase I ESA.

Explain: The Phase II ESA conducted soil and soil gas sampling to evaluate the presence of vapor intrusion from the former oil UST site to the subject site. Results did not detect any VOC. Lead was detected but at levels below DTSC thresholds for residential applications.

Click here to enter text.

→ *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below.*

☐ Yes.

→ *Describe the findings, including any recognized environmental conditions (RECs), in Worksheet Summary below. Continue to Question 3.*

3. Mitigation

Work with the RE/HUD to identify the mitigation needed according to the requirements of the appropriate federal, state, tribal, or local oversight agency. If the adverse environmental effects cannot be mitigated, then HUD assistance may not be used for the project at this site.

Can adverse environmental impacts be mitigated?

☐ Adverse environmental impacts cannot feasibly be mitigated

→ Project cannot proceed at this location.

☐ Yes, adverse environmental impacts can be eliminated through mitigation.

→ *Provide all mitigation requirements*[2] *and documents. Continue to Question 4.*

4. Describe how compliance was achieved. Include any of the following that apply: State Voluntary Clean-up Program, a No Further Action letter, use of engineering controls[3]**, or use of institutional controls**[4]**.**

Click here to enter text.

---

[2] Mitigation requirements include all clean-up actions required by applicable federal, state, tribal, or local law. Additionally, provide, as applicable, the long-term operations and maintenance plan, Remedial Action Work Plan, and other equivalent documents.

[3] Engineering controls are any physical mechanism used to contain or stabilize contamination or ensure the effectiveness of a remedial action. Engineering controls may include, without limitation, caps, covers, dikes, trenches, leachate collection systems, signs, fences, physical access controls, ground water monitoring systems and ground water containment systems including, without limitation, slurry walls and ground water pumping systems.

[4] Institutional controls are mechanisms used to limit human activities at or near a contaminated site, or to ensure the effectiveness of the remedial action over time, when contaminants remain at a site at levels above the applicable remediation standard which would allow for unrestricted use of the property. Institutional controls may include structure, land, and natural resource use restrictions, well restriction areas, classification exception areas, deed notices, and declarations of environmental restrictions.

If a remediation plan or clean-up program was necessary, which standard does it follow?

☐ Complete removal

→ *Continue to the Worksheet Summary.*

☐ Risk-based corrective action (RBCA)

→ *Continue to the Worksheet Summary.*

Worksheet Summary

Compliance Determination

Provide a clear description of your determination and a synopsis of the information that it was based on, such as:

A Phase 1 Environmental Site Assessment (ESA) conducted by Hillmann Consulting LLC in June 2019 and identified one recognized environmental condition- the location where a 550-gallon waste-oil underground storage tank (UST) was removed from the area adjoining the proposed project site in March 1987. Due to the potential for vapor intrusion, soil and soil gas sampling was conducted to determine the potential for contamination and vapor intrusion from the former oil UST site to the project site. Based on the results from soil and soil gas sampling, vapor intrusion from the former oil UST site should not affect the subject site. Hillmann does not recommend further soil sampling at the proposed project site (see Attachment 8).

Are formal compliance steps or mitigation required?

☐ Yes

☒ No

ERR#6. Endangered Species Act

OMB No. 2506-0177
(exp.9/30/2021)

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
WASHINGTON, DC 20410-1000

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Endangered Species Act (CEST and EA) – PARTNER

https://www.hudexchange.info/environmental-review/endangered-species

1. Does the project involve any activities that have the potential to affect species or habitats?

☐No, the project will have No Effect due to the nature of the activities involved in the project.

→ *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide any documents used to make your determination.*

☐No, the project will have No Effect based on a letter of understanding, memorandum of agreement, programmatic agreement, or checklist provided by local HUD office.

Explain your determination:

Click here to enter text.

→ *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide any documents used to make your determination.*

☒Yes, the activities involved in the project have the potential to affect species and/or habitats.

→ *Continue to Question 2.*

2. Are federally listed species or designated critical habitats present in the action area?

Obtain a list of protected species from the Services. This information is available on the FWS Website.

☒No, the project will have No Effect due to the absence of federally listed species and designated critical habitat.

→ *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide any documents used to make your determination. Documentation may include letters from the Services, species lists from the Services' websites, surveys or other documents and analysis showing that there are no species in the action area.*

☐Yes, there are federally listed species or designated critical habitats present in the action area.

→ *Continue to Question 3.*

3. Recommend one of the following effects that the project will have on federally listed species or designated critical habitat:

☐No Effect: Based on the specifics of both the project and any federally listed species in the action area, you have determined that the project will have absolutely no effect on listed species or critical habitat.

→ *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide any documents used to make your determination. Documentation should include a species list and explanation of your conclusion, and may require maps, photographs, and surveys as appropriate.*

☐May Affect, Not Likely to Adversely Affect: Any effects that the project may have on federally listed species or critical habitats would be beneficial, discountable, or insignificant.

→ Partner entities should not contact the Services directly. *If the RE/HUD agrees with this recommendation, they will have to complete Informal Consultation. Provide the RE/HUD with a biological evaluation or equivalent document. They may request additional information, including surveys and professional analysis, to complete their consultation.*

☐Likely to Adversely Affect: The project may have negative effects on one or more listed species or critical habitat.

→ Partner entities should not contact the Services directly. *If the RE/HUD agrees with this recommendation, they will have to complete Formal Consultation. Provide the RE/HUD with a biological evaluation or equivalent document. They may request additional information, including surveys and professional analysis, to complete their consultation.*

Worksheet Summary

Provide a full description of your determination and a synopsis of the information that it was based on, such as:

The range of eleven threatened or endangered species of flowering plants, mammals, and birds overlap with the project site. However, according to the U.S. Fish and Wildlife Service's IPaC database, the project site is located outside of critical habitat areas for the endangered or threatened species that have these areas defined. Furthermore, the project site is within a fully urbanized area; therefore no species or critical habitat occur at the site and there would be no impacts to listed species or critical habitat (see Attachment 10).

Include all documentation supporting your findings in your submission to HUD.

Click here to enter text.

ERR#7. Historic Preservation

OMB No. 2506-0177
(exp. 9/30/2021)

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
WASHINGTON, DC 20410-1000

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Historic Preservation (CEST and EA) – PARTNER

https://www.hudexchange.info/environmental-review/historic-preservation

Threshold

Is Section 106 review required for your project?

☐ No, because a Programmatic Agreement states that all activities included in this project are exempt. (See the PA Database to find applicable PAs.)
Either provide the PA itself or a link to it here. Mark the applicable exemptions or include the text here:
Click here to enter text.
→ *Continue to the Worksheet Summary.*

☐ No, because the project consists solely of activities included in a No Potential to Cause Effects memo or other determination [36 CFR 800.3(a)(1)].
Either provide the memo itself or a link to it here. Explain and justify the other determination here:
Click here to enter text.
→ *Continue to the Worksheet Summary.*

☒Yes, because the project includes activities with potential to cause effects (direct or indirect). → *Continue to Step 1.*

The Section 106 Process
After determining the need to do a Section 106 review, HUD or the RE will initiate consultation with regulatory and other interested parties, identify and evaluate historic properties, assess effects of the project on properties listed on or eligible for the National Register of Historic Places, and resolve any adverse effects through project design modifications or mitigation.
Step 1: Initiate consultation
Step 2: Identify and evaluate historic properties
Step 3: Assess effects of the project on historic properties
Step 4: Resolve any adverse effects

Only RE or HUD staff may initiate the Section 106 consultation process. Partner entities may gather information, including from SHPO records, identify and evaluate historic properties, and make initial assessments of effects of the project on properties listed in or eligible for the National Register of Historic Place. Partners should then provide their RE or HUD with all of their analysis and documentation so that they may initiate consultation.

Step 1 - Initiate Consultation

The following parties are entitled to participate in Section 106 reviews: Advisory Council on Historic Preservation; State Historic Preservation Officers (SHPOs); federally recognized Indian tribes/Tribal Historic Preservation Officers (THPOs); Native Hawaiian Organizations (NHOs); local governments; and project grantees. The general public and individuals and organizations with a demonstrated interest in a project may participate as consulting parties at the discretion of the RE or HUD official. Participation varies with the nature and scope of a project. Refer to HUD's website for guidance on consultation, including the required timeframes for response. Consultation should begin early to enable full consideration of preservation options.

Use the When To Consult With Tribes checklist within Notice CPD-12-006: Process for Tribal Consultation to determine if the RE or HUD should invite tribes to consult on a particular project. Use the Tribal Directory Assessment Tool (TDAT) to identify tribes that may have an interest in the area where the project is located. Note that only HUD or the RE may initiate consultation with Tribes. Partner entities may prepare a draft letter for the RE or HUD to use to initiate consultation with tribes, but may not send the letter themselves.

List all organizations and individuals that you believe may have an interest in the project here:

1) State Historic Preservation Office (complete, see Attachments 11 and 12)
2) Indian Tribes, including Tribal Historic Preservation Officers
    a. Juaneño Band of Mission Indians, Acjachemen Nation
    b. Gabrieleno Band of Mission Indians, Kizh Nation

→ *Continue to Step 2.*

Step 2 - Identify and Evaluate Historic Properties

Provide a preliminary definition of the Area of Potential Effect (APE), either by entering the address(es) or providing a map depicting the APE. Attach an additional page if necessary.
18431 Beach Boulevard
Huntington Beach, CA 92648

See EA Figure 1.

Gather information about known historic properties in the APE. Historic buildings, districts and archeological sites may have been identified in local, state, and national surveys and registers, local historic districts, municipal plans, town and county histories, and local history websites. If not already listed on the National Register of Historic Places, identified properties are then evaluated to see if they are eligible for the National Register. Refer to HUD's website for guidance on identifying and evaluating historic properties.

In the space below, list historic properties identified and evaluated in the APE.
Every historic property that may be affected by the project should be listed. For each historic property or district, include the National Register status, whether the SHPO has concurred with the finding, and whether information on the site is sensitive. Attach an additional page if necessary.
Click here to enter text.

Provide the documentation (survey forms, Register nominations, concurrence(s) and/or objection(s), notes, and photos) that justify your National Register Status determination.

Was a survey of historic buildings and/or archeological sites done as part of the project?
If the APE contains previously unsurveyed buildings or structures over 50 years old, or there is a likely presence of previously unsurveyed archeological sites, a survey may be necessary. For Archeological surveys, refer to HP Fact Sheet #6, Guidance on Archeological Investigations in HUD Projects.

☐ Yes → *Provide survey(s) and report(s) and continue to Step 3.*
Additional notes:
Click here to enter text.

☒ No → *Continue to Step 3.*

Step 3 - Assess Effects of the Project on Historic Properties

Only properties that are listed on or eligible for the National Register of Historic Places receive further consideration under Section 106. Assess the effect(s) of the project by applying the Criteria of Adverse Effect. (36 CFR 800.5) Consider direct and indirect effects as applicable as per HUD guidance.

Choose one of the findings below to recommend to the RE or HUD.
Please note: this is a recommendation only. It is **not** the official finding, which will be made by the RE or HUD, but only your suggestion as a Partner entity.

☒ No Historic Properties Affected
Document reason for finding:
☒ No historic properties present (SHPO Concurrence September 25, 2020, see Attachment 11)
☐ Historic properties present, but project will have no effect upon them.

☐ No Adverse Effect
Document reason for finding and provide any comments below.
Comments may include recommendations for mitigation, monitoring, a plan for unanticipated discoveries, etc.
Click here to enter text.

☐ Adverse Effect
Document reason for finding:
Copy and paste applicable Criteria into text box with summary and justification.
Criteria of Adverse Effect: 36 CFR 800.5]
Click here to enter text.

Provide any comments below:
Comments may include recommendations for avoidance, minimization, and/or mitigation.
Click here to enter text.

Remember to provide all documentation that justifies your National Register Status determination and recommendations along with this worksheet.

ERR#8. Noise (EA Level Reviews)

OMB No. 2506-0177
(exp. 9/30/2021)

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
WASHINGTON, DC 20410-1000

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Noise (EA Level Reviews) – PARTNER

https://www.hudexchange.info/programs/environmental-review/noise-abatement-and-control

1. **What activities does your project involve? Check all that apply:**

☒ New construction for residential use

NOTE: HUD assistance to new construction projects is generally prohibited if they are located in an Unacceptable zone, and HUD discourages assistance for new construction projects in Normally Unacceptable zones. See 24 CFR 51.101(a)(3) for further details.
→ *Continue to Question 2.*

☐ Rehabilitation of an existing residential property

NOTE: For major or substantial rehabilitation in Normally Unacceptable zones, HUD encourages mitigation to reduce levels to acceptable compliance standards. For major rehabilitation in Unacceptable zones, HUD strongly encourages mitigation to reduce levels to acceptable compliance standards. See 24 CFR 51 Subpart B for further details.
→ *Continue to Question 2.*

☐ None of the above

→ *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below.*

2. **Complete the Preliminary Screening to identify potential noise generators in the vicinity (1000' from a major road, 3000' from a railroad, or 15 miles from an airport).**
Indicate the findings of the Preliminary Screening below:

☐ There are no noise generators found within the threshold distances above.

→ *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide a map showing the location of the project relative to any noise generators.*

☒ Noise generators were found within the threshold distances.

→ *Continue to Question 3.*

3. **Complete the Noise Assessment Guidelines to quantify the noise exposure. Indicate the findings of the Noise Assessment below:**

☒ Acceptable (65 decibels or less; the ceiling may be shifted to 70 decibels in circumstances described in §24 CFR 51.105(a))

Indicate noise level here: 65 dBA per the HUD DNL Electronic Assessment Tool (Attachment 13; 64 dBA or less using the FHWA noise model (Attachment 14).

→ *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide noise analysis, including noise level and data used to complete the analysis.*

☐ Normally Unacceptable: (Above 65 decibels but not exceeding 75 decibels; the floor may be shifted to 70 decibels in circumstances described in 24 CFR 51.105(a))

Indicate noise level here: Click here to enter text.

<u>If project is rehabilitation:</u>

→ *Continue to Question 4. Provide noise analysis, including noise level and data used to complete the analysis.*

<u>If project is new construction:</u>

Is the project in a largely undeveloped area[1]?

☐ No

☐ Yes → ***The project requires completion of an Environmental Impact Statement (EIS) pursuant to 51.104(b)(1)(i).***

→ *Continue to Question 4. Provide noise analysis, including noise level and data used to complete the analysis.*

☐ Unacceptable: (Above 75 decibels)

Indicate noise level here: Click here to enter text.

<u>If project is rehabilitation:</u>

HUD strongly encourages conversion of noise-exposed sites to land uses compatible with high noise levels. Consider converting this property to a non-residential use compatible with high noise levels.

→ *Continue to Question 4. Provide noise analysis, including noise level and data used to complete the analysis, and any other relevant information.*

<u>If project is new construction:</u>

The project requires completion of an Environmental Impact Statement (EIS) pursuant to 51.104(b)(1)(i). *Work with HUD or the RE to either complete an EIS or obtain a waiver signed by the appropriate authority.*

→ *Continue to Question 4.*

[1] A largely undeveloped area means the area within 2 miles of the project site is less than 50 percent developed with urban uses or does not have water and sewer capacity to serve the project.

4. **HUD strongly encourages mitigation be used to eliminate adverse noise impacts. Work with the RE/HUD on the development of the mitigation measures that must be implemented to mitigate for the impact or effect, including the timeline for implementation.**

☐ Mitigation as follows will be implemented:

Click here to enter text.

→ *Provide drawings, specifications, and other materials as needed to describe the project's noise mitigation measures.*

Continue to the Worksheet Summary.

☐ No mitigation is necessary.

Explain why mitigation will not be made here:

Click here to enter text.

→ *Continue to the Worksheet Summary.*

Worksheet Summary

Provide a full description of your determination and a synopsis of the information that it was based on, such as:

The noise level for the project site was calculated using the HUD DNL Electronic Assessment Tool. The noise level at the projects site is 65 decibels (dBA), the acceptable HUD noise threshold (Attachment 13).

Because the noise level at the project site is at the HUD noise threshold of 65 dBA and the primary source of noise is traffic on Beach Boulevard, additional noise modeling was conducted using the FHWA Traffic Noise Model. The FHWA Traffic Noise Model calculates the day-night average noise level with more inputs than the HUD DNL Electronic Assessment Tool and can therefore provide a more refined noise calculation. The FHWA Traffic Noise Model was calculated at fifteen outdoor locations at the project site, including the building façade and outdoor living areas. One location identified as a common area on the site plans near Beach Boulevard was calculated to be above the 65 dBA threshold; however, upon discussion with the developer, the common area was removed from the project design as an outdoor use area and would not be subject to the HUD 65 dBA noise threshold. All fourteen other locations that were modeled would be at 64 dBA or less under worst-case noise scenario, as presented in the Noise Technical Memo (Attachment 14). Therefore, this project would comply with federal standards for noise abatement and control.

Include all documentation supporting your findings in your submission to HUD.

See HUD DNL Electronic Assessment Tool, Attachment 13, and Noise Technical Memo, Attachment 14.

ERR#9. Wetlands

OMB No. 2506-0177
(exp.9/30/2021)

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
WASHINGTON, DC 20410-1000

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Wetlands (CEST and EA) – Partner

https://www.hudexchange.info/environmental-review/wetlands-protection

1. **Does this project involve new construction as defined in Executive Order 11990, expansion of a building's footprint, or ground disturbance?**
   The term "new construction" includes draining, dredging, channelizing, filling, diking, impounding, and related activities and construction of any structures or facilities.

   ☐ No → *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below.*

   ☒ Yes → *Continue to Question 2.*

2. **Will the new construction or other ground disturbance impact a wetland as defined in E.O. 11990?**

   ☒ No → *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide a map or any other relevant documentation to explain your determination.*

   ☐ Yes → *Work with HUD or the RE to assist with the 8-Step Process. Continue to Question 3.*

3. **Does Section 55.12 state that the 8-Step Process is not required?**

   ☐ No, the 8-Step Process applies.
   This project will require mitigation and may require elevating structure or structures. See the link to the HUD Exchange above for information on HUD's elevation requirements.
   → *Work with the RE/HUD to assist with the 8-Step Process. Continue to Worksheet Summary.*

   ☐ 5-Step Process is applicable per 55.12(a).
   Provide the applicable citation at 24 CFR 55.12(a) here.
   Click here to enter text.
   → *Work with the RE/HUD to assist with the 5-Step Process. This project may require mitigation or alternations. Continue to Worksheet Summary.*

☐ 8-Step Process is inapplicable per 55.12(b).

Provide the applicable citation at 24 CFR 55.12(b) here.

Click here to enter text.

→ *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to Worksheet Summary.*

☐ 8-Step Process is inapplicable per 55.12(c).

Provide the applicable citation at 24 CFR 55.12(c) here.

Click here to enter text.

→ *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to Worksheet Summary.*

Worksheet Summary

Provide a full description of your determination and a synopsis of the information that it was based on, such as:

The project area is not in or adjacent to a wetland (see Attachments 16 and 17).

Include all documentation supporting your findings in your submission to HUD.

Click here to enter text.

ERR#10. Wild and Scenic Rivers

Wild and Scenic Rivers (CEST and EA) – PARTNER

This Worksheet was designed to be used by those "Partners" (including Public Housing Authorities, consultants, contractors, and nonprofits) who assist Responsible Entities and HUD in preparing environmental reviews, but legally cannot take full responsibilities for these reviews themselves. Responsible Entities and HUD should use the RE/HUD version of the Worksheet.

General requirements	Legislation	Regulation
The Wild and Scenic Rivers Act provides federal protection for certain free-flowing, wild, scenic and recreational rivers designated as components or potential components of the National Wild and Scenic Rivers System (NWSRS) from the effects of construction or development.	The Wild and Scenic Rivers Act (16 U.S.C. 1271-1287), particularly section 7(b) and (c) (16 U.S.C. 1278(b) and (c))	36 CFR Part 297
References		
https://www.hudexchange.info/environmental-review/wild-and-scenic-rivers		

1. Is your project within proximity of a NWSRS river as defined below?

Wild & Scenic Rivers: These rivers or river segments have been designated by Congress or by states (with the concurrence of the Secretary of the Interior) as wild, scenic, or recreational

Study Rivers: These rivers or river segments are being studied as a potential component of the Wild & Scenic River system.

Nationwide Rivers Inventory (NRI): The National Park Service has compiled and maintains the NRI, a register of river segments that potentially qualify as national wild, scenic, or recreational river areas

☒ No

→ *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Provide documentation used to make your determination, such as a map identifying the project site and its surrounding area or a list of rivers in your region in the Screen Summary at the conclusion of this screen.*

☐ Yes, the project is in proximity of a Nationwide Rivers Inventory (NRI) River.

→ *Continue to Question 2.*

2. **Could the project do *any* of the following?**
   - Have a direct and adverse effect within Wild and Scenic River Boundaries,
   - Invade the area or unreasonably diminish the river outside Wild and Scenic River Boundaries, or
   - Have an adverse effect on the natural, cultural, and/or recreational values of a NRI segment.

   Consultation with the appropriate federal/state/local/tribal Managing Agency(s) is required, pursuant to Section 7 of the Act, to determine if the proposed project may have an adverse effect on a Wild & Scenic River or a Study River and, if so, to determine the appropriate avoidance or mitigation measures.
   Note: Concurrence may be assumed if the Managing Agency does not respond within 30 days; however, you are still obligated to avoid or mitigate adverse effects on the rivers identified in the NWSRS

   ☐ No, the Managing Agency has concurred that the proposed project will not alter, directly, or indirectly, any of the characteristics that qualifies or potentially qualifies the river for inclusion in the NWSRS.
   → *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Provide documentation of the consultation (including the Managing Agency's concurrence) and any other documentation used to make your determination.*

   ☐ Yes, the Managing Agency was consulted and the proposed project may alter, directly, or indirectly, any of the characteristics that qualifies or potentially qualifies the river for inclusion in the NWSRS.
   → *The RE/HUD must work with the Managing Agency to identify mitigation measures to mitigate the impact or effect of the project on the river.*

Worksheet Summary

Compliance Determination

Provide a clear description of your determination and a synopsis of the information that it was based on, such as:

The project area is not located near a wild and scenic river (see Attachment 18).

Are formal compliance steps or mitigation required?

☐ Yes

☒ No

ERR#11. Environmental Justice

OMB No. 2506-0177
(exp.9/30/2021)

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
WASHINGTON, DC 20410-1000

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Environmental Justice (CEST and EA) – PARTNER

https://www.hudexchange.info/environmental-review/environmental-justice

HUD strongly encourages starting the Environmental Justice analysis only after all other laws and authorities, including Environmental Assessment factors if necessary, have been completed.

1. **Were any adverse environmental impacts identified in any other compliance review portion of this project's total environmental review?**

   ☒Yes → *Continue to Question 2.*

   ☐No → *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below.*

2. **Were these adverse environmental impacts disproportionately high for low-income and/or minority communities?**

   ☐Yes

   Explain:

   Click here to enter text.

   → *The RE/HUD must work with the affected low-income or minority community to decide what mitigation actions, if any, will be taken. Provide any supporting documentation.*

   ☒No

   Explain:

   Air Quality: With the implementation of mitigation measures required for the control of fugitive dust at construction sites, no disproportionate impacts to low income and/or minority communities would occur as a result of impacts to air quality.

   Erosion and Storm Water Runoff: With the implementation of stormwater mitigation measures outlined in a Stormwater Management Plan, no disproportionate impacts to low income and/or minority communities would occur as a result of erosion, drainage, and stormwater runoff.

   → *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below.*

Worksheet Summary

Provide a full description of your determination and a synopsis of the information that it was based on, such as:

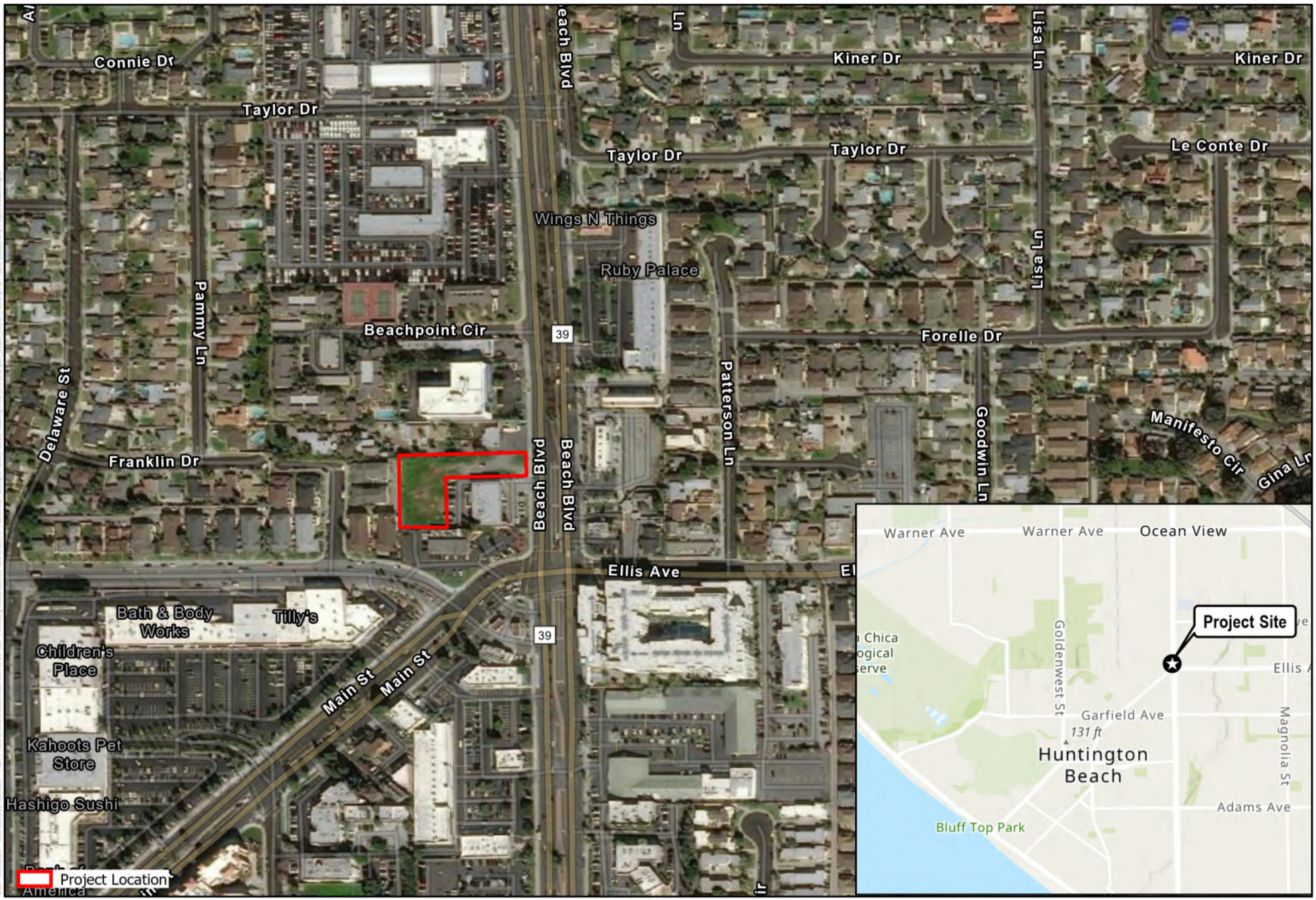
Air Quality: Construction activities such as grading may cause temporary adverse impacts to air quality from fugitive dust during construction of the residential community; however, with the implementation of air quality mitigation measures required for fugitive dust required by SCQAMD Rule 403 (see Mitigation Measure 1 in Environmental Assessment), impacts to air quality would be minimized or avoided. Therefore, no disproportionate impacts to low income and/or minority communities would occur as a result of fugitive dust.

Erosion/ Drainage/ Storm Water Runoff: Construction activities may temporarily increase impacts from erosion, drainage, and stormwater runoff. However, with the implementation of best management practices per the guidance of the California Stormwater Quality Association Stormwater Best Management Practice Handbooks for Construction, for New Development/Redevelopment, and for Industrial and Commercial (or other similar source as approved by Orange County) and the requirements of the National Pollutant Discharge Elimination System construction stormwater quality permit (see Mitigation Measures 4 and 5 in Environmental Assessment), the potential temporary impacts would be minimized and kept on-site to the greatest extent possible. Therefore, no disproportionate impacts to low income and/or minority communities would occur as a result of erosion, drainage, and stormwater runoff.

Include all documentation supporting your findings in your submission to HUD.

Click here to enter text.

Attachment 1. Project Location



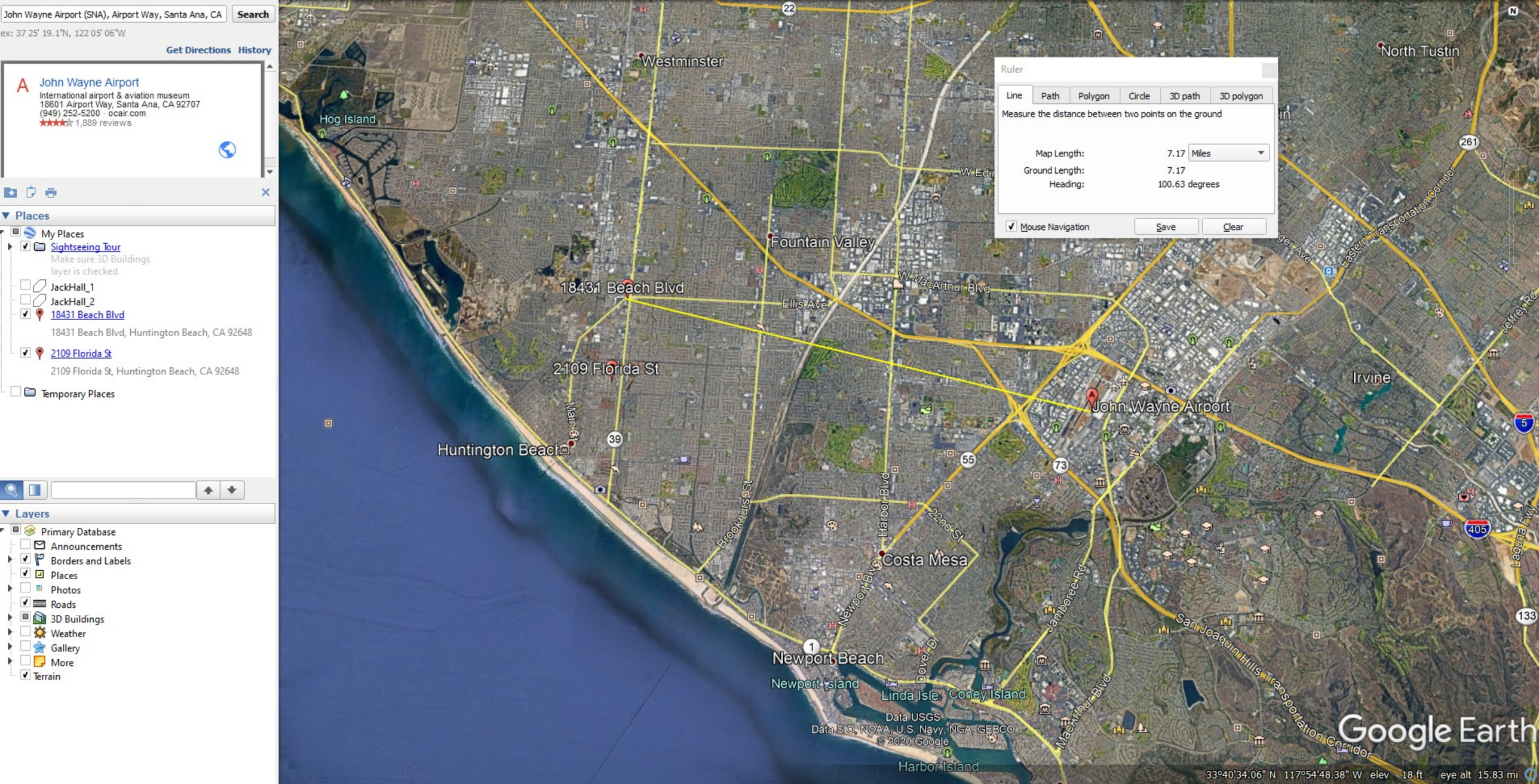
DUDEK

0 2 4 Miles

Figure 1:Project Location

Huntington Beach Senior Housing

Attachment 2. Proximity to Airport


John Wayne Airport (SNA), Airport Way, Santa Ana, CA
Search
ex: 37 25' 19.1"N, 122 05' 06"W
Get Directions History
A John Wayne Airport
International airport & aviation museum
18601 Airport Way, Santa Ana, CA 92707
(949) 252-5200 · ocair.com
1,889 reviews
Places
My Places
Sightseeing Tour
Make sure 3D Buildings layer is checked
JackHall_1
JackHall_2
18431 Beach Blvd
18431 Beach Blvd, Huntington Beach, CA 92648
2109 Florida St
2109 Florida St, Huntington Beach, CA 92648
Temporary Places
Layers
Primary Database
Announcements
Borders and Labels
Places
Photos
Roads
3D Buildings
Weather
Gallery
More
Terrain
Ruler
Line
Path
Polygon
Circle
3D path
3D polygon
Measure the distance between two points on the ground
Map Length: 7.17 Miles
Ground Length: 7.17
Heading: 100.63 degrees
Mouse Navigation
Save
Clear
Westminster
Hog Island
Fountain Valley
18431 Beach Blvd
2109 Florida St
Huntington Beach
Main St
Ellis Ave
W MacArthur Blvd
Brookhurst St
Harbor Blvd
22nd St
Costa Mesa
Newport Blvd
Dover Dr
Newport Beach
Newport Island
Linda Isle
Coney Island
Harbor Island
Jamboree Rd
MacArthur Blvd
John Wayne Airport
Irvine
North Tustin
Eastern Transportation Corridor
San Joaquin Hills Transportation Corridor
Laguna Fwy
Jeffrey Rd
Data USGS
Data SIO, NOAA, U.S. Navy, NGA, GEBCO
© 2020 Google
Google Earth
33°40'34.06" N 117°54'48.38" W elev 18 ft eye alt 15.83 mi

Attachment 3. Coastal Barrier Resources Map

Coastal Barrier Resources System Mapper

U.S Fish & Wildlife Service

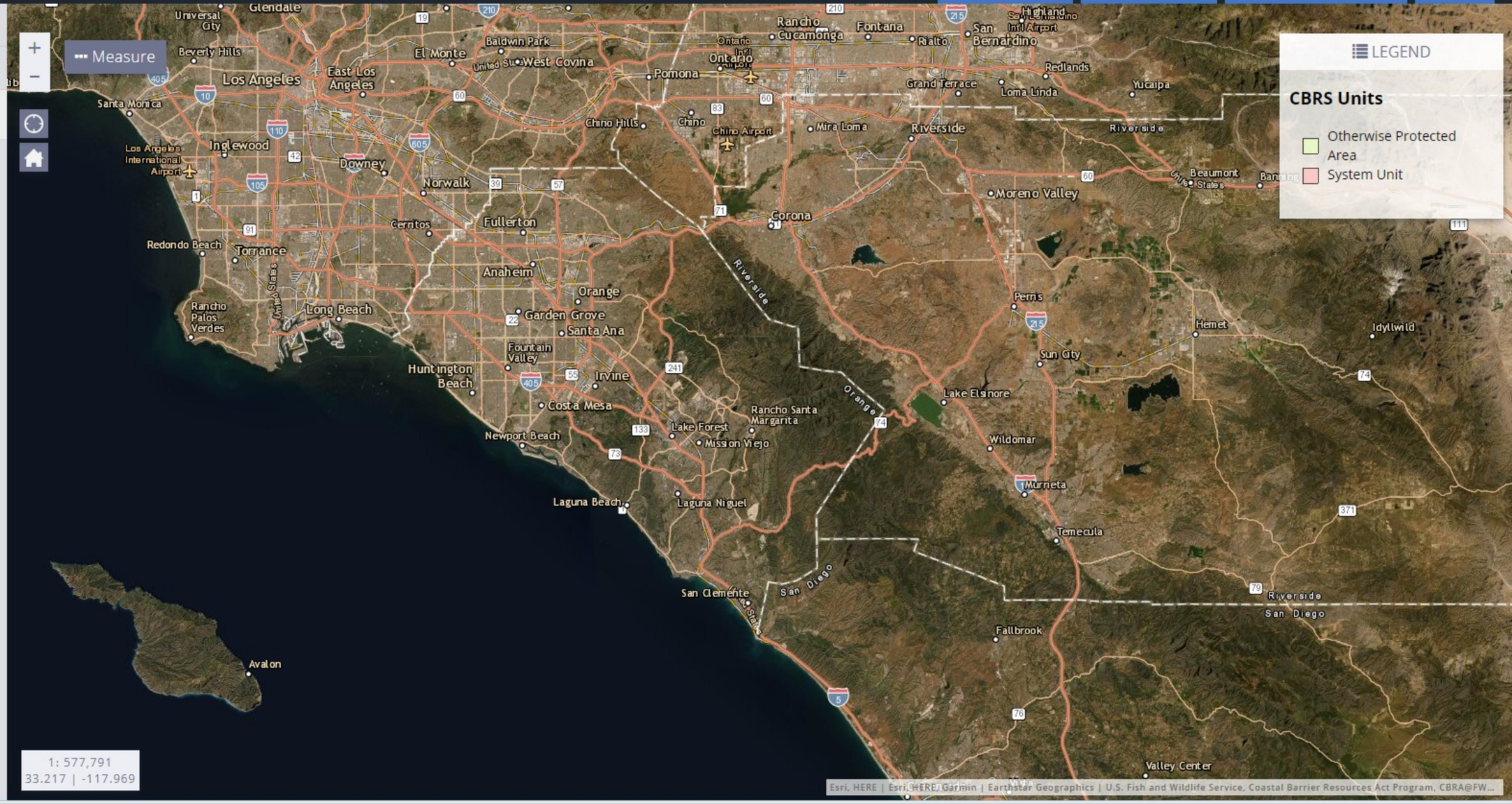
ABOUT | FIND LOCATION | FIND CBRS UNIT | CBRS VALIDATION TOOL | PRINT

BASEMAPS >

MAP LAYERS >

CBRS Units

Click here to learn more about CBRS Units.

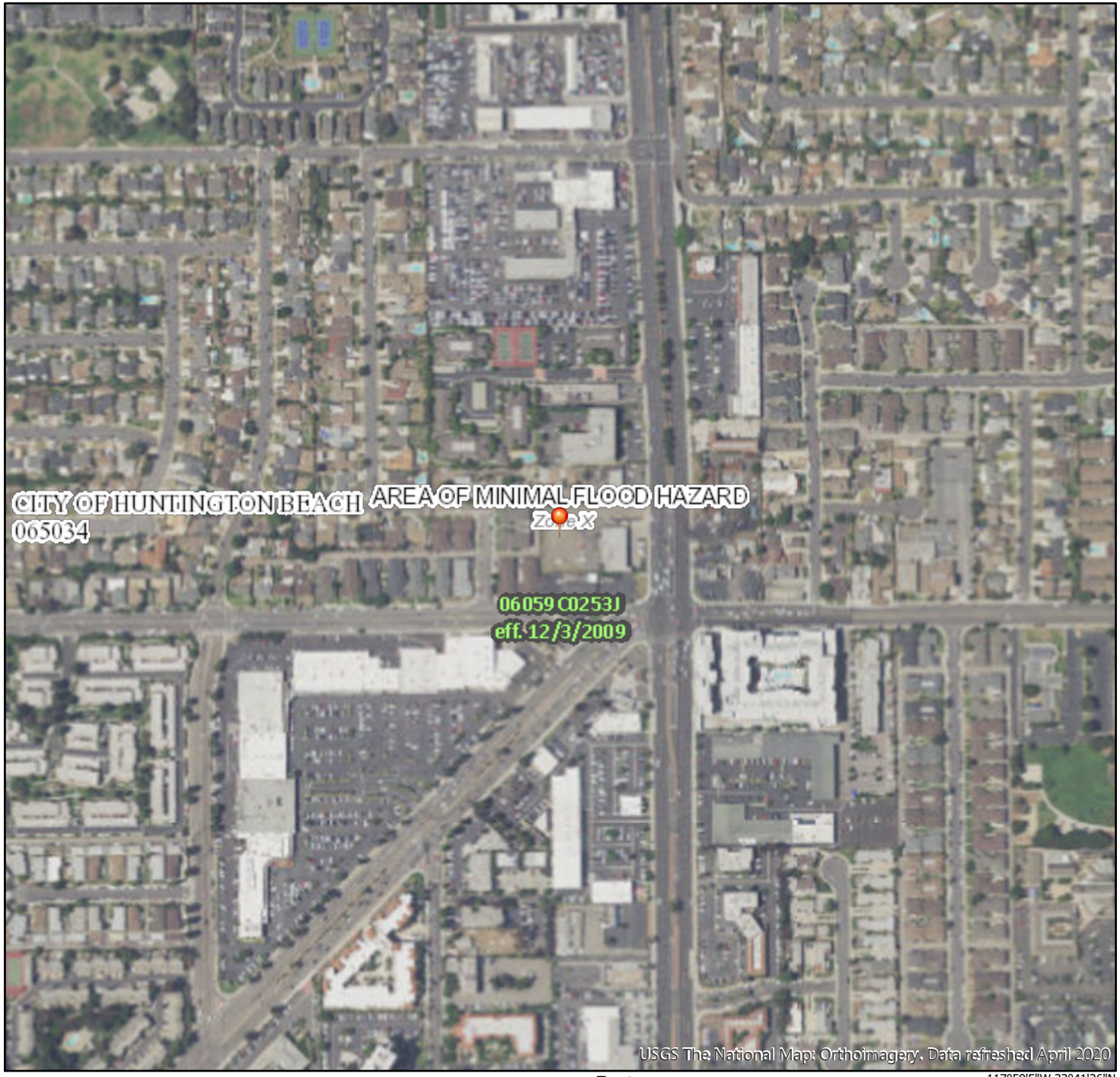


Attachment 4. FEMA Flood Map

National Flood Hazard Layer FIRMette

FEMA

117°59'42"W 33°41'55"N



0 250 500 1,000 1,500 2,000 Feet

1:6,000

117°59'5"W 33°41'26"N

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN — Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 — Cross Sections with 1% Annual Chance
- 17.5 — Water Surface Elevation
- Coastal Transect
- 513 — Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 6/15/2020 at 6:34 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Attachment 5. Huntington Beach CalEEMod Air Quality Model

Huntington Beach Senior Housing

Orange County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	43.00	Dwelling Unit	0.74	28,091.00	123
General Office Building	12.66	1000sqft	0.00	12,662.00	0
Unenclosed Parking with Elevator	12.28	1000sqft	0.00	12,281.00	0
City Park	0.04	Acre	0.04	1,742.40	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Affordable senior housing, office/circ/util space, garage, and small park

Construction Phase - Default construction schedule

Off-road Equipment - Default

Off-road Equipment - Default

Off-road Equipment - Default

Off-road Equipment - Default

Off-road Equipment - Default

Grading - Assumes the garage excavated soil would be exported

Trips and VMT - Default

Architectural Coating - Default

Vehicle Trips - Default trip rates for residential uses - conservative estimate

Woodstoves - No fireplaces or woodstoves

Area Coating - Default

Landscape Equipment - Default

Energy Use - Default

Water And Wastewater - Assumed outdoor water use for park use only

Solid Waste - Default

Table Name	Column Name	Default Value	New Value
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberGas	36.55	0.00
tblFireplaces	NumberNoFireplace	4.30	43.00
tblFireplaces	NumberWood	2.15	0.00
tblGrading	AcresOfGrading	0.00	0.78
tblGrading	AcresOfGrading	0.50	0.78
tblGrading	MaterialExported	0.00	4,600.00
tblLandUse	LandUseSquareFeet	43,000.00	28,091.00
tblLandUse	LandUseSquareFeet	12,660.00	12,662.00
tblLandUse	LandUseSquareFeet	12,280.00	12,281.00
tblLandUse	LotAcreage	1.13	0.74
tblLandUse	LotAcreage	0.29	0.00
tblLandUse	LotAcreage	0.28	0.00
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	2.46	0.00
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	1.05	0.00
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	11.03	0.00
tblWater	OutdoorWaterUseRate	1,766,240.65	0.00
tblWater	OutdoorWaterUseRate	1,379,099.22	0.00
tblWoodstoves	NumberCatalytic	2.15	0.00
tblWoodstoves	NumberNoncatalytic	2.15	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.2016	0.5545	0.4887	1.1600e-003	0.0330	0.0245	0.0575	8.9100e-003	0.0226	0.0315	0.0000	106.7059	106.7059	0.0208	0.0000	107.2269
Maximum	**0.2016**	**0.5545**	**0.4887**	**1.1600e-003**	**0.0330**	**0.0245**	**0.0575**	**8.9100e-003**	**0.0226**	**0.0315**	**0.0000**	**106.7059**	**106.7059**	**0.0208**	**0.0000**	**107.2269**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.2016	0.5545	0.4887	1.1600e-003	0.0330	0.0245	0.0575	8.9100e-003	0.0226	0.0315	0.0000	106.7058	106.7058	0.0208	0.0000	107.2268
Maximum	**0.2016**	**0.5545**	**0.4887**	**1.1600e-003**	**0.0330**	**0.0245**	**0.0575**	**8.9100e-003**	**0.0226**	**0.0315**	**0.0000**	**106.7058**	**106.7058**	**0.0208**	**0.0000**	**107.2268**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	2-1-2021	4-30-2021	0.3667	0.3667
2	5-1-2021	7-31-2021	0.3619	0.3619
		Highest	0.3667	0.3667

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1763	5.1200e-003	0.4442	2.0000e-005		2.4500e-003	2.4500e-003		2.4500e-003	2.4500e-003	0.0000	0.7250	0.7250	7.0000e-004	0.0000	0.7425
Energy	3.2700e-003	0.0283	0.0144	1.8000e-004		2.2600e-003	2.2600e-003		2.2600e-003	2.2600e-003	0.0000	150.8945	150.8945	5.5100e-003	1.6100e-003	151.5109
Mobile	0.0719	0.3162	0.9972	3.9100e-003	0.3623	2.8700e-003	0.3651	0.0970	2.6700e-003	0.0997	0.0000	360.0789	360.0789	0.0146	0.0000	360.4449
Waste						0.0000	0.0000		0.0000	0.0000	6.4044	0.0000	6.4044	0.3785	0.0000	15.8665
Water						0.0000	0.0000		0.0000	0.0000	1.6027	21.1272	22.7299	0.1655	4.0700e-003	28.0790
Total	**0.2515**	**0.3496**	**1.4558**	**4.1100e-003**	**0.3623**	**7.5800e-003**	**0.3698**	**0.0970**	**7.3800e-003**	**0.1044**	**8.0070**	**532.8256**	**540.8326**	**0.5648**	**5.6800e-003**	**556.6439**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1763	5.1200e-003	0.4442	2.0000e-005		2.4500e-003	2.4500e-003		2.4500e-003	2.4500e-003	0.0000	0.7250	0.7250	7.0000e-004	0.0000	0.7425
Energy	3.2700e-003	0.0283	0.0144	1.8000e-004		2.2600e-003	2.2600e-003		2.2600e-003	2.2600e-003	0.0000	150.8945	150.8945	5.5100e-003	1.6100e-003	151.5109
Mobile	0.0719	0.3162	0.9972	3.9100e-003	0.3623	2.8700e-003	0.3651	0.0970	2.6700e-003	0.0997	0.0000	360.0789	360.0789	0.0146	0.0000	360.4449
Waste						0.0000	0.0000		0.0000	0.0000	6.4044	0.0000	6.4044	0.3785	0.0000	15.8665
Water						0.0000	0.0000		0.0000	0.0000	1.6027	21.1272	22.7299	0.1655	4.0700e-003	28.0790
Total	**0.2515**	**0.3496**	**1.4558**	**4.1100e-003**	**0.3623**	**7.5800e-003**	**0.3698**	**0.0970**	**7.3800e-003**	**0.1044**	**8.0070**	**532.8256**	**540.8326**	**0.5648**	**5.6800e-003**	**556.6439**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Huntington Beach Senior Housing - Orange County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	2/1/2021	2/1/2021	5	1	
2	Grading	Grading	2/2/2021	2/3/2021	5	2	
3	Building Construction	Building Construction	2/4/2021	6/23/2021	5	100	
4	Paving	Paving	6/24/2021	6/30/2021	5	5	
5	Architectural Coating	Architectural Coating	7/1/2021	7/7/2021	5	5	

Acres of Grading (Site Preparation Phase): 0.78

Acres of Grading (Grading Phase): 0.78

Acres of Paving: 0

Residential Indoor: 56,884; Residential Outdoor: 18,961; Non-Residential Indoor: 18,993; Non-Residential Outdoor: 6,331; Striped Parking Area: 737 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	2	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	575.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	41.00	9.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.1000e-004	0.0000	4.1000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.2000e-004	3.9100e-003	2.0100e-003	0.0000		1.5000e-004	1.5000e-004		1.4000e-004	1.4000e-004	0.0000	0.4276	0.4276	1.4000e-004	0.0000	0.4310
Total	**3.2000e-004**	**3.9100e-003**	**2.0100e-003**	**0.0000**	**4.1000e-004**	**1.5000e-004**	**5.6000e-004**	**4.0000e-005**	**1.4000e-004**	**1.8000e-004**	**0.0000**	**0.4276**	**0.4276**	**1.4000e-004**	**0.0000**	**0.4310**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	7.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0229	0.0229	0.0000	0.0000	0.0229
Total	**1.0000e-005**	**1.0000e-005**	**7.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0229**	**0.0229**	**0.0000**	**0.0000**	**0.0229**

3.2 Site Preparation - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.1000e-004	0.0000	4.1000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.2000e-004	3.9100e-003	2.0100e-003	0.0000		1.5000e-004	1.5000e-004		1.4000e-004	1.4000e-004	0.0000	0.4276	0.4276	1.4000e-004	0.0000	0.4310
Total	**3.2000e-004**	**3.9100e-003**	**2.0100e-003**	**0.0000**	**4.1000e-004**	**1.5000e-004**	**5.6000e-004**	**4.0000e-005**	**1.4000e-004**	**1.8000e-004**	**0.0000**	**0.4276**	**0.4276**	**1.4000e-004**	**0.0000**	**0.4310**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	7.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0229	0.0229	0.0000	0.0000	0.0229
Total	**1.0000e-005**	**1.0000e-005**	**7.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0229**	**0.0229**	**0.0000**	**0.0000**	**0.0229**

3.3 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.4300e-003	0.0000	1.4300e-003	5.0000e-004	0.0000	5.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.0000e-004	7.2500e-003	7.5700e-003	1.0000e-005		4.1000e-004	4.1000e-004		3.9000e-004	3.9000e-004	0.0000	1.0409	1.0409	1.9000e-004	0.0000	1.0458
Total	**8.0000e-004**	**7.2500e-003**	**7.5700e-003**	**1.0000e-005**	**1.4300e-003**	**4.1000e-004**	**1.8400e-003**	**5.0000e-004**	**3.9000e-004**	**8.9000e-004**	**0.0000**	**1.0409**	**1.0409**	**1.9000e-004**	**0.0000**	**1.0458**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0900e-003	0.0754	0.0205	2.2000e-004	4.9300e-003	2.3000e-004	5.1600e-003	1.3500e-003	2.2000e-004	1.5700e-003	0.0000	21.8369	21.8369	2.3000e-003	0.0000	21.8944
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	2.0000e-005	2.9000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0917	0.0917	0.0000	0.0000	0.0918
Total	**2.1300e-003**	**0.0754**	**0.0208**	**2.2000e-004**	**5.0400e-003**	**2.3000e-004**	**5.2700e-003**	**1.3800e-003**	**2.2000e-004**	**1.6000e-003**	**0.0000**	**21.9287**	**21.9287**	**2.3000e-003**	**0.0000**	**21.9862**

3.3 Grading - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.4300e-003	0.0000	1.4300e-003	5.0000e-004	0.0000	5.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.0000e-004	7.2500e-003	7.5700e-003	1.0000e-005		4.1000e-004	4.1000e-004		3.9000e-004	3.9000e-004	0.0000	1.0409	1.0409	1.9000e-004	0.0000	1.0458
Total	**8.0000e-004**	**7.2500e-003**	**7.5700e-003**	**1.0000e-005**	**1.4300e-003**	**4.1000e-004**	**1.8400e-003**	**5.0000e-004**	**3.9000e-004**	**8.9000e-004**	**0.0000**	**1.0409**	**1.0409**	**1.9000e-004**	**0.0000**	**1.0458**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0900e-003	0.0754	0.0205	2.2000e-004	4.9300e-003	2.3000e-004	5.1600e-003	1.3500e-003	2.2000e-004	1.5700e-003	0.0000	21.8369	21.8369	2.3000e-003	0.0000	21.8944
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	2.0000e-005	2.9000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0917	0.0917	0.0000	0.0000	0.0918
Total	**2.1300e-003**	**0.0754**	**0.0208**	**2.2000e-004**	**5.0400e-003**	**2.3000e-004**	**5.2700e-003**	**1.3800e-003**	**2.2000e-004**	**1.6000e-003**	**0.0000**	**21.9287**	**21.9287**	**2.3000e-003**	**0.0000**	**21.9862**

3.4 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0388	0.3993	0.3632	5.7000e-004		0.0224	0.0224		0.0206	0.0206	0.0000	50.0410	50.0410	0.0162	0.0000	50.4456
Total	**0.0388**	**0.3993**	**0.3632**	**5.7000e-004**		**0.0224**	**0.0224**		**0.0206**	**0.0206**	**0.0000**	**50.0410**	**50.0410**	**0.0162**	**0.0000**	**50.4456**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.2300e-003	0.0429	0.0120	1.1000e-004	2.8300e-003	9.0000e-005	2.9200e-003	8.2000e-004	9.0000e-005	9.0000e-004	0.0000	10.8598	10.8598	8.8000e-004	0.0000	10.8818
Worker	7.5100e-003	5.0500e-003	0.0589	2.1000e-004	0.0225	1.5000e-004	0.0227	5.9800e-003	1.4000e-004	6.1100e-003	0.0000	18.8024	18.8024	4.0000e-004	0.0000	18.8125
Total	**8.7400e-003**	**0.0479**	**0.0709**	**3.2000e-004**	**0.0253**	**2.4000e-004**	**0.0256**	**6.8000e-003**	**2.3000e-004**	**7.0100e-003**	**0.0000**	**29.6622**	**29.6622**	**1.2800e-003**	**0.0000**	**29.6942**

3.4 Building Construction - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0388	0.3993	0.3632	5.7000e-004		0.0224	0.0224		0.0206	0.0206	0.0000	50.0410	50.0410	0.0162	0.0000	50.4456
Total	**0.0388**	**0.3993**	**0.3632**	**5.7000e-004**		**0.0224**	**0.0224**		**0.0206**	**0.0206**	**0.0000**	**50.0410**	**50.0410**	**0.0162**	**0.0000**	**50.4456**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.2300e-003	0.0429	0.0120	1.1000e-004	2.8300e-003	9.0000e-005	2.9200e-003	8.2000e-004	9.0000e-005	9.0000e-004	0.0000	10.8598	10.8598	8.8000e-004	0.0000	10.8818
Worker	7.5100e-003	5.0500e-003	0.0589	2.1000e-004	0.0225	1.5000e-004	0.0227	5.9800e-003	1.4000e-004	6.1100e-003	0.0000	18.8024	18.8024	4.0000e-004	0.0000	18.8125
Total	**8.7400e-003**	**0.0479**	**0.0709**	**3.2000e-004**	**0.0253**	**2.4000e-004**	**0.0256**	**6.8000e-003**	**2.3000e-004**	**7.0100e-003**	**0.0000**	**29.6622**	**29.6622**	**1.2800e-003**	**0.0000**	**29.6942**

3.5 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.8000e-003	0.0168	0.0177	3.0000e-005		8.8000e-004	8.8000e-004		8.2000e-004	8.2000e-004	0.0000	2.3481	2.3481	6.8000e-004	0.0000	2.3652
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.8000e-003**	**0.0168**	**0.0177**	**3.0000e-005**		**8.8000e-004**	**8.8000e-004**		**8.2000e-004**	**8.2000e-004**	**0.0000**	**2.3481**	**2.3481**	**6.8000e-004**	**0.0000**	**2.3652**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6000e-004	1.1000e-004	1.2900e-003	0.0000	4.9000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4127	0.4127	1.0000e-005	0.0000	0.4130
Total	**1.6000e-004**	**1.1000e-004**	**1.2900e-003**	**0.0000**	**4.9000e-004**	**0.0000**	**5.0000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.4127**	**0.4127**	**1.0000e-005**	**0.0000**	**0.4130**

3.5 Paving - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.8000e-003	0.0168	0.0177	3.0000e-005		8.8000e-004	8.8000e-004		8.2000e-004	8.2000e-004	0.0000	2.3481	2.3481	6.8000e-004	0.0000	2.3652
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.8000e-003**	**0.0168**	**0.0177**	**3.0000e-005**		**8.8000e-004**	**8.8000e-004**		**8.2000e-004**	**8.2000e-004**	**0.0000**	**2.3481**	**2.3481**	**6.8000e-004**	**0.0000**	**2.3652**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6000e-004	1.1000e-004	1.2900e-003	0.0000	4.9000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4127	0.4127	1.0000e-005	0.0000	0.4130
Total	**1.6000e-004**	**1.1000e-004**	**1.2900e-003**	**0.0000**	**4.9000e-004**	**0.0000**	**5.0000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.4127**	**0.4127**	**1.0000e-005**	**0.0000**	**0.4130**

3.6 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1483					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.5000e-004	3.8200e-003	4.5400e-003	1.0000e-005		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004	0.0000	0.6383	0.6383	4.0000e-005	0.0000	0.6394
Total	**0.1488**	**3.8200e-003**	**4.5400e-003**	**1.0000e-005**		**2.4000e-004**	**2.4000e-004**		**2.4000e-004**	**2.4000e-004**	**0.0000**	**0.6383**	**0.6383**	**4.0000e-005**	**0.0000**	**0.6394**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-005	5.0000e-005	5.7000e-004	0.0000	2.2000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1834	0.1834	0.0000	0.0000	0.1835
Total	**7.0000e-005**	**5.0000e-005**	**5.7000e-004**	**0.0000**	**2.2000e-004**	**0.0000**	**2.2000e-004**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**0.1834**	**0.1834**	**0.0000**	**0.0000**	**0.1835**

3.6 Architectural Coating - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1483					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.5000e-004	3.8200e-003	4.5400e-003	1.0000e-005		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004	0.0000	0.6383	0.6383	4.0000e-005	0.0000	0.6394
Total	**0.1488**	**3.8200e-003**	**4.5400e-003**	**1.0000e-005**		**2.4000e-004**	**2.4000e-004**		**2.4000e-004**	**2.4000e-004**	**0.0000**	**0.6383**	**0.6383**	**4.0000e-005**	**0.0000**	**0.6394**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-005	5.0000e-005	5.7000e-004	0.0000	2.2000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1834	0.1834	0.0000	0.0000	0.1835
Total	**7.0000e-005**	**5.0000e-005**	**5.7000e-004**	**0.0000**	**2.2000e-004**	**0.0000**	**2.2000e-004**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**0.1834**	**0.1834**	**0.0000**	**0.0000**	**0.1835**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0719	0.3162	0.9972	3.9100e-003	0.3623	2.8700e-003	0.3651	0.0970	2.6700e-003	0.0997	0.0000	360.0789	360.0789	0.0146	0.0000	360.4449
Unmitigated	0.0719	0.3162	0.9972	3.9100e-003	0.3623	2.8700e-003	0.3651	0.0970	2.6700e-003	0.0997	0.0000	360.0789	360.0789	0.0146	0.0000	360.4449

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	285.95	274.77	251.98	955,094	955,094
City Park	0.00	0.00	0.00		
General Office Building	0.00	0.00	0.00		
Unenclosed Parking with Elevator	0.00	0.00	0.00		
Total	285.95	274.77	251.98	955,094	955,094

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
Unenclosed Parking with	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.561378	0.043284	0.209473	0.111826	0.015545	0.005795	0.025829	0.017125	0.001747	0.001542	0.004926	0.000594	0.000934
City Park	0.561378	0.043284	0.209473	0.111826	0.015545	0.005795	0.025829	0.017125	0.001747	0.001542	0.004926	0.000594	0.000934
General Office Building	0.561378	0.043284	0.209473	0.111826	0.015545	0.005795	0.025829	0.017125	0.001747	0.001542	0.004926	0.000594	0.000934
Unenclosed Parking with Elevator	0.561378	0.043284	0.209473	0.111826	0.015545	0.005795	0.025829	0.017125	0.001747	0.001542	0.004926	0.000594	0.000934

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	118.4967	118.4967	4.8900e-003	1.0100e-003	118.9206
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	118.4967	118.4967	4.8900e-003	1.0100e-003	118.9206
NaturalGas Mitigated	3.2700e-003	0.0283	0.0144	1.8000e-004		2.2600e-003	2.2600e-003		2.2600e-003	2.2600e-003	0.0000	32.3978	32.3978	6.2000e-004	5.9000e-004	32.5903
NaturalGas Unmitigated	3.2700e-003	0.0283	0.0144	1.8000e-004		2.2600e-003	2.2600e-003		2.2600e-003	2.2600e-003	0.0000	32.3978	32.3978	6.2000e-004	5.9000e-004	32.5903

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	491381	2.6500e-003	0.0226	9.6300e-003	1.4000e-004		1.8300e-003	1.8300e-003		1.8300e-003	1.8300e-003	0.0000	26.2220	26.2220	5.0000e-004	4.8000e-004	26.3778
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	115731	6.2000e-004	5.6700e-003	4.7700e-003	3.0000e-005		4.3000e-004	4.3000e-004		4.3000e-004	4.3000e-004	0.0000	6.1758	6.1758	1.2000e-004	1.1000e-004	6.2125
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**3.2700e-003**	**0.0283**	**0.0144**	**1.7000e-004**		**2.2600e-003**	**2.2600e-003**		**2.2600e-003**	**2.2600e-003**	**0.0000**	**32.3978**	**32.3978**	**6.2000e-004**	**5.9000e-004**	**32.5903**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	491381	2.6500e-003	0.0226	9.6300e-003	1.4000e-004		1.8300e-003	1.8300e-003		1.8300e-003	1.8300e-003	0.0000	26.2220	26.2220	5.0000e-004	4.8000e-004	26.3778
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	115731	6.2000e-004	5.6700e-003	4.7700e-003	3.0000e-005		4.3000e-004	4.3000e-004		4.3000e-004	4.3000e-004	0.0000	6.1758	6.1758	1.2000e-004	1.1000e-004	6.2125
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**3.2700e-003**	**0.0283**	**0.0144**	**1.7000e-004**		**2.2600e-003**	**2.2600e-003**		**2.2600e-003**	**2.2600e-003**	**0.0000**	**32.3978**	**32.3978**	**6.2000e-004**	**5.9000e-004**	**32.5903**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	170938	54.4645	2.2500e-003	4.7000e-004	54.6593
City Park	0	0.0000	0.0000	0.0000	0.0000
General Office Building	177141	56.4410	2.3300e-003	4.8000e-004	56.6430
Unenclosed Parking with Elevator	23825.1	7.5912	3.1000e-004	6.0000e-005	7.6184
Total		**118.4967**	**4.8900e-003**	**1.0100e-003**	**118.9207**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	170938	54.4645	2.2500e-003	4.7000e-004	54.6593
City Park	0	0.0000	0.0000	0.0000	0.0000
General Office Building	177141	56.4410	2.3300e-003	4.8000e-004	56.6430
Unenclosed Parking with Elevator	23825.1	7.5912	3.1000e-004	6.0000e-005	7.6184
Total		**118.4967**	**4.8900e-003**	**1.0100e-003**	**118.9207**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1763	5.1200e-003	0.4442	2.0000e-005		2.4500e-003	2.4500e-003		2.4500e-003	2.4500e-003	0.0000	0.7250	0.7250	7.0000e-004	0.0000	0.7425
Unmitigated	0.1763	5.1200e-003	0.4442	2.0000e-005		2.4500e-003	2.4500e-003		2.4500e-003	2.4500e-003	0.0000	0.7250	0.7250	7.0000e-004	0.0000	0.7425

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0148					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1481					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0134	5.1200e-003	0.4442	2.0000e-005		2.4500e-003	2.4500e-003		2.4500e-003	2.4500e-003	0.0000	0.7250	0.7250	7.0000e-004	0.0000	0.7425
Total	**0.1763**	**5.1200e-003**	**0.4442**	**2.0000e-005**		**2.4500e-003**	**2.4500e-003**		**2.4500e-003**	**2.4500e-003**	**0.0000**	**0.7250**	**0.7250**	**7.0000e-004**	**0.0000**	**0.7425**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0148					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1481					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0134	5.1200e-003	0.4442	2.0000e-005		2.4500e-003	2.4500e-003		2.4500e-003	2.4500e-003	0.0000	0.7250	0.7250	7.0000e-004	0.0000	0.7425
Total	**0.1763**	**5.1200e-003**	**0.4442**	**2.0000e-005**		**2.4500e-003**	**2.4500e-003**		**2.4500e-003**	**2.4500e-003**	**0.0000**	**0.7250**	**0.7250**	**7.0000e-004**	**0.0000**	**0.7425**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	22.7299	0.1655	4.0700e-003	28.0790
Unmitigated	22.7299	0.1655	4.0700e-003	28.0790

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	2.80162 / 0	12.5121	0.0918	2.2500e-003	15.4783
City Park	0 / 0.0476593	0.1687	1.0000e-005	0.0000	0.1693
General Office Building	2.25011 / 0	10.0490	0.0737	1.8100e-003	12.4313
Unenclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**22.7299**	**0.1655**	**4.0600e-003**	**28.0790**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	2.80162 / 0	12.5121	0.0918	2.2500e-003	15.4783
City Park	0 / 0.0476593	0.1687	1.0000e-005	0.0000	0.1693
General Office Building	2.25011 / 0	10.0490	0.0737	1.8100e-003	12.4313
Unenclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**22.7299**	**0.1655**	**4.0600e-003**	**28.0790**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	6.4044	0.3785	0.0000	15.8665
Unmitigated	6.4044	0.3785	0.0000	15.8665

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	19.78	4.0152	0.2373	0.0000	9.9474
City Park	0	0.0000	0.0000	0.0000	0.0000
General Office Building	11.77	2.3892	0.1412	0.0000	5.9192
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Total		**6.4044**	**0.3785**	**0.0000**	**15.8665**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	19.78	4.0152	0.2373	0.0000	9.9474
City Park	0	0.0000	0.0000	0.0000	0.0000
General Office Building	11.77	2.3892	0.1412	0.0000	5.9192
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Total		**6.4044**	**0.3785**	**0.0000**	**15.8665**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

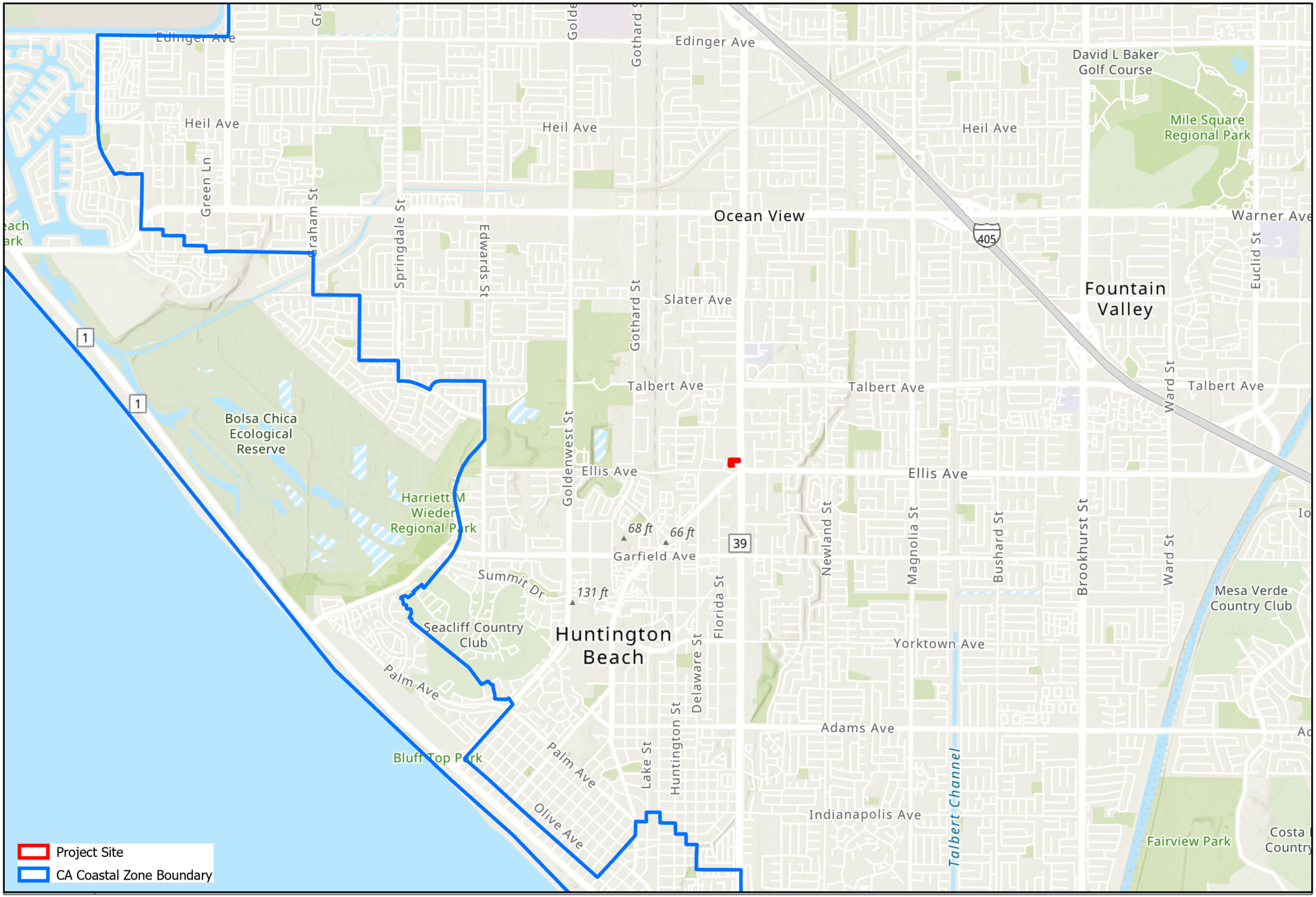
Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Attachment 6. Huntington Beach Coastal Zone Boundary Map



DUDEK

N

0 0.5 1 Miles

Huntington Beach Senior Housing

Proximity to CA Coastal Management Zone

Attachment 7. Project Site Distance to Coast


18431 Beach Boulevard, Huntington Beach, CA
Search
ex: 37 25' 19.1"N, 122 05' 06"W
Get Directions
History
18431 Beach Blvd
Places
My Places
Sightseeing Tour
Make sure 3D Buildings layer is checked
JackHall_1
JackHall_2
Temporary Places
Layers
Primary Database
Announcements
Borders and Labels
Places
Photos
Roads
3D Buildings
Weather
Gallery
More
Terrain
Ruler
Line
Path
Polygon
Circle
3D path
3D polygon
Measure the distance between two points on the ground
Map Length: 2.48 Miles
Ground Length: 2.48
Heading: 224.41 degrees
Mouse Navigation
Save
Clear
Bolsa Bay
Warner Ave
San Diego Fwy
Slater Ave
Talbert Ave
18431 Beach Blvd
Ellis Ave
Goldenwest St
Garfield Ave
39
Seapoint Street
1
Yorktown Ave
Main St
Goldenwest St
Beach Blvd
Adams Ave
Magnolia St
Newland St
Bushard St
Data USGS
© 2020 Google
Google Earth
1994
33°41'19.62" N 118°00'30.22" W elev 58 ft eye alt 25946 ft

Attachment 8. Phase II Environmental Report

HILLMANN
CONSULTING

LIMITED PHASE II SUBSURFACE INVESTIGATION REPORT

18431 BEACH BOULEVARD, HUNTINGTON BEACH, CALIFORNIA

Prepared For:

Jamboree Housing
17701 Cowan Avenue, Suite 200
Irvine, California 92614

Hillmann Project Number C3-7528

June 21, 2019

Written By:
Hillmann Consulting, LLC

Dan Louks
Professional Geologist 4883

PROFESSIONAL GEOLOGIST
DANIEL R. LOUKS
NO. 4883
EXP. NOV. 30, 2019
STATE OF CALIFORNIA

HILLMANN
CONSULTING

June 21, 2019

Mr. Tung Tran
Jamboree Housing
17701 Cowan Avenue, Suite 200
Irvine, California 92614

RE: Limited Phase II Subsurface Investigation Report
18431 Beach Boulevard
Huntington Beach, California
Hillmann Project Number: C3-7528

Dear Mr. Tran

Hillmann Consulting, LLC, is pleased to provide this Limited Phase II Subsurface Investigation Report prepared for the above referenced property.

This report is for the exclusive use of the entities named on the front cover, its affiliates, designates and assignees, rating agencies, prospective bond holders and bond holders, and no other party shall have any right to rely on any service provided by Hillmann Consulting, LLC, without prior written consent.

We appreciate the opportunity to provide environmental due diligence services. If you have any questions concerning this report, or if we can assist you in any other matter, please contact the Project Manager at 714-634-9500.

Very Truly Yours,
Hillmann Consulting, LLC

Brandon Clements
Partner; Western Regional Director

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1.0 INTRODUCTION / BACKGROUND

Hillmann Consulting, LLC (Hillmann) conducted a Limited Phase II Subsurface Investigation at 18431 Beach Boulevard, Huntington Beach, California (**Figure 1**). The subject Property is located on the west side of Beach Boulevard, just north of Main Street in a mixed use area of Huntington Beach. The Property occupies 0.78 acres and is currently undeveloped land.

In June 2019, Hillmann completed a Phase I Environmental Site Assessment for the Property. Results indicated no significant environmental concerns at the subject site, however, the property located immediately to the south (18455 Beach Boulevard) formerly maintained a 550 gallon waste oil underground storage tank (UST) that was removed in 1987. The presence of a former UST in close proximity to the site was identified as a recognized environmental condition that justified preliminary subsurface investigation. These results are presented in Hillmann's *"Phase I Environmental Site Assessment Report"* dated June 20, 2019.

In June 2019, Hillmann completed a Limited Phase II Subsurface Investigation at the Property that included soil and soil gas sampling to identify potential contamination from the former waste oil UST that was located just off-site to the south. The current investigation is an independent assessment of the site that was constrained by time and cost factors as part of a self-directed effort. The objective of this work was to determine the current representative subsurface conditions in targeted areas of the site. This investigation was not intended to meet the more stringent requirements of a regulatory driven assessment.

The investigation featured soil gas sampling which was considered very important in determining possible vapor intrusion impacts from off-site. Results from soil gas sampling indicated no detectable levels of VOC in soil gas. The results from soil sampling indicated no detectable levels of petroleum hydrocarbons in soil and no lead greater than current screening levels. Based on these results, Hillmann recommends no additional sampling at the site.

2.0 GEOLOGY/HYDROGEOLOGY

Based on the drilling logs, shallow soils beneath the site consist primarily of sandy silt and silty sand from near surface to 10 feet below grade, the maximum depth of exploration. Descriptions of the sediments encountered during drilling are presented in the drilling logs (**Appendix C**).

Based on information available on the GeoTracker website, the depth to groundwater at a site located about 430 feet southeast of the Property is about 30 feet below grade (Texaco Service Station, 18502 Beach Boulevard, Huntington Beach, CA - Global ID T0605901877).

3.0 SITE INVESTIGATION

On June 13, 2019, Hillmann installed 2 borings (B1 and B2) in targeted locations near the former off-site waste oil UST. The surface elevation is 1-4 feet lower than the adjoining property to the south. The borings were installed to total depths of 8-10 feet below grade, or 9-14 feet below the surface elevation of the off-site property. The locations of the borings are indicated on **Figure 2**.

During drilling, the soil column was logged by a California Professional Geologist and the soil was screened in the field using a photo-ionization detector (PID). Soil samples were obtained at maximum depth in each boring (samples B1-10 and B2-8) and preserved for laboratory analysis in laboratory glass jars sealed with Teflon tape and threaded caps. The samples were analyzed for carbon chain hydrocarbons corresponding to gasoline, diesel fuel, and oil weights (C4-C12, C13-C22, and C23-C40 ranges, respectively) by EPA Method 8015M, and for lead by EPA Method 6010B. A&R Laboratories of Ontario, California analyzed the samples.

Each boring was completed as a temporary soil gas sampling probe (SG1 and SG2) with sampling tips set at maximum depth. The probes consist of plastic micro-porous vapor implants that are approximately 2 inches long with a 0.5-inch outside diameter, connected to 0.25-inch outside diameter nylaflow tubing that extended above the surface. The annulus around the vapor implants was backfilled with approximately 0.5 feet of screen-washed #3 sand. The probes were sealed using bentonite placed immediately above the sand pack to provide a secure borehole seal. The probes were finished with gas-tight fittings at the surface pending vapor purging and sampling.

The soil gas sampling probes were allowed to equilibrate for at least 48 hours before collecting vapor samples. Prior to vapor sampling, shut-in and leak tests were conducted on the probes. The probe head was attached to the sampling train assembly of Nylaflow tubing, valves, and fittings and connected to a purge pump. The pump was used to evacuate the sealed system using an applied vacuum of 100 inches of water column (in. WC). The vacuum on each probe was monitored for 90 seconds with the sampling train system sealed. After the shut-in test was validated, the sampling train was leak tested. Liquid isobutylene was applied around all connections in the sampling train to evaluate whether the system was sealed from ambient air leaks. A detection of 10 times the reporting limit of this compound might suggest that ambient air leakage had occurred.

The purpose of purging is to remove stagnant air from the vapor sampling train to ensure representative samples are obtained. The probes were purged using an adjustable vacuum pump set at 200 mL/minute. During purging, the soil gas was monitored for VOC, oxygen, and carbon dioxide content using a Mini-Rae 2000 multi gas detector to ensure that non-atmospheric formation air was being sampled (**Appendix D**).

After purging three volumes through the system, vapor samples were collected from the probes on June 18, 2019. During sampling, the purge pump was operated at 200 mL/minute, and the vacuum was monitored to ensure it was below 100 in. WC. Vacuum applied below this level helps ensure chemical partitioning from pore water to soil gas and the stress on the air seals are

both minimized. The samples were containerized in Tedlar bags which were delivered to the laboratory for analysis. Fresh tubing was used on each sampling train between holes. The soil gas samples were tested for VOC using EPA Method 8260B by A&R Laboratories of Ontario, California.

3.1 Laboratory Results

Results from soil sampling indicated the samples did not have detectable levels of petroleum hydrocarbons. Both samples had detectable levels of lead with concentrations of 2.37 and 4.30 mg/Kg, well below the current DTSC Screening Level of 80 mg/Kg for residential applications. These results are summarized in **Table 1**. The laboratory report from soil sampling is included in **Appendix B**.

Results from soil gas sampling indicated none of the samples had detectable levels of VOC. These results are summarized in **Table 2**. The laboratory report from soil gas sampling is included in **Appendix B**.

4.0 CONCLUSIONS AND RECOMMENDATIONS

The subject site is an undeveloped Property that is located adjacent to a site that once maintained a 550 gallon waste oil UST. The nearby location of the removed UST was identified as a recognized environmental condition that justified preliminary subsurface investigation to assess possible environmental concerns.

In June 2019, Hillmann installed two soil borings in targeted areas of the site. Results from soil sampling indicated no detectable levels of petroleum hydrocarbons and low background concentrations of lead that do not exceed conservative screening levels. The results from soil gas sampling indicated no detectable levels of VOC.

Based on these results Hillmann recommends no further sampling at the site.

5.0 LIMITATIONS

This Subsurface Investigation was performed in accordance with generally and currently accepted engineering practices and principles; however, the procedures and methodologies used in this investigation are not intended to meet all specific regulatory guidelines as this work was completed as a self-directed effort. Although the data in this report is indicative of subsurface conditions in areas investigated, no further conclusions regarding the absence or presence of subsurface contamination in other areas of the site should be construed or inferred other than those expressly stated in this report. The conclusions made are based on information obtained from field observations, independent laboratory analytical results, and from current and relevant Federal, State, regional, and local agencies.

TABLE 1
Summary of Soil Sampling Results (mg/Kg)

Sample ID	Lead	TPHg C4-C12	TPHd C13-C22	TPH-Oil C23-C40
Sampled June 13, 2019				
B1-10	2.37	ND<0.20	ND<10	ND<20
B2-8	4.30	ND<0.20	ND<10	ND<20
Residential RSL	***80****	***82***	***82***	***82***
Commercial RSL	***320****	***420***	***420***	***420***

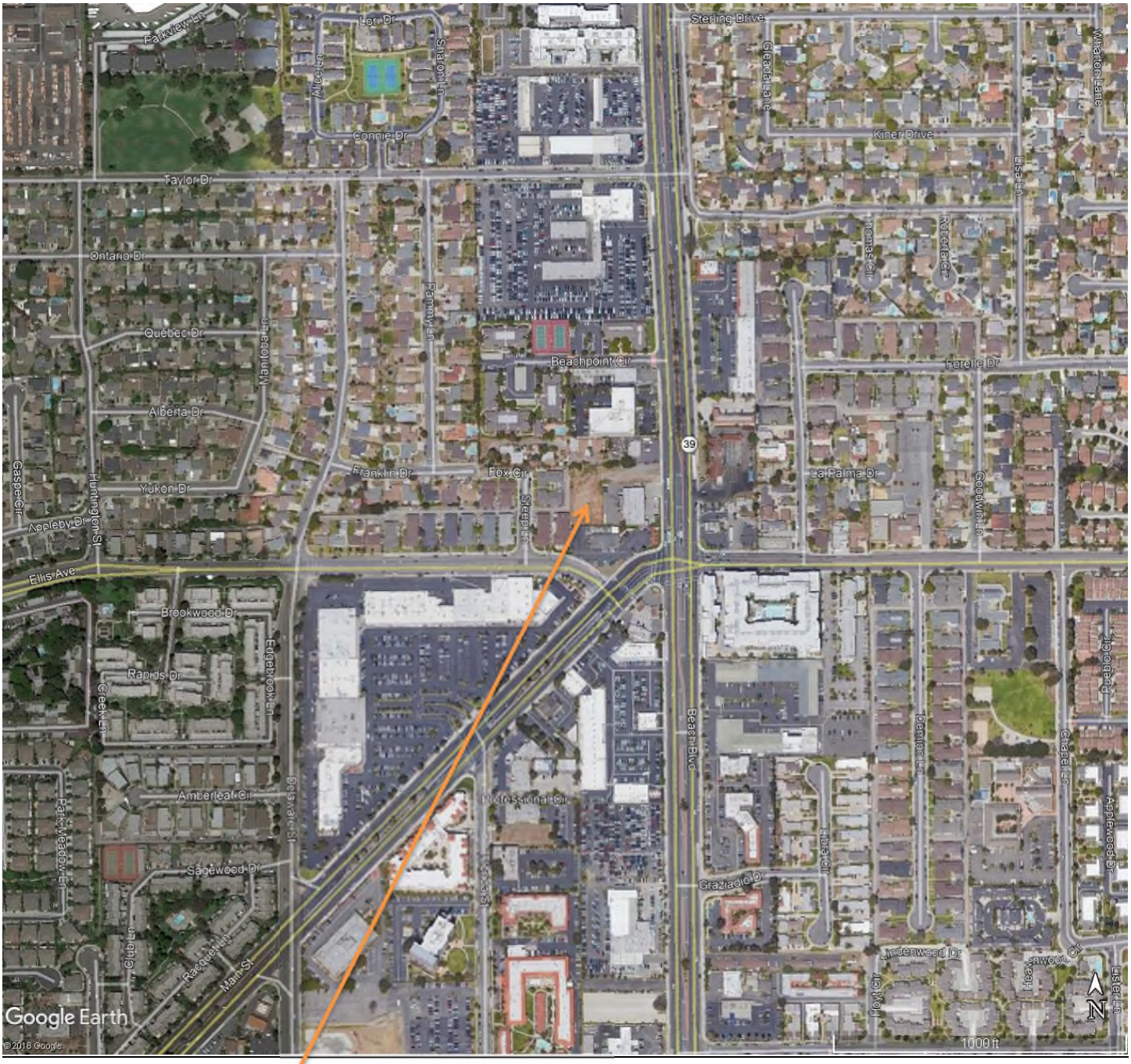
Notes: ND - Not Detected. EPA Regional Screening Levels (RSLs) are human health risk based screening levels used by EPA and DTSC in residential and commercial settings. . - Values modified by DTSC HERO Note 3. The RSL levels for total petroleum hydrocarbons are divided into six non-descript categories that depend on the relative speciation of aromatic and aliphatic hydrocarbons in the source contaminant. The most conservative screening level for petroleum hydrocarbons used. Please refer to lab report for complete results.*

TABLE 2
Summary of Soil Gas Sampling Results (ug/L)

Sample ID	Benzene	Toluene	Ethylbenzene	Xylenes	TCE	PCE	Other VOC
Sampled June 18, 2019							
SG1-10	ND<0.05	ND<0.1	ND<0.1	ND<0.2	ND<0.1	ND<0.1	ND
SG2-8	ND<0.05	ND<0.1	ND<0.1	ND<0.2	ND<0.1	ND<0.1	ND
Residential RSL	***0.0485****	***155****	***0.55***	***50***	***0.24***	***0.23****	*--*
Commercial RSL	***0.42****	***1,300****	***4.9***	***440***	***3.0***	***2.0****	*--*

*Notes: ND - Not Detected. EPA Regional Screening Levels (RSLs) are human health risk based screening levels used by EPA and DTSC to determine Health Risk in residential and commercial settings. *-Values modified for California by DTSC HERO Note 3. Screening levels for soil gas calculated using indoor air values and attenuation factors provided by DTSC. Please refer to laboratory report for complete results.*

FIGURES

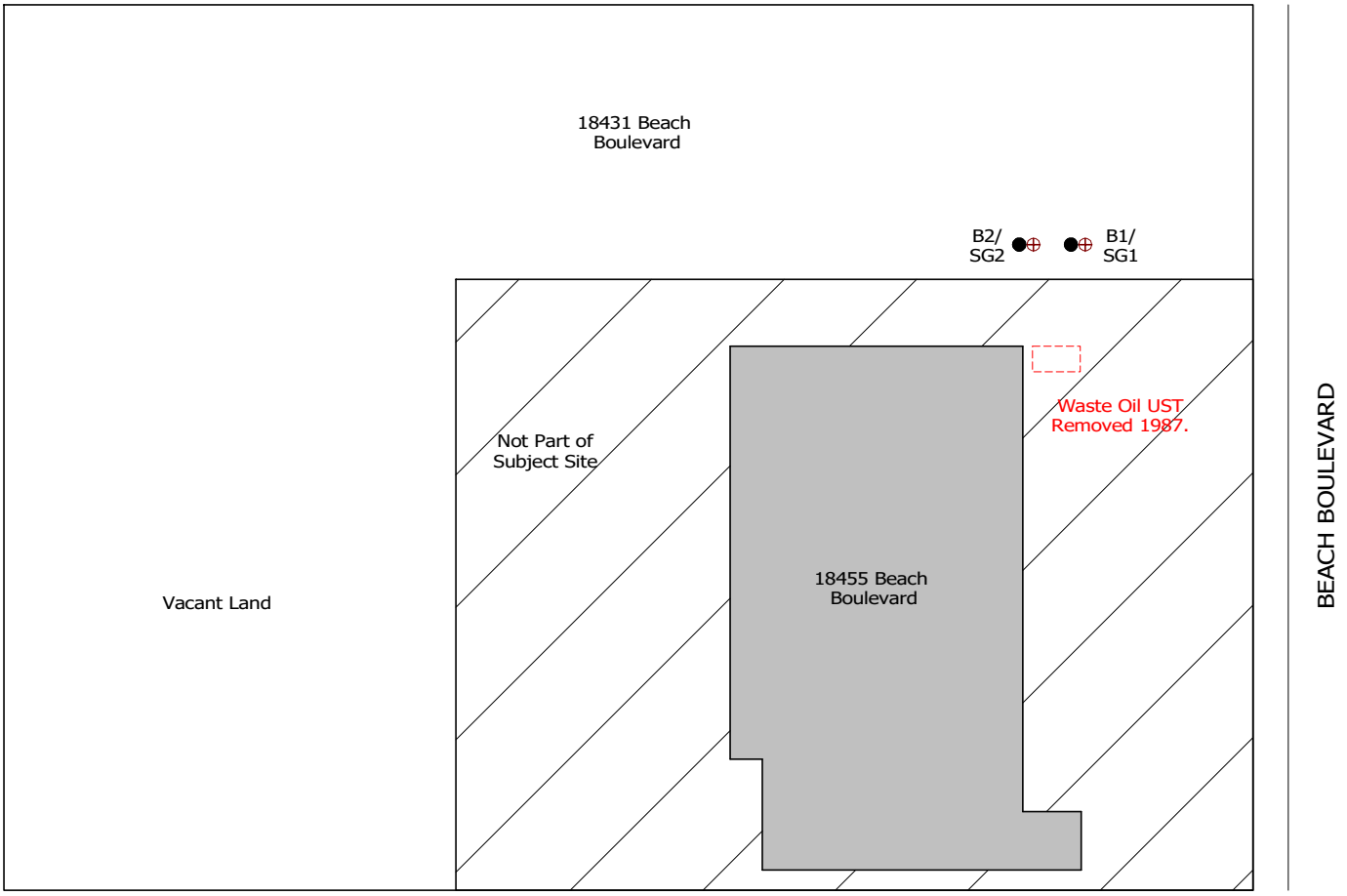


SITE

FIGURE 1

SITE VICINITY MAP
VACANT LAND
18431 Beach Boulevard
Huntington Beach, California

HILLMANN
CONSULTING



LEGEND

- Soil Borings
- Soil Gas Probes

FIGURE 2
GENERAL SITE PLAN
VACANT LAND
18431 Beach Boulevard
Huntington Beach, California

HILLMANN CONSULTING

N

APPROXIMATE SCALE IN FEET

0 45 90

APPENDIX A
Site Photos

SG1

SG2

APPENDIX B
Laboratory Reports

A & R Laboratories, Inc.

1650 S. GROVE AVE., SUITE C
ONTARIO, CA 91761
951-779-0310 FAX 951-779-0344
www.arlaboratories.com office@arlaboratories.com

FDA#	2030513
LA City#	10261
ELAP#'s	2789
	2790
	2122

CHEMISTRY · MICROBIOLOGY · FOOD SAFETY · MOBILE LABORATORIES
FOOD · COSMETICS · WATER · SOIL · SOIL VAPOR · WASTES

CASE NARRATIVE

Authorized Signature Name / Title (print)	Ken Zheng, President
Signature / Date	Ken Zheng, President 06/19/2019 11:16:06
Laboratory Job No. (Certificate of Analysis No.)	1906-00135
Project Name / No.	18431 BEACH BLVD., HUNTINGTON BEACH
Dates Sampled (from/to)	06/13/19 To 06/13/19
Dates Received (from/to)	06/14/19 To 06/14/19
Dates Reported (from/to)	06/19/19 To 6/19/2019
Chains of Custody Received	Yes

Comments:

Subcontracting

Organic Analyses

No analyses sub-contracted

Inorganic Analyses

No analyses sub-contracted

Sample Condition(s)

All samples intact

Positive Results (Organic Compounds)

None

A & R Laboratories, Inc.

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FDA#	2030513
LA City#	10261
ELAP#'s	2789
	2790
	2122

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CERTIFICATE OF ANALYSIS

1906-00135

HILLMANN CONSULTING
DAN LOUKS
1745 ORANGEWOOD AVE., #110
ORANGE, CA 92868

Date Reported	06/19/19
Date Received	06/14/19
Invoice No.	85987
Cust #	G073
Permit Number	
Customer P.O.	

Project: 18431 BEACH BLVD., HUNTINGTON BEACH

Analysis	Result	Qual	Units	Method	DF	RL	Date	Tech
Sample: 001 **B1-10**					Date & Time Sampled:		06/13/19 @ 11:00	
Sample Matrix: **Soil**								
[Metals]								
Metals Acid Digestion	Complete			EPA 3050B	1.0		06/19/19	KZ
Lead	**2.37**		mg/Kg	EPA 6010B	1.0	0.500	06/19/19	KZ
[TPH Gasoline (C4-C12)]								
Closed System P&T TPHg Soil	Complete			EPA 5035	1.0		06/17/19	AL
C4-C12	<0.20		mg/Kg	CA LUFT	1.0	0.20	06/17/19	AL
[Extractable Hydrocarbons]								
Extraction	Complete			EPA 3550B	1.0		06/17/19	AL
C13-C22	<10		mg/Kg	EPA 8015B	1.0	10	06/17/19	AL
C23-C40	<20		mg/Kg	EPA 8015B	1.0	20	06/17/19	AL
[Surrogate]								
o-Terphenyl (OTP)	124		%REC	EPA 8015B		50-150	06/17/19	AL
Sample: 002 **B2-8**					Date & Time Sampled:		06/13/19 @ 12:00	
Sample Matrix: **Soil**								
[Metals]								
Metals Acid Digestion	Complete			EPA 3050B	1.0		06/19/19	KZ
Lead	**4.30**		mg/Kg	EPA 6010B	1.0	0.500	06/19/19	KZ
[TPH Gasoline (C4-C12)]								
Closed System P&T TPHg Soil	Complete			EPA 5035	1.0		06/17/19	AL
C4-C12	<0.20		mg/Kg	CA LUFT	1.0	0.20	06/17/19	AL
[Extractable Hydrocarbons]								
Extraction	Complete			EPA 3550B	1.0		06/17/19	AL
C13-C22	<10		mg/Kg	EPA 8015B	1.0	10	06/17/19	AL
C23-C40	<20		mg/Kg	EPA 8015B	1.0	20	06/17/19	AL
[Surrogate]								
o-Terphenyl (OTP)	118		%REC	EPA 8015B		50-150	06/17/19	AL

Respectfully Submitted: Ken Zheng

Ken Zheng - Lab Director

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QUALIFIERS

B = Detected in the associated Method Blank at a concentration above the routine RL.
B1 = BOD dilution water is over specifications . The reported result may be biased high.
D = Surrogate recoveries are not calculated due to sample dilution.
E = Estimated value; Value exceeds calibration level of instrument.
H = Analyte was prepared and/or analyzed outside of the analytical method holding time
I = Matrix Interference.
J = Analyte concentration detected between RL and MDL.
Q = One or more quality control criteria did not meet specifications. See Comments for further explanation.
S = Customer provided specification limit exceeded.

ABBREVIATIONS

DF = Dilution Factor
RL = Reporting Limit, Adjusted by DF
MDL = Method Detection Limit, Adjusted by DF
Qual = Qualifier
Tech = Technician

As regulatory limits change frequently, A & R Laboratories advises the recipient of this report to confirm such limits with the appropriate federal, state, or local authorities before acting in reliance on the regulatory limits provided.

For any feedback concerning our services, please contact Jenny Jiang, Project Manager at 951.779.0310. You may also contact Ken Zheng, President at office@arlaboratories.com.

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QUALITY CONTROL DATA REPORT

HILLMANN CONSULTING
PACIFIC PALISADES, CA 90272

1906-00135

Date Reported	**06/19/2019**
Date Received	**06/14/2019**
Date Sampled	**06/13/2019**
Invoice No.	**85987**
Customer #	**G073**
Customer P.O.	

Project: 18431 BEACH BLVD., HUNTINGTON BEACH

Method # CA LUFT
QC Reference # 82486 **Date Analyzed:** 6/17/2019 **Technician:** AL
Samples 001 002

Results

	LCS %REC
C4-C12	108

Control Ranges

LCS %REC
70 - 130

Method # EPA 6010B
QC Reference # 82515 **Date Analyzed:** 6/19/2019 **Technician:** KZ
Samples 001 002

Results

	LCS %REC	LCS %DUP	LCS %RPD
Arsenic	102	101	1
Lead	98	97	1

Control Ranges

LCS %REC	LCS %RPD
75 - 125	0 - 20
75 - 125	0 - 20

Method # EPA 8015B
QC Reference # 82473 **Date Analyzed:** 6/17/2019 **Technician:** AL
Samples 001 002

Results

	LCS %REC	SPIKE %REC	SPIKE %DUP	SPIKE %RPD	BLKSRR%REC
C13-C22	99	101	104	3	
Diesel	99	101	104	3	
o-Terphenyl (OTP)					111

Control Ranges

LCS %REC	SPIKE %RPD	BLKSRR%REC
70 - 130	0 - 25	
70 - 130	0 - 25	
		50 - 150

No method blank results were above reporting limit

Respectfully Submitted: Ken Zheng

Ken Zheng - President

For any feedback concerning our services, please contact Jenny Jiang, Project Manager at 951.779.0310. You may also contact Ken Zheng, President at office@arlaboratories.com.

ARL

A & R Laboratories
1650 S. Grove Ave., Ste C, Ontario, CA 91761
Tel: 951-779-0310 / 909-781-6335 Fax: 951-779-0344
E-mail: office@arlaboratories.com

CHAIN OF CUSTODY

A & R Work Order #: 1906-135

RUSH

Client Name	HILLMAN CONSULTING
E-mail	DAN@GSBENGINEERING.NET
Address	1745 ORANGEWOOD AVE #110 ORANGE
Report Attention	DAN LOUIS
Phone # / Fax: #	714 206 3916
Sampled By	NH DL
Project No./ Name	
Project Site	18431 BEACH BLVD HUNTINGTON BEACH

☒ Chilled ☒ Intact ☐ Seal

Turn Around Time Requested: ☐ Rush 8 12 24 48 Hours ☐ Normal (72 HOUR) THANKS

Lab # (Lab use)	Client Sample ID	Sample Collection Date	Sample Collection Time	Matrix Type	Sample Preserve	No., type* & size of container	EPA8260B (VOCs & Oxygenates)	EPA8260B(BTEX & Oxygenates)	LUFT / 8015 (Gasoline)	LUFT / 8015 (Diesel)	EPA8081A (Organochlorine Pesticides)	EPA 8082 (PCBs)	EPA 8015M (Carbon Chain C4-C40)	EPA 6010B/7000 (CAM 17 Metals)	Micro: Plate Cnt., Coliform, E-Coli	LEAD	Remarks
1	B1-10	6-13-19	11:00	SOIL	ICE	1							X			X	
2	B2-8	6-13-19	12:00	SOIL	ICE	1							X			X	

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
Neil Hillman		6-14-19	11:45		ARL	6-14-19	11:45
	ARL	6-14-19	14:46		AOR	6/14/19	1440

Note: Samples are discarded 30 days after results are reported unless other arrangements are made.

Matrix Code: DW=Drinking Water; GW=Ground Water; WW=Waste Water; SD=Solid Waste; SL=Sludge; SO=Soil/Sediment; AR=Air; PP=Pure Product

Preservative Code: IC=Ice; HC=HCl; HN=HNO_3; SH=NaOH; ST=$Na_2S_2O_3$; HS=H_2SO_4

* Sample Container Types: T=Tedlar Air Bag; G=Glass Container; ST= Steel Tube; B= Brass Tube; P=Plastic Bottle; V=VOA Vial; E= EnCore

ARL

Sample Acceptance Checklist

CLIENT: Hillmann Consulting WORK ORDER NUMBER: 1906-135

Temperature:(Criteria:0.0°C-6.0°C)

Sample Temp.(w/CF) °C(w/CF) 3.2°c

☐ Sample(s) outside temprature criteria: PM contacted by :

☐ Sample(s) outside temprature criteria, but received on ice/chilled on same day of sampling.

☐ Sample(s) received at ambient temprature; placed on ice for transport by courier.

Ambient Temprature ☐ Air ☐ Filter

CUSTODY SEAL:

Cooler	☐	Present and Intact	☐	Present and Not Intact	✓	Not Present
Sample(s)	☐	Present and Intact	☐	Present and Not Intact	✓	Not Present

Sample Condition:	Yes	No	N/A
Was a COC received	✓		
Were sample IDs present?	✓		
Were sampling dates & times present?	✓		
Was a relingquished signature present?	✓		
Were the tests required clearly indicated?	✓		
Were all samples sealed in plastic bags?			✓
Did all bottle labels agree with COC? (ID, dates and times)	✓		
Were correct containers used for the tests required?	✓		
Was a sufficient amount of samples sent for tests indicated?	✓		
Was there headspace in VOA vials?			✓
Were the containers labeled with correct preservatives?			✓

Explanations/Comments:

Notification:

For discrepancies, how was the Project Manager notified? Verbal

Verbal: PM Initials: _____ Data/Time: _____

Email: Send to: _____ Data/Time: _____

Project Manager's response:

Completed By: _____ Date: 6/14/19

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CASE NARRATIVE

Authorized Signature Name / Title (print)	Ken Zheng, President
Signature / Date	Ken Zheng, President 06/19/2019 11:17:21
Laboratory Job No. (Certificate of Analysis No.)	1906-00169
Project Name / No.	18431 BEACH BLVD , HUNTINGTON BEACH
Dates Sampled (from/to)	06/18/19 To 06/18/19
Dates Received (from/to)	06/18/19 To 06/18/19
Dates Reported (from/to)	06/19/19 To 6/19/2019
Chains of Custody Received	Yes

Comments:

Subcontracting

Organic Analyses

No analyses sub-contracted

Sample Condition(s)

All samples intact

Positive Results (Organic Compounds)

None

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CERTIFICATE OF ANALYSIS

1906-00169

HILLMAN CONSULTING
DAN LOUKS
1745 ORANGEWOOD AVE
SUITE#110
ORANGE, CA

Project: 18431 BEACH BLVD , HUNTINGTON BEACH

Date Reported	06/19/19
Date Received	06/18/19
Invoice No.	85989
Cust #	G073
Permit Number	
Customer P.O.	

Sample: 001 **SG1-10** Date & Time Sampled: 06/18/19 @ 13:30
Sample Matrix: **Soil Vapor**

Analysis	Result	Qual	Units	Method	DF	RL	Date	Tech
[VOCs by GCMS]								
Acetone	<1.0		µg/L	EPA 8260B	1.0	1.0	06/18/19	JEN
t-Amyl Methyl Ether (TAME)	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
Benzene	<0.050		µg/L	EPA 8260B	1.0	0.050	06/18/19	JEN
Bromobenzene	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
Bromochloromethane	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
Bromodichloromethane	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
Bromoform	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
Bromomethane	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
t-Butanol (TBA)	<1.0		µg/L	EPA 8260B	1.0	1.0	06/18/19	JEN
2-Butanone (MEK)	<1.0		µg/L	EPA 8260B	1.0	1.0	06/18/19	JEN
n-Butylbenzene	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
sec-Butylbenzene	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
tert-Butylbenzene	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
Carbon Disulfide	<1.0		µg/L	EPA 8260B	1.0	1.0	06/18/19	JEN
Carbon Tetrachloride	<0.050		µg/L	EPA 8260B	1.0	0.050	06/18/19	JEN
Chlorobenzene	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
Chloroethane	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
Chloroform	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
Chloromethane	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
2-Chlorotoluene	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
4-Chlorotoluene	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
Dibromochloromethane	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
1,2-Dibromoethane (EDB)	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
1,2-Dibromo-3-Chloropropane	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
Dibromomethane	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
1,2-Dichlorobenzene	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
1,3-Dichlorobenzene	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
1,4-Dichlorobenzene	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
Dichlorodifluoromethane	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
1,1-Dichloroethane	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
1,2-Dichloroethane	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN

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CERTIFICATE OF ANALYSIS

1906-00169

HILLMAN CONSULTING
DAN LOUKS
1745 ORANGEWOOD AVE
SUITE#110
ORANGE, CA

Project: 18431 BEACH BLVD , HUNTINGTON BEACH

Date Reported	06/19/19
Date Received	06/18/19
Invoice No.	85989
Cust #	G073
Permit Number	
Customer P.O.	

Sample: 001 **SG1-10** Date & Time Sampled: 06/18/19 @ 13:30
Sample Matrix: **Soil Vapor**
.....continued

Analysis	Result	Qual	Units	Method	DF	RL	Date	Tech
1,1-Dichloroethene	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
cis-1,2-Dichloroethene	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
trans-1,2-Dichloroethene	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
1,2-Dichloropropane	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
1,3-Dichloropropane	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
2,2-Dichloropropane	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
1,1-Dichloropropene	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
cis-1,3-Dichloropropene	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
trans-1,3-Dichloropropene	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
Diisopropyl Ether (DiPE)	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
Ethylbenzene	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
Ethyl-t-Butyl Ether (EtBE)	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
Hexachlorobutadiene	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
2-Hexanone	<1.0		µg/L	EPA 8260B	1.0	1.0	06/18/19	JEN
Isopropylbenzene	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
4-Isopropyltoluene	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
Methylene Chloride	<0.1		µg/L	EPA 8260B	1.0	0.1	06/18/19	JEN
4-Methyl-2-Pentanone (MIBK)	<1.0		µg/L	EPA 8260B	1.0	1.0	06/18/19	JEN
Methyl-t-butyl Ether (MtBE)	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
Naphthalene	<0.050		µg/L	EPA 8260B	1.0	0.050	06/18/19	JEN
n-Propylbenzene	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
Styrene	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
1,1,1,2-Tetrachloroethane	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
1,1,2,2-Tetrachloroethane	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
Tetrachloroethene	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
Toluene	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
1,2,3-Trichlorobenzene	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
1,2,4-Trichlorobenzene	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
1,1,1-Trichloroethane	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
1,1,2-Trichloroethane	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
Trichloroethene	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN

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Project: 18431 BEACH BLVD , HUNTINGTON BEACH

Date Reported 06/19/19
Date Received 06/18/19
Invoice No. 85989
Cust # G073
Permit Number
Customer P.O.

Analysis	Result	Qual	Units	Method	DF	RL	Date	Tech
Sample: 001 **SG1-10** Sample Matrix: **Soil Vapor**					Date & Time Sampled:		06/18/19 @ 13:30	
.....continued								
1,2,3-Trichloropropane	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
Trichlorofluoromethane	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
Trichlorotrifluoroethane	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
1,2,4-Trimethylbenzene	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
1,3,5-Trimethylbenzene	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
Vinyl Chloride	<0.050		µg/L	EPA 8260B	1.0	0.050	06/18/19	JEN
m,p-Xylenes	<0.20		µg/L	EPA 8260B	1.0	0.20	06/18/19	JEN
o-Xylene	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
[VOC Vapor Sampling Tracer]								
Isopropanol (IPA)	<1.0		µg/L	EPA 8260B	1.0	1.0	06/18/19	JEN
[VOC Surrogates]								
Dibromofluoromethane	113		%REC	EPA 8260B		70-130	06/18/19	JEN
Toluene-D8	101		%REC	EPA 8260B		70-130	06/18/19	JEN
Bromofluorobenzene	103		%REC	EPA 8260B		70-130	06/18/19	JEN
Sample: 002 **SG2-8** Sample Matrix: **Soil Vapor**					Date & Time Sampled:		06/18/19 @ 13:45	
[VOCs by GCMS]								
Acetone	<1.0		µg/L	EPA 8260B	1.0	1.0	06/18/19	JEN
t-Amyl Methyl Ether (TAME)	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
Benzene	<0.050		µg/L	EPA 8260B	1.0	0.050	06/18/19	JEN
Bromobenzene	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
Bromochloromethane	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
Bromodichloromethane	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
Bromoform	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
Bromomethane	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
t-Butanol (TBA)	<1.0		µg/L	EPA 8260B	1.0	1.0	06/18/19	JEN
2-Butanone (MEK)	<1.0		µg/L	EPA 8260B	1.0	1.0	06/18/19	JEN
n-Butylbenzene	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
sec-Butylbenzene	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
tert-Butylbenzene	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN

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LA City#	10261
ELAP#'s	2789
	2790
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CERTIFICATE OF ANALYSIS

1906-00169

HILLMAN CONSULTING
DAN LOUKS
1745 ORANGEWOOD AVE
SUITE#110
ORANGE, CA

Project: 18431 BEACH BLVD , HUNTINGTON BEACH

Date Reported	06/19/19
Date Received	06/18/19
Invoice No.	85989
Cust #	G073
Permit Number	
Customer P.O.	

Sample: 002 **SG2-8** Date & Time Sampled: 06/18/19 @ 13:45
Sample Matrix: **Soil Vapor**
.....continued

Analysis	Result	Qual	Units	Method	DF	RL	Date	Tech
Carbon Disulfide	<1.0		µg/L	EPA 8260B	1.0	1.0	06/18/19	JEN
Carbon Tetrachloride	<0.050		µg/L	EPA 8260B	1.0	0.050	06/18/19	JEN
Chlorobenzene	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
Chloroethane	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
Chloroform	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
Chloromethane	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
2-Chlorotoluene	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
4-Chlorotoluene	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
Dibromochloromethane	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
1,2-Dibromoethane (EDB)	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
1,2-Dibromo-3-Chloropropane	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
Dibromomethane	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
1,2-Dichlorobenzene	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
1,3-Dichlorobenzene	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
1,4-Dichlorobenzene	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
Dichlorodifluoromethane	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
1,1-Dichloroethane	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
1,2-Dichloroethane	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
1,1-Dichloroethene	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
cis-1,2-Dichloroethene	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
trans-1,2-Dichloroethene	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
1,2-Dichloropropane	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
1,3-Dichloropropane	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
2,2-Dichloropropane	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
1,1-Dichloropropene	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
cis-1,3-Dichloropropene	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
trans-1,3-Dichloropropene	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
Diisopropyl Ether (DiPE)	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
Ethylbenzene	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
Ethyl-t-Butyl Ether (EtBE)	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
Hexachlorobutadiene	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN

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CERTIFICATE OF ANALYSIS

1906-00169

HILLMAN CONSULTING
DAN LOUKS
1745 ORANGEWOOD AVE
SUITE#110
ORANGE, CA

Project: 18431 BEACH BLVD , HUNTINGTON BEACH

Date Reported	06/19/19
Date Received	06/18/19
Invoice No.	85989
Cust #	G073
Permit Number	
Customer P.O.	

Analysis	Result	Qual	Units	Method	DF	RL	Date	Tech
Sample: 002 **SG2-8**					Date & Time Sampled:		06/18/19 @ 13:45	
Sample Matrix: **Soil Vapor**								
.....continued								
2-Hexanone	<1.0		µg/L	EPA 8260B	1.0	1.0	06/18/19	JEN
Isopropylbenzene	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
4-Isopropyltoluene	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
Methylene Chloride	<0.1		µg/L	EPA 8260B	1.0	0.1	06/18/19	JEN
4-Methyl-2-Pentanone (MIBK)	<1.0		µg/L	EPA 8260B	1.0	1.0	06/18/19	JEN
Methyl-t-butyl Ether (MtBE)	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
Naphthalene	<0.050		µg/L	EPA 8260B	1.0	0.050	06/18/19	JEN
n-Propylbenzene	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
Styrene	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
1,1,1,2-Tetrachloroethane	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
1,1,2,2-Tetrachloroethane	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
Tetrachloroethene	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
Toluene	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
1,2,3-Trichlorobenzene	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
1,2,4-Trichlorobenzene	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
1,1,1-Trichloroethane	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
1,1,2-Trichloroethane	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
Trichloroethene	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
1,2,3-Trichloropropane	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
Trichlorofluoromethane	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
Trichlorotrifluoroethane	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
1,2,4-Trimethylbenzene	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
1,3,5-Trimethylbenzene	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
Vinyl Chloride	<0.050		µg/L	EPA 8260B	1.0	0.050	06/18/19	JEN
m,p-Xylenes	<0.20		µg/L	EPA 8260B	1.0	0.20	06/18/19	JEN
o-Xylene	<0.10		µg/L	EPA 8260B	1.0	0.10	06/18/19	JEN
[VOC Vapor Sampling Tracer]								
Isopropanol (IPA)	<1.0		µg/L	EPA 8260B	1.0	1.0	06/18/19	JEN
[VOC Surrogates]								
Dibromofluoromethane	115		%REC	EPA 8260B		70-130	06/18/19	JEN
Toluene-D8	102		%REC	EPA 8260B		70-130	06/18/19	JEN

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CERTIFICATE OF ANALYSIS

1906-00169

HILLMAN CONSULTING
DAN LOUKS
1745 ORANGEWOOD AVE
SUITE#110
ORANGE, CA

Project: 18431 BEACH BLVD , HUNTINGTON BEACH

Date Reported	06/19/19
Date Received	06/18/19
Invoice No.	85989
Cust #	G073
Permit Number	
Customer P.O.	

Analysis	Result	Qual	Units	Method	DF	RL	Date	Tech
Sample: 002 **SG2-8**					Date & Time Sampled:		06/18/19 @ 13:45	
Sample Matrix: **Soil Vapor**								
.....continued								
Bromofluorobenzene	102		%REC	EPA 8260B		70-130	06/18/19	JEN

Respectfully Submitted: Ken Zheng

Ken Zheng - Lab Director

QUALIFIERS

B = Detected in the associated Method Blank at a concentration above the routine RL.
B1 = BOD dilution water is over specifications . The reported result may be biased high.
D = Surrogate recoveries are not calculated due to sample dilution.
E = Estimated value; Value exceeds calibration level of instrument.
H = Analyte was prepared and/or analyzed outside of the analytical method holding time
I = Matrix Interference.
J = Analyte concentration detected between RL and MDL.
Q = One or more quality control criteria did not meet specifications. See Comments for further explanation.
S = Customer provided specification limit exceeded.

ABBREVIATIONS

DF = Dilution Factor
RL = Reporting Limit, Adjusted by DF
MDL = Method Detection Limit, Adjusted by DF
Qual = Qualifier
Tech = Technician

As regulatory limits change frequently, A & R Laboratories advises the recipient of this report to confirm such limits with the appropriate federal, state, or local authorities before acting in reliance on the regulatory limits provided.

For any feedback concerning our services, please contact Jenny Jiang, Project Manager at 951.779.0310. You may also contact Ken Zheng, President at office@arlaboratories.com.

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QUALITY CONTROL DATA REPORT

HILLMAN CONSULTING
ORANGE, CA

1906-00169

Date Reported	**06/19/2019**
Date Received	**06/18/2019**
Date Sampled	**06/18/2019**
Invoice No.	**85989**
Customer #	**G073**
Customer P.O.	

Project: 18431 BEACH BLVD , HUNTINGTON BEACH

Method # EPA 8260B
QC Reference # 82516 **Date Analyzed:** 6/18/2019 **Technician:** JEN
Samples 001 002

	Results LCS %REC	Control Ranges LCS %REC
1,1-Dichloroethene	115	70 - 130
Benzene	109	70 - 130
Chlorobenzene	109	70 - 130
Toluene	111	70 - 130
Trichloroethene	115	70 - 130

No method blank results were above reporting limit

Respectfully Submitted: Ken Zheng

Ken Zheng - President

For any feedback concerning our services, please contact Jenny Jiang, Project Manager at 951.779.0310. You may also contact Ken Zheng, President at office@arlaboratories.com.

ARL

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E-mail: office@arlaboratories.com

CHAIN OF CUSTODY

A & R Work Order #: 1906-169

Client Name: HILLMAN CONSULTING
E-mail: Dan@gsaengineering.net
Address: 1745 ORANGEWOOD AVE #110 ORANGE
Report Attention: DAN LOUIS
Phone # 714 206 3916
Fax: #
Sampled By: NH DL
Project No./ Name:
Project Site: 18431 BEACH BLVD HUNTINGTON BEACH

☐ Chilled
☒ Intact
☐ Seal

Turn Around Time Requested
☒ Rush 8 12 24 48 Hours
☐ Normal
(6) HOUR TURNAROUND THANKS

Lab # (Lab use)	Client Sample ID	Sample Collection Date	Sample Collection Time	Matrix Type	Sample Preserve	No., type* & size of container	EPA8260B (VOCs & Oxygenates)	EPA8260B(BTEX & Oxygenates)	LUFT / 8015 (Gasoline)	LUFT / 8015 (Diesel)	EPA8081A (Organochlorine Pesticides)	EPA 8082 (PCBs)	EPA 8015M (Carbon Chain C4-C40)	EPA 6010B/7000 (CAM 17 Metals)	Micro: Plate Cnt., Coliform, E-Coli	Remarks
1	SG1-10	6-18-19	13:30	VAPOR	—	1	X									RESIDENTIAL
2	SG2-8	6-18-19	13:45	VAPOR	—	1	X									DETECTION
																LIMITS

RUSH

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
Neil Hillman		6-18-19	14:00			6/18/19	14:00
	ARL	6-18-19	16:15			6-18-19	16:15

Note: Samples are discarded 30 days after results are reported unless other arrangements are made.

Matrix Code: DW=Drinking Water, GW=Ground Water, WW=Waste Water, SD=Solid Waste, SL=Sludge, SS=Soil/Sediment, (A)R=Air, PP=Pure Product

Preservative Code: IC=Ice, HC=HCl, HN=HNO_3, SH=NaOH, ST=$Na_2S_2O_3$, HS=H_2SO_4

* Sample Container Types: (T)=Tedlar Air Bag, G=Glass Container, ST= Steel Tube, B= Brass Tube, P=Plastic Bottle, V=VOA Vial, E= EnCore

APPENDIX C
Drilling Logs

HILLMANN CONSULTING

DRILL/LITHOLOGIC LOG

BORING/WELL NUMBER B1

PROJECT Vacant Land
OWNER
LOCATION 18431 Beach Boulevard, Huntington Beach, CA
PROJECT NUMBER
DATE DRILLED June 13, 2019
TOTAL DEPTH OF HOLE 10 Feet
SURFACE ELEVATION
DEPTH TO WATER
SCREEN: DIA. **LENGTH** **SLOT SIZE**
CASING: DIA. **LENGTH** **TYPE**
DRILLING COMPANY Hillmann
DRILL METHOD Hand Auger
DRILLER Dan/Neil
LOG BY Dan Louks

DEPTH (FEET)	WELL CONST		PID (PPM)	SAMPLES		SOIL CLASS	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
	PIPE	FILL		NUMBER	BLOW	(USCS)	
							Surface Elevation 4 feet lower than adjoining property with former UST.
0-2			0.0				FILL; Silt, Sand, and Gravel material.
2-8			0.0			ML	Sandy, Clayey SILT; brown, low plasticity, very fine sand, no odor.
8-10			0.0	B1-10		SM	Silty SAND; brown, very fine sand, loose, trace clay, no odor.
							Install Probe SG1 at 10 feet. Seal with bentonite and neat cement to surface.

HILLMANN CONSULTING

DRILL/LITHOLOGIC LOG

BORING/WELL NUMBER B2

PROJECT Vacant Land
OWNER
LOCATION 18431 Beach Boulevard, Huntington Beach, CA
PROJECT NUMBER
DATE DRILLED June 13, 2019
TOTAL DEPTH OF HOLE 8 Feet
SURFACE ELEVATION
DEPTH TO WATER
SCREEN: DIA. **LENGTH** **SLOT SIZE**
CASING: DIA. **LENGTH** **TYPE**
DRILLING COMPANY Hillmann
DRILL METHOD Hand Auger
DRILLER Dan/Neil
LOG BY Dan Louks

DEPTH (FEET)	WELL CONST		PID (PPM)	SAMPLES		SOIL CLASS	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
	PIPE	FILL		NUMBER	BLOW	(USCS)	
							Surface Elevation 1 foot lower than adjoining property with former UST.
0-3			0.0				FILL; Silt, Sand, and Gravel material.
3-8			0.0			ML	Sandy, Clayey SILT; brown, very fine sand, low plasticity, no odor.
							Install Probe SG2 at 8 feet. Seal with bentonite and neat cement to surface.

APPENDIX D
Soil Gas Monitoring Data

SOIL GAS MONITORING DATA FORM

PROJECT: Vacant Land

LOCATION: 18431 Beach Boulevard, Huntington Beach, California

DATE: June 18, 2019

	VAPOR PROBE INFO							
PROBE ID	**SG1**	**SG2**						
PROBE DEPTH (ft)	10	8						
	EXTRACTION DATA							
Applied Vacuum (in. WC)	1	1						
FLOW (L/min)	0.2	0.2						
Pore Volumes (borehole - sand pack)	3	3						
	MONITORING DATA							
OXYGEN (%)	18.0	18.2						
CARBON DIOXIDE (%)	2.10	1.61						
VOC by PID (ppm)	0.0	0.0						

	VAPOR PROBE INFO							
PROBE ID								
PROBE DEPTH (ft)								
	EXTRACTION DATA							
Applied Vacuum (in. WC)								
FLOW (L/min)								
Pore Volumes (borehole - sand pack)								
	MONITORING DATA							
OXYGEN (%)								
CARBON DIOXIDE (%)								
VOC by PID (ppm)								

REMARKS:

SAMPLED BY: NH

Attachment 9. Huntington Beach IPaC Explore Location

IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Orange County, California

Local office

Carlsbad Fish And Wildlife Office

(760) 431-9440
(760) 431-5901

2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385

http://www.fws.gov/carlsbad/

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information.
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS

Pacific Pocket Mouse Perognathus longimembris pacificus — Endangered
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/8080

Birds

NAME	STATUS

California Least Tern Sterna antillarum browni — Endangered
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/8104

Coastal California Gnatcatcher Polioptila californica californica — Threatened
There is **final** critical habitat for this species. Your location is outside the critical habitat.
https://ecos.fws.gov/ecp/species/8178

Least Bell's Vireo Vireo bellii pusillus — Endangered
There is **final** critical habitat for this species. Your location is outside the critical habitat.
https://ecos.fws.gov/ecp/species/5945

Light-footed Clapper Rail Rallus longirostris levipes — Endangered
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/6035

Southwestern Willow Flycatcher Empidonax traillii extimus — Endangered
There is **final** critical habitat for this species. Your location is outside the critical habitat.
https://ecos.fws.gov/ecp/species/6749

Western Snowy Plover Charadrius nivosus nivosus — Threatened
There is **final** critical habitat for this species. Your location is outside the critical habitat.
https://ecos.fws.gov/ecp/species/8035

Crustaceans

NAME	STATUS

San Diego Fairy Shrimp Branchinecta sandiegonensis — Endangered
There is **final** critical habitat for this species. Your location is outside the critical habitat.
https://ecos.fws.gov/ecp/species/6945

Flowering Plants

NAME	STATUS

Salt Marsh Bird's-beak Cordylanthus maritimus ssp. maritimus — Endangered
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/6447

San Diego Button-celery Eryngium aristulatum var. parishii — Endangered
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/5937

Ventura Marsh Milk-vetch Astragalus pycnostachyus var. lanosissimus — Endangered
There is **final** critical habitat for this species. Your location is outside the critical habitat.
https://ecos.fws.gov/ecp/species/1160

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
Allen's Hummingbird Selasphorus sasin This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9637	Breeds Feb 1 to Jul 15
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Jan 1 to Aug 31
Black Oystercatcher Haematopus bachmani This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9591	Breeds Apr 15 to Oct 31

Black Skimmer Rynchops niger — Breeds May 20 to Sep 15
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/5234

Black Turnstone Arenaria melanocephala — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Burrowing Owl Athene cunicularia — Breeds Mar 15 to Aug 31
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9737

California Thrasher Toxostoma redivivum — Breeds Jan 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Clark's Grebe Aechmophorus clarkii — Breeds Jan 1 to Dec 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Common Yellowthroat Geothlypis trichas sinuosa — Breeds May 20 to Jul 31
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/2084

Costa's Hummingbird Calypte costae — Breeds Jan 15 to Jun 10
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9470

Gull-billed Tern Gelochelidon nilotica — Breeds May 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9501

Lawrence's Goldfinch Carduelis lawrencei — Breeds Mar 20 to Sep 20
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9464

Long-billed Curlew Numenius americanus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/5511

Marbled Godwit Limosa fedoa — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9481

Nuttall's Woodpecker Picoides nuttallii — Breeds Apr 1 to Jul 20
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9410

Oak Titmouse Baeolophus inornatus — Breeds Mar 15 to Jul 15
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9656

Rufous Hummingbird selasphorus rufus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/8002

Short-billed Dowitcher Limnodromus griseus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9480

Song Sparrow Melospiza melodia — Breeds Feb 20 to Sep 5
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Spotted Towhee Pipilo maculatus clementae — Breeds Apr 15 to Jul 20
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/4243

Tricolored Blackbird Agelaius tricolor — Breeds Mar 15 to Aug 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3910

Whimbrel Numenius phaeopus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9483

Willet Tringa semipalmata — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Wrentit Chamaea fasciata — Breeds Mar 15 to Aug 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

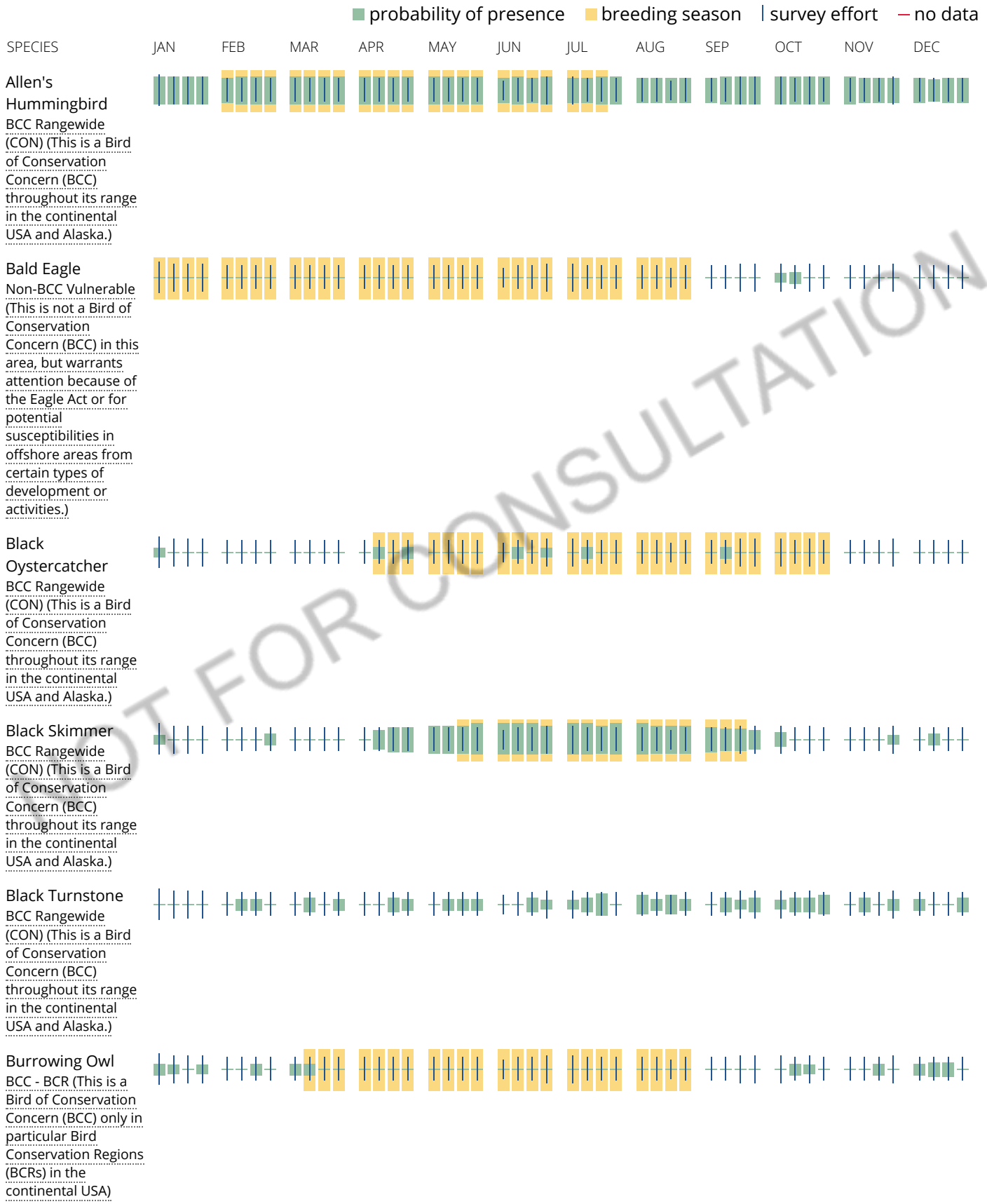
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



California Thrasher
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Clark's Grebe
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Common Yellowthroat
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

Costa's Hummingbird
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

Gull-billed Tern
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

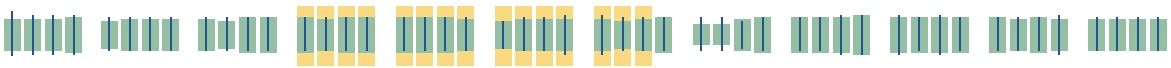
Lawrence's Goldfinch
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

SPECIES JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC

Long-billed Curlew
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Marbled Godwit
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

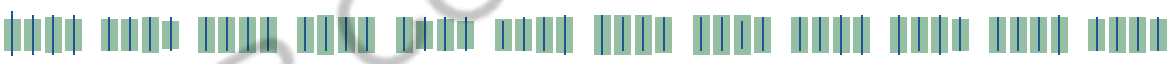
Nuttall's Woodpecker
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)



Oak Titmouse
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

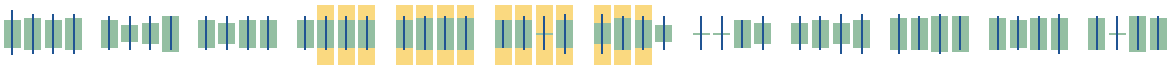
Rufous Hummingbird
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Short-billed Dowitcher
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

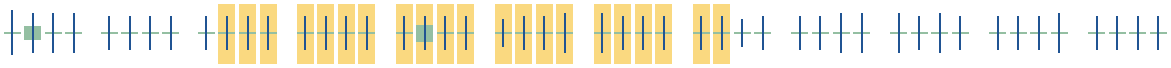


Song Sparrow
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

Spotted Towhee
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)



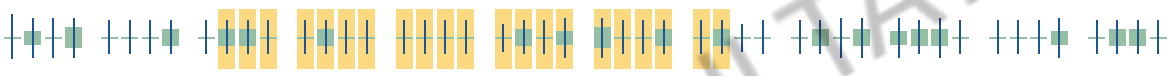
Tricolored Blackbird
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Whimbrel
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Willet
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Wrentit
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

THERE ARE NO KNOWN WETLANDS AT THIS LOCATION.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

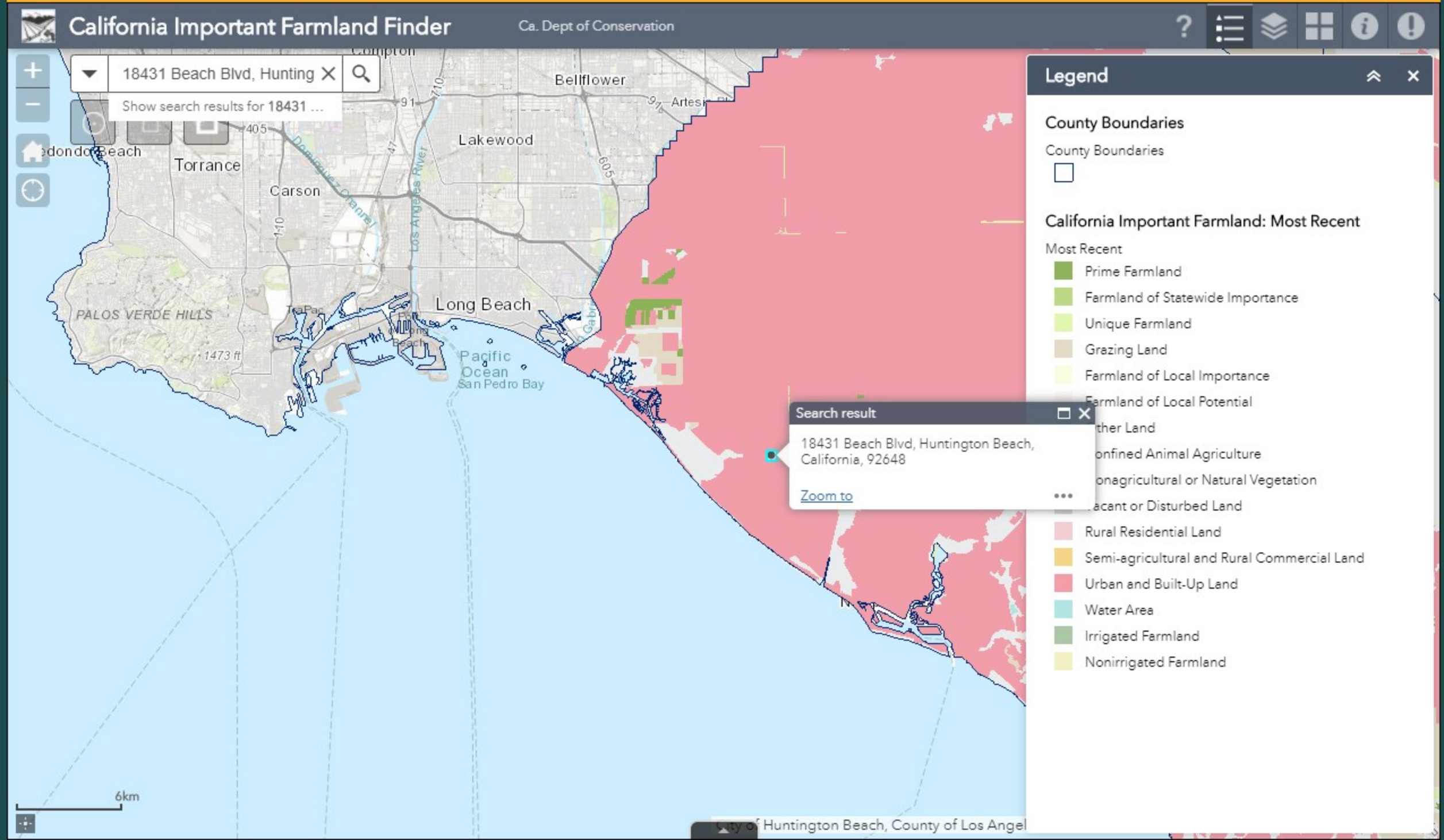
Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Attachment 10. Huntington Beach Important Farmland Finder Screenshot


California Important Farmland Finder
Ca. Dept of Conservation
18431 Beach Blvd, Hunting
Show search results for 18431 ...
Bellflower
Lakewood
Torrance
Carson
Long Beach
PALOS VERDE HILLS
1473 ft
Pacific Ocean
San Pedro Bay
Search result
18431 Beach Blvd, Huntington Beach, California, 92648
Zoom to
Legend
County Boundaries
County Boundaries
California Important Farmland: Most Recent
Most Recent
Prime Farmland
Farmland of Statewide Importance
Unique Farmland
Grazing Land
Farmland of Local Importance
Rural Residential Land
Semi-agricultural and Rural Commercial Land
Urban and Built-Up Land
Water Area
Irrigated Farmland
Nonirrigated Farmland
6km
Huntington Beach, County of Los Angel

Attachment 11. SHPO Letter

State of California • Natural Resources Agency
Gavin Newsom, *Governor*

DEPARTMENT OF PARKS AND RECREATION
OFFICE OF HISTORIC PRESERVATION
Armando Quintero, *Director*

Julianne Polanco, State Historic Preservation Officer
1725 23rd Street, Suite 100, Sacramento, CA 95816-7100
Telephone: (916) 445-7000 FAX: (916) 445-7053
calshpo.ohp@parks.ca.gov www.ohp.parks.ca.gov

September 25, 2020
[VIA EMAIL]

Refer to HUD_2020_0910_003

Ms. Liza Santos
Housing Development Compliance Administrator
Housing & Community Development
County of Orange
1501 St. Andrews Place, First Floor
Santa Ana, CA 92705

Re: Huntington Beach Senior Housing Multifamily Affordable Housing Development Project at 18431 Beach Boulevard, Huntington Beach, CA

Dear Ms. Santos:

The California State Historic Preservation Officer received the consultation submittal for the above referenced undertaking for our review and comment pursuant to Section 106 of the National Historic Preservation Act and its implementing regulations found at 36 CFR Part 800. The regulations and advisory materials are located at www.achp.gov.

Pursuant to 36 CFR §800.4(d) we do not object to the County of Orange's finding that no historic properties will be affected by the proposed senior multifamily affordable housing development project located at 18431 Beach Boulevard, Huntington Beach, CA. However, the County may have additional Section 106 responsibilities under certain circumstances set forth at 36 CFR Part 800. For example, in the event that historic properties are discovered during implementation of the undertaking, your agency is required to consult further pursuant to §800.13(b).

We appreciate the County of Orange's consideration of historic properties in the project planning process. If you have questions please contact Shannon Lauchner Pries, Historian II, with the Local Government & Environmental Compliance Unit at (916)445-7013 or by email at shannon.pries@parks.ca.gov .

Note that we are only sending this letter in electronic format. Please confirm receipt of this letter. If you would like a hard copy mailed to you, respond to this email to request a hard copy be mailed.

Sincerely,

Julianne Polanco
State Historic Preservation Officer

Attachment 12. SCCIC Response

South Central Coastal Information Center
California State University, Fullerton
Department of Anthropology MH-426
800 North State College Boulevard
Fullerton, CA 92834-6846
657.278.5395
California Historical Resources Information System
Los Angeles, Orange, Ventura and San Bernardino Counties
sccic@fullerton.edu

9/9/2020 SCCIC File #: 21517.7729

Liza Santos
OC Housing & Community Development
1501 ST. ANDREW PLACE, 1ST FLOOR
SANTA ANA, CA 92705

Re: Record Search results for Huntington Beach Senior Housing

The South Central Coastal Information Center received your records search request for the project area referenced above, located on the Newport Beach, CA USGS 7.5' quadrangle. The following summary reflects the results of the records search for the project area and a ½-mile radius. The search includes a review of all recorded archaeological and built-environment resources as well as a review of cultural resource reports on file. In addition, the California Points of Historical Interest (SPHI), the California Historical Landmarks (SHL), the California Register of Historical Resources (CAL REG), the National Register of Historic Places (NRHP), and the California State Built Environment Resources Directory (BERD) listings were reviewed for the above referenced project site and a ¼-mile radius. Due to the sensitive nature of cultural resources, archaeological site locations are not released.

RECORDS SEARCH RESULTS SUMMARY

Archaeological Resources* (*see Recommendations section)	Within project area: 0 Within project radius: 2
Built-Environment Resources	Within project area: 0 Within project radius: 0
Reports and Studies	Within project area: 3 Within project radius: 9
OHP Built Environment Resources Directory (BERD) 2019	Within project area: 0 Within ¼-mile radius: 2
California Points of Historical Interest (SPHI) 2019	Within project area: 0 Within ¼-mile radius: 0
California Historical Landmarks (SHL) 2019	Within project area: 0 Within ¼-mile radius: 0
California Register of Historical Resources (CAL REG) 2019	Within project area: 0 Within ¼-mile radius: 0
National Register of Historic Places (NRHP) 2019	Within project area: 0 Within ¼-mile radius: 0

Archaeological Determinations of Eligibility (ADOE): 2012	Within project area: 0 Within project radius: 0

HISTORIC MAP REVIEW – Santa Ana, CA (1896, 1901) 15' USGS historic maps indicate that in 1896 there was no visible development within the project area. There were three roads within the project search radius which was located within the historic place name of Las Bolsas. In 1901, there was still no visible development within the project area. The previously mentioned roads have been replaced by two different roads and the historic place name of Las Bolsas still remained.

RECOMMENDATIONS

*When we report that no archaeological resources are recorded in your project area or within a specified radius around the project area; that does not necessarily mean that nothing is there. It may simply mean that the area has not been studied and/or that no information regarding the archaeological sensitivity of the property has been filed at this office. The reported records search result does not preclude the possibility that surface or buried artifacts might be found during a survey of the property or ground-disturbing activities.

The project area is potentially sensitive for archaeological resources. Therefore, it is recommended that a qualified archaeologist be retained to monitor all ground-disturbing activities. In the event that cultural resources are observed, all work within the vicinity of the find should be diverted until the archaeologist can assess and record the find and make recommendations. It is also recommended that the Native American Heritage Commission should be consulted to identify if any additional traditional cultural properties or other sacred sites are known to be in the area.

For your convenience, you may find a professional consultant**at www.chrisinfo.org. Any resulting reports by the qualified consultant should be submitted to the South Central Coastal Information Center as soon as possible.

**The SCCIC does not endorse any particular consultant and makes no claims about the qualifications of any person listed. Each consultant on this list self-reports that they meet current professional standards.

If you have any questions regarding the results presented herein, please contact the office at 657.278.5395 Monday through Thursday 9:00 am to 3:30 pm. Should you require any additional information for the above referenced project, reference the SCCIC number listed above when making inquiries. Requests made after initial invoicing will result in the preparation of a separate invoice.

Thank you for using the California Historical Resources Information System,

Isabela Kott
GIS Technician/Staff Researcher

Enclosures:

(X) Invoice # 21517.7729

Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the Office of Historic Preservation are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area. Additionally, Native American tribes have historical resource information not in the California Historical Resources Information System (CHRIS) Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

The California Office of Historic Preservation (OHP) contracts with the California Historical Resources Information System's (CHRIS) regional Information Centers (ICs) to maintain information in the CHRIS inventory and make it available to local, state, and federal agencies, cultural resource professionals, Native American tribes, researchers, and the public. Recommendations made by IC coordinators or their staff regarding the interpretation and application of this information are advisory only. Such recommendations do not necessarily represent the evaluation or opinion of the State Historic Preservation Officer in carrying out the OHP's regulatory authority under federal and state law.

Attachment 13. Huntington Beach Noise Study

DNL Calculator

The Day/Night Noise Level Calculator is an electronic assessment tool that calculates the Day/Night Noise Level (DNL) from roadway and railway traffic. For more information on using the DNL calculator, view the **Day/Night Noise Level Calculator Electronic Assessment Tool Overview (/programs/environmental-review/daynight-noise-level-electronic-assessment-tool/)**.

Guidelines

- To display the Road and/or Rail DNL calculator(s), click on the "Add Road Source" and/or "Add Rail Source" button(s) below.
- All Road and Rail input values must be positive non-decimal numbers.
- All Road and/or Rail DNL value(s) must be calculated separately before calculating the Site DNL.
- All checkboxes that apply must be checked for vehicles and trains in the tables' headers.
- **Note #1:** Tooltips, containing field specific information, have been added in this tool and may be accessed by hovering over all the respective data fields (site identification, roadway and railway assessment, DNL calculation results, roadway and railway input variables) with the mouse.
- **Note #2:** DNL Calculator assumes roadway data is always entered.

DNL Calculator

Site ID	18431 Beach Blvd., Huntington Beach - 290 Setback fm. Beach Blvc
Record Date	12/01/2020
User's Name	M Greene

Road # 1 Name:	**Beach Blvd.**

Road #1

Vehicle Type	Cars ☑	Medium Trucks ☑	Heavy Trucks ☑
Effective Distance	290	290	290
Distance to Stop Sign			
Average Speed	45	40	35
Average Daily Trips (ADT)	54320	1120	560
Night Fraction of ADT	15	15	15
Road Gradient (%)			0
Vehicle DNL	62	54	59

Calculate Road #1 DNL | 64 | Reset

Road # 2 Name: **Ellis Ave. / Main St.**

Road #2

Vehicle Type	Cars ☑	Medium Trucks ☑	Heavy Trucks ☑
Effective Distance	260	260	260
Distance to Stop Sign			
Average Speed	40	40	35
Average Daily Trips (ADT)	15910	330	160
Night Fraction of ADT	15	15	15
Road Gradient (%)			0
Vehicle DNL	56	49	54

Calculate Road #2 DNL | 59 | Reset

Add Road Source Add Rail Source	
Airport Noise Level	
Loud Impulse Sounds?	◯Yes ◯No
Combined DNL for all Road and Rail sources	**65**
Combined DNL including Airport	**N/A**
Site DNL with Loud Impulse Sound	
Calculate Reset	

Mitigation Options

If your site DNL is in Excess of 65 decibels, your options are:

- **No Action Alternative**: Cancel the project at this location
- **Other Reasonable Alternatives**: Choose an alternate site
- **Mitigation**
  - **Contact your Field or Regional Environmental Officer (/programs/environmental-review/hud-environmental-staff-contacts/)**
  - Increase mitigation in the building walls (only effective if no outdoor, noise sensitive areas)
  - Reconfigure the site plan to increase the distance between the noise source and noise-sensitive uses
  - Incorporate natural or man-made barriers. See ***The Noise Guidebook (/resource/313/hud-noise-guidebook/)***
  - Construct noise barrier. See the **Barrier Performance Module (/programs/environmental-review/bpm-calculator/)**

Tools and Guidance

Day/Night Noise Level Assessment Tool User Guide (/resource/3822/day-night-noise-level-assessment-tool-user-guide/)

Day/Night Noise Level Assessment Tool Flowcharts (/resource/3823/day-night-noise-level-assessment-tool-flowcharts/)

Attachment 14. Technical Noise Memo

1 SW COLUMBIA STREET
PORTLAND, OREGON 97204
T 971.930.1700

MEMORANDUM

To:	Jonathan Rigg, Dudek
From:	Mike Greene, Dudek
Subject:	Technical Noise Memo – Huntington Beach Senior Housing Project
Date:	12/8/2020
cc:	
Attachment(s):	Figure 1, Noise Modeling Locations; Traffic Noise Modeling Input/Output Attachment A; Noise Model Input/Output Data

This technical noise memo summarizes the results of the traffic noise analysis conducted for onsite uses of the Huntington Beach Senior Housing Project located at 18431 Beach Boulevard in Huntington Beach, California.

1 Background

1.1 Project Description

The Huntington Beach Senior Housing ("Project") is new construction senior project on a currently vacant lot located at 18431 Beach Boulevard, Huntington Beach, California. The 43-unit project will consist of 42 one-bedroom units and one two-bedroom units. The site is approximately 0.78 acre and surrounded by a wide array of amenities close by including a grocery store, bus stop, park, schools, medical clinic and pharmacy. The site serves as an ideal opportunity to provide much needed affordable housing for the most vulnerable and at-risk of homelessness individuals in the community.

The project will include leasing and amenity space as well as an outdoor courtyard area and open space. The building will consist of one level of Type I partial subterranean parking garage with 4-stories of Type V residential above. Of the 42 affordable units, 33 units (80%) will be targeted as Permanent Supportive Housing (PSH) for seniors experiencing homelessness who are earning 30% Area Median Income (AMI) or below. Of these 33 PSH units, 21 units are set-aside for individuals living with a mental illness. The remaining nine units (20%) will be targeted to seniors earning 50% of AMI and above.

The project will contain 3,800 square feet of community space and offices that will be used for social services, case management, and property management staff who serve the residents. The space will have a leasing office, common area, individual counseling offices, a community room with kitchen area, TV lounge, computer room, and a multi-purpose gathering flex room. In addition, a community courtyard and dog park will be available for the residents.

1.2 Noise Fundamentals and Terminology

Vibrations, traveling as waves through air from a source, exert a force perceived by the human ear as sound. Sound pressure level (referred to as sound level) is measured on a logarithmic scale in decibels (dB) that represent the

fluctuation of air pressure above and below atmospheric pressure. Frequency, or pitch, is a physical characteristic of sound and is expressed in units of cycles per second or hertz (Hz). The normal frequency range of hearing for most people extends from about 20 to 20,000 Hz. The human ear is more sensitive to middle and high frequencies, especially when the noise levels are quieter. As noise levels get louder, the human ear starts to hear the frequency spectrum more evenly. To accommodate for this phenomenon, a weighting system to evaluate how loud a noise level is to a human was developed. The frequency weighting called "A" weighting is typically used for quieter noise levels, which de-emphasizes the low-frequency components of the sound in a manner similar to the response of a human ear. This A-weighted sound level is called the "noise level" and is referenced in units of dBA.

Because sound is measured on a logarithmic scale, a doubling of sound energy results in a 3 dBA increase in the noise level. Changes in a community noise level of less than 3 dB are not typically noticed by the human ear (Caltrans 2013a). Changes from 3 to 5 dB may be noticed by some individuals who are extremely sensitive to changes in noise. A 5 dB increase is readily noticeable. The human ear perceives a 10 dB increase in sound level as a doubling of the sound level (i.e., 65 dBA sounds twice as loud as 55 dBA to a human ear).

An individual's noise exposure occurs over a period of time; however, noise level is a measure of noise at a given instant in time. The equivalent continuous sound level (L_{eq}), also referred to as the average sound level, is a single number representing the fluctuating sound level in A-weighted decibels (dBA) over a specified period of time. It is a sound-energy average of the fluctuating level and is equal to a constant unchanging sound of that dB level. Community noise sources vary continuously, being the product of many noise sources at various distances, all of which constitute a relatively stable background or ambient noise environment.

Noise levels are generally higher during the daytime and early evening when traffic (including airplanes), commercial, and industrial activity is the greatest. However, noise sources experienced during nighttime hours when background levels are generally lower can be potentially more conspicuous and irritating to the receiver. In order to evaluate noise in a way that considers periodic fluctuations experienced throughout the day and night, a concept termed "community noise equivalent level" (CNEL) was developed, The CNEL scale represents a time-weighted 24-hour average noise level based on the A-weighted sound level. CNEL accounts for the increased noise sensitivity during the evening hours (7 p.m. to 10 p.m.) and nighttime hours (10 p.m. to 7 a.m.) by adding 5 dB to the average sound levels occurring during the evening hours and 10 dB to the sound levels occurring during nighttime hours. Additional noise definitions are provided below.

Ambient Noise Level. The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.

A-Weighted Sound Level (dBA). The sound pressure level in decibels as measured on a sound level meter using the A-weighted filter network. The A-weighting filter deemphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with community equivalent sound level.

Community Noise Equivalent Level (CNEL). CNEL is the A-weighted equivalent continuous sound exposure level for a 24-hour period with a 10 dB adjustment added to sound levels occurring during the nighttime hours (10 p.m.–7 a.m.) and 5 dB added to the sound during the evening hours (7 p.m.–10 p.m.).

Day Night Average Sound Level (DNL or L_{dn}). Similar to the CNEL noise metric, except that no penalty is added during the evening hours (7 p.m.–10 p.m.). Typically, the CNEL and L_{dn} noise metrics vary by approximately 1 decibel or less and are often considered to be functionally equivalent.

Decibel (dB). The decibel is a unit for measuring sound pressure level and is equal to 10 times the logarithm to the base 10 of the ratio of the measured sound pressure squared to a reference pressure, which is 20 micropascals.

2 Noise Analysis Methodology

2.1 Applicable Noise Standards

Because the proposed project would receive funding from the U.S. Department of Housing and Urban Development (HUD), the noise standards specified by HUD were used for this analysis. HUD's noise standards may be found in 24 CFR Part 51, Subpart B. Exterior uses with a day night average sound level (DNL) of 65 dBA or less are considered normally acceptable. Sites at which the environmental or community noise exposure exceeds 65 decibels DNL are considered noise-impacted areas. For new construction proposed in high noise areas, grantees shall incorporate noise attenuation features to the extent required by HUD environmental criteria and standards contained in Subpart B (Noise Abatement and Control) of 24 CFR Part 51.

The "Normally Unacceptable" noise zone includes community noise levels from above 65 decibels to 75 decibels. Approvals in this noise zone require a minimum of 5 dB additional sound attenuation for buildings having noise-sensitive uses if the day-night average sound level is greater than 65 dBA but does not exceed 70 dBA, or a minimum of 10 decibels of additional sound attenuation if the day-night average sound level is greater than 70 dBA but does not exceed 75 dBA.

The interior noise standard is 45dBA DNL.

2.2 Preliminary Noise Modeling

An initial noise analysis using HUD's DNL Calculator[1] indicated that worst-case exterior building façade noise levels would be approximately 65 dBA DNL. However, because the DNL Calculator does not account for site conditions such as shielding from adjacent or intervening structures, or elevated receivers, a more detailed traffic noise model was used.

2.3 Detailed Noise Modeling

The proposed project site's buildings would be set back from Beach Boulevard to the east by approximately 150 feet and from Main Street to the south by approximately 200 feet. Several commercial buildings exist between these arterial roadways and the project site, and other commercial and residential buildings exist along the project site's northern and western boundaries, providing varying degrees of acoustical shielding. Additionally, the project site has several receiver locations of interest including the multiple building facades, each four (4) stories high, with varying traffic noise exposures and several open space areas. Because of these factors, it was determined that the

[1] https://www.hudexchange.info/programs/environmental-review/dnl-calculator/

Federal Highway Administration's (FHWA) Traffic Noise Model (TNM) version 2.5 (FHWA 2004) would be ideal for a more detailed analysis. The TNM traffic noise prediction model calculates the noise levels based on specific information including traffic volumes, vehicle fleet mix, speed limits, roadway geometrics, receiver elevations, intervening structures and lateral distances between the noise receivers and the roadways.

Project site, surrounding structures and roadway geometry were input using aerial photography information upon which the project's site plan was overlain; this was subsequently digitized into a format suitable for the TNM model using third-party software (CadnaA (DataKoustic 2016).

Modeled receiver locations (shown in Figure 1) consisted of the following:

- Proposed building façade exteriors facing Beach Boulevard and Main Street/Ellis Avenues (receivers R2 – R5, R6 - R9, and R11 – R14);
- Proposed landscaped area adjacent to Beach Boulevard (R1)[2];
- Proposed courtyard (R10), and;
- Proposed Bocce Area (R15)

In order to accurately estimate the project site's noise levels in terms of the 24-hour weighted DNL noise metric, the TNM model was run for three 1-hour traffic volume cases: AM/PM peak-hour (assumed to be approximately 10% of the roadways' Average Daily Traffic (ADT); off-peak daytime (assumed to be approximately 6% of ADT), and nighttime volumes (assumed to be approximately 15 % of ADT over the 9-hour period from 10 PM to 7 AM, per HUD noise modeling guidance) The 15% of ADT was then divided by 9, to arrive at the hourly average level suitable for input into TNM. The resultant traffic noise levels for each of these cases was then averaged in the energy (i.e., the logarithmic) domain after applying the 10-decibel noise "penalty" to the nighttime noise levels.

ADT volumes used for the analysis were from the City of Huntington Beach General Plan Circulation Update EIR (City of Huntington Beach 2017). Traffic volume scenarios in the Circulation Update consisted of the Existing (Year 2014) case as well as two Year 2040 scenarios; of these, the highest (i.e. the most conservative) set of ADT volumes was used for this traffic noise analysis, which happened to be the Existing case. The modeled ADTs are shown in Table 1 below. Modeled traffic speeds were used based upon the posted roadway speed limits using Google Earth Street View.

Table 1 – Modeled Traffic Volumes

Modeled Roadway	Average Daily Traffic (ADT) Volume
Beach Boulevard north of Main Street	51,000
Beach Boulevard south of Main Street	49,000

[2] This area had initially been proposed as a rest/recreation area but has subsequently been changed to landscaping and thus is no longer subject to the HUD 65 dBA DNL noise standard.

Main Street/Ellis Avenue west of Beach Boulevard	17,000
Main Street/Ellis Avenue west of Beach Boulevard	16,000

Source: City of Huntington Beach General Plan Circulation Update EIR

3 Traffic Noise Analysis Results

The results of the traffic noise analysis for the modeled receivers (shown in Figure 1) are summarized in Table 2. The modeled input and output data are provided in Attachment A. As shown in Table 2, the highest noise level would occur at Receiver 1, which had been proposed as common space but has subsequently been changed to landscaping. The noise level at this location is estimated to be 73 dBA DNL; however, because it is no longer proposed as an outdoor use area is not subject to the HUD "normally acceptable" noise standard of 65 dBA DNL. At the other exterior common areas (the inner courtyard area represented by Receiver 10) and the bocce area (Receiver 15), the traffic noise levels would be 38 dBA DNL and 61 dBA DNL respectively, and thus would be within the "normally acceptable" noise range.

Residential receivers at the higher floor elevations would have higher noise levels than those at lower elevations because the adjacent surrounding buildings would be less effective at shielding these higher floors from traffic noise. The highest estimated noise levels at the proposed residences would occur at Receiver 9, which is representative of the fourth-floor exterior building façades and balconies facing east, nearest to Beach Boulevard. At Receiver 9 the traffic noise level is estimated to be 64 dBA DNL, and thus would be within HUD's "normally acceptable" noise range.

Typical new construction of multi-family homes with windows closed provides a minimum of 25 dB exterior to interior noise reduction. All residential units will be equipped with a forced air heating ventilation air conditioning (HVAC) unit that allows for a "windows closed" condition (i.e., windows do not need to be left open for ventilation). As such, the interior of the proposed homes would be approximately 39 dBA DNL (i.e. 64 dBA exterior – 25 dBA attenuation = 39 dBA interior). Therefore, the proposed project would not exceed the HUD interior noise standard of 45 dBA DNL and would be within the "normally acceptable" noise range for interior noise.

Table 2 – Traffic Noise Level Results Summary

Receiver # - Location	DNL (dBA)
Receiver 1 - Landscaped Area Adjacent to Beach Blvd.	73.4[1]
Receiver 2 - NE Corner Residential 1st Floor	58.7
Receiver 3 - NE Corner Residential 2nd Floor	59.8
Receiver 4 - NE Corner Residential 3rd Floor	60.8
Receiver 5 - NE Corner Residential 4th Floor	62.1
Receiver 6 - E Residential 1st Floor	60.0
Receiver 7 - E Residential 2nd Floor	60.7
Receiver 8 - E Residential 3rd Floor	62.3
Receiver 9 - E Residential 4th Floor	64.1
Receiver 10 - Inner Courtyard	37.5
Receiver 11 - NE Corner Residential 1st Floor	53.5

Receiver 12 - NE Corner Residential 2nd Floor	54.9
Receiver 13 - NE Corner Residential 3rd Floor	62.3
Receiver 14 - NE Corner Residential 4th Floor	63.2
Receiver 15 - Bocce Area	61.0

Source: Attachment A.

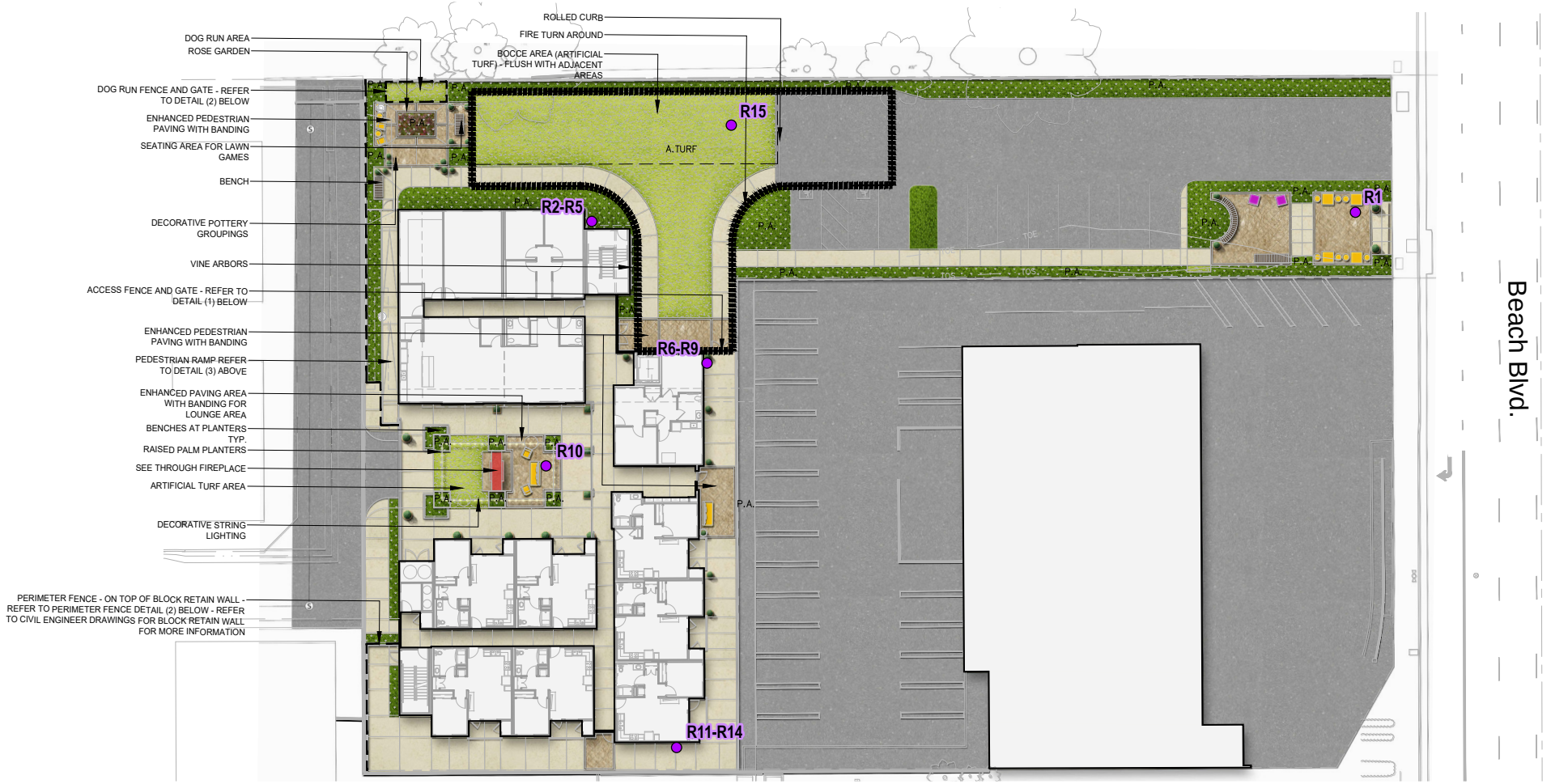
1 – Note that this area is no longer proposed as an outdoor use area and is not subject to the 65 dBA DNL HUD noise standard.

References

City of Huntington Beach. 2017. Appendix B, City of Huntington Beach General Plan Circulation Update EIR. January 2017.

DataKoustic, GmbH. 2016. CadnaA, Version 4.6.155

FHWA (Federal Highway Administration). 2004. FHWA Traffic Noise Model, Version 2.5. Office of Environment and Planning. Washington, DC. February.



LEGEND

- Noise Modeling Location
  (R = Modeled Noise Receiver)

SOURCE: Lifescapes International Inc. 2020

FIGURE 1

Noise Modeling Locations

Huntington Beach Senior Housing Noise Technical Memo

DUDEK

Attachment A

Noise Model Input/Output Data

Dudek					**8 December 2020**						
MG					**TNM 2.5**						
INPUT: ROADWAYS							**Average pavement type shall be used unless**				
PROJECT/CONTRACT:	**PN 10984_06**						**a State highway agency substantiates the use**				
RUN:	**Htngtn Bch Sr Housing Proj Daytime Pk**						**of a different type with the approval of FHWA**				
Roadway		**Points**									
Name	**Width**	**Name**	**No.**	**Coordinates (pavement)**			**Flow Control**			**Segment**	
				X	**Y**	**Z**	**Control Device**	**Speed Constraint**	**Percent Vehicles Affected**	**Pvmt Type**	**On Struct?**
	ft			ft	ft	ft		mph	%		
SB Beach Blvd. north of Ellis/Main	60.0	point1	1	1,149.5	1,603.7	50.00				Average	
		point3	3	1,159.8	1,113.6	50.00					
EB Ellis Ave / Main St W of Beach Blvd.	40.0	point24	24	948.3	928.1	50.00				Average	
		point7	7	1,067.0	1,055.5	50.00				Average	
		point8	8	1,124.4	1,075.2	50.00				Average	
		point9	9	1,156.6	1,078.2	50.00					
NB Beach Blvd. south of Ellis/Main	60.0	point26	26	1,229.4	905.2	50.00				Average	
		point21	21	1,222.8	1,076.9	50.00				Average	
		point22	22	1,221.3	1,135.4	50.00					
WB Ellis Ave	30.0	point28	28	1,514.2	1,125.0	50.00				Average	
		point14	14	1,266.6	1,122.3	50.00				Average	
		point35	35	1,223.5	1,124.4	50.00					
SB Beach Blvd. south of Ellis/Main	60.0	point30	30	1,159.3	1,110.8	50.00				Average	
		point5	5	1,163.6	903.6	50.00					
WB Ellis Ave / Main St W of Beach Blvd.	40.0	point32	32	1,156.7	1,127.2	50.00				Average	
		point17	17	1,094.9	1,122.3	50.00				Average	
		point18	18	1,051.1	1,107.5	50.00				Average	
		point19	19	897.5	950.6	50.00					
EB Ellis Ave / Main St	40.0	point34	34	1,161.9	1,077.9	50.00				Average	
		point37	37	1,221.8	1,087.2	50.00					
WB Ellis Ave / Main St	40.0	point36	36	1,217.1	1,124.8	50.00				Average	
		point15	15	1,161.6	1,127.2	50.00					
EB Ellis Ave	30.0	point38	38	1,224.8	1,087.6	50.00				Average	
		point11	11	1,274.2	1,094.9	50.00				Average	
		point12	12	1,514.8	1,096.5	50.00					

Dudek 8 December 2
MG TNM 2.5

INPUT: TRAFFIC FOR LAeq1h Percentages
PROJECT/CONTRACT: PN 10984_06
RUN: Htngtn Bch Sr Housing Proj Daytime Pk

Roadway	Points												
Name	Name	No.	Segment										
			Total	Autos		MTrucks		HTrucks		Buses		Motorcycles	
			Volume	P	S	P	S	P	S	P	S	P	S
			veh/hr	%	mph	%	mph	%	mph	%	mph	%	mph
SB Beach Blvd. north of Ellis/Main	point1	1	2550	97	45	2	40	1	35	0	0	0	0
	point3	3											
EB Ellis Ave / Main St W of Beach Blvd.	point24	24	850	97	40	2	40	1	35	0	0	0	0
	point7	7	850	97	40	2	40	1	35	0	0	0	0
	point8	8	850	97	40	2	40	1	35	0	0	0	0
	point9	9											
NB Beach Blvd. south of Ellis/Main	point26	26	2450	97	45	2	40	1	35	0	0	0	0
	point21	21	2450	97	45	2	40	1	35	0	0	0	0
	point22	22											
WB Ellis Ave	point28	28	800	97	40	2	40	1	35	0	0	0	0
	point14	14	800	97	40	2	40	1	35	0	0	0	0
	point35	35											
SB Beach Blvd. south of Ellis/Main	point30	30	2450	97	45	2	40	1	35	0	0	0	0
	point5	5											
WB Ellis Ave / Main St W of Beach Blvd.	point32	32	850	97	40	2	40	1	35	0	0	0	0
	point17	17	850	97	40	2	40	1	35	0	0	0	0
	point18	18	850	97	40	2	40	1	35	0	0	0	0
	point19	19											
EB Ellis Ave / Main St	point34	34	850	97	40	2	40	1	35	0	0	0	0
	point37	37											
WB Ellis Ave / Main St	point36	36	850	97	40	2	40	1	35	0	0	0	0
	point15	15											
EB Ellis Ave	point38	38	800	97	40	2	40	1	35	0	0	0	0

	point11	11	800	97	40	2	40	1	35	0	0	0	0
	point12	12											
NB Beach Blvd. north of Ellis/Main	point39	39	2550	97	45	2	40	1	35	0	0	0	0
	point2	2											

Dudek 8 December 2020
MG TNM 2.5

INPUT: BARRIERS
PROJECT/CONTRACT: PN 10984_06
RUN: Htngtn Bch Sr Housing Proj Daytime Pk

Barrier									Points										
Name	Type	Height		If Wall	If Berm			Add'tnl	Name	No.	Coordinates (bottom)			Height	Segment				
		Min	Max	$ per Unit Area	$ per Unit Vol.	Top Width	Run:Rise	$ per Unit Length			X	Y	Z	at Point	Seg Ht Increment	Perturbs #Up	#Dn	On Struct?	Important Reflections?
		ft	ft	$/sq ft	$/cu yd	ft	ft:ft	$/ft			ft	ft	ft	ft	ft				
Bldg 1 - Existing	W	0.00	99.99	0.00				0.00	point1	1	1,078.8	1,249.0	50.00	18.00	0.00	0	0		
									point3	3	1,077.7	1,268.6	50.00	18.00	0.00	0	0		
									point4	4	1,067.1	1,268.0	50.00	18.00	0.00	0	0		
									point5	5	1,061.1	1,380.7	50.00	18.00	0.00	0	0		
									point6	6	996.9	1,377.3	50.00	18.00	0.00	0	0		
									point7	7	1,001.7	1,285.3	50.00	18.00	0.00	0	0		
									point8	8	1,005.7	1,285.5	50.00	18.00	0.00	0	0		
									point9	9	1,007.8	1,245.3	50.00	18.00					
Bldg 2 - Existing	W	0.00	99.99	0.00				0.00	point108	108	960.6	1,580.7	50.00	25.00	0.00	0	0		
									point99	99	1,024.8	1,581.6	50.00	25.00	0.00	0	0		
									point100	100	1,026.2	1,637.9	50.00	25.00	0.00	0	0		
									point101	101	960.0	1,636.5	50.00	25.00					
Bldg 3 - Existing	W	0.00	99.99	0.00				0.00	point111	111	1,008.6	1,556.1	50.00	12.00	0.00	0	0		
									point94	94	1,011.2	1,492.8	50.00	12.00	0.00	0	0		
									point95	95	1,053.7	1,494.5	50.00	12.00	0.00	0	0		
									point96	96	1,050.6	1,569.6	50.00	12.00	0.00	0	0		
									point97	97	1,008.1	1,567.8	50.00	12.00					
Bldg 4 - Existing	W	0.00	99.99	0.00				0.00	point113	113	715.9	1,441.4	50.00	12.00	0.00	0	0		
									point70	70	801.9	1,442.9	50.00	12.00	0.00	0	0		
									point71	71	802.5	1,400.3	50.00	12.00	0.00	0	0		
									point72	72	751.1	1,398.6	50.00	12.00	0.00	0	0		
									point73	73	751.1	1,386.6	50.00	12.00	0.00	0	0		
									point74	74	718.4	1,385.5	50.00	12.00					
Bldg 5 - Existing	W	0.00	99.99	0.00				0.00	point115	115	713.6	1,370.4	50.00	12.00	0.00	0	0		
									point76	76	751.1	1,372.4	50.00	12.00	0.00	0	0		
									point77	77	751.4	1,366.4	50.00	12.00	0.00	0	0		
									point78	78	798.2	1,368.9	50.00	12.00	0.00	0	0		
									point79	79	800.7	1,321.1	50.00	12.00	0.00	0	0		
									point80	80	716.5	1,316.6	50.00	12.00					
Bldg 6 - Proposed Proj	W	0.00	99.99	0.00				0.00	point117	117	832.5	1,361.3	50.00	58.00	0.00	0	0		
									point11	11	831.5	1,419.1	50.00	58.00	0.00	0	0		
									point12	12	885.5	1,420.1	50.00	58.00	0.00	0	0		
									point13	13	886.0	1,393.3	50.00	58.00	0.00	0	0		
									point14	14	839.4	1,392.5	50.00	58.00	0.00	0	0		
									point15	15	839.5	1,386.8	50.00	58.00	0.00	0	0		

									point16	16	886.6	1,387.6	50.00	58.00						
Bldg 7 - Proposed Proj	W	0.00	99.99	0.00				0.00	point119	119	843.2	1,321.3	50.00	58.00	0.00	0	0		
									point45	45	853.5	1,321.3	50.00	58.00	0.00	0	0		
									point46	46	853.5	1,316.5	50.00	58.00	0.00	0	0		
									point47	47	864.2	1,316.5	50.00	58.00	0.00	0	0		
									point48	48	864.2	1,321.7	50.00	58.00	0.00	0	0		
									point49	49	878.0	1,321.7	50.00	58.00	0.00	0	0		
									point50	50	878.0	1,317.2	50.00	58.00	0.00	0	0		
									point51	51	887.3	1,317.2	50.00	58.00	0.00	0	0		
									point52	52	887.3	1,322.0	50.00	58.00	0.00	0	0		
									point53	53	890.4	1,322.0	50.00	58.00	0.00	0	0		
									point54	54	890.4	1,295.1	50.00	58.00	0.00	0	0		
									point55	55	840.1	1,295.1	50.00	58.00	0.00	0	0		
									point56	56	840.1	1,300.0	50.00	58.00	0.00	0	0		
									point57	57	833.9	1,300.0	50.00	58.00	0.00	0	0		
									point58	58	833.9	1,314.4	50.00	58.00	0.00	0	0		
									point59	59	843.2	1,314.4	50.00	58.00					
Bldg 8 - Proposed Proj	W	0.00	99.99	0.00				0.00	point121	121	833.9	1,288.6	50.00	58.00	0.00	0	0		
									point61	61	890.0	1,289.3	50.00	58.00	0.00	0	0		
									point62	62	890.4	1,262.8	50.00	58.00	0.00	0	0		
									point63	63	887.3	1,262.8	50.00	58.00	0.00	0	0		
									point64	64	887.2	1,267.6	50.00	58.00	0.00	0	0		
									point102	102	877.6	1,267.6	50.00	58.00	0.00	0	0		
									point103	103	877.6	1,263.5	50.00	58.00	0.00	0	0		
									point104	104	862.4	1,263.4	50.00	58.00	0.00	0	0		
									point105	105	862.4	1,267.2	50.00	58.00	0.00	0	0		
									point106	106	854.2	1,267.2	50.00	58.00	0.00	0	0		
									point65	65	854.2	1,263.1	50.00	58.00	0.00	0	0		
									point66	66	843.2	1,263.1	50.00	58.00	0.00	0	0		
									point67	67	843.2	1,267.9	50.00	58.00	0.00	0	0		
									point68	68	834.0	1,267.9	50.00	58.00					
Bldg 9 - Proposed Proj	W	0.00	99.99	0.00				0.00	point123	123	895.2	1,334.8	50.00	58.00	0.00	0	0		
									point29	29	920.3	1,335.1	50.00	58.00	0.00	0	0		
									point30	30	920.5	1,322.7	50.00	58.00	0.00	0	0		
									point31	31	917.5	1,322.7	50.00	58.00	0.00	0	0		
									point32	32	917.7	1,313.0	50.00	58.00	0.00	0	0		
									point33	33	922.1	1,313.1	50.00	58.00	0.00	0	0		
									point34	34	922.3	1,299.3	50.00	58.00	0.00	0	0		
									point35	35	917.3	1,299.2	50.00	58.00	0.00	0	0		
									point36	36	917.4	1,288.3	50.00	58.00	0.00	0	0		
									point37	37	922.1	1,288.3	50.00	58.00	0.00	0	0		
									point38	38	922.3	1,274.1	50.00	58.00	0.00	0	0		
									point39	39	919.0	1,274.1	50.00	58.00	0.00	0	0		
									point40	40	919.1	1,265.2	50.00	58.00	0.00	0	0		
									point41	41	921.4	1,265.2	50.00	58.00	0.00	0	0		
									point42	42	921.4	1,261.8	50.00	58.00	0.00	0	0		
									point43	43	896.2	1,261.4	50.00	58.00					
Bldg 10 - Existing	W	0.00	99.99	0.00				0.00	point124	124	774.0	1,289.8	50.00	12.00	0.00	0	0		
									point86	86	818.3	1,291.5	50.00	12.00	0.00	0	0		

									point87	87	813.4	1,170.1	50.00	12.00	0.00	0	0		
									point88	88	769.7	1,170.7	50.00	12.00					
Bldg 11 - Existing	W	0.00	99.99	0.00				0.00	point126	126	725.4	1,289.8	50.00	12.00	0.00	0	0		
									point82	82	755.4	1,290.4	50.00	12.00	0.00	0	0		
									point83	83	748.9	1,171.2	50.00	12.00	0.00	0	0		
									point84	84	720.5	1,170.1	50.00	12.00					
Bldg 12 - Existing	W	0.00	99.99	0.00				0.00	point129	129	888.3	1,240.6	50.00	16.00	0.00	0	0		
									point90	90	981.2	1,242.8	50.00	16.00	0.00	0	0		
									point91	91	980.7	1,166.3	50.00	16.00	0.00	0	0		
									point92	92	891.0	1,165.7	50.00	16.00					
Bldg 13 - Proposed Proj	W	0.00	99.99	0.00				0.00	point131	131	900.9	1,376.6	50.00	58.00	0.00	0	0		
									point23	23	921.8	1,375.9	50.00	58.00	0.00	0	0		
									point24	24	921.9	1,343.4	50.00	58.00	0.00	0	0		
									point25	25	895.7	1,344.0	50.00	58.00	0.00	0	0		
									point26	26	895.1	1,367.1	50.00	58.00	0.00	0	0		
									point27	27	900.6	1,366.6	50.00	58.00					
Bldg 14 - Proposed Proj	W	0.00	99.99	0.00				0.00	point133	133	886.6	1,387.6	50.00	0.00	0.00	0	0		
									point17	17	887.0	1,362.2	50.00	0.00					
Bldg 15 - Proposed Proj	W	0.00	99.99	0.00				0.00	point134	134	886.9	1,394.7	50.00	10.00	0.00	0	0		
									point19	19	899.3	1,395.4	50.00	10.00	0.00	0	0		
									point20	20	898.3	1,414.3	50.00	10.00	0.00	0	0		
									point21	21	885.9	1,413.6	50.00	10.00					

Dudek						**8 December 2020**					
MG						**TNM 2.5**					
INPUT: RECEIVERS											
PROJECT/CONTRACT:	**PN 10984_06**										
RUN:	**Htngtn Bch Sr Housing Proj Daytime Pk**										
Receiver											
Name	**No.**	**#DUs**	**Coordinates (ground)**			**Height**	**Input Sound Levels and Criteria**				**Active**
			X	**Y**	**Z**	**above**	**Existing**	**Impact Criteria**		**NR**	**in**
						Ground	**LAeq1h**	**LAeq1h**	**Sub'l**	**Goal**	**Calc.**
			ft	ft	ft	ft	dBA	dBA	dB	dB	
Receiver 1 - Landscaped Area	1	1	1,110.8	1,421.6	50.00	5.00	0.00	66	10.0	8.0	Y
Receiver 2 - NE Corner Resi 1st Flr	2	1	886.6	1,417.8	50.00	5.00	0.00	66	10.0	8.0	Y
Receiver 3 - NE Corner Resi 2nd Flr	3	1	886.6	1,417.8	50.00	16.00	0.00	66	10.0	8.0	Y
Receiver 4 - NE Corner Resi 3rd Flr	4	1	886.6	1,417.8	50.00	26.00	0.00	66	10.0	8.0	Y
Receiver 5 - NE Corner Resi 4th Flr	5	1	886.6	1,417.8	50.00	36.00	0.00	66	10.0	8.0	Y
Receiver 6 - E Resi 1st Flr	6	1	922.1	1,365.2	50.00	5.00	0.00	66	10.0	8.0	Y
Receiver 7 - E Resi 2nd Flr	7	1	922.1	1,365.2	50.00	16.00	0.00	66	10.0	8.0	Y
Receiver 8 - E Resi 3rd Flr	8	1	922.1	1,365.2	50.00	26.00	0.00	66	10.0	8.0	Y
Receiver 9 - E Resi 4th Flr	9	1	922.1	1,365.2	50.00	36.00	0.00	66	10.0	8.0	Y
Receiver 10 - Inner Courtyard	10	1	872.8	1,344.5	50.00	5.00	0.00	66	10.0	8.0	Y
Receiver 11 - NE Corner Resi 1st Flr	11	1	920.9	1,261.8	50.00	5.00	0.00	66	10.0	8.0	Y
Receiver 12 - NE Corner Resi 2nd Flr	12	1	920.9	1,261.8	50.00	16.00	0.00	66	10.0	8.0	Y
Receiver 13 - NE Corner Resi 3rd Flr	13	1	920.9	1,261.8	50.00	26.00	0.00	66	10.0	8.0	Y
Receiver 14 - NE Corner Resi 4th Flr	14	1	920.9	1,261.8	50.00	36.00	0.00	66	10.0	8.0	Y
Receiver15 - Bocce Court	16	1	924.4	1,444.4	50.00	5.00	0.00	66	10.0	8.0	Y

Dudek
MG

8 December 2020
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: PN 10984_06
RUN: Htngtn Bch Sr Housing Proj Daytime Pk
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver 1 - Landscaped Area	1	1	0.0	73.2	66	73.2	10	Snd Lvl	73.2	0.0	8	-8.0
Receiver 2 - NE Corner Resi 1st Flr	2	1	0.0	58.5	66	58.5	10	----	58.5	0.0	8	-8.0
Receiver 3 - NE Corner Resi 2nd Flr	3	1	0.0	59.7	66	59.7	10	----	59.7	0.0	8	-8.0
Receiver 4 - NE Corner Resi 3rd Flr	4	1	0.0	60.6	66	60.6	10	----	60.6	0.0	8	-8.0
Receiver 5 - NE Corner Resi 4th Flr	5	1	0.0	62.0	66	62.0	10	----	62.0	0.0	8	-8.0
Receiver 6 - E Resi 1st Flr	6	1	0.0	59.8	66	59.8	10	----	59.8	0.0	8	-8.0
Receiver 7 - E Resi 2nd Flr	7	1	0.0	60.6	66	60.6	10	----	60.6	0.0	8	-8.0
Receiver 8 - E Resi 3rd Flr	8	1	0.0	62.1	66	62.1	10	----	62.1	0.0	8	-8.0
Receiver 9 - E Resi 4th Flr	9	1	0.0	63.9	66	63.9	10	----	63.9	0.0	8	-8.0
Receiver 10 - Inner Courtyard	10	1	0.0	37.3	66	37.3	10	----	37.3	0.0	8	-8.0
Receiver 11 - NE Corner Resi 1st Flr	11	1	0.0	53.3	66	53.3	10	----	53.3	0.0	8	-8.0
Receiver 12 - NE Corner Resi 2nd Flr	12	1	0.0	54.7	66	54.7	10	----	54.7	0.0	8	-8.0
Receiver 13 - NE Corner Resi 3rd Flr	13	1	0.0	62.1	66	62.1	10	----	62.1	0.0	8	-8.0
Receiver 14 - NE Corner Resi 4th Flr	14	1	0.0	63.0	66	63.0	10	----	63.0	0.0	8	-8.0
Receiver15 - Bocce Court	16	1	0.0	60.8	66	60.8	10	----	60.8	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max
		dB	dB	dB
All Selected	15	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

Dudek					**8 December 2020**						
MG					**TNM 2.5**						
INPUT: ROADWAYS							**Average pavement type shall be used unless**				
PROJECT/CONTRACT:	**PN 10984_06**						**a State highway agency substantiates the use**				
RUN:	**Htngtn Bch Sr Housing Proj Daytime Typ**						**of a different type with the approval of FHWA**				
Roadway		**Points**									
Name	**Width**	**Name**	**No.**	**Coordinates (pavement)**			**Flow Control**			**Segment**	
				X	**Y**	**Z**	**Control Device**	**Speed Constraint**	**Percent Vehicles Affected**	**Pvmt Type**	**On Struct?**
	ft			ft	ft	ft		mph	%		
SB Beach Blvd. north of Ellis/Main	60.0	point1	1	1,149.5	1,603.7	50.00				Average	
		point3	3	1,159.8	1,113.6	50.00					
EB Ellis Ave / Main St W of Beach Blvd.	40.0	point24	24	948.3	928.1	50.00				Average	
		point7	7	1,067.0	1,055.5	50.00				Average	
		point8	8	1,124.4	1,075.2	50.00				Average	
		point9	9	1,156.6	1,078.2	50.00					
NB Beach Blvd. south of Ellis/Main	60.0	point26	26	1,229.4	905.2	50.00				Average	
		point21	21	1,222.8	1,076.9	50.00				Average	
		point22	22	1,221.3	1,135.4	50.00					
WB Ellis Ave	30.0	point28	28	1,514.2	1,125.0	50.00				Average	
		point14	14	1,266.6	1,122.3	50.00				Average	
		point35	35	1,223.5	1,124.4	50.00					
SB Beach Blvd. south of Ellis/Main	60.0	point30	30	1,159.3	1,110.8	50.00				Average	
		point5	5	1,163.6	903.6	50.00					
WB Ellis Ave / Main St W of Beach Blvd.	40.0	point32	32	1,156.7	1,127.2	50.00				Average	
		point17	17	1,094.9	1,122.3	50.00				Average	
		point18	18	1,051.1	1,107.5	50.00				Average	
		point19	19	897.5	950.6	50.00					
EB Ellis Ave / Main St	40.0	point34	34	1,161.9	1,077.9	50.00				Average	
		point37	37	1,221.8	1,087.2	50.00					
WB Ellis Ave / Main St	40.0	point36	36	1,217.1	1,124.8	50.00				Average	
		point15	15	1,161.6	1,127.2	50.00					
EB Ellis Ave	30.0	point38	38	1,224.8	1,087.6	50.00				Average	
		point11	11	1,274.2	1,094.9	50.00				Average	
		point12	12	1,514.8	1,096.5	50.00					

NB Beach Blvd. north of Ellis/Main	60.0	point39	39	1,221.3	1,135.4	50.00				Average	
		point2	2	1,211.7	1,602.8	50.00					

Dudek 8 December 2
MG TNM 2.5

INPUT: TRAFFIC FOR LAeq1h Percentages
PROJECT/CONTRACT: PN 10984_06
RUN: Htngtn Bch Sr Housing Proj Daytime Typ

Roadway	Points												
Name	Name	No.	Segment										
			Total	Autos		MTrucks		HTrucks		Buses		Motorcycles	
			Volume	P	S	P	S	P	S	P	S	P	S
			veh/hr	%	mph	%	mph	%	mph	%	mph	%	mph
SB Beach Blvd. north of Ellis/Main	point1	1	1530	97	45	2	40	1	35	0	0	0	0
	point3	3											
EB Ellis Ave / Main St W of Beach Blvd.	point24	24	510	97	40	2	40	1	35	0	0	0	0
	point7	7	510	97	40	2	40	1	35	0	0	0	0
	point8	8	510	97	40	2	40	1	35	0	0	0	0
	point9	9											
NB Beach Blvd. south of Ellis/Main	point26	26	1470	97	45	2	40	1	35	0	0	0	0
	point21	21	1470	97	45	2	40	1	35	0	0	0	0
	point22	22											
WB Ellis Ave	point28	28	480	97	40	2	40	1	35	0	0	0	0
	point14	14	480	97	40	2	40	1	35	0	0	0	0
	point35	35											
SB Beach Blvd. south of Ellis/Main	point30	30	1470	97	45	2	40	1	35	0	0	0	0
	point5	5											
WB Ellis Ave / Main St W of Beach Blvd.	point32	32	510	97	40	2	40	1	35	0	0	0	0
	point17	17	510	97	40	2	40	1	35	0	0	0	0
	point18	18	510	97	40	2	40	1	35	0	0	0	0
	point19	19											
EB Ellis Ave / Main St	point34	34	510	97	40	2	40	1	35	0	0	0	0
	point37	37											
WB Ellis Ave / Main St	point36	36	510	97	40	2	40	1	35	0	0	0	0
	point15	15											
EB Ellis Ave	point38	38	480	97	40	2	40	1	35	0	0	0	0

	point11	11	480	97	40	2	40	1	35	0	0	0	0
	point12	12											
NB Beach Blvd. north of Ellis/Main	point39	39	1530	97	45	2	40	1	35	0	0	0	0
	point2	2											

Dudek 8 December 2020
MG TNM 2.5

INPUT: BARRIERS
PROJECT/CONTRACT: PN 10984_06
RUN: Htngtn Bch Sr Housing Proj Daytime Typ

Barrier									Points										
Name	Type	Height		If Wall	If Berm			Add'tnl	Name	No.	Coordinates (bottom)			Height	Segment				
		Min	Max	$ per Unit Area	$ per Unit Vol.	Top Width	Run:Rise	$ per Unit Length			X	Y	Z	at Point	Seg Ht Incre-ment	Perturbs #Up	#Dn	On Struct?	Important Reflec-tions?
		ft	ft	$/sq ft	$/cu yd	ft	ft:ft	$/ft			ft	ft	ft	ft	ft				
Bldg 1 - Existing	W	0.00	99.99	0.00				0.00	point1	1	1,078.8	1,249.0	50.00	18.00	0.00	0	0		
									point3	3	1,077.7	1,268.6	50.00	18.00	0.00	0	0		
									point4	4	1,067.1	1,268.0	50.00	18.00	0.00	0	0		
									point5	5	1,061.1	1,380.7	50.00	18.00	0.00	0	0		
									point6	6	996.9	1,377.3	50.00	18.00	0.00	0	0		
									point7	7	1,001.7	1,285.3	50.00	18.00	0.00	0	0		
									point8	8	1,005.7	1,285.5	50.00	18.00	0.00	0	0		
									point9	9	1,007.8	1,245.3	50.00	18.00					
Bldg 2 - Existing	W	0.00	99.99	0.00				0.00	point108	108	960.6	1,580.7	50.00	25.00	0.00	0	0		
									point99	99	1,024.8	1,581.6	50.00	25.00	0.00	0	0		
									point100	100	1,026.2	1,637.9	50.00	25.00	0.00	0	0		
									point101	101	960.0	1,636.5	50.00	25.00					
Bldg 3 - Existing	W	0.00	99.99	0.00				0.00	point111	111	1,008.6	1,556.1	50.00	12.00	0.00	0	0		
									point94	94	1,011.2	1,492.8	50.00	12.00	0.00	0	0		
									point95	95	1,053.7	1,494.5	50.00	12.00	0.00	0	0		
									point96	96	1,050.6	1,569.6	50.00	12.00	0.00	0	0		
									point97	97	1,008.1	1,567.8	50.00	12.00					
Bldg 4 - Existing	W	0.00	99.99	0.00				0.00	point113	113	715.9	1,441.4	50.00	12.00	0.00	0	0		
									point70	70	801.9	1,442.9	50.00	12.00	0.00	0	0		
									point71	71	802.5	1,400.3	50.00	12.00	0.00	0	0		
									point72	72	751.1	1,398.6	50.00	12.00	0.00	0	0		
									point73	73	751.1	1,386.6	50.00	12.00	0.00	0	0		
									point74	74	718.4	1,385.5	50.00	12.00					
Bldg 5 - Existing	W	0.00	99.99	0.00				0.00	point115	115	713.6	1,370.4	50.00	12.00	0.00	0	0		
									point76	76	751.1	1,372.4	50.00	12.00	0.00	0	0		
									point77	77	751.4	1,366.4	50.00	12.00	0.00	0	0		
									point78	78	798.2	1,368.9	50.00	12.00	0.00	0	0		
									point79	79	800.7	1,321.1	50.00	12.00	0.00	0	0		
									point80	80	716.5	1,316.6	50.00	12.00					
Bldg 6 - Proposed Proj	W	0.00	99.99	0.00				0.00	point117	117	832.5	1,361.3	50.00	58.00	0.00	0	0		
									point11	11	831.5	1,419.1	50.00	58.00	0.00	0	0		
									point12	12	885.5	1,420.1	50.00	58.00	0.00	0	0		
									point13	13	886.0	1,393.3	50.00	58.00	0.00	0	0		
									point14	14	839.4	1,392.5	50.00	58.00	0.00	0	0		
									point15	15	839.5	1,386.8	50.00	58.00	0.00	0	0		

									point16	16	886.6	1,387.6	50.00	58.00						
Bldg 7 - Proposed Proj	W	0.00	99.99	0.00				0.00	point119	119	843.2	1,321.3	50.00	58.00	0.00	0	0		
									point45	45	853.5	1,321.3	50.00	58.00	0.00	0	0		
									point46	46	853.5	1,316.5	50.00	58.00	0.00	0	0		
									point47	47	864.2	1,316.5	50.00	58.00	0.00	0	0		
									point48	48	864.2	1,321.7	50.00	58.00	0.00	0	0		
									point49	49	878.0	1,321.7	50.00	58.00	0.00	0	0		
									point50	50	878.0	1,317.2	50.00	58.00	0.00	0	0		
									point51	51	887.3	1,317.2	50.00	58.00	0.00	0	0		
									point52	52	887.3	1,322.0	50.00	58.00	0.00	0	0		
									point53	53	890.4	1,322.0	50.00	58.00	0.00	0	0		
									point54	54	890.4	1,295.1	50.00	58.00	0.00	0	0		
									point55	55	840.1	1,295.1	50.00	58.00	0.00	0	0		
									point56	56	840.1	1,300.0	50.00	58.00	0.00	0	0		
									point57	57	833.9	1,300.0	50.00	58.00	0.00	0	0		
									point58	58	833.9	1,314.4	50.00	58.00	0.00	0	0		
									point59	59	843.2	1,314.4	50.00	58.00					
Bldg 8 - Proposed Proj	W	0.00	99.99	0.00				0.00	point121	121	833.9	1,288.6	50.00	58.00	0.00	0	0		
									point61	61	890.0	1,289.3	50.00	58.00	0.00	0	0		
									point62	62	890.4	1,262.8	50.00	58.00	0.00	0	0		
									point63	63	887.3	1,262.8	50.00	58.00	0.00	0	0		
									point64	64	887.2	1,267.6	50.00	58.00	0.00	0	0		
									point102	102	877.6	1,267.6	50.00	58.00	0.00	0	0		
									point103	103	877.6	1,263.5	50.00	58.00	0.00	0	0		
									point104	104	862.4	1,263.4	50.00	58.00	0.00	0	0		
									point105	105	862.4	1,267.2	50.00	58.00	0.00	0	0		
									point106	106	854.2	1,267.2	50.00	58.00	0.00	0	0		
									point65	65	854.2	1,263.1	50.00	58.00	0.00	0	0		
									point66	66	843.2	1,263.1	50.00	58.00	0.00	0	0		
									point67	67	843.2	1,267.9	50.00	58.00	0.00	0	0		
									point68	68	834.0	1,267.9	50.00	58.00					
Bldg 9 - Proposed Proj	W	0.00	99.99	0.00				0.00	point123	123	895.2	1,334.8	50.00	58.00	0.00	0	0		
									point29	29	920.3	1,335.1	50.00	58.00	0.00	0	0		
									point30	30	920.5	1,322.7	50.00	58.00	0.00	0	0		
									point31	31	917.5	1,322.7	50.00	58.00	0.00	0	0		
									point32	32	917.7	1,313.0	50.00	58.00	0.00	0	0		
									point33	33	922.1	1,313.1	50.00	58.00	0.00	0	0		
									point34	34	922.3	1,299.3	50.00	58.00	0.00	0	0		
									point35	35	917.3	1,299.2	50.00	58.00	0.00	0	0		
									point36	36	917.4	1,288.3	50.00	58.00	0.00	0	0		
									point37	37	922.1	1,288.3	50.00	58.00	0.00	0	0		
									point38	38	922.3	1,274.1	50.00	58.00	0.00	0	0		
									point39	39	919.0	1,274.1	50.00	58.00	0.00	0	0		
									point40	40	919.1	1,265.2	50.00	58.00	0.00	0	0		
									point41	41	921.4	1,265.2	50.00	58.00	0.00	0	0		
									point42	42	921.4	1,261.8	50.00	58.00	0.00	0	0		
									point43	43	896.2	1,261.4	50.00	58.00					
Bldg 10 - Existing	W	0.00	99.99	0.00				0.00	point124	124	774.0	1,289.8	50.00	12.00	0.00	0	0		
									point86	86	818.3	1,291.5	50.00	12.00	0.00	0	0		

									point87	87	813.4	1,170.1	50.00	12.00	0.00	0	0		
									point88	88	769.7	1,170.7	50.00	12.00					
Bldg 11 - Existing	W	0.00	99.99	0.00				0.00	point126	126	725.4	1,289.8	50.00	12.00	0.00	0	0		
									point82	82	755.4	1,290.4	50.00	12.00	0.00	0	0		
									point83	83	748.9	1,171.2	50.00	12.00	0.00	0	0		
									point84	84	720.5	1,170.1	50.00	12.00					
Bldg 12 - Existing	W	0.00	99.99	0.00				0.00	point129	129	888.3	1,240.6	50.00	16.00	0.00	0	0		
									point90	90	981.2	1,242.8	50.00	16.00	0.00	0	0		
									point91	91	980.7	1,166.3	50.00	16.00	0.00	0	0		
									point92	92	891.0	1,165.7	50.00	16.00					
Bldg 13 - Proposed Proj	W	0.00	99.99	0.00				0.00	point131	131	900.9	1,376.6	50.00	58.00	0.00	0	0		
									point23	23	921.8	1,375.9	50.00	58.00	0.00	0	0		
									point24	24	921.9	1,343.4	50.00	58.00	0.00	0	0		
									point25	25	895.7	1,344.0	50.00	58.00	0.00	0	0		
									point26	26	895.1	1,367.1	50.00	58.00	0.00	0	0		
									point27	27	900.6	1,366.6	50.00	58.00					
Bldg 14 - Proposed Proj	W	0.00	99.99	0.00				0.00	point133	133	886.6	1,387.6	50.00	0.00	0.00	0	0		
									point17	17	887.0	1,362.2	50.00	0.00					
Bldg 15 - Proposed Proj	W	0.00	99.99	0.00				0.00	point134	134	886.9	1,394.7	50.00	10.00	0.00	0	0		
									point19	19	899.3	1,395.4	50.00	10.00	0.00	0	0		
									point20	20	898.3	1,414.3	50.00	10.00	0.00	0	0		
									point21	21	885.9	1,413.6	50.00	10.00					

Dudek						**8 December 2020**					
MG						**TNM 2.5**					
INPUT: RECEIVERS											
PROJECT/CONTRACT:	**PN 10984_06**										
RUN:	**Htngtn Bch Sr Housing Proj Daytime Typ**										
Receiver											
Name	**No.**	**#DUs**	**Coordinates (ground)**			**Height**	**Input Sound Levels and Criteria**				**Active**
			X	**Y**	**Z**	**above**	**Existing**	**Impact Criteria**		**NR**	**in**
						Ground	**LAeq1h**	**LAeq1h**	**Sub'l**	**Goal**	**Calc.**
			ft	ft	ft	ft	dBA	dBA	dB	dB	
Receiver 1 - Landscaped Area	1	1	1,110.8	1,421.6	50.00	5.00	0.00	66	10.0	8.0	Y
Receiver 2 - NE Corner Resi 1st Flr	2	1	886.6	1,417.8	50.00	5.00	0.00	66	10.0	8.0	Y
Receiver 3 - NE Corner Resi 2nd Flr	3	1	886.6	1,417.8	50.00	16.00	0.00	66	10.0	8.0	Y
Receiver 4 - NE Corner Resi 3rd Flr	4	1	886.6	1,417.8	50.00	26.00	0.00	66	10.0	8.0	Y
Receiver 5 - NE Corner Resi 4th Flr	5	1	886.6	1,417.8	50.00	36.00	0.00	66	10.0	8.0	Y
Receiver 6 - E Resi 1st Flr	6	1	922.1	1,365.2	50.00	5.00	0.00	66	10.0	8.0	Y
Receiver 7 - E Resi 2nd Flr	7	1	922.1	1,365.2	50.00	16.00	0.00	66	10.0	8.0	Y
Receiver 8 - E Resi 3rd Flr	8	1	922.1	1,365.2	50.00	26.00	0.00	66	10.0	8.0	Y
Receiver 9 - E Resi 4th Flr	9	1	922.1	1,365.2	50.00	36.00	0.00	66	10.0	8.0	Y
Receiver 10 - Inner Courtyard	10	1	872.8	1,344.5	50.00	5.00	0.00	66	10.0	8.0	Y
Receiver 11 - NE Corner Resi 1st Flr	11	1	920.9	1,261.8	50.00	5.00	0.00	66	10.0	8.0	Y
Receiver 12 - NE Corner Resi 2nd Flr	12	1	920.9	1,261.8	50.00	16.00	0.00	66	10.0	8.0	Y
Receiver 13 - NE Corner Resi 3rd Flr	13	1	920.9	1,261.8	50.00	26.00	0.00	66	10.0	8.0	Y
Receiver 14 - NE Corner Resi 4th Flr	14	1	920.9	1,261.8	50.00	36.00	0.00	66	10.0	8.0	Y
Receiver 15 - Bocce Court	16	1	924.4	1,444.4	50.00	5.00	0.00	66	10.0	8.0	Y

Dudek
MG
8 December 2020
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: PN 10984_06
RUN: Htngtn Bch Sr Housing Proj Daytime Typ
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver 1 - Landscaped Area	1	1	0.0	71.0	66	71.0	10	Snd Lvl	71.0	0.0	8	-8.0
Receiver 2 - NE Corner Resi 1st Flr	2	1	0.0	56.3	66	56.3	10	----	56.3	0.0	8	-8.0
Receiver 3 - NE Corner Resi 2nd Flr	3	1	0.0	57.4	66	57.4	10	----	57.4	0.0	8	-8.0
Receiver 4 - NE Corner Resi 3rd Flr	4	1	0.0	58.4	66	58.4	10	----	58.4	0.0	8	-8.0
Receiver 5 - NE Corner Resi 4th Flr	5	1	0.0	59.7	66	59.7	10	----	59.7	0.0	8	-8.0
Receiver 6 - E Resi 1st Flr	6	1	0.0	57.6	66	57.6	10	----	57.6	0.0	8	-8.0
Receiver 7 - E Resi 2nd Flr	7	1	0.0	58.3	66	58.3	10	----	58.3	0.0	8	-8.0
Receiver 8 - E Resi 3rd Flr	8	1	0.0	59.9	66	59.9	10	----	59.9	0.0	8	-8.0
Receiver 9 - E Resi 4th Flr	9	1	0.0	61.7	66	61.7	10	----	61.7	0.0	8	-8.0
Receiver 10 - Inner Courtyard	10	1	0.0	35.1	66	35.1	10	----	35.1	0.0	8	-8.0
Receiver 11 - NE Corner Resi 1st Flr	11	1	0.0	51.1	66	51.1	10	----	51.1	0.0	8	-8.0
Receiver 12 - NE Corner Resi 2nd Flr	12	1	0.0	52.5	66	52.5	10	----	52.5	0.0	8	-8.0
Receiver 13 - NE Corner Resi 3rd Flr	13	1	0.0	59.9	66	59.9	10	----	59.9	0.0	8	-8.0
Receiver 14 - NE Corner Resi 4th Flr	14	1	0.0	60.8	66	60.8	10	----	60.8	0.0	8	-8.0
Receiver 15 - Bocce Court	16	1	0.0	58.6	66	58.6	10	----	58.6	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max
		dB	dB	dB
All Selected	15	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

Dudek					**8 December 2020**						
MG					**TNM 2.5**						
INPUT: ROADWAYS							**Average pavement type shall be used unless**				
PROJECT/CONTRACT:	**PN 10984_06**						**a State highway agency substantiates the use**				
RUN:	**Htngtn Bch Sr Housing Proj Nighttime Typ**						**of a different type with the approval of FHWA**				
Roadway		**Points**									
Name	**Width**	**Name**	**No.**	**Coordinates (pavement)**			**Flow Control**			**Segment**	
				X	**Y**	**Z**	**Control Device**	**Speed Constraint**	**Percent Vehicles Affected**	**Pvmt Type**	**On Struct?**
	ft			ft	ft	ft		mph	%		
SB Beach Blvd. north of Ellis/Main	60.0	point1	1	1,149.5	1,603.7	50.00				Average	
		point3	3	1,159.8	1,113.6	50.00					
EB Ellis Ave / Main St W of Beach Blvd.	40.0	point24	24	948.3	928.1	50.00				Average	
		point7	7	1,067.0	1,055.5	50.00				Average	
		point8	8	1,124.4	1,075.2	50.00				Average	
		point9	9	1,156.6	1,078.2	50.00					
NB Beach Blvd. south of Ellis/Main	60.0	point26	26	1,229.4	905.2	50.00				Average	
		point21	21	1,222.8	1,076.9	50.00				Average	
		point22	22	1,221.3	1,135.4	50.00					
WB Ellis Ave	30.0	point28	28	1,514.2	1,125.0	50.00				Average	
		point14	14	1,266.6	1,122.3	50.00				Average	
		point35	35	1,223.5	1,124.4	50.00					
SB Beach Blvd. south of Ellis/Main	60.0	point30	30	1,159.3	1,110.8	50.00				Average	
		point5	5	1,163.6	903.6	50.00					
WB Ellis Ave / Main St W of Beach Blvd.	40.0	point32	32	1,156.7	1,127.2	50.00				Average	
		point17	17	1,094.9	1,122.3	50.00				Average	
		point18	18	1,051.1	1,107.5	50.00				Average	
		point19	19	897.5	950.6	50.00					
EB Ellis Ave / Main St	40.0	point34	34	1,161.9	1,077.9	50.00				Average	
		point37	37	1,221.8	1,087.2	50.00					
WB Ellis Ave / Main St	40.0	point36	36	1,217.1	1,124.8	50.00				Average	
		point15	15	1,161.6	1,127.2	50.00					
EB Ellis Ave	30.0	point38	38	1,224.8	1,087.6	50.00				Average	
		point11	11	1,274.2	1,094.9	50.00				Average	
		point12	12	1,514.8	1,096.5	50.00					

NB Beach Blvd. north of Ellis/Main	60.0	point39	39	1,221.3	1,135.4	50.00				Average	
		point2	2	1,211.7	1,602.8	50.00					

Dudek 8 December 2
MG TNM 2.5

INPUT: TRAFFIC FOR LAeq1h Percentages
PROJECT/CONTRACT: PN 10984_06
RUN: Htngtn Bch Sr Housing Proj Nighttime Typ

Roadway	Points												
Name	Name	No.	Segment										
			Total	Autos		MTrucks		HTrucks		Buses		Motorcycles	
			Volume	P	S	P	S	P	S	P	S	P	S
			veh/hr	%	mph	%	mph	%	mph	%	mph	%	mph
SB Beach Blvd. north of Ellis/Main	point1	1	408	97	45	2	40	1	35	0	0	0	0
	point3	3											
EB Ellis Ave / Main St W of Beach Blvd.	point24	24	136	97	40	2	40	1	35	0	0	0	0
	point7	7	136	97	40	2	40	1	35	0	0	0	0
	point8	8	136	97	40	2	40	1	35	0	0	0	0
	point9	9											
NB Beach Blvd. south of Ellis/Main	point26	26	392	97	45	2	40	1	35	0	0	0	0
	point21	21	392	97	45	2	40	1	35	0	0	0	0
	point22	22											
WB Ellis Ave	point28	28	128	97	40	2	40	1	35	0	0	0	0
	point14	14	128	97	40	2	40	1	35	0	0	0	0
	point35	35											
SB Beach Blvd. south of Ellis/Main	point30	30	392	97	45	2	40	1	35	0	0	0	0
	point5	5											
WB Ellis Ave / Main St W of Beach Blvd.	point32	32	136	97	40	2	40	1	35	0	0	0	0
	point17	17	136	97	40	2	40	1	35	0	0	0	0
	point18	18	136	97	40	2	40	1	35	0	0	0	0
	point19	19											
EB Ellis Ave / Main St	point34	34	136	97	40	2	40	1	35	0	0	0	0
	point37	37											
WB Ellis Ave / Main St	point36	36	136	97	40	2	40	1	35	0	0	0	0
	point15	15											
EB Ellis Ave	point38	38	128	97	40	2	40	1	35	0	0	0	0

	point11	11	128	97	40	2	40	1	35	0	0	0	0
	point12	12											
NB Beach Blvd. north of Ellis/Main	point39	39	408	97	45	2	40	1	35	0	0	0	0
	point2	2											

Dudek 8 December 2020
MG TNM 2.5

INPUT: BARRIERS
PROJECT/CONTRACT: PN 10984_06
RUN: Htngtn Bch Sr Housing Proj Nighttime Typ

Barrier									Points										
Name	Type	Height		If Wall	If Berm			Add'tnl	Name	No.	Coordinates (bottom)			Height	Segment				
		Min	Max	$ per Unit Area	$ per Unit Vol.	Top Width	Run:Rise	$ per Unit Length			X	Y	Z	at Point	Seg Ht Incre-ment	#Up	#Dn	On Struct?	Important Reflec-tions?
		ft	ft	$/sq ft	$/cu yd	ft	ft:ft	$/ft			ft	ft	ft	ft	ft				
Bldg 1 - Existing	W	0.00	99.99	0.00				0.00	point1	1	1,078.8	1,249.0	50.00	18.00	0.00	0	0		
									point3	3	1,077.7	1,268.6	50.00	18.00	0.00	0	0		
									point4	4	1,067.1	1,268.0	50.00	18.00	0.00	0	0		
									point5	5	1,061.1	1,380.7	50.00	18.00	0.00	0	0		
									point6	6	996.9	1,377.3	50.00	18.00	0.00	0	0		
									point7	7	1,001.7	1,285.3	50.00	18.00	0.00	0	0		
									point8	8	1,005.7	1,285.5	50.00	18.00	0.00	0	0		
									point9	9	1,007.8	1,245.3	50.00	18.00					
Bldg 2 - Existing	W	0.00	99.99	0.00				0.00	point108	108	960.6	1,580.7	50.00	25.00	0.00	0	0		
									point99	99	1,024.8	1,581.6	50.00	25.00	0.00	0	0		
									point100	100	1,026.2	1,637.9	50.00	25.00	0.00	0	0		
									point101	101	960.0	1,636.5	50.00	25.00					
Bldg 3 - Existing	W	0.00	99.99	0.00				0.00	point111	111	1,008.6	1,556.1	50.00	12.00	0.00	0	0		
									point94	94	1,011.2	1,492.8	50.00	12.00	0.00	0	0		
									point95	95	1,053.7	1,494.5	50.00	12.00	0.00	0	0		
									point96	96	1,050.6	1,569.6	50.00	12.00	0.00	0	0		
									point97	97	1,008.1	1,567.8	50.00	12.00					
Bldg 4 - Existing	W	0.00	99.99	0.00				0.00	point113	113	715.9	1,441.4	50.00	12.00	0.00	0	0		
									point70	70	801.9	1,442.9	50.00	12.00	0.00	0	0		
									point71	71	802.5	1,400.3	50.00	12.00	0.00	0	0		
									point72	72	751.1	1,398.6	50.00	12.00	0.00	0	0		
									point73	73	751.1	1,386.6	50.00	12.00	0.00	0	0		
									point74	74	718.4	1,385.5	50.00	12.00					
Bldg 5 - Existing	W	0.00	99.99	0.00				0.00	point115	115	713.6	1,370.4	50.00	12.00	0.00	0	0		
									point76	76	751.1	1,372.4	50.00	12.00	0.00	0	0		
									point77	77	751.4	1,366.4	50.00	12.00	0.00	0	0		
									point78	78	798.2	1,368.9	50.00	12.00	0.00	0	0		
									point79	79	800.7	1,321.1	50.00	12.00	0.00	0	0		
									point80	80	716.5	1,316.6	50.00	12.00					
Bldg 6 - Proposed Proj	W	0.00	99.99	0.00				0.00	point117	117	832.5	1,361.3	50.00	58.00	0.00	0	0		
									point11	11	831.5	1,419.1	50.00	58.00	0.00	0	0		
									point12	12	885.5	1,420.1	50.00	58.00	0.00	0	0		
									point13	13	886.0	1,393.3	50.00	58.00	0.00	0	0		
									point14	14	839.4	1,392.5	50.00	58.00	0.00	0	0		
									point15	15	839.5	1,386.8	50.00	58.00	0.00	0	0		

									point16	16	886.6	1,387.6	50.00	58.00						
Bldg 7 - Proposed Proj	W	0.00	99.99	0.00				0.00	point119	119	843.2	1,321.3	50.00	58.00	0.00	0	0		
									point45	45	853.5	1,321.3	50.00	58.00	0.00	0	0		
									point46	46	853.5	1,316.5	50.00	58.00	0.00	0	0		
									point47	47	864.2	1,316.5	50.00	58.00	0.00	0	0		
									point48	48	864.2	1,321.7	50.00	58.00	0.00	0	0		
									point49	49	878.0	1,321.7	50.00	58.00	0.00	0	0		
									point50	50	878.0	1,317.2	50.00	58.00	0.00	0	0		
									point51	51	887.3	1,317.2	50.00	58.00	0.00	0	0		
									point52	52	887.3	1,322.0	50.00	58.00	0.00	0	0		
									point53	53	890.4	1,322.0	50.00	58.00	0.00	0	0		
									point54	54	890.4	1,295.1	50.00	58.00	0.00	0	0		
									point55	55	840.1	1,295.1	50.00	58.00	0.00	0	0		
									point56	56	840.1	1,300.0	50.00	58.00	0.00	0	0		
									point57	57	833.9	1,300.0	50.00	58.00	0.00	0	0		
									point58	58	833.9	1,314.4	50.00	58.00	0.00	0	0		
									point59	59	843.2	1,314.4	50.00	58.00					
Bldg 8 - Proposed Proj	W	0.00	99.99	0.00				0.00	point121	121	833.9	1,288.6	50.00	58.00	0.00	0	0		
									point61	61	890.0	1,289.3	50.00	58.00	0.00	0	0		
									point62	62	890.4	1,262.8	50.00	58.00	0.00	0	0		
									point63	63	887.3	1,262.8	50.00	58.00	0.00	0	0		
									point64	64	887.2	1,267.6	50.00	58.00	0.00	0	0		
									point102	102	877.6	1,267.6	50.00	58.00	0.00	0	0		
									point103	103	877.6	1,263.5	50.00	58.00	0.00	0	0		
									point104	104	862.4	1,263.4	50.00	58.00	0.00	0	0		
									point105	105	862.4	1,267.2	50.00	58.00	0.00	0	0		
									point106	106	854.2	1,267.2	50.00	58.00	0.00	0	0		
									point65	65	854.2	1,263.1	50.00	58.00	0.00	0	0		
									point66	66	843.2	1,263.1	50.00	58.00	0.00	0	0		
									point67	67	843.2	1,267.9	50.00	58.00	0.00	0	0		
									point68	68	834.0	1,267.9	50.00	58.00					
Bldg 9 - Proposed Proj	W	0.00	99.99	0.00				0.00	point123	123	895.2	1,334.8	50.00	58.00	0.00	0	0		
									point29	29	920.3	1,335.1	50.00	58.00	0.00	0	0		
									point30	30	920.5	1,322.7	50.00	58.00	0.00	0	0		
									point31	31	917.5	1,322.7	50.00	58.00	0.00	0	0		
									point32	32	917.7	1,313.0	50.00	58.00	0.00	0	0		
									point33	33	922.1	1,313.1	50.00	58.00	0.00	0	0		
									point34	34	922.3	1,299.3	50.00	58.00	0.00	0	0		
									point35	35	917.3	1,299.2	50.00	58.00	0.00	0	0		
									point36	36	917.4	1,288.3	50.00	58.00	0.00	0	0		
									point37	37	922.1	1,288.3	50.00	58.00	0.00	0	0		
									point38	38	922.3	1,274.1	50.00	58.00	0.00	0	0		
									point39	39	919.0	1,274.1	50.00	58.00	0.00	0	0		
									point40	40	919.1	1,265.2	50.00	58.00	0.00	0	0		
									point41	41	921.4	1,265.2	50.00	58.00	0.00	0	0		
									point42	42	921.4	1,261.8	50.00	58.00	0.00	0	0		
									point43	43	896.2	1,261.4	50.00	58.00					
Bldg 10 - Existing	W	0.00	99.99	0.00				0.00	point124	124	774.0	1,289.8	50.00	12.00	0.00	0	0		
									point86	86	818.3	1,291.5	50.00	12.00	0.00	0	0		

									point87	87	813.4	1,170.1	50.00	12.00	0.00	0	0		
									point88	88	769.7	1,170.7	50.00	12.00					
Bldg 11 - Existing	W	0.00	99.99	0.00				0.00	point126	126	725.4	1,289.8	50.00	12.00	0.00	0	0		
									point82	82	755.4	1,290.4	50.00	12.00	0.00	0	0		
									point83	83	748.9	1,171.2	50.00	12.00	0.00	0	0		
									point84	84	720.5	1,170.1	50.00	12.00					
Bldg 12 - Existing	W	0.00	99.99	0.00				0.00	point129	129	888.3	1,240.6	50.00	16.00	0.00	0	0		
									point90	90	981.2	1,242.8	50.00	16.00	0.00	0	0		
									point91	91	980.7	1,166.3	50.00	16.00	0.00	0	0		
									point92	92	891.0	1,165.7	50.00	16.00					
Bldg 13 - Proposed Proj	W	0.00	99.99	0.00				0.00	point131	131	900.9	1,376.6	50.00	58.00	0.00	0	0		
									point23	23	921.8	1,375.9	50.00	58.00	0.00	0	0		
									point24	24	921.9	1,343.4	50.00	58.00	0.00	0	0		
									point25	25	895.7	1,344.0	50.00	58.00	0.00	0	0		
									point26	26	895.1	1,367.1	50.00	58.00	0.00	0	0		
									point27	27	900.6	1,366.6	50.00	58.00					
Bldg 14 - Proposed Proj	W	0.00	99.99	0.00				0.00	point133	133	886.6	1,387.6	50.00	0.00	0.00	0	0		
									point17	17	887.0	1,362.2	50.00	0.00					
Bldg 15 - Proposed Proj	W	0.00	99.99	0.00				0.00	point134	134	886.9	1,394.7	50.00	10.00	0.00	0	0		
									point19	19	899.3	1,395.4	50.00	10.00	0.00	0	0		
									point20	20	898.3	1,414.3	50.00	10.00	0.00	0	0		
									point21	21	885.9	1,413.6	50.00	10.00					

Dudek 8 December 2020
MG TNM 2.5

INPUT: RECEIVERS
PROJECT/CONTRACT: PN 10984_06
RUN: Htngtn Bch Sr Housing Proj Nighttime Typ

Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria: Existing LAeq1h	Impact Criteria LAeq1h	Impact Criteria Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
Receiver 1 - Landscaped Area	1	1	1,110.8	1,421.6	50.00	5.00	0.00	66	10.0	8.0	Y
Receiver 2 - NE Corner Resi 1st Flr	2	1	886.6	1,417.8	50.00	5.00	0.00	66	10.0	8.0	Y
Receiver 3 - NE Corner Resi 2nd Flr	3	1	886.6	1,417.8	50.00	16.00	0.00	66	10.0	8.0	Y
Receiver 4 - NE Corner Resi 3rd Flr	4	1	886.6	1,417.8	50.00	26.00	0.00	66	10.0	8.0	Y
Receiver 5 - NE Corner Resi 4th Flr	5	1	886.6	1,417.8	50.00	36.00	0.00	66	10.0	8.0	Y
Receiver 6 - E Resi 1st Flr	6	1	922.1	1,365.2	50.00	5.00	0.00	66	10.0	8.0	Y
Receiver 7 - E Resi 2nd Flr	7	1	922.1	1,365.2	50.00	16.00	0.00	66	10.0	8.0	Y
Receiver 8 - E Resi 3rd Flr	8	1	922.1	1,365.2	50.00	26.00	0.00	66	10.0	8.0	Y
Receiver 9 - E Resi 4th Flr	9	1	922.1	1,365.2	50.00	36.00	0.00	66	10.0	8.0	Y
Receiver 10 - Inner Courtyard	10	1	872.8	1,344.5	50.00	5.00	0.00	66	10.0	8.0	Y
Receiver 11 - NE Corner Resi 1st Flr	11	1	920.9	1,261.8	50.00	5.00	0.00	66	10.0	8.0	Y
Receiver 12 - NE Corner Resi 2nd Flr	12	1	920.9	1,261.8	50.00	16.00	0.00	66	10.0	8.0	Y
Receiver 13 - NE Corner Resi 3rd Flr	13	1	920.9	1,261.8	50.00	26.00	0.00	66	10.0	8.0	Y
Receiver 14 - NE Corner Resi 4th Flr	14	1	920.9	1,261.8	50.00	36.00	0.00	66	10.0	8.0	Y
Receiver 15 - Bocce Court	16	1	924.4	1,444.4	50.00	5.00	0.00	66	10.0	8.0	Y

Dudek
MG
8 December 2020
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: PN 10984_06
RUN: Htngtn Bch Sr Housing Proj Nighttime Typ
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

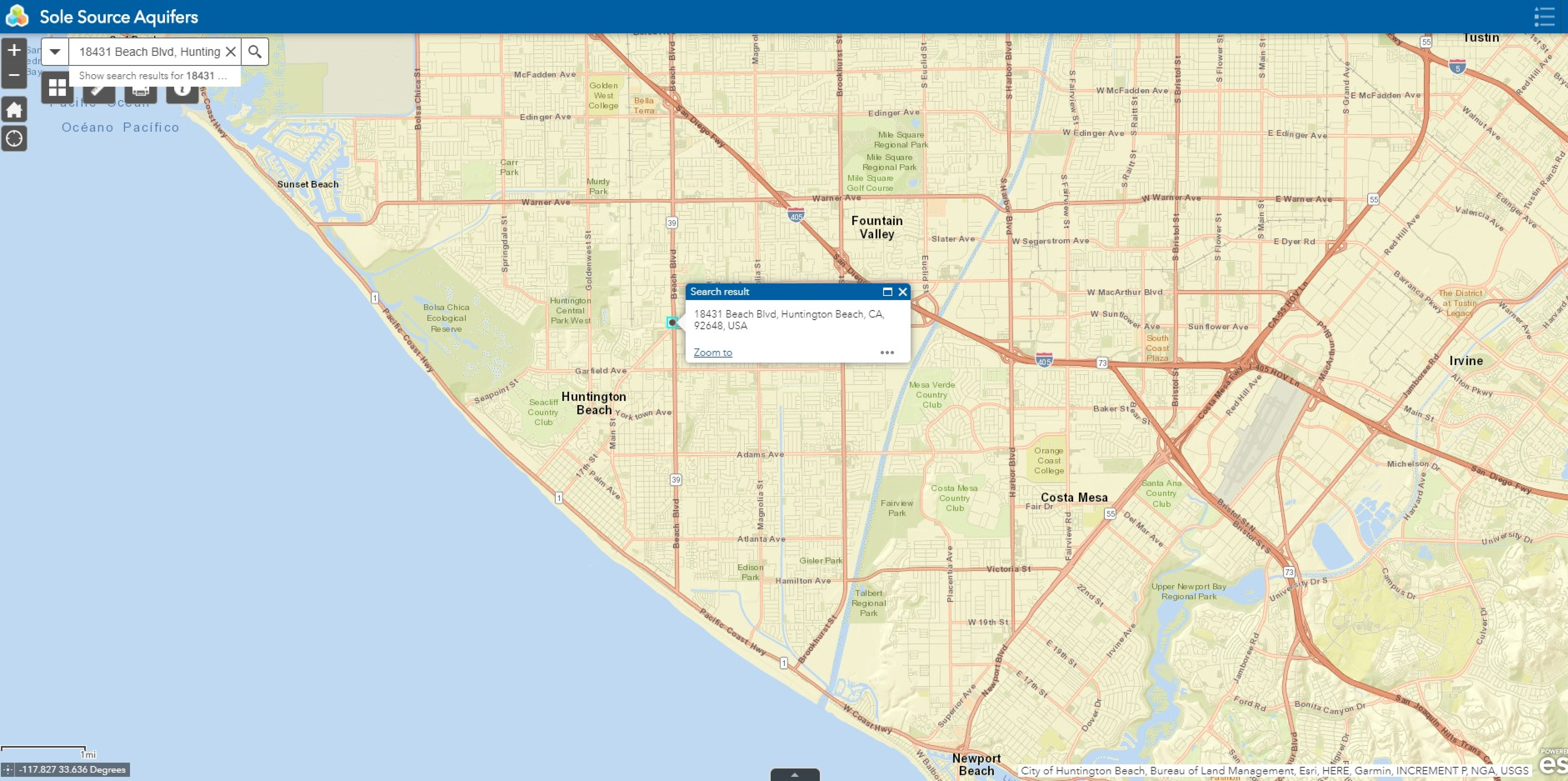
Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver 1 - Landscaped Area	1	1	0.0	65.3	66	65.3	10	----	65.3	0.0	8	-8.0
Receiver 2 - NE Corner Resi 1st Flr	2	1	0.0	50.6	66	50.6	10	----	50.6	0.0	8	-8.0
Receiver 3 - NE Corner Resi 2nd Flr	3	1	0.0	51.7	66	51.7	10	----	51.7	0.0	8	-8.0
Receiver 4 - NE Corner Resi 3rd Flr	4	1	0.0	52.6	66	52.6	10	----	52.6	0.0	8	-8.0
Receiver 5 - NE Corner Resi 4th Flr	5	1	0.0	54.0	66	54.0	10	----	54.0	0.0	8	-8.0
Receiver 6 - E Resi 1st Flr	6	1	0.0	51.8	66	51.8	10	----	51.8	0.0	8	-8.0
Receiver 7 - E Resi 2nd Flr	7	1	0.0	52.6	66	52.6	10	----	52.6	0.0	8	-8.0
Receiver 8 - E Resi 3rd Flr	8	1	0.0	54.2	66	54.2	10	----	54.2	0.0	8	-8.0
Receiver 9 - E Resi 4th Flr	9	1	0.0	56.0	66	56.0	10	----	56.0	0.0	8	-8.0
Receiver 10 - Inner Courtyard	10	1	0.0	29.3	66	29.3	10	----	29.3	0.0	8	-8.0
Receiver 11 - NE Corner Resi 1st Flr	11	1	0.0	45.3	66	45.3	10	----	45.3	0.0	8	-8.0
Receiver 12 - NE Corner Resi 2nd Flr	12	1	0.0	46.8	66	46.8	10	----	46.8	0.0	8	-8.0
Receiver 13 - NE Corner Resi 3rd Flr	13	1	0.0	54.2	66	54.2	10	----	54.2	0.0	8	-8.0
Receiver 14 - NE Corner Resi 4th Flr	14	1	0.0	55.1	66	55.1	10	----	55.1	0.0	8	-8.0
Receiver 15 - Bocce Court	16	1	0.0	52.8	66	52.8	10	----	52.8	0.0	8	-8.0

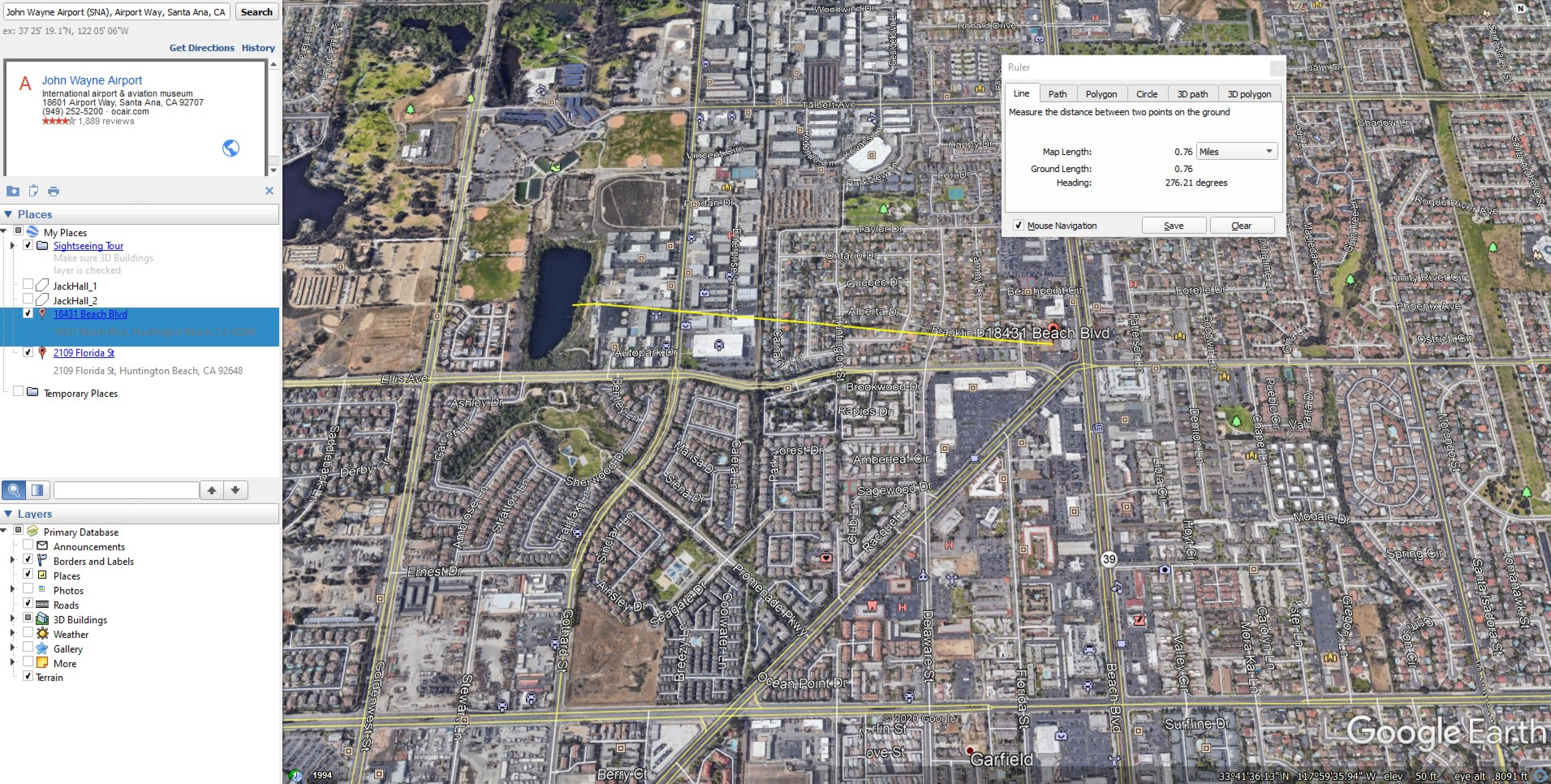
Dwelling Units	# DUs	Noise Reduction Min	Avg	Max
		dB	dB	dB
All Selected	15	0.0	0.0	0.0
All Impacted	0	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

Receiver - Location	Daytime Pk-Hr (L_{eq} dBA)	Daytime Typ (L_{eq} dBA)	Nighttime (L_{eq} dBA)	DNL (dBA)
Receiver 1 - Landscaped Area	73.2	71	65.3	73.4
Receiver 2 - NE Corner Residential 1st Floor	58.5	56.3	50.6	58.7
Receiver 3 - NE Corner Residential 2nd Floor	59.7	57.4	51.7	59.8
Receiver 4 - NE Corner Residential 3rd Floor	60.6	58.4	52.6	60.8
Receiver 5 - NE Corner Residential 4th Floor	62	59.7	54	62.1
Receiver 6 - E Residential 1st Floor	59.8	57.6	51.8	60.0
Receiver 7 - E Residential 2nf Floor	60.6	58.3	52.6	60.7
Receiver 8 - E Residential 3rd Floor	62.1	59.9	54.2	62.3
Receiver 9 - E Residential 4th Floor	63.9	61.7	56	64.1
Receiver 10 - Inner Courtyard	37.3	35.1	29.3	37.5
Receiver 11 - NE Corner Residential 1st Floor	53.3	51.1	45.3	53.5
Receiver 12 - NE Corner Residential 2nd Floor	54.7	52.5	46.8	54.9
Receiver 13 - NE Corner Residential 3rd Floor	62.1	59.9	54.2	62.3
Receiver 14 - NE Corner Residential 4th Floor	63	60.8	55.1	63.2
Receiver 15 - Bocce Area	60.8	58.6	52.8	61.0

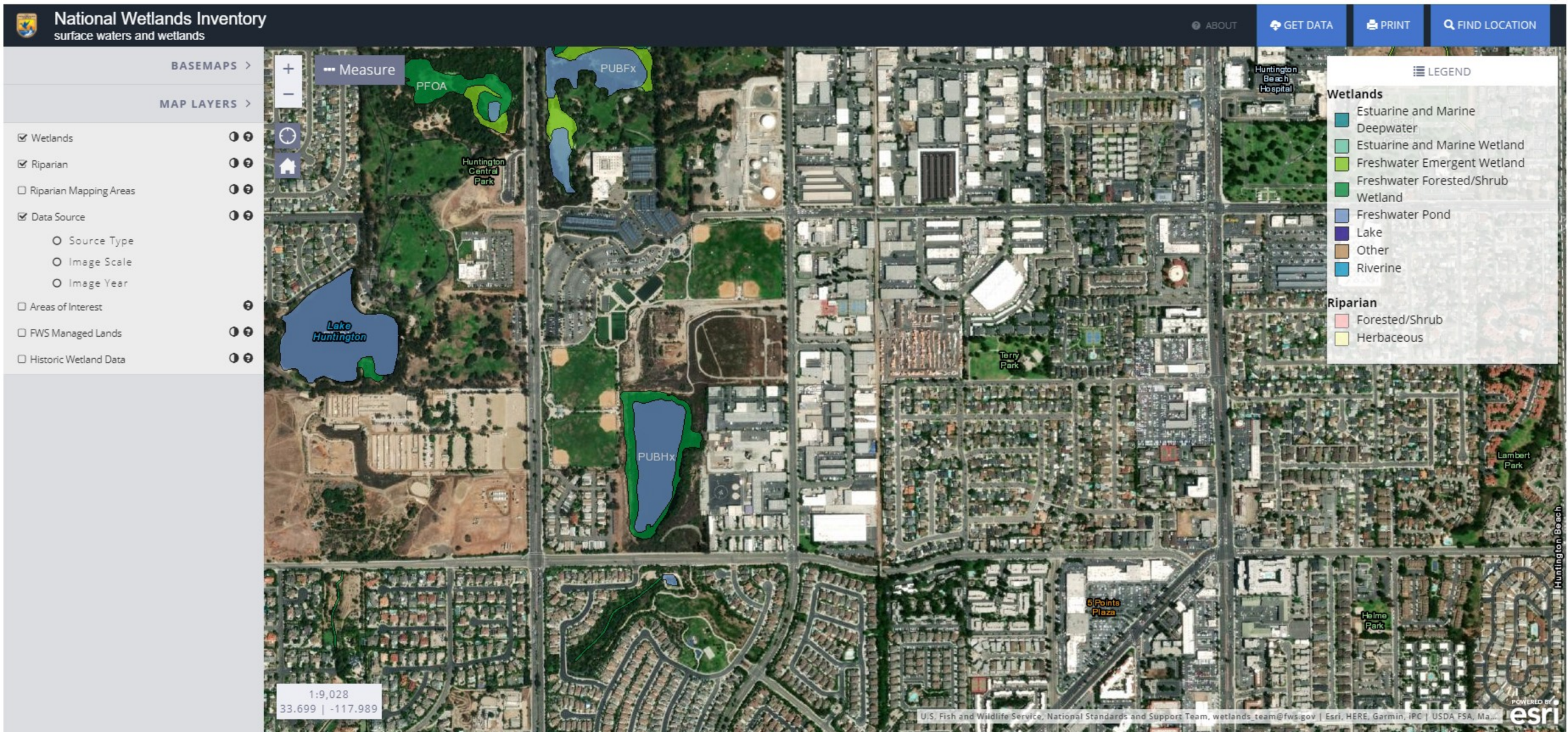
Attachment 15. Sole Source Aquifers Map


Sole Source Aquifers
18431 Beach Blvd, Hunting
Show search results for 18431 ...
Océano Pacífico
Search result
18431 Beach Blvd, Huntington Beach, CA, 92648, USA
Zoom to
Sunset Beach
Huntington Beach
Fountain Valley
Costa Mesa
Irvine
Newport Beach
Tustin
Bolsa Chica Ecological Reserve
Huntington Central Park West
Golden West College
Bella Terra
Carr Park
Murdy Park
Mile Square Regional Park
Mile Square Golf Course
Seacliff Country Club
Mesa Verde Country Club
Orange Coast College
Costa Mesa Country Club
Fairview Park
Talbert Regional Park
Edison Park
Gisler Park
South Coast Plaza
Santa Ana Country Club
Upper Newport Bay Regional Park
The District at Tustin Legacy
McFadden Ave
Edinger Ave
Warner Ave
Slater Ave
Garfield Ave
Yorktown Ave
Adams Ave
Atlanta Ave
Hamilton Ave
Victoria St
W 19th St
Beach Blvd
Brookhurst St
Magnolia St
Harbor Blvd
Bolsa Chica St
Springdale St
Goldenwest St
Pacific Coast Hwy
San Diego Fwy
W MacArthur Blvd
W Sunflower Ave
Sunflower Ave
W Segerstrom Ave
E Dyer Rd
Baker St
Michelson Dr
University Dr
Bonita Canyon Dr
1mi
-117.827 33.636 Degrees
City of Huntington Beach, Bureau of Land Management, Esri, HERE, Garmin, INCREMENT P, NGA, USGS

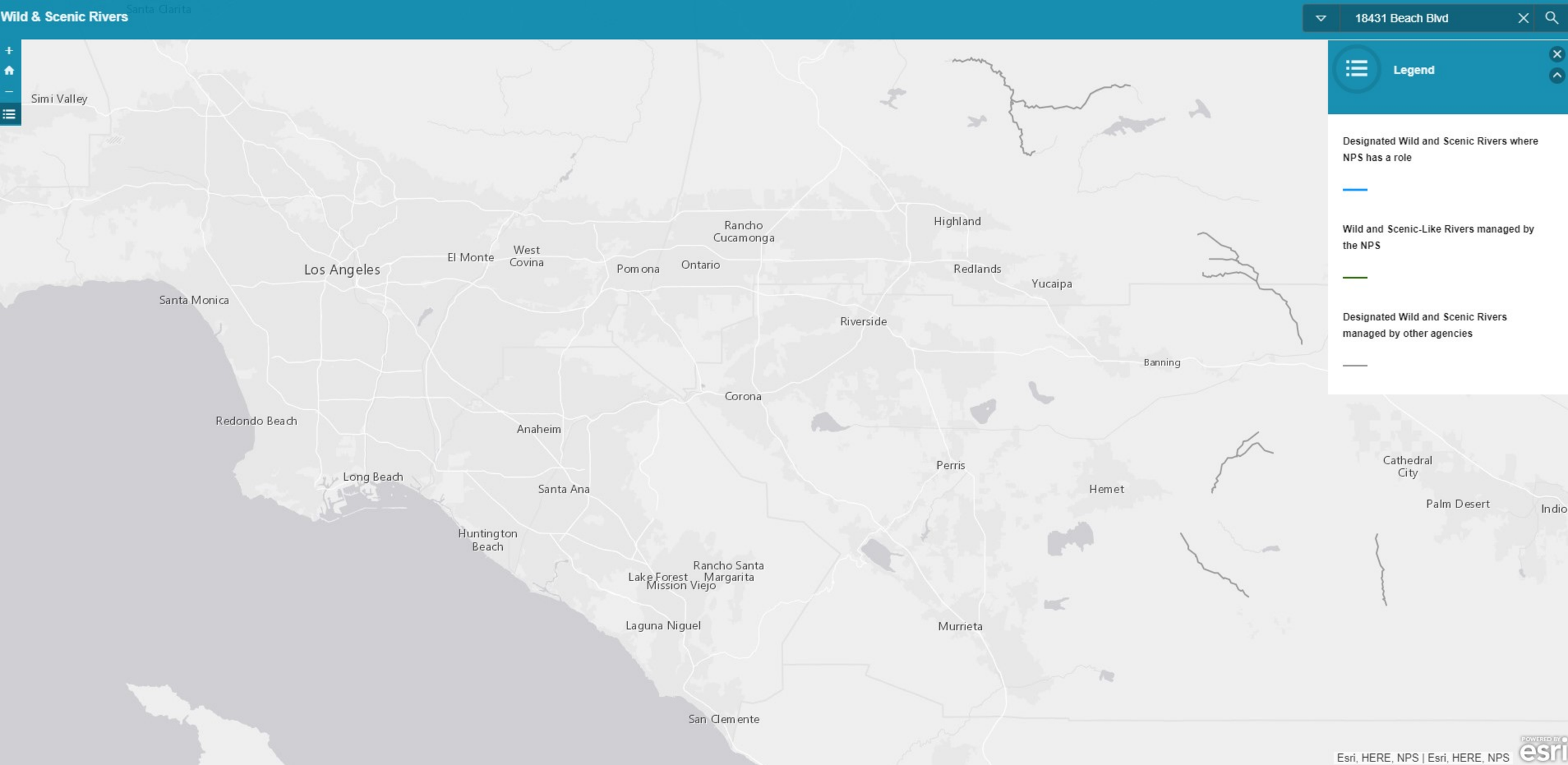
Attachment 16. Distance to Closest Wetland Screenshot


John Wayne Airport (SNA), Airport Way, Santa Ana, CA
Search
ex: 37 25' 19.1"N, 122 05' 06"W
Get Directions
History
John Wayne Airport
International airport & aviation museum
18601 Airport Way, Santa Ana, CA 92707
(949) 252-5200 · ocair.com
1,889 reviews
Places
My Places
Sightseeing Tour
Make sure 3D Buildings layer is checked
JackHall_1
JackHall_2
18431 Beach Blvd
2109 Florida St
2109 Florida St, Huntington Beach, CA 92648
Temporary Places
Layers
Primary Database
Announcements
Borders and Labels
Places
Photos
Roads
3D Buildings
Weather
Gallery
More
Terrain
Ruler
Line
Path
Polygon
Circle
3D path
3D polygon
Measure the distance between two points on the ground
Map Length: 0.76 Miles
Ground Length: 0.76
Heading: 276.21 degrees
Mouse Navigation
Save
Clear
18431 Beach Blvd
Talbert Ave
Ellis Ave
Garfield
Beach Blvd
© 2020 Google
Google Earth
1994
33°41'36.13" N 117°59'35.94" W elev 50 ft eye alt 8091 ft

Attachment 17. Huntington Beach NWI Map Screenshot


National Wetlands Inventory
surface waters and wetlands
ABOUT
GET DATA
PRINT
FIND LOCATION
BASEMAPS
MAP LAYERS
Wetlands
Riparian
Riparian Mapping Areas
Data Source
Source Type
Image Scale
Image Year
Areas of Interest
FWS Managed Lands
Historic Wetland Data
Measure
PFOA
PUBFx
PUBHx
Huntington Central Park
Lake Huntington
Huntington Beach Hospital
Terry Park
Lambert Park
5 Points Plaza
Helme Park
LEGEND
Wetlands
Estuarine and Marine Deepwater
Estuarine and Marine Wetland
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
Lake
Other
Riverine
Riparian
Forested/Shrub
Herbaceous
1:9,028
33.699 | -117.989
U.S. Fish and Wildlife Service, National Standards and Support Team, wetlands_team@fws.gov | Esri, HERE, Garmin, iPC | USDA FSA, Ma...
POWERED BY esri

Attachment 18. Wild and Scenic River Map Screenshot


Wild & Scenic Rivers
18431 Beach Blvd
Legend
Designated Wild and Scenic Rivers where NPS has a role
Wild and Scenic-Like Rivers managed by the NPS
Designated Wild and Scenic Rivers managed by other agencies
Simi Valley
Los Angeles
Santa Monica
El Monte
West Covina
Pomona
Ontario
Rancho Cucamonga
Highland
Redlands
Yucaipa
Riverside
Banning
Corona
Redondo Beach
Anaheim
Long Beach
Santa Ana
Perris
Hemet
Cathedral City
Palm Desert
Huntington Beach
Lake Forest
Rancho Santa Margarita
Mission Viejo
Laguna Niguel
Murrieta
San Clemente
Esri, HERE, NPS | Esri, HERE, NPS

Attachment 19. Closest Bus Stop Screenshot

Beach-Ellis

Stop ID: 2620

5.0 ★★★★★ (2)

Bus stop

Directions | Save | Nearby | Send to your phone | Share

Verify info with this place

Hours or services may differ due to COVID-19

Huntington Beach, CA 92648

M2V6+WG Huntington Beach, California

Add a label

Suggest an edit

Buses

29 29A

octa.net - Ticket prices

See departure board