

**INITIAL STUDY/MITIGATED NEGATIVE DECLARATION**

**CITY OF MISSION VIEJO  
MARTY RUSSO YOUTH ATHLETIC PARK LIGHTING PROJECT  
PLANNED DEVELOPMENT PERMIT PDP 2022-331**

**Lead Agency:**

City of Mission Viejo  
Public Services  
200 Civic Center  
Mission Viejo, CA 92691  
(949) 470-3064

**Project Proponent:**

City of Mission Viejo  
Public Services  
200 Civic Center  
Mission Viejo, CA 92691  
(949) 470-3064

**Environmental Consultant:**

Phil Martin & Associates  
2987 NW Fairway Heights Drive  
Bend, Oregon 97703  
(949) 454-1800

# Environmental Checklist

For CEQA Compliance

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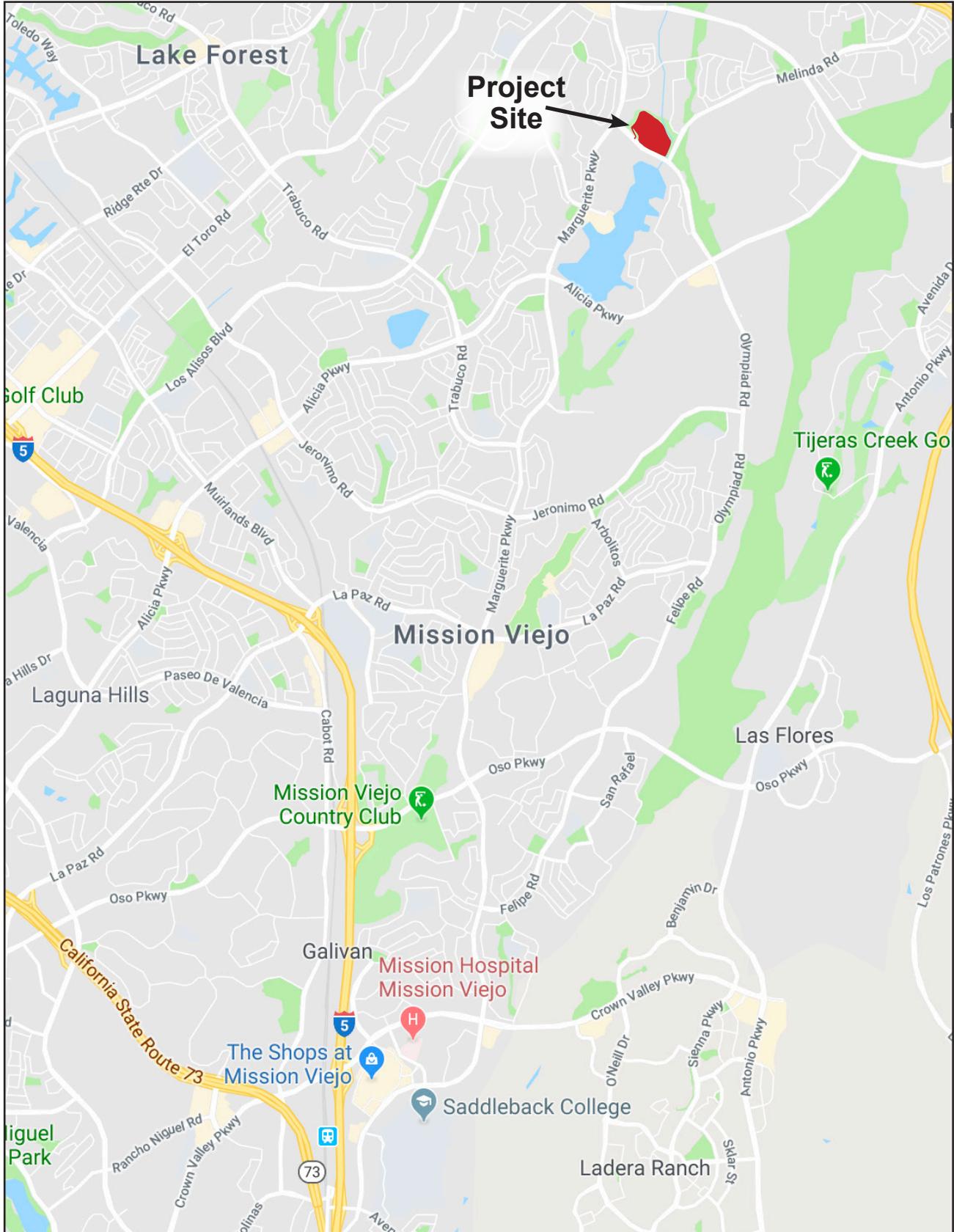
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## PLANNING DEPARTMENT

1. **Project Title:** Marty Russo Youth Athletic Park Lighting Project
2. **Lead Agency Name and Address:** City of Mission Viejo  
200 Civic Center  
Mission Viejo, CA 92691  
(949) 470-3064
3. **Contact Person and Phone Number:** Jerry Hill, Director of Public Services  
(949) 470-3064  
jhill@cityofmissionviejo.org
4. **Project Location:** The project is located in the City of Mission Viejo (City) as shown in Figure 1, Regional Map. More specifically, the project proposes to install permanent lights for baseball fields #2, #3 and #7 at the Marty Russo Youth Athletic Park (YAP) that is located at 22556 Olympiad Road. The locations of the three baseball fields are shown in Figure 2, Vicinity Map. An aerial photograph of the three baseball fields and the surrounding area are shown in Figure 3, Aerial Photo. Figure 4 shows the topography at the YAP.
5. **Project Sponsor's Name and Address:** City of Mission Viejo  
Public Services  
200 Civic Center  
Mission Viejo, CA 92691  
949-470-3064
6. **General Plan Designation:** The project site is designated Recreation/Open Space by the Mission Viejo General Plan. The project complies with the Recreation/Open Space general plan designation.
7. **Zoning:** The project site is zoned Recreation (R) as shown in Figure 5. The project complies with the Recreation zoning.
8. **Description of Project:** The YAP totals approximately 41 gross acres and designed as a retention basin for Oso Creek that enters from the north. The retention basin is jointly used by the City of Mission Viejo for recreational purposes and includes eight (8) baseball fields and four (4) soccer fields. The YAP improvements also include a concession stand, restrooms, batting cages and a paved parking lot for 293 cars, including 11 handicap spaces. The YAP is used by both the North Mission Viejo and South Mission Viejo Little Leagues for baseball practice and games. The soccer fields are used throughout the year by the American Youth Soccer Organization (AYSO) Region 84. There are 16 existing light poles that provide lighting for three of the baseball fields (#1, #5, #8), the four soccer fields and the baseball batting cages at the north end of the YAP between field #4 and #5.

The City currently operates 12 portable light generators for fields #2, #3, #8 with four light generators at each field for nighttime baseball practice and play. The generators operate seven days a week from dusk to 9 PM from approximately the end of January to the middle of March when daylight savings time starts.

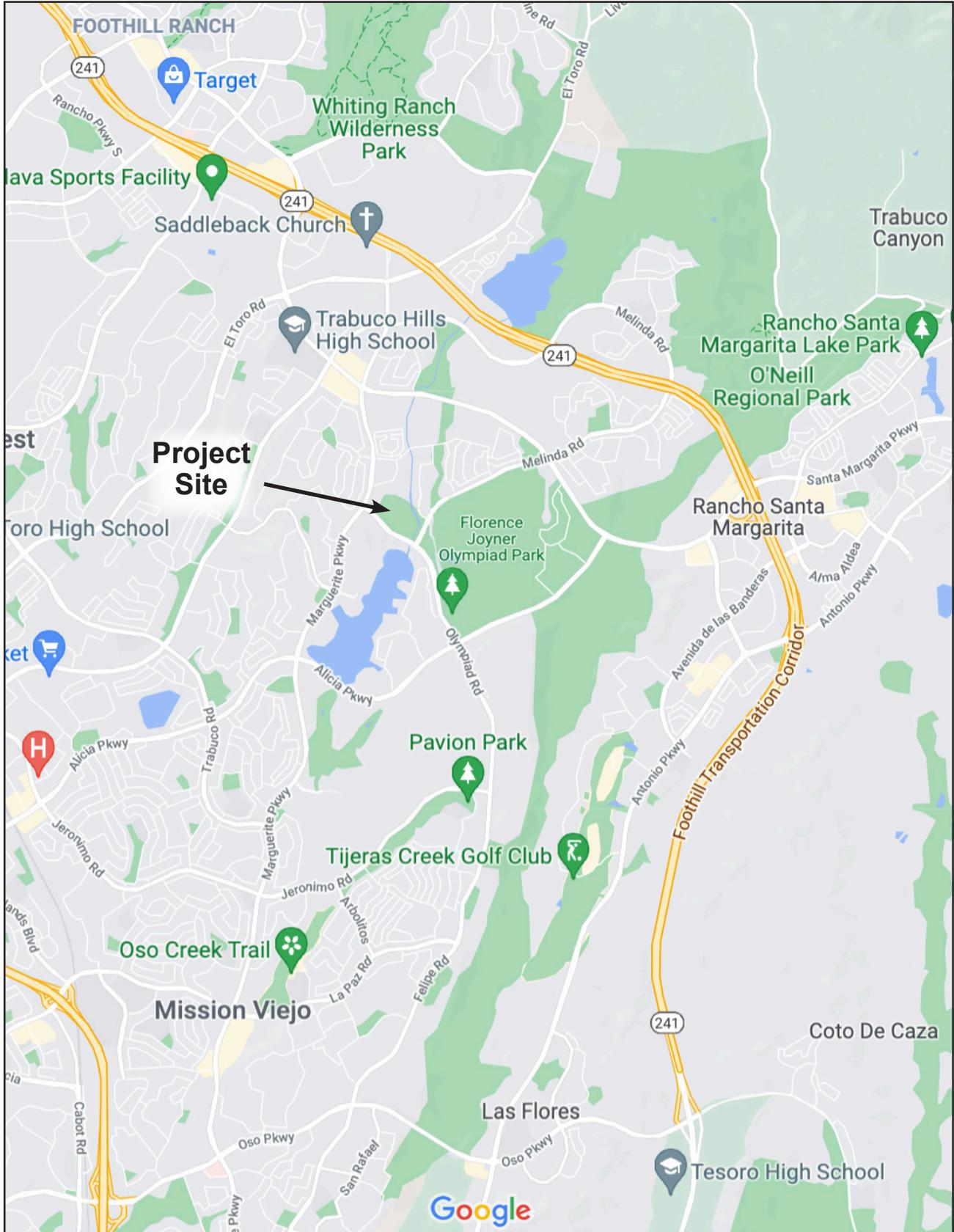
The project proposes to install ten (10) galvanized steel poles ranging in height from 60' to 90' at fields #2, #3 and #7 to eliminate the need to operate the three portable light generators. The holes for the 60' light poles would be 30" in diameter and 10' deep and the holes for the 90' light poles would be 42" in diameter and 20' deep.



Source: Google Maps



Figure 1  
**Regional Map**



Source: Google Maps



Figure 2  
**Local Vicinity Map**

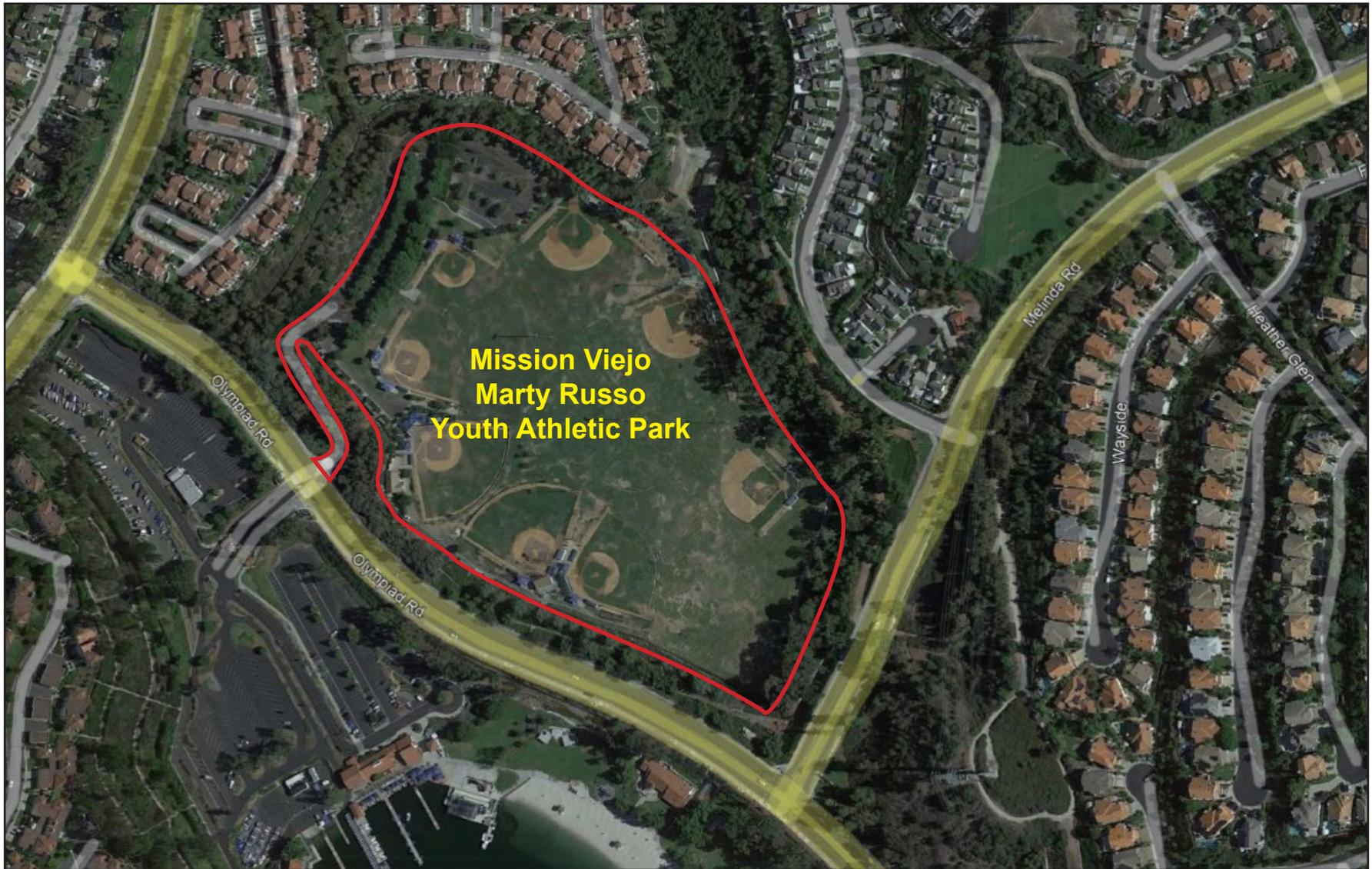
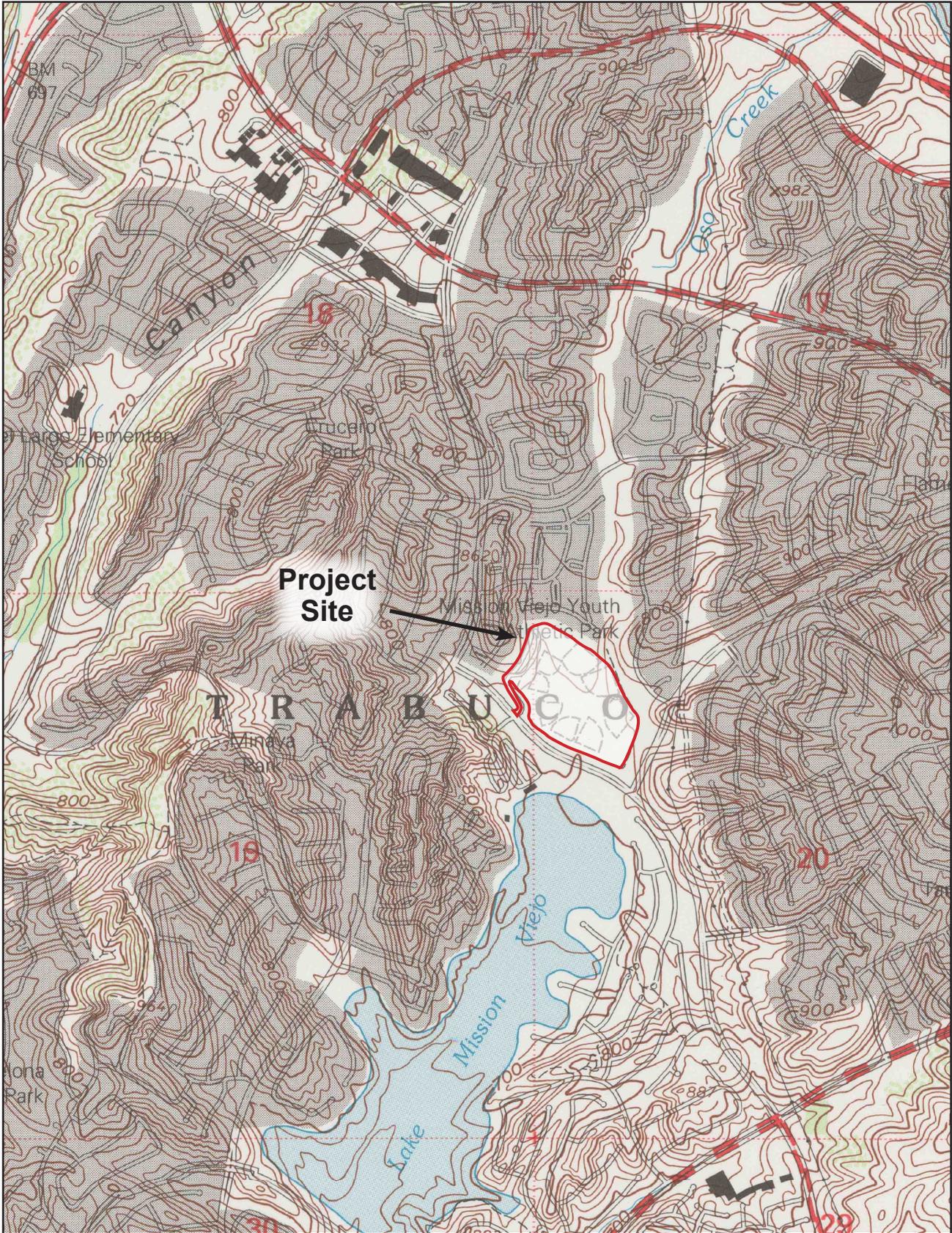


Figure 3  
Aerial Photo



Source: Google Maps



Figure 4  
**USGS Topo Map**

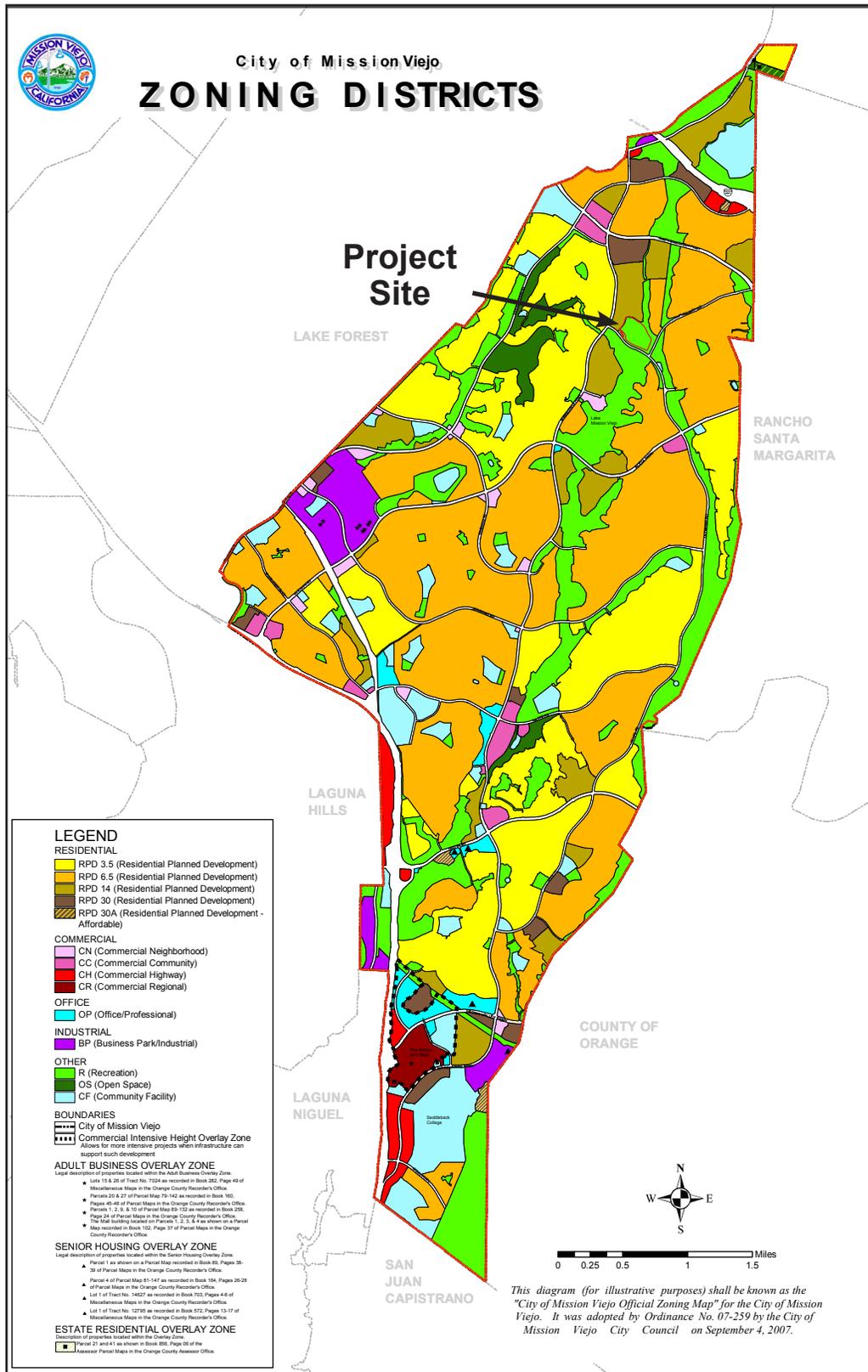


Figure 5  
Mission Viejo Zoning Map

Construction to install the light poles is scheduled to start in April 2022 and completed in June 2022. The project would require a drill machine to auger the holes for the light poles, a concrete truck, a gradall to reach the top of the light poles to install the lights, a crane to set the light poles, a manlift, construction workers, pick-up trucks and a trencher to dig the trenches for the underground electrical wiring from the light poles to the existing on-site electrical room.

The light fixtures would be factory aimed to ensure accurate light distribution as required for proper photometrics on each field. The light fixtures would utilize external visors to focus the light from each light pole onto each specific field to minimize off-site spill light and glare to surrounding properties. Figure 6 shows the proposed lighting plan for the three baseball fields.

- 9. Surrounding Land Uses and Setting:** The 41.5-acre Youth Athletic Park includes eight (8) baseball fields, four (4) soccer fields, a concession stand, restrooms, drinking fountains, batting cages and an on-site paved parking lot for 293 cars, including 11 handicap spaces. The land uses surrounding the project site include Olympiad Road to the south and south of Olympiad Road is Lake Mission Viejo, to the west is the Coral Gardens residential development, to the north is the Coral Gardens residential development, Oso Creek and the Evergreen Lakeview residential development and to the east is Melinda Road and east of Melinda Road is open space and an overhead Southern California Edison power line.
- 10. Other Public Agencies Whose Approval is Required:** The discretionary approvals required from the City of Mission Viejo include a development permit to allow the installation of the field light poles. No other public agency approvals are required.
- 11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code Section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?** Tribal letters were mailed by the City of Mission Viejo on December 8, 2021 to ten tribes and formally invited consultation with the City in compliance with California Public Resources Code § 21080.3.1. At the end of the required 30-day period the City did not receive any tribal requests for consultation. The tribes that were contacted include:
  1. Fred Nelson, Chairperson  
La Jolla Band of Luiseño Indians  
22000 Highway 76  
Pauma Valley, CA 92061
  2. Jeff Grubbe, Chairperson  
Agua Caliente Band of Cahuilla Indians  
5401 Dinah Shore Drive  
Palm Springs, CA 92264
  3. Mark Macarro, Chairperson  
Pechanga Band of Luiseño Indians  
P.O. Box 1477  
Temecula, CA 92593



**LEGEND**

- EXISTING LIGHTED FIELDS/CAGES (METAL HALIDE)
- PROPOSED LIGHTING (LED)

Source: RJM Design Group



Figure 6  
**Proposed Lighting Plan**

4. Matias Belardes, Chairperson  
Juaneño Band of Mission Indians Acjachemen Nation  
32161 Avenida Los Amigos  
San Juan Capistrano, CA 92675
5. Robert Smith, Chairperson  
Pala Band of Mission Indians  
35008 Pala Temecula Road  
Pala, CA 92059
6. San Luis Rey Tribal Council  
San Luis Rey Band of Mission Indians  
1889 Sunset Drive  
Vista, CA 92081
7. Scott Cozart, Chairperson Soboba  
Band of Luiseño Indians  
P.O. Box 487  
San Jacinto, CA 92583
8. Sonia Johnston, Chairperson  
Juaneño Band of Mission Indians  
P.O. Box 25628  
Santa Ana, CA 92799
9. Temet Aguilar, Chairperson  
Pauma Band of Luiseño Indians  
P.O. Box 369  
Pauma Valley, CA 92061
10. Teresa Romero, Chairperson  
Juaneño Band of Mission Indians Acjachemen Nation – Romero  
31411-A La Matanza Street  
San Juan Capistrano, CA 92675

Note: Conducting consultation early in the CEQA process allows tribal governments, lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process. (See Public Resources Code section 21080.3.2) Information may also be available from the California Native American Heritage Commission's Sacred Lands File per Public Resources Code section 5097.96 and the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that Public Resources Code section 21082.3 (c) contains provisions specific to confidentiality.

**12. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:**

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is "Potentially Significant Impact" as indicated by the checklist on the following pages.

<input type="checkbox"/> Aesthetics	<input type="checkbox"/> Agriculture and Forestry Resources	<input type="checkbox"/> Air Quality
<input type="checkbox"/> Biological Resources	<input type="checkbox"/> Cultural Resources	<input type="checkbox"/> Energy
<input type="checkbox"/> Geology/Soils	<input type="checkbox"/> Greenhouse Gas Emissions	<input type="checkbox"/> Hazards and Hazardous Materials

<input type="checkbox"/> Hydrology/Water Quality	<input type="checkbox"/> Land Use/Planning	<input type="checkbox"/> Mineral Resources
<input type="checkbox"/> Noise	<input type="checkbox"/> Population/Housing	<input type="checkbox"/> Public Services
<input type="checkbox"/> Recreation	<input type="checkbox"/> Transportation	<input type="checkbox"/> Tribal Cultural Resources
<input type="checkbox"/> Utilities/Service Systems	<input type="checkbox"/> Wildfire	<input type="checkbox"/> Mandatory Findings of Significance

**13. DETERMINATION: (To be completed by the Lead Agency)**

On the basis of this initial evaluation:

- I find that the proposed project COULD NOT have a significant impact on the environment, and a NEGATIVE DECLARATION will be prepared.
- I find that although the proposed project could have a significant impact on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the proposed project MAY have a significant effect on the environment and an ENVIRONMENTAL IMPACT REPORT is required.
- I find that the proposed project MAY have a “potentially significant impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on an earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

\_\_\_\_\_  
Signature:

\_\_\_\_\_  
Date

**Evaluation of Environmental Impacts:**

1. A brief explanation is required for all answers except “No Impact” answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A “No Impact” answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A “No Impact” answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
4. "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less-than-significant Impact". The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analyses," as described in (5) below may be cross-referenced).
5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
  - a) Earlier Analysis Used. Identify and state where they are available for review.
  - b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
  - c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
- 6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
- 7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
- 8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
- 9) The explanation of each issue should identify:
  - a) the significance criteria or threshold, if any, used to evaluate each question; and
  - b) the mitigation measure identified, if any, to reduce the impact to less than significance.

**14. ISSUES:**

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
<b>I. AESTHETICS:</b> Except as provided in Public Resources Code Section 21099, would the project:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare that will adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>II. AGRICULTURE and FORESTRY RESOURCES:</b> In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agricultural farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- e) Involve other changes in the existing environment, which due to their location or nature, could individually or cumulatively result in the loss of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

**III. AIR QUALITY:** Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:

- a) Conflict with or obstruct implementation of the applicable air quality plan?
- b) Result in a cumulatively considerable net increase of any criteria pollutants for which the project region is non-attainment under an applicable federal or state ambient air quality standard?
- c) Expose sensitive receptors to substantial pollutant concentrations?
- d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

**IV. BIOLOGICAL RESOURCES:** Would the project:

- a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies or regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?
- b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?
- c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?
- d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?
- e) Conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance?
- f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

**V. CULTURAL RESOURCES:** Would the project:

- |   |                          |                                     |                          |                                     |
|---|--------------------------|-------------------------------------|--------------------------|-------------------------------------|
| a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?              | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Cause a substantial adverse change in the significance of a unique archaeological resource as defined in §15064.5? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |
| c) Disturb any human remains, including those interred outside of formal cemeteries?                                  | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

**VI. ENERGY:** Would the project:

- |   |                          |                          |                                     |                          |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?   | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

**VII. GEOLOGY AND SOILS:** Would the project:

- |  |                          |                          |                                     |                                     |
|--|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving:  |                          |                          |                                     |                                     |
| i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to Division of Mines and Geology Special Publication 42.) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| ii. Strong seismic ground shaking?   | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| iii. Seismic-related ground failure, including liquefaction?   | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| iv. Landslides?  | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| b) Result in substantial soil erosion or loss of topsoil?  | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?   | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?  | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of waste water?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

**VIII. GREENHOUSE GAS EMISSIONS** Would the project:

- |  |                          |                          |                                     |                                     |
|--|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?      | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

**IX. HAZARDS AND HAZARDOUS MATERIALS:** Would the project:

- |  |                          |                          |                                     |                                     |
|--|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?  | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?  | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?                               | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| e) For a project located within an airport land use plan, or where such a plan has not been adopted, within two miles of a public airport, will the project result in a safety hazard or excessive noise for people working or residing in the project area? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

**X. HYDROLOGY AND WATER QUALITY.** Would the project:

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?                                  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces in a manner, which would: |                          |                          |                          |                                     |

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| (i) result in substantial erosion or siltation on- or off-site;   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| (ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on-or off-site;   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| (iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| (iv) impede or redirect flood flows?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

**XI. LAND USE AND PLANNING:** Would the project:

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Physically divide an established community?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Cause a significant environmental impact due to a conflict with any land use plan, policy or regulation adopted for the purpose of avoiding or mitigation an environmental effect? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

**XII. MINERAL RESOURCES:** Would the project:

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?                                | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

**XIII. NOISE:** Would the project result in:

- |  |                          |                          |                                     |                                     |
|--|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?                                  | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| b) Generation of excessive groundborne vibration or groundborne noise levels?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport, will the project expose people residing or working in the project area to excessive noise levels? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

**XIV. POPULATION AND HOUSING:** Would the project:

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example through extension of roads or other infrastructure)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

**XV. PUBLIC SERVICES:**

- |   |                          |                          |                                     |                                     |
|---|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: |                          |                          |                                     |                                     |
| Fire protection?  | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| Police protection?  | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| Schools?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| Parks?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| Other public facilities?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

**XVI. RECREATION:**

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?                         | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

**XVII. TRANSPORTATION:** Would the project:

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?           | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Result in inadequate emergency access?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

**XVIII. TRIBAL CULTURAL RESOURCES:**

- a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:
  - i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1 (k), or
  - ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**XIX. UTILITIES AND SERVICE SYSTEMS:** Would the project:

- a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?
- b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?
- c) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?
- d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?
- e) Comply with federal, state and local management and reduction statutes and regulations related to solid waste?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**XX. WILDFIRE** – If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Substantially impair an adopted emergency response plan or emergency evacuation plan?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

**XXI. MANDATORY FINDINGS OF SIGNIFICANCE:**

- |   |                          |                          |                                     |                                     |
|---|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| b) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?  | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |

**15. EXPLANATION OF ISSUES:**

**I. AESTHETICS: Would the project:**

- a) ***Have a substantial adverse effect on a scenic vista? No Impact.*** There are no State or County designated scenic vistas either adjacent to or within direct view of the project site that would be impacted by the project. Furthermore, there are no City designed scenic resources, including scenic corridors, secondary corridors, ridgelines, city entries, or scenic views adjacent to or visible from the

project site based on the Conservation/Open Space Element of the Mission Viejo General Plan. The project would have no impact to a scenic vista.

- b) **Substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway? No Impact.** There are no Officially Designated or Eligible State Scenic Highways<sup>1</sup> and no scenic resources such as trees, rock outcroppings, or historic buildings within a state scenic highway either adjacent to or in direct view from the project site that would be removed or altered by the project. The closest state designated scenic route to the project site is the 91 Freeway in the eastern area of the City of Anaheim, which is approximately eighteen miles northwest and not visible from the project site. The project would not have any impact to a scenic resource within a state scenic highway.
- c) **In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality? Less Than Significant Impact.** The project is located in an urbanized area.<sup>2</sup> The project is consistent with the City's Recreation zoning for the site. The project would require and is requesting a Development Permit from the City. The installation of the proposed 10 light poles would not conflict with any City zoning code regarding scenic quality.

The project would change the visual character of the 41-acre YAP by replacing 12 temporary portable light generators with 10 permanent light poles that would be installed at fields #2, #3 and #7 and range in height from 60 feet to 90 feet. Once the permanent light poles are installed the City would cease the use of the 12 portable generators. There are sixteen existing permanent light poles installed at fields #1, #5 and #8, in the middle of the YAP and near the batting cages along the northern project boundary between baseball fields #4 and #5. Since there are 16 permanent light poles located throughout the YAP the installation of 10 additional light poles would not significantly change or degrade the existing visual character of the YAP or the public views of the site. While there would be an increase in the number of light poles at the YAP, the installation of 10 new light poles would not be new or unique to the site. The proposed 10 light poles would be similar in height and similar design as the 16 existing light poles. The proposed installation of 10 light poles would not significantly degrade or impact public views of the YAP and as a result, the project would have less than significant scenic impacts.

- d) **Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area? Less Than Significant Impact.** The 16 existing light poles generate light and glare when in use during evening and nighttime sports practice and play. Therefore, light and glare is not new or unique to the YAP or the land uses immediately adjacent to and surrounding the YAP. The proposed project would incrementally increase the amount of light and glare that is currently generated by the existing 16 light poles. The installation of 10 light poles at fields #2, #3 and #7 would incrementally introduce additional sources of light and glare to the YAP compared to the existing condition.

The Coral Gables residential development is located adjacent to and west and north of the project site. The light and glare from the operation of the 16 light poles extends to and visible to the adjacent Coral Garden residents. Similarly, light and glare from the adjacent Coral Gables residential development extend onto the YAP, but not at the same level and intensity as the lights at the YAP.

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<sup>1</sup> State of California Officially Designated State Scenic Highways, <http://www.dot.ca.gov/hq/LandArch/scenichighways/>.

<sup>2</sup> CEQA Guidelines §15387.

While the light generated by the proposed 10 light poles would be visible to the Coral Gables residents, the light from the 10 light poles would be factory focused to each specific field. Backlighting from the proposed 10 light poles is improved compared to the existing light poles at the YAP. Due to the focus of factory focusing of the proposed lights and the improved technology to reduce backlighting, the light and glare from the proposed 10 light poles to the Coral Gables residents would not be new or unique to the area or significant.

In compliance with Mission Viejo Municipal Code Sec. 9.13.020(f) the proposed lighting equipment shall be energy efficient, appropriately located, directed and shielded from surrounding properties and public rights-of-way. Figure 11 shows the calculated light patterns of the 10 light poles proposed for baseball fields #2, #3 and #7. As shown, the lights would be factory designed to focus the light onto each specific field to minimize off-site light. In the case of light pole B9 for field #3 some of the light would be designed to shine onto the outfield of field #4 that is adjacent to and northeast of field #3. For efficiency, light pole B5 is designed to shine on both fields #2 and #3 and minimize the installation of an additional light pole for fields #2 and #3. Light pole B12 is designed to shine on field #7 and also on a portion of the soccer field in the southeast area of the YAP.

Figures 7, 8 and 9 are photometric plans that show the calculated footcandles on each of the three baseball fields that are proposed to be lighted. As shown, the intensity of the light in terms of footcandles is greatest at home plate and gradually decrease towards the outfields. The highest footcandles at home plate meet the required footcandles required for little league play.

While the project would incrementally increase the amount of light and glare that is generated from the YAP currently, the light and glare impacts to the existing Coral Gable residents west and north of the site would be less than significant.

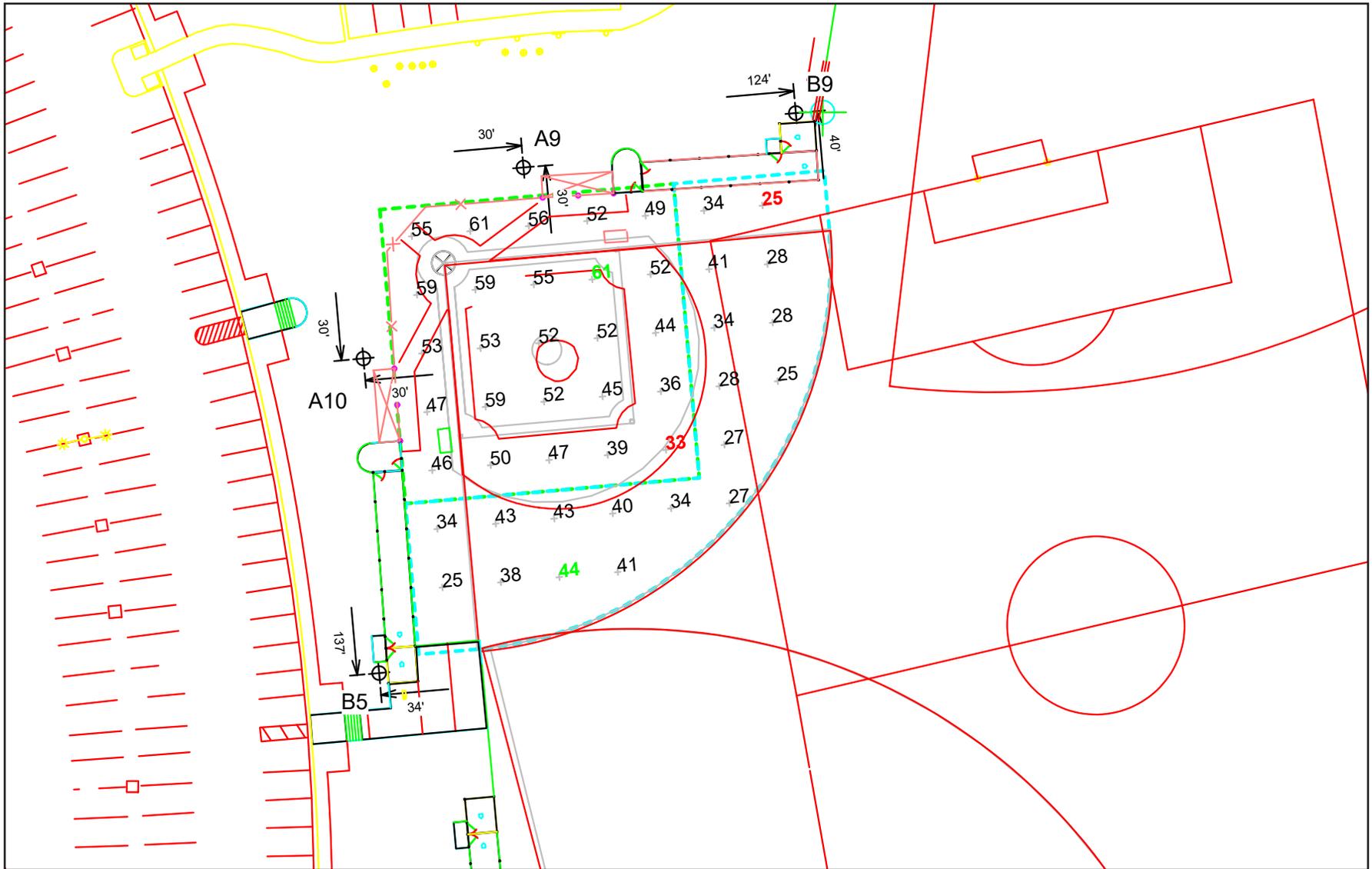
## II. AGRICULTURE AND FORESTRY RESOURCES: Would the project:

- a) **Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? No Impact.** The project site is used for recreational purposes (baseball and soccer) and serves as a stormwater retention basin for Oso Creek. There are no agricultural uses on the site. The project site and the land uses adjacent to and surrounding the site are designated "Urban and Built-Up Land"<sup>3</sup> by the State of California Department of Conservation as of 2016<sup>4</sup>. The project would not convert prime, unique, or farmland of statewide importance to non-agricultural use. The project would have no impact to any type of farmland.
- b) **Conflict with existing zoning for agricultural use, or a Williamson Act contract? No Impact.** The YAP is zoned for Recreational use and agricultural use is not allowed in the Recreation zone. The YAP

---

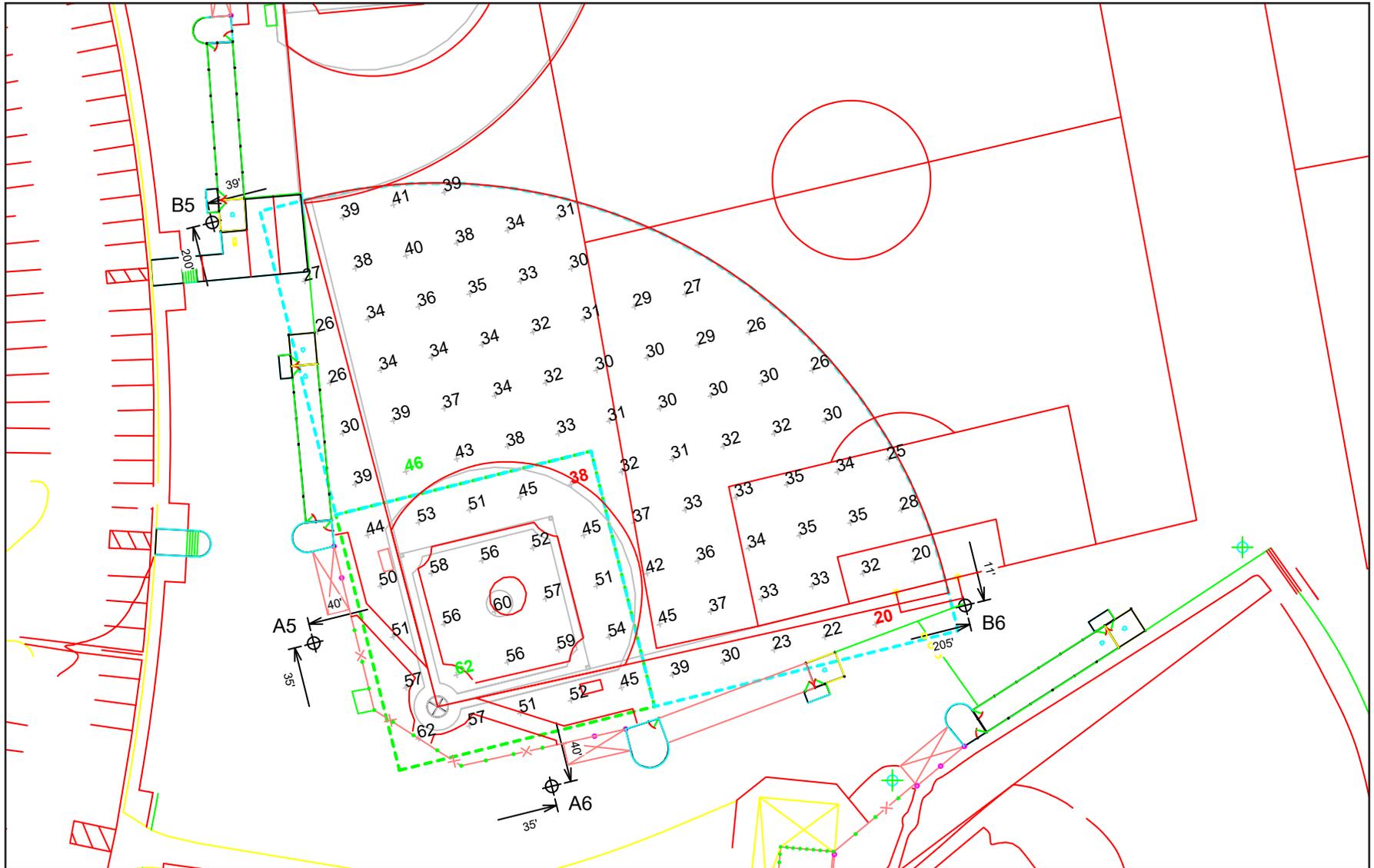
<sup>3</sup> Urban and Built-up Land is used for residential, industrial, commercial, construction, institutional, public administrative purposes, railroad yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment plants, water control structures, and other development purposes. Highways, railroads, and other transportation facilities are mapped as a part of Urban and Built-up Land if they are a part of the surrounding urban areas. Units of land smaller than 10 acres will be incorporated into the surrounding map classifications. The building density for residential use must be at least 1 structure per 1.5 acres (or approximately 6 structures per 10 acres). Urban and Built-up Land must contain man-made structures or buildings under construction, and the infrastructure required for development (e.g., paved roads, sewers, water, electricity, drainage, or flood control facilities) that are specifically designed to serve that land. Parking lots, storage and distribution facilities, and industrial uses such as large packing operations for agricultural produce will generally be mapped as Urban and Built-up Land even though they may be associated with agriculture. Urban and Built-up Land does not include strip mines, borrow pits, gravel pits, farmsteads, ranch headquarters, commercial feedlots, greenhouses, poultry facilities, or road systems for freeway interchanges outside of areas classified as Urban and Built-up Land areas. Within areas classified as Urban and Built-up Land, vacant and nonagricultural land which is surrounded on all sides by urban development and is less than 40 acres in size will be mapped as Urban and Built-up. Vacant and nonagricultural land larger than 40 acres in size will be mapped as Other Land. [https://www.conservation.ca.gov/dlrp/fmmp/Documents/soil\\_criteria.pdf](https://www.conservation.ca.gov/dlrp/fmmp/Documents/soil_criteria.pdf)

<sup>4</sup> <https://maps.conservation.ca.gov/DLRP/CIFF/>



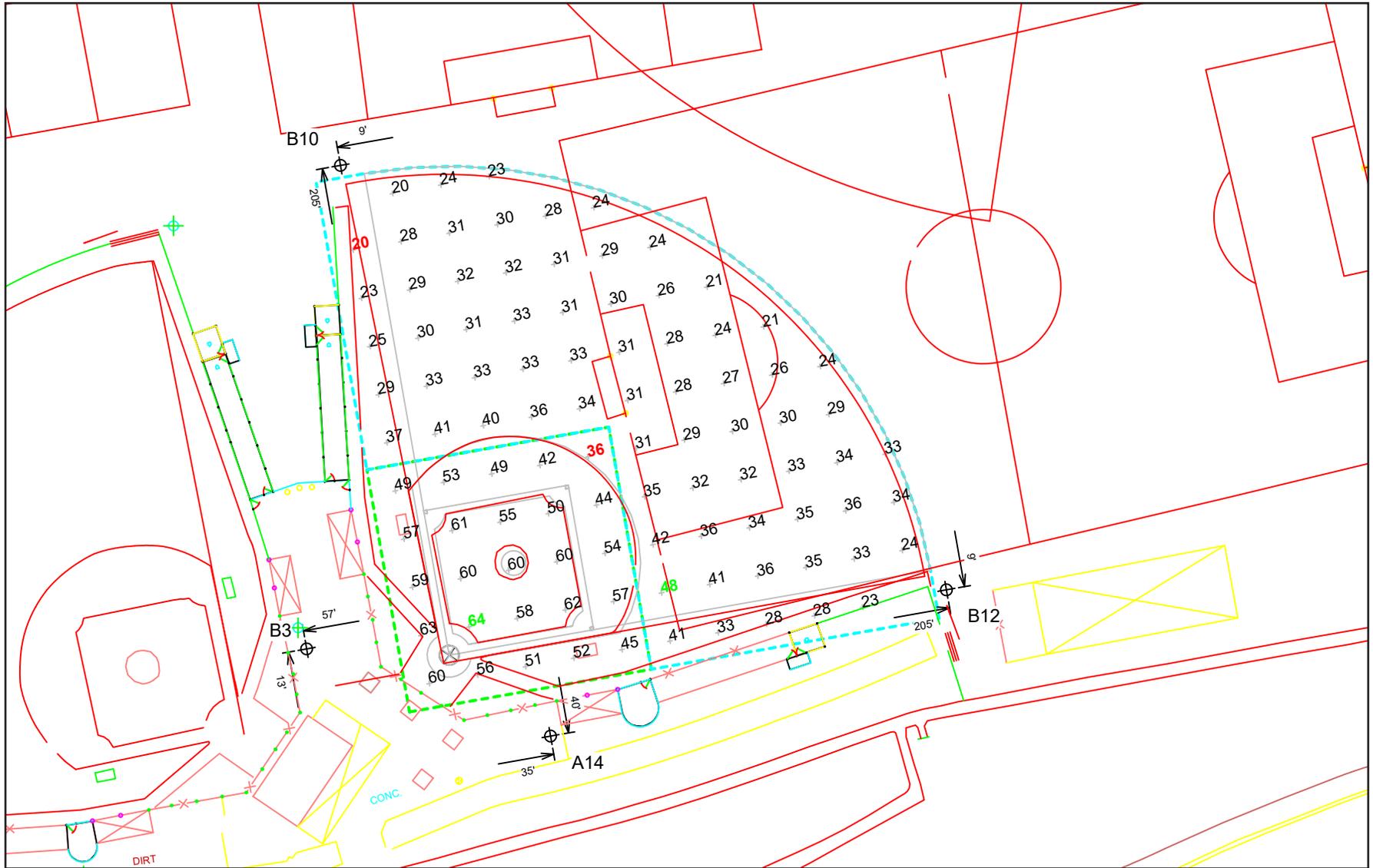
Source: Musco Lighting

Figure 7  
Photometric Plan - Field 2



Source: Musco Lighting

Figure 8  
Photometric Plan - Field 3



Source: Musco Lighting

Figure 9  
Photometric Plan - Field 7

is not in a Williamson Act contract. The project would not conflict with and have no impact to any agricultural zoning for agricultural use on the site or conflict with an existing Williamson Act contract.

- c) **Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?** **No Impact.** There are no forests or timberland in Mission Viejo and the city does not have any zoning that allows timber or forest land. The project would not impact forest or timber production.
- d) **Result in the loss of forest land or conversion of forest land to non-forest use?** **No Impact.** As discussed in Section “II.c” above, the project would not result in the loss of any forests or timberland.
- e) **Involve other changes in the existing environment, which due to their location or nature, could individually or cumulatively result in the loss of Farmland, to non-agricultural use?** **No Impact.** As discussed in Section “II.a” above, the project would not result in the loss of any farmland, either individually or cumulatively and would not have any impact to farmland or an agricultural use.

### III. AIR QUALITY: Would the project:

- a) **Conflict with or obstruct implementation of the applicable air quality plan?** **No Impact.** The U.S. Environmental Protection Agency (U.S. EPA) is the primary federal agency for regulating air quality. The EPA implements the provisions of the Federal Clean Air Act (FCAA). This Act establishes National Ambient Air Quality Standards (NAAQS) that are applicable nationwide. The EPA designates areas with pollutant concentrations that do not meet the NAAQS as non-attainment areas for each criteria pollutant. States are required by the FCAA to prepare State Implementation Plans (SIP) for designated non-attainment areas. The SIP is required to demonstrate how the areas would attain the NAAQS by the prescribed deadlines and what measures would be required to attain the standards. The EPA also oversees implementation of the prescribed measures. Areas that achieve the NAAQS after a non-attainment designation are redesignated as maintenance areas and must have approved Maintenance Plans to ensure continued attainment of the NAAQS.

The California Clean Air Act (CCAA) required all air pollution control districts in the state to prepare plans to reduce pollutant concentrations exceeding the California Ambient Air Quality Standards (CAAQS) and ultimately achieve the CAAQS. The districts are required to review and revise these plans every three years. The South Coast Air Quality Management District (SCAQMD), is located in the South Coast Air Basin (SCAB) in which the project is located, satisfies this requirement through the publication of an Air Quality Management Plan (AQMP). The AQMP is developed by SCAQMD and the Southern California Association of Governments (SCAG) in coordination with local governments and the private sector. The AQMP is incorporated into the SIP by the California Air Resources Board (CARB) to satisfy FCAA requirements discussed above.

The CCAA requires plans to demonstrate attainment of the NAAQS for which an area is designated as nonattainment. Further, the CCAA requires SCAQMD to revise its plan to reduce pollutant concentrations exceeding the CAAQS every three years. In the South Coast Air Basin (SCAB), SCAQMD and SCAG, in coordination with local governments and the private sector, develop the AQMP for the air basin to satisfy these requirements. The AQMP is the most important air management document for the basin because it provides the blueprint for meeting state and federal ambient air quality standards.

On December 7, 2012, the 2012 AQMP was adopted by the SCAQMD Governing Board. The primary task of the 2012 AQMP is to bring the basin into attainment with federal health-based standards for unhealthy fine particulate matter (PM2.5) by 2014. The document states that to have any reasonable

expectation of meeting the 2023 ozone deadline, the scope and pace of continued air quality improvement must greatly intensify.

AQMPs are required to be updated every three years. The 2016 AQMP was adopted by the SCAQMD Board on March 3, 2017, and has been submitted to the California Air Resources Board for forwarding to the EPA. The 2016 AQMP acknowledges that motor vehicle emissions have been effectively controlled and that reductions in NO<sub>x</sub>, the continuing ozone problem pollutant, may need to come from major stationary sources (power plants, refineries, landfill flares, etc.). The current attainment deadlines for all federal non-attainment pollutants are now as follows:

- 8-hour ozone (70 ppb) 2032
- Annual PM-2.5 (12 µg/m<sup>3</sup>) 2025
- 8-hour ozone (75 ppb) 2024 (old standard)
- 1-hour ozone (120 ppb) 2023 (rescinded standard)
- 24-hour PM-2.5 (35 µg/m<sup>3</sup>) 2019

The project does not directly relate to the AQMP in that there are no specific air quality programs or regulations governing the installation and operation of athletic field light poles. The conformity of a project with adopted plans, forecasts and programs relative to population, housing, employment and land use is the primary yardstick by which the significance of a project impact of planned growth is determined. The SCAQMD, however, while acknowledging that the AQMP is a growth-accommodating document, does not favor designating regional impacts as less than significant just because a proposed development is consistent with regional growth projections. The construction air emissions associated with the installation of 10 athletic field light poles would not obstruct and have no impact on the implementation of the SCAB 2016 Air Quality Management Plan.

- b) **Result in a cumulatively considerable net increase of any criteria pollutants for which the project region is non-attainment under an applicable federal or state ambient air quality standard? No Impact.** Cumulative projects include local development as well as general growth within the project area. However, as with most development, the greatest source of emissions is from mobile sources, which travel well out of the local area. Therefore, from an air quality standpoint, the cumulative analysis would extend beyond any local projects and when wind patterns are considered, would cover an even larger area.

The project is located in the SCAB and non-attainment for ozone and PM<sub>10</sub> particulate matter. Construction and operation of cumulative projects would further degrade the local air quality, as well as the air quality of the South Coast Air Basin. The greatest cumulative impact on the regional air quality is the incremental addition of pollutants mainly from increased traffic from residential, commercial, and industrial development and the use of heavy equipment and trucks associated with the construction of these projects. Air quality would be temporarily degraded during construction activities that occur separately or simultaneously. However, in accordance with the SCAQMD methodology, projects that do not exceed the SCAQMD criteria or can be mitigated to less than criteria levels are not significant and do not add to the overall cumulative impact.

As stated in Section "III.c" below the project would not generate any short- or long-term air emissions that exceed SCAQMD emission thresholds. Therefore, the project would not have any significant cumulative criteria pollutant impacts.

- c) **Expose sensitive receptors to substantial pollutant concentrations? Potentially Significant Unless Mitigation Incorporated.** A sensitive receptor is a person in the population who is particularly susceptible to health effects due to exposure to an air contaminant. The following are land uses (sensitive sites) where sensitive receptors are typically located:

- Schools, playgrounds and childcare centers
- Long-term health care facilities
- Rehabilitation centers
- Convalescent centers
- Hospitals
- Retirement homes
- Residences<sup>5</sup>

The closest sensitive receptors to the project site are the youth that practice and play baseball and soccer and the residents of the Coral Gable residential development that are approximately 300 feet west and north of the site.

### **Criteria Pollutants, Health Effects, and Standards**

Under the Federal Clean Air Act (FCAA), the U.S. EPA has established National Ambient Air Quality Standards (NAAQS) for six major pollutants; ozone (O<sub>3</sub>), respirable particulate matter (PM<sub>10</sub>), fine particulate matter (PM<sub>2.5</sub>), carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), and lead. These six air pollutants are referred to as the criteria pollutants. The NAAQS are two tiered: primary, to protect public health, and secondary, to prevent degradation to the environment (i.e., impairment of visibility, damage to vegetation and property).

Under the California Clean Air Act (CCAA), the California Air Resources Board has established California Ambient Air Quality Standards (CAAQS) to protect the health and welfare of Californians. State standards have been established for the six criteria pollutants as well as four additional pollutants; visibility reducing particles, sulfates, hydrogen sulfide, and vinyl chloride. Table 1 presents the state and national ambient air quality standards. Table 2 shows the health effects of the various pollutants.

#### Regional Air Quality

SCAQMD's "1993 CEQA Air Quality Handbook" establishes significance thresholds to assess the impact of project related air pollutant emissions. SCAQMD's construction emission significance thresholds are shown in Table 3. A project with daily emissions below these thresholds are considered to have a less than significant effect on air quality.

#### **Air Emission Thresholds**

In the "1993 CEQA Air Quality Handbook", SCAQMD establishes significance thresholds to assess the impact of project related air pollutant emissions. These emissions and their thresholds are shown in Table 4. As shown, there are separate thresholds for short-term construction and long-term operational emissions. A project with daily emission rates below these thresholds is considered to have a less than significant effect on air quality. The thresholds shown below are used to evaluate the potential project air emission impacts of the project.

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<sup>5</sup> South Coast Air Quality Management District, Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning, Chapter 2, page 2-1.

**Table 1  
Ambient Air Quality Standards**

<b>Ambient Air Quality Standards</b>						
Pollutant	Averaging Time	California Standards <sup>1</sup>		National Standards <sup>2</sup>		
		Concentration <sup>3</sup>	Method <sup>4</sup>	Primary <sup>3,5</sup>	Secondary <sup>3,6</sup>	Method <sup>7</sup>
Ozone (O <sub>3</sub> ) <sup>8</sup>	1 Hour	0.09 ppm (180 µg/m <sup>3</sup> )	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m <sup>3</sup> )		0.070 ppm (137 µg/m <sup>3</sup> )		
Respirable Particulate Matter (PM <sub>10</sub> ) <sup>9</sup>	24 Hour	50 µg/m <sup>3</sup>	Gravimetric or Beta Attenuation	150 µg/m <sup>3</sup>	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m <sup>3</sup>		—		
Fine Particulate Matter (PM <sub>2.5</sub> ) <sup>9</sup>	24 Hour	—	—	35 µg/m <sup>3</sup>	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m <sup>3</sup>	Gravimetric or Beta Attenuation	12.0 µg/m <sup>3</sup>	15 µg/m <sup>3</sup>	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m <sup>3</sup> )	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m <sup>3</sup> )	—	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10 mg/m <sup>3</sup> )		9 ppm (10 mg/m <sup>3</sup> )	—	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m <sup>3</sup> )		—	—	
Nitrogen Dioxide (NO <sub>2</sub> ) <sup>10</sup>	1 Hour	0.18 ppm (339 µg/m <sup>3</sup> )	Gas Phase Chemiluminescence	100 ppb (188 µg/m <sup>3</sup> )	—	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m <sup>3</sup> )		0.053 ppm (100 µg/m <sup>3</sup> )	Same as Primary Standard	
Sulfur Dioxide (SO <sub>2</sub> ) <sup>11</sup>	1 Hour	0.25 ppm (655 µg/m <sup>3</sup> )	Ultraviolet Fluorescence	75 ppb (196 µg/m <sup>3</sup> )	—	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	—		—	0.5 ppm (1300 µg/m <sup>3</sup> )	
	24 Hour	0.04 ppm (105 µg/m <sup>3</sup> )		0.14 ppm (for certain areas) <sup>11</sup>	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas) <sup>11</sup>	—	
Lead <sup>12,13</sup>	30 Day Average	1.5 µg/m <sup>3</sup>	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m <sup>3</sup> (for certain areas) <sup>12</sup>	Same as Primary Standard	
	Rolling 3-Month Average	—		0.15 µg/m <sup>3</sup>		
Visibility Reducing Particles <sup>14</sup>	8 Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	<b>No National Standards</b>		
Sulfates	24 Hour	25 µg/m <sup>3</sup>	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m <sup>3</sup> )	Ultraviolet Fluorescence			
Vinyl Chloride <sup>12</sup>	24 Hour	0.01 ppm (26 µg/m <sup>3</sup> )	Gas Chromatography			

See footnotes on next page ...

For more information please call ARB-PIO at (916) 322-2990

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1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above  $150 \mu\text{g}/\text{m}^3$  is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.
3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of  $25^\circ\text{C}$  and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of  $25^\circ\text{C}$  and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. Any equivalent measurement method which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.
5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
7. Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.
8. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
9. On December 14, 2012, the national annual PM2.5 primary standard was lowered from  $15 \mu\text{g}/\text{m}^3$  to  $12.0 \mu\text{g}/\text{m}^3$ . The existing national 24-hour PM2.5 standards (primary and secondary) were retained at  $35 \mu\text{g}/\text{m}^3$ , as was the annual secondary standard of  $15 \mu\text{g}/\text{m}^3$ . The existing 24-hour PM10 standards (primary and secondary) of  $150 \mu\text{g}/\text{m}^3$  also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
10. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.
11. On June 2, 2010, a new 1-hour  $\text{SO}_2$  standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971  $\text{SO}_2$  national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.  
 Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.
12. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
13. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard ( $1.5 \mu\text{g}/\text{m}^3$  as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
14. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

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**Table 2  
Health Effects of Major Criteria Pollutants**

<b>Pollutants</b>	<b>Sources</b>	<b>Primary Effects</b>
Carbon Monoxide (CO)	<ul style="list-style-type: none"> <li>• Incomplete combustion of fuels and other carbon-containing substances, such as motor exhaust.</li> <li>• Natural events, such as decomposition of organic matter.</li> </ul>	<ul style="list-style-type: none"> <li>• Reduced tolerance for exercise.</li> <li>• Impairment of mental function.</li> <li>• Impairment of fetal development.</li> <li>• Death at high levels of exposure.</li> <li>• Aggravation of some heart diseases (angina).</li> </ul>
Nitrogen Dioxide (NO <sub>2</sub> )	<ul style="list-style-type: none"> <li>• Motor vehicle exhaust.</li> <li>• High temperature stationary combustion.</li> <li>• Atmospheric reactions.</li> </ul>	<ul style="list-style-type: none"> <li>• Aggravation of respiratory illness.</li> <li>• Reduced visibility.</li> <li>• Reduced plant growth.</li> <li>• Formation of acid rain.</li> </ul>
Ozone (O <sub>3</sub> )	<ul style="list-style-type: none"> <li>• Atmospheric reaction of organic gases with nitrogen oxides in sunlight.</li> </ul>	<ul style="list-style-type: none"> <li>• Aggravation of respiratory and cardiovascular diseases.</li> <li>• Irritation of eyes.</li> <li>• Impairment of cardiopulmonary function.</li> <li>• Plant leaf injury.</li> </ul>
Lead (Pb)	<ul style="list-style-type: none"> <li>• Contaminated soil.</li> </ul>	<ul style="list-style-type: none"> <li>• Impairment of blood function and nerve construction.</li> <li>• Behavioral and hearing problems in children.</li> </ul>
Respirable Particulate Matter (PM-10)	<ul style="list-style-type: none"> <li>• Stationary combustion of solid fuels.</li> <li>• Construction activities.</li> <li>• Industrial processes.</li> <li>• Atmospheric chemical reactions.</li> </ul>	<ul style="list-style-type: none"> <li>• Reduced lung function.</li> <li>• Aggravation of the effects of gaseous pollutants.</li> <li>• Aggravation of respiratory and cardio respiratory diseases.</li> <li>• Increased cough and chest discomfort.</li> <li>• Soiling.</li> <li>• Reduced visibility.</li> </ul>
Fine Particulate Matter (PM-2.5)	<ul style="list-style-type: none"> <li>• Fuel combustion in motor vehicles, equipment, and industrial sources.</li> <li>• Residential and agricultural burning.</li> <li>• Industrial processes.</li> <li>• Also, formed from photochemical reactions of other pollutants, including NO<sub>x</sub>, sulfur oxides, and organics.</li> </ul>	<ul style="list-style-type: none"> <li>• Increases respiratory disease.</li> <li>• Lung damage.</li> <li>• Cancer and premature death.</li> <li>• Reduces visibility and results in surface soiling.</li> </ul>
Sulfur Dioxide (SO <sub>2</sub> )	<ul style="list-style-type: none"> <li>• Combustion of sulfur-containing fossil fuels.</li> <li>• Smelting of sulfur-bearing metal ores.</li> <li>• Industrial processes.</li> </ul>	<ul style="list-style-type: none"> <li>• Aggravation of respiratory diseases (asthma, emphysema).</li> <li>• Reduced lung function.</li> <li>• Irritation of eyes.</li> <li>• Reduced visibility.</li> <li>• Plant injury.</li> <li>• Deterioration of metals, textiles, leather, finishes, coatings, etc.</li> </ul>

Source: California Air Resources Board, 2002.

**Table 3  
SCAQMD Regional Pollutant Emission Thresholds of Significance**

	Pollutant Emissions (lbs./day)					
	CO	ROG	NOx	PM10	PM2.5	SOx
Construction	550	75	100	150	55	150

**Table 4  
SCAQMD Daily Emissions Thresholds of Significance**

Pollutant	Construction	Operations
ROG	75	55
NOx	100	55
CO	550	550
PM-10	150	150
PM-2.5	55	55
SOx	150	150
Lead	3	3

Source: SCAQMD CEQA Air Quality Handbook, November, 1993 Rev.

### **Construction Emission Impacts**

Dust is typically the primary concern during the construction of new buildings. However, the project proposes the installation of 10 light poles and does not propose any grading or building construction. The only construction activities associated with the installation of the light poles includes boring 10 holes that measure 30” in diameter and 10’ deep for the 60’ light poles and 42” in diameter and 20’ deep for the 90’ light poles. The light poles would be installed in the holes, filled with concrete and backfilled. Any excess soil would be hauled to Lower Curtis Park that is located at 24460 Olympiad Road and approximately two miles southeast of the project site. The air emissions associated with the boring of 10 holes, lifting the light poles into the holes, backfilling the holes and hauling less than 100 cubic yards of dirt (5 semi-truck loads) would be minimal and not exceed any of the pollutant construction emission thresholds shown in Table 4 above.

### *SCAQMD’s Rule 403*

The project would be required to comply with SCAQMD rules to reduce fugitive dust emissions during project construction. Project compliance with Rule 403 is achieved through the application of standard best management practices during construction, which include the application of water or chemical stabilizers to disturbed soils, manage haul road dust by the use of water, cover haul vehicles, restrict vehicle speeds on on-site unpaved roads to 15 mph, sweep loose dirt from paved site access roadways and stop construction activity when wind speeds exceed 25 mph. Because the potential for fugitive dust emission impacts for the project would be minimal, the only applicable Rule 403 dust control measure would be for the project contractor to cover dirt piles with tarps or spray with water as necessary throughout the day to minimize fugitive dust. Project compliance with Rule 403 would reduce fugitive dust emissions during project grading to less than significant.

## Localized Significant Thresholds

As part of the SCAQMD's environmental justice program, attention was focused on localized effects of air quality. In accordance with Governing Board direction, SCAQMD staff developed localized significance threshold (LST) methodology and mass rate look-up tables by Source Receptor Area (SRA) that can be used to determine if a project may generate significant adverse localized air quality impacts. LSTs represent the maximum emissions from a project that would not cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard, and are developed based on the ambient concentrations of that pollutant for each source receptor area.

The SCAQMD LST mass rate look-up tables allow one to determine if the daily emissions for proposed construction or operational activities could result in significant localized air quality impacts. If the calculated on-site emissions for the proposed construction or operational activities are below the LST emission levels in the LST mass rate look-up tables and no potentially significant air quality impacts are associated with other environmental issues, then the proposed construction or operation activity is not significant for local air quality.

The LST mass rate look-up tables are applicable to the following pollutants only: oxides of nitrogen (NO<sub>x</sub>), carbon monoxide (CO), particulate matter less than 10 microns in aerodynamic diameter (PM<sub>10</sub>), and particulate matter less than 2.5 microns (PM<sub>2.5</sub>). LSTs are derived based on the location of the activity (i.e., the source/receptor area); the emission rates of NO<sub>x</sub>, CO, PM<sub>2.5</sub> and PM<sub>10</sub>; and the distance to the nearest exposed individual.

The project is located in SCAQMD Source Receptor Area (SRA) 19. The closest residences are more than 300 feet west and north of the areas where the 10 light poles are proposed to be installed. As discussed above, due to the small scale of the project and the short time period required to install the light poles and the small fleet of trucks and construction equipment would not generate any construction emissions that exceed the pollutant emissions shown in Table 4 above and impact any residents closest to the site.

Once the 10 light poles are installed, the air emissions associated with the operation of the 12 portable light generators would cease. The operation of the proposed 10 light poles would not generate any on-site air emissions. Therefore, the project would have a positive impact to local air emissions over the long-term by eliminating the air emissions with the operation of the 12 portable light generators.

While construction activities would not have any dust emissions to exceed SCAQMD CEQA thresholds, especially with compliance with Rule 403, the following mitigation measure is recommended for enhanced dust control because the air basin is non-attainment.

**Mitigation Measure No. 1** Prior to the start and throughout project construction, the contractor shall implement and maintain the following fugitive dust control measures:

- Water exposed surfaces as needed to avoid visible dust leaving the construction site (typically 2-3 times/day).
- Cover all stockpiles with tarps at the end of each day or as needed.
- Provide water spray during loading and unloading of earthen materials.
- Cover all trucks hauling dirt, sand, or loose material to Lower Curtis Park and require all trucks to maintain at least two feet of freeboard.
- Sweep streets if visible soil material is carried out from the construction site and spills onto the street.

## Operational Emission Impacts

The operation of the lights once installed would not generate any on-site operational air emissions. Therefore, the operational emissions of the project would not exceed SCAQMD operational emission thresholds of significance. The construction and operational emissions by the project would be less than significant.

- d) **Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people? No Impact.** The closest people to the project site are the youth that practice and play baseball and soccer at the YAP fields and the Coral Gable residents that are approximately 300 feet or more west and north of the site. Depending on wind patterns during the boring of the holes to support the light poles and lift the poles into the holes, some odors associated with the operation of the diesel powered equipment could extend to the residents west and north of the site. However, this condition would be short-term and temporary and once the light poles are installed any odors associated with the operation of any diesel powered construction equipment would cease. Although there would be a potential for residents closest to field #2 and #3 to experience odors during the installation of light poles for those fields, the residents closest to fields #2 and #3 are more than 300 feet away. Therefore, it is not anticipated that residents closest to fields #2 and #3 would experience any significant odor impacts from the operation of any diesel powered construction equipment. The project would not generate any objectionable odors and impact any area sensitive receptors during project construction.

## IV. BIOLOGICAL RESOURCES: Would the project:

- a) **Have substantial adverse effects, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies or regulations or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service? No Impact.** The project site is used for recreational purposes (organized baseball and soccer) and a retention basin for Oso Creek. The vegetation on the YAP site includes introduced urban landscaping such as trees along the project perimeter, turf throughout the YAP and shrubs. The 10 holes for the light poles are located in areas with turf and the removal of the turf to drill the holes for the light poles would not impact any wildlife or wildlife habitat.
- b) **Have substantial adverse impact on any riparian habitat or other natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service? No Impact.** The site was disturbed in the past with the development of the sports fields, concession stand, restrooms and paved parking lot. There is an existing concrete lined drainage ditch along the north edge of the YAP that carries low-water flow from Oso Creek at the north end of the YAP to the southeast corner where flows empty into a storm drain that flows under Olympiad Road and discharges into Lake Mission Viejo to the south. There is no riparian habitat or other natural communities in the YAP that would be disturbed by the project. Therefore, the project would not impact any riparian or other natural communities within YAP.
- c) **Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? No Impact.** Please see Section "IV.b" above.
- d) **Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? No Impact.** The proposed 10 light poles are located adjacent to three existing baseball fields. Three of the existing eight baseball fields are lighted similar to the lighting proposed for fields #2, #3 and #7. The lights proposed for fields #2, #3 and #7 are not new or unique to

the YAP. The construction and operation of the 10 field lights would not interfere or impact the movement of any native resident or migratory fish or wildlife corridors or wildlife nursery sites that may currently use the site.

- e) **Conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance? No Impact.** None of the existing trees within the YAP would be removed or impacted with the installation of the proposed 10 light poles. There are no biological resources that are protected by a city ordinance that would be removed by the project. The project would not impact any local policy or ordinance that protect biological resources on the project site.
- f) **Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? No Impact.** The project would not impact any habitat or biological species in an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

#### V. CULTURAL RESOURCES: Would the project:

- a) **Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5? No Impact.** The YAP is developed with baseball fields, soccer fields, concession stand, restrooms and a paved parking lot and was disturbed with the grading and construction necessary to develop the existing on-site facilities. None of the existing buildings are candidates as a historical resource because they are less than 45 years old. The project would not impact any historical resources.
- b) **Cause a substantial adverse change in the significance of a unique archaeological resource as defined in §15064.5? Potentially Significant Unless Mitigation Incorporated.** The YAP was disturbed in the past with the construction of the baseball fields, soccer fields, concession stand, restrooms and paved parking lot. Any archaeological resources that were present on the site have either been disturbed during the development of the YAP, or if present they are deeper than the area previously disturbed and they are protected in place.

The project would require the excavation of 10 holes to allow the installation of the 10 light poles. If present, archaeological resources could be uncovered during the excavation of the 10 holes. As a result, Mitigation Measures No. 2 through 5 are recommended to reduce potentially significant archaeological and Tribal resource impacts to previously undiscovered resources that may be encountered during the boring of the nine holes for the light poles to less than significant.

**Mitigation Measure No. 2** The City shall retain a qualified professional archaeologist who meets U.S. Secretary of the Interior's Professional Qualifications and Standards, to conduct an Archaeological Sensitivity Training for construction personnel prior to commencement of excavation activities. The training session shall be carried out by a cultural resource professional with expertise in archaeology, who meets the U.S. Secretary of the Interior's Professional Qualifications and Standards. The training session shall include a handout and focus on how to identify archaeological resources that may be encountered during earthmoving activities and the procedures to be followed in such an event, the duties of archaeological monitors, and the general steps a qualified professional archaeologist would follow in conducting a salvage investigation if one is necessary.

**Mitigation Measure No. 3** In the event that archaeological resources are unearthed during ground-disturbing activities, ground-disturbing activities shall be halted or diverted away from the vicinity of the find so that the find can be evaluated. A buffer area of at least 20 feet shall be established around the find where construction activities shall not be allowed to continue until a qualified archaeologist has examined the newly discovered artifact(s) and has evaluated the area of the find. Work shall be allowed to continue outside of the buffer area. All archaeological resources unearthed by project construction activities shall be evaluated by a qualified professional archaeologist, who meets the U.S. Secretary of the Interior's Professional Qualifications and Standards. Should the newly discovered artifacts be determined to be prehistoric, Native American Tribes/Individuals shall be contacted and consulted, and Native American construction monitoring shall be initiated. The City shall coordinate with the archaeologist to develop an appropriate treatment plan for the resources. The plan may include implementation of archaeological data recovery excavations to address treatment of the resource along with subsequent laboratory processing and analysis.

**Mitigation Measure No. 4** The City shall retain a qualified professional archaeologist, who meets the U.S. Secretary of the Interior's Professional Qualifications and Standards to conduct periodic Archaeological Spot Checks beginning at depths below 2' feet to determine if construction excavations have exposed or have a high probability to expose archaeological resources. After the initial Archaeological Spot Check, further periodic checks shall be conducted at the discretion of the qualified archaeologist. If the qualified archaeologist determines that construction excavations have exposed or have a high probability to expose archaeological artifacts construction monitoring for Archaeological Resources shall be required. The project developer shall retain a qualified archaeological monitor, who will work under the guidance and direction of a professional archaeologist, who meets the qualifications set forth by the U.S. Secretary of the Interior's Professional Qualifications and Standards. The archaeological monitor shall be present during all construction excavations (e.g., grading, trenching, or clearing/grubbing) into non-fill younger Pleistocene alluvial sediments. Multiple earth-moving construction activities may require multiple archaeological monitors. The frequency of monitoring shall be based on the rate of excavation and grading activities, proximity to known archaeological resources, the materials being excavated (native versus artificial fill soils), and the depth of excavation, and if found, the abundance and type of archaeological resources encountered. Full-time monitoring can be reduced to part-time inspections if determined adequate by the project archaeologist.

**Mitigation Measure No. 5** The archaeological monitor, under the direction of a qualified professional archaeologist who meets the U.S. Secretary of the Interior's Professional Qualifications and Standards, shall prepare a final report at the conclusion of archaeological monitoring. The report shall be submitted to the City, the South Central Costal Information Center and representatives of other appropriate or concerned agencies to signify the satisfactory completion of the project and required mitigation measures. The report shall include a description of resources unearthed, if any, evaluation of

the resources with respect to the California Register and CEQA, and treatment of the resources.

- c) ***Disturb any human remains, including those interred outside of formal cemeteries? No Impact.*** The project site has not been used as a cemetery in the past. In addition, the site is not known to have been used for any activities that have resulted in human remains being present on the property. In the unlikely event that human remains are found during construction, those remains would require proper treatment, in accordance with applicable laws. State of California Health and Safety Code Section 7050.5-7055 describe the general provisions for human remains. Specifically, Health and Safety Code Section 7050.5 describes the requirements if any human remains are accidentally discovered during excavation of a site. As required by State law, the requirements and procedures set forth in Section 5097.98 of the California Public Resources Code would be implemented, including notification of the County Coroner, notification of the Native American Heritage Commission, and consultation with the individual identified by the Native American Heritage Commission to be the “most likely descendant.” If human remains are found during excavation, the excavation must stop in the vicinity of the find and in any area that is reasonably suspected to contain remains adjacent to the find, until the County Coroner has been called, the remains have been investigated, and appropriate recommendations have been made for the treatment and disposition of the remains. Following compliance with State regulations, which detail the appropriate actions necessary in the event human remains are encountered, impacts in this regard would be considered less than significant.

Compliance with Health and Safety Code Sections 7050.5-7055 and Public Resources Code Section 5097.98, related to protection of human remains, would reduce potential impacts associated with future development project proposals to a less than significant level.

#### **VI. ENERGY: Would the project:**

- a) ***Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation? Less Than Significant Impact.*** Information found in this section, as well as other aspects of the project’s energy implications, are discussed in greater detail elsewhere in this MND, including Section VIII (Greenhouse Gas Emissions) and Section XVII (Transportation) of this MND.

#### **Construction-Related Energy Consumption**

Construction equipment would be operated on the site to excavate 10 holes to install galvanized steel poles ranging in height from 60’ to 90’ at fields #2, #3, #7 and eliminate the need to operate 12 portable light generators. The construction equipment that would be operated to dig the holes, place the light poles in the holes and backfill the holes include a backhoe, crane, a welder, mixer and a dump truck. The majority of the equipment would likely be diesel-fueled; however, smaller equipment, such as a welder may be electric, gas, or natural gas-fueled. For the purposes of this assessment, it is assumed the construction equipment would be diesel-fueled, due to the speculative nature of specifying the amounts and types of non-diesel equipment that might be used, and the difficulties in calculating the energy, which would be consumed by this non-diesel equipment.

The number of construction workers required to construct the project would vary based on the phase of construction and the activity taking place. The transportation fuel required by construction workers to travel to and from the site would depend on the total number of worker trips estimated for the duration of construction activity. A 2007 study by the California Department of Transportation (Caltrans) estimates the statewide average fuel economy for all vehicle types (automobiles, trucks, and

motorcycles) in the year 2020 is 18.78 miles per gallon.<sup>6</sup> Assuming construction worker vehicles have an average fuel economy consistent with the Caltrans study and each construction worker commutes an average of 20 miles a day to and from the site, the maximum 5 workers on-site during the two months of construction is estimated to consume approximately 5 gallons of gasoline a day. Assuming all 5 construction workers are employed at the site for 8 weeks, the fuel used by construction workers commuting to the site is approximately 213 gallons or 11 barrels<sup>7</sup> of gasoline, which is insignificant compared to the 2017 statewide transportation gasoline consumption of 366,820 barrels, which is the latest year that data is available.<sup>8</sup>

Construction equipment fuels (e.g., diesel, gasoline, natural gas) would be provided by local or regional suppliers and vendors. Electricity would be supplied by the local utility provider (e.g., Southern California Edison) via existing connections at the YAP. Water primarily for fugitive dust suppression would be supplied by Santa Margarita Water District through existing on-site water facilities.

Electricity used during construction to provide temporary power for lighting would generally not result in a substantial increase in on-site electricity use. Electricity use during construction would be variable depending on lighting needs and the use of electric-powered equipment and would be temporary for the duration of construction activities. The electricity that would be used during construction would be considered negligible.

### **Energy Conservation: Regulatory Compliance**

The project would utilize construction contractors who demonstrate compliance with applicable CARB regulations governing the accelerated retrofitting, repowering, or replacement of heavy-duty diesel on- and off-road equipment. CARB has adopted an Airborne Toxic Control Measure to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel particulate matter and other Toxic Air Contaminants (TACs). Compliance with the above anti-idling and emissions regulations would result in a more efficient use of construction-related energy and minimize or eliminate wasteful and unnecessary consumption of energy.

With respect to solid waste, CALGreen requires 65% of most construction and demolition waste be diverted from a landfill. The project would not generate any construction debris, with the exception of excess dirt that would be left-over from backfilling the holes for the light poles. All excess dirt would be hauled to Lower Curtis Park that is owned by the City of Mission Viejo and approximately two miles southeast of the site.

### **Anticipated Energy Consumption**

Once installed, the operation of the lights would increase the demand for electricity. Southern California Edison is the electrical purveyor in this area of the City of Mission Viejo and would provide electricity to the project without any significant impacts to their facilities.

### **Energy Conservation: Regulatory Compliance**

The California Energy Commission (CEC) first adopted the Energy Efficiency Standards for Residential and Nonresidential Buildings (CCR, Title 24, Part 6) in 1978 in response to a legislative mandate to reduce energy consumption in the state. Part 11 of the Title 24 Building Standards Code is referred to as CALGreen. The purpose of CALGreen is to “improve public health, safety and general welfare by

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<sup>6</sup> 2007 California Motor Vehicle Stock, Travel and Fuel Forecast, California Department of Transportation, Table 1, (2008).

<sup>7</sup> Approximately 42 gallons of crude oil and 20 gallons of gasoline in a barrel.

<sup>8</sup> California 2017 Transportation gasoline consumption – 366,820 barrels; [https://www.eia.gov/state/seds/sep\\_fuel/html/pdf/fuel\\_mg.pdf](https://www.eia.gov/state/seds/sep_fuel/html/pdf/fuel_mg.pdf)

enhancing the design and construction of buildings through the use of building concepts having a positive environmental impact and encouraging sustainable construction practices in the following categories: (1) Planning and design; (2) Energy efficiency; (3) Water efficiency and conservation; (4) Material conservation and resource efficiency; and (5) Environmental quality.”<sup>9</sup> As of January 1, 2011, CALGreen is mandatory for the construction of all new buildings in the state. CALGreen establishes mandatory measures for new residential and non-residential buildings. Such mandatory measures include energy efficiency, water conservation, material conservation, planning and design and overall environmental quality.<sup>10</sup> CALGreen was most recently updated in 2016 to include new mandatory measures for residential as well as nonresidential uses; the new measures took effect on January 1, 2017.<sup>11</sup>

The project does not propose the construction of any buildings. Therefore, the project is exempt from CALGreen energy requirements. The proposed sports field lights are also exempt from Title 24 energy standards. Thus, the project would not have any significant energy impacts.

- b) ***Conflict with or obstruct a state or local plan for renewable energy or energy efficiency? Less Than Significant Impact.*** As stated in Section “VI.a” above, the project is exempt from Title 24 state energy requirements. The project would not conflict with, obstruct or impact any state or local energy plans.

## VII. GEOLOGY AND SOILS: Would the project:

- a) ***Director or indirectly cause substantial adverse effects, including the risk of loss, injury, or death involving:***
- i. ***Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to Division of Mines and Geology Special Publication 42.) Less Than Significant Impact.*** A geotechnical report<sup>12</sup> was prepared for the project and a copy is included in Appendix A of this MND.

The YAP, like the majority of southern California, is located in a seismically active area. While the YAP is in a seismically active area it is not located within a designated Alquist-Priolo Earthquake Fault Zone.<sup>13</sup> The nearest known active fault is the San Joaquin Hills Blind Thrust that is located approximately 3.9 kilometers (2.4 miles) to the west. There are no active or potentially active faults known to cross the site. As a result, the potential for primary ground rupture due to faulting is very low to negligible.<sup>14</sup>

While there are faults in the region that could generate moderate to significant ground shaking at the site, the project would not be exposed to any greater risks of an earthquake fault rupture than the existing light poles and other improvements on the YAP. The project would not be significantly impacted by faulting.

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<sup>9</sup> California Building Standards Commission, 2019 California Green Building Standards Code, (2019).

<sup>10</sup> Ibid.

<sup>11</sup> Ibid.

<sup>12</sup> Geotechnical Investigation for Proposed New Lighting, Marty Russo Youth Athletic Park, Olympiad Road, City of Mission Viejo, California, GMU, February 4, 2022.

<sup>13</sup> <https://maps.conservation.ca.gov/cgs/EQZApp/app/>.

<sup>14</sup> Geotechnical Investigation for Proposed New Lighting, Marty Russo Youth Athletic Park, Olympiad Road, City of Mission Viejo, California, GMU, February 4, 2022, page 2.

- ii. **Strong seismic ground shaking? Less Than Significant Impact.** Because the project site is located in southern California and an active seismic area, there is the potential for ground motion at the site. As discuss in Section “VII.a.i.” of this MND, seismic ground shaking at the site would not significantly impact the light poles, once constructed. The project would not be significantly impacted by seismic ground shaking.
- iii. **Seismic-related ground failure, including liquefaction? Less Than Significant Impact.** Liquefaction is a phenomenon when loose, saturated, relatively cohesionless soil deposits lose their shear strength during strong ground motions. The primary factors controlling liquefaction include intensity and duration of ground motion, gradation characteristics of the subsurface soils, in-situ stress conditions, and the depth to groundwater. Liquefaction is typified by a loss of shear strength in the liquefied layers due to rapid increases in pore water pressure generated by earthquake accelerations.

The project site is located in a state designated liquefaction zone.<sup>15</sup> Therefore, the project could be impacted by liquefaction. However, based on the results of the subsurface exploration and laboratory testing, the subsurface soils consist predominantly of silty clays and sandy clays that are not considered susceptible to liquefaction.<sup>16</sup> Therefore, the project would not be significantly impacted by liquefaction or other seismic ground failure.

- iv. **Landslides? Less Than Significant Impact.** The project site is flat and ranges in elevation from a high of 366 feet above mean sea level at the southeast corner of the site to a low of 364 feet at the northwest corner of the site, a difference of 2 feet. There are slopes along the west and north sides of the YAP associated with the Coral Gardens residential development adjacent to the site. There are also slopes along the east and south project boundaries associated with Olympiad and Melinda roads. While there is a potential for any of the existing slopes to fail and possibly impact the light poles, there has not been any landslides associated with the existing slopes surrounding the YAP during the 20 years the athletic fields have been in operation. While landslides could impact the project, the potential for a landslide and impact the project is less than significant.
- b) **Result in substantial soil erosion or loss of topsoil? Less Than Significant Impact.** The City would require the contractor to install and maintain all applicable City required short-term construction soil erosion control measures to reduce and minimize soil erosion impacts throughout project grading. The contractor would not be required to prepare a SWPPP because the project would not disturb an area greater than 1 acre. The incorporation of all applicable City required soil erosion control measures by the contractor would reduce potential soil erosion and loss of topsoil impacts to less than significant.
  - c) **Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse? Less Than Significant Impact.** Based on the geotechnical report the project would not be significantly impacted by unstable soil due to an off-site landslide, lateral spreading, subsidence, liquefaction or soil collapse. All grading and construction would have to comply with all applicable requirements of the 2019 CBC and recommendations of the geotechnical report.<sup>17</sup>
  - d) **Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property? Less Than Significant Impact.** Based on the grain size analysis that was performed the near surface soils are likely to be highly

<sup>15</sup> <https://maps.conservation.ca.gov/cgs/EQZApp/app/>.

<sup>16</sup> Geotechnical Investigation for Proposed New Lighting, Marty Russo Youth Athletic Park, Olympiad Road, City of Mission Viejo, California, GMU, February 4, 2022, page 2.

<sup>17</sup> Ibid.

expansive. However, it is not anticipated the near surface expansive soils would impact the construction of the light pole foundations.<sup>18</sup> Although the near surface soils are expansive the project would not be significantly impacted by expansive soil.

- e) ***Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of waste water? No Impact.*** The project would not generate any wastewater. Therefore, the project would not have any septic tank or alternative wastewater disposal impacts.
- f) ***Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? No Impact.*** Based on the Mission Viejo General Plan, paleontological resources are not anticipated to be present on the site.<sup>19</sup> The project is not anticipated to have any paleontological resource impacts.

### **VIII. GREENHOUSE GAS EMISSIONS: Would the project:**

- a) ***Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? Less Than Significant Impact.*** “Greenhouse gases” (so called because of their role in trapping heat near the surface of the earth) emitted by human activity are implicated in global climate change, commonly referred to as “global warming.” Greenhouse gases contribute to an increase in the temperature of the earth’s atmosphere by transparency to short wavelength visible sunlight, but near opacity to outgoing terrestrial long wavelength heat radiation in some parts of the infrared spectrum. The principal greenhouse gases (GHGs) are carbon dioxide, methane, nitrous oxide, ozone, and water vapor. For purposes of planning and regulation, Section 15364.5 of the California Code of Regulations defines GHGs to include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride. Fossil fuel consumption in the transportation sector (on-road motor vehicles, off-highway mobile sources, and aircraft) is the single largest source of GHG emissions, accounting for approximately half of GHG emissions globally. Industrial and commercial sources are the second largest contributors of GHG emissions with about one-fourth of total emissions.

California has passed several bills and the Governor has signed at least three executive orders regarding greenhouse gases. AB 32 is one of the most significant pieces of environmental legislation that California has adopted. The major components of AB 32 include:

- Require the monitoring and reporting of GHG emissions beginning with sources or categories of sources that contribute the most to statewide emissions.
- Requires immediate “early action” control programs on the most readily controlled GHG sources.
- Mandates that by 2020, California’s GHG emissions be reduced to 1990 levels.
- Forces an overall reduction of GHG gases in California by 25-40%, from business as usual, to be achieved by 2020.
- Must complement efforts to achieve and maintain federal and state ambient air quality standards and to reduce toxic air contaminants.

Maximum GHG reductions are expected to derive from increased vehicle fuel efficiency, greater use of renewable energy, and increased structural energy efficiency. Additionally, through the California

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<sup>18</sup> Scott Ward, Project Engineer, GMU, email February 8, 2022.

<sup>19</sup> Mission Viejo General Plan, Conservation/Open Space Element, Figure COS-1, page 17 and County of Orange Chapter VI Resources Element, Figure VI-9.

Climate Action Registry (CCAR or the Climate Action Reserve), general and industry-specific protocols for assessing and reporting GHG emissions have been developed. GHG sources are categorized into direct sources (i.e. company owned) and indirect sources (i.e. not company owned). Direct sources include combustion emissions from on-and off-road mobile sources, and fugitive emissions. Indirect sources include off-site electricity generation and non-company owned mobile sources.

### **Thresholds of Significance**

Under CEQA, a project would have a potentially significant greenhouse gas impact if it:

- Generates GHG emissions, directly or indirectly, that may have a significant impact on the environment, or,
- Conflicts with an applicable plan, policy or regulation adopted to reduce GHG emissions.

Emissions identification may be quantitative, qualitative or based on performance standards. CEQA guidelines allow the lead agency to “select the model or methodology it considers most appropriate.” The most common practice for transportation/combustion GHG emissions quantification is to use a computer model such as CalEEMod, which was used for the GHG analysis for the proposed project.

In September 2010, the SCAQMD Governing Board Working Group recommended a threshold of 3,000 MT CO<sub>2</sub>e for all land use types. The 3,000 MT/year CO<sub>2</sub>e threshold is used for the greenhouse gas emission analysis for the project. In the absence of an adopted numerical threshold of significance, project related GHG emissions in excess of the guideline level are presumed to trigger a requirement for enhanced GHG reduction at the project level.

### **Project Greenhouse Gas Emissions**

#### *Construction Activity GHG Emissions*

Project construction is estimated to take approximately three weeks to bore the holes for the 10 light poles, lift and set the light poles into the holes and backfill the poles. It will take approximately five weeks to dig the trenches for the wiring for the light poles, string the wire in the trenches from the light poles to the electrical control panels and finalize the lights for use. The construction equipment that would be required to dig the holes for the light poles and lift the light poles into the holes includes a backhoe to dig the holes, a crane to lift the poles into place and a backhoe to backfill the holes. Approximately five pieces of construction equipment would be required during the two week period to install the light poles. The operation of the five pieces of construction equipment would not exceed the 3,000 MT/year CO<sub>2</sub>e greenhouse gas emission threshold. Therefore, the GHG construction emissions would be less than significant.

#### *Operational GHG Emissions*

The operational GHG emissions associated with the generation of the electricity required to power the lights would be generated off-site at the Southern California Edison generation facility. Due to the small amount of power required to power the lights during the evening hours would be below the guideline threshold of 3,000 MTY CO<sub>2</sub>e suggested by the SCAQMD. Therefore, the GHG operational emissions would be less than significant.

- b) ***Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases? No Impact.*** The City has an adopted Sustainability Action Plan (SAP). The SAP identifies only voluntary GHG reduction measures that would apply to different types

of future projects and at this time the City has not developed a checklist for projects to reduce GHG emissions and must show that the GHG emissions that are generated would be less than significant.

The California Governor issued Executive Order S-3-05, GHG Emission, in June 2005, which established the following reduction targets:

- 2010: Reduce greenhouse gas emissions to 2000 levels
- 2020: Reduce greenhouse gas emissions to 1990 levels
- 2050: Reduce greenhouse gas emissions to 80 percent below 1990 levels.

In 2006, the California State Legislature adopted AB 32, the California Global Warming Solutions Act of 2006 that requires CARB to adopt rules and regulations that would achieve GHG emissions equivalent to statewide levels in 1990 by 2020 through an enforceable statewide emission cap, which were phased in starting in 2012.

The project's GHG emissions meet and are less than the threshold for compliance with Executive Order S-3-05. The project's emissions also comply with the goals of AB 32. Because the project GHG emissions are less than the current interim emissions targets/thresholds established by SCAQMD the project would also meet the reduction target of 40 percent below 1990 levels by 2030 mandated by SB-32. Furthermore, the majority of the post 2020 reductions in GHG emissions are addressed via regulatory requirements at the State level and the project would be required to comply with the regulations as they come into effect. Therefore, the project would not impact and conflict with any applicable plan, policy, or regulations to reduce GHG emissions.

#### **IX. HAZARDS AND HAZARDOUS MATERIALS: Would the project:**

- a) ***Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? Less Than Significant Impact.*** The project does not propose to transport, use, or dispose any hazardous materials either on or off the site. The only hazardous materials that would be transported and stored on the site includes the temporary storage of hazardous materials (diesel fuel, gasoline, lubricants) for use by the construction contractor to operate and maintain the various types of motorized construction equipment that would be operated during project construction. It would be the responsibility of the contractor to use and store all hazardous materials in compliance with applicable Federal, State, and local laws and regulations during project construction. Once the lights are installed and operational no hazardous materials would be used or needed. The project would not have any significant impacts associated with the transportation, use or storage of hazardous materials.
- b) ***Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? Less Than Significant Impact.*** As discussed in Section "IX.a" above, the hazardous materials that would be used on-site includes diesel fuel, gasoline and lubricants that would be necessary to operate the construction equipment. The project contractor would be responsible to store and use all hazardous materials in compliance with all applicable Federal, State and local laws to prevent the release of hazardous materials into the environment. The project would not have any significant hazardous material impacts.
- c) ***Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? No Impact.*** There are no existing or proposed schools within one-quarter mile of the YAP. The closest school is Trabuco High School that is located at 27501 Mustang Run and approximately one mile northwest of the site. The

installation of 10 light poles would not emit, generate or handle any hazardous or acutely hazardous materials or substances and impact schools.

- d) ***Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or environment? No Impact.*** The YAP is not listed as a hazardous material site on the “Cortese” list pursuant to Government Code Section 65962.5. The project would not have a hazardous impact to the public or environment per Government Code Section 65962.5.
- e) ***For a project located within an airport land use plan, or where such a plan has not been adopted, within two miles of a public airport, would the project result in a safety hazard or excessive noise for people working or residing in the project area? No Impact.*** The closest airport to the YAP is John Wayne Airport (JWA), which is approximately thirteen miles northwest of the project and not within the land use plan of JWA. Because the project is more than two miles from JWA, the project construction workers would not be impacted by a safety hazard or excessive noise at JWA.
- f) ***Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? No Impact.*** A two-lane paved road that extends from Olympiad Road to the YAP provides access to the site. The City has an Emergency Operations Plan (EOP) to address the City’s response in the event of a large scale disaster or emergency situations. The closest designated evacuation route to the YAP as designated by the EOP is Marguerite Parkway<sup>20</sup> and approximately one-quarter mile to the west. The activities necessary to construct the 10 light poles and their on-going operation would not physically interfere with or impact the use of Marguerite Parkway or any other designated emergency evacuation route in the City.
- g) ***Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires? No Impact.*** The project site is not located in a State of California designated wildland fire area. See Section “XX Wildfire” for further wildland fire analysis. The project would not be exposed to or impacted by a wildland fire.

#### **X. HYDROLOGY AND WATER QUALITY: Would the project:**

- a) ***Violate any water quality standards or waste discharge requirements? No Impact.*** The project includes boring 10 holes and installing 10 light poles to light three baseball fields. Due to the small amount of dirt that would be generated and the short period of time the dirt would be stored on the ground adjacent to the holes (approximately three days) the potential for the project to discharge sediments should rainfall occur. The project is scheduled to start construction in March 2022 and be completed in May 2022. Rainfall typically occurs during the winter months, which is October to April. While rainfall could occur during the two months of project construction, due to construction occurring late in the typical annual rainfall cycle the rainfall that may occur is not anticipated to cause significant soil erosion at the site. The contractor would not be required to prepare a SWPPP because the project would not disturb an area greater than 1 acre. The project is also not required to prepare a Water Quality Management Plan (WQMP) because the project would not add or replace 5,000 square feet or more of impervious surface area. Due to the small area of vacant land that would be disturbed to bore the 10 light pole holes the project would not have an impact on water quality or surface water discharge.
- b) ***Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin. No Impact.*** The project would require the use of water for dust suppression as necessary

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<sup>20</sup> City of Mission Viejo Public Safety Element, Figure PS-6.

during project construction to comply with SCAQMD Rule 403 Fugitive Dust. The amount of water that would be required to control dust associated with the dirt that would be piled adjacent to each of the ten light pole holes would be minimal and not significantly impact existing groundwater supplies. The YAP would continue to function as a retention basin for Oso Creek both during construction and upon the completion of project. The project would have no impact to groundwater supplies or groundwater recharge.

c) ***Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner, which would:***

i. ***Result in substantial erosion or siltation on or off site? No Impact.*** Due to the small scale of the project and the short (three months) construction period the project would not have any impact for soil erosion or siltation either on or off the site. As discussed in Section “X.a” above, the project contractor would not be required to prepare a SWPPP because the project would not disturb an area greater than 1 acre. Also, the project is also not required to prepare a Water Quality Management Plan (WQMP) because the project would not add or replace 5,000 square feet or more of impervious surface area. The project would not have any erosion or siltation impacts either on or off the site.

ii. ***Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off site? No Impact.*** As discussed in Section “X.b” above, the project would not increase or change the amount of surface water runoff that is currently generated on the site. The project does not propose any new impervious surface area that would substantially increase the rate or amount of surface water runoff currently generated by the YAP. The project would not have any on- or off-site flooding impacts.

iii. ***Create or contribute runoff water, which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff? No Impact.*** As stated above in Section “X.c.ii” above, the project would not increase the amount of storm water runoff that is currently generated from the YAP. The existing storm drain system that serves the YAP would continue to serve the site and the improvements proposed by the project would not have any impact on the existing storm water capacity of the YAP as a retention basin. The installation and operation of the proposed 10 light poles would not provide or generate any sources of polluted runoff.

iv. ***Impede or redirect flood flows? Less Than Significant Impact.*** Please see Section “X.c.ii.” above.

d) ***In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation. No Impact.*** According to the Federal Emergency Management Agency (FEMA), the YAP is located in Zone A<sup>21</sup>, which is a Special Flood Hazard area. Figure PS-3 of the Public Safety Element of the Mission Viejo General Plan shows that the YAP is located in a 100-year flood zone. The YAP is designed to serve as a retention basin for Oso Creek that flows into the YAP from the north. Surface water in the YAP that exceeds its design capacity flows under Olympiad Road in a concrete storm drain and discharges into Lake Mission Viejo to the south. There are 16 existing light poles that provide lighting for three baseball fields (#1, #5, #8), four soccer fields and the baseball batting cages at the north end of the YAP between field #4 and #5. The installation of 10 additional light poles would not release any pollutants should the YAP be inundated with storm water.

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<sup>21</sup> <https://msc.fema.gov/portal/search?AddressQuery=22556%20Olympiad%20Road%20Mission%20Viejo%2C%20CA#Searchresultsanchor>

The project is more than twenty-one miles northeast from the Pacific Ocean and approximately 364 feet above mean sea level. Due to the distance and the elevation of the YAP from the Pacific Ocean the project would not be exposed to or be impacted by a tsunami. There are no bodies of water adjacent to or in close proximity to the YAP, including Lake Mission Viejo that could impact the project site due to flooding or a seiche. Olympiad Road that extends between YPA and Lake Mission Viejo serves to minimize and prevent water from Lake Mission Viejo from entering the YAP. The project would not be impacted by a flood, tsunami or seiche. In addition, the project would not be impacted by a release of pollutants associated with a flood, tsunami or seiche.

- e) ***Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. No Impact.*** There are no activities associated with the installation of 10 light poles that are the same as the 16 existing light poles, that would conflict with or obstruct the implementation of a water quality control plan or the use of the YAP for a sustainable groundwater management plan. The project would not conflict with or obstruct water quality control measures mandated by the state.

As discussed in Section “X.a” of this MND, the project contractor would not be required to prepare a SWPPP because the project would not disturb an area greater than 1 acre. The project is also not required to prepare a Water Quality Management Plan (WQMP) because the project would not add or replace 5,000 square feet or more of impervious surface area. The project would not have any water quality impacts.

#### **XI. LAND USE AND PLANNING: Would the project:**

- a) ***Physically divide an established community? No Impact.*** The project proposes to install 10 galvanized steel poles ranging in height from 60’ to 90’ at fields #2, #3, #7 and eliminate the need to operate 12 portable light generators. The installation and operation of the 10 light poles would not physically divide the existing land uses that are adjacent to and surrounding the site.
- b) ***Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect? No Impact.*** The YAP is designated Recreation/Open Space land use by the Mission Viejo General Plan and zoned Recreation (R). The Mission Viejo General Plan identifies the intent of the Recreation/Open Space land use as follows<sup>22</sup>:

“The Recreation/Open Space designation includes both public and private recreational uses necessary to meet the active and passive recreational needs of City residents. Active recreation activities include golf courses, driving ranges, equestrian centers, community recreational facilities, public parklands, and indoor and outdoor sports athletic facilities. Passive recreation uses include museums, galleries, nature preserves, outdoor theater, designated open space and similar uses. These activities should be widely distributed throughout the city and have a maximum floor area ration of .50:1.

As an allowed use by the Mission Viejo General Plan, the installation of the 10 light poles would not have any land use conflicts with the existing land uses adjacent to and surrounding the YAP. There are 16 existing light poles that provide lighting for three baseball fields (#1, #5, #8), four soccer fields and the baseball batting cages at the north end of the YAP between field #4 and #5 and the same as the 10 light poles that are proposed to be installed. Therefore, the proposed light poles are not new or unique to the YAP. The project would not have any significant land use impacts.

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<sup>22</sup> City of Mission Viejo General Plan, Land Use Element, page 28.

## **Zoning**

The project site is zoned Recreation. Chapter 9.13 of the Mission Viejo Municipal Code provides the regulations for development in the Recreation zone. According to Section 9.13.005 the purpose of the Recreation zone is:

- (a) The purpose of this chapter is to provide for the preservation of the city's important natural resources and open space areas and to provide for public and private recreational land use activities necessary to meet both passive and active recreational needs of city residents.
- (b) The purpose of the individual open space zoning districts is as follows:
  - (2) OS (Open Space) Zone. This zone is intended to provide for the protection, preservation, and management of natural resources. Maintaining and improving the pristine condition of important geographic features and landforms is a primary objective for this zone; therefore, only passive land uses that will have a minimal impact will be permitted.
  - (3) R (Recreation) Zone. This zone is intended to provide for the promotion of public outdoor recreation that meets the needs of all residents living in the community. Active and passive activities, including physical, cultural, and social, may be permitted. Additionally, indoor recreation may be allowed when compatible and harmonious with its environs.

Section 9.13.020 provides general standards for development in the Recreation zone. Per section 9.13.020 (f);

“the need for exterior lighting must be sanctioned by the city and, if justified, the lighting equipment shall be energy efficient, appropriately located, directed, and shielded from surrounding properties and public rights-of-way”.

The land use chart in Section 9.13.015 of the Mission Viejo Municipal Code states the development of athletic fields in the Recreation zone requires a Planned Development Permit. Section 9.47.030 – Findings of the Mission Viejo Municipal Code lists the findings that must be approved for a Planned Development Permit. Per Section 9.47.030 the review authority may approve a planned development permit, only if all of the following findings are made:

- (a) That the proposed development is one permitted within the subject zoning district and complies with all of the applicable provisions of this code, including prescribed development standards and design guidelines.
- (b) That the subject site is physically suitable for the type and intensity of the land use being proposed.
- (c) That the proposed development would be harmonious and compatible with existing and future developments within the zoning district and general area.
- (d) That the proposed development is harmonious and compatible with the land uses presently on the subject property.
- (e) That there are adequate provisions for water, sanitation, and public utilities and services to ensure that the proposed development is not detrimental to public health and safety.
- (f) That there is adequate public access to serve the proposed development.
- (g) That there are no significant harmful effects upon the environmental quality and natural resources.
- (h) That the negative impacts of the proposed development shall be mitigated.
- (i) That the proposed development is consistent with the general plan.

- (j) That the location, size, design, and operating characteristics of the proposed development are not detrimental to the public interest, health, safety, convenience, or welfare of the city.

The project would meeting all of the above findings as discussed below:

- a. The installation of the light poles is allowed in the Recreation zone and the project complies with all applicable provisions of the Recreation code, including all prescribed development standards and design guidelines.
- b. The YAP is physically suitable for the installation of the proposed 10 light poles.
- c. The proposed 10 light poles are harmonious and compatible with the existing and future developments allowed in the Recreation zone and the existing residential development adjacent to and within the general area of the YAP.
- d. The proposed 10 light poles are harmonious and compatible with the existing baseball and soccer fields and the existing 16 light poles on the YAP.
- e. Once operational the 10 lights would require electrical service from Southern California Edison. Southern California Edison's existing electrical facilities at the YAP have adequate capacity to provide electricity for the operation of the lights without any impacts or detriments to public health or safety. The project would not require any other public services or utilities.
- f. The existing paved public road that serves the YAP from Olympiad Avenue would continue to serve and provide adequate public access to the YAP during project construction and after project completion.
- g. The Mitigated Negative Declaration has not identified any significant harmful effects or environmental impacts to the quality of natural resources on the YAP either during construction or the operation of the project.
- h. Mitigation measures are recommended to reduce potentially significant environmental impacts to less than significant levels.
- i. The project is consistent with the land uses allowed in the Recreation/Open Space land use designation for the YAP per the Mission Viejo General Plan.
- j. The installation of the proposed 10 lights would not be detrimental to the public interest, health, safety, convenience, or welfare of the city. The operation of the proposed 10 lights would eliminate the need for the city to operate 12 portable light generators and reduce noise to the residents of the Coral Gardens residential development that are adjacent to and west and north of the YAP to improve the public health (reduce noise levels) to the residents.

The project would not have any significant land use or zoning impacts.

## **XII. MINERAL RESOURCES: Would the project:**

- a) ***Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state? No Impact.*** The State of California Mining and Geology Board classify land in California on the availability of mineral resources. There are four Mineral Resources Zone (MRZ) designations in California for the classification of sand, gravel, and crushed rock resources (MRZ-1, MRZ-2, MRZ-3, MRZ-4). The YAP is located in an area that is designated MRZ-1.<sup>23</sup> The MRZ-1 classification includes "Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence".<sup>24</sup> Because no significant recoverable mineral resources are known to exist on the YAP site, the project would not impact any mineral resources of value to the region or the residents of the state. The project would not have any mineral resource impacts.

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<sup>23</sup> Generalized Mineral Land Classification of Orange County, California, Aggregate Resources Only, R.V. Miller, 1994, Plate 1.

<sup>24</sup> Ibid.

- b) **Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? No Impact.** As discussed above in Section “XII.a”, the YAP is not located within an area of known mineral deposits. Therefore, the project would not result in the loss of and not impact any locally important mineral resources.

**XIII. NOISE: Would the project result in:**

- a) **Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies. Less Than Significant Impact.** The YAP serves as a retention basin for Oso Creek that enters the site from the north. The retention basin is also jointly used for recreational purposes by the City and includes eight (8) baseball fields and three (3) soccer fields, a concession stand, restrooms, batting cages and a paved parking lot for 293 cars. Noise is currently generated from the site during baseball and soccer practices, games and other public events. Twelve portable light generators are used to provide temporary lighting for fields #2, #4 and #7 from the end of January through the middle of March each year and operate seven days a week from dusk until 9 PM.

A noise study was prepared for the project and a copy is included in Appendix B of this MND. Noise measurements were taken on December 15, 2021 from 6:00 to 7:00 p.m. to determine the existing noise levels from the operation of the portable generators at fields #2, #3 and #7. The noise measurements focused on the closest residences to the location of the generators, which are the residents on St. Kitts within the Coral Gardens residential development adjacent to and north of the YAP.

City personnel placed four generators in the positions they are typically used to light field #2. Noise measurements were taken prior to the operation of the generators for back-ground noise levels. Noise measurements were taken at a fixed circumference and in four quadrants near one of the generators to determine if there is any sound level asymmetry depending upon orientation of the generators.

The results of the noise level measurements were compared to the City of Mission Viejo exterior noise standards for residential development per Mission Viejo Municipal Code sections 6.35.040 and 9.22.025 that are shown in Table 5.

**Table 5  
Mission Viejo Noise Standards**

Noise level	Time period
55 dB(A)	7:00 a.m.—10:00 p.m.
50 dB(A)	10:00 p.m.— 7:00 a.m.

Section 6.35.060 of the Municipal Code, (Special Provisions) exempts activities conducted on any park or playground, provided such park or playground is owned and operated by a public entity. The City of Mission Viejo owns and operates the YAP and as a result, the noise that is generated during its operation is exempt from compliance with the above numerical thresholds. Although the activities conducted at the YAP are exempt from the City’s noise ordinance, the City noise standards are referenced to determine potential significant noise impacts associated with continued activities at the YAP with the installation of the proposed athletic field lights.

The measured back-ground noise level before the generators were running was 40 dB. Noise measurements were taken near the rear yard of the closest residence on St. Kitts north of the YAP with all four portable generators running. The noise level with all four portable light generators running near

the rear yard of the residence on St. Kitts was 50 dB and less than the 55 dB noise level allowed by Mission Viejo Municipal Code sections 6.35.040 and 9.22.025 as shown above in Table 5.

The replacement of the 12 portable light generators with the permanent lights would eliminate the existing noise with the operation of the portable light generators. The removal of the portable light generators would reduce the noise levels at the residential units west and north of the YAP to levels when the generators are not operating. Although the noise levels at the residential units when the generators are operating are less than the exterior noise levels allowed by sections 6.35.040 and 9.22.025 of the Mission Viejo Municipal Code, the removal of the portable generators would further reduce the noise levels when the generators are operational.

The installation of the proposed 10 baseball lights would eliminate the need for the City to operate 12 portable light generators from the end of January through the middle of March seven days a week from dusk until 9 PM. The removal of the 12 portable generators would have a positive noise impact to the residents of the Coral Gardens residential development adjacent to and west and north of the YAP by reducing evening noise levels during the time the generators currently operate.

- b) ***Generation of excessive ground borne vibration or ground borne noise levels? No Impact.*** The project would require the contractor to bore 10 holes at fields #2, #3 and #7 to install light poles. The closest residences to the fields where the holes would be bored is approximately 350 feet. None of the residents closest to the areas where the light pole holes would be bored would feel any vibration of ground borne noise impacts due to the distance of the residents from the areas where the holes would be bored. The residents west and north of the project would not be impacted by soil boring vibrations.
- c) ***For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport, would the project expose people residing or working in the project area to excessive noise levels? No Impact.*** As discussed in Section "ix.e" above, the closest airport to the site is John Wayne Airport (JWA), which is approximately thirteen miles northwest of the YAP and not within the land use plan of JWA. Therefore, the construction workers would not be exposed and impacted by excessive noise levels.

#### **XIV. POPULATION AND HOUSING: Would the project:**

- a) ***Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example through extension of roads or other infrastructure)? No Impact.*** The installation and operation of the proposed 10 athletic field lights for baseball fields #2, #3 and #7 would not induce a growth in the population of Mission Viejo or the area. The project would not have any impact on the City's population or growth.
- b) ***Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere? No Impact.*** There are no houses on the YAP. Therefore, no houses would be demolished and no residents would be displaced and require replacement housing elsewhere in Mission Viejo. The project would not impact housing or displace any residents.

#### **XV. PUBLIC SERVICES:**

- a) ***Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:***

- i. **Fire protection? Less Than Significant Impact.** The Orange County Fire Authority (OCFA) provides fire protection services for the City of Mission Viejo. The closest fire station is Fire Station 31 that is located at 22426 Olympiad Road and approximately one-third of a mile southeast of the YAP. The project could require fire protection services during construction and installation of the lights. However, it is anticipated the need for fire protection services during construction would be minimal. Once the lights are installed there would not be a need for fire protection services. OCFA has sufficient personnel to serve the project during construction without any significant impact to OCFA's ability to continue to provide an adequate level of fire protection service to the community. The impact by the project to fire protection services would be less than significant.
- ii. **Police protection? Less Than Significant Impact.** The City contracts with the Orange County Sheriff's Department for police protection services. The sheriff headquarters are located at 200 Civic Center and approximately 3.25 miles south of the YAP. The project could require police services during construction and installation of the lights to respond to vandalism, theft or other police emergencies. Once the lights are installed and operational the project would not require police services. While the project could require police services during construction the need for police services would be minimal and not impact the Department's ability to continue to provide an adequate level of police protection to the community. The impact by the project to police services would be less than significant.
- iii. **Schools? No Impact.** The YAP is located in the Saddleback Valley Unified School District. The project would not generate any students and as a result would not impact the Saddleback Valley Unified School District.
- iv. **Parks? No Impact.** The project proposes to install 10 light poles to light three existing baseball fields at the YAP. The installation of the lights would have a positive impact on the baseball and soccer activities at the YAP by eliminating the noise associated with the use of 12 portable light generators and improving the nighttime lighting for the existing baseball and soccer fields. The project would not change the current use of the YAP or impact any other parks. The project would not have an impact on parks.
- v. **Other public facilities? No Impact.** There are no public facilities or services that would be impacted by the project.

## XVI. RECREATION

- a) **Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? No Impact.** The project would not impact recreation facilities in the City. Please see Public Services Section "XV.a.iv" above.
- b) **Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment? No Impact.** As discussed in Public Services Section "XV.a.iv" above, the project proposes to install 10 lights at three existing baseball fields to improve the lighting at the fields. The project does not propose to construct any new recreational facilities or require the construction or expansion of any existing recreational facilities that would have an adverse physical impact on the environment. The project would not have an impact on recreational facilities.

## XVII. TRANSPORTATION: Would the project:

- a) **Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities? No Impact.** The project would generate traffic by the five workers that would commute to the YAP on a daily basis during the two months of construction. Once the lights are installed and operational the project would not generate any traffic. The project would not conflict with or impact any transportation plan, transit, roadway, bicycle or pedestrian facilities that serve the YAP.
- b) **Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)? No Impact.** California Senate Bill 743 (SB 743) directs the State Office of Planning and Research (OPR) to amend the California Environmental Quality Act (CEQA) Guidelines for evaluating transportation impacts to provide alternatives to Level of Service that “promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses.” The 2020 CEQA Guidelines, specifically Section 15064.3, recommends the use of Vehicle Miles Travelled (VMT) as the primary metric for the evaluation of transportation impacts associated with land use and transportation projects. In general terms, VMT quantifies the amount and distance of automobile travel attributable to a project or region. All agencies and projects in California are required to utilize CEQA Guidelines Section 15064.3 that requires VMT to evaluate transportation impacts as of July 1, 2020.

The CEQA Guidelines allow a lead agency the discretion to establish the VMT methodologies and thresholds, provided there is substantial evidence to demonstrate that the established procedures promote the intended goals of the legislation. Where quantitative models or methods are unavailable, Section 15064.3 allows agencies to assess VMT qualitatively using factors such as availability of transit and proximity to other destinations. The Office of Planning and Research (OPR) Technical Advisory on Evaluating Transportation Impacts in CEQA (State of California, December 2018) [“OPR Technical Advisory”] provides technical considerations regarding methodologies and thresholds with a focus on office, residential, and retail developments as these projects tend to have the greatest influence on VMT. The OPR Technical Advisory does not provide information to determine project construction VMT.

The project is not required to prepare a VMT analysis because of the low volume of daily traffic that project construction would generate. As a result, the project would not conflict with or impact CEQA Guidelines Section 15064.3, subdivision (b).

- c) **Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? No Impact.** The project does not propose any changes or improvements to the existing access road to the site from Olympiad Road. The existing access road from Olympiad Road would continue to serve the site in its existing condition both during construction and once the project is completed and operational. The project would not change or cause any hazards due to a geometric design feature of the existing access road to the YAP.
- d) **Result in inadequate emergency access? No Impact.** The existing access road from Olympiad Road would not be impacted during construction or the operation of the lights. Emergency vehicles would continue to have suitable access to the site during construction for emergency response and once the lights are operational. The project would not have any impact to emergency vehicle access to the site.

**XVIII. TRIBAL CULTURAL RESOURCES: Would the project:**

- a) **Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:**
- i. **Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1 (k). No Impact.** As required by AB 52, the City mailed letters to the ten Native American Indian Tribes that are on record with the City and may have cultural resources associated with the YAP. None of the Tribes contacted the City to request consultation regarding potential impacts to tribal cultural resources. Since there are no known tribal cultural resources within the YAP and none of the tribes that were contacted requested consultation or expressed a concern with the project impacting potential tribal cultural resources, the project would not have any tribal cultural resource impacts.
  - ii) **A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe. Potentially Significant Unless Mitigation Incorporated.** As discussed in Section “XVIII.a.i.” above, the project would not impact and tribal resources.

**XIX. UTILITIES AND SERVICE SYSTEMS: Would the project:**

- a) **Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunication facilities, the construction or relocation of which could cause significant environmental effects? No Impact.** The Santa Margarita Water District provides potable water to the YAP for the restrooms, drinking fountains and landscape irrigation. The project would not require any water, generate any wastewater or require other utilities such as natural gas or telecommunications. The project would also not impact any storm drain facilities as discussed in Section “X.c.iii” above. The project would require electricity to power the lights. As discussed in Section “VI.a” above, Southern California Edison has adequate capacity to provide the electricity necessary to power the lights without impacting their existing facilities. The project would not have any utility impacts.
- b) **Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years? No Impact.** As discussed in Section “XIX.A)” above, the project would not consume any water. Therefore, the project would not impact the water supply of the Santa Margarita Water District that provides potable water to the YAP.
- c) **Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project’s projected demand in addition to the provider’s existing commitments? No Impact.** Please see Section “XIX.a” above.
- d) **Be served by a landfill with sufficient permitted capacity to accommodate the project’s solid waste disposal needs? No Impact.** The project would not generate any solid waste. The project would not have any solid waste impact.

- e) **Comply with federal, state, and local statutes and regulations related to solid waste? No Impact.** The City of Mission Viejo complies with all federal, state, and local statutes and regulations related to solid waste. As discussed in Section “XIX.d” above, the project would not generate any solid waste and as a result, the project would not have any solid waste impacts.

**XX. WILDFIRE: If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:**

- a) **Substantially impair an adopted emergency response plan or emergency evacuation plan? No Impact.** The project does not propose any improvements that would impair or impact an emergency response or emergency evacuation plan for an emergency response.
- b) **Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire? No Impact.** The YAP is not located within a moderate, high or very high fire hazard severity zone in a Local Responsibility Area (LRA) or a State or Federal Responsibility Area (SRA).<sup>25</sup> The closest LRA to the YAP is the residential area southwest of the intersection of Alicia Parkway at Santa Margarita Parkway, which is approximately one-half mile to the east. The closest SRA fire hazard zone to the YAP is the open space area along Trabuco Creek east of the Foothill Transportation Corridor (241) and approximately two miles to the northeast. Although construction workers at the YAP site could be exposed to wildfire risks, smoke and other pollutants should a wildfire occur in the fire hazard zones close to the YAP, the City would stop all construction activity at the YAP and the workers would be required to leave and not allowed on the YAP. Therefore, the project would not expose construction workers to a significant wildfire risk.
- c) **Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment? No Impact.** The project would not be required to install or maintain any roads, fuel breaks, emergency water sources, power lines or other utilities to protect the project and the immediate area from a wildfire because the project is not located in a Moderate, High or Very High fire hazard zone as discussed in Section “XX. a” above.
- d) **Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes? No Impact.** The slopes adjacent to and west and north of the YAP is stable. The project would not be exposed or at significant risk with a landslide from the adjacent slopes. The project would not have any significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage change impacts.

**XXI. MANDATORY FINDINGS OF SIGNIFICANCE:**

- a) **Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory? No Impact.** The project would not have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or

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<sup>25</sup> <https://egis.fire.ca.gov/FHSZ/>

eliminate important examples of the major periods of California history or prehistory as discussed in Sections “IV” and “V” of this MND.

- b) ***Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.) Less Than Significant Impact.*** The City of Mission Viejo has identified two projects that, along with the proposed project, could have cumulative impacts. The cumulative projects are shown in Table 6 and their locations are shown in Figure 10.

**Table 6  
Cumulative Projects**

Address	Proposed Project	Status
#1 – 27845 Santa Margarita Parkway	Demolish the existing 9,564 sq. ft. Claim Jumper restaurant and construct a 4,800 sq. ft. Chick-fil-A restaurant.	Proposed
#2 – El Toro Road between Marguerite Parkway and State Route 241 (Toll Road)	Rezone a 12.6-acre site from R (Recreation) to RPD 30 (Residential Planned Development) to develop 91 for-sale dwelling units on 6.8-acres of the site at a density of 13.4 du/ac. A variance is requested to increase the height of allowed retaining walls to reduce the distance between buildings.	Proposed

Based on the analysis presented in this Mitigated Negative Declaration, the proposed project along with the cumulative projects would not have any significant cumulative environmental impacts. As a result, no cumulative mitigation measures are required.

- c) ***Does the project have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly? Less Than Significant Impact.*** There are no significant impacts associated with the proposed project that would cause substantial adverse effects and significantly impact human beings either directly or indirectly.



Source: Phil Martin & Associates

Figure 10  
Cumulative Project Location Map

# APPENDICES

# APPENDIX A

## Geotechnical Report



February 4, 2022

Mr. Jerry Hill  
**CITY OF MISSION VIEJO**  
27204 La Paz Road  
Mission Viejo, CA 92692

GMU Project 21-283-00

**Subject:** Geotechnical Investigation for Proposed New Lighting, Marty Russo Youth Athletic Park, Olympiad Road, City of Mission Viejo, California.

**Reference:** Proposed Lighting Exhibit, Marty Russo Youth Athletic Park, City of Mission Viejo, Prepared by RJM Design Group, dated October 26, 2021.

Dear Mr. Hill:

This correspondence presents our geotechnical design parameters for the pole foundations of the new lights proposed for the baseball and soccer fields at the Marty Russo Youth Athletic Park in Mission Viejo, California. Our design parameters are based on our recent field observations, hollow stem auger (HSA) drill holes, and laboratory testing of the on-site soils.

## **GEOTECHNICAL SITE CONDITIONS**

Our subsurface investigation consisted of the excavation of two HSA drill holes to depths of 36.5 and 51.5 feet below existing ground surfaces. These drill holes were logged by our staff engineer to visually observe and document the subgrade soils and depths to groundwater. Relatively undisturbed samples of the subgrade soils were obtained from each drill hole utilizing a California Modified sampler. Representative bulk bag samples were also obtained. The approximate locations of the drill holes are shown on Plate 1 – Geotechnical Map. The logs of the drill holes are included in Appendix A.

Appendix B contains the results of our laboratory testing which included the determination of in-situ moisture content and dry density, particle size gradation for soil classification, soil corrosivity, and shear strength testing on samples obtained from the drill holes. A summary of our laboratory test procedures and the results of our laboratory testing are included in Appendix B.

Based on our observations, the drill holes exposed 4 inches of topsoil overlying native alluvial deposits (Qal). The alluvial deposits underlying the site consist predominantly of silty and sandy clays with a few isolated lenses of sands. The following geotechnical site conditions are considered representative of the areas of the planned light pole improvements.

- Foundations Soils: Alluvial Deposits
- Soil Types: CL, SM (silty and sandy clays with sand lenses)
- Soil Strength Values: Cohesion = 300 psf  
Friction Angle ( $\phi$ ) = 21 deg
- Groundwater: 5 feet below existing ground surface

## **LIQUEFACTION**

Based on review of California Geological Survey's (CGS) Seismic Hazard Zone Map for the Lake Forest Quadrangle, the subject site is within a seismic hazard zone requiring liquefaction investigation. However, based on the results of our subsurface exploration and laboratory testing, the subsurface soils consist predominantly of silty clays and sandy clays that are not considered susceptible to liquefaction.

## **SOIL CORROSION**

To evaluate the corrosion potential of the on-site soils to both ferrous metals and concrete, representative samples were tested for pH, minimum resistivity, soluble chlorides, and soluble sulfates. The results of chemical testing contained in Appendix B indicate that the on-site soils possess a moderate sulfate exposure to concrete and should be considered severely corrosive to ferrous metals.

Type II/V cement with a maximum water/cement ratio of 0.50 and minimum compressive strength of 4,000 psi should be used in concrete that will be in contact with on-site soils, as specified in the current CBC and ACI 318. The aforementioned recommendations in regards to concrete are made from a soils perspective only. Final concrete mix design is beyond our purview.

## **STRUCTURE SEISMIC DESIGN**

No active or potentially active faults are known to cross the site; therefore, the potential for primary ground rupture due to faulting on-site is very low to negligible. However, the site will likely be subject to seismic shaking at some time in the future.

The average shear wave velocity for the upper 100 feet of subsurface soil and bedrock materials ( $V_{s30}$ ) within the subject site is estimated to be greater than 600 feet per second but less than 1,200

feet per second which corresponds to a “stiff soil” soil profile. The seismic design coefficients based on ASCE 7-16 and 2019 CBC are listed in the following table.

**Table 1. 2019 CBC and ASCE 7-16 Seismic Design Parameters  
(To be utilized as per the requirements of Section 11.4.8 of ASCE 7-16)**

Seismic Item	Design Value	2016 ASCE 7-16 or 2019 CBC Reference
Site Class based on soil profile (ASCE 7-16 Table 20.3-1)	D <sup>(a)</sup>	ASCE 7-16 Table 20.3-1
Short Period Spectral Acceleration $S_s$	1.239 <sup>(a)</sup>	CBC Figures 1613.2.1 (1-8)
1-sec. Period Spectral Acceleration $S_1$	0.443 <sup>(a)</sup>	CBC Figures 1613.2.1 (1-8)
Site Coefficient $F_a$ (2019 CBC Table 1613.2.3(1))	1.2 <sup>(a)</sup>	CBC Table 1613.2.3 (1)
Site Coefficient $F_v$ (2019 CBC Table 1613.2.3(2))	1.857 <sup>(b)</sup>	CBC Table 1613.2.3 (2)
Short Period MCE* Spectral Acceleration $S_{MS}$ $S_{MS} = F_a S_s$	1.486 <sup>(a)</sup>	CBC Equation 16-36
1-sec. Period MCE Spectral Acceleration $S_{M1}$ $S_{M1} = F_v S_1$	0.882 <sup>(b)</sup>	CBC Equation 16-37
Short Period Design Spectral Acceleration $S_{DS}$ $S_{DS} = 2/3 S_{MS}$	0.991 <sup>(a)</sup>	CBC Equation 16-38
1-sec. Period Design Spectral Acceleration $S_{D1}$ $S_{D1} = 2/3 S_{M1}$	0.588 <sup>(b)</sup>	CBC Equation 16-39
Short Period Transition Period $T_S$ (sec) $T_S = S_{D1}/S_{DS}$	0.652 <sup>(b)</sup>	ASCE 7-16 Section 11.4.6
Long Period Transition Period $T_L$ (sec)	8 <sup>(b)</sup>	ASCE 7-16 Figures 22-14 to 22-17
MCE <sup>(c)</sup> Peak Ground Acceleration (PGA)	0.513 <sup>(a)</sup>	ASCE 7-16 Figures 22-9 to 22-13
Site Coefficient $F_{PGA}$ (ASCE 7-16 Table 11.8-1)	1.2 <sup>(a)</sup>	ASCE 7-16 Table 11.8-1
Modified MCE <sup>(c)</sup> Peak Ground Acceleration ( $PGA_M$ )	0.616 <sup>(a)</sup>	ASCE 7-16 Equation 11.8-1
Seismic Design Category	D <sup>(b)</sup>	ASCE 7-16 Tables 11.6.1 and 11.6.2

<sup>(a)</sup> Design Values Obtained from USGS Earthquake Hazards Program website that are based on the ASCE-7-16 and 2019 CBC and site coordinates of N33.6399° and W117.6412°.

<sup>(b)</sup> Design Values Determined per ASCE Table 11.4-2 and CBC Equations 16-36 through 16-39.

<sup>(c)</sup> MCE: Maximum Considered Earthquake.

Since the Site Class is designated as D and the  $S_1$  value is greater than or equal to 0.2, the 2019 CBC requires either a site-specific ground motion hazard analysis per Section 21.2 of ASCE 7-16 or the application of Exception 2 of Section 11.4.8 of ASCE 7-16. Exception 2 states that a site-specific ground motion hazard analysis is not required provided that the value of the seismic response coefficient,  $C_s$ , is conservatively calculated by the project structural engineer using Eqn. 12.8-2 of ASCE 7-16 for values of  $T \leq 1.5T_s$  and taken as equal to 1.5 times the value computed in accordance with either Eqn. 12.8-3 for  $T_L \geq T > 1.5T_s$  or Eqn. 12.8-4 for  $T > T_L$ .

The project structural engineer should apply all requirements of Section 11.4.8 of ASCE 7-16 to determine if increases to the seismic response coefficient (ie. increases to the loading of the structure) are required.

## **LIGHT POLE FOUNDATION DESIGN CRITERIA**

The following geotechnical design parameters may be used for the design of pole foundations for the new proposed lights:

Bearing Material:	Native Alluvium
Depth to Groundwater:	5 feet
Minimum Foundation Diameter:	24 inches
Minimum Pole Foundation Depth:	10 feet
Allowable End Bearing:	2,000 psf (for minimum pole foundation depth of 10 feet) <ul style="list-style-type: none"><li>○ One-third increase for wind and seismic loads</li><li>○ Assumes bottom of drill hole thoroughly cleaned of all loose soil prior to pour.</li></ul>
Allowable Skin Friction:	225 psf <ul style="list-style-type: none"><li>○ Disregard upper 2 feet due to possible soil disturbance.</li><li>○ One-third increase for wind and seismic loads</li></ul>
Allowable Lateral Bearing:	300 psf/ per ft of pole depth. <ul style="list-style-type: none"><li>○ Ignore upper 2 feet due to possible soil disturbance.</li><li>○ Can be applied over an effective width of 2 pole foundation diameters (e.g. 600sf/ft of pole diameter per ft of depth).</li></ul>

The final pole diameter and depth will depend on the design loads from the light poles. GMU has not been provided with information pertaining to potential foundation systems or design loads. When additional foundation design information is available, GMU should review that information and confirm or revise the preliminary design parameters presented herein.

## **POLE FOUNDATION CONSTRUCTION CONSIDERATIONS**

As mentioned previously, groundwater was encountered within both of our drill holes at a depth of 5 feet below the existing ground surface. As a result, the subsurface soils can be expected to be fully saturated at a depth of 5 feet below the existing ground surface and the foundation excavations can be expected to fill up with water to a depth of 5 feet from the ground surface. Based on these

conditions, temporary casing or drilling mud will be required to advance the pole foundation excavations beyond a depth of 5 feet. In addition, either each foundation excavation will need to be pumped out immediately before the concrete is placed or the concrete will need to be placed into the bottom of each foundation excavation using a tremie pipe to properly displace the water from the hole as the concrete is placed.

## **LIMITATIONS**

All parties reviewing or utilizing this report should recognize that the findings, conclusions, and recommendations presented represent the results of our professional geological and geotechnical engineering efforts and judgments. Due to the inexact nature of the state of the art of these professions and the possible occurrence of undetected variables in subsurface conditions, we cannot guarantee that the conditions actually encountered during grading and site construction will be identical to those observed, sampled, and interpreted during our study, or that there are no unknown subsurface conditions which could have an adverse effect on the use of the property. We have exercised a degree of care comparable to the standard of practice presently maintained by other professionals in the fields of geotechnical engineering and engineering geology, and believe that our findings present a reasonably representative description of geotechnical conditions and their probable influence on the use of the property.

Our conclusions and recommendations are based on the assumption that our firm will act as the geotechnical engineer of record during construction of the project to observe the actual conditions exposed, to verify our design concepts, and to provide our revised conclusions and recommendations should subsurface conditions differ significantly from those used as the basis for our conclusions and recommendations presented in this report. Since our conclusions and recommendations are based on a limited amount of geotechnical exploration and analysis, all parties should recognize the need for possible revisions to our conclusions and recommendations during construction of the project.

It should be further noted that the recommendations presented herein are intended solely to minimize the effects of post-construction soil movements. Consequently, minor cracking and/or distortion of all on-site improvements should be anticipated.

This report has not been prepared for the use by other parties or projects other than those named or described herein. This report may not contain sufficient information for other parties or other purposes.

Mr. Jerry Hill, CITY OF MISSION VIEJO

*Geotechnical Investigation for Proposed New Lighting, Marty Russo Youth Athletic Park, Olympiad Road,  
City of Mission Viejo, California*

Please do not hesitate to call if you have any questions regarding the contents of this letter.

Respectfully submitted,

**GMU GEOTECHNICAL, INC.**



Scott Ward, EIT  
Project Engineer



Alan B. Mutchnick, PG, CEG 1789  
Associate Engineering Geologist



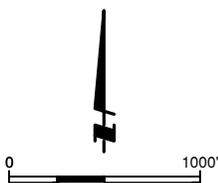
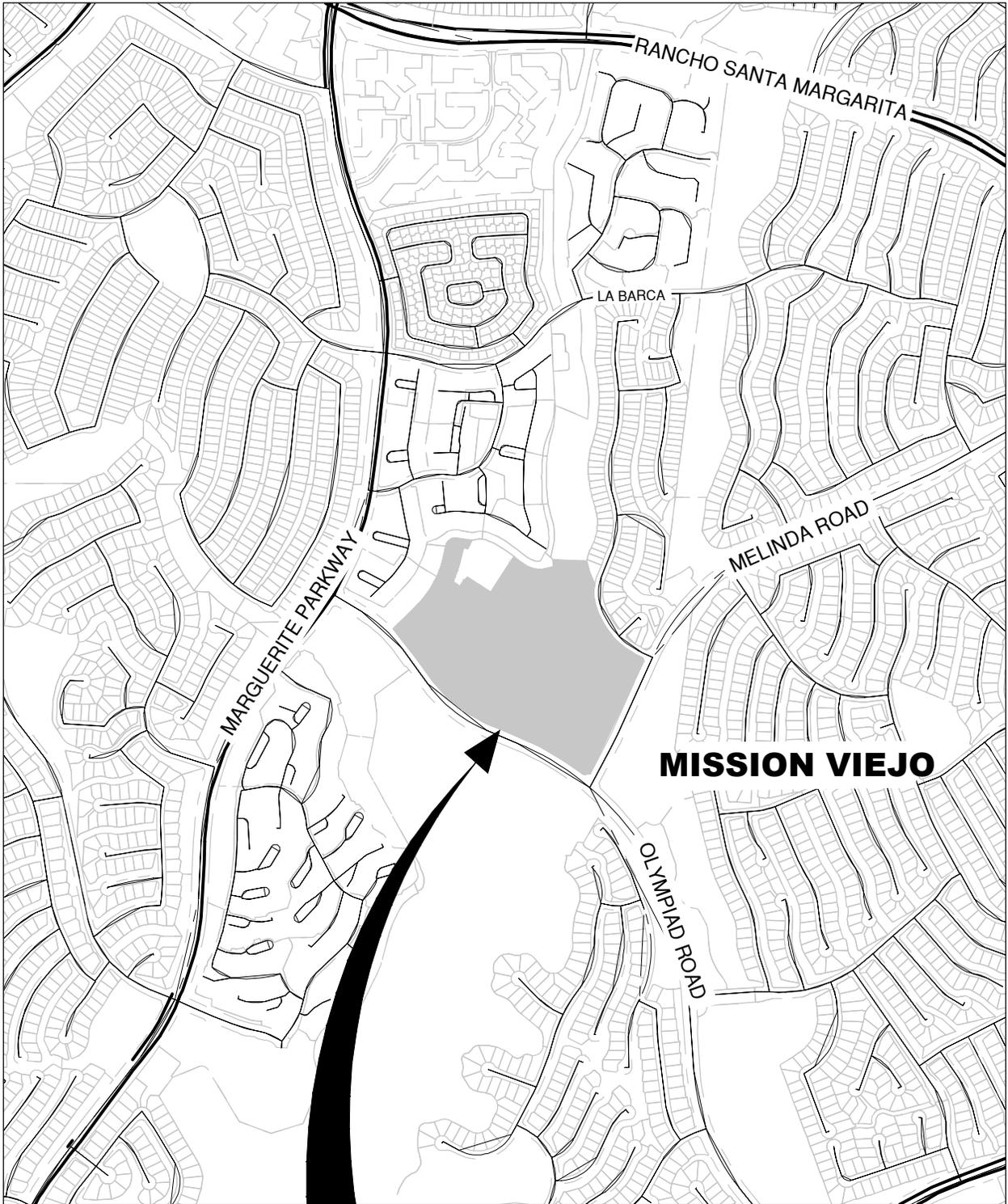
David Hansen, M.Sc., PE, GE 3056  
Associate Geotechnical Engineer

Attachments:

- Plate 1 – Location Map
- Plate 2 – Geotechnical Map
- Appendix A – Boring Logs
- Appendix B – Laboratory Test Data

sw/21-283-00L

DRAWING: q:\2021\21-283-00\dwg\plate 1\_location map.dwg PLOTTED: 1/28/2022 3:39 PM BY: Lucie Anderson



**22058 OLYMPIAD ROAD**  
MISSION VIEJO, CA

### LOCATION MAP

<b>GMU</b>	Date: February 4, 2022	Plate 1
	Project No.: 21-283-00	

# GEOTECHNICAL INVESTIGATION MAP



Date: February 4, 2022

Plate  
2

Project No.: 21-283-00

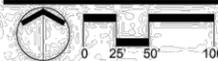
## LEGEND

-  **DH-2** APPROXIMATE LOCATION OF DRILL HOLE

## LEGEND

-  EXISTING LIGHTED FIELDS/CAGES (METAL HALIDE)
-  PROPOSED LIGHTING (LED)

 10/26/2021



PROPOSED LIGHTING EXHIBIT  
**MARTY RUSSO YOUTH ATHLETIC PARK**  
 CITY OF MISSION VIEJO, CALIFORNIA



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# APPENDIX A

## Geotechnical Exploration Logs

---

**Project:** Marty Russo Youth Athletic Park  
**Project Location:** Mission Viejo, CA  
**Project Number:** 21-283-00

# Log of Drill Hole DH-1

Sheet 1 of 2

Date(s) Drilled 1/7/22	Logged By RC	Checked By SW
Drilling Method Hollow Stem Auger	Drilling Contractor M R Drilling	Total Depth of Drill Hole 35.0 feet
Drill Rig Type Track Rig	Diameter(s) of Hole, inches 8	Approx. Surface Elevation, ft MSL 718.0
Groundwater Depth [Elevation], feet 5.0 [713.0]	Sampling Method(s) California Modified Sampler with 6-inch sleeve/SPT	Drill Hole Backfill Native, bentonite
Remarks		Driving Method and Drop 140 lb hammer, 30" drop

ELEVATION, feet	DEPTH, feet	GRAPHIC LOG	GEOLOGICAL CLASSIFICATION AND DESCRIPTION	ORIENTATION DATA	ENGINEERING CLASSIFICATION AND DESCRIPTION	SAMPLE DATA			TEST DATA		
						SAMPLE	NUMBER OF BLOWS / 6"	DRIVING WEIGHT, lbs	MOISTURE CONTENT, %	DRY UNIT WEIGHT, pcf	ADDITIONAL TESTS
715	5		<u>Alluvial Deposits (Qal)</u>		TOPSOIL SILTY CLAY (CL); dark grayish brown, moist to very moist, firm, some fine-grained sand						
710	10				Poorly Graded SAND to SILTY SAND (SP-SM); light brown, saturated, loose, fine- to coarse-grained sand	3 3 5		19	106		
705	15				SILTY CLAY (CL); grayish brown, very moist, soft to firm, some fine-grained sand	1 2 3					
700					SANDY CLAY (CL); grayish brown, very moist to saturated, some fine-grained sand	2 2 4		30	92	DS	

DH\_REV3 21-283-00.GPJ GMULAB.GPJ 2/7/22

**Drill Hole DH-1**



Project: Marty Russo Youth Athletic Park  
 Project Location: Mission Viejo, CA  
 Project Number: 21-283-00

# Log of Drill Hole DH-1

Sheet 2 of 2

ELEVATION, feet	DEPTH, feet	GRAPHIC LOG	GEOLOGICAL CLASSIFICATION AND DESCRIPTION	ORIENTATION DATA	ENGINEERING CLASSIFICATION AND DESCRIPTION	SAMPLE DATA			TEST DATA		
						SAMPLE NUMBER	NUMBER OF BLOWS / 6"	DRIVING WEIGHT, lbs	MOISTURE CONTENT, %	DRY UNIT WEIGHT, pcf	ADDITIONAL TESTS
695	25				SILTY CLAY (CL); grayish brown, very moist, firm	353	6				
690	30				Becomes soft	335	2		35	88	
685	35		3 Rings of sand above recovered sample at 35ft, some cementation		SILTY SAND (SM): light brown, saturated, medium dense, fine- to coarse-grained sand	X			17		
					SANDY CLAY to CLAYEY SILT with Sand (CL-ML); grayish brown, very moist, firm, fine-grained sand	334			27	96	
					Total Depth: 36.5ft Groundwater at 5ft						

DH\_REV3 21-283-00.GPJ GMULAB.GPJ 2/7/22

Drill Hole DH-1



Project: Marty Russo Youth Athletic Park  
 Project Location: Mission Viejo, CA  
 Project Number: 21-283-00

# Log of Drill Hole DH-2

Sheet 1 of 3

Date(s) Drilled	1/7/22	Logged By	RC	Checked By	SW	
Drilling Method	Hollow Stem Auger	Drilling Contractor	M R Drilling	Total Depth of Drill Hole	51.5 feet	
Drill Rig Type	Track Rig	Diameter(s) of Hole, inches	8	Approx. Surface Elevation, ft MSL	710.0	
Groundwater Depth [Elevation], feet	5.0 [705.0]	Sampling Method(s)	California Modified Sampler with 6-inch sleeve/SPT	Drill Hole Backfill	Native, bentonite	
Remarks					Driving Method and Drop	140 lb hammer, 30" drop

ELEVATION, feet	DEPTH, feet	GRAPHIC LOG	GEOLOGICAL CLASSIFICATION AND DESCRIPTION	ORIENTATION DATA	ENGINEERING CLASSIFICATION AND DESCRIPTION	SAMPLE DATA			TEST DATA		
						SAMPLE	NUMBER OF BLOWS / 6"	DRIVING WEIGHT, lbs	MOISTURE CONTENT, %	DRY UNIT WEIGHT, pcf	ADDITIONAL TESTS
			<u>Alluvial Deposits (Qal)</u>		TOPSOIL SILTY CLAY (CL); dark brown, damp, firm, some fine-grained sand, some rootlets				26		PS, pH, SU, CH, MR
705	5					Becomes saturated		2 2 3	36	84	
700	10					SANDY CLAY (CL); grayish brown, saturated, very soft to soft, fine-grained sand		P P 2			
695	15				SILTY CLAY (CL); grayish brown, very moist, soft to firm, few fine-grained sand		3 4 4		39	79	

DH\_REV3 21-283-00.GPJ GMULAB.GPJ 2/7/22

Drill Hole DH-2



Project: Marty Russo Youth Athletic Park  
 Project Location: Mission Viejo, CA  
 Project Number: 21-283-00

# Log of Drill Hole DH-2

Sheet 2 of 3

ELEVATION, feet	DEPTH, feet	GRAPHIC LOG	GEOLOGICAL CLASSIFICATION AND DESCRIPTION	ORIENTATION DATA	ENGINEERING CLASSIFICATION AND DESCRIPTION	SAMPLE DATA			TEST DATA		
						SAMPLE NUMBER	NUMBER OF BLOWS / 6"	DRIVING WEIGHT, lbs	MOISTURE CONTENT, %	DRY UNIT WEIGHT, pcf	ADDITIONAL TESTS
685	25				SILTY CLAY (CL); grayish brown, very moist, soft to firm, few fine-grained sand	223	3				
680	30				Becomes soft	P33	3		51	70	DS
675	35					P34	4		43	75	
670	40					P22	2				

DH\_REV3 21-283-00.GPJ GMULAB.GPJ 2/7/22

**Drill Hole DH-2**



Project: Marty Russo Youth Athletic Park  
 Project Location: Mission Viejo, CA  
 Project Number: 21-283-00

## Log of Drill Hole DH-2

Sheet 3 of 3

ELEVATION, feet	DEPTH, feet	GRAPHIC LOG	GEOLOGICAL CLASSIFICATION AND DESCRIPTION	ORIENTATION DATA	ENGINEERING CLASSIFICATION AND DESCRIPTION	SAMPLE DATA			TEST DATA		
						SAMPLE NUMBER	NUMBER OF BLOWS / 6"	DRIVING WEIGHT, lbs	MOISTURE CONTENT, %	DRY UNIT WEIGHT, pcf	ADDITIONAL TESTS
660	50				SILTY CLAY (CL); grayish brown, moist, soft to firm, trace fine-grained sand		2 4 5		40	79	
					Total Depth: 51.5ft Groundwater at 5ft		P 2 2				

DH\_REV3 21-283-00.GPJ GMULAB.GPJ 2/7/22

Drill Hole DH-2



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# APPENDIX B

## Laboratory Test Data

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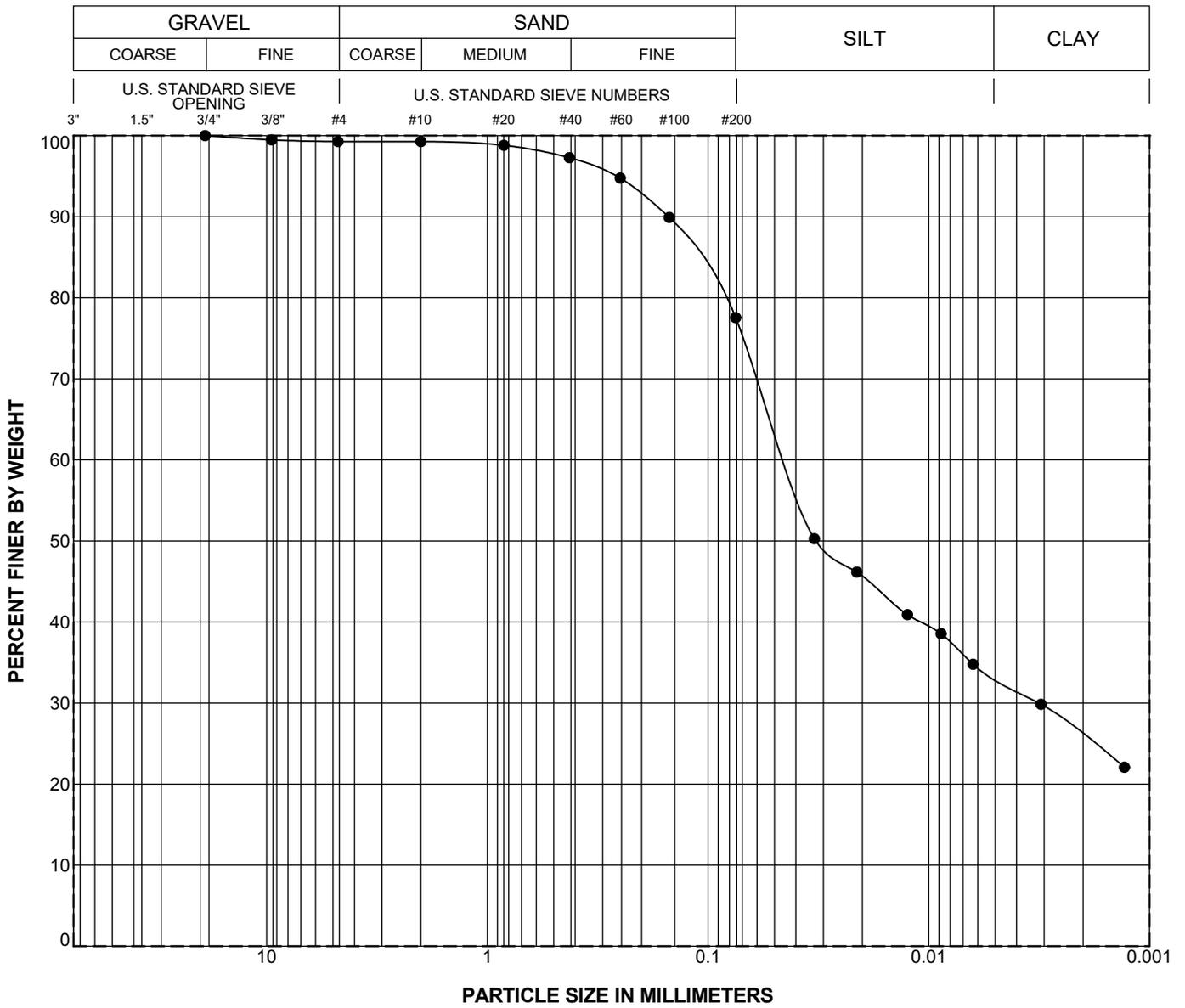
**TABLE B-1  
SUMMARY OF SOIL LABORATORY DATA**

Sample Information			Geologic Unit	USCS Group Symbol	In Situ Water Content, %	In Situ Dry Unit Weight, pcf	In Situ Saturation, %	Sieve/Hydrometer				Atterberg Limits			Compaction		Expansion Index	R-Value	Chemical Test Results			
Boring Number	Depth, feet	Elevation, feet						Gravel, %	Sand, %	<#200, %	<2µ, %	LL	PL	PI	Maximum Dry Unit Weight, pcf	Optimum Water Content, %			pH	Sulfate (ppm)	Chloride (ppm)	Min. Resistivity (ohm/cm)
DH-1	5	713.0	Qal	SP-SM	18.8	106	90															
DH-1	15	703.0	Qal	CL	30.4	92	101															
DH-1	25	693.0	Qal	CL	35.3	88	105															
DH-1	34	684.0	Qal	SM	16.7					6												
DH-1	35	683.0	Qal	CL/ML	27.5	96	100															
DH-2	0	710.0	Qal	CL	26.4			1	22	78	26							7.6	1336	444	452	
DH-2	5	705.0	Qal	CL	36.4	84	101															
DH-2	15	695.0	Qal	CL	38.8	79	94															
DH-2	25	685.0	Qal	CL	50.5	70	97															
DH-2	35	675.0	Qal	CL	42.9	75	95															
DH-2	45	665.0	Qal	CL	40.3	79	97															

GMU\_TABLE\_SOIL\_LAB\_DATA 21-283-00.GPJ FNC AB GWGN01.GDT 2/7/22

Project: Marty Russo Youth Athletic Park  
Project No. 21-283-00





Boring Number	Depth (feet)	Geologic Unit	Symbol	LL	PI	Classification
DH-2	0.0	Qal	●			SILTY CLAY (CL)

GMU\_GRAIN\_SIZE 21-283-00.GPJ 2/7/22

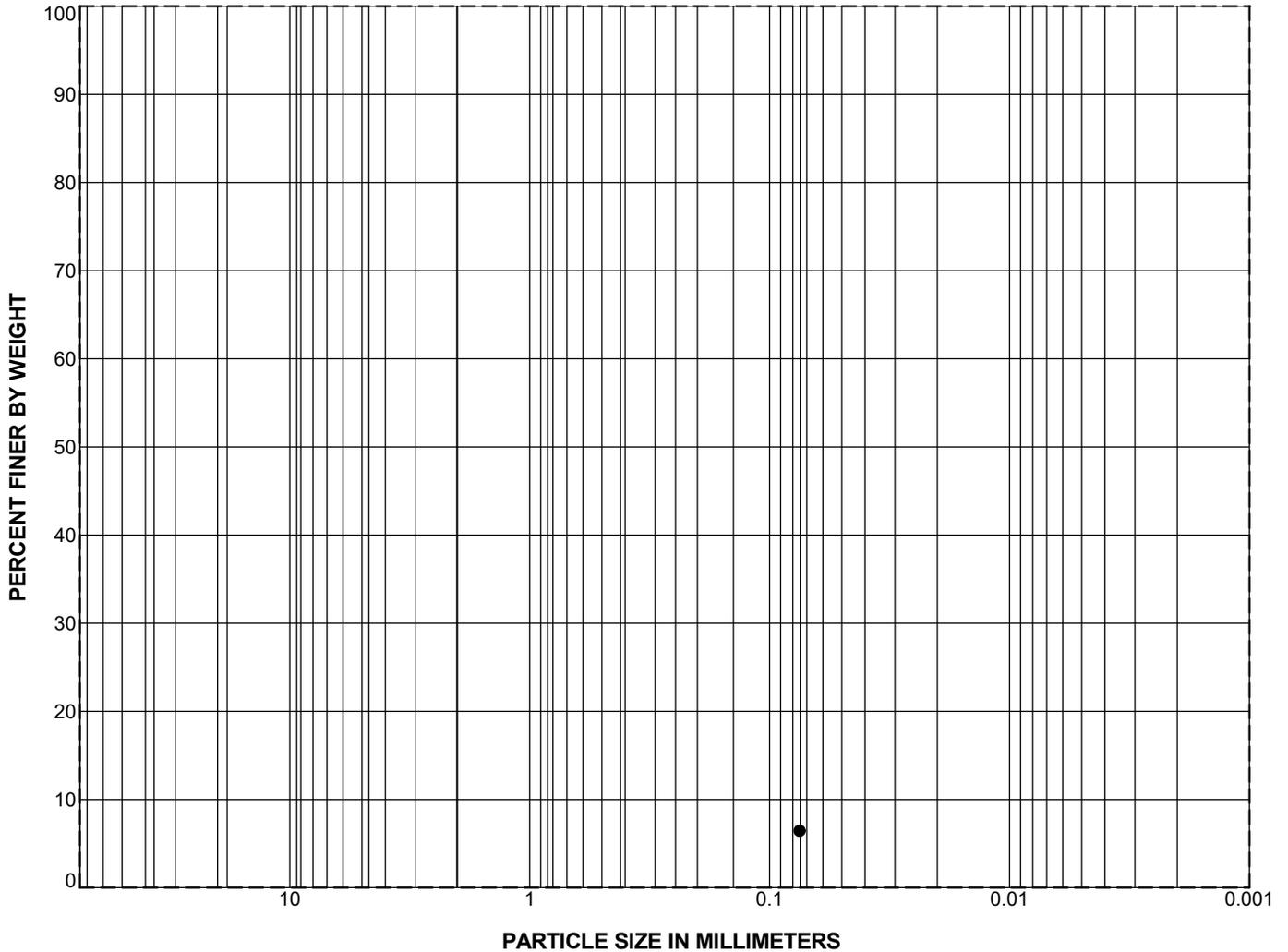
## PARTICLE SIZE DISTRIBUTION

Project: Marty Russo Youth Athletic Park  
Project No. 21-283-00



GRAVEL		SAND			SILT	CLAY
COARSE	FINE	COARSE	MEDIUM	FINE		

U.S. STANDARD SIEVE OPENING: 3", 1.5", 3/4", 3/8", #4  
 U.S. STANDARD SIEVE NUMBERS: #10, #20, #40, #60, #100, #200



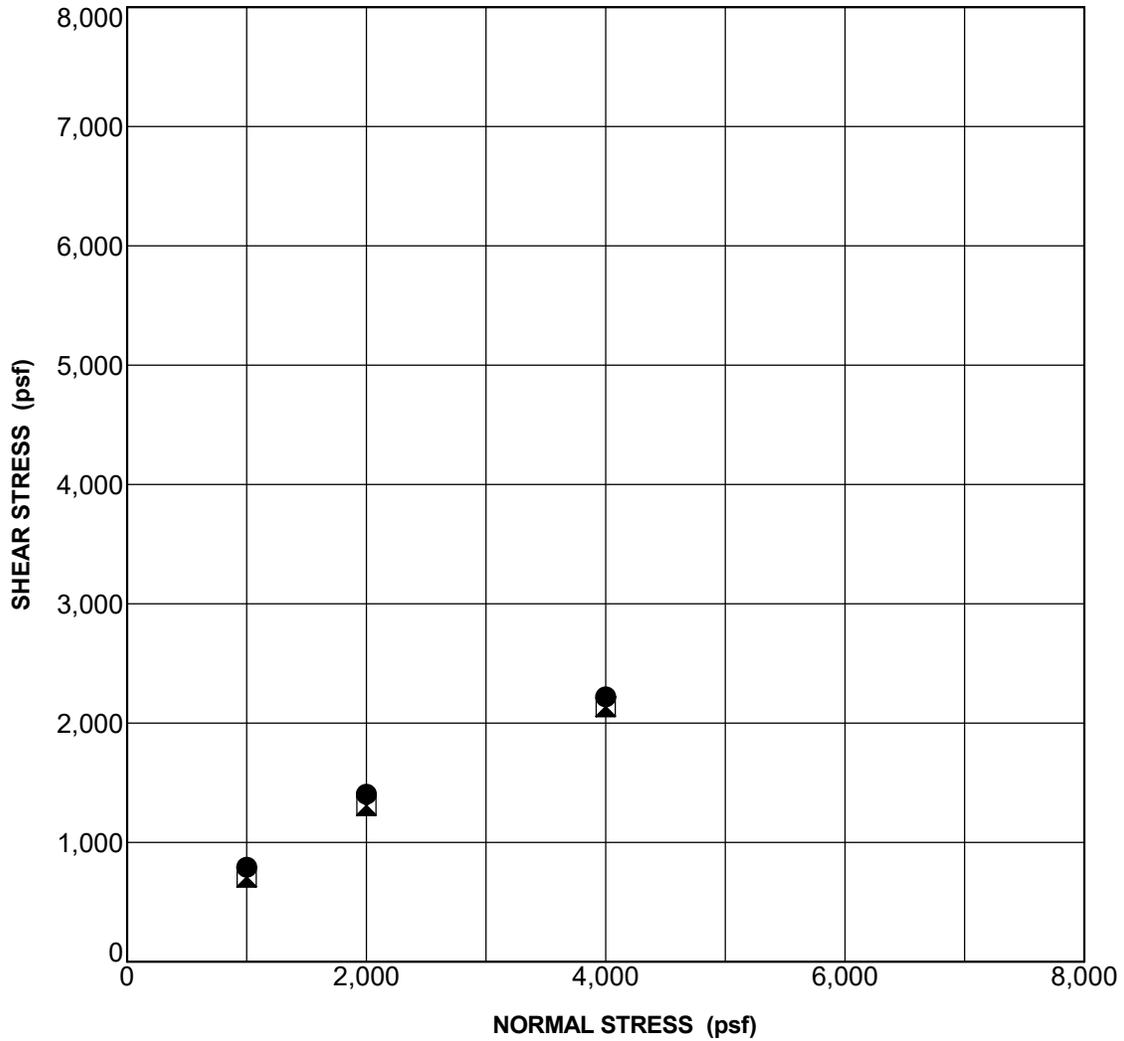
Boring Number	Depth (feet)	Geologic Unit	Symbol	LL	PI	Classification
DH-1	34.0	Qal	●			SILTY SAND (SM)

GMU\_GRAIN\_SIZE 21-283-00.GPJ 2/7/22

## PARTICLE SIZE DISTRIBUTION

Project: Marty Russo Youth Athletic Park  
 Project No. 21-283-00





**SAMPLE AND TEST DESCRIPTION**

**Sample Location:** DH-1 @ 15.0 ft **Geologic Unit:** Qal **Classification:** SANDY CLAY (CL)

**Strain Rate (in/min):** 0.005 **Sample Preparation:** Undisturbed

**Notes:** Sample saturated prior and during shearing

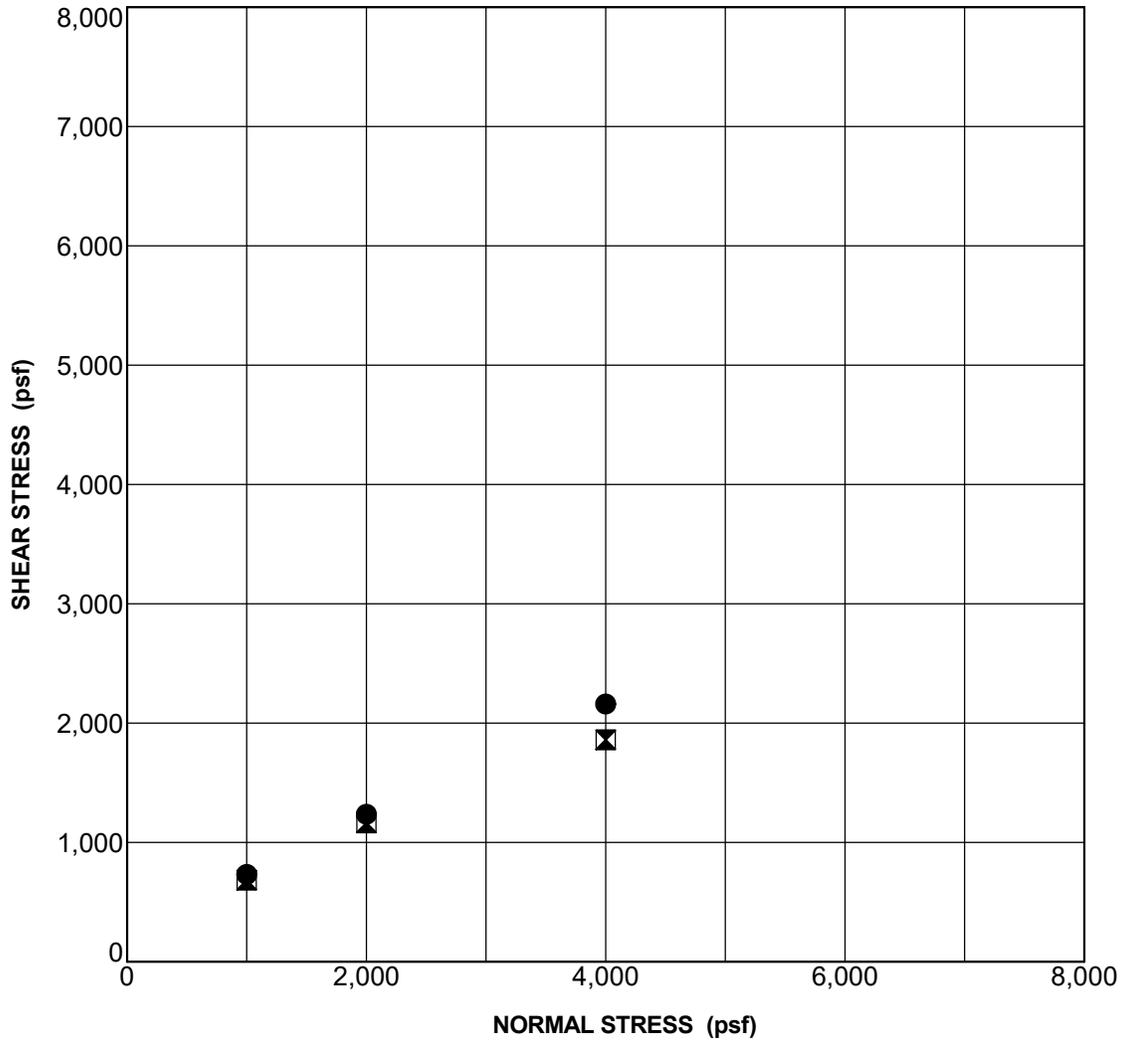
**STRENGTH PARAMETERS**

STRENGTH TYPE	COHESION (psf)	FRICTION ANGLE (degrees)
● Peak Strength	384	25.0
☒ Ultimate Strength	294	25.0

**SHEAR TEST DATA**

Project: Marty Russo Youth Athletic Park  
Project No. 21-283-00





**SAMPLE AND TEST DESCRIPTION**

**Sample Location:** DH-2 @ 25.0 ft    **Geologic Unit:** Qal    **Classification:** SILTY CLAY (CL)

**Strain Rate (in/min):** 0.005                      **Sample Preparation:** Undisturbed

**Notes:** Sample saturated prior and during shearing

**STRENGTH PARAMETERS**

STRENGTH TYPE	COHESION (psf)	FRICITION ANGLE (degrees)
● Peak Strength	270	25.0
⊠ Ultimate Strength	336	21.0

## SHEAR TEST DATA

Project: Marty Russo Youth Athletic Park  
Project No. 21-283-00



# APPENDIX B

## Noise Report

**NOISE IMPACT ANALYSIS**  
**MARTY RUSSO YOUTH ATHLETIC PARK NOISE STUDY**  
**CITY OF MISSION VIEJO, CALIFORNIA**

Prepared by:

Giroux & Associates

Prepared for:

Phil Martin & Associates  
Attn: Phil Martin  
1809 E. Dyer Road, Suite 301  
Santa Ana, CA 92705

Date:

December 27, 2021

Project No.: P21-048 N

## Noise Measurements

A noise monitoring program was conducted in Mission Viejo at the Marty Russo Youth Athletic Park on December 15, 2021, to determine the likely noise impact from the installation of generators to power currently unlighted athletic fields. The measurements focused on the closest residence on St. Kitts nearest to the proposed lighted areas. Monitoring was performed prior to the start-up of four generators as a back-ground level, and with all four running at normal power output. One generator was individually tested at a fixed circumference in four quadrants to determine if there is any sound level asymmetry depending upon orientation of the unit. Measurements were made from 6:00 to 7:00 p.m. with the assistance and cooperation of two city staff members. Two digital sound level meters that were calibrated just before deployment were used for this test. Results were compared to the City of Mission Viejo standards for residential uses. The applicable ordinance standards are 60 dB from 7:00 a.m. to 10:00 p.m. and drop to 59 dB during nocturnal quiet hours.

The measured background noise level was 40 dB from distant roadway traffic on Olympiad Road and minor residential activities. With all four generators running, the rear yard noise at the presumably loudest off-site receiver location was 50 dB compared to the 60 dB allowable daytime and evening level. Operation of all generators after 10:00 p.m. would equal the nocturnal ordinance threshold and is therefore not recommended because anomalous weather conditions or youth recreation could cause a slight violation of the ordinance. By way of reference, the 10 dB increase created by the operation of the generators is perceived by the human ear as a doubling of apparent loudness. The operation of the generators was clearly audible at the closest home. Termination of their operation during non-use periods is recommended if feasible to create partial acoustic relief.

The noise field around an individual running unit was not completely concentric. At 25 feet from the center of the unit, the measured steady state level was as follows: ("Front" is the tow-bar end of the trailer)

Front = 75 dB, Rear = 73 dB, Right Side = 70 dB, Left Side = 70 dB

There appears to be a slight acoustical advantage to not pointing the head or rear of the generator toward the closest homes. At this home, the occupant believes that the terrain is such as to funnel park activity noise and create a higher level than would occur under flat terrain. To test this supposition, theoretical distance attenuation between the near field level of 70-76 dB and the source receiver distance of 400 feet to St. Kitts should be 24 dB under direct line of sight conditions. The rear yard reading of 50 dB is wholly consistent with what would be predicted by propagation theory.

Field lighting may slightly increase vehicle traffic on Olympiad which currently carries nearly 11,000 vehicles per day. The addition of perhaps 100 cars per day would increase roadway by 0.4 dB. Such a change is undetectable by human hearing.

## Conclusion and Recommendations

- Operation of generator lighting will not cause the ambient level at the closest home to exceed the City of Mission Viejo residential noise standard before 10:00 p.m.
- Generator operation should not occur past 10:00 p.m. Generator orientation should direct the facing sides of the unit toward the closest homes and minimize facing the front or rear toward these homes.
- Generators should be turned off at the conclusion of any active use.
- Traffic noise impacts will be minimal considering existing background levels.
- There is no clear evidence of terrain-enhanced noise propagation based on the positive agreement between the theoretical level with no extra propagation versus the measured value at the noisiest back yard residence.

# APPENDICES

# APPENDIX A

## Geotechnical Report



February 4, 2022

Mr. Jerry Hill  
**CITY OF MISSION VIEJO**  
27204 La Paz Road  
Mission Viejo, CA 92692

GMU Project 21-283-00

**Subject:** Geotechnical Investigation for Proposed New Lighting, Marty Russo Youth Athletic Park, Olympiad Road, City of Mission Viejo, California.

**Reference:** Proposed Lighting Exhibit, Marty Russo Youth Athletic Park, City of Mission Viejo, Prepared by RJM Design Group, dated October 26, 2021.

Dear Mr. Hill:

This correspondence presents our geotechnical design parameters for the pole foundations of the new lights proposed for the baseball and soccer fields at the Marty Russo Youth Athletic Park in Mission Viejo, California. Our design parameters are based on our recent field observations, hollow stem auger (HSA) drill holes, and laboratory testing of the on-site soils.

## **GEOTECHNICAL SITE CONDITIONS**

Our subsurface investigation consisted of the excavation of two HSA drill holes to depths of 36.5 and 51.5 feet below existing ground surfaces. These drill holes were logged by our staff engineer to visually observe and document the subgrade soils and depths to groundwater. Relatively undisturbed samples of the subgrade soils were obtained from each drill hole utilizing a California Modified sampler. Representative bulk bag samples were also obtained. The approximate locations of the drill holes are shown on Plate 1 – Geotechnical Map. The logs of the drill holes are included in Appendix A.

Appendix B contains the results of our laboratory testing which included the determination of in-situ moisture content and dry density, particle size gradation for soil classification, soil corrosivity, and shear strength testing on samples obtained from the drill holes. A summary of our laboratory test procedures and the results of our laboratory testing are included in Appendix B.

Based on our observations, the drill holes exposed 4 inches of topsoil overlying native alluvial deposits (Qal). The alluvial deposits underlying the site consist predominantly of silty and sandy clays with a few isolated lenses of sands. The following geotechnical site conditions are considered representative of the areas of the planned light pole improvements.

- Foundations Soils: Alluvial Deposits
- Soil Types: CL, SM (silty and sandy clays with sand lenses)
- Soil Strength Values: Cohesion = 300 psf  
Friction Angle ( $\phi$ ) = 21 deg
- Groundwater: 5 feet below existing ground surface

## **LIQUEFACTION**

Based on review of California Geological Survey's (CGS) Seismic Hazard Zone Map for the Lake Forest Quadrangle, the subject site is within a seismic hazard zone requiring liquefaction investigation. However, based on the results of our subsurface exploration and laboratory testing, the subsurface soils consist predominantly of silty clays and sandy clays that are not considered susceptible to liquefaction.

## **SOIL CORROSION**

To evaluate the corrosion potential of the on-site soils to both ferrous metals and concrete, representative samples were tested for pH, minimum resistivity, soluble chlorides, and soluble sulfates. The results of chemical testing contained in Appendix B indicate that the on-site soils possess a moderate sulfate exposure to concrete and should be considered severely corrosive to ferrous metals.

Type II/V cement with a maximum water/cement ratio of 0.50 and minimum compressive strength of 4,000 psi should be used in concrete that will be in contact with on-site soils, as specified in the current CBC and ACI 318. The aforementioned recommendations in regards to concrete are made from a soils perspective only. Final concrete mix design is beyond our purview.

## **STRUCTURE SEISMIC DESIGN**

No active or potentially active faults are known to cross the site; therefore, the potential for primary ground rupture due to faulting on-site is very low to negligible. However, the site will likely be subject to seismic shaking at some time in the future.

The average shear wave velocity for the upper 100 feet of subsurface soil and bedrock materials ( $V_{s30}$ ) within the subject site is estimated to be greater than 600 feet per second but less than 1,200

feet per second which corresponds to a “stiff soil” soil profile. The seismic design coefficients based on ASCE 7-16 and 2019 CBC are listed in the following table.

**Table 1. 2019 CBC and ASCE 7-16 Seismic Design Parameters  
(To be utilized as per the requirements of Section 11.4.8 of ASCE 7-16)**

Seismic Item	Design Value	2016 ASCE 7-16 or 2019 CBC Reference
Site Class based on soil profile (ASCE 7-16 Table 20.3-1)	D <sup>(a)</sup>	ASCE 7-16 Table 20.3-1
Short Period Spectral Acceleration $S_s$	1.239 <sup>(a)</sup>	CBC Figures 1613.2.1 (1-8)
1-sec. Period Spectral Acceleration $S_1$	0.443 <sup>(a)</sup>	CBC Figures 1613.2.1 (1-8)
Site Coefficient $F_a$ (2019 CBC Table 1613.2.3(1))	1.2 <sup>(a)</sup>	CBC Table 1613.2.3 (1)
Site Coefficient $F_v$ (2019 CBC Table 1613.2.3(2))	1.857 <sup>(b)</sup>	CBC Table 1613.2.3 (2)
Short Period MCE* Spectral Acceleration $S_{MS}$ $S_{MS} = F_a S_s$	1.486 <sup>(a)</sup>	CBC Equation 16-36
1-sec. Period MCE Spectral Acceleration $S_{M1}$ $S_{M1} = F_v S_1$	0.882 <sup>(b)</sup>	CBC Equation 16-37
Short Period Design Spectral Acceleration $S_{DS}$ $S_{DS} = 2/3 S_{MS}$	0.991 <sup>(a)</sup>	CBC Equation 16-38
1-sec. Period Design Spectral Acceleration $S_{D1}$ $S_{D1} = 2/3 S_{M1}$	0.588 <sup>(b)</sup>	CBC Equation 16-39
Short Period Transition Period $T_S$ (sec) $T_S = S_{D1}/S_{DS}$	0.652 <sup>(b)</sup>	ASCE 7-16 Section 11.4.6
Long Period Transition Period $T_L$ (sec)	8 <sup>(b)</sup>	ASCE 7-16 Figures 22-14 to 22-17
MCE <sup>(c)</sup> Peak Ground Acceleration (PGA)	0.513 <sup>(a)</sup>	ASCE 7-16 Figures 22-9 to 22-13
Site Coefficient $F_{PGA}$ (ASCE 7-16 Table 11.8-1)	1.2 <sup>(a)</sup>	ASCE 7-16 Table 11.8-1
Modified MCE <sup>(c)</sup> Peak Ground Acceleration ( $PGA_M$ )	0.616 <sup>(a)</sup>	ASCE 7-16 Equation 11.8-1
Seismic Design Category	D <sup>(b)</sup>	ASCE 7-16 Tables 11.6.1 and 11.6.2

<sup>(a)</sup> Design Values Obtained from USGS Earthquake Hazards Program website that are based on the ASCE-7-16 and 2019 CBC and site coordinates of N33.6399° and W117.6412°.

<sup>(b)</sup> Design Values Determined per ASCE Table 11.4-2 and CBC Equations 16-36 through 16-39.

<sup>(c)</sup> MCE: Maximum Considered Earthquake.

Since the Site Class is designated as D and the  $S_1$  value is greater than or equal to 0.2, the 2019 CBC requires either a site-specific ground motion hazard analysis per Section 21.2 of ASCE 7-16 or the application of Exception 2 of Section 11.4.8 of ASCE 7-16. Exception 2 states that a site-specific ground motion hazard analysis is not required provided that the value of the seismic response coefficient,  $C_s$ , is conservatively calculated by the project structural engineer using Eqn. 12.8-2 of ASCE 7-16 for values of  $T \leq 1.5T_s$  and taken as equal to 1.5 times the value computed in accordance with either Eqn. 12.8-3 for  $T_L \geq T > 1.5T_s$  or Eqn. 12.8-4 for  $T > T_L$ .

The project structural engineer should apply all requirements of Section 11.4.8 of ASCE 7-16 to determine if increases to the seismic response coefficient (ie. increases to the loading of the structure) are required.

## **LIGHT POLE FOUNDATION DESIGN CRITERIA**

The following geotechnical design parameters may be used for the design of pole foundations for the new proposed lights:

Bearing Material:	Native Alluvium
Depth to Groundwater:	5 feet
Minimum Foundation Diameter:	24 inches
Minimum Pole Foundation Depth:	10 feet
Allowable End Bearing:	2,000 psf (for minimum pole foundation depth of 10 feet) <ul style="list-style-type: none"><li>○ One-third increase for wind and seismic loads</li><li>○ Assumes bottom of drill hole thoroughly cleaned of all loose soil prior to pour.</li></ul>
Allowable Skin Friction:	225 psf <ul style="list-style-type: none"><li>○ Disregard upper 2 feet due to possible soil disturbance.</li><li>○ One-third increase for wind and seismic loads</li></ul>
Allowable Lateral Bearing:	300 psf/ per ft of pole depth. <ul style="list-style-type: none"><li>○ Ignore upper 2 feet due to possible soil disturbance.</li><li>○ Can be applied over an effective width of 2 pole foundation diameters (e.g. 600sf/ft of pole diameter per ft of depth).</li></ul>

The final pole diameter and depth will depend on the design loads from the light poles. GMU has not been provided with information pertaining to potential foundation systems or design loads. When additional foundation design information is available, GMU should review that information and confirm or revise the preliminary design parameters presented herein.

## **POLE FOUNDATION CONSTRUCTION CONSIDERATIONS**

As mentioned previously, groundwater was encountered within both of our drill holes at a depth of 5 feet below the existing ground surface. As a result, the subsurface soils can be expected to be fully saturated at a depth of 5 feet below the existing ground surface and the foundation excavations can be expected to fill up with water to a depth of 5 feet from the ground surface. Based on these

conditions, temporary casing or drilling mud will be required to advance the pole foundation excavations beyond a depth of 5 feet. In addition, either each foundation excavation will need to be pumped out immediately before the concrete is placed or the concrete will need to be placed into the bottom of each foundation excavation using a tremie pipe to properly displace the water from the hole as the concrete is placed.

## **LIMITATIONS**

All parties reviewing or utilizing this report should recognize that the findings, conclusions, and recommendations presented represent the results of our professional geological and geotechnical engineering efforts and judgments. Due to the inexact nature of the state of the art of these professions and the possible occurrence of undetected variables in subsurface conditions, we cannot guarantee that the conditions actually encountered during grading and site construction will be identical to those observed, sampled, and interpreted during our study, or that there are no unknown subsurface conditions which could have an adverse effect on the use of the property. We have exercised a degree of care comparable to the standard of practice presently maintained by other professionals in the fields of geotechnical engineering and engineering geology, and believe that our findings present a reasonably representative description of geotechnical conditions and their probable influence on the use of the property.

Our conclusions and recommendations are based on the assumption that our firm will act as the geotechnical engineer of record during construction of the project to observe the actual conditions exposed, to verify our design concepts, and to provide our revised conclusions and recommendations should subsurface conditions differ significantly from those used as the basis for our conclusions and recommendations presented in this report. Since our conclusions and recommendations are based on a limited amount of geotechnical exploration and analysis, all parties should recognize the need for possible revisions to our conclusions and recommendations during construction of the project.

It should be further noted that the recommendations presented herein are intended solely to minimize the effects of post-construction soil movements. Consequently, minor cracking and/or distortion of all on-site improvements should be anticipated.

This report has not been prepared for the use by other parties or projects other than those named or described herein. This report may not contain sufficient information for other parties or other purposes.

Mr. Jerry Hill, CITY OF MISSION VIEJO  
*Geotechnical Investigation for Proposed New Lighting, Marty Russo Youth Athletic Park, Olympiad Road,  
City of Mission Viejo, California*

Please do not hesitate to call if you have any questions regarding the contents of this letter.

Respectfully submitted,

**GMU GEOTECHNICAL, INC.**



Scott Ward, EIT  
Project Engineer



Alan B. Mutchnick, PG, CEG 1789  
Associate Engineering Geologist



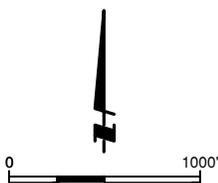
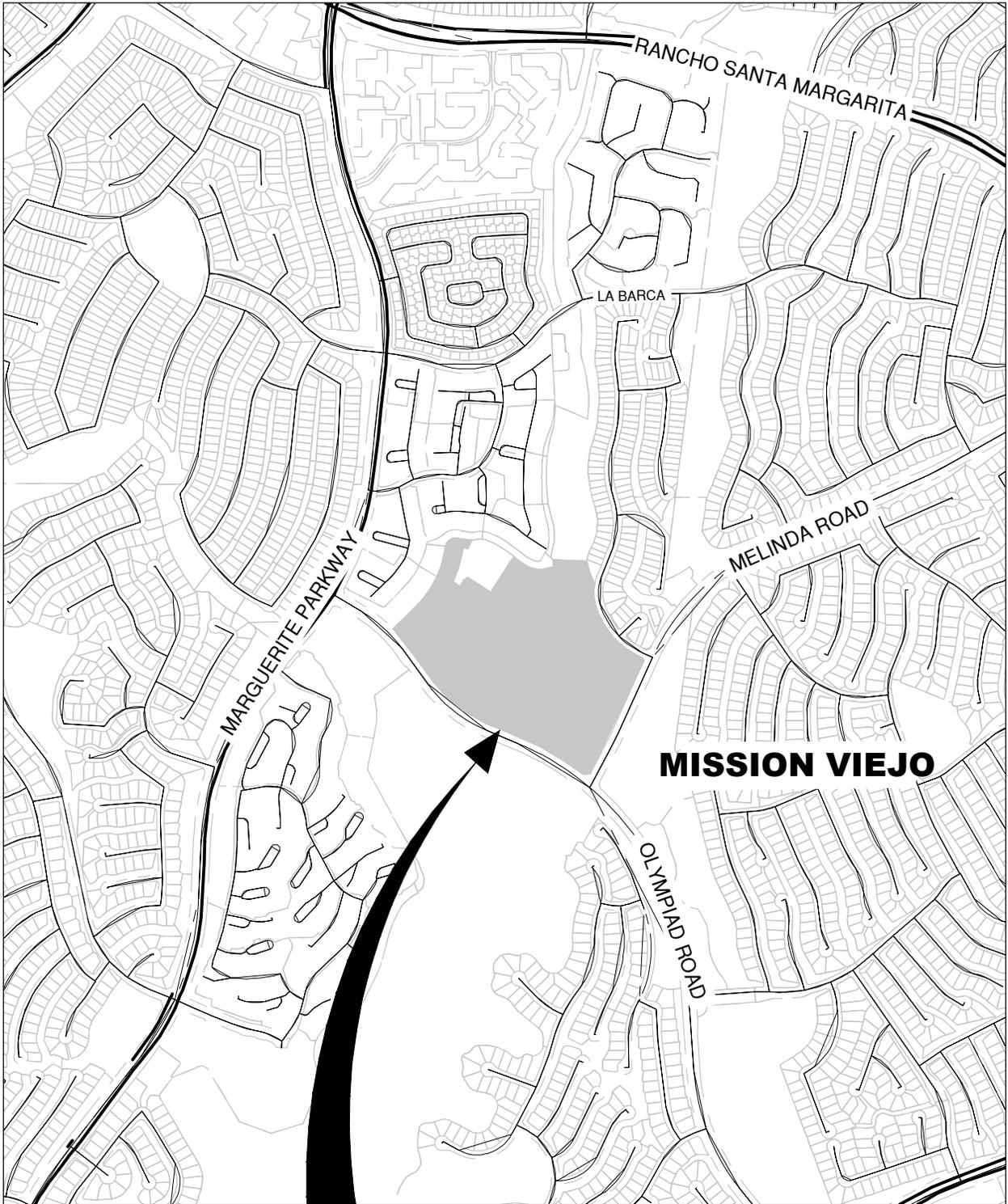
David Hansen, M.Sc., PE, GE 3056  
Associate Geotechnical Engineer

Attachments:

- Plate 1 – Location Map
- Plate 2 – Geotechnical Map
- Appendix A – Boring Logs
- Appendix B – Laboratory Test Data

sw/21-283-00L

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**22058 OLYMPIAD ROAD**  
MISSION VIEJO, CA

### LOCATION MAP

<b>GMU</b>	Date: February 4, 2022	Plate 1
	Project No.: 21-283-00	

# GEOTECHNICAL INVESTIGATION MAP



Date: February 4, 2022

Plate  
2

Project No.: 21-283-00

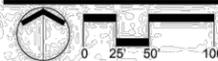
## LEGEND

-  **DH-2** APPROXIMATE LOCATION OF DRILL HOLE

## LEGEND

-  EXISTING LIGHTED FIELDS/CAGES (METAL HALIDE)
-  PROPOSED LIGHTING (LED)

 10/26/2021



PROPOSED LIGHTING EXHIBIT  
**MARTY RUSSO YOUTH ATHLETIC PARK**  
 CITY OF MISSION VIEJO, CALIFORNIA



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# APPENDIX A

## Geotechnical Exploration Logs

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**Project:** Marty Russo Youth Athletic Park  
**Project Location:** Mission Viejo, CA  
**Project Number:** 21-283-00

# Log of Drill Hole DH-1

Sheet 1 of 2

Date(s) Drilled 1/7/22	Logged By RC	Checked By SW
Drilling Method Hollow Stem Auger	Drilling Contractor M R Drilling	Total Depth of Drill Hole 35.0 feet
Drill Rig Type Track Rig	Diameter(s) of Hole, inches 8	Approx. Surface Elevation, ft MSL 718.0
Groundwater Depth [Elevation], feet 5.0 [713.0]	Sampling Method(s) California Modified Sampler with 6-inch sleeve/SPT	Drill Hole Backfill Native, bentonite
Remarks		Driving Method and Drop 140 lb hammer, 30" drop

ELEVATION, feet	DEPTH, feet	GRAPHIC LOG	GEOLOGICAL CLASSIFICATION AND DESCRIPTION	ORIENTATION DATA	ENGINEERING CLASSIFICATION AND DESCRIPTION	SAMPLE DATA			TEST DATA		
						SAMPLE	NUMBER OF BLOWS / 6"	DRIVING WEIGHT, lbs	MOISTURE CONTENT, %	DRY UNIT WEIGHT, pcf	ADDITIONAL TESTS
715	5		<u>Alluvial Deposits (Qal)</u>		TOPSOIL SILTY CLAY (CL); dark grayish brown, moist to very moist, firm, some fine-grained sand						
710	10				Poorly Graded SAND to SILTY SAND (SP-SM); light brown, saturated, loose, fine- to coarse-grained sand	3 3 5		19	106		
705	15				SILTY CLAY (CL); grayish brown, very moist, soft to firm, some fine-grained sand	1 2 3					
700					SANDY CLAY (CL); grayish brown, very moist to saturated, some fine-grained sand	2 2 4		30	92	DS	

DH\_REV3 21-283-00.GPJ GMULAB.GPJ 2/7/22

**Drill Hole DH-1**



Project: Marty Russo Youth Athletic Park  
 Project Location: Mission Viejo, CA  
 Project Number: 21-283-00

# Log of Drill Hole DH-1

Sheet 2 of 2

ELEVATION, feet	DEPTH, feet	GRAPHIC LOG	GEOLOGICAL CLASSIFICATION AND DESCRIPTION	ORIENTATION DATA	ENGINEERING CLASSIFICATION AND DESCRIPTION	SAMPLE DATA			TEST DATA		
						SAMPLE NUMBER	NUMBER OF BLOWS / 6"	DRIVING WEIGHT, lbs	MOISTURE CONTENT, %	DRY UNIT WEIGHT, pcf	ADDITIONAL TESTS
695	25				SILTY CLAY (CL); grayish brown, very moist, firm	353	6				
690	30				Becomes soft	335	2		35	88	
685	35		3 Rings of sand above recovered sample at 35ft, some cementation		SILTY SAND (SM): light brown, saturated, medium dense, fine- to coarse-grained sand	X			17		
					SANDY CLAY to CLAYEY SILT with Sand (CL-ML); grayish brown, very moist, firm, fine-grained sand	334			27	96	
					Total Depth: 36.5ft Groundwater at 5ft						

DH\_REV3 21-283-00.GPJ GMULAB.GPJ 2/7/22

Drill Hole DH-1



**Project:** Marty Russo Youth Athletic Park  
**Project Location:** Mission Viejo, CA  
**Project Number:** 21-283-00

# Log of Drill Hole DH-2

Sheet 1 of 3

Date(s) Drilled	1/7/22	Logged By	RC	Checked By	SW	
Drilling Method	Hollow Stem Auger	Drilling Contractor	M R Drilling	Total Depth of Drill Hole	51.5 feet	
Drill Rig Type	Track Rig	Diameter(s) of Hole, inches	8	Approx. Surface Elevation, ft MSL	710.0	
Groundwater Depth [Elevation], feet	5.0 [705.0]	Sampling Method(s)	California Modified Sampler with 6-inch sleeve/SPT	Drill Hole Backfill	Native, bentonite	
Remarks					Driving Method and Drop	140 lb hammer, 30" drop

ELEVATION, feet	DEPTH, feet	GRAPHIC LOG	GEOLOGICAL CLASSIFICATION AND DESCRIPTION	ORIENTATION DATA	ENGINEERING CLASSIFICATION AND DESCRIPTION	SAMPLE DATA			TEST DATA		
						SAMPLE	NUMBER OF BLOWS / 6"	DRIVING WEIGHT, lbs	MOISTURE CONTENT, %	DRY UNIT WEIGHT, pcf	ADDITIONAL TESTS
			<u>Alluvial Deposits (Qal)</u>		TOPSOIL SILTY CLAY (CL); dark brown, damp, firm, some fine-grained sand, some rootlets				26		PS, pH, SU, CH, MR
705	5					↓	2 2 3		36	84	
						Becomes saturated					
700	10				SANDY CLAY (CL); grayish brown, saturated, very soft to soft, fine-grained sand		P P 2				
695	15				SILTY CLAY (CL); grayish brown, very moist, soft to firm, few fine-grained sand		3 4 4		39	79	

DH\_REV3 21-283-00.GPJ GMULAB.GPJ 2/7/22

**Drill Hole DH-2**



Project: Marty Russo Youth Athletic Park  
 Project Location: Mission Viejo, CA  
 Project Number: 21-283-00

# Log of Drill Hole DH-2

Sheet 2 of 3

ELEVATION, feet	DEPTH, feet	GRAPHIC LOG	GEOLOGICAL CLASSIFICATION AND DESCRIPTION	ORIENTATION DATA	ENGINEERING CLASSIFICATION AND DESCRIPTION	SAMPLE DATA			TEST DATA		
						SAMPLE NUMBER	NUMBER OF BLOWS / 6"	DRIVING WEIGHT, lbs	MOISTURE CONTENT, %	DRY UNIT WEIGHT, pcf	ADDITIONAL TESTS
685	25				SILTY CLAY (CL); grayish brown, very moist, soft to firm, few fine-grained sand	233					
680	30				Becomes soft	P33			51	70	DS
675	35					P34			43	75	
670	40					P22					

DH\_REV3 21-283-00.GPJ GMULAB.GPJ 2/7/22

**Drill Hole DH-2**



Project: Marty Russo Youth Athletic Park  
 Project Location: Mission Viejo, CA  
 Project Number: 21-283-00

## Log of Drill Hole DH-2

Sheet 3 of 3

ELEVATION, feet	DEPTH, feet	GRAPHIC LOG	GEOLOGICAL CLASSIFICATION AND DESCRIPTION	ORIENTATION DATA	ENGINEERING CLASSIFICATION AND DESCRIPTION	SAMPLE DATA			TEST DATA		
						SAMPLE NUMBER	NUMBER OF BLOWS / 6"	DRIVING WEIGHT, lbs	MOISTURE CONTENT, %	DRY UNIT WEIGHT, pcf	ADDITIONAL TESTS
660	50				SILTY CLAY (CL); grayish brown, moist, soft to firm, trace fine-grained sand		2 4 5		40	79	
					Total Depth: 51.5ft Groundwater at 5ft		P 2 2				

DH\_REV3 21-283-00.GPJ GMULAB.GPJ 2/7/22

Drill Hole DH-2



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# APPENDIX B

## Laboratory Test Data

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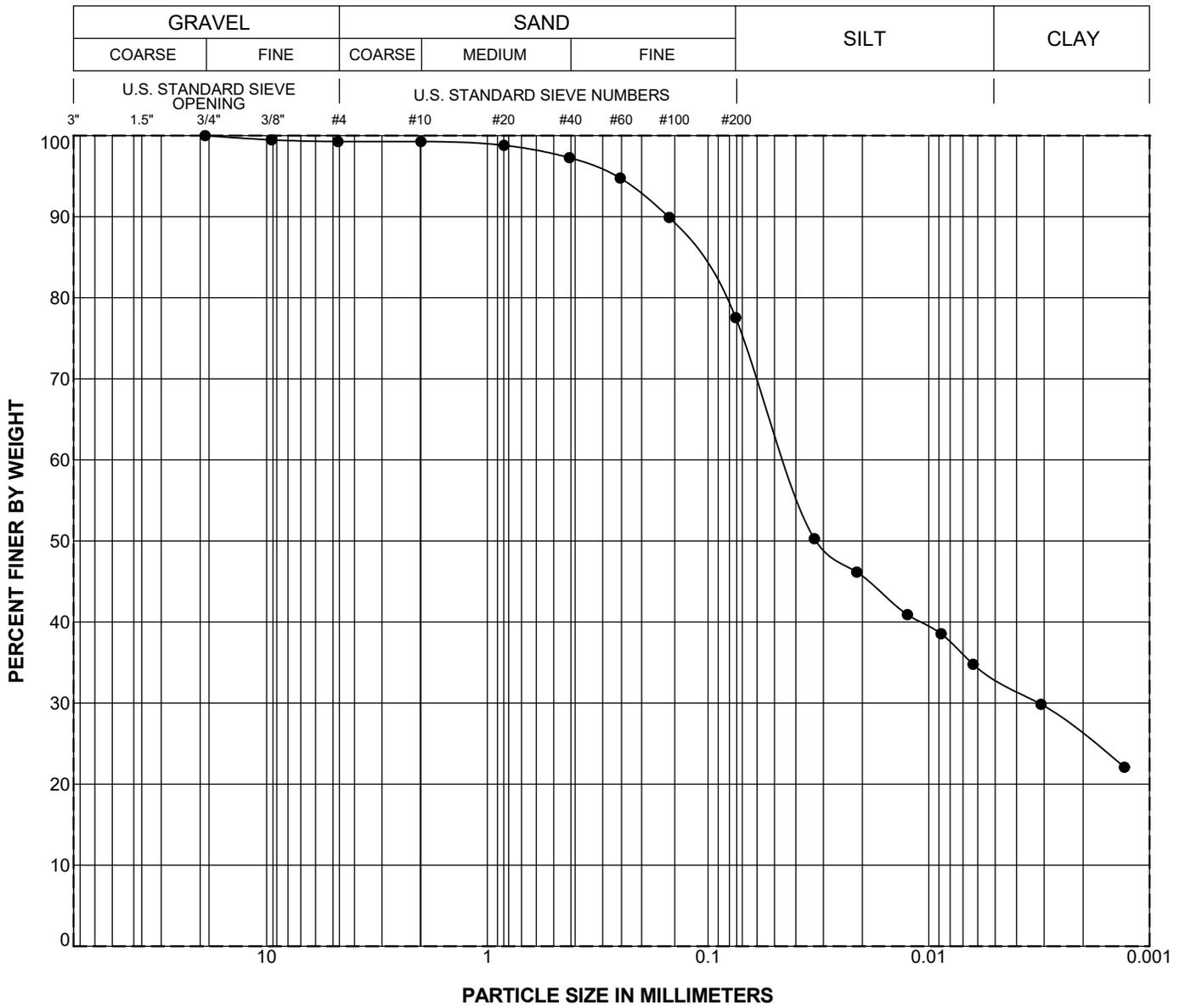
**TABLE B-1  
SUMMARY OF SOIL LABORATORY DATA**

Sample Information			Geologic Unit	USCS Group Symbol	In Situ Water Content, %	In Situ Dry Unit Weight, pcf	In Situ Saturation, %	Sieve/Hydrometer				Atterberg Limits			Compaction		Expansion Index	R-Value	Chemical Test Results			
Boring Number	Depth, feet	Elevation, feet						Gravel, %	Sand, %	<#200, %	<2µ, %	LL	PL	PI	Maximum Dry Unit Weight, pcf	Optimum Water Content, %			pH	Sulfate (ppm)	Chloride (ppm)	Min. Resistivity (ohm/cm)
DH-1	5	713.0	Qal	SP-SM	18.8	106	90															
DH-1	15	703.0	Qal	CL	30.4	92	101															
DH-1	25	693.0	Qal	CL	35.3	88	105															
DH-1	34	684.0	Qal	SM	16.7					6												
DH-1	35	683.0	Qal	CL/ML	27.5	96	100															
DH-2	0	710.0	Qal	CL	26.4			1	22	78	26							7.6	1336	444	452	
DH-2	5	705.0	Qal	CL	36.4	84	101															
DH-2	15	695.0	Qal	CL	38.8	79	94															
DH-2	25	685.0	Qal	CL	50.5	70	97															
DH-2	35	675.0	Qal	CL	42.9	75	95															
DH-2	45	665.0	Qal	CL	40.3	79	97															

GMU\_TABLE\_SOIL\_LAB\_DATA 21-283-00.GPJ FNC AB GWGN01.GDT 2/7/22

Project: Marty Russo Youth Athletic Park  
Project No. 21-283-00





Boring Number	Depth (feet)	Geologic Unit	Symbol	LL	PI	Classification
DH-2	0.0	Qal	●			SILTY CLAY (CL)

GMU\_GRAIN\_SIZE 21-283-00.GPJ 2/7/22

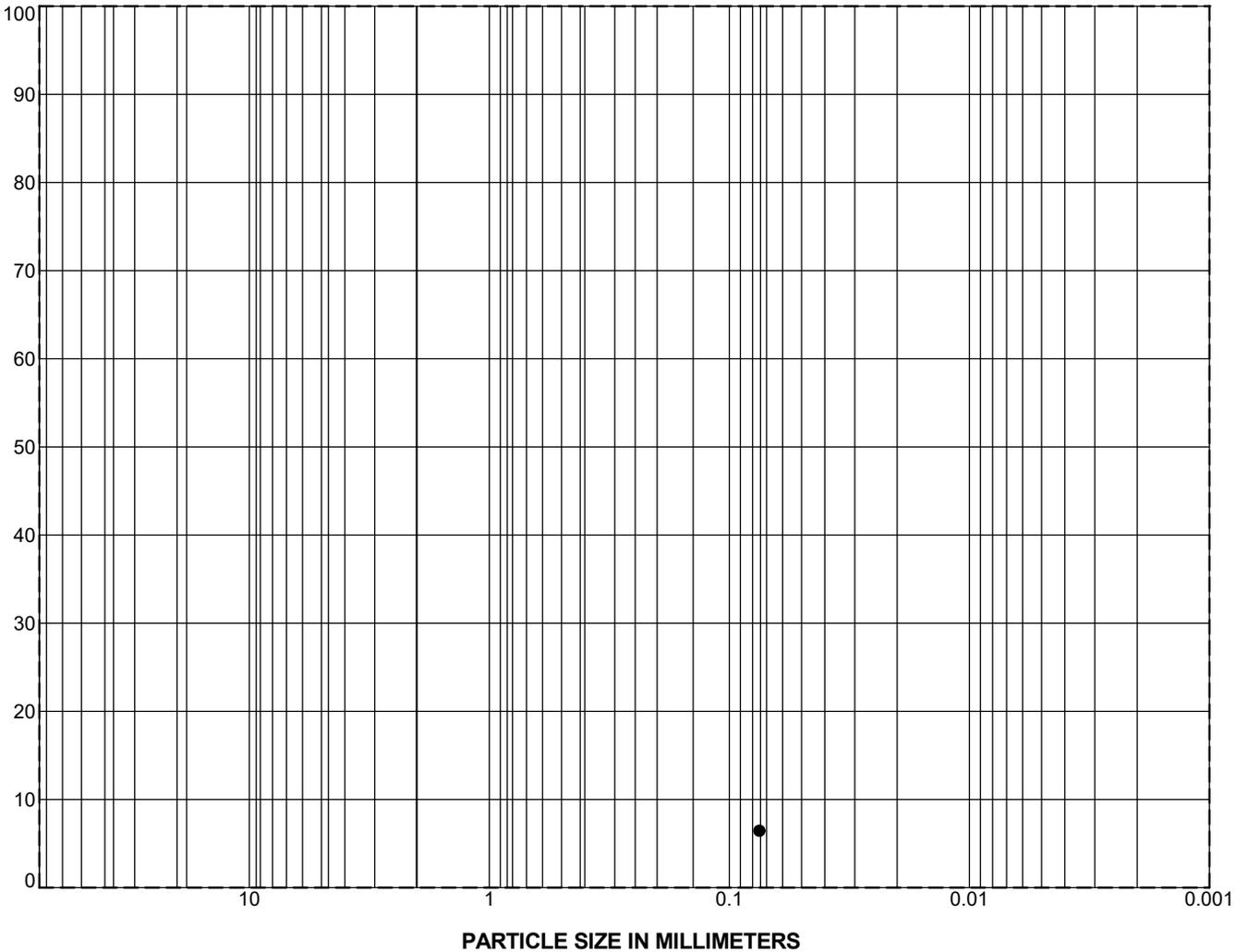
## PARTICLE SIZE DISTRIBUTION

Project: Marty Russo Youth Athletic Park  
Project No. 21-283-00



GRAVEL		SAND			SILT	CLAY
COARSE	FINE	COARSE	MEDIUM	FINE		

U.S. STANDARD SIEVE OPENING      U.S. STANDARD SIEVE NUMBERS



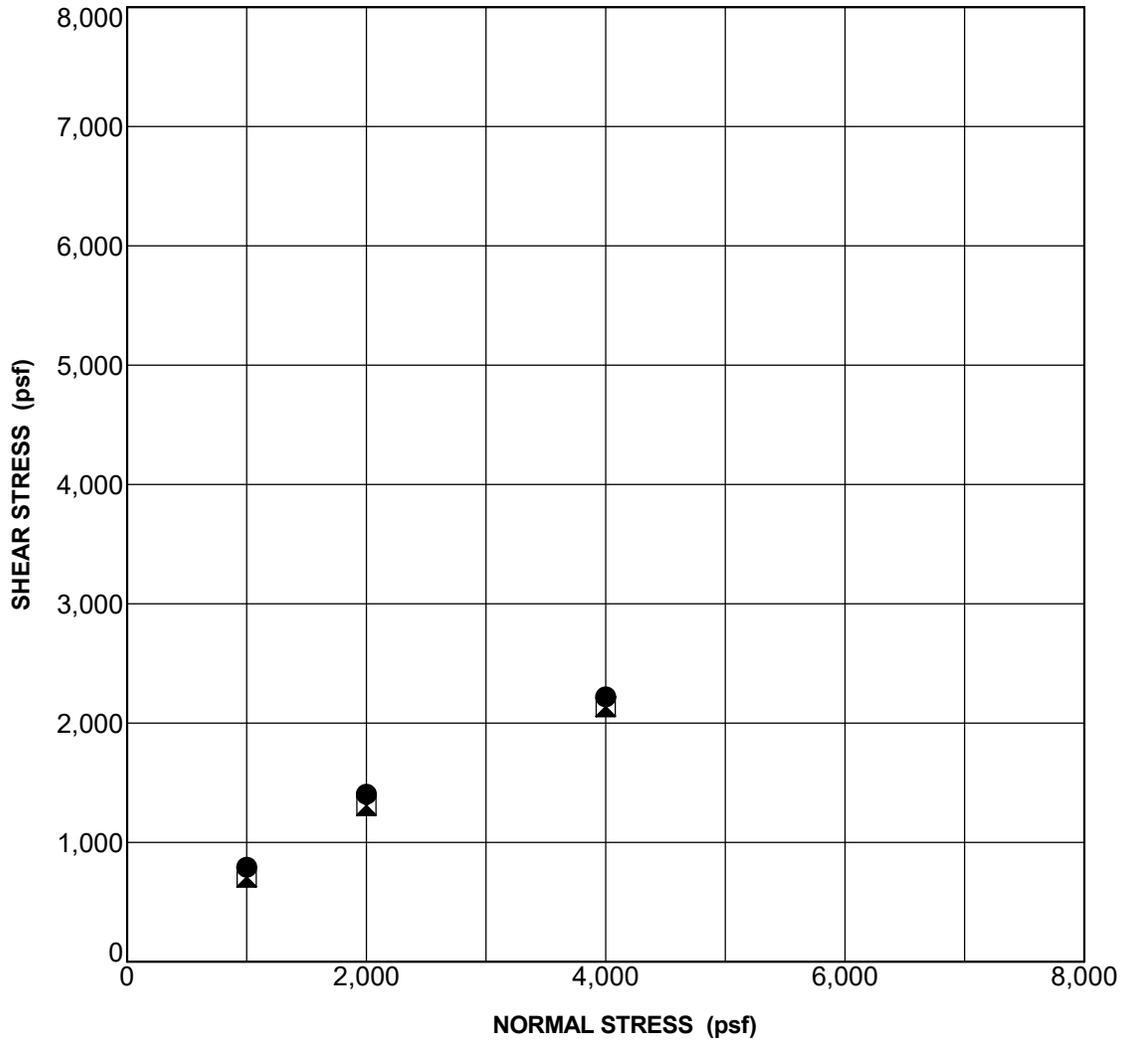
Boring Number	Depth (feet)	Geologic Unit	Symbol	LL	PI	Classification
DH-1	34.0	Qal	●			SILTY SAND (SM)

GMU\_GRAIN\_SIZE 21-283-00.GPJ 2/7/22

## PARTICLE SIZE DISTRIBUTION

Project: Marty Russo Youth Athletic Park  
Project No. 21-283-00





**SAMPLE AND TEST DESCRIPTION**

**Sample Location:** DH-1 @ 15.0 ft **Geologic Unit:** Qal **Classification:** SANDY CLAY (CL)

**Strain Rate (in/min):** 0.005 **Sample Preparation:** Undisturbed

**Notes:** Sample saturated prior and during shearing

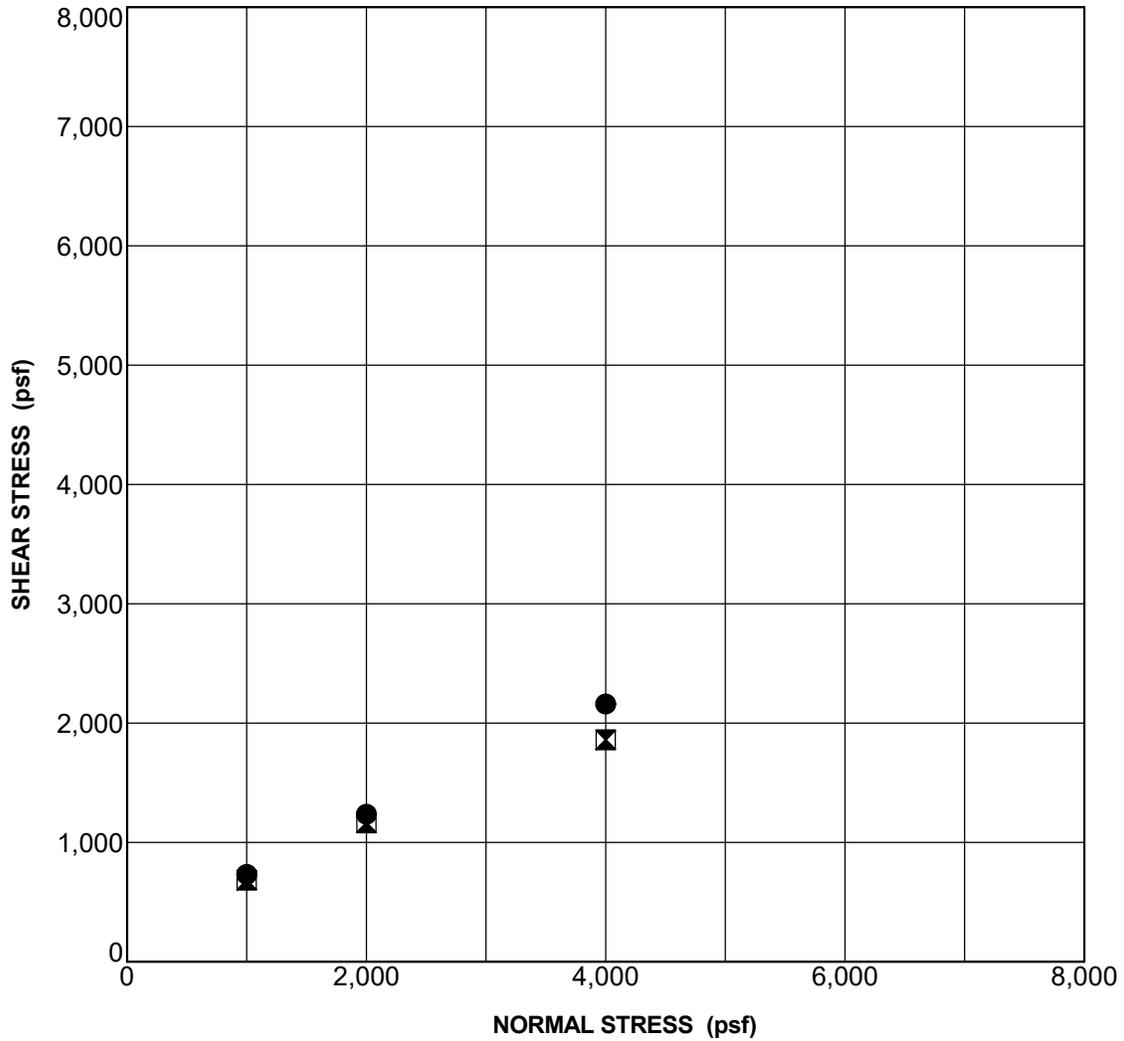
**STRENGTH PARAMETERS**

STRENGTH TYPE	COHESION (psf)	FRICTION ANGLE (degrees)
● Peak Strength	384	25.0
☒ Ultimate Strength	294	25.0

**SHEAR TEST DATA**

Project: Marty Russo Youth Athletic Park  
Project No. 21-283-00





**SAMPLE AND TEST DESCRIPTION**

**Sample Location:** DH-2 @ 25.0 ft    **Geologic Unit:** Qal    **Classification:** SILTY CLAY (CL)

**Strain Rate (in/min):** 0.005                      **Sample Preparation:** Undisturbed

**Notes:** Sample saturated prior and during shearing

**STRENGTH PARAMETERS**

STRENGTH TYPE	COHESION (psf)	FRICTION ANGLE (degrees)
● Peak Strength	270	25.0
⊠ Ultimate Strength	336	21.0

**SHEAR TEST DATA**

Project: Marty Russo Youth Athletic Park  
Project No. 21-283-00



# APPENDIX B

## Noise Report

**NOISE IMPACT ANALYSIS**  
**MARTY RUSSO YOUTH ATHLETIC PARK NOISE STUDY**  
**CITY OF MISSION VIEJO, CALIFORNIA**

Prepared by:

Giroux & Associates

Prepared for:

Phil Martin & Associates  
Attn: Phil Martin  
1809 E. Dyer Road, Suite 301  
Santa Ana, CA 92705

Date:

December 27, 2021

Project No.: P21-048 N

## Noise Measurements

A noise monitoring program was conducted in Mission Viejo at the Marty Russo Youth Athletic Park on December 15, 2021, to determine the likely noise impact from the installation of generators to power currently unlighted athletic fields. The measurements focused on the closest residence on St. Kitts nearest to the proposed lighted areas. Monitoring was performed prior to the start-up of four generators as a back-ground level, and with all four running at normal power output. One generator was individually tested at a fixed circumference in four quadrants to determine if there is any sound level asymmetry depending upon orientation of the unit. Measurements were made from 6:00 to 7:00 p.m. with the assistance and cooperation of two city staff members. Two digital sound level meters that were calibrated just before deployment were used for this test. Results were compared to the City of Mission Viejo standards for residential uses. The applicable ordinance standards are 60 dB from 7:00 a.m. to 10:00 p.m. and drop to 59 dB during nocturnal quiet hours.

The measured background noise level was 40 dB from distant roadway traffic on Olympiad Road and minor residential activities. With all four generators running, the rear yard noise at the presumably loudest off-site receiver location was 50 dB compared to the 60 dB allowable daytime and evening level. Operation of all generators after 10:00 p.m. would equal the nocturnal ordinance threshold and is therefore not recommended because anomalous weather conditions or youth recreation could cause a slight violation of the ordinance. By way of reference, the 10 dB increase created by the operation of the generators is perceived by the human ear as a doubling of apparent loudness. The operation of the generators was clearly audible at the closest home. Termination of their operation during non-use periods is recommended if feasible to create partial acoustic relief.

The noise field around an individual running unit was not completely concentric. At 25 feet from the center of the unit, the measured steady state level was as follows: ("Front" is the tow-bar end of the trailer)

Front = 75 dB, Rear = 73 dB, Right Side = 70 dB, Left Side = 70 dB

There appears to be a slight acoustical advantage to not pointing the head or rear of the generator toward the closest homes. At this home, the occupant believes that the terrain is such as to funnel park activity noise and create a higher level than would occur under flat terrain. To test this supposition, theoretical distance attenuation between the near field level of 70-76 dB and the source receiver distance of 400 feet to St. Kitts should be 24 dB under direct line of sight conditions. The rear yard reading of 50 dB is wholly consistent with what would be predicted by propagation theory.

Field lighting may slightly increase vehicle traffic on Olympiad which currently carries nearly 11,000 vehicles per day. The addition of perhaps 100 cars per day would increase roadway by 0.4 dB. Such a change is undetectable by human hearing.

## Conclusion and Recommendations

- Operation of generator lighting will not cause the ambient level at the closest home to exceed the City of Mission Viejo residential noise standard before 10:00 p.m.
- Generator operation should not occur past 10:00 p.m. Generator orientation should direct the facing sides of the unit toward the closest homes and minimize facing the front or rear toward these homes.
- Generators should be turned off at the conclusion of any active use.
- Traffic noise impacts will be minimal considering existing background levels.
- There is no clear evidence of terrain-enhanced noise propagation based on the positive agreement between the theoretical level with no extra propagation versus the measured value at the noisiest back yard residence.