5.1 AESTHETICS

The analysis in this section is based in part on the following technical report:

Del Norte High School Baseball Softball LED, San Diego (Lighting System Plan), CA, Musco Lighting, 2022, April
 8. (Appendix B)

A complete copy of this study is included in Appendix B to this Draft SEIR.

5.1.1 Environmental Setting

5.1.1.1 REGULATORY BACKGROUND

State Scenic Highways Program

The California Scenic Highways Program was created by the California Scenic Highway Law in 1963 with the purpose of preserving and protecting scenic highway corridors from any change that would diminish the aesthetic value of lands adjacent to highways. State Scenic Highways are highways that are either officially designated by Caltrans or are eligible for designation.

San Diego County Scenic Highway Program

The San Diego County Scenic Highway Program establishes a scenic highway system priority list. The State officially designated two scenic highways in San Diego County, one of which is in an unincorporated area. The rest of the routes in San Diego County's scenic highway program are listed as first-, second-, or third-priority scenic routes. There are 6 first-priority routes, 16 second-priority routes, and 38 third-priority routes.

The San Diego County Light Pollution Code

The Light Pollution Code, also known as the Dark Sky Ordinance, was adopted to minimize light pollution so that the citizens of San Diego County could enjoy the night environment (County Code of Regulatory Ordinances, Title 5, Div.9, Sections 59.101–59.113). The code also protects the Palomar and Mount Laguna observatories from light pollution, which has a detrimental effect on astronomical research, by restricting the permitted use of outdoor light fixtures on private property. The Light Pollution Code regulates applicants for any permit required by the County for work involving outdoor light fixtures, unless exempt. Section 59.109 of the code, Permanent Exemptions, exempts outdoor light fixtures on, in, or in connection with facilities and land owned or operated by the federal government or the State of California. The project site is part of the existing high school, owned and operated by the Poway Unified School District, a state agency. The proposed sports lighting would be exempt from the County's Light Pollution Code.

5.1.1.2 EXISTING CONDITIONS

Visual Character

Del Norte High School is part of two master planned communities: the western 40 acres is in the Black Mountain Ranch Subarea Plan in the City of San Diego, and the eastern 22 acres is in the 4S Ranch Specific

Plan in the county. The baseball and softball fields are in the county portion. The area surrounding the high school are developed with urban uses—residential uses to the north across Lone Quail Road, east across Deer Ridge Road, south across Camino San Bernardo, and west across Nighthawk Lane. Design39Campus, a public school serving students from TK to 8th grade, is to the north across Del Sur Ridge Road. There are no unique or visually significant resources in the project vicinity.

Scenic Vistas and Corridors

A highway may be designated as "scenic" by Caltrans depending on how much of the natural landscape can be seen by travelers, the aesthetic quality of the landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view. A highway's status changes from "eligible" to "officially designated" when the local jurisdiction adopts a scenic corridor protection program, applies to Caltrans for scenic highway approval, and receives notification from Caltrans that the highway has been designated an official State Scenic Highway. The closest officially designated state scenic highway, State Route (SR) 125 from SR-94 in Spring Valley to Interstate 8 in La Mesa, is approximately 18 miles south of the project site. The closest eligible scenic highway is I-5, approximately eight miles to the west (San Diego 2011b).

Dark Skies

The County's General Plan indicates that the maintenance of dark skies in San Diego County is vital to the two world-class observatories that depend on them for astronomical research. The five criteria for a high-quality site include (1) Elevation over 5,000 feet above sea level; (2) clear, cloud-free night sky; (3) proximity to the Pacific Ocean; (4) distance from urban areas; and (5) freedom from nearby sources of light, dust, and smoke. Sites in the United States that meet these criteria are found only in west Texas, central New Mexico, Arizona, the central California coast, and the San Diego region. The two sites in San Diego County that meet all of the above criteria are the Palomar and Mount Laguna Observatories. To protect dark skies, the County regulates the permitted use of outdoor light fixtures that emit undesirable lights into the night sky through the Light Pollution Code and the Guidelines for Determining Significance and Report Format and Content Requirements for Dark Skies and Glare. The project site is approximately 27 miles southwest of the Palomar Observatory and approximately 42 miles northwest of the Mount Laguna Observatory.

5.1.2 Thresholds of Significance

Appendix G of the CEQA Guidelines states that, "except as provided in Public Resources Code Section 21099," a project would normally have a significant effect on the environment if the project would:

- AE-1 Have a substantial adverse effect on a scenic vista.
- AE-2 Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.
- AE-3 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

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accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality.

AE-4 Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

5.1.3 Plans, Programs, and Policies

There are no plans, programs, and policies applicable to the proposed project.

5.1.4 Environmental Impacts

Summary of Impacts Identified in the Certified EIR

The Certified EIR scoped out aesthetic impacts related to a scenic vista, scenic resources within a state highway, and visual character or quality of the surrounding area as less than significant in the Initial Study during the notice of preparation phase of the Certified EIR. The Certified EIR evaluated light and glare impacts from the installation of elevated field lights on the stadium's sports field and track and determined impacts to be less than significant with the implementation of Mitigation Measures 5.1-1 and 5.1-2. The Certified EIR did not evaluate sports lighting on other athletic facilities on the campus.

5.1.4.1 IMPACT ANALYSIS

The following impact analysis addresses the thresholds of significance; the applicable thresholds are identified in brackets after the impact statement.

Impact 5.1-1: The proposed project would not have a substantial adverse effect on a scenic vista. [Threshold AE-1]

A scenic vista is a viewpoint that provides expansive views of a highly valued landscape for the benefit of the public. The project site is part of an existing high school with various high school facilities. The high school currently provides sports lighting for the aquatic center, tennis courts, and the football stadium. Implementation of the proposed project would be compatible with the existing uses of the high school. The ballfields are bounded by other high school facilities to the north and west, and residential uses to the east and south. The project site and the surrounding area are not part of any scenic vista that provides unique or expansive views. Implementation of the proposed project would not have a substantial adverse effect on a scenic vista.

Level of Significance Before Mitigation: Less than significant impact.

Impact 5.1-2: The proposed project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway. [Threshold AE-2]

There is no state designated scenic highways in the vicinity of the project site. The closest state eligible scenic highway is I-5, approximately eight miles to the west (San Diego 2011b). The closest County Scenic Highway

System is Del Dios Highway, approximately 2.8 miles to the northwest (San Diego 2011a). Considering the distances and intervening development, the project site is not visible from the eligible state scenic highway or the County scenic highway.

Level of Significance Before Mitigation: No impact.

Impact 5.1-3: The project site is in an urbanized area, and the proposed project would not conflict with applicable zoning and other regulations governing scenic quality. [Threshold AE-3]

The project site is part of the Del Norte High School campus, and the proposed project would not introduce new uses to the project site. The project site is designated 4S Ranch Specific Plan by the County of San Diego General Plan and zoned RS (Residential – Single). The Conservation and Open Space Element of the County's General Plan provides the following goals and policies related to visual resources:

- Goal COS-11: Preservation of Scenic Resources. Preservation of scenic resources, including vistas of important natural and unique features, where visual impacts of development are minimized.
- Goal COS-12: Preservation of Ridgelines and Hillsides. Ridgelines and steep hillsides that are preserved for their character and scenic value.
- Goal COS-13: Dark Skies. Preserved dark skies that contribute to rural character and are necessary for the local observatories.

The project site is in an urbanized area surrounded by urban uses. The project site is not part of any important natural and unique features; is not part of any ridgelines or hillsides with scenic value, and is not in a rural area. The proposed project would not conflict with applicable zoning and other regulations governing scenic quality.

Level of Significance Before Mitigation: No impact.

Impact 5.1-4: The proposed project could create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area. [Threshold AE-4]

The proposed sports lighting would be placed on the existing baseball and softball fields of a comprehensive high school with other various athletic facilities. The high school provides sports lighting for the football stadium, aquatic center, and soccer fields. The existing high school also generates nighttime light from parking lots. Nighttime illumination analysis addresses the effects of a project's nighttime lighting on adjoining uses and areas. Light and glare impacts are determined through a comparison of the existing light sources with the proposed lighting plan or policies. If the project has the potential to generate spill light on adjacent sensitive receptors or generate glare at receptors in the vicinity of the site, mitigation measures can be provided to reduce potential impacts, as necessary. The following provides relevant lighting assessment terminology used in this analysis.

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Terminology

The foot-candle (fc) is a unit based on English measurements. Although foot-candles are considered obsolete in some scientific circles, they are nevertheless used because many existing light meters are calibrated in foot-candles. Moonlight produces approximately 0.01 fc, and sunlight can produce up to 10,000 fc. The general benchmarks for light levels are shown in Table 5.1-1, *General Light Levels Benchmark*.

Table 5.1-1 General Light Levels Benchmark

Outdoor Light	Foot-Candles
Direct Sunlight	10,000
Full Daylight	1,000
Overcast Day	100
Dusk	10
Twilight	1
Deep Twilight	0.1
Full Moon	0.01
Quarter Moon	0.001
Moonless Night	0.0001
Overcast Night	0.00001
Gas station canopies	25–30
Typical neighborhood streetlight and parking garage	1.0–5.0

Horizontal foot-candle. The amount of light received on a horizontal surface such as a roadway or parking lot pavement.

Vertical foot-candle. The amount of light received on a vertical surface such as a billboard or building façade.

Glare means lighting entering the eye directly from a light fixture or indirectly from reflective surfaces that causes visual discomfort or reduced visibility. Glare can be generated by building-exterior materials, surface-paving materials, vehicles traveling or parked on roads and driveways, and sports lights. Any highly reflective façade material is a concern because buildings can reflect bright sunrays.

Direct glare is caused by looking at an unshielded lamp or a light at maximum candlepower. Direct glare is dependent on the brightness of the light source, the contrast in brightness between the light source and the surrounding environment, the size of the light source, and its position.

Luminaire means outdoor electrically powered illuminating devices that include a light source, outdoor reflective or refractive surfaces, lenses, electrical connectors and components, and all parts used to mount the assembly, distribute the light, and/or protect the light source, whether permanently installed or portable. An important component of luminaires is their shielding. A fully shielded luminaire emits no light above the horizontal plane and an unshielded luminaire may emit light in any direction.

Spill light means light that falls beyond the optimal aiming point. As a general rule, taller poles allow fixtures to be aimed more directly on the playing surface, which reduces the amount of light spilling into surrounding areas. Proper fixture angles ensure even light distribution across the playing area and reduce spill light, as shown in Exhibit 5.1-A, *Pole Heights and Lighting Angles*.

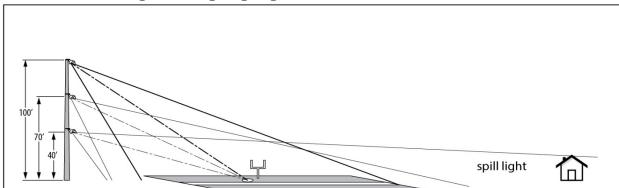


Exhibit 5.1-A: Pole Heights and Lighting Angles

Sky Glow is light that reflects into the night sky and reduces visibility of the sky and stars. It is a concern in many jurisdictions, especially those with observatories.

optimal aming point

Some of the design elements for light control and reduced spill lighting include mounting height and steep aiming angles, various lighting modes, visors and shielding, reflective housing around the luminaires, number of luminaires, and appropriate light levels. Higher poles could increase off-site glare, and shorter poles could increase off-site spill light and detrimentally affect lighting levels and performance. The proposed lighting poles incorporate all these elements, and each element can be arranged individually to control and minimize any potential spill lighting impacts. Each light assembly would be adjusted, and additional shields would be installed as necessary to ensure that light levels at the sensitive receptors do not exceed the light threshold. For the purposes of this analysis, a threshold 0.5 fc was used to determine spill light impact, which is consistent with the previously Certified EIR for the Del Norte High School.

Figure 5.1-1, Proposed Light Poles: Daytime Visual Simulation 1, and Figure 5.1-2, Proposed Light Poles: Daytime Visual Simulation 2, show daytime views of the project site under the existing and proposed conditions from the intersections of Deer Ridge Road / Deer Ridge Place and Deer Ridge Road / Camino San Bernardo, respectively.

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Figure 5.1-1 - Proposed Light Poles Daytime Visual Simulation 1



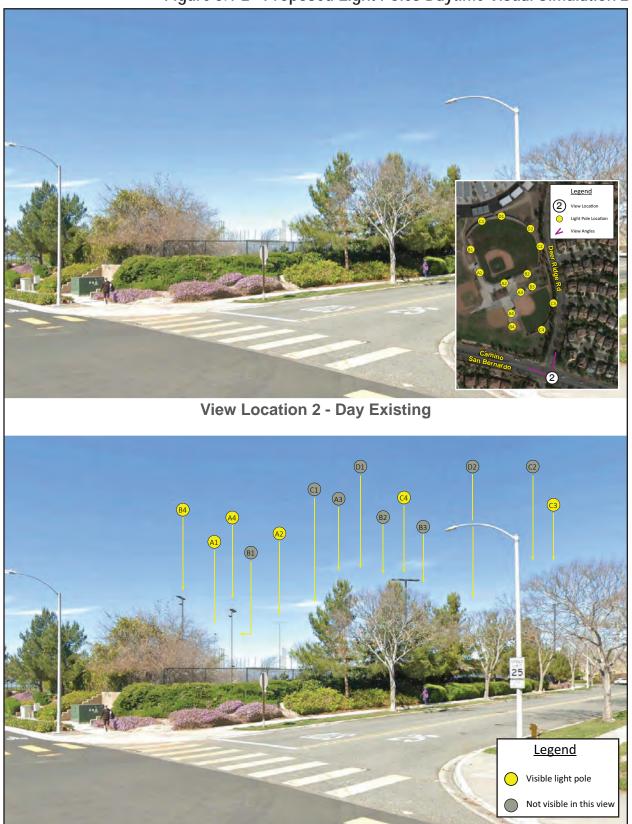
View Location 1 - Day Proposed

Source: PlaceWorks, 2022; MUSCO, 2022

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Figure 5.1-2 - Proposed Light Poles Daytime Visual Simulation 2



View Location 2 - Day Proposed

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As shown, the light poles would be visible from Deer Ridge Road and Camino San Bernardo behind the existing street trees, landscaping, and fencing. However, the galvanized poles with shielded LED luminaires would not be a source of adverse light or glare impacts during the daytime. Figures 5.1-3, *Proposed Light Poles: Nighttime Visual Simulation 1*, and 5.1-4, *Proposed Light Poles: Nighttime Visual Simulation 2*, show the nighttime views of the poles at the same two intersections as the daytime views. As shown, the luminaires would be shielded and directed at the fields, not emitting lights above the horizontal plane to minimize glare or sky glow impacts. The LED luminaires mounted on poles ranging from 60 feet to 90 feet would be shielded and angled to provide optimal light control and would not create nighttime visual discomfort or cause reduced visibility to vehicles traveling or pedestrians. Daytime and nighttime glare impacts would be less than significant.

Spill Light

As described in Chapter 3, *Project Description*, Table 3-1, *Activities Schedule*, the current activities on the ballfields end by 6:30 pm when the sunsets. However, with the proposed project, the lights would be on as late as 9:00 pm from August to November and until 8:00 pm from February to June. Therefore, as shown in Exhibit 3-A, 2022 Sun Graph for San Diego, the lights could be on for a maximum of four hours in late October and November when the sun sets early but could be on for only an hour in the summer months when daylight is available as late as 7:30 pm.

Detailed photometric data and spill light levels from the proposed light poles are included in Appendix B, Lighting Plans. The nearest residential uses to the light poles are across Deer Ridge Road, approximately 95 feet to the east. As shown on Figure 5.1-5, Near-Sidewalk Horizontal Spill-Light Levels, spill light on the west side of Deer Ridge Road sidewalk would range from 0 to 2.88 fc, and the highest spill-light level is near pole C3 on the varsity softball field. However, Figure 5.1-6, Far-Sidewalk Horizontal Spill-Light Levels, shows that spill-light levels would be reduced to 0 fc on the far side of Deer Ridge Road adjacent to the residences. As shown on Figures 5.1-5 and 5.1-6, spill-light levels on both sides of the sidewalk along Camino San Bernardo would be 0 fc. It should be noted that, in general, the horizontal foot-candle describes the amount of light landing on a horizontal surface such as a sidewalk, and vertical foot-candle describes the amount of light landing on a vertical surface, such as a wall. The vertical spill light levels are included in the lighting plan (Appendix B to the DSEIR), and the maximum vertical spill-light level on the east side of Deer Ridge Road would be 0.01 fc. Once the light poles are installed, field measurements will need to be taken to ensure that the light poles have been installed in substantial conformance with the lighting plans in Appendix B, and that the spill light impact, without the field measurement verification, the spill light impacts would be considered potentially significant.

Level of Significance Before Mitigation: Potentially significant impact.

5.1.5 Cumulative Impacts

The proposed project, along with other developments in the City of San Diego and the unincorporated county would add to the intensification of the overall light impacts in the area. However, the project site is part of an existing high school, and various other athletic facilities have sports lighting (e.g., stadium aquatic center, soccer fields). As discussed in Impact 5.1-4, the proposed project would not individually cause substantial spill light or

glare impacts outside of the intended ballfields, provided that the light poles are installed in substantial conformance with the proposed light plans. A mitigation measure has been provided to verify the light levels after completion of the light pole installation. Therefore, the proposed project would be compatible with the current use of the project site, and the light level increase from the proposed project would not result in significant cumulative light and glare impacts in the city or the county.

5.1.6 Level of Significance Before Mitigation

The following impacts would be less than significant: 5.1-1, 5.1-2, and 5.1-3.

Without mitigation, these impacts would be potentially significant:

■ Impact 5.1-4 The proposed project could result in spill-light impact to nearby residences.

5.1.7 Mitigation Measures

Applicable Mitigation Measures from the Certified EIR

The following mitigation measure was included in the Certified EIR, and is applicable to the proposed project. The mitigation measure has been modified for clarification and its intended purpose. The revisions are identified in strikethrough for deletion and underline for addition.

Impact 5.1-4

5.1-1

The <u>Poway Unified School</u> District shall include specifications in its contract with the lighting installer that, following completion of the project, the installer shall take measures at the nearby residences, or <u>the</u> closest site boundary, to ensure that the standard for maximum intrusion lighting (i.e., 0.5 foot_candle) is not exceeded, and further, shall work with the school's directly adjacent neighbors to fine_tune through positioning and shielding of the lights and fixtures to avoid reasonable glare and indirect lighting impacts to individual home owners.

5.1.8 Level of Significance After Mitigation

The mitigation measures would reduce potential impacts to spill light to a level that is less than significant. Therefore, the proposed project would not have significant, unavoidable, adverse impacts related to aesthetics.

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Figure 5.1-3 - Proposed Light Poles Nighttime Visual Simulation 1

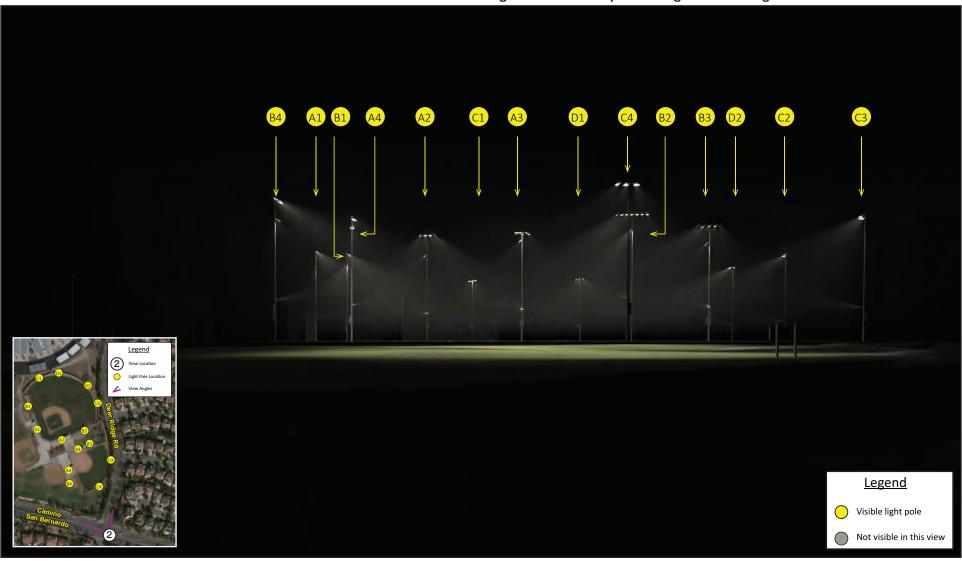


Source: PlaceWorks, 2022; MUSCO, 2022

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Figure 5.1-4 - Proposed Light Poles Nighttime Visual Simulation 2

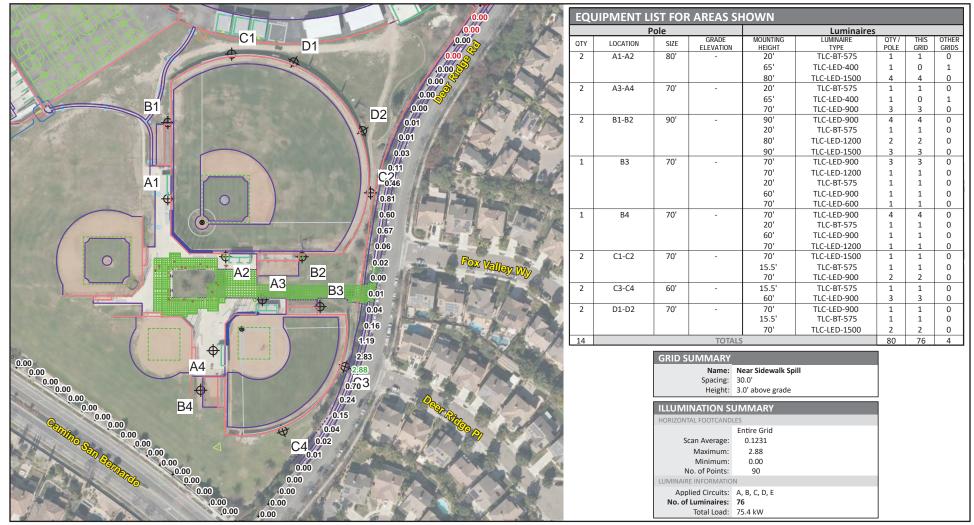


Source: PlaceWorks, 2022; MUSCO, 2022

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Figure 5.1-5 - Near Sidewalk Horizontal Spill Light Levels



Pole location(s) \Leftrightarrow dimensions are relative to 0,0 reference point(s) \otimes

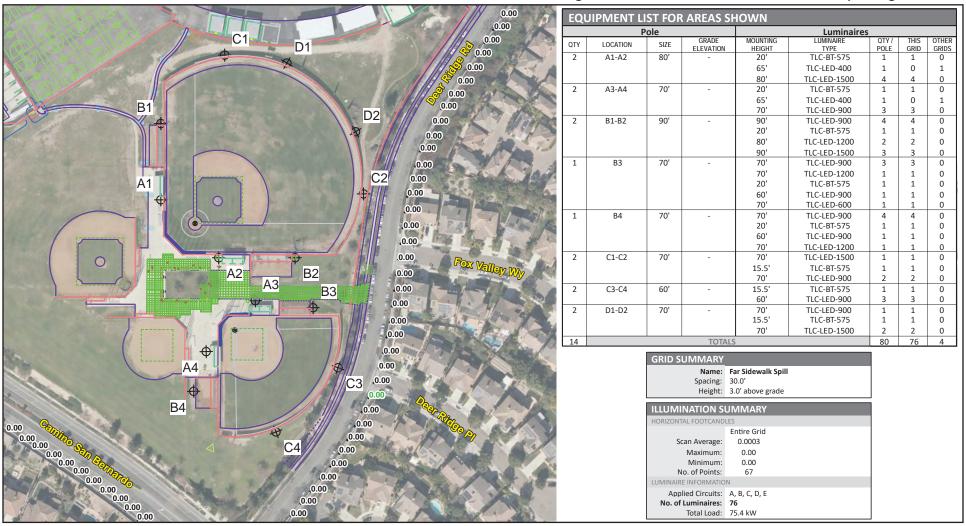
0 175 Scale (Feet)



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Figure 5.1-6 - Far Sidewalk Horizontal Spill Light Levels



Pole location(s) $\lower \oplus$ dimensions are relative to 0,0 reference point(s) \otimes

0 175 Scale (Feet)



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5.1.9 References

Musco Lighting. 2022, April 8. Del Norte High School Baseball Softball LED, San Diego, CA (Appendix B to the DSEIR).

San Diego, County of. 2011a, August. San Diego County General Plan. Conservation and Open Space Element. https://www.sandiegocounty.gov/content/dam/sdc/pds/gpupdate/docs/GP/ConservationandOpenSpace.pdf.

— 2011b, August. San Diego County General Plan EIR. https://www.sandiegocounty.gov/content/sdc/pds/generalplan/GP-EIR.html#EIR.

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