IV.A.3 Light and Glare

1.0 INTRODUCTION

This section describes the existing sources of nighttime illumination and glare on the Loyola Marymount University (LMU) campus and its surroundings and evaluates the changes resulting from implementation of the Proposed Project. Information on the potential lighting plan described in this section was derived from a technical memo prepared by Musco Lighting, LLC (included as **Appendix IV.A.3**).[1]

For purposes of this analysis, "light" refers to light emissions, or the degree of brightness, generated by a given source. Artificial lighting may be generated from point sources (i.e., focused points of origin representing unshielded light sources) or from indirectly illuminated sources of reflected light. Light may be directed downward to illuminate an area or surface, cast upward into the sky by an unshielded fixture and refracted (dispersed) by atmospheric conditions ("skyglow"), or cast sideways and outwards onto off-site properties ("overspill"). Skyglow and light overspill are considered forms of light pollution.

Glare, or "unwanted source luminance," is defined as focused, intense light directly emanated by a source or indirectly reflected by a surface from a source.

Daytime glare is typically caused by the reflection of sunlight from highly reflective surfaces at or above eye level. Reflective surfaces are generally associated with buildings clad with broad expanses of highly polished surfaces or with broad, light-colored areas of paving. Daytime glare is generally most pronounced during early morning and late afternoon hours when the sun is at a low angle and the potential exists for intense reflected light to interfere with vision and driving conditions. Daytime glare may also hinder outdoor activities conducted in surrounding land uses, such as sports.

Nighttime glare refers to direct, intense, focused light, as well as reflected light, and hampers visibility. Glare caused by direct sources of light generally originates from mobile and therefore transitory sources, such as automobiles. Nighttime glare may also originate from particularly intense stationary sources, such as floodlights. As with daytime sun glare, such intense light may cause undesirable interference with driving or other activities.

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1 Musco Lighting, LLC, *Technical Memo Summarizing and Analyzing Illustrative Athletic Field Lighting Plan for the Proposed Loyola Marymount University Master Plan Project*, (2009).

2.0 REGULATORY FRAMEWORK

2.1 Los Angeles Municipal Code

A number of Los Angeles Municipal Code chapters relate to the nighttime illumination of projects, as summarized below:

- **Chapter 1, Article 2, Section 12.21 A 5(k).** All lights used to illuminate a parking area shall be designed, located, and arranged so as to reflect the light away from any streets and adjacent premises.
- **Chapter 1, Article 7, Section 17.08.** Plans for street lighting shall be submitted to and approved by the Bureau of Street Lighting for subdivision maps.
- **Chapter 9, Article 3, Section 93.0117.** No exterior light source may cause more than two foot-candles of lighting intensity or generate direct glare onto exterior glazed windows or glass doors; elevated habitable porch, deck, or balcony; or any ground surface intended for uses such as recreation, barbecue or lawn areas or any other property containing a residential unit or units.
- **Chapter 1, Article 4.4, Section 14.4.4.** No sign shall be arranged and illuminated in a manner that will produce a light intensity of greater than three foot-candles above ambient lighting, as measured at the property line of the nearest residentially zoned property.

2.2 Westchester-Playa Del Rey Community Plan

The Westchester-Playa Del Rey Community Plan sets forth planning goals, objectives, and policies designed to maintain the character of the Westchester-Playa del Rey community. This includes coordinating and integrating the development and operation of LMU into the greater Westchester-Playa del Rey community. In order to accomplish this goal, the Community Plan has established the following objective, policy and program related to nighttime illumination.

Objective 6-4 Coordinate and integrate the development and operation of the LMU campus into the surrounding Westchester- Playa del Rey community.

Policy 6-4.1 Promote land use compatibility between University facilities and adjacent land uses, with particular attention given to preventing adverse impacts to adjacent residential neighborhoods. Where feasible, mitigate impacts of university uses on adjacent properties through the use of landscaped buffers, setbacks, and/or site and building design.

3.0 EXISTING CONDITIONS

3.1 Surrounding Topography and Land Uses

The LMU campus is located in the West Los Angeles community of Westchester, approximately 1 mile north of Los Angeles International Airport and 1.25 miles inland of the coast along Santa Monica Bay. Westchester generally extends from the coast east to the cities of Inglewood and Culver City, and from Ballona Creek on the north to the City of El Segundo and Los Angeles International Airport (LAX) on the south.

Most of the Westchester community is topographically relatively flat, since it sits atop an ancient marine terrace, a flat or gently sloping coastal landform commonly found along the coast of California. However, the northwestern portion of Westchester, where LMU is located, is characterized by more varied, hilly terrain because of the presence of the Westchester Bluffs, part of a range of cliffs called the Ballona Escarpment that extends 3.5 miles inland from the coast to the intersection of Centinela and Sepulveda Boulevards. The LMU campus occupies approximately 142 acres atop steep bluffs that form the northwestern and northern campus boundary. The bluffs rise approximately 120 feet above sea level in the campus vicinity, and consequently LMU overlooks the flat coastal plain created by Ballona Creek, toward Marina del Rey harbor and Santa Monica Bay in the distance.

Westchester is a predominantly residential community, with commercial uses concentrated along the major corridors such as Lincoln Boulevard, Sepulveda Boulevard, Manchester Avenue, and Century Boulevard. The campus is thus considered suburban because of its location amidst predominantly residential neighborhoods. Lincoln Boulevard traverses a natural gap in the Westchester Bluffs on the southerly edge of campus near the intersection of LMU Drive and Lincoln Boulevard; the residential West Bluffs development occupies the blufftops just southwest of the campus, across Lincoln Boulevard.

Burns Campus is relatively flat and extends from the bluffs south to W. 80th Street; Leavey and Hughes Campuses comprise the western portion of LMU's campus (see **Figure II-3, Campus Aerial Photo**, in **Section II, Project Description**). Because of the irregular shape of the campus, the result of its incremental growth over time, it is bordered by several distinct neighborhoods.

Playa Vista, a mixed-use multi-family residential and commercial community, is located at the foot of the Westchester Bluffs north and northwest of LMU. The residential portion of Playa Vista's initial neighborhood, Phase I, is located northwest of the LMU campus; it is characterized by a mix of townhomes and multi-story apartment and condominium buildings and is separated from LMU by a park and riparian corridor at the foot of the bluffs. The commercial portion of Phase I south of Jefferson

Boulevard lies north of the campus at the base of the bluffs, and is not yet completed. Light industry and office uses are located north of Jefferson Boulevard.

Burns Campus is bordered on the east by McConnell Avenue and a low-medium density single-family residential neighborhood developed in the 1940s; the neighborhood lies at approximately the same elevation as the adjacent portion of LMU's campus. Burns Campus is bordered on the south by West 80th Street and a single-family residential neighborhood, and on the southwest by Fordham Road and a neighborhood of single-family residences.

The southern edge of LMU, including Leavey and Hughes Campuses, abuts a single-family residential neighborhood. The neighborhood is defined by W. 78th Street on the north, Fordham Road on the east, and Altavan Avenue on the west.

Finally, Hughes Campus is bordered on the southwest by Lincoln Boulevard. Lincoln Boulevard cuts through the Westchester Bluffs and separates LMU from the West Bluffs residential neighborhood atop the bluffs south of Lincoln Boulevard.

Commercial uses line Lincoln Boulevard south of W. 80th Street near LMU, with the closest major commercial center, Loyola Village, approximately 0.25 mile to the south at Lincoln Boulevard and W. 85th Street.

3.2 Sources of Nighttime Illumination

As previously stated, the LMU campus is located in a predominantly suburban setting in Westchester, bordered on the east and south by single-family residential neighborhoods, on the northwest by Playa Vista multi-family housing, and on the north by commercial development in Playa Vista. As discussed below, the highest ambient nighttime lighting levels in the Proposed Project area are generally located north and northwest of the campus, along major roadways and their intersections, and within Playa Vista. The residential neighborhoods east and south of the campus exhibit relatively lower nighttime light levels.

3.2.1 Jefferson Boulevard and Playa Vista

The highest nighttime illumination levels in the campus vicinity are found along Jefferson Boulevard north of LMU, within Playa Vista, as well as along Lincoln Boulevard southwest of Hughes Campus. Sources of lighting along these roadways include streetlights, surface parking lot lighting (along Jefferson), and illuminated building exteriors and interiors, as well as automobiles. The major sources of nighttime illumination within the residential and commercial portions of Playa Vista include streetlights,

lighted surface parking lots, exterior building security lighting, and athletic playing fields in the park that are illuminated for nighttime use.

3.2.2 McConnell Avenue and Fordham Road/W. 78th Street/Altavan Avenue

Ambient nighttime light levels in the low to low-medium density single-family neighborhoods immediately east and south of LMU are lower than those along major roadways or in Playa Vista. Because of its residential setting, nighttime illumination levels in the immediate vicinity of the campus are considered moderate. The predominant sources of nighttime illumination in these neighborhoods include street lighting and exterior security or decorative lighting associated with private residences.

3.2.3 The LMU Campus

Existing sources of nighttime illumination on the LMU campus include interior campus roadway lighting; high-mast lighting (i.e., multiple light fixtures mounted atop poles of approximately 55 feet in height or more) within surface parking lots; lighted pedestrian walkways; building exterior security lighting and visible illumination of building interiors; and very limited lighting for outdoor athletic facilities.

The majority of LMU's athletic fields and facilities are concentrated in the southeastern corner of Burns Campus. Facilities include Sullivan Soccer Field, Page Baseball Stadium, Smith Softball Field, Higgins Golf Center (which consists of a putting green, two bunkers, and a driving cage), the LMU Tennis Center, and the University Pool at Burns Recreation and Aquatic Center. Hannon Field, which is in the central southern portion of Burns Campus, and Leavey Field, which is located atop Drollinger Parking Plaza on Leavey Campus, are used for intramural recreational activities. With the exception of the Tennis Center and University Pool, outdoor campus athletic facilities are currently not lighted after dark; no high-mast flood lighting or other sources of substantial outdoor, nighttime lighting are present at these facilities. (A lighted scoreboard is located along the eastern edge of Page Baseball Stadium, in the left field, but the baseball field itself is not lighted.) Nighttime light levels on the campus are comparable to those within the surrounding residential neighborhoods.

3.3 Light-Sensitive Uses

Some land uses are considered "light-sensitive receptors," including residences, hotels, or hospitals, since these uses may be adversely affected by increased ambient nighttime light levels. In the vicinity of the LMU campus, such sensitive receptors include the single-family homes east of Burns Campus, along McConnell Avenue; single-family residences south of Burns Campus across W. 80th Street; single-family residences in the neighborhood west of Burns Campus, south of Leavey Campus and southeast of

Hughes Campus bounded by Fordham Road, W. 78th Street, and Altavan Road; single-family homes in the West Bluffs south of Lincoln Boulevard; and multi-family residential housing in the Playa Vista community at the base of the Westchester Bluffs northwest of the campus.

3.3.1 Playa Vista (North and Northwest of Campus)

Playa Vista and other uses northwest and north of the campus are not susceptible to light spillover from the campus due to the relative difference in elevation from the bluffs, and the horizontal distance of the open space buffer formed by the bluffs.

3.3.2 McConnell Avenue Neighborhood (East of Campus)

Due to their close proximity to the campus, the single-family residences located along the eastern and southern campus perimeters are the most susceptible to light spillover from the campus. However, the extent of off-site spillover of on-campus lighting is largely limited by fencing, landscaping, slight elevation differentials between the campus and the surrounding neighborhoods, or a combination of these factors. Furthermore, as previously discussed, light levels on the campus are comparable to those within the surrounding residential neighborhoods.

Illuminated portions of the campus are visible to residences along McConnell Avenue, which abuts Burns Campus on its eastern edge. Discontinuous segments of wooden fencing, concrete block walls, and vegetation that varies in maturity and density partially screen these views.

3.3.3 W. 80th Street – Fordham Road/W. 78th Street/Altavan Avenue/Campion Drive – West Bluffs (South of Campus)

West 80th Street. Light sources on campus are visible to residences along W. 80th Street east of Loyola Boulevard, because of the view into campus provided by Loyola Boulevard (the secondary campus entrance), and because there is less of an elevation difference and less vegetation screening views at the southeast corner of Burns Campus.

Fordham Road/W. 78th Street/Altavan Avenue/Campion Drive. Because of their slightly higher elevation relative to the campus, several residences along Altavan Avenue, W. 78th Street, and the Campion Drive cul-de-sac, have views of light sources on portions of the campus to the north and west, within Leavey and Hughes Campuses. However, the elevation differential prohibits the spillover of campus lighting onto residences along Altavan Avenue, W. 78th Street, and Campion Drive. Residences in this neighborhood have only limited views of sources of nighttime illumination to the east, within Burns Campus, because of topography and the presence of intervening landscaping and buildings.

Residences along Fordham Road have partial visual access to lighting associated with Burns Campus perimeter uses including parking areas, athletic fields (most athletic facilities are presently unlighted), and various residential and non-residential buildings on Burns Campus. The visibility of light sources, and associated spillover, is largely precluded in the southwest corner of Burns Campus by a dense screen of trees and other vegetation lining Fordham Road.

West Bluffs. Residences in the West Bluffs neighborhood, south of Lincoln Boulevard, are several hundred feet south of the campus, have a higher elevation, and are separated from the campus by Lincoln Boulevard and the residential neighborhood bounded by Fordham Road, W. 78th Street, and Altavan Avenue. Accordingly, West Bluffs is sufficiently distant from the campus to preclude light spillover from campus-related uses.

4.0 IMPACT ANALYSIS

4.1 Methodology

To determine the potential for Proposed Project-related nighttime lighting and glare impacts, a survey of land uses in the vicinity of the Proposed Project was undertaken and sensitive receptors in proximity to the Project site were located. The existing ambient nighttime light levels on the Project site and at nearby sensitive receptors, as well as the existence of glare-generating building or landscape features on-site or in the Project vicinity, was characterized. New sources of nighttime lighting or possible glare that would be introduced by the Proposed Project were identified, and the extent of light spillover or glare affecting off-site sensitive receptors was evaluated.

Additionally, light spillover onto residential properties due to the installation of lighting on existing athletic fields was modeled by Musco Lighting. A potential lighting plan depicting pole locations and luminaire mounting heights was developed for each existing facility. This plan is provided in **Appendix IV.A.3**.

4.2 Significance Thresholds

The *Los Angeles CEQA Thresholds Guide* indicates that the determination of significance shall be made on a case-by-case basis, considering the following factors:

- The change in ambient illumination levels as a result of proposed project sources; and
- The extent to which proposed project lighting would spill off the project site and affect adjacent light-sensitive areas.

Appendix G of the *State CEQA Guidelines* provides sample questions for use in an initial study to determine a project's potential for environmental impacts. According to the sample question[2] included in Appendix G under Section I, Aesthetics, a project would have a potentially significant impact if it would:

I.d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

Based on these factors, the Proposed Project would have a significant impact related to light or glare if:

LIGHT-1 Proposed Project lighting would substantially alter the character of off-site areas surrounding the Proposed Project site;

LIGHT-2 Proposed Project lighting would interfere with the performance of an off-site activity or adversely affect day or nighttime views; or

LIGHT-3 Proposed Project-related glare would interfere with the performance of an off-site activity or adversely affect day or nighttime views.

4.3 Project Impacts

The Proposed Project proposes several improvements that could alter present nighttime illumination levels on Burns Campus, including the addition of new outdoor recreational facilities and landscaped open space and the replacement of surface parking lots with above-grade parking structures.

The Proposed Project would introduce new permanent lighting of selected outdoor athletic facilities to facilitate use during evening hours year-round, primarily in the southern portion of Burns Campus, at the following existing facilities:

- Sullivan Soccer Field
- Page Baseball Stadium
- Smith Softball Field
- University Pool
- Higgins Golf Center
- Hannon Field
- Leavey Field

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2 The remaining Appendix G Aesthetics sample questions (I.a, -b, and -c) pertain to aesthetics and views and are addressed in **Section IV.A.1, Aesthetics and Views**.

Proposed new athletic facilities, including intramural fields and tennis courts, located in the Athletic Planning Area of the proposed Specific Plan would also be illuminated for nighttime use. The lights would be designed to minimize potential light spillover off of the athletic fields. Such design would likely involve the installation of light poles between 70 and 110 feet in height above grade with multiple luminaires mounted on each pole.

Other future nighttime lighting sources on LMU's campus also could include athletic facilities built on the roof decks of parking structures; new exterior building lighting (security and decorative); new pedestrian walkway lighting; and new illuminated signage, including lighted and/or animated scoreboards for selected outdoor athletic facilities including Page Baseball Stadium, Smith Softball Field, Sullivan Soccer Field, the Tennis Center, University Pool, and existing and proposed intramural fields.

In addition, the construction of above-grade parking structures would introduce new light sources to illuminate parking surfaces and vehicle/pedestrian access points. Parking structures would likely include interior lighting, fixtures mounted along the exterior façades, and pole-mounted lighting on the top level, which may either contain additional parking or rooftop recreational uses.

LIGHT-1 Would Proposed Project lighting substantially alter the character of off-site areas surrounding the Proposed Project site?

4.3.1 Construction

Construction of the Proposed Project would occur over a 20-year period. During this time, nighttime lighting would be maintained on individual construction sites for security purposes. Since the campus and surrounding uses currently generate a certain level of nighttime illumination, construction lighting would represent a marginal increase, if any, in existing ambient light levels. Implementation of mitigation measures **MM-LIGHT-1** and **MM-LIGHT-2** would further reduce ambient light levels by limiting the use of construction security lighting to only those sites requiring illumination and requiring all security lights to be properly shielded and projected downwards. Furthermore, construction lighting would be temporary and removed upon completion of construction. Therefore, construction lighting would not substantially alter the ambient illumination level that characterizes the surrounding area. Impacts during construction would be less than significant.

4.3.2 Operation

New sources of outdoor lighting would be introduced on the campus as the result of construction of new facilities proposed by the Proposed Project, potentially increasing ambient illumination levels and local skyglow. While the siting of specific buildings has not yet been determined, upon approval of the

Proposed Project, LMU may site a 1,500-seat conference center along the south façade of University Hall facing Lincoln Boulevard. The conference center would be visible from Lincoln Boulevard and residences within the West Bluffs neighborhood, but lighting would be limited to exterior building security fixtures and visible interior building illumination, and the deep setback from Lincoln Boulevard would reduce the potential for any off-site light spillover.

The Proposed Project proposes several improvements that could alter present nighttime illumination levels on Burns Campus, including the addition of new outdoor recreational facilities and landscaped open space and the replacement of surface parking lots with above-grade parking structures.

Proposed new outdoor athletic facilities include intramural fields and tennis courts, which may be located on roof decks over proposed parking structures and would include lighting to allow for nighttime recreational use. Additionally, the Proposed Project proposes the addition of nighttime lighting to Sullivan Soccer Field, Page Baseball Stadium, Smith Softball Field, University Pool, Higgins Golf Center, Hannon Field, and Leavey Field, all of which are existing facilities. As previously stated, the heights of new light poles would range from 70 feet to 110 feet above grade and light poles may support multiple luminaires and illuminate more than one surface through a back-to-back mounting configuration.

In addition, the construction of above-grade parking structures would introduce new interior and exterior light sources.

Other improvements proposed as part of the Proposed Project include the replacement and reconfiguration of residential and non-residential facilities. The addition of new facilities is not expected to substantially increase ambient nighttime light levels over those currently generated by the campus.

While implementation of the Proposed Project would introduce new sources of nighttime illumination, the Proposed Project would also implement a Specific Plan for the campus which would require that a 40-foot setback for new buildings be maintained along the eastern and southern edges of the campus, as shown in **Figure II-8, Proposed Height Areas**, which would provide a buffer between lighting mounted on future buildings and nearby residences. As required by **MM-LIGHT-3**, lighting fixtures and visors would be adjusted upon installation, and vegetation and other screening or filtering devices would be maintained or added at the edges of lit fields or on the campus perimeter to help screen the light generated on campus.

Digital or illuminated scoreboard signs, which may be visible from off-site vantage points, may be installed at Page Baseball Stadium, Smith Softball Field, Sullivan Soccer Field, the Tennis Center, University Pool, and intramural fields including Leavey Field. Such illuminated scoreboard signs would be designed not to produce a light intensity greater than 3 foot-candles above ambient light levels as

measured at the property line of the nearest residence, consistent with the Municipal Code. The illumination of any illuminated scoreboard sign that is visible from adjacent land uses would be shut off by 10:00 PM, unless extra innings or overtime run beyond that time. With adherence to these specifications, as well as **MM-LIGHT-3,** light produced by animated scoreboard signs would have a less than significant impact at off-site locations.

All proposed lighting is intended to adequately illuminate specific athletic field surfaces in a way that adequately assures safety and is compatible with general night lighting in the vicinity. However, the potential still exists for unshielded or misdirected light sources to increase ambient illumination levels in the vicinity of the campus. Additionally, new light sources could increase skyglow. Implementation of mitigation measures **MM-LIGHT-4** and **MM-LIGHT-5** would reduce light spillover onto off-site locations and control skyglow by requiring that all light fixtures be directed downward to illuminate the intended surface (i.e., playing fields, pedestrian pathways and other high-traffic areas such as building entrances and plazas in the campus interior) and be equipped with louvers, shields, hoods, or other screening devices. Furthermore, **MM-LIGHT-6** would limit the use of field lighting within all outdoor athletic facilities to only those hours during which the fields are being utilized, which normally would not surpass 10:00 PM. As previously stated, lighting may remain on past 10:00 PM in the event of extra innings or overtime. However, such an occurrence would be an exception to normal practice and, therefore, would not substantially alter the character of off-site areas. With implementation of these mitigation measures, the Proposed Project would not substantially alter the ambient illumination levels in the campus vicinity.

LIGHT-2 Would Proposed Project lighting interfere with the performance of an off-site activity or adversely affect day or nighttime views?

4.3.3 Construction

Proposed Project construction lighting would interfere with the performance of an off-site activity or adversely affect day or nighttime views if it resulted in light spillover onto a light-sensitive use. The residential properties on Fordham Road, W. 80th Street, and McConnell Avenue are the nearest light-sensitive uses to the campus and, therefore, are most susceptible to light spillover from the campus. During construction, nighttime lighting could be installed on individual construction sites for security purposes. Such lighting on or near the campus perimeter could generate light spillover onto adjacent residential properties. However, implementation of mitigation measures **MM-LIGHT-1** and **MM-LIGHT-2** would limit the use of construction security lighting to only those sites requiring illumination and would require all security lights to be properly shielded and projected downwards. Furthermore, construction lighting would be temporary and removed upon completion of construction

activities. With implementation of mitigation, impacts due to interference with the performance of an off-site activity or an adverse affect on day or nighttime views would be less than significant during construction.

4.3.4 Operation

As previously described, the Proposed Project proposes several improvements that would introduce new sources of nighttime illumination on the campus. Improvements that would introduce new outdoor lighting near the campus perimeter may include construction of above-grade parking structures, intramural fields, and tennis courts (which may be located on the roof decks of parking structures), and the installation of lighting in Sullivan Soccer Field, Page Baseball Stadium, Smith Softball Field, University Pool, Higgins Golf Center, Hannon Field, and Leavey Field. The addition or reconfiguration of lighting within the campus interior would be too distant from the campus perimeter to result in off-site light spillover. Similarly, outdoor lighting associated with the conference center proposed next to University Hall would not generate light spillover due to its location downslope of sensitive residential uses in the neighborhood above.

The residential properties on W. 78th Street, Fordham Road, W. 80th Street, and McConnell Avenue, and the residences within Playa Vista at the base of the Westchester Bluffs, are the nearest light-sensitive uses to the campus and, therefore, most susceptible to light spillover from the campus. Residences within Playa Vista would not be subject to light spillover from the campus due to the open space buffer provided by the bluffs and the absence of field lighting along the bluff edge.

Residential properties along W. 78th Street, W. 80th Street and McConnell Avenue could be subject to light spillover from lighting installed in existing athletic fields. **Table IV.A.3-1, Light Spillover Summary**, identifies the maximum light levels that would be generated at the property lines of the residences along these roadways without any intervening screening devices, including existing vegetation. **Figures IV.A.3-1** through **IV.A.3-3** illustrate the distribution of light levels along these residential property lines.

As previously described, the Los Angeles Municipal Code requires that no exterior light source cause more than 2 foot-candles of lighting intensity on a property containing a residential unit.[3] Lighting proposed to be installed in Leavey Field (a sample layout is provided in **Appendix IV.A.3**) would generate a maximum spillover at the property lines of residential properties south of the campus along W. 78th Street of approximately 0.50 foot-candles. Therefore, no light spillover on these properties would exceed the maximum spillover level of 2 foot-candles allowed by the Municipal Code.

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3 L.A.M.C.Section 93.0117.

Table IV.A.3-1
Light Spillover Summary

Location of Residences	Nearest New Light Generator(s)	Maximum Spillover Level (foot-candles)
South of W. 78th Street	Leavey Field	0.50
South of W. 80th Street	Sullivan Soccer Field; Page Baseball Stadium	2.01
East of Burns Campus Edge (West of McConnell Avenue)	Page Baseball Stadium; Smith Softball Field; Higgins Golf Center	10.42

Source: Musco Lighting, 2009.
Note: Light levels presented above are measured at residential property lines at 3 feet above grade. Light levels assume no vegetative or other type of screening, including existing vegetation Actual light levels at off-site locations would be lower because of the presence of existing or future vegetation or other buffer

Lighting installed on facilities located in the southeastern corner of campus, primarily Sullivan Soccer Field and Page Baseball Stadium, would generate a maximum light spillover at the residential property lines along W. 80th Street of 2.01 foot-candles. Therefore, light spillover on these properties could slightly exceed the maximum spillover level of 2 foot-candles.

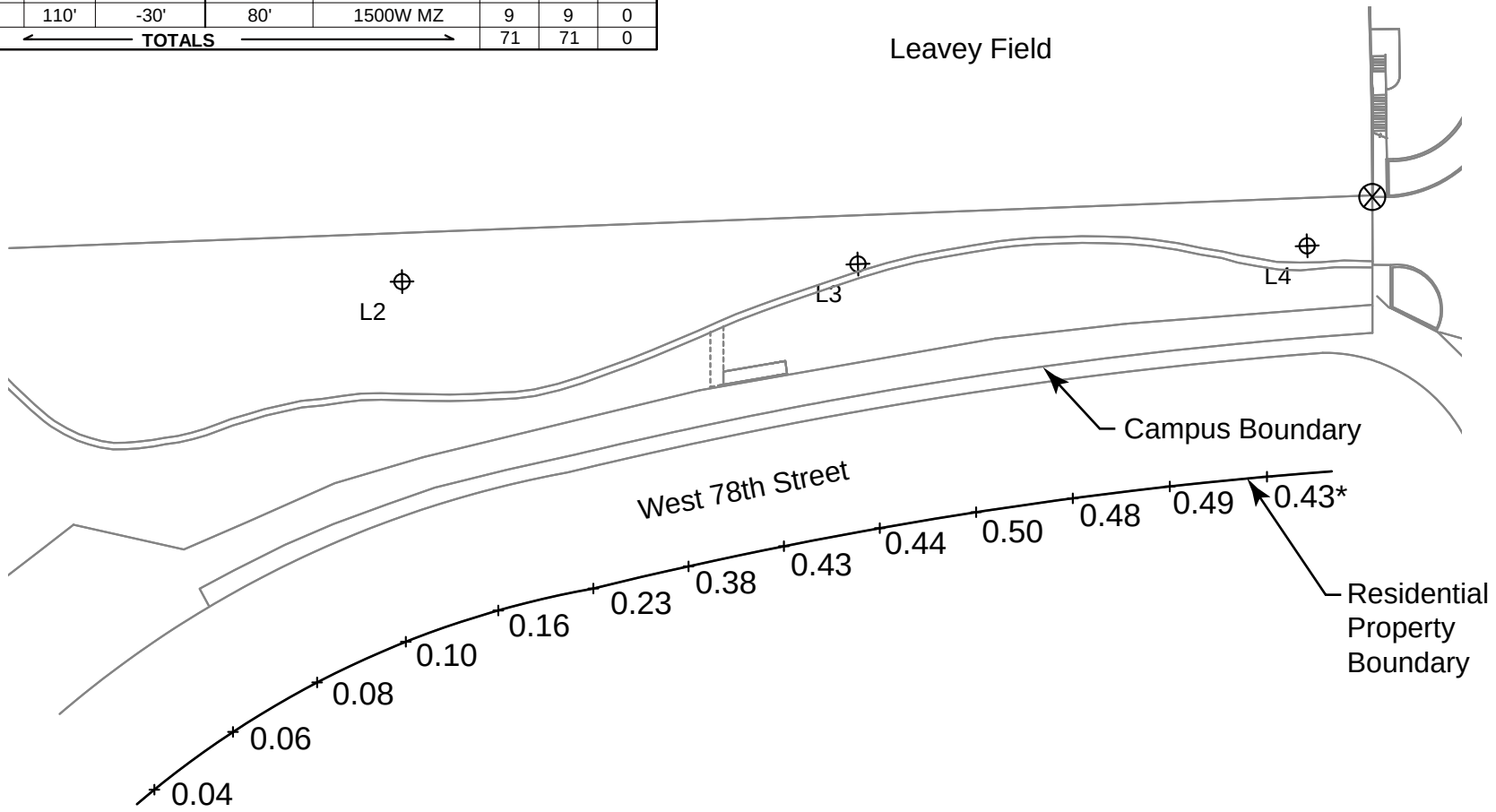
Lighting installed in the southeastern corner of campus, primarily at Page Baseball Stadium, Smith Softball Field, and Higgins Golf Center, would generate light spillover at adjacent residential property lines along McConnell Avenue at levels ranging from 0.08 to 10.42 foot-candles. As shown in **Figure IV.A.3-3**, light spillover is greatest (i.e., in excess of 3 foot-candles) on the properties immediately east of Page Baseball Stadium. However, as previously indicated, these light levels do not reflect screening due to intervening barriers such as walls and vegetation. Actual light spillover from Page Baseball Stadium would be substantially lower, specifically due to the presence of the 130-foot-wide and 37-foot-high scoreboard and nearby wall that stand between the edge of left field and the adjacent residential properties on McConnell Avenue. However, the precise reduction in light spillover due to the scoreboard and wall has not been quantified. Therefore, while it is conservatively assumed that light levels on the McConnell Avenue properties immediately east of Page Baseball Stadium would exceed the maximum spillover level of 2 foot-candles, the actual light spillover level would likely be below 10.42 foot-candles. Light spillover levels would be below 2 foot-candles at the remaining property lines along McConnell Avenue.

Furthermore, outdoor lighting may be introduced in the southern portion of Burns Campus to illuminate a new intramural field that could be located at grade or above a future parking structure. Lighting associated with this new facility in this portion of Burns Campus could generate spillover onto residential properties across Fordham Road to the west or across W. 80th Street to the south. Since the precise location and configuration of this facility have not been determined, potential light spillover was not quantified. Therefore, it is conservatively assumed that spillover onto residential properties may exceed the maximum spill level of 2 foot-candles.

As previously stated, light poles proposed for these outdoor recreational facilities would range in height from 70 feet to 110 feet above grade. These tall poles serve to reduce the overall number of fixtures required to maintain uniform lighting levels across a given surface, such as a field or parking lot. Furthermore, the tall mounting heights allow lights to be focused more precisely on the playing areas, thereby reducing potential for light spillover and reducing potential impacts to surrounding areas. Therefore, a reduction in poll height would not reduce light spillover; instead, it would increase it.

As previously noted, the light levels calculated above assume no landscaping or other screening devices positioned between the light sources and potentially affected residential properties. In order to reduce light spillover onto residential properties along W. 78th Street, Fordham Road, W. 80th Street, and McConnell Avenue, mitigation measure **MM-LIGHT-3** requires that lighting fixtures and visors be adjusted upon installation to focus the lighting on intended surfaces, and requires that vegetation and other screening or filtering devices be maintained or supplemented at the edges of lit fields or at the campus perimeter such that light spillover would not exceed an intensity of 2 foot-candles on nearby residential properties. Additionally, implementation of mitigation measures **MM-LIGHT-4** through **MM-LIGHT-6** would reduce the potential for off-site light spillover by requiring that light fixtures be directed downward and adequately screened, and by limiting the use of field lighting in outdoor athletic facilities. With implementation of these mitigation measures, Proposed Project light sources would comply with the Municipal Code and would not substantially interfere with the performance of an off-site activity or adversely affect day or nighttime views. Impacts would therefore be less than significant after mitigation.

EQUIPMENT LIST FOR AREAS SHOWN								
Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LAMP TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
1	L1	70'	-	70'	1500W MZ	5	5	0
2	L2-L3	70'	-	70'	1500W MZ	8	8	0
1	L4	70'	-	70'	1500W MZ	7	7	0
2	L5-L6	80'	-	80'	1500W MZ	9	9	0
1	L7	100'	-30'	70'	1500W MZ	7	7	0
2	L8-L9	110'	-30'	80'	1500W MZ	9	9	0
9	TOTALS					71	71	0



60 30 0 60

APPROXIMATE SCALE IN FEET

* Values Represent Light Intensity in Foot-Candles

SOURCE: Musco Lighting, LLC – February 2009

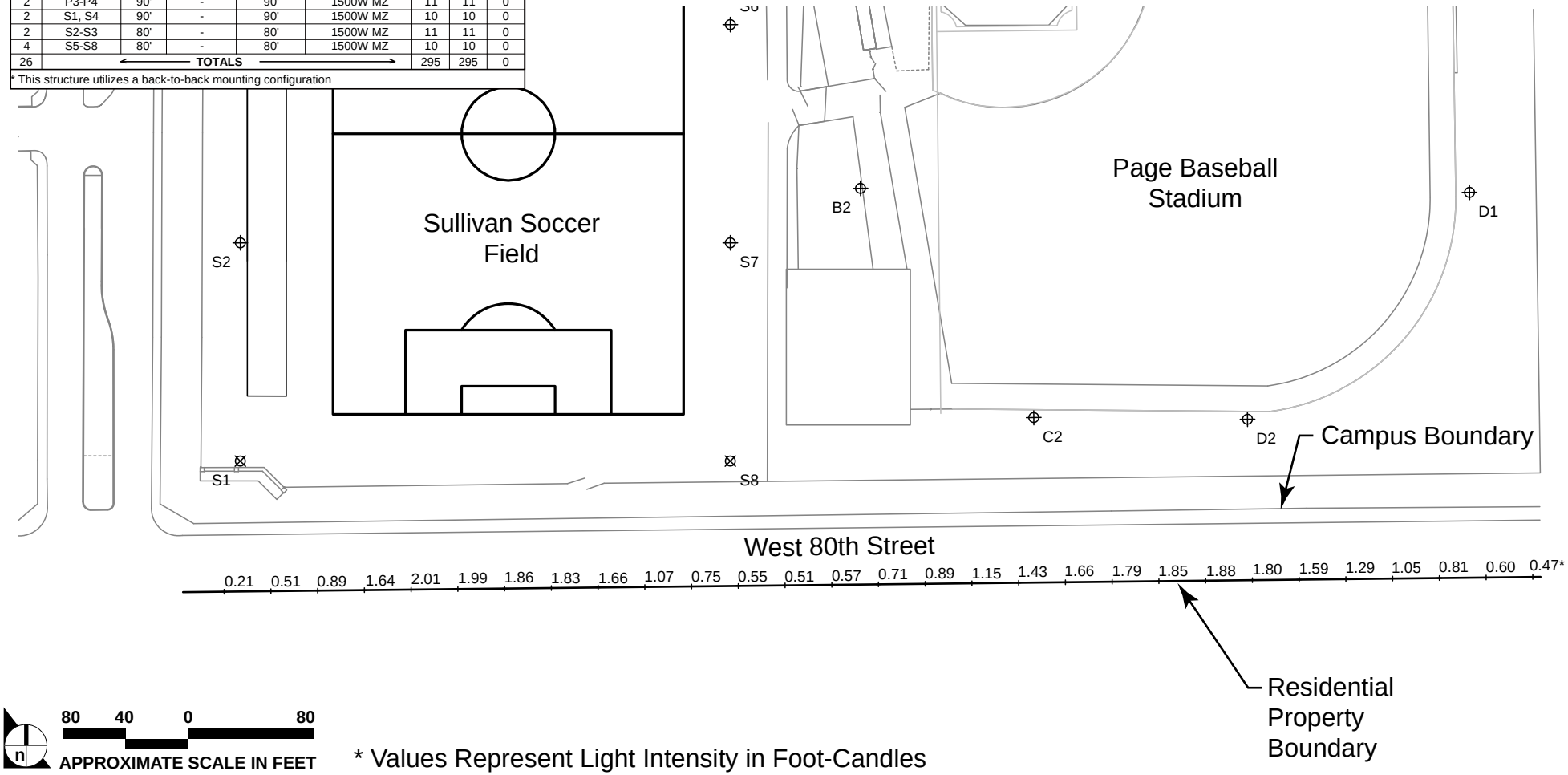
FIGURE **IV.A.3-1**

Light Spillover on Residential Property Lines Along W. 78th Street

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LAMP TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
2	A1-A2	90'	-	90'	1500W MZ	12/2*	14	0
1	A3	70'	5'	75'	1500W MZ	4	4	0
1	A4	70'	-	70'	1500W MZ	4	4	0
1	B1	90'	-	70' 90'	1500W MZ 1500W MZ	2 20	2 20	0 0
1	B2	90'	-	70' 90'	1500W MZ 1500W MZ	2 20/5*	2 25	0 0
1	B3	70'	5'	75'	1500W MZ	7	7	0
1	B4	70'	-	70'	1500W MZ	7	7	0
4	C1-C2 D1-D2	90'	-	90'	1500W MZ	12	12	0
2	C3-C4	70'	-	70'	1500W MZ	8	8	0
2	P1-P2	90'	-	90'	1500W MZ	14	14	0
2	P3-P4	90'	-	90'	1500W MZ	11	11	0
2	S1, S4	90'	-	90'	1500W MZ	10	10	0
2	S2-S3	80'	-	80'	1500W MZ	11	11	0
4	S5-S8	80'	-	80'	1500W MZ	10	10	0
26	← TOTALS →					295	295	0

* This structure utilizes a back-to-back mounting configuration



80 40 0 80

APPROXIMATE SCALE IN FEET

* Values Represent Light Intensity in Foot-Candles

SOURCE: Musco Lighting, LLC – February 2009

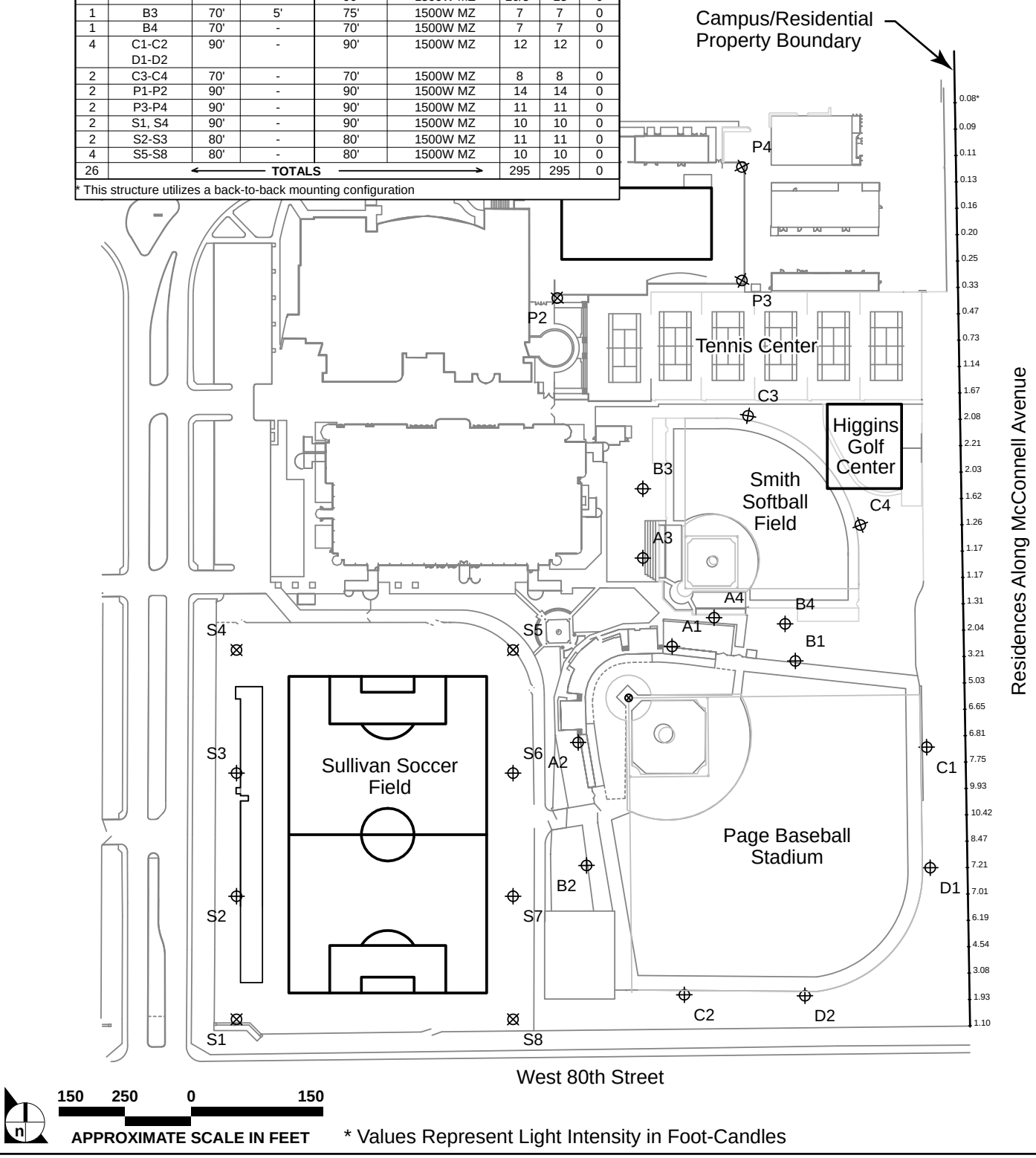
FIGURE **IV.A.3-2**

Light Spillover on Residential Property Lines Along W. 80th Street

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LAMP TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
2	A1-A2	90'	-	90'	1500W MZ	12/2*	14	0
1	A3	70'	5'	75'	1500W MZ	4	4	0
1	A4	70'	-	70'	1500W MZ	4	4	0
1	B1	90'	-	70'	1500W MZ	2	2	0
				90'	1500W MZ	20	20	0
1	B2	90'	-	70'	1500W MZ	2	2	0
				90'	1500W MZ	20/5*	25	0
1	B3	70'	5'	75'	1500W MZ	7	7	0
1	B4	70'	-	70'	1500W MZ	7	7	0
4	C1-C2 D1-D2	90'	-	90'	1500W MZ	12	12	0
2	C3-C4	70'	-	70'	1500W MZ	8	8	0
2	P1-P2	90'	-	90'	1500W MZ	14	14	0
2	P3-P4	90'	-	90'	1500W MZ	11	11	0
2	S1, S4	90'	-	90'	1500W MZ	10	10	0
2	S2-S3	80'	-	80'	1500W MZ	11	11	0
4	S5-S8	80'	-	80'	1500W MZ	10	10	0
26	← TOTALS →					295	295	0

* This structure utilizes a back-to-back mounting configuration



SOURCE: Musco Lighting, LLC – February 2009

FIGURE **IV.A.3-3**

Light Spillover on Residential Property Lines Along McConnell Avenue

As previously discussed, digital or illuminated scoreboard signs, which may be visible from off-site vantage points, may be installed on Page Baseball Stadium, Smith Softball Field, Sullivan Soccer Field, the Tennis Center, University Pool, and intramural fields including Leavey Field. These digital scoreboard signs would be illuminated, but would be designed not to produce a light intensity greater than 3 foot-candles above ambient lighting, as measured at the property line of the nearest residence, consistent with the Municipal Code. Furthermore, implementation of **MM-LIGHT-3** would ensure that light spillover would not exceed an intensity of 2 foot-candles on residential property lines. The illumination of any animated scoreboard sign that is visible from adjacent land uses would be shut off by 10:00 PM, unless the game extends into extra innings or overtime, as previously discussed. For these reasons, animated scoreboards would not generate substantial light spillover.

LIGHT-3 Would Proposed Project-related glare interfere with the performance of an off-site activity or adversely affect day or nighttime views?

4.3.5 Construction

Glare has the potential to interfere with the performance of an activity such as driving a vehicle by obstructing visibility. Construction activities are not anticipated to create sources of glare that could affect visibility in the area since LMU would use building materials that are low-reflective in nature, and construction is not expected to involve bright light sources that would be visible from off-campus locations. Therefore, impacts due to glare generation and interference with the performance of an off-site activity or adverse effects on views would be less than significant during construction.

4.3.6 Operation

No sources of substantial glare are anticipated with implementation of the Proposed Project. The setbacks of proposed campus structures from surrounding roadways as well as the presence of intervening landscaping and structures would inhibit any new sources of potential daytime glare from affecting off-campus uses or activities. Only low-reflective building materials are anticipated to be used. Furthermore, the creation of nighttime glare would be minimized with implementation of mitigation measures **MM-LIGHT-3** through **MM-LIGHT-7**. Therefore, Proposed Project-related glare impacts and the potential for interference with the performance of an off-site activity or adverse effects on views would be less than significant.

4.4 Project Design Features and Mitigation Measures

No Project Design Features are proposed.

The following mitigation measures would address potential light and glare impacts and reduce impacts to less than significant levels.

MM-LIGHT-1 The use of nighttime lighting during Project construction shall be limited to only those features on the construction site requiring illumination.

MM-LIGHT-2 All security lights shall be properly shielded and projected downwards during construction such that light is directed only onto the work site.

MM-LIGHT-3 Lighting fixtures and visors shall be adjusted upon installation to reduce spillover onto adjacent residential properties, while still maintaining adequate lighting to allow safe use of outdoor athletic facilities. Additionally, vegetation and other screening or filtering devices shall be maintained or supplemented at the edges of lit fields or at the campus perimeter at all times, such that light spillover shall not be permitted at any time to exceed an intensity of 2 foot-candles on residential property lines located along W. 78th Street, Fordham Road, W. 80th Street, and McConnell Avenue.

MM-LIGHT-4 All outdoor lighting shall be directed downward to illuminate the intended surface (i.e., playing fields, pedestrian pathways and other high-traffic areas such as building entrances and plazas in the campus interior).

MM-LIGHT-5 All outdoor lighting shall be equipped with louvers, shields, hoods, or other screening devices.

MM-LIGHT-6 The use of field lighting within all outdoor athletic facilities shall be limited to only those hours during which the facilities are being utilized, which shall not surpass 10:00 PM except in the case of overtime or extra innings.

MM-LIGHT-7 The Applicant shall use exterior building materials and facades which eliminate or minimize highly reflective materials. At the time of plan check review for specific development projects, building materials shall be reviewed to assure that they do not exceed the reflectivity of standard building materials. If the Applicant should desire to use more reflective materials in locations isolated from major thoroughfares, adequate analysis must be presented to the Department of Building and Safety to determine that the building, due to location, would not cause glare impacts on motorists or nearby population.

4.5 Level of Impact After Mitigation

All impacts would be less than significant after mitigation; therefore, no unavoidable significant impacts related to nighttime illumination and glare would result from Proposed Project implementation.

4.6 Cumulative Impacts

A cumulative light and glare impact would occur if any related projects identified in **Section III, General Description of Environmental Setting** and located within the Proposed Project's visual setting would contribute to a cumulative increase in ambient nighttime light levels or glare generation within the area. As shown in **Figure III-1**, the majority of related projects are outside the Proposed Project's visual setting. No projects are proposed within the residential neighborhood immediately surrounding campus. Three related projects, Playa Vista Phases I and II and the Playa Vista Plant, are located at the base of the Westchester Bluffs and therefore are visually connected to the campus, which is located atop the bluffs. Buildout of Playa Vista would increase ambient nighttime light levels at the base of the bluffs by introducing development and associated lighting to presently undeveloped land. However, the Proposed Project would not contribute to this increase in ambient nighttime light levels along the bluff base since no development is proposed along the bluff edge or face under the Proposed Project. Furthermore, all related projects would be required to comply with Municipal Code requirements governing light spillover onto residential properties. The Proposed Project does not propose the use of reflective building materials. Consequently, the Proposed Project, considered together with these uses, would not result in cumulatively significant nighttime illumination and glare impacts.