

Architectural Review Board Staff Report

Meeting Date: April 13, 2023

From: Shilpi Bharti, Planner

Location: 633 S. Goddard Ave.

Description: **633 S. Goddard Ave. (Architectural Specialty Lighting Package):** An Architectural Specialty Lighting Package for a 5.50-acre tract of land zoned "M3" – Planned Industrial District, located on the west side of Goddard Avenue, south of its intersection with Chesterfield Airport Road.

PROPOSAL SUMMARY

Legacy Performance, LLC, has submitted an Architectural Specialty Lighting Package for a 5.50-acre recreational facility located in a Planned Industrial District. The applicant is requesting the Architectural Specialty Lighting Package to allow for six (6) outdoor lighting poles for a multi-purpose field, with a mounting height of 76'0" and average illumination levels that range between 30 and 50 footcandles (Fc) onsite. Only one type of fixture is requested as part of this request. There is no architectural specialty lighting fixture proposed for the building.

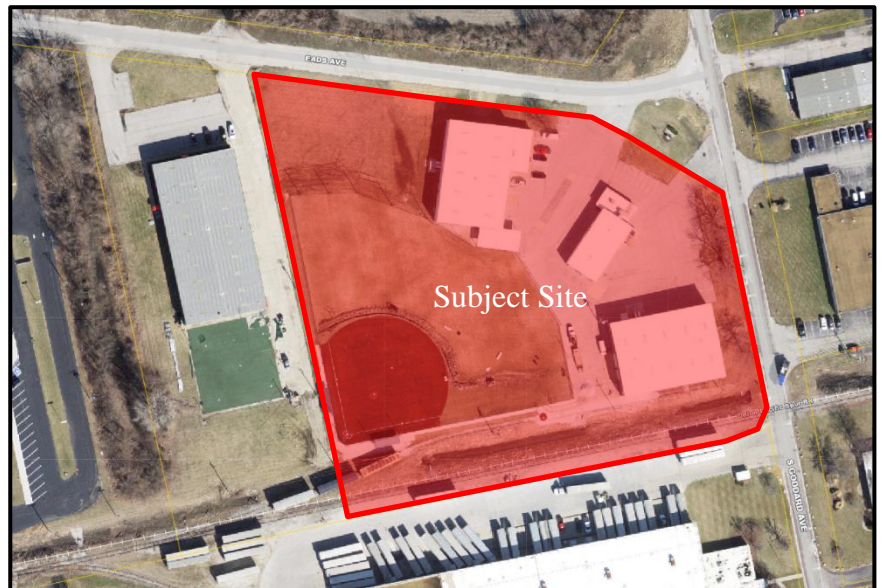


Figure 1: Subject Site Aerial

HISTORY OF SUBJECT SITE

- 1998—Ordinance 1430 becomes governing ordinance for large “M3” District, including subject site.
- 2020—Interior Finish MZA approved to convert warehouse buildings on site into recreational facility complex.
- 2021—Grading Permit issued to remove pavement in southwest corner of property and replace with grass as part of repurposing of property from industrial to recreational use. Site Development Plan also approved for multipurpose field in southwest corner of property for synthetic turf on multipurpose field.
- 2022 – Lighting Plan was submitted to request 70’ high outdoor light poles for multipurpose field. The request was reviewed by Planning Commission. The motion to approve the project failed by a vote of 3 to 5.

STAFF ANALYSIS

Lighting

As per UDC, the purpose of an architectural specialty lighting package is to provide comprehensive, complementary and unified architectural specialty lighting throughout a single development. While the application of lighting for fields is not intuitively relatable to architectural lighting, Staff has confirmed through the applicant and their legal counsel that the section can apply to the proposed installation. City Code requires all applications for Architectural Specialty Lighting to be reviewed by the Architectural Review Board.

Though the site is governed under the provisions of Ordinance 1430 (adopted in 1998), the development criteria within this ordinance does not entail any provision of lighting standards, other than general compliance with Federal Aviation Administration (FAA) regulations. Applicant has provided preliminary approval from the FAA, confirming that this request will not adversely impact air navigation. The lighting plan was also reviewed by the Spirit of St. Louis Airport, who provided approval with a condition that the installer remains committed to working with the airport to make adjustments to problem fixtures, if any.

The Unified Development Code (UDC) provides criteria for both illumination level and mounting height for site lighting throughout the city. As per UDC, all commercial illumination is limited to a maximum of 8 foot-candles (Fc). Specific exceptions to this requirement are made for certain uses, such as ATMs and

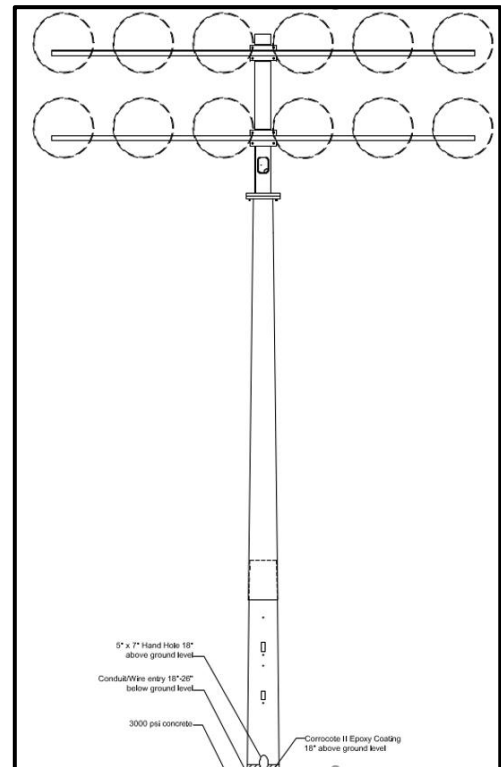


Figure 2: Proposed Lighting Pole

gas station canopies. The applicant is requesting an illumination level reaching maximum of 61 Fc in some areas of the plan.

The maximum mounting height for all site lighting standards is twenty (20) feet. The applicant is requesting six (6) freestanding lighting poles with a mounting height of 76 feet each.

Code states that such requests for illumination level and mounting height require a statement from a qualified lighting designer providing industry standards and information substantiating the request. The applicant has provided this document, which is included in the packet.

Additionally, the UDC has specific requirements for Recreational Facilities. In addition to complying with the lighting standards of the UDC, such provisions require that illumination shall not be permitted after 10:30 PM, except to conclude a scheduled event that was already in progress. In the narrative, the applicant certifies that the site will comply with this requirement.

Code also states that all outdoor lighting for recreational facilities must be fully shielded to prevent light spillage and glare. The proposed fixture includes a partial shield to direct illumination on to the multi-purpose field. However, spillage onto an adjacent property is shown levels as 0 to 2 Fc, as indicated on the plan.



Figure 3: Proposed Lighting Fixture

The Plan and Cutsheets for this fixture are included in the ARB packet.

STAFF RECOMMENDATION

Staff has reviewed the proposed Architectural Specialty Lighting Package and are requesting a recommendation from the Architectural Review Board (ARB) before moving to Planning Commission. All recommendations made by the ARB will be included in Staff's report to the Planning Commission.

MOTION

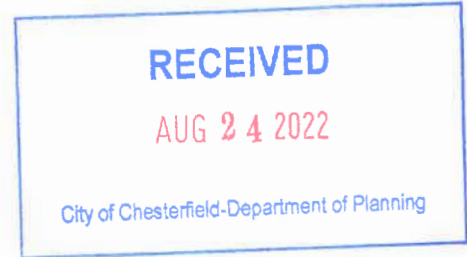
The following options are provided to the Architectural Review Board for consideration relative to this application:

- 1) "I move to forward the Architectural Specialty Lighting Package for 633 S. Goddard, as presented, with a recommendation for approval (or denial) to the Planning Commission."
- 2) "I move to forward the Architectural Specialty Lighting Package for 633 S. Goddard to the Planning Commission with the following recommendations..."

Attachments: Architectural Specialty Lighting Package Submittal



Simply Bright Ideas, Inc.
1600 Heritage Landing, Suite 209
St. Charles, MO 63303
Phone # (314) 718-1688
Service@SimplyBrightIdeas.com
www.SimplyBrightIdeas.com



August 19, 2022

RE: Legacy Performance Zone lighting

To whom it may concern:

First I'd like to introduce myself: I am a lighting designer and an expert in the field, as well as the local representative of the Techline/GeoSport brand of sports lighting systems. I've personally done lighting designs for 100's of projects including about 100 sports fields in my 15+ years in the industry. Techline/GeoSport have done over 3,000 installations across the country including Superbowls and even the Miami Dolphins and Atlanta Falcons stadiums. Some of those references should have been included in our original plans provided. Please also note that we follow all IESNA standards to provide proper and safe lighting for sports venues, which includes both the players and spectators. Those standards will be referenced in my responses to comments 1-4 from the city's letter:

- 1) With regards to mounting heights of lights, it is simply impossible to light most sports from only 20' off the ground. Especially sports in which a ball or object is often as high as 100' in the air. Pole heights for any sport are determined by the aiming angles required to reach all areas of the field uniformly, while also reducing glare. The IESNA standards (RP6) requires pole heights for multipurpose athletic fields to be a minimum of 70' above grade. Anything less than this is unsafe for players, coaches, and spectators at the site.
- 2) IESNA defines a Class III facility as a training facility with spectators, for up to an amateur or high school level of play. IESNA standards for a Class III field require the average maintained light level of the main field to be 50 footcandles with a uniformity ratio of 2.0:1 max/min or less. The outer portion of the playing area is required to maintain a 30 footcandle average at no greater than a 2.5:1 max/min uniformity ratio. While 8 FC of illumination is perfectly acceptable/normal in parking lots and other areas, which as I understand it is why that is the City Code, it would not make for a safe lighting situation

at an athletic facility. Everyone at the field needs the required 50/30FC as described above to be able to see a fast moving object and use the site safely.

- 3) The owner of the property certifies that the athletic lighting will be turned off every night at no later than 10:30pm as per City Code. I am supplying the Legacy Performance Zone with a programmable control system which will have a set schedule to turn off the athletic lights at the specified time. This will be automated to occur every night, and I will personally train the owners on the use of the control system and assist them on-site in programming the lights for an automatic nightly shutoff at 10:30pm.

We will be glad to address any questions regarding this proposal.

Sincerely,

A handwritten signature in black ink, appearing to read "B Brader", with a long horizontal flourish extending to the right.

Brian Brader
Simply Bright Ideas, Inc.



**DOSTER NATIONS
ULLOM & BOYLE, LLC**
ATTORNEYS AT LAW

16150 Main Circle Drive
Suite 250
Chesterfield, MO 63017
(636) 532-0042
(636) 532.1082 Fax

John M. Nations
jnations@dubllc.com

Tuesday, March 7, 2023

Justin Wyse, Director
Department of Planning
City of Chesterfield
690 Chesterfield Parkway West
Chesterfield, MO 63017

Re: 633 South Goddard Avenue; Legacy Performance - Lighting Package Submittal

Dear Director Wyse:

This narrative is submitted to the Department of Planning in keeping with the provisions of Section 405.04.030.C.11.a and 405.04.030.C.11.b – Lighting Standards of the Chesterfield Municipal Code (“Code”), and is part of the submittal for the lighting package for 633 South Goddard Avenue. We are submitting herewith all required materials.

In response the requirements of **405.04.030.C.11.a**:

- The architectural specialty lighting package is submitted to comply with the standards of the City of Chesterfield and for the property to be put to the uses its zoning currently allows. The lighting of an athletic field requires careful planning to provide for the permitted use and the proposed package will enhance the development in many ways. The proposed package uses state of the art lighting and technology to both enhance the features of the development as well as ensure the lighting is architecturally integrated to achieve its desired purpose while also constraining the lighting to the subject property of which it is a part. Architectural integration to provide the minimum lighting necessary while not causing glare or direct illumination onto adjacent properties or streets have been primary objectives of the design team.
- The 20 foot height limitation contained in Section 405.04.030.D.2 is not appropriate for the uses approved in the zoning for the site and would have the effect of prohibiting a long approved use of the site. As the City has acknowledged with the approvals for the Chesterfield Valley Athletic Complex and the St. Family Church in Chesterfield Valley, the mounting height of light standards for this use permit and are appropriate at a height of 70 feet as proposed in this package. Further, mounting heights at that level also greatly increases the safety of the site as well as allows the downward display of the lighting to restrict light leaving the confines of the site. Finally, given the location of the site near Spirit of St. Louis Airport, it is important that the lights be at this height for the simple reason that it allows the light fixtures to be aimed down at

the ground rather than allowing the shielded light source to be seen from either above or horizontal to the light fixture, thereby avoiding the chance of distracting aircraft.

In response to **405.04.030.C.11.b:**

- Location – 6 light poles surrounding the athletic field (as located on the map and GPS coordinates as shown on our FAA approval)
- Illumination Level – the field illumination levels range from 30 to 50 average footcandles.
- Color – the color of the light is 5700K. The color of all equipment, poles, lights, arms, fuse and control boxes, etc is grey/silver.
- Dimensions – poles are 70' tall with 13.5' wide crossarms to hold up to 10 Sports LED Light Fixtures. The fixtures include an extended 20" visor to control spill & glare.
- Mounting Height – The poles are 70' tall with a 6' rack of crossarms/fixtures for a total above grade height of 76'.
- Construction Material – Poles are made of galvanized steel, fixtures are made of aluminum housing the LED components.
- Brightness & Type of Lighting Fixtures – These are next generation LED sports fixtures which are directional as well as lensed to create a specific pattern on the ground. This already highly reduces light trespass (defined as undesired light). For the airport, we added our specialty extended visor which further reduces light trespass, spill and glare to virtually zero. On previous projects, people have indicated they didn't even know these lights were on from a distance, until they drove right up to the sports field. The design and LED product we are using is so advanced that the Airport and Federal Aviation Administration (FAA) have already signed off on the project.

The lighting package will enhance the proposed development above what would be permitted through the City of Chesterfield UDC, will enhance the use and safety of the site, is in keeping with the long permitted uses of the site, is detrimental to the interests of no one, and is the most appropriate lighting package for the site.

We respectfully request approval of the package as submitted.

Yours very truly,


John M. Nations

Simply Bright Ideas, Inc.

Lighting Design

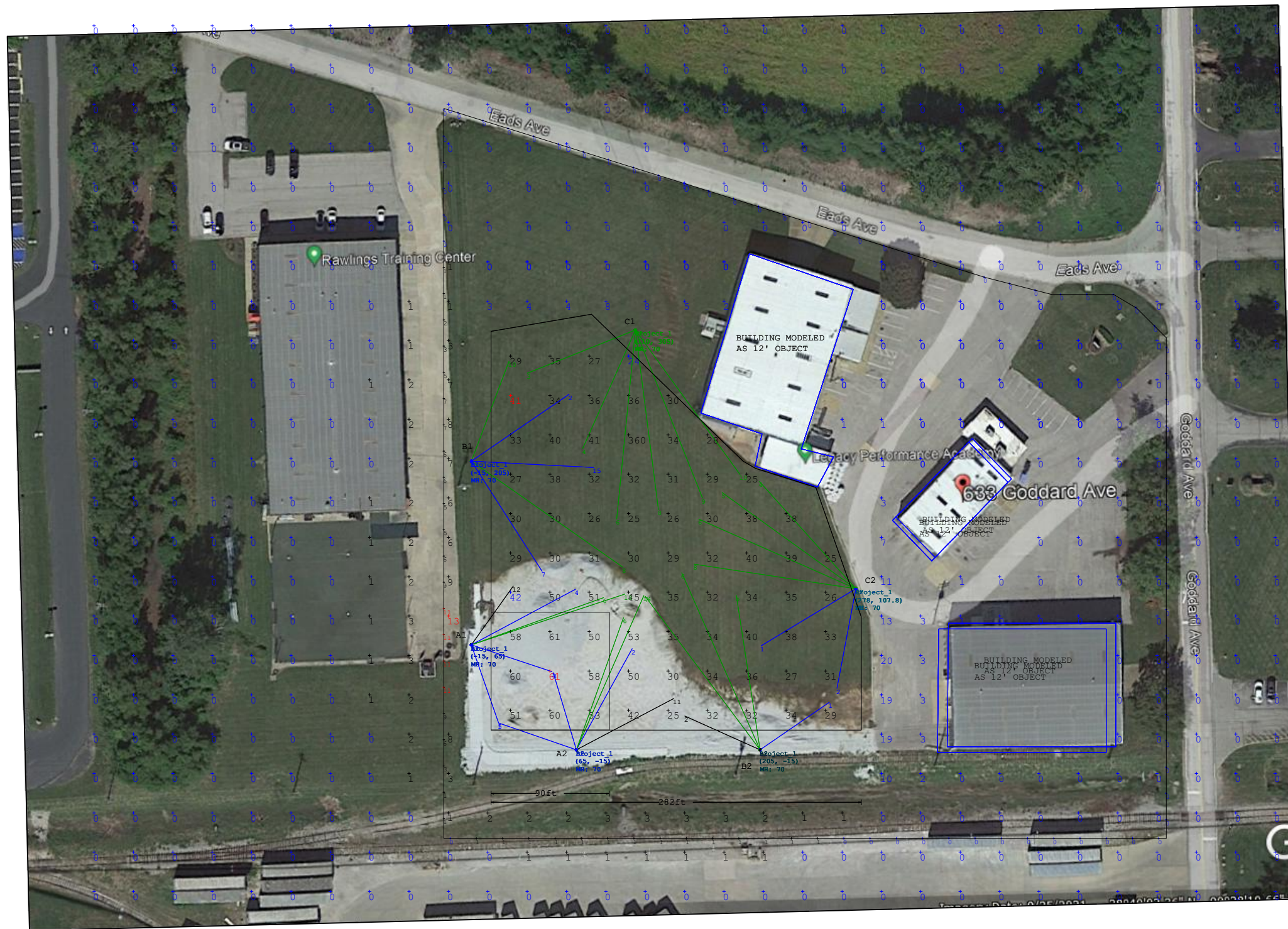


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RECEIVED

AUG 24 2022

City of Chesterfield-Department of Planning



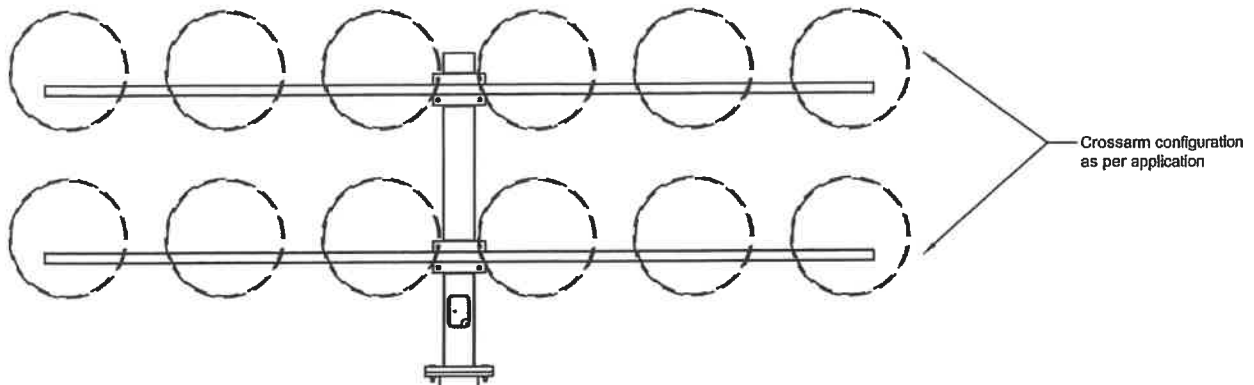
Legacy Performance Academy
 Chesterfield, MO
 50/30 Fc

1. THIS LIGHTING DESIGN IS BASED ON INFORMATION SUPPLIED BY OTHERS. SITE DETAILS PROVIDED HEREON ARE REPRODUCED ONLY AS A VISUALIZATION AID. FIELD DEVIATIONS MAY SIGNIFICANTLY AFFECT PREDICTED PERFORMANCE. PRIOR TO INSTALLATION, CRITICAL SITE INFORMATION (POLE LOCATIONS, ORIENTATION, MOUNTING HEIGHT, ETC.) SHOULD BE COORDINATED WITH THE CONTRACTOR AND/OR SPECIFIER RESPONSIBLE FOR THE PROJECT.
 2. LUMINAIRE DATA IS TESTED TO INDUSTRY STANDARDS UNDER LABORATORY CONDITIONS. OPERATING VOLTAGE AND NORMAL MANUFACTURING TOLERANCES OF LAMP, BALLAST, AND LUMINAIRE MAY AFFECT FIELD RESULTS.
 3. CONFORMANCE TO FACILITY CODE AND OTHER LOCAL REQUIREMENTS IS THE RESPONSIBILITY OF THE OWNER AND/OR THE OWNER'S REPRESENTATIVE.
 4. CALCULATIONS DO NOT TAKE INTO CONSIDERATION ANY OBSTRUCTIONS OR LIGHTING POLLUTION CAUSED BY NEIGHBORING LIGHT SOURCES.

Luminaire Schedule					
Scene: DEFAULT					
Symbol	Qty	Label	LLF	Total Watts	Luminaire Lumens
•	19	TSLM-20EV-NLV	0.950	15006.2	100380
□	12	TSLW-20EV-NLV	0.950	9543.6	100944
•	3	TSLEW-20EV-NLV	0.950	2335.8	93870

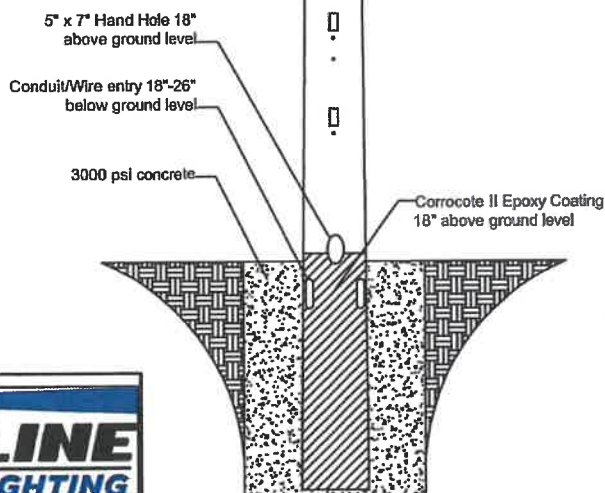
Calculation Summary													
Scene: DEFAULT													
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min	CV	UG				
INFIELD	Illuminance	Fc	50	61.2	42.0	1.26	1.46	0.12	1.39				
OUTFIELD	Illuminance	Fc	30	40.9	23.6	1.36	1.73	0.14	1.53				
PROPERTY LINE	Illuminance	Fc	1	11	0	-	-	-	-				
SPILL	Illuminance	Fc	0	13	0	-	-	-	-				

DRAWN BY: AMP
 Date: 3/31/23
 SCALE: NTS
 Page: 1 of 1
 Dwg #: 23-7205_5



TSL75MA	
Mounting Height	70' *
Overall Length	81'
Length A.G.L.	70' *
Burial Depth	11'
Tip Diameter	5.78"
Butt Diameter	17.76"
Pole Shape	Round Tapered

* dimension to bottom row of crossarm



** Hot-Dipped galvanized after fabrication to ASTM A123 specifications

** NOT TO SCALE

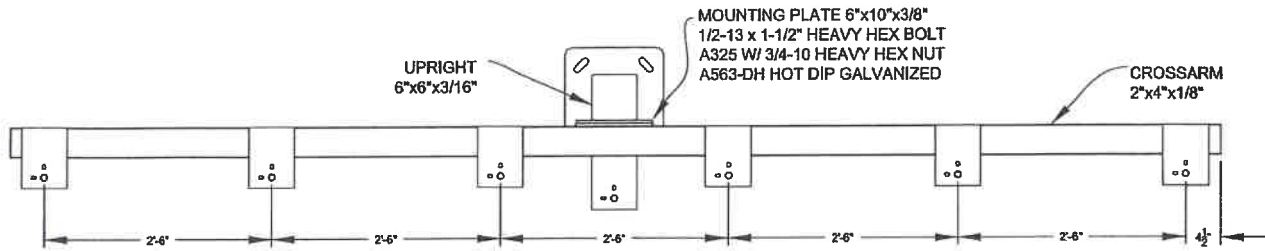


15303 STORM DR.
AUSTIN, TX 78734
PHONE: (512) 977-8880
TOLL FREE: (800) 500-3161
FAX: (512) 977-8882

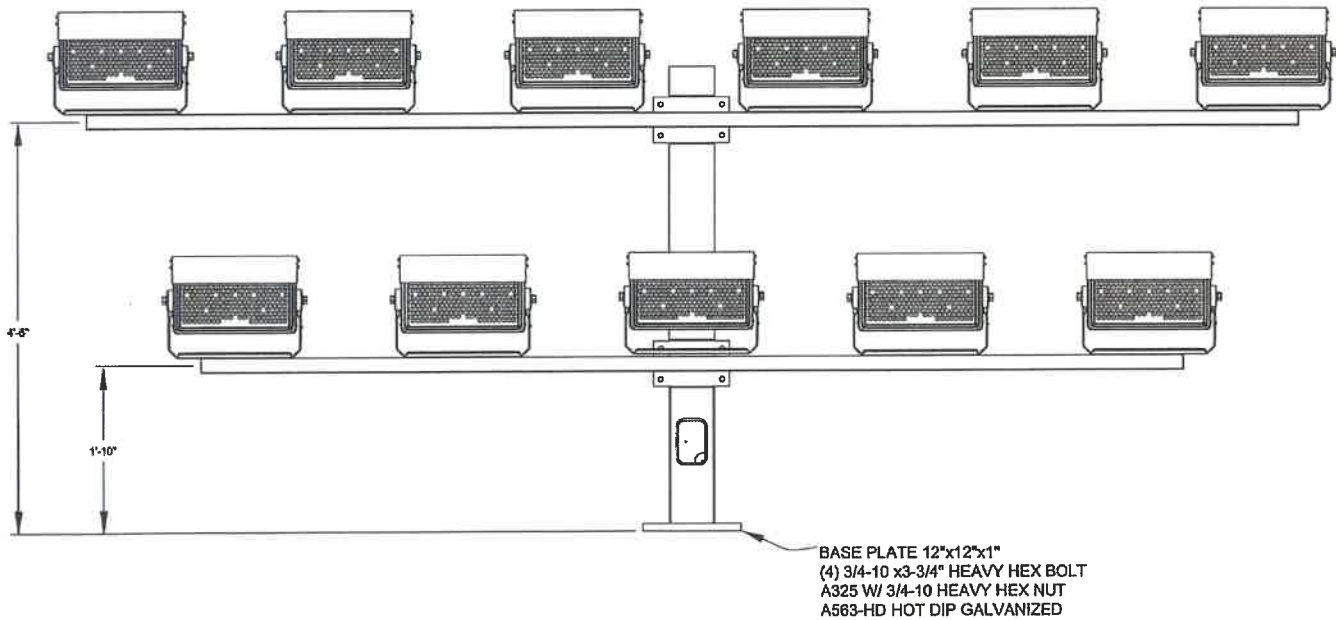
DATE: 5-19-15	REV: X	CHECKED BY:
DRAWING NUMBER: TSL 70-FIX	DRAWN BY: WW	

CONCRETE ENCASED
GALVANIZED STEEL POLE

TOP VIEW



FRONT VIEW



** Hot-Dip galvanized after fabrication to ASTM A123 specifications

** Assembly Weight: 725 lbs
 Assembly EPA: 27.47 sq. ft.
 (Including Fixtures)



** NOT TO SCALE

15303 STORM DR.
 AUSTIN, TX 78734
 PHONE: (512)977-8880
 TOLL FREE: (800)500-3161
 FAX: (512)977-8882

DATE: 1/1/20	REV.:	CHECKED BY:
DRAWING NUMBER: TDA 11 (CLIR)	DRAWN BY: WW	

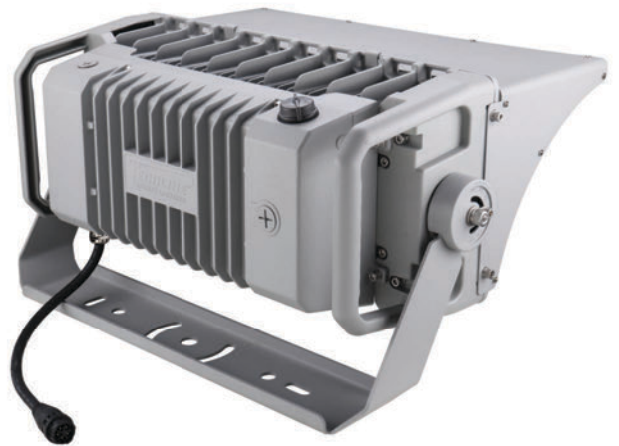
**11 FIXTURE CROSSARM
 ASSEMBLY**

800 WATT

FIXTURE



Standard Visor



Extended Visor (optional)



800 WATT

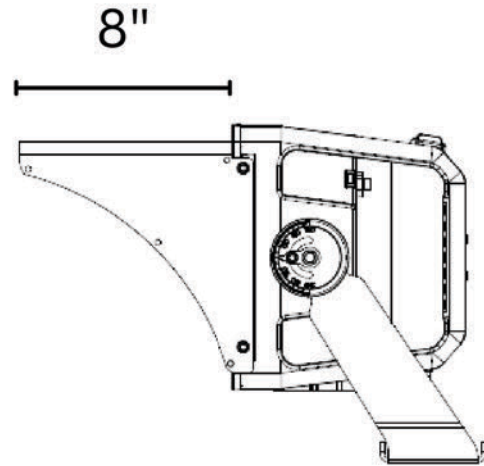
TECHNICAL DATA

SYSTEM WATTS	800w
LUMEN OUTPUT	120,000
EFFICACY	150 LM/W
EPA	1.9
WEIGHT	45 lbs
BEAM ANGLE	N, M, W, EW
POWER FACTOR	0.99
CCT	5700K
CRI	>70Ra
INPUT VOLTAGE	200-480v
INPUT PROTECTION	10KV Current Surge
DRIVER	Integral, Remote
IP RATING	IP65
OPERATING TEMP RANGE	-40° C to +45°C
HOUSING MATERIAL	Alumimum, Powder Coated

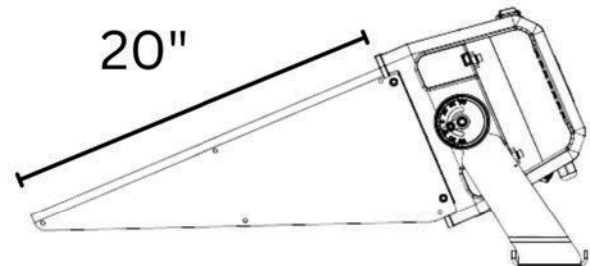
800 WATT

VISOR OPTIONS

Standard Visor



Extended Visor (optional)



Fixture Aimed at 23° Below
Horizontal

TECHLINETM
SPORTS LIGHTING



CLIR 630w EV LED

IDA Dark Sky Approved

Complete Spill & Glare Control

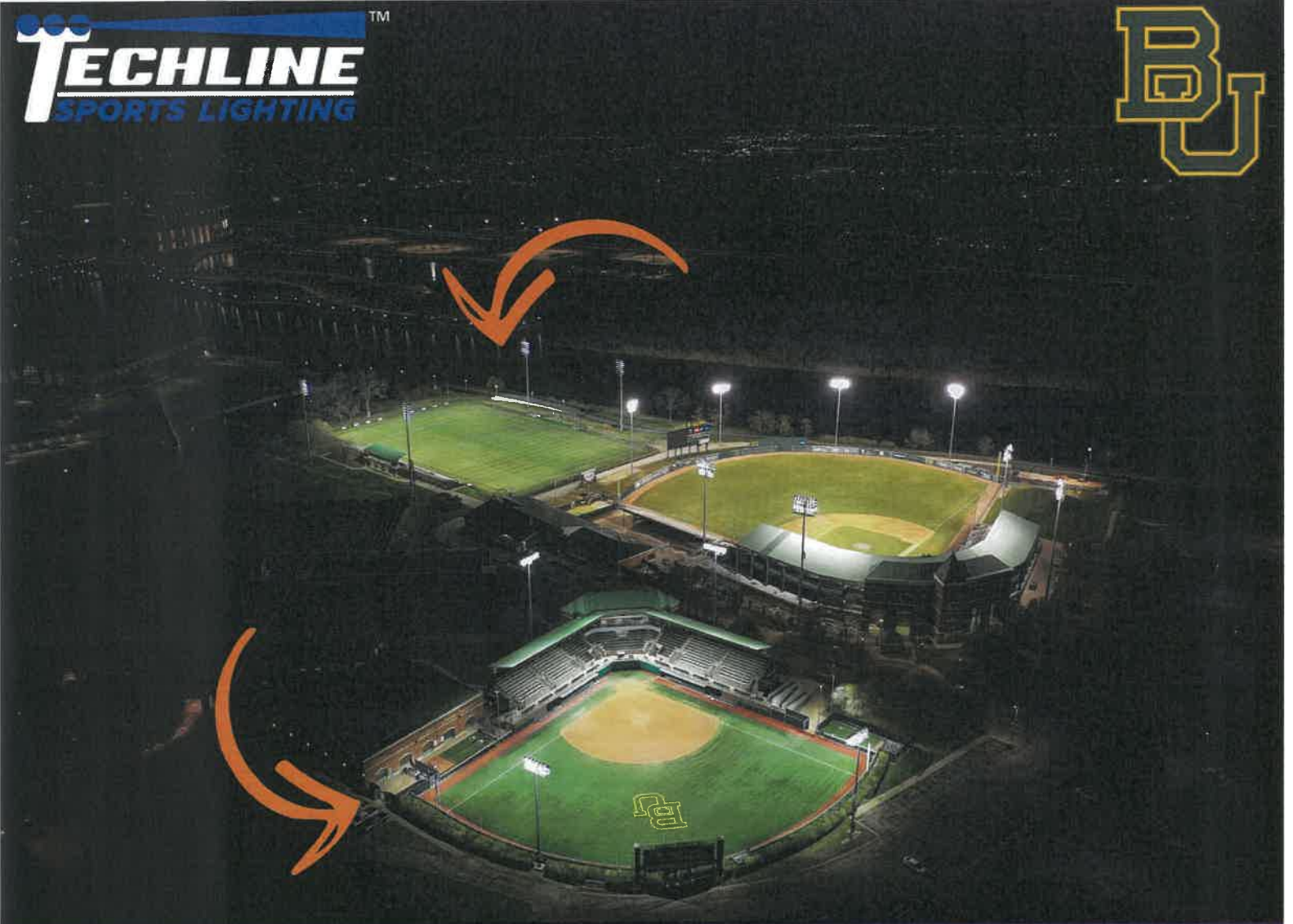
TECHLINE SPORTS LIGHTING, LLC.

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www.sportlighting.com

TECHLINETM
SPORTS LIGHTING



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