

## POLE FOUNDATION SCHEDULE

POLE DESIGNATION	FORCES (1.)			DRILLED PIER		
	MOMENT (M) FT-LBS	SHEAR (V) LBS	VERTICAL (P) LBS	DIAMETER INCHES	EMBEDMENT DEPTH	CONCRETE BACKFILL YD <sup>3</sup> (2.)
A1, A2	35,662	1,034	970	36	10'-0"	1.9
B1, B2	39,192	1,132	1,082	36	10'-0"	1.9
C1	55,980	1,547	1,456	36	12'-0"	2.3

- ASD LOAD COMBINATION D + 0.6W.  
VERTICAL FORCE IS WEIGHT OF DRESSED POLE (DOES NOT INCLUDE PRECAST BASE WEIGHT).
- MINIMUM CONCRETE BACKFILL VOLUME, SITE CONDITIONS MAY REQUIRE ADDITIONAL BACKFILL.

## PRECAST BASE IDENTIFICATION

PRECAST BASE TYPE	PRECAST BASE WEIGHT	PRECAST BASE LENGTH	PROJECTION ABOVE GRADE	STANDARD EMBEDMENT	OUTSIDE DIAMETER
2B	1,690 LBS	17'-3"	7'-3"	10'-0"	12.00"
3B	2,470 LBS	20'-0"	8'-0"	12'-0"	13.38"

## POLE IDENTIFICATION

POLE DESIGNATION	POLE TYPE	PRECAST BASE TYPE	FIXTURE CONFIGURATION (FIX. PER XARM)	FIXTURE AND ACCESSORIES EPA (FT <sup>2</sup> )
A1, A2	LSS60A	2B	2 (2)	5.2
B1, B2	LSS60A	2B	4 (3)	7.8
C1	LSS60B	3B	7 (4)	17.3

- POLES B1 & B2 HAVE (1) MUSCO LED FIXTURE AT 15'-6" AGL INCLUDED ABOVE.
- POLE C1 HAS (3) MUSCO LED FIXTURES AT 15'-6" AGL INCLUDED ABOVE.

## DESIGN NOTES

### DESIGN PARAMETERS:

WIND:  $V_{ult} = 134$  MPH,  $V_{asd} = 104$  MPH (EXPOSURE C, RISK CATEGORY II) PER INTERNATIONAL BUILDING CODE, 2015 EDITION (ASCE 7-10).

### GEOTECHNICAL PARAMETERS:

ALLOWABLE END BEARING SOIL PRESSURE: 3,000 PSF

LATERAL SOIL RESISTANCE PARAMETERS:

AS PROVIDED IN SOIL REPORT (NEGLECT TOP 2'-0")

IN ACCORDANCE WITH THE 2015 EDITION OF THE INTERNATIONAL BUILDING CODE, CHAPTER 18.

DESIGN SOIL PARAMETERS ARE AS NOTED. ACTUAL ALLOWABLE SOIL PARAMETERS MUST BE VERIFIED ON SITE. REFERENCE SOILS AND FOUNDATION REPORT, PROJECT NO. 21064.00, PREPARED BY PARE CORPORATION; FOXBORO, MA.

A GEOTECHNICAL ENGINEER OR REPRESENTATIVE OF IS RECOMMENDED (NOT REQUIRED) TO BE AVAILABLE AT THE TIME OF THE FOUNDATION INSTALLATION TO VERIFY THE SOIL DESIGN PARAMETERS AND TO PROVIDE ASSISTANCE IF ANY PROBLEMS ARISE IN FOUNDATION INSTALLATION.

ENCOUNTERING SOIL FORMATIONS THAT WILL REQUIRE SPECIAL DESIGN CONSIDERATIONS OR EXCAVATION PROCEDURES MAY OCCUR. POLE FOUNDATIONS WILL NEED TO BE ANALYZED ACCORDING TO THE SOIL CONDITIONS THAT EXIST. IF ANY DISCREPANCIES OR INCONSISTENCIES ARISE, NOTIFY THE ENGINEER OF SUCH DISCREPANCIES. FOUNDATIONS WILL THEN BE REVISED ACCORDINGLY. REVISIONS WILL BE ANALYZED PER RECOMMENDATIONS DIRECTED BY A REGISTERED ENGINEER.

ALL EXCAVATIONS MUST BE FREE OF LOOSE SOIL AND DEBRIS PRIOR TO FOUNDATION INSTALLATION AND CONCRETE BACKFILL PLACEMENT. TEMPORARY CASINGS OR DRILLERS SLURRY MAY BE USED TO STABILIZE THE EXCAVATION DURING INSTALLATION. CASINGS MUST BE REMOVED DURING CONCRETE BACKFILL PLACEMENT. CONCRETE BACKFILL MUST BE PLACED WITH A TREMIE WHEN SLURRY OR WATER IS PRESENT WITHIN THE EXCAVATION OR WHEN THE FREE DROP EXCEEDS 6'-0".

CONTRACTOR MUST BE FAMILIAR WITH THE COMPLETE SOIL INVESTIGATION REPORT AND BORINGS, AND CONTACT THE GEOTECHNICAL FIRM (IF NECESSARY) TO UNDERSTAND THE SOIL CONDITIONS AND THE POSSIBILITY OF GROUND WATER PUMPING AND EXCAVATION STABILIZATION OR BRACING DURING PRECAST BASE INSTALLATION AND PLACEMENT OF CONCRETE BACKFILL.

### CONCRETE:

CONCRETE SHALL BE AIR-ENTRAINED AND HAVE A MINIMUM COMPRESSIVE DESIGN STRENGTH AT 28 DAYS OF 3,000 PSI. 3,000 PSI CONCRETE SPECIFIED FOR EARLY POLE ERECTION, ACTUAL REQUIRED MINIMUM ALLOWABLE CONCRETE STRENGTH IS 1,000 PSI. ALL PIERS AND CONCRETE BACKFILL MUST BEAR ON AND AGAINST FIRM UNDISTURBED SOIL.

### GENERAL NOTES:

FIXTURES MUST BE LOCATED TO MAINTAIN 10'-0" MINIMUM HORIZONTAL CLEARANCE FROM ANY OBSTRUCTION. ENGINEER MUST BE NOTIFIED IF FOUNDATIONS ARE NEAR ANY RETAINING WALLS OR WITHIN / NEAR ANY SLOPES STEEPER THAN 3H : 1V. POLES, FIXTURES, PRECAST BASES, ELECTRICAL ITEMS AND INSTALLATION PER MUSCO LIGHTING.

## POLE FOUNDATION ELEV.

SCALE: NOT TO SCALE

### SOIL BACKFILL NOTE:

THE TOP TWO FEET OF ANNULUS SHALL BE BACKFILLED WITH SOIL, WITH A CLASSIFICATION OF CLASS 5 (TABLE 1806.2) OR BETTER. COMPACTION, 95% FOR COHESIVE SOIL AND 98% FOR A COHESIONLESS SOIL BASED UPON STANDARD PROCTOR TESTING (ASTM D698).

EAST PROVIDENCE  
LITTLE LEAGUE  
FIELD LIGHTING  
EAST PROVIDENCE, RI

**MUSCO**  
Lighting  
CORPORATE: 100 1<sup>st</sup> AVE WEST  
OSKALOOSA, IA 52577  
(800) 825-6020

**STRUCTURAL**  
**ENGINEERS, P.C.**  
114 NICHOLAS DRIVE  
MARSHALLTOWN, IOWA 50158  
PHONE NUMBER: 641-752-6334  
EMAIL: MSL.INFO@SEPC.BIZ



DRAWING TITLE:  
POLE AND FOUNDATION  
SCALE: SEE PLAN  
NOTES:  
SCAN #210570A

PROJECT NUMBER  
210570

DATE  
26 MAY 2021

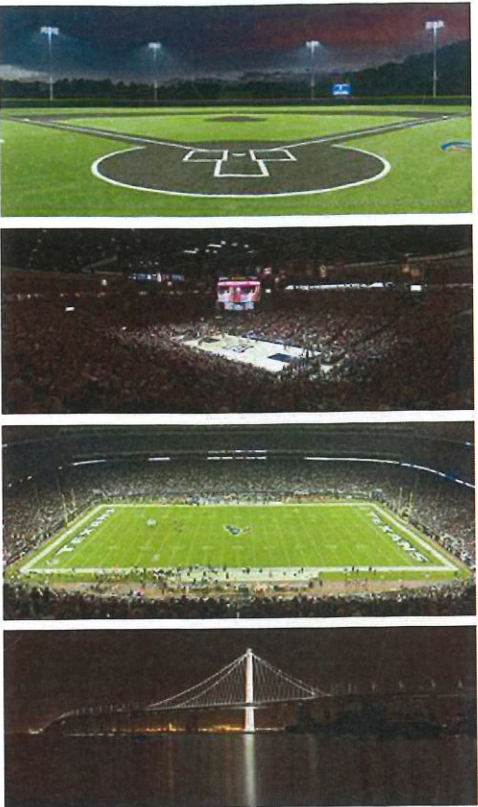
DRAWING NUMBER  
C1

OF ONE



NOTES: B2 Pole optimal location intrudes on some trees, may require tree trimming and/or removal.

From Hometown to Professional



East Providence Little League

East Providence, RI

Lighting System

Pole / Fixture Summary						
Pole ID	Pole Height	Mtg Height	Fixture Qty	Luminaire Type	Load	Circuit
A1-A2	60'	60'	2 4	TLC-LED-1200	2.34 kW	A
B1-B2	60'	60'	3 6	TLC-LED-1200	3.51 kW	A
		16'	1 2	TLC-BT-575	0.58 kW	A
C1	60'	60'	4	TLC-LED-1200	4.68 kW	A
		16'	3	TLC-BT-575	1.73 kW	A
5			19		19.26 kW	

Circuit Summary			
Circuit	Description	Load	Fixture Qty
A	Little League	19.25 kW	19

Fixture Type Summary							
Type	Source	Wattage	Lumens	L90	L80	L70	Quantity
TLC-LED-1200	LED 5700K - 75 CRI	1170W	136,000	>120,000	>120,000	>120,000	14
TLC-BT-575	LED 5700K - 75 CRI	575W	52,000	>120,000	>120,000	>120,000	5

Light Level Summary

Calculation Grid Summary								
Grid Name	Calculation Metric	Illumination					Circuits	Fixture Qty
		Ave	Min	Max	Max/Min	Ave/Min		
Little League (Infield)	Horizontal Illuminance	50.6	35.5	60.6	1.71	1.43	A	19
Little League (Outfield)	Horizontal Illuminance	31.6	17.6	42.2	2.40	1.80	A	19
Spill - 150' Offset	Horizontal Illuminance	0.01	0	0.02	0.00		A,B	19





## EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
2	A1-A2	60'	-	60'	TLC-LED-1200	2	2	0
2	B1-B2	60'	-	15.5'	TLC-BT-575	1	1	0
				60'	TLC-LED-1200	3	3	0
1	C1	60'	-	15.5'	TLC-BT-575	3	3	0
				60'	TLC-LED-1200	4	4	0
5	TOTALS					19	19	0

## East Providence Little League

East Providence, RI

## GRID SUMMARY

Name: Little League  
Size: 200'/200'/200' - basepath 60'  
Spacing: 20.0' x 20.0'  
Height: 3.0' above grade

## ILLUMINATION SUMMARY

## MAINTAINED HORIZONTAL FOOTCANDLES

	Infield	Outfield
Guaranteed Average:	50	30
Scan Average:	50.6	31.6
Maximum:	60.62	42.20
Minimum:	35.49	17.56
Avg / Min:	1.43	1.80
Guaranteed Max / Min:	2	2.5
Max / Min:	1.71	2.40
UG (adjacent pts):	1.22	1.61
CU:	0.68	
No. of Points:	25	73

## LUMINAIRE INFORMATION

Applied Circuits: A  
No. of Luminaires: 19  
Total Load: 19.26 kW

**Guaranteed Performance:** The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

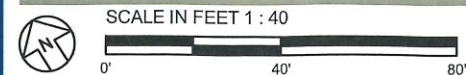
**Field Measurements:** Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

**Electrical System Requirements:** Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

**Installation Requirements:** Results assume  $\pm 3\%$  nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.



NOTES: B2 Pole optimal location intrudes on some trees, may require tree trimming and/or removal.



ENGINEERED DESIGN By: File #210570A · 26-Feb-21

Pole location(s) Ⓢ dimensions are relative to 0,0 reference point(s) ⊗



We Make It Happen.

Not to be reproduced in whole or part without the written consent of Musco Sports Lighting, LLC. ©1981, 2021 Musco Sports Lighting, LLC.

## ILLUMINATION SUMMARY



NOTES: B2 Pole optimal location intrudes on some trees, may require tree trimming and/or removal.



East Providence Little League

East Providence, RI

EQUIPMENT LAYOUT

INCLUDES:

• Little League

Electrical System Requirements: Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

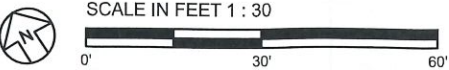
Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

EQUIPMENT LIST FOR AREAS SHOWN

QTY	LOCATION	SIZE	GRADE ELEVATION	Luminaires		
				MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE
2	A1-A2	60'	-	60'	TLC-LED-1200	2
2	B1-B2	60'	-	15.5'	TLC-BT-575	1
				60'	TLC-LED-1200	3
1	C1	60'	-	15.5'	TLC-BT-575	3
				60'	TLC-LED-1200	4
5	TOTALS					19

SINGLE LUMINAIRE AMPERAGE DRAW CHART

Ballast Specifications (.90 min power factor)		Line Amperage Per Luminaire (max draw)						
Single Phase Voltage		208 (60)	220 (60)	240 (60)	277 (60)	347 (60)	380 (60)	480 (60)
TLC-LED-1200		7.0	6.6	6.1	5.2	4.2	4.0	3.0
TLC-BT-575		3.4	3.2	2.9	2.5	2.0	1.8	1.5



ENGINEERED DESIGN By: • File #210570A • 26-Feb-21

Pole location(s) ⦿ dimensions are relative to 0,0 reference point(s) ⊗



Not to be reproduced in whole or part without the written consent of Musco Sports Lighting, LLC. ©1981, 2021 Musco Sports Lighting, LLC.



EQUIPMENT LIST FOR AREAS SHOWN								
Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
2	A1-A2	60'	-	60'	TLC-LED-1200	2	2	0
2	B1-B2	60'	-	15.5'	TLC-BT-575	1	1	0
				60'	TLC-LED-1200	3	3	0
1	C1	60'	-	15.5'	TLC-BT-575	3	3	0
				60'	TLC-LED-1200	4	4	0
5	TOTALS					19	19	0



Pole location(s) Ⓢ dimensions are relative to 0,0 reference point(s) ⊗

# East Providence Little League

East Providence, RI

## GRID SUMMARY

Name: Spill - 150' Offset  
 Spacing: 30.0'  
 Height: 3.0' above grade

## ILLUMINATION SUMMARY

### HORIZONTAL FOOTCANDLES

Entire Grid  
 Scan Average: 0.006  
 Maximum: 0.0232  
 Minimum: 0.0000  
 No. of Points: 56

### LUMINAIRE INFORMATION

Applied Circuits: A, B  
 No. of Luminaires: 19  
 Total Load: 19.26 kW

**Guaranteed Performance:** The ILLUMINATION described above is guaranteed per your Musco Warranty document.

**Field Measurements:** Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

**Electrical System Requirements:** Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

**Installation Requirements:** Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.



We Make It Happen.®

Not to be reproduced in whole or part without the written consent of Musco Sports Lighting, LLC. ©1981, 2021 Musco Sports Lighting, LLC.

## ILLUMINATION SUMMARY