

City of Scottsbluff, Nebraska

Monday, December 19, 2022

Regular Meeting

Item Reports4

Council to discuss and consider action on the bid for lighting materials from Equalis Group for Musco Sports Lighting, LLC for the Scottsbluff 23 Club Baseball and Softball project and authorize the Mayor to sign the Purchase Order.

Staff Contact: Kevin Spencer, City Manager

Date: December 13, 2022
To: Kevin Spencer

Project: Scottsbluff 23 Club Baseball and Softball
Scottsbluff, NE
Ref: 137464

Equalis Group

Master Project: 208404, Contract Number: COG-2102A, Expiration: 10/31/2025
Category: Sports & Facility Lighting with Installation and Related Services & Solutions

All purchase orders should note the following:
Equalis Group purchase – contract number: COG-2102A

Quotation Price – Materials Only Delivered to Job Site

Lighting

Babe Ruth Field – 272’/292’/290’ \$ 373,000

American Field – 170’/184’/183’

Pacific Field – 160’/158’/160’

National Field – 202’/218’/202’

*Sales tax, bonding, labor, and unloading of the equipment are not included.
Pricing furnished is effective for 60 days unless otherwise noted and is considered confidential.*

Light-Structure System™ with Total Light Control – TLC for LED™ technology

Guaranteed Lighting Performance

- Guaranteed light levels of 50/30 footcandles (infield/outfield) for the Babe Ruth and National fields and 30/20 footcandles (infield/outfield) for the American and Pacific fields with uniformities as shown on Scan A
- BallTracker® technology – targeted light, optimizing visibility of the ball in play with no glare in the players typical line-of-sight

System Description

- 18 Pre-cast concrete bases with integrated lightning grounding
- 18 Galvanized steel poles
- Factory wired and tested remote electrical component enclosures
- Pole length, factory assembled wire harnesses
- 84 Factory aimed and assembled luminaires, including BallTracker® luminaires
- UL Listed assemblies

Environmental Light Control

- Spill light minimized
- Off-site glare light minimized

Control Systems and Services

- Control-Link® control and monitoring system to provide remote on/off and dimming (high/medium/low) control and performance monitoring with 24/7 customer support



Operation and Warranty Services

- Product assurance and warranty program that covers materials and onsite labor, eliminating 100% of your maintenance costs for 25 years
- Support from Musco's Lighting Services Team – over 170 Team members dedicated to operating and maintaining your lighting system – plus a network of 1800+ contractors

Payment Terms

Musco's Credit Department will provide payment terms.

Email or fax a copy of the Purchase Order to Musco Sports Lighting, LLC:

Musco Sports Lighting, LLC
Attn: Amanda Hudnut
Fax: 800-374-6402
Email: musco.contracts@musco.com

All purchase orders should note the following:
Equalis Group purchase – contract number: COG-2102A

Delivery Timing

8 - 10 weeks for delivery of materials to the job site from the time of order, submittal approval, and confirmation of order details including voltage, phase, and pole locations.

Due to the built-in custom light control per luminaire, pole locations need to be confirmed prior to production. Changes to pole locations after the product is sent to production could result in additional charges.

Notes

Quote is based on:

- Shipment of entire project together to one location.
- 480 Volt, 3 Phase electrical system requirement.
- Structural code and wind speed = 2018 IBC, 110 mi/h, Exposure C.
- Owner is responsible for getting electrical power to the site, coordination with the utility, and any power company fees.
- Standard soil conditions – rock, bottomless, wet or unsuitable soil may require additional engineering, special installation methods and additional cost.
- Confirmation of pole locations prior to production.
- Reflects MLB discount

Thank you for considering Musco for your lighting needs. Please contact me with any questions or if you need additional details.

Brad Thompson
Sales Representative
Musco Sports Lighting, LLC
Phone: 641-660-9554
E-mail: Brad.Thompson@Musco.com



Scottsbluff 23 Club Baseball And Softball

Scottsbluff,NE

Lighting System

Pole / Fixture Summary						
Pole ID	Pole Height	Mtg Height	Fixture Qty	Luminaire Type	Load	Circuit
A1-A2	70'	70'	3	TLC-LED-1200	3.51 kW	A
A3-A4	60'	60'	2	TLC-LED-600	1.16 kW	B
		16'	1	TLC-BT-575	0.58 kW	B
A5-A6	60'	60'	2	TLC-LED-600	1.16 kW	C
		16'	1	TLC-BT-575	0.58 kW	C
A7-A8	60'	60'	3	TLC-LED-900	2.67 kW	D
		16'	1	TLC-BT-575	0.58 kW	D
B1-B2	70'	70'	6	TLC-LED-1500	8.58 kW	A
		16'	1	TLC-BT-575	0.58 kW	A
B3-B4	60'	60'	4	TLC-LED-900	3.56 kW	B
		16'	1	TLC-BT-575	0.58 kW	B
B5-B6	60'	60'	4	TLC-LED-900	3.56 kW	C
		16'	1	TLC-BT-575	0.58 kW	C
B7-B8	70'	70'	5	TLC-LED-1500	7.15 kW	D
		16'	1	TLC-BT-575	0.58 kW	D
C1	60'	60'	4	TLC-LED-1200	4.68 kW	A
		16'	2	TLC-BT-575	1.15 kW	A
C2	70'	70'	4	TLC-LED-1200	4.68 kW	A
		16'	2	TLC-BT-575	1.15 kW	A
18			84		82.41 kW	

Circuit Summary			
Circuit	Description	Load	Fixture Qty
A	Babe Ruth	36.99 kW	32
B	American	11.74 kW	16
C	Pacific	11.74 kW	16
D	National	21.94 kW	20

Fixture Type Summary							
Type	Source	Wattage	Lumens	L90	L80	L70	Quantity
TLC-LED-900	LED 5700K - 75 CRI	890W	89,600	>120,000	>120,000	>120,000	22
TLC-BT-575	LED 5700K - 75 CRI	575W	52,000	>120,000	>120,000	>120,000	18
TLC-LED-1200	LED 5700K - 75 CRI	1170W	136,000	>120,000	>120,000	>120,000	14
TLC-LED-1500	LED 5700K - 75 CRI	1430W	160,000	>120,000	>120,000	>120,000	22
TLC-LED-600	LED 5700K - 75 CRI	580W	65,600	>120,000	>120,000	>120,000	8

Light Level Summary

Calculation Grid Summary								
Grid Name	Calculation Metric	Illumination					Circuits	Fixture Qty
		Ave	Min	Max	Max/Min	Ave/Min		
American 1st Base Batting Cage	Horizontal	15.1	12	18	1.43	1.26	B	16
American 3rd Base Batting Cage	Horizontal	18.1	15	23	1.50	1.21	B	16
American Bleachers	Horizontal	10.7	4	21	4.75	2.69	B	16
American Field (Infield)	Horizontal Illuminance	30.3	19	39	2.08	1.60	B	16
American Field (Outfield)	Horizontal Illuminance	21.6	16	35	2.22	1.35	B	16
Babe Ruth 1st Base Batting Cage	Horizontal	39	33	45	1.36	1.18	A	32
Babe Ruth 3rd Base Batting Cage	Horizontal	38.3	32	44	1.37	1.20	A	32
Babe Ruth Bleachers	Horizontal	17.7	12	29	2.49	1.48	A	32
Babe Ruth (Infield)	Horizontal Illuminance	51.6	32	61	1.90	1.61	A	32
Babe Ruth (Outfield)	Horizontal Illuminance	32	22	49	2.18	1.45	A	32
National 3rd Base Batting Cage	Horizontal	19.5	18	23	1.30	1.08	D	20
National Bleachers	Horizontal	15.1	7	25	3.63	2.16	D	20
National Bleachers	Perpendicular	15.1	7	25	3.63	2.16	D	20
National Field (Infield)	Horizontal Illuminance	51.7	40	59	1.46	1.29	D	20
National Field (Outfield)	Horizontal Illuminance	33.9	21	48	2.29	1.62	D	20
Pacific 1st Base Batting Cage	Horizontal	16.8	13	20	1.52	1.29	C	16

ENGINEERED DESIGN By: Z.Morris · File #137464A · 02-Sep-20

From Hometown to Professional



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PROJECT SUMMARY

Scottsbluff 23 Club Baseball And Softball

Scottsbluff,NE

Calculation Grid Summary								
Grid Name	Calculation Metric	Illumination					Circuits	Fixture Qty
		Ave	Min	Max	Max/Min	Ave/Min		
Pacific 3rd Base Batting Cage	Horizontal	17.8	13	21	1.62	1.37	C	16
Pacific Bleachers	Horizontal	12.6	6	20	3.52	2.11	C	16
Pacific Field (Infield)	Horizontal Illuminance	30.2	22	36	1.61	1.37	C	16
Pacific Field (Outfield)	Horizontal Illuminance	29.4	18	39	2.17	1.63	C	16

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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	70'	-	70'	TLC-LED-1200	3	3	0
2	B1-B2	70'	-	15.5'	TLC-BT-575	1	1	0
				70'	TLC-LED-1500	6	6	0
1	C1	60'	-	15.5'	TLC-BT-575	2	2	0
				60'	TLC-LED-1200	4	4	0
1	C2	70'	-	15.5'	TLC-BT-575	2	2	0
				70'	TLC-LED-1200	4	4	0
6	TOTALS					32	32	0

Scottsbluff 23 Club Baseball And Softball
Scottsbluff,NE

GRID SUMMARY	
Name:	Babe Ruth
Size:	Irregular 272' / 292' / 290'
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

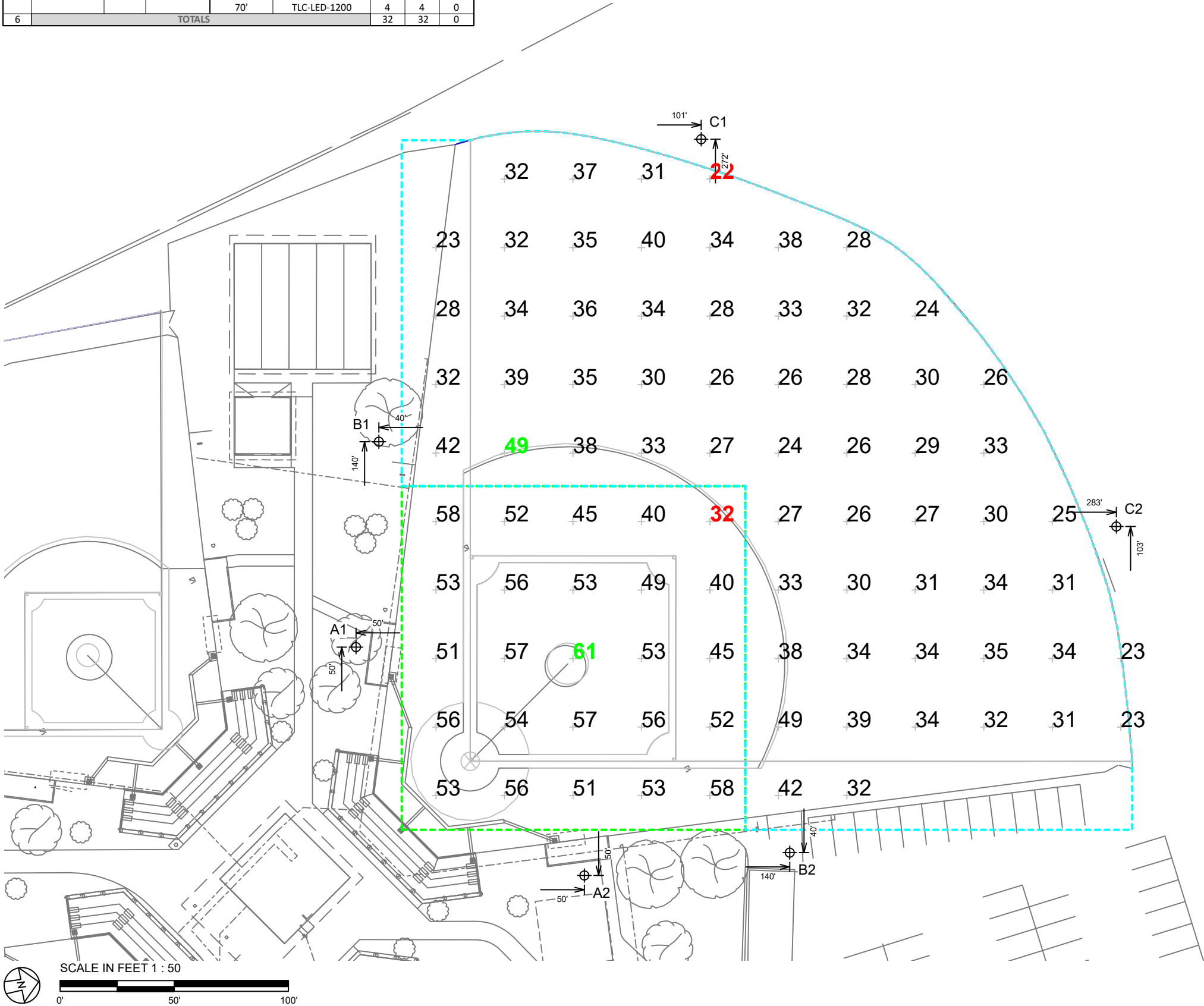
ILLUMINATION SUMMARY		
MAINTAINED HORIZONTAL FOOTCANDLES		
	Infield	Outfield
Guaranteed Average:	50	30
Scan Average:	51.62	31.96
Maximum:	61	49
Minimum:	32	22
Avg / Min:	1.61	1.42
Guaranteed Max / Min:	2	2.5
Max / Min:	1.90	2.18
UG (adjacent pts):	1.24	1.49
CU:	0.72	
No. of Points:	25	61
LUMINAIRE INFORMATION		
Applied Circuits:	A	
No. of Luminaires:	32	
Total Load:	36.99 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 ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.



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



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ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN							
Pole				Luminaires			
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID
2	A1-A2	70'	-	70'	TLC-LED-1200	3	3
2	B1-B2	70'	-	15.5'	TLC-BT-575	1	1
				70'	TLC-LED-1500	6	6
1	C1	60'	-	15.5'	TLC-BT-575	2	2
				60'	TLC-LED-1200	4	4
1	C2	70'	-	15.5'	TLC-BT-575	2	2
				70'	TLC-LED-1200	4	4
6	TOTALS					32	32
							0

Scottsbluff 23 Club Baseball And Softball
Scottsbluff,NE

GRID SUMMARY	
Name:	Babe Ruth Bleachers
Size:	Irregular 272' / 292' / 290'
Spacing:	10.0' x 10.0'
Height:	3.0' above grade

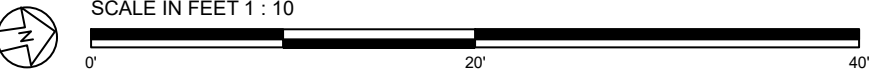
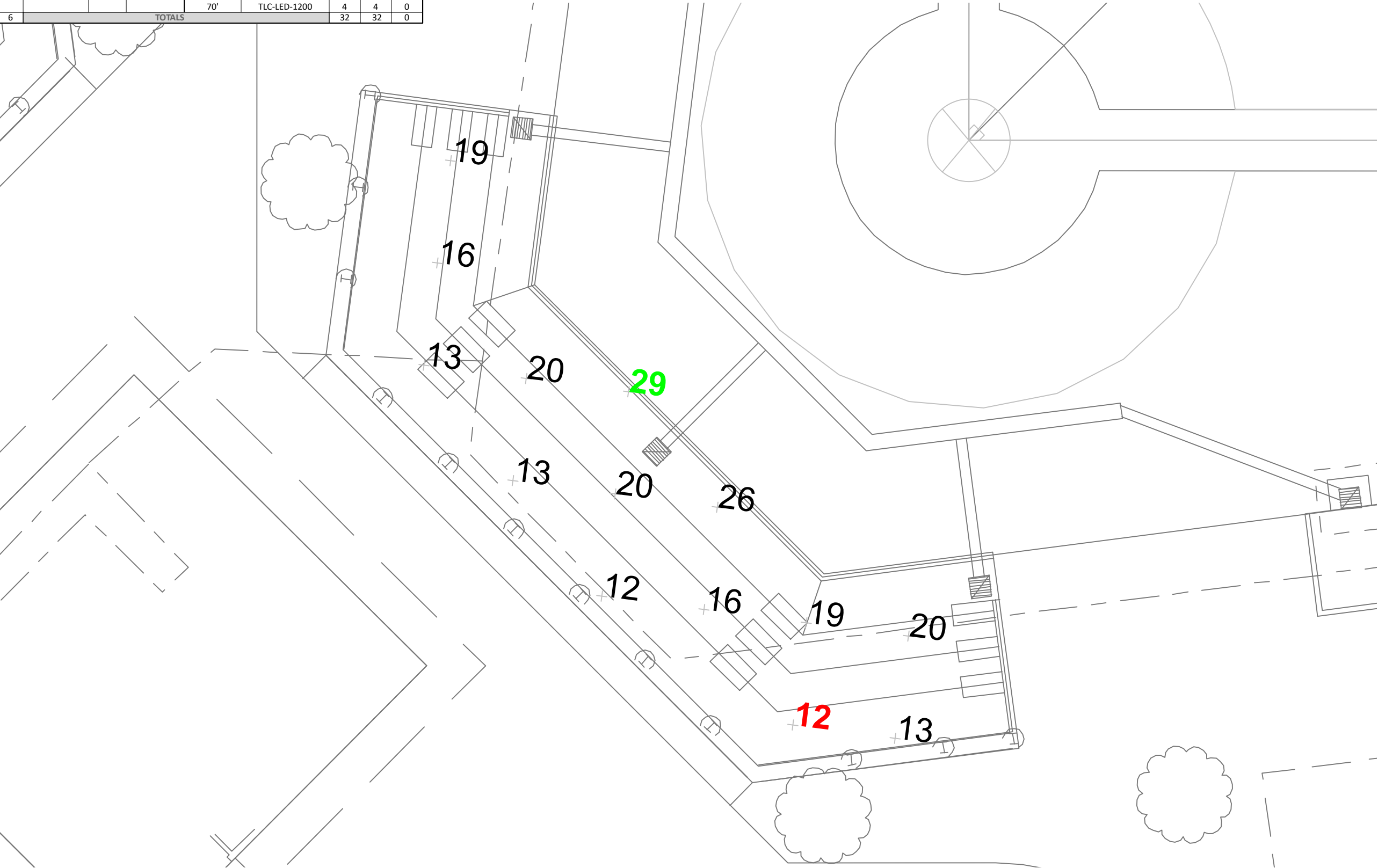
ILLUMINATION SUMMARY	
MAINTAINED HORIZONTAL FOOTCANDLES	
	Entire Grid
Scan Average:	17.72
Maximum:	29
Minimum:	12
Avg / Min:	1.52
Max / Min:	2.49
UG (adjacent pts):	1.66
CU:	0.01
No. of Points:	14
LUMINAIRE INFORMATION	
Applied Circuits:	A
No. of Luminaires:	32
Total Load:	36.99 kW

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.

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



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ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN							
Pole				Luminaires			
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID
2	A1-A2	70'	-	70'	TLC-LED-1200	3	3
2	B1-B2	70'	-	15.5'	TLC-BT-575	1	1
				70'	TLC-LED-1500	6	6
1	C1	60'	-	15.5'	TLC-BT-575	2	2
				60'	TLC-LED-1200	4	4
1	C2	70'	-	15.5'	TLC-BT-575	2	2
				70'	TLC-LED-1200	4	4
6	TOTALS					32	32

Scottsbluff 23 Club Baseball And Softball
Scottsbluff,NE

GRID SUMMARY	
Name:	Babe Ruth 1st Base Batting Cage
Size:	Irregular 272' / 292' / 290'
Spacing:	10.0' x 10.0'
Height:	3.0' above grade

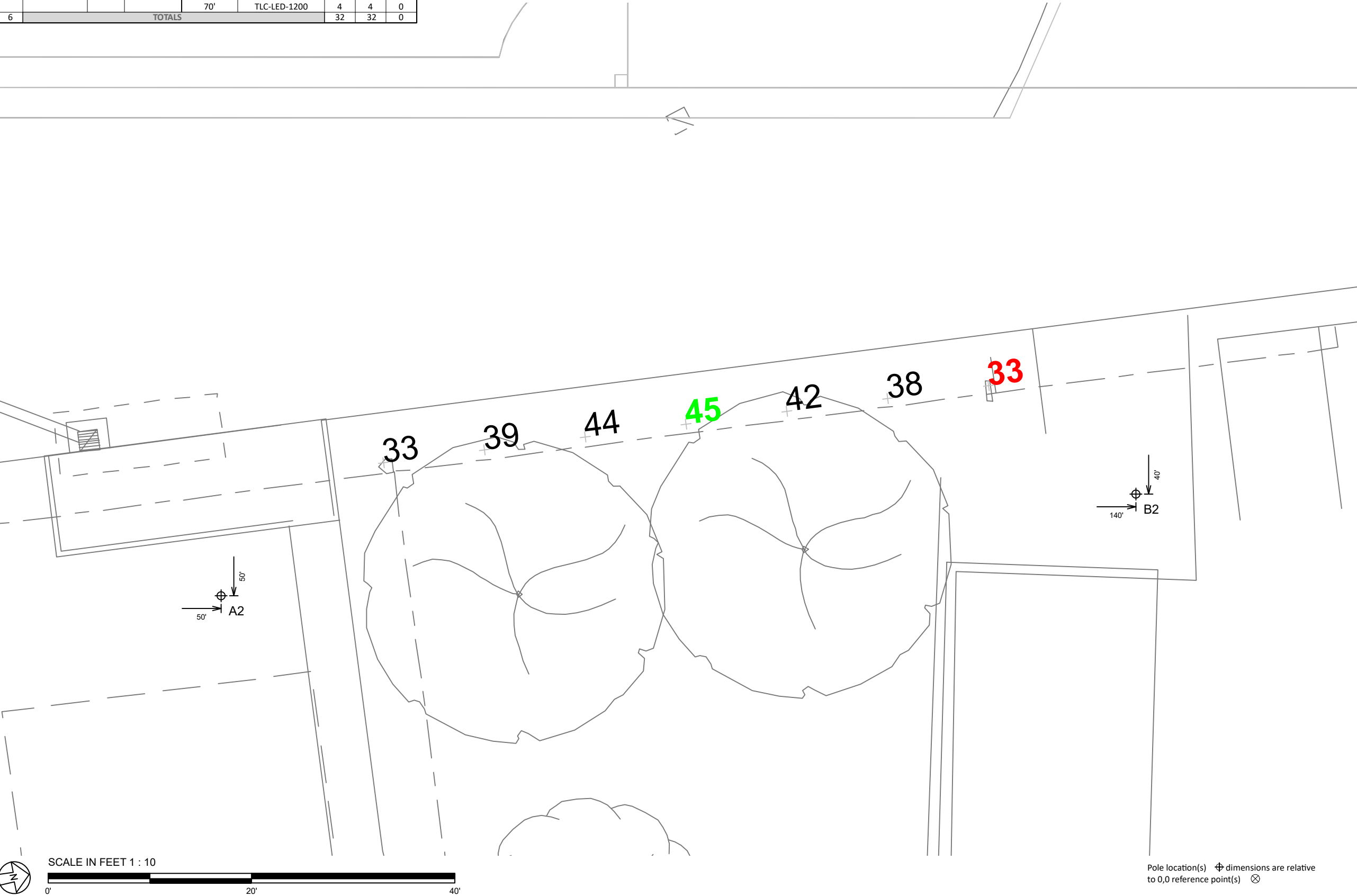
ILLUMINATION SUMMARY	
MAINTAINED HORIZONTAL FOOTCANDLES	
	Entire Grid
Scan Average:	38.95
Maximum:	45
Minimum:	33
Avg / Min:	1.19
Max / Min:	1.36
UG (adjacent pts):	1.17
CU:	0.01
No. of Points:	7
LUMINAIRE INFORMATION	
Applied Circuits:	A
No. of Luminaires:	32
Total Load:	36.99 kW

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.

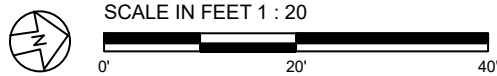
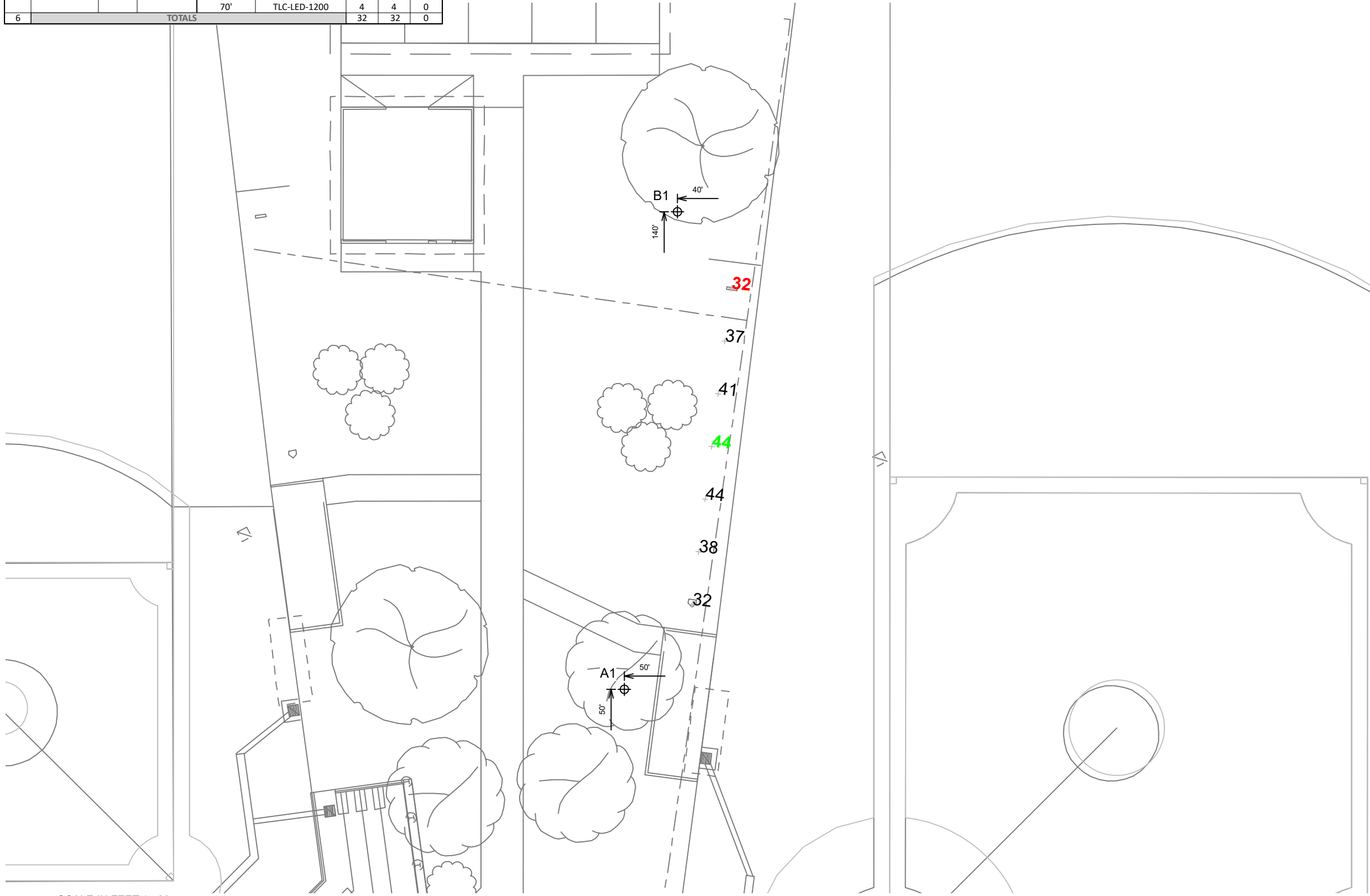
Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.



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ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN							
Pole				Luminaires			
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID
2	A1-A2	70'	-	70'	TLC-LED-1200	3	3
2	B1-B2	70'	-	15.5'	TLC-BT-575	1	1
				70'	TLC-LED-1500	6	6
1	C1	60'	-	15.5'	TLC-BT-575	2	2
				60'	TLC-LED-1200	4	4
1	C2	70'	-	15.5'	TLC-BT-575	2	2
				70'	TLC-LED-1200	4	4
6	TOTALS					32	32



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Scottsbluff 23 Club Baseball And Softball
Scottsbluff,NE

GRID SUMMARY	
Name:	Babe Ruth 3rd Base Batting Cage
Size:	Irregular 272' / 292' / 290'
Spacing:	10.0' x 10.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY	
MAINTAINED HORIZONTAL FOOTCANDLES	
Entire Grid	
Scan Average:	38.33
Maximum:	44
Minimum:	32
Avg / Min:	1.19
Max / Min:	1.37
UG (adjacent pts):	1.18
CU:	0.01
No. of Points:	7
LUMINAIRE INFORMATION	
Applied Circuits:	A
No. of Luminaires:	32
Total Load:	36.99 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 ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.



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ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN								
Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
2	A3-A4	60'	-	15.5'	TLC-BT-575	1	1	0
				60'	TLC-LED-600	2	2	0
2	B3-B4	60'	-	15.5'	TLC-BT-575	1	1	0
				60'	TLC-LED-900	4	4	0
4	TOTALS					16	16	0

Scottsbluff 23 Club Baseball And Softball
Scottsbluff,NE

GRID SUMMARY	
Name:	American Field
Size:	Irregular 170' / 184' / 183'
Spacing:	20.0' x 20.0'
Height:	3.0' above grade

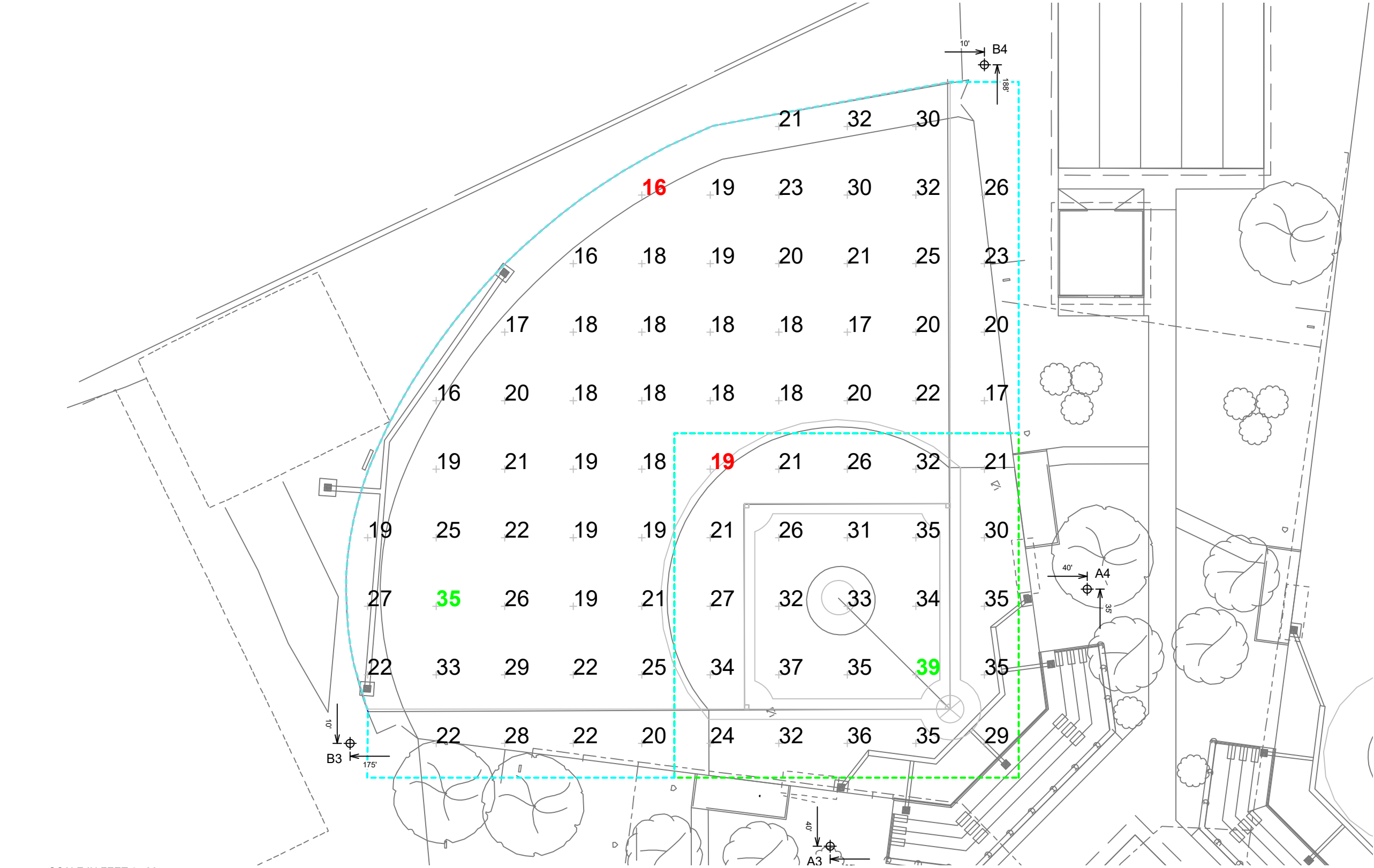
ILLUMINATION SUMMARY		
MAINTAINED HORIZONTAL FOOTCANDLES		
	Infield	Outfield
Guaranteed Average:	30	20
Scan Average:	30.32	21.64
Maximum:	39	35
Minimum:	19	16
Avg / Min:	1.63	1.39
Guaranteed Max / Min:	2.5	3
Max / Min:	2.08	2.22
UG (adjacent pts):	1.51	1.53
CU:	0.63	
No. of Points:	25	56
LUMINAIRE INFORMATION		
Applied Circuits:	B	
No. of Luminaires:	16	
Total Load:	11.74 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 ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.



SCALE IN FEET 1 : 30
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ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN								
Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
2	A3-A4	60'	-	15.5'	TLC-BT-575	1	1	0
				60'	TLC-LED-600	2	2	0
2	B3-B4	60'	-	15.5'	TLC-BT-575	1	1	0
				60'	TLC-LED-900	4	4	0
4	TOTALS					16	16	0

Scottsbluff 23 Club Baseball And Softball
Scottsbluff,NE

GRID SUMMARY	
Name:	American Bleachers
Size:	Irregular 170' / 184' / 183'
Spacing:	10.0' x 10.0'
Height:	3.0' above grade

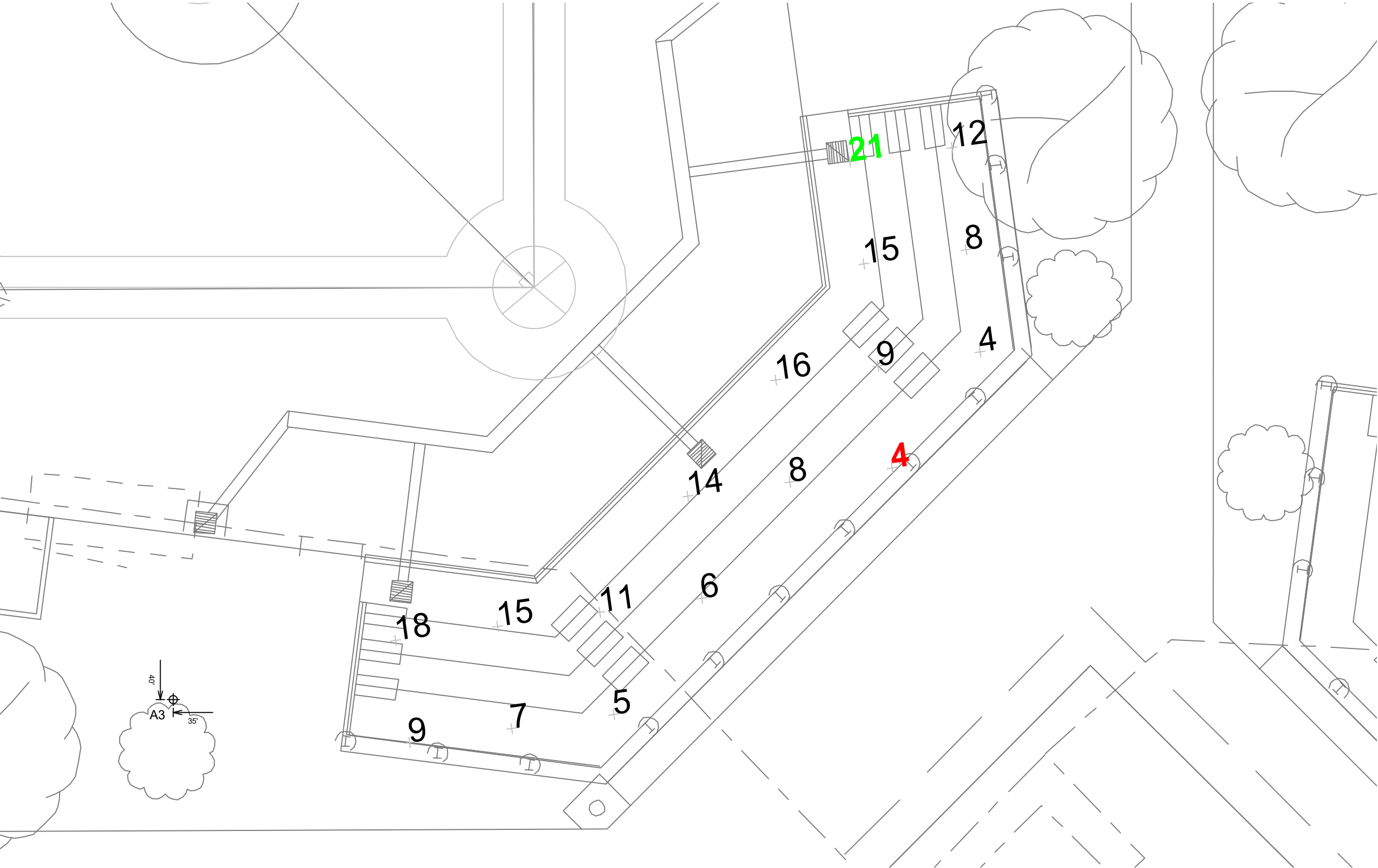
ILLUMINATION SUMMARY	
MAINTAINED HORIZONTAL FOOTCANDLES	
Entire Grid	
Scan Average:	10.74
Maximum:	21
Minimum:	4
Avg / Min:	2.43
Max / Min:	4.75
UG (adjacent pts):	2.26
CU:	0.01
No. of Points:	17
LUMINAIRE INFORMATION	
Applied Circuits:	B
No. of Luminaires:	16
Total Load:	11.74 kW

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



SCALE IN FEET 1 : 10
0' 20' 40'

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



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ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN							
Pole				Luminaires			
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID
2	A3-A4	60'	-	15.5'	TLC-BT-575	1	1
				60'	TLC-LED-600	2	2
2	B3-B4	60'	-	15.5'	TLC-BT-575	1	1
				60'	TLC-LED-900	4	4
4	TOTALS					16	16
							0

Scottsbluff 23 Club Baseball And Softball
Scottsbluff,NE

GRID SUMMARY	
Name:	American 1st Base Batting Cage
Size:	Irregular 170' / 184' / 183'
Spacing:	10.0' x 10.0'
Height:	3.0' above grade

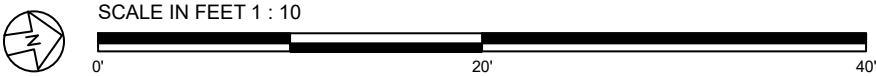
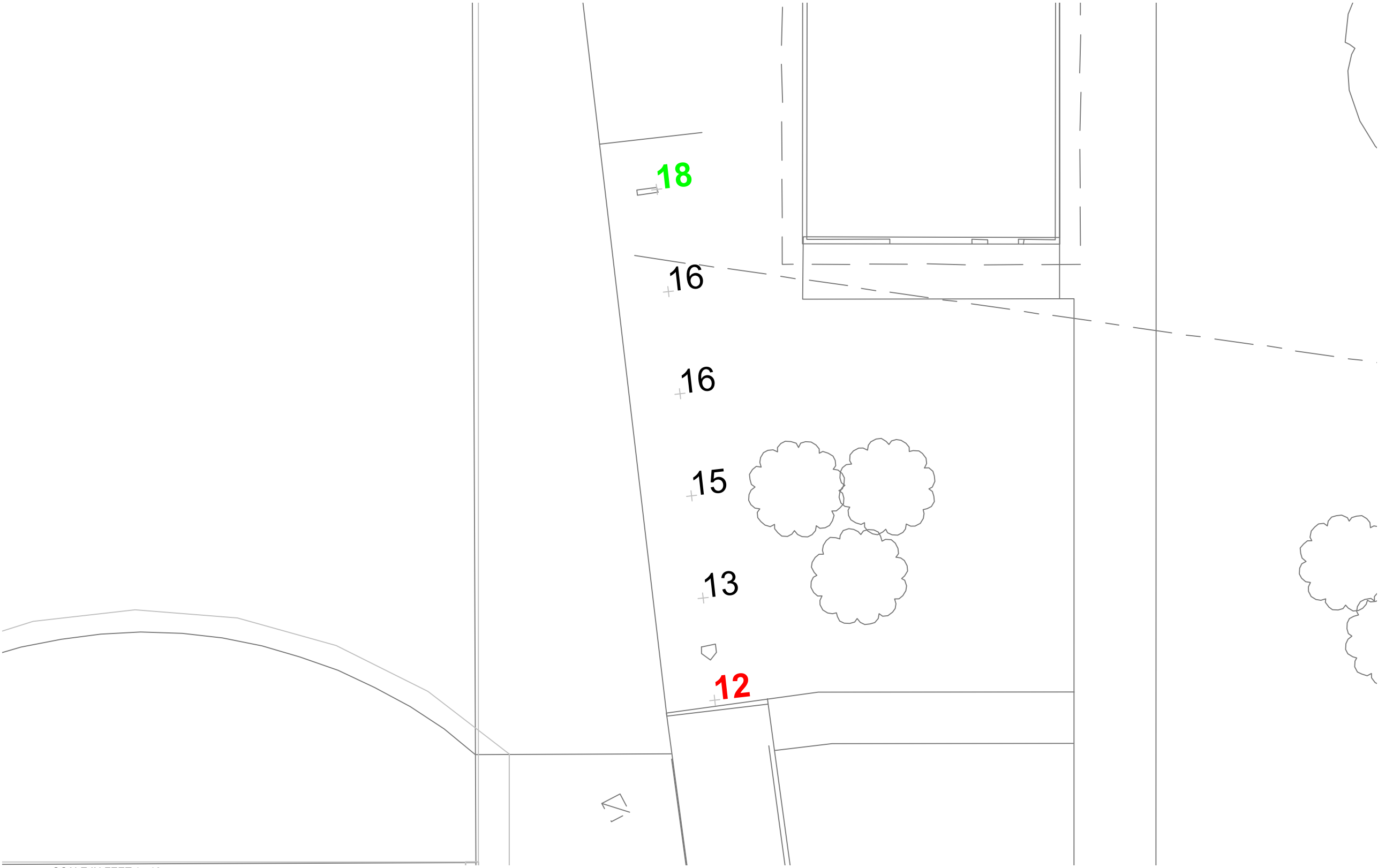
ILLUMINATION SUMMARY	
MAINTAINED HORIZONTAL FOOTCANDLES	
Entire Grid	
Scan Average:	15.09
Maximum:	18
Minimum:	12
Avg / Min:	1.21
Max / Min:	1.43
UG (adjacent pts):	1.12
CU:	0.01
No. of Points:	6
LUMINAIRE INFORMATION	
Applied Circuits:	B
No. of Luminaires:	16
Total Load:	11.74 kW

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



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



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ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN							
Pole				Luminaires			
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID
2	A3-A4	60'	-	15.5'	TLC-BT-575	1	1
				60'	TLC-LED-600	2	2
2	B3-B4	60'	-	15.5'	TLC-BT-575	1	1
				60'	TLC-LED-900	4	4
4	TOTALS					16	16
							0

Scottsbluff 23 Club Baseball And Softball
Scottsbluff,NE

GRID SUMMARY	
Name:	American 3rd Base Batting Cage
Size:	Irregular 170' / 184' / 183'
Spacing:	10.0' x 10.0'
Height:	3.0' above grade

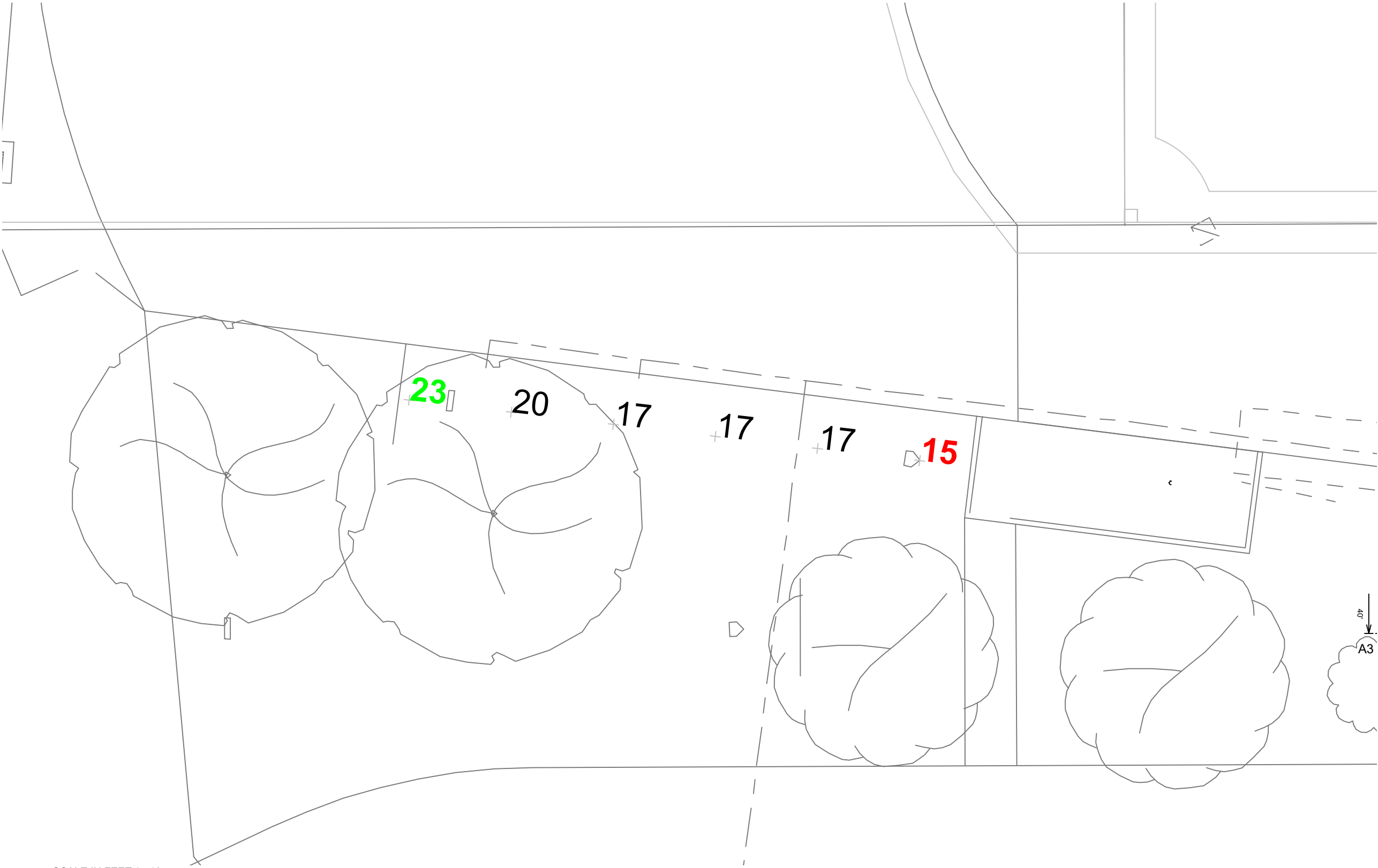
ILLUMINATION SUMMARY	
MAINTAINED HORIZONTAL FOOTCANDLES	
	Entire Grid
Scan Average:	18.10
Maximum:	23
Minimum:	15
Avg / Min:	1.20
Max / Min:	1.50
UG (adjacent pts):	1.15
CU:	0.01
No. of Points:	6
LUMINAIRE INFORMATION	
Applied Circuits:	B
No. of Luminaires:	16
Total Load:	11.74 kW

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



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



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ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN								
Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
2	A5-A6	60'	-	15.5'	TLC-BT-575	1	1	0
				60'	TLC-LED-600	2	2	0
2	B5-B6	60'	-	15.5'	TLC-BT-575	1	1	0
				60'	TLC-LED-900	4	4	0
4	TOTALS					16	16	0

Scottsbluff 23 Club Baseball And Softball
Scottsbluff,NE

GRID SUMMARY	
Name:	Pacific Field
Size:	160'/158'/160' - basepath 60'
Spacing:	20.0' x 20.0'
Height:	3.0' above grade

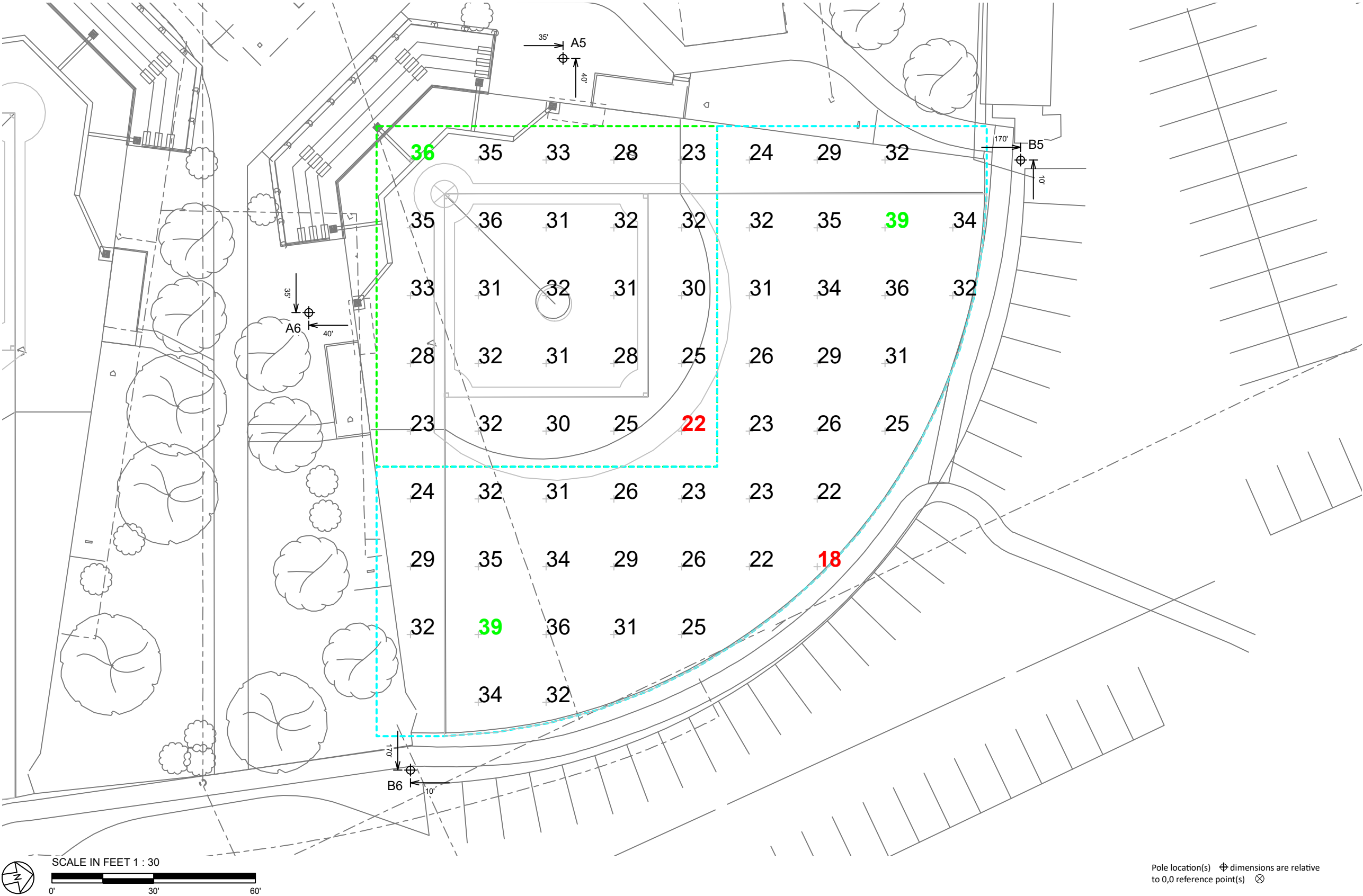
ILLUMINATION SUMMARY		
MAINTAINED HORIZONTAL FOOTCANDLES		
	Infield	Outfield
Guaranteed Average:	30	20
Scan Average:	30.15	29.40
Maximum:	36	39
Minimum:	22	18
Avg / Min:	1.35	1.64
Guaranteed Max / Min:	2.5	3
Max / Min:	1.61	2.17
UG (adjacent pts):	1.41	1.32
CU:	0.60	
No. of Points:	25	38
LUMINAIRE INFORMATION		
Applied Circuits:	C	
No. of Luminaires:	16	
Total Load:	11.74 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 ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.



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ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN								
Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
2	A5-A6	60'	-	15.5'	TLC-BT-575	1	1	0
				60'	TLC-LED-600	2	2	0
2	B5-B6	60'	-	15.5'	TLC-BT-575	1	1	0
				60'	TLC-LED-900	4	4	0
4	TOTALS					16	16	0

Scottsbluff 23 Club Baseball And Softball
Scottsbluff,NE

GRID SUMMARY	
Name:	Pacific Bleachers
Size:	160'/158'/160' - basepath 60'
Spacing:	10.0' x 10.0'
Height:	3.0' above grade

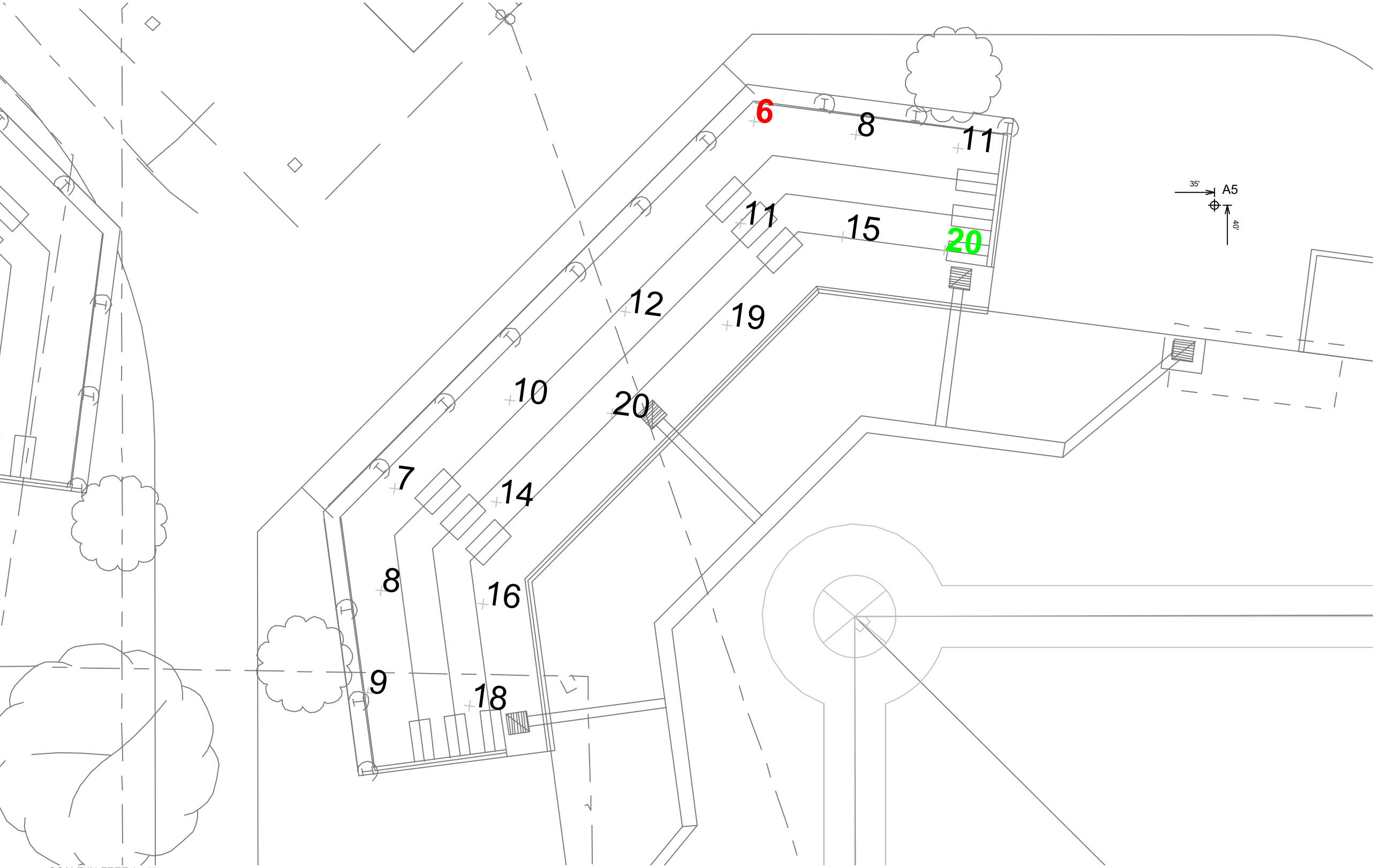
ILLUMINATION SUMMARY	
MAINTAINED HORIZONTAL FOOTCANDLES	
Entire Grid	
Scan Average:	12.64
Maximum:	20
Minimum:	6
Avg / Min:	2.25
Max / Min:	3.52
UG (adjacent pts):	2.07
CU:	0.02
No. of Points:	16
LUMINAIRE INFORMATION	
Applied Circuits:	C
No. of Luminaires:	16
Total Load:	11.74 kW

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



SCALE IN FEET 1 : 10
0' 20' 40'

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



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ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN							
Pole				Luminaires			
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID
2	A5-A6	60'	-	15.5'	TLC-BT-575	1	1
				60'	TLC-LED-600	2	2
2	B5-B6	60'	-	15.5'	TLC-BT-575	1	1
				60'	TLC-LED-900	4	4
4	TOTALS					16	16

Scottsbluff 23 Club Baseball And Softball
Scottsbluff,NE

GRID SUMMARY	
Name:	Pacific 1st Base Batting Cage
Size:	160'/158'/160' - basepath 60'
Spacing:	10.0' x 10.0'
Height:	3.0' above grade

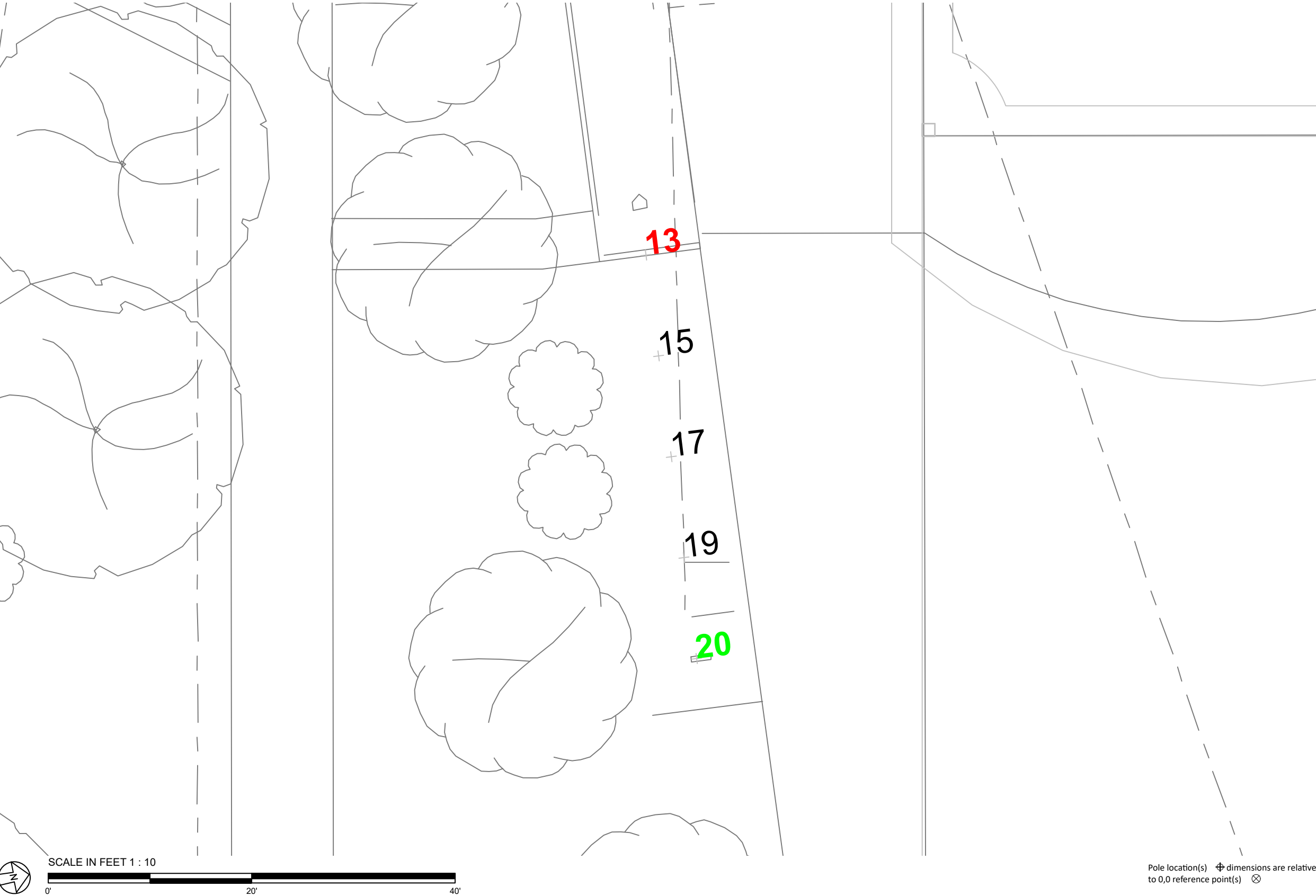
ILLUMINATION SUMMARY	
MAINTAINED HORIZONTAL FOOTCANDLES	
	Entire Grid
Scan Average:	16.78
Maximum:	20
Minimum:	13
Avg / Min:	1.27
Max / Min:	1.52
UG (adjacent pts):	1.17
CU:	0.01
No. of Points:	5
LUMINAIRE INFORMATION	
Applied Circuits:	C
No. of Luminaires:	16
Total Load:	11.74 kW

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

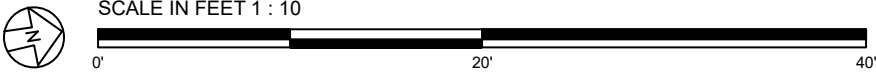
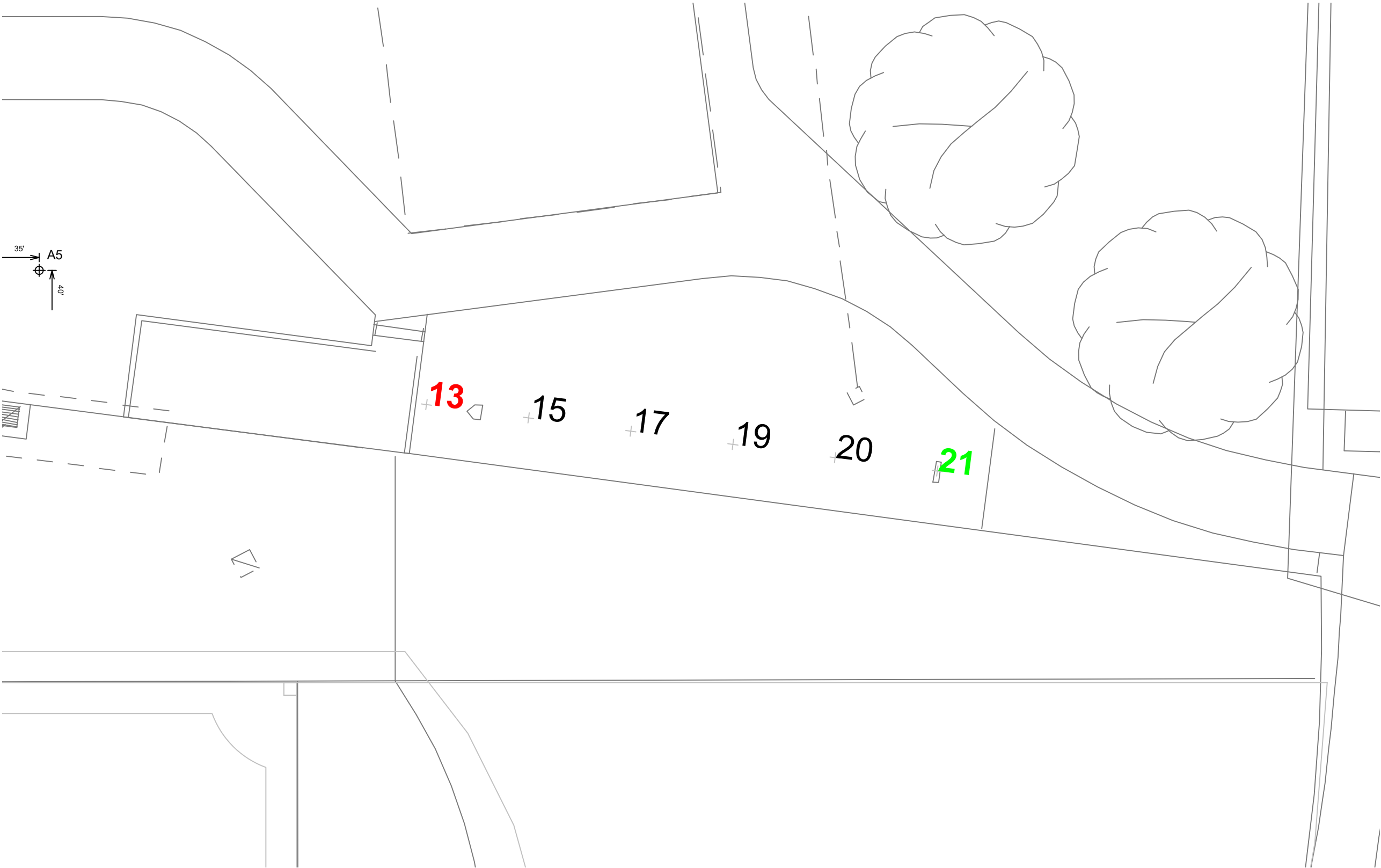


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ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN							
Pole				Luminaires			
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID
2	A5-A6	60'	-	15.5'	TLC-BT-575	1	1
				60'	TLC-LED-600	2	2
2	B5-B6	60'	-	15.5'	TLC-BT-575	1	1
				60'	TLC-LED-900	4	4
4	TOTALS					16	16
							0



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Scottsbluff 23 Club Baseball And Softball
Scottsbluff,NE

GRID SUMMARY	
Name:	Pacific 3rd Base Batting Cage
Size:	160'/158'/160' - basepath 60'
Spacing:	10.0' x 10.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY	
MAINTAINED HORIZONTAL FOOTCANDLES	
	Entire Grid
Scan Average:	17.76
Maximum:	21
Minimum:	13
Avg / Min:	1.34
Max / Min:	1.62
UG (adjacent pts):	1.17
CU:	0.01
No. of Points:	6
LUMINAIRE INFORMATION	
Applied Circuits:	C
No. of Luminaires:	16
Total Load:	11.74 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.

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ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN								
Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
2	A7-A8	60'	-	15.5'	TLC-BT-575	1	1	0
				60'	TLC-LED-900	3	3	0
2	B7-B8	70'	-	15.5'	TLC-BT-575	1	1	0
				70'	TLC-LED-1500	5	5	0
4	TOTALS					20	20	0

Scottsbluff 23 Club Baseball And Softball
Scottsbluff,NE

GRID SUMMARY	
Name:	National Field
Size:	202'/218'/202' - basepath 70'
Spacing:	20.0' x 20.0'
Height:	3.0' above grade

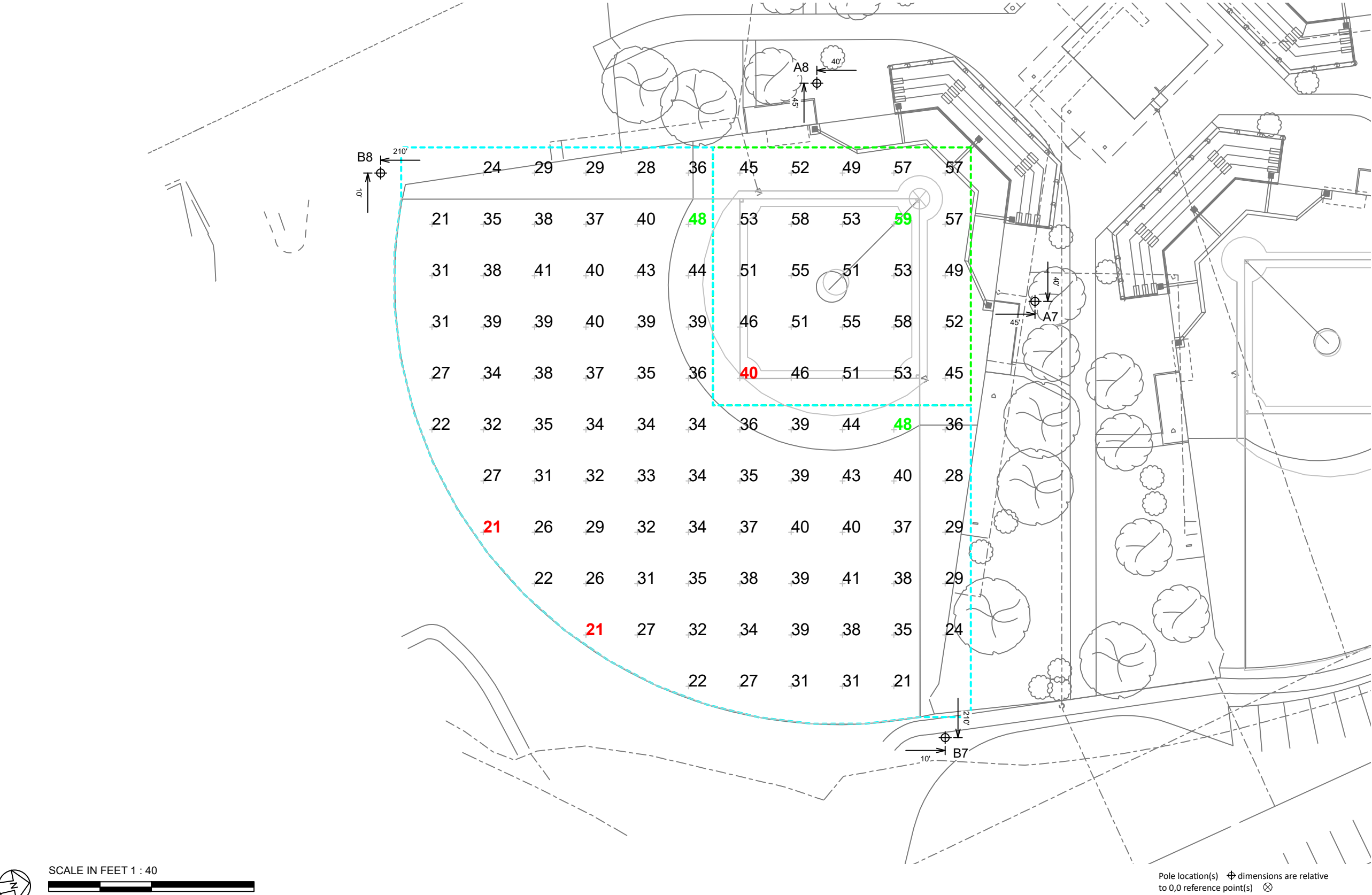
ILLUMINATION SUMMARY		
MAINTAINED HORIZONTAL FOOTCANDLES		
	Infield	Outfield
Guaranteed Average:	50	30
Scan Average:	51.73	33.93
Maximum:	59	48
Minimum:	40	21
Avg / Min:	1.28	1.63
Guaranteed Max / Min:	2	2.5
Max / Min:	1.46	2.29
UG (adjacent pts):	1.17	1.65
CU:	0.69	
No. of Points:	25	82
LUMINAIRE INFORMATION		
Applied Circuits:	D	
No. of Luminaires:	20	
Total Load:	21.94 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 ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.



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ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN							
Pole				Luminaires			
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID
2	A7-A8	60'	-	15.5'	TLC-BT-575	1	1
				60'	TLC-LED-900	3	3
2	B7-B8	70'	-	15.5'	TLC-BT-575	1	1
				70'	TLC-LED-1500	5	5
4	TOTALS					20	20
							0

Scottsbluff 23 Club Baseball And Softball
Scottsbluff,NE

GRID SUMMARY	
Name:	National Bleachers
Size:	202'/218'/202' - basepath 70'
Spacing:	10.0' x 10.0'
Height:	3.0' above grade

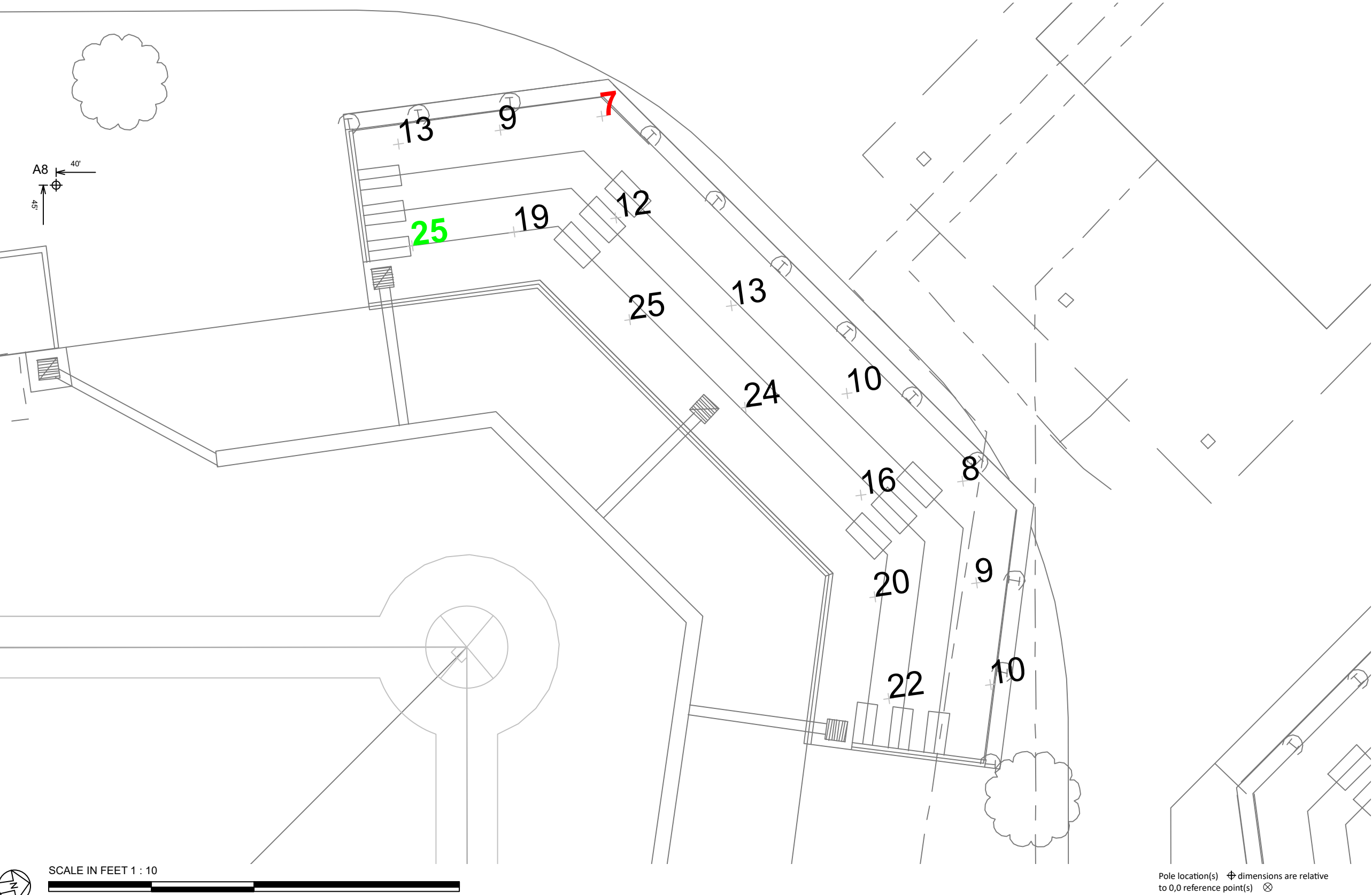
ILLUMINATION SUMMARY	
MAINTAINED HORIZONTAL FOOTCANDLES	
	Entire Grid
Scan Average:	15.12
Maximum:	25
Minimum:	7
Avg / Min:	2.20
Max / Min:	3.63
UG (adjacent pts):	2.44
CU:	0.01
No. of Points:	16
LUMINAIRE INFORMATION	
Applied Circuits:	D
No. of Luminaires:	20
Total Load:	21.94 kW

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



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ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN							
Pole				Luminaires			
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID
2	A7-A8	60'	-	15.5'	TLC-BT-575	1	1
				60'	TLC-LED-900	3	3
2	B7-B8	70'	-	15.5'	TLC-BT-575	1	1
				70'	TLC-LED-1500	5	5
4	TOTALS					20	20

Scottsbluff 23 Club Baseball And Softball
Scottsbluff,NE

GRID SUMMARY	
Name:	National 3rd Base Batting Cage
Size:	202'/218'/202' - basepath 70'
Spacing:	10.0' x 10.0'
Height:	3.0' above grade

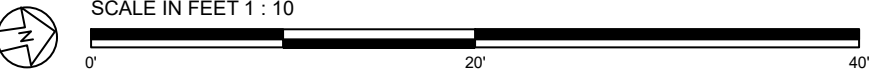
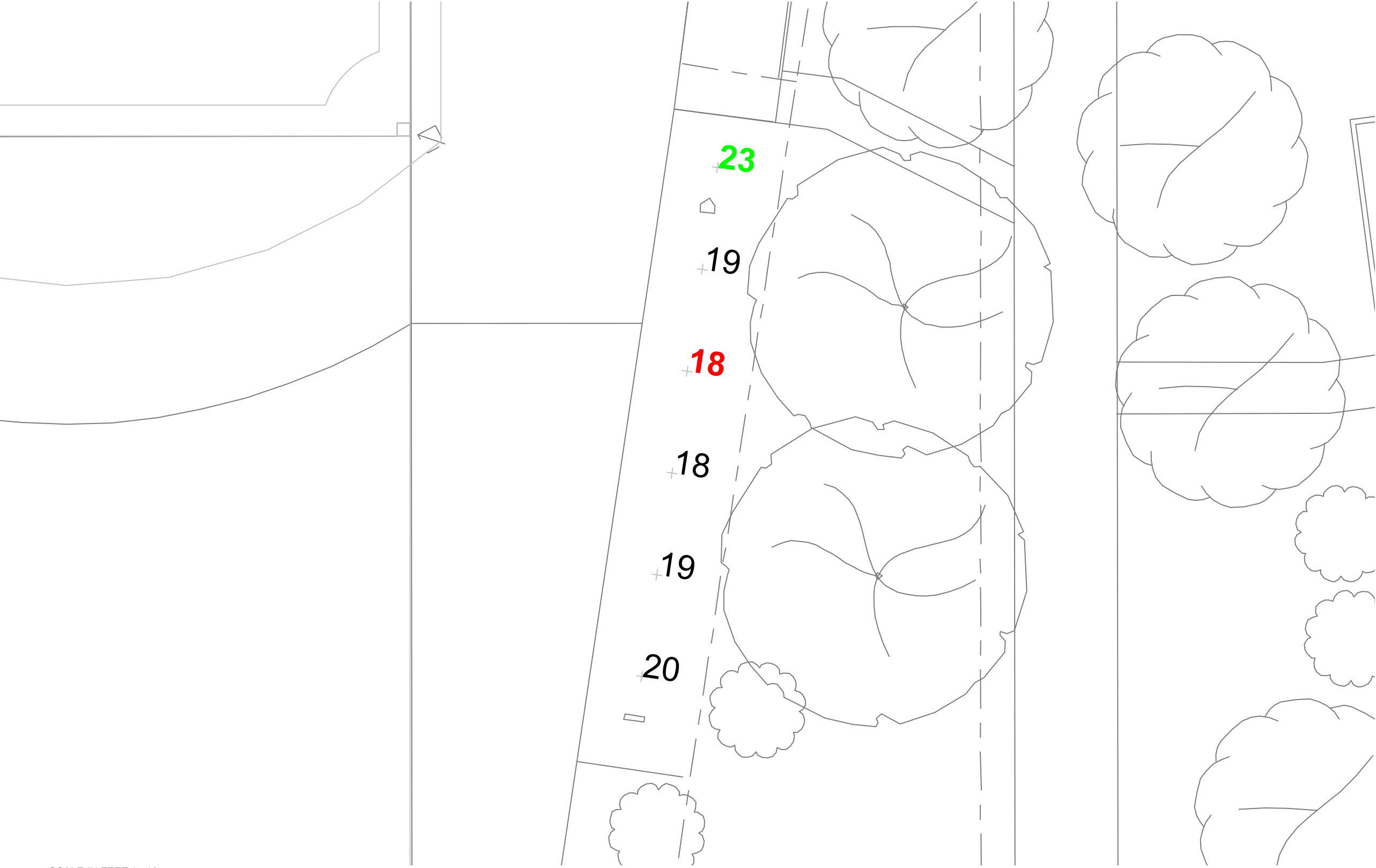
ILLUMINATION SUMMARY	
MAINTAINED HORIZONTAL FOOTCANDLES	
	Entire Grid
Scan Average:	19.51
Maximum:	23
Minimum:	18
Avg / Min:	1.11
Max / Min:	1.30
UG (adjacent pts):	1.19
CU:	0.00
No. of Points:	6
LUMINAIRE INFORMATION	
Applied Circuits:	D
No. of Luminaires:	20
Total Load:	21.94 kW

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



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



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ILLUMINATION SUMMARY

EQUIPMENT LAYOUT

INCLUDES:

- American Field
- Babe Ruth
- National Field
- Pacific Field

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

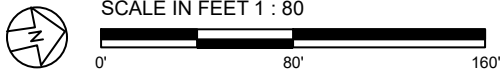
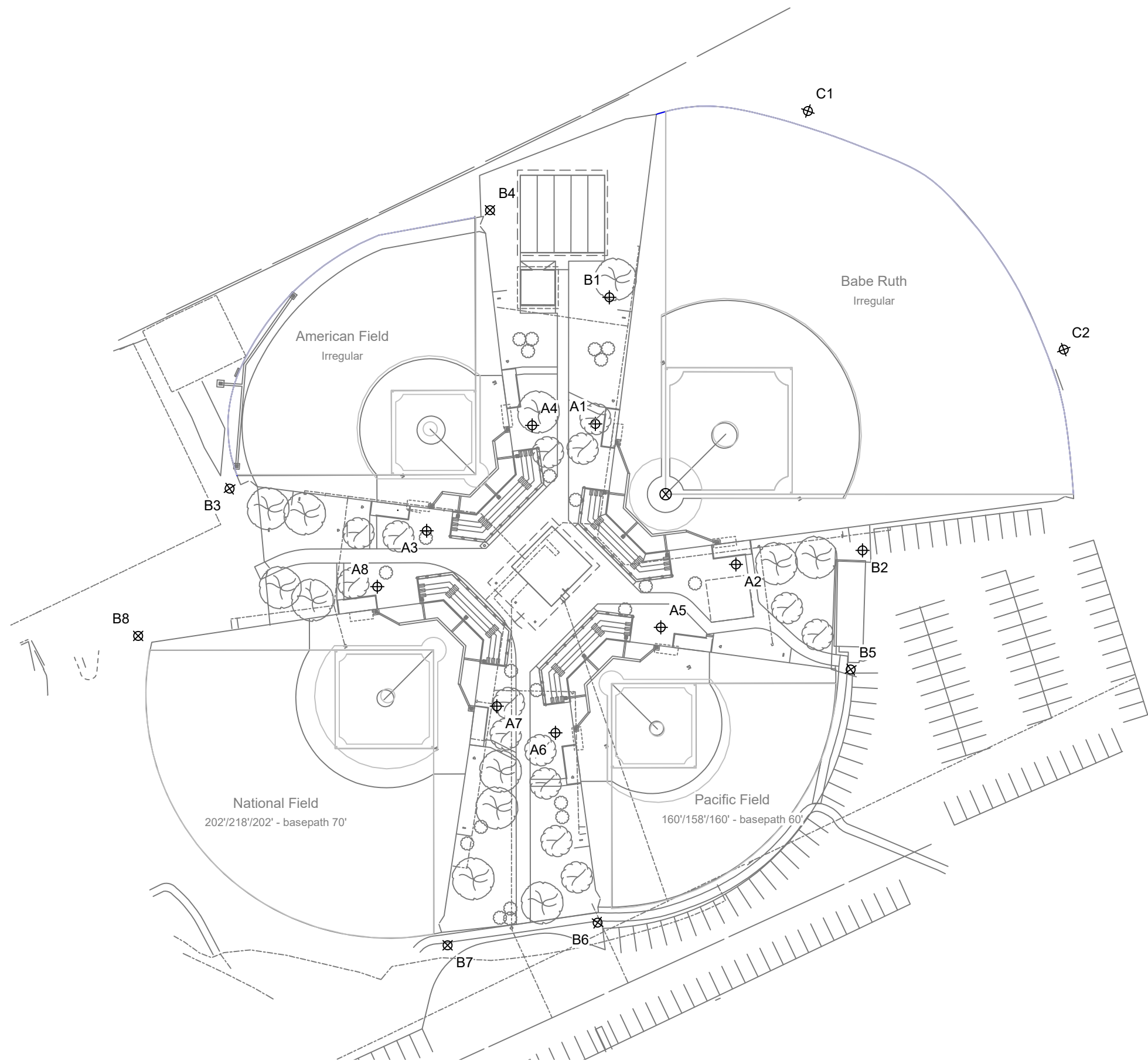
Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires		
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE
2	A1-A2	70'	-	70'	TLC-LED-1200	3
4	A3-A6	60'	-	15.5'	TLC-BT-575	1
				60'	TLC-LED-600	2
2	A7-A8	60'	-	15.5'	TLC-BT-575	1
				60'	TLC-LED-900	3
2	B1-B2	70'	-	15.5'	TLC-BT-575	1
				70'	TLC-LED-1500	6
4	B3-B6	60'	-	15.5'	TLC-BT-575	1
				60'	TLC-LED-900	4
2	B7-B8	70'	-	15.5'	TLC-BT-575	1
				70'	TLC-LED-1500	5
1	C1	60'	-	15.5'	TLC-BT-575	2
				60'	TLC-LED-1200	4
1	C2	70'	-	15.5'	TLC-BT-575	2
				70'	TLC-LED-1200	4
18	TOTALS					84

SINGLE LUMINAIRE AMPERAGE DRAW CHART

Ballast Specifications (.90 min power factor)	Line Amperage Per Luminaire (max draw)						
	208 (60)	220 (60)	240 (60)	277 (60)	347 (60)	380 (60)	480 (60)
Single Phase Voltage							
TLC-LED-900	5.3	5.0	4.6	4.0	3.2	2.9	2.3
TLC-BT-575	3.4	3.2	2.9	2.5	2.0	1.8	1.5
TLC-LED-1200	7.0	6.6	6.1	5.2	4.2	4.0	3.0
TLC-LED-1500	8.5	8.1	7.4	6.4	5.1	4.7	3.7
TLC-LED-600	3.4	3.2	3.0	2.6	2.0	1.9	1.5



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



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EQUIPMENT LAYOUT