

ATTACHMENT D

LIGHT ANALYSIS

Roseville Soccer Complex

Roseville,CA

Lighting System

Pole / Fixture Summary						
Pole ID	Pole Height	Mtg Height	Fixture Qty	Luminaire Type	Load	Circuit
S1	70'	70'	1	TLC-LED-1200	1.17 kW	A
		70'	2	TLC-LED-1500	2.86 kW	A
S2, S29	70'	70'	4	TLC-LED-1500	5.72 kW	A
S3	70'	70'	1	TLC-LED-1200	1.17 kW	B
		70'	1	TLC-LED-1200	1.17 kW	A
		70'	2	TLC-LED-1500	2.86 kW	A
		70'	2	TLC-LED-1500	2.86 kW	B
S4, S27	70'	70'	4	TLC-LED-1500	5.72 kW	B
S5	70'	70'	1	TLC-LED-1200	1.17 kW	C
		70'	1	TLC-LED-1200	1.17 kW	B
		70'	2	TLC-LED-1500	2.86 kW	B
		70'	2	TLC-LED-1500	2.86 kW	C
S6	70'	70'	4	TLC-LED-1500	5.72 kW	C
S7	70'	70'	1	TLC-LED-1200	1.17 kW	D
		70'	1	TLC-LED-1200	1.17 kW	C
		70'	2	TLC-LED-1500	2.86 kW	C
		70'	2	TLC-LED-1500	2.86 kW	D
S8	70'	70'	4	TLC-LED-1500	5.72 kW	D
S9	70'	70'	1	TLC-LED-1200	1.17 kW	E
		70'	1	TLC-LED-1200	1.17 kW	D
		70'	2	TLC-LED-1500	2.86 kW	D
		70'	2	TLC-LED-1500	2.86 kW	E
S10	70'	70'	4	TLC-LED-1500	5.72 kW	E
S11	70'	70'	1	TLC-LED-1200	1.17 kW	F
		70'	1	TLC-LED-1200	1.17 kW	E
		70'	2	TLC-LED-1500	2.86 kW	E
		70'	2	TLC-LED-1500	2.86 kW	F
S12, S19	70'	70'	4	TLC-LED-1500	5.72 kW	F
S13	70'	70'	1	TLC-LED-1200	1.17 kW	G
		70'	1	TLC-LED-1200	1.17 kW	F
		70'	2	TLC-LED-1500	2.86 kW	F
		70'	2	TLC-LED-1500	2.86 kW	G
S14, S17	70'	70'	4	TLC-LED-1500	5.72 kW	G
S15	70'	70'	1	TLC-LED-1200	1.17 kW	G
		70'	2	TLC-LED-1500	2.86 kW	G
S16	70'	70'	3	TLC-LED-1500	4.29 kW	G
S18	70'	70'	3	TLC-LED-1500	4.29 kW	G
		70'	3	TLC-LED-1500	4.29 kW	F
S20	70'	70'	3	TLC-LED-1500	4.29 kW	F
		70'	3	TLC-LED-1500	4.29 kW	E
		70'	3	TLC-LED-1500	4.29 kW	J
S21	70'	70'	4	TLC-LED-1500	5.72 kW	E
		70'	4	TLC-LED-1500	5.72 kW	J
S22	70'	70'	3	TLC-LED-1500	4.29 kW	E
		70'	3	TLC-LED-1500	4.29 kW	D
		70'	3	TLC-LED-1500	4.29 kW	I
		70'	3	TLC-LED-1500	4.29 kW	J
S23	70'	70'	2	TLC-LED-1200	2.34 kW	I
		70'	4	TLC-LED-1500	5.72 kW	D
		70'	2	TLC-LED-1500	2.86 kW	I
S24	70'	70'	3	TLC-LED-1500	4.29 kW	D
		70'	3	TLC-LED-1500	4.29 kW	C
		70'	3	TLC-LED-1500	4.29 kW	H
		70'	3	TLC-LED-1500	4.29 kW	I
S25	70'	70'	4	TLC-LED-1500	5.72 kW	C

From Hometown to Professional



We Make It Happen®

Roseville Soccer Complex

Roseville,CA

Pole / Fixture Summary						
Pole ID	Pole Height	Mtg Height	Fixture Qty	Luminaire Type	Load	Circuit
S26	70'	70'	4	TLC-LED-1500	5.72 kW	H
		70'	3	TLC-LED-1500	4.29 kW	C
		70'	3	TLC-LED-1500	4.29 kW	B
		70'	3	TLC-LED-1500	4.29 kW	H
S28	70'	70'	3	TLC-LED-1500	4.29 kW	B
		70'	3	TLC-LED-1500	4.29 kW	A
S30	70'	70'	3	TLC-LED-1500	4.29 kW	A
S31	70'	70'	2	TLC-LED-1200	2.34 kW	H
S32	70'	70'	2	TLC-LED-600	1.16 kW	H
		70'	2	TLC-LED-1200	2.34 kW	H
		70'	2	TLC-LED-600	1.16 kW	H
		70'	4	TLC-LED-900	3.56 kW	H
S33	70'	70'	2	TLC-LED-1200	2.34 kW	I
		70'	2	TLC-LED-1200	2.34 kW	H
		70'	2	TLC-LED-600	1.16 kW	H
		70'	2	TLC-LED-900	1.78 kW	I
S34	70'	70'	2	TLC-LED-1200	2.34 kW	I
		70'	6	TLC-LED-900	5.34 kW	I
S35	70'	70'	2	TLC-LED-1200	2.34 kW	I
		70'	2	TLC-LED-1500	2.86 kW	J
		70'	2	TLC-LED-900	1.78 kW	I
		70'	1	TLC-LED-900	0.89 kW	J
S36	70'	70'	4	TLC-LED-1500	5.72 kW	J
		70'	2	TLC-LED-900	1.78 kW	J
S37	70'	70'	2	TLC-LED-1500	2.86 kW	J
		70'	1	TLC-LED-900	0.89 kW	J
37			214		283.92 kW	

From Hometown to Professional



Roseville Soccer Complex

Roseville,CA

Circuit Summary			
Circuit	Description	Load	Fixture Qty
A	Soccer 1	28.08 kW	20
B	Soccer 2	28.08 kW	20
C	Soccer 3	28.08 kW	20
D	Soccer 4	28.08 kW	20
E	Soccer 5	28.08 kW	20
F	Soccer 6	28.08 kW	20
G	Soccer 7	28.08 kW	20
H	Soccer 8	28.36 kW	26
I	Soccer 9	29.7 kW	26
J	Soccer 10	29.3 kW	22

Fixture Type Summary							
Type	Source	Wattage	Lumens	L90	L80	L70	Quantity
TLC-LED-1500	LED 5700K - 75 CRI	1430W	160,000	>120,000	>120,000	>120,000	162
TLC-LED-1200	LED 5700K - 75 CRI	1170W	136,000	>120,000	>120,000	>120,000	28
TLC-LED-600	LED 5700K - 75 CRI	580W	65,600	>120,000	>120,000	>120,000	6
TLC-LED-900	LED 5700K - 75 CRI	890W	89,600	>120,000	>120,000	>120,000	18

Light Level Summary

Calculation Grid Summary								
Grid Name	Calculation Metric	Illumination					Circuits	Fixture Qty
		Ave	Min	Max	Max/Min	Ave/Min		
150ft IDA Spill	Horizontal	0.02	0	0.08	0.00		A,B,C,D,E, F,G,H,I,J	214
150ft IDA Spill	Max Candela (by Fixture)	1557	0	16894	0.00		A,B,C,D,E, F,G,H,I,J	214
150ft IDA Spill	Max Vertical Illuminance Metric	0.04	0	0.21	0.00		A,B,C,D,E, F,G,H,I,J	214
East Road Spill - Across Road	Horizontal	0.01	0	0.02	44.08		A,B,C,D,E, F,G,H,I,J	214
East Road Spill - Across Road	Max Candela (by Fixture)	1198	156	2935	18.87	7.70	A,B,C,D,E, F,G,H,I,J	214
East Road Spill - Across Road	Max Vertical Illuminance Metric	0.03	0	0.07	32.02		A,B,C,D,E, F,G,H,I,J	214
East Road Spill	Horizontal	0.12	0	0.27	133.53		A,B,C,D,E, F,G,H,I,J	214
East Road Spill	Max Candela (by Fixture)	5167	441	10199	23.14	11.72	A,B,C,D,E, F,G,H,I,J	214
East Road Spill	Max Vertical Illuminance Metric	0.23	0.01	0.51	67.81	22.60	A,B,C,D,E, F,G,H,I,J	214
Soccer 10	Horizontal Illuminance	31.1	27	35	1.33	1.15	A,J	42
Soccer 1	Horizontal Illuminance	31.7	26	36	1.39	1.22	A	20
Soccer 2	Horizontal Illuminance	32.1	25	37	1.49	1.28	B	20
Soccer 3	Horizontal Illuminance	31.9	24	39	1.66	1.33	C	20
Soccer 4	Horizontal Illuminance	32.4	25	38	1.51	1.30	D	20
Soccer 5	Horizontal Illuminance	32.1	26	36	1.41	1.24	E	20
Soccer 6	Horizontal Illuminance	31.8	25	37	1.46	1.27	F	20
Soccer 7	Horizontal Illuminance	31.8	26	37	1.42	1.22	B,G	40
Soccer 8	Horizontal Illuminance	30.9	26	36	1.42	1.19	A,H	46
Soccer 9	Horizontal Illuminance	31.5	25	38	1.50	1.26	C,I	46
West Road Spill - Across Road	Horizontal	0	0	0	0.00		A,B,C,D,E, F,G,H,I,J	214
West Road Spill - Across Road	Max Candela (by Fixture)	7.37	0	165	0.00		A,B,C,D,E, F,G,H,I,J	214
West Road Spill - Across Road	Max Vertical Illuminance Metric	0	0	0	0.00		A,B,C,D,E, F,G,H,I,J	214
West Road Spill	Horizontal	0.11	0	1.09	0.00		A,B,C,D,E, F,G,H,I,J	214
West Road Spill	Max Candela (by Fixture)	1106	0	5712	0.00		A,B,C,D,E, F,G,H,I,J	214
West Road Spill	Max Vertical Illuminance Metric	0	0	1.36	0.00		A,B,C,D,E, F,G,H,I,J	214

ENGINEERED DESIGN By: Bryce Miles, File #2153426, 05-May-224

From Hometown to Professional



We Make It Happen®

Not to be reproduced in whole or part without the written consent of Musco Sports Lighting, LLC. ©1981, 2022 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
1	S1	70'	-	70'	TLC-LED-1200	1	1	0
				70'	TLC-LED-1500	2	2	0
2	S2, S29	70'	-	70'	TLC-LED-1500	4	4	0
1	S3	70'	-	70'	TLC-LED-1200	2	1	1
				70'	TLC-LED-1500	4	2	2
1	S28	70'	-	70'	TLC-LED-1500	6	3	3
1	S30	70'	-	70'	TLC-LED-1500	3	3	0
6	TOTALS					26	20	6

Roseville Soccer Complex

Roseville, CA

GRID SUMMARY

Name: Soccer 1
Size: 360' x 210'
Spacing: 30.0' x 30.0'
Height: 3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

Entire Grid

Guaranteed Average: 30
Scan Average: 31.70
Maximum: 36
Minimum: 26
Avg / Min: 1.24
Guaranteed Max / Min: 2.5
Max / Min: 1.39
UG (adjacent pts): 1.18
CU: 0.75
No. of Points: 84

LUMINAIRE INFORMATION

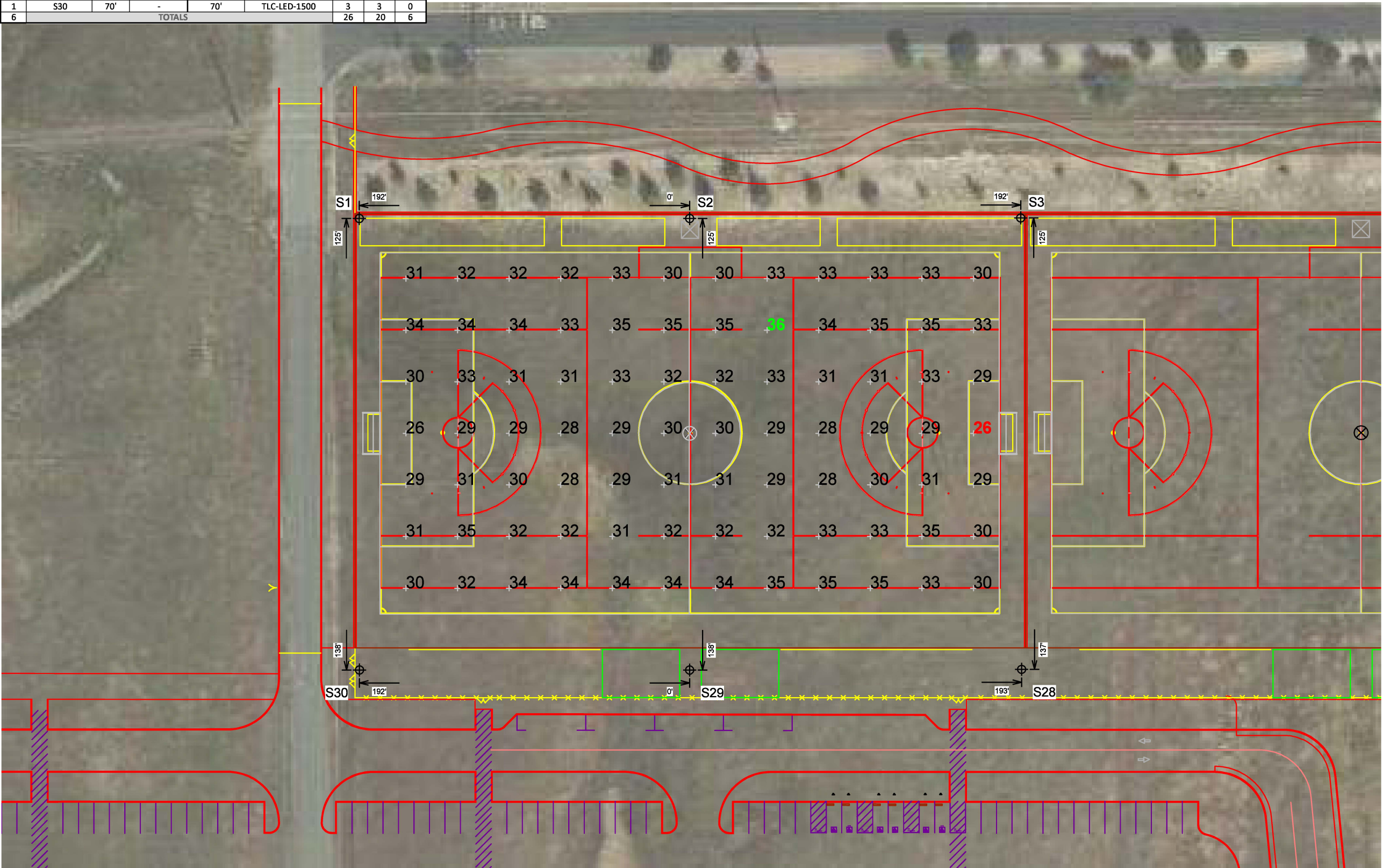
Applied Circuits: A
No. of Luminaires: 20
Total Load: 28.08 kW

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) ⊗



We Make It Happen®

Not to be reproduced in whole or part without the written consent of Musco Sports Lighting, LLC. ©1981, 2022 Musco Sports Lighting, LLC.

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	S3, S5	70'	-	70'	TLC-LED-1200	2	1	1
				70'	TLC-LED-1500	4	2	2
2	S4, S27	70'	-	70'	TLC-LED-1500	4	4	0
1	S26	70'	-	70'	TLC-LED-1500	6/3*	3	6
1	S28	70'	-	70'	TLC-LED-1500	6	3	3
6	TOTALS					35	20	15

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



Roseville Soccer Complex

Roseville, CA

GRID SUMMARY	
Name:	Soccer 2
Size:	360' x 210'
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY	
MAINTAINED HORIZONTAL FOOTCANDLES	
	Entire Grid
Guaranteed Average:	30
Scan Average:	32.11
Maximum:	37
Minimum:	25
Avg / Min:	1.29
Guaranteed Max / Min:	2.5
Max / Min:	1.49
UG (adjacent pts):	1.40
CU:	0.77
No. of Points:	84
LUMINAIRE INFORMATION	
Applied Circuits:	B
No. of Luminaires:	20
Total Load:	28.08 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.

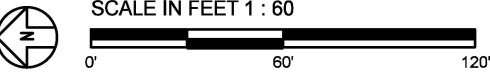
Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.



We Make It Happen®

Not to be reproduced in whole or part without the written consent of Musco Sports Lighting, LLC. ©1981, 2022 Musco Sports Lighting, LLC.

ILLUMINATION SUMMARY



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

EQUIPMENT LIST FOR AREAS SHOWN									
Pole				Luminaires					
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS	
2	S5, S7	70'	-	70'	TLC-LED-1200	2	1	1	
				70'	TLC-LED-1500	4	2	2	
1	S6	70'	-	70'	TLC-LED-1500	4	4	0	
1	S24	70'	-	70'	TLC-LED-1500	6/6*	3	9	
1	S25	70'	-	70'	TLC-LED-1500	4/4*	4	4	
1	S26	70'	-	70'	TLC-LED-1500	6/3*	3	6	
6	TOTALS					45	20	25	

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



Roseville Soccer Complex

Roseville, CA

GRID SUMMARY	
Name:	Soccer 3
Size:	360' x 210'
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY	
MAINTAINED HORIZONTAL FOOTCANDLES	
Entire Grid	
Guaranteed Average:	30
Scan Average:	31.92
Maximum:	39
Minimum:	24
Avg / Min:	1.35
Guaranteed Max / Min:	2.5
Max / Min:	1.66
UG (adjacent pts):	1.32
CU:	0.76
No. of Points:	84
LUMINAIRE INFORMATION	
Applied Circuits:	C
No. of Luminaires:	20
Total Load:	28.08 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.

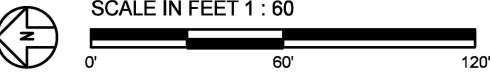
Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.



We Make It Happen®

Not to be reproduced in whole or part without the written consent of Musco Sports Lighting, LLC. ©1981, 2022 Musco Sports Lighting, LLC.

ILLUMINATION SUMMARY



ENGINEERED DESIGN By: Bryce Miles · File #215342C · 05-May-22

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

EQUIPMENT LIST FOR AREAS SHOWN									
Pole				Luminaires					
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS	
2	S7, S9	70'	-	70'	TLC-LED-1200	2	1	1	
				70'	TLC-LED-1500	4	2	2	
1	S8	70'	-	70'	TLC-LED-1500	4	4	0	
2	S22, S24	70'	-	70'	TLC-LED-1500	6/6*	3	9	
1	S23	70'	-	70'	TLC-LED-1200	2*	0	2	
				70'	TLC-LED-1500	4/2*	4	2	
6	TOTALS					48	20	28	

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



Roseville Soccer Complex

Roseville, CA

GRID SUMMARY	
Name:	Soccer 4
Size:	360' x 210'
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY	
MAINTAINED HORIZONTAL FOOTCANDLES	
Entire Grid	
Guaranteed Average:	30
Scan Average:	32.40
Maximum:	38
Minimum:	25
Avg / Min:	1.29
Guaranteed Max / Min:	2.5
Max / Min:	1.51
UG (adjacent pts):	1.18
CU:	0.78
No. of Points:	84
LUMINAIRE INFORMATION	
Applied Circuits:	D
No. of Luminaires:	20
Total Load:	28.08 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.

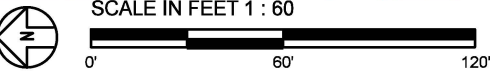
Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.



We Make It Happen®

Not to be reproduced in whole or part without the written consent of Musco Sports Lighting, LLC. ©1981, 2022 Musco Sports Lighting, LLC.

ILLUMINATION SUMMARY



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

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
2	S9, S11	70'	-	70'	TLC-LED-1200	2	1	1
				70'	TLC-LED-1500	4	2	2
1	S10	70'	-	70'	TLC-LED-1500	4	4	0
1	S20	70'	-	70'	TLC-LED-1500	6/3*	3	6
1	S21	70'	-	70'	TLC-LED-1500	4/4*	4	4
1	S22	70'	-	70'	TLC-LED-1500	6/6*	3	9
6	TOTALS					45	20	25

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



Roseville Soccer Complex

Roseville, CA

GRID SUMMARY	
Name:	Soccer 5
Size:	360' x 210'
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY	
MAINTAINED HORIZONTAL FOOTCANDLES	
	Entire Grid
Guaranteed Average:	30
Scan Average:	32.13
Maximum:	36
Minimum:	26
Avg / Min:	1.24
Guaranteed Max / Min:	2.5
Max / Min:	1.41
UG (adjacent pts):	1.29
CU:	0.77
No. of Points:	84
LUMINAIRE INFORMATION	
Applied Circuits:	E
No. of Luminaires:	20
Total Load:	28.08 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.

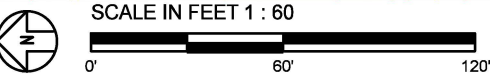
Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.



We Make It Happen®

Not to be reproduced in whole or part without the written consent of Musco Sports Lighting, LLC. ©1981, 2022 Musco Sports Lighting, LLC.

ILLUMINATION SUMMARY

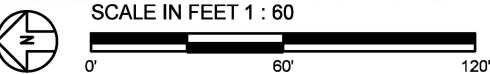
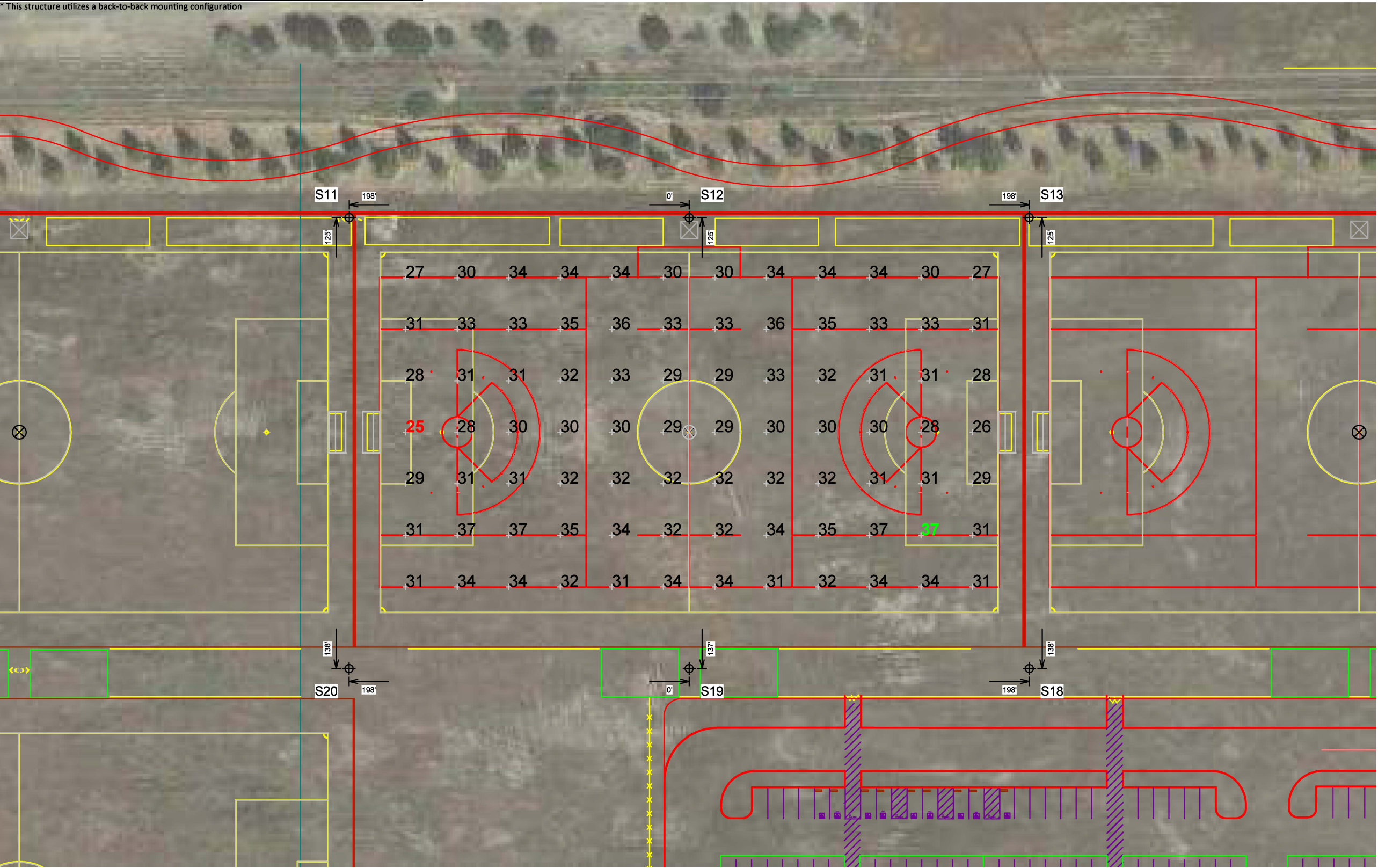


Pole location(s) ⚓ dimensions are relative to 0,0 reference point(s) ⊗

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
2	S11, S13	70'	-	70'	TLC-LED-1200	2	1	1
				70'	TLC-LED-1500	4	2	2
2	S12, S19	70'	-	70'	TLC-LED-1500	4	4	0
1	S18	70'	-	70'	TLC-LED-1500	6	3	3
1	S20	70'	-	70'	TLC-LED-1500	6/3*	3	6
6	TOTALS					35	20	15

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



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

Roseville Soccer Complex

Roseville, CA

GRID SUMMARY

Name:	Soccer 6
Size:	360' x 210'
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES	
Entire Grid	
Guaranteed Average:	30
Scan Average:	31.83
Maximum:	37
Minimum:	25
Avg / Min:	1.25
Guaranteed Max / Min:	2.5
Max / Min:	1.46
UG (adjacent pts):	1.21
CU:	0.76
No. of Points:	84

LUMINAIRE INFORMATION

Applied Circuits:	F
No. of Luminaires:	20
Total Load:	28.08 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.



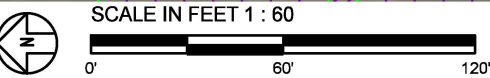
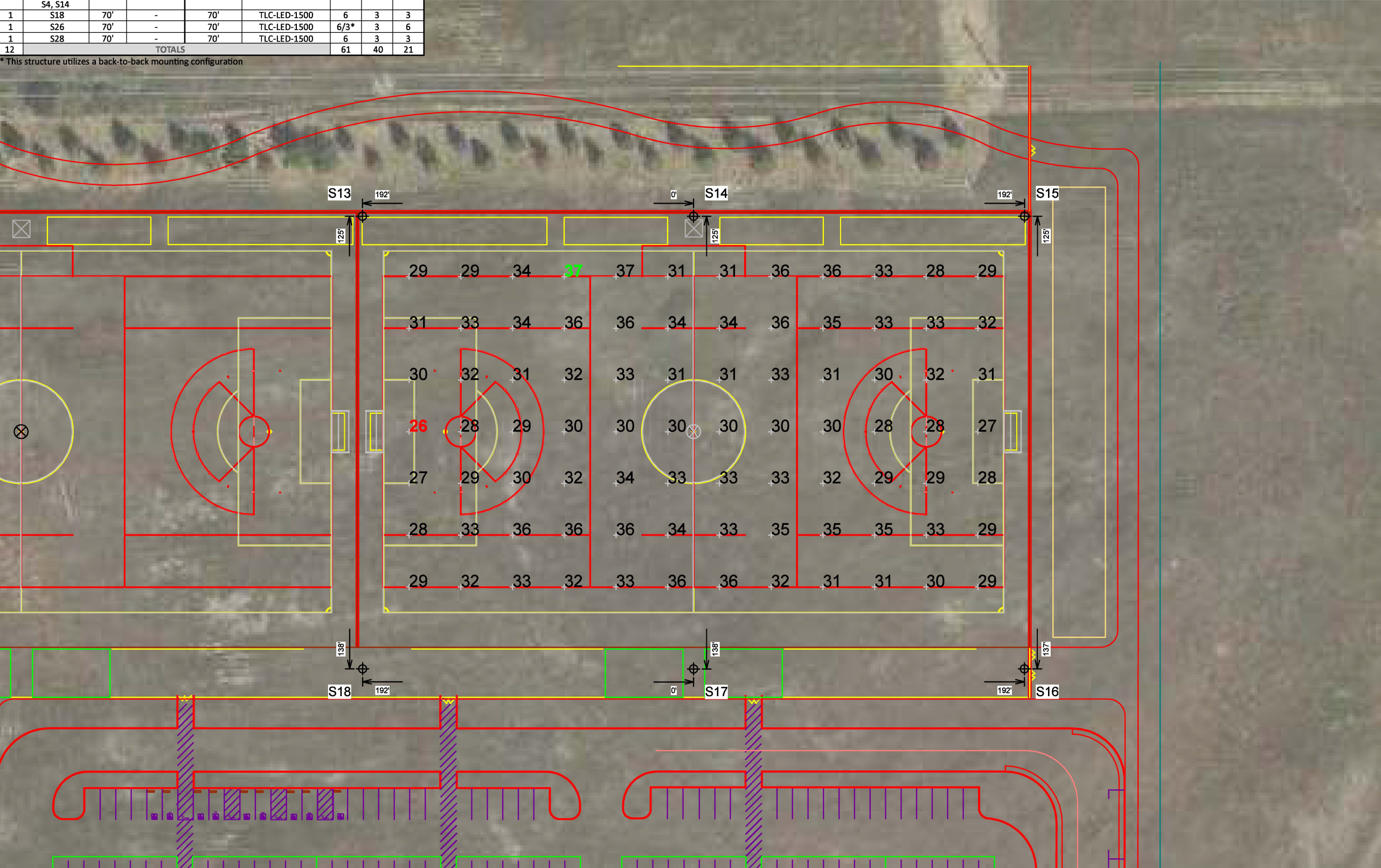
We Make It Happen®

Not to be reproduced in whole or part without the written consent of Musco Sports Lighting, LLC. ©1981, 2022 Musco Sports Lighting, LLC.

ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN								
Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
3	S3, S5, S13	70'	-	70'	TLC-LED-1200	2	1	1
				70'	TLC-LED-1500	4	2	2
1	S15	70'	-	70'	TLC-LED-1200	1	1	0
				70'	TLC-LED-1500	2	2	0
1	S16	70'	-	70'	TLC-LED-1500	3	3	0
4	S17, S27 S4, S14	70'	-	70'	TLC-LED-1500	4	4	0
				70'	TLC-LED-1500	6	3	3
1	S26	70'	-	70'	TLC-LED-1500	6/3*	3	6
1	S28	70'	-	70'	TLC-LED-1500	6	3	3
12	TOTALS					61	40	21

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



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

Roseville Soccer Complex

Roseville, CA

GRID SUMMARY	
Name:	Soccer 7
Size:	360' x 210'
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY	
MAINTAINED HORIZONTAL FOOTCANDLES	
Entire Grid	
Guaranteed Average:	30
Scan Average:	31.79
Maximum:	37
Minimum:	26
Avg / Min:	1.22
Guaranteed Max / Min:	2.5
Max / Min:	1.42
UG (adjacent pts):	1.21
CU:	0.38
No. of Points:	84
LUMINAIRE INFORMATION	
Applied Circuits:	B, G
No. of Luminaires:	40
Total Load:	56.16 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.



We Make It Happen®

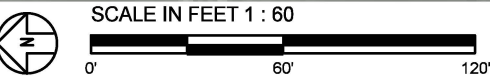
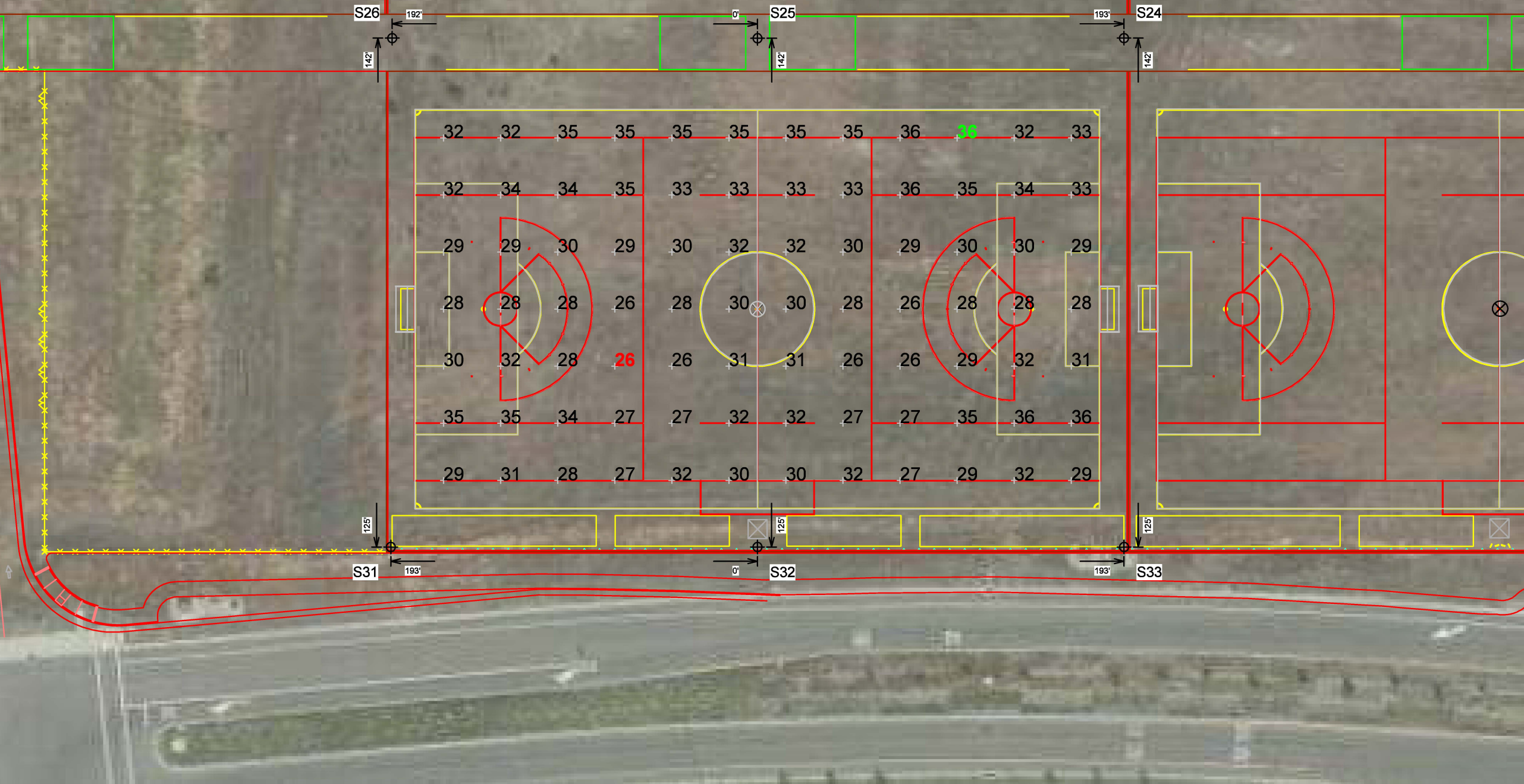
Not to be reproduced in whole or part without the written consent of Musco Sports Lighting, LLC. ©1981, 2022 Musco Sports Lighting, LLC.

ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
1	S1	70'	-	70'	TLC-LED-1200	1	1	0
				70'	TLC-LED-1500	2	2	0
2	S2, S29	70'	-	70'	TLC-LED-1500	4	4	0
1	S3	70'	-	70'	TLC-LED-1200	2	1	1
				70'	TLC-LED-1500	4	2	2
1	S24	70'	-	70'	TLC-LED-1500	6/6*	3	9
1	S25	70'	-	70'	TLC-LED-1500	4/4*	4	4
1	S26	70'	-	70'	TLC-LED-1500	6/3*	3	6
1	S28	70'	-	70'	TLC-LED-1500	6	3	3
1	S30	70'	-	70'	TLC-LED-1500	3	3	0
1	S31	70'	-	70'	TLC-LED-1200	2	2	0
				70'	TLC-LED-600	2	2	0
1	S32	70'	-	70'	TLC-LED-600	2	2	0
				70'	TLC-LED-900	4	4	0
				70'	TLC-LED-1200	2	2	0
1	S33	70'	-	70'	TLC-LED-600	2	2	0
				70'	TLC-LED-900	2	0	2
				70'	TLC-LED-1200	4	2	2
12	TOTALS					75	46	29

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



ENGINEERED DESIGN By: Bryce Miles · File #215342C · 05-May-22

Roseville Soccer Complex

Roseville, CA

GRID SUMMARY	
Name:	Soccer 8
Size:	360' x 210'
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY	
MAINTAINED HORIZONTAL FOOTCANDLES	
Entire Grid	
Guaranteed Average:	30
Scan Average:	30.92
Maximum:	36
Minimum:	26
Avg / Min:	1.20
Guaranteed Max / Min:	2.5
Max / Min:	1.42
UG (adjacent pts):	1.28
CU:	0.37
No. of Points:	84
LUMINAIRE INFORMATION	
Applied Circuits:	A, H
No. of Luminaires:	46
Total Load:	56.44 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.



We Make It Happen®

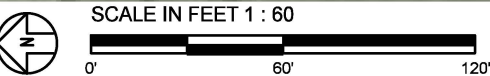
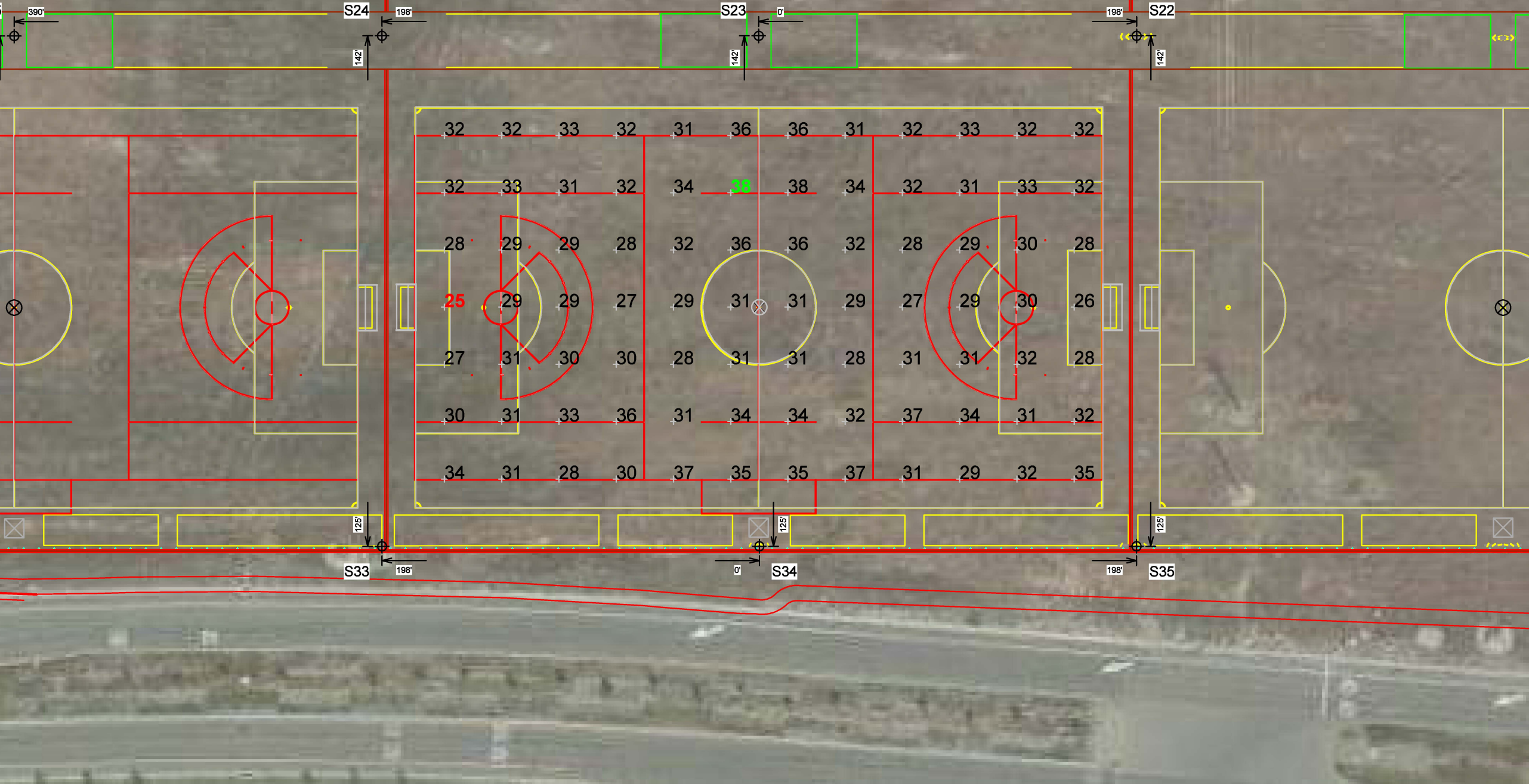
Not to be reproduced in whole or part without the written consent of Musco Sports Lighting, LLC. ©1981, 2022 Musco Sports Lighting, LLC.

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	S5, S7	70'	-	70'	TLC-LED-1200	2	1	1
				70'	TLC-LED-1500	4	2	2
1	S6	70'	-	70'	TLC-LED-1500	4	4	0
1	S22	70'	-	70'	TLC-LED-1500	6/6*	3	9
1	S23	70'	-	70'	TLC-LED-1200	2*	2	0
				70'	TLC-LED-1500	4/2*	2	4
1	S24	70'	-	70'	TLC-LED-1500	6/6*	6	6
1	S25	70'	-	70'	TLC-LED-1500	4/4*	4	4
1	S26	70'	-	70'	TLC-LED-1500	6/3*	3	6
1	S33	70'	-	70'	TLC-LED-600	2	0	2
				70'	TLC-LED-900	2	2	0
				70'	TLC-LED-1200	4	2	2
1	S34	70'	-	70'	TLC-LED-900	6	6	0
				70'	TLC-LED-1200	2	2	0
1	S35	70'	-	70'	TLC-LED-1200	2	2	0
				70'	TLC-LED-900	3	2	1
				70'	TLC-LED-1500	2	0	2
11	TOTALS					88	46	42

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



ENGINEERED DESIGN By: Bryce Miles · File #215342C · 05-May-22

Roseville Soccer Complex

Roseville, CA

GRID SUMMARY	
Name:	Soccer 9
Size:	360' x 210'
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY	
MAINTAINED HORIZONTAL FOOTCANDLES	
Entire Grid	
Guaranteed Average:	30
Scan Average:	31.47
Maximum:	38
Minimum:	25
Avg / Min:	1.24
Guaranteed Max / Min:	2.5
Max / Min:	1.50
UG (adjacent pts):	1.22
CU:	0.37
No. of Points:	84
LUMINAIRE INFORMATION	
Applied Circuits:	C, I
No. of Luminaires:	46
Total Load:	57.78 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.



We Make It Happen®

Not to be reproduced in whole or part without the written consent of Musco Sports Lighting, LLC. ©1981, 2022 Musco Sports Lighting, LLC.

ILLUMINATION SUMMARY

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
1	S1	70'	-	70'	TLC-LED-1200	1	1	0
				70'	TLC-LED-1500	2	2	0
2	S2, S29	70'	-	70'	TLC-LED-1500	4	4	0
1	S3	70'	-	70'	TLC-LED-1200	2	1	1
				70'	TLC-LED-1500	4	2	2
1	S20	70'	-	70'	TLC-LED-1500	6/3*	3	6
1	S21	70'	-	70'	TLC-LED-1500	4/4*	4	4
1	S22	70'	-	70'	TLC-LED-1500	6/6*	3	9
1	S28	70'	-	70'	TLC-LED-1500	6	3	3
1	S30	70'	-	70'	TLC-LED-1500	3	3	0
1	S35	70'	-	70'	TLC-LED-1200	2	0	2
				70'	TLC-LED-900	3	1	2
				70'	TLC-LED-1500	2	2	0
1	S36	70'	-	70'	TLC-LED-900	2	2	0
				70'	TLC-LED-1500	4	4	0
1	S37	70'	-	70'	TLC-LED-900	1	1	0
				70'	TLC-LED-1500	2	2	0
12	TOTALS					71	42	29

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



Roseville Soccer Complex

Roseville, CA

GRID SUMMARY	
Name:	Soccer 10
Size:	360' x 210'
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY	
MAINTAINED HORIZONTAL FOOTCANDLES	
Entire Grid	
Guaranteed Average:	30
Scan Average:	31.11
Maximum:	35
Minimum:	27
Avg / Min:	1.17
Guaranteed Max / Min:	2.5
Max / Min:	1.33
UG (adjacent pts):	1.17
CU:	0.37
No. of Points:	84
LUMINAIRE INFORMATION	
Applied Circuits:	A, J
No. of Luminaires:	42
Total Load:	57.38 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.

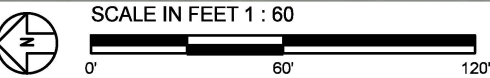
Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.



We Make It Happen®

Not to be reproduced in whole or part without the written consent of Musco Sports Lighting, LLC. ©1981, 2022 Musco Sports Lighting, LLC.

ILLUMINATION SUMMARY



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

Roseville Soccer Complex
Roseville, CA

GRID SUMMARY	
Name:	West Road Spill - Across Road
Spacing:	30.0'
Height:	0.0' above grade

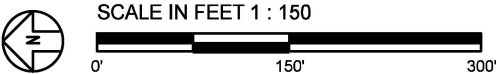
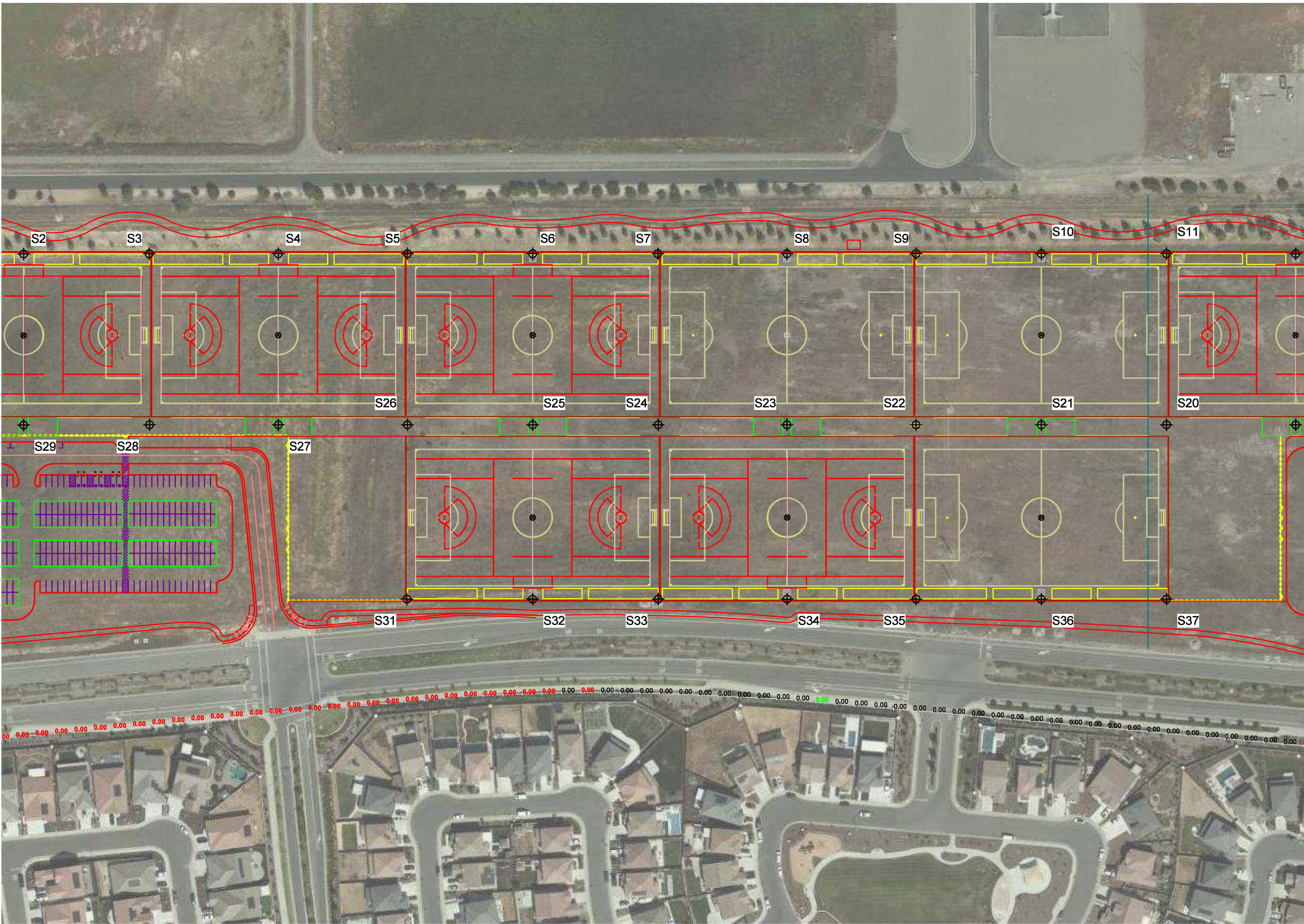
ILLUMINATION SUMMARY	
HORIZONTAL FOOTCANDLES	
Scan Average:	Entire Grid 0.0000
Maximum:	0.00
Minimum:	0.00
No. of Points:	116
LUMINAIRE INFORMATION	
Applied Circuits:	A, B, C, D, E, F, G, H, I, J
No. of Luminaires:	214
Total Load:	283.92 kW

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.



ENGINEERED DESIGN By: Bryce Miles · File #215342C · 05-May-22

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, 2022 Musco Sports Lighting, LLC.

ILLUMINATION SUMMARY

Roseville Soccer Complex
Roseville, CA

GRID SUMMARY	
Name:	West Road Spill - Across Road
Spacing:	30.0'
Height:	0.0' above grade

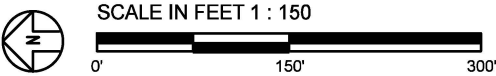
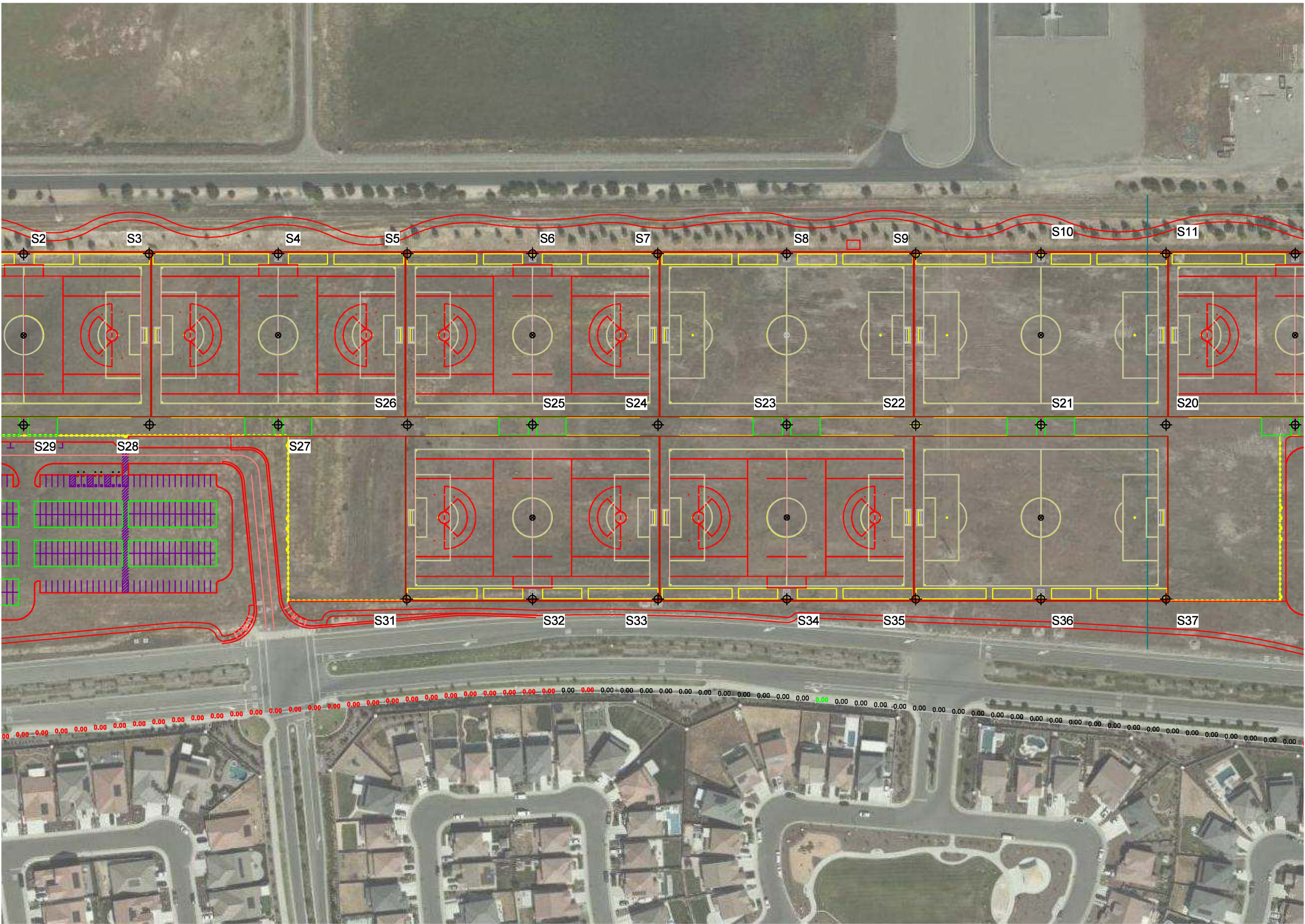
ILLUMINATION SUMMARY	
MAX VERTICAL FOOTCANDLES	
Scan Average:	Entire Grid 0.0001
Maximum:	0.00
Minimum:	0.00
No. of Points:	116
LUMINAIRE INFORMATION	
Applied Circuits:	A, B, C, D, E, F, G, H, I, J
No. of Luminaires:	214
Total Load:	283.92 kW

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.



ENGINEERED DESIGN By: Bryce Miles · File #215342C · 05-May-22

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, 2022 Musco Sports Lighting, LLC.

ILLUMINATION SUMMARY

Roseville,CA

Name:	West Road Spill - Across Road
Spacing:	30.0'
Height:	0.0' above grade

CANDELA (PER FIXTURE)

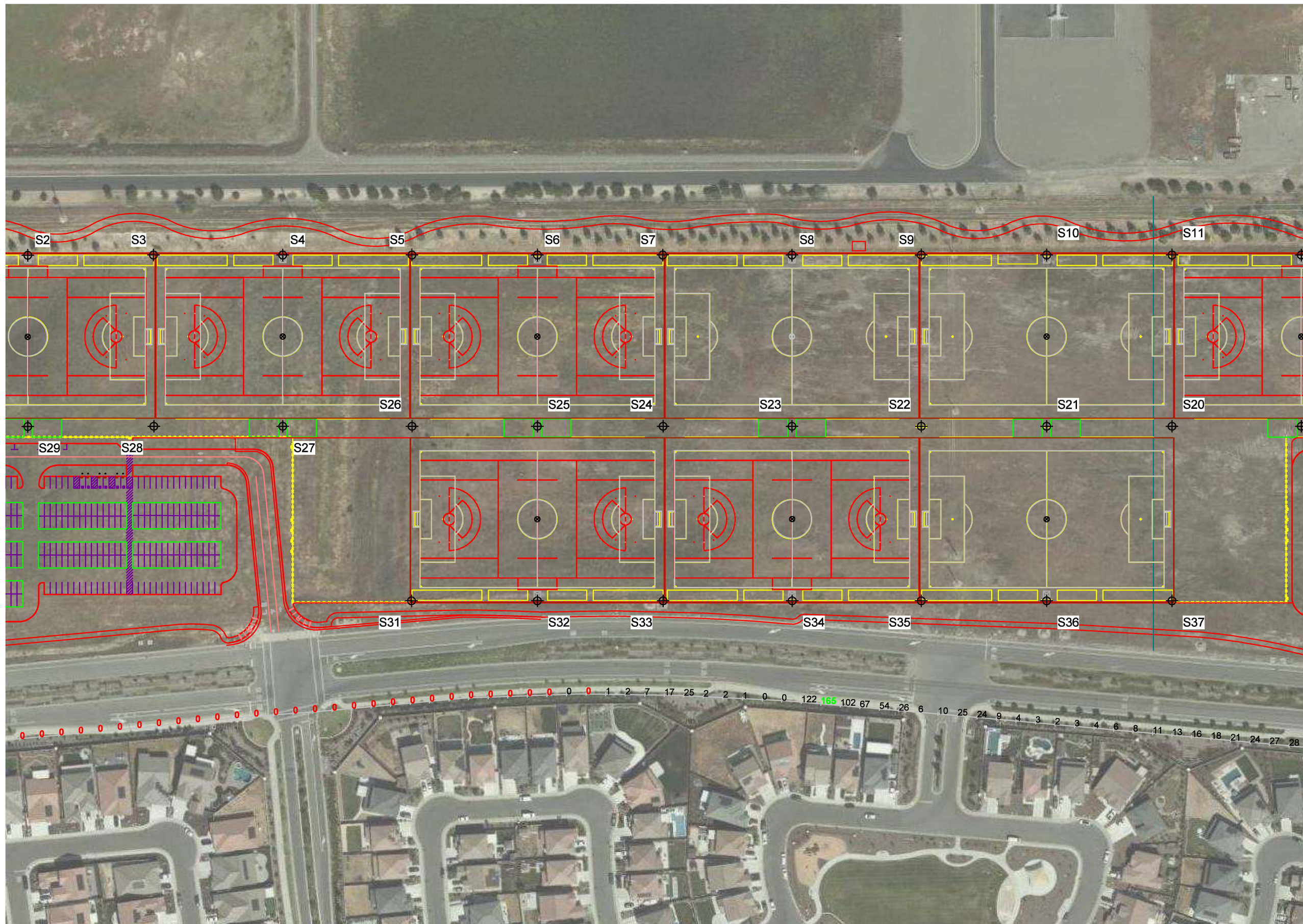
Scan Average:	Entire Grid 7.3707
Maximum:	165.06
Minimum:	0.00
No. of Points:	116

LUMINAIRE INFORMATION

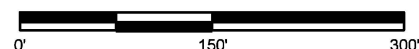
Applied Circuits:	A, B, C, D, E, F, G, H, I, J
No. of Luminaires:	214
Total Load:	283.92 kW

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

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



SCALE IN FEET 1 : 150



ENGINEERED DESIGN By: Bryce Miles · File #215342C · 05-May-22

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



We Make It Happen.®

Not to be reproduced in whole or part without the written consent of Musco Sports Lighting, LLC. ©1981, 2022 Musco Sports Lighting, LLC.

ILLUMINATION SUMMARY

Roseville Soccer Complex

Roseville, CA

GRID SUMMARY	
Name:	East Road Spill - Across Road
Spacing:	30.0'
Height:	3.0' above grade

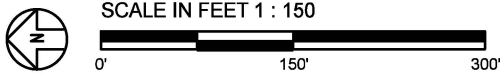
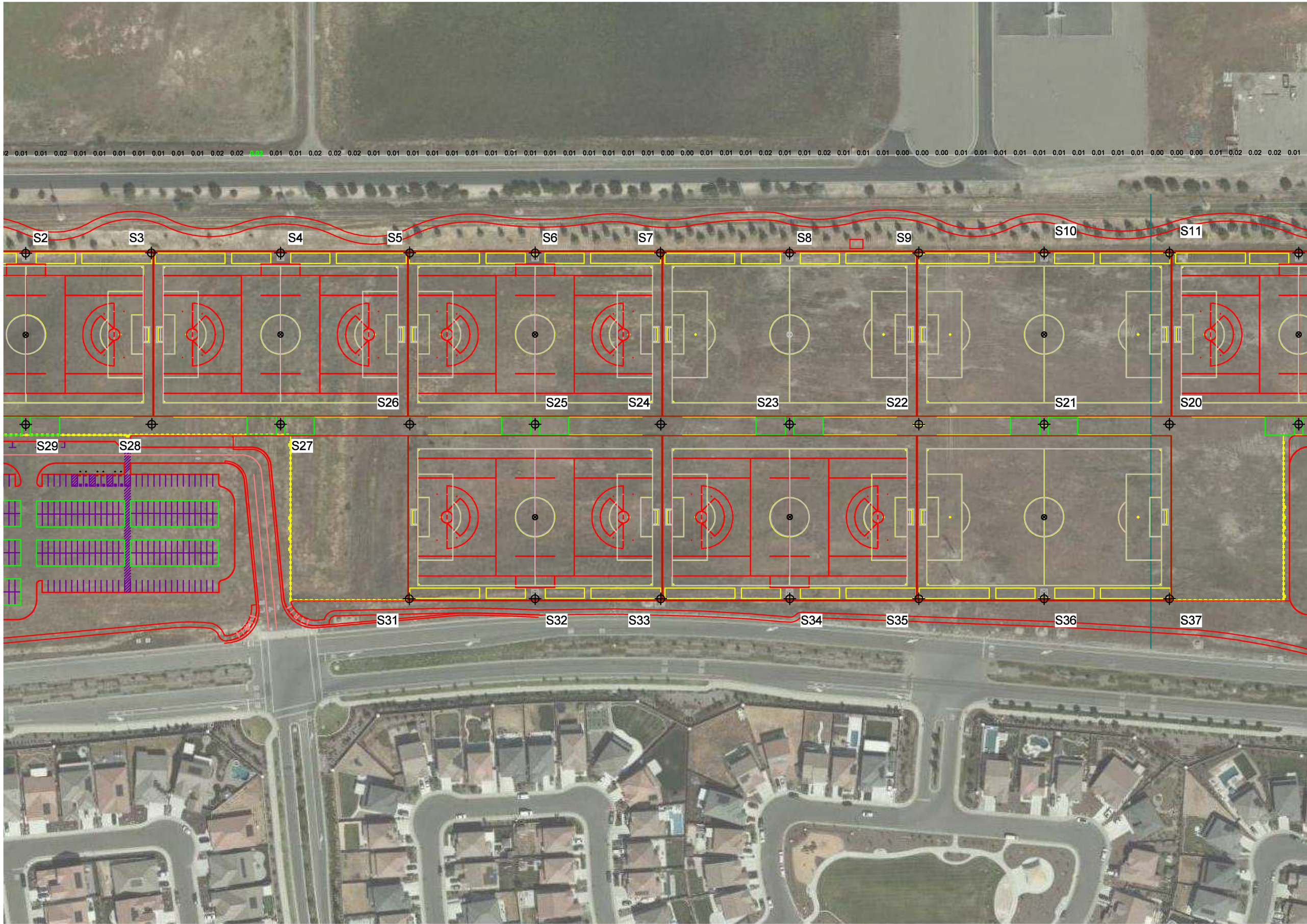
ILLUMINATION SUMMARY	
HORIZONTAL FOOTCANDLES	
Scan Average:	Entire Grid 0.0108
Maximum:	0.02
Minimum:	0.00
No. of Points:	94
LUMINAIRE INFORMATION	
Applied Circuits:	A, B, C, D, E, F, G, H, I, J
No. of Luminaires:	214
Total Load:	283.92 kW

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.



ENGINEERED DESIGN By: Bryce Miles · File #215342C · 05-May-22

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, 2022 Musco Sports Lighting, LLC.

ILLUMINATION SUMMARY

Roseville Soccer Complex
Roseville, CA

GRID SUMMARY	
Name:	East Road Spill - Across Road
Spacing:	30.0'
Height:	3.0' above grade

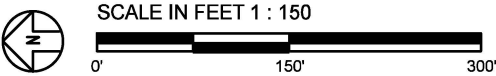
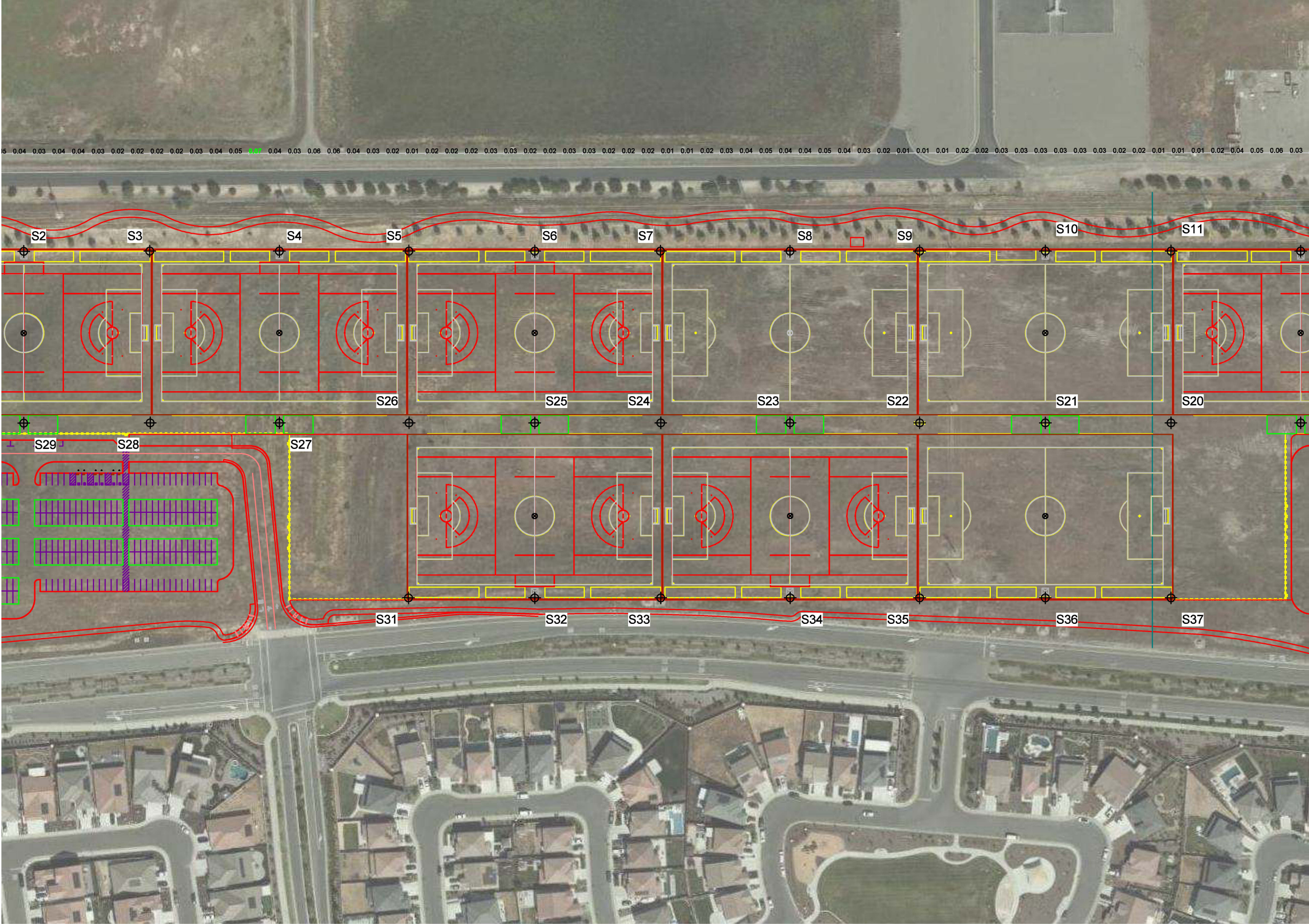
ILLUMINATION SUMMARY	
MAX VERTICAL FOOTCANDLES	
Scan Average:	Entire Grid 0.0291
Maximum:	0.07
Minimum:	0.00
No. of Points:	94
LUMINAIRE INFORMATION	
Applied Circuits:	A, B, C, D, E, F, G, H, I, J
No. of Luminaires:	214
Total Load:	283.92 kW

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.



ENGINEERED DESIGN By: Bryce Miles · File #215342C · 05-May-22

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, 2022 Musco Sports Lighting, LLC.

ILLUMINATION SUMMARY

Roseville Soccer Complex

Roseville, CA

EQUIPMENT LAYOUT

INCLUDES:

- Soccer 1
- Soccer 10
- Soccer 2
- Soccer 3
- Soccer 4
- Soccer 5
- Soccer 6
- Soccer 7
- Soccer 8
- Soccer 9

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	S1, S15	70'	-	70'	TLC-LED-1200	1
					TLC-LED-1500	2
11	S10, S12, S14, S17, S19, S27, S2, S4, S29, S6, S8	70'	-	70'	TLC-LED-1500	4
6	S11, S13, S3, S5, S7, S9	70'	-	70'	TLC-LED-1500	4
					TLC-LED-1200	2
2	S16, S30	70'	-	70'	TLC-LED-1500	3
1	S18	70'	-	70'	TLC-LED-1500	6
2	S20, S26	70'	-	70'	TLC-LED-1500	6/3*
2	S21, S25	70'	-	70'	TLC-LED-1500	4/4*
2	S22, S24	70'	-	70'	TLC-LED-1500	6/6*
1	S23	70'	-	70'	TLC-LED-1200	2*
					TLC-LED-1500	4/2*
1	S28	70'	-	70'	TLC-LED-1500	6
1	S31	70'	-	70'	TLC-LED-1200	2
					TLC-LED-600	2
1	S32	70'	-	70'	TLC-LED-600	2
					TLC-LED-900	4
					TLC-LED-1200	2
1	S33	70'	-	70'	TLC-LED-600	2
					TLC-LED-900	2
					TLC-LED-1200	4
1	S34	70'	-	70'	TLC-LED-900	6
					TLC-LED-1200	2
1	S35	70'	-	70'	TLC-LED-1200	2
					TLC-LED-900	3
					TLC-LED-1500	2
1	S36	70'	-	70'	TLC-LED-900	2
					TLC-LED-1500	4
1	S37	70'	-	70'	TLC-LED-900	1
					TLC-LED-1500	2
37	TOTALS					214

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

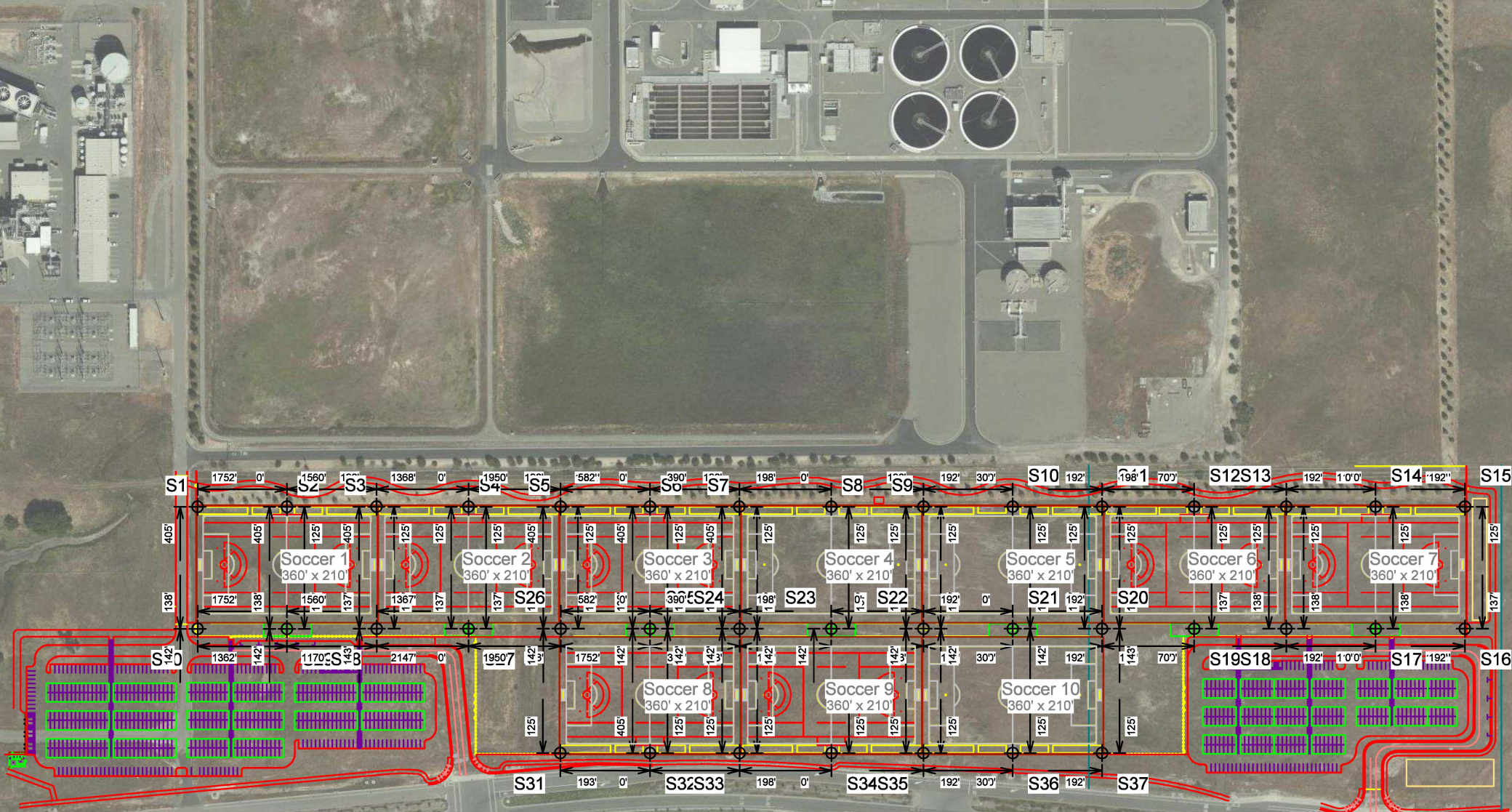
SINGLE LUMINAIRE AMPERAGE DRAW CHART

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-1500	8.5	8.1	7.4	6.4	5.1	4.7	3.7
TLC-LED-1200	7.0	6.6	6.1	5.2	4.2	4.0	3.0
TLC-LED-600	3.4	3.2	3.0	2.6	2.0	1.9	1.5
TLC-LED-900	5.3	5.0	4.6	4.0	3.2	2.9	2.3

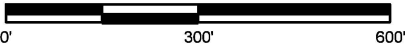


Not to be reproduced in whole or part without the written consent of Musco Sports Lighting, LLC. ©1981, 2022 Musco Sports Lighting, LLC.

EQUIPMENT LAYOUT



SCALE IN FEET 1 : 300



ENGINEERED DESIGN By: Bryce Miles · File #215342C · 05-May-22

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

Roseville Soccer Complex

Roseville,CA

GRID SUMMARY	
Name:	75ft Elev. Blanket Grid
Size:	360' x 210'
Spacing:	15.0' x 15.0'
Height:	75.0' above grade

ILLUMINATION SUMMARY	
MAINTAINED HORIZONTAL FOOTCANDLES	
	Entire Grid
Scan Average:	0.00
Maximum:	0
Minimum:	0
Avg / Min:	-
Max / Min:	-
UG (adjacent pts):	0.00
No. of Points:	8490

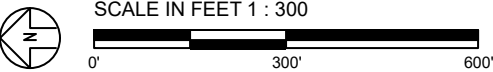
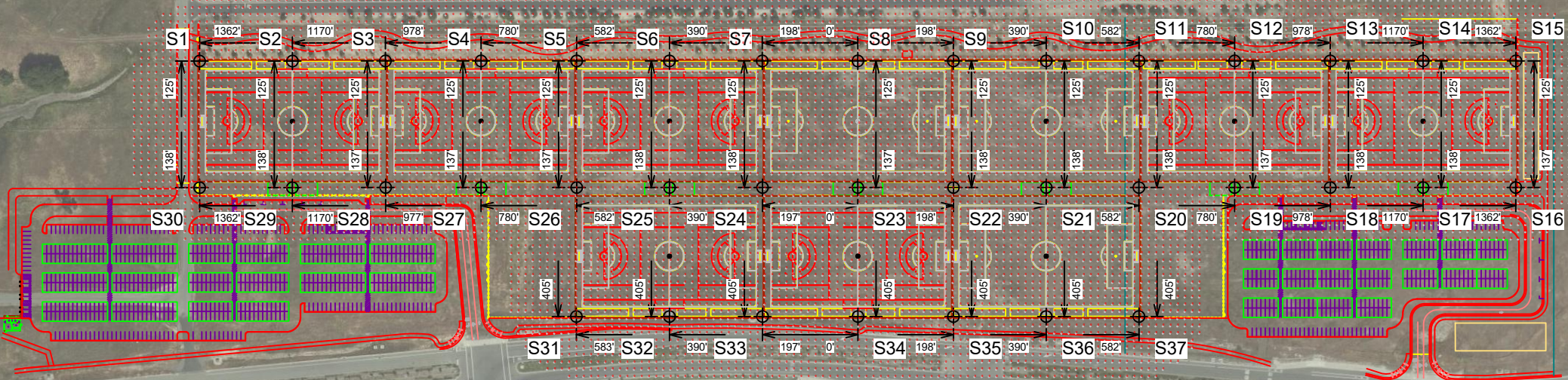
LUMINAIRE INFORMATION	
Applied Circuits:	A, B, C, D, E, F, G, H, I, J
No. of Luminaires:	214
Total Load:	283.92 kW

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) ⊗



Not to be reproduced in whole or part without the written consent of Musco Sports Lighting, LLC. ©1981, 2022 Musco Sports Lighting, LLC.

ILLUMINATION SUMMARY

