

Edgewood High School Of Sacred Heart SO

Madison,WI

Lighting System

Pole / Fixture Summary						
Pole ID	Pole Height	Mtg Height	Fixture Qty	Luminaire Type	Load	Circuit
F1-F2	68'	68'	6	TLC-LED-1500	8.58 kW	A
		15'	2	TLC-BT-575	1.15 kW	A
		50'	1	TLC-LED-1200	1.17 kW	A
F3-F4	68'	68'	4	TLC-LED-1500	5.72 kW	A
		68'	2	TLC-LED-900	1.78 kW	A
		15'	2	TLC-BT-575	1.15 kW	A
4			34		39.10 kW	

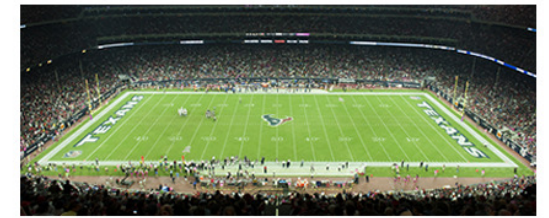
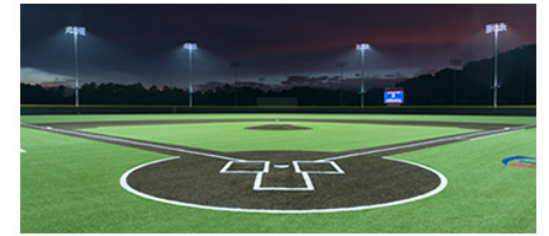
Circuit Summary			
Circuit	Description	Load	Fixture Qty
A	Football	39.1 kW	34

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	20
TLC-BT-575	LED 5700K - 75 CRI	575W	52,000	>120,000	>120,000	>120,000	8
TLC-LED-1200	LED 5700K - 75 CRI	1170W	136,000	>120,000	>120,000	>120,000	2
TLC-LED-900	LED 5700K - 75 CRI	890W	89,600	>120,000	>120,000	>120,000	4

Light Level Summary

Calculation Grid Summary								
Grid Name	Calculation Metric	Illumination					Circuits	Fixture Qty
		Ave	Min	Max	Max/Min	Ave/Min		
Bleachers	Horizontal	19.3	13	31	2.37	1.48	A	34
Football	Horizontal Illuminance	31.5	20	45	2.24	1.58	A	34
Property Line	Horizontal	0.01	0	0.03	0.00		A	34
Soccer	Horizontal Illuminance	32.3	20	45	2.19	1.61	A	34
Track	Horizontal Illuminance	8.80	0	21	54.70		A	34

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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	F1-F2	68'	-	15'	TLC-BT-575	2	2	0
				50'	TLC-LED-1200	1	1	0
				68'	TLC-LED-1500	6	6	0
2	F3-F4	68'	-	68'	TLC-LED-900	2	2	0
				15'	TLC-BT-575	2	2	0
				68'	TLC-LED-1500	4	4	0
4	TOTALS					34	34	0

GRID SUMMARY	
Name:	Football
Size:	360' x 160'
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY	
MAINTAINED HORIZONTAL FOOTCANDLES	
Entire Grid	
Guaranteed Average:	30
Scan Average:	31.50
Maximum:	45
Minimum:	20
Avg / Min:	1.56
Guaranteed Max / Min:	2.5
Max / Min:	2.24
UG (adjacent pts):	1.52
CU:	0.49
No. of Points:	72

LUMINAIRE INFORMATION	
Color / CRI:	5700K - 75 CRI
Luminaire Output:	160,000 / 52,000 / 136,000 / 89,600 lumens
No. of Luminaires:	34
Total Load:	39.1 kW

Luminaire Type	Lumen Maintenance		
	L90 hrs	L80 hrs	L70 hrs
TLC-LED-1500	>120,000	>120,000	>120,000
TLC-BT-575	>120,000	>120,000	>120,000
TLC-LED-1200	>120,000	>120,000	>120,000
TLC-LED-900	>120,000	>120,000	>120,000

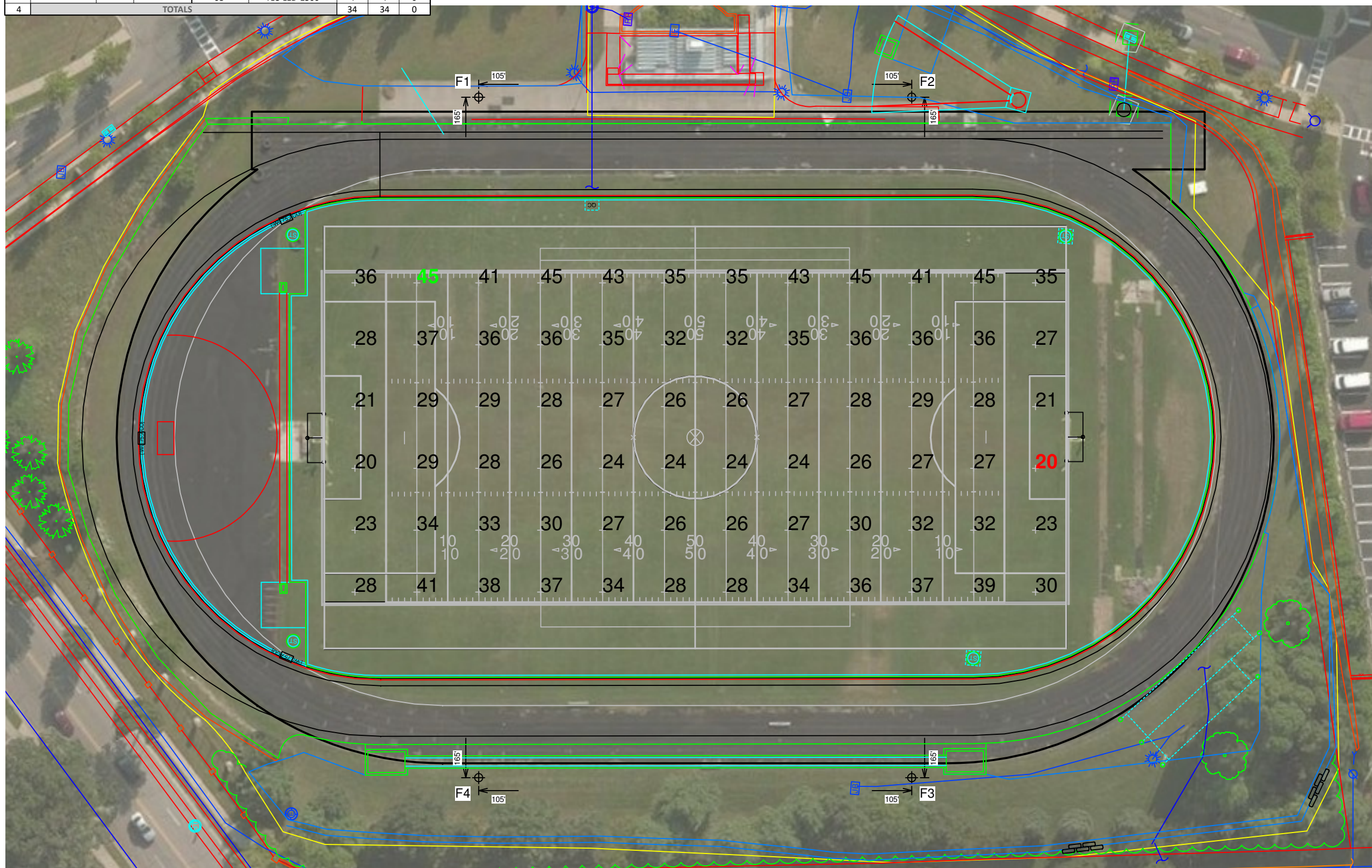
Reported per TM-21-11. See luminaire datasheet for details.

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) ⊗



EQUIPMENT LIST FOR AREAS SHOWN								
Pole			Luminaires					
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
2	F1-F2	68'	-	15'	TLC-BT-575	2	2	0
				50'	TLC-LED-1200	1	1	0
				68'	TLC-LED-1500	6	6	0
2	F3-F4	68'	-	68'	TLC-LED-900	2	2	0
				15'	TLC-BT-575	2	2	0
				68'	TLC-LED-1500	4	4	0
4	TOTALS					34	34	0

GRID SUMMARY	
Name:	Track
Size:	Irregular
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY	
MAINTAINED HORIZONTAL FOOTCANDLES	
Entire Grid	
Scan Average:	8.80
Maximum:	21
Minimum:	0
Avg / Min:	22.90
Max / Min:	54.70
CU:	0.09
No. of Points:	47

LUMINAIRE INFORMATION	
Color / CRI:	5700K - 75 CRI
Luminaire Output:	160,000 / 52,000 / 136,000 / 89,600 lumens
No. of Luminaires:	34
Total Load:	39.1 kW

Luminaire Type	Lumen Maintenance		
	L90 hrs	L80 hrs	L70 hrs
TLC-LED-1500	>120,000	>120,000	>120,000
TLC-BT-575	>120,000	>120,000	>120,000
TLC-LED-1200	>120,000	>120,000	>120,000
TLC-LED-900	>120,000	>120,000	>120,000

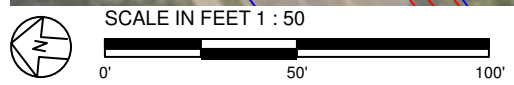
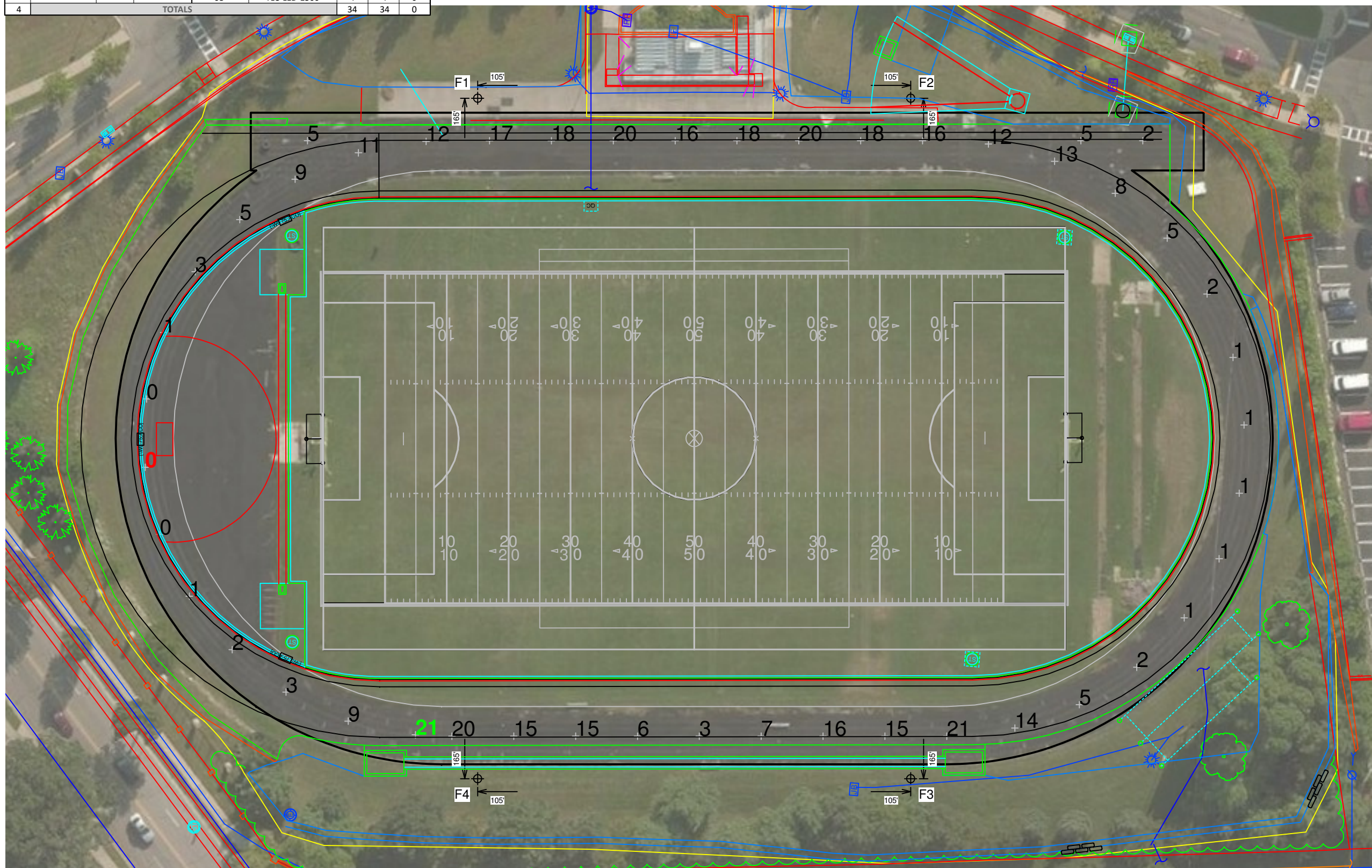
Reported per TM-21-11. See luminaire datasheet for details.

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

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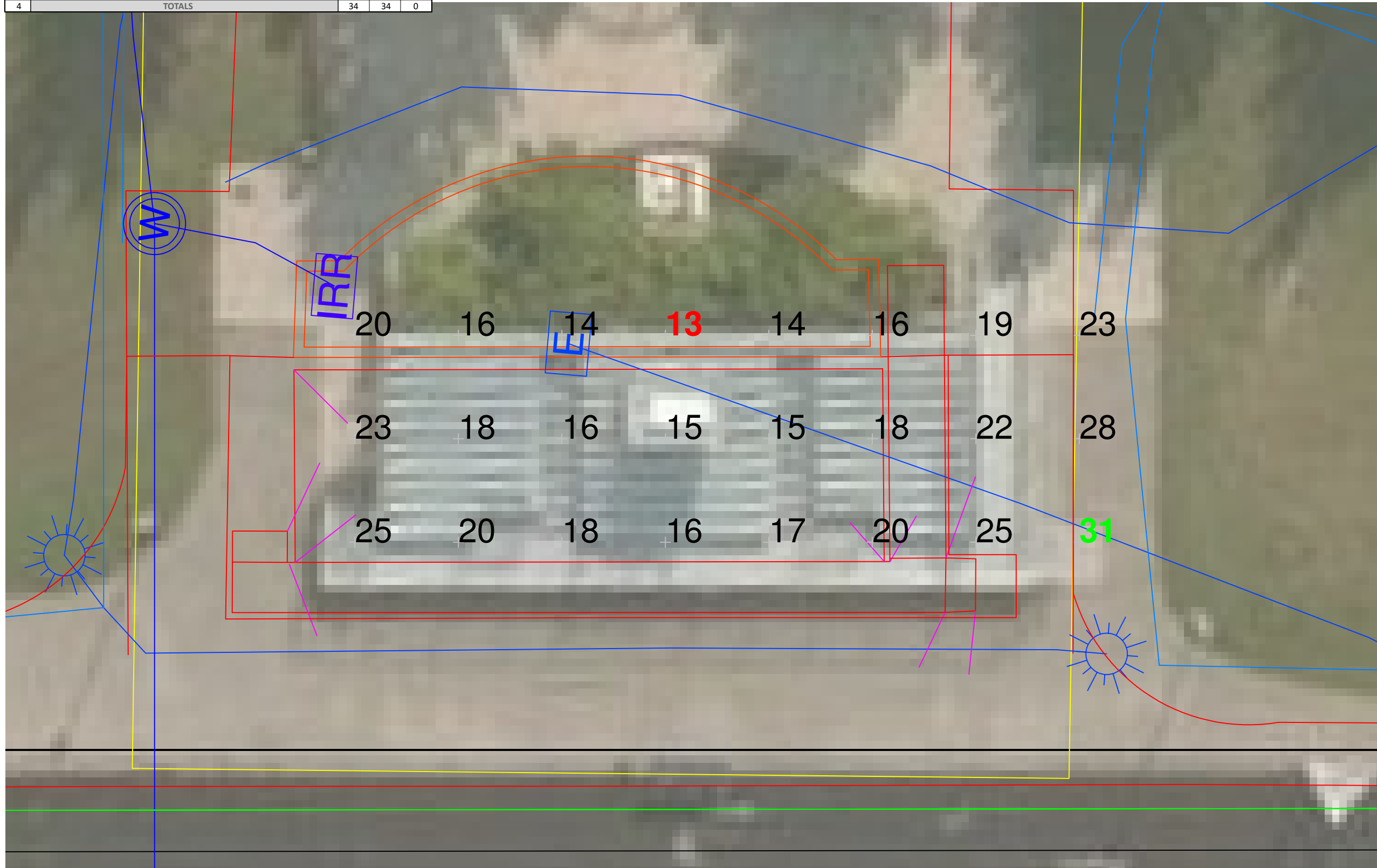
Pole location(s) ⊕ dimensions are relative to 0,0 reference point(s) ⊗



EQUIPMENT LIST FOR AREAS SHOWN								
Pole			Luminaires					
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
2	F1-F2	68'	-	15'	TLC-BT-575	2	2	0
				50'	TLC-LED-1200	1	1	0
				68'	TLC-LED-1500	6	6	0
2	F3-F4	68'	-	68'	TLC-LED-900	2	2	0
				15'	TLC-BT-575	2	2	0
				68'	TLC-LED-1500	4	4	0
4	TOTALS					34	34	0

GRID SUMMARY	
Name:	Bleachers
Size:	360' x 205'
Spacing:	10.0' x 10.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY			
MAINTAINED HORIZONTAL FOOTCANDLES			
Entire Grid			
Scan Average:	19.26		
Maximum:	31		
Minimum:	13		
No. of Points:	24		
LUMINAIRE INFORMATION			
Color / CRI:	5700K - 75 CRI		
Luminaire Output:	160,000 / 52,000 / 136,000 / 89,600 lumens		
No. of Luminaires:	34		
Total Load:	39.1 kW		
Lumen Maintenance			
Luminaire Type	L90 hrs	L80 hrs	L70 hrs
TLC-LED-1500	>120,000	>120,000	>120,000
TLC-BT-575	>120,000	>120,000	>120,000
TLC-LED-1200	>120,000	>120,000	>120,000
TLC-LED-900	>120,000	>120,000	>120,000
Reported per TM-21-11. See luminaire datasheet for details.			

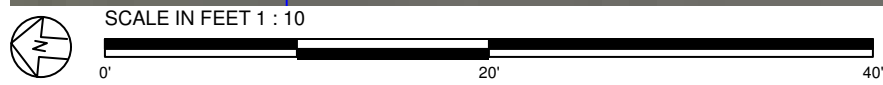


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Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

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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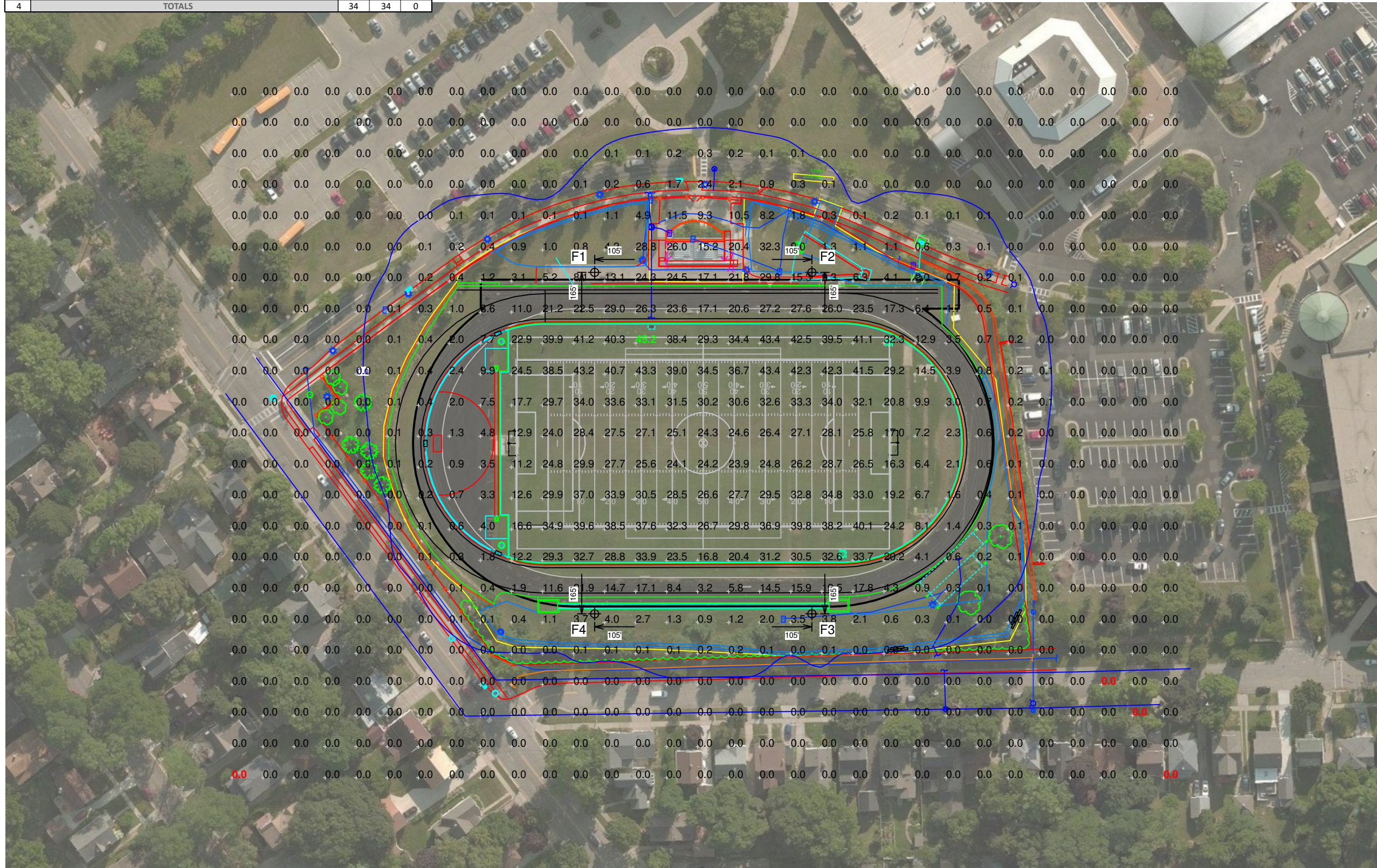
EQUIPMENT LIST FOR AREAS SHOWN

Pole		Luminaires							
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS	
2	F1-F2	68'	-	15'	TLC-BT-575	2	2	0	
				50'	TLC-LED-1200	1	1	0	
				68'	TLC-LED-1500	6	6	0	
2	F3-F4	68'	-	68'	TLC-LED-900	2	2	0	
				15'	TLC-BT-575	2	2	0	
				68'	TLC-LED-1500	4	4	0	
4	TOTALS						34	34	0

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GRID SUMMARY	
Name:	Blanket Grid
Size:	360' x 205'
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY			
MAINTAINED HORIZONTAL FOOTCANDLES			
Entire Grid			
Scan Average:	5.90		
Maximum:	45		
Minimum:	0		
No. of Points:	713		
LUMINAIRE INFORMATION			
Color / CRI:	5700K - 75 CRI		
Luminaire Output:	160,000 / 52,000 / 136,000 / 89,600 lumens		
No. of Luminaires:	34		
Total Load:	39.1 kW		
Lumen Maintenance			
Luminaire Type	L90 hrs	L80 hrs	L70 hrs
TLC-LED-1500	>120,000	>120,000	>120,000
TLC-BT-575	>120,000	>120,000	>120,000
TLC-LED-1200	>120,000	>120,000	>120,000
TLC-LED-900	>120,000	>120,000	>120,000
Reported per TM-21-11. See luminaire datasheet for details.			



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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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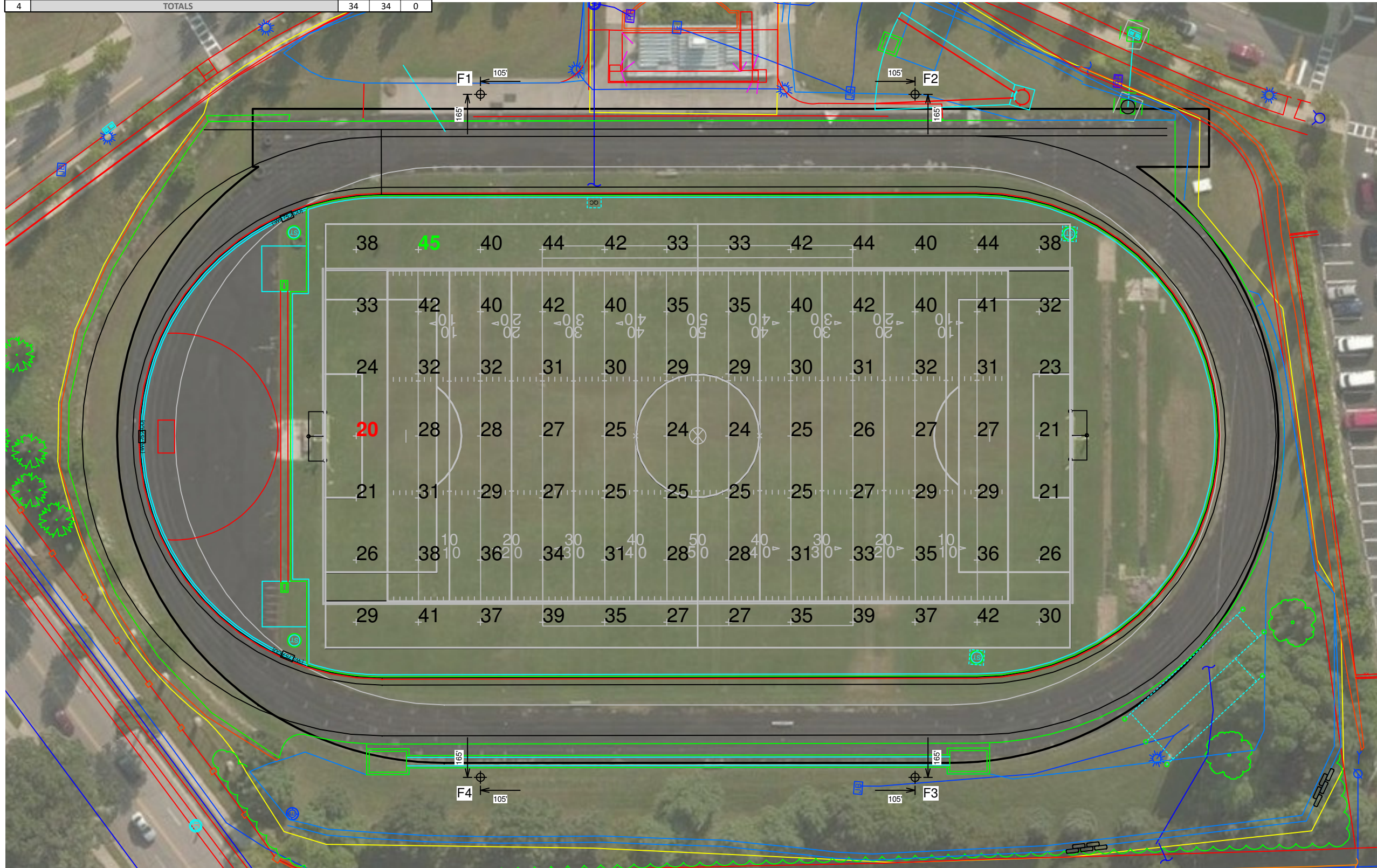
EQUIPMENT LIST FOR AREAS SHOWN									
Pole				Luminaires					
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS	
2	F1-F2	68'	-	15'	TLC-BT-575	2	2	0	
				50'	TLC-LED-1200	1	1	0	
				68'	TLC-LED-1500	6	6	0	
2	F3-F4	68'	-	68'	TLC-LED-900	2	2	0	
				15'	TLC-BT-575	2	2	0	
				68'	TLC-LED-1500	4	4	0	
4	TOTALS					34	34	0	

GRID SUMMARY	
Name:	Soccer
Size:	360' x 205'
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY	
MAINTAINED HORIZONTAL FOOTCANDLES	
Entire Grid	
Guaranteed Average:	30
Scan Average:	32.27
Maximum:	45
Minimum:	20
Avg / Min:	1.58
Guaranteed Max / Min:	2.5
Max / Min:	2.19
UG (adjacent pts):	1.50
CU:	0.58
No. of Points:	84

LUMINAIRE INFORMATION			
Color / CRI:	5700K - 75 CRI		
Luminaire Output:	160,000 / 52,000 / 136,000 / 89,600 lumens		
No. of Luminaires:	34		
Total Load:	39.1 kW		
Lumen Maintenance			
Luminaire Type	L90 hrs	L80 hrs	L70 hrs
TLC-LED-1500	>120,000	>120,000	>120,000
TLC-BT-575	>120,000	>120,000	>120,000
TLC-LED-1200	>120,000	>120,000	>120,000
TLC-LED-900	>120,000	>120,000	>120,000

Reported per TM-21-11. See luminaire datasheet for details.

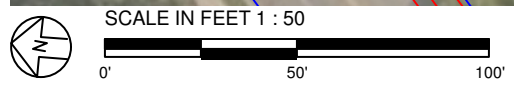


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Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

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) ⊗



EQUIPMENT LIST FOR AREAS SHOWN

Pole		Luminaires						
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
2	F1-F2	68'	-	15'	TLC-BT-575	2	2	0
				50'	TLC-LED-1200	1	1	0
				68'	TLC-LED-1500	6	6	0
2	F3-F4	68'	-	68'	TLC-LED-900	2	2	0
				15'	TLC-BT-575	2	2	0
				68'	TLC-LED-1500	4	4	0
4	TOTALS					34	34	0

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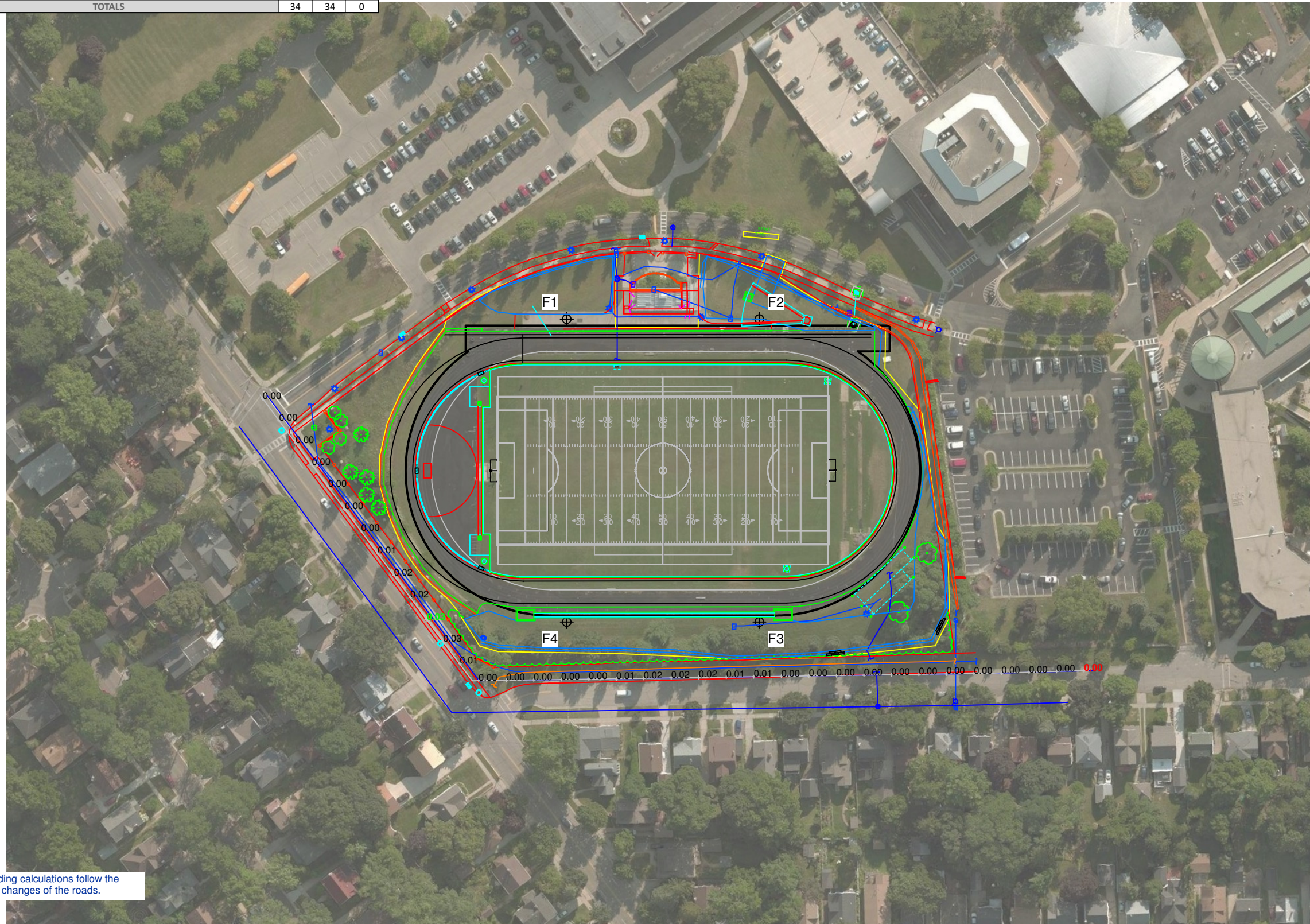
GRID SUMMARY	
Name:	Property Line
Spacing:	30.0'
Height:	18.0' above grade

ILLUMINATION SUMMARY	
HORIZONTAL FOOTCANDLES	
Scan Average:	Entire Grid 0.0064
Maximum:	0.03
Minimum:	0.00
No. of Points:	36

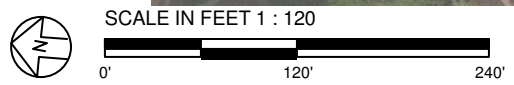
LUMINAIRE INFORMATION	
Color / CRI:	5700K - 75 CRI
Luminaire Output:	160,000 / 52,000 / 136,000 / 89,600 lumens
No. of Luminaires:	34
Total Load:	39.1 kW

Luminaire Type	Lumen Maintenance		
	L90 hrs	L80 hrs	L70 hrs
TLC-LED-1500	>120,000	>120,000	>120,000
TLC-BT-575	>120,000	>120,000	>120,000
TLC-LED-1200	>120,000	>120,000	>120,000
TLC-LED-900	>120,000	>120,000	>120,000

Reported per TM-21-11. See luminaire datasheet for details.



NOTES: Light reading calculations follow the elevation changes of the roads.



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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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EQUIPMENT LAYOUT

INCLUDES:

- Football
- Soccer
- Track

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

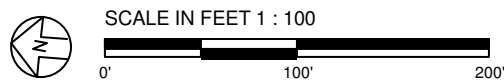
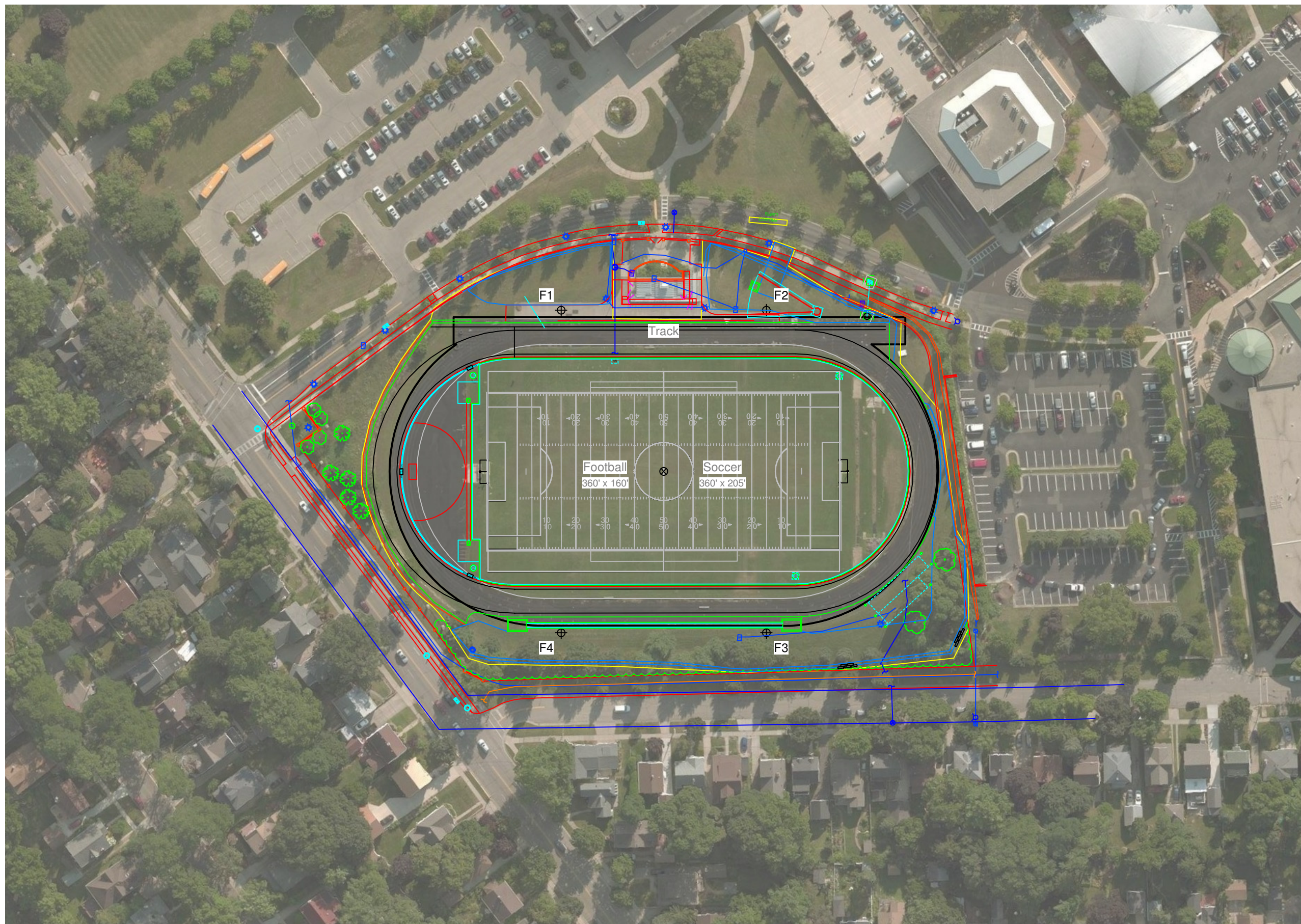
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EQUIPMENT LIST FOR AREAS SHOWN

QTY	LOCATION	Pole		Luminaires		QTY / POLE
		SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	
2	F1-F2	68'	-	15'	TLC-BT-575	2
				50'	TLC-LED-1200	1
				68'	TLC-LED-1500	6
2	F3-F4	68'	-	68'	TLC-LED-900	2
				15'	TLC-BT-575	2
				68'	TLC-LED-1500	4
4	TOTALS					34

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	208 (60)	220 (60)	240 (60)	277 (60)	347 (60)	380 (60)	480 (60)
TLC-LED-1500	8.5	8.1	7.4	6.4	5.1	4.7	3.7
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-900	5.3	5.0	4.6	4.0	3.2	2.9	2.3



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GLARE IMPACT

Summary

Map indicates the maximum candela an observer would see when facing the brightest light source from any direction.

A well-designed lighting system controls light to provide maximum useful on-field illumination with minimal destructive off-site glare.

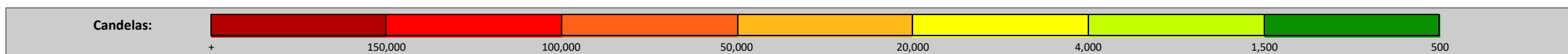
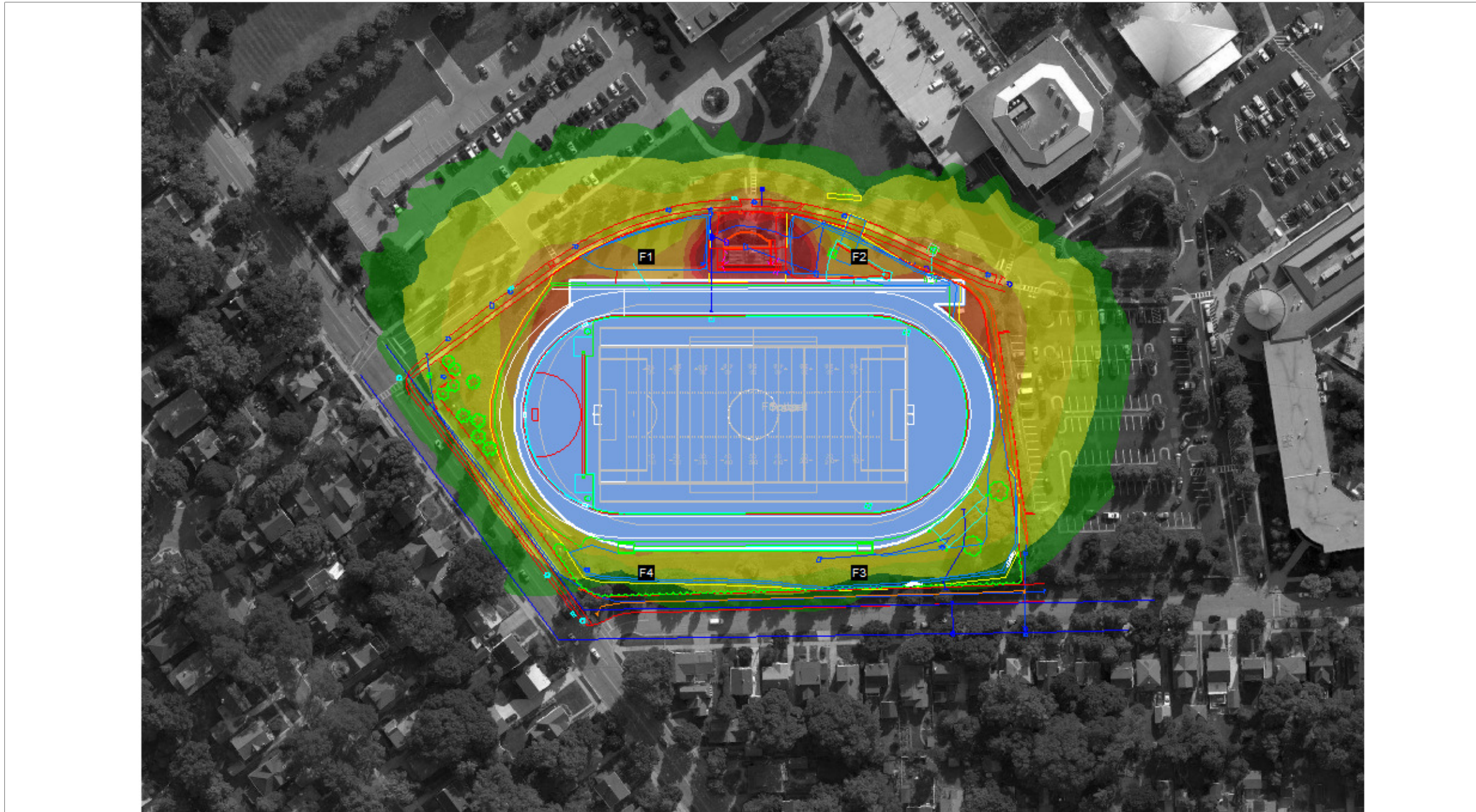
GLARE

Candela Levels

High Glare: 150,000 or more candela
Should only occur on or very near the lit area where the light source is in direct view. Care must be taken to minimize high glare zones.

Significant Glare: 25,000 to 75,000 candela
Equivalent to high beam headlights of a car.

Minimal to No Glare: 500 or less candela
Equivalent to 100W incandescent light bulb.



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Lighting System

Pole / Fixture Summary						
Pole ID	Pole Height	Mtg Height	Fixture Qty	Luminaire Type	Load	Circuit
F1-F2	80'	80'	6	TLC-LED-1500	8.58 kW	A
		15'	2	TLC-BT-575	1.15 kW	A
		50'	1	TLC-LED-1200	1.17 kW	A
F3-F4	80'	80'	4	TLC-LED-1500	5.72 kW	A
		80'	2	TLC-LED-900	1.78 kW	A
		15'	2	TLC-BT-575	1.15 kW	A
4			34		39.10 kW	

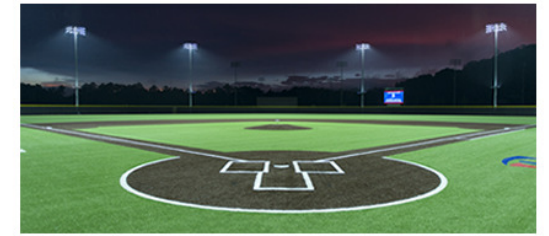
Circuit Summary			
Circuit	Description	Load	Fixture Qty
A	Football	39.1 kW	34

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	20
TLC-BT-575	LED 5700K - 75 CRI	575W	52,000	>120,000	>120,000	>120,000	8
TLC-LED-900	LED 5700K - 75 CRI	890W	89,600	>120,000	>120,000	>120,000	4
TLC-LED-1200	LED 5700K - 75 CRI	1170W	136,000	>120,000	>120,000	>120,000	2

Light Level Summary

Calculation Grid Summary								
Grid Name	Calculation Metric	Illumination					Circuits	Fixture Qty
		Ave	Min	Max	Max/Min	Ave/Min		
Bleachers	Horizontal	19.4	13	31	2.35	1.49	A	34
Football	Horizontal Illuminance	33	21	44	2.06	1.57	A	34
Property Line	Horizontal	0.01	0	0.05	0.00		A	34
Soccer	Horizontal Illuminance	33.2	21	42	2.00	1.58	A	34
Track	Horizontal Illuminance	8.10	0	19	52.82		A	34

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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	F1-F2	80'	-	15'	TLC-BT-575	2	2	0
				50'	TLC-LED-1200	1	1	0
				80'	TLC-LED-1500	6	6	0
2	F3-F4	80'	-	80'	TLC-LED-900	2	2	0
				15'	TLC-BT-575	2	2	0
				80'	TLC-LED-1500	4	4	0
4	TOTALS					34	34	0

GRID SUMMARY	
Name:	Football
Size:	360' x 160'
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY	
MAINTAINED HORIZONTAL FOOTCANDLES	
Entire Grid	
Guaranteed Average:	30
Scan Average:	32.96
Maximum:	44
Minimum:	21
Avg / Min:	1.56
Guaranteed Max / Min:	2.5
Max / Min:	2.06
UG (adjacent pts):	1.73
CU:	0.51
No. of Points:	72

LUMINAIRE INFORMATION	
Color / CRI:	5700K - 75 CRI
Luminaire Output:	160,000 / 52,000 / 89,600 / 136,000 lumens
No. of Luminaires:	34
Total Load:	39.1 kW

Luminaire Type	Lumen Maintenance		
	L90 hrs	L80 hrs	L70 hrs
TLC-LED-1500	>120,000	>120,000	>120,000
TLC-BT-575	>120,000	>120,000	>120,000
TLC-LED-900	>120,000	>120,000	>120,000
TLC-LED-1200	>120,000	>120,000	>120,000

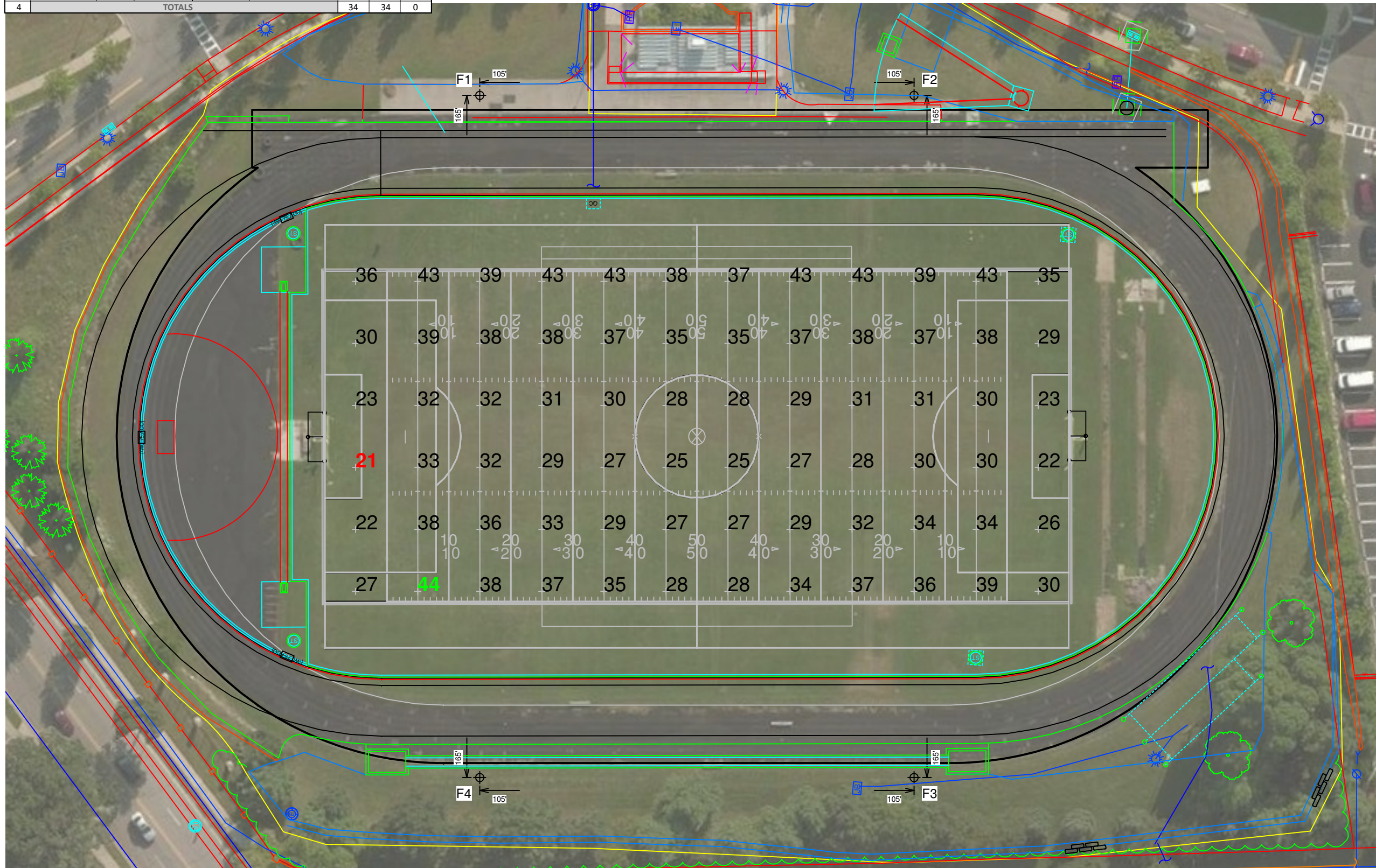
Reported per TM-21-11. See luminaire datasheet for details.

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) ⊗



EQUIPMENT LIST FOR AREAS SHOWN								
Pole			Luminaires					
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
2	F1-F2	80'	-	15'	TLC-BT-575	2	2	0
				50'	TLC-LED-1200	1	1	0
				80'	TLC-LED-1500	6	6	0
2	F3-F4	80'	-	80'	TLC-LED-900	2	2	0
				15'	TLC-BT-575	2	2	0
				80'	TLC-LED-1500	4	4	0
4	TOTALS					34	34	0

GRID SUMMARY	
Name:	Track
Size:	Irregular
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY	
MAINTAINED HORIZONTAL FOOTCANDLES	
Entire Grid	
Scan Average:	8.10
Maximum:	19
Minimum:	0
Avg / Min:	21.94
Max / Min:	52.82
CU:	0.08
No. of Points:	47

LUMINAIRE INFORMATION	
Color / CRI:	5700K - 75 CRI
Luminaire Output:	160,000 / 52,000 / 89,600 / 136,000 lumens
No. of Luminaires:	34
Total Load:	39.1 kW

Luminaire Type	Lumen Maintenance		
	L90 hrs	L80 hrs	L70 hrs
TLC-LED-1500	>120,000	>120,000	>120,000
TLC-BT-575	>120,000	>120,000	>120,000
TLC-LED-900	>120,000	>120,000	>120,000
TLC-LED-1200	>120,000	>120,000	>120,000

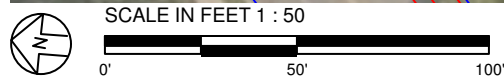
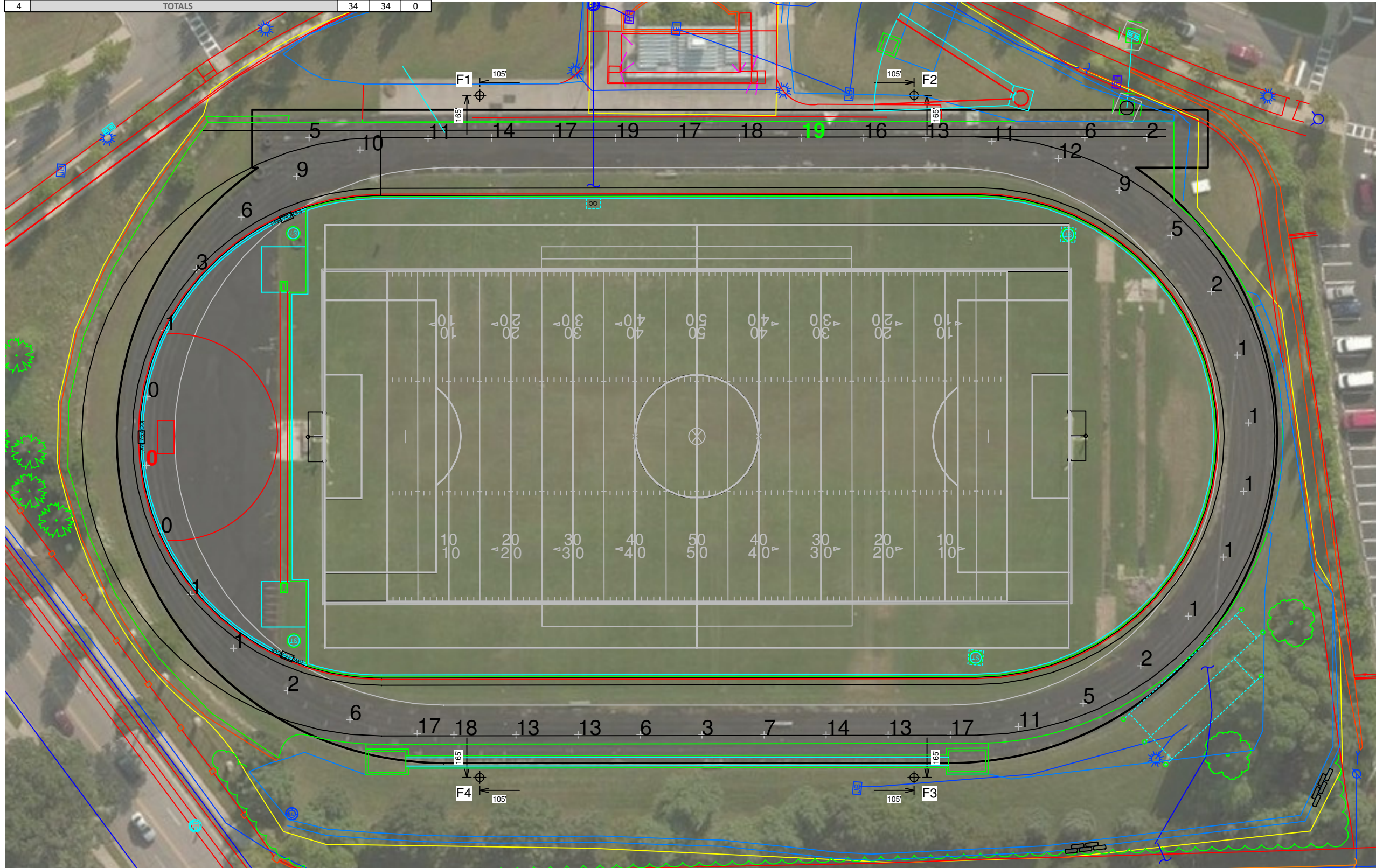
Reported per TM-21-11. See luminaire datasheet for details.

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) ⊗

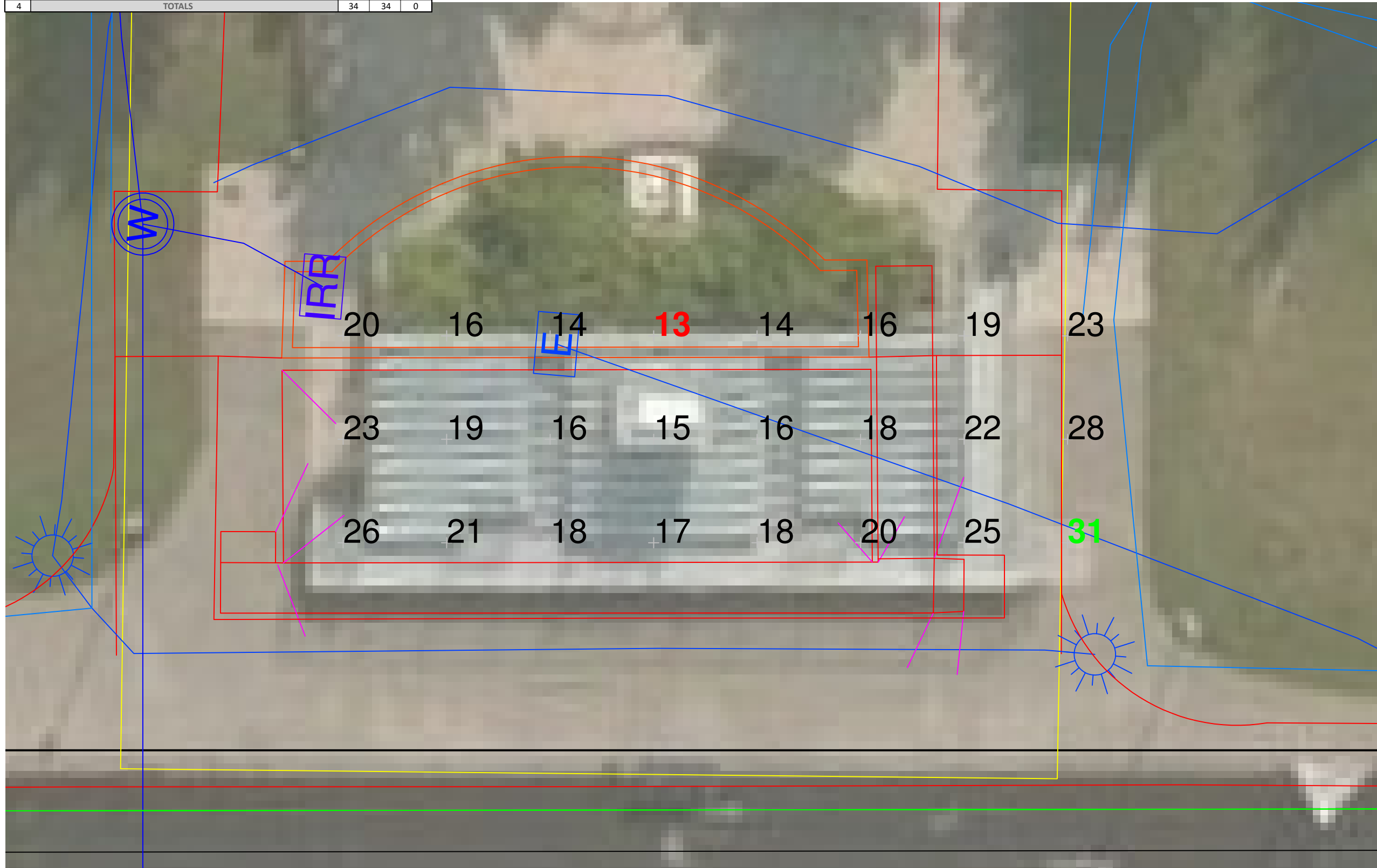


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EQUIPMENT LIST FOR AREAS SHOWN								
Pole			Luminaires					
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
2	F1-F2	80'	-	15'	TLC-BT-575	2	2	0
				50'	TLC-LED-1200	1	1	0
				80'	TLC-LED-1500	6	6	0
2	F3-F4	80'	-	80'	TLC-LED-900	2	2	0
				15'	TLC-BT-575	2	2	0
				80'	TLC-LED-1500	4	4	0
4	TOTALS					34	34	0

GRID SUMMARY	
Name:	Bleachers
Size:	360' x 205'
Spacing:	10.0' x 10.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY			
MAINTAINED HORIZONTAL FOOTCANDLES			
Entire Grid			
Scan Average:	19.41		
Maximum:	31		
Minimum:	13		
No. of Points:	24		
LUMINAIRE INFORMATION			
Color / CRI:	5700K - 75 CRI		
Luminaire Output:	160,000 / 52,000 / 89,600 / 136,000 lumens		
No. of Luminaires:	34		
Total Load:	39.1 kW		
Lumen Maintenance			
Luminaire Type	L90 hrs	L80 hrs	L70 hrs
TLC-LED-1500	>120,000	>120,000	>120,000
TLC-BT-575	>120,000	>120,000	>120,000
TLC-LED-900	>120,000	>120,000	>120,000
TLC-LED-1200	>120,000	>120,000	>120,000
Reported per TM-21-11. See luminaire datasheet for details.			

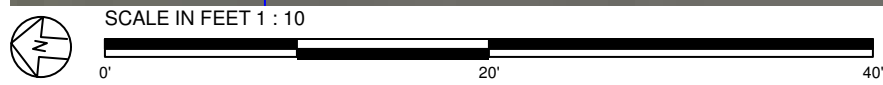


Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

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) ⊗



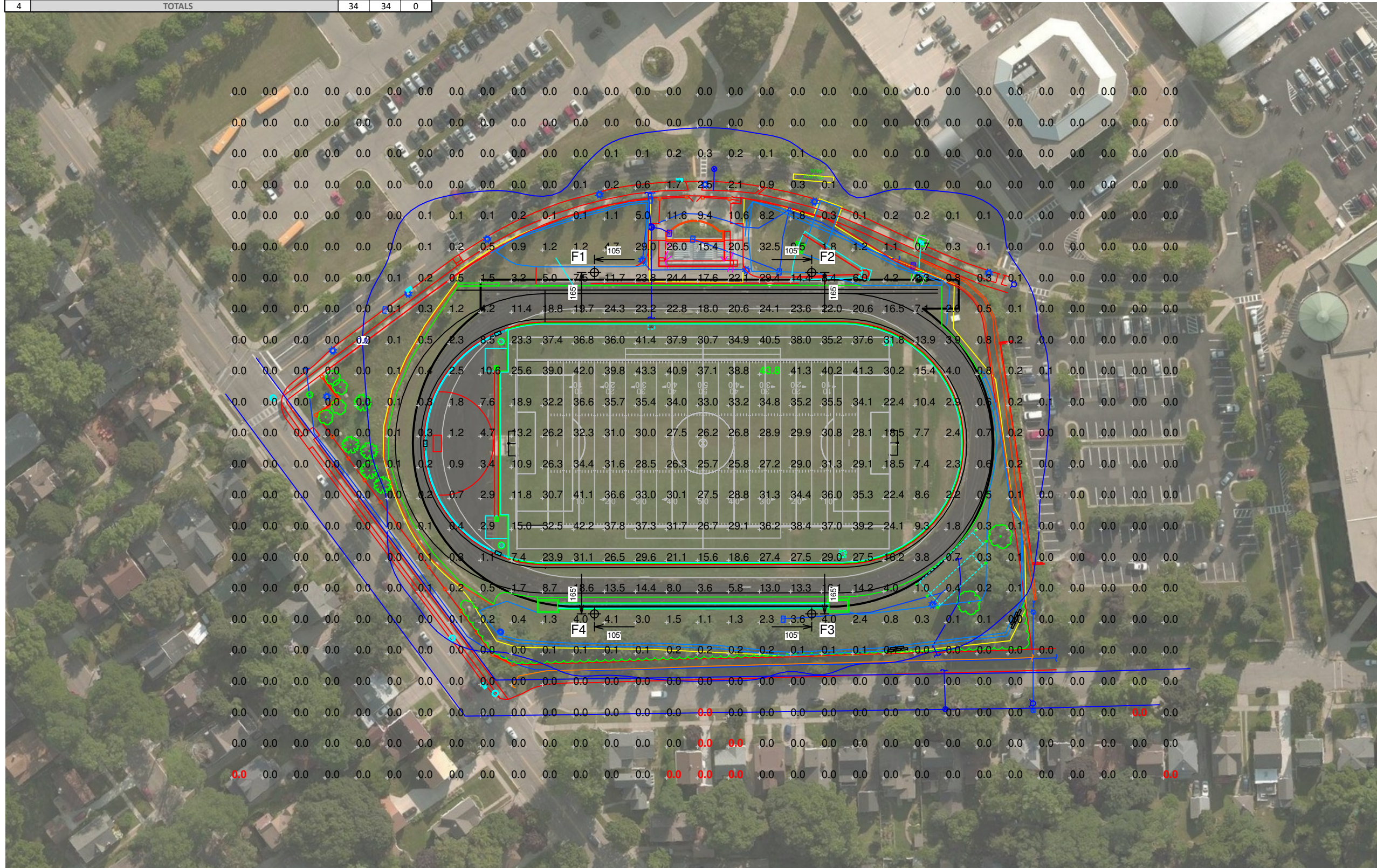
EQUIPMENT LIST FOR AREAS SHOWN

Pole		Luminaires							
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS	
2	F1-F2	80'	-	15'	TLC-BT-575	2	2	0	
				50'	TLC-LED-1200	1	1	0	
				80'	TLC-LED-1500	6	6	0	
2	F3-F4	80'	-	80'	TLC-LED-900	2	2	0	
				15'	TLC-BT-575	2	2	0	
				80'	TLC-LED-1500	4	4	0	
4	TOTALS						34	34	0

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GRID SUMMARY	
Name:	Blanket Grid
Size:	360' x 205'
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY			
MAINTAINED HORIZONTAL FOOTCANDLES			
Entire Grid			
Scan Average:	5.90		
Maximum:	44		
Minimum:	0		
No. of Points:	713		
LUMINAIRE INFORMATION			
Color / CRI:	5700K - 75 CRI		
Luminaire Output:	160,000 / 52,000 / 89,600 / 136,000 lumens		
No. of Luminaires:	34		
Total Load:	39.1 kW		
Lumen Maintenance			
Luminaire Type	L90 hrs	L80 hrs	L70 hrs
TLC-LED-1500	>120,000	>120,000	>120,000
TLC-BT-575	>120,000	>120,000	>120,000
TLC-LED-900	>120,000	>120,000	>120,000
TLC-LED-1200	>120,000	>120,000	>120,000
Reported per TM-21-11. See luminaire datasheet for details.			

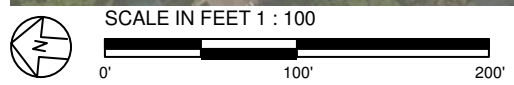


Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

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) ⊗



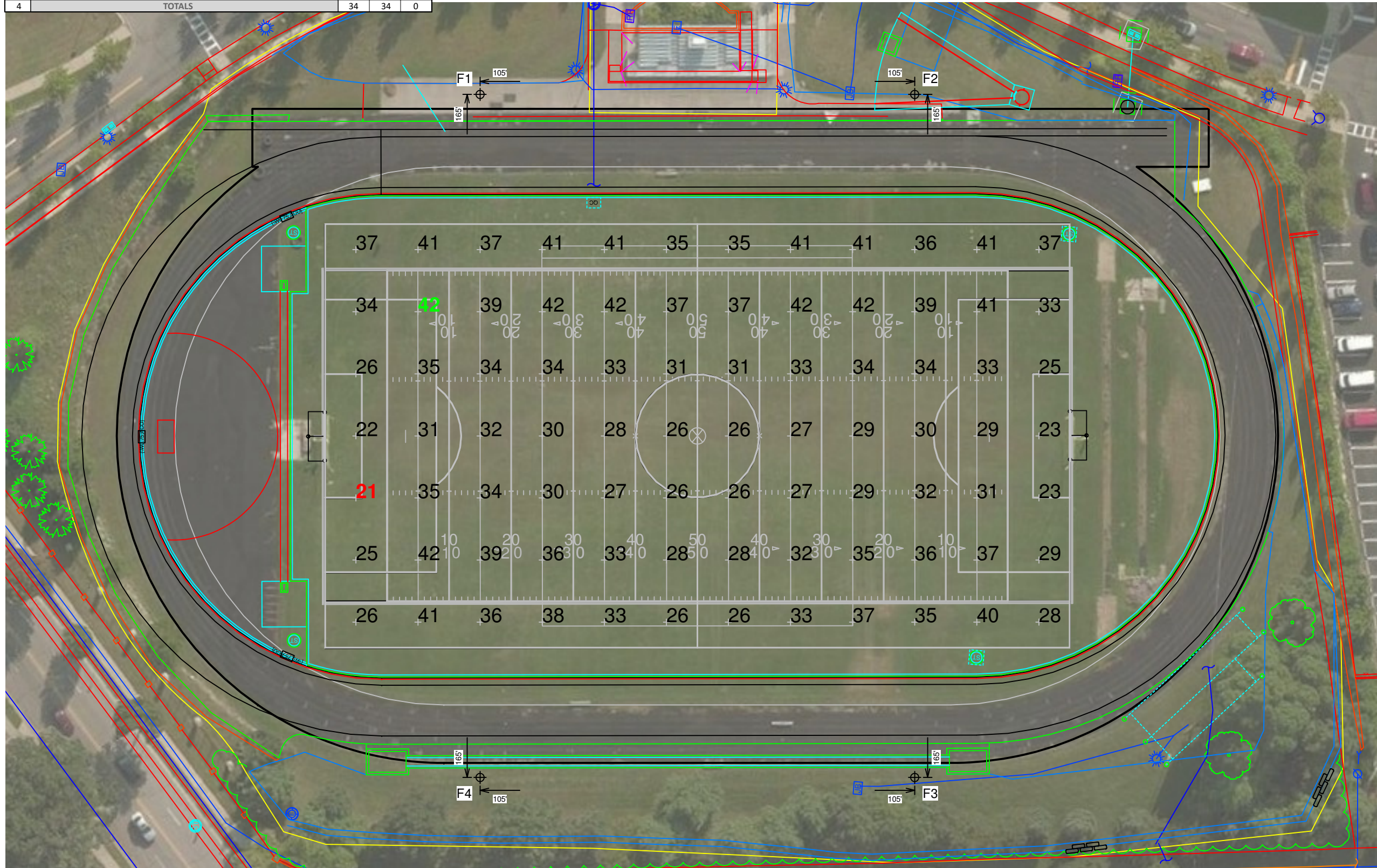
EQUIPMENT LIST FOR AREAS SHOWN									
Pole			Luminaires						
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS	
2	F1-F2	80'	-	15'	TLC-BT-575	2	2	0	
				50'	TLC-LED-1200	1	1	0	
				80'	TLC-LED-1500	6	6	0	
2	F3-F4	80'	-	80'	TLC-LED-900	2	2	0	
				15'	TLC-BT-575	2	2	0	
				80'	TLC-LED-1500	4	4	0	
4	TOTALS					34	34	0	

GRID SUMMARY	
Name:	Soccer
Size:	360' x 205'
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY	
MAINTAINED HORIZONTAL FOOTCANDLES	
Entire Grid	
Guaranteed Average:	30
Scan Average:	33.20
Maximum:	42
Minimum:	21
Avg / Min:	1.57
Guaranteed Max / Min:	2.5
Max / Min:	2.00
UG (adjacent pts):	1.67
CU:	0.60
No. of Points:	84

LUMINAIRE INFORMATION			
Color / CRI:	5700K - 75 CRI		
Luminaire Output:	160,000 / 52,000 / 89,600 / 136,000 lumens		
No. of Luminaires:	34		
Total Load:	39.1 kW		
Lumen Maintenance			
Luminaire Type	L90 hrs	L80 hrs	L70 hrs
TLC-LED-1500	>120,000	>120,000	>120,000
TLC-BT-575	>120,000	>120,000	>120,000
TLC-LED-900	>120,000	>120,000	>120,000
TLC-LED-1200	>120,000	>120,000	>120,000

Reported per TM-21-11. See luminaire datasheet for details.

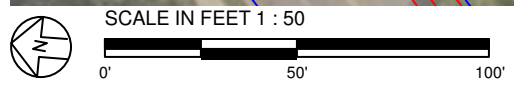


Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

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) ⊗



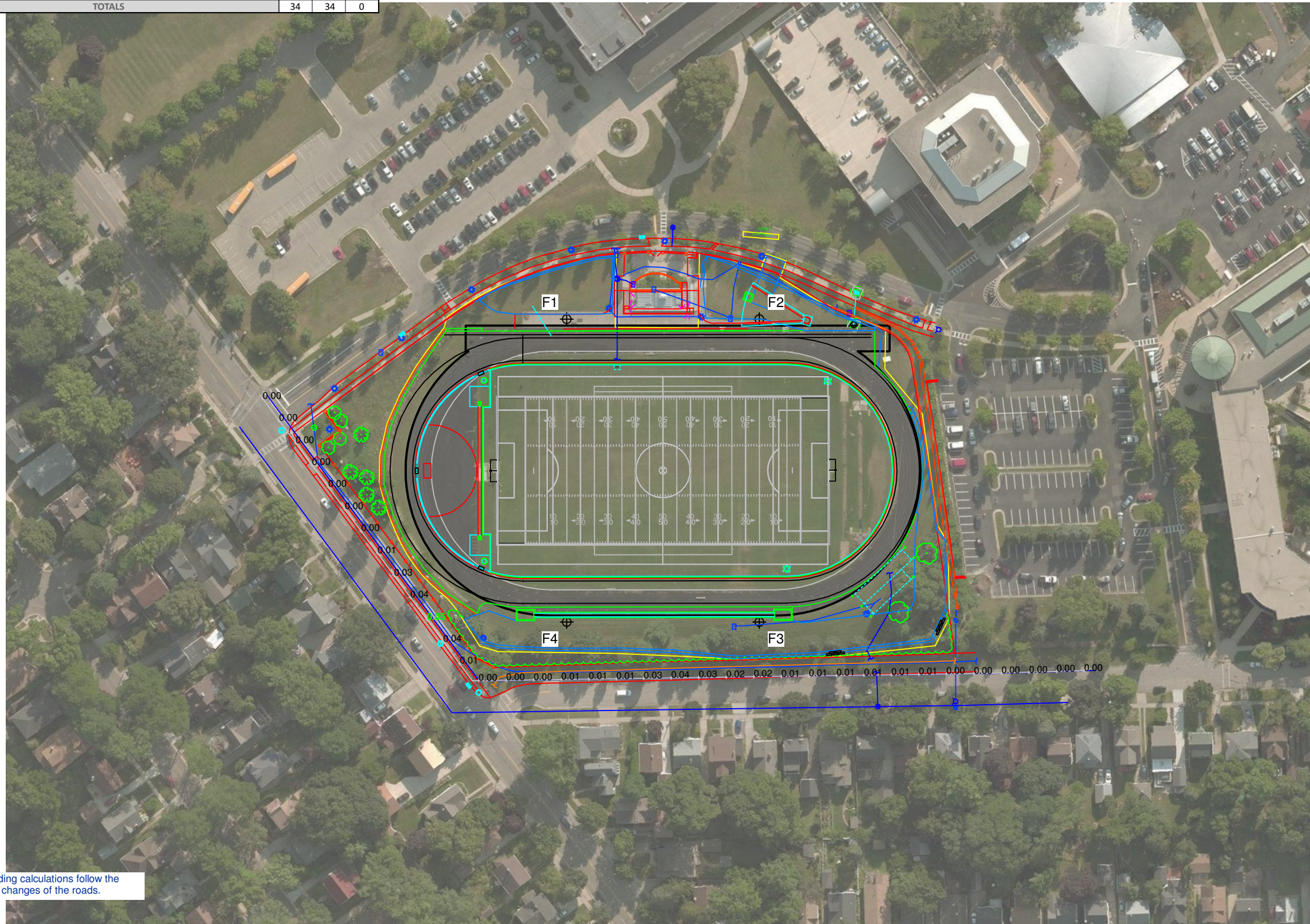
EQUIPMENT LIST FOR AREAS SHOWN

Pole		Luminaires						
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
2	F1-F2	80'	-	15'	TLC-BT-575	2	2	0
				50'	TLC-LED-1200	1	1	0
				80'	TLC-LED-1500	6	6	0
2	F3-F4	80'	-	80'	TLC-LED-900	2	2	0
				15'	TLC-BT-575	2	2	0
				80'	TLC-LED-1500	4	4	0
4	TOTALS					34	34	0

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GRID SUMMARY	
Name:	Property Line
Spacing:	30.0'
Height:	18.0' above grade

ILLUMINATION SUMMARY			
HORIZONTAL FOOTCANDLES			
		Entire Grid	
Scan Average:	0.0115		
Maximum:	0.05		
Minimum:	0.00		
No. of Points:	36		
LUMINAIRE INFORMATION			
Color / CRI:	5700K - 75 CRI		
Luminaire Output:	160,000 / 52,000 / 89,600 / 136,000 lumens		
No. of Luminaires:	34		
Total Load:	39.1 kW		
Lumen Maintenance			
Luminaire Type	L90 hrs	L80 hrs	L70 hrs
TLC-LED-1500	>120,000	>120,000	>120,000
TLC-BT-575	>120,000	>120,000	>120,000
TLC-LED-900	>120,000	>120,000	>120,000
TLC-LED-1200	>120,000	>120,000	>120,000
Reported per TM-21-11. See luminaire datasheet for details.			



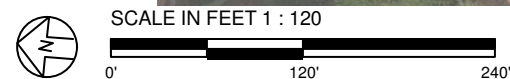
Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document.

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.

NOTES: Light reading calculations follow the elevation changes of the roads.



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



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EQUIPMENT LAYOUT

INCLUDES:

- Football
- Soccer
- Track

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

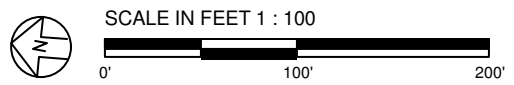
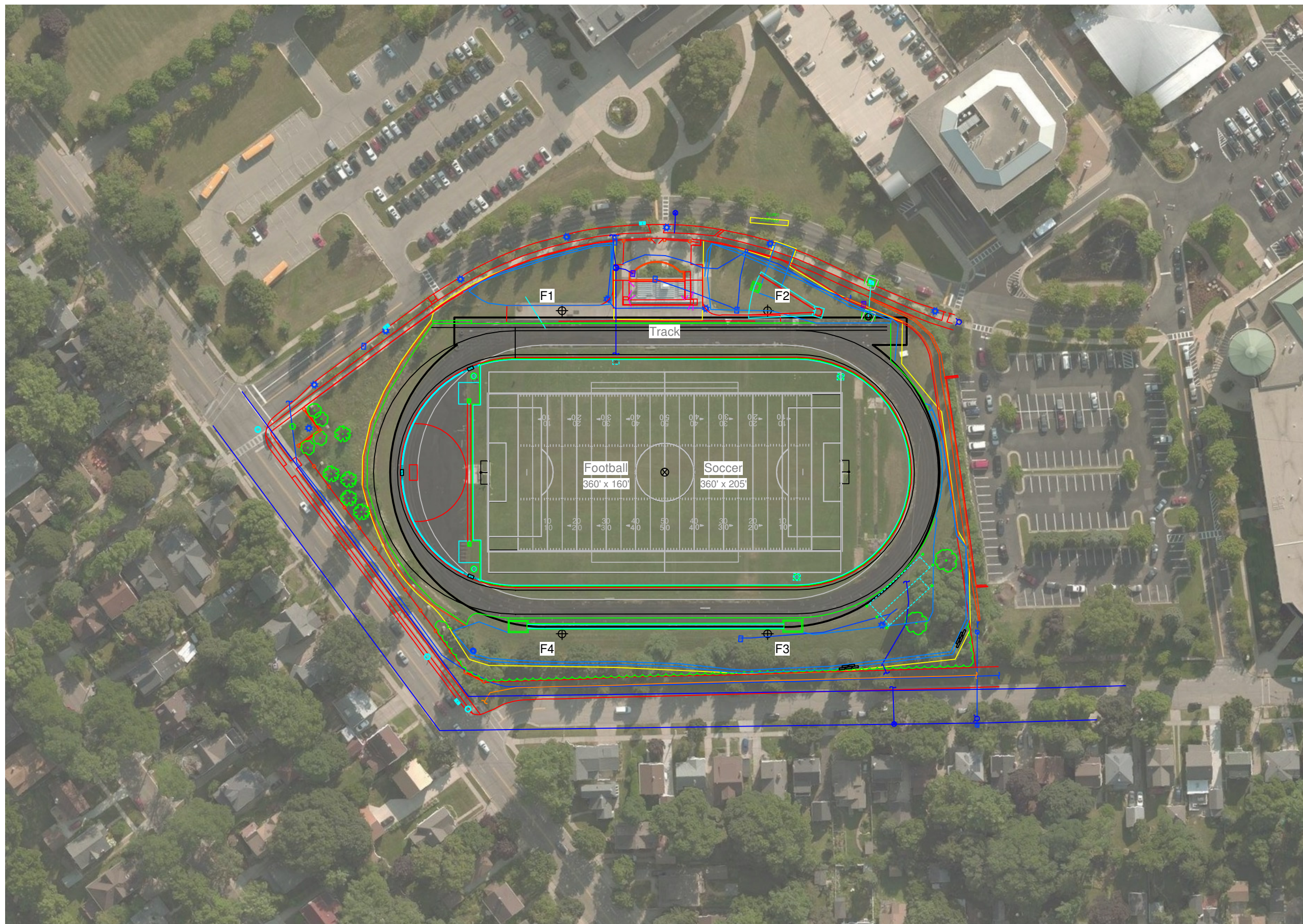
Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

EQUIPMENT LIST FOR AREAS SHOWN

QTY	LOCATION	Pole		Luminaires		QTY / POLE
		SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	
2	F1-F2	80'	-	15'	TLC-BT-575	2
				50'	TLC-LED-1200	1
				80'	TLC-LED-1500	6
2	F3-F4	80'	-	80'	TLC-LED-900	2
				15'	TLC-BT-575	2
				80'	TLC-LED-1500	4
4	TOTALS					34

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	208 (60)	220 (60)	240 (60)	277 (60)	347 (60)	380 (60)	480 (60)
TLC-LED-1500	8.5	8.1	7.4	6.4	5.1	4.7	3.7
TLC-BT-575	3.4	3.2	2.9	2.5	2.0	1.8	1.5
TLC-LED-900	5.3	5.0	4.6	4.0	3.2	2.9	2.3
TLC-LED-1200	7.0	6.6	6.1	5.2	4.2	4.0	3.0



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



GLARE IMPACT

Summary

Map indicates the maximum candela an observer would see when facing the brightest light source from any direction.

A well-designed lighting system controls light to provide maximum useful on-field illumination with minimal destructive off-site glare.

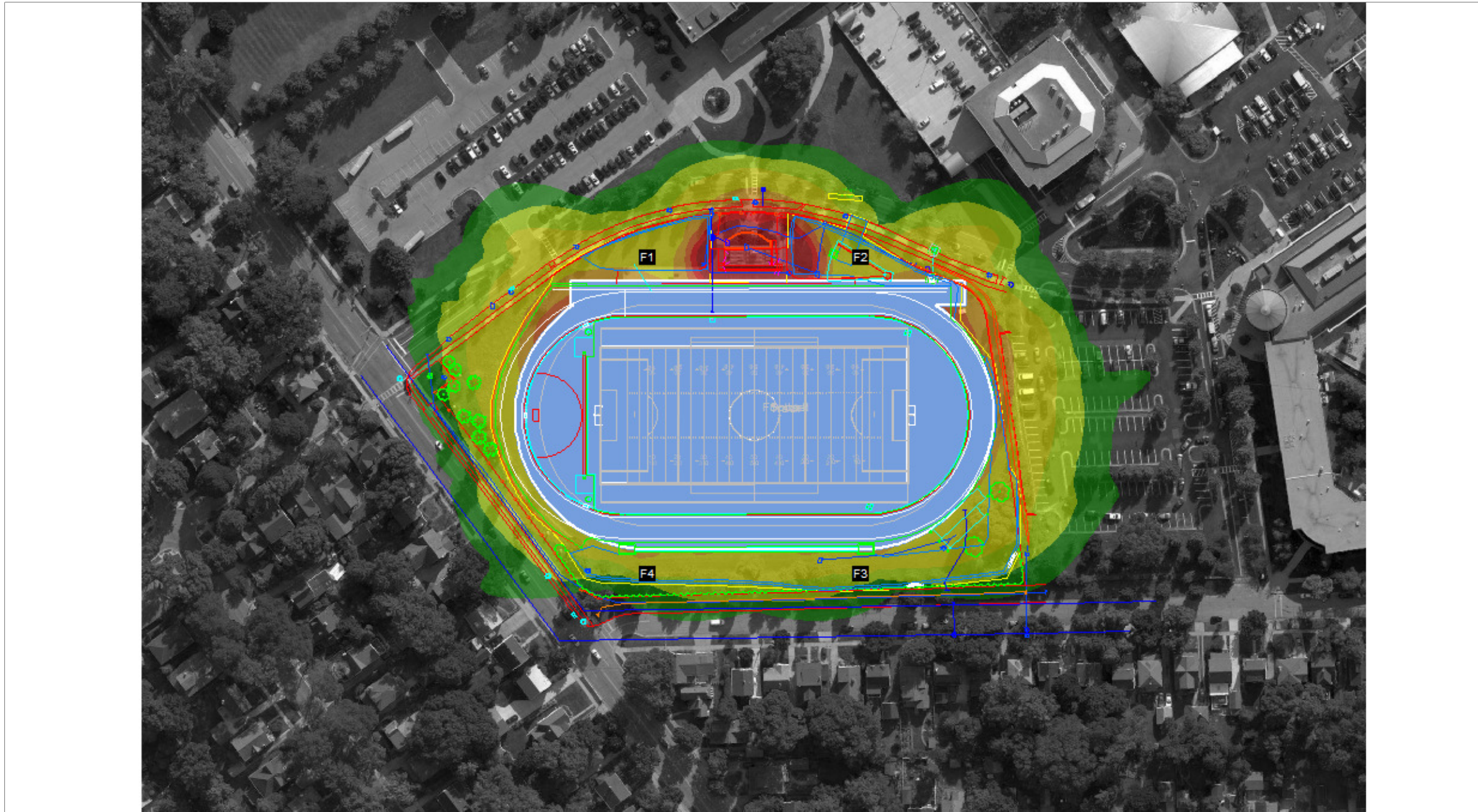
GLARE

Candela Levels

High Glare: 150,000 or more candela
Should only occur on or very near the lit area where the light source is in direct view. Care must be taken to minimize high glare zones.

Significant Glare: 25,000 to 75,000 candela
Equivalent to high beam headlights of a car.

Minimal to No Glare: 500 or less candela
Equivalent to 100W incandescent light bulb.



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