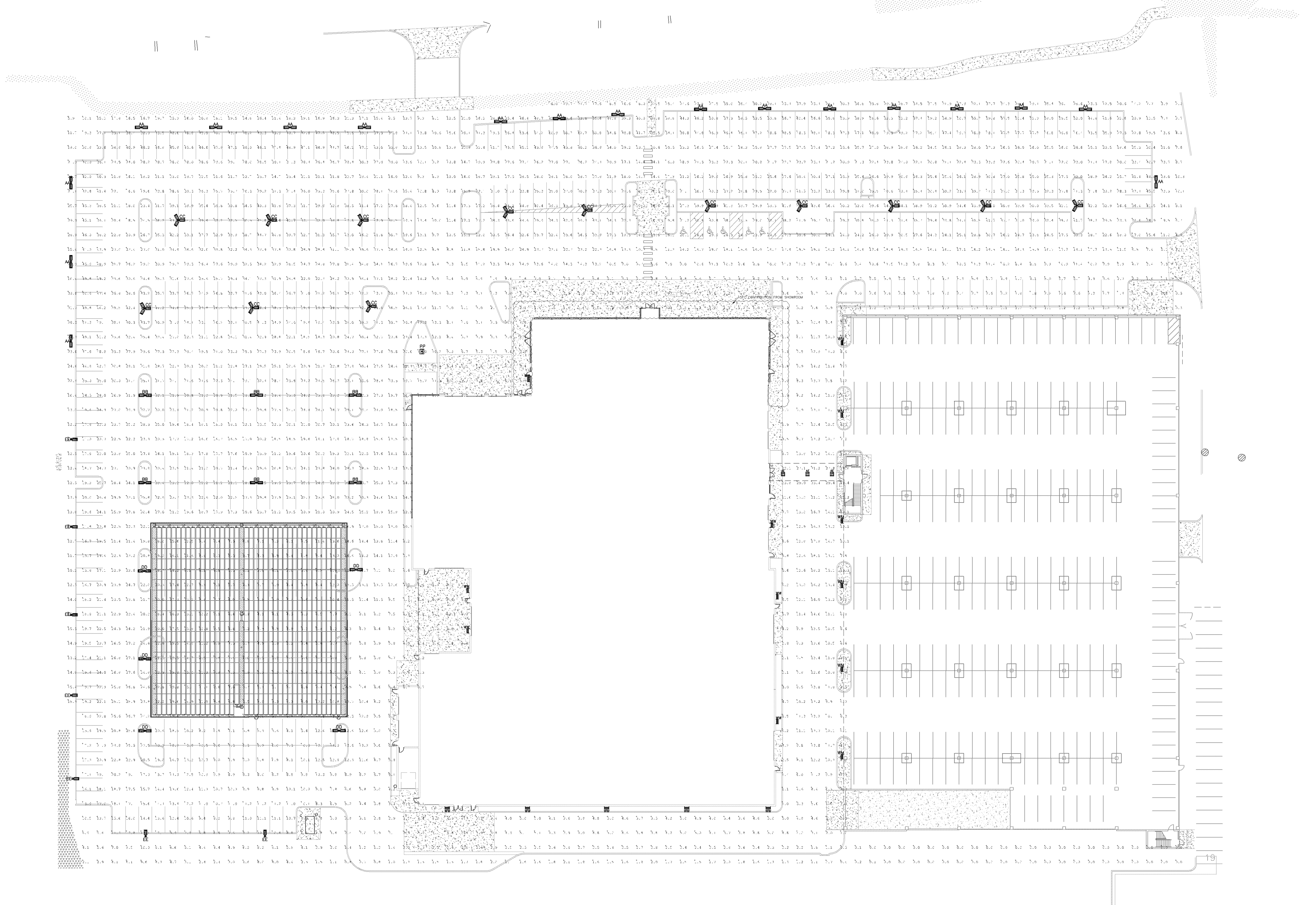
CASE #PL2021-42

LIGHTING PLAN APPROVED

BLOOMINGTON MINNESOTA NMJ 10/28/2024



Luminaire Schedule									
Symbol	Qty	Label	Arrangement	Description	LLF	Luminaire Lumens	Luminaire Watts	Total Watts	Mounting Height
	18	AA	Back-Back	MRM-LED-48L-SIL-FTA-50-70CRI	1.000	46845	366	13176	27
	3	AE	Single	SCM-LED-13L-SC-50	1.000	13039	84.7	254.1	15
	6	BB	Back-Back	MRM-LED-48L-SIL-AM-50-70CRI	1.000	48333	366	4392	27
	13	CC	3 @ 120 Degrees	MRM-LED-48L-SIL-AM-50-70CRI	1.000	48333	366	14274	27
	5	DD	Back-Back	MRM-LED-48L-SIL-5W-50-70CRI	1.000	47147	366	3660	27
	7	EE	Single	MRM-LED-48L-SIL-FT-50-70CRI	1.000	48436	366	2562	27
	1	PP	Single	MPH-LED-35L-SIL-2-50-70CRI	1.000	35626	252	252	27
	6	WM	Single	MRM-LED-24L-SIL-3-50-70CRI	1.000	25804	187	1122	19
	11	WW	Single	XWM-FT-LED-12L-50	1.000	11988	82	902	18

1 E5.1 SITE PHOTOMETRIC(1.0)
1/32"= 1'-0"

STINSON electric inc
Quality • Integrity • Service

www.stinsonelectricinc.com

WALSER BLOOMINGTON TOYOTA

4401 AMERICAN BLVD
BLOOMINGTON, MN 55437

DATE: 10-14-2024

I HEREBY CERTIFY THAT THIS PLAN SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED MASTER ELECTRICIAN UNDER THE LAWS OF THE STATE OF MINNESOTA.

PAUL ARCHAMBAULT
REGISTRATION NO: AM00209

STINSON electric inc.
612.424.8461
755 4th St. NW
New Brighton, MN 55112

DATE: 10-14-2024

MARK	DATE	DESCRIPTION
	10/14/2024	For Inspection

PROJECT NO: C22061
CAD DWG FILE:
DRAWN BY: CW
CHK'D BY: PA
COPYRIGHT:

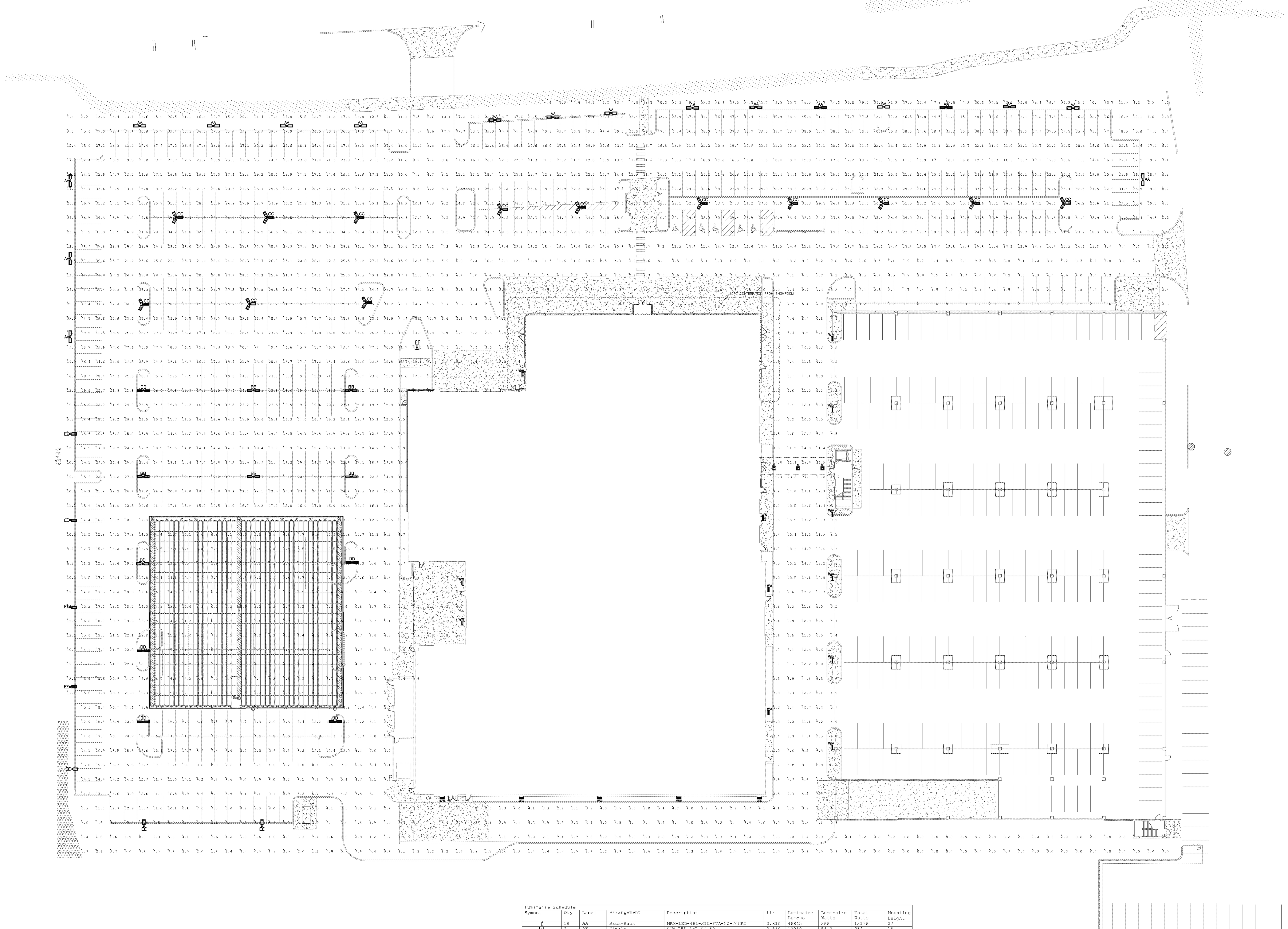
SHEET TITLE

SITE PHOTOMETRIC (1.0)

E5.1

CASE #PL2021-42

LIGHTING PLAN APPROVED
CITY OF BLOOMINGTON MINNESOTA
NMJ
10/28/2024



Luminaire Schedule									
Symbol	Qty	Label	Arrangement	Description	LLF	Luminaire Lumens	Luminaire Watts	Total Watts	Mounting Height
	18	AA	Back-Back	MRM-LED-48L-SIL-FTA-50-70CRI	0.810	46845	366	13176	27
	3	AE	Single	SCM-LED-13L-SC-50	0.810	13039	84.7	254.1	15
	6	BB	Back-Back	MRM-LED-48L-SIL-AM-50-70CRI	0.810	48333	366	4392	27
	13	CC	3 @ 120 Degrees	MRM-LED-48L-SIL-AM-50-70CRI	0.810	48333	366	14274	27
	5	DD	Back-Back	MRM-LED-48L-SIL-5W-50-70CRI	0.810	47147	366	3660	27
	7	EE	Single	MRM-LED-48L-SIL-FT-50-70CRI	0.810	48435	366	2562	27
	1	PP	Single	MPH-LED-35L-SIL-2-50-70CRI	0.810	35626	252	252	27
	6	WM	Single	MRM-LED-24L-SIL-3-50-70CRI	0.810	25804	187	1122	19
	11	WW	Single	XWM-FT-LED-12L-50	0.810	11988	82	902	18

1 / E5.1 SITE PHOTOMETRIC(0.81)
1/32" = 1'-0"

STINSON electric inc
Quality • Integrity • Service
www.stinsonelectricinc.com

WALSER BLOOMINGTON TOYOTA

4401 AMERICAN BLVD
BLOOMINGTON, MN 55437

DATE: 10-14-2024

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	10/14/2024	For Inspection

PROJECT NO: C22061
CAD DWG FILE:
DRAWN BY: CW
CHK'D BY: PA
COPYRIGHT:

SHEET TITLE
SITE PHOTOMETRIC (0.81)

E5.1

CASE #PL2021-42

LIGHTING APPLICATION SCIENCES

206 Deerwood Drive
San Marcos, TX 78666
Phone: 512-353-3890
Fax: 512-353-3891
http://www.lasllc.net

November 11, 2021

LSI Industries
10000 Alliance Road
Cincinnati, OH 45242

RE: Walser Toyota Exterior-LSI10423

Dear Amy:

Per your request the lighting calculations generated by LSI for the above mentioned project have been checked. This calculation was generated using AGi32 software from Lighting Analysts. Luminaire locations and mounting heights were provided by LSI and noted accordingly on the luminaire schedule. Maintained readings (LLF=.81) AND initial readings (LLF=1.0) are taken at 4 ft above grade as is typical for auto dealerships calculated by LSI. The building in the center were built as blocking objects. The calculation process was generated in direct-mode which means that no reflectances were considered.

Several statistical areas were created for parking spaces within the parking lot and labeled accordingly and shown in the calculation summary.

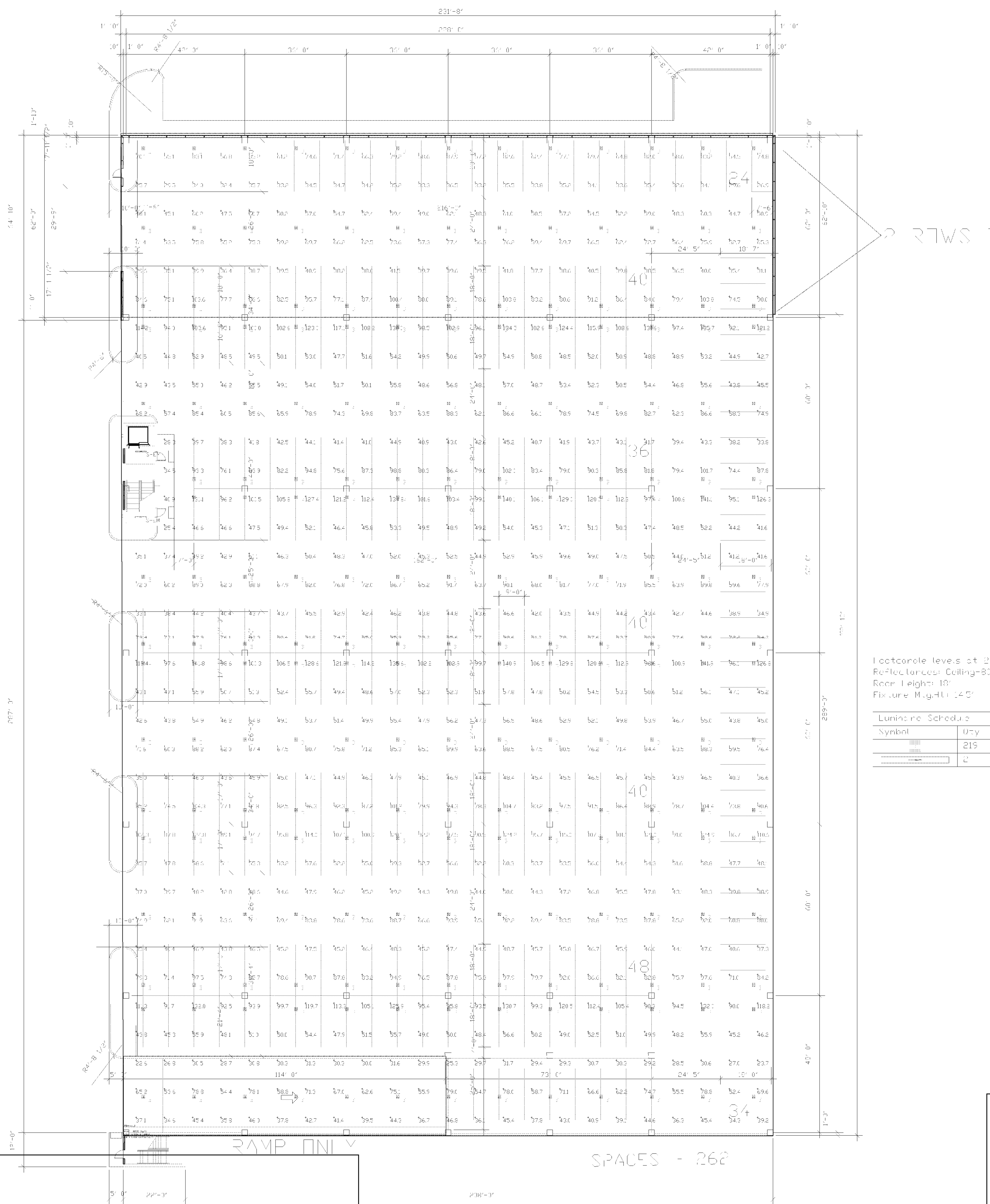
A D sized pdf file and full-sized dwg file has been provided for the site for both the maintained and the initial LLF calculations. I reviewed this calculation as a Lighting Certified professional by NCQLP and can be found on the LC registry at www.ncqlp.org

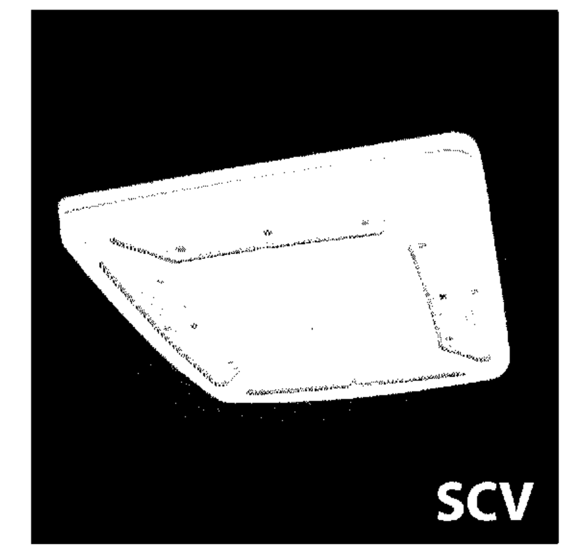
Sincerely,

Jennifer Jaques LC, IES

Jennifer Jaques LC, IES

Approved Plan





CASE #PL2021-42

PHOTOMETRIC EVALUATION
NOT FOR CONSTRUCTION

Based on the information provided, all dimensions and luminaire locations shown represent recommended positions. The engineer and/or architect must determine the applicability of the layout to existing or future field conditions.

This lighting plan represents illumination levels calculated from laboratory data taken under controlled conditions in accordance with The Illuminating Engineering Society (IES) approved methods. Actual performance of any manufacturer's luminaires may vary due to changes in electrical voltage, tolerance in lamps/LED's and other variable field conditions. Calculations do not include obstructions such as buildings, curbs, landscaping, or any other architectural elements unless noted. Fixture nomenclature noted does not include mounting hardware or poles. This drawing is for photometric evaluation purposes only and should not be used as a construction document or as a final document for ordering product.

Calculation Summary

Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
GROUND FLOOR OF GARAGE_Workplan	Illuminance	Fc	65.46	141.9	22.6	2.90	6.28
2 ROWS OF PARKING	Illuminance	Fc	57.86	103.8	25.7	2.25	4.04
RAMP ONLY	Illuminance	Fc	45.00	78.8	22.6	1.99	3.49

Footcandle levels at 2.5' above grade.
Reflectances: Ceiling-80% Walls-Glass & Open Floor-20%
Room Height: 18'
Fixture Mtg.Ht: 14.5'

Luminaire Schedule

Symbol	Qty	Label	Arrangement	Description	LLD	LDD		Arr. Lum. Lumens	Arr. Watts
	219	3	SINGLE	SCV-P-LED-23L-SC-50-UNV-DIM-WHT-ALSC-14.5' MH	1.000	1.000	1.000	23284	155
	2	S LM	SINGLE	SW 4 80L 850 UL IMCS	1.000	1.000	1.000	8239	62

Required – all lights required for security must be on an alternate circuit; all other exterior lighting must be illuminated no earlier than one hour before the start of business and must be extinguished no later than one hour after the end of busines (Sec. 21.301.07(c)(13)).

LIGHTING PLAN APPROVED
CITY OF BLOOMINGTON MINNESOTA
NMJ
05/27/2022

Total Project Watts_1
Total Watts = 34069

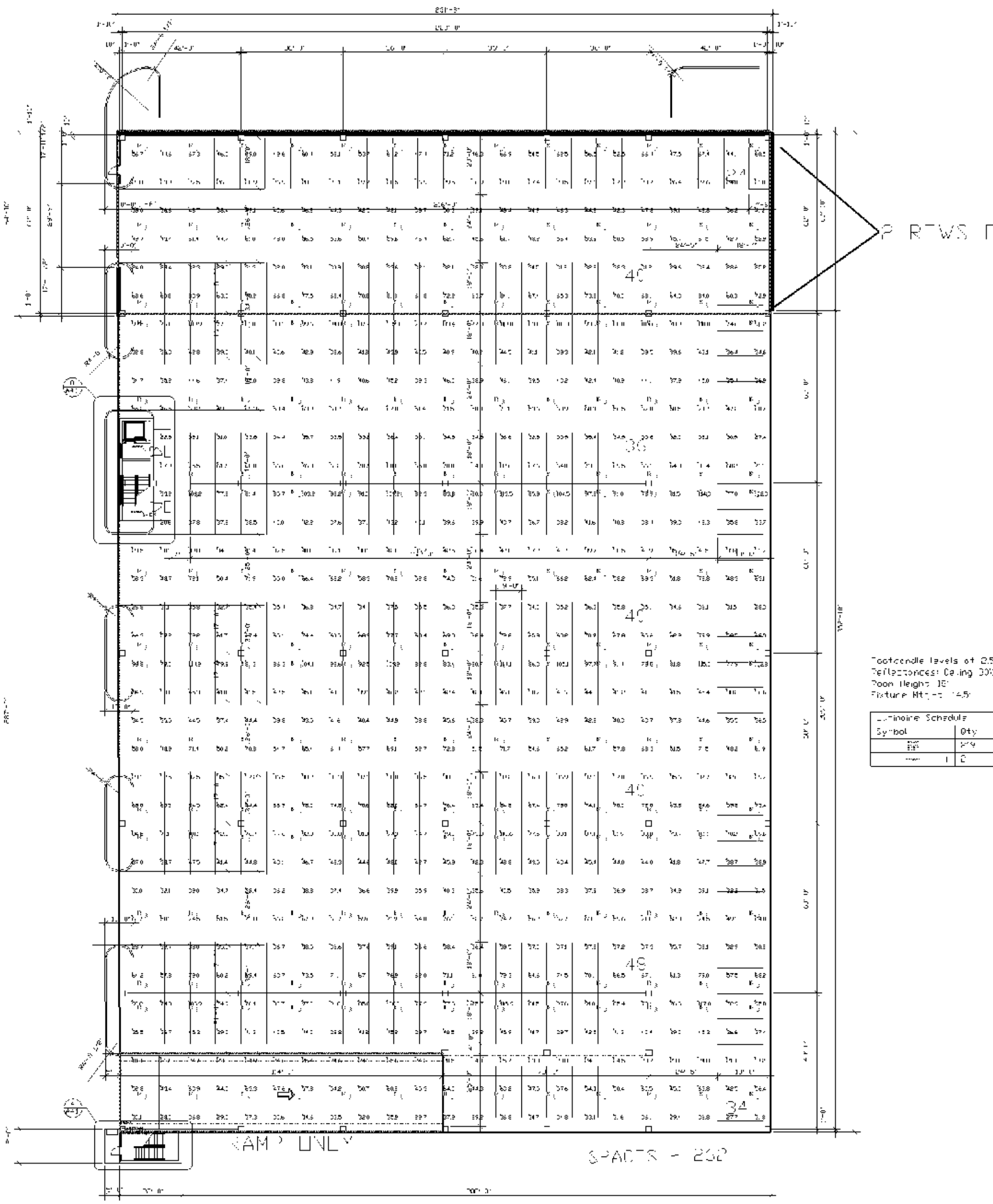
10000 ALLIANCE RD CINCINNATI, OHIO 45242 USA
(513) 793-3200 • FAX (513) 793-6023

LIGHTING PROPOSAL LL-153155A-10B

WALSER TOYOTA
GROUND FLOOR PKG
BLOOMINGTON, MN

DATE:1/26/21 REV:5/5/22 SHEET 1 1

SCALE 1"=20' 0 20



CASE #PL2021-42

PHOTOMETRIC EVALUATION
NOT FOR CONSTRUCTION

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Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
GROUN FLOOR OF GARAGE_Workplan	Illuminance	Fc	53.03	115.0	18.3	2.90	6.28
2 ROWS OF PARKING	Illuminance	Fc	46.87	84.0	20.8	2.25	4.04
RAMP ONLY	Illuminance	Fc	36.45	63.9	18.3	[illegible]	3.49

Footcandle levels at 2.5' above grade
Reflectances: Ceiling 30% Walls Glass & Open Floor 20%
Room Height: 16'
Fixture Mtg Ht: 14.5'

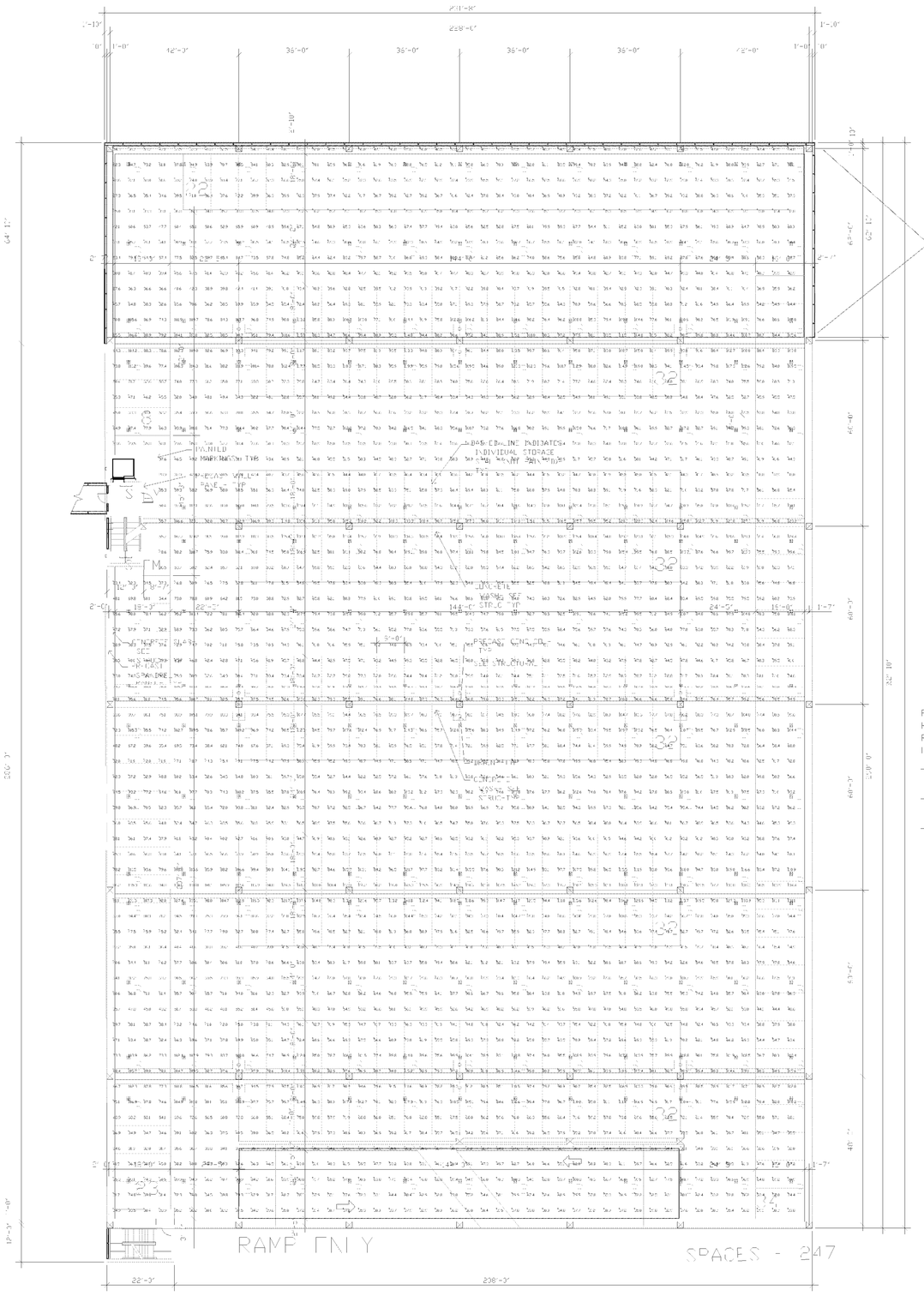
Luminaire Schedule									
Symbol	Qty	Label	Arrangement	Description	LLD	LDD	LLF	Arr. Lum. Lumens	Arr. Watts
[illegible]	229	R	SINGLE	[illegible]	0.910	1.000	0.910	[illegible]	[illegible]
[illegible]	2	S EM	SINGLE	SW 4 60L 050 UI IMUS	0.910	1.000	0.910	8233	33

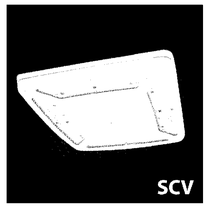
Total Proposed Watts [illegible]
Total Watts = [illegible]

LIGHTING PLAN APPROVED
BLOOMINGTON
NMJ
05/27/2022

LIGHTING PROPOSAL [illegible]
[illegible] TOYOTA
GROUND FLOOR PKG
BLOOMINGTON, MN
SHEET 1 OF 1
SCALE: 1"=20'

Approved Plan





CASE #PL2021-42

PHOTOMETRIC EVALUATION
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2 ROWS OF PARKING

Calculator Summary									
Label	Description	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min	Grid Z
1ST 2ND FLOOR & GARAGE Floor		Illuminance	Fc	69.20	145.3	23.4	2.96	6.21	0
2 ROWS OF PARKING		Illuminance	Fc	63.00	135	25.0	2.52	4.60	
RAMP ONLY		Illuminance	Fc	58.42	101.4	29.6	1.97	3.43	

Footcandle levels at grade
Reflectances: Ceiling-80% Walls-Gloss & Open Floor-20%
Floor Height: 12'
Fixture Mtg Ht: 9'

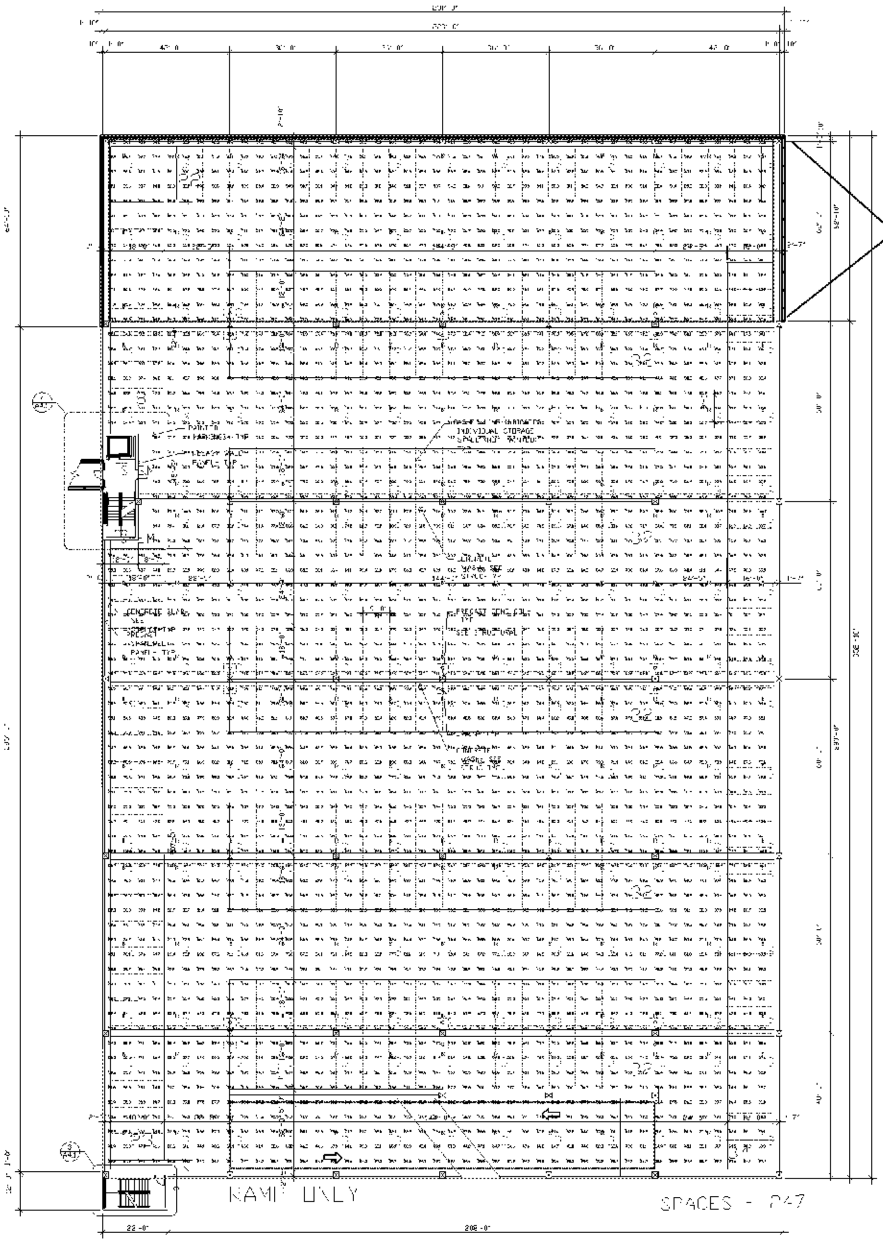
Luminaire Schedule								
Symbol	Qty	Label	Arrangement	Description	LLD	LDF	LLF	Arr. Lum. Lumens	Arr. Watts
	219	S	SINGLE	SCV-2-LED-23L-SC-3K-UNV-DIM-WH -ALSL-9' MH	1.000	1.000	1.000	23284	190
	2	S-EM	SINGLE	SW-4-801-850-UE-IMLS	1.000	1.000	1.000	8239	69

Total Project Watts_1
Total Watts = 34069

LIGHTING PROPOSAL — LD-153155-10C
WALSER TOYOTA
1ST & 2ND FLOOR
BLOOMINGTON, MN
SCALE: 1"=20'
SHEET 1 OF 1

LIGHTING PLAN APPROVED
CITY OF BLOOMINGTON
NMJ
05/27/2022

Approved Plan



CASE #PL2021-42

Based on the information provided, all dimensions and luminaire locations shown represent recommended positions. The engineer and/or architect must determine the applicability of the layout to existing or future field conditions.

This lighting plan represents illumination levels calculated from laboratory data taken under controlled conditions in accordance with the Illuminating Engineering Society (IES) approved methods. Actual performance of any manufacturer's luminaires may vary due to changes in electrical voltage, tolerance in lamps/LED's and other variable field conditions. Calculations do not include obstructions such as buildings, curbs, landscaping, or any other architectural elements unless noted. Fixture nomenclature noted does not include mounting hardware or poles. This drawing is for photometric evaluation purposes only and should not be used as a construction document or as a final document for ordering product.

Calculation Summary

Label	Description	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min	Grid Z
1ST-2ND FLOOR OF GARAGE Floor		Illuminance	Fc	56.05	117.7	19.0	2.95	6.19	0
2 ROWS OF PARKING		Illuminance	Fc	51.04	93.0	20.3	2.51	4.50	
RAMP ONLY		Illuminance	Fc	47.30	82.1	24.0	1.57	3.42	

Footcandle levels at grade
Reflectances: Ceiling 30% Walls Glass & Open Floor 20%
Room Height: 10'
Fixture Height: 9'

Luminaire Schedule

Symbol	Qty	Label	Arrangement	Description	LLD	LDF	LLF	Arr. Lum. Lumens	Arr. Watts
[illegible]	279	R	SINGLE	[illegible]	0.810	1.000	0.810	[illegible]	[illegible]
[illegible]	2	S EM	SINGLE	SW-A-80L-050-[illegible]	0.810	1.000	0.810	[illegible]	[illegible]

LIGHTING PLAN APPROVED
City of BLOOMINGTON MINNESOTA
NMJ
05/27/2022

Total Project Watts: [illegible]
Total Watts: 31065

LIGHTING PROPOSAL LL-[illegible]

WALSER TOYOTA
1ST & 2ND FLOOR
BLOOMINGTON, MN

SHEET 1 LP-1

SCALE: 1" = 20'

Approved Plan

CASE #PL2021-42

May 25, 2022

Ms. Amy Hotchkiss-Kerby
LSI Industries
10000 Alliance Road
Cincinnati, OH 45242

RE: Walser Toyota-Parking Garage / Bloomington, MN / LO-153155

Dear Amy:

Per your request, the lighting calculations generated by LSI for the above mentioned project have been reviewed and verified. The calculations were generated using AGI32 software from Lighting Analysts. Luminaire locations and mounting heights were provided by LSI and noted accordingly on the luminaire schedule. All calculated light levels are at grade level. The calculation process was generated in full radiosity mode and reflective surfaces were considered. Four layouts were created in total, and specifics about each are noted below.

LO-153155-10C-Ground Floor was run at Initial
LO-153155-10C-1st & 2nd Fl was run at Initial
LO-153155-11B-Ground Floor was run using a 0.81 light loss
LO-153155-11C-1st & 2nd Fl was run using a 0.81 light loss factor

A "D" size pdf file and full-sized dwg file have been provided for each of the four layouts. I have reviewed the calculations as a Lighting Certified professional by NCQLP and can be found on the LC registry at www.ncqlp.org

Regards,

Bruce A. Frasure

Bruce Frasure, LC IES

Frasure Reps ♦ 3343 Lookout Drive ♦ Cincinnati, Ohio 45208 ♦ (513) 666-4242 ♦ www.frasurereps.com

CASE #PL2021-42

COMcheck Software Version 4.1.5.3

Exterior Lighting Compliance Certificate

Project Information

Energy Code:	2018 IECC
Project Title:	WASLER TOYOTA EXTERIOR
Project Type:	New Construction
Exterior Lighting Zone	3 (Other (LZ3))

Construction Site:
4401 AMERICAN BLVD
BLOOMINGTON, MN

Owner/Agent:

Designer/Contractor:

Allowed Exterior Lighting Power

A Area/Surface Category	B Quantity	C Allowed Watts / Unit	D Tradable Wattage	E Allowed Watts (B X C)
Front Row (Sales lot street frontage)	700 ft	7	Yes	4900
Entire Lot - Front Row (Outdoor sales area/lot)	279864 ft2	0.35	Yes	97952
Customer Pkg (Parking area)	3370 ft2	0.06	Yes	202
All doors/Entrances (Pedestrian and vehicular entrances and exits)	229 ft of	21	Yes	4809
		Total Tradable Watts (a) =		107864
		Total Allowed Watts =		107864
		Total Allowed Supplemental Watts (b) =		500

(a) Wattage tradeoffs are only allowed between tradable areas/surfaces.
(b) A supplemental allowance equal to 500 watts may be applied toward compliance of both non-tradable and tradable areas/surfaces.

Proposed Exterior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
Front Row (Sales lot street frontage 700 ft): Tradable Wattage				
LED 1: A: MRM-LED-48L-SIL-50-70CRI: Other:	1	16	802	12832
Entire Lot - Front Row (Outdoor sales area/lot 279864 ft2): Tradable Wattage				
LED 6: A-IL: MRM-LED-42L-SIL-50-70CRI-IL: Other:	1	2	708	1416
LED 7: A1-G: MRM-LED-36L-SIL-5W-50-70CRI-D18: Other:	1	15	576	8640
LED 8: B: MRM-LED-48L-SIL-AM-50-70CRI: Other:	1	12	802	9624
LED 9: C: MRM-LED-48L-SIL-AM-50-70CRI: Other:	1	16	1203	19248
LED 10: E: MRM-LED-42L-SIL-FT-50-70CRI-IL: Other:	1	9	390	3510
LED 11: P1: MPH-LED-35L-SIL-2-50-70CRI: Other:	1	2	294	588
LED 12: P2: MPH-LED-35L-SIL-5W-50-70CRI: Other:	1	1	294	294
LED 13: A: MRM-LED-48L-SIL-50-70CRI: Other:	1	2	802	1604
Customer Pkg (Parking area 3370 ft2): Tradable Wattage				
LED 4: WS: XWS-LED-06L-FTW-50-80CRI: Other:	1	2	52	104
LED 5: P1: MPH-LED-35L-SIL-2-50-70CRI: Other:	1	4	294	1176
All doors/Entrances (Pedestrian and vehicular entrances and exits 229 ft of door width): Tradable Wattage				
LED 2: W: XWM-FT-LED-12L-50: Other:	1	15	102	1533
LED 3: WM: MRM-LED-24L-SIL-3-50-70CRI: Other:	1	6	176	1056
			Total Tradable Proposed Watts =	61625

CASE #PL2021-42

Exterior Lighting PASSES: Design 43% better than code

Exterior Lighting Compliance Statement

Compliance Statement: The proposed exterior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed exterior lighting systems have been designed to meet the 2018 IECC requirements in COM*check* Version 4.1.5.3 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

David A. Phillips Manager — Name - Title

Signature

11/2/2021 — Date