

POWER & COMMUNICATION LEGEND	
120V DUPLEX OUTLET	MOTOR EQUIPMENT CONNECTION
120V QUAD OUTLET	ELECTRICAL DISCONNECT
208 OR 240 VOLT RECEPTACLE	ELECTRICAL CONNECTION W/DISCONNECT
120V CEILING RECEPTACLE	ELECTRICAL CONNECTION W/WEATHER PROOF DISCONNECT
DATA/COMMUNICATION OUTLET	ELECTRICAL PANEL
TELEPHONE OUTLET	THERMOSTAT MOUNTED AT 48" A.F.F.
TV OUTLET	SMOKE/CO ALARM
FLOOR BOX	SMOKE ALARM
JUNCTION BOX	NITROGEN DIOXIDE DETECTOR
E-STOP FOR GRILL OR FIRE PIT	CARBON MONOXIDE DETECTOR
TIMER FOR FRILL OR FIRE PIT	
BC BELOW COUNTER OUTLET	
AC ABOVE COUNTER OUTLET	
D DEDICATED RECEPTACLE	
GFI GROUND FAULT CIRCUIT INTERRUPTER	
WP/GFI WEATHER PROOF COVER WITH GFI	
LIGHTING LEGEND	
RECESSED 2X4 FIXTURE	SINGLE POLE SWITCH
RECESSED 2X2 FIXTURE	THREE WAY SWITCH
SURFACE MOUNT 1X4 FIXTURE	FOUR WAY SWITCH
SURFACE MOUNT 2X4 FIXTURE	OCCUPANCY SENSORS
WALL MOUNTED FIXTURE	VACANCY SENSORS
CEILING MOUNTED STRIP FIXTURE	CEILING OCCUPANCY SENSORS
RECESSED OR DISC FIXTURE	CEILING OCCUPANCY SENSORS
WALL MOUNTED FIXTURE	CEILING OCCUPANCY SENSORS
SURFACE CEILING MOUNTED FIXTURE	CEILING OCCUPANCY SENSORS
PENDANT MOUNTED FIXTURE	CEILING OCCUPANCY SENSORS
EXTERIOR POLE MOUNTED FIXTURE	CEILING OCCUPANCY SENSORS
BOLLARD OR GROUND MOUNTED FIXTURE	CEILING OCCUPANCY SENSORS
EMERGENCY LIGHTING FIXTURE	CEILING OCCUPANCY SENSORS
EMERGENCY EXIT SIGN	CEILING OCCUPANCY SENSORS
EMERGENCY EXIT SIGN WITH EMERGENCY HEADS	CEILING OCCUPANCY SENSORS
EXTERIOR EMERGENCY EGRESS LIGHT	CEILING OCCUPANCY SENSORS

SITE NOTES	
1	PRIOR TO ANY DIGGING, TRENCHING, ETC. CONTACT ALL LOCAL UTILITY COMPANIES AND MUNICIPALITIES AND CONFIRM EXACT LOCATIONS OF ALL EXISTING UTILITIES.
2	MATERIALS AND EQUIPMENT SHALL BE LISTED AND/OR LABELED BY UL OR ANOTHER NATIONALLY RECOGNIZED TESTING LABORATORY.
3	ALL MATERIAL, EQUIPMENT, WIRING DEVICES, ETC. SHALL BE NEW, UNLESS SPECIFICALLY NOTED AS EXISTING TO BE REUSED.
4	ALL MATERIALS AND EQUIPMENT SHALL BE STORED, HANDLED, ERECTED, INSTALLED, CONNECTED, CLEANED, ADJUSTED, TESTED, CONDITIONED AND PLACED IN SERVICE IN ACCORDANCE WITH THE MANUFACTURER'S DIRECTIONS AND RECOMMENDATIONS.
5	ALL POLE FIXTURES TO BE LOCATED 4" AWAY FROM EDGE OF CURB.
6	ALL EXTERIOR LIGHT FIXTURES TO BE CONNECTED TO A COMMON EQUIPMENT GROUND. USE #8 TYPE THWN.
7	THE CONTROLLING LIGHTING CONTACTORS SHALL BE MOUNTED INSIDE THE BUILDING WITH TIME-CLOCK CONTROL. REMOTE PHOTOCELLS LOCATED ON THE EXTERIOR SIDE OF THE BUILDING WALL. INSTALL PHOTOCELLS AT LOCATIONS WHERE BUILDING OR OTHER OBSTRUCTIONS WILL NOT INTERFERE WITH THEIR PROPER OPERATION. FINAL BRANCH CIRCUIT SUPPLY CONNECTIONS WILL BE PROVIDED BY THE BUILDING ELECTRICAL CONTRACTORS.
8	MIN. BURIAL DEPTH FOR THE LIGHTING CIRCUIT SHALL BE 24". A SLIGHT DECREASE IN DEPTH IS ALLOWED WITHIN 10' OF THE POLES.
9	VERIFY CONSTRUCTION AREAS ON OTHER SITE PLANS FOR POTENTIAL OBSTACLES AND CONSTRUCTION LIMITS.

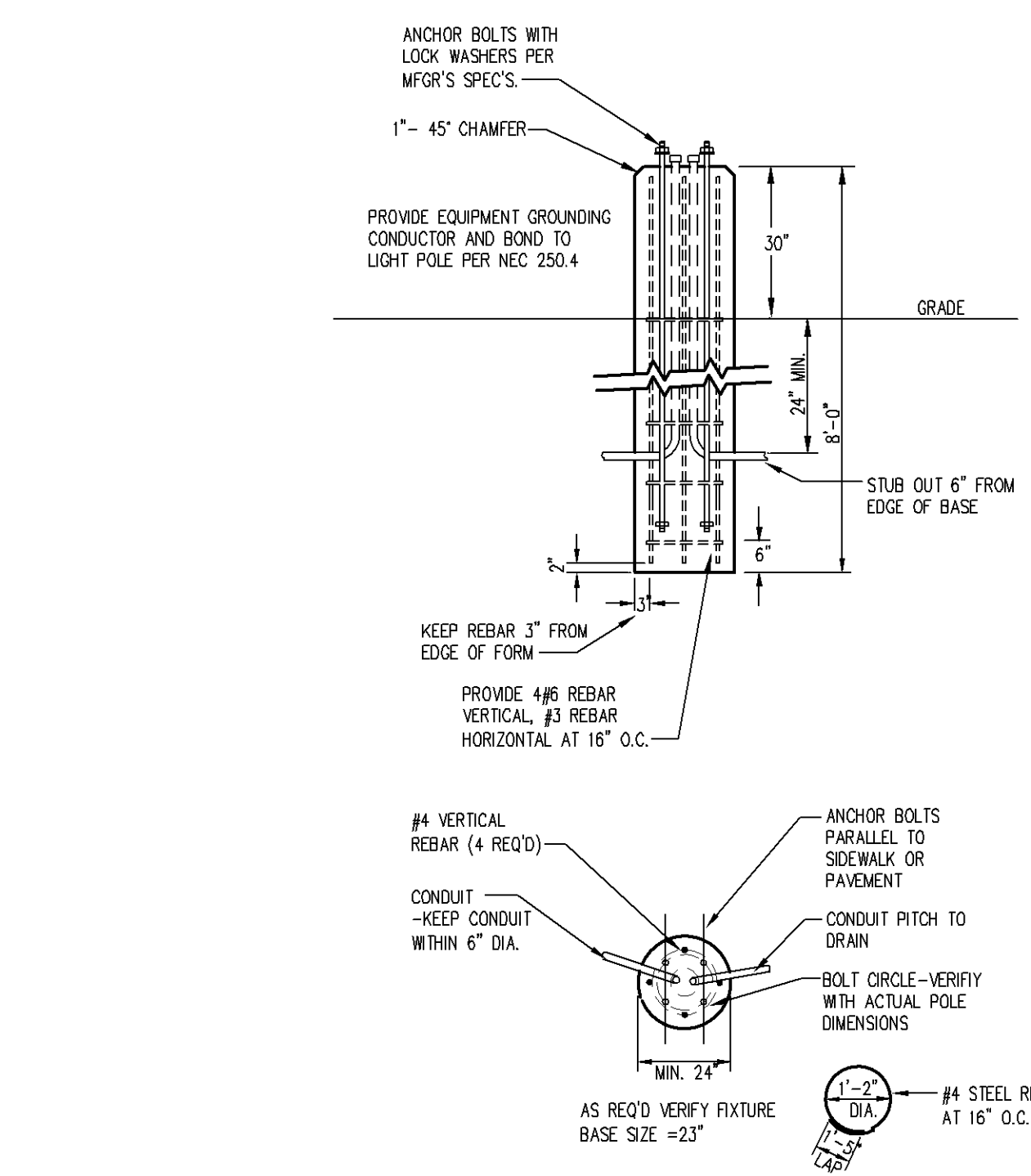
ELECTRICAL GENERAL NOTES	
1	ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH NATIONAL, STATE AND LOCAL ELECTRICAL & BUILDING CODES.
2	COORDINATE WORK WITH ALL OTHER TRADES.
3	EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
4	ALL EQUIPMENT GROUNDING CONDUCTORS SHALL BE INSTALLED AT ALL LOCATIONS.
5	ALL MEASUREMENTS TO TOP OF BOX.
6	GFI PROTECT ALL RECEPTACLES WITHIN 6' OF EVERY SINK.
7	DRAWINGS ONLY REPRESENT AN APPROXIMATE LOCATION OF ALL RECEPTACLES, SWITCHES, LIGHTS, TV/DATA JACKS, ELECTRICAL EQUIPMENT, ETC. FINAL LOCATIONS WILL BE DETERMINED IN THE FIELD AND MAY VARY FROM DRAWINGS DUE TO UNFORESEEN CIRCUMSTANCES.
8	PROVIDE GFI PROTECTION FOR ALL AREAS LISTED UNDER NEC 210.8.
9	PROVIDE TAMPER RESISTANT RECEPTACLES IN ALL AREAS LISTED UNDER NEC 406.12.

LIGHTING FIXTURE SCHEDULE - EXTERIOR (INITIAL)						
TYPE	MANUFACTURE	LAMPS	WATTAGE	LLF	LUMENS	DESCRIPTION
AA	MESTER	LED	27	1.0	3600	SMALL EXTERIOR WALL PACK
BB	RP	LED	13	1.0	1280	DECORATIVE WALL PACK
CC	SUNCO	LED	15	1.0	1050	EXTERIOR RECESSED DOWNLIGHT
DD	MESTER	LED	100	1.0	14100	POLE MOUNT FIXTURE, TYPE II OPTICS, 25' POLE
EE	MESTER	LED	100	1.0	14000	POLE MOUNT FIXTURE, TYPE IV OPTICS, 25' POLE
FF	MESTER	LED	250	1.0	36000	POLE MOUNT FIXTURE, TYPE V OPTICS, 25' POLE

LIGHTING CALCULATIONS INITIAL	
MAX	7.6 FC 25' PERIMETER EXCLUDED
MIN	1.3 FC 25' PERIMETER EXCLUDED
MAX : MIN	5.8 : 1
PERIMETER MIN.	0.6 FC

Plans approved
09/26/2024

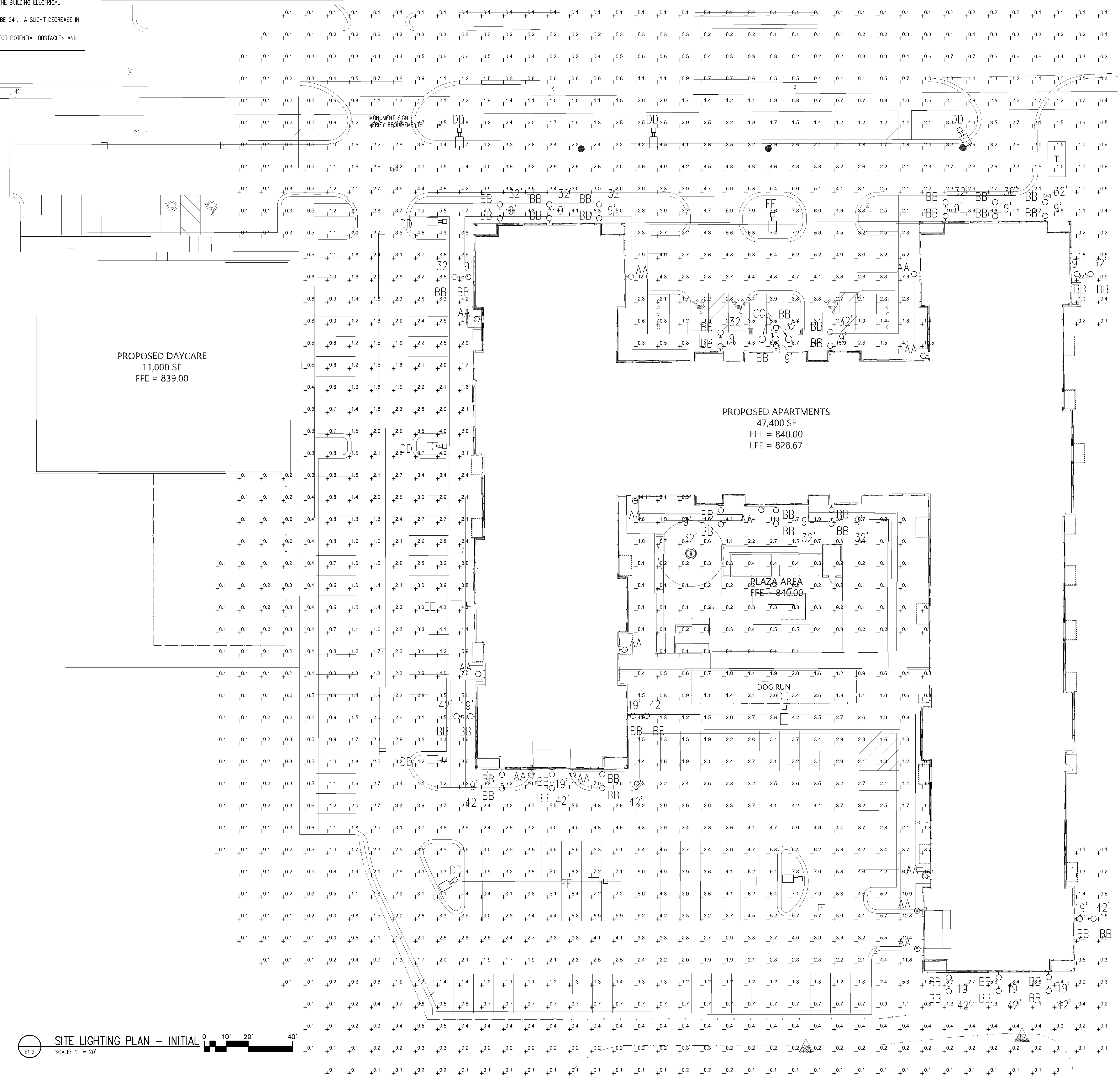
PL202300193
PL2023-193



NOTE:
1.) USE MFG'S DIMENSIONS FOR EXACT ANCHOR BOLT AND COVER PLACEMENT.
2.) INSTALL RING FUSES IN EACH UNGROUNDED CONDUCTOR WITHIN POLE BASE HAND HOLE.
3.) TROWEL FINISH EXPOSED PORTION OF BASE TO REMOVE/COVER FORM MARKS.

2
E1.2
POLE BASE DETAIL
NOT TO SCALE

1
E1.2
SITE LIGHTING PLAN - INITIAL
SCALE: 1" = 20'



PRELIMINARY SET

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR CALCULATION WAS PREPARED BY ME OR UNDER MY CLOSE PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Dustin J. Klusess
DATE: 9/26/24
REG. NO. 62316

BERD
ELECTRIC
10000 Hennepin Avenue, Suite 100, Minneapolis, MN 55412
Phone: 612-555-1234
Fax: 612-555-5678

DATE	REVISION	DESCRIPTION	BY
9/26/24	1	INITIAL	1
9/26/24	2	INITIAL	1
9/26/24	3	INITIAL	1
9/26/24	4	INITIAL	1

DATE	REVISION	DESCRIPTION	BY
9/26/24	1	INITIAL	1
9/26/24	2	INITIAL	1
9/26/24	3	INITIAL	1
9/26/24	4	INITIAL	1

DATE: 4/15/24
SCALE: AS SHOWN
DRAWN BY: DJK
CHECKED BY: DJK
JOB NO. 760

78TH STREET APARTMENTS
BLOOMINGTON, MN
SITE LIGHTING PLAN - INITIAL

DRAWING NO.
E1.2

POWER & COMMUNICATION LEGEND

120V DUPLEX OUTLET

120V QUAD OUTLET

208 OR 240 VOLT RECEPTACLE

120V CEILING RECEPTACLE

DATA/COMMUNICATION OUTLET

TELEPHONE OUTLET

TV OUTLET

FLOOR BOX

JUNCTION BOX

E-STOP FOR GRILL OR FIRE PIT

TIMER FOR FRILL OR FIRE PIT

BC

AC

D

GFI

WP/GFI

MOTOR EQUIPMENT CONNECTION

ELECTRICAL DISCONNECT

ELECTRICAL CONNECTION W/DISCONNECT

ELECTRICAL CONNECTION W/WEATHER PROOF DISCONNECT

ELECTRICAL PANEL

THERMOSTAT MOUNTED AT 48" A.F.F.

SMOKE/CO ALARM

SMOKE ALARM

NITROGEN DIOXIDE DETECTOR

CARBON MONOXIDE DETECTOR

LIGHTING LEGEND

RECESSED 2X4 FIXTURE

RECESSED 2X2 FIXTURE

SURFACE MOUNT 1X4 FIXTURE

SURFACE MOUNT 2X4 FIXTURE

WALL MOUNTED FIXTURE

CEILING MOUNTED STRIP FIXTURE

RECESSED OR DISC FIXTURE

WALL MOUNTED FIXTURE

SURFACE CEILING MOUNTED FIXTURE

PENDANT MOUNTED FIXTURE

EXTERIOR POLE MOUNTED FIXTURE

BOLLARD OR GROUND MOUNTED FIXTURE

EMERGENCY LIGHTING FIXTURE

EMERGENCY EXIT SIGN

EMERGENCY EXIT SIGN WITH EMERGENCY HEADS

EXTERIOR EMERGENCY EGRESS LIGHT

SINGLE POLE SWITCH

THREE WAY SWITCH

FOUR WAY SWITCH

OCCUPANCY SENSORS

VACANCY SENSORS

CEILING OCCUPANCY SENSORS

LIGHTING CONTROL TIME CLOCK

NL INDICATES NIGHT LIGHT FIXTURE

ab INDICATES LIGHT FIXTURE SWITCH LEO

P-X INDICATES PANEL AND CIRCUIT NUMBER

EX INDICATES EXISTING FIXTURE

RL INDICATES RELOCATED FIXTURE

TC INDICATES TIME CLOCK CONTROLLED FIXTURE

EM INDICATES FIXTURE EMERGENCY OR STANDBY POWER

SITE NOTES

1

2

3

4

5

6

7

8

9

PRIOR TO ANY DIGGING, TRENCHING, ETC. CONTACT ALL LOCAL UTILITY COMPANIES AND MUNICIPALITIES AND CONFIRM EXACT LOCATIONS OF ALL EXISTING UTILITIES.

MATERIALS AND EQUIPMENT SHALL BE LISTED AND/OR LABELED BY UL OR ANOTHER NATIONALLY RECOGNIZED TESTING LABORATORY.

ALL MATERIAL, EQUIPMENT, WIRING DEVICES, ETC. SHALL BE NEW, UNLESS SPECIFICALLY NOTED AS EXISTING TO BE REUSED.

ALL MATERIALS AND EQUIPMENT SHALL BE STORED, HANDLED, ERECTED, INSTALLED, CONNECTED, CLEANED, ADJUSTED, TESTED, CONDITIONED AND PLACED IN SERVICE IN ACCORDANCE WITH THE MANUFACTURERS DIRECTIONS AND RECOMMENDATIONS.

ALL POLE FIXTURES TO BE LOCATED 4' AWAY FROM EDGE OF CURB.

ALL EXTERIOR LIGHT FIXTURES TO BE CONNECTED TO A COMMON EQUIPMENT GROUND. USE #8 TYPE THWN.

THE CONTROLLING LIGHTING CONTACTORS SHALL BE MOUNTED INSIDE THE BUILDING WITH TIME-CLOCK CONTROL. & REMOTE PHOTOCELLS LOCATED ON THE EXTERIOR SIDE OF THE BUILDING WALL. INSTALL PHOTOCELLS AT LOCATIONS WHERE BUILDING OR OTHER OBSTRUCTIONS WILL NOT INTERFERE WITH THEIR PROPER OPERATION. FINAL BRANCH CIRCUIT SUPPLY CONNECTIONS WILL BE PROVIDED BY THE BUILDING ELECTRICAL CONTRACTORS.

MIN. BURIAL DEPTH FOR THE LIGHTING CIRCUIT SHALL BE 24". A SLIGHT DECREASE IN DEPTH IS ALLOWED WITHIN 10' OF THE POLES.

VERIFY CONSTRUCTION AREAS ON OTHER SITE PLANS FOR POTENTIAL OBSTACLES AND CONSTRUCTION LIMITS.

ELECTRICAL GENERAL NOTES

1

2

3

4

5

6

7

8

9

ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH NATIONAL, STATE AND LOCAL ELECTRICAL & BUILDING CODES.

COORDINATE WORK WITH ALL OTHER TRADES.

EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

ALL EQUIPMENT GROUNDING CONDUCTORS SHALL BE INSTALLED AT ALL LOCATIONS.

ALL MEASUREMENTS TO TOP OF BOX.

GFI PROTECT ALL RECEPTACLES WITHIN 6' OF EVERY SINK.

DRAWINGS ONLY REPRESENT AN APPROXIMATE LOCATION OF ALL RECEPTACLES, SWITCHES, LIGHTS, TV/DATA JACKS, ELECTRICAL EQUIPMENT, ETC. FINAL LOCATIONS WILL BE DETERMINED IN THE FIELD AND MAY VARY FROM DRAWINGS DUE TO UNFORESEEN CIRCUMSTANCES.

PROVIDE GFI PROTECTION FOR ALL AREAS LISTED UNDER NEC 210.8.

PROVIDE TAMPER RESISTANT RECEPTACLES IN ALL AREAS LISTED UNDER NEC 406.12.

LIGHTING FIXTURE SCHEDULE – EXTERIOR (MAINTAINED)

TYPE	MANUFACTURE	LAMPS	WATTAGE	LLF	LUMENS	DESCRIPTION	NOTES
AA	MESTER	LED	27	.81	2916	SMALL EXTERIOR WALL PACK	-
BB	RP	LED	13	.81	1037	DECORATIVE WALL PACK	-
CC	SUNCO	LED	15	.81	850	EXTERIOR RECESSED DOWNLIGHT	-
DD	MESTER	LED	100	.81	11421	POLE MOUNT FIXTURE, TYPE III OPTICS, 25' POLE	MALOS
EE	MESTER	LED	100	.81	11340	POLE MOUNT FIXTURE, TYPE IV OPTICS, 25' POLE	MALOS
FF	MESTER	LED	250	.81	29160	POLE MOUNT FIXTURE, TYPE V OPTICS, 25' POLE	MALOS

NOTES:

LIGHTING CALCULATIONS MAINTAINED

MAX	6.2 FC 25' PERIMETER EXCLUDED
MIN	1.1 FC 25' PERIMETER EXCLUDED
MAX : MIN	5.6 : 1
PERIMETER MIN.	0.5 FC

Plans approved

09/26/2024

BLOOMINGTON

MINNESOTA

PL202300193

PL2023-193

PRELIMINARY SET

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR
DRAWING WAS PREPARED BY ME OR UNDER MY
SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL
ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Dustin J. Klues
DUSTIN J. KLUES DATE: 4/15/24 REG. NO. 63036

BERD!
ELECTRIC
10 Industrial Boulevard • Saint Joseph, MN 55379
Phone: 612-886-0312 FAX: 612-886-0312

DATE	REVISION	DESCRIPTION	BY
4/15/24	1	AS SHOWN	1
4/15/24	2	FOR REVIEW	1
4/15/24	3	FOR REVIEW	1
4/15/24	4	FOR REVIEW	1

DATE	REVISION	DESCRIPTION	BY
4/15/24	1	AS SHOWN	1
4/15/24	2	FOR REVIEW	1
4/15/24	3	FOR REVIEW	1
4/15/24	4	FOR REVIEW	1

DATE: 4/15/24
SCALE: AS SHOWN
DRAWN BY: DJK
CHECKED BY:
JOB NO. 760

78TH STREET APARTMENTS
BLOOMINGTON, MN

SITE LIGHTING PLAN – MAINTAINED

DRAWING NO.
E1.3

 *Elizabeth Olney*
CITY OF BLOOMINGTON
MINNESOTA
PL202300193
PL2023-193

BERD!
ELECTRIC LLC
1 Industrial Boulevard • Sauk Rapids, MN 56379
P: 763-932-3447
FAX: 763-932-0312

DATE	REVISION	DESCRIPTION	BY
$-1/20/2000$	A	-	-
$-1/20/2000$	A	-	-
$-1/20/2000$	A	-	-
$-1/20/2000$	A	-	-

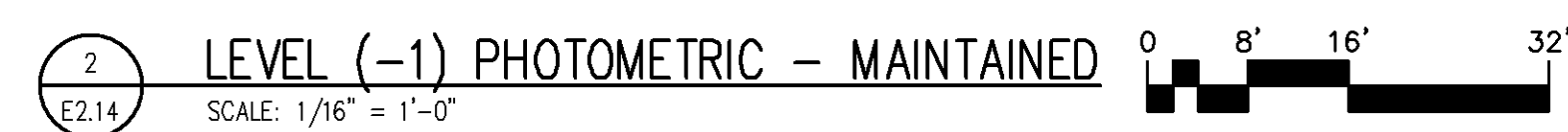
78TH STREET APARTMENTS BLOOMINGTON, MN — LEVEL (-1) PHOTOMETRICS

DRAWING NO.
E2.14



LIGHTING FIXTURE SCHEDULE – EXTERIOR (INITIAL)							
TYPE	MANUFACTURE	LAMPS	WATTAGE	LLF	LUMENS	DESCRIPTION	NOTES
1	SKYLIITE	LED	36	1.0	4500	4' STRIP FIXTURE	–
1A	SKYLIITE	LED	36	1.0	4500	4' STRIP FIXTURE WITH OCC SENSOR	–
2	SKYLIITE	LED	54	1.0	9000	8' STRIP FIXTURE	–
2A	SKYLIITE	LED	54	1.0	9000	8' STRIP FIXTURE WITH OCC SENSOR	–

NOTES:



LIGHTING FIXTURE SCHEDULE – EXTERIOR (MAINTAINED)							
TYPE	MANUFACTURE	LAMPS	WATTAGE	LLF	LUMENS	DESCRIPTION	NOTES
1	SAVILITE	LED	36	.81	3645	4' STRIP FIXTURE	–
1A	SAVILITE	LED	36	.81	3645	4' STRIP FIXTURE WITH OCC SENSOR	–
2	SAVILITE	LED	54	.81	7290	8' STRIP FIXTURE	–
2A	SAVILITE	LED	54	.81	7290	8' STRIP FIXTURE WITH OCC SENSOR	–

NOTES: