

NEW SWBD SERVICE ENTRANCE																
MP/DP VOLTAGE 480 / 277 V SIZE 1600A MCB CABINET SURFACE NEMA-1 PHASE 3 PH 1600A BUS RATING 100,000 AIC RATED																
NOTES	REMARKS	CKT.BKR.	VA PHASE LOAD			BUS			VA PHASE LOAD			CKT.BKR.	REMARKS	NOTES		
			A	B	C	A	B	C	A	B	C				AMPS	P
	SPARE	225	3	0	0	0	3	X	4	0	0	0	60	3	SPARE	
	PANEL HVP1	225	3	16844	17019	15615	7	X	8	32760	0	0	225	3	PANEL HVP2	
	OPEN FEEDER	250	3	0	0	0	13	X	14	18005	18005	0	150	3	CRANE	
	OPEN FEEDER	250	3	0	0	0	19	X	20	0	0	0	3	SPACE		
	TOTAL			16844	17019	15615				50765	53145	43465			TOTAL	

1. PROVIDE GROUND FAULT FOR MAIN BREAKER

TABULATION	TOTAL LOAD	DEMAND FACTOR	DEMAND LOAD
MEASURED	0	0.00	0
LIGHTING	49146	1.25	61433
COOLING	7455	1.00	7455
HEATING	-1745	0.00	0
RECEPTACLE	25220	0.70	17610
MISCELLANEOUS	71876	1.00	71876
KITCHEN EQUIP	0	0.00	0
LARGEST MOTOR	13376	1.25	16720
TOTAL DEMAND LOAD			175094 VA
TOTAL DEMAND AMPS			210.6 A

NOTES:
1. CONTRACTOR IS RESPONSIBLE FOR UPDATING ALL PANEL SCHEDULES WITH CURRENT DESCRIPTIONS OF ALL BRANCH CIRCUIT DESIGNATIONS.
2. PROVIDE ISOLATED GROUND BAR.

SERVICE CALCULATION

DESCRIPTION	LOAD	TOTAL LOAD (VA)	DEMAND FACTOR	TOTAL DEMAND (VA)
OFFICE AREA				
LIGHTING	2000 # @ 3.5 VA/ft ²	7,000	1.25	8,750
RECEPTACLES	2000 # @ 3 VA/ft ²	6,000	1.00	6,000
	FIRST 6000 VA			
	REMAINDER 0 VA		0.50	0
HVAC EQUIPMENT	8 TONS @ 2160 VA/TON	17,280	1.00	17,280
WAREHOUSE AREA				
LIGHTING	28000 # @ 2 VA/ft ²	56,000	1.25	70,000
RECEPTACLES	28000 # @ 1 VA/ft ²	28,000	1.00	28,000
	FIRST 10000 VA			
	REMAINDER 18000 VA		0.50	9,000
EXTERIOR LIGHTING		4,800	1.25	6,000
WATER HEAT		4,500	1.25	5,625
MISC FANS AND MOTORS		12,278	1.00	12,278
CRANE		54,015	1.00	54,015
ELECTRIC HEATING CONTROLS		10,800	1.00	10,800
CONNECTED LOAD	209.75 KVA	252.3 A		
FUTURE CAPACITY (25%)	52.44 KVA	63.1 A		
TOTAL CALCULATED LOAD	262.19 KVA	315.4 A		
DATE:	1/22/2019			

NEW PANEL HVP1															
VOLTAGE 480 / 277 V SIZE 225A MLO CABINET SURFACE NEMA-1 PHASE 3 PH 225A BUS RATING 14,000 AIC RATED															
NOTES	REMARKS	CKT.BKR.	VA PHASE LOAD			BUS			VA PHASE LOAD			CKT.BKR.	REMARKS	NOTES	
			A	B	C	A	B	C	A	B	C				AMPS
	OVERHEAD DR	20	3	582	582	582	1	X	2	3500	3500	20	1	LIGHTING	
	OVERHEAD DR	20	3	582	582	582	7	X	8	3500	3500	20	1	LIGHTING	
	SPARE	20	1	0	0	0	13	X	14	3500	3500	20	1	LIGHTING	
	SPARE	20	1	0	0	0	15	X	16	3200	3496	20	1	WALLPACKS	
	SPARE	20	1	0	0	0	17	X	18	0	0	20	1	SPARE	
	SPARE	20	1	0	0	0	19	X	20	0	0	20	1	SPARE	
	SPARE	20	1	0	0	0	21	X	22	0	0	20	1	SPARE	
	SPACE	1	1	0	0	0	23	X	24	0	0	20	1	SPARE	
	SPACE	1	1	0	0	0	25	X	26	0	0	1	SPACE		
	SPACE	1	1	0	0	0	27	X	28	0	0	1	SPACE		
	SPACE	1	1	0	0	0	29	X	30	0	0	1	SPACE		
	SPACE	1	1	0	0	0	31	X	32	0	0	1	SPACE		
	SPACE	1	1	0	0	0	33	X	34	0	0	1	SPACE		
	SPACE	1	1	0	0	0	35	X	36	0	0	1	SPACE		
	SPACE	1	1	0	0	0	37	X	38	0	0	1	SPACE		
	SPACE	1	1	0	0	0	39	X	40	1475	1475	1	SPACE		
	SPACE	1	1	0	0	0	41	X	42	1475	1475	1	SPACE		
	SPACE ONLY	3	3	0	0	0	1	SUB FEED LUGS	2	5180	4180	125	3	75KVA FOR PANEL LVP1	
	TOTAL			1164	1164	1164				15680	15855	14451		TOTAL	

TABULATION	TOTAL LOAD	DEMAND FACTOR	DEMAND LOAD
MEASURED	0	0.00	0
LIGHTING	34146	1.25	42683
COOLING	-1700	0.00	0
HEATING	0	0.00	0
RECEPTACLE	11040	0.95	10520
MISCELLANEOUS	-1254	1.00	-1254
KITCHEN EQUIP	0	0.00	0
LARGEST MOTOR	1746	1.25	2183
TOTAL DEMAND LOAD			54131 VA
TOTAL DEMAND AMPS			65.1 A

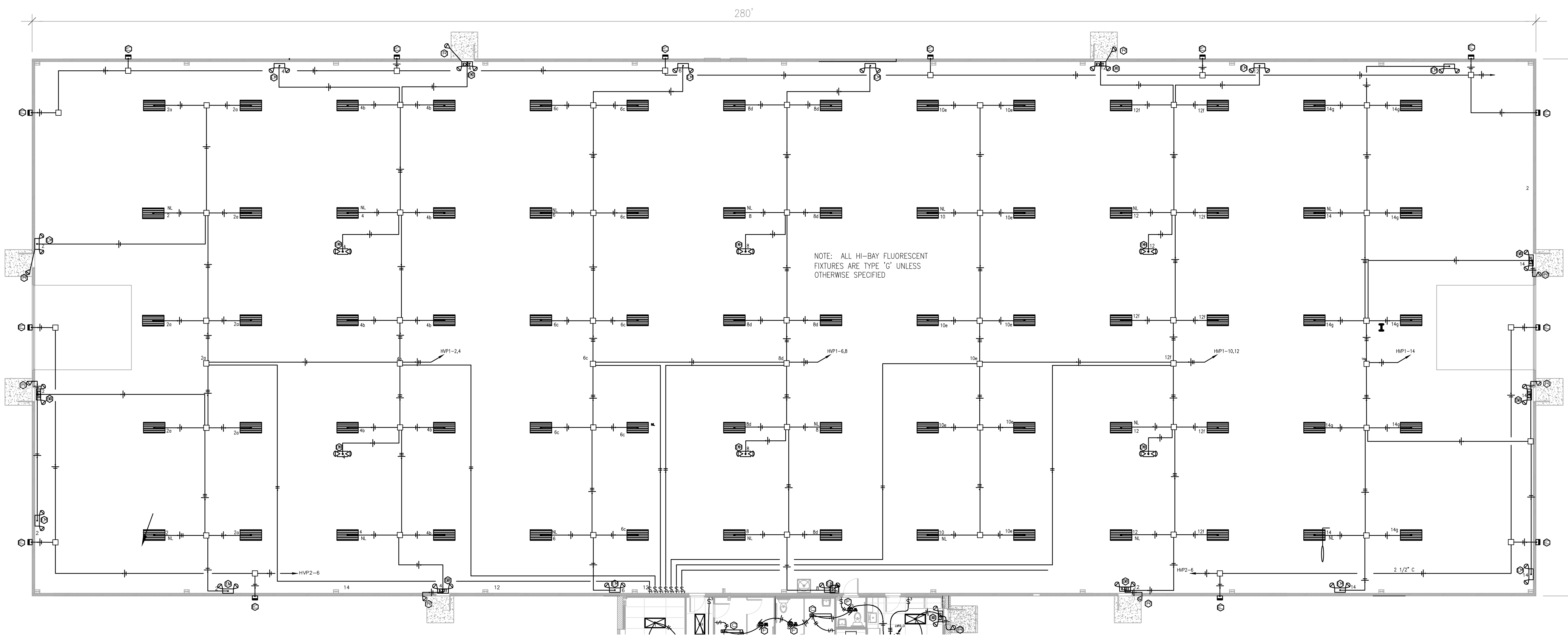
NOTES:
1. CONTRACTOR IS RESPONSIBLE FOR UPDATING ALL PANEL SCHEDULES WITH CURRENT DESCRIPTIONS OF ALL BRANCH CIRCUIT DESIGNATIONS.
2. PROVIDE ISOLATED GROUND BAR.

NEW PANEL HVP2															
VOLTAGE 480 / 277 V SIZE 225A MLO CABINET SURFACE NEMA-1 PHASE 3 PH 225A BUS RATING 14,000 AIC RATED															
NOTES	REMARKS	CKT.BKR.	VA PHASE LOAD			BUS			VA PHASE LOAD			CKT.BKR.	REMARKS	NOTES	
			A	B	C	A	B	C	A	B	C				AMPS
	EX OVERHEAD DR	20	3	582	582	582	1	X	2	4400	4400	20	1	LIGHTING	
	SPARE	20	1	7500	7500	7500	7	X	8	0	0	20	1	WALLPACKS	
	SPARE	20	1	0	0	0	9	X	10	0	0	20	1	SPARE	
	SPARE	20	1	0	0	0	11	X	12	0	0	20	1	SPARE	
	SPARE	20	1	3878	3878	3878	13	X	14	0	0	20	1	SPARE	
	SPARE	20	1	0	0	0	15	X	16	0	0	20	1	SPARE	
	SPARE	20	1	0	0	0	17	X	18	0	0	20	1	SPARE	
	SPARE	20	1	0	0	0	19	X	20	0	0	20	1	SPARE	
	SPACE	1	1	0	0	0	21	X	22	0	0	20	1	SPACE	
	SPACE	1	1	0	0	0	23	X	24	0	0	20	1	SPACE	
	SPACE	1	1	0	0	0	25	X	26	0	0	1	SPACE		
	SPACE	1	1	0	0	0	27	X	28	0	0	1	SPACE		
	SPACE	1	1	0	0	0	29	X	30	0	0	1	SPACE		
	SPACE	1	1	0	0	0	31	X	32	0	0	1	SPACE		
	SPACE	1	1	0	0	0	33	X	34	0	0	1	SPACE		
	SPACE	1	1	0	0	0	35	X	36	0	0	1	SPACE		
	SPACE	1	1	0	0	0	37	X	38	0	0	1	SPACE		
	SPACE	1	1	0	0	0	39	X	40	0	0	1	SPACE		
	SPACE	1	1	0	0	0	41	X	42	0	0	1	SPACE		
	SPACE ONLY	3	3	0	0	0	1	SUB FEED LUGS	2	16400	18780	125	3	75KVA FOR PANEL LVP2	
	TOTAL			11960	11960	11960				20800	23180	13500		TOTAL	

TABULATION	TOTAL LOAD	DEMAND FACTOR	DEMAND LOAD
MEASURED	0	0.00	0
LIGHTING	15000	1.25	18750
COOLING	10900	1.00	10900
HEATING	0	0.00	0
RECEPTACLE	14180	0.85	12090
MISCELLANEOUS	30746	1.00	30746
KITCHEN EQUIP	0	0.00	0
LARGEST MOTOR	11634	1.25	14543
TOTAL DEMAND LOAD			87029 VA
TOTAL DEMAND AMPS			104.7 A

NOTES:
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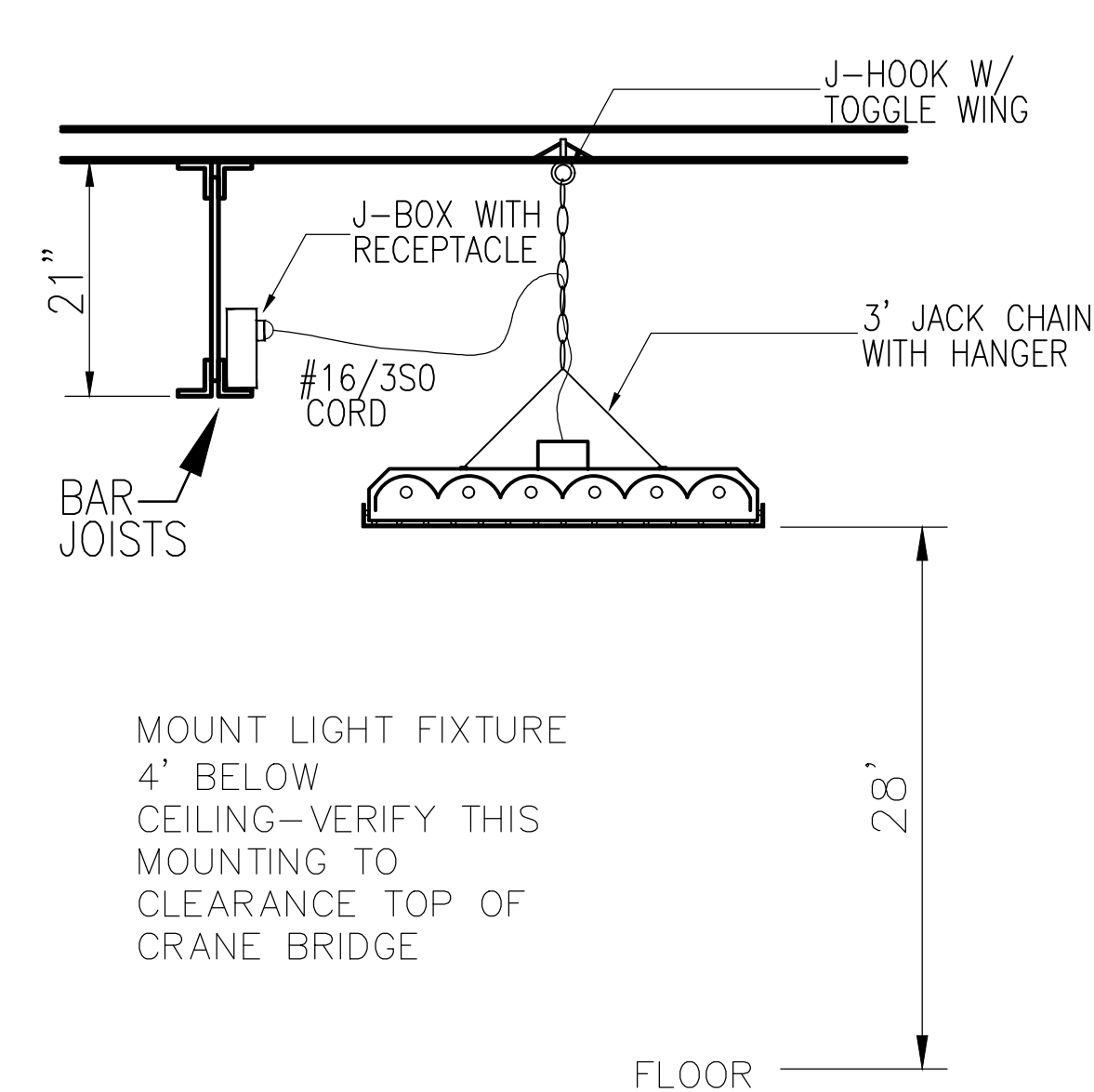
NEW PANEL LVP1															
VOLTAGE 208 / 120 V SIZE 225A MCB CABINET SURFACE NEMA-1 PHASE 3 PH 225A BUS RATING 22,000 AIC RATED															
NOTES	REMARKS	CKT.BKR.	VA PHASE LOAD			BUS			VA PHASE LOAD			CKT.BKR.	REMARKS	NOTES	
			A	B	C	A	B	C	A	B	C				AMPS
	RADIANT HEAT	20	1	800	0	0	1	X	2	1600	1400	20	1	RECEPT	
	SPARE	20	1	0	0	0	3	X	4	0	0	20	1	RECEPT	
	SPARE	20	1	0	0	0	5	X	6	0	0	20	1	RECEPT	
	SPARE	20	1	0	0	0	7	X	8	1700	1700	20	1	SUPPLY FAN	
	SPARE	20	1	0	0	0	9	X	10	1700	1700	20	1	EXHAUST FAN	
	SPARE	20	1	0	0	0	11	X	12	0	0	20	1	RECEPT	
	SPARE	20	1	0	0	0	13	X	14	1080	1080	20	1	RECEPT	
	SPARE	20	1	0	0	0	15	X	16	1080	1080	20	1	RECEPT	
	SPARE	20	1	0	0	0	17	X	18	0	0	20	1	SPARE	
	SPARE	20	1	0	0	0	19	X	20	0	0	20	1	SPARE	
	SPARE	20	1	0	0	0	21	X	22	0	0	20	1	SPARE	
	SPARE	20	1	0	0	0	23	X	24	0	0	20	1	SPARE	
	SPARE	20	1	0	0	0	25	X	26	0	0	20	1	SPARE	
	SPARE	20	1	0	0	0	27	X	28	0	0	20	1	SPARE	
	SPARE	20	1	0	0	0	29	X	30	0	0	20	1	SPARE	
	SPARE	20	1	0	0	0	31	X	32	0	0	20	1	SPARE	
	SPARE	20	1	0	0	0	33	X	34	0	0	20	1	SPARE	
	SPARE	20	1	0	0	0	35	X	36	0	0	20	1	SPARE	
	SPACE	1	1	0	0	0	37	X	38	0	0	1	SPACE		
	SPACE	1	1	0	0	0	39	X	40	0	0	1	SPACE		
	SPACE	1	1	0	0	0	41	X	42	0	0	1	SPACE	</	



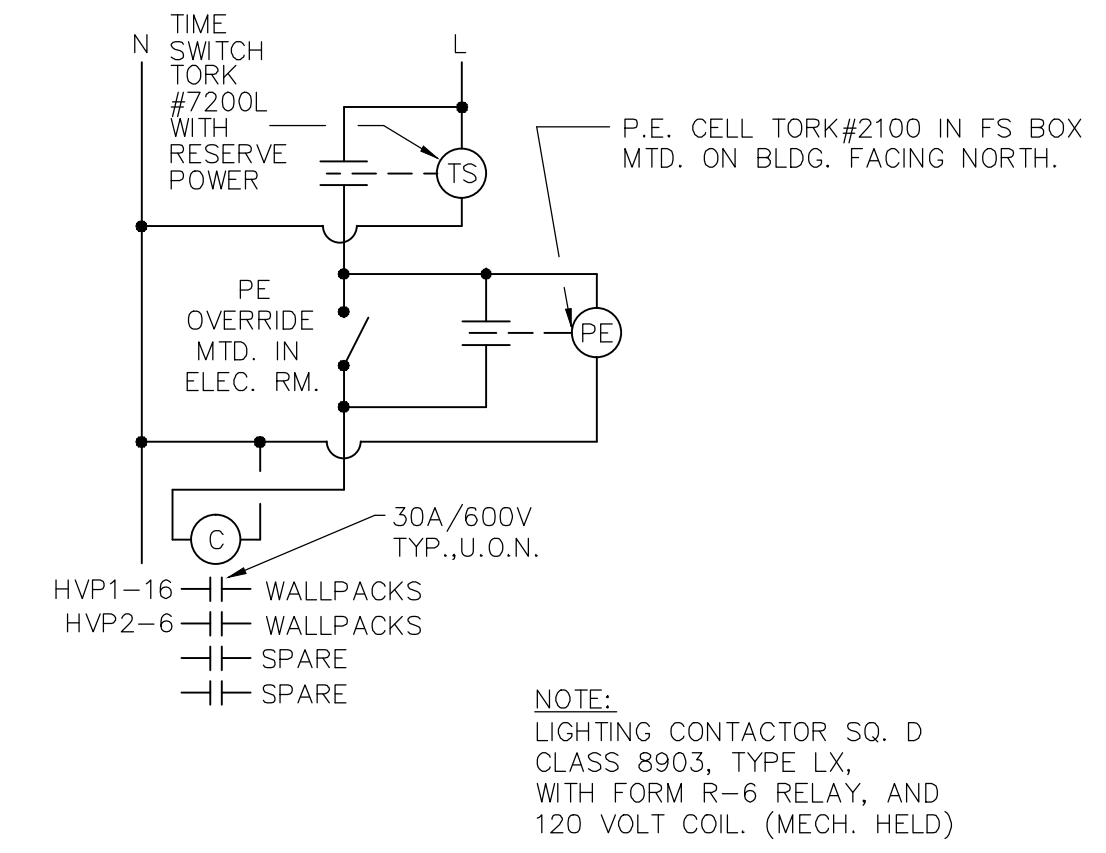
WAREHOUSE LIGHTING PLAN
SCALE: 3/32" = 1'0"

LIGHTING FIXTURE SCHEDULE						
TAG	MANUFACTURER	CATALOG NO.	MOUNTING	VOLT	LAMP	DESCRIPTION
A	LITHONIA	CPANL 2X4 40/50/60LM 40K M2 (CI-250CSX)	LAY-IN	120V	52W LED	2X4 LAY-IN LED FLAT PANEL. SET TO 6000LM.
B	LITHONIA	LBL 4W 6500LM 80CRI 40K MVOLT	SURFACE	120V	50.1W LED	2X4 SURFACE LED WRAPAROUND
C	LITHONIA	LBL 4 4800LM 80CRI 40K MVOLT	SURFACE	120V	40.5W LED	1X4 SURFACE LED WRAPAROUND
D	LITHONIA	LDN6 40/20 L06 AR LSS MVOLT	RECESSED	120V	22.6W LED	6" LED RECESSED DOWNLIGHT
E	LITHONIA	KAXW P3 40K R4 MVOLT DDBXD	WALL MOUNTED 16" ABOVE FINISHED GRADE	277V	79W LED	LED WALLPACK
F	BROAN	ARW80L	RECESSED	120V	60W LED	COMBINATION EXHAUST FAN/LED LIGHT
G	LITHONIA	IBHST 24000LM SD080 MD MVOLT 40K 80CRI	PENDANT (CHAIN)	277V	216W LED	HIGH BAY LED
EMH	CONCEALITE	HSN II 75 90	SURFACE	277V	(2) 75W HALOGEN	WAREHOUSE EMERGENCY LIGHTING UNIT
EM	LITHONIA	ELM2L120/277V	SURFACE	120V 277V	INTEGRAL LED	EMERGENCY LIGHTING UNIT
X	LITHONIA	LQM S W 3 R 120/277 EL N	SURFACE	120V 277V	6W LED	EXIT SIGN
EMX	LITHONIA	LHQM LED R HO 120/277 HO	SURFACE	120V 277V	INTEGRAL LED	COMBINATION EXIT SIGN/EMERGENCY LIGHTING UNIT. LED LAMPS, REMOTE CAPABLE.
R	LITHONIA	ELA QWP L0309	SURFACE	-	INTEGRAL LED	EMERGENCY REMOTE HEAD

NOTES:
1. APPROVED EQUAL FIXTURES WILL BE ACCEPTED.



TYPE "G" FIXTURE
Detail
SCALE: NONE



EXTERIOR LIGHTING CONTROLS
SCALE: NONE

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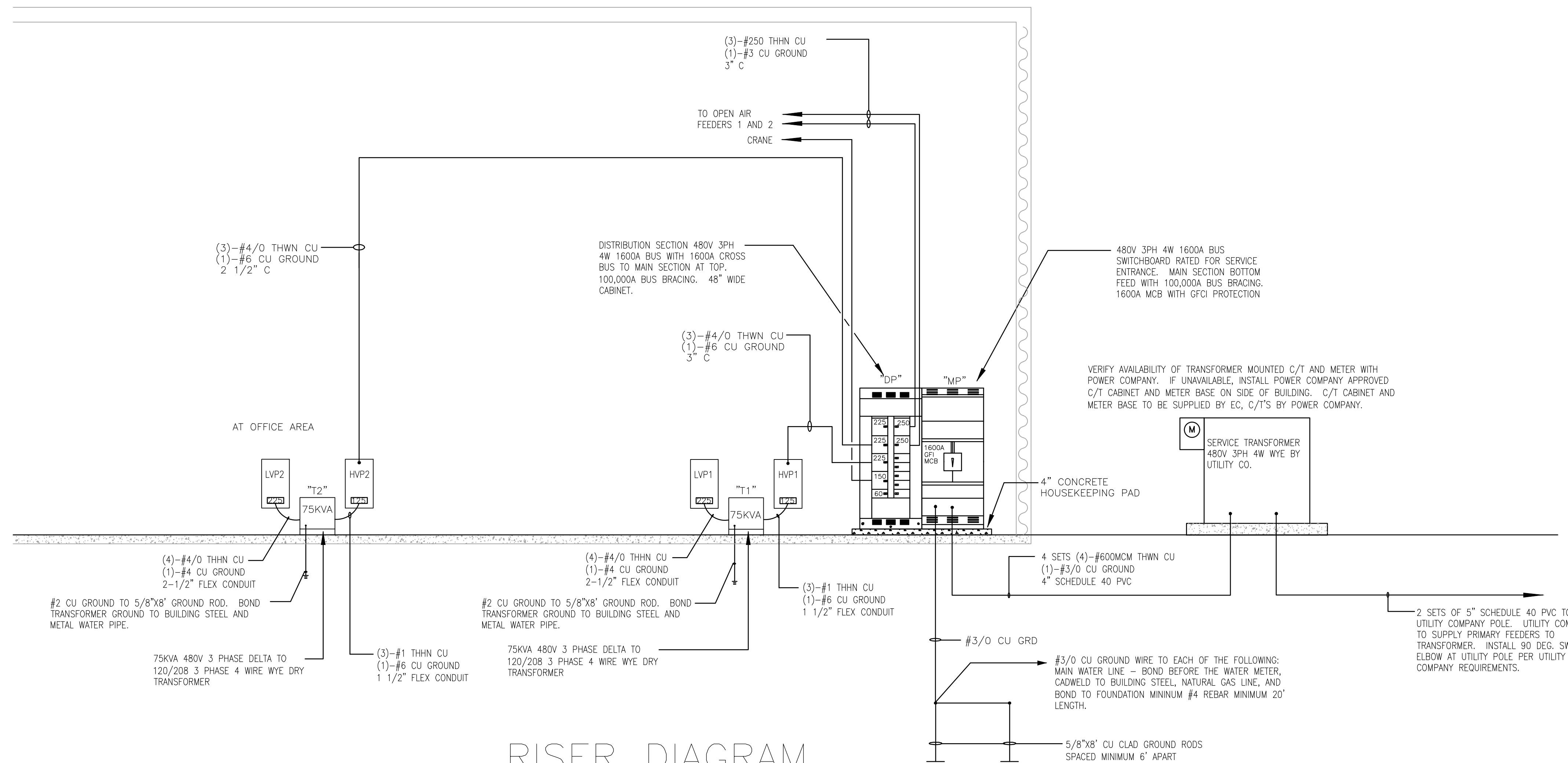
5	0	PRICING SET	DATE
4	1	REV	01/22/19
3	2	DESCRIPTION	
2	1		
1	0		

ON THE PROPERTY OF
LEDC - SPEC 11
LAWRENCE ECONOMIC DEVELOPMENT CORPORATION
SOUTH POINT, OHIO 45680

WAREHOUSE LIGHTING PLAN

SCALE: AS NOTED
DRAWN BY: F. FRIAR
CHECKED BY: F. FRIAR
DRAWING NUMBER

SHEET NUMBER
E
4



RISER DIAGRAM
SCALE: NONE

GENERAL ELECTRICAL NOTES:

- NO SPLICES SHALL BE MADE IN ANY PANEL FEEDER.
- ALL SERVICE FEEDERS SHALL BE IDENTIFIED AS TO ITS PHASE. THE COLORS TO BE USED SHALL BE RED, BLUE, BLACK, WHITE, AND GREEN PER THE NEC.
- THERE SHALL BE NO SHARED NEUTRAL CONDUCTORS. EACH CIRCUIT SHALL HAVE ITS OWN NEUTRAL CONDUCTOR.
- ALL METALLIC ENCLOSURES SHALL BE BONDED IN ACCORDANCE WITH ARTICLE 250 OF THE 2008 NEC (NFPA 70).
- ALL WORK SHALL BE IN ACCORDANCE WITH THE OBC (OHIO BUILDING CODE) AND THE NEC (NFPA 70).
- ALL EXIT, EGRESS (EMERGENCY) FIXTURES SHALL BE NUMBERED AND CLEARLY MARKED ON THE FIXTURE. ALL EXIT AND EGRESS FIXTURES SHALL HAVE NO LESS THAN A 90 MINUTE BATTERY BACKUP. THE EGRESS (EMERGENCY) LIGHTS AND EXIT SIGNS SHALL FEED OFF THE LOCAL LIGHTING CIRCUIT AHEAD OF ANY SWITCHING DEVICE IN THAT CIRCUIT. EXIT LIGHTS (EMERGENCY) SHALL HAVE 6" RED LETTERS 3/4" WIDE.
- ALL WIRE SHALL BE COPPER NO SMALLER THAN #12 AND BE RATED AT 90 DEG. C TYPE THHN OR THWN.
- ALL WIRING MUST BE MC CABLE WHERE CONCEALED OR IN RIGID OR EMT CONDUIT EXCEPT FOR THE UNDERGROUND WIRING FEEDING THE SERVICE. ANY CONDUIT RUN BELOW 8 FEET MAY BE EMT UNLESS SUBJECT TO PHYSICAL DAMAGE.
- ALL CIRCUITS SHALL BE IDENTIFIED WITH CIRCUIT NUMBERS.
- ALL REMOTE HEADS SHALL BE WEATHERPROOF AND INSTALLED ON THE OPENING SIDE OF THE DOOR, OPPOSITE THE HINGES.
- THE ELECTRICAL CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EQUIPMENT BEFORE INSTALLING CONDUIT AND MATERIALS TO SAID EQUIPMENT.
- PROVIDE CONSISTENT COLOR CODING OF ALL CIRCUITS AS FOLLOWS:

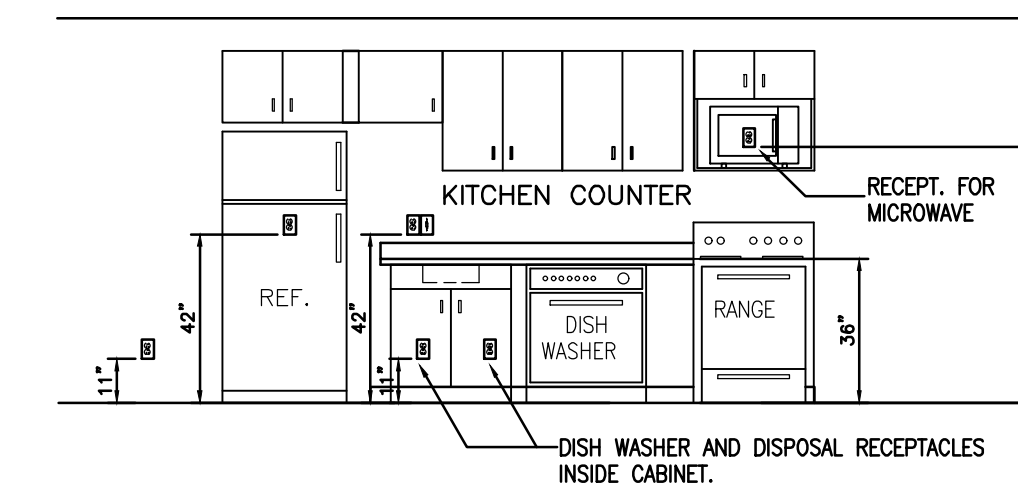
120/208 VOLT CODE	277/480 VOLT CODE
PHASE A - BLACK	PHASE A - BROWN
PHASE B - RED	PHASE B - ORANGE
PHASE C - BLUE	PHASE C - YELLOW
NEUTRAL - WHITE	NEUTRAL - GRAY
GROUND - GREEN	GROUND - GREEN
- ALL SWITCHES SHALL BE INSTALLED ON THE OPENING SIDE OF THE DOOR AT 48" AFF. ALL RECEPTACLES SHALL BE INSTALLED AT 16" AFF TO THE TOP OF THE RECEPTACLE.
- ALL OUTSIDE WP/GFI RECEPTACLES REQUIRE BUBBLE COVER.

GROUNDING AND BONDING:

- ALL GROUNDING AND BONDING SHALL BE IN ACCORDANCE WITH ARTICLE 250 OF THE NATIONAL ELECTRIC CODE (NFPA70).
- ALL METALLIC ENCLOSURES SHALL BE BONDED TO GROUND.
- SIZING OF THE GROUNDING ELECTRODE CONDUCTORS SHALL BE IN ACCORDANCE WITH ARTICLE 250-66 OF THE NEC 2008 (NFPA 70).
- EQUIPMENT GROUNDING CONDUCTOR SHALL BE SIZED IN ACCORDANCE WITH ARTICLE 250-122 OF THE NEC 2008 (NFPA 70).
- ALL METAL PIPING SYSTEMS IN THE BUILDING SHALL BE BONDED IN ACCORDANCE WITH ARTICLE 250 OF THE 2008 NEC (NFPA 70).
- THE PRIMARY GROUNDING ELECTRODE WILL BE THE INCOMING WATER LINE PROVIDED THAT IT IS METALLIC AND AVAILABLE. THE PRIMARY GROUNDING ELECTRODE SHALL BE BONDED TO THIS WATER LINE BEFORE ANY METERING OR DISCONNECTING MEANS. PROVIDE 20" OF #5 REBAR IN CONCRETE FOOTER WITH MINIMUM #4 CU GROUND WIRE BONDED (SEE RISER DIAGRAM).
- THE SECONDARY GROUNDING ELECTRODE SYSTEM SHALL BE MADE UP OF THREE 5/8" X 8" COPPER-CLAD GROUND ELECTRODES DRIVEN NOT LESS THAN 8' APART FORMING A TRIANGLE.
- GROUNDING ELECTRODE CONDUCTORS SHALL BE TERMINATED IN AN APPROVED MANNER. IF THE TERMINATIONS ARE ACCESSIBLE, THEN AN APPROVED CLAMP SHALL BE USED. IF THE ELECTRODES ARE INSTALLED BELOW A CONCRETED AREA THEN THE TERMINATIONS SHALL BE CAD-WELDED OR A MEANS OF ACCESS SHALL BE CREATED THAT ALLOWS THESE TERMINATIONS TO BE MAINTAINED.
- ALL GROUNDING ELECTRODE CONDUCTORS SHALL BE TERMINATED AT THE NEUTRAL BUS AT THE METERING CABINET.
- ALL EXTERIOR METAL SIDING, ROOFING, AND GAS LINE SHALL BE BONDED TO GROUND.
- ALL STRUCTURAL STEEL MEMBERS SHALL BE BONDED TO GROUND.

SERVICE INSTALLATION NOTES:

- NO SPLICES SHALL BE MADE IN ANY PANEL FEEDER.
- SERVICE CONDUIT MAY BE SMALLER IN SIZE THAN SHOWN IF APPROVED BY THE POWER COMPANY.
- THE ELECTRICAL CONTRACTOR SHALL VERIFY THE LOCATION OF THE UTILITY COMPANY'S POLE.
- THE ELECTRICAL CONTRACTOR SHALL INSTALL ALL SERVICE CONDUITS AT A DEPTH OF NOT LESS THAN 36" BELOW GRADE.
- THE ELECTRICAL CONTRACTOR SHALL INSTALL 36" SWEEP 90 DEGREE BENDS IN ALL SERVICE CONDUITS.
- CONDUIT RUNS INSTALLED UNDERGROUND SHALL BE SPACED 7 1/2" APART (CENTER-TO-CENTER) EXCEPT WHERE THEY RUN UP TO THE METER LOCATION OR WHERE THEY RUN UP TO THE UTILITY POLE.
- THE CONDUIT STUBBED UP AT THE UTILITY POLE MUST BE SCHEDULE 80 IF IT IS SUBJECT TO PHYSICAL DAMAGE.
- THE TELEPHONE AND CATV CONDUITS MAY BE RUN IN THE SAME DITCH AS THE POWER IF THE REQUIRED SPACING IS MAINTAINED.
- THE ELECTRICAL CONTRACTOR SHALL INSTALL ALL REQUIRED WARNING RIBBONS 12" ABOVE CONDUIT IN ALL DITCHES CONTAINING CONDUIT.



DETAIL - RECEPTACLE MOUNTING HEIGHTS
SCALE: NONE

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5	0	PRICING SET	DATE
4	1	REQ.	01/22/19
3	2	DESCRIPTION	
2	3		
1	4		

**RISER AND
DETAILS**

ON THE PROPERTY OF
LEDC - SPEC 11
LAWRENCE ECONOMIC DEVELOPMENT CORPORATION
SOUTH POINT, OHIO 45680

SCALE:
AS NOTED

DRAWN BY:
F. FRIAR

CHECKED BY:
F. FRIAR

DRAWING NUMBER

SHEET NUMBER

E
5