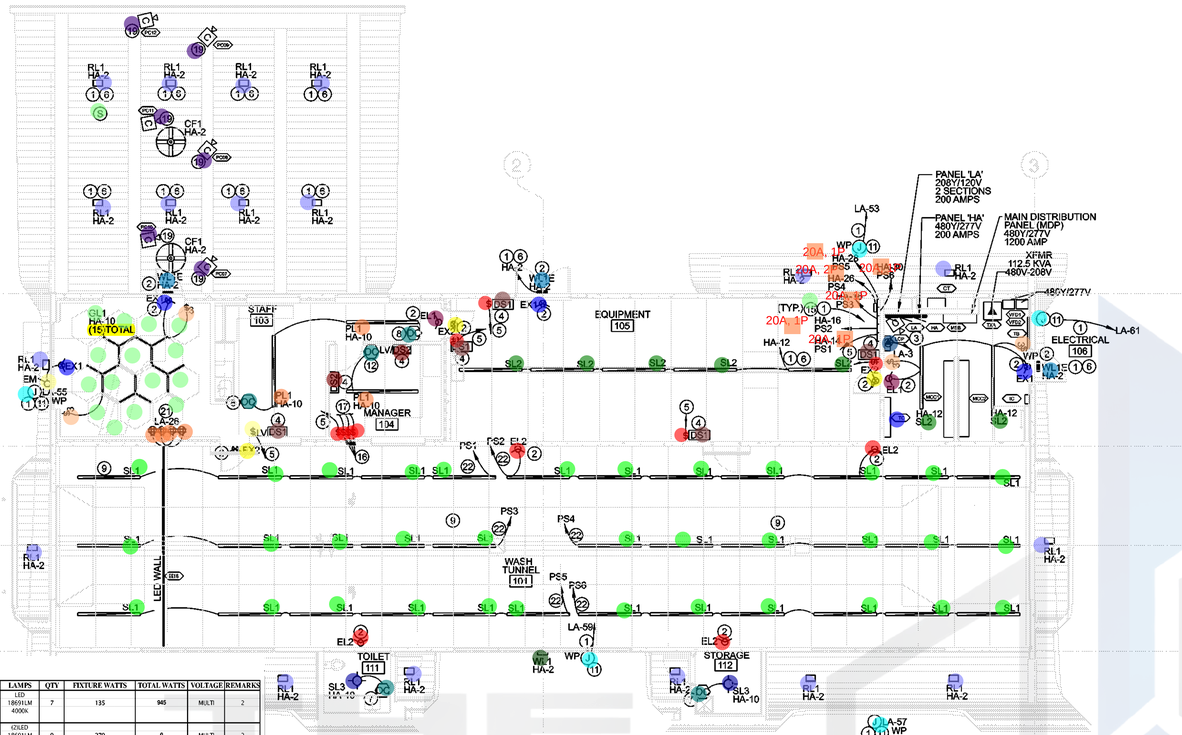
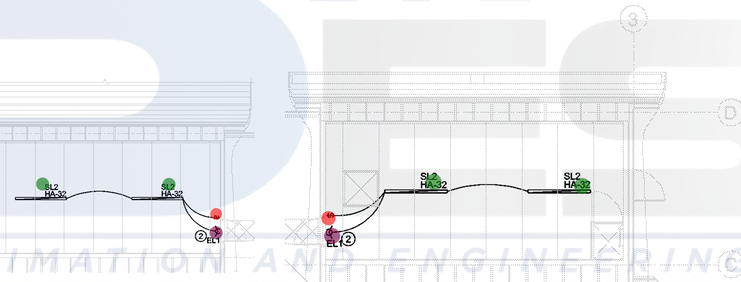




LIGHTING FIXTURE SCHEDULE

	TYPE	MANUFACTURER	CATALOG NUMBER	DESCRIPTION	MOUNTING	LAMPS	QTY	FIXTURE WATTS	TOTAL WATTS	VOLTAGE	REMARKS
	AL1	LITHONIA	DSQ LED P1 40K 70CRI T3M MVOLT HS SPA	LED, POLE LIGHT, SINGLE HEAD	POLE ARM MOUNTED	LED 18691LM 4000k	7	135	945	MULTI	2
	AL2	LITHONIA	DSQ LED P1 70CRI 40K T3M MVOLT HS SPA	LED, POLE LIGHT, DOUBLE HEAD	POLE ARM MOUNTED	(2)LED 18691LM 4000k	0	270	0	MULTI	2
	EL1	LITHONIA NO. DUAL LITE	WLTE W 1 R EL	EMERGENCY LIGHTING UNIT LOW PROFILE, THERMOPLASTIC HOUSING DUAL HEAD WET RATED	ABOVE DOOR	WITH FIXTURE	4	3	12	120/277	2
	EL2	LITHONIA LITHONIA	WLTU W MR	EMERGENCY LIGHTING UNIT LOW PROFILE, THERMOPLASTIC HOUSING DUAL HEAD WET RATED	WALL 7'-6" AFF	WITH FIXTURE	4	3	12	120/277	2
	EX1	LITHONIA NO. DUAL LITE	LHQM-LED-R-SD-120/S77-W/ NI-CAD EVOURWDI	EXIT/EM LIGHT COMBO, LED, RED STENCIL THERMOPLASTIC HOUSING, SINGLE OR DOUBLE FACE NI-CAD BATTERY	ABOVE DOOR	WITH FIXTURE	4	3	12	120/277	2
	EX2	MULE LTG ENVOY	CWL-1-RBL-SD CWLEZ-1-RB-SDT	EXIT/EM LIGHT COMBO, LED, RED STENCIL THERMOPLASTIC HOUSING, SINGLE OR DOUBLE FACE NI-CAD BATTERY	ABOVE DOOR	WITH FIXTURE	3	3	9	120/277	2
	EM	LITHONIA NO.	ERE SQL WP SQ	WEATHER PROOF SINGLE REMOTE SQUARE	ABOVE DOOR	WITH FIXTURE	1	0.75	0.75	120/277	2
	GL1	AXIS	STLDI-2-DSO-80-40-AP-UNV-DP	LED, AXIS STENCIL LINEAR PENDANT	SUSPENDED	731.5 4000k	15	18.2	273	120/277	6
	PL1	LEDALITE	7606-L-A/E-Q-S-08-D-T	LED, BOLDPLAY 7606L-A, 8FT, WHIT LOCATE DRIVER ON CEILING AT EQUIPMENT ROOM SIDE OF WALL	PENDANT	LED 7026 LM 4000k	3	56.6	169.8	120/277	6
	RL1	CREE	CAN-228-SM-RM-03-E-UL-WH-525	LED, EXTERIOR RECESSED CANOPY	RECESSED	LED 10120 LM 4000k	19	54	1026	120/277	6
	SL1	G&G LED	WPXI-HO-50K-* PSU-480 DRIVERS	LED LINEAR TUNNEL, HIGH OUTPUT, IP68 DO NOT INSTALL DRIVERS INSIDE TUNNEL SECURE DRIVERS HIGH ON WALL TOGETHER AT LOCATION INDICATED ON CEILING PLAN	SURFACE	LED 12000 LM 5000K	35	80	2800	120/277	5
	SL2	G&G LED	WPXI-SO-50K-* PSU-480 DRIVERS	LED LINEAR EQUIPMENT, STANDARD OUTPUT, IP68 SECURE DRIVERS HIGH ON WALL TOGETHER AT LOCATION INDICATED ON CEILING PLAN	SURFACE	LED 8000 LM 5000K	11	50	550	120/277	5
	SL3	JUNO	JSF-7-35K-90-120-WH	LED, INTERIOR RECESSED CAN	SURFACE	LED 1000 LM 3500K	2	13	26	120/277	6
	WL1	LITHONIA	DSXW1 LED 20C 700 40K T3M MVOLT PIR DNAID	LED WALL PACK WITH EMERGENCY	WALL	LED 5144 LM 5000k	1	46	46	120/277	1,2,4
	WL1E	LITHONIA	DSXW1 LED 20C 700 40K T3M MVOLT PIR DNAID ELCW		WALL	LED 5144 LM 5000K	3	46	138	120/277	1,2,4
	IG	G&G LED	GPXI-HO-50K-UVO-SE-277V	OWNER FURNISHED CONTRACTOR INSTALLED FIXTURE MNTD ON VACUUM ARCH. EACK LIGHT WILL COME WITH A 15' LEADER CABLE FOR ATTACHMENT INSIDE OF ARCH STANCHION	MOUNTED ON VACUUM ARCH	LED 3500 5000K	24	36	864	277	2,5
	LCP	WATTSTOPPER NO. LEVITON NO. HUBBELL	LMQ-115-277-4BHD-1GS-HOUSS(F) SURFACE;FLUSH R408MD-XXX CMDS-408NM	408RELAY MASTER LIGHTING CONTROL PANEL NETWORK CAPABLE, ASTRONOMICAL TIMECLOCK LCD SCREEN, INDIVIDUAL RELAY MANUAL OVERRIDE PHOTOCELL, OCC. SENSOR, LOW VOLTAGE SWITCH INPUTS RELAYS:10 MILLION ON/OFF CYCLES, 14AIAC MIN.	SURFACE OR FLUSH MOUNTED SEE DWGS.	N/A					120/277	2
	DS1	WATTSTOPPER NO. LEVITON NO. HUBBELL	HDLS2S5 2MDSW-02W C4SW-2-W	2BUTTON DIGITAL SWITCH STATUS LED FOR EACH BUTTON MATCHING WALL PLATE, CUSTOM LABEL KIT FOR EACH SWITCH FOR IN-FIELD LABELING	FLUSH MOUNTED IN DEEP SWITCH BOX	N/A				DIGITAL LOW VOLTAGE	2
	DS2	WATSTOPPER NO. LEVITON NO. HUBBELL	HDLS4S5 2MDSW-04W C4SW-4-W	4BUTTON DIGITAL SWITCH STATUS LED FOR EACH BUTTON MATCHING WALL PLATE, CUSTOM LABEL KIT FOR EACH SWITCH FOR IN-FIELD LABELING	FLUSH MOUNTED IN DEEP SEITCH BOX	N/A				DIGITAL LOW VOLTAGE	2

REMARKS

1. PROVIDE WITH BODINE EMERGENCY BATTERY PACK SUITABLE FOR LAMP TYPE AND HALF THE LAMP LUMEN OUTPUT. PROVIDE WITH SELF TEST LIGHT AND PUSHBUTTON. 2.OR PRE-BID APPROVED EQUAL
3. SEE LIGHTING DRAWINGS AND LIGHTING CONTROL PANEL SCHEDULES FOR ADDITIONAL INFORMATION INCLUDING NUMBER AND TYPE OF RELAYS
   THE ELECTRICAL CONTRACTOR SHALL INCLUDE FACTORY START-UP AND PROGRAMMING OF THE LIGHTING CONTROL SYSTEM AS WELL AS COMMISSIONING.
4. WHEN INSTALLED IN AN INSULATED CEILING, FIXTURE TO BE INSTALLED WITH FIRE RATED OR IC RATED ENCLOSURE OR HAVE SHEET ROCK ENCLOSURE BUILT PER DETAIL
5. OWNER FURNISHED CONTRACTOR INSTALLED.
6. CONTRACTOR FURNISHED AND INSTALLED.

NOTE TO BIDDERS:
1. BID ONLY PRODUCTS THAT ARE SPECIFIED OR APPROVED VIA ADDENDUM. SUBMITTED ITEMS NOT APPROVED VIA ADDENDUM WILL BE REJECTED
2. PACKAGING OF LIGHT FIXTURES WITH OTHER SYSTEMS IS NOT ALLOWED
3. WHEN ONLY ONE PRODUCT IS APPROVED FOR BIDDING, THE PRICE FOR THAT ITEM SHALL BE BROKEN OUT SEPERATELY WHEN SUBMITTING PRICING TO THE VARIOUS DISTRIBUTORS AND/OR CONTRACTORS AS REQUESTED.

GENERAL NOTES

1. ALL EMERGENCY FIXTURES SHALL BE PROVIDED WITH AND EMERGENCY BATTERY PACK AS SPECIFIED ON THE FIXTURE SCHEDULE AND THE EMERGENCY FIXTURES SHALL BE PROVIDED WITH AN UNSWITCHED LEG THAT SHALL BE CONNECTED TO THE EMERGENCY BATTERY PACK.
2. ALL UNSWITCHED LEGS OF THE LIGHTING CIRCUIT SHALL BE ROUTED THROUGH OCCUPANCY SENSOR PRIOR TO ROUTING THROUGH SNAP SWITCHES TO PROVIDE UNSWITCHED POWER TO OCCUPANCY SENSOR FOR OCCUPANT INITIATION OF SENSOR.
3. SEE ARCHITECTURAL EQUIPMENT PLAN AND SCHEDULES FOR ADDITIONAL INFORMATION.
4. SEE ARCHITECTURAL FOR SPECIFIC PLACEMENT OF EQUIPMENT AND ELECTRICAL DEVICES.
5. ELECTRICIAN SHALL CUT INTO AND RECESS ALL SWITCH BOXES, JUNCTION BOXES AND ALL OTHER DEVICE BOXES FOR ALL LIGHT-GAUGE STUD FRAMED WALLS FOR ALL SYSTEMS WITH NO EXCEPTIONS. FOLLOW PVC FROM WALL MANUFACTURER'S PUBLISHED INSTRUCTIONS FOR INSTALLATION OF BOXES, CONDUIT AND ACCESSORIES. BASIS-OF DESIGN IS COR-LINE ENT WITH KWIKON BOXES AND ACCESSORIES BEND CONDUIT OUT OF WALS BELOW SLABS A MINIMUM OF 8".

KEYED NOTES

1. ROUTE CIRCUIT THROUGH LIGHTING CONTROL PANEL. SEE LIGHTING CONTROL PANEL SCHEDULE ON SHEET E-5 FOR ADDITIONAL INFORMATION.
2. CONNECT BATTERY PACK TO UNSWITCHED LEG OF LIGHTING CIRCUIT. CARRY UNSWITCHED LEG THROUGH RACEWAY SYSTEM TO EGRESS FIXTURE FOR CONTINUOUS POWER TO BATTERY.
3. PROVIDE AND INSTALL 120/208 MASTER LIGHTING CONTROL PANEL SEE FIXTURE SCHEDULE AND LIGHTING CONTROL PANEL SCHEDULE ON SHEET E-5 FOR ADDITIONAL INFORMATION.
4. PROVIDE AND INSTALL LOW VOLTAGE DIGITAL SWITCHING STATION. SEE FIXTURE SCHEDULE AND LIGHTING CONTROL PANEL SCHEDULE ON SHEET E-5 FOR ADDITIONAL INFORMATION. PROVIDE FACE PLATES AS REQUIRED.
5. PROVIDE CONDUIT AND CONDUCTORS TO LIGHTING CONTROL PANEL LOCATED IN ELECTRICAL ROOM. VERIFY NUMBER AND TYPE OF CONDUCTORS WITH LIGHTING CONTROL PANEL.
6. PROVIDE ADDITIONAL UNSWITCHED LED FOR CONNECTION TO EMERGENCY BATTERY PACKS. CARRY UNSWITCHED LEG THROUGH RACEWAY SYSTEM TO EGRESS FIXTURE FOR CONTINUOUS POWER TO BATTERY.
7. 1-POLE, LINE VOLTAGE, PIR SWITCH MOUNTED OCCUPANCYCY SENSOR, SENSOR SWITCH NO. WSX-5K OR PRE-BID APPROVED EQUAL.
8. LINE VOLTAGE, CEILING MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR, SENSOR SHALL BE SENSOR SWITCH NO. CMR9-PDT-WH OR APPROVED EQUAL.
9. ALL CONDUIT ROUTED IN THE WASH TUNNEL, EQUIPMENT ROOM AND BOILER ROOM SHALL BE ROUTED UNDERGROUND OR IN PVC WHEN EXPOSED. CONDUITS SHALL TRANSITION TO EMT WHEN ROUTED OUTSIDE THESE AREAS.
10. NOT USED
11. CONNECTION FOR BUILDING SIGN. COORDINATE LOCATION AND CONNECTION TYPE WITH EQUIPMENT SUPPLIER PRIOR TO ROUGH-IN.
12. 1-POLE, LINE VOLTAGE, PIR SWITCH MOUNTED VACANCY SENSOR, SENSOR SWITCH NO. WSXOSA-WH OR PRE-BID APPROVED EQUAL. VACANCY SENSOR TO BE SET TO MANUAL 'ON/AUTO 'OFF CONTROL.
13. ROUTE CONDUIT AND CONDUCTORS TO DRIVER LOCATED IN TUNNEL CONTROLLER IN MCC FOR POWER AND CONTROLS.
14. COORDINATE ROUTING OF LIQUID TIGHT NON METALLIC CONDUIT AND CONDUCTORS DOWN FROM CEILING MOUNTED JUNCTION BOX TO LIGHT FIXTURE MOUNTED ON STRUCTURE OR OWNER PROVIDED UNI-STRUT RACK.
15. REMOTE MOUNTED POWER SUPPLY MOUNTED ACCESSIBLE HIGH ON WALL AT CEILING STRUCTURE.
16. FURNISH AND INSTALL 3 POSITION SWITCH FOR CONTROL OF OPEN/CLOSED/OFF SIGN AT POS. SEE SHEET SE-2 FOR ADDITIONAL INFORMATION.
17. TO OPEN/CLOSED SIGN AT POS. SEE SHEET SE-2 FOR ADDITIONAL INFORMATION.
18. FIXTURE TO OPERATE AS NIGHT LIGHT. CONNECTION TO UNSWITCHED LEG OF LIGHTING CIRCUIT.
19. LOCATION OF SECURITY CAMERA PROVIDE 3/4" CONDUIT TO SECURITY EQUIPMENT LOCATED WITHIN MANAGER OFFICE ROOM. COORDINATE LOCATION AND MOUNTING HEIGHT OF EQUIPMENT WITH GENERAL CONTRACTOR PRIOR TO ROUGH-IN.
21. (4)QUAD OUTLETS FOR CONNECTION TO THE LED WALL HIGH ABOVE CEILING JUST BELOW THE ROOF.
22. RUN TO REMOTE MOUNTED POWER SUPPLY MOUNTED HIGH ON WALL IN EQUIPMENT ROOM.

(10) $ SINGLE POLE SWITCH.
(4) $3 THREE WAY SWITCH.
(1) $LV
(5) OCCUPANCY SENSOR. THESE AUTOMATIC CONTROL DEVICES SHALL BE INSTALLED TO AUTOMATICALLY TURN OFF LIGHTS WITHIN 30 MINUTES OF ALL OCCUPANTS LEAVING THE SPACE, SHALL EITHER BE MANUAL ON OR SHALL BE CONTROLLED TO AUTOMATICALLY TURN THE LIGHTING ON TO NOT MORE THAN 50 PERCENT POWER.
(P) PHOTOCELL: SEE SINGLE LINE DIAGRAM.
(1) TC TIME CLOCK, SEE SINGLE LINE DIAGRAM
(5) DS1 PROVIDE AND INSTALL LOW VOLTAGE DIGITAL SWITCHING STATION.
(2) LV/DS2 PROVIDE AND INSTALL LOW VOLTAGE DIGITAL SWITCHING STATION.
(1) LCP
(5) Junction WP
(1) Speaker
(6) Camera

Conduits Needed
(60') 3/4" EMT

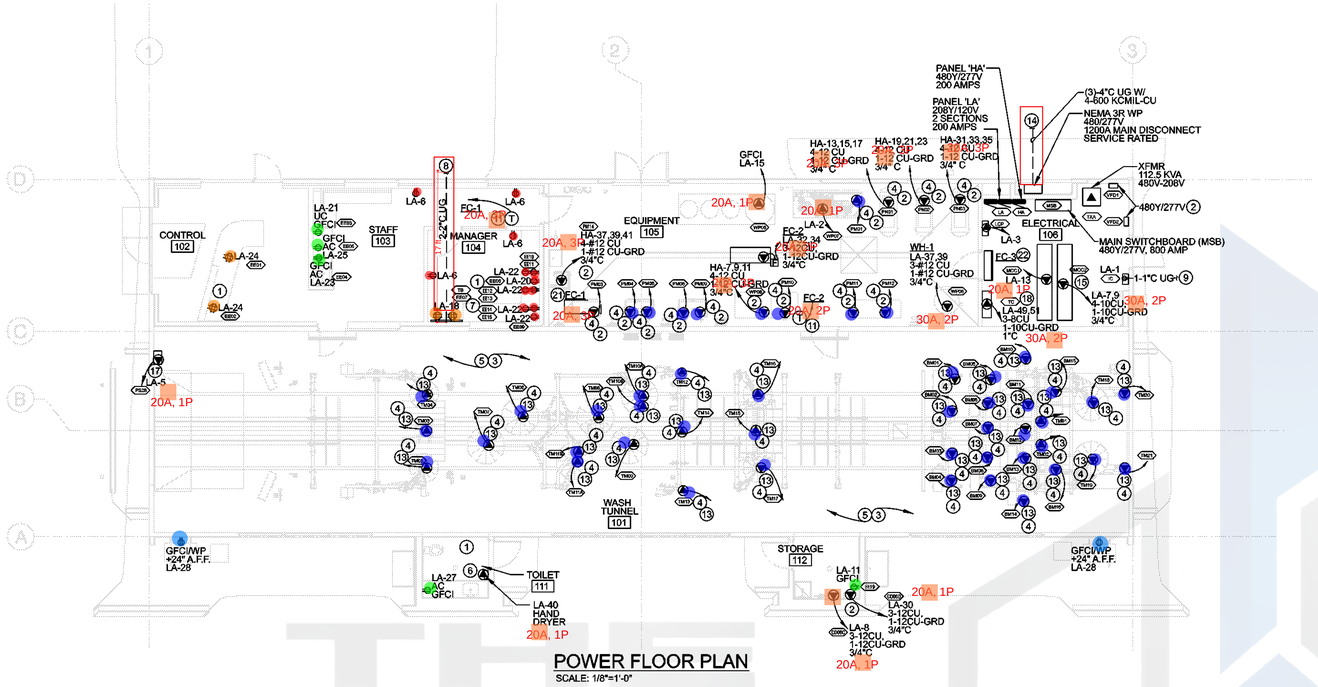
BIDDERS SCOPE

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FOR EXAMPLE, THERE IS ELECTRICAL SCOPE OF WORK THAT IS REFERENCED ON THE ARCHITECTURAL EQUIPMENT PLAN AND SCHEDULES THAT MUST BE INCLUDED.

EACH SCOPE WILL BE FURTHER OUTLINED BY THE CONSTRUCTION MANAGER OR GENERAL CONTRACTOR.

COST ESTIMATION AND ENGINEERING SERVICES



POWER FLOOR PLAN

SCALE: 1/8"=1'-0"

KEYED NOTES

1. COORDINATE RECEPTACLE LOCATIONS AND MOUNTING HEIGHTS WITH MILLWORK.
2. COORDINATE CONNECTION TYPE AND LOCATION WITH EQUIPMENT SUPPLIER PRIOR TO ROUGH-IN. EQUIPMENT TAG DENOTES EQUIPMENT TYPE. SEE ARCHITECTURAL EQUIPMENT PLAN SHEETS A1.6A, A1.6B, A1.6C AND A1.6D FOR ADDITIONAL EQUIPMENT INFORMATION.
3. CONDUITS RAN WITHIN TUNNEL, EQUIPMENT ROOM AND BOILER TO BE ROUTED UNDERGROUND OR ABOVE GROUND WITH SCHED. 40 PVC. CONDUITS TO TRANSITION TO EMT OUTSIDE OF THESE AREAS.
4. ROUTE CIRCUIT TO TUNNEL CONTROLLER AND/OR MOTOR STARTER LOCATED AT MCC. COORDINATE TERMINATION LOCATION WITH EQUIPMENT SUPPLIER AND GENERAL CONTRACTOR PRIOR TO ROUGH-IN.
5. ALL DEVICES IN TUNNEL ARE TO BE IP68 RATED AND SHALL HAVE STAINLESS STEEL MOUNTING HARDWARE.
6. COORDINATE LAVATORY FAUCET WIRING REQUIREMENTS WITH PLUMBING CONTRACTOR.
7. STUB-UP AND MARK CONDUIT 5'-0" OUTSIDE BUILDING FOR COMMUNICATION SERVICES, COORDINATE LOCATION WITH GENERAL CONTRACTOR/OWNER.
8. PROVIDE (2) 2" CONDUITS TO TELEPHONE COMMUNCATION BOARD FOR PHONE AND INTERNET SERVICES. COORDINATE LOCATION WITH GENERAL CONTRACTOR/OWNER.
9. STUB 1" CONDUIT IN LANDSCAPE AREA FOR IRRIGATION CONTROLS. COORDINATE LOCATION WITH GENERAL CONTRACTOR AND LANDSCAPE CONTRACTOR.
10. ROUTE 4-#10 CU, 1-#10 CU-GRD, 3/4"C CIRCUIT TO TUNNEL CONTROLLER AND/OR MOTOR STARTER/VFD LOCATED AT MCC. COORDINATE TERMINATION LOCATION WITH EQUIPMENT SUPPLIER AND GENERAL CONTRACTOR PRIOR TO ROUGH-IN.
11. 1/2" CONDUIT TO CORRESPONDING MECHANICAL UNIT. BOX, CONDUIT AND CONDUCTORS TO BE PROVIDED BY ELECTRICAL CONTRACTOR. LEAVE 12" SLACK AT BOX AND MECHANICAL UNIT. ELECTRICAL CONTRACTOR TO MAKE FINAL CONNECTIONS. COORDINATE BOX SIZE AND QUANTITY OF CONDUCTORS WITH MECHANICAL CONTRACTOR. COORDINATE EXACT LOCATION WITH MECHANICAL CONTRACTOR.
12. LOCATION OF PEDESTAL MOUNTED SIGN. COORDINATE WITH ELECTRICAL REQUIREMENTS OF SIGNS WITH CARWASH EQUIPMENT SUPPLIER.
13. COORDINATE WITH CAR WASH EQUIPMENT CONTRACTOR ADDITIONAL ELECTRICAL REQUIREMENTS OF EQUIPMENT SUPPLIED.
14. SEE SITE ELECTRICAL PLAN SHEET SE-1 FOR CONTINUATION TO UTILITY TRANSFORMER.
15. LOCATION OF MOTOR CONTROL CENTER PROVIDED BY OTHERS. CONTRACTOR TO COORDINATE ADDITIONAL REQUIREMENTS WITH CAR WASH EQUIPMENT CONTRACTOR.
16. LOCATION OF WIRELESS ACCESS POINT. COORDINATE LOCATION AND CONNECTION TYPE WITH EQUIPMENT SUPPLIER PRIOR TO ROUGH-IN.
17. LOCATION OF WEATHERPROOF MONITOR, MOUNT AND RECEPTACLE. COORDINATE LOCATION WITH EQUIPMENT SUPPLIER PRIOR TO ROUGH-IN.
18. LOCATION OF TUNEL CONTROLLER. COORDINATE WIRING WITH SOLENOID MANIFOLDS AND PANEL SCHEDULE AND CHEMICAL DISPENSING SCHEDULE ON SHEET A1.8B. ALSO SEE ELECTRICAL SIGNAGE SCHEDULE AND SENSORS AND SWITCHES SCHEDULE ON SHEET A1.6C.
19. NOT USED
20. NOT USED.
21. FC-1 RECEIVES ITS PRIMARY POWER FROM HP-1.
22. FC-3 RECEIVES ITS PRIMARY POWER FROM HP-3.

ELECTRICAL GENERAL NOTES

1. THE LATEST EDITION OF THE 2017 NATIONAL ELECTRICAL CODE SHALL GOVERN ALL MATERIAL, EQUIPMENT AND ITS INSTALLATION.
2. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL ELECTRICAL MATERIAL, EQUIPMENT AND MATERIAL NOT SPECIFICALLY LISTED BY THE OWNER. WHEN COMPLETED, THE ELECTRICAL WORK SHALL BE THOROUGHLY TESTED., IDENTIFIED AND READY FOR OPERATION.
3. THE ELECTRICAL DRAWINGS SHOW THE GENERAL ARRANGEMENT OF ALL CIRCUITS AND ARE DIAGRAMMATICALLY IN NATURE. THE ELECTRICAL CONTRACTOR SHALL ARRANGE THE RUNS BASED ON ECONOMY AND EASE OF INSTALLATION. ALL EXPOSED CONDUIT RUNS SHALL BE NEATLY STACKED, PROPERLY SUPPORTED AND RUN ONLY IN TRUE VERTICAL OR HORIZONTAL DIRECTIONS
4. ALL BUILDING RACEWAYS AND CONDUCTORS SHALL BE RUN CONCEALED IN WALLS OR UNDER SLAB. MINIMUM CONDUIT SIZE SHALL BE 3/4" UNLESS OTHERWISE NOTED OR SHOWN ON DRAWINGS. ALL OTHER CONDUITS SHALL BE INTERMEDIATE METALLIC CONDUIT, TYPE MC CABLE IS PERMITTED IF INSTALLED IN ACCORDANCE WITH NEC ARTICLE 330.
5. ALL SUSPENDED CONDUIT SHALL BE RIGIDLY SUPPORTED WITH MALLEABLE IRON CLAMPS AT NOT MORE THAN FIVE FEET ON CENTER.
6. ALL POWER CONDUCTORS SHALL BE TYPE (THWN OR XHHW NYLON JACKETED THERMOPLASTIC CABLE LABELED "MOISTURE AND HEAT RESISTANCE". ALL CONDUCTORS SHALL BE PROPERLY IDENTIFIED AND COLORED CODED. MINIMUM WIRE SIZE SHALL BE AWG # 12 FOR POWER AND AWG # 16 FOR CONTROL. ALL CONTROL WIRING SHALL BE STRANDED COPPER. SIZE CONDUCTORS AS REQUIRED BY LOADS AND TO LIMIT VOLTAGE DROP TO NOT MORE THAN 2%. USE OF STRANDED CONDUCTORS FOR SOME EQUIPMENT MAY BE REQUIRED. CONTRACTOR SHALL VERIFY REQUIREMENTS OF EQUIPMENT.
7. UPON COMPLETION OF THE WORK, CONTRACTOR SHALL VERIFY THAT:
   - A. ALL MOTORS ARE TURNING IN THE PROPER DIRECTION.
   - B. CONTINUITY OF CIRCUITS IS ESTABLISHED AND SHORT CIRCUITS DO NOT EXIST.
   - C. NO UNSPECIFIED GROUNDS EXIST.
   - D. THE RESISTANCE TO GROUND OF ALL NON-GROUNDED CIRCUITS IS WITHIN ADEQUATE LIMITS.
   - E. ALL WIRING IS CONNECTED IN ACCORDANCE TO APPLICABLE WIRING DIAGRAMS AND COLOR CODED.
   - F. ALL EQUIPMENT IS OPERATING PROPERLY.
   - G. ALL FUSES ARE PROPERLY SIZED
   - H. THE RESISTANCE TO EARTH OF THE GROUND SYSTEM IS ADEQUATE.
8. PROVIDE A NYLON PULL LINE IN ALL TELEPHONE CONDUITS AND SPARE CONDUITS.
9. PROVIDE LAMPS FOR ALL LIGHT FIXTURES SPECIFIED ON DRAWINGS.
10. LOCATIONS SHOWN ON THESE DRAWINGS ARE APPROXIMATE ONLY. ELECTRICAL CONTRACTOR TO COORDINATE LOCATION OF ROUGH-IN WITH OTHER TRADES.
11. PAINT ALL EXTERIOR ELECTRICAL EQUIPMENT TO MATCH ADJACENT WALL. IF ALLOWED BY LOCAL UTILITY COMPANY.
12. ELECTRICIAN TO ACCOMMODATE ALL ELECTRICAL LIFE/SAFETY REQUIREMENTS FROM CONTRACTOR AND ARCHITECT.
13. REFER TO ARCHITECTURAL CONDUIT PLAN A1.2C FOR ADDITIONAL REQUIREMENTS.
14. REFER TO ARCHITECTURAL EQUIPMENT PLAN A1.3A THROUGH A1.3D FOR ADDITIONAL REQUIREMENTS.
15. ELECTRICIAN SHALL CUT INTO AND RECESS ALL RECEPTACLES, JUNCTION BOXES AND ALL OTHER DEVICE BOXES INTO THE PVC CONCRETE FORM WALLS AND ALL LIGHT-GAUGE STUD FRAMED WALLS FOR ALL SYSTEMS WITH NO EXCEPTIONS. FOLLOW PVC FORM WALL MANUFACTURER'S PUBLISHED INSTRUCTIONS FOR INSTALLATION OF BOXES, CONDUIT AND ACCESSORIES. BASIS-OF DESIGN IS COR-LINE ENT WITH KWIKON BOXES AND ACCESSORIES. BEND CONDUIT OUT OF WALLS BELOW SLABS A MINIMUM OF 6".
16. SHIELDED VFD CABLE MUST BE PROVIDED BETWEEN ALL VFD'S AND PANEL AND FROM VFD'S TO MOTORS.
17. ELECTRICIAN SHALL CUT INTO AND RECESS ALL RECEPTACLES, JUNCTION BOXES AND ALL OTHER DEVICE BOXES INTO THE PVC CONCRETE FORM WALLS AND ALL LIGHT-GAUGE STUD FRAMED WALLS FOR ALL SYSTEMS WITH NO EXCEPTIONS. FOLLOW PVC FORM WALL MANUFACTURER'S PUBLISHED INSTRUCTIONS FOR INSTALLATION OF BOXES, CONDUIT AND ACCESSORIES. BASIS-OF DESIGN IS COR-LINE ENT WITH KWIKON BOXES AND ACCESSORIES. BEND CONDUIT OUT OF WALLS A MINIMUM OF 8" BELOW BOTTOM OF SLABS.

ELECTRICAL LEGEND

(12)		Duplex Receptacle
		2 PORT TELEPHONE/DATA JACK CAT 6 CABLE IN 3/4" CONDUIT BACK TO COMMUNICATION AND DATA SYSTEM. COORDINATE ADDITIONAL REQUIREMENTS WITH COMMUNICATIONS CONTRACTOR.
(4)		DOUBLE DUPLEX GROUNDING TYPE RECEPTACLES IN COMMON 2 GANG BOX
(5)	WP	WEATHERPROOF DUPLEX GROUNDING RECEPTACLE.
(5)	GFCI	GROUND-FAULT CIRCUIT INTERRUPTER, NEMA 5-20R.
		FLOOR DUPLEX GROUNDING RECEPTACLE, NEMA 5-20R.
(48)		DIRECT CONNECTION OR SPECIAL OUTLET, VERIFY CONNECTION WITH EQUIPMENT SERVED.
	F	DISCONNECT SWITCH, FUSED AS REQUIRED BY EQUIPMENT MANUFACTURER. INSTALL IN ACCESSIBLE LOCATION ONLY. F=FUSED.
	J	JUNCTION BOX.
	P	PHOTOCELL: SEE SINGLE LINE DIAGRAM.
	TC	TIME CLOCK, SEE SINGLE LINE DIAGRAM
	T	THERMOSTAT OUTLET, BY MECHANICAL, INSTALLED AND CONNECTED BY ELECTRICAL.
	A	AQUA STAT
	CM	COMBINATION SMOKE AND CARBON MONOXIDE DETECTOR
	OS	OCCUPANCY SENSOR. THESE AUTOMATIC CONTROL DEVICES SHALL BE INSTALLED TO AUTOMATICALLY TURN OFF LIGHTS WITHIN 30 MINUTES OF ALL OCCUPANTS LEAVING THE SPACE. SHALL EITHER BE MANUAL ON OR SHALL BE CONTROLLED TO AUTOMATICALLY TURN THE LIGHTING ON TO NOT MORE THAN 50 PERCENT POWER.
	TV	TELEVISION HOOK-UP W/ DUPLEX OUTLET COORDINATE MOUNTING HEIGHT WITH OWNER.
	AC	ABOVE COUNTER
	BC	BELOW COUNTER
	SD	SMOKE DETECTOR
		POINT OF CONNECTION FROM NEW SERVICE TO EXISTING.
		WIRELESS ACCESS POINT

NOTE: ALL SYMBOLS SHOWN MAY NOT BE USED ON DRAWING.

Mechanical Connections:

- (12) - 20A, 1P
- (3) - 20A, 2P
- (8) - 20A, 3P
- (3) - 30A, 2P

Conduits Needed

- (50') 1" EMT
- (20') 1/2" EMT
- (17') (2) 2" PVC

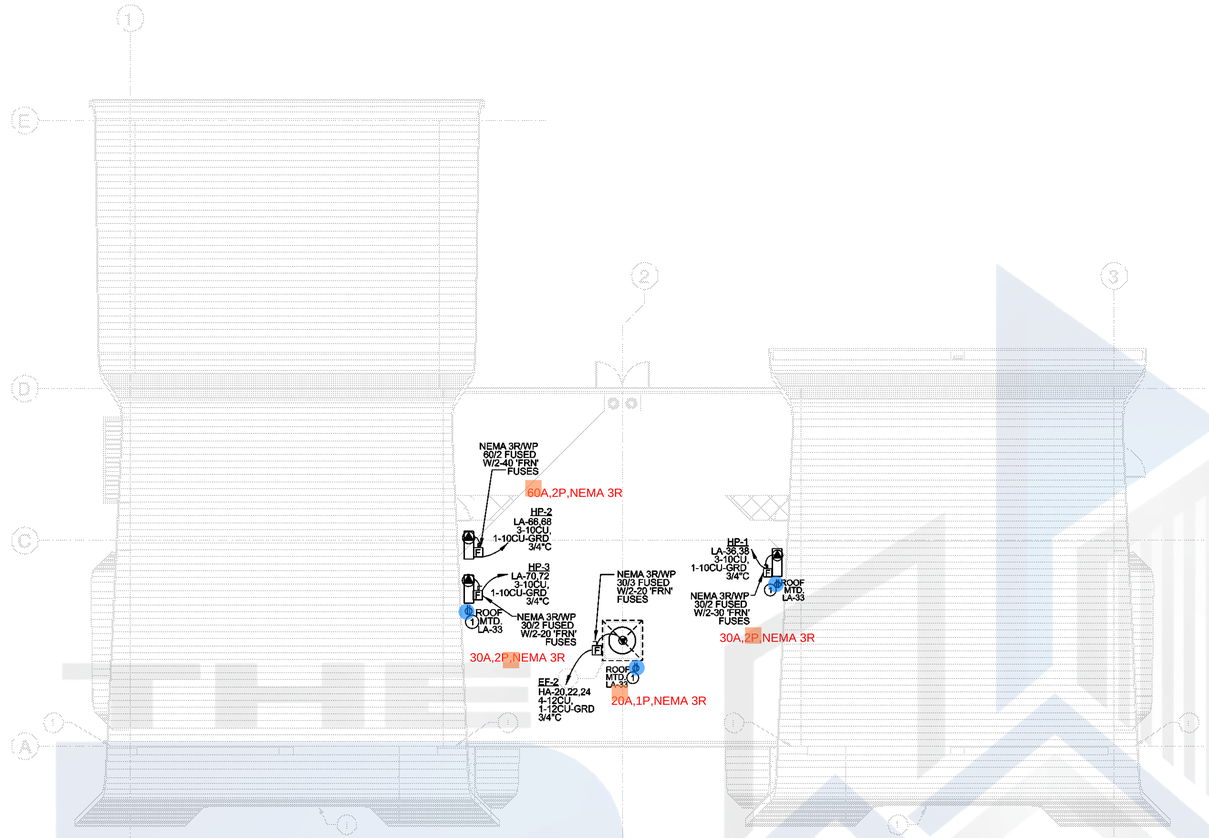
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THE CONSTRUCTION AND ENGINEERING SERVICES



POWER ROOF PLAN

SCALE: 1/8" = 1'-0"

KEYED NOTES

(1) PROVIDE CONVENIENCE RECEPTACLE FOR UNIT SERVICING. MOUNT ON UNISTRUT RACK OR APPROVED EQUAL.

Mechanical Connections NEMA-3R:

- (1) - 20A,1P,NEMA 3R
- (2) - 30A,2P,NEMA 3R
- (1) - 60A,2P,NEMA 3R

BIDDERS SCOPE

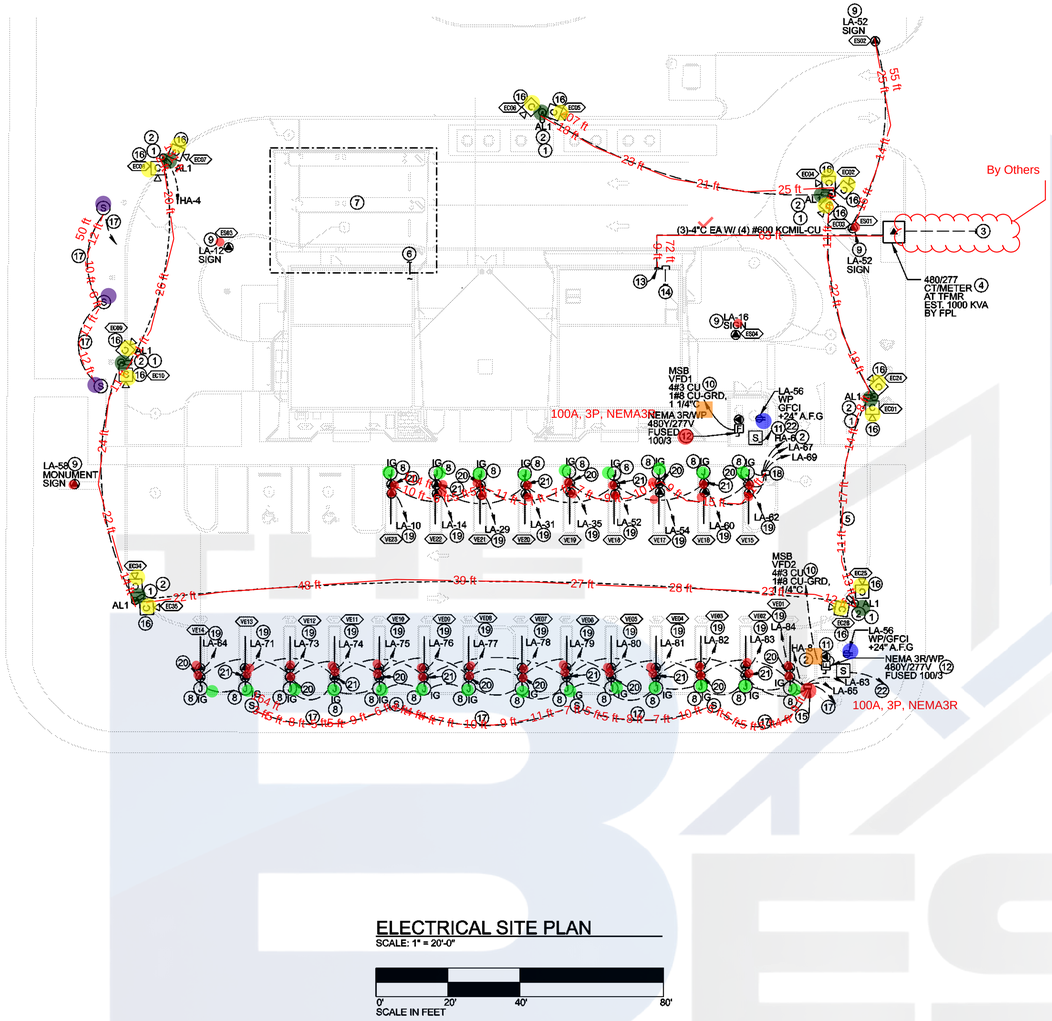
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BEST ESTIMATOR
COST ESTIMATION AND ENGINEERING SERVICES



ELECTRICAL SITE PLAN

SCALE: 1" = 20'-0"

0' 20' 40' 80'

SCALE IN FEET

GENERAL NOTES

1. COORDINATE ALL UNDERGROUND SITE WORK WITH OTHER DISCIPLINES TO AVOID REWORK.
2. ALL IN-GROUND JUNCTION BOXES TO BE FIBERGLASS 12"X12"X18" DEEP, WITH LID LABELED "ELECTRICAL". FINISH ELEVATION OF TOP OF LID TO BE FLUSH WITH FINISHED GRADE, UNLESS NOTED OTHERWISE.
3. ALL PENETRATIONS THROUGH SLAB ARE TO BE PVC COATED RIGID CONDUIT, SCOTCH WRAP IS NOT PERMITTED.
4. ALL UNDERGROUND CONDUIT SHALL BE 1" SCHEDULE 40 PVC, UNLESS NOTED OTHERWISE.
5. SEE ARCHITECTURAL EQUIPMENT PLAN AND SCHEDULES FOR ADDITIONAL INFORMATION.
6. SEE ARCHITECTURAL FOR SPECIFIC PLACEMENT OF EQUIPMENT AND ELECTRICAL DEVICES.

KEYED NOTES

1. SEE DETAIL 'D' & 'E' ON SHEET E-7.
2. ROUTE CIRCUIT THROUGH LOW VOLTAGE LIGHTING CONTROL PANEL. SEE LOW VOLTAGE LIGHTING CONTROL SCHEDULE FOR ADDITIONAL INFORMATION.
3. NEW UNDERGROUND SERVICE PRIMARY CONDUIT AND CONDUCTORS BY FPL. COORDINATE ALL WORK WITH FPL PRIOR TO ROUGH-IN.
4. NEW 1000 KVA 480Y/277V 3Ø PAD MOUNTED TRANSFORMER. VERIFY CONCRETE PAD REQUIREMENTS WITH FPL. — By others
5. NEW UNDERGROUND CONDUIT WITH PULL STRING AND CONDUCTORS BY CONTRACTOR CONFIRM TRENCHING REQUIREMENTS WITH FPL.
6. (2) 2" EMPTY CONDUIT FOR TELECOMMUNICATIONS AND (1) 2" EMPTY CONDUIT FOR CATV. STUB CONDUITS TO EDGE OF PROPERTY LINE AS INDICATED. CAP, MARK AND PROVIDE PULL LINE . STUB CONDUITS 6" AFF BELOW TELEPHONE TERMINAL BOARD. COORDINATE WITH LOCAL COMMUNICATIONS UTILITY PRIOR TO ROUGH-IN.
7. SEE LARGE SCALE PLAN OF POS ISLAND ON SHEET SE-2 FOR ADDITIONAL INFORMATION.
8. COORDINATE ROUTING OF CONDUIT AND CONDUCTORS UP TO LIGHTS MOUNTED IN THE STRUCTURE. COORDINATE LOCATION AND CONNECTION. TYPE WITH EQUIPMENT SUPPLIER PRIOR TO ROUGH-IN. ROUTE CONDUIT AND CONDUCTORS INSIDE COLUMNS WHERE APPLICABLE.
9. LOCATION OF DIRECTIONAL SIGN. COORDINATE AND CONNECTION TYPE WITH EQUIPMENT PROVIDER PRIOR TO ROUGH-IN.
10. ROUTE CONDUIT AND CONDUCTORS TO VFD LOCATED IN ELECTRICAL ROOM. SEE SHEET E-1 FOR EQUIPMENT LOCATION.
11. LOCATION OF VACUUM PRODUCER. COORDINATE CONNECTION TYPE AND LOCATION WITH EQUIPMENT SUPPLIER PRIOR TO ROUGH-IN
12. MOUNT DISCONNECT ON UNI-STRUT RACK NEXT TO VACUUM. MAINTAIN 30" CLEAR SIDE TO SIDE AND 36" CLEAR IN FRONT OF DISCONNECT. FUSE DISCONNECT AT NAMEPLATE RATING OF EQUIPMENT.
13. NEW SWITCHBOARD METERING CABINET MOUNTED AND INSTALLED PER FPL SPECIFICATIONS. MOUNT METER ON SIDE OF CABINET. SUBMIT EQUIPMENT TO FPL FOR APPROVAL PRIOR TO ORDERING.
14. SEE ELECTRICAL POWER FLOOR PLAN ON SHEET E-1 AND SINGLE LINE DIAGRAM ON SHEET E-7 FOR CONTINUATION.
15. PULL BOX LOCATION FOR VACUUM ARCH LIGHTING, TIRE PRESSURE CONTROL PANEL, WASHER FLUID SOLINOID VALVE AND SPEAKERS.
16. LOCATION OF SECURITY CAMERA. PROVIDE 3/4" CONDUIT TO SECURITY EQUIPMENT LOCATED WITHIN MANAGER OFFICE ROOM. COORDINATE LOCATION AND MOUNTING HEIGHT OF EQUIPMENT WITH GENERAL CONTRACTOR PRIOR TO ROUGH-IN.
17. CONTRACTOR TO RUN DIRECT BURIAL CABLE WITH PVC JACKET THROUGH PULL BOX TO SERVER RACK IN CONTROL ROOM. VERIFY EXACT LOCATION OF SPEAKERS AND TERMINATION LOCATION PRIOR TO ROUGH-IN.
18. PULL BOX LOCATION FOR VACUUM ARCH LIGHTING, TIRE PRESSURE CONTROL PANEL, AND WASHER FLUID SOLINOID VALVES.
19. LOCATION OF VACUUM TOOL LOCK/UNLOCK CONTROL WITH (2) CONTROL WIRE CABLES.
20. LOCATION OF VACUUM ARCH WASHER FLUID SOLENOID.
21. LOCATION OF VACUUM ARCH AIR MACHINE FOR TIRE AIR.
22. CONTROL FOR VACUUM PRESSURE TRANSDUCER BACK TO VFD. INSTALL PER VACUUM SYSTEM MANUFACTURERS SPECIFICATIONS.

(50) DIRECT CONNECTION OR SPECIAL OUTLET, VERIFY CONNECTION WITH EQUIPMENT SERVED.

(23) **Junction Box**

(15) **Camera (WP)**

(3) **Speaker**

Mechanical Connections NEMA 3R

(2) - 100A, 3P, NEMA3R

BIDDERS SCOPE

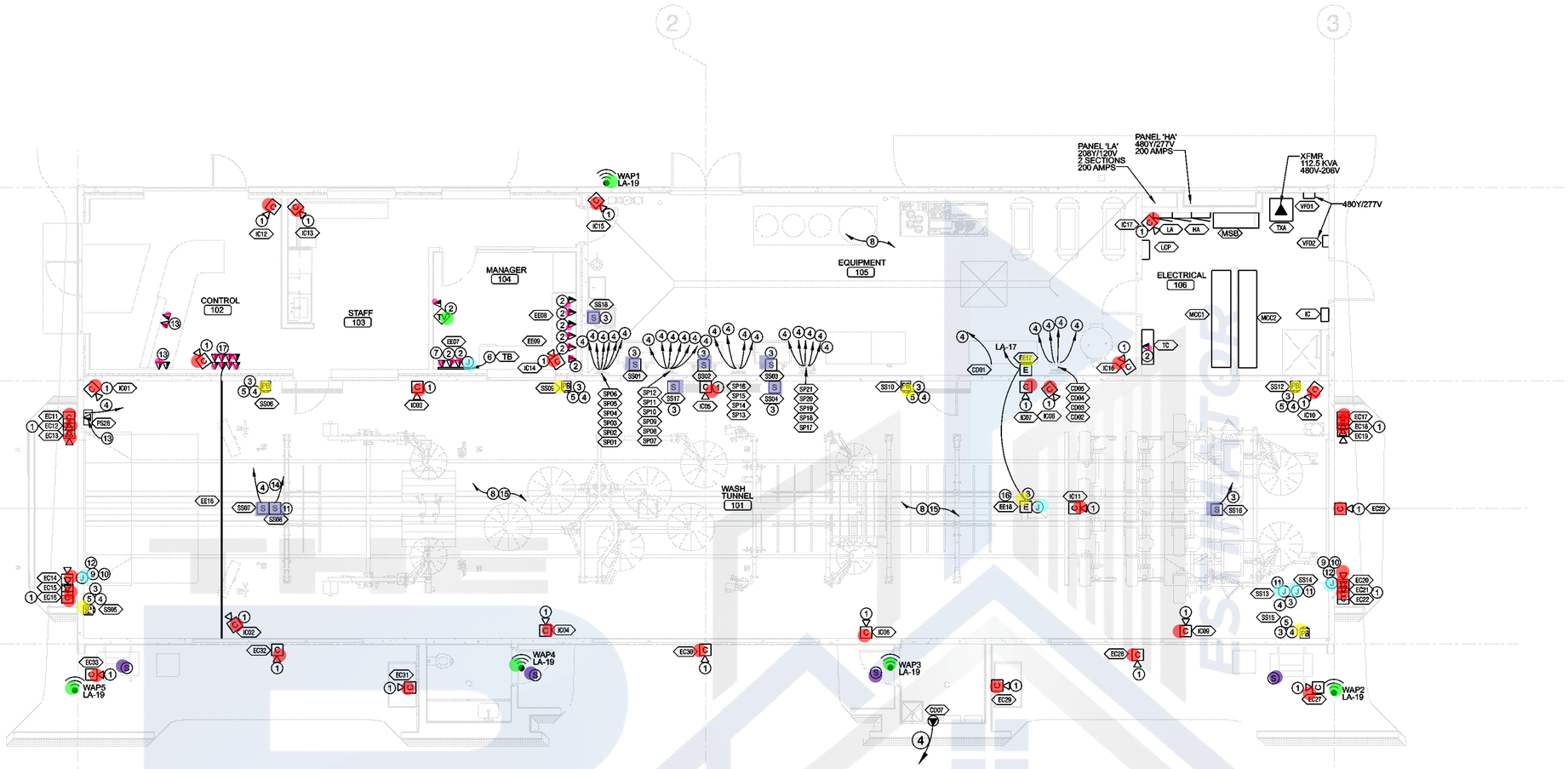
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SPECIAL SYSTEMS FLOOR PLAN

SCALE: 3/16" = 1'-0"

GENERAL NOTES

1. REFER TO ARCHITECTURAL EQUIPMENT PLAN AND SCHEDULES ON SHEETS A1.3A THROUGH A1.3D FOR ADDITIONAL REQUIREMENTS.
2. REFER TO ARCHITECTURAL CONDUIT SHEET A1.2C FOR ADDITIONAL REQUIREMENTS.
3. ELECTRICIAN SHALL CUT INTO AND RECESS ALL JUNCTION BOXES, CAMERA BOXES AND ALL OTHER DEVICE BOXES INTO THE PVC CONCRETE FORM WALLS AND ALL LIGHT-GAUGE STUD FRAMED WALLS FOR ALL SYSTEMS WITH NO EXCEPTIONS. FOLLOW PVC FORM WALL MANUFACTURER'S PUBLISHED INSTRUCTIONS FOR INSTALLATION OF BOXES, CONDUIT AND ACCESSORIES. BASIS-OF DESIGN IS CON-LINE ENT WITH KWIKIN BOXES AND ACCESSORIES. BEND CONDUIT OUT OF WALLS BELOW SLABS A MINIMUM OF 8".

KEYED NOTES

1. LOCATION OF SECURITY CAMERA. PROVIDE 3/4" CONDUIT TO SECURITY EQUIPMENT LOCATED WITHIN MANAGER OFFICE ROOM. COORDINATE LOCATION AND MOUNTING HEIGHT OF EQUIPMENT WITH GENERAL CONTRACTOR PRIOR TO ROUGH-IN.
2. STUB 1" CONDUIT ABOVE ACCESSIBLE CEILNG AND ROUTE CABLING TO TELEPHONE TERMINAL BOARD/ DATA/SECURITY RACK.
3. COORDINATE CONDUCTOR AND CONNECTION TYPE WITH EQUIPMENT SUPPLIER PRIOR TO ROUGH-IN. SEE ARCHITECTURAL EQUIPMENT PLAN AND SCHEDULES ON SHEETS A1.2A, A1.2B AND A1.2C FOR ADDITIONAL INFORMATION.
4. PROVIDE CONDUIT AND CONDUCTORS TO TUNNEL CONTROLLER WITHIN MCC. COORDINATE CONDUCTOR TYPE AND QUANITITY WITH EQUIPMENT PROVIDER PRIOR TO ROUGH-IN.
5. PROVIDE ILLUMINATED WET-RATED EMERGENCY PUSH BUTTON, RED PUSH TO STOP BUTTON WITH TWIST RESET AND GREEN PUSH TO START BUTTON, ALLEN BRADLEY 800T0TFX0TQHTRA WITH 800T-A1D1-800T-X547 OR APPROVED EQUAL.
6. LOCATION OF TELEPHONE TERMINAL BOARD, COORDINATE LOCATION WITH GENERAL CONTRACTOR.
7. LOCATION OF SECURITY AND TELEPHONE/DATA RACKS.
8. CONDUITS RAN WITHIN TUNNEL, EQUIPMENT ROOM AND BOILER TO BE ROUTED UNDERGROUND OR ABOVE GROUND WITH SCHED. 40 PVC. CONDUITS TO TRANSITION TO EMT OUTSIDE OF THESE AREAS.
9. JUNCTION BOX PROVIDED BY WASH TUNNEL DOOR SUPPLIER AND INSTALLED BY ELECTRICAL CONTRACTOR. COORDINATE LOCATION WITH EQUIPMENT PROVIDER PRIOR TO ROUGH-IN.
10. PROVIDE AND INSTALL CONDUCTORS FROM JUNCTION BOX TO TUNNEL DOOR CONTROLLER. VERIFY NUMBER AND SIZE OF CONDUCTORS WITH EQUIPMENT SUPPLIED PRIOR TO ROUGH-IN.
11. INSTALL JUNCTION BOX FOR PHOTO EYES. COORDINATE LOCATION WITH EQUIPMENT PRIOR TO ROUGH-IN. EXTEND RECEIVER CONDUITS BELOW CONVEYER TRENCH. WIRE PER MANUFACTURER INSTRUCTIONS.
12. LOCATION OF TUNNEL DOOR CONTROLLER. COORDINATE CONNECTION TYPE AND LOCATION WITH EQUIPMEMT SUPPLIER PRIOR TO ROUGH-IN.
13. PROVIDE CONDUCTORS TO TELE/DATA RACKS LOCATED IN MANAGER OFFICE. COORDINATE CONDUCTOR TYPE AND QUANITITY WITH EQUIPMENT PROVIDER PRIOR TO ROUGH-IN.
14. PROVIDE CONDUIT AND CONDUCTORS TO ENTER EYE AMPLIFIER LOCATED IN EQUIPMENT ROOM. COORDINATE CONDUCTOR TYPE AND QUANTITY WITH EQUIPMENT PROVIDER PRIOR TO ROUGH-IN.
15. PROVIDE WEATHER-TIGHT CONNECTIONS AND FITTINGS FOR ALL ELECTRICAL CONNECTIONS WITHIN TUNNEL.
16. LOCATION OF TUNEL PROJECTOR. COORDINATE CONNECTION TYPE AND LOCATION WITH EQUIPMENT SUPPLIER PRIOR TO ROUGH-IN.
17. RUN (8) CAT6 CABLE CONNECTIONS TO MANAGER OFFICE RACK FOR LED WALL AT OFFICE SIDE OF WALL HIGH ABOVE CEILING AND BELOW THE ROOF.

(35) WIRELESS ACCESS POINT
(38) Camera
(6) Junction Box
(6) Push Button
(4) Speaker
(23) Tele Data
(1) TV

BIDDERS SCOPE

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COST ESTIMATION AND ENGINEERING SERVICES

LIGHTING FIXTURE SCHEDULE

TYPE	MANUFACTURER	CATALOG NUMBER	DESCRIPTION	MOUNTING	LAMPS	QTY	FIXTURE WATTS	TOTAL WATTS	VOLTAGE	REMARKS
AL1	LITHONIA	DSX2 LED P1 40K 70CRI T3M MVOLT HS SPA	LED, POLE LIGHT, SINGLE HEAD	POLE ARM MOUNTED	LED 18691LM 4000K	7	135	945	MULTI	2
AL2	LITHONIA	DSX2 LED P1 70CRI 40K T3M MVOLT HS SPA	LED, POLE LIGHT, DOUBLE HEAD	POLE ARM MOUNTED	(2)LED 18691LM 4000K	0	270	0	MULTI	2
EL1	LITHONIA NO. DUAL LITE	WLTE W 1 R EL	EMERGENCY LIGHTING UNIT LOW PROFILE, THERMOPLASTIC HOUSING DUAL HEAD WET RATED	ABOVE DOOR	WITH FIXTURE	4	3	12	120/277	2
EL2	LITHONIA DUAL LITE	WLTU W MR	EMERGENCY LIGHTING UNIT LOW PROFILE, THERMOPLASTIC HOUSING DUALHEAD WET RATED	WALL 7'-6" AFF	WITH FIXTURE	4	3	12	120/277	2
EX1	LITHONIA NO. DUAL LITE	LHQM-LED-R-SD-120/S77-W/ NI-CAD EVCURWDI	EXIT/EM LIGHT COMBO, LED, RED STENCIL THERMOPLASTIC HOUSING, SINGLE OR DOUBLE FACE NI-CAD BATTERY	ABOVE DOOR	WITH FIXTURE	4	3	12	120/277	2
EX2	MULE LTG ENVOY	CWL-1-R-BL-SD CWLEZ-1-R-B-SDT	EXIT/EM LIGHT COMBO, LED, RED STENCIL THERMOPLASTIC HOUSING, SINGLE OR DOUBLE FACE NI-CAD BATTERY	ABOVE DOOR	WITH FIXTURE	3	3	9	120/277	2
EM	LITHONIA NO.	ERE SGL WP SQ	WEATHER PROOF SINGLE REMOTE SQUARE	ABOVE DOOR	WITH FIXTURE	1	0.75	0.75	120/277	2
GL1	AXIS	STLDI-2-DSO-80-40-AP-UNV-DP	LED, AXIS STENCIL LINEAR PENDANT	SUSPENDED	LED 731.5 4000K	15	18.2	273	120/277	6
PL1	LEDALITE	7806-L-A-E-O-G-08-D-T	LED, BOLDPLAY 7806L-A, 8FT, WHIT LOCATE DRIVER ON CEILING AT EQUIPMENT ROOM SIDE OF WALL	PENDANT	LED 7026 LM 4000K	3	56.6	169.8	120/277	6
RL1	CREE	CAN-228-5M-RM-03-E-UL-WH-525	LED, EXTERIOR RECESSED CANOPY	RECESSED	LED 10120 LM 4000K	19	54	1026	120/277	6
SL1	G&G LED	WPX8-HO-50K; * PSU-480 DRIVERS	LED LINEAR TUNNEL, HIGH OUTPUT, IP68 DO NOT INSTALL DRIVERS INSIDE TUNNEL SECURE DRIVERS HIGH ON WALL TOGETHER AT LOCATION INDICATED ON CEILING PLAN	SURFACE	LED 12000 LM 5000K	35	80	2800	120/277	5
SL2	G&G LED	WPX8-SO-50K; * PSU-480 DRIVERS	LED LINEAR EQUIPMENT, STANDARD OUTPUT, IP68 SECURE DRIVERS HIGH ON WALL TOGETHER AT LOCATION INDICATED ON CEILING PLAN	SURFACE	LED 8000 LM 5000K	11	50	550	120/277	5
SL3	JUNO	JSF-7-35K-90-120-WH	LED, INTERIOR RECESSED CAN	SURFACE	LED 1000 LM 35000K	2	13	26	120/277	6
WL1	LITHONIA	DSXW1 LED 20C 700 40K T3M MVOLT PIR DNAXD	LED WALL PACK	WALL	LED 5544 LM 5000K	1	46	46	120/277	1,2,4
WL1E	LITHONIA	DSXW1 LED 20C 700 40K T3M MVOLT PIR DNAXD ELCW	LED WALL PACK WITH EMERGENCY	WALL	LED 5544 5000K	3	46	138	120/277	1,2,4
IG	G&G LED	GPX6-HO-50K-UVO-SE-277V	OWNER FURNISHED CONTRACTOR INSTALLED FIXTURE MNTD. ON VACUUM ARCH. EACK LIGHT WILL COME WITH A 15' LEADER CABLE FOR ATTACHMENT INSIDE OF ARCH STANCHION	MOUNTED ON VACUUM ARCH	LED 3600 5000K	24	36	864	277	2,5
LCP	WATTSTOPPER NO. LEVITON NO. HUBBELL	LIA42-115/277-48HD-1GS-HCLK8S(F) SURFACE/FLUSH R48MD-XXX CX82S482NM	(42)RELAY MASTER LIGHTING CONTROL PANEL NETWORK CAPABLE, ASTRONOMICAL TIMECLOCK LCD SCREEN. INDIVIDUAL RELAY MANUAL OVERRIDE PHOTOCELL, OCC. SENSOR, LOW VOTLAGE SWITCH INPUTS RELAYS:10 MILLION ON/OFF CYCLES, 14KAIC MIN.	SURFACE OR FLUSH MOUNTED SEE DWGS.	N/A				120/277	2
DS1	WATTSTOPPER NO. LEVITON NO. HUBBELL	HDLS2SS ZMDSW-02W CXSW-2-W	(2)BUTTON DIGITAL SWITCH STATUS LED FOR EACH BUTTON MATCHING WALL PLATE, CUSTJOM LABEL KIT FOR EACH SWITCH FOR IN-FIELD LABELING	FLUSH MOUNTED IN DEEP SWITCH BOX	N/A				DIGITAL LOW VOLTAGE	2
DS2	WATTSTOPPER NO. LEVITON NO. HUBBELL	HDLS4SS ZMDSW-04W CXSW-4-W	(4)BUTTON DIGITAL SWITCH STATUS LED FOR EACH BUTTON MATCHING WALL PLATE, CUSTJOM LABEL KIT FOR EACH SWITCH FOR IN-FIELD LABELING	FLUSH MOUNTED IN DEEP SEITCH BOX	N/A				DIGITAL LOW VOLTAGE	2

REMARKS

1. PROVIDE WITH BODINE EMERGENCY BATTERY PACK SUITABLE FOR LAMP TYPE AND HALF THE LAMP LUMEN OUTPUT. PROVIDE WITH SELF TEST LIGHT AND PUSHBUTTON.
2. OR PRE-BID APPROVED EQUAL
3. SEE LIGHTING DRAWINGS AND LIGHTING CONTROL PANEL SCHEDULES FOR ADDITIONAL INFORMATION INCLUDING NUMBER AND TYPE OF RELAYS
   THE ELECTRICAL CONTRACTOR SHALL INCLUDE FACTORY START-UP AND PROGRAMMING OF THE LIGHTING CONTROL SYSTEM AS WELL AS COMMISSIONING.
4. WHEN INSTALLED IN AN INSULATED CEILING, FIXTURE TO BE INSTALLED WITH FIRE RATED OR IC RATED ENCLOSURE OR HAVE SHEET ROCK ENCLOSURE BUILT PER DETAIL
5. OWNER FURNISHED CONTRACTOR INSTALLED.
6. CONTRACTOR FURNISHED AND INSTALLED.

NOTE TO BIDDERS

1. BID ONLY PRODUCTS THAT ARE SPECIFIED OR APPROVED VIA ADDENDUM. SUBMITTED ITEMS NOT APPROVED VIA ADDENDUM WILL BE REJECTED
2. PACKAGING OF LIGHT FIXTURES WITH OTHER SYSTEMS IS NOT ALLOWED
3. WHEN ONLY ONE PRODUCT IS APPROVED FOR BIDDING, THE PRICE FOR THAT ITEM SHALL BE BROKEN OUT SEPERATELY WHEN SUBMITTING PRICING TO THE VARIOUS DISTRIBUTORS AND/OR CONTRACTORS AS REQUESTED.

LIGHTING CONTROL PANEL 'LCP'

LIGHTING CONTROL PANEL SCHEDULE-MASTER

PROJECT NAME: AQUASONIC HYPOLUXO — PANEL NOTES: PROVIDE ADDITIONAL INPUT CARDS AS REQUIRED FOR NUMBER OF INPUTS INDICATTED

PANEL NAME: LCP PANEL VOLTAGE: 120V — PANEL MOUNTING: SURFACE

RELAY OUTPUTS							LOCAL CONTACT INPUTS					
PANEL	CKT	RELAY	RELAY NAME	RELAY NOTES	VOLTAGE	TYPE	INPUT TYPE	SWITCH TYPE/INPUT NAME	AREA(S) CONTROLLED SWITCH LOCATION	SWITCH BUTTON NO.	SWITCH BUTTON LABEL	SWITCH/INPUT NOTES	RELAY(S) CONTROLLED
HA	12	1	RELAY1	3	277	20A/1P	DIG. SWITCH	DS1	EQUIPMENT ROOM	1	ALL ON	1	
HA	2	2	RELAY 2	3	277	20A/1P			CANOPY LIGHTING	2	ALL OFF	1	
HA		3	RELAY 3	3	277	20A/1P							
HA	10	4	RELAY 4	3	277	20A/1P	DIG. SWITCH	DS2	OFFICE	1	ALL ON	1	
HA		5	RELAY 5	3	277	20A/1P				2	ALL OFF		
HA		6	RELAY 6	3	277	20A/1P							
HA		7	RELAY 7	3	277	20A/1P							
HA		13	RELAY 13	3	120	20A/1P							
HA		14	RELAY 14	3	120	20A/1P							
HA		15	RELAY 15	3	120	20A/1P							
LA	53	16	RELAY 16	3	120	20A/1P							
LA	57	17	RELAY 17	3	120	20A/1P							
LA	59	18	RELAY 18	3	120	20A/1P							
LA	61	19	RELAY 19	3	120	20A/1P							
LA	63	20	RELAY 20	3	120	20A/1P							
LA	58	21	RELAY 21	3	120	20A/1P							
LA	60	22	RELAY 22	3	120	20A/1P							
LA	52	23	RELAY 23	3	120	20A/1P							
LA	71	24	RELAY 24	3	120	20A/1P							
LA	35	25	RELAY 25	3	120	20A/1P							
LA	10	26	RELAY 26	3	120	20A/1P							
LA	12	26	RELAY 27	3	120	20A/1P							
LA	16	28	RELAY 28	3	120	20A/1P							
		29	RELAY 29										
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		47	RELAY 47										
		48	RELAY 48										

RELAY NOTES:
1) THE RELAY SHALL BE CONTROLLED:PHOTO TO CELL ON, TIMECLOCK
2) THESE RELAYS SHALL BE PROGRAMMED FOR LIGHT SWEEP CONTROL LIGHTING CIRCUITS INDICATED BY OWNER. THE OVERRIDE SWITCHES SHALL BE PROGRAMMED TO PROVIDE AND ADDITIONAL 2-HOURS OF OVERRIDE WHEN ACTIVATED.
3) COORDINATE PROGRAMMING WITH OWNER

SWITCH/INPUT NOTES:
1) BUTTON TO BE UTALIZED FOR 2-HR OVERRIDE AS INDICATED IN RELAY NOTE #2.

COMcheck Software Version COMcheckWeb

Exterior Lighting Compliance Certificate

Project Information

Energy Code: 2021 IECC
Project Title: 24-75 AQUASONIC HYPOLUXO
Project Type: New Construction
Exterior Lighting Zone: 2 (Neighborhood business district (LZ2))

Construction Site: 4751 Hypoluxo Rd, Greenacres, Florida 33463

Owner/Agent: Josh Howe, Spotless Wash Solutions, Twin Falls, Idaho 83302, 208-841-4524, josh@spotlesswashsolutions.com

Designer/Contractor: Brogan Sattler, Kerschner Breu-cannon Associates, 1201 S Five Mile Road, Boise, Idaho 83703, 208-888-7145, bsattler@kbamwp.com

Allowed Exterior Lighting Power

A Area/Surface Category	B Quantity	C Allowed Watts /	D Tradable Wattage	E Allowed Watts (B X C)
Special feature area	25880 ft2	0.1	Yes	2588
Illuminated area of facade wall or surface	456 ft2	0.07	No	32
Entry canopy	2206 ft2	0.25	Yes	552
			Total Tradable Watts (a) =	3140
			Total Allowed Watts =	3674
			Total Allowed Supplemental Watts (b) =	400

(a) Wattage tradeoffs are only allowed between tradable areas/surfaces.
(b) A supplemental allowance equal to 400 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 Fixture	D Fixture Watt.	E (C X D)
Special feature area (25880 ft2): Tradable Wattage				
LED: AL1: Other:	1	7	135	945
LED: ID: Other:	1	24	36	864
Illuminated area of facade wall or surface (456 ft2): Non-tradable Wattage				
LED: WL1: Other:	1	1	46	46
LED: WL1E: Other:	1	1	46	46
Entry canopy (2206 ft2): Tradable Wattage				
LED: RL1: Other:	1	19	54	1026
LED: WL1E: Other:	1	1	46	46
			Total Tradable Proposed Watts =	2661

Project Title: 24-75 AQUASONIC HYPOLUXO — Report date: 09/24/24
Data Filename: — Page 2 of 15

Interior Lighting PASSES: Design 26% 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 a permit application. The proposed exterior lighting systems have been designed to meet the 2021 IECC requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

RICHARD T. KARTCHNER P.E. — Name - Title — Signature — 10-17-24 Date

COMcheck Software Version COMcheckWeb

Interior Lighting Compliance Certificate

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Designer/Contractor: Brogan Sattler, Kerschner Breu-cannon Associates, 1201 S Five Mile Road, Boise, Idaho 83703, 208-888-7145, bsattler@kbamwp.com

Additional Efficiency Package(s)

Credits: 10.0 Required 0.0 Proposed

Allowed Interior Lighting Power

A Area Category	B Floor Area (ft2)	C Allowed Watts / ft2	D Allowed Watts
1-Office	660	0.64	422
2-Retail	4892	0.84	4109
		Total Allowed Watts =	4532

Proposed Interior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixture	D Fixture Watt.	E (C X D)
1-Office				
LED: OL1: Other:	1	15	18	270
LED: PL1: Other:	1	3	57	171
2-Retail				
LED: SL1: Other:	1	26	80	2080
LED: SL2: Other:	1	11	50	550
LED: SL3: Other:	1	2	13	26
			Total Proposed Watts =	3017

Interior Lighting PASSES: Design 33% better than code

Interior Lighting Compliance Statement

Compliance Statement: The proposed interior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 2021 IECC requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

RICHARD T. KARTCHNER P.E. — Name - Title — Signature — 10-17-24 Date

Project Title: 24-75 AQUASONIC HYPOLUXO — Report date: 09/24/24
Data Filename: — Page 2 of 15

BIDDERS SCOPE

ANY AND ALL CONTRACTORS SUBMITTING A BID FOR WORK SCOPE REFERENCED OR DESCRIBED IN THIS BID DOCUMENT DRAWING PACKAGE SHALL INCLUDE RELATED WORK FROM ALL ARCHITECTURAL AND ENGINEERING DISCIPLINES TOGETHER. THIS DRAWING PACKAGE AS A WHOLE CONSTITUTES THE SCOPE OF WORK FOR ALL SUBCONTRACTORS. DO NOT BREAK THE DRAWING PACKAGE INTO SUB-PACKAGES AS THOSE ABBREVIATED PACKAGES WILL CERTAINLY BE MISSING IMPORTANT SCOPE OF WORK INFORMATION.

FOR EXAMPLE, THERE IS ELECTRICAL SCOPE OF WORK THAT IS REFERENCED ON THE ARCHITECTURAL EQUIPMENT PLAN AND SCHEDULES THAT MUST BE INCLUDED.

EACH SCOPE WILL BE FURTHER OUTLINED BY THE CONSTRUCTION MANAGER OR GENERAL CONTRACTOR.

COST ESTIMATION AND ENGINEERING SERVICES

PANEL LA SCHEDULE (2 SECTIONS)

THREE PHASE PANEL BOARD SCHEDULE

PANELBOARD ID: PANEL 'LA' | Voltage: 208Y/120V | MAIN: MLO | FEATURES:NEMA 1 LOCKABLE
LOCATION: ELECTRICAL 106 | Phase: 3 | MOUNTING: Surface
Wires: 4
Bus Amps: 225 AMPS | AIC: 22000

		CONNECTED AMPS									CONNECTED AMPS							
WIRE SIZE	CIRCUIT DESCRIPTION	LTG	REC	MISC	KIT	MTR	BRKR/POLE	CCT	PHASE	CCT	BRKR/POLE	LTG	REC	MISC	KIT	MTR	CIRCUIT DESCRIPTION	WIRE SIZE
12	REC: IRIG CONTROL			4			20/1	1	A	2	20/1			9			R.O. SYSTEM	12
12	LIGHTING CONTROL		1.5				20/1	3	B	4	20/1						SPARE	12
12	LOADING PEDESTAL			5			20/1	5	C	6	20/1		6				REC:CONTROL/STAFF/OFFICE	12
10	MCC1			8.9			30/2	7	A	8	20/1		6				WINDSHIELD PUMP	12
10				8.9				9	B	10	20/1			1			VACUUM TOOL LOCK	12
12	VACUUM CONTROLLER			1			20/1	11	C	12	20/1			6			SIGN	12
12	COOLING FAN			1.72			20/1	13	A	14	20/1			1			VACUUM TOOL LOCK	12
12	WATER SOFTENER			1			20/1	15	B	16	20/1			6			DIGITAL SIGN	12
12	PROJECTOR CONTROLLER			6			20/1	17	C	18	20/1		6				REC:P.O.S SERVER/T.T.BD	12
12	WI-FI POWER			6			20/1	19	A	20	20/1		3				REC: MANAGER PRINTER	12
12	UC REFRIGERATOR				9		20/1	21	B	22	20/1		10.5				REC:MANAGER PC	12
12	COFFEE MAKER				12.5		20/1	23	C	24	20/1		3				REC: CONTROL RM SVR/PRNTR	12
12	MICROWAVE				12.5		20/1	25	A	26	20/1		12				LED WALL	12
12	REC: TOILET		1.5				20/1	27	B	28	20/1			4			MAT BEATER S	12
10	VACUUM TOOL LOCK			1			30/1	29	C	30	20/1			6			WINDSHIELD PUMP	12
10	VACUUM TOOL LOCK			1			30/1	31	A	32	15/2			6.5			FC-2	12
12	REC:ROOF MOUNTED		4.5				20/1	33	B	34				6.5				12
12	VACUUM TOOL LOCK			1			20/1	35	C	36	30/2			10			HP-1	10
10	WATER HEATER			6			30/2	37	A	38				10				10
10				6				39	B	40	20/1			1.8			HAND DRYER	12
12	MENU SIGN LANE 1			8			20/1	41	C	42	20/1			8			MENU SIGN LANE 3	12
SECTION 2																		
12	MENU SIGN LANE 2			8			20/1	43	A	44	20/1			5			MAGNETIC GATE	12
12	POS LANE 1			8			20/1	45	B	46	20/1			5			MAGNETIC GATE	12
12	POS LANE 2			8			20/1	47	C	48	20/1			8			POS LANE 3	12
10	TUNNEL CONTROLLER			12.5			30/2	49	A	50	20/1			5			MAGNETIC GATE	12
10				12.5				51	B	52	20/1			12			SIGN	12
12	EXTERIOR SIGN			6			20/1	53	C	54	20/1			1			VACUUM TOOL LOCK	12
12	EXTERIOR SIGN			6			20/1	55	A	56	20/1		3				REC:VACUUMS	12
12	EXTERIOR SIGN			6			20/1	57	B	58	20/1			16			MONUMENT SIGN	12
12	EXTERIOR SIGN			6			20/1	59	C	60	20/1			1			VACUUM TOOL LOCK	12
12	EXTERIOR SIGN			6			20/1	61	A	62	20/1			1			VACUUM TOOL LOCK	12
12	TIRE PRESSURE CONT.			5			20/1	63	B	64	20/1			1			VACUUM TOOL LOCK	12
12	WASHER FLUID POWER			5			20/1	65	C	66	40/2			18.1			HP-2	8
12	TIRE PRESSURE CONT.			5			20/1	67	A	68				18.1				8
12	WASHER FLUID POWER			5			20/1	69	B	70	20/2			8.2			HP-3	12
12	VACUUM TOOL LOCK			1			20/1	71	C	72				8.2				12
12	VACUUM TOOL LOCK			1			20/1	73	A	74	20/1			1			VACUUM TOOL LOCK	12
12	VACUUM TOOL LOCK			1			20/1	75	B	76	20/1			1			VACUUM TOOL LOCK	12
12	VACUUM TOOL LOCK			1			20/1	77	C	78	20/1			1			VACUUM TOOL LOCK	12
12	VACUUM TOOL LOCK			1			20/1	79	A	80	20/1			1			VACUUM TOOL LOCK	12
12	VACUUM TOOL LOCK			1			20/1	81	B	82	20/1			1			VACUUM TOOL LOCK	12
12	VACUUM TOOL LOCK			1			20/1	83	C	84	20/1			1			VACUUM TOOL LOCK	12

REMARKS: PROVIDE LOCKABLE CIRCUIT BREAKER FOR WH CIRCUITS

CONNECTED LOAD (KVA)		DEMAND LOAD (KVA)		CONNECTED KVA/PHASE		TOTAL LOADS	
LIGHTING	0.0	0.0	LIGHTING	20.3	PHASE A	54.2	TOTAL CONNECTED KVA
RECEPTACLE	6.8	6.8	RECEPTACLE	17.7	PHASE B	52.8	TOTAL DEMAND KVA
MISC	43.3	43.3	MISC	18.1	PHASE C	147	TOTAL DEMAND AMPS
KITCHEN	4.08	2.652	KITCHEN	CONNECTED AMP/PHASE		200	PANEL DESIGN AMPS
MOTOR	0.0	0.0	MOTOR	169.22	PHASE A		
				147.9	PHASE B		
				150.8	PHASE C		

PANEL HA SCHEDULE

THREE PHASE PANEL BOARD SCHEDULE

PANELBOARD ID: PANEL 'HA' | Voltage: 480Y/277V | MAIN: MLO | FEATURES:NEMA 1 LOCKABLE
LOCATION: ELECTRICAL 106 | Phase: 3 | MOUNTING: Surface
Wires: 4
Bus Amps: 225 AMPS | AIC: 22000

		CONNECTED AMPS									CONNECTED AMPS							
WIRE SIZE	CIRCUIT DESCRIPTION	LTG	REC	MISC	KIT	MTR	BRKR/POLE	CCT	PHASE	CCT	BRKR/POLE	LTG	REC	MISC	KIT	MTR	CIRCUIT DESCRIPTION	WIRE SIZE
12	IRRIGATION PUMP			11.7			20/3	1	A	2	20/1	4.1					LTG:EXTERIOR	12
12				11.7				3	B	4	20/1	3.4					LTG:PARKING	12
12				11.7				5	C	6	20/1	1.3					LTG:VACUUM	12
12	RECLAIM UNIT			5			20/3	7	A	8	20/1	2					LTG:VACUUM	12
12				5				9	B	10	20/1	1.6					LTG:OFFICE/ELEC.	12
12				5				11	C	12	20/1	1					LTG:EQUIPMENT ROOM	12
12	AIR COMPRESSOR 1			4			20/3	13	A	14	20/1	1.7					LTG:POWER SUPPLY 1(PS1)	12
12				4				15	B	16	20/1	1.7					LTG:POWER SUPPLY 2(PS2)	12
12				4				17	C	18	20/1	2					LTG:POWER SUPPLY 3(PS3)	12
12	AIR COMPRESSOR 2			4			20/3	19	A	20	20/3			2.7			EF-2	12
12				4				21	B	22				2.7				12
12				4				23	C	24				2.7				12
12	SPARE						20/1	25	A	26	20/1	2					LTG:POWER SUPPLY 4(PS4)	12
12	SPARE						20/1	27	B	28	20/1	1.7					LTG:POWER SUPPLY 5(PS5)	12
12	LTG:POS CANOPY			6			20/1	29	C	30	20/1	1.7					LTG:POWER SUPPLY 6(PS6)	12
12	AIR COMPRESSOR 3			4			20/3	31	A	32	20/1						LTG:ROOFTOP MECHANICAL	12
12				4				33	B	34	20/1						SPARE	12
12				4				35	C	36	20/1						SPARE	12
12	HIGH PRESSURE PUMP			6			20/3	37	A	38	20/3			5			FUTURE BOOSTER PUMP	12
12				6				39	B	40				5				12
12				6				41	C	42				5				12

REMARKS:

CONNECTED LOAD (KVA)		DEMAND LOAD (KVA)		CONNECTED KVA/PHASE		TOTAL LOADS	
LIGHTING	6.7	8.0	LIGHTING	14.5	PHASE A	43.6	TOTAL CONNECTED KVA
RECEPTACLE	0.0	0.0	RECEPTACLE	14.1	PHASE B	44.9	TOTAL DEMAND KVA
MISC	36.9	36.9	MISC	15.1	PHASE C	54.1	TOTAL DEMAND AMPS
KITCHEN	0	0	KITCHEN	CONNECTED AMP/PHASE		200	PANEL DESIGN AMPS
MOTOR	0.0	0.0	MOTOR	52.2	PHASE A		
				50.8	PHASE B		
				54.4	PHASE C		

BIDDERS SCOPE

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BEST ESTIMATION
COST ESTIMATION AND ENGINEERING SERVICES

PS - PAY STATION SYSTEMS

ITEM	DESCRIPTION	RESPONSIBILITY				POWER			CONDUIT		TC FUNCTION	CONTROL				COMMENTS
		FURNISH	UNLOAD	SET IN PLACE	INSTALL	VOLTAGE	FEED FROM/ TO	HARDWIRE	ROUTING	PROVIDE		WIRE SPEC	CONNECTION TYPE	FEED FROM/ TO	MOUNTING	
PS01	SIGN, MENU SCREEN, LANE 1	0	OC	OC	OC	100-240	LA/ UNIT	GC	UG	GC	No	#12 AWG/ THHN/ THWN	SO CORD/ J BOX	SERVER/ UNIT	PAD	-
PS02	SIGN, MENU SCREEN, LANE 2	0	OC	OC	OC	100-240	LA/ UNIT	GC	UG	GC	No	#12 AWG/ THHN/ THWN	SO CORD/ J BOX	SERVER/ UNIT	PAD	-
PS03	SIGN, MENU SCREEN, LANE 3	0	OC	OC	OC	100-240	LA/ UNIT	GC	UG	GC	No	#12 AWG/ THHN/ THWN	SO CORD/ J BOX	SERVER/ UNIT	PAD	-
PS04	CAMERA PEDESTAL, SINGLE	0	OC	OC	OC	-	-	GC	UG	GC	No	-	-	-	PAD	-
PS05	CAMERA PEDESTAL, SINGLE	0	OC	OC	OC	-	-	GC	UG	GC	No	-	-	-	PAD	-
PS06	CAMERA PEDESTAL, SINGLE	0	OC	OC	OC	-	-	GC	UG	GC	No	-	-	-	PAD	-
PS07	CAMERA PEDESTAL, SINGLE	0	OC	OC	OC	-	-	GC	UG	GC	No	-	-	-	PAD	-
PS08	CAMERA PEDESTAL, SINGLE	0	OC	OC	OC	-	-	GC	UG	GC	No	-	-	-	PAD	-
PS09	CAMERA PEDESTAL, SINGLE	0	OC	OC	OC	-	-	GC	UG	GC	No	-	-	-	PAD	-
PS10	PULL BOX, LANE 1	GC	GC	GC	GC	-	-	-	UG	GC	No	-	-	-	SLAB	ALL POWER AND CONTROL CONDUITS EXTEND THROUGH BOX
PS11	PULL BOX, LANE 2	GC	GC	GC	GC	-	-	-	UG	GC	No	-	-	-	SLAB	ALL POWER AND CONTROL CONDUITS EXTEND THROUGH BOX
PS12	PULL BOX, LANE 3	GC	GC	GC	GC	-	-	-	UG	GC	No	-	-	-	SLAB	ALL POWER AND CONTROL CONDUITS EXTEND THROUGH BOX
PS13	PULL BOX, LANE 1	GC	GC	GC	GC	-	-	-	UG	GC	No	-	-	-	SLAB	ALL POWER AND CONTROL CONDUITS EXTEND THROUGH BOX
PS14	PULL BOX, LANE 2	GC	GC	GC	GC	-	-	-	UG	GC	No	-	-	-	SLAB	ALL POWER AND CONTROL CONDUITS EXTEND THROUGH BOX
PS15	PULL BOX, LANE 3	GC	GC	GC	GC	-	-	-	UG	GC	No	-	-	-	SLAB	ALL POWER AND CONTROL CONDUITS EXTEND THROUGH BOX
PS16	MAGNETIC GATE; LANE 1	0	OC	OC	OC	120	HOUSE PANEL/ UNIT	GC	UG	GC	No	CAT8	RJ45 SOCKET	GATE/ XPT	PAD	GATE HEIGHT TO BE RAISED 1'
PS17	MAGNETIC GATE; LANE 2	0	OC	OC	OC	120	HOUSE PANEL/ UNIT	GC	UG	GC	No	CAT8	RJ45 SOCKET	GATE/ XPT	PAD	GATE HEIGHT TO BE RAISED 1'
PS18	MAGNETIC GATE; LANE 3	0	OC	OC	OC	120	HOUSE PANEL/ UNIT	GC	UG	GC	No	CAT8	RJ45 SOCKET	GATE/ XPT	PAD	GATE HEIGHT TO BE RAISED 1'
PS19	PHOTO EYE SET, PAY STATION GATE	0	OC	OC	OC	120	-	GC	UG	GC	No	MANUF. PREWIRED WHIP	TERMINAL BLOCK	EYES/ XPT	PEDESTAL	
PS20	PHOTO EYE SET, PAY STATION GATE	0	OC	OC	OC	120	-	GC	UG	GC	No	MANUF. PREWIRED WHIP	TERMINAL BLOCK	EYES/ XPT	PEDESTAL	
PS21	PHOTO EYE SET, PAY STATION GATE	0	OC	OC	OC	120	-	GC	UG	GC	No	MANUF. PREWIRED WHIP	TERMINAL BLOCK	EYES/ XPT	PEDESTAL	
PS28	LOADING TUNNEL CONTROL STATION	0	GC	0	0	-	HOUSE PANEL/ UNIT	GC	UG	GC	No	CAT5E/ (2) RS422	WALL PLATE/ PATCH CABLE	SITEWATCH SERVER/ STATION	SLAB	ON WALL
PS29	DRB SITEWATCH SRMB	0	GC	0	0	120	LA/ RECEPTACLE	GC	UG	GC	Yes	CAT8 / SERIAL / 25-CONDUCTOR CABLE	RJ45/ SERIAL PORT/ TERMINAL STRIP	CAT8 TO SERVER RACK / SERIAL TO DRB SERVER / 25-CONDUCTOR TO TC	RACK	GC TO PROVIDE 25-CONDUCTOR SRMB CABLE AND CONDUIT. SEE DRB LITERATURE FOR ORDERING INFORMATION
PS30	DRB SITEWATCH SERVER	0	GC	0	0	120	LA/ RECEPTACLE	GC	UG	GC	Yes	CAT8	RJ45 SOCKET		RACK	

SHEET NOTES

#:	DESCRIPTION:
1	PULL-BOX, SEE DETAIL C5/A4.2. ROUTE ALL ISLAND POWER AND CONTROLS CONDUCTORS FROM BUILDING AND BETWEEN TERMINAL AND OTHER PAY STATION ISLAND EQUIPMENT THROUGH BOX. DO NOT TERMINATE OR SPLICE AT BOX. DIVISION 16 CONTRACTOR TO EXTEND (4) 3/4" POWER CONDUITS WITH DEDICATED 20AMP CIRCUITS TO SOUTH DIVIDED HALF OF PULL BOX AND (5) 3/4" CONTROLS CONDUITS AT NORTH SIDE OF PULL BOX.
2	PROVIDE CONDUIT AND CONDUCTORS BETWEEN ISLAND EQUIPMENT AND PULL-BOX. DIVISION 16 TO TERMINATE POWER AND CONTROLS CONDUCTORS TO THE EQUIPMENT.
3	POWER CONDUIT FROM PANEL TO FUTURE PAY STATION UNIT BY DIVISION 16 CONTRACTOR. PROVIDE CIRCUIT FOR FUTURE 120VAC, 20 AMP "COMPUTER GRADE POWER" WITH DEDICATED CIRCUIT AND EARTH GROUND. USE 3/4" CONDUIT AT CIRCUIT.
4	POWER CONNECTION FROM PANEL TO MAGNETIC GATE BY DIVISION 16 CONTRACTOR. PROVIDE 120VAC, 20 AMP DEDICATED CIRCUIT. USE 3/4" CONDUIT AT CIRCUIT.
5	POWER CONNECTION FROM PANEL TO DIGITAL SCREEN MENU BY DIVISION 16 CONTRACTOR. 100-240VAC, PROVIDE 20AMP DEDICATED CIRCUIT. ROUTE CIRCUIT THROUGH LIGHTING CONTROL PANEL. USE 3/4" CONDUIT AT CIRCUIT.
6	CONTROL CONDUIT FOR FUTURE PAY STATION CONNECTION FROM PAY SYSTEM SERVER RACK AT MANAGERS OFFICE BY DIVISION 16 CONTRACTOR. USE 3/4" CONDUIT.
7	CONTROL CONDUIT, CONDUCTORS AND CONNECTION FROM MAGNETIC GATE TO PAY STATION SERVER AT MANAGER'S OFFICE BY DIVISION 16 CONTRACTOR. USE 3/4" CONDUIT.
8	CONTROL CONDUIT, CONDUCTORS, AND CONNECTION FROM DIGITAL MENU SIGN TO SERVER RACK AT MANAGERS OFFICE BY DIVISION 16 CONTRACTOR. USE 3/4" CONDUIT.
9	CONTROL CONDUCTORS AND CONNECTION FROM PAY STATION GATE EYES TO MAGNETIC GATE BY DIVISION 16 CONTRACTOR. USE 3/4" CONDUIT.
10	CONTROL CONDUIT, CONDUCTORS AND CONNECTION FROM CAMERA TO PAY STATION SERVER AT MANAGERS OFFICE BY DIVISION 16 CONTRACTOR. USE 3/4" CONDUIT.
11	(4) 3/4" POWER CONDUITS TO 120VAC PANEL. PROVIDE DEDICATED 20AMP BREAKER FOR EACH. (1) IS SPARE.
12	(5) 3/4" CONTROL CONDUITS TO SERVER RACK HEAD END EQUIPMENT LOCATED IN MANAGER'S OFFICE.

GENERAL NOTES

A. IN ADDITION TO THE ARCHITECTURAL AND ELECTRICAL DRAWINGS, INSTALL PAY STATION SYSTEM INFRASTRUCTURE IN ACCORDANCE WITH PAY STATION MANUFACTURER'S INSTALLATION LITERATURE.

B. GENERAL CONTRACTOR RESPONSIBLE TO REQUEST & RECIEVE POINT OF SALE SYSTEM DRAWINGS FROM OWNER, AND INCORPORATE AS CONTRACT DOCUMENTS FOR THIS PROJECT.

C. ALL ELECTRICAL WORK SHALL BE PERFORMED BY LICENSED ELECTRICIAN AND INSTALLED IN ACCORDANCE WITH LOCALLY ADOPTED CODES.

D. IN ADDITION TO ROUTING OF ALL POWER AND CONTROLS CONDUCTORS THROUGH THE PULL BOX, ALSO ROUTE CONDUCTORS BETWEEN EQUIPMENT THROUGH THE PULL BOX.

E. ALL UNDERGROUND CONDUITS AT PAY STATION EQUIPMENT SHALL BE 3/4" SCH80 PVC.

F. 3/4" IS MINIMUM SIZE OF CONDUIT ALLOWED ON THIS PROJECT. FOLLOW NEC SIZING FOR CONDUITS REQUIRED TO BE LARGER THAN 3/4".

Mechanical Units/all assumed to be:

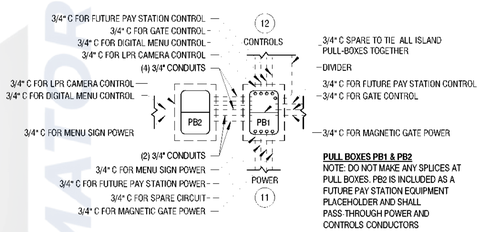
(18) **- 20A,3P**

Conduits Needed:

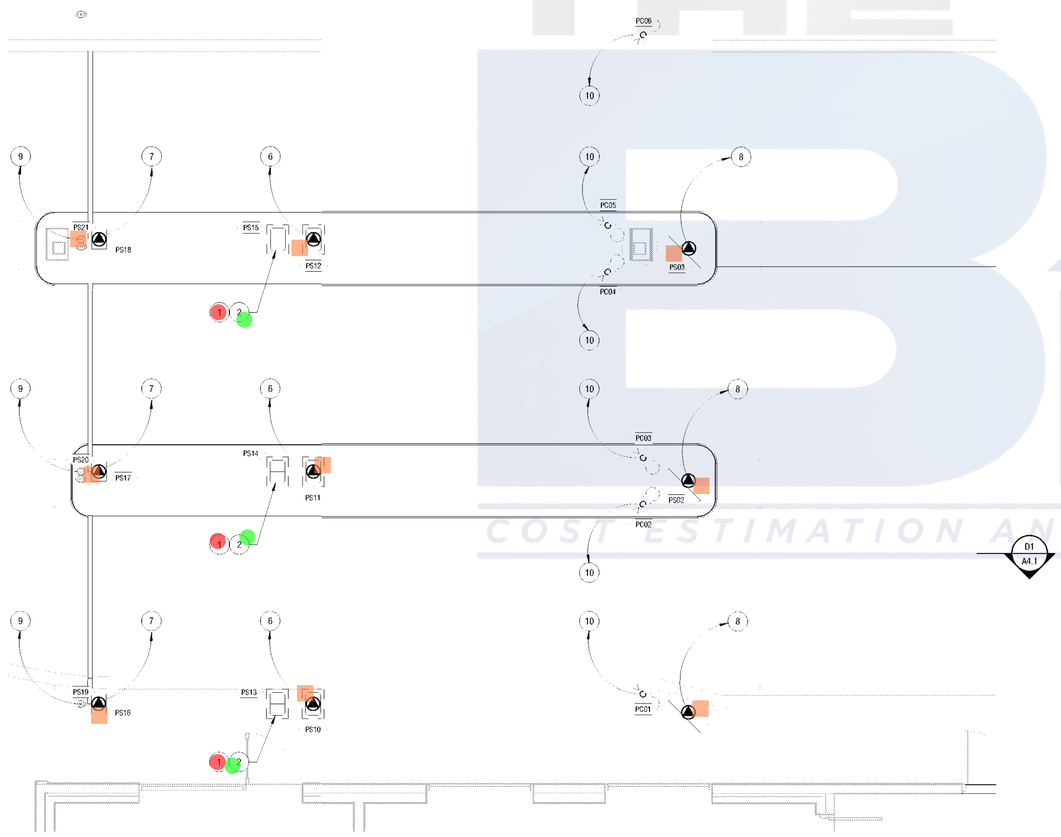
180' **- 3/4"**

60' **- 1"**

Assume 1"60'

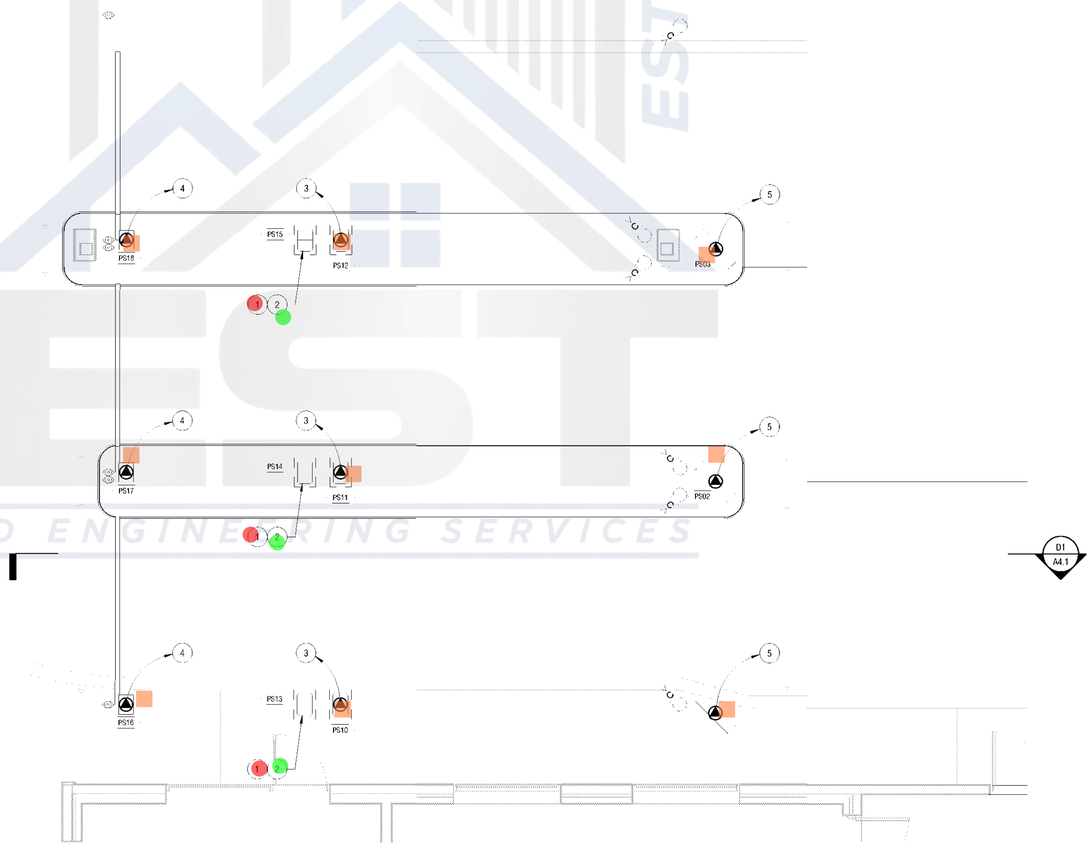


C5 PULL BOX CONDUIT



A1 PAY STATION SPECIAL SYSTEMS PLAN
1/4" = 1'-0"

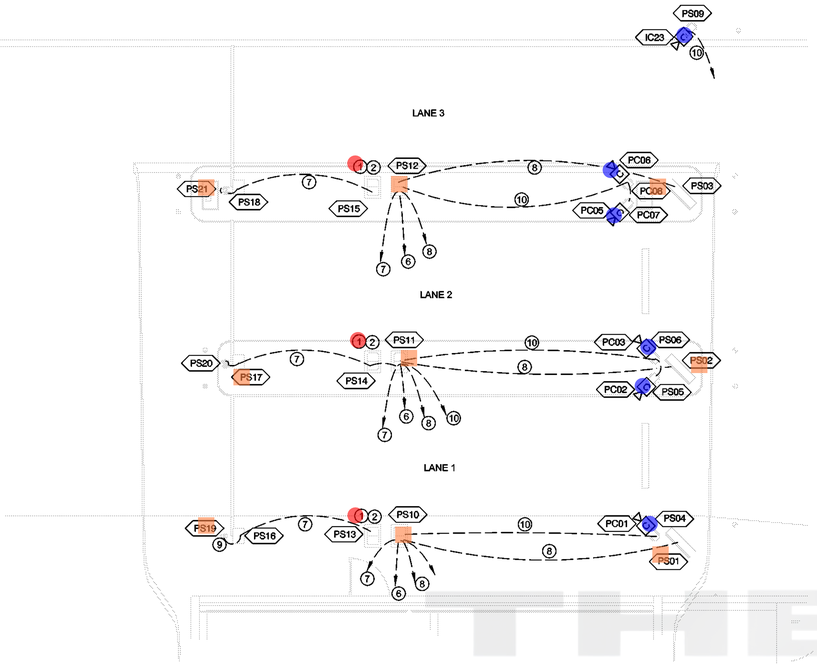
0' 2' 4' 8'
TRUE NORTH



A3 PAY STATION POWER PLAN
1/4" = 1'-0"

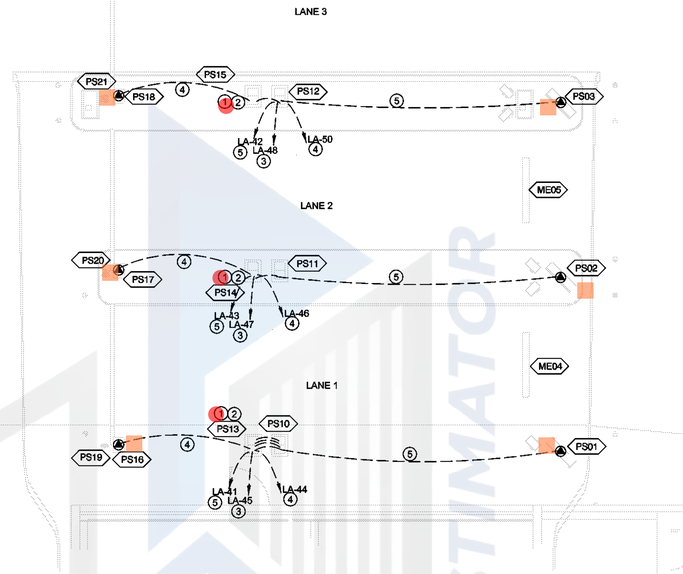
0' 2' 4' 8'
TRUE NORTH

THE BEST COST ESTIMATION AND ENGINEERING SERVICES



PAY STATION
SPECIAL SYSTEMS PLAN

SCALE: 3/16" = 1'-0"



PAY STATION
ELECTRICAL POWER PLAN

SCALE: 3/16" = 1'-0"

GENERAL NOTES

1. IN ADDITION TO THE ARCHITECTURAL AND ELECTRICAL DRAWINGS, INSTALL POS SYSTEM INFRASTRUCTURE IN ACCORDANCE WITH POINT-OF-SALE MANUFACTURER'S INSTALLATION LITERATURE (DRB TUNNEL SOLUTIONS).
2. IT IS CONTRACTORS RESPONSIBILITY TO AQUIRE POINT-OF-SALE MANUFACTURER'S INSTALLATION LITERATURE AVAILABLE THROUGH OWNER.
3. ALL ELECTRICAL WORK SHALL BE PERFORMED BY LICENSED ELECTRICIAN AND INSTALLED IN ACCORDANCE WITH LOCALLY ADOPTED CODES.
4. IN ADDITION TO ROUTING OF ALL POWER AND CONTROLS CONDUCTORS THROUGH THE PULL BOX, ALSO ROUTE CONDUCTORS BETWEEN EQUIPMENT THROUGH PULL BOX.

Assume 1"60'

KEYED NOTES

6 (1) PULL-BOX, SEE DETAIL THIS SHEET. ROUTE ALL ISLAND POWER AND CONTROLS CONDUCTORS FROM BUILDING AND BETWEEN TERMINAL AND OTHER PAY STATION ISLAND EQUIPMENT THROUGH BOX. DO NOT TERMINATE OR SPLICE AT BOX. ELECTRICAL CONTRACTOR TO EXTEND (4) 3/4" METAL POWER CONDUIT WITH DEDICATED 20AMP CIRCUITS TO SOUTH DIVIDED HALF OF PULL BOX AND (5) 3/4" METAL CONTROLS CONDUITS AT NORTH SIDE OF PULL BOX.

(2) PROVIDE CONDUIT AND CONDUCTORS BETWEEN ISLAND EQUIPMENT AND PULL-BOX. ELECTRICAL CONTRACTOR TO TO TERMINATE POWER AND CONTROLS CONDUCTORS TO THE EQUIPMENT.

(3) POWER CONDUIT FROM PANEL TO FUTURE PAY STATION UNIT BY ELECTRICAL CONTRACTOR. PROVIDE DEDICATED CIRCUIT FOR FUTURE 120VAC, 20 AMP "COMPUTER GRADE POWER" WITH DEDICATED CIRCUIT AND EARTH GROUND. USE 3/4" METAL CONDUIT AT CIRCUIT.

(4) POWER CONNECTION FROM PANEL TO MAGNETIC GATE BY ELECTRICAL CONTRACTOR. PROVIDE 120VAC, 20 AMP DEDICATED CIRCUIT. USE 3/4" METAL CONDUIT AT CIRCUIT.

(5) POWER CONNECTION FROM PANEL TO DIGITAL SCREEN MENU BY ELECTRICAL CONTRACTOR. 100-240VAC, PROVIDE 20AMP DEDICATED CIRCUIT. ROUTE CIRCUIT THROUGH LIGHTING CONTROL PANEL. USE 3/4" METAL CONDUIT AT CIRCUIT.

(6) CONTROL CONDUIT FOR FUTURE PAY STATION CONNECTION FROM PAY SYSTEM SERVER RACK AT MANAGERS OFFICE BY ELECTRICAL CONTRACTOR. USE 3/4" METAL CONDUIT.

(7) CONTROL CONDUIT, CONDUCTORS AND CONNECTION FROM MAGNETIC GATE TO PAY STATION SERVER AT MANAGER'S OFFICE BY ELECTRICAL CONTRACTOR. USE 3/4" METAL CONDUIT.

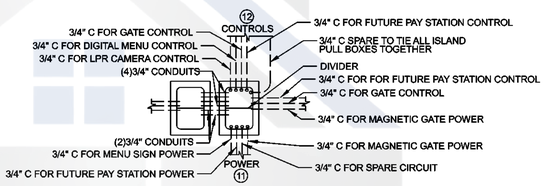
(8) CONTROL CONDUIT, CONDUCTORS, AND CONNECTION FROM DIGITAL MENU SIGN TO SERVER RACK AT MANAGERS OFFICE BY ELECTRICAL CONTRACTOR. USE 3/4" METAL CONDUIT.

(9) CONTROL CONDUCTORS AND CONNECTION FROM PAY STATION GATE EYES TO MAGNETIC GATE BY ELECTRICAL CONTRACTOR. USE 3/4" METAL CONDUIT.

(10) CONTROL CONDUIT, CONDUCTORS AND CONNECTION FROM LPR CAMERA TO PAY STATION SERVER AT MANAGER'S OFFICE BY ELECTRICIAN. USE 3/4"METAL CONDUIT.

(11) (4) 3/4" POWER CONDUITS TO 120VAC PANEL. PROVIDE DEDICATED 20AMP BREAKER FOR EACH. (1) IS SPARE.

(12) (5) 3/4" CONTROL CONDUITS TO SERVER RACK HEAD END EQUIPMENT LOCATED IN MANAGER'S OFFICE



PULL BOXES PB1 & PB2
NOTE: DO NOT MAKE ANY SPLICES AT PULL BOXES. PB2 IS INCLUDED AS A FUTURE PAY STATION EQUIPMENT PLACEHOLDER AND SHALL PASS-THROUGH POWER AND CONTROLS CONDUCTORS.

PULL BOX CONDUIT A

SCALE:NONE

Conduits Needed:

180' - 3/4"

60' - 1"

6 Camera

Mechanical Units/all assumed to be:

(15) - 20A,3P

BIDDERS SCOPE

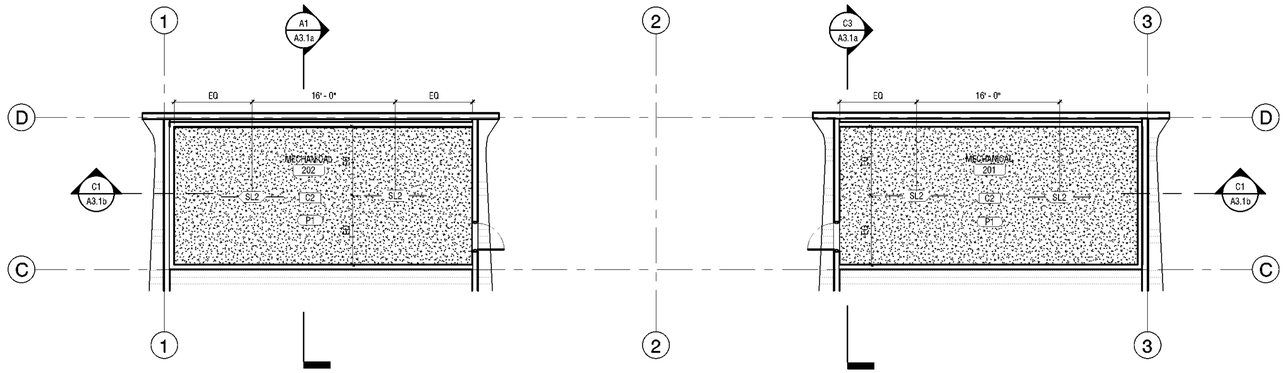
ANY AND ALL CONTRACTORS SUBMITTING A BID FOR WORK SCOPE REFERENCED OR DESCRIBED IN THIS BID DCOUMENT DRAWING PACKAGE SHALL INCLUDE RELATED WORK FROM ALL ARCHITECTURAL AND ENGINEERING DISCIPLINES TOGETHER. THIS DRAWING PACKAGE AS A WHOLE CONSTITUTES THE SCOPE OF WORK FOR ALL SUBCONTRACTORS. DO NOT BREAK THE DRAWING PACKAGE INTO SUB-PACKAGES AS THOSE ABBREVIATED PACKAGES WILL CERTAINLY BE MISSING IMPORTANT SCOPE OF WORK INFORMATION.

FOR EXAMPLE, THERE IS ELECTRICAL SCOPE OF WORK THAT IS REFERENCED ON THE ARCHITECTURAL EQUIPMENT PLAN AND SCHEDULES THAT MUST BE INCLUDED.

EACH SCOPE WILL BE FURTHER OUTLINED BY THE CONSTRUCTION MANAGER OR GENERAL CONTRACTOR.



COST ESTIMATOR
ENGINEERING SERVICES



D1 ROOFTOP MECHANICAL

LEGEND

- 8' LONG LED - SURFACE MOUNTED AT UNDERSIDE OF DECK
- RECESSED CAN FIXTURE
- RECESSED SPEAKER
- CAMERA
- CEILING / WALL MOUNTED EXIT SIGN
- SUPPLY DIFFUSERS
- RETURN GRILLE
- EXHAUST FANS

GENERAL NOTES

A. REFER TO ROOM FINISH SCHEDULE ON SHEET A6.1 FOR CEILING DESIGNATIONS AND HEIGHTS.
B. HVAC DIFFUSERS SHOWN FOR COORDINATION ONLY - SEE MECHANICAL HVAC PLANS FOR SIZES OF GRILLES, ETC.
C. LIGHTING AND ELECTRICAL DEVICES SHOWN FOR SPECIFIC PLACEMENT - SEE ELECTRICAL PLANS FOR MORE INFORMATION ON LIGHTING.
D. NOT ALL EXPOSED STRUCTURE IS ILLUSTRATED.
E. ALL PENETRATIONS THROUGH HOLLOW CORE ROOF PLANKS REQUIRE WRITTEN ARCHITECT APPROVAL.
F. NOT ALL CEILING AND ROOF PENETRATIONS ARE IDENTIFIED ON THIS PLAN. SEE MECHANICAL AND ELECTRICAL DRAWINGS FOR ADDITIONAL REQUIREMENTS.
G. PROVIDE SEALANT AT ENTIRE PERIMETER AT CAR WASH TUNNEL WHERE PRECAST ROOF PANELS MEET CONCRETE WALL PANELS, TYPICAL.
H. SEE ROOF PLAN FOR ROOF DRAIN LOCATIONS.
I. PROVIDE CORE HOLES FOR ALL MECHANICAL PENETRATIONS, ROOF DRAINS AND OTHER DECK PENETRATIONS NOT PROVIDED BY THE PRECASTER.
J. ALL CONDUITS FOR CEILING AND SOFFIT MOUNTED DEVICES SHALL BE CONCEALED ABOVE AND RECESSED INTO FINISHED CEILING AT ALL LOCATIONS WHERE FINISHED CEILING IS FURRED OR SUSPENDED.

SHEET NOTES

#:	DESCRIPTION:
1	OPENING IN HOLLOW CORE ROOF
2	SECURE SL1 & SL2 DRIVERS AT THIS LOCATION HIGH ON WALL

KEYNOTES

MARK:	DESCRIPTION:
05 12 23	STRUCTURAL STEEL FOR BUILDINGS
05 51 33	STEEL LADDER WITH 2 1/2" RAILS AND 1" DIA. RUNGS. PROVIDE 7" MINIMUM TOE CLEARANCE BETWEEN WALL AND LADDER RUNGS, AND STEEL WALL CONNECTION BRACKETS AT 60" OC MAX.
06 16 43	GYPSUM SHEATHING
07 42 93	METAL SOFFIT PANEL
10 73 16.13	METAL CANOPIES, BOD: MAPES SUPER LUMIDECK FLAT SOFFIT CANTILEVER, CLEAR ANODIZED, 8" "J" FASCIA
23 34 13.1	CEILING FAN, PROVIDE HUNTER DOWTOWN 60", 6-SPEED FAN IN MATTE SILVER WITH WALL CONTROLS TO BE LOCATED INSIDE OF OFFICE.
26 05 36	WIRE BASKET CABLE TRAY, BOD: 24" WIDE X 4" HIGH BASKET WITH 30" WALL BRACKET @ 60" OC MAX., ALUMINUM
27 41 13.1	RECESSED CEILING MOUNTED SPEAKERS

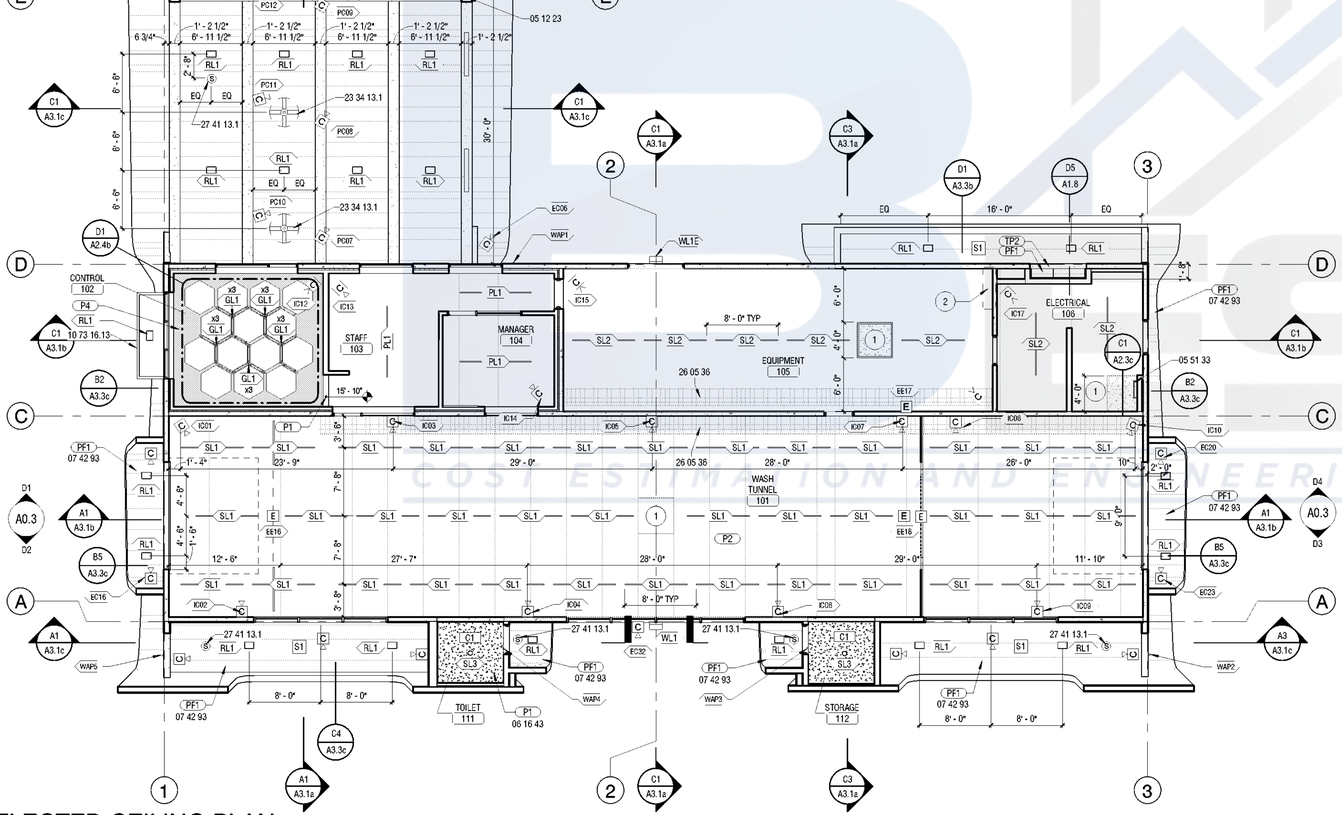
LIGHTING FIXTURE SCHEDULE

NOTE: THIS SCHEDULE IS FOR QUICK REFERENCE. SEE ELECTRICAL ENGINEER'S LIGHTING FIXTURE SCHEDULE FOR ADDITIONAL REQUIREMENTS

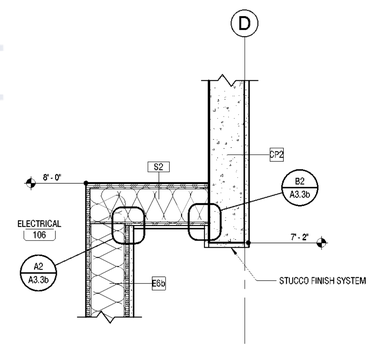
					RESPONSIBILITY				POWER		CONDUIT		
ITEM	DESCRIPTION	MANUFACTURER	MODEL	MOUNTING	FURNISH	UNLOAD	SET IN PLACE	INSTALL	FEED FROM/ TO	HARDWIRE	ROUTING	PROVIDE	COMMENTS
AL1, AL2	LED, POLE LIGHT, SINGLE & DOUBLE HEAD	LITHONIA	DSX2 LED P1 40K T3M MVOLT HS SPA	POLE	GC	GC	GC	GC	HA/ UNIT	GC	UG	GC	SEE ELECTRICAL SITE PLAN FOR LOCATIONS
GL1	LED, AXIS STENCIL LINEAR PENDANT	AXIS	STLDI-2-DSO-90-40-AP-UNV-DP	SUSPENDED	GC	GC	GC	GC	HA/ DRIVER/ LED	GC	OH	GC	
PL1	LED, BOLDPLAY 7806L-A, 8FT, WHITE	LEDALITE	7806-L-A-Q-G-08-D-T	PENDANT	GC	GC	GC	GC	HA/ DRIVER/ LED	GC	OH	GC	LOCATE DRIVER ON CEILING AT EQUIPMENT ROOM SIDE OF WALL
RL1	LED, EXTERIOR RECESSED CANOPY	CREE	CAN-228-RM-WH	SURFACE	GC	GC	GC	GC	HA/ DRIVER/ LED	GC	OH	GC	
SL1	LED LINEAR TUNNEL, HIGH OUTPUT, IP68	G & G LED	WPX8-H0-50K * PSU-480 DRIVERS	SURFACE	O	GC	GC	GC	HA/ DRIVER/ LED	GC	OH	GC	DO NOT INSTALL DRIVERS INSIDE TUNNEL. SECURE DRIVERS HIGH ON WALL TOGETHER AT LOCATION INDICATED ON CEILING PLAN
SL2	LED LINEAR EQUIPMENT, STANDARD OUTPUT, IP68	G & G LED	WPX8-S0-50K * PSU-480 DRIVERS	SURFACE	O	GC	GC	GC	HA/ DRIVER/ LED	GC	OH	GC	SECURE DRIVERS HIGH ON WALL TOGETHER AT LOCATION INDICATED ON CEILING PLAN
SL3	LED, INTERIOR RECESSED CAN	JUNO	JSF-7-35K-90-120-WH	SURFACE	GC	GC	GC	GC	HA/ DRIVER/ LED	GC	OH	GC	
WL1	LED WALL PACK	LITHONIA	DSXW1 LED 20C 700 40K T3M MVOLT PIR DNAXD	WALL	GC	GC	GC	GC	HA/ UNIT	GC	OH	GC	
WL1E	LED WALL PACK WITH EMERGENCY	LITHONIA	DSXW1 LED 20C 700 40K T3M MVOLT PIR DNAXD ELCW	WALL	GC	GC	GC	GC	HA/ UNIT	GC	OH	GC	

EQUIPMENT TAG KEY

MARK:	SCHEDULE TITLE:	SHEET #:	SHEET NAME:
--	ELECTRICAL PANELS & CONTROLLERS	A1.6c	EQUIPMENT SCHEDULE
BM	BLOWER MOTORS	A1.6a	EQUIPMENT SCHEDULE
CD	CHEMICAL DISPENSING	A1.6b	EQUIPMENT SCHEDULE
EE	OTHER ELECTRICAL EQUIPMENT	A1.6c	EQUIPMENT SCHEDULE
ES	ELECTRICAL SIGNAGE	A1.6c	EQUIPMENT SCHEDULE
HV	HVAC	A1.6b	EQUIPMENT SCHEDULE
HY	HYDRAULICS	A1.6a	EQUIPMENT SCHEDULE
EC,IC,PC	CAMERAS	A1.6b	EQUIPMENT SCHEDULE
--	LED LIGHTING	A1.8	REFLECTED CEILING PLAN
ME	MISC OWNER FURNISHED ITEMS	A1.6b	EQUIPMENT SCHEDULE
PM	PUMPS AND MOTORS	A1.6a	EQUIPMENT SCHEDULE
PN	PNEUMATIC / COMPRESSED AIR	A1.6a	EQUIPMENT SCHEDULE
PS	PAY STATION SYSTEMS	A4.2	EQUIPMENT SCHEDULE
SP	SOLENOID MANIFOLDS & PANELS	A1.6b	EQUIPMENT SCHEDULE
SS	SENSORS & SWITCHES	A1.6c	EQUIPMENT SCHEDULE
TE	TUNNEL EQUIPMENT	A1.6b	EQUIPMENT SCHEDULE
TM	TUNNEL EQUIPMENT MOTORS	A1.6a	EQUIPMENT SCHEDULE
VE	VACUUM EQUIPMENT	A1.6b	EQUIPMENT SCHEDULE
WP	WATER PROCESSING / BOILER SYSTEMS	A1.6a	EQUIPMENT SCHEDULE



A1 REFLECTED CEILING PLAN
1/8" = 1'-0"

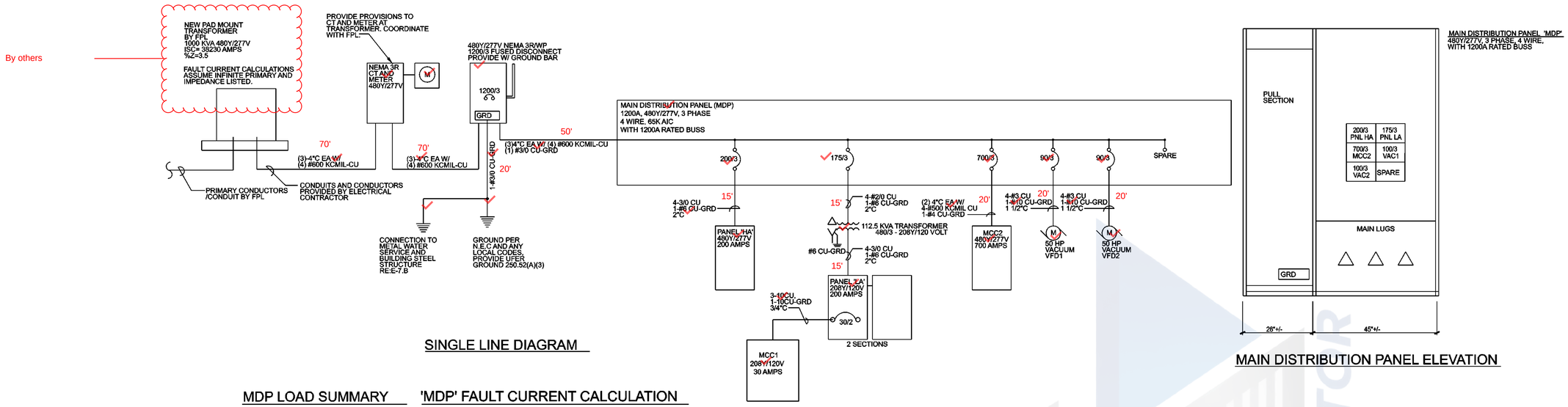


D5 ALCOVE CEILING SOFFIT

0' 2' 4' 8'
TRUE NORTH

BINDING

COST ESTIMATION AND ENGINEERING SERVICES



SINGLE LINE DIAGRAM

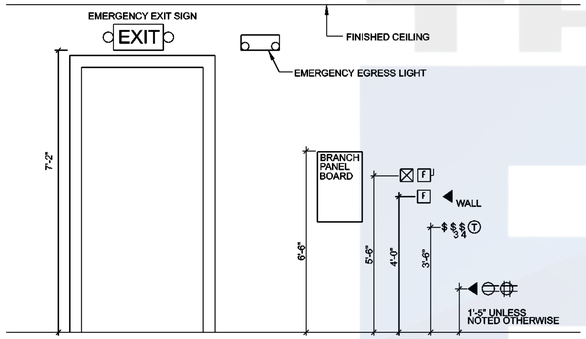
MAIN DISTRIBUTION PANEL ELEVATION

MDP LOAD SUMMARY

BUILDING PANELS	
PANEL LA	54.2 KVA
PANEL HA	43.6 KVA
VAC1	54.0 KVA
VAC2	54.0 KVA
MCC2	582.0 KVA
TOTAL LOAD=	787.8 KVA
TOTAL LOAD=	948.0 AMPS

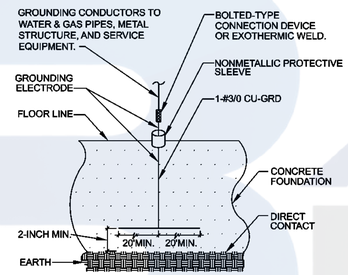
'MDP' FAULT CURRENT CALCULATION

Line 1												
Source	Target	Amps	Fault Current	Conductor/Conduit Type	Wire Size	C Value	Length	# of Conduct/Phase (n)	Voltage of Circuit (E.)	"f" Factor	Multiplier (M)	Sym RMS
XFMR	DISCO.	1200	38230	Copper NonMag	600	28033	72	3	480	0.118	0.894	34191.910
Line 10												
Source	Target	Amps	Fault Current	Conductor/Conduit Type	Wire Size	C Value	Length	# of Conduct/Phase (n)	Voltage of Circuit (E.)	"f" Factor	Multiplier (M)	Sym RMS
MDP	PANEL HA	200	34191.91	Copper NonMag	3\0	13923	15	1	480	0.133	0.8827	30180.355
Line 11												
Source	Target	Amps	Fault Current	Conductor/Conduit Type	Wire Size	C Value	Length	# of Conduct/Phase (n)	Voltage of Circuit (E.)	"f" Factor	Multiplier (M)	Sym RMS
MDP	PANEL LA	200	34191.910	Copper NonMag	3\0	13923	15	1	208	0.307	0.7653	26165.867



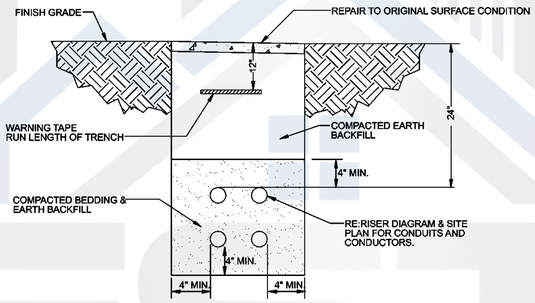
STANDARD MOUNTING HEIGHT DETAIL — A

SCALE: NONE



UFER SERVICE GROUNDING DETAIL — B

SCALE:NONE



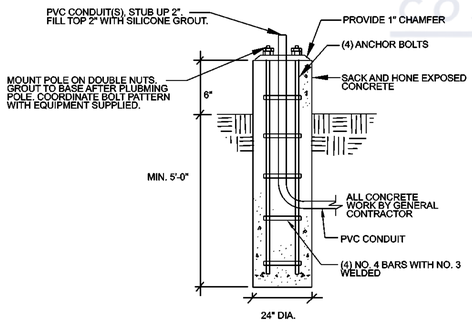
UNDERGROUND CONDUIT DETAIL — C

SALE: NONE

NOTE: ELECTRICAL CONTRACTOR TO VERIFY EXACT REQUIREMENTS WITH LOCAL UTILITY.

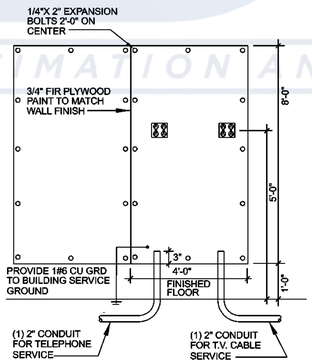
FIXTURE TYPE PL1 MOUNTING DETAIL — D

SCALE:NONE



FIXTURE BASE MOUNTING DETAIL — E

SCALE:NONE



TEL/TV TERM. BOARD MOUNTING DETAIL — F

SCALE: NONE

BIDDERS SCOPE

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COST ESTIMATION AND ENGINEERING SERVICES

WASH EQUIPMENT SPECIAL CONDUIT	
3/4" PVC	270
1" PVC	30
1 1/4" PVC	100
1 1/2" PVC	10
3" PVC	10

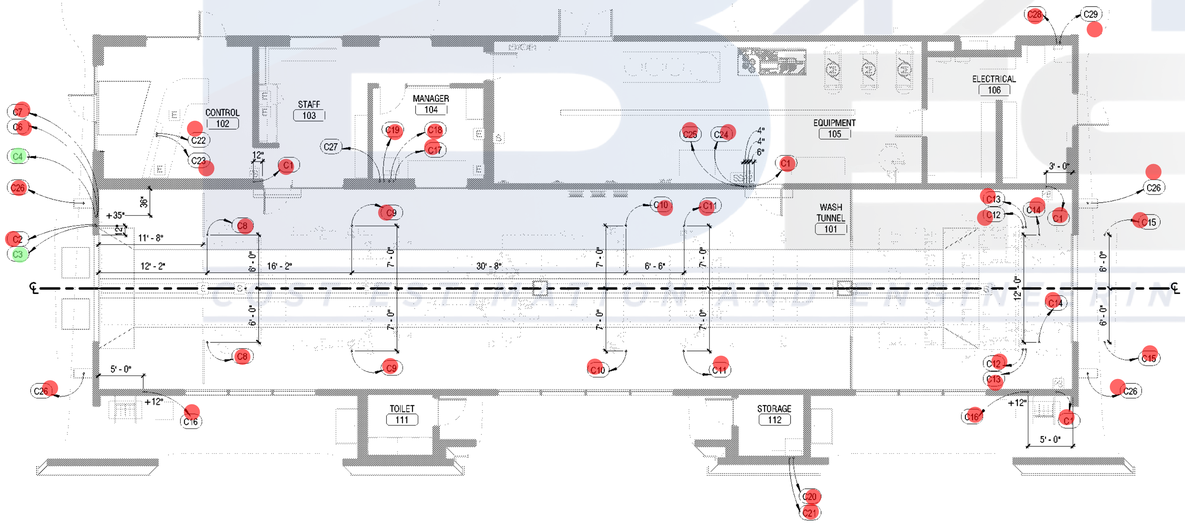
C5 IS DELETED

UNDERSLAB CONDUIT SCHEDULE

#:		SIZE:	DESCRIPTION:
4	C1	3/4"	EMERGENCY START/STOP BUTTON CONTROL FROM DEVICE TO TC - TUNNEL CONTROLLER
1	C2	3/4"	OVERHEAD DOOR OPERATOR CONTROL FOR FUTURE EQUIPMENT
1	C3	3/4"	OVERHEAD DOOR OPERATOR POWER FOR FUTURE EQUIPMENT
1	C4	3/4"	LOADING POWER TO PANEL LA
1	C6	3/4"	LOADING CONTROL TO MANAGER'S OFFICE SERVER RACK TERMINATION
1	C7	3/4"	LOADING CONTROL & EMERGENCY START/STOP BUTTON CONTROL TO TC - TUNNEL CONTROLLER
2	C8	3/4"	ENTER EYE TO MCC TC
2	C9	1 1/4"	ROCKER BRUSH 1 TO MCC
2	C10	1 1/4"	OMNI ARCH MOTOR TO MCC
2	C11	1 1/4"	ROCKER BRUSH 2 TO MCC
2	C12	1 1/4"	TIRE SHINE MOTOR TO MCC
2	C13	1 1/4"	BRUSH MOTOR TO MCC
2	C14	3/4"	TIRE SHINE PHOTO EYE TO TC - TUNNEL CONTROLLER
2	C15	3/4"	ANTI-COLLISION EYE TO TC - TUNNEL CONTROLLER
2	C16	3/4"	MAT WASHER TO HOUSE PANEL
1	C17	3/4"	SERVER RACK IN MANAGER TO VACUUM AIR CONTROLLER
1	C18	1 1/2"	SERVER RACK IN MANAGER TO MCC TC
1	C19	3"	25-CONDUCTOR, 24AWG CABLE TO MCC TC, PROVIDE DRB SYSTEM PART #CA05025 WITH DRB PART #CN25250 MAKE CONNECTOR AT THE SRMB. TERMINATE CONDUCTORS AT MCC TC PER MANUFACTURERS PUBLISHED LITERATURE
1	C20	3/4"	VACUUM TOOL LOCK CONTROLLER WALL RACK TO SERVER RACK IN MANAGER
1	C21	3/4"	VACUUM CONTROLLER WALL RACK TO MCC
1	C22	3/4"	SUPER OPERATOR CONTROL DESK STATION TO TC - TUNNEL CONTROLLER
1	C23	3/4"	SUPER OPERATOR CONTROL DESK STATION TO SERVER
1	C24	3/4"	RO HOSE REEL CONTROL SWITCH AT TUNNEL TO RO DELIVERY PUMP CONTROLLER
1	C25	3/4"	TUNNEL WASH PUMP TO CONTROL SWITCH AT HOSE REEL
3	C26	1"	PRE-WASH CAMERAS IN EYEBROW TO CAMERA SERVER IN ELECTRICAL 106
1	C27	3/4"	GROUP OF (6) SPARE CONDUITS FROM RACK TO MCC1 & MCC2 (3) AT EACH SIDE
1	C28	3/4"	EXTEND (1) CONDUIT TO EACH EC, IC, & PC CAMERA LOCATION PER SHEET A0.3 - SIGNAGE & SECURITY SITE PLAN & CAMERA SCHEDULE. EXTEND CONDUITS INTO FURRED WALL UP TO WALL MOUNTED SWITCH CABINET
1	C29	3/4"	(5) CONDUITS FROM SECURITY POE SWITCH CABINET TO SECURITY SERVER. EXTEND CONDUITS INTO FURRED WALL UP TO WALL MOUNTED SWITCH CABINET

GENERAL NOTES

A. NOT ALL CONDUITS ARE IDENTIFIED. REFER TO E-SERIES SHEETS FOR ADDITIONAL REQUIREMENTS.
B. ALL EXPOSED CONDUIT INSIDE BUILDING TO BE NON-METALLIC AND LIQUID-TIGHT.
C. UNLESS OTHERWISE IDENTIFIED, 3/4" IS THE SMALLEST DIAMETER CONDUIT ALLOWED FOR ENTIRE PROJECT.
D. CONDUITS THAT EXIST AT THE OPPOSITE SIDE OF THE CONVEYOR TRENCH FROM THE EQUIPMENT ROOM SHALL EXTEND AROUND OR BENEATH THE TRENCH, AND NEVER THROUGH THE TRENCH.



A1 CONDUIT PLAN
1/8" = 1'-0"

0' 2' 4' 8'
TRUE NORTH

BINDING

Entry	Item#	Description	Quantity	Price	Ext Price	Labor	Ext Labor
1	AL1	15' Steel Pole	7.00				
	5288	Concrete Pole Base-18"Flush x 24"Deep	7.00				
	5296	Pole Base Anchor Bolt & Nuts	28.00				
	5307	Dig Pole Base Hole-18"x24" Deep	7.00				
	48630	L.E.D. Wall Pack Fixture	7.00				
	5568	6'x6'x6' Manhole Excavate/Backfill/Comp. Sandy Soil	7.00				
2	EL1	Dual Head Emerg Light w/Batt Pack	4.00				
	Note	120V					
	A7331	**4" Square Box w-3/0 Ring**	**4.00**				
	2469	4" Square Box (1/2 & 3/4 KO's)	4.00				
	4891	4" Square-3/0 Plaster Ring-1/2"D	4.00				
	6133	Red Wirenuts	12.00				
	5261	Pendant /Cable (length as required)	8.00				
	2444	1/4" All Thread	4.00				
	6133	Red Wirenuts	12.00				
	1001	3/4" EMT	100.00				
	2660	#12 THHN CU Stranded Wire	400.00				
3	EL2	Dual Head Emerg Light w/Batt Pack	4.00				
	Note	120V					
	A7331	**4" Square Box w-3/0 Ring**	**4.00**				
	2469	4" Square Box (1/2 & 3/4 KO's)	4.00				
	4891	4" Square-3/0 Plaster Ring-1/2"D	4.00				
	6133	Red Wirenuts	12.00				
	5261	Pendant /Cable (length as required)	8.00				
	2444	1/4" All Thread	4.00				
	6133	Red Wirenuts	12.00				
	1001	3/4" EMT	100.00				
	2660	#12 THHN CU Stranded Wire	400.00				
4	EX1	Exit Fixture	4.00				
	Note	120V					
	A7331	**4" Square Box w-3/0 Ring**	**4.00**				
	2469	4" Square Box (1/2 & 3/4 KO's)	4.00				
	4891	4" Square-3/0 Plaster Ring-1/2"D	4.00				
	6133	Red Wirenuts	12.00				
	5261	Pendant /Cable (length as required)	8.00				
	2444	1/4" All Thread	4.00				
	6133	Red Wirenuts	12.00				
	1001	3/4" EMT	100.00				
	2660	#12 THHN CU Stranded Wire	400.00				
5	EX2	Exit Fixture	3.00				
	Note	120V					
	A7331	**4" Square Box w-3/0 Ring**	**3.00**				
	2469	4" Square Box (1/2 & 3/4 KO's)	3.00				
	4891	4" Square-3/0 Plaster Ring-1/2"D	3.00				
	6133	Red Wirenuts	9.00				
	5261	Pendant /Cable (length as required)	6.00				
	2444	1/4" All Thread	3.00				
	6133	Red Wirenuts	9.00				
	1001	3/4" EMT	75.00				
	2660	#12 THHN CU Stranded Wire	300.00				
6	EM	L.E.D. Flood Fixture	1.00				
	6133	Red Wirenuts	3.00				
	2469	4" Square Box (1/2 & 3/4 KO's)	1.00				

THE BEST ESTIMATOR
COST ESTIMATION AND ENGINEERING SERVICES

Entry	Item#	Description	Quantity	Price	Ext Price	Labor	Ext Labor
	1001	3/4" EMT	25.00				
	2660	#12 THHN CU Stranded Wire	100.00				
	2448	Concrete Insert for Thrd Rod	1.00				
7	GL1	8' Linear LED	15.00				
	5297	Red Scotchlok Wirenuts (#18-10)	45.00				
	2469	4" Square Box (1/2 & 3/4 KO's)	15.00				
	6133	Red Wirenuts	45.00				
	2444	1/4" All Thread	15.00				
	2448	Concrete Insert for Thrd Rod	15.00				
	2447	Hex Nut 3/8" Zinc Plated	15.00				
	1001	3/4" EMT	375.00				
	2660	#12 THHN CU Stranded Wire	1500.00				
8	PL1	8' Linear LED	3.00				
	5297	Red Scotchlok Wirenuts (#18-10)	9.00				
	2469	4" Square Box (1/2 & 3/4 KO's)	3.00				
	6133	Red Wirenuts	9.00				
	2444	1/4" All Thread	3.00				
	2448	Concrete Insert for Thrd Rod	3.00				
	2447	Hex Nut 3/8" Zinc Plated	3.00				
	1001	3/4" EMT	75.00				
	2660	#12 THHN CU Stranded Wire	300.00				
9	RL1	L.E.D. Flood Fixture	19.00				
	6133	Red Wirenuts	57.00				
	2469	4" Square Box (1/2 & 3/4 KO's)	19.00				
	1001	3/4" EMT	475.00				
	2660	#12 THHN CU Stranded Wire	1900.00				
	2448	Concrete Insert for Thrd Rod	19.00				
10	SL1	4' Linear LED	35.00				
	5297	Red Scotchlok Wirenuts (#18-10)	105.00				
	2469	4" Square Box (1/2 & 3/4 KO's)	35.00				
	6133	Red Wirenuts	105.00				
	2444	1/4" All Thread	35.00				
	2448	Concrete Insert for Thrd Rod	35.00				
	2447	Hex Nut 3/8" Zinc Plated	35.00				
	1001	3/4" EMT	875.00				
	2660	#12 THHN CU Stranded Wire	3500.00				
11	SL2	4' Linear LED	11.00				
	5297	Red Scotchlok Wirenuts (#18-10)	33.00				
	2469	4" Square Box (1/2 & 3/4 KO's)	11.00				
	6133	Red Wirenuts	33.00				
	2444	1/4" All Thread	11.00				
	2448	Concrete Insert for Thrd Rod	11.00				
	2447	Hex Nut 3/8" Zinc Plated	11.00				
	1001	3/4" EMT	275.00				
	2660	#12 THHN CU Stranded Wire	1100.00				
12	WL1	L.E.D. Flood Fixture	1.00				
	6133	Red Wirenuts	3.00				
	2469	4" Square Box (1/2 & 3/4 KO's)	1.00				
	1001	3/4" EMT	25.00				
	2660	#12 THHN CU Stranded Wire	100.00				
	2448	Concrete Insert for Thrd Rod	1.00				
13	WL1E	L.E.D. Flood Fixture	3.00				
	6133	Red Wirenuts	9.00				

THE BEST ESTIMATOR
COST ESTIMATION AND ENGINEERING SERVICES

Entry	Item#	Description	Quantity	Price	Ext Price	Labor	Ext Labor
	2469	4" Square Box (1/2 & 3/4 KO's)	3.00				
	1001	3/4" EMT	75.00				
	2660	#12 THHN CU Stranded Wire	300.00				
	2448	Concrete Insert for Thrd Rod	3.00				
14	LCP	24 Relay Space LIghting Control Panel	1.00				
	2815	10/4 Steel MC Cable w/Green Ground Wire	50.00				
15	**A5276**	**[S] 20A/Prem Spec Grade/Plastic Plate**	**18.00**				
	2470	4" Square x 1-1/2" Deep Box w/bkt (1/2&3/4 KO's)	18.00				
	4897	4" Square-1G Plaster Ring-5/8"D	18.00				
	4649	20A Prem Spec Grade SP Switch	18.00				
	4953	1G Plastic Switch Plate	18.00				
	6133	Red Wirenuts	54.00				
	7124	Ground Screw	18.00				
	7123	6X1/4" Pan Head Tapping Screw	72.00				
16	**A5308**	**[S3] 20A/Prem Spec Grade/Plastic Plate**	**4.00**				
	2470	4" Square x 1-1/2" Deep Box w/bkt (1/2&3/4 KO's)	4.00				
	4897	4" Square-1G Plaster Ring-5/8"D	4.00				
	4674	20A Prem Spec Grade 3-Way Switch	4.00				
	4953	1G Plastic Switch Plate	4.00				
	6133	Red Wirenuts	12.00				
	7124	Ground Screw	4.00				
	7123	6X1/4" Pan Head Tapping Screw	16.00				
17	**A62745**	**1 Button Dual Technology Wall Switch Occupancy**	**5.00**				
	2470	4" Square x 1-1/2" Deep Box w/bkt (1/2&3/4 KO's)	5.00				
	4897	4" Square-1G Plaster Ring-5/8"D	5.00				
	4949	1G Plastic Decora Plate	5.00				
	6133	Red Wirenuts	15.00				
	7124	Ground Screw	5.00				
	7123	6X1/4" Pan Head Tapping Screw	20.00				
	62700	1 Button Dual Technology Wall Switch Occupancy Sen	5.00				
18	5678	SPST 40A/120V Time Clock N1	1.00				
19	1001	3/4" EMT	60.00				
20	1186	2" PVC Conduit	538.00				
21	T0001	Unswitched LED	1.00				
22	**A6233**	**20A/Quad/Prem Spec Grade/Plastic Plate**	**8.00**				
	2470	4" Square x 1-1/2" Deep Box w/bkt (1/2&3/4 KO's)	8.00				
	4902	4" Square-2G Plaster Ring-5/8"D	8.00				
	4704	20A/125V Prem Spec Grade Dup Rcpt(5-20R)	16.00				
	4959	2G Plastic Duplex Receptacle Plate	8.00				
	6133	Red Wirenuts	24.00				
	7114	Ground Screw with Bare Pigtail	8.00				
	7123	6X1/4" Pan Head Tapping Screw	32.00				
23	Note	Length: 160.00					
	1001	3/4" EMT	160.00				
	1545	3/4" Set Screw Steel Cplg	16.00				
	1445	3/4" Set Screw Steel Conn	16.00				
	2681	#12 THHN CU Solid Wire	504.00				
	2339	3/4" 1-Hole Strap	20.00				
24	4535	Power Supply	1.00				
25	**A6482**	**4" Square Box & 1G Ring/Blank WP Cvr**	**5.00**				
	2470	4" Square x 1-1/2" Deep Box w/bkt (1/2&3/4 KO's)	5.00				
	4892	4" Square-3/0 Plaster Ring-5/8"D	5.00				
	5057	1G WP Blank Cover	5.00				

THE BEST ESTIMATOR
COST ESTIMATION AND ENGINEERING SERVICES

Entry	Item#	Description	Quantity	Price	Ext Price	Labor	Ext Labor
	6133	Red Wirenuts	15.00				
26	Note	Length: 100.00					
	1001	3/4" EMT	100.00				
	1545	3/4" Set Screw Steel Cplg	10.00				
	1445	3/4" Set Screw Steel Conn	10.00				
	2681	#12 THHN CU Solid Wire	315.00				
	2339	3/4" 1-Hole Strap	12.50				
27	**A6211**	**20A/Duplex/Prem Spec Grade/Plastic Plate**	**12.00**				
	2470	4" Square x 1-1/2" Deep Box w/bkt (1/2&3/4 KO's)	12.00				
	4897	4" Square-1G Plaster Ring-5/8"D	12.00				
	4704	20A/125V Prem Spec Grade Dup Rcpt(5-20R)	12.00				
	4950	1G Plastic Duplex Receptacle Plate	12.00				
	6133	Red Wirenuts	36.00				
	7114	Ground Screw with Bare Pigtail	12.00				
	7123	6X1/4" Pan Head Tapping Screw	48.00				
28	Note	Length: 240.00					
	1001	3/4" EMT	240.00				
	1545	3/4" Set Screw Steel Cplg	24.00				
	1445	3/4" Set Screw Steel Conn	24.00				
	2681	#12 THHN CU Solid Wire	756.00				
	2339	3/4" 1-Hole Strap	30.00				
29	**A6276**	**20A/Duplex/Spec Grade/Alum Box & WP Cvr**	**5.00**				
	2479	1G WP Bell Box-(3)1/2" Hubs	5.00				
	4703	20A/125V Spec Grade Dup Rcpt (5-20R)	5.00				
	5059	1G WP In Use Cover	5.00				
	6133	Red Wirenuts	15.00				
	7114	Ground Screw with Bare Pigtail	5.00				
	7123	6X1/4" Pan Head Tapping Screw	20.00				
30	Note	Length: 100.00					
	1001	3/4" EMT	100.00				
	1545	3/4" Set Screw Steel Cplg	10.00				
	1445	3/4" Set Screw Steel Conn	10.00				
	2681	#12 THHN CU Solid Wire	315.00				
	2339	3/4" 1-Hole Strap	12.50				
31	**A6225**	**20A/GFI/Prem Spec Grade/Plastic Plate**	**5.00**				
	2470	4" Square x 1-1/2" Deep Box w/bkt (1/2&3/4 KO's)	5.00				
	4897	4" Square-1G Plaster Ring-5/8"D	5.00				
	4713	20A/125V Premium Spec Grade GFI (5-20R)	5.00				
	4949	1G Plastic Decora Plate	5.00				
	6133	Red Wirenuts	15.00				
	7114	Ground Screw with Bare Pigtail	5.00				
	7123	6X1/4" Pan Head Tapping Screw	20.00				
32	Note	Length: 100.00					
	1001	3/4" EMT	100.00				
	1545	3/4" Set Screw Steel Cplg	10.00				
	1445	3/4" Set Screw Steel Conn	10.00				
	2681	#12 THHN CU Solid Wire	315.00				
	2339	3/4" 1-Hole Strap	12.50				
33	**A6249**	**30A/250V 3-Wire Rcpt/Plastic Plate**	**98.00**				
	2471	4" Square x 2-1/8" Deep Box (1/2 & 3/4 KO's)	98.00				
	4897	4" Square-1G Plaster Ring-5/8"D	98.00				
	4802	30A/250V 2P3W Sgl Rcpt (6-30R)	98.00				
	4951	1G Plastic Power Receptacle Plate	98.00				

THE BEST ESTIMATOR COST ESTIMATION AND ENGINEERING SERVICES

Entry	Item#	Description	Quantity	Price	Ext Price	Labor	Ext Labor
	6133	Red Wirenuts	294.00				
	7114	Ground Screw with Bare Pigtail	98.00				
	7123	6X1/4" Pan Head Tapping Screw	392.00				
34	Note	Length: 1,960.00					
	1001	3/4" EMT	1960.00				
	1545	3/4" Set Screw Steel Cplg	196.00				
	1445	3/4" Set Screw Steel Conn	196.00				
	2681	#12 THHN CU Solid Wire	6174.00				
	2339	3/4" 1-Hole Strap	245.00				
35	**A6483**	**4" Square Box & 1G Ring/No Cvr**	**23.00**				
	2472	4" Square x 2-1/8" Deep Box w/brkt (1/2&3/4 KO's)	23.00				
	4897	4" Square-1G Plaster Ring-5/8"D	23.00				
	6133	Red Wirenuts	69.00				
36	Note	Length: 460.00					
	1001	3/4" EMT	460.00				
	1545	3/4" Set Screw Steel Cplg	46.00				
	1445	3/4" Set Screw Steel Conn	46.00				
	2681	#12 THHN CU Solid Wire	1449.00				
	2339	3/4" 1-Hole Strap	57.50				
37	5931	Unistrut (Shallow)	1.00				
38	5726	6"x6"x2' Gutter-Nema 3R	14.00				
39	1002	1" EMT	170.00				
40	1000	1/2" EMT	20.00				
41	1186	2" PVC Conduit	220.00				
42	1190	4" PVC Conduit	216.00				
43	1001	3/4" EMT	360.00				
44	1182	3/4" PVC Conduit	170.00				
45	1181	1/2" PVC Conduit	20.00				
46	1184	1-1/4" PVC Conduit	100.00				
47	1185	1-1/2" PVC Conduit	10.00				
48	1188	3" PVC Conduit	10.00				
49	T0002	Burial Cable With PVC Jacket	217.00				
50	2677	#600MCM THHN CU Stranded Wire	216.00				
51	**A6847**	**20A 3W/N1 Equip Conn w/Fused Disc**	**15.00**				
	6133	Red Wirenuts	45.00				
	2660	#12 THHN CU Stranded Wire	315.00				
	1121	1/2" Steel Flex	75.00				
	1330	2" EMT Elbow	15.00				
	1850	1/2" Die-Cast Straight Squeeze Flex Conn	15.00				
	1875	1/2" 90 Degree Flex Connector	15.00				
	3167	30A/2P 3WSN 240V GD Fus Safety Sw-Nema 1	15.00				
	3308	20A 250V RK5 Time Delay Fuse	30.00				
	4409	#14-12-10 Wire Termination Labor	45.00				
52	**A6856**	**20A 4W/N1 Equip Conn w/Fused Disc**	**26.00**				
	6133	Red Wirenuts	104.00				
	2660	#12 THHN CU Stranded Wire	728.00				
	1121	1/2" Steel Flex	130.00				
	1850	1/2" Die-Cast Straight Squeeze Flex Conn	26.00				
	1875	1/2" 90 Degree Flex Connector	26.00				
	3308	20A 250V RK5 Time Delay Fuse	78.00				
	4409	#14-12-10 Wire Termination Labor	104.00				
	3173	30A/3P 4WSN 240V GD Fus Safety Sw-Nema 1	26.00				
53	**A6848**	**30A 3W/N1 Equip Conn w/Fused Disc**	**3.00**				

THE BEST ESTIMATOR COST ESTIMATION AND ENGINEERING SERVICES

Entry	Item#	Description	Quantity	Price	Ext Price	Labor	Ext Labor
	6133	Red Wirenuts	9.00				
	1121	1/2" Steel Flex	15.00				
	1850	1/2" Die-Cast Straight Squeeze Flex Conn	3.00				
	1875	1/2" 90 Degree Flex Connector	3.00				
	3167	30A/2P 3WSN 240V GD Fus Safety Sw-Nema 1	3.00				
	4409	#14-12-10 Wire Termination Labor	9.00				
	2661	#10 THHN CU Stranded Wire	63.00				
	3310	30A 250V RK5 Time Delay Fuse	6.00				
54	**A6862**	**20A 3W/N3R Equip Conn w/Fused Disc**	**1.00**				
	6133	Red Wirenuts	3.00				
	2660	#12 THHN CU Stranded Wire	21.00				
	1330	2" EMT Elbow	2.00				
	3308	20A 250V RK5 Time Delay Fuse	2.00				
	4409	#14-12-10 Wire Termination Labor	3.00				
	1143	1/2" Liquidtight (metallic)	5.00				
	1893	1/2" Seal-tite Conn (Str)	1.00				
	1913	1/2" Seal-tite Conn (90 Degree)	1.00				
	3179	30A/2P 3WSN 240V GD Fus Safety Sw-Nema3R	1.00				
55	**A6863**	**30A 3W/N3R Equip Conn w/Fused Disc**	**2.00**				
	1143	1/2" Liquidtight (metallic)	10.00				
	1893	1/2" Seal-tite Conn (Str)	2.00				
	1913	1/2" Seal-tite Conn (90 Degree)	2.00				
	2661	#10 THHN CU Stranded Wire	42.00				
	3179	30A/2P 3WSN 240V GD Fus Safety Sw-Nema3R	2.00				
	3310	30A 250V RK5 Time Delay Fuse	4.00				
	4409	#14-12-10 Wire Termination Labor	6.00				
	6133	Red Wirenuts	6.00				
56	**A6865**	**60A 3W/N3R Equip Conn w/Fused Disc**	**1.00**				
	1145	1" Liquidtight (metallic)	5.00				
	1895	1" Seal-tite Conn (Str)	1.00				
	1915	1" Seal-tite Conn (90 Degeree)	1.00				
	2661	#10 THHN CU Stranded Wire	7.00				
	2663	#6 THHN CU Stranded Wire	14.00				
	3180	60A/2P 3WSN 240V GD Fus Safety Sw-Nema3R	1.00				
	3315	60A 250V RK5 Time Delay Fuse	2.00				
	4409	#14-12-10 Wire Termination Labor	1.00				
	4410	#8-6 Wire Termination Labor	2.00				
	6133	Red Wirenuts	3.00				
	6135	Blue Wirenuts	2.00				
57	**A6867**	**100A 4W/N3R Equip Conn w/Fused Disc**	**2.00**				
	1124	1-1/4" Steel Flex	10.00				
	1853	1-1/4" Die-Cast Straight Squeeze Flex Conn	2.00				
	1878	1-1/4" 90 Degree Flex Connector	2.00				
	2663	#6 THHN CU Stranded Wire	14.00				
	2666	#2 THHN CU Stranded Wire	42.00				
	3187	100A/3P 4WSN 240V GD Fus Safety Sw-Nema3	2.00				
	3319	100A 250V RK5 Time Delay Fuse	6.00				
	4410	#8-6 Wire Termination Labor	2.00				
	4411	#4-1 Wire Termination Labor	6.00				
	6135	Blue Wirenuts	2.00				
	6140	#3 Split Bolt Connector	6.00				
58	T0003	RYS Station System	1.00				
59	6045	Closed Circuit TV Camera-Outdoor	64.00				

THE BEST ESTIMATOR COST ESTIMATION AND ENGINEERING SERVICES

Entry	Item#	Description	Quantity	Price	Ext Price	Labor	Ext Labor
60	6046	Wireless Access Point	35.00				
61	6047	Conductor	14.00				
62	**A6483**	**4" Square Box & 1G Ring/No Cvr**	**6.00**				
	6133	Red Wirenuts	18.00				
	4897	4" Square-1G Plaster Ring-5/8"D	6.00				
	2472	4" Square x 2-1/8" Deep Box w/brkt (1/2&3/4 KO's)	6.00				
63	6048	Push Button	6.00				
64	T0004	Telephone Terminal Board	1.00				
65	T0005	Security Data Rack	1.00				
66	T0006	Weather Tight Connections	1.00				
67	6049	Tunel Projector	1.00				
68	6050	Speaker	4.00				
69	1001	3/4" EMT	535.00				
70	1002	1" EMT	50.00				
71	7757	Cat 8	230.00				
72	MDP	1200A Main Switchboard/Free Standing-N1	1.00				
		3 Sections					
	Note	277/480 Volt					
	Note	3 Phase/4 Wire					
	Note	Main: 1200A 3P Circuit Breaker					
73	LA	225 Amp Surf Panel-Nema 1	1.00				
	Note	120/208 Volt					
	Note	3 Phase/4 Wire					
	Note	Main: Main Lugs Only					
74	HA	225 Amp Surf Panel-Nema 1	1.00				
	Note	120/208 Volt					
	Note	3 Phase/4 Wire					
	Note	Main: Main Lugs Only					
75	112.5	112.5 KVA 3PH Transformer 480/277V	1.00				
76	3934	20A 1P 120/240V Bolt-On Circuit Breaker	114.00				
77	3943	20A 2P 120/240V Bolt-On Circuit Breaker	2.00				
78	3936	30A 1P 120/240V Bolt-On Circuit Breaker	2.00				
79	3947	40A 2P 120/240V Bolt-On Circuit Breaker	4.00				
80	3947	40A 2P 120/240V Bolt-On Circuit Breaker	1.00				
81	3955	20A 3P 120/240V Bolt-On Circuit Breaker	7.00				
82	3965	90A 3P 120/240V Bolt-On Circuit Breaker	1.00				
83	3739	175A 3P 600V CB	1.00				
84	3755	700A 3P 600V CB	1.00				
85	3740	200A 3P 600V CB	1.00				
86	2665	#3 THHN CU Stranded Wire	40.00				
87	2661	#10 THHN CU Stranded Wire	80.00				
88	2676	#500MCM THHN CU Stranded Wire	20.00	1			
89	2664	#4 THHN CU Stranded Wire	20.00				
90	2669	#2/0 THHN CU Stranded Wire	15.00				
91	2663	#6 THHN CU Stranded Wire	45.00				
92	2670	#3/0 THHN CU Stranded Wire	30.00				
93	1004	1-1/2" EMT	40.00				
94	1009	4" EMT	20.00				
95	1005	2" EMT	45.00				
96	1001	3/4" EMT	20.00				
97	D1	FROM					
	Note	TO					
	Note	Length: 330.00					

THE BEST ESTIMATOR
COST ESTIMATION AND ENGINEERING SERVICES

Entry	Item#	Description	Quantity	Price	Ext Price	Labor	Ext Labor
	1214	4" PVC (2-Parallel)	1320.00				
	2166	4" PVC Elbow (48" Radius)	16.00				
	2137	4" PVC Coupling	132.00				
	A9359	**4" GRC Stub Up**	**8.00**				
	1059	4" GRC	8.00				
	1603	4" Locknut	16.00				
	1615	4" Plastic Bushing	8.00				
	1816	4" Cut & Thread	8.00				
	2095	4" PVC Female Adaptor	8.00				
	2677	#600MCM THHN CU Stranded Wire	5280.00				
	2670	#3/0 THHN CU Stranded Wire	1320.00				
	2461	4"x3" Base Spacer	495.00				
	5534	12"Wx24"D Trench-Ditch Witch	330.00				
	5583	12"Wx24"D Backfill & Compaction	330.00				
	5606	3000# Concrete (Cu. Yards)	148.50				
	48642	3 inch Red Detectable Tracer Tape	330.00				
99	D3	FROM					
	Note	TO					
	Note	Length: 20.00					
	1210	2" PVC (2-Parallel)	40.00				
	2163	2" PVC Elbow (48" Radius)	8.00				
	2133	2" PVC Coupling	4.00				
	A9355	**2" GRC Stub Up**	**4.00**				
	1055	2" GRC	4.00				
	1599	2" Locknut	8.00				
	1611	2" Plastic Bushing	4.00				
	1812	2" Cut & Thread	4.00				
	2091	2" PVC Female Adaptor	4.00				
	2670	#3/0 THHN CU Stranded Wire	160.00				
	2665	#3 THHN CU Stranded Wire	40.00				
	2459	2"x3" Base Spacer	15.00				
	5534	12"Wx24"D Trench-Ditch Witch	20.00				
	5583	12"Wx24"D Backfill & Compaction	20.00				
	5606	3000# Concrete (Cu. Yards)	9.00				
	48642	3 inch Red Detectable Tracer Tape	20.00				
100	1200A	600A/3P 600V HD NF Safety Sw-Nema 3R	2.00				
	3359	600A 600V RK5 Time Delay Fuse	0.00				
	3293	600A/3P 600V HD NF Safety Sw-Nema 3R	2.00				
	3467	600A 600V RK1 Time Delay Fuse	6.00				
	A7084	**1-1/2" Unistrut Rigid Strap w/1ft Channel**	**8.00**				
	2386	1-1/2" Unistrut Strap-Rigid	8.00				
	5932	Unistrut (Deep)	8.00				
	5935	Cut 12 Gauge 1-5/8x1-5/8 Channel (labor)	16.00				
	2449	3/8"x1-1/2" Bolt	16.00				
	2450	3/8" Machine Screw Lead Anchor	16.00				
	2447	Hex Nut 3/8" Zinc Plated	16.00				
	2448	Concrete Insert for Thrd Rod	16.00				
101	5958	3/4"x10' Copper Ground Rod	3.00				
102	4213	CT Can w/Meter	1.00				
103	**A6872**	**30A 4W/N3R Equip Conn w/Fused Disc**	**1.00**				
	6133	Red Wirenuts	4.00				
	1330	2" EMT Elbow	2.00				
	4409	#14-12-10 Wire Termination Labor	4.00				

THE BEST ESTIMATOR COST ESTIMATION AND ENGINEERING SERVICES

Entry	Item#	Description	Quantity	Price	Ext Price	Labor	Ext Labor
	2661	#10 THHN CU Stranded Wire	28.00				
	3310	30A 250V RK5 Time Delay Fuse	3.00				
	1143	1/2" Liquidtight (metallic)	5.00				
	1893	1/2" Seal-tite Conn (Str)	1.00				
	1913	1/2" Seal-tite Conn (90 Degree)	1.00				
	3185	30A/3P 4WSN 240V GD Fus Safety Sw-Nema3R	1.00				
104	SL3	4' Linear LED	2.00				
	5297	Red Scotchlok Wirenuts (#18-10)	6.00				
	2469	4" Square Box (1/2 & 3/4 KO's)	2.00				
	6133	Red Wirenuts	6.00				
	2444	1/4" All Thread	2.00				
	2448	Concrete Insert for Thrd Rod	2.00				
	2447	Hex Nut 3/8" Zinc Plated	2.00				
	1001	3/4" EMT	50.00				
	2660	#12 THHN CU Stranded Wire	200.00				
105	IG	4' Linear LED	24.00				
	5297	Red Scotchlok Wirenuts (#18-10)	72.00				
	2469	4" Square Box (1/2 & 3/4 KO's)	24.00				
	6133	Red Wirenuts	72.00				
	2444	1/4" All Thread	24.00				
	2448	Concrete Insert for Thrd Rod	24.00				
	2447	Hex Nut 3/8" Zinc Plated	24.00				
	1001	3/4" EMT	600.00				
	2660	#12 THHN CU Stranded Wire	2400.00				

THE BEST ESTIMATOR
COST ESTIMATION AND ENGINEERING SERVICES

Total

Totals (Detailed) - Bid Summary: Default

Job Number	16168571
Bid Date	11/7/2024
Bid Time	1:14:00 PM
Square Footage	0

Material Totals

Division	Total	Factor	Extended
Section #1			
Total			

Quoted Material

48630 - L.E.D. Wall Pack Fixture	7.00	$0.00	$0.00
AL1 - 15' Steel Pole	7.00	0.00	0.00
EL1 - Dual Head Emerg Light w/Batt Pack	4.00	0.00	0.00
EL2 - Dual Head Emerg Light w/Batt Pack	4.00	0.00	0.00
EM - L.E.D. Flood Fixture	1.00	0.00	0.00
EX1 - Exit Fixture	4.00	0.00	0.00
EX2 - Exit Fixture	3.00	0.00	0.00
GL1 - 8' Linear LED	15.00	0.00	0.00
IG - 4' Linear LED	24.00	0.00	0.00
LCP - 24 Relay Space LIghting Control Panel	1.00	0.00	0.00
PL1 - 8' Linear LED	3.00	0.00	0.00
RL1 - L.E.D. Flood Fixture	19.00	0.00	0.00
SL1 - 4' Linear LED	35.00	0.00	0.00
SL2 - 4' Linear LED	11.00	0.00	0.00
SL3 - 4' Linear LED	2.00	0.00	0.00
WL1 - L.E.D. Flood Fixture	1.00	0.00	0.00
WL1E - L.E.D. Flood Fixture	3.00	0.00	0.00
1 - Fixtures (Supplier #1)			$0.00
Total			**$0.00**
Sales Tax (6.00%)			
Total Material			

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Labor Hours

Division	Total	Factor	Extended
Section #1			
Total			

Labor Rates

Category	% of Total	Hours	Base Rate	Burden $	Burden %	Extended
Journeyman	60.000	976.170	$34.95	10.49	30.000	
Helper	35.000	569.432	24.00	7.20	30.000	

Totals (Detailed) - Bid Summary: Default

Foreman	5.000	81.347	27.97	8.39	30.000
Total	100.000	1,626.950	x $40.00 (average of labor rate w/burden) =		

Non-Productive Labor

Description	Extended
Non-Productive Labor (1.00% of Material and Direct Labor cost)	
Total Labor (1,626.95 hours)	

Direct Job Expenses

Description	Total
Direct Job Expenses (1.25% of Material and Direct Labor cost)	

Tools and Miscellaneous Materials

Description	Total
Tools and Miscellaneous Materials (0.25% of Material and Direct Labor cost)	

Job Subtotal (Prime Cost)	
Overhead (5.00%)	
Profit (5.00%)	
Job Total	
Actual Bid Price	
Material to Direct Labor ratio: 0.74	
Prime Cost per square foot	
Job Total per square foot	
Actual Bid Price per square ft	
Labor cost per square foot	
Labor hours per square foot	
Gross Profit %	
Gross Profit $	
Net Profit %	

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