

PLAN

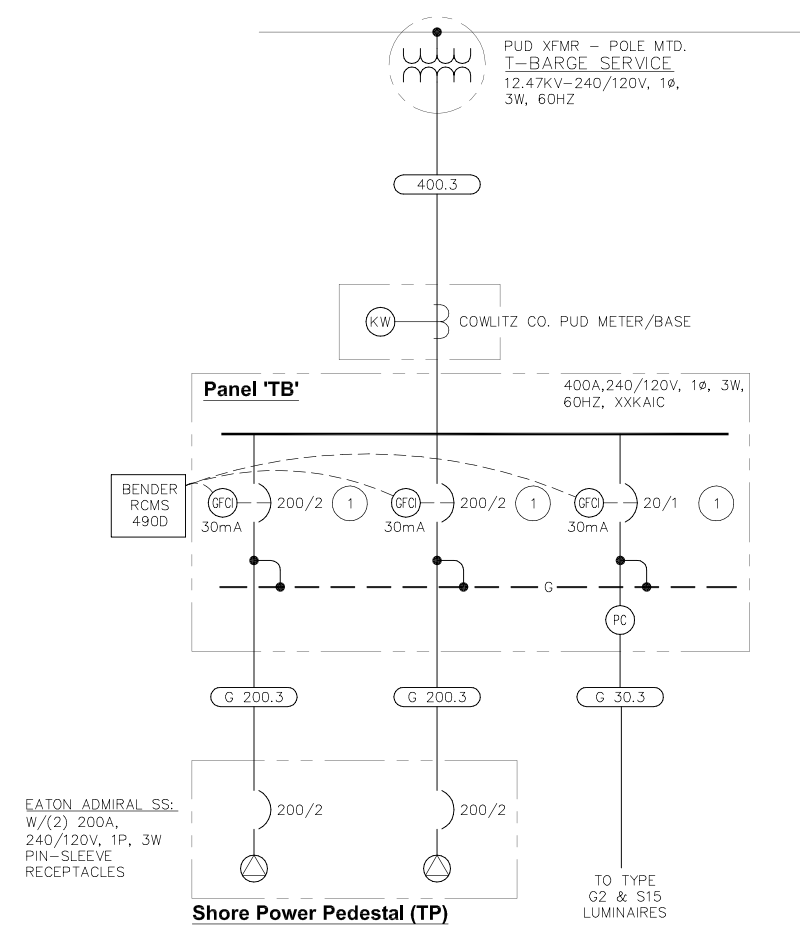


INCOMING ELECTRICAL SERVICE DIVISION OF RESPONSIBILITY					
	ELEC. CONTR.	UTILITY CO.	ELEC. CONTR.	UTILITY CO.	
PRIMARY CONDUIT	<input type="checkbox"/>	<input type="checkbox"/>	SECONDARY CONDUIT	<input checked="" type="checkbox"/>	<input type="checkbox"/>
PRIMARY CONDUCTORS	<input type="checkbox"/>	<input type="checkbox"/>	SECONDARY CONDUCTORS	<input checked="" type="checkbox"/>	<input type="checkbox"/>
TRANSFORMER	<input type="checkbox"/>	<input checked="" type="checkbox"/>	C/T ENCLOSURE	<input checked="" type="checkbox"/>	<input type="checkbox"/>
TRANSFORMER PAD	<input type="checkbox"/>	<input type="checkbox"/>	C/T's	<input type="checkbox"/>	<input checked="" type="checkbox"/>
PRIMARY GROUNDING	<input type="checkbox"/>	<input checked="" type="checkbox"/>	METER BASE	<input checked="" type="checkbox"/>	<input type="checkbox"/>
BOLLARDS	<input checked="" type="checkbox"/>	<input type="checkbox"/>	METER	<input type="checkbox"/>	<input checked="" type="checkbox"/>
TRANSFORMER CONNECTIONS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	METER GROUNDING	<input checked="" type="checkbox"/>	<input type="checkbox"/>

NOTES:
 1. CONTACT AND COORDINATE ALL REQUIREMENTS AND RESPONSIBILITIES WITH SERVING UTILITY COMPANIES PRIOR TO SUBMITTING BID.
 2. ALL SERVICE INSTALLATION WORK SHALL BE IN STRICT COMPLIANCE WITH THE REQUIREMENTS OF THE SERVING UTILITIES.

HARBOR POWER ENG., INC. HAS CONTACTED THE UTILITIES BUT HAS NOT RECEIVED IN WRITING THE FINAL REQUIREMENTS FROM THE POWER UTILITY. THESE DRAWINGS INDICATE OUR BEST ESTIMATION OF THEIR REQUIREMENTS. PRIOR TO BID OR ANY CONSTRUCTION CONTACT THE UTILITY COMPANY AND OBTAIN IN WRITING THEIR REQUIREMENTS.

POWER UTILITY CONTACT:
 COWLITZ COUNTY PUD
 CLINT KISER
 PHONE: { }
 FAX: { }



SINGLE LINE WIRING DIAGRAM

GENERAL NOTES

- GENERAL: WORK SHALL BE DONE IN ACCORDANCE WITH NFPA 70 AS ADOPTED BY THE CITY OF KALAMA, COWLITZ COUNTY, AND THE STATE OF WASHINGTON.
- LOCATIONS OF ELECTRICAL DEVICES, LIGHTING FIXTURES, ETC., INDICATED ON CIVIL / STRUCTURAL PLANS - INCLUDING SECTIONS, ELEVATIONS, NOTES, OR OTHER INDICATORS - TAKE PRECEDENCE OVER LOCATIONS SHOWN ON ELECTRICAL DRAWINGS.
- REFER TO CIVIL, STRUCTURAL, MECHANICAL, LANDSCAPE, ETC., DRAWINGS FOR WORK OUTSIDE OF DIVISIONS 16 & 17. INFORMATION CONVEYED WITHIN THE ELECTRICAL DRAWINGS ILLUSTRATING OR REFERENCING WORK OF OTHER DIVISIONS IS FOR REFERENCE ONLY. SPECIFICATION BY THE APPROPRIATE DIVISIONS SHALL APPLY.
- GENERAL NOTES ARE SHOWN ON SHEETS MOST RELEVANT TO SPECIFIC NOTE; HOWEVER, GENERAL NOTES ON EACH SHEET SHALL APPLY IN PRACTICE TO ALL ELECTRICAL DRAWINGS.
- NOT ALL COMPONENTS OF THE ELECTRICAL SYSTEMS ARE SHOWN (FOR SIMPLICITY). PROVIDE MATERIALS AND LABOR NECESSARY FOR A COMPLETE AND OPERATIONAL SYSTEM.
- STAINLESS STEEL HARDWARE: MATERIALS USED FOR THE MOUNTING AND SUPPORT OF BOXES, CABLES, RACEWAYS, LIGHT FIXTURES, OUTLETS, AND OTHER DIVISION 16 EQUIPMENT, SHALL BE 316 STAINLESS STEEL. THIS REQUIREMENT APPLIES TO THE AFOREMENTIONED COMPONENTS WHEN INSTALLED OUTSIDE ABOVE GRADE OR WHEN INSTALLED OVER WATER.
- ELECTRICAL DRAWINGS ARE DIAGRAMMATIC. EXACT LOCATIONS OF ELECTRICAL EQUIPMENT IS APPROXIMATE. CHANGES MADE BY THE OWNER IN LOCATING ELECTRICAL COMPONENTS OF UP TO TEN FEET HORIZONTALLY IS A PART OF THIS CONTRACT FOR FLOATS. THESE CHANGES MAY BE IMPLEMENTED, AT NO CHARGE TO THE OWNER, IF MADE PRIOR TO FINAL APPROVAL OF SHOP DRAWINGS.
- COORDINATE LOCATIONS OF ELECTRICAL AND COMMUNICATION CHASES AND CONDUITS WITH OTHER TRADES. ADJUST LOCATIONS AS NECESSARY TO AVOID CONFLICTS.

SHEET NOTES

- PROVIDE GROUND FAULT PROTECTION AS REQUIRED TO COMPLY WITH NEC ARTICLE 555.3.

COPPER FEEDER SCHEDULE

CONDUIT AND WIRE						PORTABLE POWER CABLE			
FEEDER TAG	CONDUITS (REMARKS 1,4)			CONDUCTOR PER SET		REMARKS	FEEDER TAG	'X' INDICATES NUMBER OF CONDUCTORS PER FEEDER CABLE (EXCLUDING GROUND CONDUCTORS).	
	MET	SETS	RNC	PHASE/NEUTRAL	GROUND (REMARK 5)			APPROX. O.D. (3C/4C)	COND. AWG
400.3	4.00"	1	4.00"	3 #500KCM	#6	-			
200.3	2.00"	1	3.00"	3 #3/0	#6	-	G 30.X	#10	MULTI CONDUCTOR TYPE 'SOW' CORD
30.3	0.75"	1	1.00"	3 #10	#10	-	G 200.X	1.88"/2.04"	#3/0 MULTI CONDUCTOR PORTABLE POWER CABLE

GENERAL SCHEDULE NOTES

- CONDUCTORS AND CONDUITS SHOWN IN THIS SCHEDULE ARE BASED ON COPPER CONDUCTORS WITH THHN/THWN INSULATION. THIS NOTE INDICATES THAT CONDUIT (LISTED IN SCHEDULE) IS SIZED BASED ON TYPE THHN/THWN WIRE. USE WIRE TYPES AS SPECIFIED IN SECTION 16120 OR AS NOTED ELSEWHERE IN THE CONTRACT DOCUMENTS.
- PROVIDE NOTED SIZE GROUND CONDUCTOR IN EACH CONDUIT OF FEEDERS CONSISTING OF MULTIPLE SETS OF CONDUCTORS.
- NOT ALL FEEDERS ARE NECESSARILY USED ON THIS PROJECT.
- NOMINAL AMPACITIES GREATER THAN 100 AMPS ARE FOR 75°C TERMINATIONS.
- CONDUIT SIZES AND QUANTITIES ON PLANS TAKE PRECEDENCE OVER THOSE SHOWN IN SCHEDULE. PROVIDE CONDUITS INDICATED IN SCHEDULE FOR FEEDERS NOT SHOWN ON PLANS.

90% SUBMITTAL

PORT OF KALAMA T-BARGE FACILITY

ELECTRICAL PLAN & SINGLE LINE WIRING DIAGRAM

DESIGNED BY: EJD	PROJECT NO: 154038.06	SHEET NO:
DRAWN BY: KDD	DATE: AUGUST 2018	E1.00
CHECKED BY: EJD	SCALE: NOTED	

REV	DATE	DESCRIPTION

PND ENGINEERS, INC. IS NOT RESPONSIBLE FOR SAFETY PROGRAMS, METHODS OR PROCEDURES OF OPERATION, OR THE CONSTRUCTION OF THE DESIGN SHOWN ON THESE DRAWINGS. WHERE SPECIFICATIONS ARE GENERAL OR NOT CALLED OUT, THE SPECIFICATIONS SHALL CONFORM TO STANDARDS OF INDUSTRY. DRAWINGS ARE FOR USE ON THIS PROJECT ONLY AND ARE NOT INTENDED FOR REUSE WITHOUT WRITTEN APPROVAL FROM PND. DRAWINGS ARE ALSO NOT TO BE USED IN ANY MANNER THAT WOULD CONSTITUTE A DETRIMENT DIRECTLY OR INDIRECTLY TO PND.

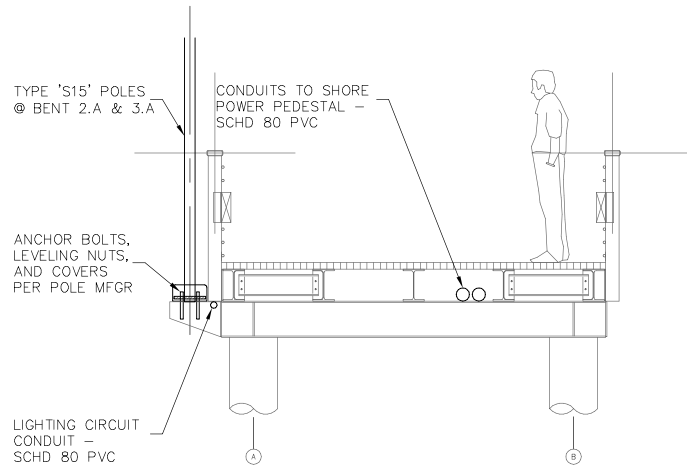


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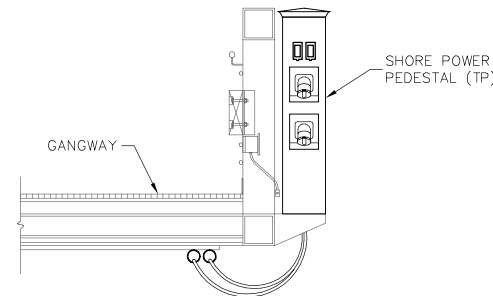
LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	LAMP INFORMATION			TOTAL WATTS	MANUFACTURER	CATALOG NUMBER	VOLTS	MOUNTING	RECESS DEPTH	REMARKS
		TYPE	QTY	LAMP TYPE							
S15	POLE MOUNTED (TYPE 4) LUMINAIRE; NOMINAL MOUNTING HGT 15'-0"	LED	32	LED	47	ARCHITECTURAL AREA LIGHTING	UCM-BEL-T4-32LED-4K-450-CUSTOM-FTG-SCP-277-SLA7 POLE: 15ft/4"d RD STEEL	120	CONCRETE POLE BASE	N/A	MATCH COLOR OF EXISTING MARINA PARKING LOT LUMINAIRES. POLE BASE PER DETAIL; SEE SHEET E3.02.
G2	LED STEPLIGHT; 4.00" MAX HEIGHT	LED	1	LED	6	PACE	TJSL-5000-6WLED-120-STD PNT-SURFACE-NLU	120	GANGWAY	N/A	FORMED ALUMINUM SURFACE BOX; NO LOUVER DIE-CAST ALUMINUM FACEPLATE

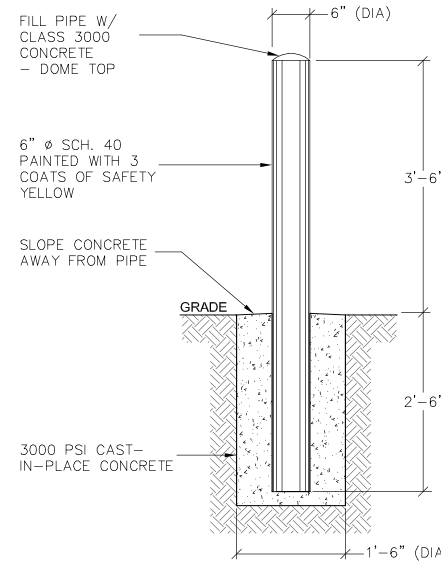
PREFERABLE TO USE SAME LIGHT POLE AS MARINA FOR MAINT. AND CONSISTENCY?



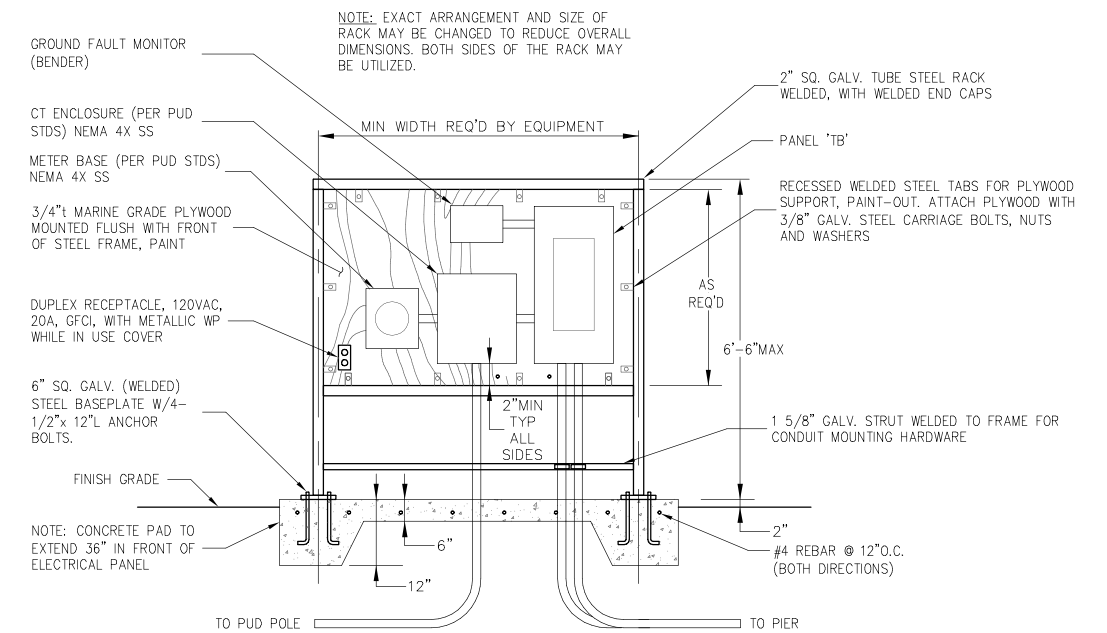
TYPE S15 MOUNTING DETAIL
APPROACH PIER SECTION - NO SCALE



TP MOUNTING DETAIL
GANGWAY SECTION - NO SCALE

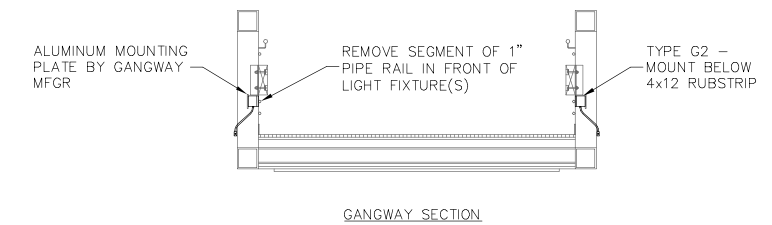


GUARD POST DETAIL (TYP)

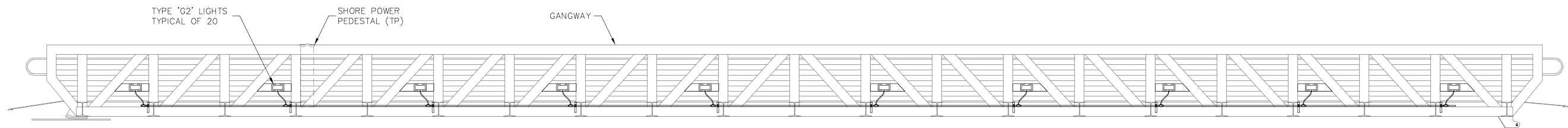


SERVICE RACK DETAIL
ELEVATION - NOT TO SCALE

VERIFY PEDESTAL CONFIGURATION WITH MFR REP - MAY NEED LARGER ENCLOSURE FOR 400AMP WITH CT/METER



GANGWAY SECTION



TYPE G2 MOUNTING DETAIL
OUTBOARD GANGWAY ELEVATION - TYPICAL 2 SIDES
NO SCALE

90% SUBMITTAL

**PORT OF KALAMA
T-BARGE FACILITY**

ELECTRICAL DETAILS & FIXTURE CUTS

DESIGNED BY:	EJD	PROJECT NO:	154038.06	SHEET NO:
DRAWN BY:	KDD	DATE:	AUGUST 2018	E2.00
CHECKED BY:	EJD	SCALE:	NOTED	

REVISIONS		
REV	DATE	DESCRIPTION

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