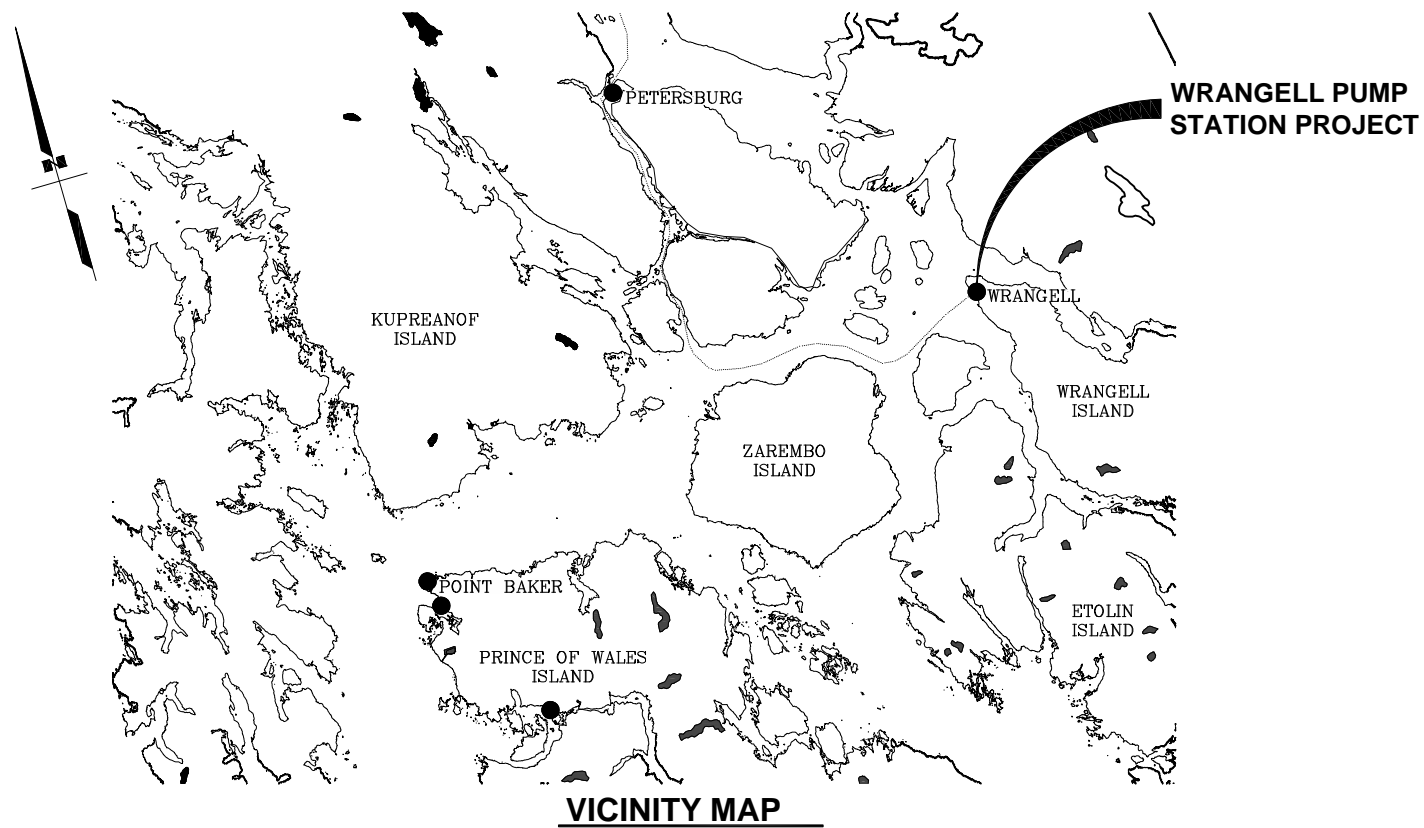
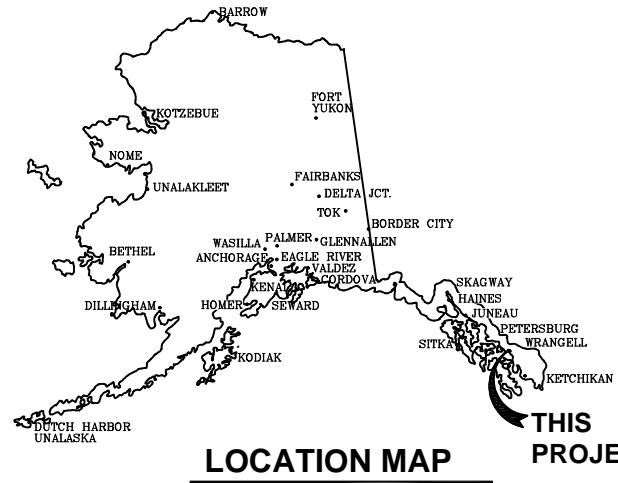


WRANGELL SEWER PUMPS REPLACEMENT PROJECT PUMP STATIONS 4 & 6 IMPROVEMENTS

SCRIPT FILE: DOWL FILE NO: 235-01

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NO.	DATE	BY	DESCRIPTION

DATA	✓/BY
Son. Sewer	
Storm Sewer	
Water	
Telephone	
Electric	
Cable TV	
Estimates	
Footling Elev.	
Approved	



DOWL HKM
4041 B STREET
ANCHORAGE, ALASKA 99503
PHONE 907-562-2000
FAX 907-563-3953



WRANGELL SEWER PUMPS REPLACEMENT PROJECT
PUMP STATIONS 4 & 6 IMPROVEMENTS
COVER SHEET
WRANGELL, ALASKA

CHECKED BY	RLA
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DATE	05/20/2015
LOCATION	WRANGELL
PN	
FILE NO.	
SHEET	G1.0
1 OF 27	

THIS DESIGN WAS PRODUCED IN PART WITH CDBG ASSISTANCE FUNDS MADE AVAILABLE THROUGH THE DEPARTMENT OF COMMERCE, COMMUNITY AND ECONOMIC DEVELOPMENT AND THE HOUSING AND URBAN DEVELOPMENT.

LEGEND		
PROPOSED	EXISTING	
		WATER LINE
		SANITARY SEWER LINE W/ MANHOLE
		VALVE
		HYDRANT
		YARD HYDRANT
		CENTERLINE/STATIONLINE
		EASEMENT LINE
		PROPERTY LINE
		FORCE MAIN
		LIGHT POLE
		UTILITY POLE
		BOLLARD
		ELECTRIC METER
		TELEPHONE PEDESTAL
		SIGN
		EDGE OF ROAD
		CURB & GUTTER
		FENCE
		MAJOR CONTOUR
		MINOR CONTOUR
		BUILDING
		TREE LINE
		STORM DRAIN LINE W/ MANHOLE
		UNDERGROUND TELEPHONE LINE
		UNDERGROUND ELECTRIC LINE
		UNDERGROUND CABLE LINE
		FUEL LINE
		OVERHEAD ELECTRIC

BYPASS NOTES

1. THE CONTRACTOR SHALL PROVIDE THE CITY AND BOROUGH OF WRANGELL (CBW) WITH A MINIMUM OF 15 BUSINESS DAYS WRITTEN NOTICE PRIOR TO START OF SANITARY SEWER BYPASS PUMPING.

GENERAL NOTES

1. UNLESS MODIFIED IN THE PROJECT SPECIFICATIONS OR PLANS, ALL CONSTRUCTION SHALL BE INSTALLED AS SPECIFIED IN THE MOST CURRENT EDITION OF THE CITY AND BOROUGH OF JUNEAU SPECIFICATIONS FOR CIVIL ENGINEERING PROJECTS AND SUBDIVISION IMPROVEMENTS (CBJSS).
2. CONTRACTOR SHALL VERIFY AND RECORD THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL UTILITIES ENCOUNTERED IN THE FIELD AND RECORD ANY CHANGES ON THE CONTRACTOR RECORD DRAWINGS.
3. THE CONTRACTOR SHALL RESTORE ALL DISTURBED PROPERTY, INCLUDING DRAINAGE SWALES, DISTURBED BY CONTRACT ACTIVITIES TO PRECONSTRUCTION CONDITION.
4. THE CONTRACTOR SHALL RECORD SURVEY NOTES FOR SUBMITTAL WITH RECORD DRAWING PLANS PRIOR TO CONTRACT FINAL PAYMENT.
5. CONTRACTOR SHALL FIELD INSTALL RESTRAINED FITTINGS ON ALL MECHANICAL JOINTS.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR EROSION AND SEDIMENT CONTROLS AS NECESSARY TO COMPLY WITH FEDERAL, STATE, AND MUNICIPAL LAWS THAT PROHIBIT UNPERMITTED DISCHARGE OF POLLUTANTS, INCLUDING SEDIMENTS, THAT ARE A RESULT OF EROSION AND OTHER CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL CONDUCT ALL WORK SO SEDIMENT IS NOT TRANSPORTED ONTO THE ROADWAY OR ADJACENT PROPERTY. AT A MINIMUM, THE CONTRACTOR SHALL SWEEP UP ANY SEDIMENT TRACKED ONTO PAVED SURFACES IN PUBLIC RIGHT-OF-WAY WITHIN 24 HOURS OF THE TRACKING TO MINIMIZE THE WASH-OFF OF SEDIMENT INTO THE STORM DRAINS OR WATERWAYS.
7. WATER RESULTING FROM CONTRACTOR'S DEWATERING EFFORT MAY NOT BE PUMPED OR OTHERWISE DIVERTED INTO EXISTING STORM DRAINS UNLESS PERMITS ARE OBTAINED BY THE CONTRACTOR. UNDER NO CIRCUMSTANCES WILL THE CONTRACTOR BE ALLOWED TO DIVERT WATER FROM AN EXCAVATION ONTO ROADWAYS. CONTRACTOR SHALL PROVIDE A DISPOSAL SITE FOR EXCESS WATER AND SHALL BE RESPONSIBLE FOR SECURING ALL NECESSARY PERMITS AND APPROVALS. CONTRACTOR SHALL PROVIDE COPIES OF NECESSARY PERMITS AND APPROVALS TO THE ENGINEER.

SEWER NOTES

1. EXISTING CUSTOMERS SHALL BE NOTIFIED SEVENTY-TWO (72) HOURS IN ADVANCE OF SANITARY SEWER SERVICE INTERRUPTION. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE TEMPORARY SANITARY SEWER SERVICE TO THE EXISTING CUSTOMERS IF DEEMED NECESSARY BY THE ENGINEER.
2. ELEVATIONS ARE TO PIPE INVERT, MANHOLE INVERT, TOP OF RIM, OR CLEANOUT ELEVATION UNLESS NOTED OTHERWISE.
3. CONTRACTOR SHALL SEQUENCE WORK TO ENSURE SANITARY SEWER LINE IS PROTECTED AGAINST FREEZING PRIOR TO COMMISSIONING OF PIPE.

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ABBREVIATIONS

AC	- ASPHALT CONCRETE	E	- EAST	OSHA	- OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
ADEC	- ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION	EJIW	- EAST JORDAN IRON WORKS	P.S.I.	- POUNDS PER SQUARE INCH
ADJ	- ADJACENT	GV&VB	- GATE VALVE & VALVE BOX	PVC	- POLYVINYL CHLORIDE
ASS'Y	- ASSEMBLY	HDPE	- HIGH DENSITY POLYETHYLENE	R.O.I.	- RIGHT-OF-WAY
AWG	- AMERICAN WIRE GAUGE	HMWPE	- HIGH MOLECULAR WEIGHT POLYETHYLENE	S	- SOUTH
AWWA	- AMERICAN WATER WORKS ASSOCIATION	HREW	- HOT ROLLED ELECTRIC WELDED	SDR	- STANDARD DIMENSION RATIO
BOP	- BOTTOM OF PIPE	I.A.W.	- IN ACCORDANCE WITH	SSCO	- SANITARY SEWER CLEANOUT
BTM	- BOTTOM	INV	- INVERT	SSMH	- SANITARY SEWER MANHOLE
CI	- CAST IRON	KB	- KEY BOX	STD	- STANDARD
C.I.P.	- CAST IRON PIPE	LB	- POUND	TYP	- TYPICAL
CBJSS	- CITY AND BOROUGH OF JUNEAU STANDARD SPECIFICATIONS	LF	- LINEAR FEET	U/G	- UNDERGROUND
CBW	- CITY AND BOROUGH OF WRANGELL	MAX	- MAXIMUM	VB	- VALVE BOX
D.I.	- DUCTILE IRON	MILS	- MILLIMETERS	W	- WEST
DIA.	- DIAMETER	MIN	- MINIMUM	W/	- WITH
DIP	- DUCTILE IRON PIPE	MJ	- MECHANICAL JOINT	WWTP	- WASTEWATER TREATMENT PLANT
DOT&PF	- DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES	N	- NORTH		
DR	- DIMENSION RATIO	O&M	- OPERATIONS & MAINTENANCE		
DTL	- DETAIL	O.D.	- OUTSIDE DIAMETER		

DATA	DATE	REV	DATE	DESCRIPTION
San. Sewer				
Storm Sewer				
Water				
Telephone				
Electric				
Cable TV				
Emasements				
Footings Elev.				
Approved				

ADOPTED AUGUST 1992

DOWL HKM

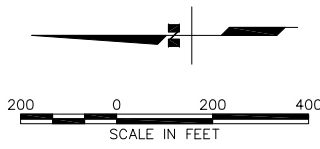
4041 B STREET
ANCHORAGE, ALASKA 99503
PHONE 907-562-2000
FAX 907-563-3953

CONSULTANT

STATE OF ALASKA
49th
Raymond L. Armstrong
CE-12437
8-7-15
REGISTERED PROFESSIONAL ENGINEER
STAMP

WRANGELL SEWER PUMPS REPLACEMENT PROJECT
PUMP STATIONS 4 & 6 IMPROVEMENTS
LEGEND, NOTES, ABBREVIATIONS AND INDEX
WRANGELL, ALASKA

CHECKED BY: RLA
DESIGNED BY: RLA
DRAWN BY: MAC
DATE: 05/20/2015
LOCATION: WRANGELL
PN: -
FILE NO: -
SHEET: G1.1
2 OF 27



WRANGELL LIFT STATION LOCATIONS

REV	DATE	DESCRIPTION	BY

DATA	DATE	BY
San. Sewer		
Storm Sewer		
Water		
Telephone		
Electric		
Cable TV		
Emasments		
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Approved		



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ANCHORAGE, ALASKA 99503
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FAX 907-563-3953

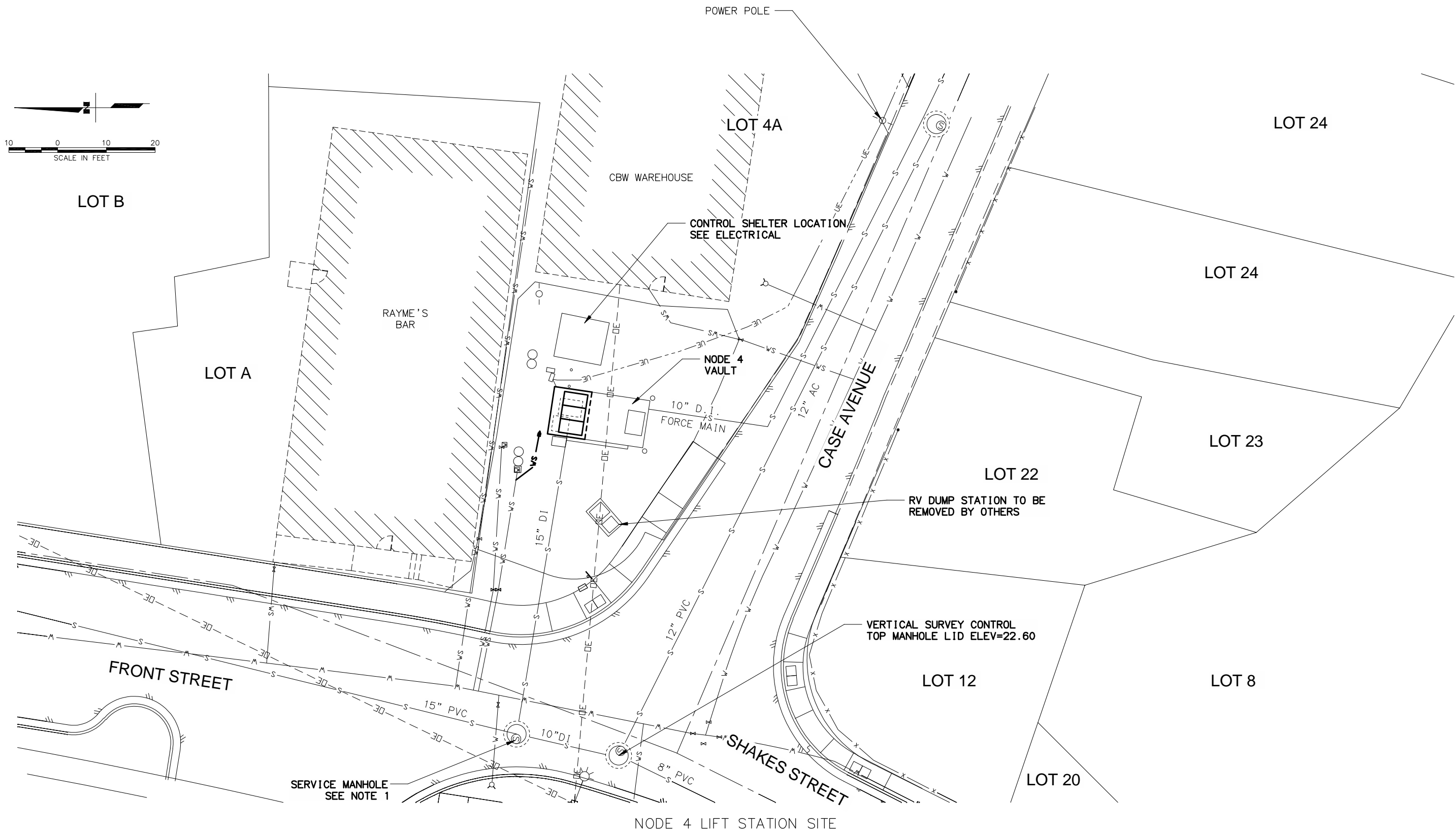


WRANGELL SEWER PUMPS REPLACEMENT PROJECT
PUMP STATIONS 4 & 6 IMPROVEMENTS

LIFT STATION LOCATIONS

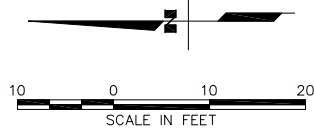
WRANGELL, ALASKA

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DATE	05/20/2015
LOCATION	WRANGELL
PN	-
FILE NO.	-
SHEET	G1.2
3 OF 27	



NOTES

- 1. IF SERVICE MANHOLE IN FRONT STREET IS UTILIZED FOR TEMPORARY BYPASS PUMPING, CONTRACTOR SHALL MAINTAIN TWO 10' TRAFFIC LANES.

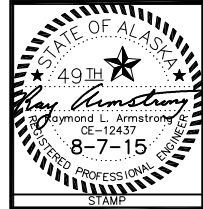


NO.	REVISIONS	DATE	BY

DATA	BY
San. Sewer	
Storm Sewer	
Water	
Telephone	
Electric	
Cable TV	
Ensurments	
Footing Elev.	
Approved	



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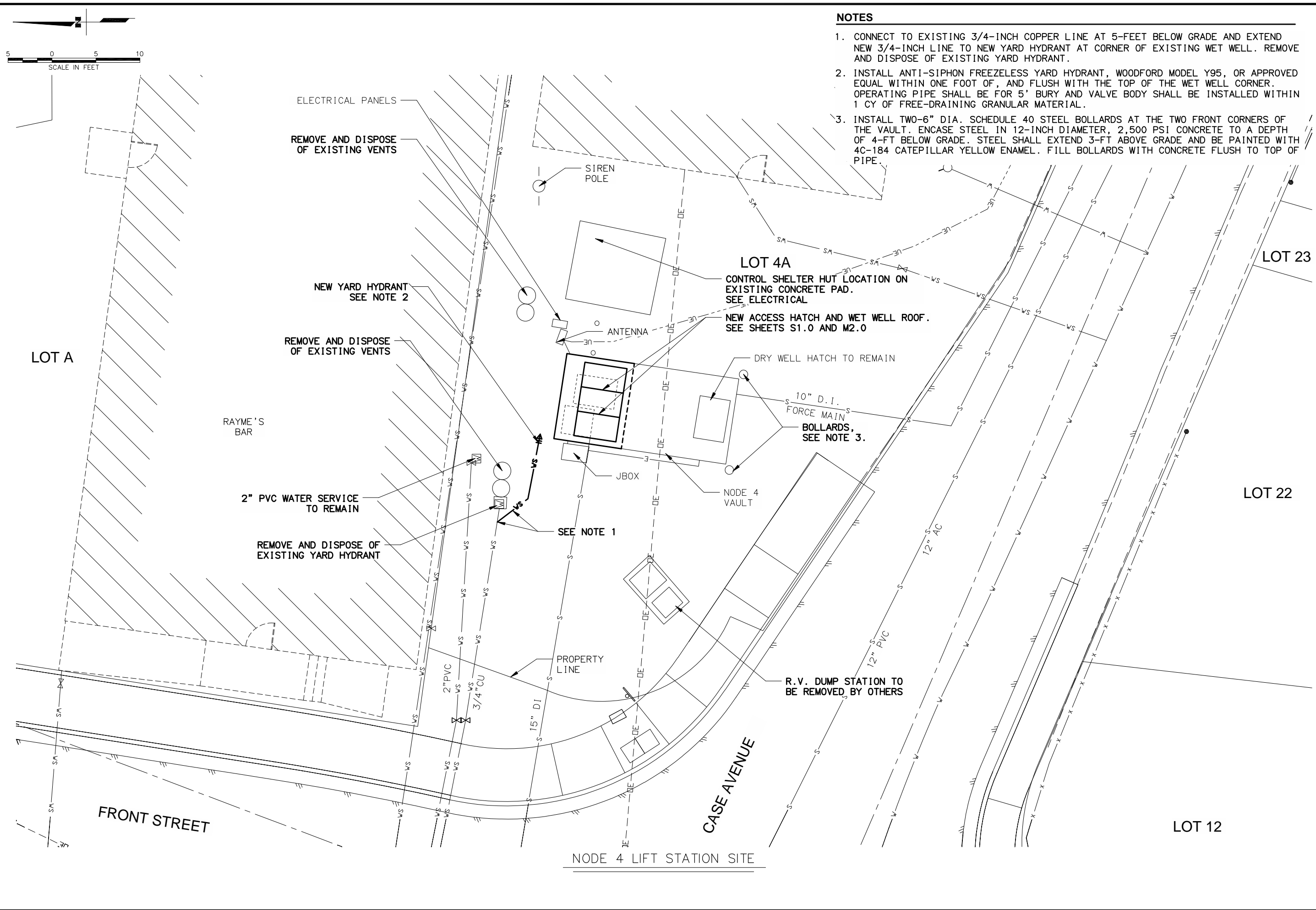


WRANGELL SEWER PUMPS REPLACEMENT PROJECT
PUMP STATIONS 4 & 6 IMPROVEMENTS

WRANGELL, ALASKA

NODE 4 LIFT STATION SITE


CHECKED BY	RLA
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LOCATION	WRANGELL
PN	
FILE NO.	
SHEET	C1.0
	4 OF 27



NOTES

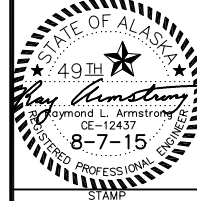
1. CONNECT TO EXISTING 3/4-INCH COPPER LINE AT 5-FOOT BELOW GRADE AND EXTEND NEW 3/4-INCH LINE TO NEW YARD HYDRANT AT CORNER OF EXISTING WET WELL. REMOVE AND DISPOSE OF EXISTING YARD HYDRANT.
2. INSTALL ANTI-SIPHON FREEZELESS YARD HYDRANT, WOODFORD MODEL Y95, OR APPROVED EQUAL WITHIN ONE FOOT OF, AND FLUSH WITH THE TOP OF THE WET WELL CORNER. OPERATING PIPE SHALL BE FOR 5' BURY AND VALVE BODY SHALL BE INSTALLED WITHIN 1 CY OF FREE-DRAINING GRANULAR MATERIAL.
3. INSTALL TWO-6" DIA. SCHEDULE 40 STEEL BOLLARDS AT THE TWO FRONT CORNERS OF THE VAULT. ENCASE STEEL IN 12-INCH DIAMETER, 2,500 PSI CONCRETE TO A DEPTH OF 4-FT BELOW GRADE. STEEL SHALL EXTEND 3-FT ABOVE GRADE AND BE PAINTED WITH 4C-184 CATEPILLAR YELLOW ENAMEL. FILL BOLLARDS WITH CONCRETE FLUSH TO TOP OF PIPE.

DATA	BY	DESCRIPTION
San. Sewer		
Storm Sewer		
Water		
Telephone		
Electric		
Cable TV		
Emasement		
Footing Elev.		
Approved		



DOWL HKM
 4041 B STREET
 ANCHORAGE, ALASKA 99503
 PHONE 907-562-2000
 FAX 907-563-3953

CONSULTANT



**WRANGELL SEWER PUMPS REPLACEMENT PROJECT
 PUMP STATIONS 4 & 6 IMPROVEMENTS**

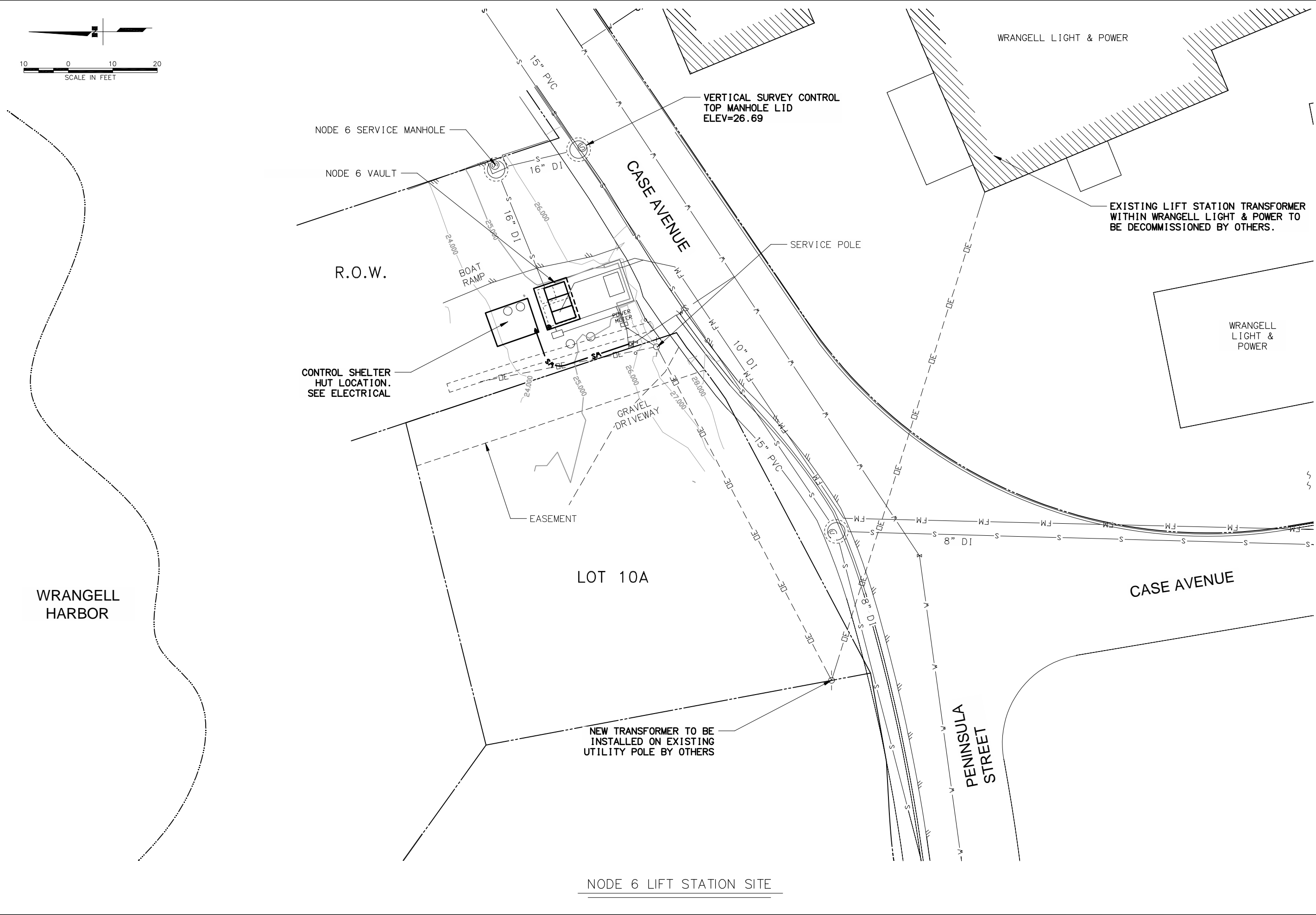
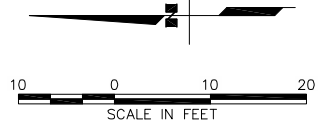
NODE 4 ENLARGED SITE PLAN
 WRANGELL, ALASKA

CHECKED BY	RLA
DESIGNED BY	RLA
DRAWN BY	MAC
DATE	05/20/2015
LOCATION	WRANGELL
PN	
FILE NO.	
SHEET	C1.1
	5 OF 27

DRAWING FILE NO: 235-01

SCRIPT FILE:

P:\Projects\070661\06 CAD\Civil\MCI4-SBM-WRGP.dwg PLOT DATE 2015-6-7 08:18 SAVED DATE 2015-06-26 08:11 USER: mchiorriello



NO.	REVISIONS	DATE	BY	DESCRIPTION

DATA	DATE	BY
Son. Sewer		
Storm Sewer		
Water		
Telephone		
Electric		
Cable TV		
Easements		
Footing Elev.		
Approved		



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 4041 B STREET
 ANCHORAGE, ALASKA 99503
 PHONE 907-562-2000
 FAX 907-563-3953



**WRANGELL SEWER PUMPS REPLACEMENT PROJECT
 PUMP STATIONS 4 & 6 IMPROVEMENTS**

NODE 6 LIFT STATION SITE

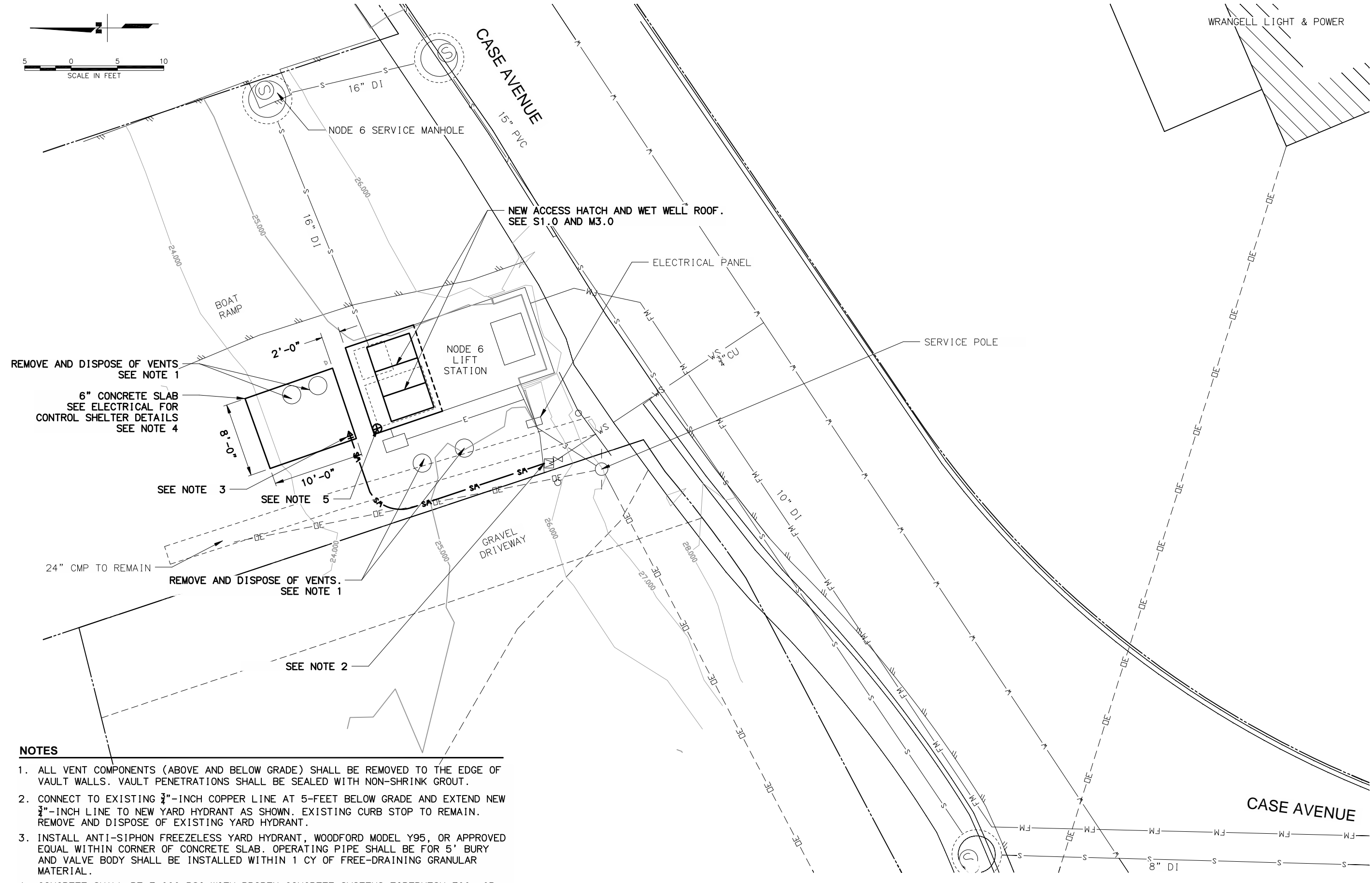
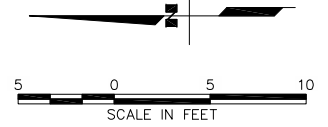
WRANGELL, ALASKA

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DRAWN BY	MAC
DATE	05/20/2015
LOCATION	WRANGELL
PN	
FILE NO.	
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6 OF 27	

DOWL FILE No: 235-01

SCRIPT FILE:

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NOTES

1. ALL VENT COMPONENTS (ABOVE AND BELOW GRADE) SHALL BE REMOVED TO THE EDGE OF VAULT WALLS. VAULT PENETRATIONS SHALL BE SEALED WITH NON-SHRINK GROUT.
2. CONNECT TO EXISTING 3/4"-INCH COPPER LINE AT 5-FOOT BELOW GRADE AND EXTEND NEW 3/4"-INCH LINE TO NEW YARD HYDRANT AS SHOWN. EXISTING CURB STOP TO REMAIN. REMOVE AND DISPOSE OF EXISTING YARD HYDRANT.
3. INSTALL ANTI-SIPHON FREEZELESS YARD HYDRANT, WOODFORD MODEL Y95, OR APPROVED EQUAL WITHIN CORNER OF CONCRETE SLAB. OPERATING PIPE SHALL BE FOR 5' BURY AND VALVE BODY SHALL BE INSTALLED WITHIN 1 CY OF FREE-DRAINING GRANULAR MATERIAL.
4. CONCRETE SHALL BE 3,000 PSI WITH PROPEX CONCRETE SYSTEMS FIBERMESH 300, OR APPROVED EQUAL. PLACE 6 INCHES MIN. OF BASE COURSE, GRADING D-1 UNDER SLAB. TOP SLAB ELEVATION=24.80.
5. REMOVE AND RESET U.S. ARMY CORPS OF ENGINEERS SURVEY MONUMENT.

NODE 6 LIFT STATION SITE

REV	DATE	DESCRIPTION	BY

DATA	BY
Son. Sewer	
Storm Sewer	
Water	
Telephone	
Electric	
Cable TV	
Encasements	
Footings Elev.	
Approved	



DOWL HKM

4041 B STREET
ANCHORAGE, ALASKA 99503
PHONE 907-562-2000
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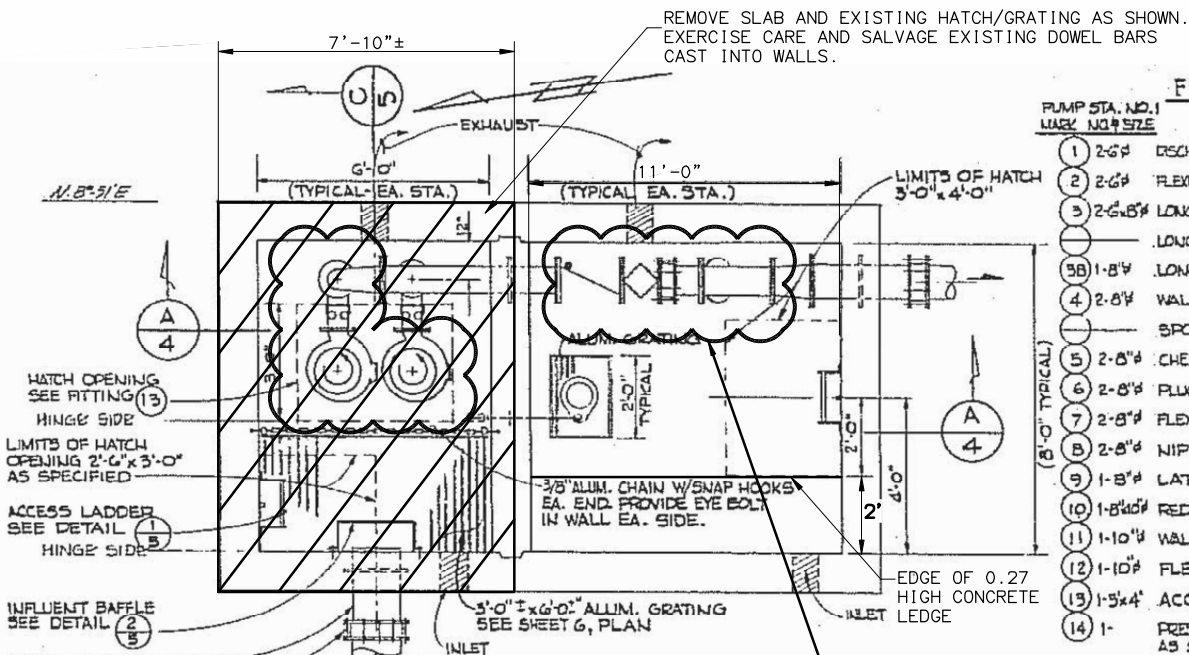


WRANGELL SEWER PUMPS REPLACEMENT PROJECT
PUMP STATIONS 4 & 6 IMPROVEMENTS

NODE 6 ENLARGED SITE PLAN

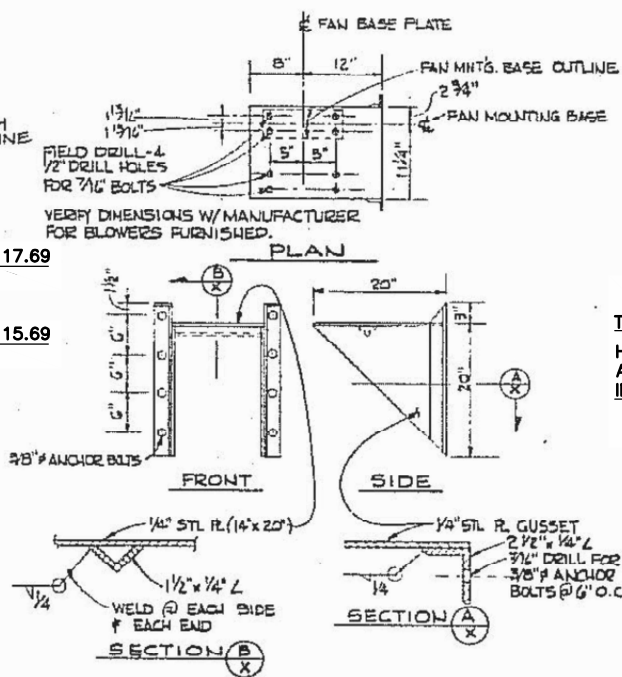
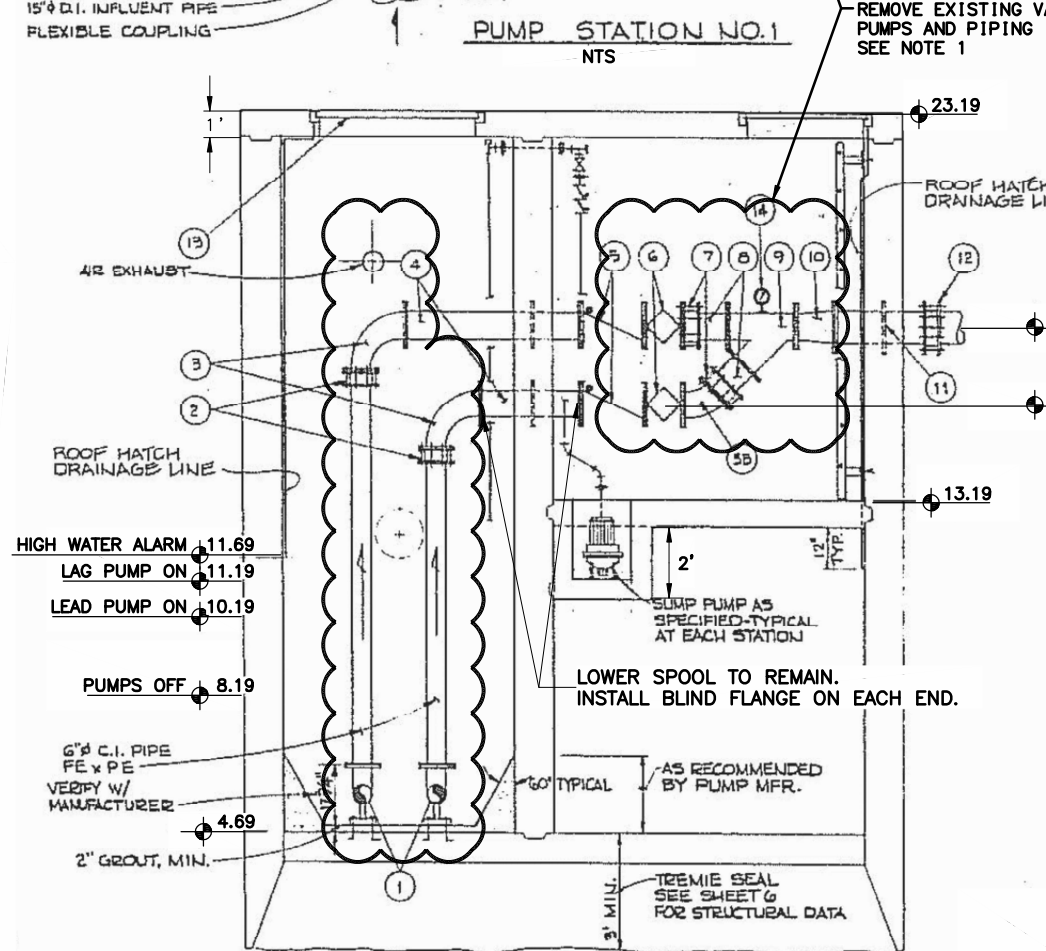
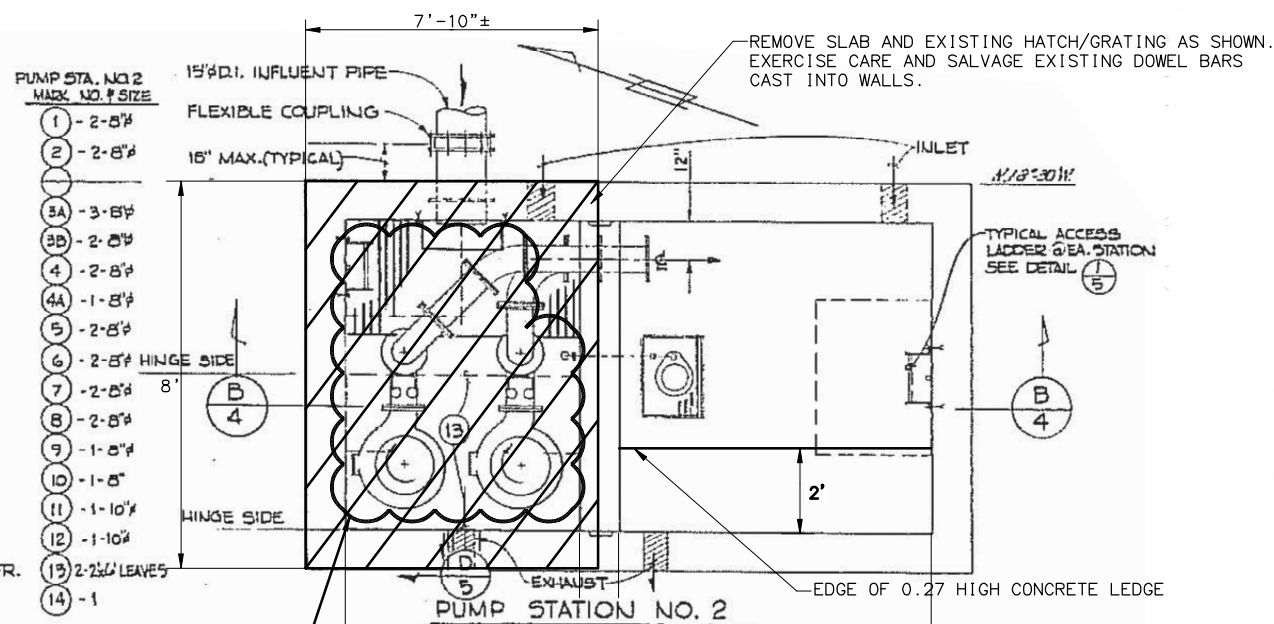
WRANGELL, ALASKA

CHECKED BY	RLA
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DRAWN BY	MAC
DATE	05/20/2015
LOCATION	WRANGELL
PN	
FILE NO.	
SHEET	C2.1
	7 OF 27



FITTING SCHEDULE

PUMP STA. NO. 1 MARK NO. & SIZE	DESCRIPTION	PUMP STA. NO. 2 MARK NO. & SIZE
1 - 2-6"	DISCHARGE ELBOW-FURNISHED W/PUMPS	1 - 2-8"
2 - 2-6"	FLEXIBLE FLANGED CPLG. ADAPTOR	2 - 2-8"
3 - 2-6"x4"	LONG RADIUS-90° REDUCING ELBOW	3A - 3-8"
4	LONG RADIUS-90° ELBOWS	3B - 2-8"
5B - 1-8"	LONG RADIUS-45° ELBOW	4 - 2-8"
4	WALL PIPE- FE x FE-LENGTH AS REQ'D.	4A - 1-8"
5	SPPOOL- FE x FE-LENGTH AS REQ'D.	5 - 2-8"
5	CHECK VALVE AS SPECIFIED	6 - 2-8"
6	PLUG VALVE AS SPECIFIED	7 - 2-8"
7	FLEXIBLE FLANGED CPLG. ADAPTOR	8 - 2-8"
8	NIPPLE- FE x PE	9 - 1-8"
9	LATERAL (8x8x8)	10 - 1-8"
10	REDUCER-CONCENTRIC	11 - 1-10"
11	WALL PIPE- FE x PE	12 - 1-10"
12	FLEXIBLE COUPLING	13 - 1-5/4"
13	ACCESS COVER AS SUPPLIED BY PUMP MFR.	14 - 1
14	PRESSURE GAUGE W/APURTENANCES AS SPECIFIED	



NOTES

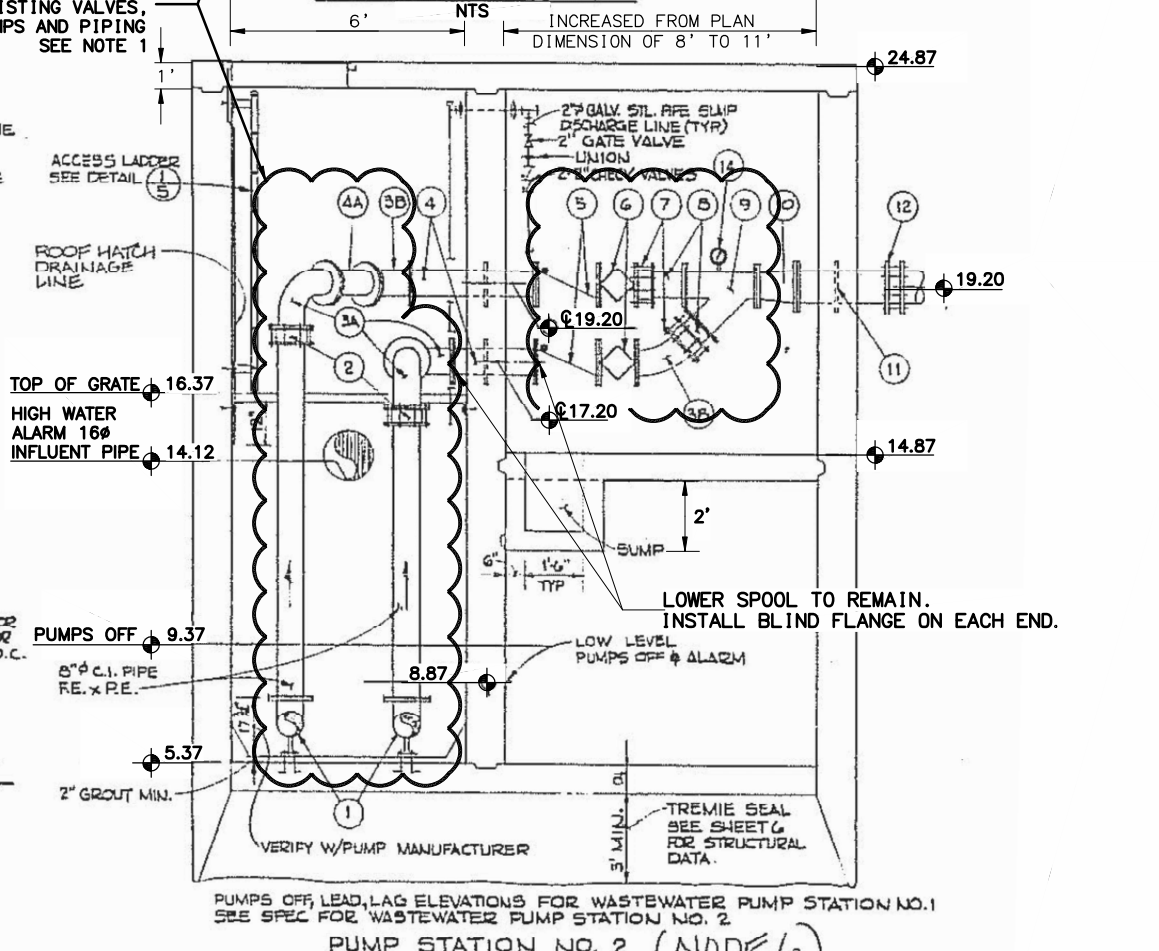
- REMOVE ALL DEMOLISHED EQUIPMENT AND MATERIALS COMPLETELY FROM THE SITE. ALL DEMOLISHED ITEMS AND MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR.
- REMOVE VENTILATION FAN AND DUCTWORK FROM THE WET WELL AND DRY WELL.
- UNLESS OTHERWISE NOTED, ELECTRICAL POWER AND CONTROL WIRING CONDUITS CONNECTING TO DEMOLISHED EQUIPMENT, WHICH IS NOT TO BE REPLACED, SHALL HAVE CONDUCTORS AND ANY EXPOSED CONDUITS DISCONNECTED, REMOVED AND DISPOSED. CONDUIT SHALL BE CUT FLUSH WITH CONCRETE SURFACES AND FILLED WITH GROUT.

- SUMP PUMP AND ASSOCIATED PIPING AND WIRING SHALL BE REMOVED AND THE SUMP SHALL BE FILLED WITH GROUT.
- REMOVE ACCESS LADDER AND PLATFORM FROM THE WETWELL.
- PROTECT IN PLACE TOP SPOOL PIPE BETWEEN WET WELL AND DRY WELL AND THE PIPE SPOOL EXITING THE DRY WELL.
- PROTECT IN PLACE INFLUENT PIPE AND BAFFLE IN WET WELL.

1. REMOVE ALL DEMOLISHED EQUIPMENT AND MATERIALS COMPLETELY FROM THE SITE. ALL DEMOLISHED ITEMS AND MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

2. REMOVE VENTILATION FAN AND DUCTWORK FROM THE WET WELL AND DRY WELL.

3. UNLESS OTHERWISE NOTED, ELECTRICAL POWER AND CONTROL WIRING CONDUITS CONNECTING TO DEMOLISHED EQUIPMENT, WHICH IS NOT TO BE REPLACED, SHALL HAVE CONDUCTORS AND ANY EXPOSED CONDUITS DISCONNECTED, REMOVED AND DISPOSED. CONDUIT SHALL BE CUT FLUSH WITH CONCRETE SURFACES AND FILLED WITH GROUT.



PUMPS OFF LEAD, LAG ELEVATIONS FOR WASTEWATER PUMP STATION NO. 1 SEE SPEC FOR WASTEWATER PUMP STATION NO. 2

PUMP STATION NO. 2 (NODE 6) SECTION B-B N.T.S. (VERTICAL) 4

DATA	BY	REVISIONS	DESCRIPTION
San. Sewer			
Storm Sewer			
Water			
Telephone			
Electric			
Cable TV			
Embasment			
Footing Elev.			
Approved			

ADOPTED AUGUST 1992

DOWL HKM

4041 B STREET
ANCHORAGE, ALASKA 99503
PHONE 907-562-2000
FAX 907-563-3953

CONSULTANT

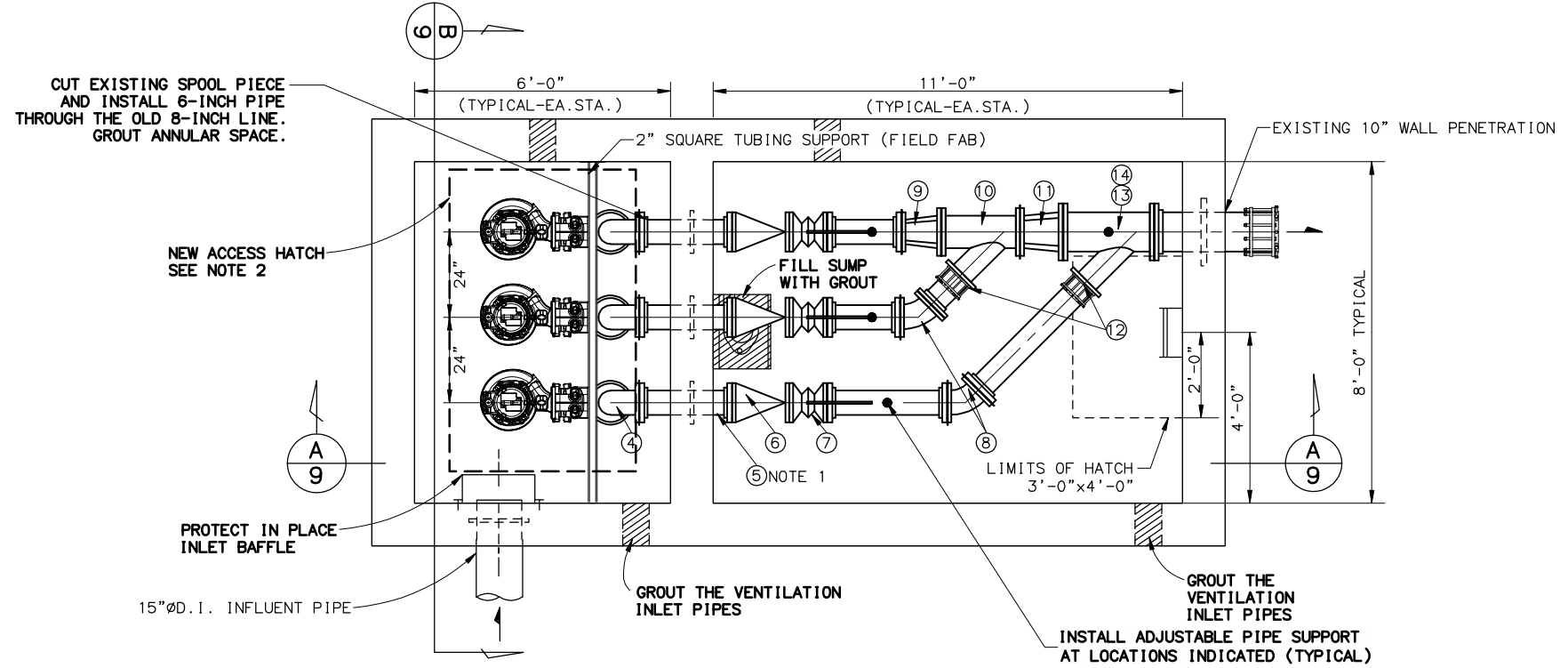
**WRANGELL SEMWER PUMPS REPLACEMENT PROJECT
PUMP STATIONS 4 & 6 IMPROVEMENTS**

DEMOLITION PLAN
WRANGELL, ALASKA

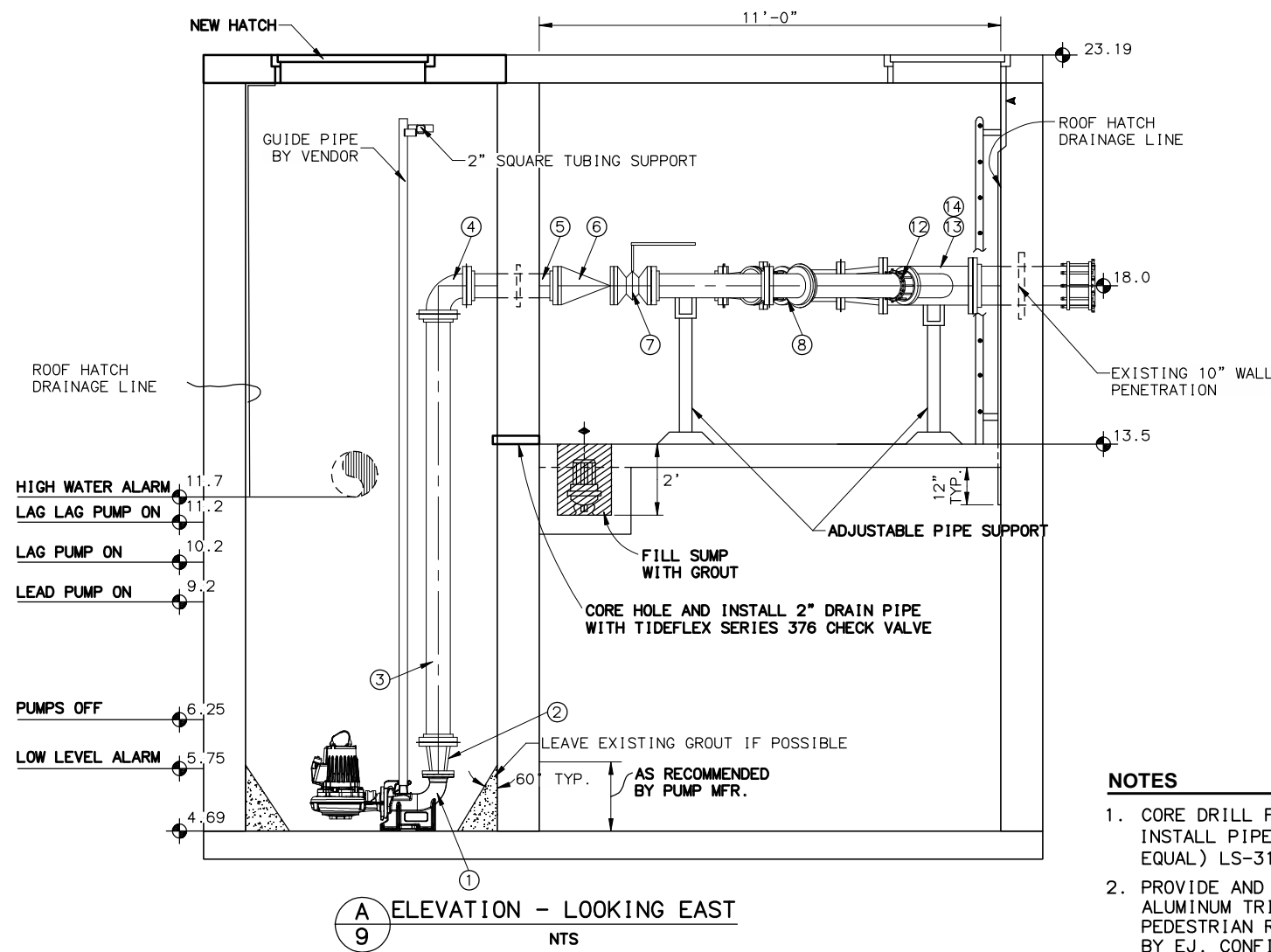
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LOCATION: WRANGELL

PN: -
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SHEET: M1.0
8 OF 27

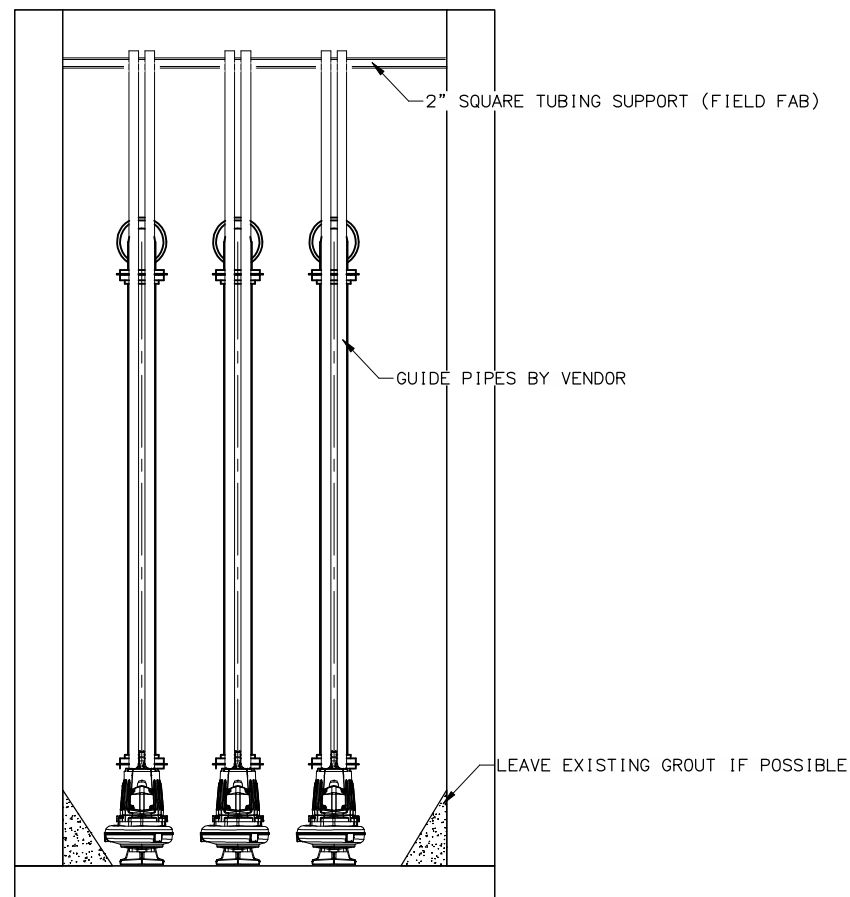
MATERIALS LIST		
ITEM No.	QTY.	ITEM
1	3	4" DISCHARGE ELBOW BY PUMP VENDOR
2	3	4"x6" D.I. REDUCER
3	3	6" D.I. PIPE
4	3	6" D.I. SHORT RADIUS ELBOW
5	2	WALL PENETRATIONS (NOTE 1)
6	3	6" CHECK VALVE
7	3	6" PLUG VALVE (SHORT BODY)
8	2	6" 45° ELBOW
9	1	6"x8" REDUCER
10	1	8"x8"x6" REDUCING WYE
11	1	8"x10" REDUCER
12	2	6" FLEXIBLE ADAPTORS (IF NEEDED)
13	1	10"x10"x6" REDUCING WYE
14	1	PRESSURE GAUGE W/ APPURTENANCES AS SPECIFIED



NOTE 4 - PLAN VIEW



A ELEVATION - LOOKING EAST
NTS



B ELEVATION - LOOKING SOUTH
NTS

NOTES

1. CORE DRILL FOR TWO NEW WALL PENETRATIONS. INSTALL PIPE THROUGH WALL USING LINK-SEAL® (OR EQUAL) LS-316 MODULAR SEAL.
2. PROVIDE AND INSTALL A NEW 48"x84" CLEAR OPENING ALUMINUM TRIPLEX ACCESS HATCH. HATCH SHALL BE A PEDESTRIAN RATED STYLE ECT-AOSH AS MANUFACTURED BY E.J. CONFIRM EXACT LOCATION WITH PUMP SUPPLIER PRIOR TO POURING NEW CONCRETE.

NO.	DATE	DESCRIPTION	BY



DOWL HKM
 4041 B STREET
 ANCHORAGE, ALASKA 99503
 PHONE 907-562-2000
 FAX 907-563-3953

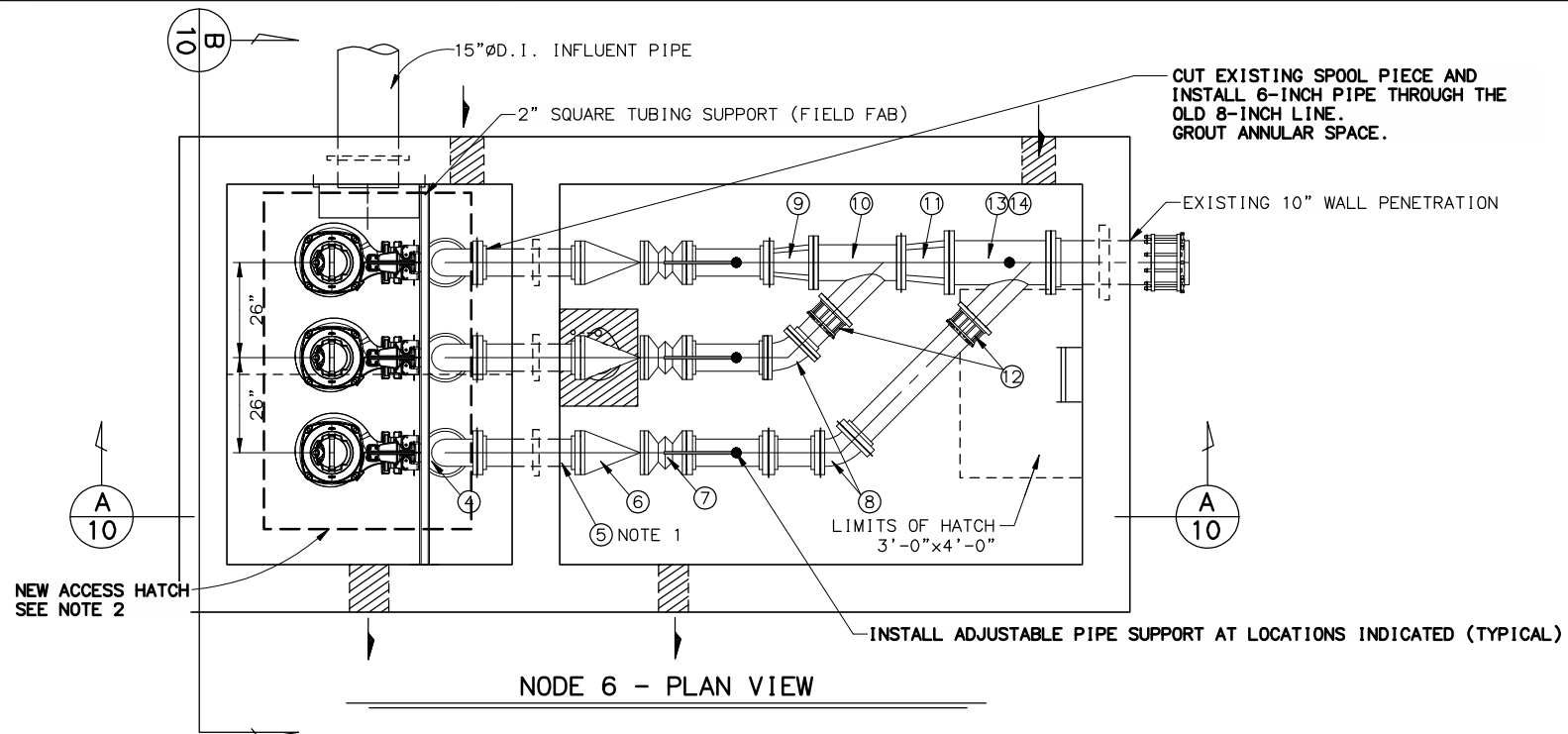


WRANGELL SEWER PUMPS REPLACEMENT PROJECT
 PUMP STATIONS 4 & 6 IMPROVEMENTS
 NODE 4 MECHANICAL DETAILS
 WRANGELL, ALASKA

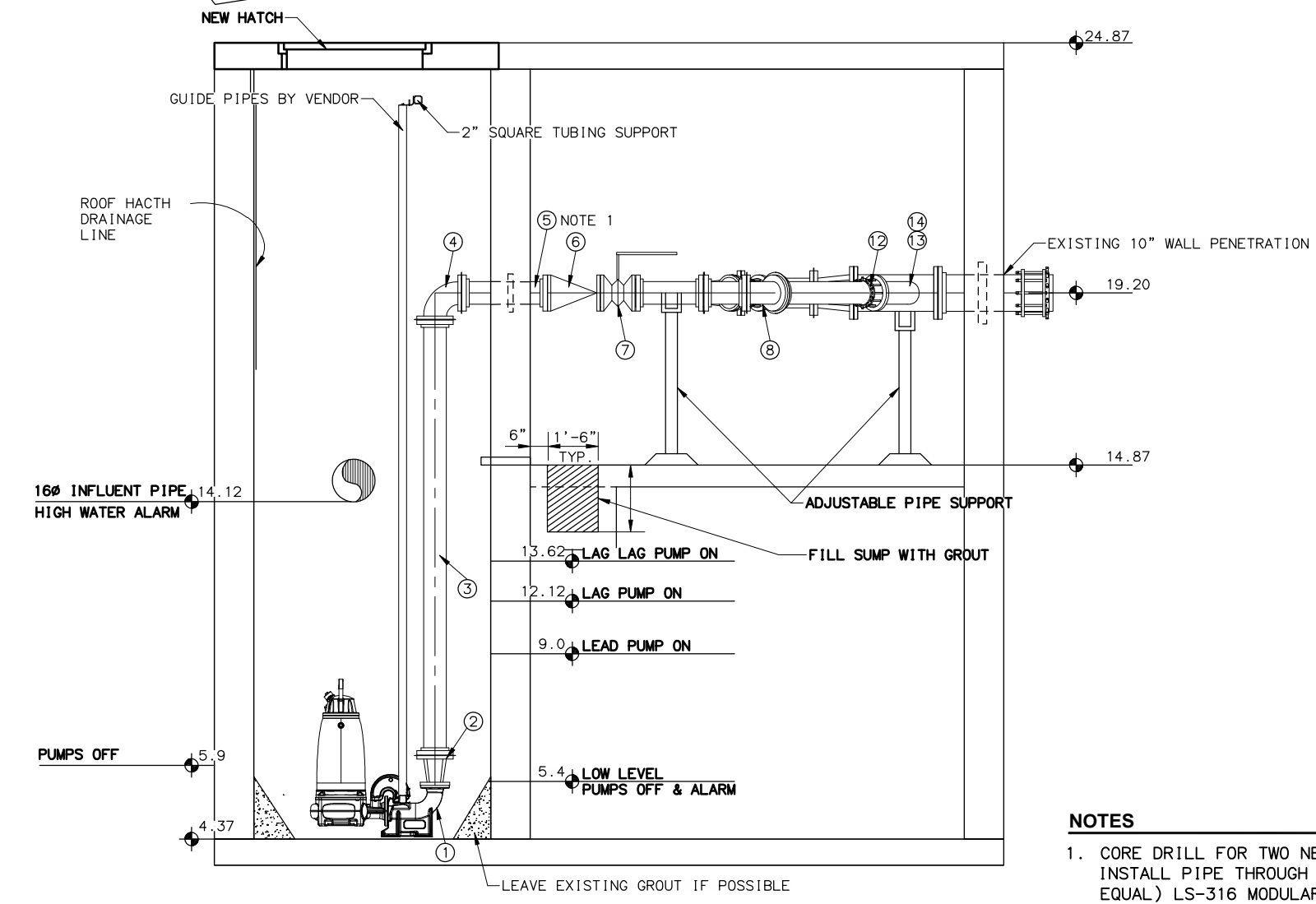
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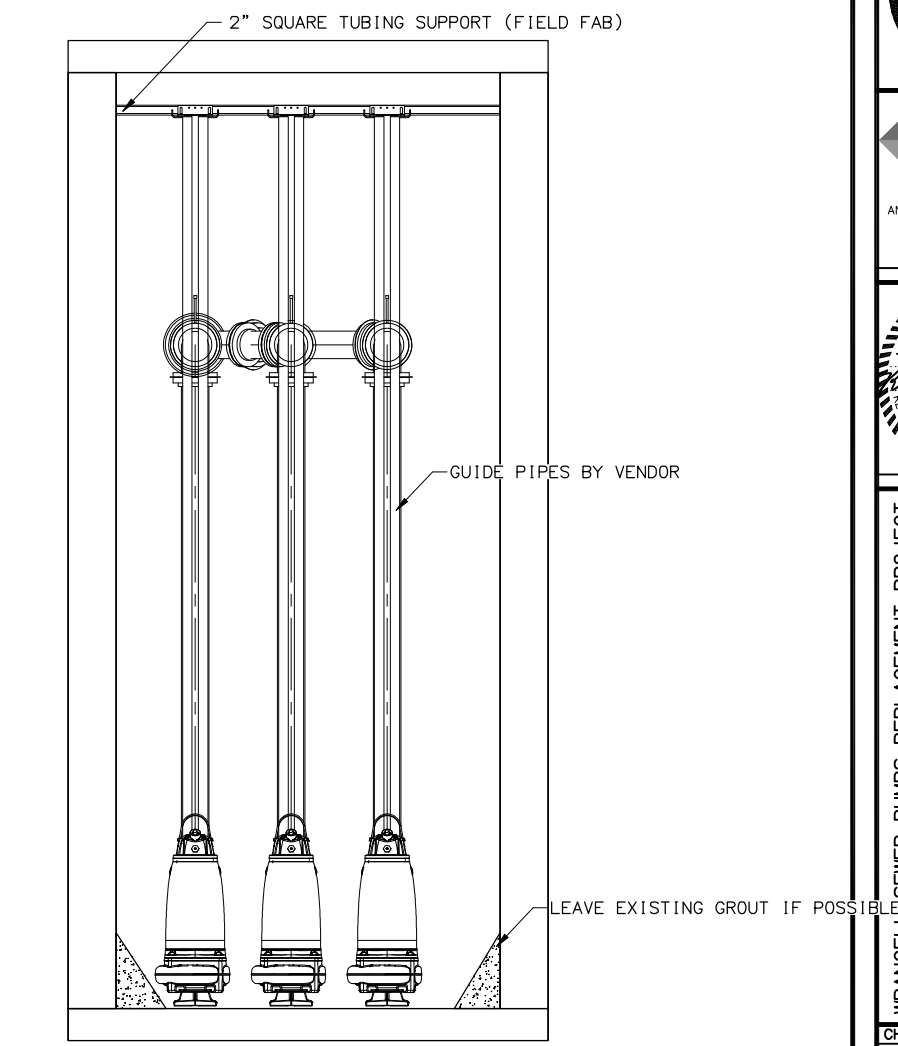


NODE 6 - PLAN VIEW



A ELEVATION - LOOKING EAST NTS

MATERIALS LIST		
ITEM No.	QTY.	ITEM
1	3	4" DISCHARGE ELBOW BY PUMP VENDOR
2	3	4"x6" D.I. REDUCER
3	3	6" D.I. PIPE
4	3	6" D.I. SHORT RADIUS ELBOW
5	2	WALL PENETRATIONS (NOTE 1)
6	3	6" CHECK VALVE
7	3	6" PLUG VALVE (SHORT BODY)
8	2	6" 45° ELBOW
9	1	6"x8" REDUCER
10	1	8"x8"x6" REDUCING WYE
11	1	8"x10" REDUCER
12	2	6" FLEXIBLE ADAPTORS (IF NEEDED)
13	1	10"x10"x6" REDUCING WYE
14	1	PRESSURE GAUGE W/ APPURTENANCES AS SPECIFIED



B ELEVATION - LOOKING SOUTH NTS

NOTES

- CORE DRILL FOR TWO NEW WALL PENETRATIONS. INSTALL PIPE THROUGH WALL USING LINK-SEAL® (OR EQUAL) LS-316 MODULAR SEAL.
- PROVIDE AND INSTALL A NEW 48"x84" CLEAR OPENING ALUMINUM TRIPLEX ACCESS HATCH. HATCH SHALL BE A PEDESTRIAN RATED STYLE ECT-AOSH AS MANUFACTURED BY EJ. CONFIRM EXACT LOCATION WITH PUMP SUPPLIER PRIOR TO POURING NEW CONCRETE.

DATA

San. Sewer	✓
Storm Sewer	✓
Water	✓
Telephone	✓
Electric	✓
Cable TV	✓
Emasements	✓
Footings Elev.	✓
Approved	✓

WRANGELL
 ROADWAY TO THE FUTURE
 ADOPTED AUGUST 1992

DOWL HKM
 4041 B STREET
 ANCHORAGE, ALASKA 99503
 PHONE 907-562-2000
 FAX 907-563-3953

CONSULTANT

STATE OF ALASKA
 49TH
 Raymond L. Armstrong
 CE-12437
 8-7-15
 REGISTERED PROFESSIONAL ENGINEER
 STAMP

WRANGELL SEWER PUMPS REPLACEMENT PROJECT
 PUMP STATIONS 4 & 6 IMPROVEMENTS

NODE 6 MECHANICAL DETAILS

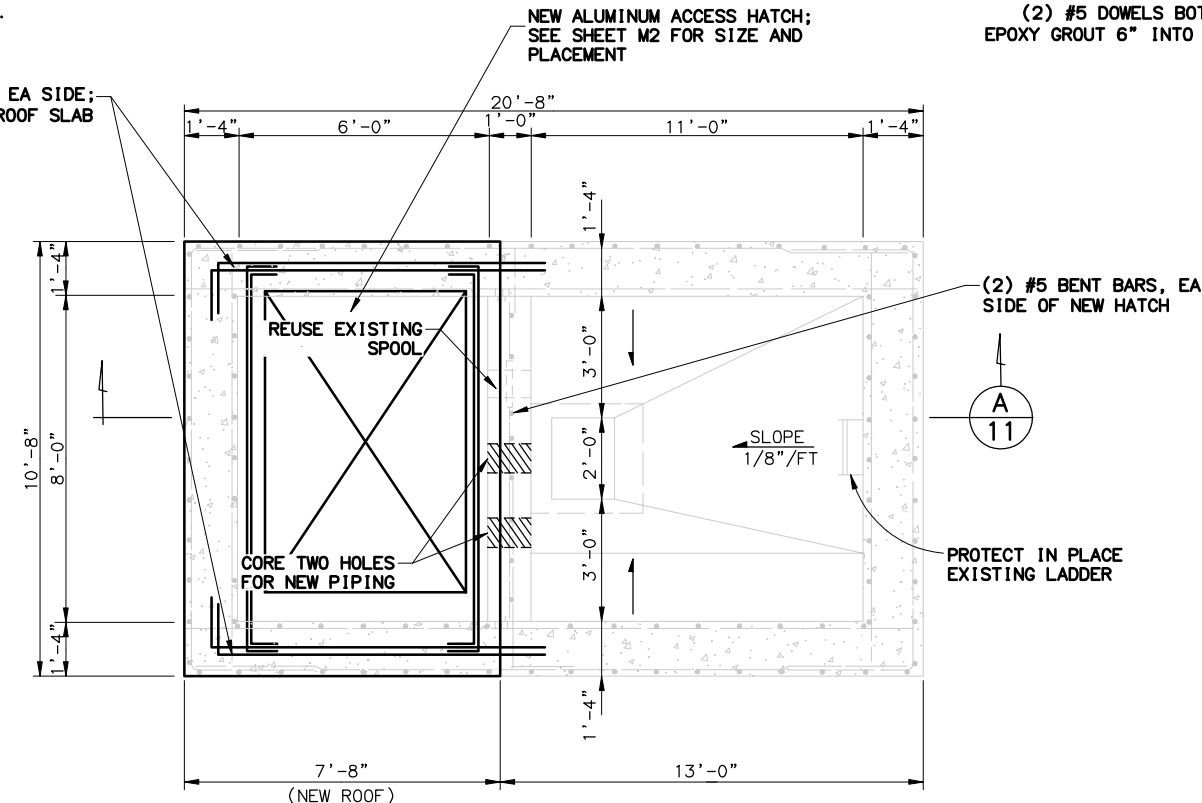
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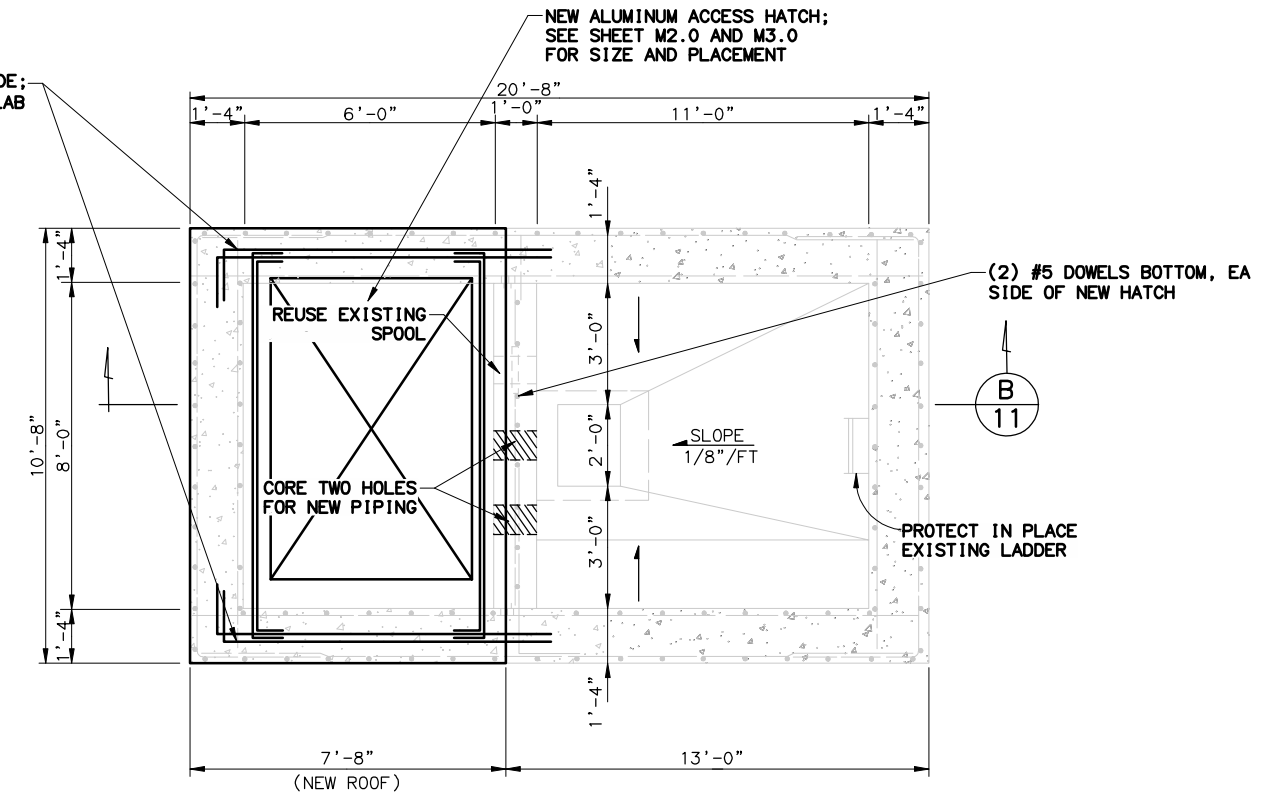
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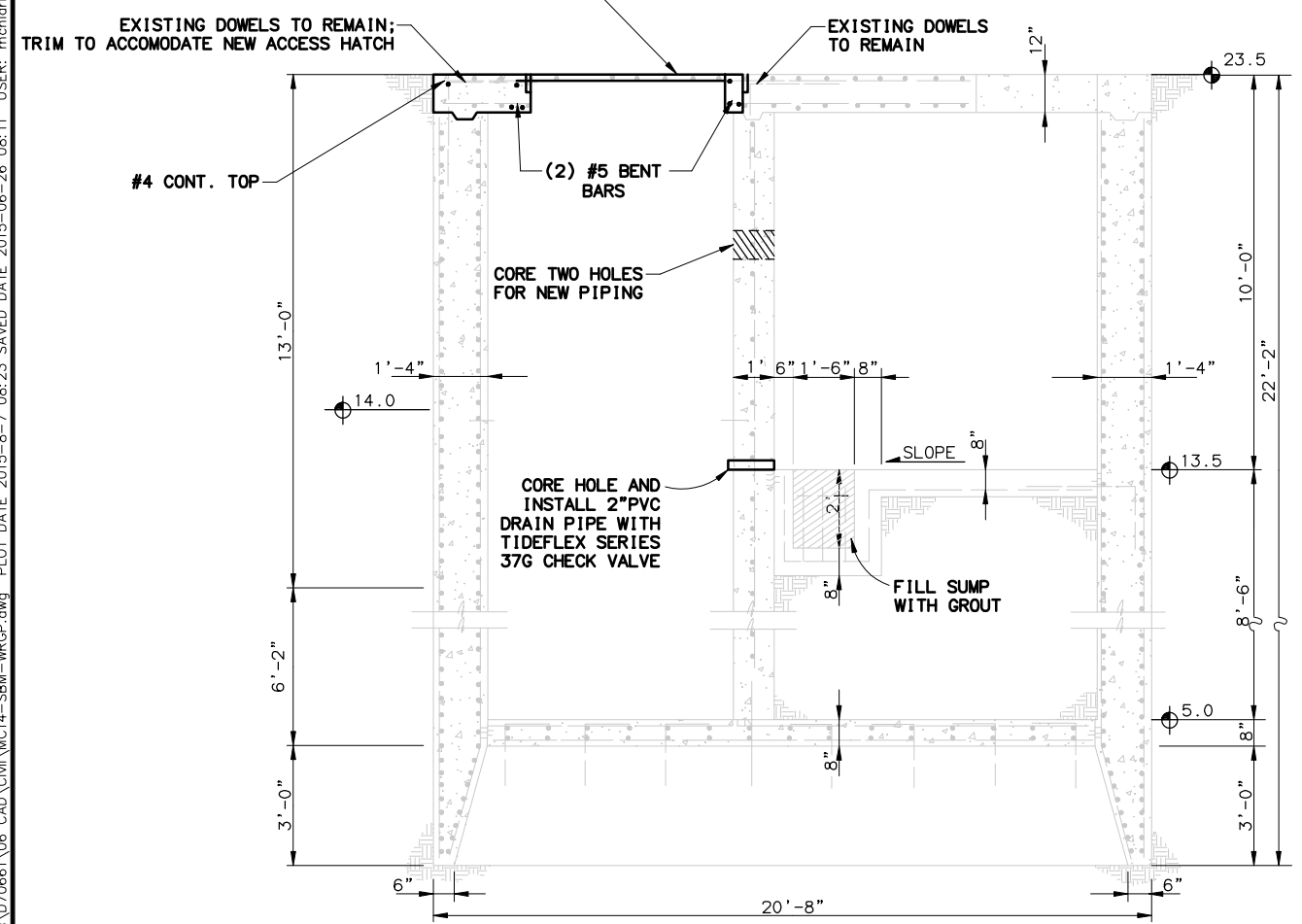
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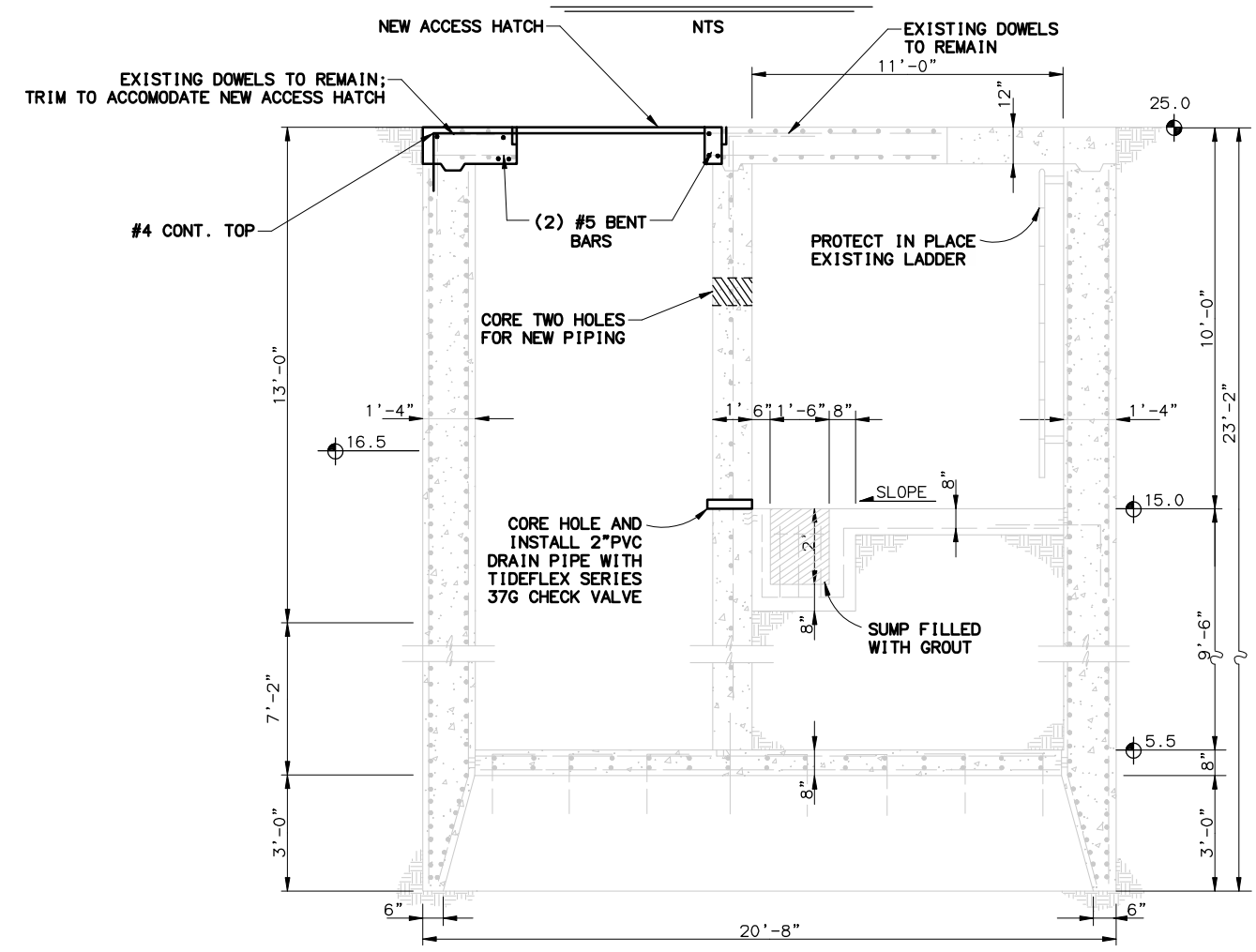
VAULT PLAN - NODE 4
NTS



VAULT PLAN - NODE 6
NTS



VAULT SECTION - NODE 4
NTS



VAULT SECTION - NODE 6
NTS

BY		DESCRIPTION		REVISIONS		REV	DATE	Vertical Datum:		
DATA	/BY	Son. Sewer	Storm Sewer	Water	Telephone	Electric	Cable TV	Easements	Footings Elev.	Approved

DOWL HKM

4041 B STREET
ANCHORAGE, ALASKA 99503
PHONE 907-562-2000
FAX 907-563-3953

CONSULTANT



































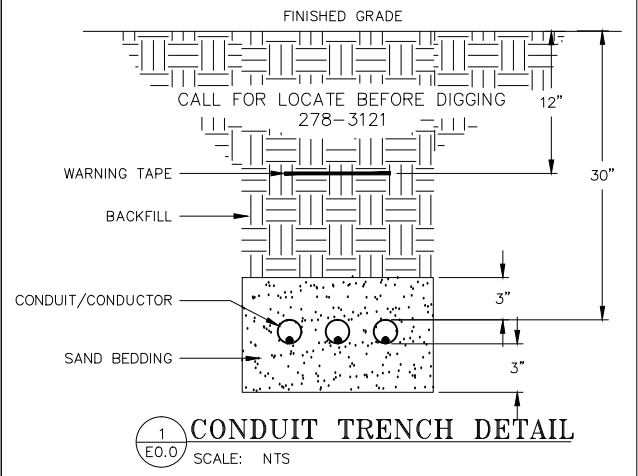












WRANGELL SEWER PUMPS REPLACEMENT PROJECT
PUMP STATIONS 4 & 6 IMPROVEMENTS

NODE 4 & 6 VAULT DETAILS



WRANGELL, ALASKA

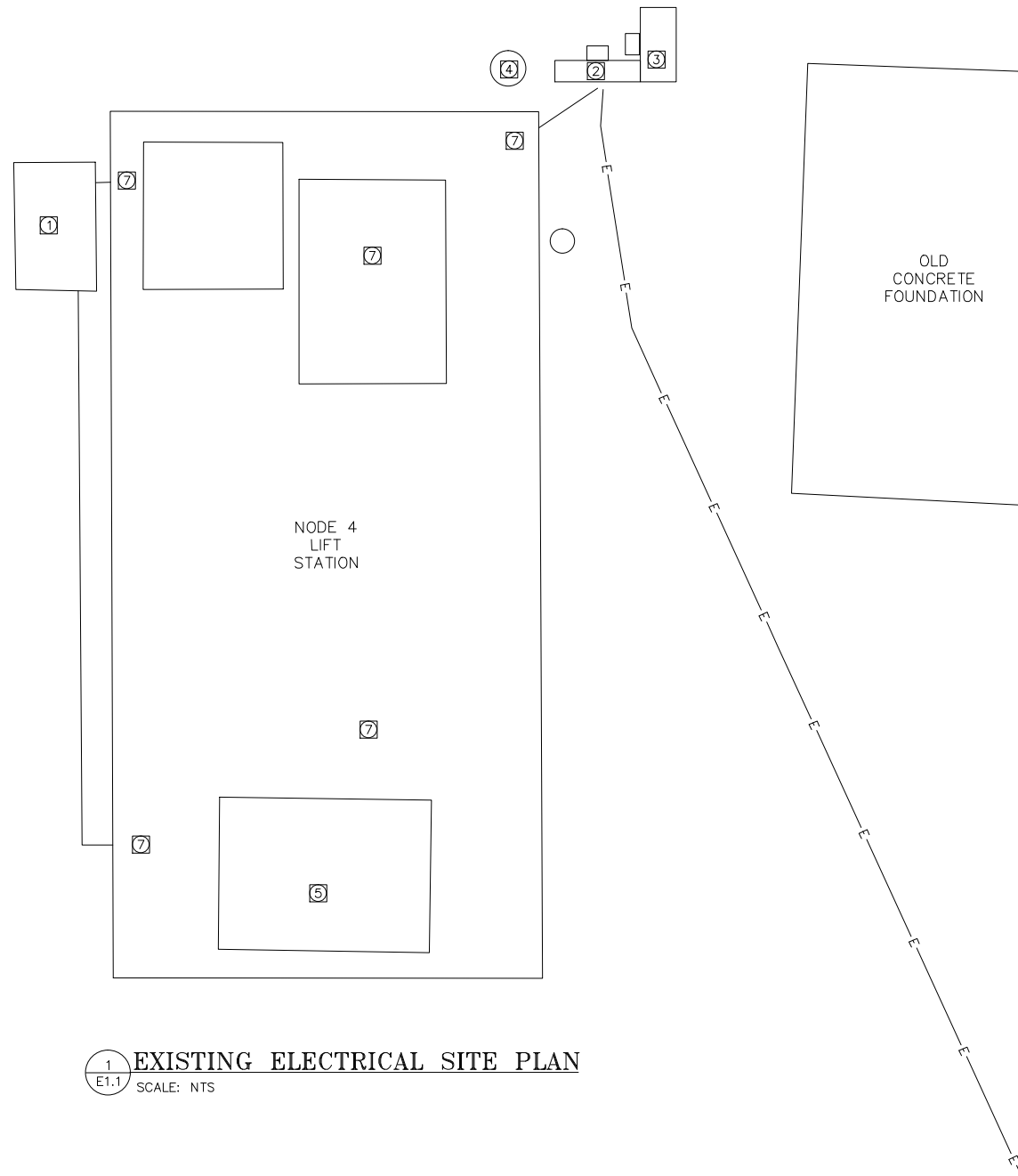
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PN	
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SHEET	S1.0
11 OF 27	

DRAWING FILE NO: 235-01
JOB: 4-0188-Wrangell Sewer Pump Station Replacement
DATE: 09/04/2015
DRAWN BY: DAH

GENERAL		SPECIAL SYSTEMS		POWER			
SYMBOL DESCRIPTION		SYMBOL DESCRIPTION		SYMBOL DESCRIPTION			
SHEET NOTE CONVENTION		 TELECOMMUNICATION OUTLET – WALL MOUNTED (X DENOTES NUMBER OF PORTS IF OTHER THAN 2)  FIRE ALARM MANUAL PULL STATION  FIRE ALARM STROBE – WALL MOUNTED  FIRE ALARM STROBE – CEILING MOUNTED  FIRE ALARM HORN – WALL MOUNTED  FIRE ALARM HORN – CEILING MOUNTED  FIRE ALARM SPEAKER – WALL MOUNTED  FIRE ALARM SPEAKER – CEILING MOUNTED  BELL – WALL MOUNTED  FIRE ALARM HORN/STROBE – WALL MOUNTED  FIRE ALARM HORN/STROBE – CEILING MOUNTED  CO (CARBON MONOXIDE) DETECTOR  PHOTOELECTRIC SMOKE DETECTOR  MULTI-TECHNOLOGY SMOKE DETECTOR  HEAT DETECTOR  FIRE ALARM CONTROL PANEL  PUSHBUTTON – EMERGENCY		 DUPLEX RECEPTACLE  DUPLEX RECEPTACLE WITH GFCI PROTECTION  DOUBLE DUPLEX RECEPTACLE  DOUBLE DUPLEX RECEPTACLE WITH GFCI PROTECTION  DUPLEX RECEPTACLE – CEILING MOUNTED  MULTIPOLE RECEPTACLE: TYPE AS SHOWN  MOTOR  FUSED DISCONNECT  FUSED DISCONNECT  COMBINATION STARTER/FUSED DISCONNECT  STARTER OR CONTACTOR  SMALL MOTOR DISCONNECT: 20A HP RATED SWITCH.  JUNCTION BOX AND/OR CONNECTION TO EQUIPMENT  JUNCTION BOX AND/OR CONNECTION  PANEL – SURFACE MOUNTED  PANEL – SURFACE MOUNTED  TRANSFORMER		 <p>FINISHED GRADE CALL FOR LOCATE BEFORE DIGGING 278-3121 WARNING TAPE BACKFILL CONDUIT/CONDUCTOR SAND BEDDING 12" 30" 3" 3" CONDUIT TRENCH DETAIL SCALE: NTS</p>	
LINE NOTE CONVENTION		ABBREVIATIONS AFF ABOVE FINISHED FLOOR AFG ABOVE FINISHED GRADE APPROX APPROXIMATE AHJ AUTHORITY HAVING JURISDICTION CKT CIRCUIT CONDUIT CONDUIT ONLY A.O. COPPER CU DEMOLISH D DECIBEL DB EMERGENCY LIGHT EL EMERGENCY LIGHTING UNIT ELU EMERGENCY NIGHT LIGHT ENL EXISTING (F) FUTURE HZ FREQUENCY HP HORSEPOWER IAW IN ACCORDANCE WITH KVA KILO VOLT-AMPS KW KILOWATT MDS MAIN DISTRIBUTION SWITCHBOARD MIN MINIMUM NEC NATIONAL ELECTRICAL CODE NFPA NATIONAL FIRE PROTECTION ASSOCIATION NL NIGHT LIGHT NC NORMALLY CLOSED NO NORMALLY OPEN N/A NOT APPLICABLE NIC NOT IN CONTRACT NTS NOT TO SCALE OFCI OWNER FURNISHED, CONTRACTOR INSTALLED NTS NOT TO SCALE OFCI OWNER FURNISHED, CONTRACTOR INSTALLED OFOI OWNER FURNISHED, OWNER INSTALLED PH PHASE (ELECTRICAL) PLC PROGRAMMABLE LOGIC CONTROLLER PMCS POWER MONITORING CONTROLLER SMR SURFACE MOUNTED RACEWAY SPD SURGE PROTECTIVE DEVICE TCS TERMINAL CONSTRUCTION STANDARDS TYP TYPICAL UON UNLESS OTHERWISE NOTED VSD VARIABLE SPEED DRIVE VAC VOLTS (ALTERNATING CURRENT) VDC VOLTS (DIRECT CURRENT) V VOLTS OR VOLTAGE W WATT WP WEATHERPROOF					
BRANCH CIRCUIT HOMERUN TO PANELBOARD							
NUMBER OF MARKS INDICATE NUMBER OF CONDUCTORS IN RACEWAY, NOT COUNTING GROUNDING CONDUCTORS. (ABSENCE OF MARKS INDICATE TWO CONDUCTORS, PLUS GROUND, SIZED PER NEC) NUMBER OF ARROWS INDICATE NUMBER OF CIRCUITS UNSWITCHED CONDUCTORS SHOWN ON HOMERUN SIDE OF NEUTRAL NEUTRAL SWITCHED CONDUCTORS SHOWN ON LOAD SIDE OF NEUTRAL							
LIGHTING							
 LIGHTING FIXTURE, LINEAR LAMP(S)  LIGHTING FIXTURE – WALL MOUNTED  LIGHTING FIXTURE – SURFACE OR PENDANT MOUNTED  LIGHTING FIXTURE – RECESS MOUNTED  LIGHTING FIXTURE CONNECTED TO EMERGENCY POWER CIRCUIT  EXIT FIXTURE – WALL MOUNTED  EXIT FIXTURE – CEILING MOUNTED  EMERGENCY LIGHTING UNIT – WALL MOUNTED (FIXTURE TYPE XA)  EMERGENCY LIGHTING UNIT – REMOTE HEAD  EMERGENCY LIGHTING UNIT – REMOTE HEAD  SINGLE POLE SWITCH  THREE-WAY SWITCH							
NOTE: THIS IS A STANDARD LEGEND. NOT ALL SYMBOLS ARE USED IN THE DRAWINGS							

- SCOPE OF WORK**
- PUMP STATION 6 ALL ELECTRICAL AND CONTROLS WORK COMPLETE.
 PUMP STATION 4 ALL ELECTRICAL AND CONTROLS WORK COMPLETE.
- FURNISH AND INSTALL ALL MATERIAL AND EQUIPMENT AS INDICATED ON THE DRAWINGS AND SPECIFICATIONS. PROVIDE COMPLETE AND WORKING SYSTEMS. SECURE AND PAY FOR ALL FEES, PERMITS, ETC., REQUIRED BY FEDERAL, STATE AND LOCAL AGENCIES AND ALL LOCAL UTILITY COMPANIES.
- GENERAL NOTES:**
- FURNISH AND INSTALL ALL MATERIAL AND EQUIPMENT AS INDICATED ON THESE DRAWINGS AND SPECIFICATIONS. PROVIDE COMPLETE AND WORKING SYSTEMS. SECURE AND PAY FOR ALL FEES, PERMITS, ETC., REQUIRED BY FEDERAL, STATE AND LOCAL AGENCIES AND ALL LOCAL UTILITY COMPANIES.
 - THESE SHEET SPECIFICATIONS REITERATE AND SUPPLEMENT THE WRITTEN SPECIFICATIONS FOR CONTRACTORS CONVENIENCE. REFER TO PROJECT ELECTRICAL AND SCADA SPECIFICATIONS MANUAL FOR FULL SPECIFICATIONS. ALL WORK SHALL BE INSTALLED AND GROUNDED IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRIC CODE, NFPA 70, AND AS AMENDED BY THE STATE OF ALASKA AND THE CITY AND BOROUGH OF WRANGELL.
 - THE DRAWINGS ARE DIAGRAMMATIC, NOT NECESSARILY SHOWING ALL JUNCTION BOXES OR EXACT LOCATIONS OF CONDUIT OR EQUIPMENT UNLESS SPECIFICALLY DIMENSIONED. THEREFORE, THE CONTRACTOR SHALL, PRIOR TO COMMENCEMENT OF WORK, FIELD VERIFY CONDUIT, EQUIPMENT & FIXTURE LOCATIONS, COORDINATE LOCATIONS WITH OTHER TRADES EQUIPMENT, MECHANICAL CONNECTIONS, AND FINISH REQUIREMENTS. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS SHOWN ON THE DRAWINGS.
 - THE CONTRACTOR SHALL PROVIDE ALL MATERIALS AND LABOR NECESSARY FOR INSTALLATION OF WORK AS INDICATED ON DRAWINGS.
 - ALL ELECTRICAL WORK SHALL BE PERFORMED BY LICENSED ELECTRICIANS. WORK SHALL BE DONE IN A NEAT AND WORKMANLIKE MANNER IN ACCORDANCE WITH NFPA 70 AND NECA 1-2000.
 - CONTRACTORS SHALL PROVIDE SUBMITTALS FOR ALL SYSTEMS AND EQUIPMENT INSTALLED. ALL SUBMITTALS REQUIRED TO BE APPROVED BY CONSTRUCTION MANAGER PRIOR TO EQUIPMENT INSTALLATION. SUBMIT TO CONSTRUCTION MANAGER. PROVIDED SUBMITTALS AS SPECIFIED IN SECTION 01300 SUBMITTALS.
 - CONTRACTOR SHALL PROVIDE OPERATIONS AND MAINTENANCE TECHNICAL MANUALS PER AS SPECIFIED IN SECTION 01300 SUBMITTALS.
 - THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A COMPLETE AND OPERABLE PUMP CONTROL SYSTEM INCLUDING ALL CONTROL PANELS, SENSORS, CONTROL SYSTEM INTEGRATION, PROGRAMMING, TESTING AND TROUBLESHOOTING. SEE SPECIFICATIONS FOR FURTHER CONTROL REQUIREMENTS.
 - ELECTRICAL COMPONENTS, DEVICES, AND ACCESSORIES SHALL BE LISTED AND LABELED AS DEFINED IN NFPA 70, ARTICLE 100, BY A TESTING AGENCY ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION, AND MARKED FOR INTENDED USE. ANY MODIFICATIONS TO LISTED EQUIPMENT SHALL REQUIRE RE-LISTING PRIOR TO INSTALLATION. LISTED EQUIPMENT WHICH HAS BEEN FACTORY OR FIELD MODIFIED AND NOT RE-LISTED SHALL BE REPLACED WITH LISTED EQUIPMENT OR FIELD INSPECTED AND LISTED AT CONTRACTORS EXPENSE.
 - ALL POWER WIRING SINGLE CONDUCTORS IN CONDUIT. ALL CONDUCTORS SHALL BE XHHW-2. AN EQUIPMENT GROUNDING CONDUCTOR SHALL BE RUN WITH ALL LINE VOLTAGE CIRCUITS.
 - INSTRUMENTATION AND CONTROL CABLES SHALL BE AS REQUIRED BY THE SPECIFICATIONS OR AS RECOMMENDED BY PRODUCT MANUFACTURER.
 - ALL CONDUITS SHALL BE INSTALLED IN CONDUIT. SEPARATE CONDUITS SHALL BE PROVIDED FOR POWER (120V OR HIGHER), ANALOG SIGNAL WIRING, AND 24V DISCRETE SIGNAL AND INSTRUMENTATION POWER.
 - ALL CONDUITS SHALL BE PVC COATE RIGID GALVANIZED STEEL. UNDERGROUND CONDUITS SHALL BE PVC COATED RIGID GALVANIZED STEEL. RACEWAY BODIES AND DEVICE ENCLOSURES AND COVERS SHALL BE PVC COATED GALVANIZED CAST IRON. FLEXIBLE CONNECTIONS SHALL BE NO MORE THAN THREE FOOT IN LENGTH UTILIZING LFMC WITH APPROPRIATE LIQUIDTIGHT FITTINGS. DAMAGE TO FINISH OF CONDUIT SYSTEM COMPONENTS SHALL BE REPAIRED OR REPLACED.
 - ALL POWER SPLICES AND INSTRUMENT OR CONTROLS LEADS SHALL BE TERMINATED IN CROUSE-HINDS GUA STYLE JUNCTION BOXES.
 - EXPOSED CONDUIT SHALL BE INSTALLED PARALLEL OR PERPENDICULAR TO WALLS OR OTHER STRUCTURAL MEMBERS. CONDUIT STUB-UPS SHALL NOT BE MORE THAN 6" FROM THE CENTERLINE OF TERMINAL BOXES.
 - CONNECTIONS BETWEEN RIGID CONDUIT AND MOTOR TERMINAL BOXES OR OTHER EQUIPMENT SUBJECT TO VIBRATION SHALL BE LIQUIDTIGHT FLEXIBLE METAL CONDUIT.
 - ONLY MAJOR JUNCTION/PULL BOXES AND EQUIPMENT ARE SHOWN. THE CONTRACTOR SHALL PROVIDE ADDITIONAL JUNCTION BOXES WHERE REQUIRED FOR A COMPLETE AND OPERABLE SYSTEM.
 - ALL SURFACE MOUNTED PANELS AND PANELBOARDS AT INTERIOR OR EXTERIOR LOCATIONS SHALL BE MOUNTED SO AS TO MAINTAIN A 1/4" (MIN.) AIR SPACE BETWEEN THE ENCLOSURE AND THE WALL BEHIND. ALL WIRING DEVICES SHALL BE SPECIFICATIONS GRADE AND RATED FOR THE CIRCUIT.
 - ENCLOSURES: INTERIOR ENCLOSURES NEMA 1. EXTERIOR SERVICE EQUIPMENT TO BE NEMA 3R MIN. EXTERIOR CONTROL AND EXPLOSIONPROOF ENCLOSURES SHALL BE NEMA 4X STAINLESS STEEL. ALL ENCLOSURES SHALL HAVE HINGED COVERS.
 - PROVIDE WARNING LABELS ON SERVICE PANEL AND MCC AS REQUIRED BY NEC 110-16. PROVIDE WEATHERPROOF WARNING LABELS AT EXTERIOR LOCATIONS.
 - ELECTRICAL CONTRACTOR AND SCADA INTEGRATOR SHALL BE RESPONSIBLE FOR SUBMITTING OPERATIONS AND MAINTENANCE TECHNICAL MANUALS AS REQUIRED BY THE SPECIFICATIONS.
 - ALL ABOVE GRADE EXTERIOR HARDWARE, SUPPORTS, STRUT, BOLTS, NUTS, FASTENERS, ETC., SHALL BE HOT DIP GALVANIZED OR STAINLESS STEEL. BELOW GRADE OR IN WET WELL SHALL BE STAINLESS STEEL.

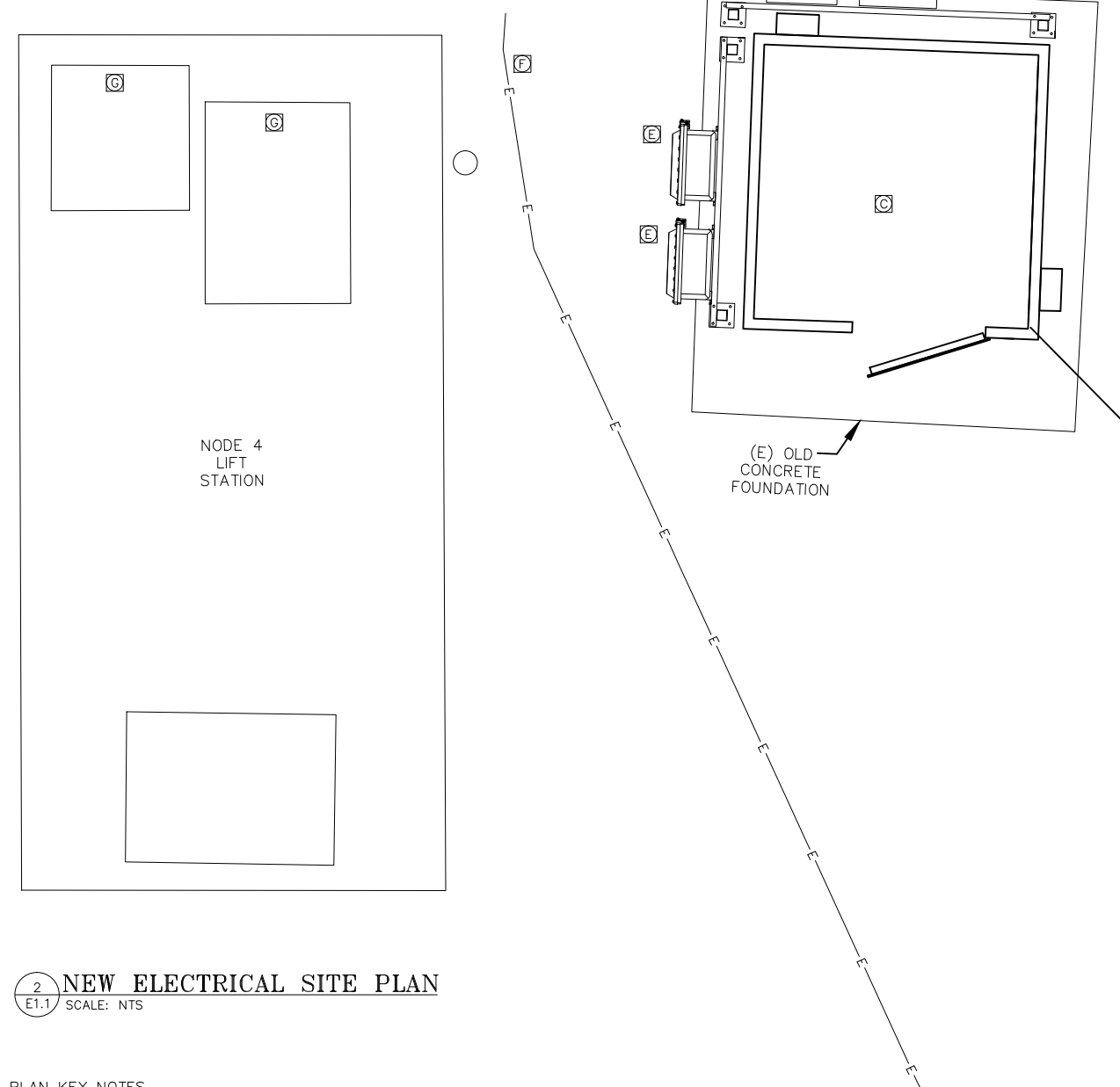
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CONSULTANT			
 <p>STATE OF ALASKA 49TH David Hill EE-10223 09/04/2015 REGISTERED PROFESSIONAL ENGINEER</p>			
STAMP			
WRANGELL SEWER PUMPS REPLACEMENT PROJECT			
PUMP STATIONS 4 & 6 IMPROVEMENTS			
ELECTRICAL AND SCADA			
LEGEND, DETAILS & NOTES			
WRANGELL, ALASKA			
CHECKED BY			
DESIGNED BY DAH			
DRAWN BY DAH			
DATE 09/04/2015			
LOCATION			
PN			
FILE NO.			
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12 OF 27			



1 EXISTING ELECTRICAL SITE PLAN
E1.1 SCALE: NTS

EXISTING SITE PLAN KEY NOTES

- 1 DEMO EXISTING UNDERGROUND JUNCTION BOX AND WIRING TO PUMPS.
- 2 DEMO EXISTING ELECTRICAL SERVICE AND SUPPORT STRUCTURE.
- 3 EXISTING TRANSFERS SWITCH AND GENERATOR RECEPTACLE. REMOVE AND STORE FOR REUSE.
- 4 EXISTING SCADA ANTENNA AND SUPPORT STRUCTURE. REMOVE AND STORE EXISTING ANTENNA, CABLE, AND ACCESSORIES FOR REUSE. DEMO EXISTING SUPPORT STRUCTURE.
- 5 SEE EXISTING DRY WELL DEMO PLAN FOR INTERIOR DEMO.
- 6 EXISTING UNDERGROUND ELECTRICAL SERVICE CABLE. COORDINATE WITH LOCAL UTILITY FOR DISCONNECTS AND SERVICE TO NEW EQUIPMENT.
- 7 AT ALL WET AND DRY WELL PENETRATIONS: SEAL ALL UNUSED PENETRATIONS WITH WATER PROOF GROUT. REMOVE ANY WIRING OR OTHER DEBRIS PRIOR TO GROUTING. REMOVE CONDUITS IF POSSIBLE. WHERE REMOVAL OF CONDUIT IS NOT POSSIBLE CUT OFF FLUSH, GRIND SMOOTH, GROUT FILL.
- 8 NOT USED



2 NEW ELECTRICAL SITE PLAN
E1.1 SCALE: NTS

NEW SITE PLAN KEY NOTES

- A PROVIDE NEW ELECTRICAL SERVICE MOUNTED ON NEW SERVICE EQUIPMENT RACK, SEE SERVICE DETAIL 5/E1.2
- B REINSTALL EXISTING 200A MANUAL TRANSFER SWITCH AND GENERATOR RECEPTACLE. SEE SERVICE DETAIL 5/E1.2.
- C NEW ABOVE GROUND CONTROL SHELTER. SEE 1/E3.1. FIELD CONFIRM EXACT PAD MOUNTING ARRANGEMENT WITH OWNER PRIOR TO INSTALLATION.
- D NEW ANTENNA SUPPORT STRUCTURE MOUNTED TO SERVICE RACK. SEE DETAIL 3/E1.2.
- E NEW, ABOVE GROUND, EXPLOSIONPROOF, WET WELL WIRING SPLICE BOXES, SEE DETAIL 4/E3.2.
- F EXISTING UNDERGROUND ELECTRICAL SERVICE CABLE. COORDINATE WITH LOCAL UTILITY FOR 480/277V SERVICE TO NEW EQUIPMENT.
- G SEE CIVIL, MECHANICAL, AND STRUCTURAL FOR WET WELL HATCH CHANGES.

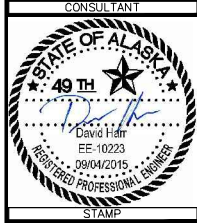
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DATA	BY
Sheet	
Station	
Work	
Gas	
Electric	
Cable TV	
Emblems	
Footng. Elev.	
Approved	



City of Wrangell
CONSULTANT

TEL: (907) 522-1953
WEB: WWW.EPSINC.COM
PROJECT #14-0188

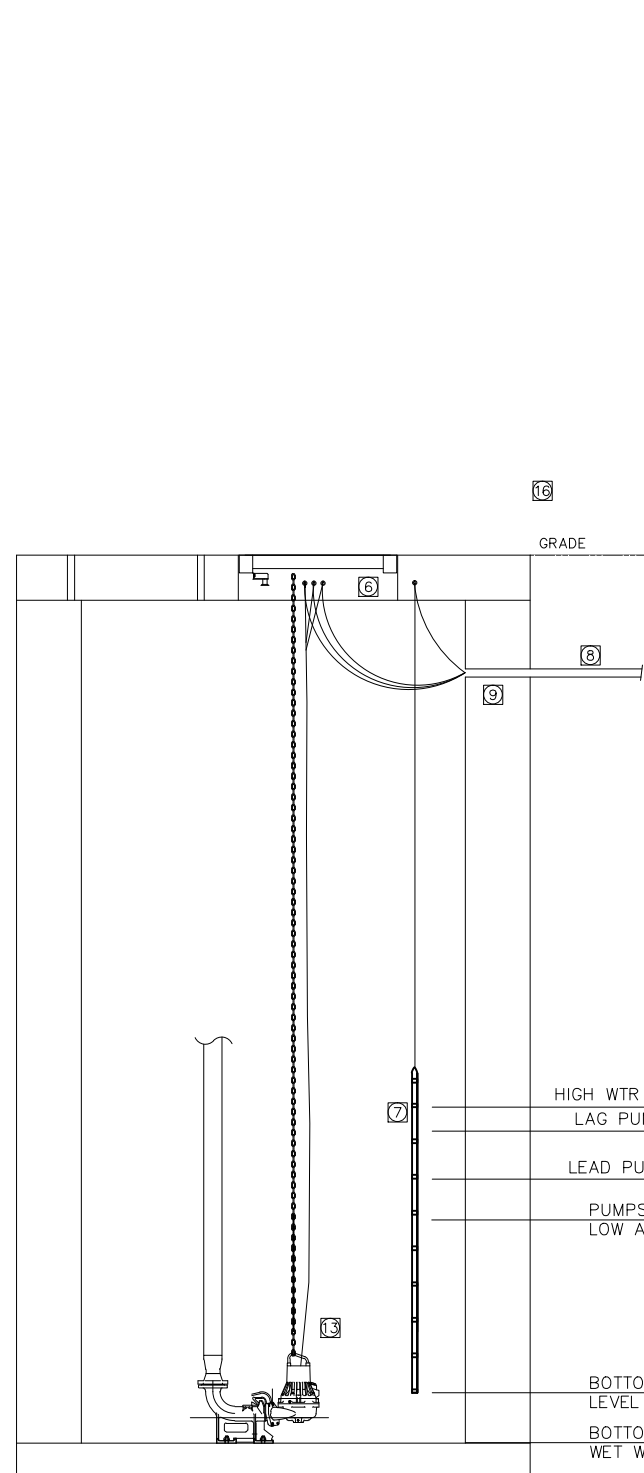


WRANGELL SEWER PUMPS REPLACEMENT PROJECT
PUMP STATIONS 4 & 6 IMPROVEMENTS

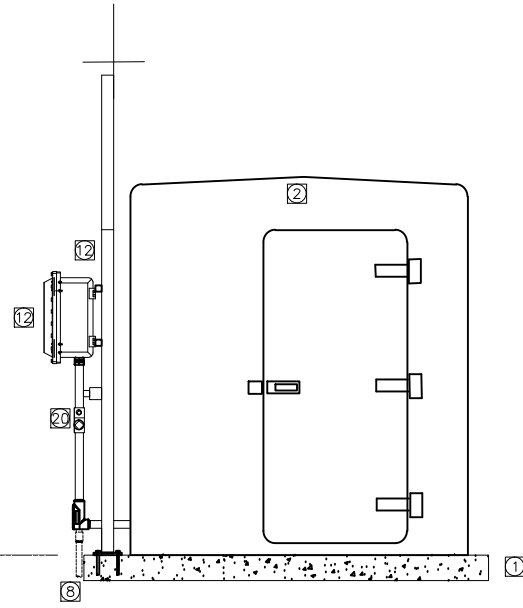
NODE 4
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WRANGELL, ALASKA

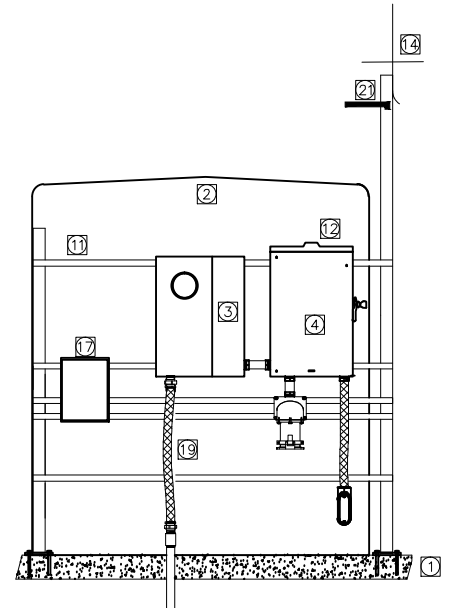
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LOCATION	
PN	
FILE NO.	
SHEET	E1.1
	13 OF 27



1 WET WELL ELECTRICAL ELEVATION
E1.2 SCALE: NTS



2 CONTROL SHELTER FRONT ELEVATION
E1.2 SCALE: NTS



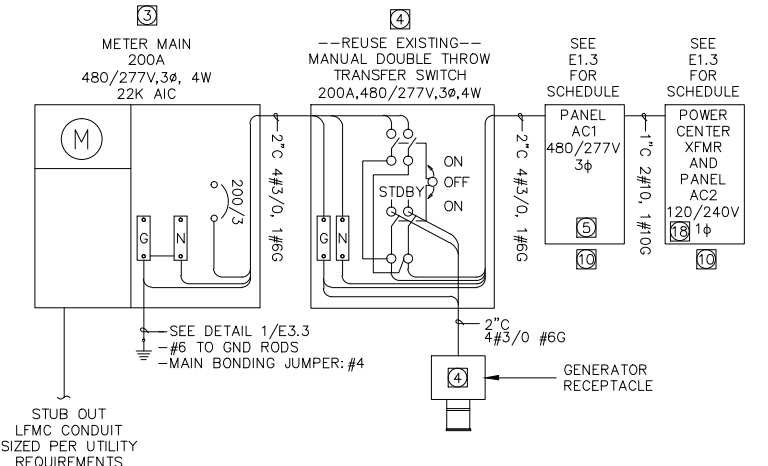
3 CONTROL SHELTER REAR ELEV. ELECTRICAL SERVICE RACK ELEV.
E1.2 SCALE: NTS

MATERIALS AND INSTALLATION KEY NOTES

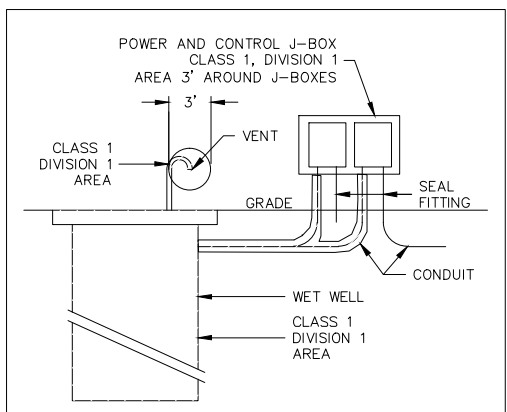
- 1 CONTROL ENCLOSURE FOUNDATION: EXISTING SLAB ON GRADE. SEE CIVIL PLAN.
- 2 ABOVE GROUND CONTROL SHELTER: SEE SHEET E3.1 FOR DETAILS.
- 3 ELECTRICAL SERVICE: SEE ONE-LINE DIAGRAM, 5/E1.2, THIS SHEET.
- 4 DOUBLE THROW TRANSFER SWITCH WITH GENERATOR RECEPTACLE: REUSE EXISTING.
- 5 PANELBOARD AC1: SEE SCHEDULE ON E1.3 FOR DETAILS. COORDINATE CONDUIT ENTRANCES INTO CONTROL ENCLOSURE WITH INTERIOR EQUIPMENT.
- 6 PROVIDE STAINLESS STEEL EYE HOOKS AND CABLE GRIPS FOR CABLE MOUNTING. MOUNT SUCH THAT CABLES ARE ACCESSIBLE FROM ACCESS HATCH. LOOP AND TY-WRAP EXCESS CABLES CLOSE TO HATCH.
- 7 LIQUID LEVEL SENSING PROBE: SEE SPECIFICATIONS. ORDER ADEQUATE LENGTH OF CORD TO EXTEND IN CONDUIT TO EXPLOSIONPROOF JUNCTION BOX AND PROVIDED MIN. 20' OF EXTRA CORD LOOPED AND HUNG AT TOP OF WET WELL. PROVIDE S.S. CABLE HOLDER AND PROBE CLEANER BRACKET.
- 8 PUMP CORD AND CONTROL CONDUITS. PROVIDE UNDERGROUND CONDUITS AS REQUIRED FOR OPERABLE SYSTEM. SLOPE CONDUITS TO WET WELL.
- 9 PROVIDE NEW WET WELL CONCRETE PENETRATIONS FOR CONDUIT ENTRY AS REQUIRED. REUSE EXISTING PENETRATIONS IF AVAILABLE. PROVIDE WATERTIGHT SEALS AT PENETRATIONS. PROVIDE LINK SEAL AT EXTERIOR OF PENETRATION. FOAM FILL ANNULAR SPACE AT INTERIOR OF PENETRATION. SEE 4/E3.2.
- 10 PROVIDE ARC FLASH WARNING AND HIGH VOLTAGE WARNING LABELS.
- 11 SERVICE EQUIPMENT SUPPORT RACK: PROVIDE RACK PER DETAIL 5/E3.2. PROVIDE ONE POST AT 144" TALL FOR ANTENNA SUPPORT. RACK SUPPORTS SHALL NOT BE ATTACHED DIRECTLY TO CONTROL SHELTER. COORDINATE RACK MOUNTED EQUIPMENT LOCATIONS WITH INTERIOR EQUIPMENT FOR EASY CONDUIT CONNECTIONS BETWEEN EQUIPMENT.
- 12 EXPLOSIONPROOF JUNCTION BOX SUPPORT RACK: PROVIDE RACK PER DETAIL 5/E3.2. RACK SUPPORTS SHALL NOT BE ATTACHED DIRECTLY TO CONTROL SHELTER. COORDINATE RACK MOUNTED EQUIPMENT LOCATIONS WITH INTERIOR EQUIPMENT FOR EASY CONDUIT CONNECTIONS BETWEEN EQUIPMENT.
- 13 PUMP WIRING: COORDINATE WITH MECHANICAL. ORDER ADEQUATE LENGTH OF CORD TO EXTEND IN CONDUIT TO EXPLOSIONPROOF JUNCTION BOX AND MIN. 20' OF EXTRA CORD LOOPED AND HUNG AT TOP OF WET WELL.
- 14 SCADA ANTENNA: REINSTALL EXISTING ANTENNA. ROUTE ANTENNA CABLE IN 1-1/2" CONDUIT ATTACHED TO RACK POST. PROVIDE WEATHER HEAD AND CONDUIT FITTINGS FOR WATERTIGHT INSTALLATION.
- 15 SEE MECHANICAL FOR WET WELL PUMP CONTROL LEVELS.
- 16 EXACT LOCATION OF EQUIPMENT, CONTROL PANELS, AND CONTROL ENCLOSURE NOT SHOWN. CONTRACTOR SHALL FIELD LOCATE ALL EQUIPMENT TO AVOID PIPING, WET WELL, SITE CIVIL FEATURES, LANDSCAPING, DRIVEWAY, AND OTHER APPURTENANCES. CONFIRM INSTALLATION LOCATIONS WITH CIVIL, MECHANICAL, AND OWNER PRIOR TO INSTALLATION.
- 17 UTILITY PHONE SERVICE TERMINAL BOX: PROVIDE STANDARD TELEPHONE SERVICE WITH TWO LINES MIN. CONTRACTOR TO COORDINATE WITH UTILITY TO HAVE UNDERGROUND SERVICE TO THE CONTROL ENCLOSURE INSTALLED.
- 18 PANEL AC2: EXISTING MINI POWER CENTER RELOCATED FROM DRY WELL.
- 19 PROVIDE FLEXIBLE CONDUITS (LFMC) BETWEEN GRADE AND RACK MOUNTED EQUIPMENT. PROVIDE FLEXIBLE CONDUITS BETWEEN RACK MOUNTED EQUIPMENT AND SHELTER INTERIOR EQUIPMENT.
- 20 SEE DETAIL 1/E3.2 FOR SEAL FITTING LOCATIONS.
- 21 AT&T ANTENNA: ROUTE ANTENNA CABLE IN CONDUIT ATTACHED TO RACK POST. PROVIDE WEATHER HEAD AND CONDUIT FITTINGS FOR WATERTIGHT INSTALLATION.

SERVICE NOTES:

- 1. COORDINATE WITH LOCAL SERVING UTILITY FOR ELECTRICAL SERVICE TO METER. 200A RATED. WITH 200A BREAKER. SERVICE EQUIPMENT AND INSTALLATION SHALL BE APPROVED BY THE UTILITY. PROVIDE BLUNE U227MTBHM515-SS, STAINLESS STEEL WITH BYPASS PROVISIONS, SUBMIT TO UTILITY FOR APPROVAL PRIOR TO PROCUREMENT.

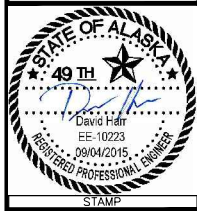
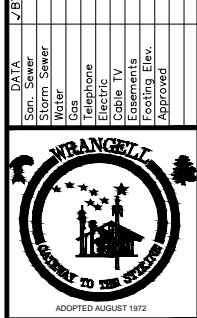


5 ELECTRICAL SERVICE ONE-LINE DIAGRAM
E1.2 SCALE: NTS



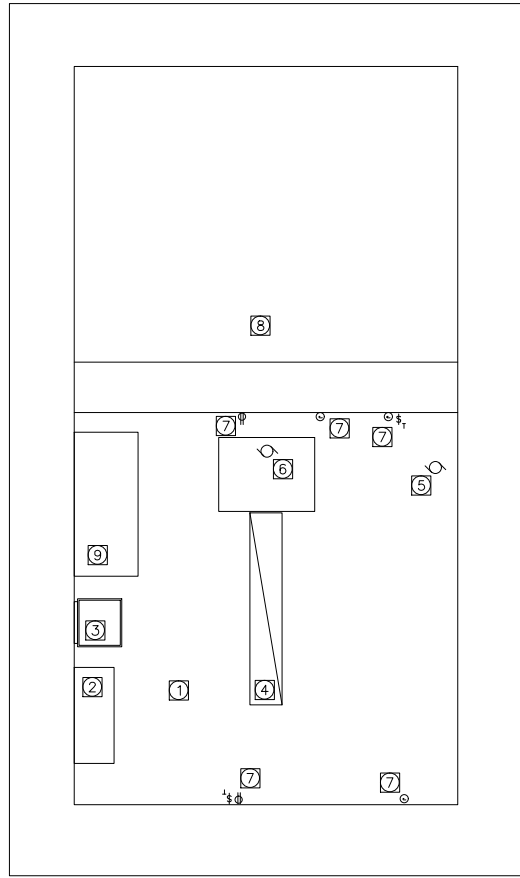
4 WET WELL HAZARDOUS AREA CLASSIFICATIONS
E2.2 SCALE: NTS

NO.	REVISIONS	DATE	BY



WRANGELL SEWER PUMPS REPLACEMENT PROJECT
PUMP STATIONS 4 & 6 IMPROVEMENTS
NODE 4
ELEVATIONS & DETAILS
WRANGELL, ALASKA

CHECKED BY	
DESIGNED BY	DAH
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DATE	09/04/2015
LOCATION	
PN	
FILE NO.	
SHEET	E1.2
	14 OF 27



1 WET/DRY WELL ELECTRICAL DEMO PLAN
E1.3 SCALE: 1/2"=1'

DEMOLITION KEY NOTES

- 1 ELECTRICAL VAULT: DEMO ALL EXISTING ELECTRICAL EQUIPMENT, CONDUIT AND WIRING.
- 2 SCADA PANEL: REMOVE, PROTECT, STORE, REINSTALL AT NEW CONTROL SHELTER.
- 3 120/240V MINI-LOADCENTER: REMOVE AND STORE FOR REINSTALLATION AT NEW CONTROL SHELTER.
- 4 LIGHT: DEMOLISH
- 5 EXHAUST FAN: DEMOLISH.
- 6 SUMP PUMP: DEMOLISH.
- 7 RECEPTACLES, SWITCHES, JUNCTION BOXES, CONDUITS: DEMOLISH.
- 8 WET WELL: DEMO ALL CONDUITS, JUNCTION BOXES, CORD SUPPORTS, ETC.
- 9 PUMP CONTROLLER: REMOVE AND TURN OVER TO OWNER.

MAIN BREAKER: MAIN LUGS ONLY
BUS. RATING = 200A
SERVICE VOLTAGE = 480V/277V AC
TYPE = 3 PHASE, 4 WIRE
ENCLOSURE = NEMA 12
MOUNTING = SURFACE

PANEL NO. = AC1
SERVICE = NORMAL POWER
LOCATION = NODE 4 CONTROL SHELTER
PLAN DRAWING = E3.1 ELECTRICAL PLAN

SOURCE = UTILITY SERVICE MAIN
FEEDER SIZE = #3/0
AIC RATING = 10K AIC

DESCRIPTION	BKR		KVA			CKT NO	BUS CONN	CKT NO	KVA			BKR		DESCRIPTION
	POLE	AMP	A	B	C				A	B	C	POLE	AMP	
C1 **PUMP CONTROL PANEL	3	**60	14			1	A B C	2	2.5			2	15	AC2 VIA POWERCENTER XFMR
				14		3		4		2.5				
					14	5		6			0.0	2	15	SPARE
**SPARE	3	**60	0.0			7		8	0.0					
				0.0		9		10		1.5		2	20	HEATER
					0.0	11		12			1.5			
TOTAL			14	14	14				2.5	4.0	1.5	TOTAL		

ALL BREAKERS TO BE PROVIDED WITH PERMANENT PROVISIONS FOR LOCKING IN THE OFF POSITION.
**CONTRACTOR TO PROVIDE BREAKER SIZED PER THE PUMP CONTROL PANEL PROVIDER.

BUS A - 16.5 KVA
BUS B - 18.0 KVA
BUS C - 15.5 KVA
TOTAL - 50.0 KVA 60A CONNECTED LOAD

MAIN BREAKER: 30A
BUS. RATING = TBD
SERVICE VOLTAGE = 120/240V AC
TYPE = 1 PHASE, 3 WIRE
ENCLOSURE = TBD
MOUNTING = SURFACE

PANEL NO. = AC2
SERVICE = NORMAL POWER
LOCATION = NODE 4 CONTROL SHELTER
PLAN DRAWING = E3.1 ELECTRICAL LAYOUT

SOURCE = AC1
FEEDER SIZE = #8
AIC RATING = 10K AIC

DESCRIPTION	BKR		KVA			CKT NO	BUS CONN	CKT NO	KVA			BKR		DESCRIPTION
	POLE	AMP	A	B					A	B		POLE	AMP	
LIGHT	1	20	.7			1	A B	2	0.0			1	20	SPARE
SCADA PANEL	1	20		.7		3		4		0.0		1	20	SPARE
**RECEPTACLE	1	20	.36			5		6	0.0			1	20	SPARE
SPARE	1	20		0.0		7		8		0.0		1	20	SPACE
SPACE	1					9		10				1		SPACE
SPACE	1					11		12				1		SPACE
TOTAL			1.1	.7					0.0	0.0		TOTAL		

FIELD VERIFY ALL BREAKER SIZES AND UPDATE SCHEDULE AND ASBUILT DRAWINGS. PROVIDE PRINTED UPDATED PANEL SCHEDULES.

BUS A 1.1 KVA
BUS B 0.7 KVA
TOTAL 1.8 KVA 7.5A CONNECTED LOAD

**PROVIDE GFCI BREAKERS AT RECEPTACLE CIRCUITS

WIRE, CABLE & CONDUIT SCHEDULE
ALL CKTS 2#12 W/#12GND IN CONDUIT
UNLESS NOTED BELOW:

C1 PUMP PANEL FEEDER
1" C: 3#6 W/#10GND

SEE EC3.0 FOR PANEL TO PUMP CONDUCTOR

MINIMUM CONDUIT SIZES SHOWN

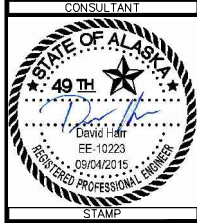
REV	DATE	DESCRIPTION

DATE	BY	DESCRIPTION



Chas. P. Sinc
CONSULTANT

TEL: (907) 522-1953
WEB: WWW.EPSINC.COM
PROJECT #14-0188

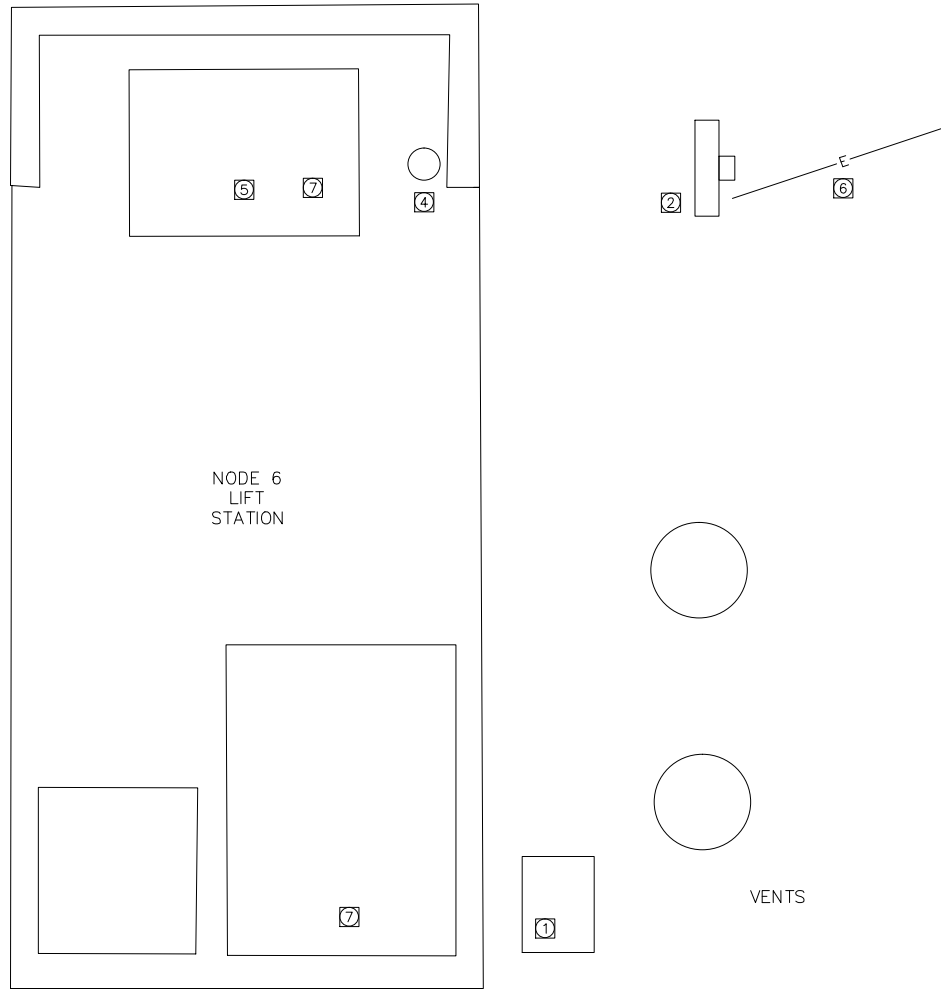


WRANGELL SEWER PUMPS REPLACEMENT PROJECT
PUMP STATIONS 4 & 6 IMPROVEMENTS

NODE 4
DEMO PLAN & SCHEDULES

WRANGELL, ALASKA

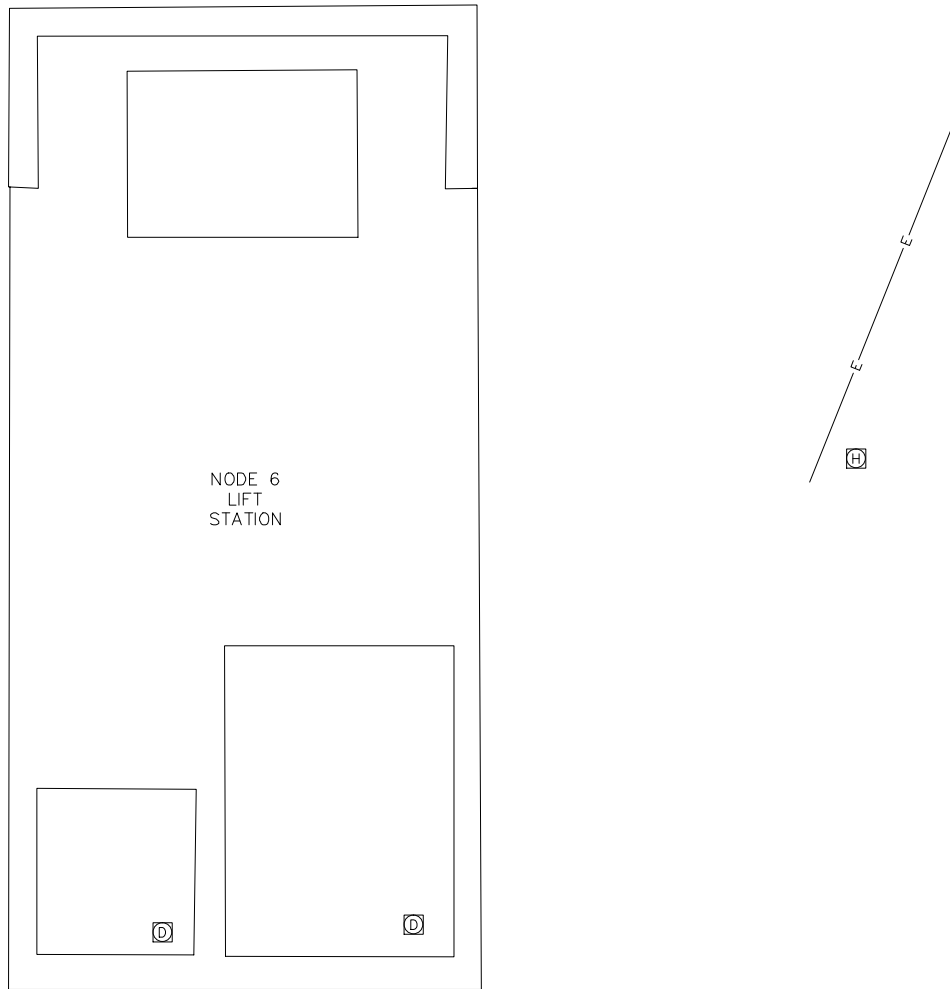
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DRAWN BY	DATE	09/04/2015
LOCATION	PN	FILE NO.
SHEET		
E1.3		
15 OF 27		



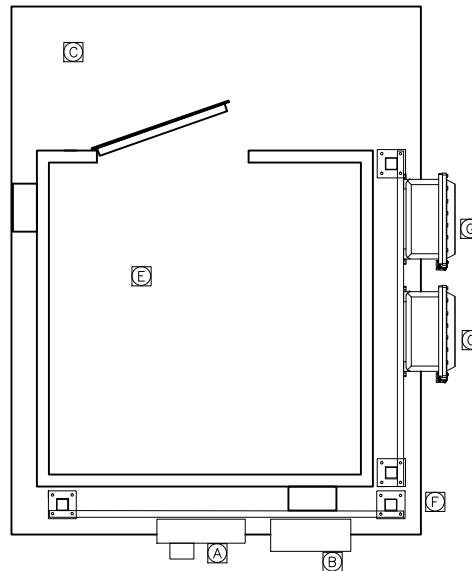
1 EXISTING ELECTRICAL SITE PLAN
E2.1 SCALE: NTS

EXISTING SITE PLAN KEY NOTES

- 1 DEMO EXISTING JUNCTION BOX AND WIRING TO PUMPS.
- 2 DEMO EXISTING ELECTRICAL SERVICE AND SUPPORT STRUCTURE.
- 3 NOT USED..
- 4 EXISTING SCADA ANTENNA AND SUPPORT STRUCTURE. REMOVE AND STORE EXISTING ANTENNA, CABLE, AND ACCESSORIES FOR REUSE. DEMO EXISTING SUPPORT STRUCTURE.
- 5 SEE E2.3, EXISTING DRY WELL DEMO PLAN, FOR INTERIOR DEMO.
- 6 EXISTING UNDERGROUND ELECTRICAL SERVICE CABLE. COORDINATE WITH LOCAL UTILITY FOR DISCONNECTS AND SERVICE TO NEW EQUIPMENT.
- 7 AT ALL WET AND DRY WELL PENETRATIONS: SEAL ALL UNUSED PENETRATIONS WITH WATER PROOF GROUT. REMOVE ANY WIRING OR OTHER DEBRIS PRIOR TO GROUTING. REMOVE CONDUITS IF POSSIBLE. WHERE REMOVING CONDUIT IS NOT POSSIBLE CUT OFF FLUSH, GRIND SMOOTH.
- 8 NOT USED



2 NEW ELECTRICAL SITE PLAN
E2.1 SCALE: NTS



NEW SITE PLAN KEY NOTES

- A PROVIDE NEW ELECTRICAL SERVICE MOUNTED ON NEW SERVICE EQUIPMENT RACK. SEE SERVICE DETAIL 5/E2.2.
- B NEW 200A MANUAL TRANSFER SWITCH AND GENERATOR RECEPTACLE. SEE SERVICE DETAIL 5/E2.2.
- C NEW SLAB ON GRADE. 120"X96"X6". SEE CIVIL.
- D SEE CIVIL, MECHANICAL, AND STRUCTURAL FOR WET WELL HATCH CHANGES.
- E NEW ABOVE GROUND CONTROL SHELTER. SEE 1/E3.1. FIELD CONFIRM EXACT PAD MOUNTING ARRANGEMENT WITH OWNER PRIOR TO INSTALLATION.
- F NEW ANTENNA SUPPORT STRUCTURE MOUNTED TO SERVICE RACK. SEE DETAIL 3/E2.2
- G NEW, ABOVE GROUND, EXPLOSIONPROOF, WET WELL WIRING SPLICE BOXES, SEE DETAIL 4/E3.2
- H EXISTING UNDERGROUND ELECTRICAL SERVICE CABLE. COORDINATE WITH LOCAL UTILITY FOR 480/277V SERVICE TO NEW SERVICE EQUIPMENT.

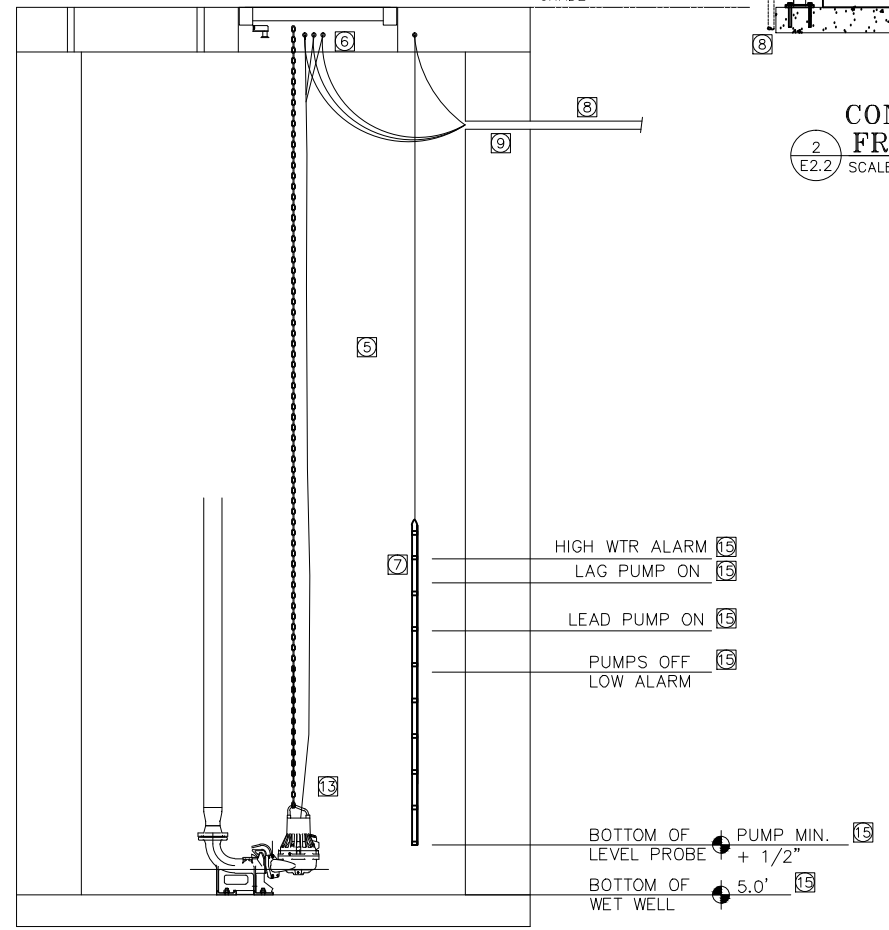
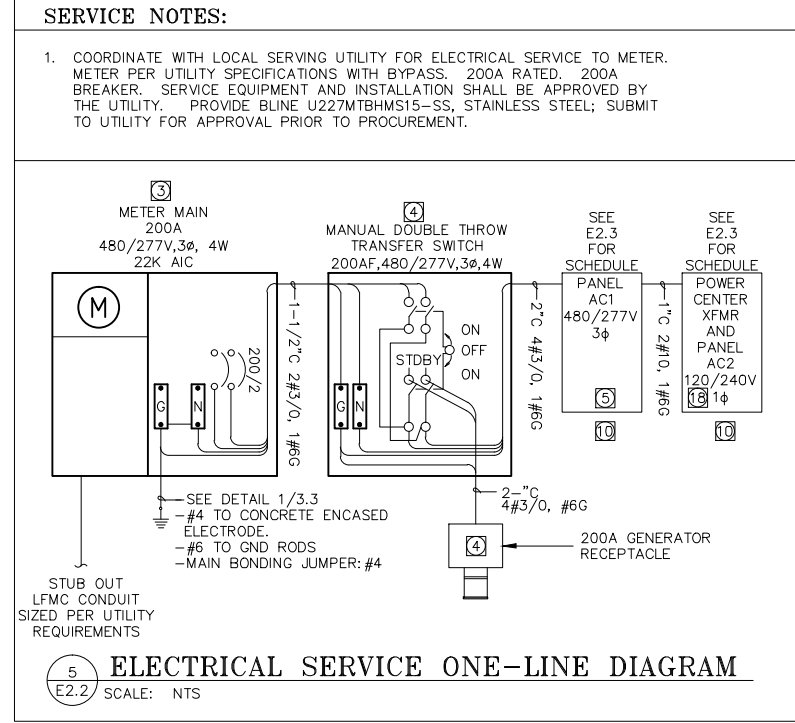
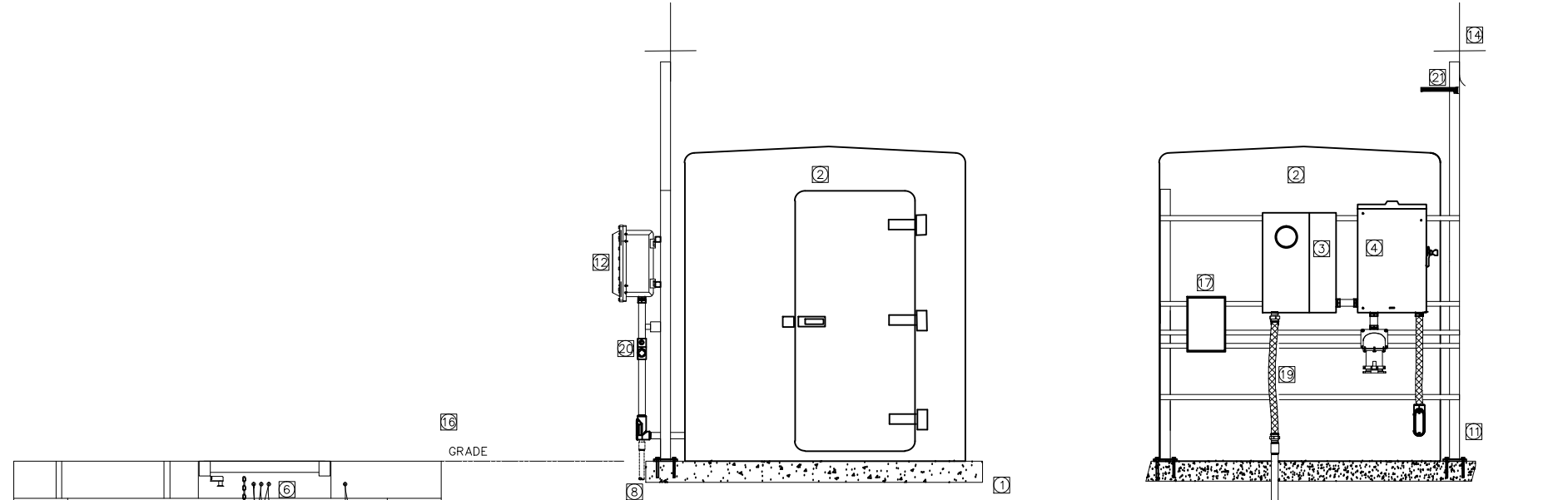
REV	DATE	DESCRIPTION	BY

DATA	BY
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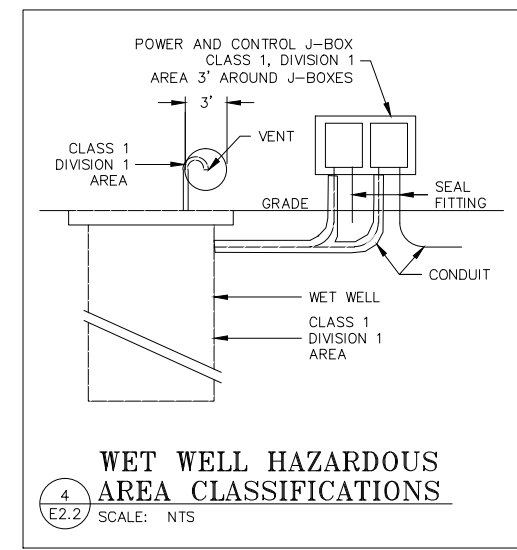


WRANGELL SEWER PUMPS REPLACEMENT PROJECT
PUMP STATIONS 4 & 6 IMPROVEMENTS
NODE 6
ELECTRICAL SITE PLANS
WRANGELL, ALASKA

CHECKED BY	
DESIGNED BY	DAH
DRAWN BY	DAH
DATE	09/04/2015
LOCATION	
PN	
FILE NO.	
SHEET	E2.1
	16 OF 27



- MATERIALS AND INSTALLATION KEY NOTES**
- CONTROL ENCLOSURE FOUNDATION: NEW SLAB ON GRADE. SEE CIVIL AND STRUCTURAL PLANS.
 - ABOVE GROUND CONTROL SHELTER: SEE SHEET E3.1 FOR DETAILS.
 - ELECTRICAL SERVICE: SEE ONE-LINE DIAGRAM, 5/E2.2, THIS SHEET.
 - TRANSFER SWITCH AND GENERATOR RECEPTACLE: LOCKABLE HEAVY DUTY 600V DOUBLE THROW TRANSFER SWITCH, 200A RATED, WITH STAINLESS STEEL ENCLOSURE. SQUARE-D 82344DS OR EQUAL. PROVIDE WITH SWITCH POSITION AUX. CONTACTS, NEUTRAL AND GROUND KITS AS REQUIRED. PROVIDE GENERATOR RECEPTACLE: APPLETON ADJA20034-150, 200A GENERATOR RECEPTACLE, WITH ANGLE TYPE ADAPTOR AND BACK BOX.
 - PANELBOARD AC1: SEE SCHEDULE ON E2.3 FOR DETAILS. COORDINATE CONDUIT ENTRANCES INTO CONTROL ENCLOSURE WITH INTERIOR EQUIPMENT.
 - PROVIDE STAINLESS STEEL EYE HOOKS AND CABLE GRIPS FOR CABLE MOUNTING. MOUNT SUCH THAT CABLES ARE ACCESSIBLE FROM ACCESS HATCH. LOOP AND TY-WRAP EXCESS CABLES CLOSE TO HATCH.
 - LIQUID LEVEL SENSING PROBE: SEE SPECIFICATIONS. ORDER ADEQUATE LENGTH OF CORD TO EXTEND IN CONDUIT TO EXPLOSIONPROOF JUNCTION BOX AND PROVIDE MIN. 20' OF EXTRA CORD LOOPED AND HUNG AT TOP OF WET WELL. PROVIDE S.S. CABLE HOLDER AND PROBE CLEANER BRACKET.
 - PUMP CORD AND CONTROL CONDUITS. PROVIDE UNDERGROUND CONDUITS AS REQUIRED FOR OPERABLE SYSTEM. SLOPE CONDUITS TO WET WELL.
 - PROVIDE NEW WET WELL CONCRETE PENETRATIONS FOR CONDUIT ENTRY AS REQUIRED. REUSE EXISTING PENETRATIONS IF AVAILABLE. WET WELL PENETRATION SEALS: PROVIDE WATERTIGHT SEALS AT PENETRATIONS. PROVIDE LINK SEAL AT EXTERIOR OF PENETRATION. FOAM FILL ALLULAR SPACE AT INTERIOR OF PENETRATION. SEE 4/E3.2.
 - PROVIDE ARC FLASH WARNING AND HIGH VOLTAGE WARNING LABELS.
 - SERVICE EQUIPMENT SUPPORT RACK: PROVIDE RACK PER DETAIL 5/E3.2. PROVIDE ONE POST AT 144" TALL FOR ANTENNA SUPPORT. RACK SUPPORTS SHALL NOT BE ATTACHED DIRECTLY TO CONTROL SHELTER. COORDINATE RACK MOUNTED EQUIPMENT LOCATIONS WITH INTERIOR EQUIPMENT FOR EASY CONDUIT CONNECTIONS BETWEEN EQUIPMENT.
 - EXPLOSIONPROOF JUNCTION BOX SUPPORT RACK: PROVIDE RACK PER DETAIL 5/E3.2. RACK SUPPORTS SHALL NOT BE ATTACHED DIRECTLY TO CONTROL SHELTER. COORDINATE RACK MOUNTED EQUIPMENT LOCATIONS WITH INTERIOR EQUIPMENT FOR EASY CONDUIT CONNECTIONS BETWEEN EQUIPMENT.
 - PUMP WIRING: COORDINATE WITH MECHANICAL. ORDER ADEQUATE LENGTH OF CORD TO EXTEND IN CONDUIT TO EXPLOSIONPROOF JUNCTION BOX AND MIN. 20' OF EXTRA CORD LOOPED AND HUNG AT TOP OF WET WELL.
 - SCADA ANTENNA: REINSTALL EXISTING ANTENNA. PROVIDE 1-1/2" CONDUIT ATTACHED TO RACK POST. PROVIDE WEATHER HEAD AND CONDUIT FITTINGS FOR WATERTIGHT INSTALLATION.
 - SEE MECHANICAL FOR WET WELL PUMP CONTROL LEVELS.
 - EXACT LOCATION OF EQUIPMENT, CONTROL PANELS, AND CONTROL ENCLOSURE NOT SHOWN. CONTRACTOR SHALL FIELD LOCATE ALL EQUIPMENT TO AVOID PIPING, WET WELL, SITE CIVIL FEATURES, LANDSCAPING, DRIVEWAY, AND OTHER APPURTENANCES. CONFIRM INSTALLATION LOCATIONS WITH CIVIL, MECHANICAL, AND OWNER PRIOR TO INSTALLATION.
 - UTILITY PHONE SERVICE TERMINAL BOX: PROVIDE STANDARD TELEPHONE SERVICE WITH TWO LINES MIN. CONTRACTOR TO COORDINATE WITH UTILITY TO HAVE UNDERGROUND SERVICE TO THE CONTROL ENCLOSURE INSTALLED.
 - PANEL AC2: EXISTING MINI POWER CENTER RELOCATED FROM DRY WELL.
 - PROVIDE FLEXIBLE CONDUITS (LFMC) BETWEEN GRAD AND RACK MOUNTED EQUIPMENT. PROVIDE FLEXIBLE CONDUITS BETWEEN RACK MOUNTED EQUIPMENT BUILDING INTERIOR EQUIPMENT.
 - SEE DETAIL 1/E3.2 FOR SEAL FITTING LOCATIONS.
 - AT&T ANTENNA: ROUTE ANTENNA CABLE IN CONDUIT ATTACHED TO RACK POST. PROVIDE WEATHER HEAD AND CONDUIT FITTINGS FOR WATERTIGHT INSTALLATION.



DATE	BY	DESCRIPTION

Rev	Date	Revisions

WRANGELL
 CITY OF WRANGELL
 ADOPTED AUGUST 1972

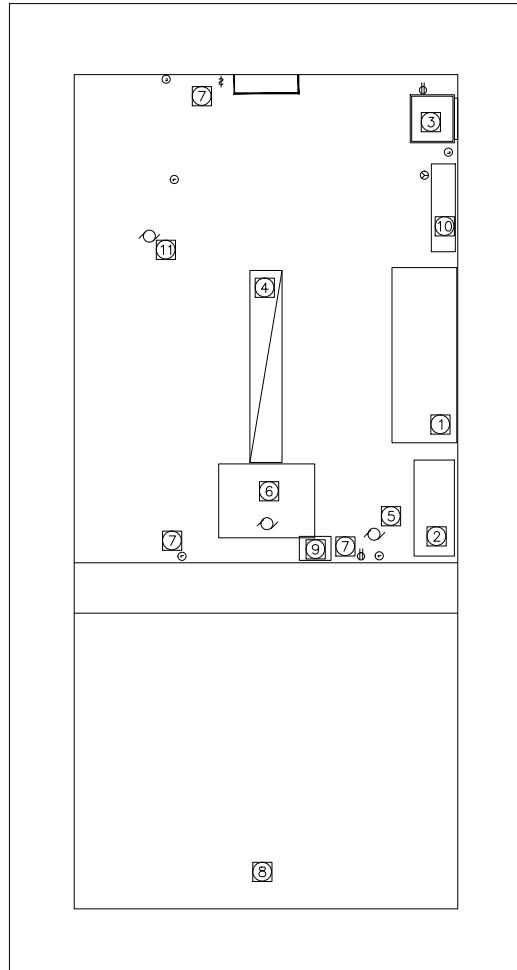
CONSULTANT
 EPS INC.
 TEL: (907) 522-1953
 WEB: WWW.EPSINC.COM
 PROJECT #14-0188

STATE OF ALASKA
 49TH
 David Hill
 EE-10223
 09/04/2015
 REGISTERED PROFESSIONAL ENGINEER
 STAMP

WRANGELL SEWER PUMPS REPLACEMENT PROJECT
PUMP STATIONS 4 & 6 IMPROVEMENTS

NODE 6
ELEVATIONS & DETAILS
 WRANGELL, ALASKA

CHECKED BY	DAH
DESIGNED BY	DAH
DRAWN BY	DAH
DATE	09/04/2015
LOCATION	
PN	
FILE NO.	
SHEET	E2.2
	17 OF 27



1 WET/DRY WELL ELECTRICAL DEMO PLAN
E2.3 SCALE: 1/2"=1'

DEMOLITION KEY NOTES

- 1 PUMP CONTROLLER: REMOVE AND TURN OVER TO OWNER.
- 2 SCADA PANEL: REMOVE, PROTECT, STORE, REINSTALL AT NEW CONTROL SHELTER.
- 3 120/240V MINI-LOADCENTER: REMOVE AND STORE FOR REINSTALLATION AT NEW CONTROL SHELTER.
- 4 LIGHT: DEMOLISH
- 5 EXHAUST FAN: DEMOLISH.
- 6 SUMP PUMP: DEMOLISH.
- 7 RECEPTACLES, SWITCHES, JUNCTION BOXES, CONDUITS: DEMOLISH.
- 8 WET WELL: DEMO ALL CONDUITS, JUNCTION BOXES, CORD SUPPORTS, ETC.
- 9 TELEPHONE SERVICE: DEMOLISH
- 10 480V/277V PANELBOARD: DEMOLISH
- 11 UNIT HEATER: DEMOLISH

MAIN BREAKER: MAIN LUGS ONLY BUS. RATING = 225A SERVICE VOLTAGE = 480V/277V AC TYPE = 3 PHASE, 4 WIRE ENCLOSURE = NEMA 12 MOUNTING = SURFACE					PANEL NO. = AC1 SERVICE = NORMAL POWER LOCATION = NODE 6 CONTROL SHELTER PLAN DRAWING = E3.1 ELECTRICAL LAYOUT					SOURCE = SERVICE MAIN FEEDER SIZE = 4/0 AIC RATING = 10K AIC				
DESCRIPTION	BKR		KVA			CKT NO	BUS CONN	CKT NO	KVA			BKR		DESCRIPTION
	POLE	AMP	A	B	C				A	B	C	POLE	AMP	
**PUMP CONTROL PANEL	3	**200	41			1	A	2	2.5			2	15	AC2 VIA POWERCENTER XFMR
				41		3	B	4		2.5				
					41	5	C	6			0.0	2	15	SPARE
**SPARE	3	**200	0.0			7	A	8	0.0					
				0.0		9	B	10		1.5		2	20	HEATER
				0.0		11	C	12			1.5		20	
TOTAL			41	41	41				2.5	4.0	1.5	TOTAL		
ALL BREAKERS TO BE PROVIDE WITH PERMANENT PROVISIONS FOR LOCKING IN THE OFF POSITION. **CONTRACTOR TO PROVIDE BREAKER SIZED PER THE PUMP CONTROL PANEL PROVIDER.					BUS A - 43.5 KVA BUS B - 45.0 KVA BUS C - 43.0 KVA TOTAL - 132 KVA 159A CONNECTED LOAD									

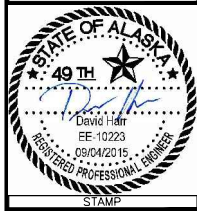
MAIN BREAKER: 30A BUS. RATING = TBD SERVICE VOLTAGE = 120/240V AC TYPE = 1 PHASE, 3 WIRE ENCLOSURE = TBD MOUNTING = SURFACE					PANEL NO. = AC2 SERVICE = NORMAL POWER LOCATION = NODE 6 CONTROL SHELTER PLAN DRAWING = E3.1 ELECTRICAL LAYOUT					SOURCE = AC1 FEEDER SIZE = #8 AIC RATING = 10K AIC				
DESCRIPTION	BKR		KVA			CKT NO	BUS CONN	CKT NO	KVA			BKR		DESCRIPTION
	POLE	AMP	A	B					A	B		POLE	AMP	
LIGHT	1	20	.7			1	A	2	0.0			1	20	SPARE
SCADA PANEL	1	20		.7		3	B	4		0.0		1	20	SPARE
**RECEPTACLE	1	20	.36			5	C	6	0.0			1	20	SPARE
SPARE	1	20		0.0		7	A	8		0.0		1	20	SPACE
SPACE	1					9	B	10				1		SPACE
SPACE	1					11	C	12				1		SPACE
TOTAL			1.1	.7					0.0	0.0		TOTAL		
FIELD VERIFY ALL BREAKER SIZES. UPDATE SHEDULE AND AS-BUILT DRAWINGS. PROVIDE PRINTED UPDATED SCHEDULES.					BUS A 1.1 KVA BUS B 0.7 KVA TOTAL 1.8 KVA 7.5A CONNECTED LOAD									
**PROVIDE GFCI BREAKERS AT RECEPTACLE CIRCUITS														

WIRE, CABLE & CONDUIT SCHEDULE
ALL CKTS 2#12 W/#12GND IN CONDUIT UNLESS NOTED BELOW:
C1 PUMP PANEL FEEDER
2"C: 3#1/0 W/#6GND
SEE EC4.0 FOR PANEL TO PUMP CONDUCTOR
MINIMUM CONDUIT SIZES SHOWN

NO.	REV.	DATE	DESCRIPTION



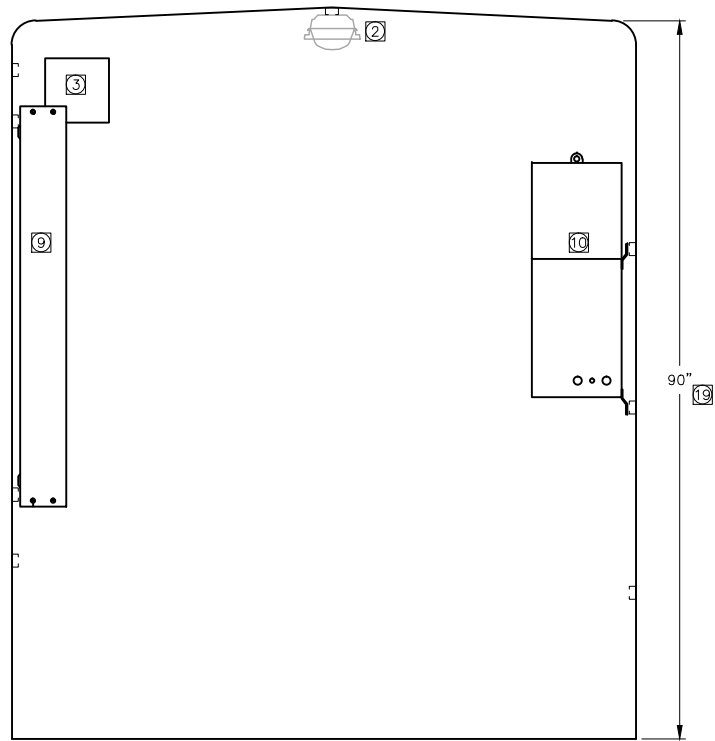
EPS INC.
TEL: (907) 522-1953
WEB: WWW.EPSINC.COM
PROJECT #14-0188



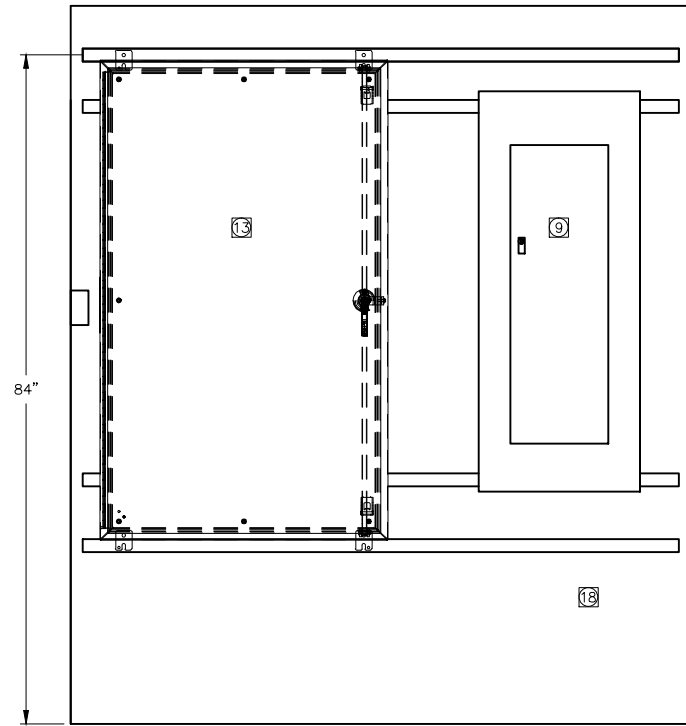
WRANGELL SEWER PUMPS REPLACEMENT PROJECT
PUMP STATIONS 4 & 6 IMPROVEMENTS
NODE 6
DEMO PLAN & SCHEDULES
WRANGELL, ALASKA

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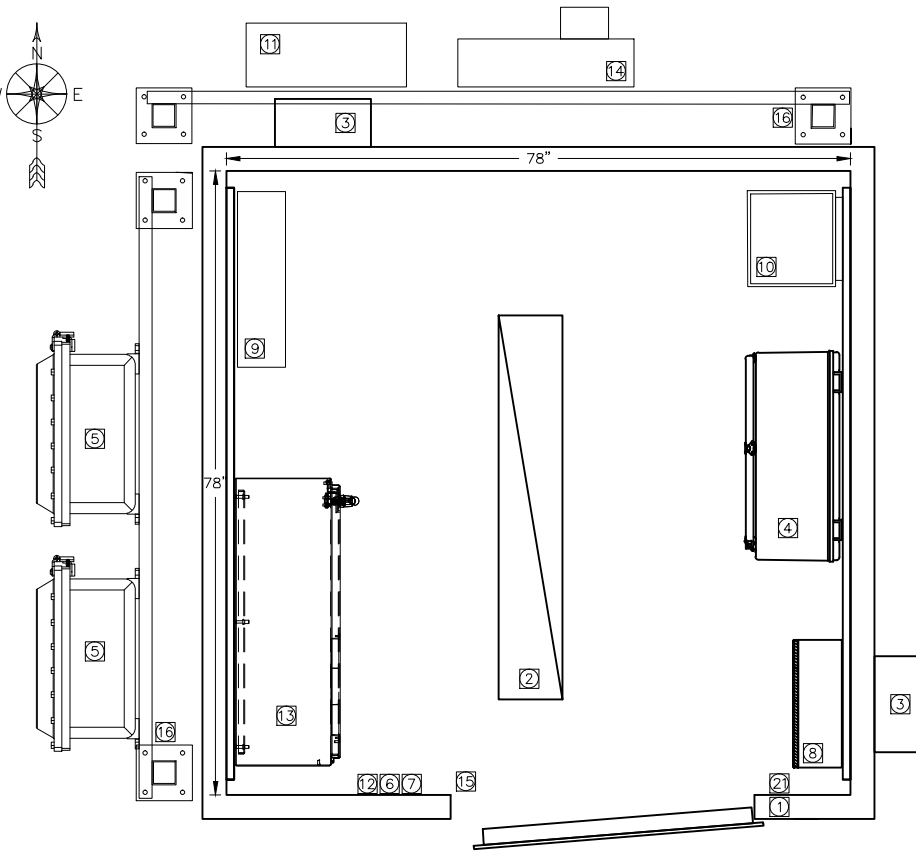
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FILE NO.
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E2.3
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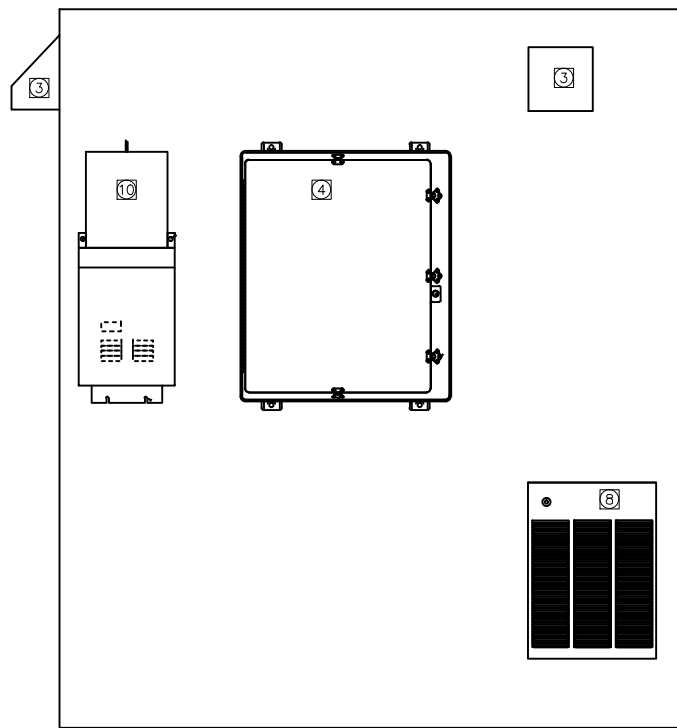
2 INTERIOR NORTH ELEVATION
E3.1 SCALE: NTS



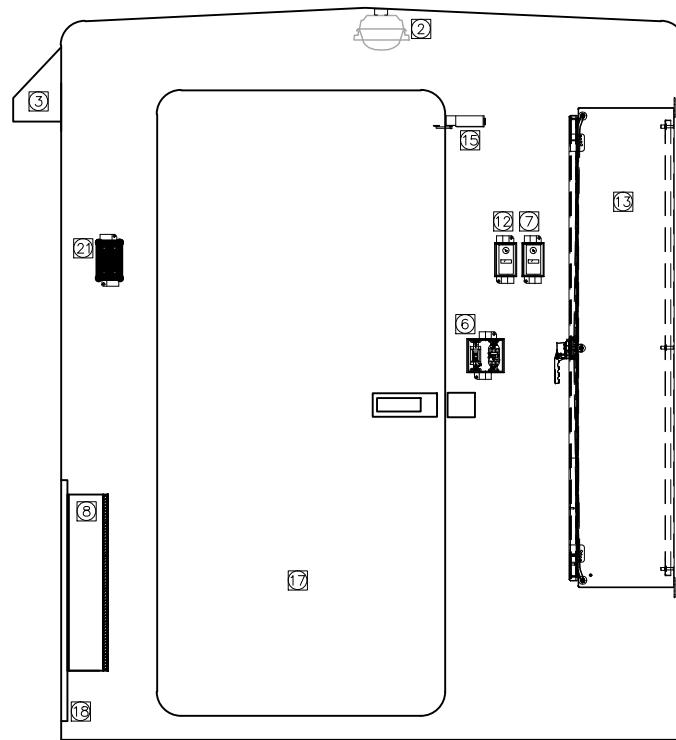
3 INTERIOR WEST ELEVATION
E3.1 SCALE: NTS



1 CONTROL SHELTER PLAN
E3.1 SCALE: NTS



4 INTERIOR EAST ELEVATION
E3.1 SCALE: NTS



5 INTERIOR SOUTH ELEVATION
E3.1 SCALE: NTS

CONTROL SHELTER KEY NOTES

- 1 PAD MOUNTED FIBERGLASS CONTROL SHELTER. SEE SPECIFICATIONS FOR REQUIREMENTS.
- 2 LIGHTING FIXTURE: LITHONIA XLW254MV ENCLOSED WET LOCATION 2(EA) F54T5 LAMPS
- 3 SHELTER FAN AND EXHAUST. SCREENED WITH RAINHOODS AND BACKDRAFT DAMPERS. 300CFM. FANS, POWER DAMPERS, AND HARDWARE SHALL BE CORROSION RESISTANT AND CONSTRUCTED OF STAINLESS STEEL AND/OR FIBERGLASS. SEE SHELTER SPECIFICATIONS.
- 4 EXISTING SCADA PANEL: RELOCATE SCADA PANEL FROM EXISTING DRY WELL. SEE AS-BUILT REFERENCE DRAWINGS AND SHEET SC1.1.
- 5 EXPLOSIONPROOF JUNCTION ENCLOSURES. SEE E3.2.
- 6 120 VAC CONVENIENCE RECEPTACLE AND LIGHT SWITCH IN TWO GANG BOX.
- 7 COOLING THERMOSTAT: WHITE ROGERS 151-6. SET TO 75 DEGREES.
- 8 WALL MOUNT HEATER: KING KAWH4B30 OR SIMILAR: 3000KW, 480V, 1PHASE. PROVIDE ALL NECESSARY ACCESSORIES, INTEGRAL THERMOSTAT, SURFACE MOUNT CAN. COLOR: STANDARD.
- 9 PANEL AC1: 480V PANELBOARD
- 10 120/240V SINGLE PHASE MINI LOADCENTER. REUSE EXISTING
- 11 200A MANUAL TRANSFER SWITCH & GENERATOR RECEPTACLE: REUSE EXISTING AT NODE 4. PROVIDE NEW AT NODE 6.
- 12 AMBIENT AIR TEMPERATURE TRANSMITTER WITH (1) #18 TSP TO THE SCADA PANEL. OMEGA ESW-TX. OMEGA ESW-TX WITH EWS-MD MOUNTING PLATE. MOUNT ON CAST FS TYPE BOX.
- 13 PUMP CONTROL PANEL. PROVIDE PANELS PER SPECIFICATIONS AND CONTROL DRAWINGS.
- 14 NEW 480/277V 3 PHASE METER MAIN SERVICE EQUIPMENT. SEE STATION SERVICE DETAIL.
- 15 DISCRETE ENCLOSURE INTRUSION SWITCH: AB 802T-HP WITH 802MC-W2B. SEE DETAIL 2/E3.3.
- 16 EQUIPMENT RACK. HOT DIPPED GALVANIZED. SEE SITE PLANS FOR RACK & EQUIPMENT LOCATIONS. SEE 5/E3.2 FOR DETAILS.
- 17 36" DOOR WITH KEYED LOCK. PROVIDE BEST OR EQUAL KEYWAY.
- 18 MOUNT EQUIPMENT ON STRUT, TYP. 13/16" STAINLESS STEEL.
- 19 PROVIDE SHELTER MANUFACTURERS STANDARD CEILING HEIGHT: 90" MIN.
- 20 PLAN NORTH FOR REFERENCE ON THIS DRAWING ONLY.
- 21 PHONE JACK ON FS BOX: RJ-45 JACK WITH CAT 5 CABLE TO UTILITY PHONE BOX AT SERVICE RACK. PROVIDE HUBBELL P630SR1GJ6 DEVICE PLATE. VERIFY LOCATION WITH OWNER.

DATA	REV	DATE	DESCRIPTION
Sheet			
Station			
Work			
Gas			
Electric			
Cable TV			
Emblems			
Footing Elev.			
Approved			



ADOPTED AUGUST 1972



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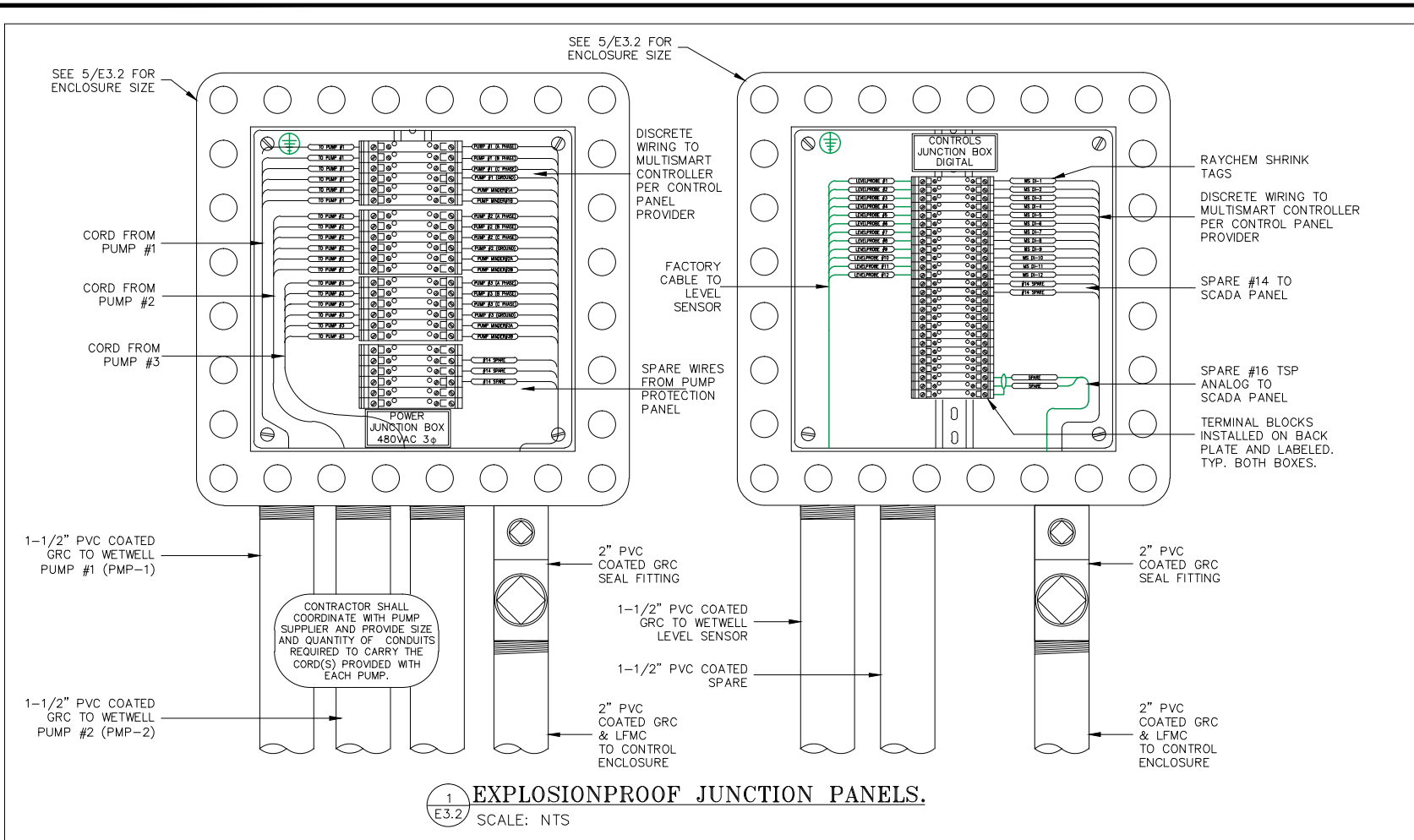


STATE OF ALASKA
49 TH
David Hill
EE-10223
09/04/2015
REGISTERED PROFESSIONAL ENGINEER
STAMP

WRANGELL SEWER PUMPS REPLACEMENT PROJECT
PUMP STATIONS 4 & 6 IMPROVEMENTS

CONTROL SHELTER PLAN
TYPICAL NODE 4 & 6
WRANGELL, ALASKA

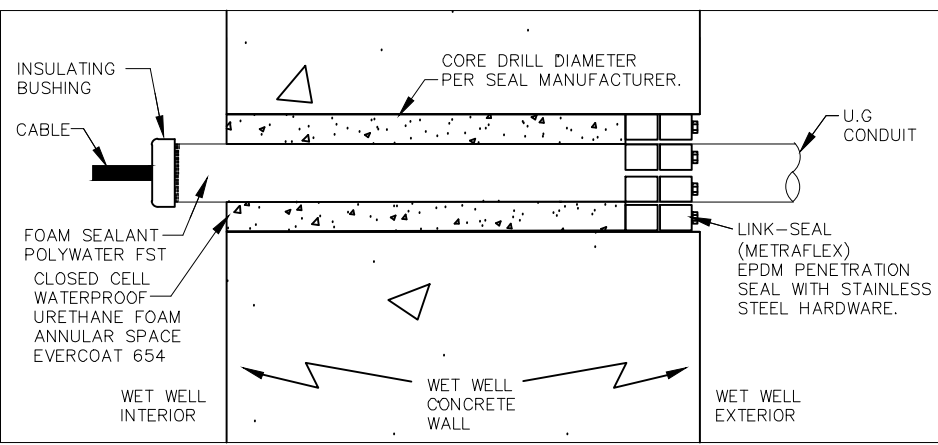
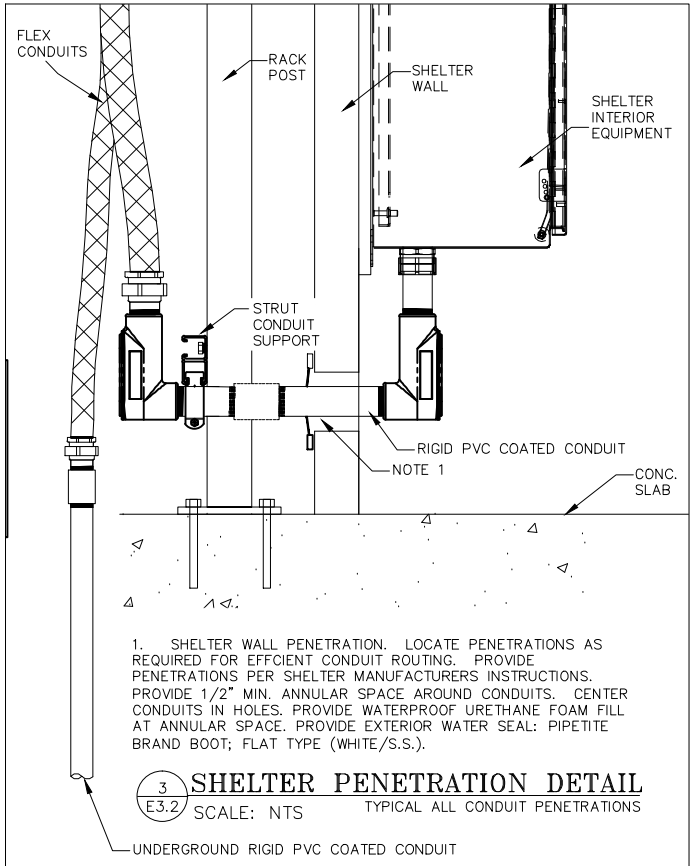
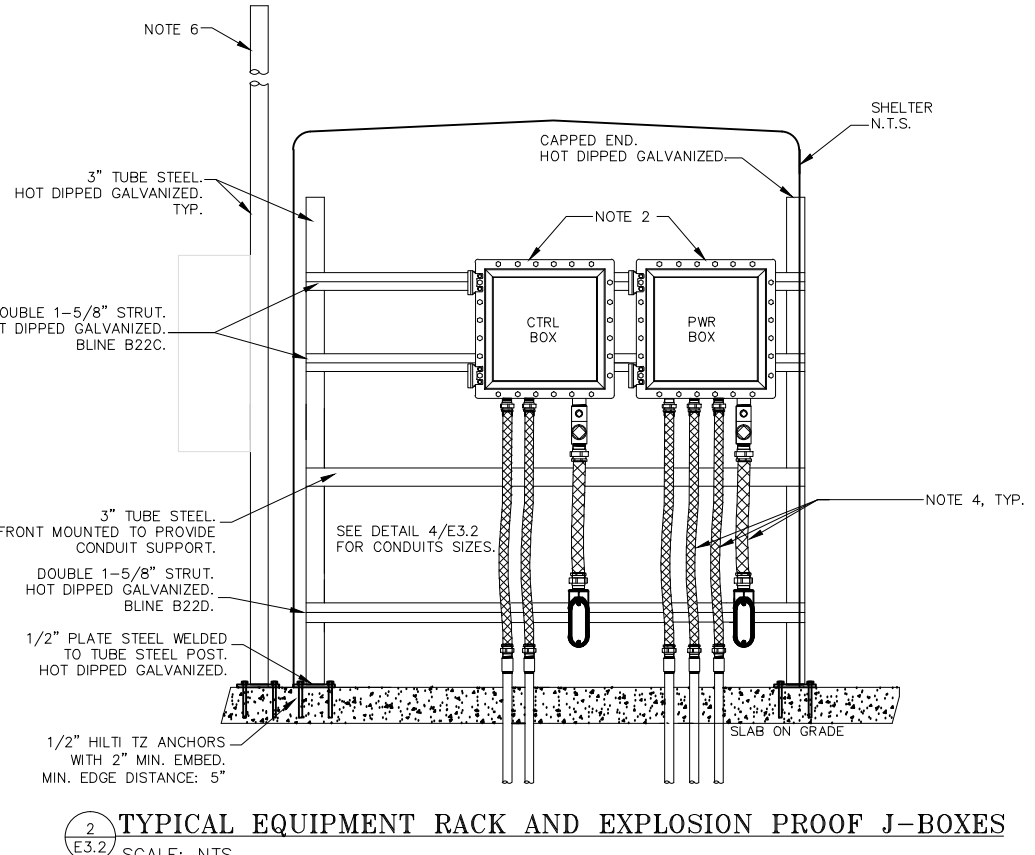
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EQUIPMENT RACK NOTES:

1. THIS DETAIL APPLIES TO THE SERVICE RACK AND THE EXPLOSIONPROOF J-BOX RACK.
2. EXPLOSIONPROOF JUNCTION BOX. TYPICAL OF TWO. 14"x14"x6" MIN. FOR POWER. 14"x14"x6" MIN. FOR CONTROL (INTERIOR DIMENSIONS). AKRON AXH OR EQUAL. PROVIDE, HINGE COVER, FACTORY INSTALLED TERMINAL BLOCKS, INTERNAL GROUND KIT, MOUNTING HARDWARE, AND CONDUIT PENETRATIONS AS REQUIRED. CONTRACTOR TO COORDINATE BOX SIZE WITH CONDUIT ENTRY REQUIREMENTS AND ORDER WITH REQUIRED PENETRATIONS.
3. 1-5/8" X 1-5/8" STAINLESS STEEL OR HOT DIPPED GALVANIZE UNISTRUT FOR J-BOX AND CONDUIT SUPPORT. UNISTRUT SHALL BE WELDED TO SUPPORT PIPE AND COLD GALVANIZED PER SPECIFICATIONS.

4. PROVIDE FLEXIBLE CONDUITS (LFMC) BETWEEN GRAD AND RACK MOUNTED EQUIPMENT. PROVIDE FLEXIBLE CONDUITS BETWEEN RACK MOUNTED EQUIPMENT BUILDING INTERIOR EQUIPMENT.
5. CONTRACTOR TO FIELD LOCATE RACK AND RACK MOUNTED EQUIPMENT TO MINIMIZE CONDUIT LENGTH BETWEEN RACK EQUIPMENT AND INTERIOR EQUIPMENT.
6. SERVICE RACK ANTENNA SUPPORT. PROVIDE 15' POST WITH CAP AT SERVICE RACK FOR ANTENNA ATTACHMENT.

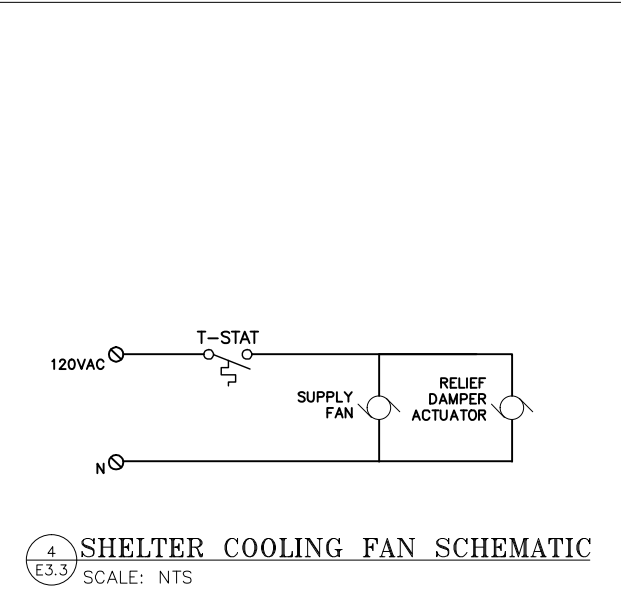
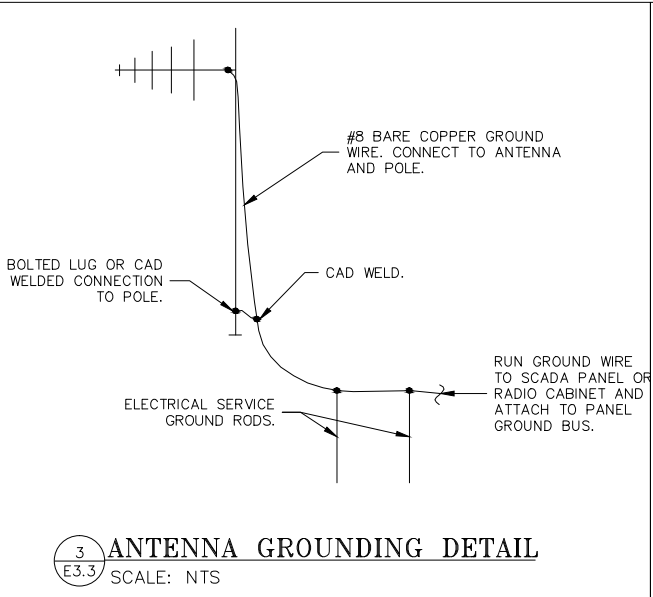
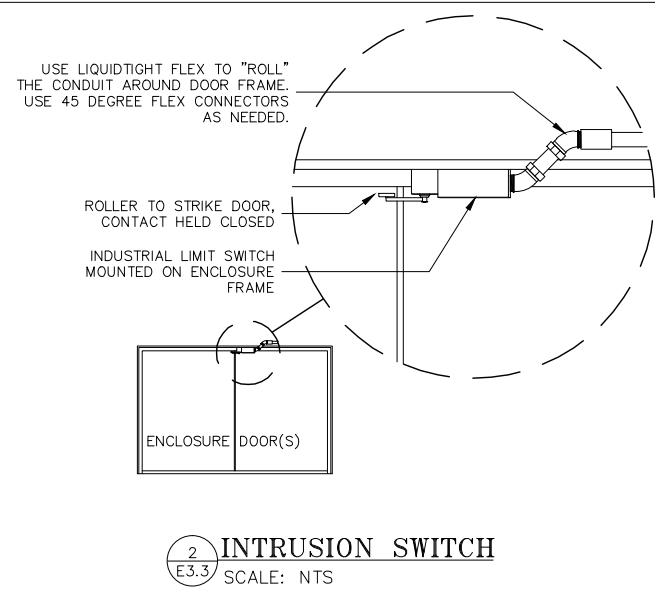
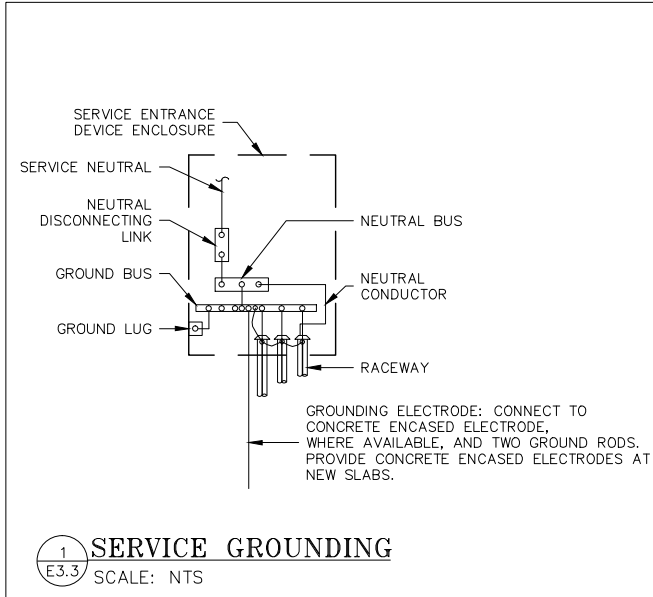


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STATE OF ALASKA
 49th David Hoff
 EE-10223
 REG04/2015
 REGISTERED PROFESSIONAL ENGINEER
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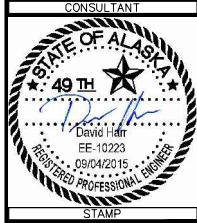
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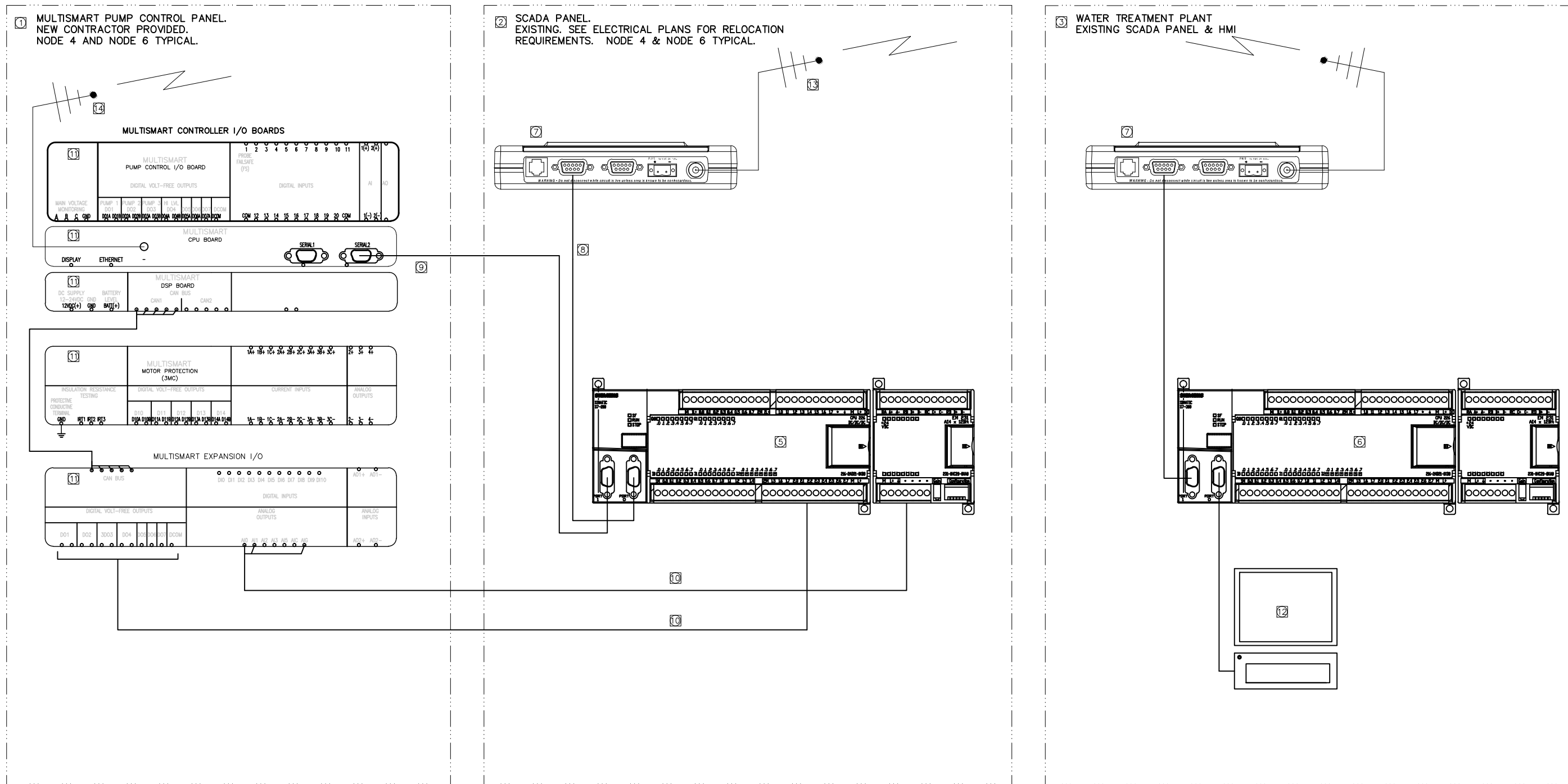
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PROJECT #14-0188



WRANGELL SEWER PUMPS REPLACEMENT PROJECT
PUMP STATIONS 4 & 6 IMPROVEMENTS
ELECTRICAL & SCADA
DETAILS II
WRANGELL, ALASKA

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C:\Users\dave_000\Dropbox\EPS_JOBS\AA_SOS\down_engineers\14-0188_wrangell_sewer_pump_replacement\drawings\electrical\EC1.0.dwg PLOT DATE 2015-09-03 13:47 SAVED DATE 2015-09-03 13:50 C:\EPS\DRUPBOX\EPS_JOBS\AA_SOS\down_engineers\14-0188_wrangell_sewer_pump_replacement\drawings\electrical\EC1.0.dwg PLOT DATE 2015-09-03 13:47 SAVED DATE 2015-09-03 13:50



MATERIALS AND INSTALLATION KEY NOTES NODES 4 & 6

- 1 MULTISMART CONTROLLER PROVIDED WITH PUMP CONTROL PANEL. NEW WORK THIS PROJECT.
- 2 EXISTING SCADA PANEL COMPONENTS. SEE ATTACHED AS-BUILT REFERENCE DRAWINGS SC1.1 & SC1.2.
- 3 EXISTING SCADA PANEL AT WATER TREATMENT PLANT MAIN CONTROL.
- 4 EXISTING SCADA HMI AT WATER TREATMENT PLANT MAIN CONTROL.
- 5 EXISTING SIEMENS S7-200 PLC
- 6 EXISTING SIEMENS S7-300 PLC
- 7 EXISTING ESTEEM RADIO MODEM
- 8 EXISTING SERIAL CABLE
- 9 NEW MODBUS SERIAL CABLE
- 10 NEW I/O WIRING PER SHEETS EC2.0, SC1.1 AND SC1.2.
- 11 NEW MULTISMART CONTROLLER AND I/O EXTENSION MODULE.
- 12 EXISTING PC BASED HMI
- 13 EXISTING RADIO ANTENNA REINSTALLED AT NEW ANTENNA POST.
- 14 NEW AT&T ANTENNA PROVIDED WITH MULTISMART CONTROLLER, MOUNT TO NEW ANTENNA POST.

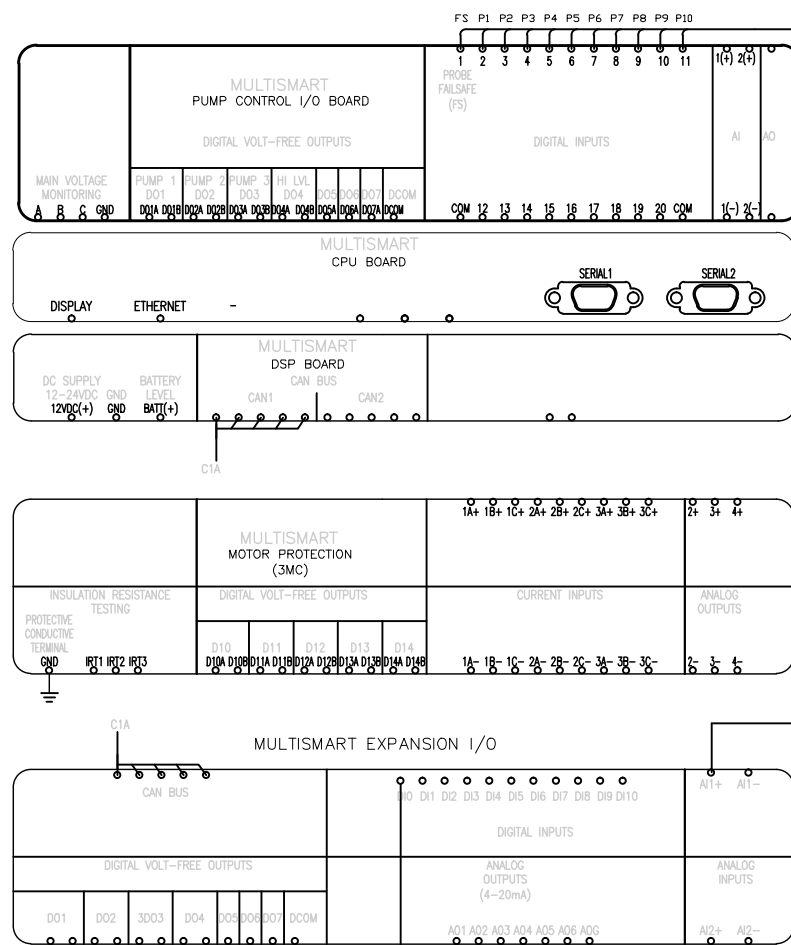
CONTROL SCOPE OF WORK NODES 4 & 6

1. PROVIDE PUMP CONTROL PANEL. SCADA INTEGRATOR TO COORDINATE PROCUREMENT OF PUMP CONTROL PANEL TO ENSURE REQUIRED COMMUNICATIONS, CONTROLS AND I/O POINTS ARE PROVIDED WITH THE PANEL.
2. DISCONNECT, STORE, & REINSTALL EXISTING SCADA CONTROL PANEL. ESTABLISH I/O COMMUNICATION BETWEEN MULTISMART CONTROLLER AND EXISTING SCADA PLC VIA DISCRETE INPUTS OR VIA SERIAL MODBUS CONNECTION. REESTABLISH RADIO CONNECTION TO WATER TREATMENT PLANT MAIN CONTROL.
3. PROVIDE ALL REQUIRED SIEMENS PLC PROGRAM UPDATES AT LIFT STATIONS AND WATER PLANT TO ENABLE COMMUNICATIONS.
4. UPDATE WATER TREATMENT PLANT MAIN CONTROL 'SIEMENS WINCC' HMI AS REQUIRED TO ENUNCIATE ALL I/O AND CREATE ALARMS PER WATER TREATMENT PLANT PERSONNEL.
5. PROVIDE AND COMMISSION MULTISMART PUMP VIEW CELLULAR KIT, ANTENNA, AND WEB ACCESS.

 ADOPTED AUGUST 1972	 49th David Hill EE-10223 09/04/2015 REGISTERED PROFESSIONAL ENGINEER STAMP	WRANGELL SEWER PUMPS REPLACEMENT PROJECT PUMP STATIONS 4 & 6 IMPROVEMENTS NODES 4 & 6 SCADA COMMUNICATIONS AND I/O SCHEMATIC WRANGELL, ALASKA
CHECKED BY DESIGNED BY DAH DRAWN BY DAH DATE 09/04/2015 LOCATION	DATA /BY Con. Sheet Station Work Unit Class Telephone Electric Cable TV Emergents Footing Elev. Approved Ver/Cell Datum	
PN FILE NO. SHEET EC1.0 22 OF 27		

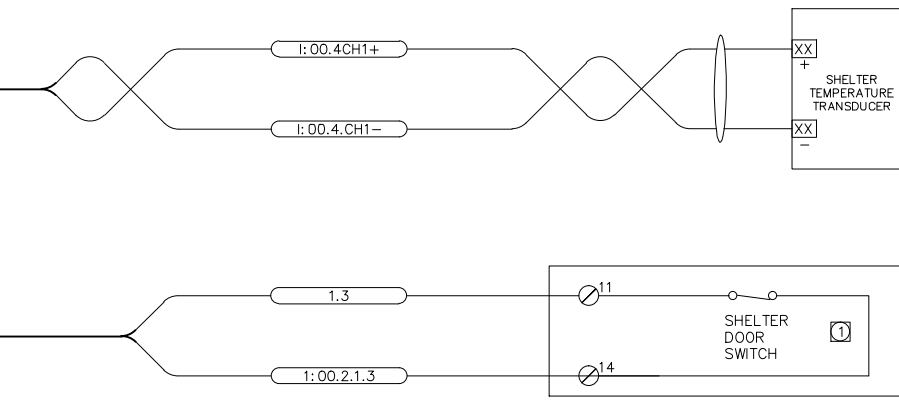
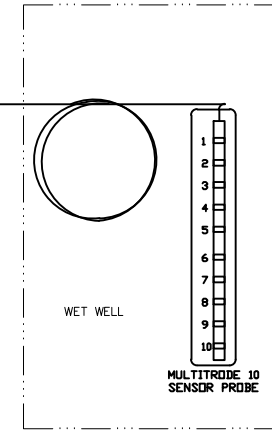
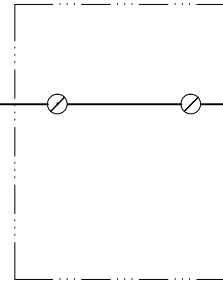
MULTISMART PUMP CONTROL PANEL

FIELD WIRING



MULTITRODE 10 CORE CABLE

MULTITRODE 10 CORE CABLE



SHEET NOTES:
THIS SHEET: TYPICAL NODES 4 & 6

① VERIFY CONTACT STATES, LOGIC AND I/O SIGNAL TYPE BEFORE CONNECTION.

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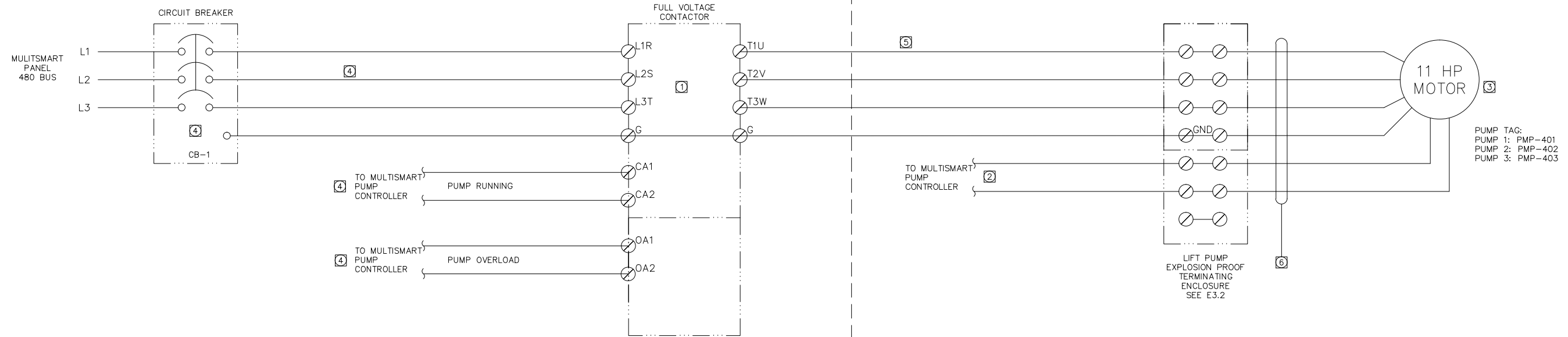
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WRANGELL SEWER PUMPS REPLACEMENT PROJECT
 PUMP STATIONS 4 & 6 IMPROVEMENTS
 NODE 4 & 6
 PUMP CONTROL AND SCADA
 FIELD WIRING
 WRANGELL, ALASKA

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MULTISMART PUMP CONTROL PANEL

FIELD WIRING



PUMP TAG:
 PUMP 1: PMP-401
 PUMP 2: PMP-402
 PUMP 3: PMP-403

PUMP WIRING NOTES:
 NOTES AND SCHEMATIC TYPICAL OF 3 PUMPS.

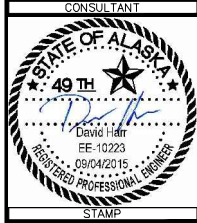
- ① FULL VOLTAGE CONTACTOR STARTER PROVIDED WITH MULTISMART CONTROL PANEL. PANEL BUILDER TO MATCH CONTACTORS WITH MOTOR AND DRIVE. PROVIDE ELECTRONIC OVERLOADS. PROVIDE CONTACTOR AND OVERLOAD AUXILIARY CONTACTS.
- ② PUMP MONITORING WIRING: PROVIDE #14. COORDINATE WITH MULTISMART CONTROL PANEL PROVIDER FOR EXACT TERMINAL LOCATIONS.
- ③ 480V 3 ϕ MOTOR. MULTISMART CONTROL PANEL PROVIDER TO COORDINATE WITH PUMP PROVIDER TO VERIFY PUMP VOLTS AND HP AND SIZE CONTROLLERS AND WIRING TO MEET NEC.
- ④ PUMP BREAKER/DISCONNECT AND WIRING TO CONTROLLER BY MULTISMART CONTROL PANEL PROVIDER, SIZED PER NEC.
- ⑤ CONTRACTOR PROVIDED PUMP WIRING: (EACH PUMP) 3#10 WITH #10GND XHHW-2 IN SHARED CONDUIT. CONTRACTOR TO PROVIDE FIELD WIRING BASED ON ACTUAL PUMP HP SUPPLIED.
- ⑥ PUMP CORD. PROVIDED WITH PUMP. PROVIDE 20' SPARE LENGTH LOOPED IN WET WELL SUPPORTED FROM STAINLESS STEEL HOOKS/SUPPORTS. PROVIDE CONDUITS FOR PUMP CORD(S) AS REQUIRED. SEE 1/E3.2.

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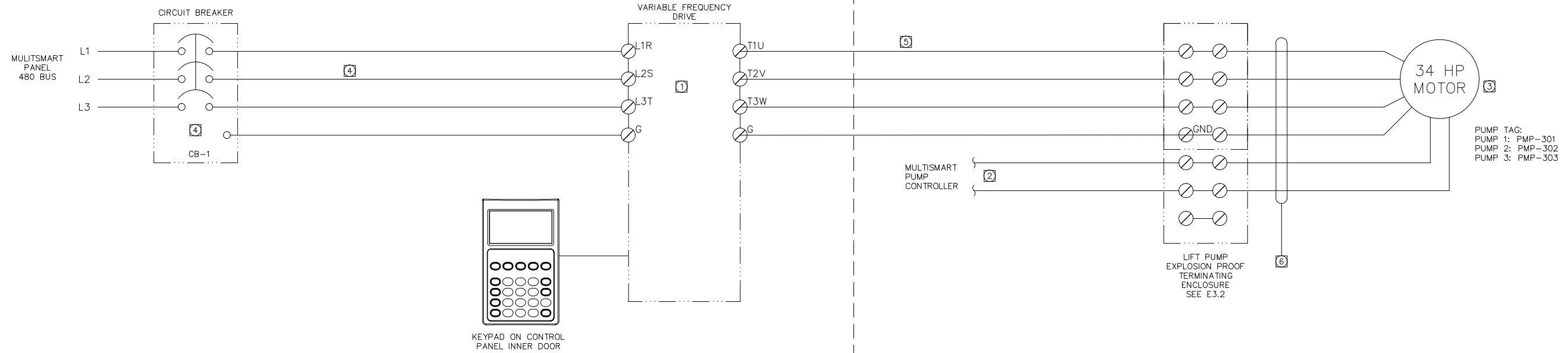


WRANGELL SEWER PUMPS REPLACEMENT PROJECT
 PUMP STATIONS 4 & 6 IMPROVEMENTS
 PUMP POWER & CONTROL SCHEMATIC
 NODE 4
 WRANGELL, ALASKA

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MULTISMART PUMP CONTROL PANEL

FIELD WIRING



PUMP TAG:
 PUMP 1: PMP-301
 PUMP 2: PMP-302
 PUMP 3: PMP-303

PUMP WIRING NOTES:
 NOTES AND SCHEMATIC TYPICAL OF 3 PUMPS.

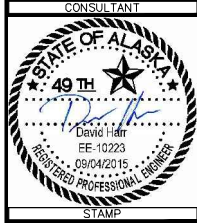
- ① VARIABLE SPEED DRIVE PROVIDED WITH MULTISMART CONTROL PANEL. PANEL BUILDER TO MATCH DRIVE TO SUPPLIED MOTORS.
- ② PUMP MONITORING WIRING; PROVIDE #14XHHW. COORDINATE WITH MULTISMART CONTROL PANEL PROVIDER FOR EXACT TERMINAL LOCATIONS.
- ③ 480V 3 ϕ MOTOR. MULTISMART CONTROL PANEL PROVIDER TO COORDINATE WITH PUMP PROVIDER TO VERIFY PUMP VOLTS AND HP AND SIZE CONTROLLERS AND WIRING TO MEET NEC.
- ④ PUMP BREAKER/DISCONNECT AND WIRING TO VFD BY MULTISMART CONTROL PANEL PROVIDER, SIZED PER NEC.
- ⑤ CONTRACTOR PROVIDED PUMP WIRING:(EACH PUMP) 3#4 WITH #8GND IN SHARED 2" CONDUIT. CONTRACTOR TO PROVIDE FIELD WIRING BASED ON ACTUAL PUMP HP SUPPLIED
- ⑥ PUMP CORD. PROVIDED WITH PUMP. PROVIDE 20' SPARE LENGTH LOOPED IN WET WELL SUPPORTED FROM STAINLESS STEEL HOOKS/SUPPORTS. PROVIDE CONDUITS FOR PUMP CORD(S) AS REQUIRED. SEE 1/E3.2.

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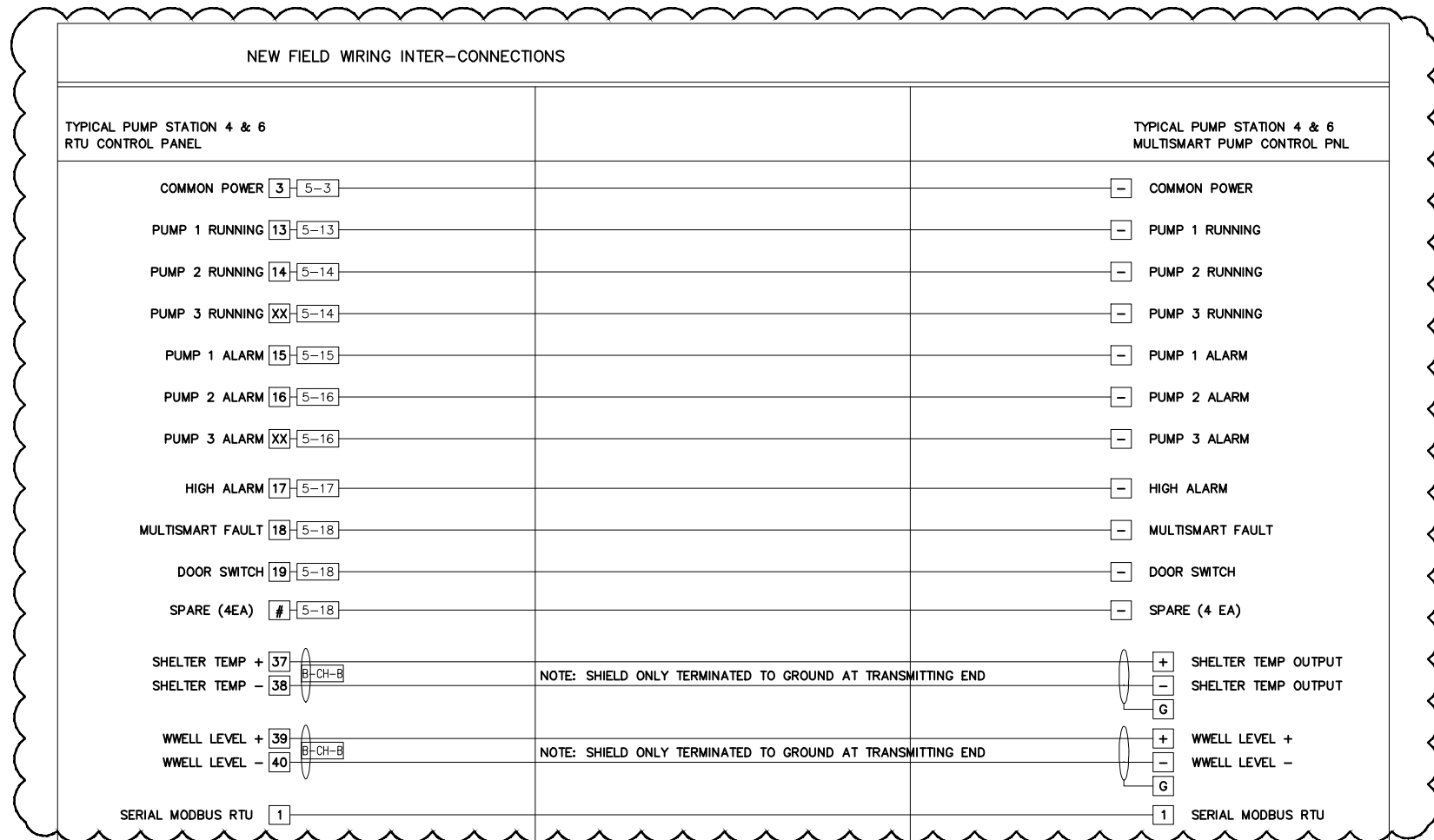
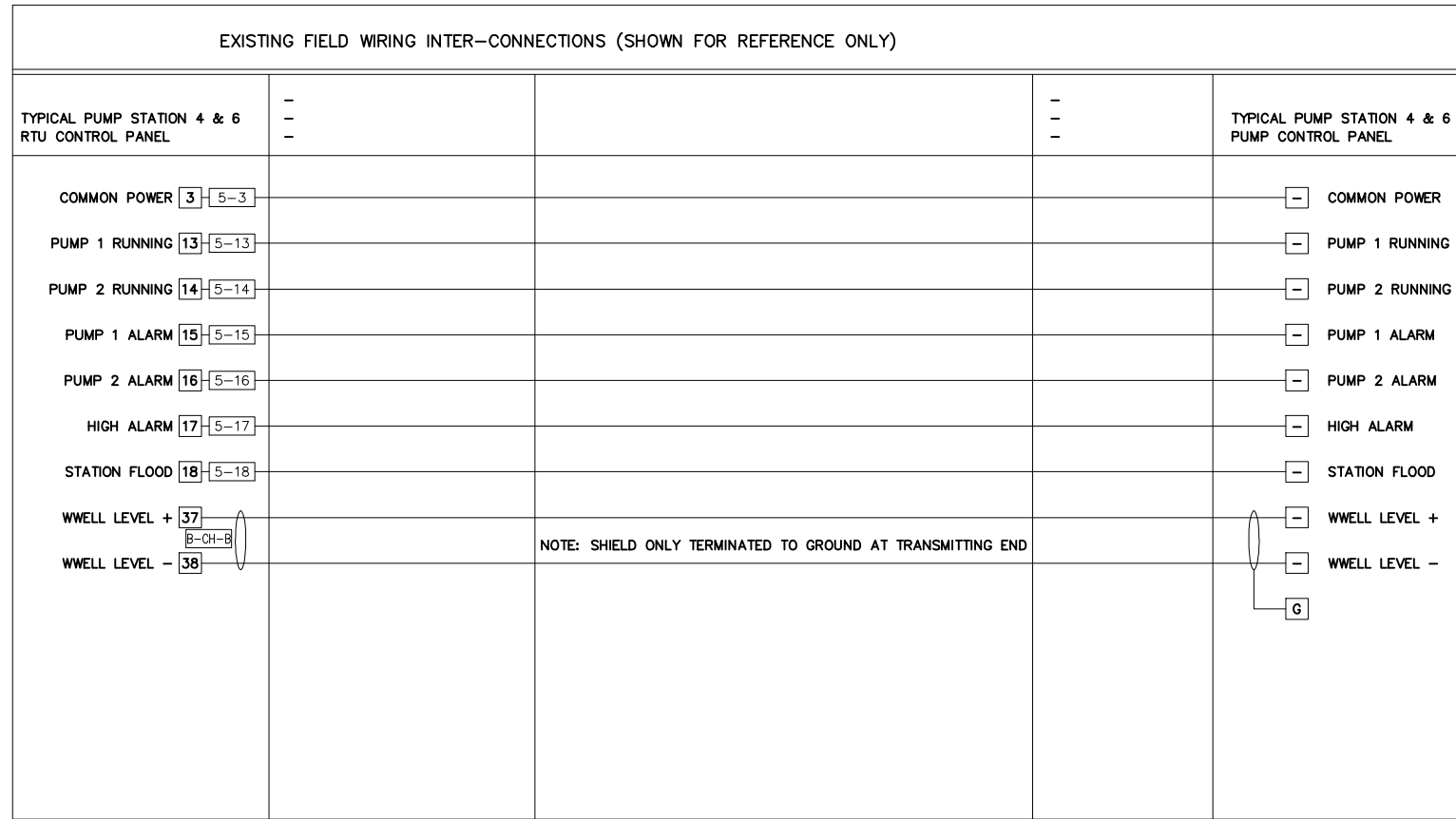


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WRANGELL SEWER PUMPS REPLACEMENT PROJECT
 PUMP STATIONS 4 & 6 IMPROVEMENTS
 PUMP POWER & CONTROL SCHEMATIC
 NODE 6
 WRANGELL, ALASKA

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SCADA UPGRADE NOTES TYPICAL NODES 4 & 6:
 1. REMOVE AND RELOCATE EXISTING SCADA PANEL AS REQUIRED AND AS SHOWN ON THE DRAWINGS.
 2. PROVIDE NEW SCADA I/O AND SCADA FIELD WIRING AS INDICATED.
 3. COORDINATE WITH MULTISMART PANEL SUPPLIER FOR WIRE TERMINATION DIAGRAMS.

/BY		REVISIONS		DATE		DESCRIPTION	
DATA Sta. Sheet Sewer Water Gas Telephone Electric Cable TV Emblems Footing Elev. Approved							
 WRANGELL CITY ADOPTED AUGUST 1972							
 EPS INC. CONSULTANTS TEL: (907) 522-1953 WEB: WWW.EPSINC.COM PROJECT #14-0188							
 STATE OF ALASKA 49 TH David Hoff EE-10228 09/04/2015 REGISTERED PROFESSIONAL ENGINEER STAMP							
WRANGELL SEWER PUMPS REPLACEMENT PROJECT PUMP STATIONS 4 & 6 IMPROVEMENTS NODE 4 & 6 SCADA PANEL FIELD WIRING WRANGELL, ALASKA							
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