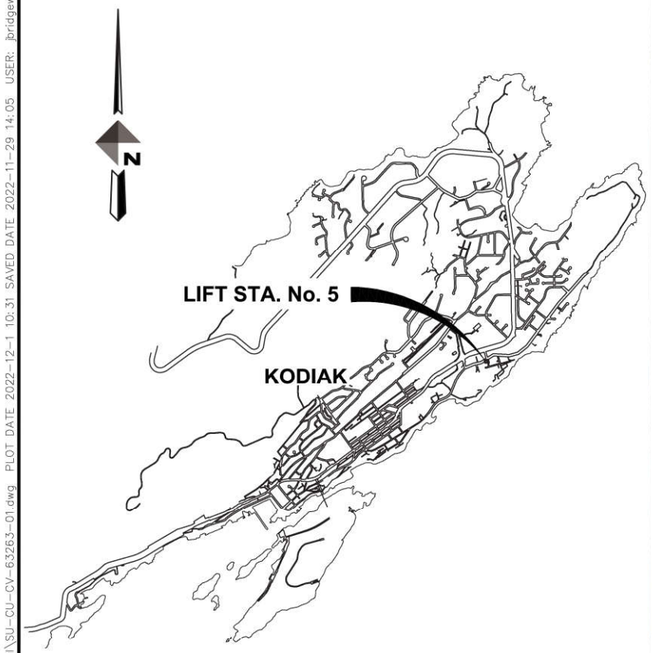
KODIAK SANITARY SEWER
LIFT STATION 5 & FORCE MAIN REPLACEMENT
CITY OF KODIAK
NOVEMBER 2022

LOCATION MAP



VICINITY MAP

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REV	DATE	REVISIONS DESCRIPTION	BY
1	10/14/22	QC REVIEW	KJ
2	11/21/22	QC REVIEW	PS

CITY OF KODIAK ALASKA

STATE OF ALASKA 49TH Kiana P. Eller 12-15218 12-9-22 REGISTERED PROFESSIONAL ENGINEER

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907-562-2000

KODIAK SANITARY SEWER
LIFT STATION 5
COVER SHEET
KODIAK, ALASKA

CHECKED BY:	AM
DESIGNED BY:	KPE
DRAWN BY:	JMB
DATE	NOVEMBER 2022
LOCATION	KODIAK
	S32 T27S R19W SM
PN	1128.63263.01

SHEET
G-01

ABBREVIATIONS

AC	–	ASBESTOS CEMENT	LF	–	LINEAR FEET
ACP	–	ASPHALT CONCRETE PAVEMENT	LP	–	LOOP
ADEC	–	ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION	MAX	–	MAXIMUM
			MAT'L	–	MATERIAL
ASTM	–	AMERICAN STANDARD OF TESTING AND MATERIAL	ME	–	MATCH EXISTING
			MFR	–	MANUFACTURER
AVAP	–	AS VERTICAL AS PRACTICABLE	MILS	–	MILLIMETERS
AVE	–	AVENUE	MIN	–	MINIMUM
@	–	AT	MJ	–	MECHANICAL JOINT
BV	–	BUTTERFLY VALVE	MON	–	MONUMENT
BOP	–	BOTTOM OF PIPE	NDCBU	–	NEIGHBORHOOD DELIVERY AND COLLECTION BOX UNITS
BRW	–	BOTTOM OF RETAINING WALL			
C&G	–	CURB AND GUTTER	NIC	–	NOT IN CONTRACT
CBMH	–	CATCH BASIN MANHOLE	NO.	–	NUMBER
CIP	–	CAST–IN–PLACE	NTS	–	NOT TO SCALE
CITY	–	CITY OF KODIAK	OAE	–	OR APPROVED EQUAL
CKSS	–	CITY OF KODIAK STANDARD SPECIFICATIONS, 2012 EDITION, AS CURRENTLY AMENDED	OC	–	ON CENTER
			OD	–	OUTSIDE DIAMETER
			OSHA	–	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
CL	–	CLASS			
℄	–	CENTER LINE	PC	–	POINT OF CURVE
CLR	–	CLEAR	PCC	–	PORTLAND CEMENT CONCRETE
CMP	–	CORRUGATED METAL PIPE	PCPEP	–	PERFORATED CPEP
COB	–	CENTER OF BARREL	PRC	–	POINT OF REVERSE CURVE
CONC	–	CONCRETE	PSI	–	POUNDS PER SQUARE INCH
CPEP	–	CORRUGATED POLYETHYLENE PIPE	PT	–	POINT OF TANGENCY
CVP	–	CULVERT PIPE	PVC	–	POLYVINYL CHLORIDE
ø	–	DIAMETER	PVI	–	POINT OF VERTICAL INTERSECTION
DIA	–	DIAMETER	R	–	RIGHT
DIP	–	DUCTILE IRON PIPE	REQ'D	–	REQUIRED
DW	–	DOME WIDTH	RET	–	RETAINING
EG	–	EDGE OF GRAVEL	RD	–	ROAD
ELEV	–	ELEVATION	ROW	–	RIGHT–OF–WAY
EP	–	EDGE OF PAVEMENT	SBD	–	SUBDRAIN
ESMT	–	EASEMENT	SCH	–	SCHEDULE
EVCE	–	END VERTICAL CURVE ELEVATION	SDCB	–	STORM DRAIN CATCH BASIN
EVCS	–	END VERTICAL CURVE STATION	SDMH	–	STORM DRAIN MANHOLE
EW	–	EACH WAY	SDYD	–	STORM DRAIN YARD DRAIN
EXST	–	EXISTING	SL	–	STATION LINE
F & I	–	FURNISH AND INSTALL	SQ	–	SQUARE
FG	–	FINISH GRADE	SSMH	–	SANITARY SEWER MANHOLE
FRM	–	FRAME	SSCO	–	SANITARY SEWER CLEANOUT
FL	–	FLOW LINE	ST	–	STREET
GAL	–	GALLON	STA	–	STATION
GALV	–	GALVANIZED	TBC	–	TOP BACK OF CURB
GB	–	GRADE BREAK	TBRW	–	TOP BACK OF RETAINING WALL
GV	–	GATE VALVE	TRW	–	TOP OF RETAINING WALL
H	–	HORIZONTAL	TW	–	TOP OF WALL
IAW	–	IN ACCORDANCE WITH	TYP	–	TYPICAL
ID	–	INSIDE DIAMETER	UN	–	UNKNOWN
IN	–	INCH	USPS	–	UNITED STATES POSTAL SERVICE
INV	–	INVERT	V	–	VERTICAL
K	–	RATE OF VERTICAL CURVATURE	VB	–	VALVE BOX
KEA	–	KODIAK ELECTRIC ASSOCIATION	VC	–	VERTICAL CURVE
KFD	–	KODIAK FIRE DEPARTMENT	VERT	–	VERTICAL
KIP	–	ONE THOUSAND POUNDS–FORCE	W/	–	WITH
L	–	LEFT	YD	–	YARD DRAIN
LBS	–	POUNDS			
LC	–	LEVELING COURSE			

LEGEND

PROPOSED	EXISTING	
W	W W	WATER LINE
S	S S	SEWER LINE
	FM FM	FORCE MAIN
SD	SD SD	STORM SEWER
E	E E	BURIED ELECTRIC
OE	OE OE	OVERHEAD ELECTRIC
FO	FO FO	FIBER OPTIC LINE
C	C C	COMMUNICATION LINE
T	T T	TELEPHONE LINE
G	G G	GAS LINE
x x	X X	FENCE
		EDGE OF ASPHALT
		EDGE OF GRAVEL
		PROPERTY LINE
		RIGHT OF WAY
		FLOWLINE
S	S	SANITARY SEWER MANHOLE
		SANITARY SEWER CLEANOUT
		STORM INLET
		FIRE HYDRANT
		WATER MAIN VALVE
W	W	WATER METER
		CURB STOP
		COMMUNICATION PEDESTAL
T	T	TELEPHONE PEDESTAL
		POWER POLE
		GUY WIRE
E	E	ELECTRIC METER
J	J	JUNCTION BOX
		TRANSFORMER
G	G	GAS METER
		TREE
		SIGN
		TSUNAMI SIREN
		SURVEY MONUMENT
		CONCRETE
	TB–1	TEST BORE HOLE
20	20	MAJOR CONTOUR
		MINOR CONTOUR

DETAIL NUMBER
/ C-##
DETAIL NAME
SCALE
SHEET NUMBER

GENERAL CIVIL NOTES

1G. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE 2012 EDITION OF THE CITY OF KODIAK STANDARD SPECIFICATIONS AS CURRENTLY AMENDED.

2G. EXISTING GROUND CONTOURS ARE BASED ON TOPOGRAPHIC SURVEY PERFORMED BY TIM WILLMAN PLS ON DECEMBER 2020. CONTRACTOR SHALL VERIFY SITE CONDITIONS.

3G. SOILS INFORMATION IS DERIVED FROM SOILS INVESTIGATIONS PERFORMED BY DOWL. SEE SOIL BORING LOGS INCLUDED IN PROJECT MANUAL.

4G. CONTRACTOR SHALL AS–BUILD ALL UTILITIES ENCOUNTERED IN THE FIELD BY ACTUAL SURVEY METHODS AND PROVIDE FIELD NOTES TO THE ENGINEER WHICH INCLUDE HORIZONTAL AND VERTICAL LOCATIONS OF EACH. CONTRACTOR SHALL RECORD ALL DEVIATIONS FROM THE PLANS.

5G. CONTRACTOR SHALL MAINTAIN "AS–BUILT" RECORD DRAWINGS ON A CLEAN SET OF CONSTRUCTION DRAWINGS IN ACCORDANCE WITH CKSS DIVISION 800, SECTION 805, CONSTRUCTION SURVEY. THE "AS–BUILTS" SHALL BE KEPT CURRENT ON A DAILY BASIS AND SHALL BE AVAILABLE TO THE ENGINEER FOR INSPECTION ON THE JOB SITE. CONTRACTOR SHALL RECORD SURVEY NOTES AND SUBMIT THEM DAILY TO THE ENGINEER.

6G. LOCATIONS DEPICTED FOR THE UTILITIES AND OTHER EXISTING FEATURES ARE APPROXIMATE. SOME UTILITIES HAVE BEEN LOCATED FROM AS–BUILT DRAWINGS AND SOME FROM UTILITY COMPANY LOCATES, AND THEREFORE MAY NOT BE VISIBLE. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND VERIFYING ALL UTILITIES AND SHALL EXERCISE CAUTION DURING CONSTRUCTION.

7G. ELEVATIONS SHOWN ARE TO PIPE INVERT, FLOW LINE, OR FINISH PAVEMENT SURFACE UNLESS NOTED OTHERWISE.

8G. THE CONTRACTOR SHALL FOLLOW ALL CITY DIRECTIONS AND REGULATIONS FOR NOISE, HOURS OF OPERATIONS, AND DUST CONTROL.

9G. PIPE BEDDING SHALL BE INSTALLED PER CKSS, AND SHALL BE INCIDENTAL TO TRENCH EXCAVATION AND BACKFILL – STORM DRAIN, WATER, AND SEWER. TRENCH BACKFILL SHALL BE COMPACTED TO AT LEAST 95% OF MAXIMUM DRY DENSITY.

10G. MAINTAIN A MINIMUM OF 18–INCHES OF VERTICAL SEPARATION AT ALL CROSSINGS BETWEEN ANY STORM SEWER/SANITARY SEWER MAINS AND WATER LINE MAINS.

11G. MAINTAIN A MINIMUM OF 10–FEET HORIZONTAL SEPARATION BETWEEN WATER MAINS AND STORM SEWER/SANITARY SEWER MAINS WHERE PRACTICABLE.

12G. ALL CONSTRUCTION OPERATIONS REQUIRED FOR THIS PROJECT SHALL REMAIN WITHIN EXISTING CITY ROW AND ACQUIRED EASEMENTS, UNLESS OTHERWISE APPROVED IN WRITING BY THE ENGINEER AND THE AFFECTED PROPERTY OWNER.

13G. SHORING OF UTILITY POLES SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT AND NO SEPARATE PAYMENT SHALL BE MADE.

14G. UNDERGROUND AND OVERHEAD ELECTRICAL AND TELECOMMUNICATION LINES EXIST WITHIN THE PROJECT AREA; CONTRACTOR SHALL COORDINATE WORK ACCORDINGLY. ALL WORK IN CLOSE PROXIMITY TO EXISTING LINES AND POLES SHALL COMPLY WITH APPLICABLE FEDERAL, STATE, AND LOCAL STATUTES, CODES AND GUIDELINES, AND THE ELECTRICAL FACILITY CLEARANCE REQUIREMENTS OF THE GOVERNING UTILITY. HAND DIGGING IS REQUIRED WITHIN TWO FEET OF BURIED ELECTRICAL CABLE.

15G. WATER RESULTING FROM CONTRACTOR'S DEWATERING EFFORT MAY NOT BE PUMPED OR OTHERWISE DIVERTED INTO EXISTING STORM DRAINS UNLESS REQUIRED PERMITS, INCLUDING BUT NOT LIMITED TO, ADEC PERMIT, ARE OBTAINED BY CONTRACTOR. UNDER NO CIRCUMSTANCES WILL THE CONTRACTOR BE ALLOWED TO DIVERT WATER FROM THE EXCAVATION ONTO THE 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 PERMITS AND APPROVALS TO THE CITY.

16G. CONTRACTOR SHALL RESTORE DISTURBED PROPERTY TO PRECONSTRUCTION CONDITION(S), UNLESS OTHERWISE DIRECTED BY THE ENGINEER. PAYMENT FOR RESTORING DISTURBED PROPERTY SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT AND NO SEPARATE PAYMENT SHALL BE MADE.

17G. TOPSOIL AND SEED ALL AREAS DISTURBED AND NOT OTHERWISE IMPROVED.

18G. ALL NEW MANHOLES ARE TO BE WATERPROOF PER SPECIAL PROVISION 503.

19G. CONTRACTOR SHALL PROVIDE SEPARATE PROCTORS FOR CLASSIFIED MATERIAL, LEVELING COURSE, AND BEDDING MATERIAL FOR THE PROJECT TWO WEEKS PRIOR TO PLACEMENT.

20G. ALL NEW MANHOLES IN METROKIN WAY OR GRAVEL ROADS SHALL BE INSTALLED PER COK STANDARD DETAIL MANHOLE HEIGHTS 500–5.

21G. ROCK EXCAVATION SHALL BE BY MECHANICAL METHODS. CONTROLLED BLASTING IS NOT ALLOWED.

BEFORE YOU DIG
CALL FOR FREE
UNDERGROUND
LOCATION

Locate Call Center of Alaska
Statewide.....800–478–3121
who will notify subscribed utilities only.
Other utilities need to be contacted individually.
Water/Sewer/Storm Utilities
CITY Public Works.....486–8060
Electrical Utilities
KEA.....486–7746

REV	DATE	REVISIONS DESCRIPTION	BY
1	10/19/22	ADDENDUM #3	KEJ
2	11/21/22	QC REVIEW	PS

CITY OF KODIAK ALASKA

STATE OF ALASKA
49TH
Kiana M. Eller
AE–11521E
11.29.22
REGISTERED PROFESSIONAL ENGINEER

DOWL
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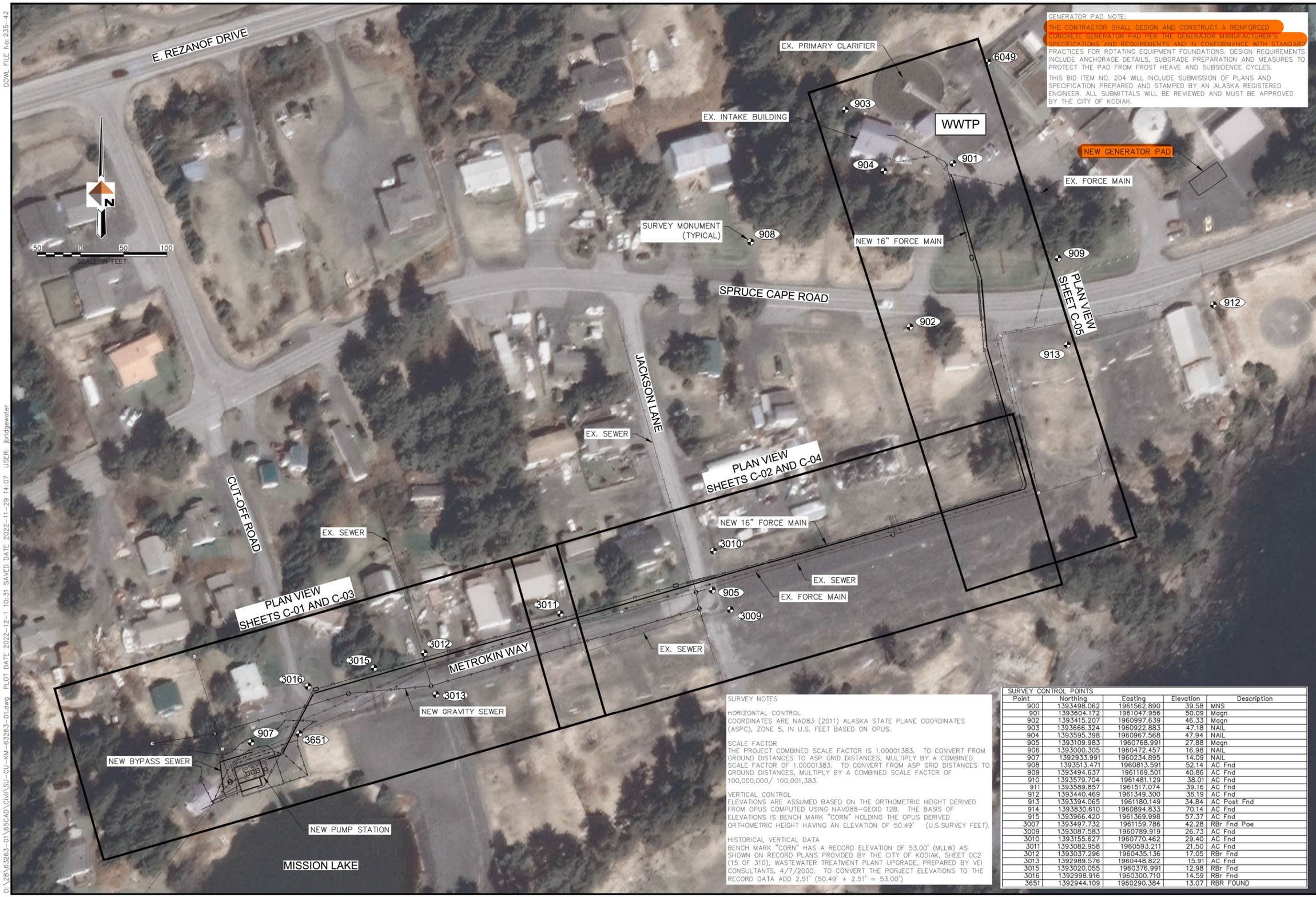
4041 B Street
Anchorage, Alaska 99503
907-562-2000

KODIAK SANITARY SEWER
LIFT STATION 5
CIVIL NOTES AND LEGEND
KODIAK, ALASKA

CHECKED BY:	AM
DESIGNED BY:	KPE
DRAWN BY:	JMB
DATE	NOVEMBER 2022
LOCATION	KODIAK
	S32 T27S R19W SM
PN	1128.63263.01

SHEET
G-02



GENERATOR PAD NOTE:

THE CONTRACTOR SHALL DESIGN AND CONSTRUCT A REINFORCED CONCRETE GENERATOR PAD PER THE GENERATOR MANUFACTURER'S SPECIFICATIONS AND REQUIREMENTS AND IN CONFORMANCE WITH STANDARD PRACTICES FOR ROTATING EQUIPMENT FOUNDATIONS. DESIGN REQUIREMENTS INCLUDE ANCHORAGE DETAILS, SUBGRADE PREPARATION AND MEASURES TO PROTECT THE PAD FROM FROST HEAVE AND SUBSIDENCE CYCLES.

THIS BID ITEM NO. 204 WILL INCLUDE SUBMISSION OF PLANS AND SPECIFICATION PREPARED AND STAMPED BY AN ALASKA REGISTERED ENGINEER. ALL SUBMITTALS WILL BE REVIEWED AND MUST BE APPROVED BY THE CITY OF KODIAK.

SURVEY NOTES

HORIZONTAL CONTROL
COORDINATES ARE NAD83 (2011) ALASKA STATE PLANE COORDINATES (ASPC), ZONE 5, IN U.S. FEET BASED ON OPUS.

SCALE FACTOR
THE PROJECT COMBINED SCALE FACTOR IS 1.00001383. TO CONVERT FROM GROUND DISTANCES TO ASP GRID DISTANCES, MULTIPLY BY A COMBINED SCALE FACTOR OF 1.00001383. TO CONVERT FROM ASP GRID DISTANCES TO GROUND DISTANCES, MULTIPLY BY A COMBINED SCALE FACTOR OF 100,000,000/ 100,001,383.

VERTICAL CONTROL
ELEVATIONS ARE ASSUMED BASED ON THE ORTHOMETRIC HEIGHT DERIVED FROM OPUS COMPUTED USING NAVD88-GEOID 12B. THE BASIS OF ELEVATIONS IS BENCH MARK "CORN" HOLDING THE OPUS DERIVED ORTHOMETRIC HEIGHT HAVING AN ELEVATION OF 50.49' (U.S.SURVEY FEET).

HISTORICAL VERTICAL DATA
BENCH MARK "CORN" HAS A RECORD ELEVATION OF 53.00' (MLLW) AS SHOWN ON RECORD PLANS PROVIDED BY THE CITY OF KODIAK, SHEET 0C2 (15 OF 310), WASTEWATER TREATMENT PLANT UPGRADE, PREPARED BY VEI CONSULTANTS, 4/7/2000. TO CONVERT THE PORJECT ELEVATIONS TO THE RECORD DATA ADD 2.51' (50.49' + 2.51' = 53.00')

SURVEY CONTROL POINTS

Point	Northing	Easting	Elevation	Description
900	1393498.062	1961582.890	39.58	MNS
901	1393604.172	1961047.956	50.09	Magn
902	1393415.207	1960997.639	46.33	Magn
903	1393666.324	1960922.883	47.18	NAIL
904	1393595.398	1960967.568	47.94	NAIL
905	1393109.983	1960768.991	27.88	Magn
906	1393000.305	1960472.457	16.98	NAIL
907	1392933.991	1960234.895	14.09	NAIL
908	1393513.471	1960813.591	52.14	AC Fnd
909	1393494.637	1961169.501	40.86	AC Fnd
910	1393579.704	1961481.129	38.01	AC Fnd
911	1393589.857	1961517.074	39.16	AC Fnd
912	1393440.469	1961349.300	36.19	AC Fnd
913	1393394.065	1961180.149	34.84	AC Post Fnd
914	1393830.610	1960894.833	70.14	AC Fnd
915	1393966.420	1961369.998	57.37	AC Fnd
3007	1393497.732	1961159.786	42.28	RBr Fnd Poe
3009	1393087.583	1960789.919	26.73	AC Fnd
3010	1393155.627	1960770.462	29.40	AC Fnd
3011	1393082.958	1960593.211	21.50	AC Fnd
3012	1393037.296	1960435.136	17.05	RBr Fnd
3013	1392989.576	1960448.822	15.91	AC Fnd
3015	1393020.055	1960376.991	12.98	RBr Fnd
3016	1392998.916	1960300.710	14.59	RBr Fnd
3651	1392944.109	1960290.384	13.07	RBR FOUND

REVISIONS

REV	DATE	DESCRIPTION	BY
1	10/14/22	QC REVIEW	KJ
2	11/21/22	QC REVIEW	PS

CITY OF KODIAK ALASKA

STATE OF ALASKA 49TH Kiana P. Eller CE-115218 11-29-22 REGISTERED PROFESSIONAL ENGINEER

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KODIAK SANITARY SEWER
LIFT STATION 5

OVERALL KEY MAP AND GENERATOR PAD

KODIAK, ALASKA

CHECKED BY:	AM
DESIGNED BY:	KPE
DRAWN BY:	JMB
DATE	NOVEMBER 2022
LOCATION	KODIAK
	S32 T27S R19W SM
PN	1128.63263.01

SHEET
G-03

Work Sequencing Guidelines for Lift Station 5 (LS 5) Building, Gravity Sewer, and Sewer Force Main

Note: These guidelines provide a potential project sequencing intended to provide insight to the Contractor. All phasing, scheduling, coordination, sequencing of construction and construction operations are the responsibility of the Contractor. All compensation for these activities are included in the project bid items, therefore, no extra compensation will be paid.

New LS 5 Building – Construction Schedule / Sequencing – PHASE I 2023

1. Construct Temporary By–Pass piping as shown on Plan Sheets C–01.
   a. Conduct an On–Site meeting to confirm location of new wet well and new building in relation to existing wet well / dry well and standby power circuit between LS 5 Generator Building and WWTP. Additionally, confirm location of power and control circuits between LS5 generator building and the dry well and wet well.
   b. Install dewatering
   c. Secure all existing utilities adjacent to temporary by–pass piping excavation.
   d. Trench and excavation shoring for temporary bypass as submitted by Contractor.
   e. Bypass piping between the connections shall be installed first.
   f. If necessary core new inlet into existing wet well for reroute of existing 30–inch sewer main.
   g. Prepare 30–inch ductile iron piping and valve(s) to connect to existing 30–inch influent sewer main.
   h. Make temporary electrical connections as required for functional temporary bypass pumping system.
   i. Alternatively, Contractor can submit another plan to get approved by City and Engineer.

2. Construct New Cast–in–Place Concrete Wet Well.
   a. Hard rock excavation and shoring plan as submitted by Contractor. Hard rock excavation will be by mechanical methods as controlled blasting is not allowed.
   b. Install Contractor designed temporary excavation shoring and advance excavation.
   c. Install and maintain a Contractor designed dewatering system. Place porous subgrade materials, and construct the new cast–in–place concrete wet well structure.
   d. Allow concrete cure time before internal leak testing and external backfill operations as specified.

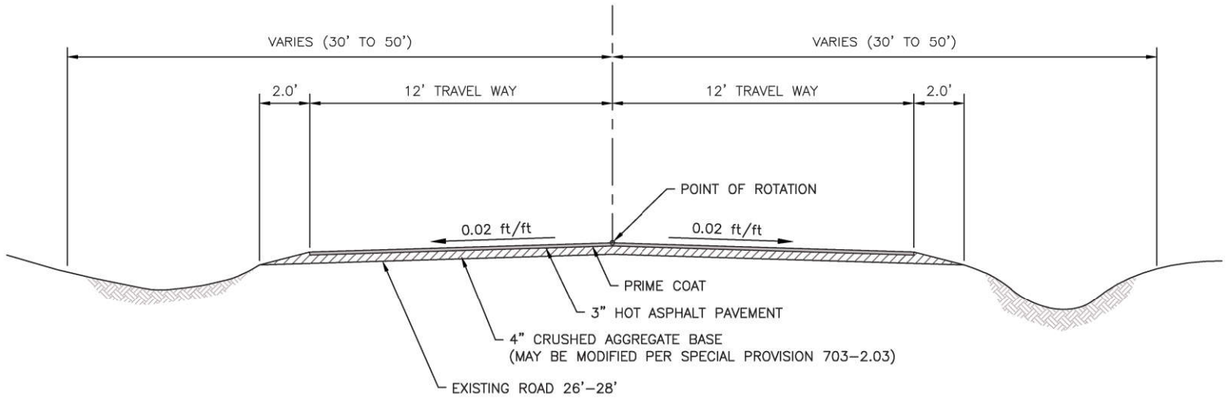
3. Contractor to provide sequencing plan for gravity sewer switch over → Old to New Piping with CONTRACTOR's plan to protect existing gravity sewer service during construction operations. Include All existing gravity sewer lines and customer connections to remain in service during new lift station wet well and building construction (temporary scheduled outages will be allowed for up to 4 hours after 48–hours notice has been given to the affected residents (Standard Specification Section 511)). Construct all gravity sewer "Dry" piping between SSMH 4 & 5 during this stage of construction.

4. Begin construction on New Building and associated appurtenances.

New Gravity Sewer Piping and Force Main – Construction Schedule / Sequencing – PHASE II 2024

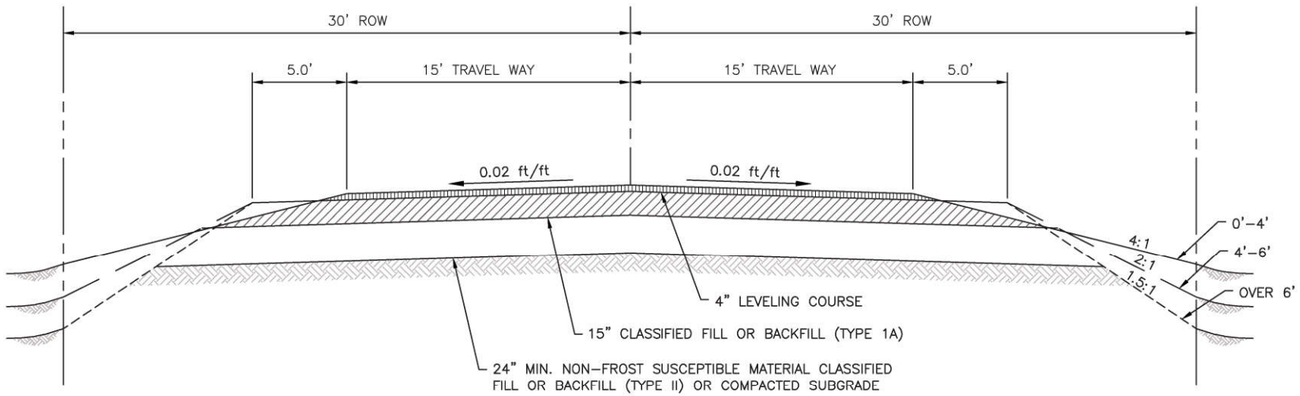
Note: Phase II of construction will require the new back–up power generator at the wastewater treatment plant (WWTP) to be installed and operational or the Contractor shall provide a temporary source of standby power to maintain WWTP operations throughout the duration of construction. The existing back–up generator will remain operational and supply back up power to existing Lift Station 5. The existing buried electrical back–up power line from the existing generator to the WWTP needs to be removed for salvage (this is the alignment for the new 16–inch force main).

1. Construct new gravity sewer main along Metrokin Way, Plan Sheets C–01 & C–02, Sta. 1+64± to 8+20± "Dry" and replace existing SSMH – 10 "Wet" while maintaining existing gravity sewer flows into the existing LS 5. Note: existing LS 5 to remain operational until the startup and commissioning of the new LS 5.
2. Construct new 16–inch PVC C900 force main and valved connections to the WWTP headworks building. Civil Sheets C–01 through C–05. Note: valved connection will allow for switch over to new lift station when ready for commissioning
4. Complete construction on new Lift Station 5 and commission.
5. De–commission existing LS 5 wet and dry well per project demolition plans and specification.
6. Final grading and hardscape surface site construction around new LS 5.
7. Slurry and abandon old existing gravity sewer and force main piping per project plans and specifications.
8. Re–grading and clean–up of all construction areas along project pipe alignments.
9. Construct and install all revegetation and landscaping, make sure site stabilization and erosion controls are in place.
10. CONTRACTOR, ENGINEER and OWNER to schedule and complete a Substantial Completion Inspection per City of Kodiak Project Specification – EJCDC C–700 General Conditions of the Construction Contract – 14.04 Substantial Completion.
11. CONTRACTOR, ENGINEER and OWNER to schedule and complete a Final Inspection per City of Kodiak project specification – EJCDC C–700 General Conditions of the Construction Contract – 14.06 Final Inspection.



STRIPING NOTES:
1. ALL STRIPING SHALL CONFORM TO ALASKA TRAFFIC MANUAL, STANDARD DRAWINGS AND SPECIFICATIONS.
2. SHOULDER STRIPES SHALL BE 4" SOLID WHITE PLACED 11' FROM CENTERLINE.
3. FOR NO–PASSING ZONES THE MINIMUM PASSING SIGHT DISTANCE SHALL BE 800' (ATM 1–3B–05).

1 / G-04 TYPICAL SECTION
NTS



NOTES:
1. DEPTH OF EXCAVATION SHALL BE DETERMINED BY THE ENGINEER.
2. ALL FROST SUSCEPTIBLE AND/OR ORGANIC MATERIAL IN THE SUBGRADE SHALL BE REMOVED TO A MINIMUM OF DEPTH OF 42" BELOW FINAL GRADE.
3. THE FULL WIDTH OF THE RIGHT–OF–WAY SHALL BE CLEARED AND GRUBBED

2 / G-04 TYPICAL RESIDENTIAL GRAVEL STREET SECTION
NTS

REVISIONS

REV	DATE	DESCRIPTION	BY
1	1/24/23	REVISION 1	KE

CITY OF KODIAK ALASKA

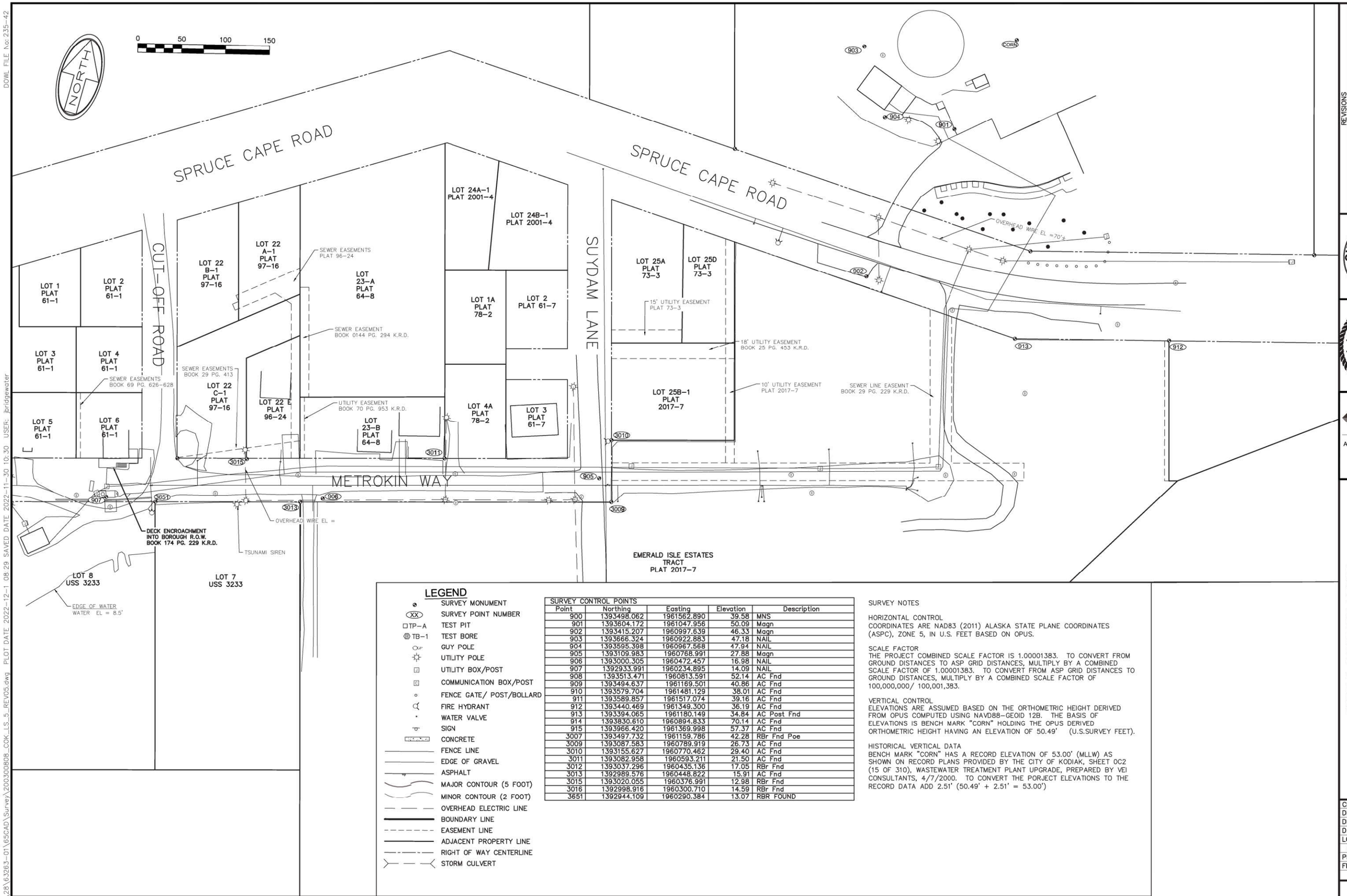
STATE OF ALASKA 49TH Kiana P. Eller PE–115218 REGISTERED PROFESSIONAL ENGINEER

DOWL
WWW.DOWL.COM
4041 B Street
Anchorage, Alaska 99503
907-562-2000

KODIAK SANITARY SEWER
LIFT STATION 5
WORK SEQUENCING AND TYPICAL SECTION
KODIAK, ALASKA

CHECKED BY:	AM
DESIGNED BY:	KPE
DRAWN BY:	JMB
DATE	NOVEMBER 2022
LOCATION	KODIAK
	S32 T27S R19W SM
PN	1128.63263.01

SHEET
G-04



LEGEND

- SURVEY MONUMENT
- XX SURVEY POINT NUMBER
- TP-A TEST PIT
- TB-1 TEST BORE
- GUY POLE
- UTILITY POLE
- UTILITY BOX/POST
- COMMUNICATION BOX/POST
- FENCE GATE/ POST/BOLLARD
- FIRE HYDRANT
- WATER VALVE
- SIGN
- CONCRETE
- FENCE LINE
- EDGE OF GRAVEL
- ASPHALT
- MAJOR CONTOUR (5 FOOT)
- MINOR CONTOUR (2 FOOT)
- OVERHEAD ELECTRIC LINE
- BOUNDARY LINE
- EASEMENT LINE
- ADJACENT PROPERTY LINE
- RIGHT OF WAY CENTERLINE
- STORM CULVERT

SURVEY CONTROL POINTS

Point	Northing	Easting	Elevation	Description
900	1393498.062	1961562.890	39.58	MNS
901	1393604.172	1961047.956	50.09	Magn
902	1393415.207	1960997.639	46.33	Magn
903	1393666.324	1960922.883	47.18	NAIL
904	1393595.398	1960967.568	47.94	NAIL
905	1393109.983	1960768.991	27.88	Magn
906	1393000.305	1960472.457	16.98	NAIL
907	1392933.991	1960234.895	14.09	NAIL
908	1393513.471	1960813.591	52.14	AC Fnd
909	1393494.637	1961169.501	40.86	AC Fnd
910	1393579.704	1961481.129	38.01	AC Fnd
911	1393589.857	1961517.074	39.16	AC Fnd
912	1393440.469	1961349.300	36.19	AC Fnd
913	1393394.065	1961180.149	34.84	AC Post Fnd
914	1393830.610	1960894.833	70.14	AC Fnd
915	1393966.420	1961369.998	57.37	AC Fnd
3007	1393497.732	1961159.786	42.28	RBr Fnd Poe
3009	1393087.583	1960789.919	26.73	AC Fnd
3010	1393155.627	1960770.462	29.40	AC Fnd
3011	1393082.958	1960593.211	21.50	AC Fnd
3012	1393037.296	1960435.136	17.05	RBr Fnd
3013	1392989.576	1960448.822	15.91	AC Fnd
3015	1393020.055	1960376.991	12.98	RBr Fnd
3016	1392998.916	1960300.710	14.59	RBr Fnd
3651	1392944.109	1960290.384	13.07	RBR FOUND

SURVEY NOTES

HORIZONTAL CONTROL
COORDINATES ARE NAD83 (2011) ALASKA STATE PLANE COORDINATES (ASPC), ZONE 5, IN U.S. FEET BASED ON OPUS.

SCALE FACTOR
THE PROJECT COMBINED SCALE FACTOR IS 1.00001383. TO CONVERT FROM GROUND DISTANCES TO ASP GRID DISTANCES, MULTIPLY BY A COMBINED SCALE FACTOR OF 1.00001383. TO CONVERT FROM ASP GRID DISTANCES TO GROUND DISTANCES, MULTIPLY BY A COMBINED SCALE FACTOR OF 100,000,000/ 100,001,383.

VERTICAL CONTROL
ELEVATIONS ARE ASSUMED BASED ON THE ORTHOMETRIC HEIGHT DERIVED FROM OPUS COMPUTED USING NAVD88-GEOID 12B. THE BASIS OF ELEVATIONS IS BENCH MARK "CORN" HOLDING THE OPUS DERIVED ORTHOMETRIC HEIGHT HAVING AN ELEVATION OF 50.49' (U.S.SURVEY FEET).

HISTORICAL VERTICAL DATA
BENCH MARK "CORN" HAS A RECORD ELEVATION OF 53.00' (MLLW) AS SHOWN ON RECORD PLANS PROVIDED BY THE CITY OF KODIAK, SHEET 0C2 (15 OF 310), WASTEWATER TREATMENT PLANT UPGRADE, PREPARED BY VEI CONSULTANTS, 4/7/2000. TO CONVERT THE PORJECT ELEVATIONS TO THE RECORD DATA ADD 2.51' (50.49' + 2.51' = 53.00')

REVISIONS

REV	DATE	DESCRIPTION	BY

CITY OF KODIAK ALASKA

STATE OF ALASKA 49TH
TIMOTHY J. WILLMAN
No. 13846
REGISTERED PROFESSIONAL LAND SURVEYOR

DOWL
WWW.DOWL.COM
AECL848
4041 B Street
Anchorage, Alaska 99503
907-562-2000

KODIAK SANITARY SEWER
LIFT STATION 5
SURVEY CONTROL
KODIAK, ALASKA

CHECKED BY:	ARC
DESIGNED BY:	CCP
DRAWN BY:	AAS
DATE	NOV 2022
LOCATION	KODIAK
S32 T27S R19W SM	
PN	1124.61811.01
FILE NO.	235-42

SHEET
G-05

DOWL FILE No: 235-42
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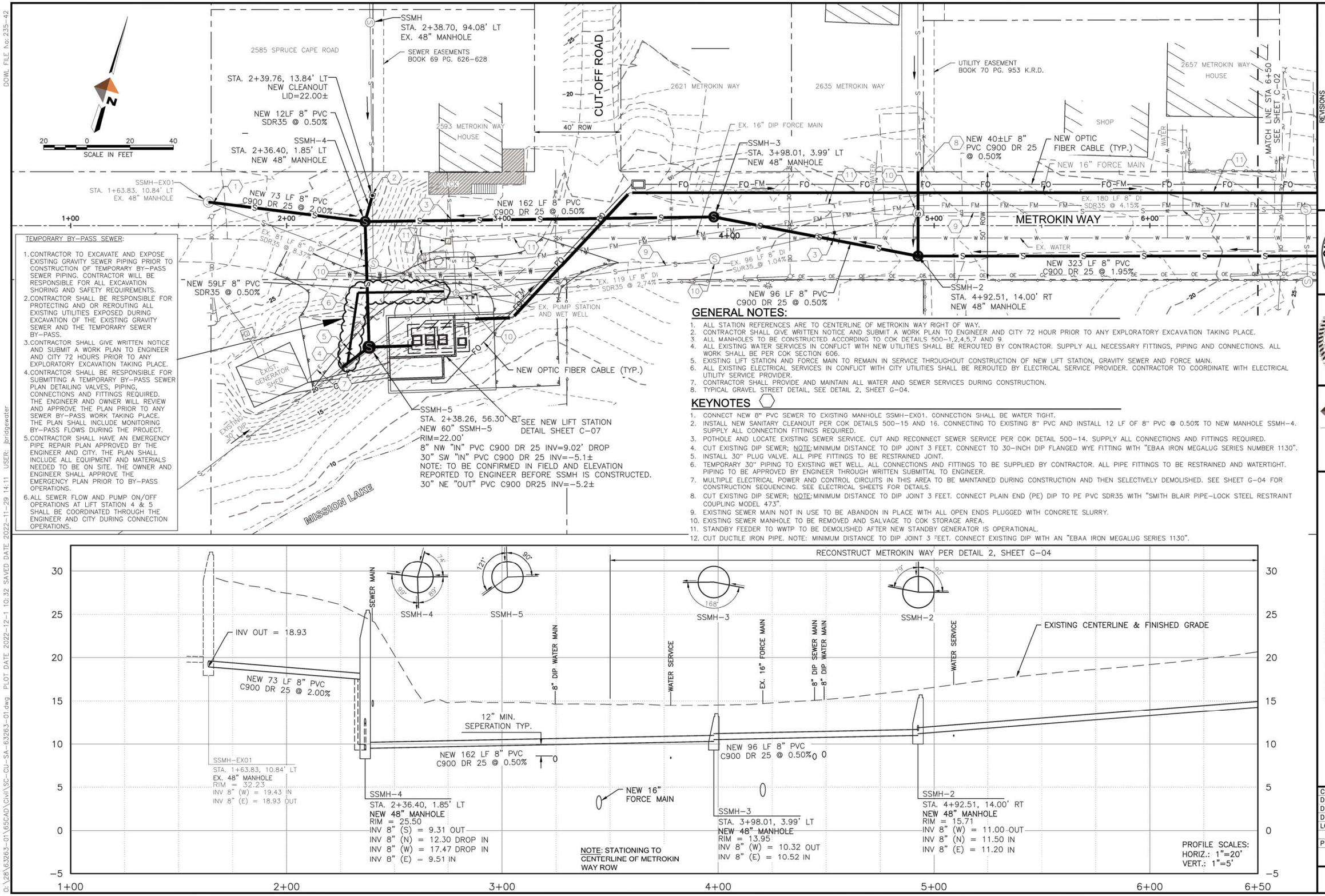

TEMPORARY BY-PASS SEWER:

1. CONTRACTOR TO EXCAVATE AND EXPOSE EXISTING GRAVITY SEWER PIPING PRIOR TO CONSTRUCTION OF TEMPORARY BY-PASS SEWER PIPING. CONTRACTOR WILL BE RESPONSIBLE FOR ALL EXCAVATION SHORING AND SAFETY REQUIREMENTS.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING AND OR REROUTING ALL EXISTING UTILITIES EXPOSED DURING EXCAVATION OF THE EXISTING GRAVITY SEWER AND THE TEMPORARY SEWER BY-PASS.
3. CONTRACTOR SHALL GIVE WRITTEN NOTICE AND SUBMIT A WORK PLAN TO ENGINEER AND CITY 72 HOURS PRIOR TO ANY EXPLORATORY EXCAVATION TAKING PLACE.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING A TEMPORARY BY-PASS SEWER PLAN DETAILING VALVES, PIPING, CONNECTIONS AND FITTINGS REQUIRED. THE ENGINEER AND OWNER WILL REVIEW AND APPROVE THE PLAN PRIOR TO ANY SEWER BY-PASS WORK TAKING PLACE. THE PLAN SHALL INCLUDE MONITORING BY-PASS FLOWS DURING THE PROJECT.
5. CONTRACTOR SHALL HAVE AN EMERGENCY PIPE REPAIR PLAN APPROVED BY THE ENGINEER AND CITY. THE PLAN SHALL INCLUDE ALL EQUIPMENT AND MATERIALS NEEDED TO BE ON SITE. THE OWNER AND ENGINEER SHALL APPROVE THE EMERGENCY PLAN PRIOR TO BY-PASS OPERATIONS.
6. ALL SEWER FLOW AND PUMP ON/OFF OPERATIONS AT LIFT STATION 4 & 5 SHALL BE COORDINATED THROUGH THE ENGINEER AND CITY DURING CONNECTION OPERATIONS.

GENERAL NOTES:

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2. CONTRACTOR SHALL GIVE WRITTEN NOTICE AND SUBMIT A WORK PLAN TO ENGINEER AND CITY 72 HOUR PRIOR TO ANY EXPLORATORY EXCAVATION TAKING PLACE.
3. ALL MANHOLES TO BE CONSTRUCTED ACCORDING TO COK DETAILS 500-1,2,4,5,7 AND 9
4. ALL EXISTING WATER SERVICES IN CONFLICT WITH NEW UTILITIES SHALL BE REROUTED BY CONTRACTOR. SUPPLY ALL NECESSARY FITTINGS, PIPING AND CONNECTIONS. ALL WORK SHALL BE PER COK SECTION 606.
5. EXISTING LIFT STATION AND FORCE MAIN TO REMAIN IN SERVICE THROUGHOUT CONSTRUCTION OF NEW LIFT STATION, GRAVITY SEWER AND FORCE MAIN.
6. ALL EXISTING ELECTRICAL SERVICES IN CONFLICT WITH CITY UTILITIES SHALL BE REROUTED BY ELECTRICAL SERVICE PROVIDER. CONTRACTOR TO COORDINATE WITH ELECTRICAL UTILITY SERVICE PROVIDER.
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8. TYPICAL GRAVEL STREET DETAIL, SEE DETAIL 2, SHEET G-04.

KEYNOTES

1. CONNECT NEW 8" PVC SEWER TO EXISTING MANHOLE SSMH-EX01. CONNECTION SHALL BE WATER TIGHT.
2. INSTALL NEW SANITARY CLEANOUT PER COK DETAILS 500-15 AND 16. CONNECTING TO EXISTING 8" PVC AND INSTALL 12 LF OF 8" PVC @ 0.50% TO NEW MANHOLE SSMH-4. SUPPLY ALL CONNECTION FITTINGS REQUIRED.
3. POTHOLE AND LOCATE EXISTING SEWER SERVICE. CUT AND RECONNECT SEWER SERVICE PER COK DETAIL 500-14. SUPPLY ALL CONNECTIONS AND FITTINGS REQUIRED.
4. CUT EXISTING DIP SEWER; NOTE: MINIMUM DISTANCE TO DIP JOINT 3 FEET. CONNECT TO 30-INCH DIP FLANGED WYE FITTING WITH "EBAA IRON MEGALUG SERIES NUMBER 1130".
5. INSTALL 30" PLUG VALVE. ALL PIPE FITTINGS TO BE RESTRAINED JOINT.
6. TEMPORARY 30" PIPING TO EXISTING WET WELL. ALL CONNECTIONS AND FITTINGS TO BE SUPPLIED BY CONTRACTOR. ALL PIPE FITTINGS TO BE RESTRAINED AND WATERTIGHT. PIPING TO BE APPROVED BY ENGINEER THROUGH WRITTEN SUBMITTAL TO ENGINEER.
7. MULTIPLE ELECTRICAL POWER AND CONTROL CIRCUITS IN THIS AREA TO BE MAINTAINED DURING CONSTRUCTION AND THEN SELECTIVELY DEMOLISHED. SEE SHEET G-04 FOR CONSTRUCTION SEQUENCING. SEE ELECTRICAL SHEETS FOR DETAILS.
8. CUT EXISTING DIP SEWER; NOTE: MINIMUM DISTANCE TO DIP JOINT 3 FEET. CONNECT PLAIN END (PE) DIP TO PE PVC SDR35 WITH "SMITH BLAIR PIPE-LOCK STEEL RESTRAINT COUPLING MODEL 473".
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11. STANDBY FEEDER TO WWTP TO BE DEMOLISHED AFTER NEW STANDBY GENERATOR IS OPERATIONAL.
12. CUT DUCTILE IRON PIPE. NOTE: MINIMUM DISTANCE TO DIP JOINT 3 FEET. CONNECT EXISTING DIP WITH AN "EBAA IRON MEGALUG SERIES 1130".

REV	DATE	DESCRIPTION	BY
1	10/14/22	QC REVIEW	KJ
2	11/21/22	QC REVIEW	PS

REVISIONS

CITY OF KODIAK ALASKA

STATE OF ALASKA
49TH
Kiana P. Eller
PE-15218
11-29-22
REGISTERED PROFESSIONAL ENGINEER

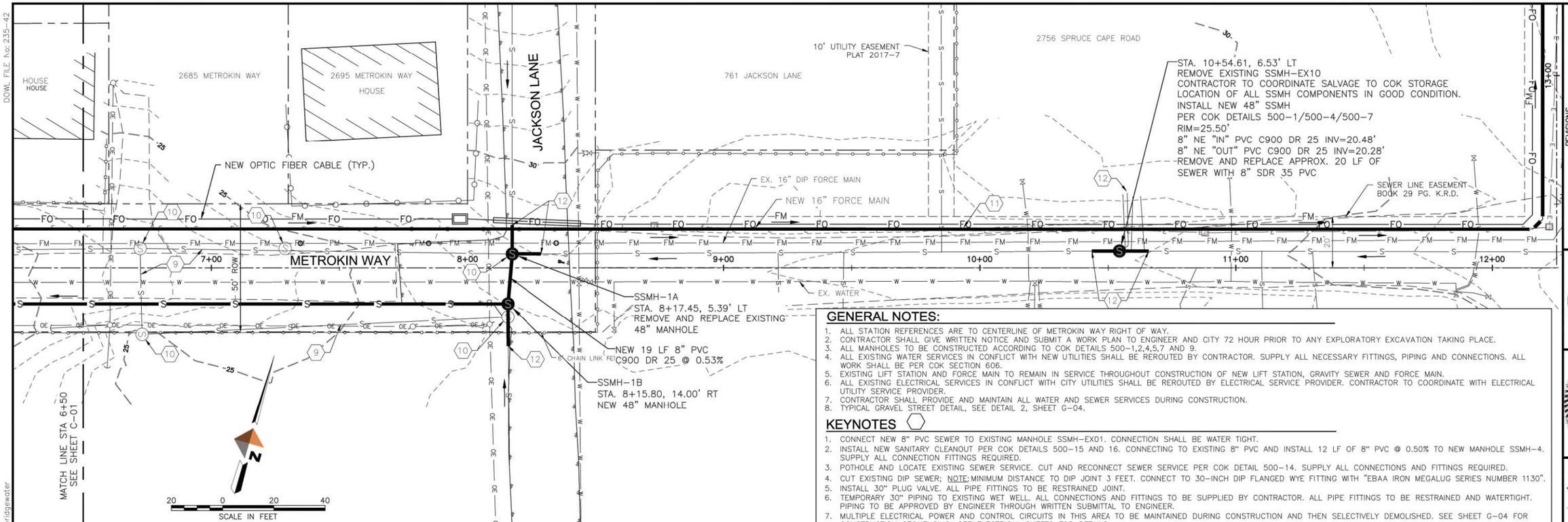
DOWL
WWW.DOWL.COM

4041 B Street
Anchorage, Alaska 99503
907-562-2000

KODIAK SANITARY SEWER
LIFT STATION 5
SEWER PLAN AND PROFILE
STA. 1+00 TO STA. 6+50
KODIAK, ALASKA

CHECKED BY:	AM
DESIGNED BY:	KPE
DRAWN BY:	JMB
DATE	NOVEMBER 2022
LOCATION	KODIAK
	S32 T27S R19W SM
PN	1128.63263.01

SHEET
C-01



GENERAL NOTES:

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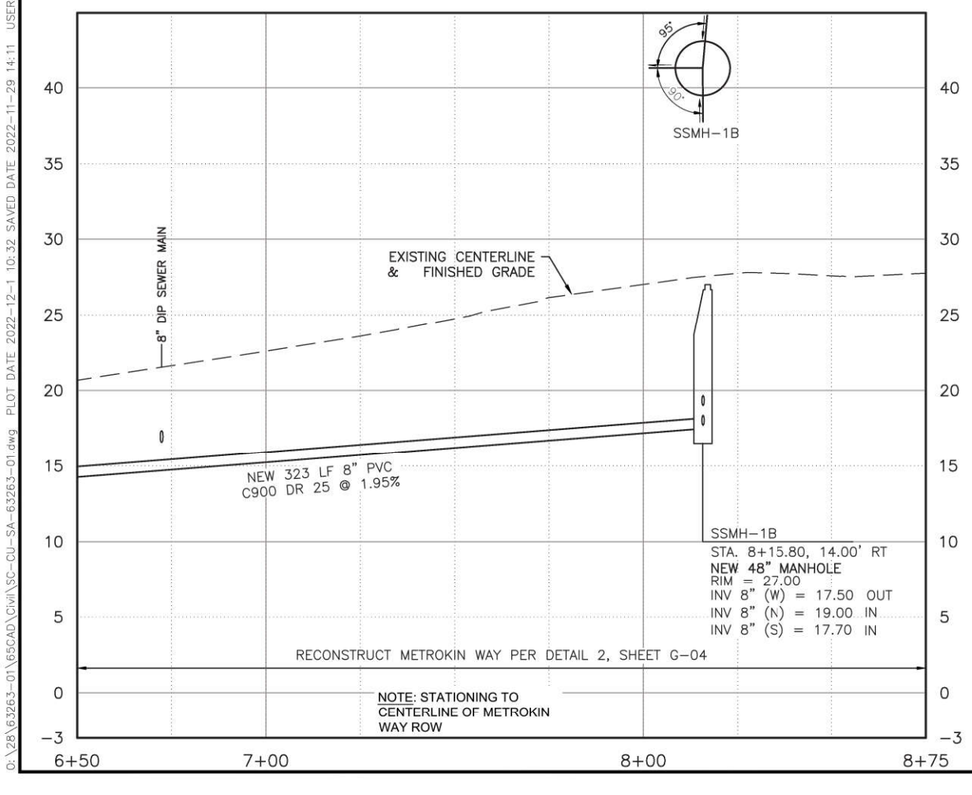

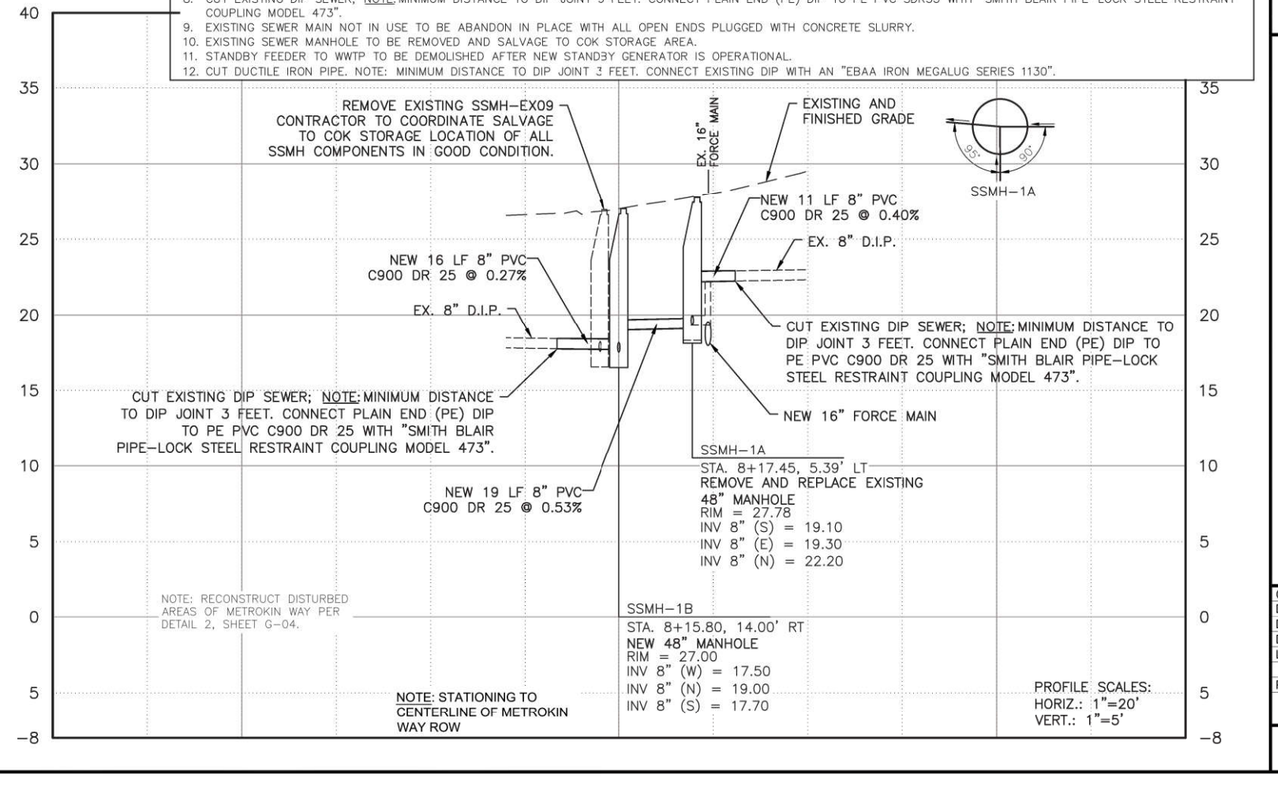

REV	DATE	REVISIONS DESCRIPTION	BY
1	10/14/22	QC REVIEW	KJ
2	11/21/22	QC REVIEW	PS

CITY OF KODIAK ALASKA

STATE OF ALASKA 49TH
Kiana P. Eller
CE-11521B
12.9.22
REGISTERED PROFESSIONAL ENGINEER

DOWL
WWW.DOWL.COM
4041 B Street
Anchorage, Alaska 99503
907-562-2000

KODIAK SANITARY SEWER
LIFT STATION 5

SEWER PLAN AND PROFILE
STA. 6+50 TO STA. 12+00

KODIAK, ALASKA

CHECKED BY:	AM
DESIGNED BY:	KPE
DRAWN BY:	JMB
DATE	NOVEMBER 2022
LOCATION	KODIAK
	S32 T27S R19W SM
PN	1128.63263.01

SHEET
C-02

DOWL FILE No: 235-42

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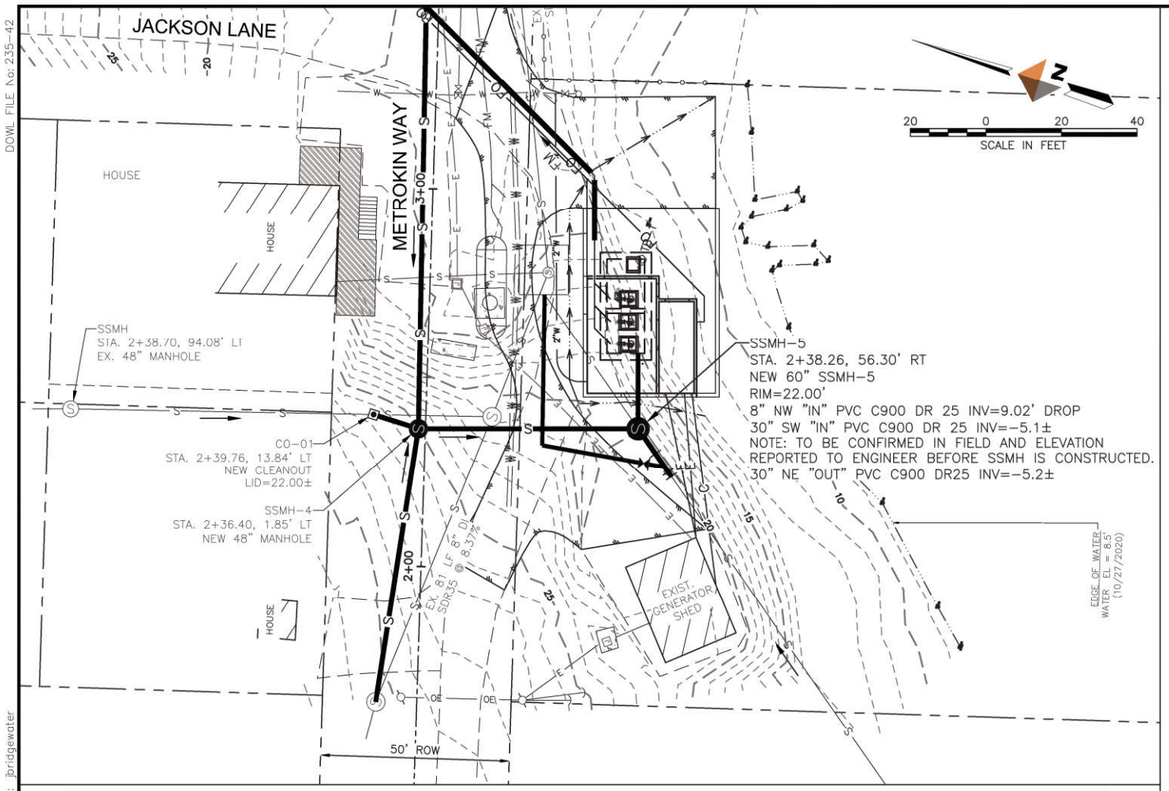

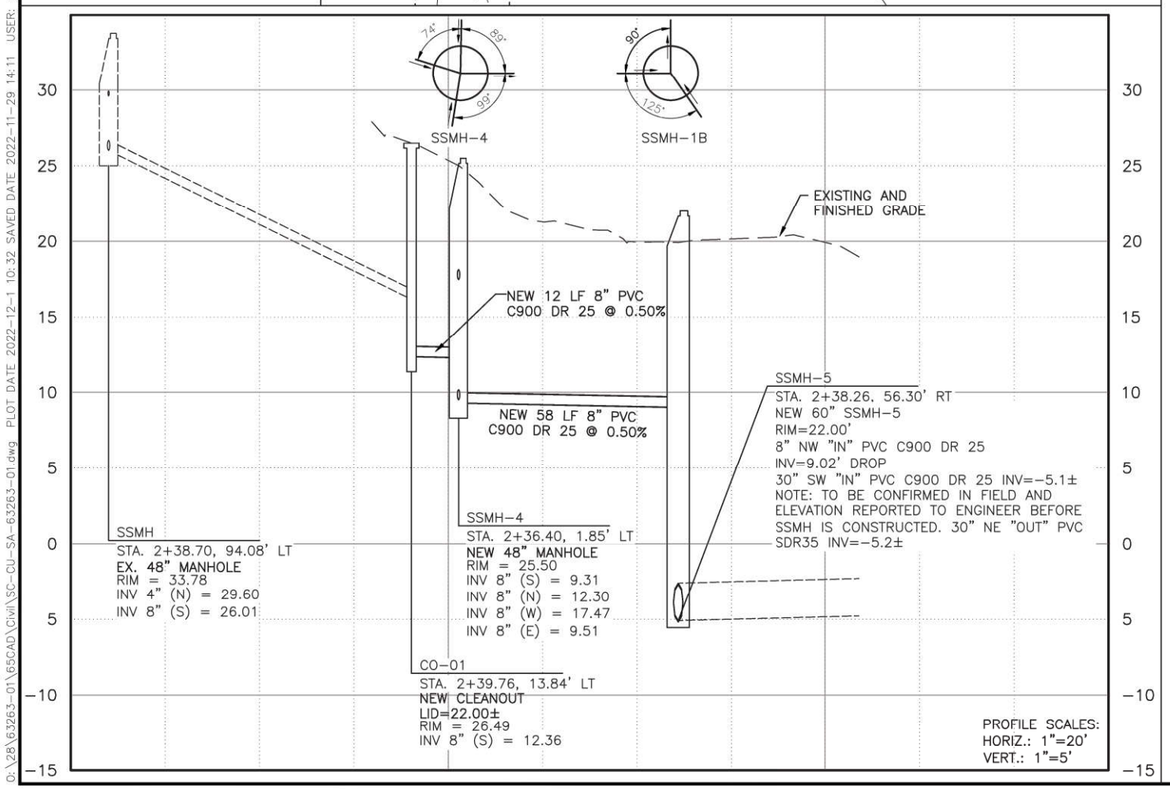

GENERAL NOTES:

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KEYNOTES

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REVISIONS

REV	DATE	DESCRIPTION	BY
1	10/14/22	QC REVIEW	KJ
2	11/21/22	QC REVIEW	PS

CITY OF KODIAK ALASKA

STATE OF ALASKA 49TH Kiana P. Eller PE-11521B 11.29.22 REGISTERED PROFESSIONAL ENGINEER

DOWL
WWW.DOWL.COM
4041 B Street
Anchorage, Alaska 99503
907-562-2000

KODIAK SANITARY SEWER LIFT STATION 5

SEWER PLAN AND PROFILE

KODIAK, ALASKA

CHECKED BY:	AM
DESIGNED BY:	KPE
DRAWN BY:	JMB
DATE	NOVEMBER 2022
LOCATION	KODIAK
	S32 T27S R19W SM
PN	1128.63263.01

SHEET
C-03

DOWL FILE No: 235-42
USER: jbridgewater
PLOT DATE 2022-12-1 10:32 SAVED DATE 2022-11-29 14:11
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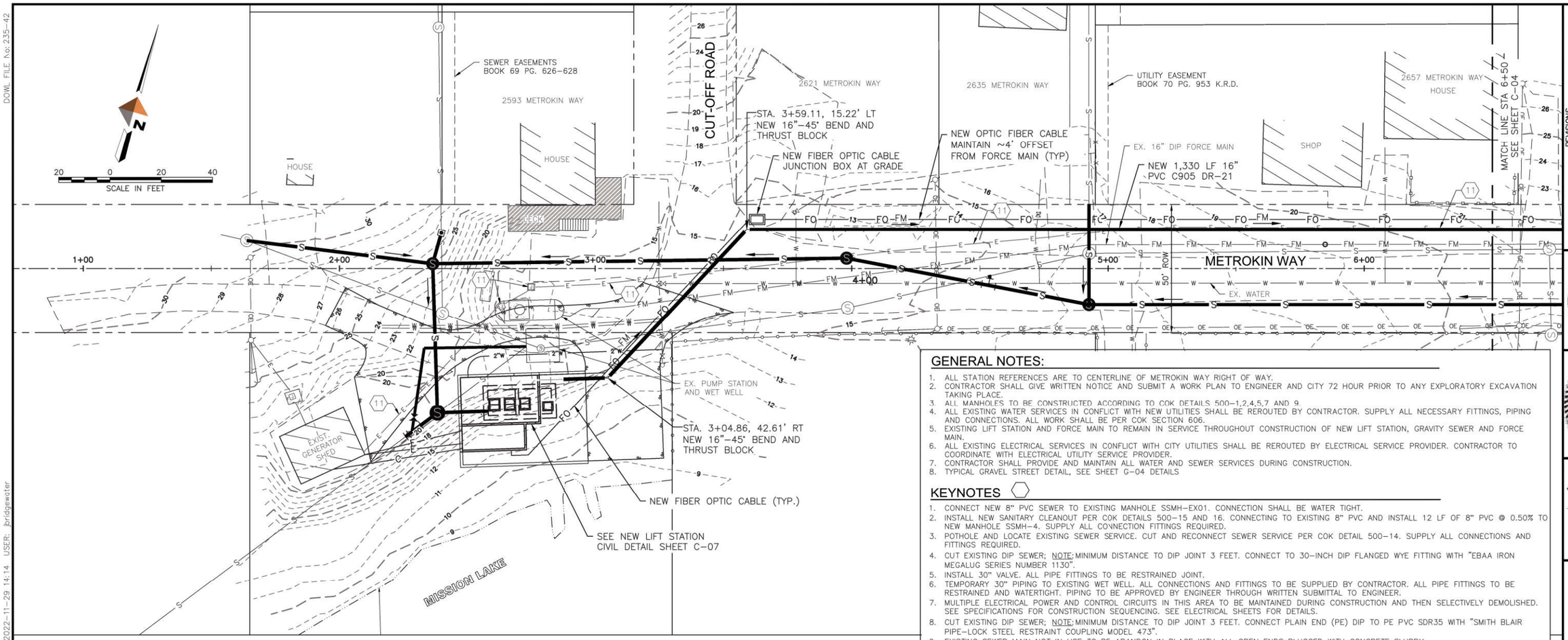

GENERAL NOTES:

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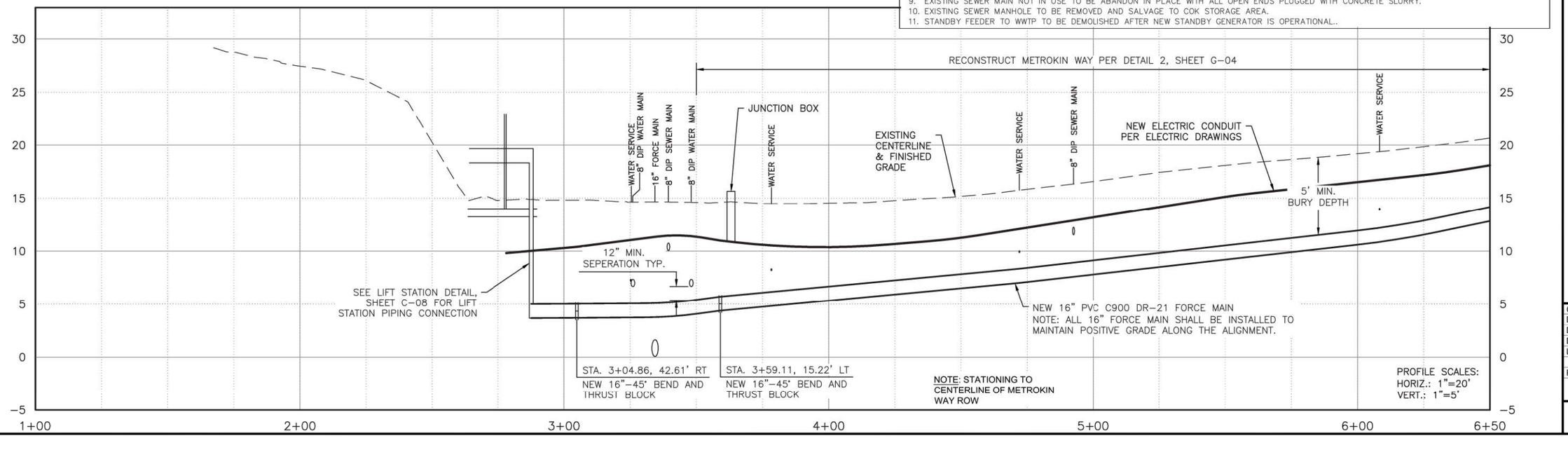
KEYNOTES

1. CONNECT NEW 8" PVC SEWER TO EXISTING MANHOLE SSMH-EX01. CONNECTION SHALL BE WATER TIGHT.
2. INSTALL NEW SANITARY CLEANOUT PER COK DETAILS 500-15 AND 16. CONNECTING TO EXISTING 8" PVC AND INSTALL 12 LF OF 8" PVC @ 0.50% TO NEW MANHOLE SSMH-4. SUPPLY ALL CONNECTION FITTINGS REQUIRED.
3. POTHOLE AND LOCATE EXISTING SEWER SERVICE. CUT AND RECONNECT SEWER SERVICE PER COK DETAIL 500-14. SUPPLY ALL CONNECTIONS AND FITTINGS REQUIRED.
4. CUT EXISTING DIP SEWER; NOTE: MINIMUM DISTANCE TO DIP JOINT 3 FEET. CONNECT TO 30-INCH DIP FLANGED WYE FITTING WITH "EBAA IRON MEGALUG SERIES NUMBER 1130".
5. INSTALL 30" VALVE. ALL PIPE FITTINGS TO BE RESTRAINED JOINT.
6. TEMPORARY 30" PIPING TO EXISTING WET WELL. ALL CONNECTIONS AND FITTINGS TO BE SUPPLIED BY CONTRACTOR. ALL PIPE FITTINGS TO BE RESTRAINED AND WATERTIGHT. PIPING TO BE APPROVED BY ENGINEER THROUGH WRITTEN SUBMITTAL TO ENGINEER.
7. MULTIPLE ELECTRICAL POWER AND CONTROL CIRCUITS IN THIS AREA TO BE MAINTAINED DURING CONSTRUCTION AND THEN SELECTIVELY DEMOLISHED. SEE SPECIFICATIONS FOR CONSTRUCTION SEQUENCING. SEE ELECTRICAL SHEETS FOR DETAILS.
8. CUT EXISTING DIP SEWER; NOTE: MINIMUM DISTANCE TO DIP JOINT 3 FEET. CONNECT PLAIN END (PE) DIP TO PE PVC SDR35 WITH "SMITH BLAIR PIPE-LOCK STEEL RESTRAINT COUPLING MODEL 473".
9. EXISTING SEWER MAIN NOT IN USE TO BE ABANDON IN PLACE WITH ALL OPEN ENDS PLUGGED WITH CONCRETE SLURRY.
10. EXISTING SEWER MANHOLE TO BE REMOVED AND SALVAGE TO COK STORAGE AREA.
11. STANDBY FEEDER TO WWTP TO BE DEMOLISHED AFTER NEW STANDBY GENERATOR IS OPERATIONAL..



REV	DATE	REVISIONS DESCRIPTION	BY
1	10/14/22	QC REVIEW	KJ
2	11/21/22	QC REVIEW	PS

CITY OF KODIAK ALASKA

STATE OF ALASKA
49TH
Kiana P. Eller
CE-11521S
11.29.22
REGISTERED PROFESSIONAL ENGINEER

DOWL
WWW.DOWL.COM

4041 B Street
Anchorage, Alaska 99503
907-562-2000

KODIAK SANITARY SEWER
LIFT STATION 5

FORCE MAIN PLAN AND PROFILE
STA. 1+00 TO STA. 6+50

KODIAK, ALASKA

CHECKED BY:	AM
DESIGNED BY:	KPE
DRAWN BY:	JMB
DATE	NOVEMBER 2022
LOCATION	KODIAK
	S32 T27S R19W SM
PN	1128.63263.01

SHEET
C-04

DOWL FILE No: 235-42
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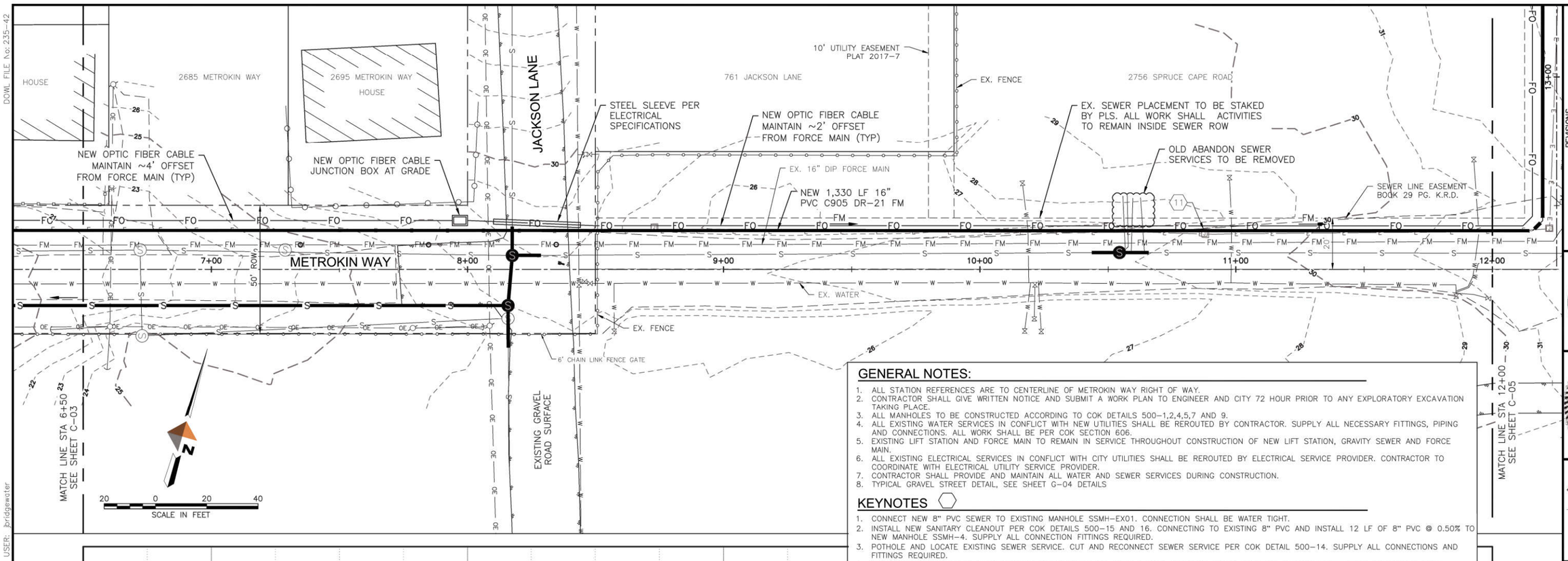

GENERAL NOTES:

1. ALL STATION REFERENCES ARE TO CENTERLINE OF METROKIN WAY RIGHT OF WAY.
2. CONTRACTOR SHALL GIVE WRITTEN NOTICE AND SUBMIT A WORK PLAN TO ENGINEER AND CITY 72 HOUR PRIOR TO ANY EXPLORATORY EXCAVATION TAKING PLACE.
3. ALL MANHOLES TO BE CONSTRUCTED ACCORDING TO COK DETAILS 500-1,2,4,5,7 AND 9.
4. ALL EXISTING WATER SERVICES IN CONFLICT WITH NEW UTILITIES SHALL BE REROUTED BY CONTRACTOR. SUPPLY ALL NECESSARY FITTINGS, PIPING AND CONNECTIONS. ALL WORK SHALL BE PER COK SECTION 606.
5. EXISTING LIFT STATION AND FORCE MAIN TO REMAIN IN SERVICE THROUGHOUT CONSTRUCTION OF NEW LIFT STATION, GRAVITY SEWER AND FORCE MAIN.
6. ALL EXISTING ELECTRICAL SERVICES IN CONFLICT WITH CITY UTILITIES SHALL BE REROUTED BY ELECTRICAL SERVICE PROVIDER. CONTRACTOR TO COORDINATE WITH ELECTRICAL UTILITY SERVICE PROVIDER.
7. CONTRACTOR SHALL PROVIDE AND MAINTAIN ALL WATER AND SEWER SERVICES DURING CONSTRUCTION.
8. TYPICAL GRAVEL STREET DETAIL, SEE SHEET G-04 DETAILS

KEYNOTES

1. CONNECT NEW 8" PVC SEWER TO EXISTING MANHOLE SSMH-EX01. CONNECTION SHALL BE WATER TIGHT.
2. INSTALL NEW SANITARY CLEANOUT PER COK DETAILS 500-15 AND 16. CONNECTING TO EXISTING 8" PVC AND INSTALL 12 LF OF 8" PVC @ 0.50% TO NEW MANHOLE SSMH-4. SUPPLY ALL CONNECTION FITTINGS REQUIRED.
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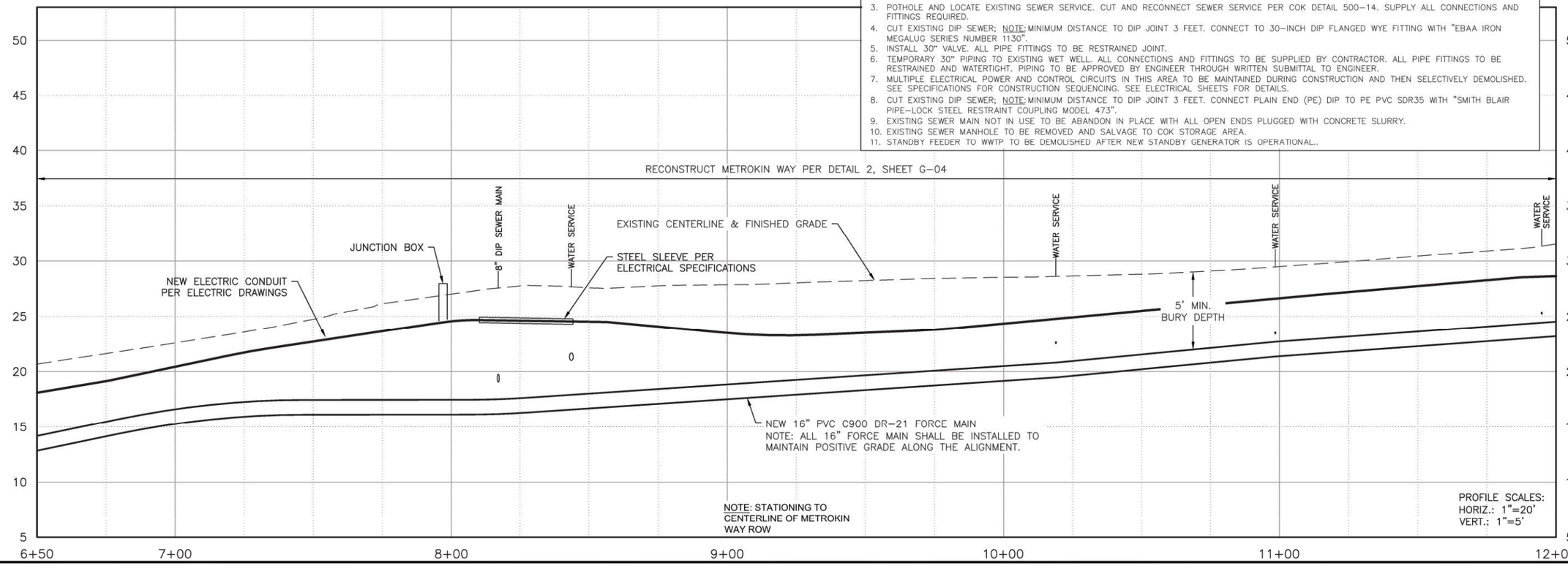

REV	DATE	DESCRIPTION	BY
1	10/14/22	QC REVIEW	KJ
2	11/21/22	QC REVIEW	PS

REVISIONS

CITY OF KODIAK ALASKA

STATE OF ALASKA 49TH Klaira P. Eller CE-11521B 12-9-22 REGISTERED PROFESSIONAL ENGINEER

DOWL
WWW.DOWL.COM

4041 B Street
Anchorage, Alaska 99503
907-562-2000

KODIAK SANITARY SEWER
LIFT STATION 5

FORCE MAIN PLAN AND PROFILE
STA. 6+50 TO STA. 12+00

KODIAK, ALASKA

CHECKED BY:	AM
DESIGNED BY:	KPE
DRAWN BY:	JMB
DATE	NOVEMBER 2022
LOCATION	KODIAK
	S32 T27S R19W SM
PN	1128.63263.01

SHEET
C-05

DOWL FILE No: 235-42
USER: jbridgewater
PLOT DATE 2022-12-1 10:33 SAVED DATE 2022-11-29 14:14
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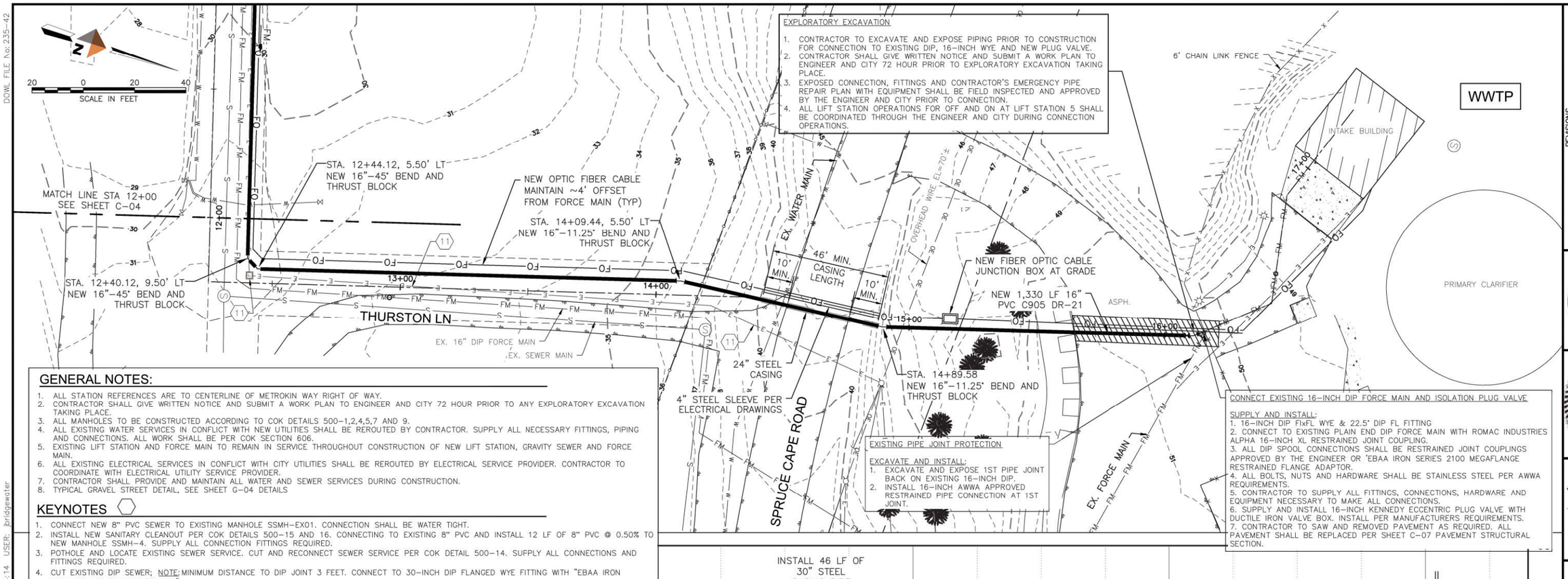

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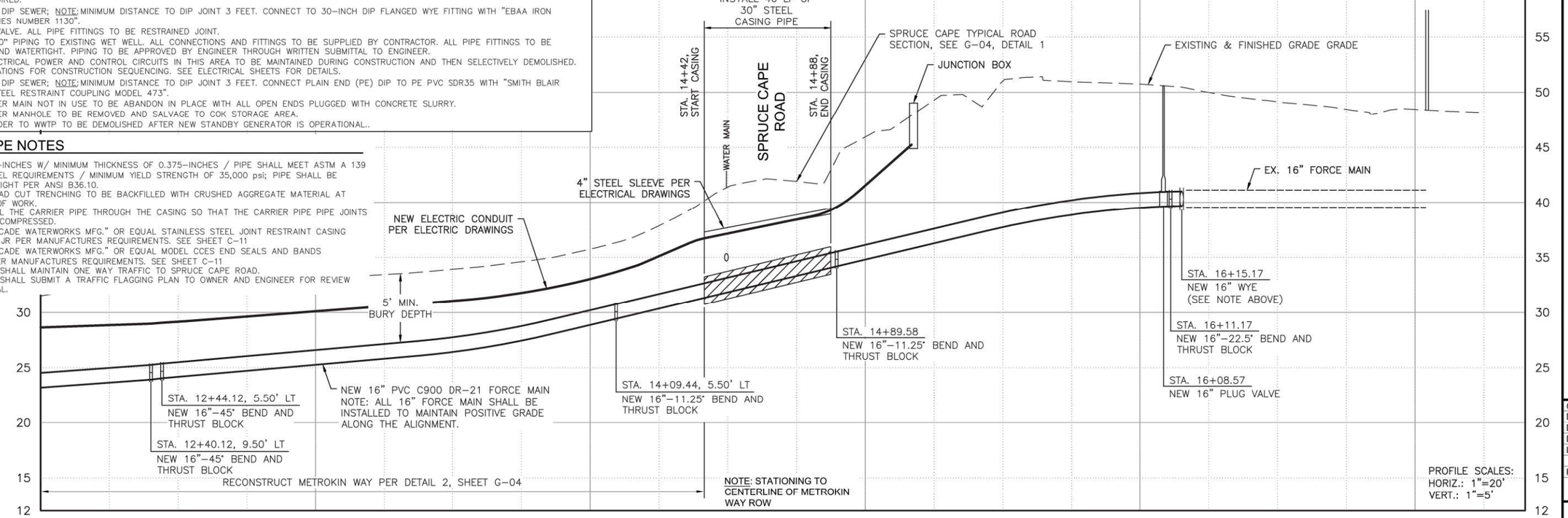
CASING PIPE NOTES

1. DIAMETER 30-INCHES W/ MINIMUM THICKNESS OF 0.375-INCHES / PIPE SHALL MEET ASTM A 139 GRADE C STEEL REQUIREMENTS / MINIMUM YIELD STRENGTH OF 35,000 psi; PIPE SHALL BE STANDARD WEIGHT PER ANSI B36.10.
2. ALL OPEN ROAD CUT TRENCHING TO BE BACKFILLED WITH CRUSHED AGGREGATE MATERIAL AT COMPLETION OF WORK.
3. PUSH OR PULL THE CARRIER PIPE THROUGH THE CASING SO THAT THE CARRIER PIPE PIPE JOINTS ARE ALWAYS COMPRESSED.
4. INSTALL "CASCADE WATERWORKS MFG." OR EQUAL STAINLESS STEEL JOINT RESTRAINT CASING SPACER CCS-JR PER MANUFACTURES REQUIREMENTS. SEE SHEET C-11
5. INSTALL "CASCADE WATERWORKS MFG." OR EQUAL MODEL CCES END SEALS AND BANDS (T-304SS) PER MANUFACTURES REQUIREMENTS. SEE SHEET C-11
6. CONTRACTOR SHALL MAINTAIN ONE WAY TRAFFIC TO SPRUCE CAPE ROAD.
7. CONTRACTOR SHALL SUBMIT A TRAFFIC FLAGGING PLAN TO OWNER AND ENGINEER FOR REVIEW AND APPROVAL.



REV	DATE	DESCRIPTION	BY
1	10/14/22	QC REVIEW	KJ
2	11/21/22	QC REVIEW	PS

CITY OF KODIAK ALASKA

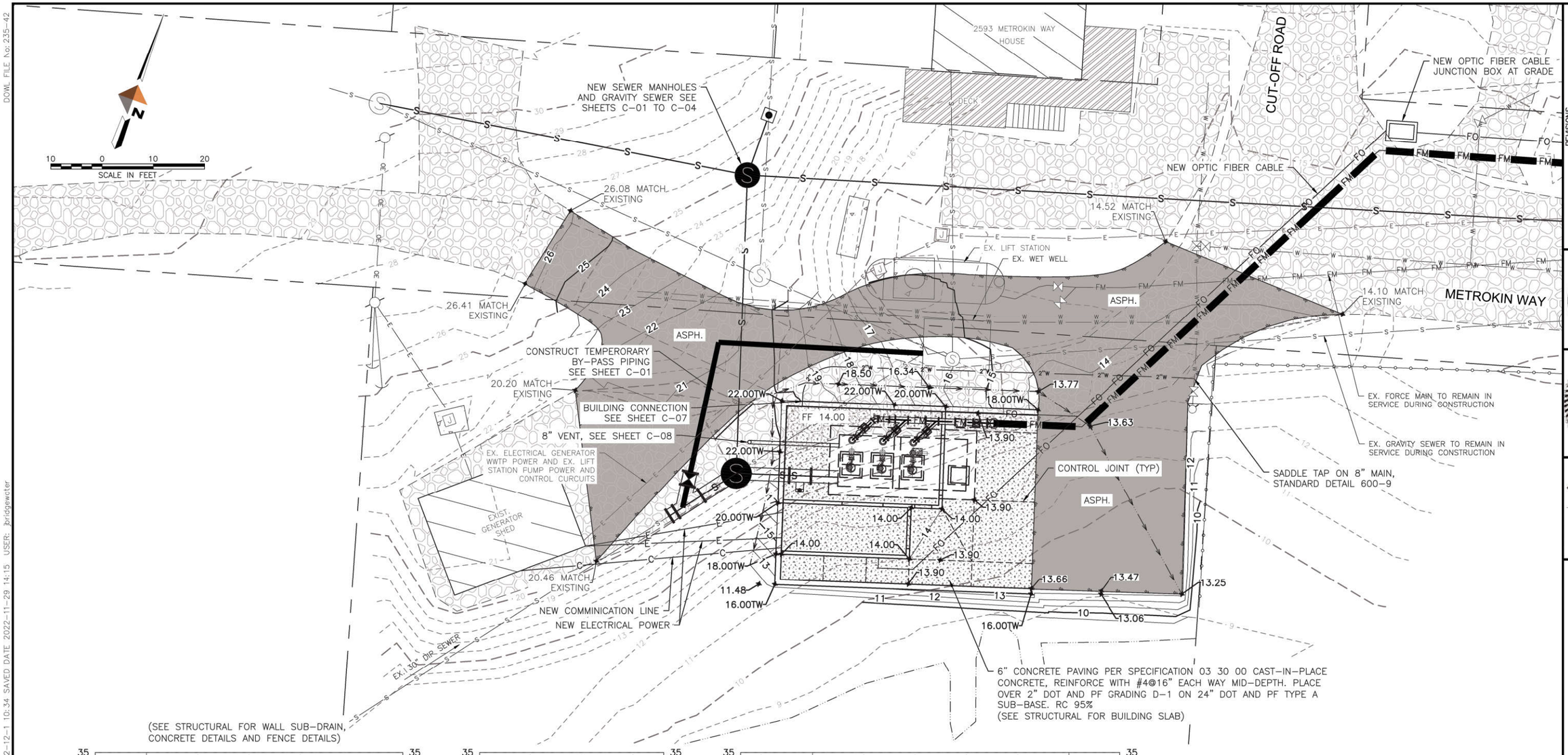
STATE OF ALASKA
49TH
Kiana P. Eller
CE-11521
12-9-22
REGISTERED PROFESSIONAL ENGINEER

DOWL
WWW.DOWL.COM
4041 B Street
Anchorage, Alaska 99503
907-562-2000

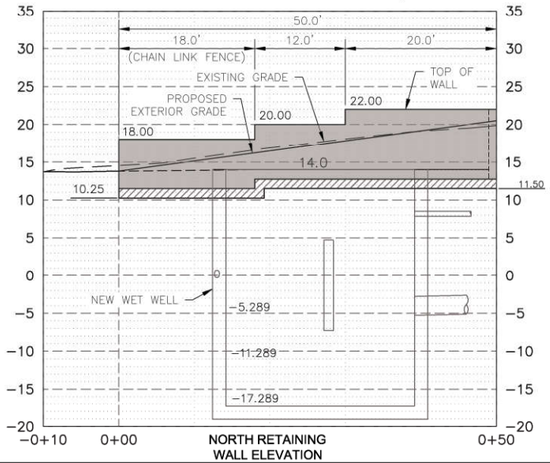
KODIAK SANITARY SEWER
LIFT STATION 5
FORCE MAIN PLAN AND PROFILE
STA. 12+00 TO STA. 17+40
KODIAK, ALASKA

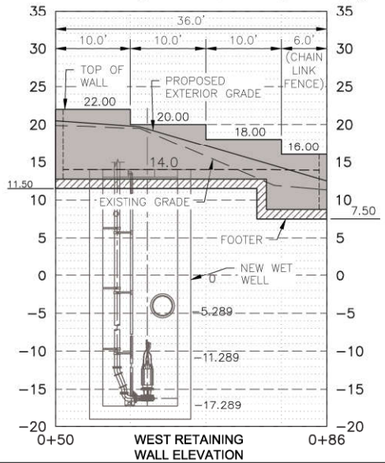
CHECKED BY:	AM
DESIGNED BY:	KPE
DRAWN BY:	JMB
DATE	NOVEMBER 2022
LOCATION	KODIAK
	S32 T27S R19W SM
PN	1128.63263.01

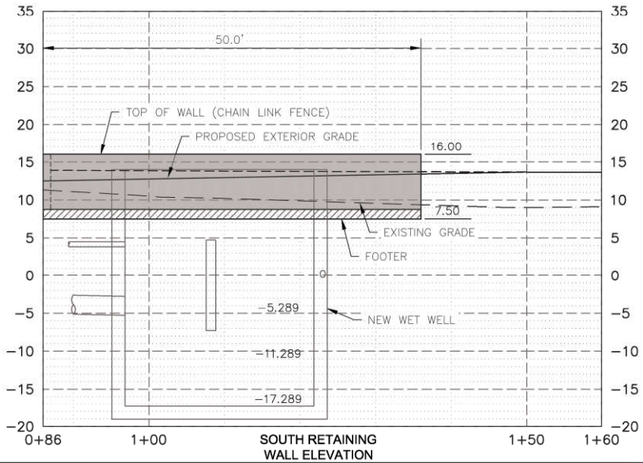
SHEET
C-06

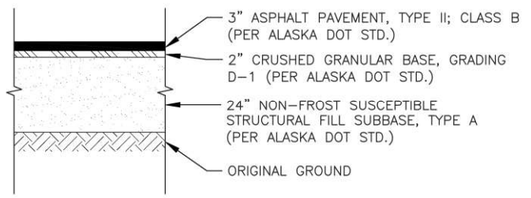


(SEE STRUCTURAL FOR WALL SUB-DRAIN, CONCRETE DETAILS AND FENCE DETAILS)









PAVEMENT STRUCTURAL SECTION

REV	DATE	DESCRIPTION	BY
1	10/19/22	95% REVIEW	BW
2	11/21/22	QC REVIEW	PS

CITY OF KODIAK ALASKA

STATE OF ALASKA 49TH Klaira P. Eller CE-115218 11.29.22 REGISTERED PROFESSIONAL ENGINEER

DOWL
WWW.DOWL.COM
4041 B Street
Anchorage, Alaska 99503
907-562-2000

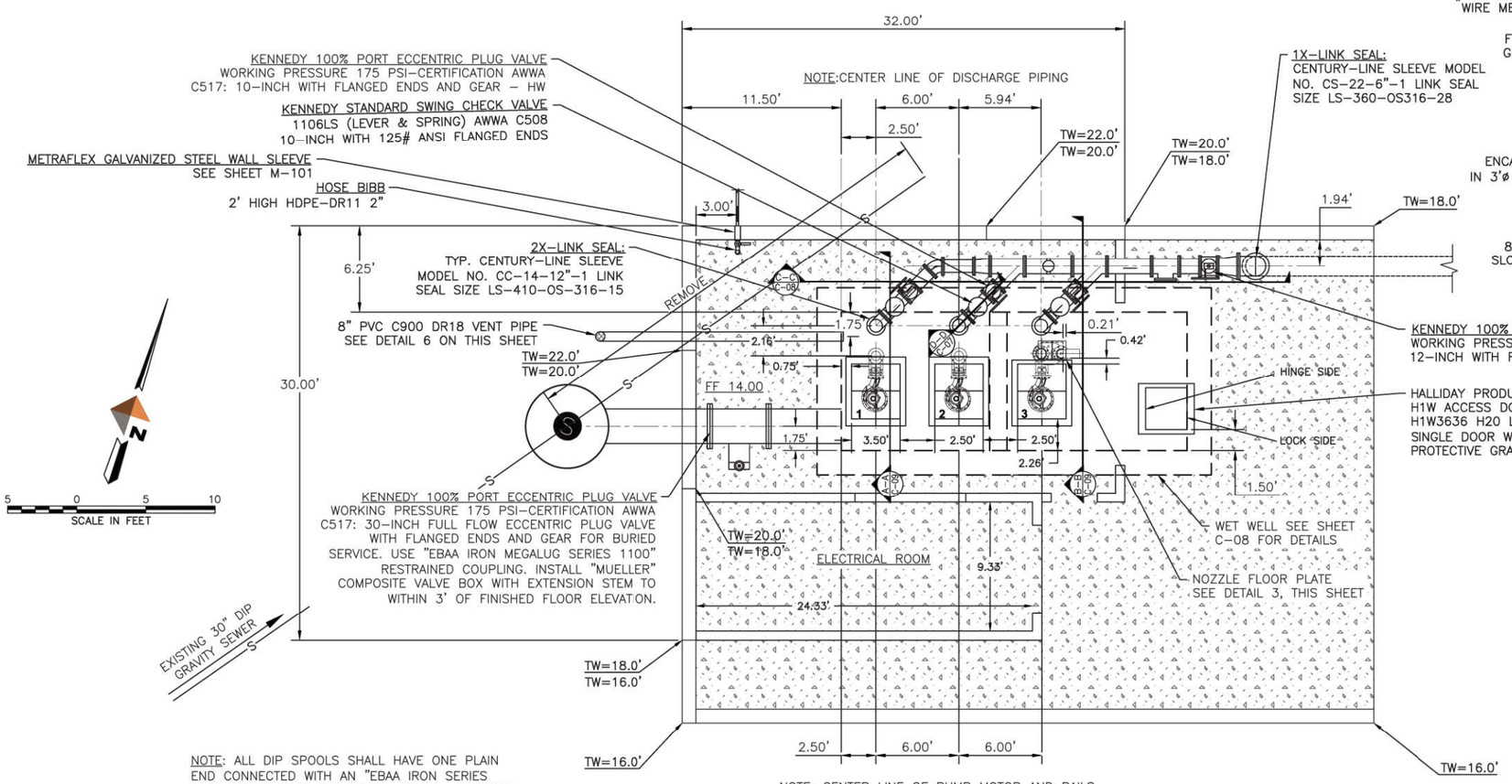
KODIAK SANITARY SEWER
LIFT STATION 5

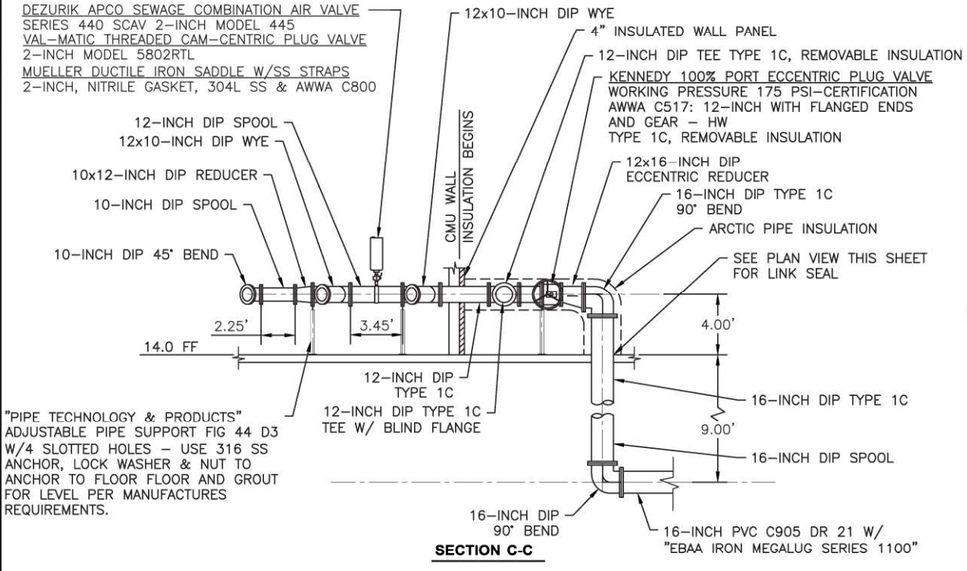
PUMP STATION SITE PLAN

KODIAK, ALASKA

CHECKED BY:	AM
DESIGNED BY:	KPE
DRAWN BY:	JMB
DATE	NOVEMBER 2022
LOCATION	KODIAK
	S32 T27S R19W SM
PN	1128.63263.01

SHEET
C-07

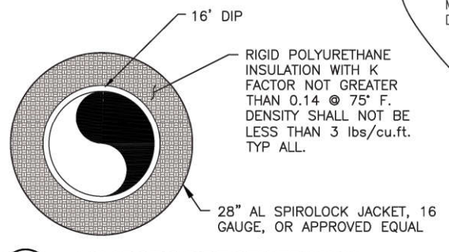




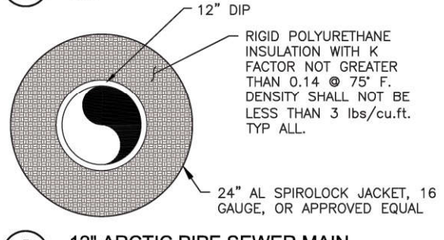
SECTION C-C

1 C-08 **PUMP STATION FLOOR PLAN** 1"=5'

NOTE: CENTER LINE OF PUMP MOTOR AND RAILS

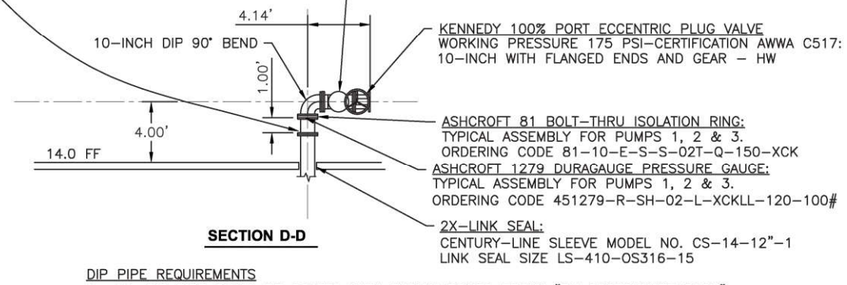


4 C-08 **16" ARCTIC PIPE SEWER MAIN** NTS



5 C-08 **12" ARCTIC PIPE SEWER MAIN** NTS

NOTE: DIP SPOOL PLAIN END SHALL BE CONNECTED WITH AN "EBAA IRON SERIES 2100 MEGAFLANGE RESTRAINED FLANGE ADAPTER" FOR DISMANTLING AND STRESS RELIEF.TYPICAL



SECTION D-D

DIP PIPE REQUIREMENTS

1. ALL DIP PIPE SHALL BE COATED WITH FUSION BONED EPOXY "3M SCOTCHKOTE 206N"
2. ALL PIPE SHALL BE DUCTILE IRON FLANGED JOINT PIPE ANSI/AWWA C115/A21.15 STD. CLASS 53 THICKNESS
3. ALL FLANGES SHALL CONFORM TO ANSI B16.1 CLASS 125
4. WHEN A SLIP–ON RESTRAINED FLANGE IS REQUIRED IT SHALL BE "EBAA IRON MEGALUG SERIES 2100" MEETING AWWA C600 OR ASTM D2774 REQUIREMENTS.
5. ALL PIPE HARDWARE, BOLTS, NUTS, PIPE CLAMPS & RAIL CLAMPS SHALL BE STAINLESS STEEL.
6. ALL PIPE STANDS AND CLAMPS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL BY THE ENGINEER IN WRITING PER CONTRACT SPECIFICATION SUBMITTAL REQUIREMENTS.

REV	DATE	REVISIONS DESCRIPTION	BY
1	10/19/22	60% REVIEW	BM
2	11/21/22	QC REVIEW	PS

CITY OF KODIAK ALASKA

STATE OF ALASKA 49TH Kiana P. Eller CE–11521 11.29.22 REGISTERED PROFESSIONAL ENGINEER

DOWL
WWW.DOWL.COM

4041 B Street
Anchorage, Alaska 99503
907-562-2000

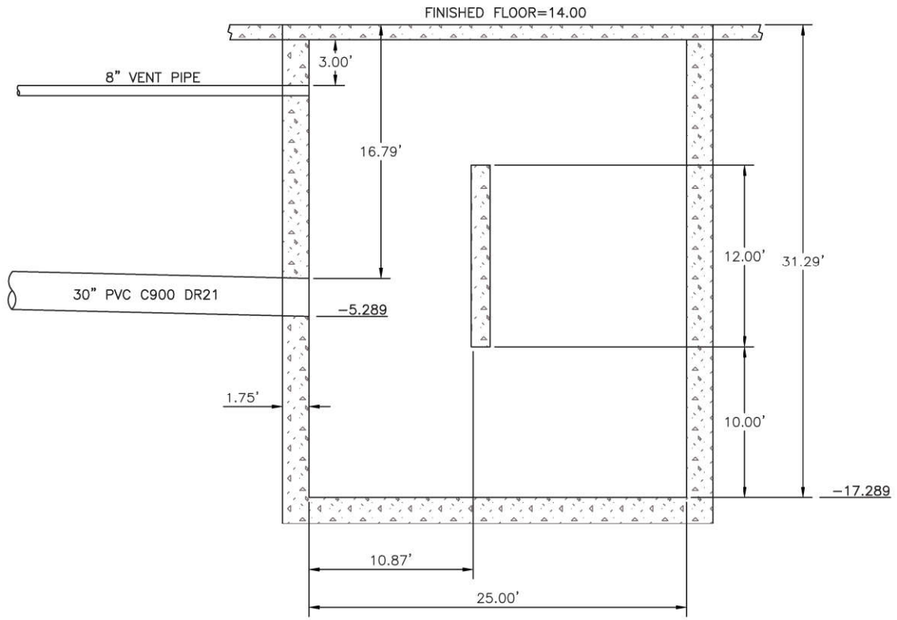
KODIAK SANITARY SEWER
LIFT STATION 5

PUMP STATION DETAILS

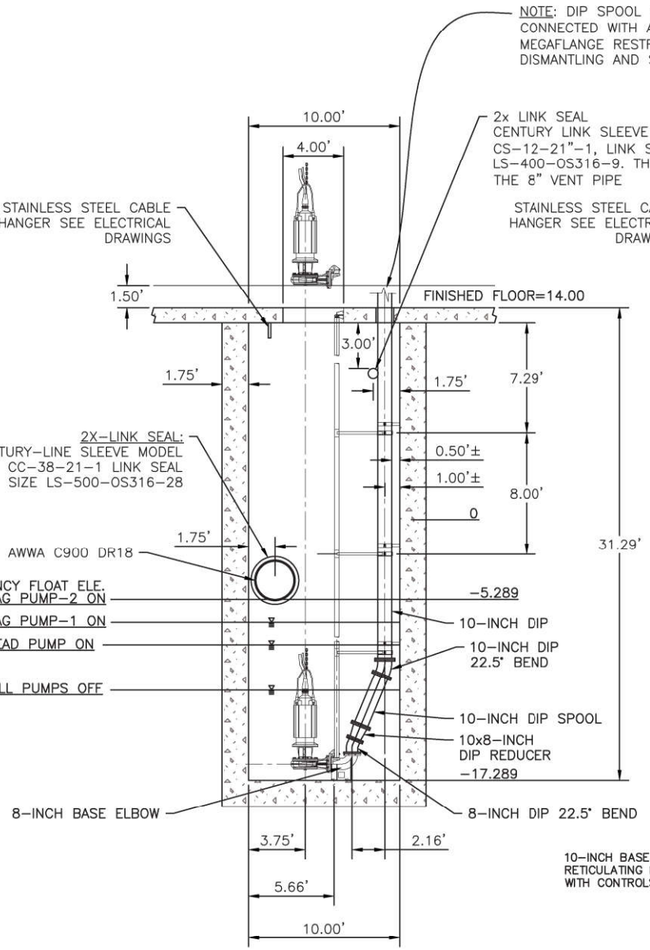
KODIAK, ALASKA

CHECKED BY:	AM
DESIGNED BY:	KPE
DRAWN BY:	JMB
DATE	NOVEMBER 2022
LOCATION	KODIAK
	S32 T27S R19W SM
PN	1128.63263.01

SHEET
C-08

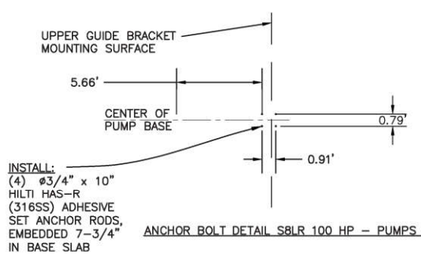


1 C-09 **WET WELL DIMENSIONS**
1"=5'

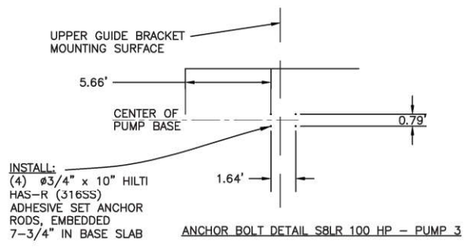


SECTION AA - PUMPS 1 & 2

SECTION BB - PUMP 3



ANCHOR BOLT DETAIL S8LR 100 HP – PUMPS 1 & 2



ANCHOR BOLT DETAIL S8LR 100 HP – PUMP 3

2 C-09 **ANCHOR BOLT DETAIL S8LR 100 HP**
1"=5'

DIP PIPE REQUIREMENTS
1. ALL DIP PIPE SHALL BE COATED WITH FUSION BONED EPOXY "3M SCOTCHKOTE 206N"
2. ALL PIPE SHALL BE DUCTILE IRON FLANGED JOINT PIPE ANSI/AWWA C115/A21.15 STD. CLASS 53 THICKNESS
3. ALL FLANGES SHALL CONFORM TO ANSI B16.1 CLASS 125
4. WHEN A SLIP-ON RESTRAINED FLANGE IS REQUIRED IT SHALL BE "EBAA IRON MEGALUG SERIES 1100" MEETING AWWA C600 OR ASTM D2774 REQUIREMENTS.
5. ALL PIPE HARDWARE, BOLTS, NUTS, PIPE CLAMPS & RAIL CLAMPS SHALL BE STAINLESS STEEL.
6. ALL PIPE STANDS AND CLAMPS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL BY THE ENGINEER IN WRITING PER CONTRACT SPECIFICATION SUBMITTAL REQUIREMENTS.

PUMP SPECIFICATIONS
1. VAUGHAN MODEL S8L5-126 – SUBMERSIBLE CHOPPER PUMP
2. Drive, 100 HP, 1750 RPM, 460V, 3 PHASE, 60 Hz, 1.15 SF, EXPLOSION PROOF (Class 1, Group C & D), 360TY FRAME SUBMERSIBLE MOTOR WITH TANDEM MECHANICAL SEALS, MOISTURE SENSORS, INTERNAL THERMOSTATS, AND 100 FEET OF POWER CABLE.
3. ALL EQUIPMENT SHALL BE PER THE PROJECT SPECIFICATIONS SECTION 22 13 29.16 SUBMERSIBLE SEWERAGE PUMPS.

REV	DATE	DESCRIPTION	BY
1	10/19/22	CONSTRUCTION REVIEW	BM
2	11/21/22	QC REVIEW	PS

CITY OF KODIAK ALASKA

STATE OF ALASKA 49TH Kiana P. Eller 12-31-22 REGISTERED PROFESSIONAL ENGINEER

DOWL
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4041 B Street
Anchorage, Alaska 99503
907-562-2000

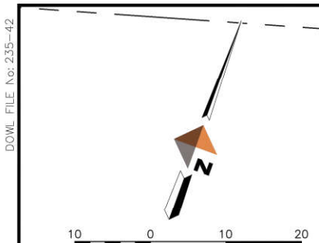
KODIAK SANITARY SEWER LIFT STATION 5

WET WELL SECTIONS

KODIAK, ALASKA

CHECKED BY:	AM
DESIGNED BY:	KPE
DRAWN BY:	JMB
DATE	NOVEMBER 2022
LOCATION	KODIAK
	S32 T27S R19W SM
PN	1128.63263.01

SHEET
C-09



EXPLORATORY EXCAVATION:

1. CONTRACTOR TO EXCAVATE AND EXPOSE PIPING PRIOR TO CONSTRUCTION FOR TEMPORARY PIPING TO EXISTING WET WELL.
2. CONTRACTOR SHALL GIVE WRITTEN NOTICE AND SUBMIT A WORK PLAN TO ENGINEER AND CITY 72 HOUR PRIOR TO EXPLORATORY EXCAVATION TAKING PLACE.
3. EXPOSED CONNECTION, FITTINGS AND CONTRACTOR'S EMERGENCY PIPE REPAIR PLAN WITH EQUIPMENT SHALL BE FIELD INSPECTED AND APPROVED BY THE ENGINEER AND CITY PRIOR TO CONNECTION.
4. ALL LIFT STATION OPERATIONS FOR OFF AND ON AT LIFT STATION 4 & 5 SHALL BE COORDINATED THROUGH THE ENGINEER AND CITY DURING CONNECTION OPERATIONS.

ABANDON MANHOLE PER NOTE 2 & 3

EX. LIFT STATION

EX. WET WELL

METROKIN WAY

EX. ELECTRICAL GENERATOR WWTF POWER AND EX. LIFT STATION PUMP POWER AND CONTROL CURCUITS

EXIST. GENERATOR SHED

EX. 30" DIR. SEWER

ABANDON PIPELINE TO NEW FORCEMAIN CONNECTION

LIFT STATION #5 DRY WELL (TO BE ABANDONED IN PLACE AFTER NEW PACKAGE LIFT STATION IS OPERATIONAL. SEE NOTES)

NOTES

1. EXISTING PIPES WILL BE ABANDONED IN PLACE OR REMOVE PER CITY SPECIFICATION 612 (ABANDON PIPELINE IN PLACE). SUBMIT A PLAN AND SCHEDULE FOR ABANDONMENT OF PIPES. FLOATABLE CONCRETE OR SAND SLURRY WILL BE PLACED IN THE PIPE AND EACH END WILL BE PLUGGED.
2. LIFT STATION #5 DRY WELL SHALL BE DEMOLISHED TO 3 FOOT BELOW FINISHED GRADE. THE DRY WELL SHALL BE FILLED WITH PEA GRAVEL OR SAND SLURRY. WORK ASSOCIATED WITH PAY ITEM 102.
3. ABANDONED MANHOLES SHALL HAVE BARREL REDUCER, GRADE RINGS AND LIDS REMOVED.
4. WORK AND MATERIALS REQUIRED FOR REMOVING LITTER OR DEBRIS THAT EXISTING WITHIN PROJECT LIMITS ARE INCIDENTAL TO THE BID ITEM DEMOLITION, CONCRETE PADS, AND RESTORATION SURFACE (OR INCIDENTAL TO THE PROJECT) AND NO SEPARATE PAYMENT SHALL BE MADE.

REVISIONS			
REV	DATE	DESCRIPTION	BY
1	10/14/22	QC REVIEW	KJ
2	11/21/22	QC REVIEW	PS

CITY OF KODIAK ALASKA

STATE OF ALASKA 49TH Kiana P. Eller PE-11521E 11.29.22 REGISTERED PROFESSIONAL ENGINEER

DOWL
WWW.DOWL.COM
4041 B Street
Anchorage, Alaska 99503
907-562-2000

KODIAK SANITARY SEWER
LIFT STATION 5

LIFT STATION 5 DEMOLITION PLAN

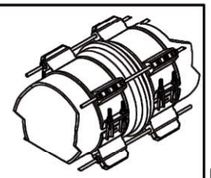
KODIAK, ALASKA

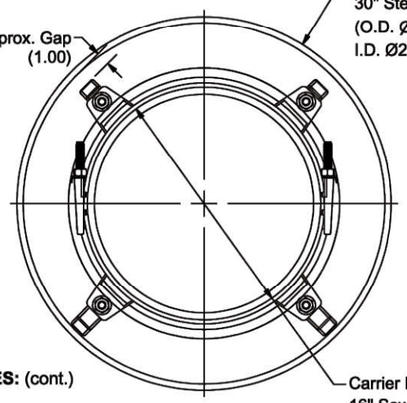
CHECKED BY:	AM
DESIGNED BY:	KPE
DRAWN BY:	JMB
DATE	NOVEMBER 2022
LOCATION	KODIAK
	S32 T27S R19W SM
PN	1128.63263.01

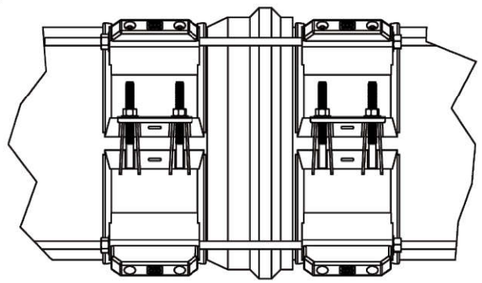
SHEET
C-10

JOINT RESTRAINT CASING SPACER

Series CCSJR-08 - 8" wide







NOTES: (cont.)

10. Use 1/2 inch All Thread Rod (not included) to complete this all-stainless steel Casing Spacer.
11. Casing Spacer weldments to be fully, chemically passivated in accordance with ASTM A380.
12. Joint Restraint Casing Spacers to be placed within 1/2' from each side of the Carirer Pipe Bell / Spigot Joint.
13. Must confirm Casing Pipe I.D., Carrier Pipe O.D. and Bell O.D.'s at time of order.
14. Casing Spacers to be placed at 6 foot maximum spacing along pipe.

Confidential / Proprietary

PATENT 7225837

NOTES: STANDARD TOLERANCES UNLESS OTHERWISE SPECIFIED
1. FINISH = XXXX
2. 2 PLACE DECIMALS ± .03
3. 3 PLACE DECIMALS ± .010
4. ANGULAR DECIMALS ± 1/2 DEGREE.
5. CHAMFER ALL MACHINED SURFACES .005-.010 x 45° AND REMOVE ALL BURRS.
6. ALL PARTS MUST BE FREE FROM SCALE.
7. NO TOLERANCE NEEDED ON REFERENCE DIMENSIONS.
8. ALL BOLT CIRCLE TOLERANCES PER ANSI B16.5 PARA. 7.7
9. CONCENTRICITY TO CENTERLINE .005

Dowl Engineering		
Spruce Cape Rd. Crossing - Kodiak, AK		
MATERIAL: Steel (Casing Spacer hrdwr only - T304 SST; Liner - PVC; Runners - UHMW		DRAWING NO: CCSJR08-1740 CTD 2925
SCALE: NTS	DRAWN BY: CL	REVISED 1:
DATE: 4/18/22	APP'D BY: CL	REVISED 2:

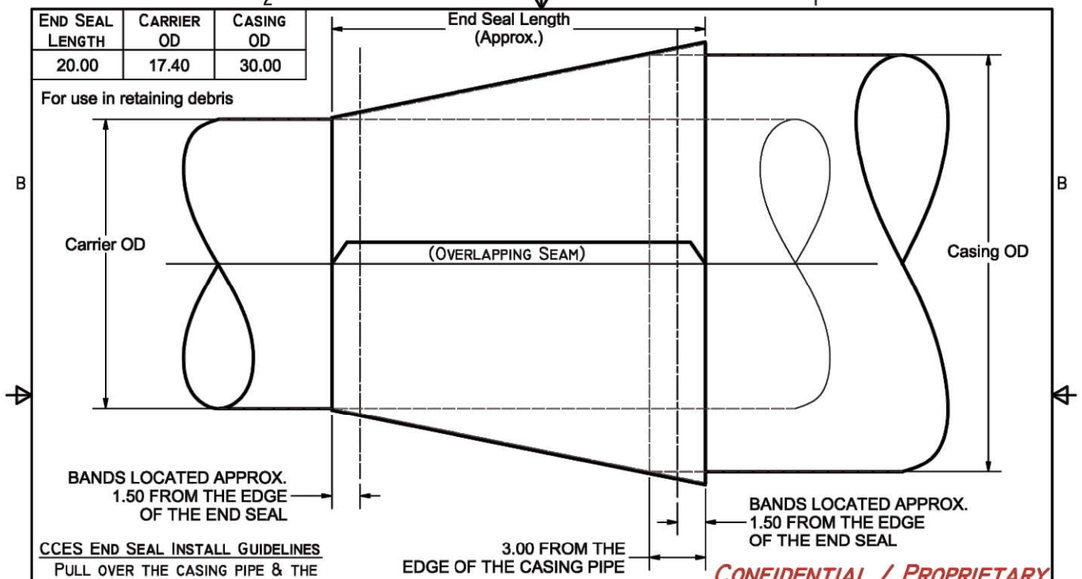
Cascade Waterworks, Mfg.
1213 Badger Street • Yorkville, Illinois 60560

C:\CAD\STD\CCSJR\CCSJR08-1870[2068] CTD 2900 (Utility Pipe Sales - Evansville, IN) [A].idw

1 C-11 JOINT RESTAINT CASING SPACER DETAIL
NTS

End Seal Length	Carrier OD	Casing OD
20.00	17.40	30.00

For use in retaining debris



CCES End Seal Install Guidelines

Pull over the casing pipe & the carrier pipe after installation to provide a barrier to backfill debris.

Push in Carrier side before tightening End Seal

NOTES:

Material Specifications:

Seal - Neoprene

Bands - T-304 Stainless Steel

Confidential / Proprietary

NOTES: STANDARD TOLERANCES UNLESS OTHERWISE SPECIFIED
1. FINISH = XXXX
2. 2 PLACE DECIMALS ± .03
3. 3 PLACE DECIMALS ± .010
4. ANGULAR DECIMALS ± 1/2 DEGREE.
5. CHAMFER ALL MACHINED SURFACES .005-.010 x 45° AND REMOVE ALL BURRS.
6. ALL PARTS MUST BE FREE FROM SCALE.
7. NO TOLERANCE NEEDED ON REFERENCE DIMENSIONS.
8. ALL BOLT CIRCLE TOLERANCES PER ANSI B16.5 PARA. 7.7
9. CONCENTRICITY TO CENTERLINE .005

Dowl Engineering		
Spruce Cape Rd. Crossing - Kodiak, AK		
MATERIAL:	(See Specifications)	DRAWING NO: CES01-1740-3000
SCALE: NTS	DRAWN BY: CL	REVISED 1:
DATE: 04/18/22	APP'D BY: CL	REVISED 2:

Cascade Waterworks, Mfg.
1213 Badger Street • Yorkville, Illinois 60560

C:\CAD\STD\End Seals\CCES-Template.dwg

2 C-11 CCES END SEAL DETAIL
NTS

REVISIONS

REV	DATE	DESCRIPTION	BY
1	10/14/22	QC REVIEW	KJ
2	11/21/22	QC REVIEW	PS

CITY OF KODIAK ALASKA

STATE OF ALASKA 49TH Kiana P. Ellen 12-11-2018 REGISTERED PROFESSIONAL ENGINEER

DOWL
WWW.DOWL.COM

4041 B Street
Anchorage, Alaska 99503
907-562-2000

KODIAK SANITARY SEWER
LIFT STATION 5
CASING SPACER DETAILS
KODIAK, ALASKA

CHECKED BY:	AM
DESIGNED BY:	KPE
DRAWN BY:	JMB
DATE	NOVEMBER 2022
LOCATION	KODIAK
	S32 T27S R19W SM
PN	1128.63263.01

SHEET
C-11

STRUCTURAL GENERAL NOTES

1. **GENERAL REQUIREMENTS**
DESIGN AND ALL MATERIALS, FABRICATION, INSPECTIONS, TESTING AND CONSTRUCTION SHALL COMPLY WITH THESE GENERAL NOTES AND PROJECT SPECIFICATIONS AND STANDARDS.

2. **GOVERNING CODES AND SPECIFICATIONS** △1
INTERNATIONAL BUILDING CODE (IBC), 2021 EDITION. OTHER CODES AND SPECIFICATIONS ASCE 7-16, ACI 318-19, AISC 360-16 AND TMS 402/602-16 WITH THE FOLLOWING EXCEPTIONS OR ADDITIONS:
   a. CODE REQUIREMENTS FOR ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES, ACI 350-06.

3. **SPECIAL INSPECTIONS**
   a. SEE SHEET S-02 FOR SUMMARY.

4. **DESIGN LOADS**
   a. DEAD LOADS
      i. EQUIPMENT WEIGHT(S) AS CERTIFIED BY THE MANUFACTURER.
      ii. COLLATERAL, BUILDING ROOF (CEILING) ---------- 10 PSF
   b. FLOOR LIVE LOADS
      i. FLOOR UNLESS LISTED OTHERWISE (INCLUDES PARTITION) --- 75 PSF
      ii. STAIRS, LANDINGS, CORRIDORS & EXIT WAYS ---------- 100 PSF
      iii. STORAGE ROOMS ---------- 125 PSF
      iv. PUMP, MECHANICAL ROOM ---------- 150 PSF
      v. WET WELL LID ---------- 250 PSF
      UNIFORM OR 16,000 LBS DUEL WHEEL LOAD AASHTO HS-20/HL-93
   c. SNOW LOAD CRITERIA (ASCE 7)
      i. MINIMUM UNIFORM ROOF LIVE LOAD ---------- 20 PSF
      ii. MINIMUM UNIFORM ROOF SNOW LOAD, Pf ---------- 40 PSF
      iii. DRIFT SURCHARGE LOADS IN ACCORDANCE WITH ASCE 7
         (a) BASIC GROUND SNOW LOAD, Pg ---------- 36 PSF
         (b) EXPOSURE FACTOR, Ce ---------- 0.9
         (b) IMPORTANCE FACTOR, I ---------- 1.0
   d. WIND LOAD CRITERIA (ASCE 7)
      i. WIND SPEED (3-SEC GUST, ULTIMATE) ---------- 160 MPH
      ii. RISK CATEGORY ---------- II
      iii. EXPOSURE CATEGORY ---------- D
      iv. TOPOGRAPHIC FACTOR, Kzt ---------- 1.00
      v. ENCLOSURE CLASSIFICATION ---------- ENCLOSED
   e. SEISMIC LOAD CRITERIA (ASCE 7)
      i. MAPPED SPECTRAL RESPONSE S_S ---------- 1.53
      ii. MAPPED SPECTRAL RESPONSE S_1 ---------- 0.92
      iii. PROJECT SITE CLASS ---------- C
      iv. SPECTRAL RESPONSE COEFFICIENT S_{DS} ---------- 1.22
      v. SPECTRAL RESPONSE COEFFICIENT S_{D1} ---------- 0.86
      vi. IMPORTANCE FACTOR ---------- 1.00
      vii. SEISMIC DESIGN CATEGORY ---------- E
      viii. ANALYSIS PROCEDURE, *EQUIVALENT LATERAL FORCE*
      ix. BASIC SEISMIC-FORCE-RESISTING SYSTEM,
      SPECIAL MASONRY (CMU) SHEAR WALLS, R ---------- 5
      x. DESIGN BASE SHEAR ---------- 19 KIP
   f. SPECIAL LOADS - SEE DRAWINGS
   g. BUILDING CONSTRUCTION, TYPE *VB*

5. **CONSTRUCTION PHASE STABILITY**
   a. STRUCTURE STABILITY REQUIRES THAT ALL MEMBERS AND CONNECTIONS ARE COMPLETE PER THESE DRAWINGS. THE CONSTRUCTOR IS RESPONSIBLE FOR PROVIDING TEMPORARY BRACING, SHORING OR OTHER SUPPLEMENTAL SUPPORTS DURING CONSTRUCTION TO ENSURE STABILITY UNTIL COMPLETION.
   b. THE CONSTRUCTOR IS ALSO RESPONSIBLE FOR PROVIDING TEMPORARY SUPPLEMENTAL SUPPORTS DURING CONSTRUCTION, AS NECESSARY, TO PROTECT THE STRUCTURES FROM OVERLOAD IF CONSTRUCTION PHASE LOADS EXCEED THE DESIGN LOADS OUTLINED ABOVE.

6. **FOUNDATIONS**
   a. GEOTECHNICAL REFERENCE: LIFT STATION 5 & FORCE MAIN REPLACEMENT GEOTECHNICAL ENGINEERING MEMO BY DOWL - DATED SEPT, 2021.
   b. FOUNDATION DESIGN CRITERIA
      i. FROST DEPTH, HEATED STR ---------- 36 IN
      ii. NET ALLOWABLE SOIL BEARING PRESSURE, WET WELL ---------- 4,000 PSF
      iii. SUBGRADE MODULUS, k ---------- 300 PCI
      iv. NET ALLOWABLE SOIL BEARING PRESSURE,
      BUILDING & RETAINING WALL FOOTINGS ---------- 3,000 PSF
      v. LATERAL SOIL PRESSURE (EQUIV FLUID), ACTIVE ---------- 45 PCF
      vi. LATERAL SOIL PRESSURE (EQUIV FLUID), AT-REST ---------- 60 PCF
      vii. LATERAL SOIL PRESSURE (EQUIV FLUID), PASSIVE ---------- 525 PCF
      viii. DESIGN WATER TABLE SURFACE BELOW BLDG FLOOR ---------- 6.0'
      ADD HYDROSTATIC PRESSURE BELOW THIS LEVEL
      ix. LATERAL SOIL PRESSURE (EQUIV FLUID),
      AT-REST BELOW WATERTABLE ---------- 92 PCF
      x. LATERAL LIVE LOAD SURCHARGE COEFF ---------- 0.50

7. **FLOOR LOAD LIMIT SIGNAGE** △1
   a. THE ALLOWABLE LIVE LOAD SHALL BE POSTED OR THE WET WELL LID AS FOLLOWS, "ALLOWABLE LIVE LOAD IS 250 PSF UNIFORM OR A 16,000 LB WHEEL LOAD"

7. **FOUNDATIONS CON'T**
   c. EXCAVATION
      i. LOCATED UNDERGROUND UTILITIES BY SURFACE SCANNING OR CAREFUL EXPLORATION BEFORE STRUCTURE EXCAVATION.
      ii. EXCAVATION METHODS, SLOPES AND SHORING ARE THE CONSTRUCTOR'S RESPONSIBILITY TO DESIGN AND INSTALL AND SHALL BE IN COMPLIANCE WITH OSHA 29 CFR 1926 BASED ON SITE SPECIFIC SOIL TYPES.
      iii. EXCAVATION SURFACE BARRIERS FOR PERSONS, EQUIPMENT AND SURFACE WATER ARE THE CONSTRUCTOR'S RESPONSIBILITY.
      iv. AVOID EXCESSIVE WETTING OR DRYING OF FOUNDATION EXCAVATIONS DURING CONSTRUCTION TO THE EXTENT PRACTICAL.
   d. SUBGRADE
      i. SCARIFY, MOISTURE CONDITION, RE-COMPACT AND OR PROOF ROLL NATIVE SOIL SUBGRADE SURFACE IN ACCORDANCE WITH PROJECT SPECIFICATIONS AND AS DIRECTED BY THE GEOTECHNICAL REPRESENTATIVE.
      ii. FOOTINGS / MAT SLABS SHALL BEAR ON COMPACTED STRUCTURAL FILL OVER NATIVE SOILS APPROVED BY THE GEOTECHNICAL REPRESENTATIVE.
   e. BACKFILL
      i. MOISTURE CONDITION, PLACE AND COMPACT APPROVED BACKFILL MATERIALS IN ACCORDANCE WITH PROJECT SPECIFICATIONS.
      ii. PLACE AND COMPACT BACKFILL ON WALLS BURIED BOTH SIDES IN EQUAL LIFTS ON EACH SIDE OF WALL. UNBALANCED LIFT SURFACES SHALL NOT EXCEED 1.5 FEET.
      iii. WALLS BURIED ON ONE SIDE ONLY SHALL HAVE ALL SUPPORTING SLABS, PERMANENT FRAMING OR TEMPORARY BRACING IN PLACE PRIOR TO PLACEMENT OF BACKFILL.

8. **CONCRETE**
   a. MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE AMERICAN CONCRETE INSTITUTE SPECIFICATIONS FOR STRUCTURAL CONCRETE (AC1 301), BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (ACI 318) AND SPECIFICATION FOR CURING CONCRETE (ACI 308.1).
   b. DETAILING, FABRICATION AND PLACEMENT OF REINFORCEMENT SHALL CONFORM TO DETAILS AND DETAILING OF CONCRETE REINFORCEMENT (ACI 315)
   c. MATERIALS
      i. PORTLAND CEMENT ---------- ASTM C150 OR C595
      ii. FLY ASH ---------- ASTM C618 TYPE C OR F
      iii NORMAL WEIGHT AGGREGATES ---------- ASTM C33 CLASS 3S
      iv. AIR-ENTRAINING ADMIXTURE ---------- ASTM C260
      v. WATER-REDUCING ADMIXTURE ---------- ASTM C494
      vi. WATER ---------- POTABLE
      vii. REINFORCING BARS ---------- ASTM A615, GRADE 60
      viii. POST-INSTALLED ANCHOR OR REBAR DOWEL ADHESIVE
      HILTI HIT-HY-200 V3 OR HIT-RE 500 V3
   d. ALL BENT REINFORCING BARS SHALL BE SHOP FABRICATED. REBENDING OR WELDING OF REINFORCEMENT SHALL NOT BE PERMITTED UNLESS AUTHORIZED BY ENGINEER. END HOOKS IN REINFORCING BARS, SHOWN ON THE DRAWINGS BUT NOT DIMENSIONED, SHALL CONFORM TO ACI 318 STANDARDS.
   e. MIX DESIGNS
      i. CLASS A: WET WELL
      w/cm = 0.45, 1 1/2" max aggregate, 5.0% air, f'c = 4,500 PSI
      INCLUDES PERMEABILITY-REDUCING / WATERPROOFING CEMENTITIOUS CRYSTALLINE ADMIXTURE SUCH AS XYPEX C-500 AT 2.5% BY CEMENT WT.
      ii. CLASS B: BUILDING FOUNDATION AND RETAINING WALLS
      w/cm = 0.45, 1" max aggregate, 5.0% air, f'c = 4,500 PSI
      iii. CLASS C: BUILDING SLAB (INTERIOR)
      w/cm = 0.50, 1" max aggregate, no entrained air, f'c = 4,000 PSI
   f. CONCRETE COVER OVER REINFORCEMENT SHALL BE 2" EXCEPT FOR THE FOLLOWING:
      i. 3" CLEAR FOR CONCRETE PLACED AGAINST SOIL.
   g. LAP REINFORCING BARS PER THE FOLLOWING MINIMUM LENGTHS UNLESS OTHERWISE INDICATED. TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 12" OF CONCRETE CAST BELOW THE BAR.

BAR SIZE	GENERAL	TOP BARS
#4	1'-9"	2'-3"
#5	2'-0"	2'-6"
#6	2'-3"	3'-0"
#7	3'-3"	4'-3"
#8	4'-0"	5'-3"

   h. STAGGER ADJACENT REINFORCEMENT LAP SPLICES IN WALLS 24" MINIMUM.
   i. ADJUST REBAR SPACING OR POSITION NOMINALLY AS REQUIRED TO CLEAR EMBEDDED ITEMS SUCH AS ANCHORAGES.
   j. PROVIDE REBAR SUPPORTS TO PROPERLY SECURE AND SUPPORT REINFORCING IN ACCORDANCE WITH CRSI UNLESS SHOWN/INDICATED OTHERWISE. PROVIDE #5 STANDEES AT 4 FT MAX TO SUPPORT TOP REINFORCEMENT MATS IN BASE SLABS, AND #4 CROSSTIES AT 6 FT MAX EACH WAY TO SECURE DOUBLE WALL CURTAINS.
   k. DOWELS, PIPES AND OTHER INSTALLED MATERIALS AND ACCESSORIES SHALL BE HELD SECURELY IN POSITION DURING CONCRETE PLACEMENT.
   l. REINFORCING BARS AND ACCESSORIES SHALL NOT BE IN CONTACT WITH ANY SLEEVE, PIPE FLANGE OR METAL PART EMBEDDED IN CONCRETE. PROVIDE 2" CLEARANCE IN ALL CASES UNLESS OTHERWISE INDICATED. NO EMBEDDED ITEM SHALL BE SUSPENDED FROM, SUPPORTED BY, OR BRACED IN PLACE FROM REINFORCEMENT.
   m. LOCATE CONSTRUCTION JOINTS WHERE SHOWN ON THE DRAWINGS OR AS AUTHORIZED THE ENGINEER. SLABS AND BEAMS SHALL NOT HAVE JOINTS IN A HORIZONTAL PLANE.
   n. THOROUGHLY CLEAN BY SANDBLASTING ALL KEYWAYS AND CONSTRUCTION JOINTS PRIOR TO ADJACENT CONCRETE PLACEMENT.
   o. BEGIN SPACING OF BARS WHICH PARALLEL CONSTRUCTION AND EXPANSION JOINTS 3" CLEAR EACH SIDE OF JOINT.
   p. UNLESS OTHERWISE SHOWN, PLACE 2 - #5 (1 EACH FACE) WITH 2'-0" PROJECTIONS AROUND ALL OPENINGS IN CONCRETE WALLS OR SLABS.
   q. PROVIDE AN ADDITIONAL 80 LINEAL FEET EACH OF #5 REINFORCING BARS FOR USE AS DIRECTED DURING CONSTRUCTION.
   r. CHAMFER ALL EXPOSED CONCRETE EDGES 3/4" UNLESS OTHERWISE INDICATED.

9. **SLABS ON GRADE**
   a. SLAB ON GRADE CONTROL JOINTS ARE DENOTED "CNJT" ON DRAWINGS. SLAB ON GRADE CONSTRUCTION JOINTS ARE DENOTED "CSJT." AT CONTRACTOR'S OPTION CONSTRUCTION JOINTS MAY BE SUBSTITUTED FOR CONTROL JOINTS.
   b. PROVIDE #4 X 4'-0" DIAGONAL BAR AT ALL REENTRANT CORNERS. PLACE BARS MID-DEPTH IN SLAB AND 2" CLEAR FROM EDGE OR CORNER.

10. **CONCRETE MASONRY**
   a. CONCRETE MASONRY MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE MASONRY SOCIETY'S BUILDING CODE REQUIREMENTS AND SPECIFICATIONS FOR MASONRY STRUCTURES (TMS 402 / 602).
   b. CMU ASSEMBLY, 28 DAY COMPRESSIVE STRENGTH ---------- f'm = 2000 PSI
   VERIFY BY UNIT STRENGTH METHOD
   c. MATERIALS
      i. CMU ---------- ASTM C90
      ii. MORTAR ---------- ASTM C270 TYPE S
      iii. GROUT ---------- ASTM C476
      FINE AGGREGATE, 10" SLUMP, f'c = 2000 PSI
      iv. AIR-ENTRAINING ADMIXTURE ---------- ASTM C260
      v. REINFORCING BARS ---------- ASTM A615, GRADE 60
      LAP BARS 48 BAR DIAMETERS MINIMUM
   d. CUT MASONRY UNIT WITH MOTOR DRIVEN SAWS TO PRODUCE CLEAN, SHARP EDGES.
   e. LAY MASONRY UNITS IN RUNNING BOND PATTERN. FINISH MORTAR JOINTS BY TOOLING TO A DENSE CONCAVE SURFACE.
   f. REINFORCE ALL JAMB, CORNER, END AND TEE CELLS AND EACH SIDE OF CONTROL JOINTS.
   g. INSTALL VERTICAL CONTROL JOINTS WHERE INDICATED.
   h. BEFORE GROUT PLACEMENT, INSTALL ALL REINFORCING AND EMBEDMENTS AND SECURE WITH POSITIONING DEVICES.
   i. CONSOLIDATE ALL GROUT PLACEMENTS BY INTERNAL MECHANICAL VIBRATION - DURING INITIAL PLACEMENT AND RECONSOLIDATE AFTER INITIAL WATER LOSS.
   j. THE CONTRACTOR IS RESPONSIBLE FOR DESIGN AND INSTALLATION OF ALL TEMPORARY SUPPORTS AND BRACING REQUIRED TO MAINTAIN MASONRY STABILITY UNTIL ALL PERMANENT STRUCTURAL COMPONENTS AND CONNECTIONS ARE COMPLETE.

11. **STRUCTURAL STEEL**
   a. STRUCTURAL STEEL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL BUILDINGS.
   b. MATERIAL
      i. STRUCTURAL STEEL W-SHAPES ---------- ASTM A992
      ii. PLATES, BARS, ANGLES, S AND C SHAPES - ASTM A36
      iii. HOLLOW STRUCTURAL STEEL (HSS) ------ ASTM A500, GRADE C
      iv. STEEL PIPE ---------- ASTM A53, GRADE B
      v. HIGH-STRENGTH BOLTS ---------- ASTM F3125, GRADE A325
      vi. ANCHOR RODS ---------- ASTM F1554, GRADE 55
      vii. POST-INSTALLED ANCHOR RODS - ADHESIVE SET
      HILTI HAS-R STAINLESS STEEL ---------- AISI 304 / 316
      viii. HEADED ANCHOR STUDS (HAS) ---------- ASTM A108, TYPE B
   c. CLEAN, PRIME AND COAT STRUCTURAL STEEL WITH A TWO-COMPONENT EPOXY COATING SUCH AS PHENGUARD 930/935/940 BY PPG. PAINT MONORAILS SAFETY YELLOW AND BRACING MEMBERS OFF-WHITE.
   d. ALL STRUCTURAL STEEL BOLTED CONNECTIONS SHALL BE FULL PRE-TENSIONED, 3/4" DIAMETER A325 - N BOLTS WITH STANDARD HOLES UNLESS OTHERWISE NOTED.
   e. ALL WELDING SHALL CONFORM TO AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE - STEEL (AWS D1.1) AND SHALL BE PERFORMED BY WELDERS QUALIFIED BY THE APPROPRIATE AWS TEST FOR THE WELDING PERFORMED.

12. **WOOD FRAMING**
   a. MATERIALS
      i. STRUCTURAL LUMBER ---------- HEM OR DOUG-FIR
         (a) 2" TO 4" THICK X 4" WIDE ---------- NO. 2 GRADE
         (b) 2" TO 4" THICK X 5" AND WIDER --- NO.1 GRADE
      ii. PLYWOOD SHEATHING ---------- APA RATED SHEATHING
         (b) WALL SHEATHING ---------- 24/16 EXPOSURE 1
         (c) ROOF SHEATHING ---------- 40/20 EXPOSURE 1
      iii. PREFABRICATED WOOD TRUSSES SHALL CONFORM TO THE TRUSS PLATE INSTITUTE DESIGN SPECIFICATIONS FOR METAL PLATE CONNECTED WOOD TRUSSES. TRUSSES SHALL BE DESIGNED BY MANUFACTURER TO SUPPORT ALL DESIGN LOADS NOTED HEREIN.
      iv. TRUSS CHORD MATERIALS TO BE HEM FIR NO. 1 OR BETTER
      v. TRUSS MINIMUM CROSS SECTIONAL SIZES:
         (a) TOP CHORD ---------- 2X6
         (b) WEB STRUTS / PANES ---------- 2X4
         (c) BOTTOM CHORD ---------- 2X6
      vi. WOOD TOP PLATES AND LEDGERS TO BE PRESSURE TREATED.

13. **EQUIPMENT INSTALLATION**
   a. ALL OPENINGS SHOWN SHALL BE VERIFIED, AND ALL STRUCTURAL DIMENSIONS AND DETAILS PERTAINING TO EQUIPMENT INSTALLATION SHALL BE COORDINATED BY THE CONTRACTOR WITH THE ACTUAL EQUIPMENT FURNISHED.
   b. EQUIPMENT SUPPORTS, ANCHORAGES AND OPENINGS NOT SHOWN ON THE STRUCTURAL DRAWINGS, BUT REQUIRED BY OTHER CONTRACT DRAWINGS, SHALL BE PROVIDED PRIOR TO PLACING CONCRETE.

14. **FINISHED FLOOR ELEVATION** = PROJECT DATUM ELEVATION 14.00' (MEAN SEA LEVEL).

△1

DEFERRED SUBMITTALS SCHEDULE - IBC 107.3.4.1	
ITEM	REMARKS
PRE-ENGINEERED WOOD TRUSSES	

DOWL DELEGATES DESIGN OF DEFERRED SUBMITTAL ITEM(S) TO THE SUPPLIER / MANUFACTURER WHO IS RESPONSIBLE FOR ORIGINATING A CODE COMPLIANT DESIGN CONSISTENT WITH PROJECT SPECIFIC CRITERIA. DELEGATED DESIGN(S) MUST BE REVIEWED FOR PROJECT CONFORMANCE BY DOWL.

CITY OF KODIAK ALASKA

STATE OF ALASKA 49TH MATTHEW J. METTLER SE 13920 2022-11-29 REGISTERED PROFESSIONAL STRUCTURAL ENGINEER

DOWL
WWW.DOWL.COM
40104 B Street
Anchorage, Alaska 99503
907-562-2000

S-01

1

REQUIRED SPECIAL INSPECTIONS FOR SOILS - IBC TABLE 1705.6

SYSTEM OR MATERIAL	INSPECTION				REMARKS
	IBC CODE REFERENCE	CODE OR STANDARD REFERENCE	FREQUENCY		
			CON-TINUOUS	PERIODIC	
SOILS					
EXCAVATION DEPTH & LIMITS				X	
SUBGRADE APPROVAL				X	
FILL MATERIAL VERIFICATION				X	MATERIAL TYPE & GRADATION
FILL PLACEMENT AND COMPACTION			X		

REQUIRED SPECIAL INSPECTIONS FOR CONCRETE - IBC TABLE 1705.3

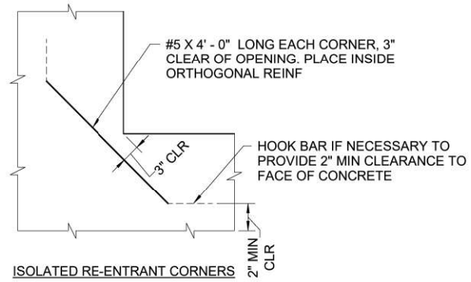
SYSTEM OR MATERIAL	INSPECTION				REMARKS
	IBC CODE REFERENCE	CODE OR STANDARD REFERENCE	FREQUENCY		
			CON-TINUOUS	PERIODIC	
CONCRETE					
VERIFICATION OF FORMWORK		ACI 318: 26		X	INSPECT FORMS FOR ARRANGEMENT AND THICKNESS DIMENSIONS
REINFORCING STEEL PLACEMENT		ACI 318; 20, 25, & 26		X	INCLUDES BAR SIZE & GRADE
WELDING OF REINFORCING STEEL		AWS D1.4, ACI 318: 26		X	NO WELDING OF REINFORCING STEEL ANTICIPATED
PLACEMENT OF CAST-IN-PLACE ANCHOR RODS		ACI 318: 17		X	
VERIFICATION OF CONCRETE MIX DESIGN(S)	1904.1, 1904.2	ACI 318: 19 & 26		X	
CONCRETE PLACEMENT & CONSOLIDATION		ACI 318: 26	X		
CONCRETE CURING & PROTECTION		ACI 318: 26		X	
POST-INSTALLED ANCHORS					
MECHANICAL		ICC EVALUATION REPORTS, ACI 318: 17		X	VERIFY ANCHOR PRODUCT, TYPE, DIMENSIONS, HOLE DIMENSIONS, COMPLIANCE WITH DRILL BIT REQUIREMENTS, HOLE CLEANLINESS, INSTALLATION, EMBEDMENT, AND NUT TIGHTENING.
ADHESIVE (CHEMICAL) SET		ICC EVALUATION REPORTS, ACI 318: 17	X		VERIFY ANCHOR PRODUCT, TYPE, DIMENSIONS, HOLE DIMENSIONS, COMPLIANCE WITH DRILL BIT REQUIREMENTS, HOLE CLEANLINESS, ADHESIVE TYPE & EXPIRATION, INSTALLATION, EMBEDMENT, AND NUT TIGHTENING.

REQUIRED SPECIAL INSPECTIONS FOR STRUCTURAL MASONRY - IBC ARTICLE 1705.4 & TMS 602 TABLE 4

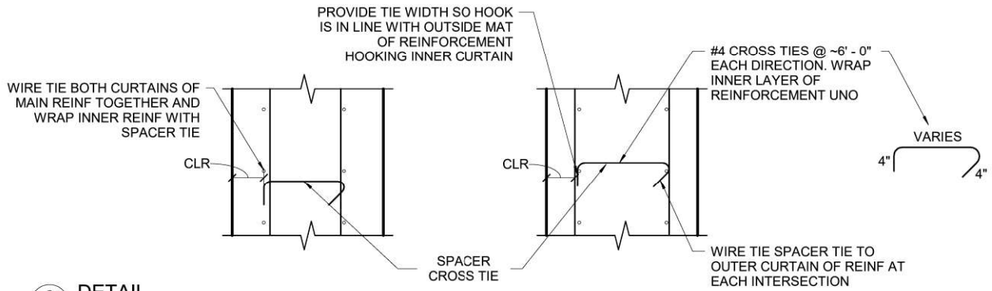
SYSTEM OR MATERIAL	INSPECTION				REMARKS
	IBC CODE REFERENCE	CODE OR STANDARD REFERENCE	FREQUENCY		
			CON-TINUOUS	PERIODIC	
STRUCTURAL MASONRY					
VERIFICATION OF MORTAR & GROUT MIX		TM 602 TABLE 4 - LEVEL B		X	
PLACEMENT OF MASONRY UNITS, REINFORCEMENTS, AND ANCHORS		TM 602 TABLE 4 - LEVEL B		X	
GROUT PLACEMENT AND CONSOLIDATION		TM 602 TABLE 4 - LEVEL B	X		
COLD-WEATHER PROCEDURES		TM 602 TABLE 4 - LEVEL B		X	PREPARATION FOR & PROTECTION FROM TEMPERATURES BELOW 40 DEG F

REQUIRED SPECIAL INSPECTIONS FOR WOOD - IBC ARTICLE 1705.5

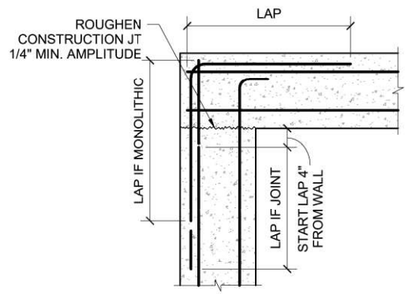
SYSTEM OR MATERIAL	INSPECTION				REMARKS
	IBC CODE REFERENCE	CODE OR STANDARD REFERENCE	FREQUENCY		
			CON-TINUOUS	PERIODIC	
WOOD					
PRE-ENGINEERED WOOD ASSEMBLIES	1704.2.5			X	ROOF TRUSSES, INSPECTIONS BY FABRICATOR
TRUSS AND FRAMING MEMBER CONNECTORS AND FASTENERS TO SUPPORTING STRUCTURE				X	
SHEAR WALL AND ROOF DIAPHRAGM SHEATHING, BLOCKING, AND NAILING	1704.2			X	INCLUDES MEMBER SIZE & GRADE



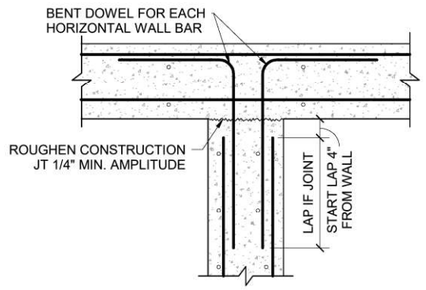
1 S-02 **DETAIL**
TYPICAL ADDITIONAL REINFORCEMENT AT OPENINGS



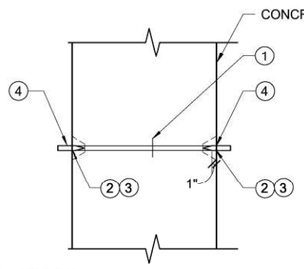
2 S-02 **DETAIL**
CONCRETE WALL DOUBLE CURTAIN REINFORCEMENT SPACER
(SPACERS ARE IN ADDITION TO WALL SHEAR REINF.)



3 S-02 **DETAIL**
TYPICAL CONCRETE WALL CORNER
(DOUBLE REINF. CURTAIN SHOWN, SINGLE SIMILAR)



4 S-02 **DETAIL**
CONSTRUCTION JOINT AT TEE INTERSECTION
(DOUBLE REINF. CURTAIN SHOWN, SINGLE SIMILAR)



DETAIL NOTES:

1. FORM TIE WITH INTEGRAL WATER BARRIER.
2. REMOVE TIE ENDS AT LEAST 1" CLEAR OF WALL FACE. CLEAR AREA BY WATER-JET OR COMPRESSED AIR.
3. APPLY TWO-PART EPOXY BONDING AGENT.
4. GROUT TIE HOLES FLUSH WITH CEMENTITIOUS GROUT OF STIFF CONSISTENCY.

5 S-02 **DETAIL**
CONCRETE WALL TIE HOLE TREATMENT

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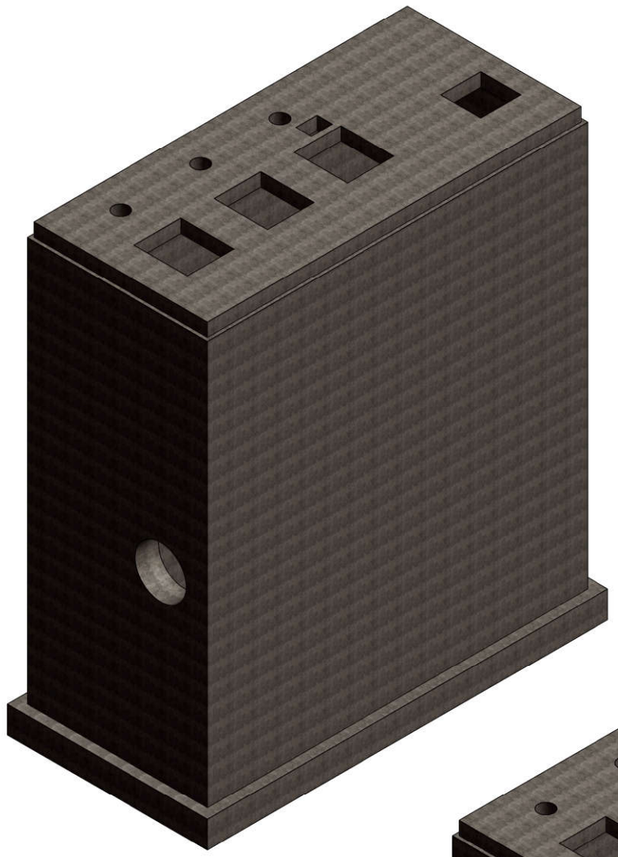
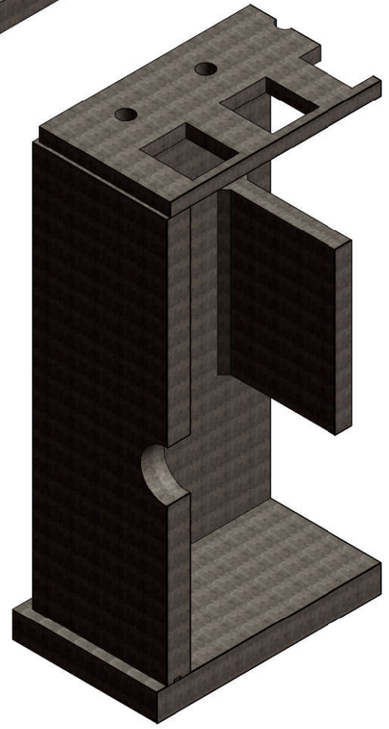
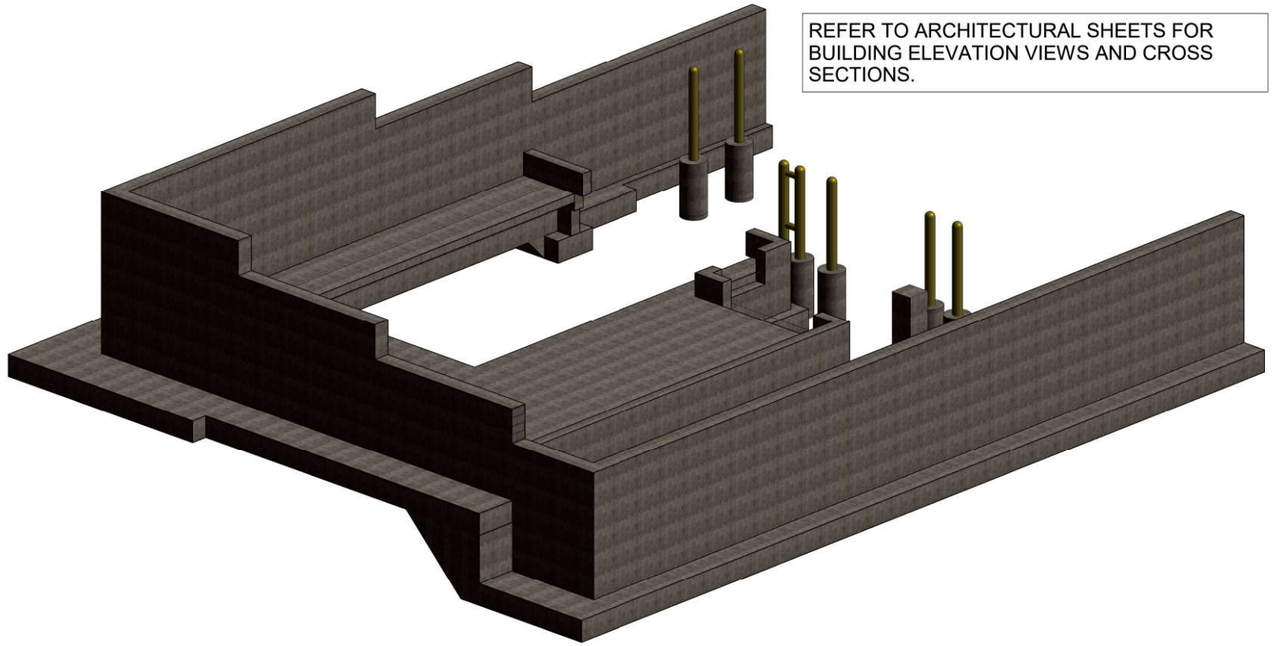


1 S-03 ISOMETRIC
EXTERIOR OF WET WELL



2 S-03 PARTIAL ISOMETRIC
INTERIOR OF WET WELL



3 S-03 ISOMETRIC
ISOMETRIC - RETAINING WALLS, BUILDING FOUNDATION, AND SLAB

REFER TO ARCHITECTURAL SHEETS FOR BUILDING ELEVATION VIEWS AND CROSS SECTIONS.

STRUCTURAL ABBREVIATIONS

ALT	-ALTERNATE	GA	-GAGE (OR GAUGE)	PL	-PLATE
ANC	-ANCHOR	GALV	-GALVANIZED	PROJ	-PROJECTION
		GL	-GLULAM	PSF	-POUNDS PER SQUARE FOOT
BB	-BACK TO BACK	GB	-GRADE BEAM	PSI	-POUNDS PER SQUARE INCH
BLDG	-BUILDING	GVW	-GROSS VEHICLE WEIGHT		
BM	-BEAM			QTY	-QUANTITY
BRG	-BEARING	HAS	-HEADED ANCHOR STUD		
BOPL	-BOTTOM OF BASE PLATE	HORZ	-HORIZONTAL	R	-RADIUS
BOT	-BOTTOM	HT	-HEIGHT	REF	-REFERENCE (REFER TO)
BTWN	-BETWEEN			REINF	-REINFORCEMENT
		IN	-INCH	REQD	-REQUIRED
CIP	-CAST IN PLACE	INFO	-INFORMATION	RF	-REAR FACE
CL	-CENTERLINE	INT	-INTERIOR		
CLR	-CLEAR	ISJT	-ISOLATION JOINT	S	-SOUTH
CMU	-CONCRETE MASONRY UNIT			SHT	-SHEET
COL	-COLUMN	JT	-JOINT	SIM	-SIMILAR
CONC	-CONCRETE			SPA	-SPACE OR SPACES
CONN	-CONNECTION	KIP	-1,000 LBS	SPEC	-SPECIFICATIONS
CONT	-CONTINUOUS	KSF	-KIP PER SQUARE FOOT	SQ	-SQUARE
COORD	-COORDINATE	KSI	-KIP PER SQUARE INCH	STD	-STANDARD
CNTRD	-CENTERED			STIF	-STIFFENER
CNJT	-CONTRACTION JOINT	LAT	-LATERAL	STL	-STEEL
CSJT	-CONSTRUCTION JOINT	LBS	-POUND(S)	STIR	-STIRRUP
CY	-CUBIC YARD	LDGR	-LEDGER	STRUCT	-STRUCTURAL
		LLH	-LONG LEG HORIZONTAL	SYM	-SYMMETRICAL
DBA	-DEFORMED BAR ANCHOR	LLV	-LONG LEG VERTICAL		
DIA OR (/)	-DIAMETER	LOC	-LOCATION	T&B	-TOP AND BOTTOM
DIAG	-DIAGONAL	LONG	-LONGITUDINAL	THK	-THICKNESS
DIM	-DIMENSION	LP	-LOW POINT	TOC	-TOP OF CONCRETE
DIST	-DISTANCE			TOF	-TOP OF FOOTING
DWG	-DRAWING	MATL	-MATERIAL	TOG	-TOP OF GRATING
DWL	-DOWEL	MAX	-MAXIMUM	TOS	-TOP OF STEEL
		MCJ	-MASONRY CONTROL JOINT	TOW	-TOP OF WALL
E	-EAST	MFR	-MANUFACTURER	TRANS	-TRANSVERSE
EA	-EACH	MIN	-MINIMUM	TYP	-TYPICAL
EF	-EACH FACE	MISC	-MISCELLANEOUS		
EL	-ELEVATION			UNO	-UNLESS NOTED OTHERWISE
EPS	-EXPANDED POLYSTYRENE	N	-NORTH		
EQL	-EQUAL	NO. OR #	-NUMBER	VERT	-VERTICAL
EXST	-EXISTING	NOM	-NOMINAL		
EXP	-EXPANSION	NS	-NEAR SIDE	W	-WEST
EXT	-EXTERIOR	NTS	-NOT TO SCALE	W/	-WITH
				W/O	-WITHOUT
FDN	-FOUNDATION	OC	-ON CENTER	WP	-WORK POINT
FF	-FRONT FACE	OD	-OUTSIDE DIAMTER	WT	-WEIGHT
FLG	-FLANGE	OPNG	-OPENING		
FT	-FOOT	OPP	-OPPOSITE		
FTG	-FOOTING				
FRMG	-FRAMING				
FS	-FAR SIDE				

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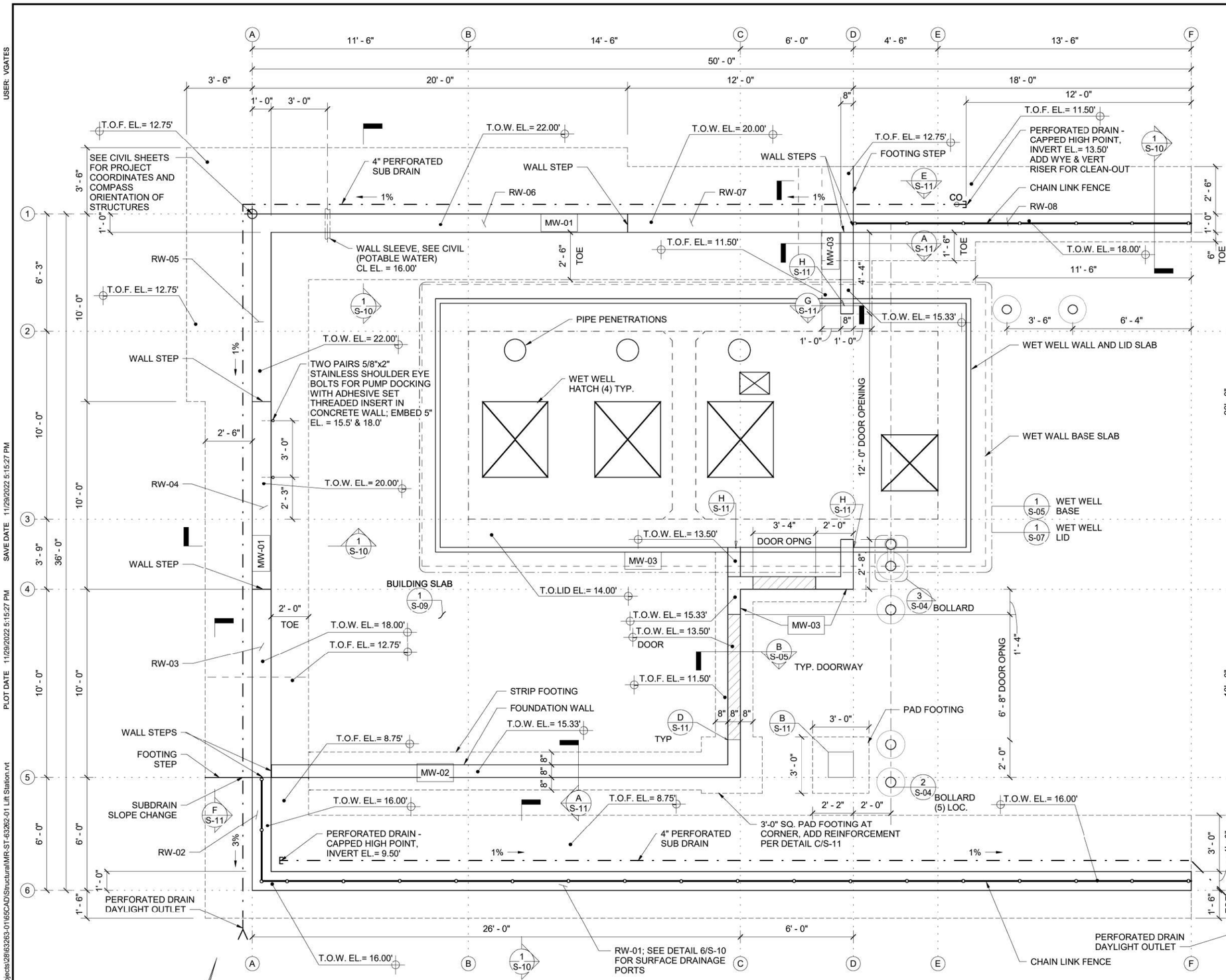
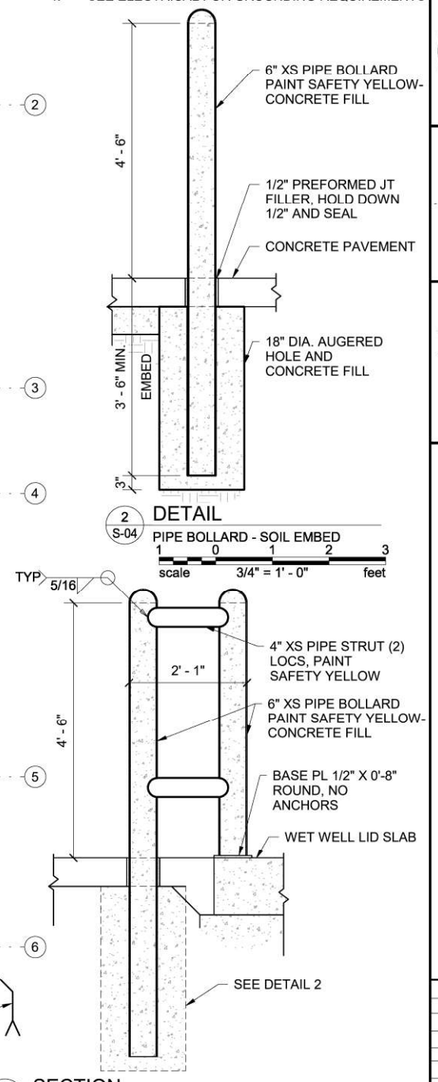
LEGEND:

EL.	=	PROJECT DATUM ELEVATION
RW##	=	RETAINING WALL MARK NO. - SEE SHEET S-10
T.O.W.	=	TOP OF WALL ELEVATION
T.O.F.	=	TOP OF FOOTING ELEVATION
T.O.LID	=	TOP OF LID ELEVATION
— · —	=	4" PERFORATED SUB DRAIN
MW-##	=	MASONRY WALL MARK NO. SEE SHEET S-13 FOR VERTICAL DOWELS

NOTES:

1. REFER TO SHEETS S-01 AND S-02 FOR GENERAL STRUCTURAL NOTES, DETAILS, AND INSPECTION REQUIREMENTS.
2. SEE CIVIL DRAWINGS FOR RETAINING WALL ELEVATIONS, GRADING, AND EXTERIOR PAVING DETAILS.
3. SEE SHEET S-09 FOR BUILDING SLAB PLAN
4. SEE ELECTRICAL FOR GROUNDING REQUIREMENTS





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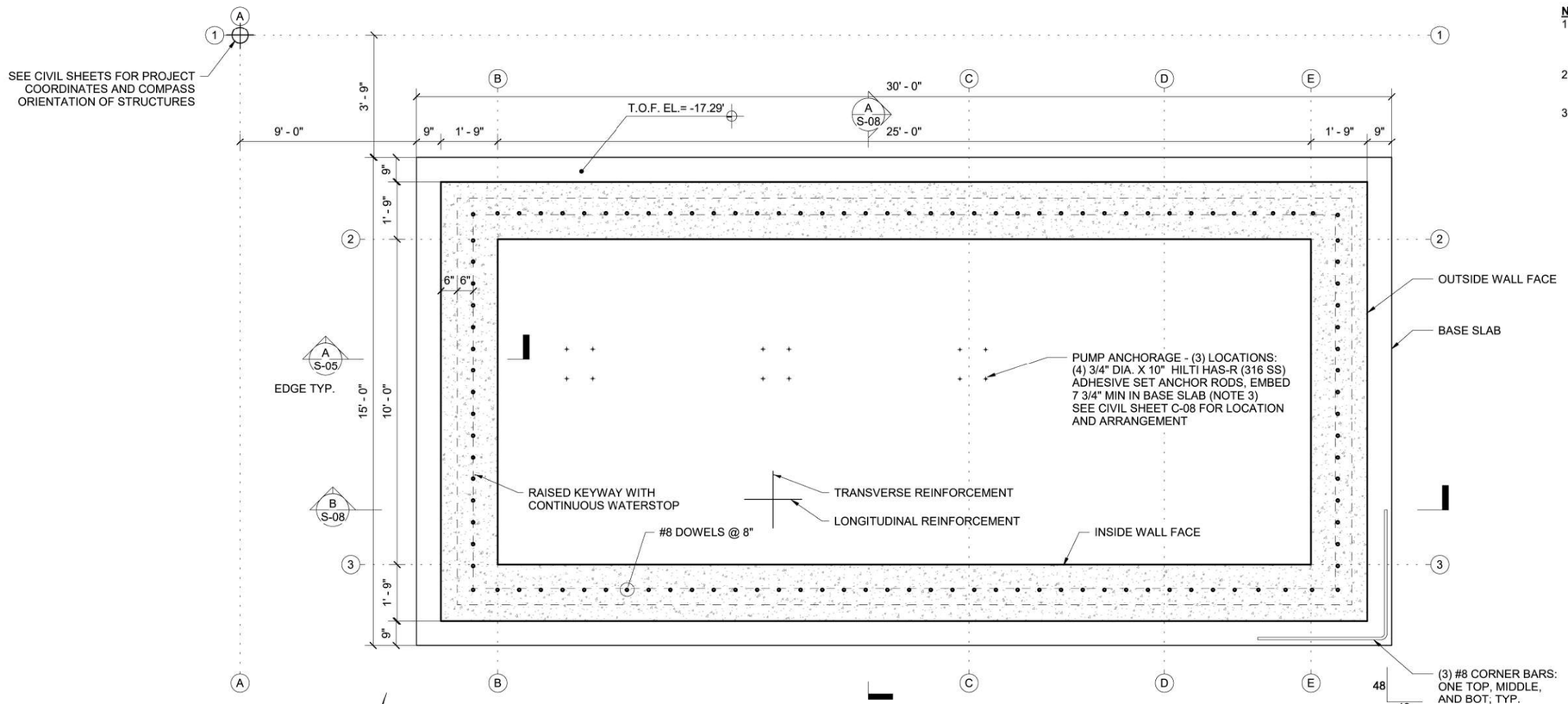
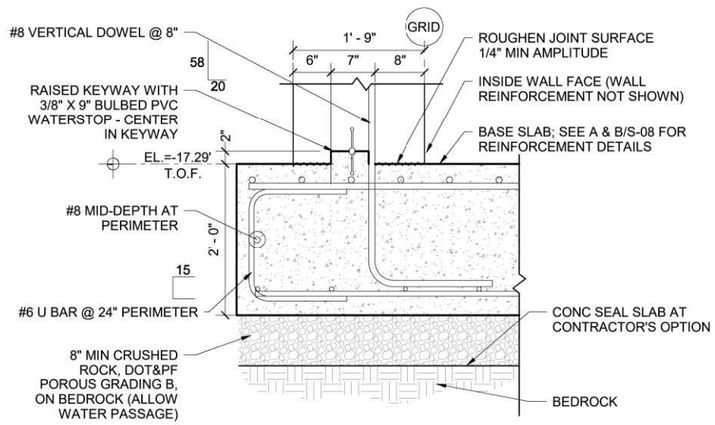


1 S-05 **ENLARGED PLAN VIEW**
WET WELL FOUNDATION/ BASE SLAB

NOTES:

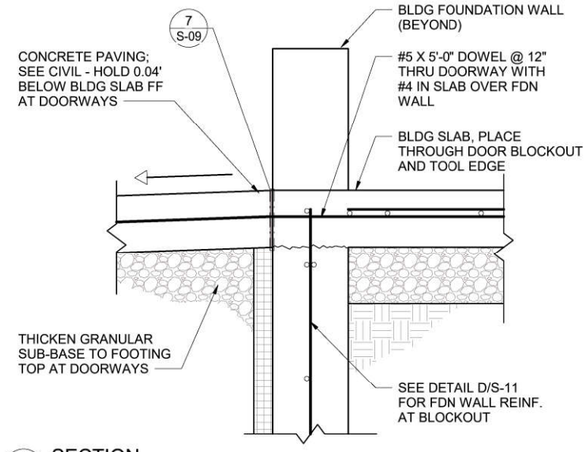
1. REFER TO SHEETS S-01 AND S-02 FOR GENERAL STRUCTURAL NOTES, DETAILS, AND INSPECTION REQUIREMENTS.
2. EXCAVATION LIMITS NOT SHOWN - THE CONSTRUCTOR'S RESPONSIBILITY.
3. PUMP ANCHORS ARE SPECIFIED TO BE POST-INSTALLED TO ENSURE LOCATION ACCURACY, HOWEVER, CONSTRUCTOR SHALL ENSURE REBAR LAYOUT CLEARS ANCHOR LOCATIONS BEFORE CONCRETE PLACEMENT (SHIFT REBAR NOMINALLY AS REQUIRED).



A S-05 **SECTION**
BASE SLAB EDGE

1 0 1 2
scale 1" = 1' - 0" feet

1 0 1 2 3 4 5
scale 1/2" = 1' - 0" feet



B S-05 **SECTION**
SLAB AT DOORWAY

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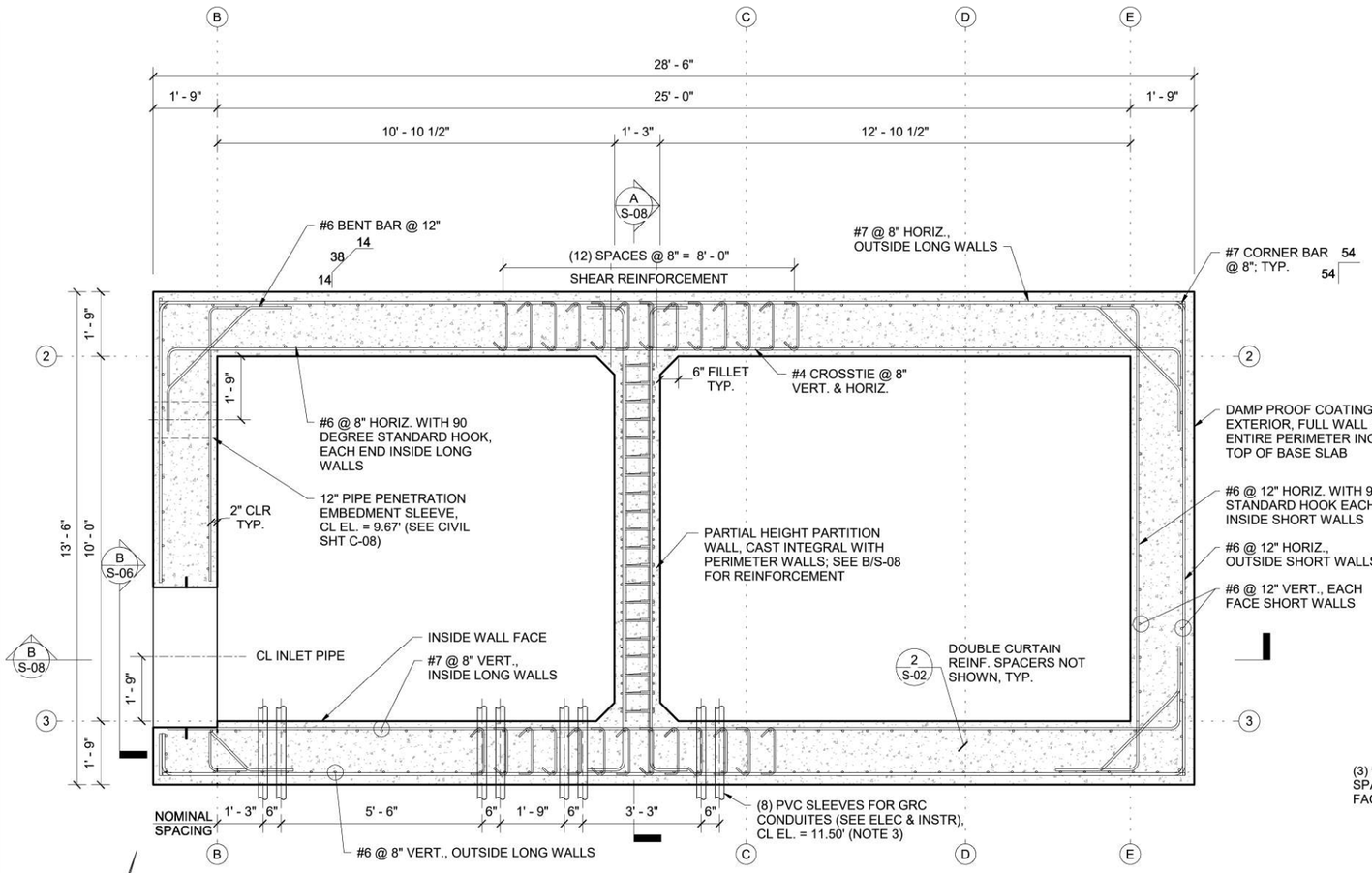
NOTES:

1. REFER TO SHEETS S-01 AND S-02 FOR GENERAL STRUCTURAL NOTES, DETAILS, AND INSPECTION REQUIREMENTS.

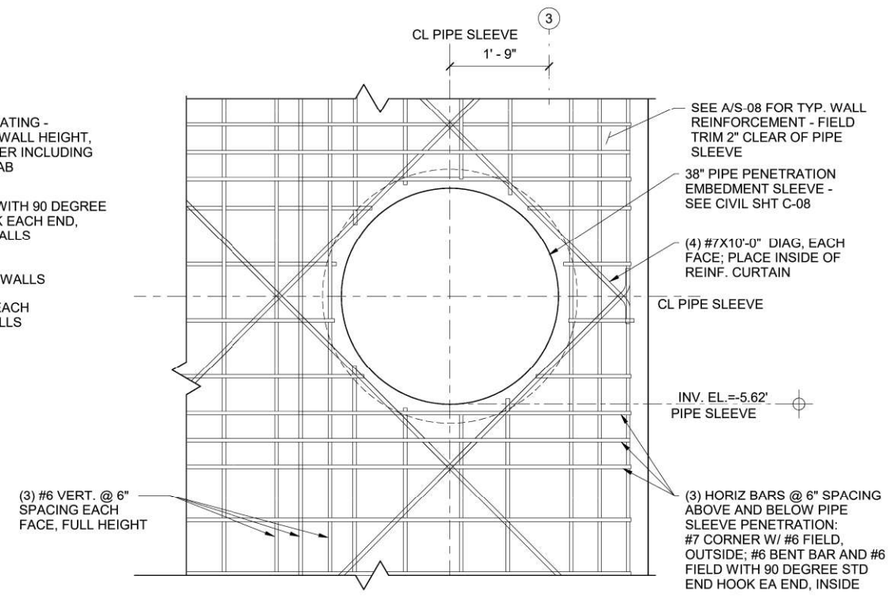
2. WET WELL CONSTRUCTION SEQUENCE REQUIREMENTS AS FOLLOWS:
   - CAST THE BASE SLAB IN ONE CONTINUOUS PLACEMENT.
   - CAST THE EXTERIOR WALLS AND INTERIOR PARTITION WALL IN ONE CONTINUOUS PLACEMENT UNLESS AN ALTERNATE PLACEMENT STRATEGY IS APPROVED BY THE ENGINEER. AN ADDED CONSTRUCTION JOINT WOULD INCLUDE ADDITIONAL REINFORCING ADJACENT TO THE JOINT AND PVC WATERSTOP
   - PERFORM THE HYDRO LEAK TEST NO SOONER THAN 28 DAYS AFTER WALL PLACEMENT. NOTE THAT MINOR WETTING ON THE EXTERIOR FACE OF WALLS AT MICRO-CRACKING, IF ANY, WILL SELF-HEAL OVER TIME AS THE CRYSTALLINE WATER-PROOFING CONCRETE ADMIXTURE FORMS INSOLUBLE WATERPROOF CRYSTALS IN CONCRETE CAPILLARIES AND MICRO-CRACKS.
   - LID SLAB INSTALLATION MAY FOLLOW THE HYDRO TEST AT THE CONTRACTOR'S OPTION
   - BACKFILL MAY BE ADVANCED APPROXIMATELY 15 FEET ABOVE THE BASE SLAB BEFORE LID SLAB INSTALLATION AT THE CONTRACTOR'S OPTION. IN ANY CASE, BACKFILL MUST BE ADVANCED UNIFORMLY ON ALL SIDES OF THE STRUCTURE.

3. UNDERGROUND SLEEVE TYPE BY ELEC OR INSTR. CONDUIT INSTALLATION TRADES ARE RESPONSIBLE FOR WATER TIGHT SEALS.



A S-06 **SECTION**
PLAN VIEW - INTERMEDIATE WET WELL SECTION

scale 1 0 1 2 3 4 5 feet
1/2" = 1' - 0"



B S-06 **SECTION**
ELEVATION VIEW - PIPE PENETRATION

scale 1 0 1 2 3 feet
3/4" = 1' - 0"

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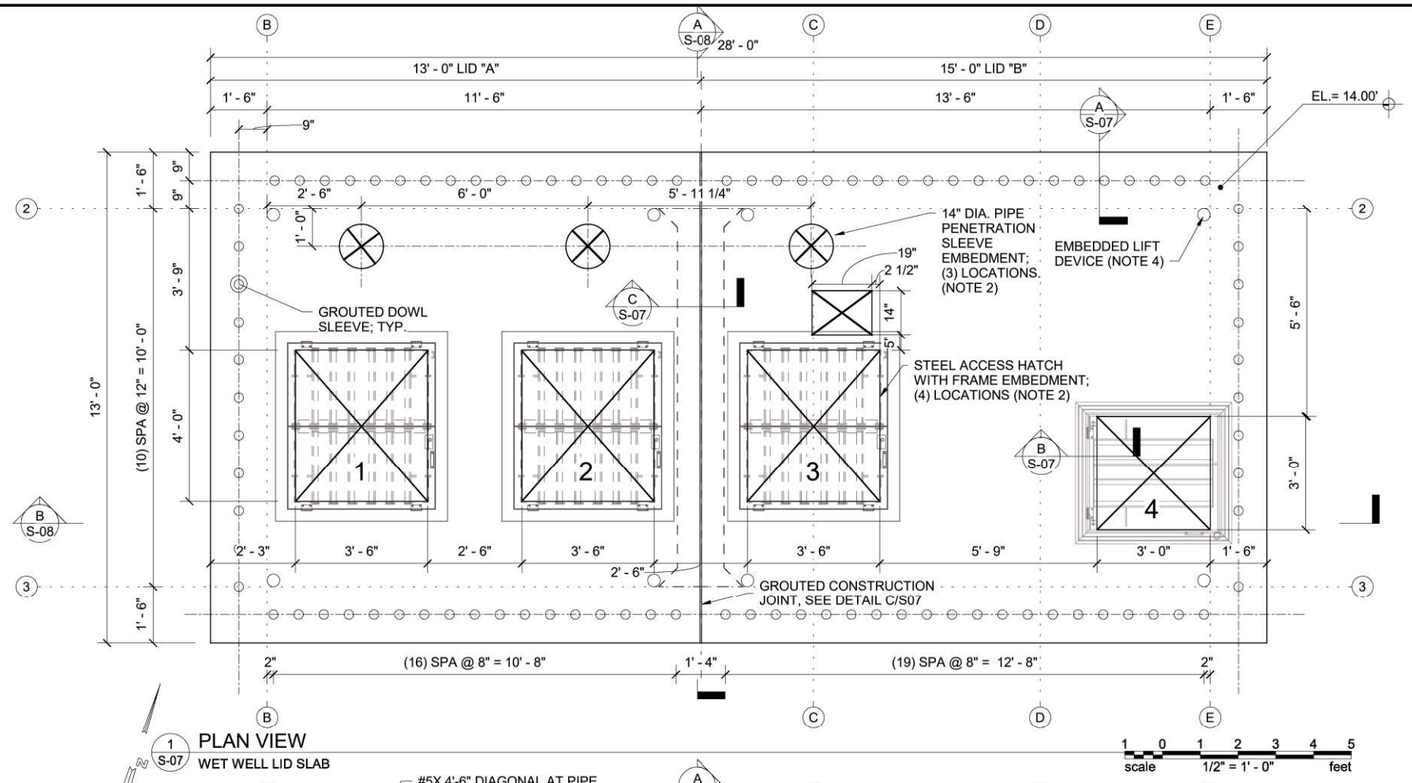
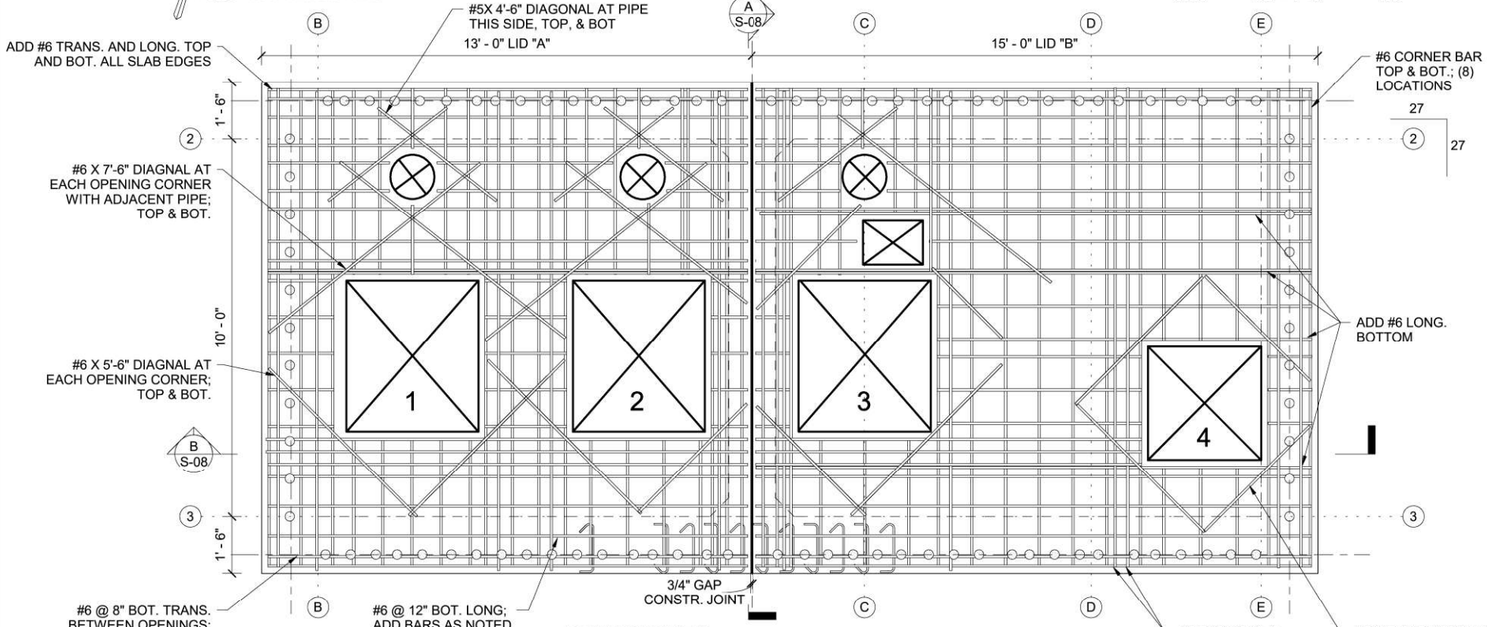


1 S-07 **PLAN VIEW**
WET WELL LID SLAB

scale 1/2" = 1' - 0" feet



REINFORCING NOTES:

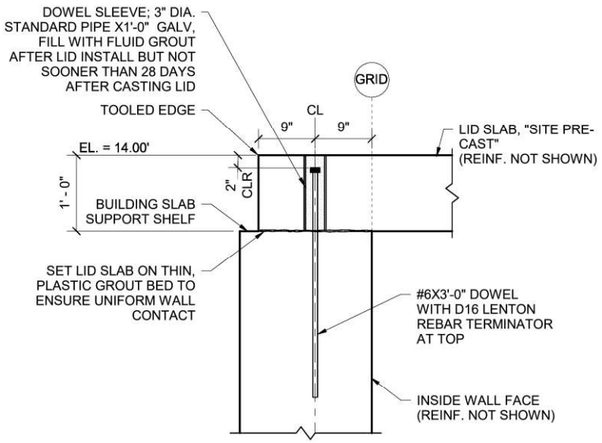
1. PLACE REBAR 3" FROM PERIMETER OR OPENING EDGES THEN COMMENCE INFILL BARS NOT EXCEEDING SPACING SPECIFIED.
2. TOP REINFORCING MAT IS #5 @ 12" EACH WAY PLUS TRIM AND ADD BARS INDICATED HERE; NOT SHOWN FOR CLARITY

2 S-07 **ENLARGED PLAN VIEW**
WET WELL SLAB - BOTTOM REINFORCING MAT

scale 1/2" = 1' - 0" feet

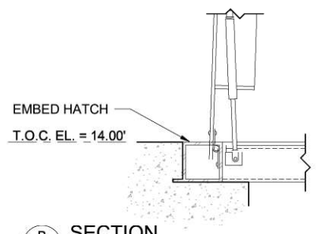
NOTES:

1. REFER TO SHEETS S-01 AND S-02 FOR GENERAL STRUCTURAL NOTES, DETAILS, AND INSPECTION REQUIREMENTS.
2. REFERENCE CIVIL SHEET C-07 FOR ACCESS HATCH FRAME SPECIFICATION, INCLUDING THE EMBEDDED FRAME AND PENETRATION SLEEVES.
3. TO FOREGO LID SLAB FORMWORK AND SHORING INSIDE THE WET WELL, THE DESIGN INTENT IS TO "SITE PRECAST" THE LID SLAB IN TWO SECTIONS AS DIMENSIONED AND INSTALL AS A "PRECAST".
4. FOUR EMBEDDED LIFT DEVICES IN EACH SLAB PANEL MUST BE RATED FOR A MINIMUM VERTICAL WORKING LOAD OF 10,000 LB. EACH - THIS LOAD DOES NOT INCLUDE THE MINIMUM SAFETY FACTOR OF 3. THE CONTRACTOR IS RESPONSIBLE FOR SELECTING THE LIFT DEVICES IN COORDINATION WITH THE MANUFACTURER, ADDING ANY ANCHORAGE REINFORCING IF REQUIRED AND FINISHING THE SLAB TO A FLUSH CONDITION AFTER INSTALATION. SUBMIT LIFT DEVICE DATA AND DETAILS TO THE ENGINEER FOR REVIEW.
5. PERIMETER DOWEL SLEEVE LOCATIONS IN LID SLABS MUST BE DIMENSIONALLY MATCHED TO AS-CONSTRUCTED WALL DOWEL PLACEMENT.



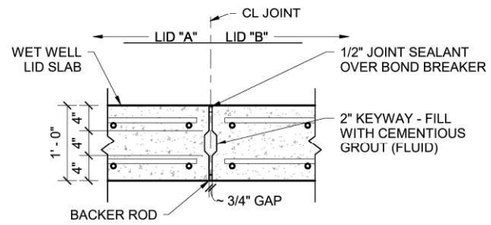
A S-07 **DETAIL**
SECTION VIEW - LID SLAB EDGE

scale 1" = 1' - 0" feet



B S-07 **SECTION**
ACCESS HATCH FRAME EMBEDMENT

scale 3" = 1' - 0" feet



C S-07 **DETAIL**
SECTION VIEW - WET WELL LID SLAB JOINT

scale 1" = 1' - 0" feet

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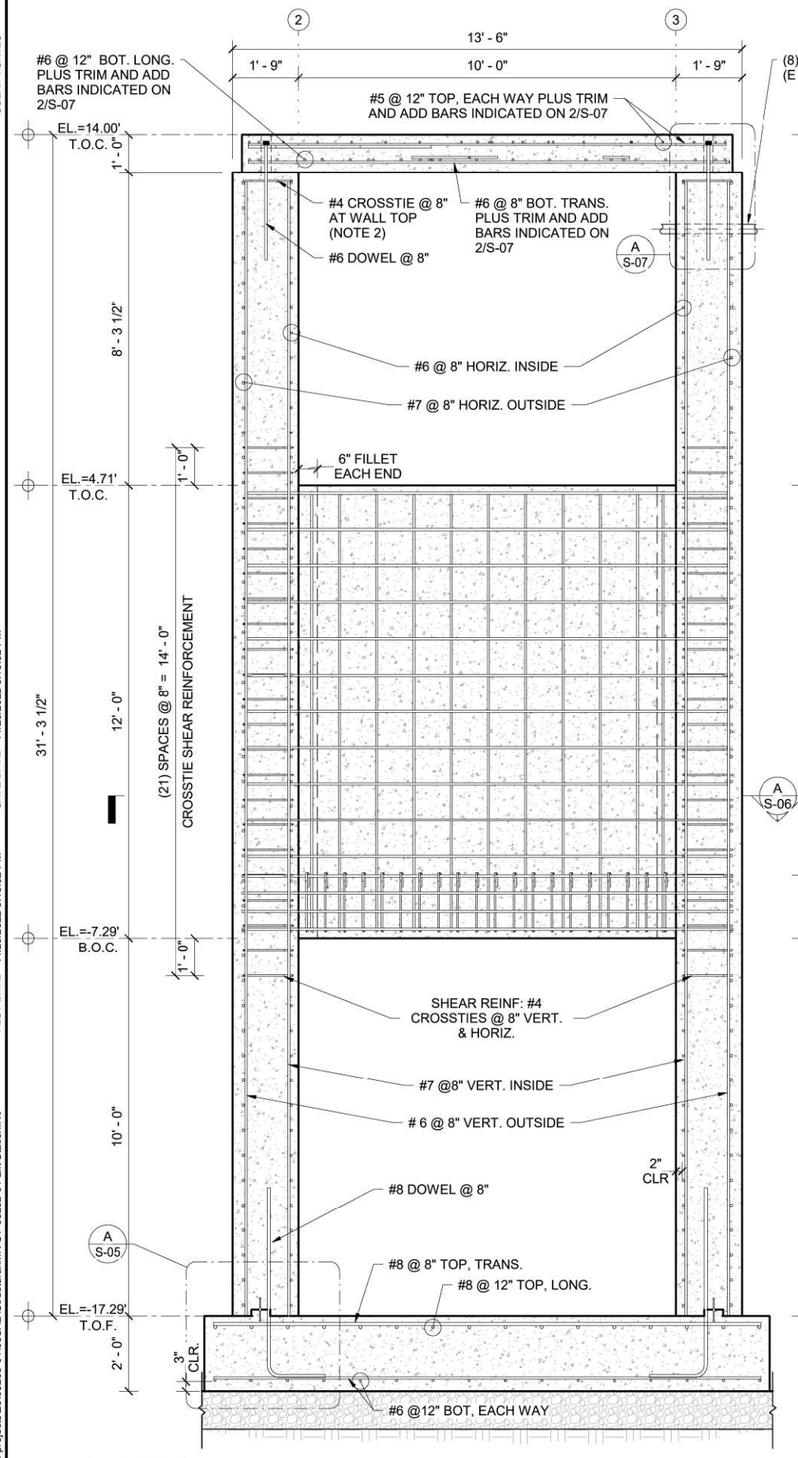
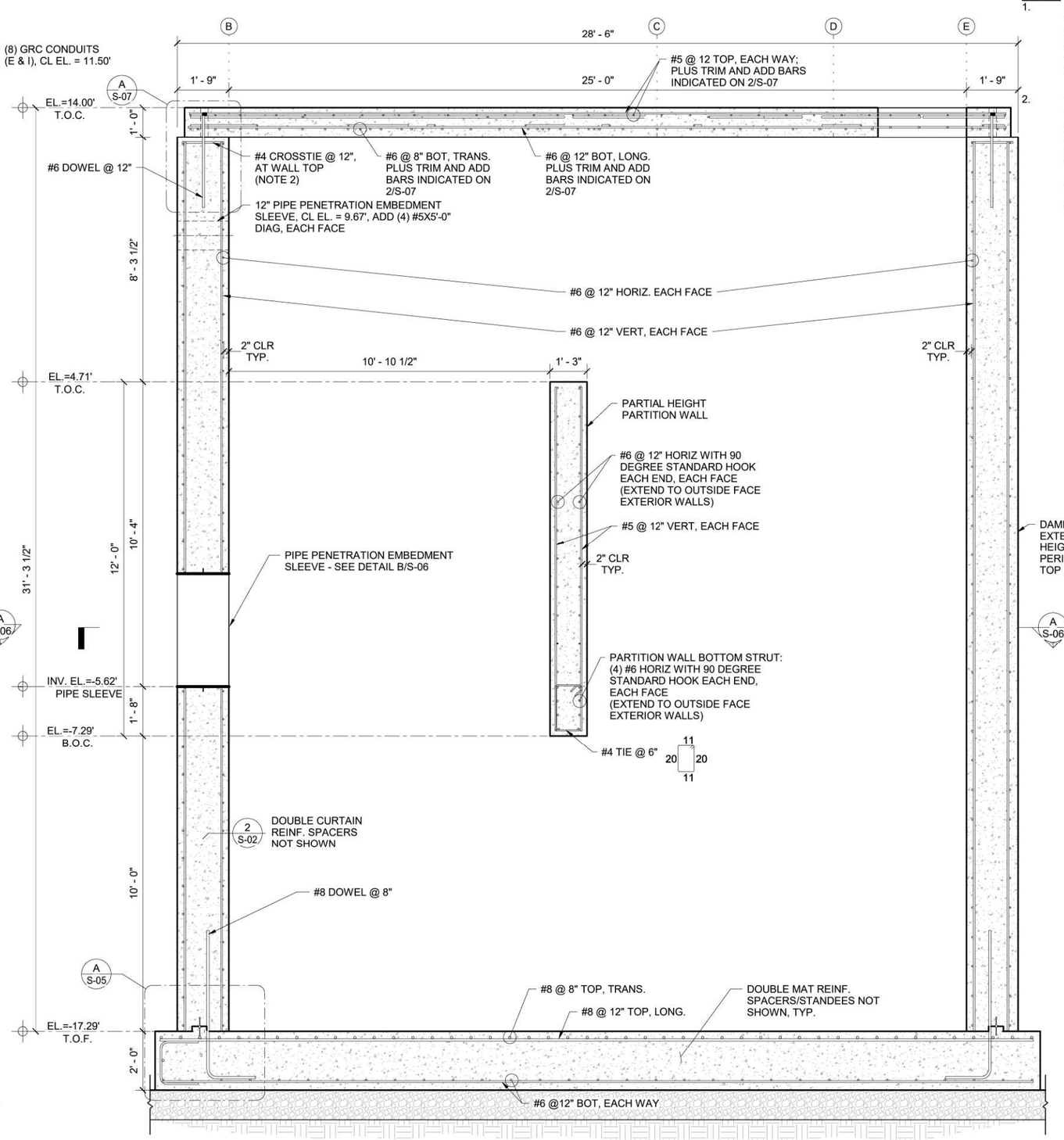
USER: VGATES
SAVE DATE 11/29/2022 5:15:30 PM
PLOT DATE 11/29/2022 5:15:30 PM
\\ANC-FS\anc-projects\26\63263-01165\CAD\Structural\MR-ST-63262-01 Lift Station.rvt



A S-08 SECTION
WET WELL SECTION - TRANSVERSE

scale 1 0 1 2 3 4 5 1/2" = 1' - 0" feet



B S-08 SECTION
WET WELL SECTION - LONGITUDINAL

scale 1 0 1 2 3 4 5 1/2" = 1' - 0" feet

NOTES:

1. REFER TO SHEETSS-01 AND S-02 FOR GENERAL STRUCTURAL NOTES, DETAILS, AND INSPECTION REQUIREMENTS.
2. TO FACILITATE CONCRETE TREMIE AND CONSOLIDATION STINGER THE PERIMETER CROSSTIES AT WALL TOP MAY BE TIED AFTER CONCRETE PLACEMENT HAS ADVANCED TO WALL TOP ELEVATION.

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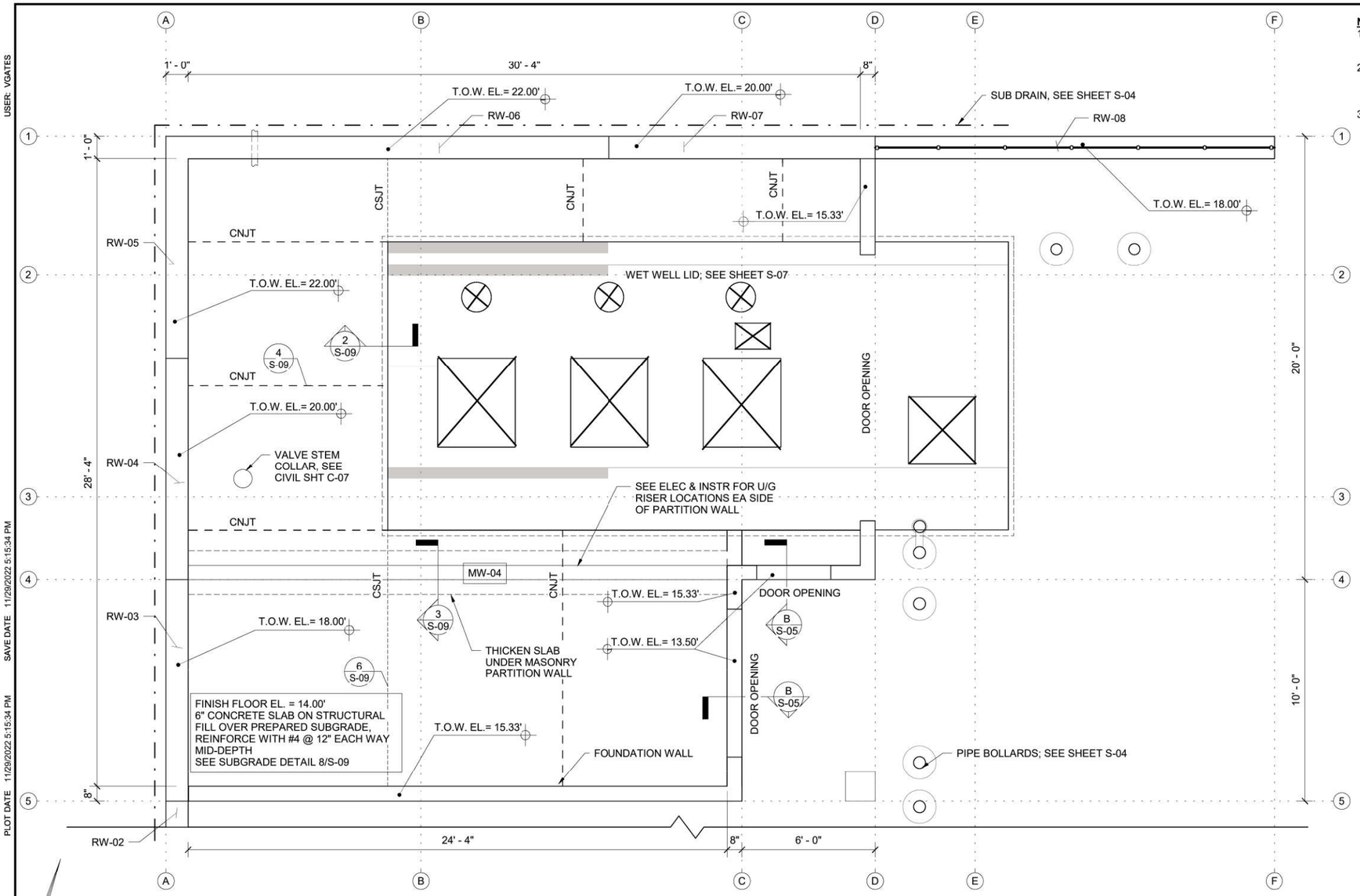
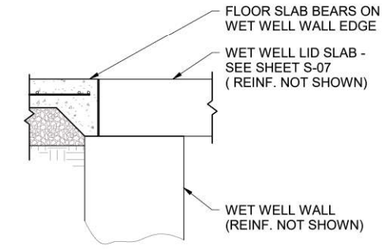
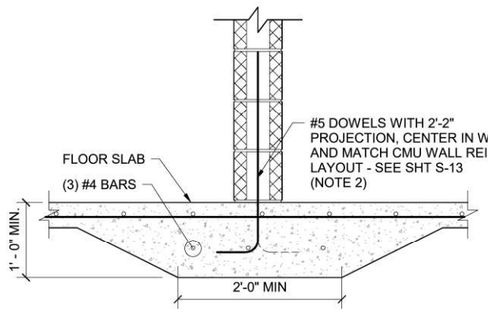


1 S-09 **PLAN VIEW**
BUILDING SLAB

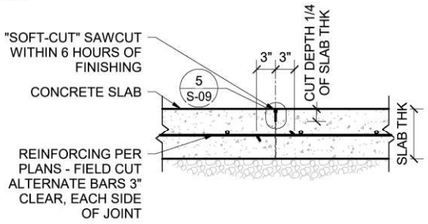
NOTES:
1. REFER TO SHEETS S-01 AND S-02 FOR GENERAL STRUCTURAL NOTES, DETAILS, AND INSPECTION REQUIREMENTS.
2. AT CONTRACTOR'S OPTION, THE #5 CMU PARTITION WALL DOWEL MAY BE POST-INSTALLED IN THE FLOOR SLAB IN LIEU OF CAST IN - ADHESIVE SET WITH 8" EMBEDMENT
3. FINISH FLOOR SLAB LEVEL WITH STEEL TROWEL FINISH. AFTER CURE, CLEAN AND APPLY SURFACE COATING AS SPECEFIED.



2 S-09 **DETAIL**
BLDG. SLAB AT WET WELL



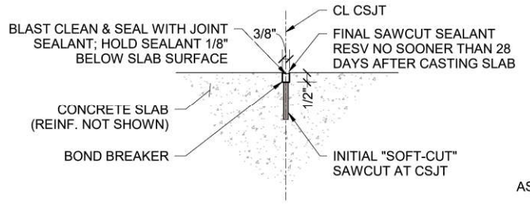
3 S-09 **SECTION**
THICKENED SLAB AT CMU PARTITION WALL



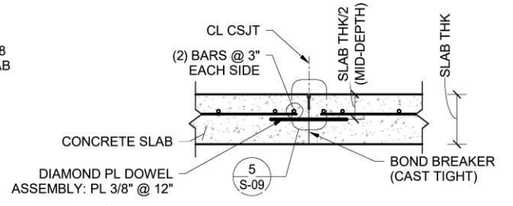
4 S-09 **DETAIL**
SLAB CONTRACTION JOINT - CNJT

1 0 1 2 scale 1" = 1' - 0" feet

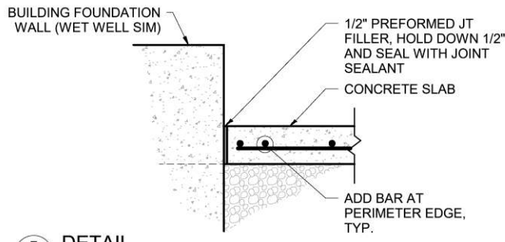
1 0 1 2 3 4 5 6 7 scale 3/8" = 1' - 0" feet



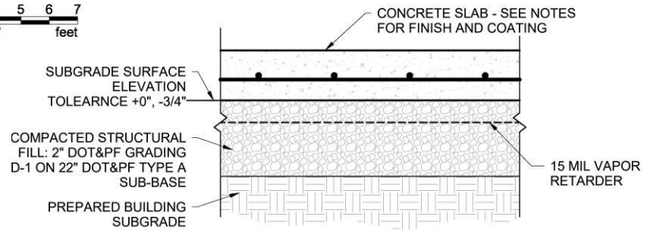
5 S-09 **DETAIL**
ENLARGED SLAB JOINT DETAIL
0 1 scale 3" = 1' - 0" feet



6 S-09 **DETAIL**
SLAB CONSTRUCTION JOINT - CSJT
1 0 1 2 scale 1" = 1' - 0" feet



7 S-09 **DETAIL**
SLAB ISOLATION JOINT
1 0 1 2 scale 1" = 1' - 0" feet



8 S-09 **DETAIL**
SLAB SUBGRADE DETAIL
1 0 1 2 scale 1" = 1' - 0" feet

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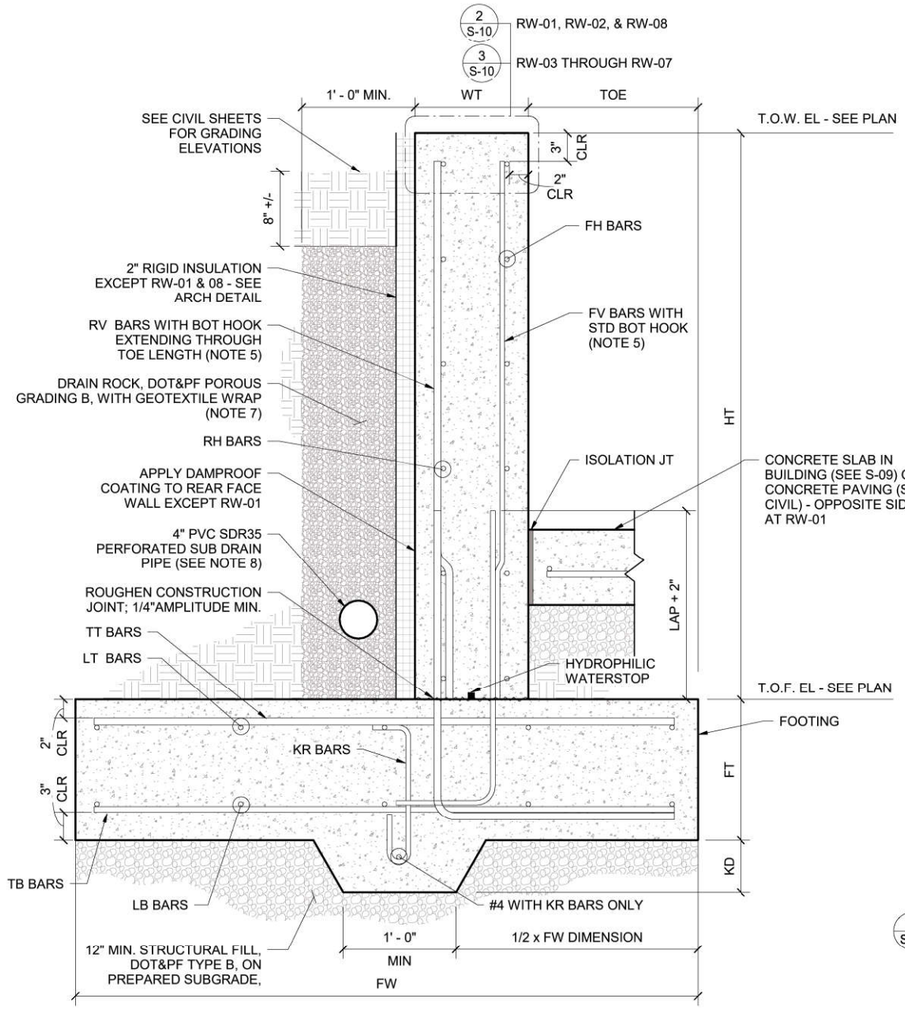
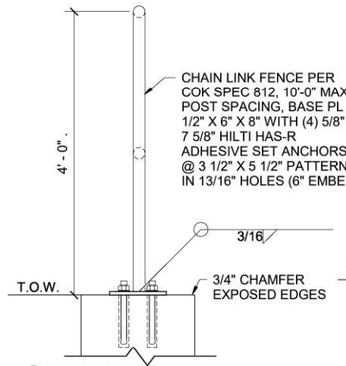
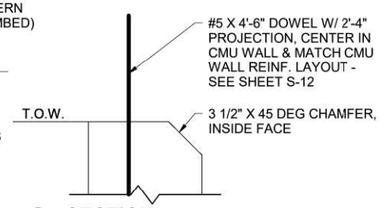
907-562-2000

S-09



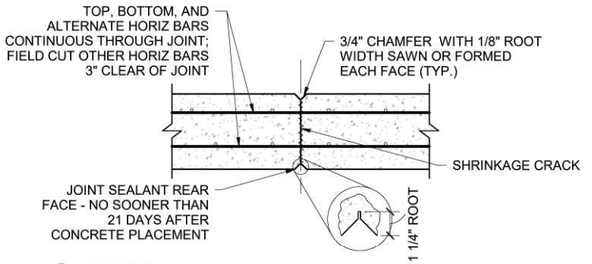


2 S-10 DETAIL
WALL TOP RW-01, RW-02 & RW-08
NOT TO SCALE



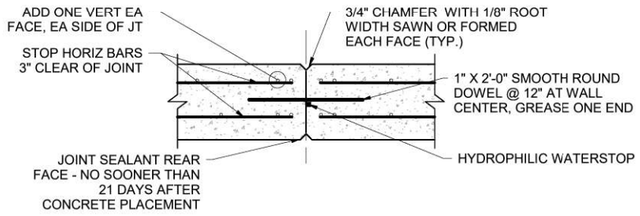
3 S-10 SECTION
WALL TOP RW-03 THROUGH RW-07
NOT TO SCALE

WALL CONTRACTION JOINT AT EACH FOOTING STEP AND @ 15'-0" MAX SPACING.

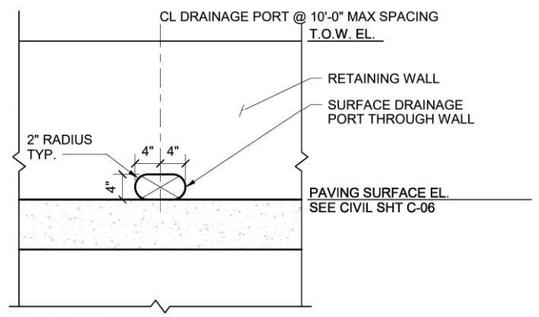


5 S-10 DETAIL
CONCRETE WALL CONTRACTION JOINT
NOT TO SCALE

WALL CONSTRUCTION JOINT MAY BE PLACED IN LIEU OF CONTRACTION JOINT AT CONTRACTOR'S OPTION



4 S-10 SECTION
CONCRETE WALL CONSTRUCTION JOINT
NOT TO SCALE



6 S-10 ELEVATION
RETAINING WALL RW-01 PORTS
NOT TO SCALE

RETAINING WALL SCHEDULE

DESIGN WALL MARK	DIMENSIONS						REINFORCING									REMARKS
	WALL		FOOTING				REAR FACE WALL		FRONT FACE WALL		FOOTING BOT		FOOTING TOP		KEY	
	WALL THK "WT"	MAX WALL "HT"	FTG THK "FT"	"TOE" DIM	FTG WIDTH "FW"	KEY DEPTH "KD"	VERT BARS "RV"	HORZ BARS "RH"	VERT BARS "FV"	HORZ BARS "FH"	TRANS BOT "TB"	LONG BOT "LB"	TRANS TOP "TT"	LONG TOP "LT"	KEY BAR "KR"	
RW-01	1'-0"	7'-3"	1'-3"	1'-6"	5'-6"	1'-0"	#6@12"	#4@12"	#4@12"	#4@12"	#4@12"	(5) #4	#6@12"	(5) #4	#5@12"	SEE DETAIL FOR WALL DRAIN PORTS
RW-02	1'-0"	7'-3"	1'-3"	2'-0"	5'-6"	NONE	#6@12"	#4@12"	#4@12"	#4@12"	#4@12"	(5) #4	#6@12"	(5) #4	NONE	
RW-03	1'-0"	5'-3"	1'-3"	2'-0"	5'-6"	NONE	#6@12"	#4@12"	#4@12"	#4@12"	#5@12"	(5) #4	#6@12"	(5) #4	NONE	COMBINED RETAINING / BLDG FDN
RW-04	1'-0"	7'-3"	1'-3"	2'-0"	5'-6"	NONE	#6@12"	#4@12"	#4@12"	#4@12"	#5@12"	(5) #4	#6@12"	(5) #4	NONE	COMBINED RETAINING / BLDG FDN
RW-05	1'-0"	9'-3"	1'-3"	2'-0"	6'-6"	NONE	#6@8"	#4@12"	#4@12"	#4@12"	#5@12"	(6) #4	#6@8"	(6) #4	NONE	COMBINED RETAINING / BLDG FDN
RW-06	1'-0"	9'-3"	1'-3"	2'-6"	7'-0"	NONE	#6@8"	#4@12"	#4@12"	#4@12"	#5@12"	(6) #4	#6@8"	(6) #4	NONE	COMBINED RETAINING / BLDG FDN
RW-07	1'-0"	7'-3"	1'-3"	2'-6"	6'-0"	NONE	#6@12"	#4@12"	#4@12"	#4@12"	#5@12"	(6) #4	#6@12"	(6) #4	NONE	COMBINED RETAINING / BLDG FDN
RW-08	1'-0"	6'-6"	1'-3"	1'-6"	5'-0"	NONE	#6@12"	#4@12"	#4@12"	#4@12"	#4@12"	(5) #4	#6@12"	(5) #4	NONE	REDUCE TOE DIM PER PLAN

1 S-10 DETAIL
RETAINING WALL SCHEDULE AND SECTION
NOT TO SCALE

NOTES:

1. REFER TO SHEETS S-01 AND S-02 FOR GENERAL STRUCTURAL NOTES, DETAILS, AND INSPECTION REQUIREMENTS.
2. SEE FOUNDATION PLAN SHEET S-04 FOR WALL DESIGNATION MARKS AND ELEVATIONS. SEE CIVIL SHEET C-06 FOR RETAINING WALL ELEVATION VIEWS.
3. WALL REAR FACE = SOIL RETAINING SIDE (OPPOSITE OF FOOTING TOE)
4. # = REBAR SIZE; @ X" = REBAR SPACING
5. VERTICAL DOWELS MATCH VERTICAL BARS SIZE, SPACING, AND EXTEND A LAP LENGTH ABOVE FOOTING UNLESS INDICATED OTHERWISE. CONTRACTOR'S OPTION TO EXTEND VERTICAL BARS FROM FOOTING FULL HEIGHT IN LIEU OF USING DOWELS.
6. CONSTRUCTOR'S MATERIAL SUPPLY OPTION: MAY USE #5 @ 8" IN LIEU OF #6 @ 12"; AND #5 @ 6" IN LIEU OF #6 @ 8".
7. CONSTRUCTOR'S OPTION TO INSTALL PREFABRICATED DRAINAGE MAT ASSEMBLY SUCH AS TREMDRAIN 2000NW OVER RIGID INSULATION IN LIEU OF CONVENTIONAL DRAINAGE ROCK BACKFILL.
8. PERFORATED DRAIN PIPE BEHIND RETAINING WALLS HAS CAPPEND HIGH POINT AND SLOPES TO DAYLIGHT OUTLET - SEE PLAN SHEET S1.

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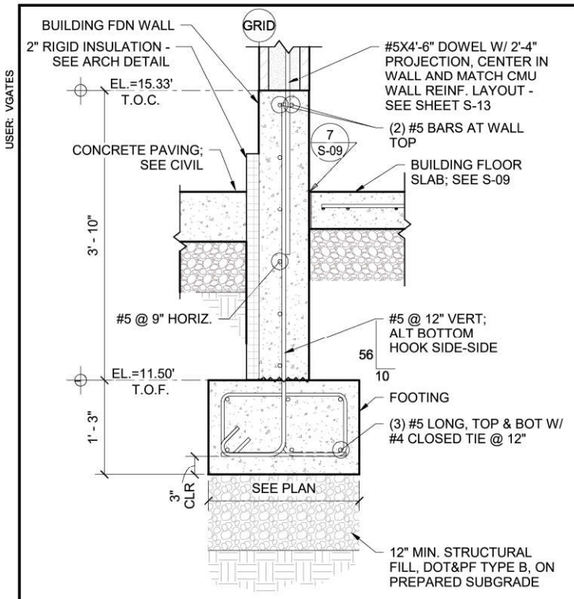
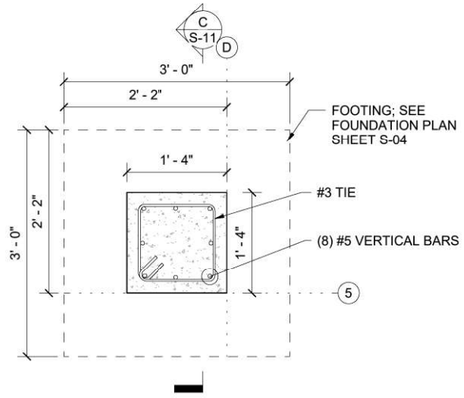


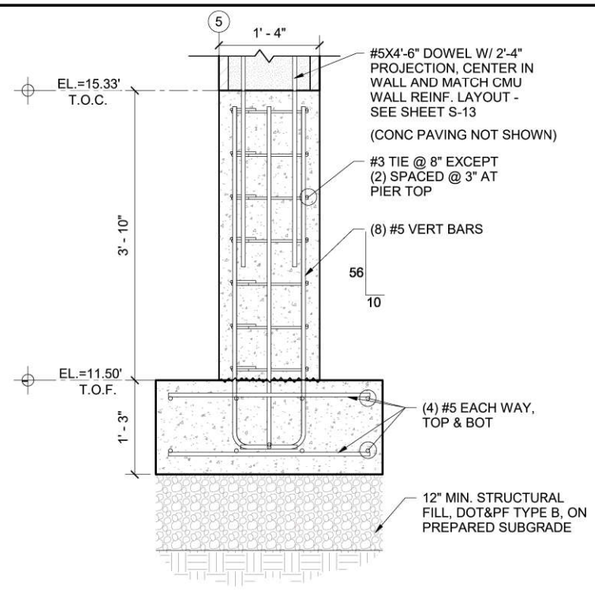
A S-11 **SECTION**
BUILDING FOUNDATION WALL

scale 1 0 1 2 feet — 1" = 1' - 0"



B S-11 **DETAIL**
PLAN - CONCRETE PIER

scale 1 0 1 2 feet — 1" = 1' - 0"

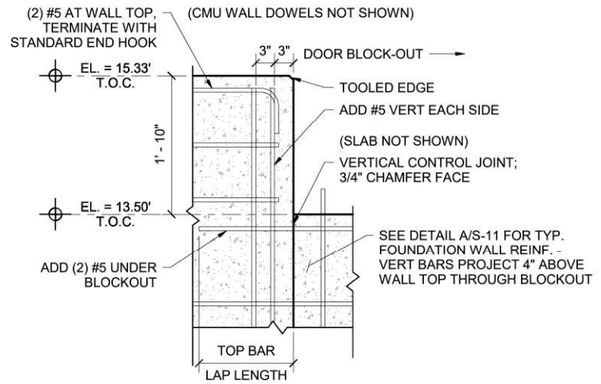


C S-11 **DETAIL**
SECTION - CONCRETE PIER

scale 1 0 1 2 feet — 1" = 1' - 0"

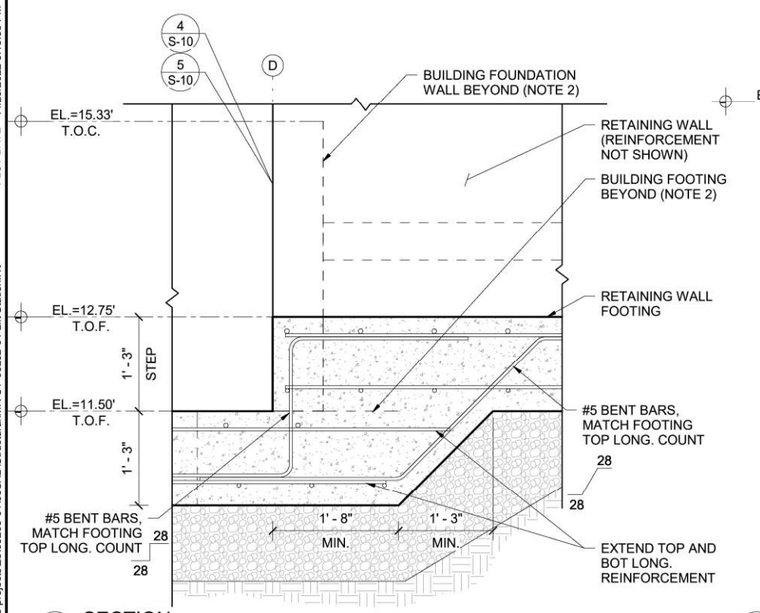
NOTES:

1. REFER TO SHEETS S-01 AND S-02 FOR GENERAL STRUCTURAL NOTES, DETAILS, AND INSPECTION REQUIREMENTS.
2. AT FOUNDATION WALL/FOOTING STEP LOCATIONS, ALL HORIZONTAL REINFORCING IN FOOTING AND FOUNDATION WALL SHALL DOWEL INTO RETAINING WALLS - ADHESIVE SET WITH 8" EMBEDMENT, OR CAST-IN-PLACE WITH LAP LENGTH EACH SIDE OF JOINT.



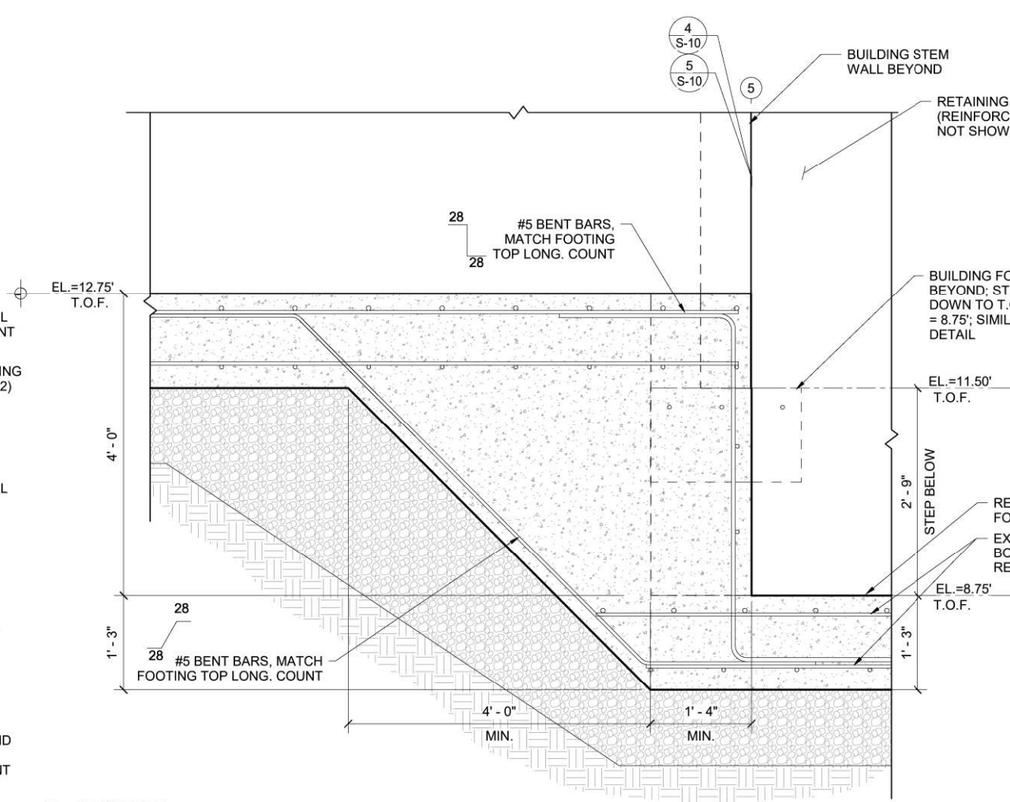
D S-11 **DETAIL**
ELEVATION VIEW - FOUNDATION WALL TOP AT DOOR BLOCKOUT

scale 1 0 1 2 feet — 1" = 1' - 0"



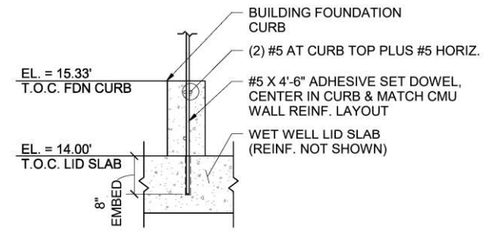
E S-11 **SECTION**
FOOTING STEP

scale 1 0 1 2 feet — 1" = 1' - 0"



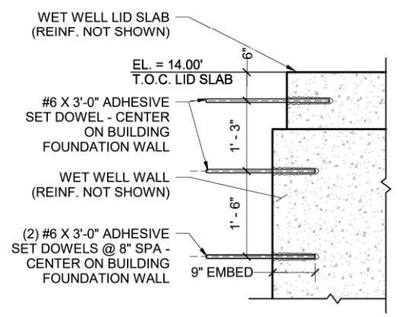
F S-11 **SECTION**
FOUNDATION STEP

scale 1 0 1 2 feet — 1" = 1' - 0"



G S-11 **DETAIL**
BUILDING FOUNDATION CURB ON WET WELL LID

scale 1 0 1 2 3 feet — 3/4" = 1' - 0"



* (HOOK END IN SHORT FOUNDATION WALL)

H S-11 **DETAIL**
BUILDING FOUNDATION DOWEL TO WET WELL WALL

scale 1 0 1 2 3 feet — 3/4" = 1' - 0"

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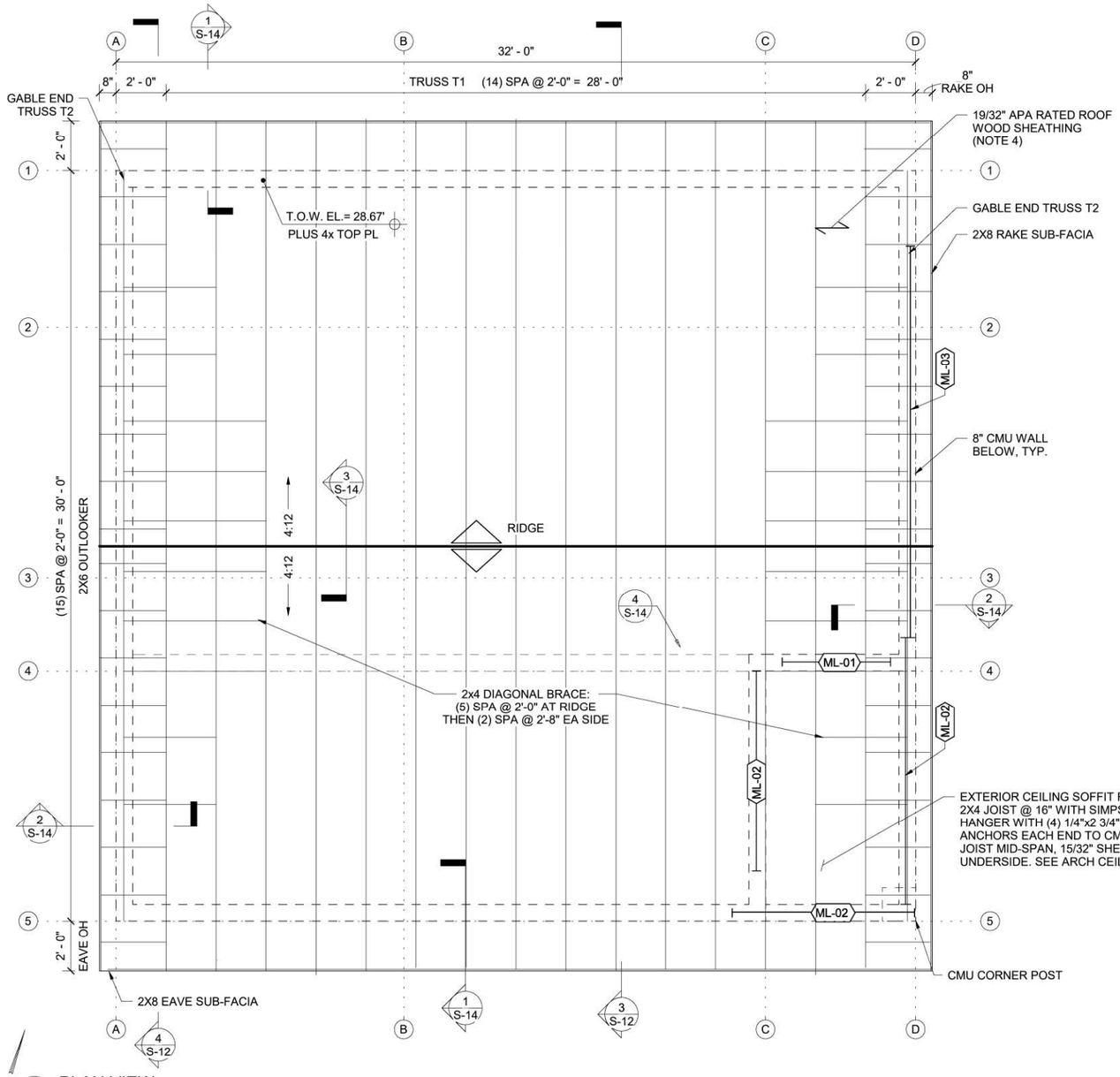


1 S-12 **PLAN VIEW**

ROOF FRAMING PLAN (BLOCKING NOT SHOWN)

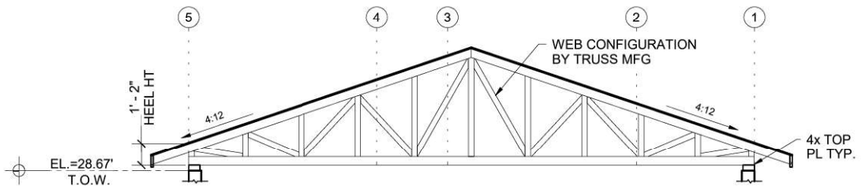
scale 1 0 1 2 3 4 5 6 7 feet — 3/8" = 1' - 0"

LEGEND:
ML-XX = MASONRY LINTEL
SEE SCHEDULE SHEET S-13, SEE ARCH FOR HEADER HEIGHT

NOTES:

1. REFER TO SHEETS S-01 AND S-02 FOR GENERAL STRUCTURAL NOTES, DETAILS AND INSPECTIONS REQUIREMENTS.
2. METAL PLATE CONNECTED WOOD TRUSSES (MPC WOOD TRUSS) ARE THE PRIMARY COMPONENTS OF A PRE-ENGINEERED ROOF FRAMING SYSTEM THAT INCLUDES INSTALLATION STABILITY BRACING AND BRIDGING. THIS SYSTEM IS A DELEGATED DESIGN RESPONSIBILITY, DESIGNED AND MANUFACTURED IN ACCORDANCE WITH ANSI/TPI 1 FOR LOADS AND CONDITIONS OUTLINED ON THESE PLANS.
3. SEE SHEET S-15 FOR STRUCTURAL STEEL FRAMING INDEPENDENT OF ROOF FRAMING - HOIST MONORAIL BEAMS.
4. THE WOOD SHEATHING ROOF DIAPHRAGM REQUIRES SOLID BLOCKING (WITH VENT HOLES AS INDICATED) AT EAVES, RAKES AND RIDGE. FASTEN ROOF SHEATHING WITH 8DX2" NAILS AS FOLLOWS:
   a. BOUNDARY EDGES @ 4"
   b. SUPPORTED EDGES @ 6"
   c. PANEL INTERIOR SUPPORTS @ 12"

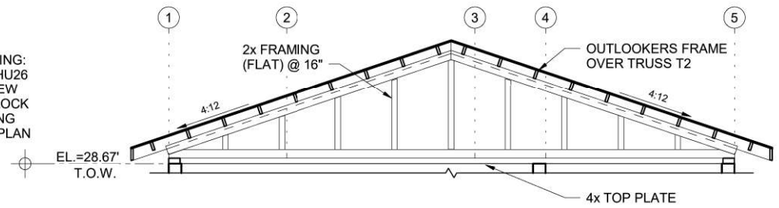
1



3 S-12 **DETAIL**

TRUSS T1 DIAGRAM - PREFABRICATED WOOD TRUSS

scale 2 0 2 4 6 8 10 feet — 1/4" = 1' - 0"



4 S-12 **DETAIL**

TRUSS T2 DIAGRAM - PREFABRICATED WOOD TRUSS (GABLE END)

scale 2 0 2 4 6 8 10 feet — 1/4" = 1' - 0"

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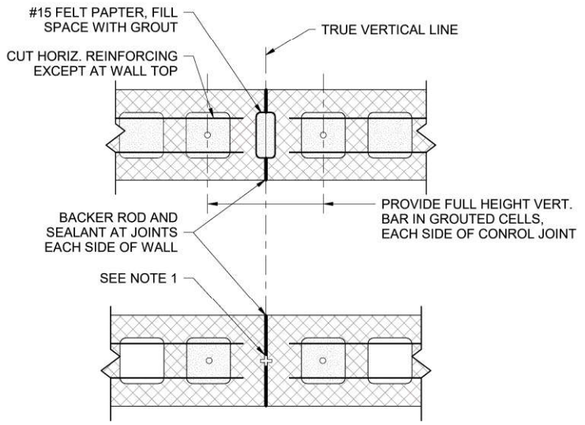
MASONRY WALL SCHEDULE

DESIGN WALL MARK	WALL		REINFORCING		REMARKS
	THICK-NESS	GROUTING	VERTICAL	HORIZONTAL	
MW-01	8"	SOLID	#5@32"	(2) #4@32"	
MW-02	8"	SOLID	#5@24"	(2) #4@32"	
MW-03	8"	SOLID	#5@16"	(2) #4@16"	SHORT WALL LENGTHS ADJACENT TO DOOR OPENING(S). PLACE (2) VERTICAL BARS IN WALL CORNERS. VERTICAL BAR SPACING ABOVE DOOR OPENINGS MAY BE UP TO 32".
MW-04	8"	PARTIAL	#5@48"	(2) #4@48"	INTERIOR PARTITION WALL. AT WALL ENDS, INSTALL CORNER BARS OR EXTEND HORZ REINFORCING

SCHEDULE NOTES:
1. SEE PLANS FOR WALL DESIGNATION MARK LOCATIONS.
2. PARTIAL GROUTING IMPLIES GROUTING REINFORCED CELLS ONLY.
3. # = REBAR SIZE; @ X" = REBAR SPACING
4. POSITION VERTICAL BARS IN WALL CENTER, OR PAIRS IN EACH FACE - RUN FULL WALL HEIGHT. SEE LINTEL SCHEDULE FOR JAMB REINFORCING.
5. PLACE VERTICAL BAR(S) IN CORNERS AND EACH SIDE OF WALL CONTROL JOINTS.
6. POSITION HORIZONTAL BAR PAIRS IN EACH FACE OF WALL. PROVIDE MATCHING CORNER BARS OR TERMINATE WITH 180 DEGREE HOOKS.
7. HORIZONTAL REINFORCING SHALL BEGIN IN THE FIRST COURSE, OCCUR AT FRAMING ELEVATIONS, AT WALL TOP AND AT SCHEDULED SPACING OR LESS.
8. INSTALL HORIZONTAL WIRE BED JOINT REINFORCING @ 16" EXCEPT AT HORIZONTAL REBAR REINFORCEMENT.

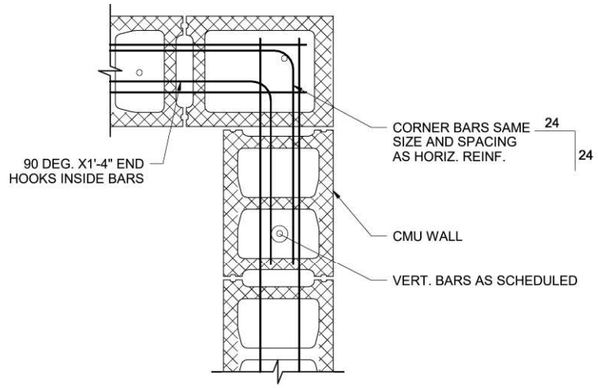
1 S-13 DETAIL
STRUCTURAL MASONRY WALL SCHEDULE



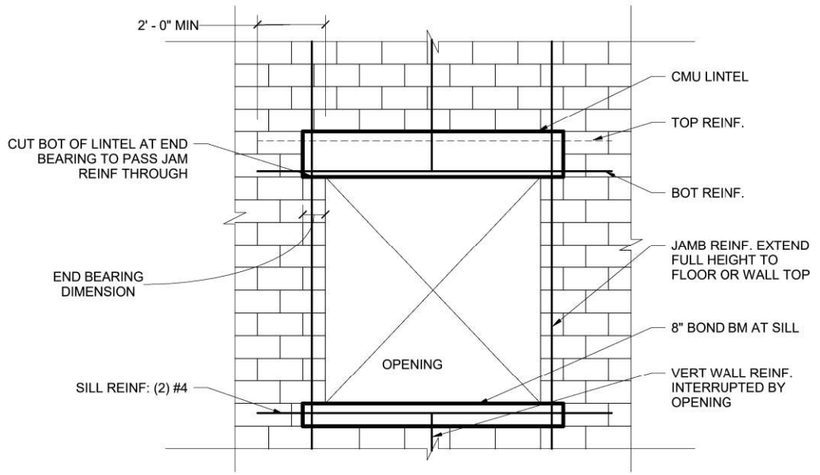
NOTES
1. "DUROWALL" RUBBER CONTROL JOINT IN SASH KEY. USE AT BLOCK WHERE AVAILABLE IN SQUARE END UNITS ONLY.
2. CONTRACTOR'S OPTION TO USE GROUTED OR RUBBER JOINT.
3. INSTALL CONTROL JOINTS AT:
   - STEPS (ELEVATION CHANGE) IN TOP OF FOUNDATION WALLS
   - WITHIN 12 FEET OF WALL CORNER
   - AT 20 FOOT MAXIMUM INTERVALS
   - AT LEAST 2 FEET FROM OPENINGS

2 S-13 SECTION
TYP CMU WALL CONTROL JOINT
NOT TO SCALE

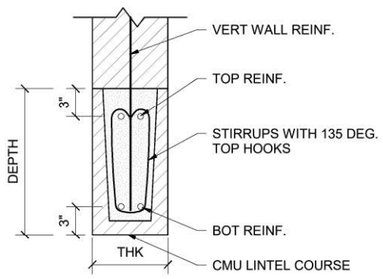
NOTES:
1. REFER TO SHEETS S-01 AND S-02 FOR GENERAL STRUCTURAL NOTES, DETAILS AND INSPECTIONS REQUIREMENTS.



3 S-13 DETAIL
CORNER REINFORCEMENT
NOT TO SCALE



LINTEL ELEVATION VIEW

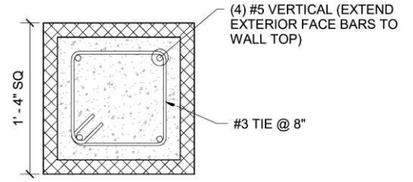


LINTEL SECTION VIEW

MASONRY LINTEL SCHEDULE

DESIGN LINTEL MARK	LINTEL SIZE			REINFORCING				REMARKS
	THICK-NESS	DEPTH	END BEARING LENGTH	VERTICAL JAMB	VERTICAL STIRRUP	HORIZONTAL TOP	HORIZONTAL BOTTOM	
ML-01	8"	0'-8"	0'-8"	(1) #5	NONE	NONE	(2) #4	USE IN PARTITION WALLS & MISC. OPENINGS GREATER THAN 16" ALSO
ML-02	8"	2'-0"	0'-8"	(2) #5	#3 U @ 16"	(2) #4	(2) #5	
ML-03	8"	2'-8"	1'-4"	(4) #5	#3 U @ 16"	(2) #4	(3) #5	

5 S-13 DETAIL
MASONRY LINTEL DETAIL AND SCHEDULE
NOT TO SCALE



4 S-13 DETAIL
CMU POST
NOT TO SCALE

SCHEDULE NOTES:
1. SEE PLANS FOR LINTEL DESIGNATION MARK LOCATIONS. USE LINTEL BLOCK OVER OPENING.
2. CONSTRUCTOR IS RESPONSIBLE FOR SHORING DESIGN.
3. # = REBAR SIZE; @ X" = REBAR SPACING
4. DISTRIBUTE VERTICAL JAMB REINFORCING EACH END BEARING CELL, POSITION IN EACH FACE (UNLESS SINGLE BAR) AND RUN FULL WALL HEIGHT - A SINGLE DOWEL BAR FROM FOUNDATION IS SUFFICIENT UNLESS NOTED OTHERWISE.
5. STIRRUP "U" BAR HEIGHT IS NOMINALLY 5" LESS THAN LINTEL DEPTH. TERMINATE TOP LEGS WITH 135 OR 180 DEGREE HOOKS.
6. POSITION HORIZONTAL BARS IN EACH FACE OF LINTEL AND EXTEND BEYOND. OPENING 2'-0" STRAIGHT OR 1'-4" TERMINATED WITH 180 DEGREE HOOK.
7. REINFORCE OPENING SILL, WHERE OCCURS - MATCH HORIZONTAL WALL REINFORCING AND EXTEND BEYOND OPENING 2'-0" STRAIGHT OR 1'-4" TERMINATED WITH 180 DEGREE HOOKS.

CITY OF KODIAK ALASKA

STATE OF ALASKA 49TH
MATTHEW J. METTLER
SE 13920
2022-11-29
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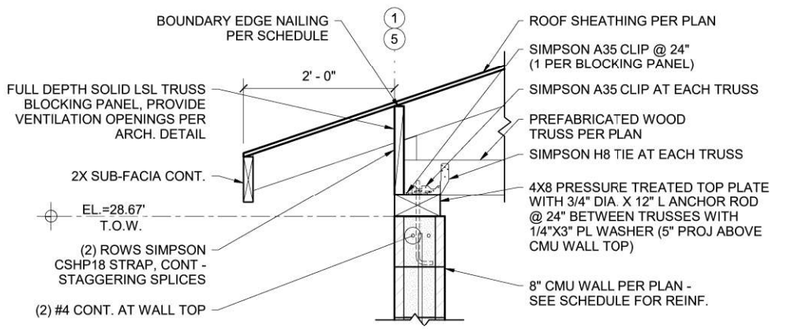
WWW.DOWL.COM
40104 B Street
Anchorage, Alaska 99503
907-562-2000

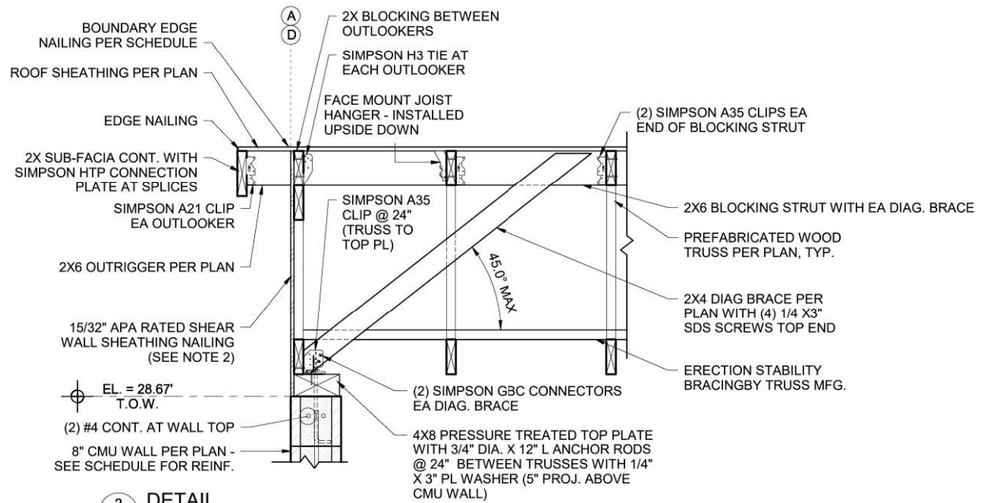
NOTES:

1. REFER TO SHEETS S-01 AND S-02 FOR GENERAL STRUCTURAL NOTES.
2. GABLE END SHEAR WALL SHEATHING SOLID BLOCK AT EDGES. FASTEN WITH 8d X2" NAILS AS FOLLOWS:
   - PANEL EDGES @ 4"
   - PANEL FIELD @ 12"



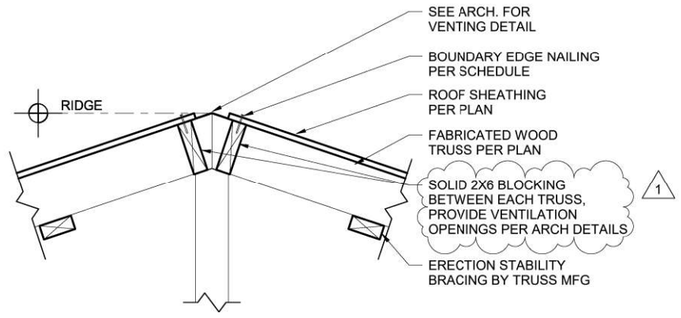
1 S-14 **DETAIL**
SECTION - ROOF TRUSS BEARING AT EAVE

NOT TO SCALE



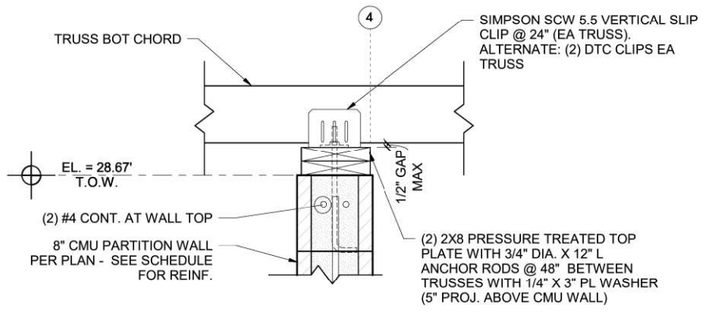
2 S-14 **DETAIL**
SECTION - ROOF OUTLOOKER FRAMING AT RAKE

NOT TO SCALE



3 S-14 **DETAIL**
ROOF RIDGE

NOT TO SCALE



4 S-14 **DETAIL**
CMU PARTITION WALL TOP

NOT TO SCALE

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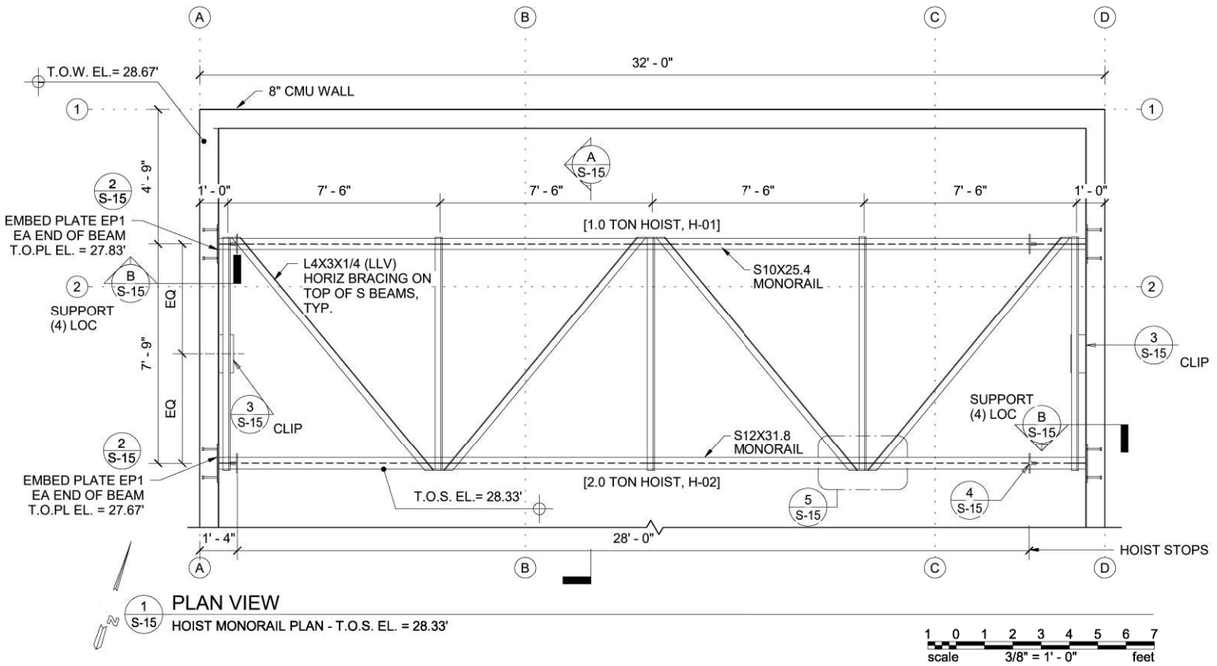
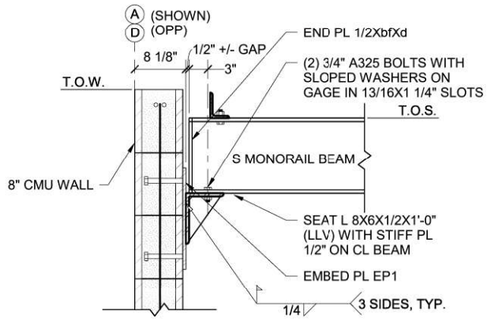
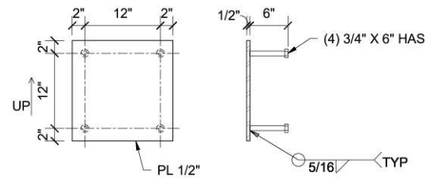


NOTES:
1. REFER TO SHEETS S-01 AND S-02 FOR GENERAL STRUCTURAL NOTES, DETAILS AND INSPECTIONS REQUIREMENTS.
2. MONORAIL CAPACITY ("X.X TON CAPACITY") SHALL BE PAINTED IN 4" HIGH BLACK LETTERS ON BOTH SIDES OF EACH MONORAIL BEAM NEAR CENTER SPAN. PAINT BEAMS SAFETY YELLOW.
3. DUE TO THE POTENTIAL PRESENCE OF METHANE GAS, THE ENVIRONMENT IS CLASSIFIED AS NEMA CLASS 1, DIVISION 1 - THEREFORE, THE HOIST SYSTEM MUST BE OPERATIONALLY COMPLIANT FOR THIS CLASSIFICATION (SPARK PROOF).



B S-15 DETAIL
MONORAIL BEAM SUPPORT
scale 1" = 1' - 0" feet

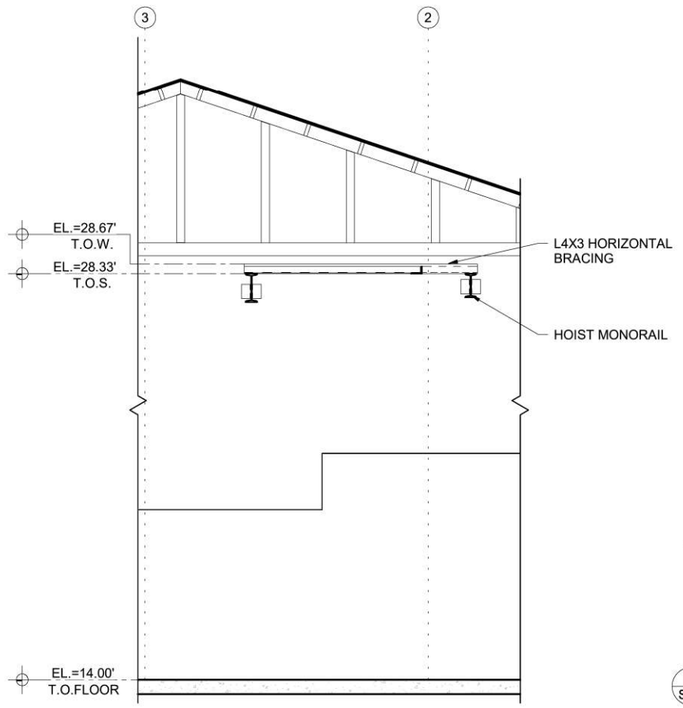


2 S-15 DETAIL
EMBED PLATE EP1
scale 1" = 1' - 0" feet

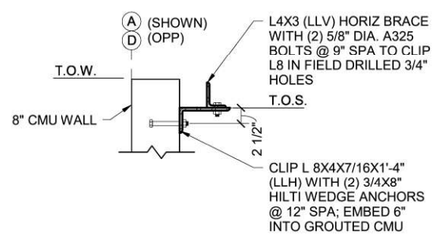
MONORAIL HOIST SCHEDULE

DESIGN HOIST MARK	HOIST				TROLLEY	CONTROL	REMARKS
	CAPACITY	TYPE	NOMINAL RATING	LIFT HEIGHT			
H-01	1 TON	MANUAL, CHAIN	N/A	15'	PUSH	N/A	
H-02	2 TON	ELECTRIC, WIRE ROPE	3 HP	40'	MOTORIZED	PENDANT	480V, 3 PH, 60 Hz POWER SUPPLY

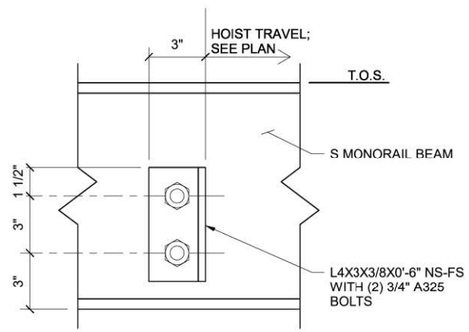
SCHEDULE NOTES:
1. SEE MONORAIL PLAN FOR HOIST DESIGNATION MARK LOCATIONS.
2. OPERATING ENVIRONMENT: HAZARDOUS GASES - WASTEWATER PUMPING; NEMA CLASS 1, GROUP D.
3. INTEGRATED HOIST AND TROLLEY ASSEMBLY. STAINLESS STEEL CHAIN/WIRE ROPE.
4. SEE SPECIFICATION SECTION 412223 "MONORAIL HOISTS".



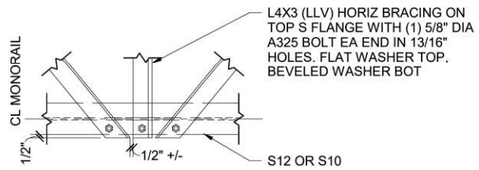
A S-15 SECTION
HOIST MONORAIL SECTION
scale 3/8" = 1' - 0" feet



3 S-15 DETAIL
SWAY BRACE CLIP
scale 1" = 1' - 0" feet



4 S-15 DETAIL
HOIST STOP
scale 3" = 1' - 0" feet



5 S-15 DETAIL
BRACING CONNECTION
scale 1" = 1' - 0" feet

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CITY OF KODIAK ALASKA

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2022-11-29
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S-15

ARCHITECTURAL ABBREVIATIONS

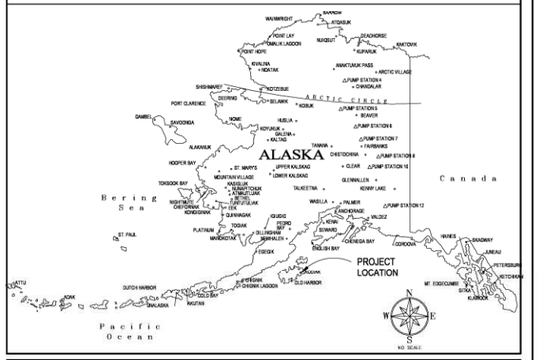
&	AND	F.O.S.	FACE OF STUD	PLYWD	PLYWOOD
∠	ANGLE	F.O.	FACE OF (Conc. etc.)	PR	PAIR
@	AT	F.R.P.	FIBER REINFORCED PANEL	PREFAB	PREFABRICATED
CL	CENTERLINE	FRPF	FIREPROOFING	PRMA	PROTECTED MEMBRANE ROOF ASSEMBLY
°	DEGREE	FRT	FIRE-RETARDENT TREATED	PROJ	PROJECT
#	NUMBER	FT	FOOT OR FEET	PT	POINT AND PAINT
		FTG	FOOTING	P.T.	PRESERVATIVE TREATED
ABV	ABOVE	FURR	FURRING	PTD	PAPER TOWEL DISPENSER
AC	ASPHALTIC CONCRETE	FUT	FUTURE	PVC	POLYVINYL CHLORIDE
ACP	ACOUSTICAL CEILING PANEL				
ACT	ACOUSTICAL CEILING TILE	GA	GAUGE	R	RISER OR RADIUS
ACOUS	ACOUSTICAL	GAL	GALLON	R.D.	ROOF DRAIN
ADD	ADDITION	GALV	GALVANIZED	REF	REFERENCE
AFF	ABOVE FINISH FLOOR	G.B.	GRAB BAR	REFR	REFRIGERATOR
AHU	AIR HANDLING UNIT	G.I.	GALVANIZED IRON	REINF	REINFORCING
ALT	ALTERNATE	GL	GLASS	REQ	REQUIRED
ALUM	ALUMINUM	GT	GLASS TYPE	R.H.	RIGHT HAND
APPROX	APPROXIMATE	GWB	GYPSUM WALL BOARD	R.L.	RAIN LEADER
ARCH	ARCHITECTURAL	GYM	GYMNASIUM	RM	ROOM
ASPH	ASPHALT	GYP.	GYPSUM	R.O.	ROUGH OPENING
AVG	AVERAGE			R.O.W.	RIGHT OF WAY
		H.B.	HOSE BIB	RTU	ROOF TOP UNIT
BD	BOARD	H.C.	HOLLOW CORE		
BLDG	BUILDING	HDWD	HARDWOOD		
BLKG	BLOCKING	HDWR	HARDWARE	S	SOUTH
BLW	BELOW	H.M.	HOLLOW METAL	SAN	SANITARY
BM	BENCH MARK	H.M.F.	HOLLOW METAL FRAME	S.C.	SOLID CORE
B.O.	BOTTOM OF	HORIZ	HORIZONTAL	SCHED	SCHEDULE
B.S.	BOTH SIDES	H.P.	HIGH POINT	SE	SOUTHEAST
BTU	BRITISH THERMAL UNIT	HR	HOUR	SECT	SECTION
BUR	BUILT-UP ROOF	HT	HEIGHT	SHEATH	SHEATHING
		HW	HOT WATER	SHT	SHEET
CAB	CABINET	HWY	HIGHWAY	SIM	SIMILAR
C.B.	CATCH BASIN			SND	SANITARY NAPKIN DISPENSER
CEM	CEMENT	I.D.	INSIDE DIAMETER	SPEC	SPECIFICATIONS
C.I.	CAST IRON	(") OR IN	INCHES	SQ	SQUARE
CIRC	CIRCULAR	IHM	INSULATED HOLLOW METAL	S.S.	SANITARY SEWER
CLG	CEILING	INSUL	INSULATION	S.ST.	STAINLESS STEEL
CLR.	CLEAR	INT	INTERIOR	STD	STANDARD
C.M.P.	CORRUGATED METAL PIPE	JAN	JANITOR	STL	STEEL
CMU	CONCRETE MASONRY UNIT	JT	JOINT	STOR	STORAGE
COL	COLUMN			STRUCT	STRUCTURAL
COMP	COMPOSITION	KIT	KITCHEN	ST.S	STORM SEWER
CONC	CONCRETE			SUSP	SUSPENDED
CONSTR	CONSTRUCTION	LAB	LABORATORY	SV	SHEET VINYL
CONT	CONTINUOUS	LAM	LAMINATE OR LAMINATED	SW	SOUTHWEST
COOR	COORDINATE	LAV	LAVATORY	SYM	SYMMETRICAL
CORR	CORRIDOR	LB	POUND		
C.R.	COLD ROLLED	LH	LEFT HAND	TB	TACKBOARD
C.R.C.	COLD ROLLED CHANNEL	LL	LIVE LOAD	TBHM	THERMALLY- BROKEN HOLLOW METAL
C.T.	CERAMIC TILE	L.O.W.	LIMITS OF WORK	TEL	TELEPHONE
CTR	CENTER	L.P.	LOW POINT	TEMP	TEMPORARY
				TERR	TERRAZZO
DBL	DOUBLE	MAT'L	MATERIAL	T&G	TONGUE AND GROOVE
DEPT	DEPARTMENT	MAX	MAXIMUM	THRU	THROUGH
D.F.	DRINKING FOUNTAIN	MECH	MECHANICAL	T.O.	TOP OF (eg CONCRETE)
DET	DETAIL	MET OR MTL	METAL	T.O.S.	TOP OF STEEL
DIA	DIAMETER	MFR	MANUFACTURER	TV	TELEVISION
DIAG	DIAGONAL	MH	MANHOLE	TYP	TYPICAL
DIM.	DIMENSION	MIN	MINIMUM OR MINUTE		
DISP	DISPENSER	MISC	MISCELLANEOUS	UAA	UNIVERSITY OF ALASKA ANCHORAGE
DL	DEAD LOAD	M.O.	MASONRY OPENING	UL	UNDERWRITERS LABORATORY
DN.	DOWN	MULL	MULLION	UNFIN	UNFINISHED
DS	DOWNSPOUT			UNO	UNLESS NOTED OTHERWISE
DWG	DRAWINGS	N	NORTH		
		NE	NORTHEAST	VCT	VINYL COMPOSITION TILE
E	EAST	NIC	NOT IN CONTRACT	VERT	VERTICAL
(E)	EXISTING	NO	NUMBER	VEST	VESTIBULE
EA	EACH	NOM	NOMINAL	VR	VAPOR RETARDER
E.I.F.S.	EXTERIOR INSULATION & FINISH SYSTEM	NTS	NOT TO SCALE	VTR	VENT THROUGH ROOF
ELEV	ELEVATION	NW	NORTHWEST		
ELEV	ELEVATOR			W	WEST
ELEC	ELECTRICAL	O	OVER	W/	WITH
EMB	EMBOSSING	O.C.	ON CENTER	WC	WATER CLOSET
EQ	EQUAL	O.D.	OUTSIDE DIAMETER	WD	WOOD
EQUIP	EQUIPMENT	OFD	OVERFLOW DRAIN	W/O	WITHOUT
E.G.	EACH SIDE	OFF	OFFICE	WP	WATERPROOF
EXIST	EXISTING	OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED	WT	WEIGHT
EXP	EXPOSED	OFOI	OWNER FURNISHED, OWNER INSTALLED		
EXP.AGG.	EXPANSION EXPOSED AGGREGRATE	OH	OVERHEAD		
EXP.JT.	EXPANSION JOINT EXTERIOR	OPNG	OPENING		
		OPP	OPPOSITE		
F.B.	FLAT BAR	PARA	PARALLEL		
F.D.	FLOOR DRAIN	PART	PARTITION		
FDN	FOUNDATION	PERF	PERFORATED		
F.E.	FIRE EXTINGUISHER	PERM	PERMANENT		
F.E.C.	FIRE EXTINGUISHER CABINET	PERP	PERPENDICULAR		
FIN	FINISH	P.I.C.	PRECAST INSULATED CONCRETE		
FF	FACTORY FINISH(ED)	PL	PLATE		
FF	FINISH FLOOR	P.LAM	PLASTIC LAMINATE		
FLUOR	FLUORESCENT	PLAST	PLASTER		
F.O.B.	FACE OF BLOCK				
F.O.F.	FACE OF FINISH				

PROJECT DESCRIPTION

PROJECT DESCRIPTION

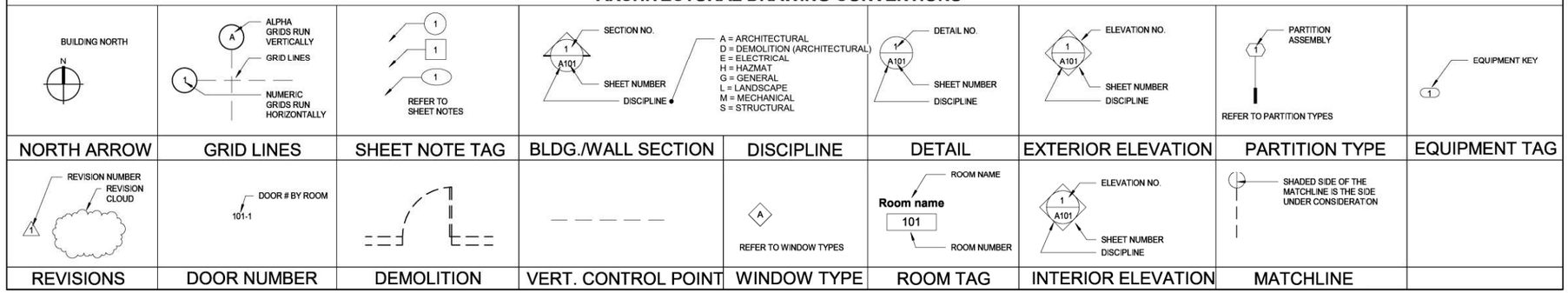
CITY OF KODIAK REPLACEMENT OF SANITARY LIFT STATION 5 FOR PUMP AND NEW BUILDING APPROXIMATELY 738 SQUARE FEET LOCATED AT KODIAK ALASKA

STATE MAP



VICINITY MAP

ARCHITECTURAL DRAWING CONVENTIONS



GENERAL PROJECT NOTES

1. ALL WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE PROVISIONS OF THE BUILDING CODES OUTLINED ON THE LIFE SAFETY PLAN, AND ALL OTHER STATE AND LOCAL CODES, INCLUDING ALL AMENDMENTS.
2. ALL WORK SHALL CONFORM TO THE AMERICAN DISABILITIES ACT (A.D.A.) ACCESSIBILITY GUIDELINES FOR BUILDING AND FACILITIES (A.D.D.A.G.) AND A.N.S.I. 117.1 UNLESS NOTED OTHERWISE.
3. ALL WALL AND CEILING FINISHES CHAPTER 8 IBC AND NFPA REQUIREMENTS
4. ALL DIMENSIONS ARE TO FACE OF STUD, FACE OF CONCRETE, FACE OF C.M.U., TO CENTERLINE OF STRUCTURAL COLUMN, OR TO STRUCTURAL GRID-LINE UNLESS NOTED OTHERWISE.
5. DIMENSIONS NOTED AS 'CLEAR' (OR CLR.) SHALL BE TO FINISHED FACE.
6. DO NOT SCALE THE DRAWINGS TO OBTAIN CONSTRUCTION DIMENSIONS.

REVISIONS

REV	DATE	DESCRIPTION	BY

CITY OF KODIAK ALASKA

STATE OF ALASKA — 49TH — DAVID L. MOORE — REGISTERED PROFESSIONAL ARCHITECT — 11-29-22

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907.272.3567 907.277.1732 fax
www.gwtarchitectsalaska.com

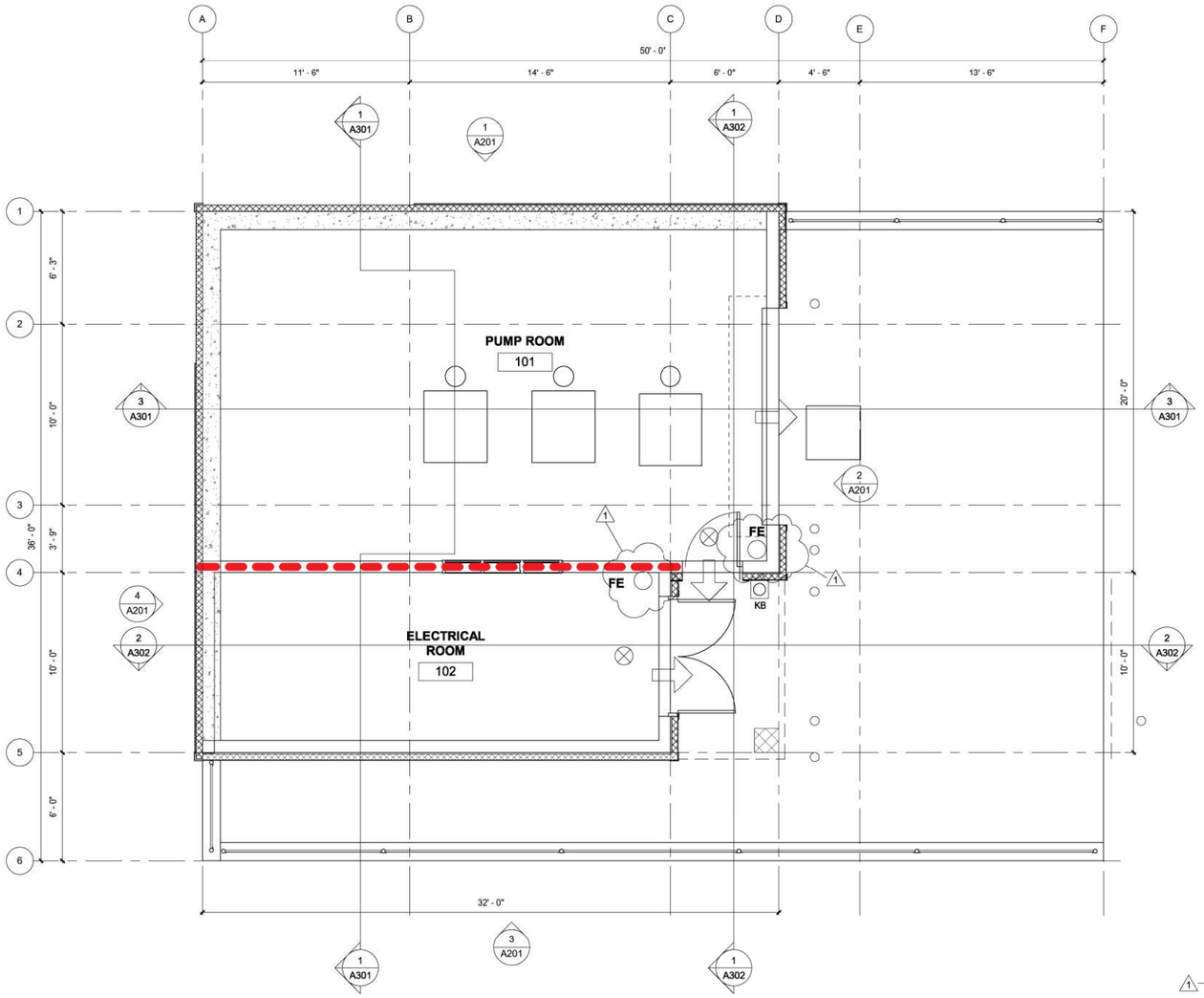
KODIAK LIFT STATION 5
KODIAK, ALASKA

GENERAL NOTES, ABBREVIATIONS, LOCATION MAP AND SHEET INDEX

KODIAK, ALASKA

CHECKED BY:	DLM
DESIGNED BY:	WVZ
DRAWN BY:	WVZ
DATE:	11-29-2022
LOCATION	KODIAK
S32 T27S R19W SM	
PROJECT:	21058.01

SHEET
G100



1 LS101 LIFE SAFETY FLOOR PLAN
1/4" = 1'-0"

0 2' 4' 8'

N

LIFE SAFETY PLAN LEGEND

- 1-HOUR FIRE RATED WALL SEE PARTITION TYPE _____
- 2-HOUR FIRE RATED WALL SEE PARTITION TYPE
- EXIT SIGN LOCATION
- FE — FIRE EXTINGUISHER UL-RATED: 2A-10B.C
- KB — KNOX BOX LOCATION
- EXIT DISCHARGE

CODE SUMMARY

CODE:	**2021 INTERNATIONAL BUILDING CODE (IBC)**
OCCUPANCY CLASSIFICATION;	MODERATE HAZARD FACTOR INDUSTRIAL; F-1 (IBC 306.2) (NOTE; 2012 IBC NOT SPECIFICALLY LIST SEWER PLANTS, BUT 2021 EDITION DOES)
ALLOWABLE HEIGHT;	40 FEET/1 STORY. THEREFORE OK (IBC TABLE 504.3)
ALLOWABLE AREA;	8,500 SQUARE FEET, THEREFORE OK (IBC TABLE 506.2)
CONSTRUCTION TYPE;	TYPE VB (IBC 602.5) - COMBUSTIBLE MATERIALS ALLOWED (i.e. WOOD)
FIRE/SMOKE PROTECTION;	IBC CHAPTER 7 IS ONLY RELEVANT IF FIRE / SMOKE SEPARATION
INTERIOR FINISHES;	FINISH MATERIALS ARE CLASS C (TABLE 803.13) (NOTE, THIS IS THE LOWEST CLASSIFICATION THERE IS, EPOXY PAINT EXCEEDS THE REQUIREMENTS)
FIRE PROTECTION;	SPRINKLER SYSTEM NOT REQUIRED (IBC 903.2.4.2) (BUILDING IS LESS THAN 12,000 SQ. FEET AND LESS THAN 3 STORIES) FIRE ALARM SYSTEM IS NOT REQUIRED (IBC 907.2.4) (BUILDING IS LESS THAN TWO STORIES)
MEANS OF EGRESS;	
OCCUPANT LOAD	I OCCUPANT PUMP ROOM, 1 OCCUPANT IN ELECTRICAL ROOM (IBC TABLE 1004.5)
NUMBER OF EXITS;	I EACH ROOM (IBC TABLE 1006.3.4)(1)
MAX TRAVEL DISTANCE;	75 FEET (IBC 1006.3.4(2)
EXIT SIGNS;	NOT REQUIRED (IBC TABLE 1013.1), EXCEPTION 1 - ONLY EXIT IS REQUIRED FROM EACH ROOM
EXIT ILLUMINATION;	EMERGENCY ILLUMINATION REQUIRED, EXTERIOR LIGHT ABOVE DOORS REQUIRED (IBC 1013.3)
ACCESSIBILITY:	FACILITY NOT REQUIRED TO MEET ACCESSIBILITY REQUIREMENTS (IBC 1103.2.9)

DEFERRED SUBMITTALS (IBC 107.3.4.1):

1. SEE STRUCTURAL DRAWINGS FOR ROOF TRUSS DESIGN REQUIREMENTS
2. METAL ROOF AND WALL PANEL SHOP DRAWINGS AS INDICATED IN SECTION 074113 AND 074213
3. WWTP - GENERATOR AND GENERATOR MODULE, SEE ELECTRICAL DRAWINGS.

REVISIONS			
REV	DATE	DESCRIPTION	BY
1	01-04-2023	PLAN REVIEW	BZ

CITY OF KODIAK ALASKA

STATE OF ALASKA 49TH — DAVID L. MOORE — REGISTERED PROFESSIONAL ARCHITECT — 11/23/22

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Architects@MatthewsAlaska.com
www.MatthewsAlaska.com

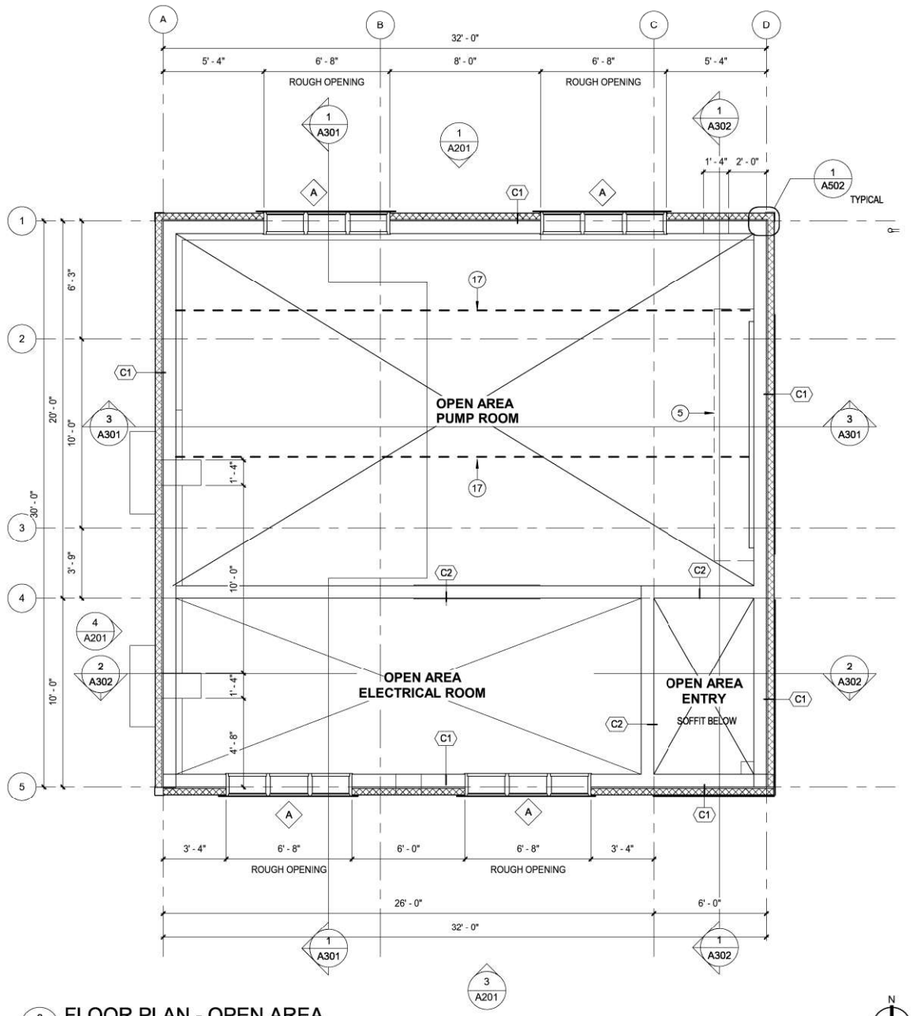
KODIAK LIFT STATION 5
KODIAK, ALASKA

LIFE SAFETY PLAN

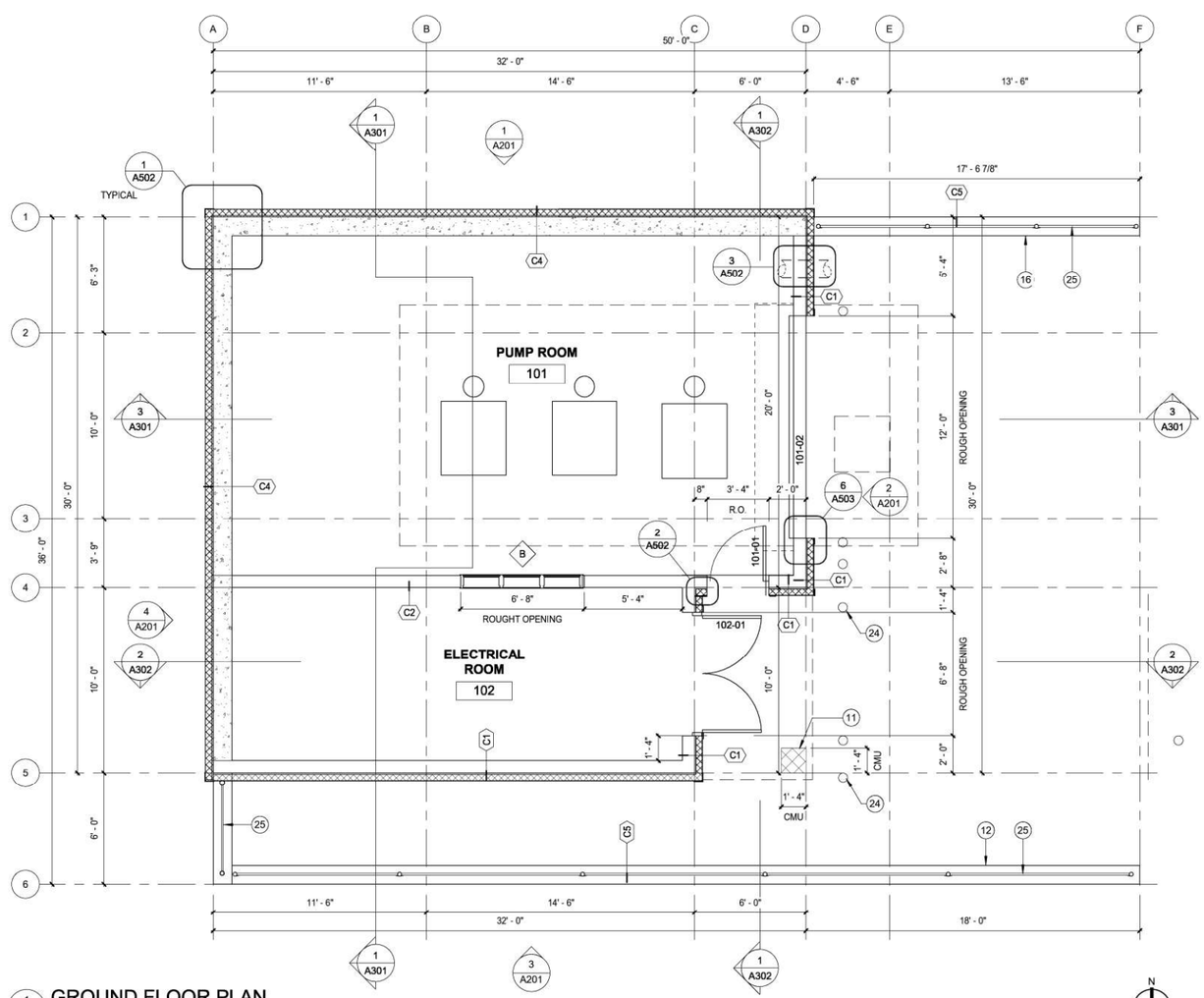
KODIAK, ALASKA

CHECKED BY:	DM
DESIGNED BY:	WVZ
DRAWN BY:	WVZ
DATE:	11-29-2022
LOCATION	KODIAK
S32 T27S R19W SM	
PROJECT:	21058.01

SHEET
LS101



2 A101 FLOOR PLAN - OPEN AREA
1/4" = 1'-0"



1 A101 GROUND FLOOR PLAN
1/4" = 1'-0"

SHEET NOTES

5 DOOR; REFER TO SCHEDULE
11 16" CMU COLUMN
12 12" RETAINING WALL
16 RETAINING WALL BEYOND
17 OVERHEAD HOIST RAIL; SEE STRUCTURAL DRAWINGS
24 PIPE BOLLARDS, REFER TO STRUCTURAL DRAWINGS
25 CHAIN LINK FENCE; REFER TO STRUCTURAL DETAILS

REVISIONS

REV	DATE	DESCRIPTION	BY

CITY OF KODIAK ALASKA

STATE OF ALASKA — 49TH — DAVID L. MOORE — REGISTERED PROFESSIONAL ARCHITECT — 11/22/22

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KODIAK LIFT STATION 5
KODIAK, ALASKA

FLOOR PLANS

KODIAK, ALASKA

CHECKED BY:	DLM
DESIGNED BY:	WVZ
DRAWN BY:	WVZ
DATE:	11-29-2022
LOCATION	KODIAK
S32 T27S R19W SM	
PROJECT:	21058.01

SHEET
A101

REFLECTED CEILING PLAN LEGEND

- GYPSUM BOARD CEILING
- INSULATED METAL PANEL SOFFIT
- LIGHT FIXTURE, SEE ELECTRICAL
- PENDANT HANG LIGHT FIXTURE, SEE ELECTRICAL
- RECESSED LIGHT FIXTURE, SEE ELECTRICAL
- 0' - 0" A.F.F. — CEILING HEIGHT AS INDICATED

SHEET NOTES

(14) RIDGE METAL FLASHNG; SEE DETAIL 6/A501
(17) OVERHEAD HOIST RAIL; SEE STRUCTURAL DRAWINGS
(18) METAL FASCIA
(21) EXHAUST FAN/SNOW HOOD; REFER TO MECHANICAL DRAWINGS
(22) PERFORATED METAL SOFFIT
(C1) INSTALL GWB CEILING ASSEMBLY; SEE SHEET A500
(C2) PROVIDE AND INSTALL 4" INSULATED METAL SOFFIT; SEE SHEET A500
(C4) GWB CEILING ATTACHED TO BOTTOM TRUSS CHORD - SEE STRUCTURAL DRAWINGS

ATTIC VENTILATION CALCULATION

ATTIC VENTILATION - 1/300 OF AREA (IBC 1202.2.2, EXCEPTION)

ATTIC VENTILATION AREA - 1/300 OF AREA = 960/300 = 3.2 SQ FT (461 sq in.)

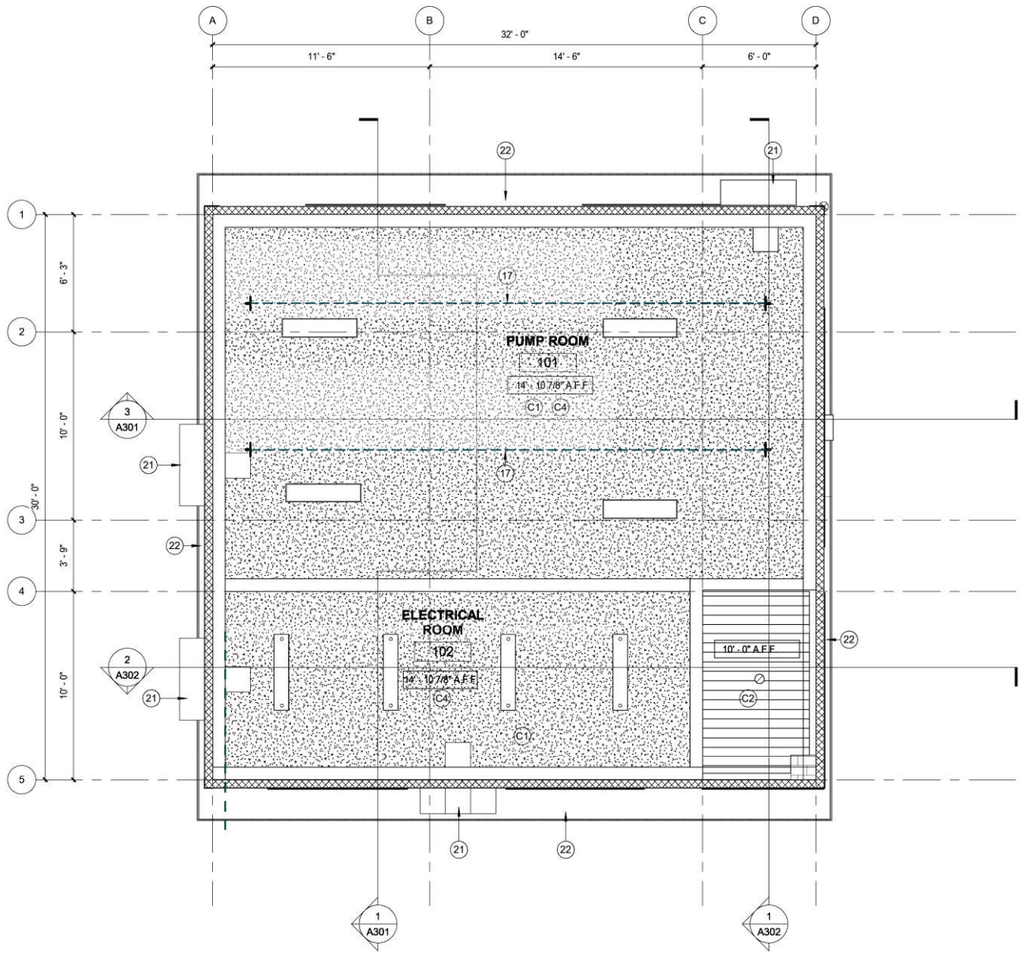
Π (1")2 = 3.14 sq in. PER HOLE

PROVIDE 50% BY - 3(3.14) = 9.42 sq. in. x 16 = 150.7 sq in. X 2 SIDES = 310.4 sq in. AT RIDGE VENT (50%)

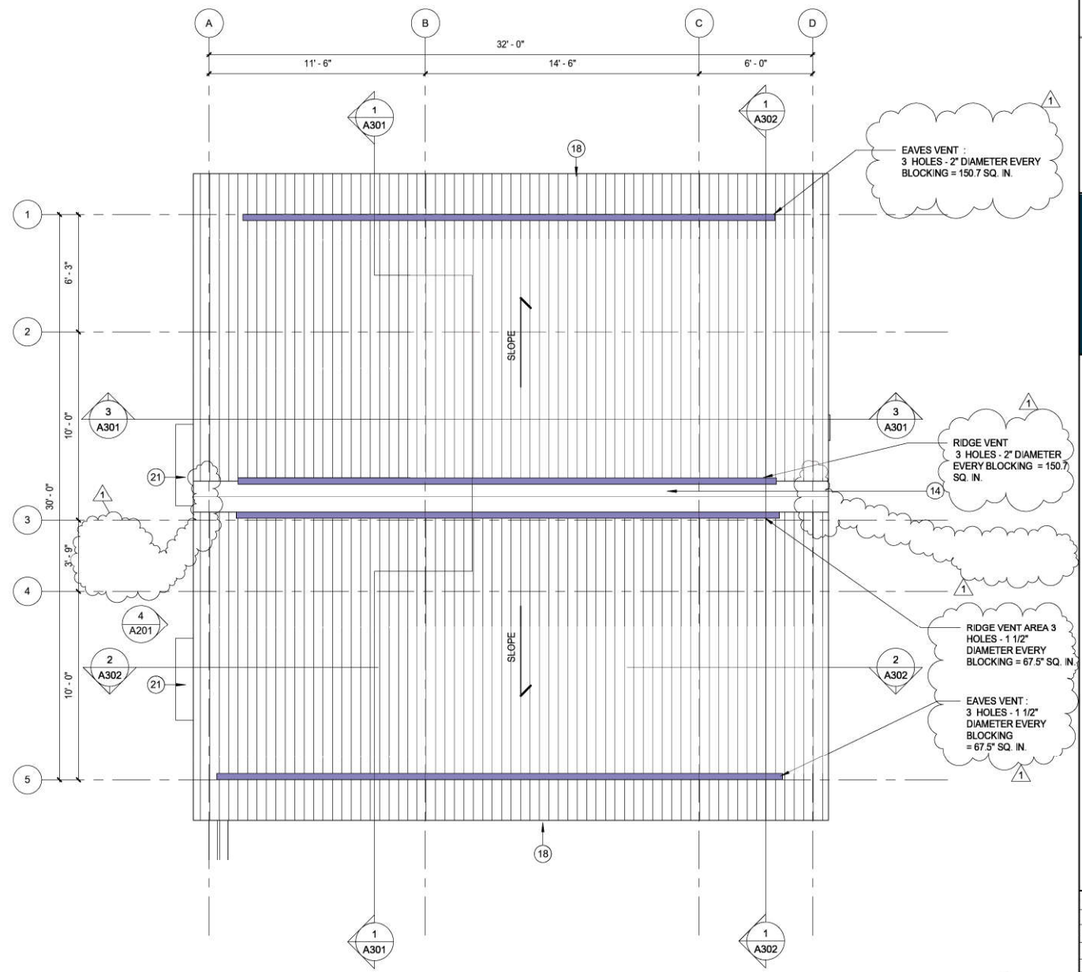
- 3(3.14) = 9.42 sq. in. x 16 = 150.7 sq. in. X 2 SIDES = 310.4 sq in. AT REIDGE EAVES VENT (50%)

= 135 X 0.5 = 67.5 sq in.

TOTAL VENT AREA = 602.8 sq in. (EXCEEDS REQUIRE)



1 A102 REFLECTED CEILING PLAN
1/4" = 1'-0"



2 A102 ROOF PLAN
1/4" = 1'-0"

REVISIONS			
REV	DATE	DESCRIPTION	BY
1	01-03-2023	PLAN REVIEW	BZ

CITY OF KODIAK ALASKA

STATE OF ALASKA 49TH — DAVID L. MOORE — REGISTERED PROFESSIONAL ARCHITECT — 11/29/22

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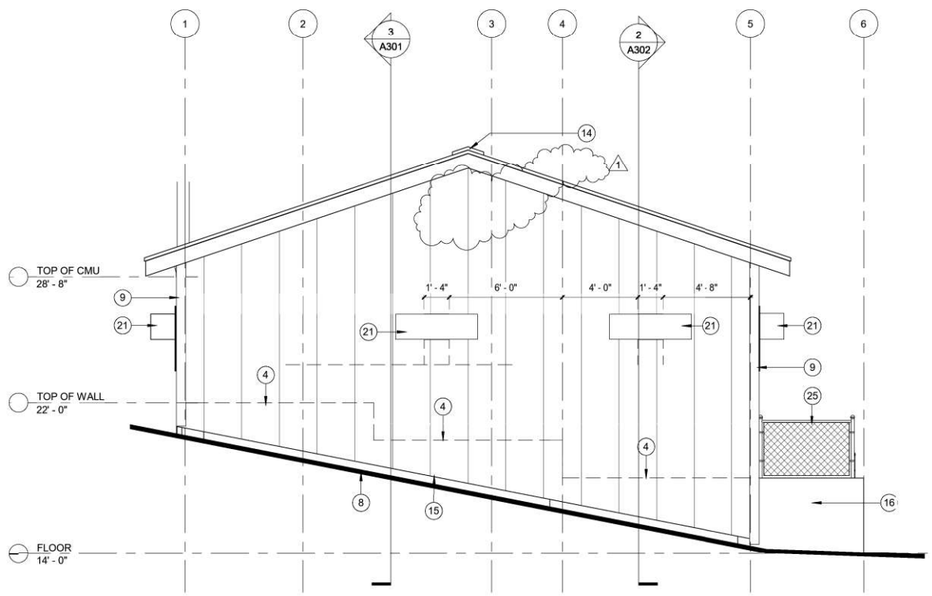
907.272.3567 907.277.1732 fax
Anchorage, Alaska
www.architectsalaska.com

KODIAK LIFT STATION 5
KODIAK, ALASKA
REFLECTED CEILING PLAN AND ROOF PLAN
KODIAK, ALASKA

CHECKED BY:	DLM
DESIGNED BY:	WVZ
DRAWN BY:	WVZ
DATE:	11-29-2022
LOCATION	KODIAK
	S32 T27S R19W SM
PROJECT:	21058.01

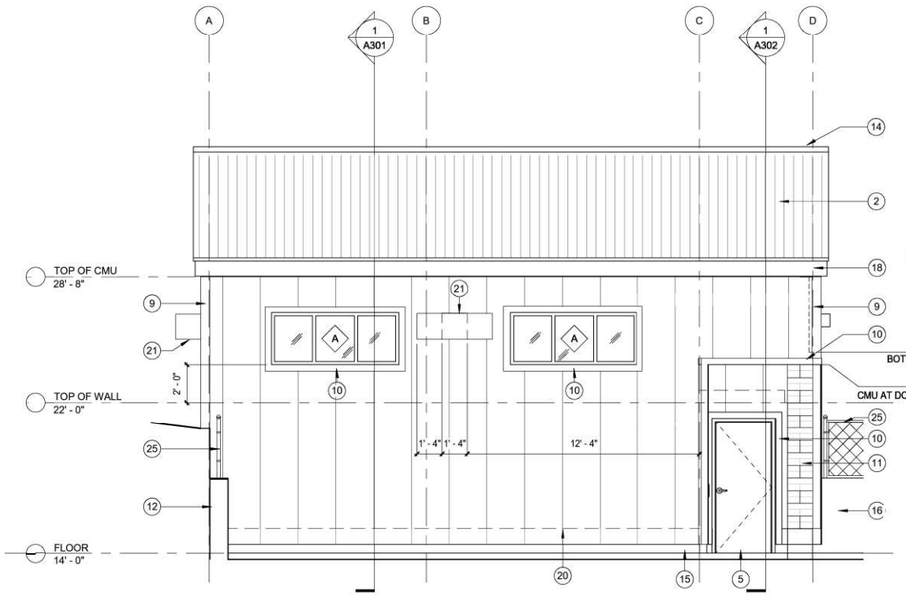
SHEET
A102



4 A201 WEST EXTERIOR BUILDING ELEVATION

1/4" = 1'-0"

0 2' 4' 8'



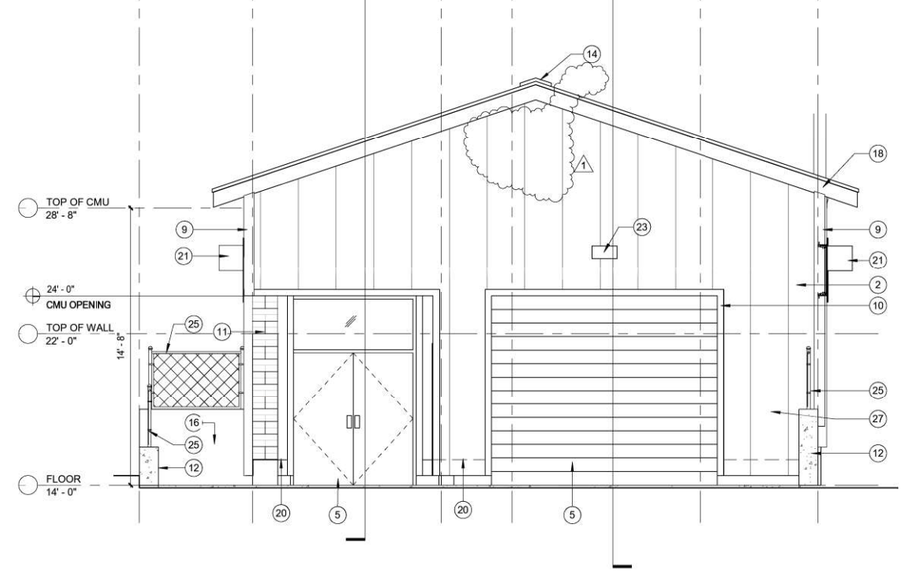
3 A201 SOUTH EXTERIOR BUILDING ELEVATION

1/4" = 1'-0"

0 2' 4' 8'

SHEET NOTES

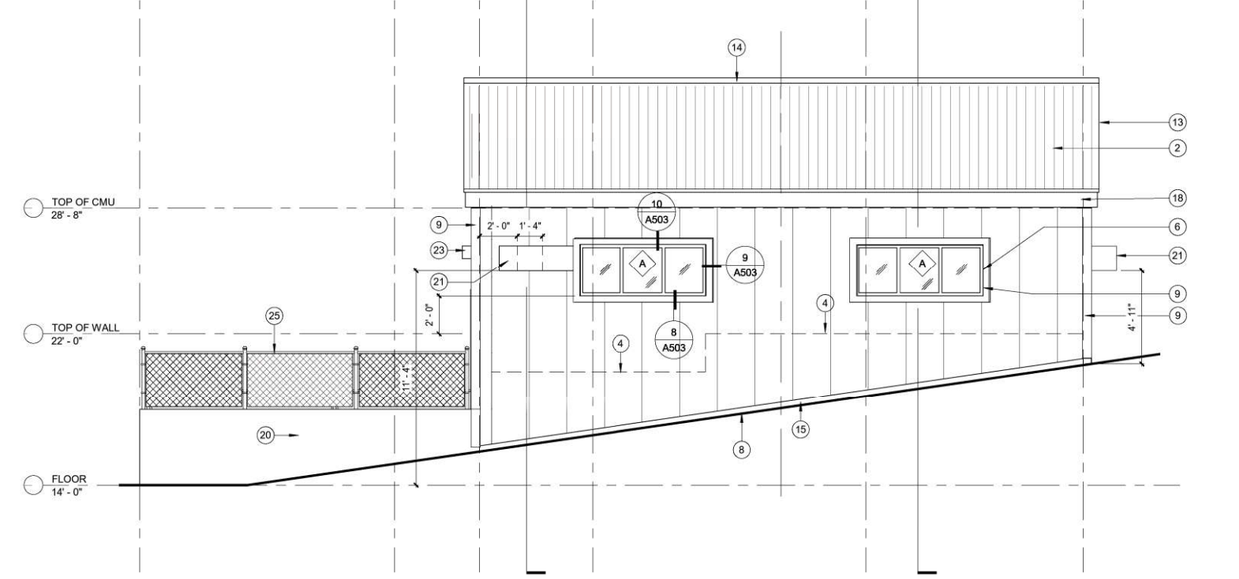
2	STANDING SEAM METAL ROOFING
4	TOP OF CONCRETE RETAINING WALL
5	DOOR; REFER TO SCHEDULE
6	WINDOW; REFER TO SCHEDULE
8	FINISH GRADE LINE; REFER TO CIVIL
9	6" METAL CORNER FLASHING
10	4" METAL FLASHING AROUND THE OPENING
11	16" CMU COLUMN
12	12" RETAINING WALL
13	EAVE FLASHING
14	RIDGE METAL FLASHING; SEE DETAIL 6/A501
15	BASE FLASHING
16	RETAINING WALL BEYOND
18	METAL FASCIA
20	TOP OF CONCRETE CURB ; REFER TO STRUCTURAL DWGS.
21	EXHAUST FAN/SNOW HOOD; REFER TO MECHANICAL DRAWINGS
23	EXTERIOR FLOOD LUMINAIRE, MOUNT ABOVE, CENTERED ON OVERHEAD DOOR
25	CHAIN LINK FENCE; REFER TO STRUCTURAL DETAILS
27	12" DIP SPOOL; SEE DETAIL 3/A502; REFER TO CIVIL DRAWINGS SHEET C-7



2 A201 EAST EXTERIOR BUILDING ELEVATION

1/4" = 1'-0"

0 2' 4' 8'



1 A201 NORTH EXTERIOR BUILDING ELEVATION

1/4" = 1'-0"

0 2' 4' 8'

REVISIONS			
REV	DATE	DESCRIPTION	BY
1	01-03-2023	PLAN REVIEW	BZ

CITY OF KODIAK ALASKA

STATE OF ALASKA 49TH DAVID L. MOORE REGISTERED PROFESSIONAL ARCHITECT

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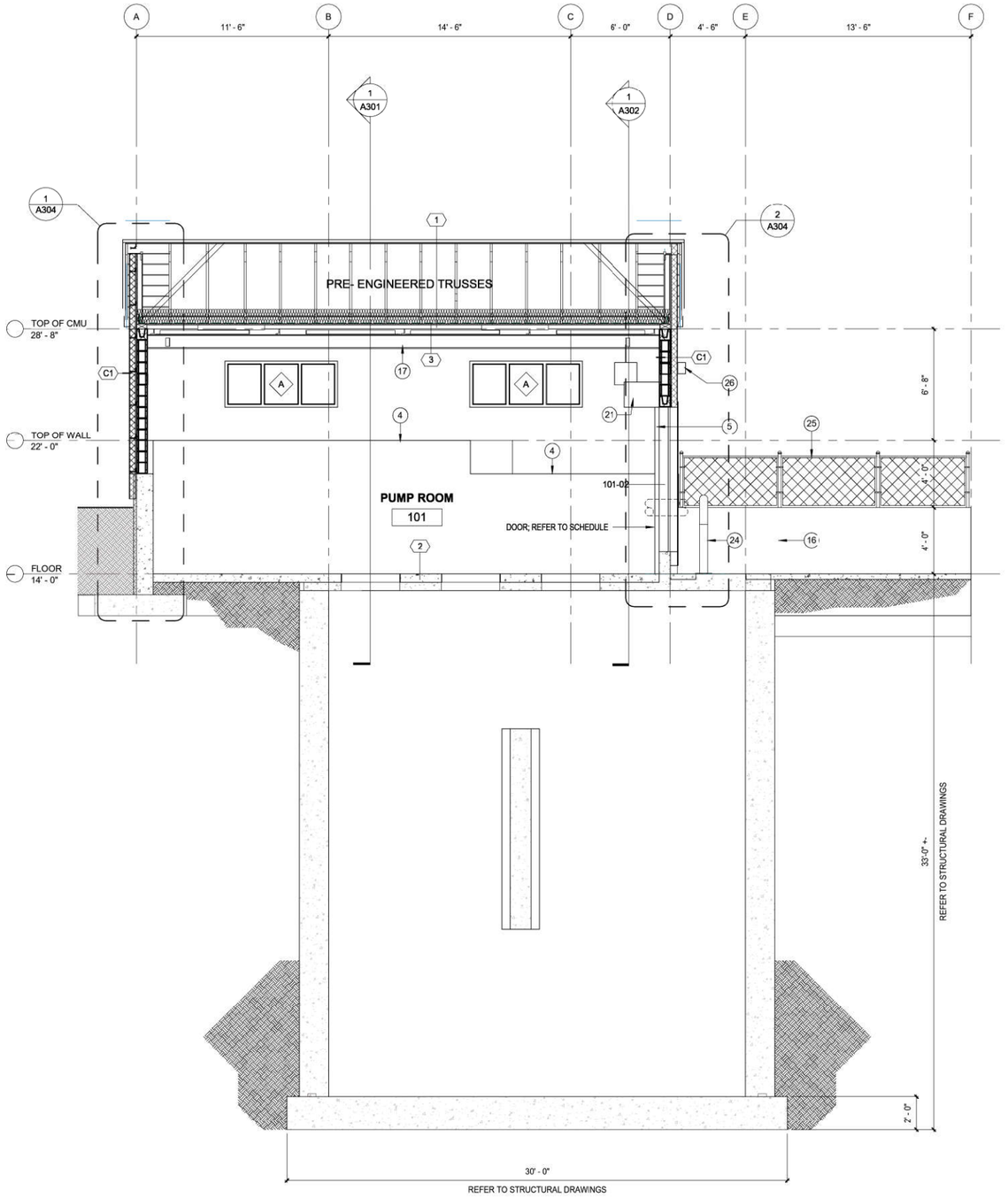
KODIAK LIFT STATION 5
KODIAK, ALASKA

EXTERIOR ELEVATIONS

KODIAK, ALASKA

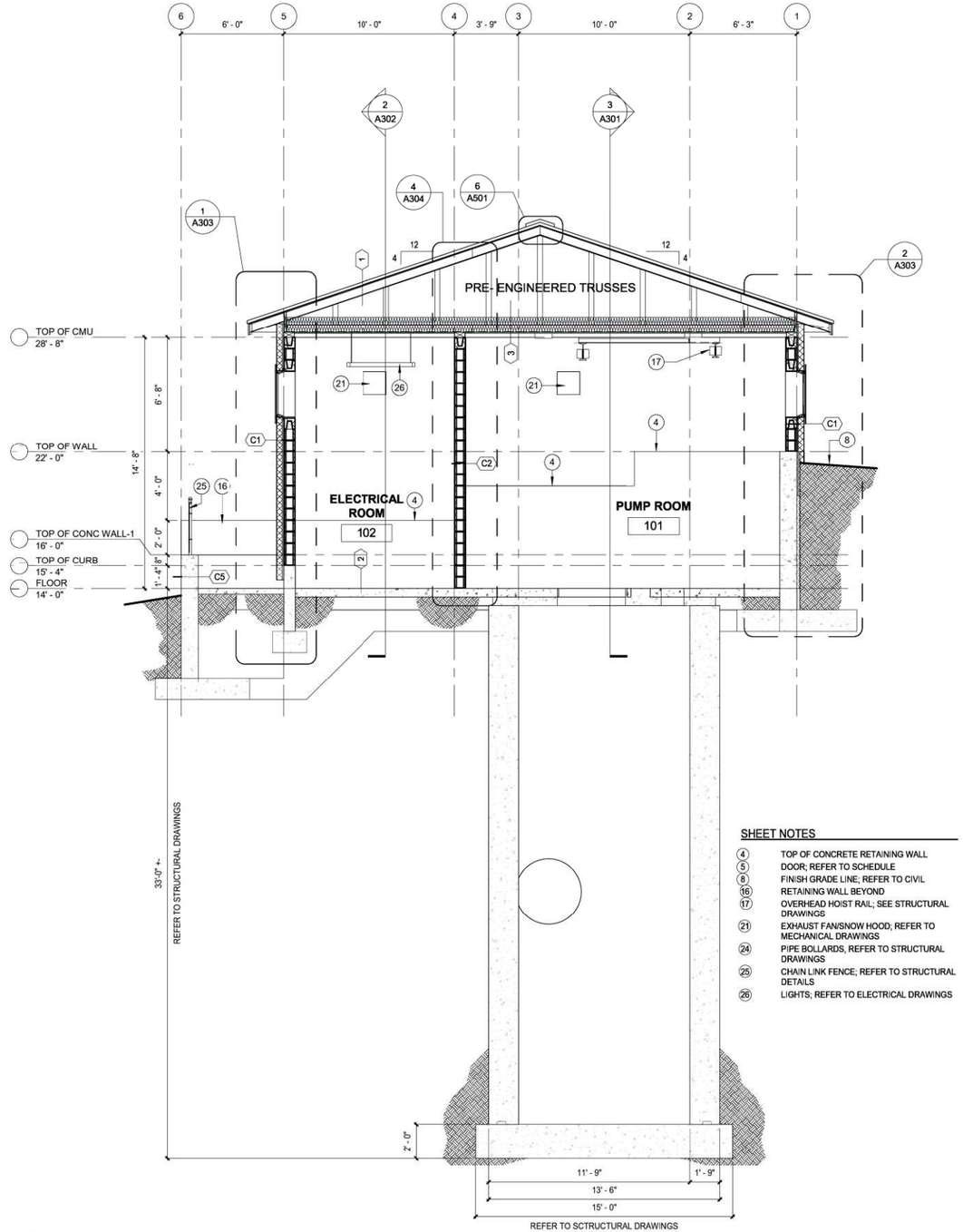
CHECKED BY:	DLM
DESIGNED BY:	WVZ
DRAWN BY:	WVZ
DATE:	11-29-2022
LOCATION	KODIAK
	S32 T27S R19W SM
PROJECT:	21058.01

SHEET
A201



3 A301 LONGITUDINAL BUILDING SECTION
1/4" = 1'-0"

0 2' 4' 8'



1 A301 CROSS BUILDING SECTION
1/4" = 1'-0"

0 2' 4' 8'

SHEET NOTES

4 TOP OF CONCRETE RETAINING WALL
5 DOOR; REFER TO SCHEDULE
8 FINISH GRADE LINE; REFER TO CIVIL
16 RETAINING WALL BEYOND
17 OVERHEAD HOIST RAIL; SEE STRUCTURAL DRAWINGS
21 EXHAUST FAN/SNOW HOOD; REFER TO MECHANICAL DRAWINGS
24 PIPE BOLLARDS, REFER TO STRUCTURAL DRAWINGS
25 CHAIN LINK FENCE; REFER TO STRUCTURAL DETAILS
26 LIGHTS; REFER TO ELECTRICAL DRAWINGS

REVISIONS

REV	DATE	DESCRIPTION	BY

CITY OF KODIAK ALASKA

STATE OF ALASKA 49TH DAVID L. MOORE REGISTERED PROFESSIONAL ARCHITECT APPR. 11/22/22

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Architects@alaska.com
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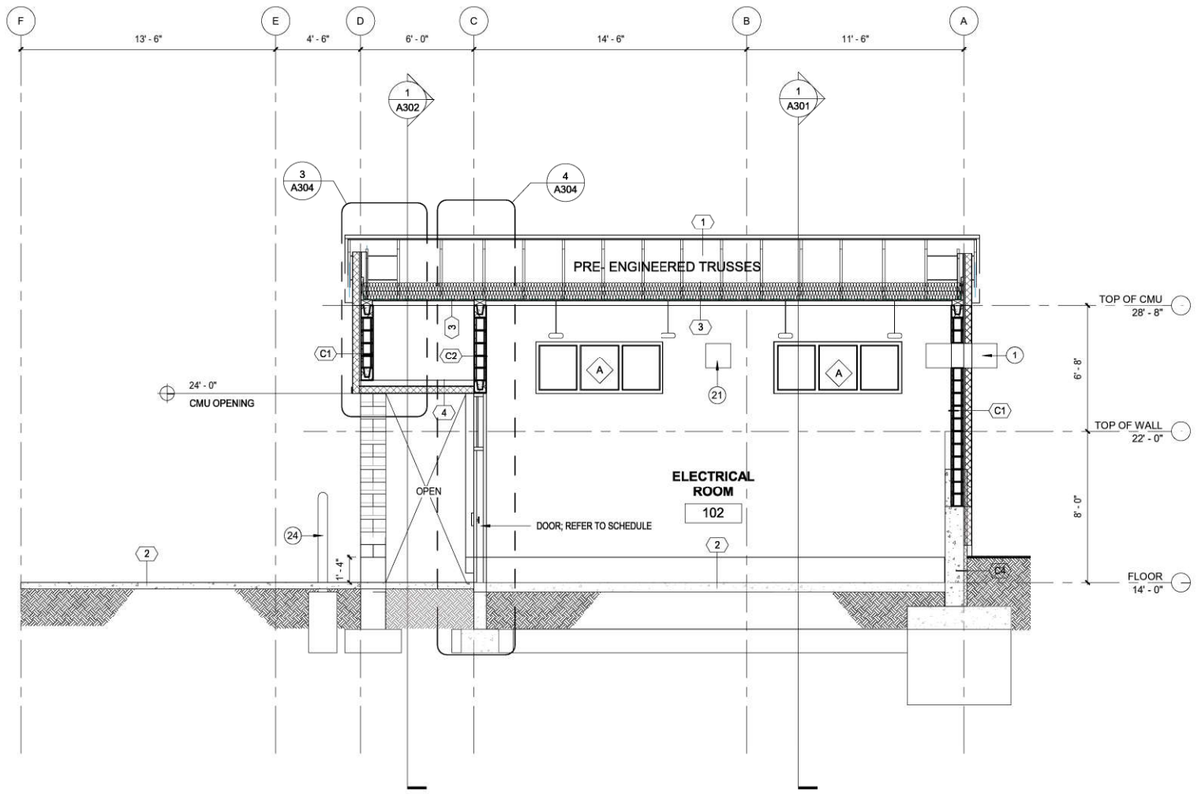
KODIAK LIFT STATION 5
KODIAK, ALASKA

BUILDING SECTIONS

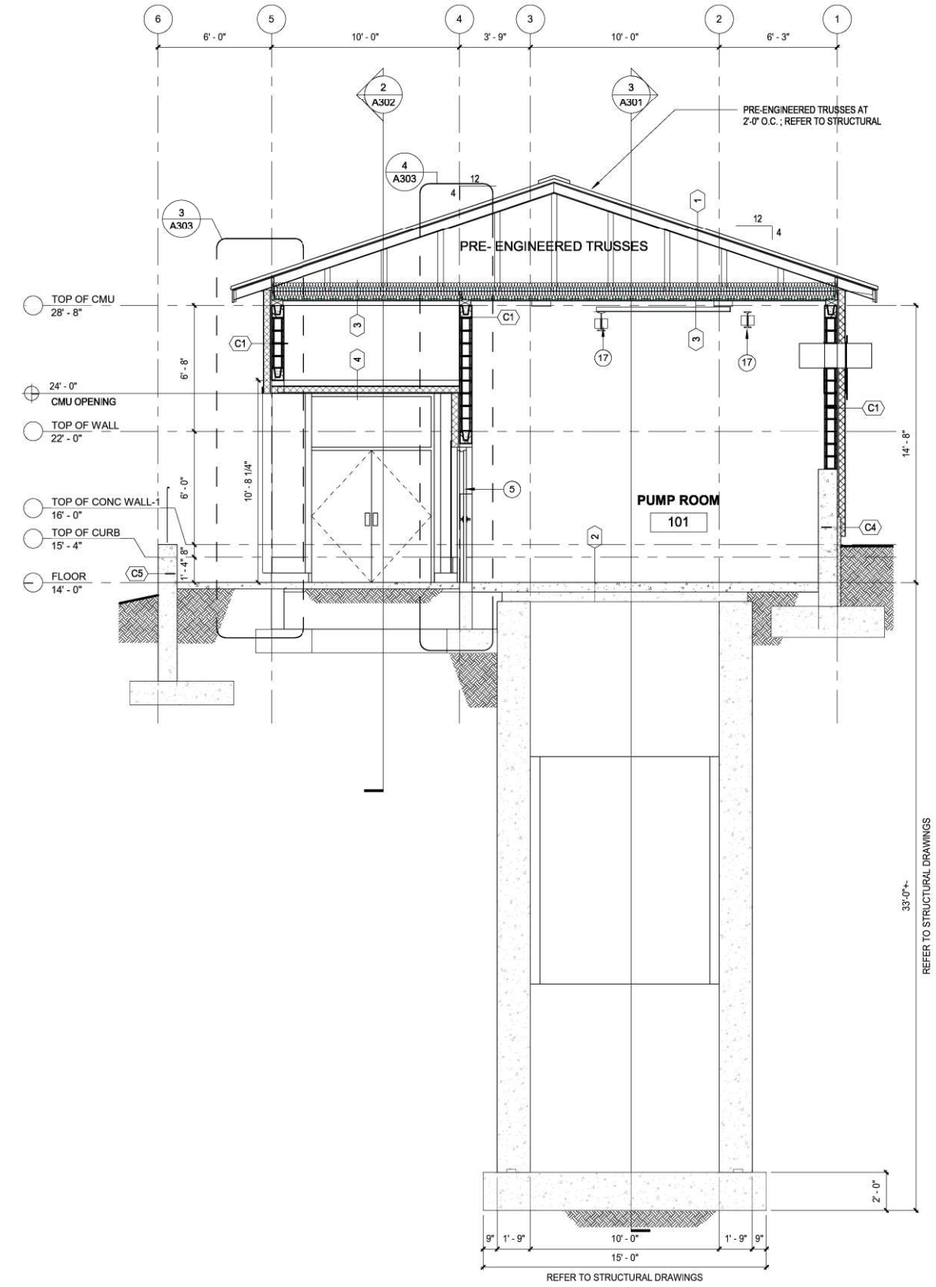
KODIAK, ALASKA

CHECKED BY:	DLM
DESIGNED BY:	WVZ
DRAWN BY:	WVZ
DATE:	11-29-2022
LOCATION	KODIAK
S32 T27S R19W SM	
PROJECT:	21058.01

SHEET
A301



2 A302 LONGITUDINAL SECTION AT ENTRY
1/4" = 1'-0"



1 A302 CROSS SECTION AT ENTRY
1/4" = 1'-0"

SHEET NOTES

1. 4" INSULATED METAL PANEL
5. DOOR; REFER TO SCHEDULE
17. OVERHEAD HOIST RAIL; SEE STRUCTURAL DRAWINGS
21. EXHAUST FAN/SNOW HOOD; REFER TO MECHANICAL DRAWINGS
24. PIPE BOLLARDS, REFER TO STRUCTURAL DRAWINGS

REVISIONS

REV	DATE	DESCRIPTION	BY

CITY OF KODIAK ALASKA

STATE OF ALASKA 49TH DAVID L. MOORE REGISTERED PROFESSIONAL ARCHITECT 11/22/22

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Architects Alaska, LLC
www.architectsalaska.com

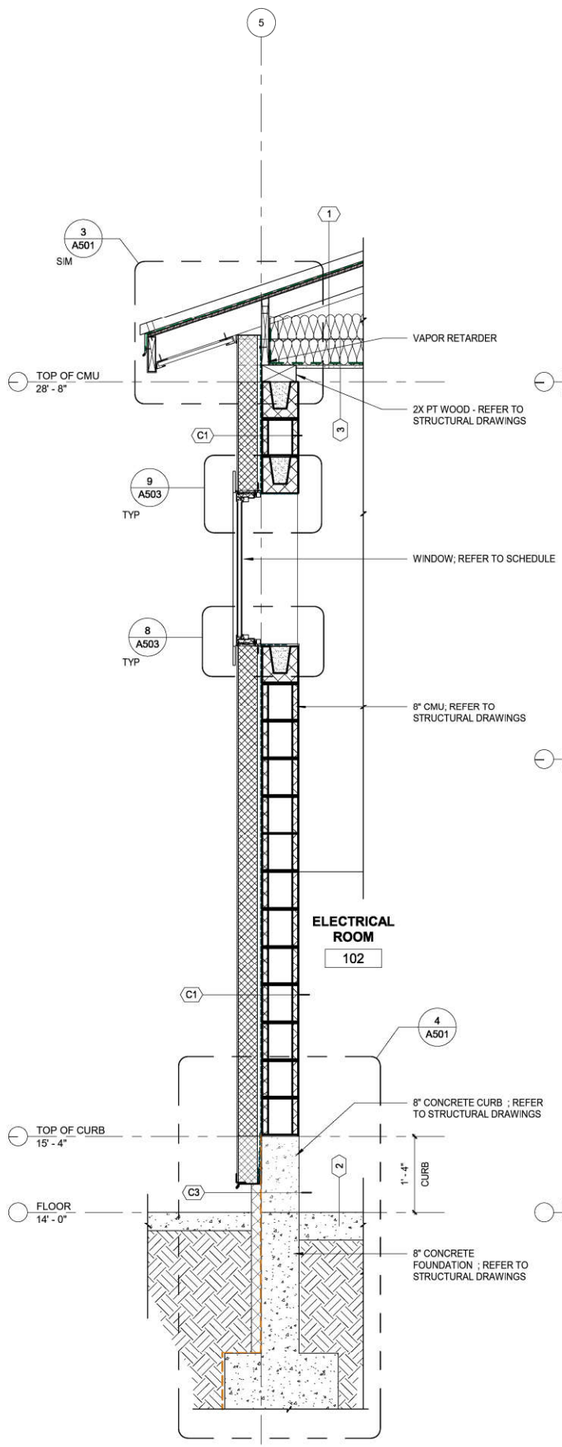
KODIAK LIFT STATION 5
KODIAK, ALASKA

BUILDING SECTIONS

KODIAK, ALASKA

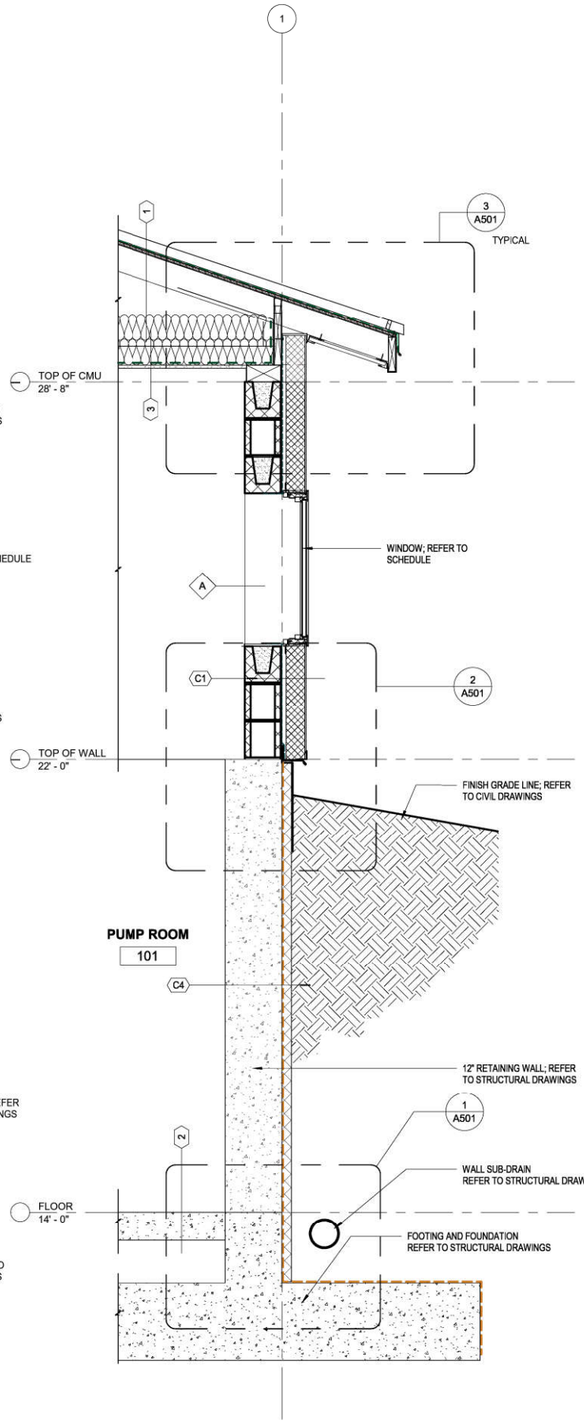
CHECKED BY:	DLM
DESIGNED BY:	WVZ
DRAWN BY:	WVZ
DATE:	11-29-2022
LOCATION	KODIAK
S32 T27S R19W SM	
PROJECT:	21058.01

SHEET
A302



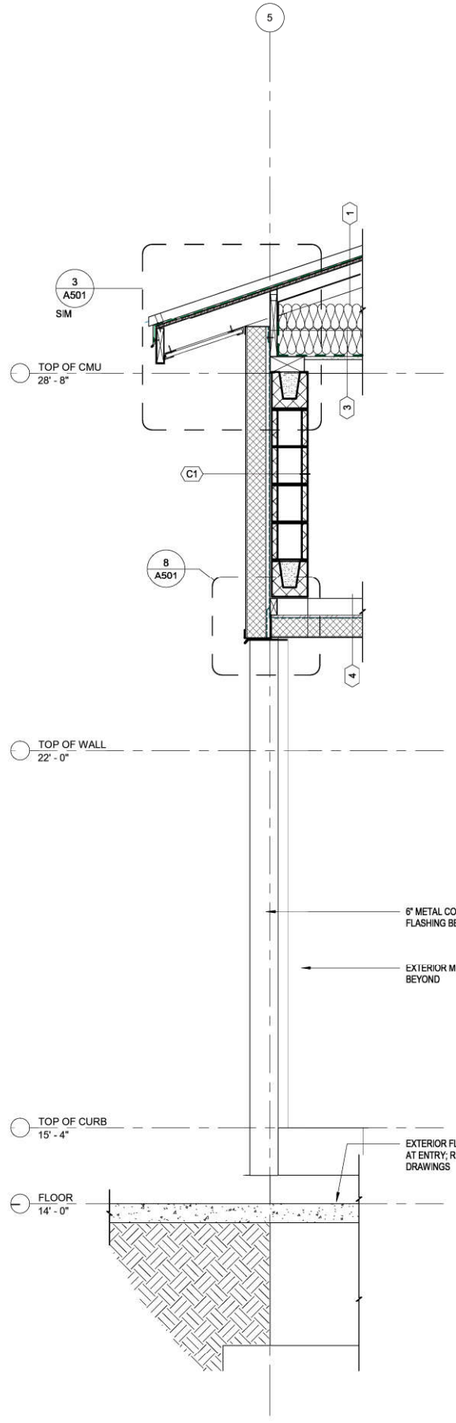
1 A303 WALL SECTION - EAVES AT GRID 5

3/4" = 1'-0"



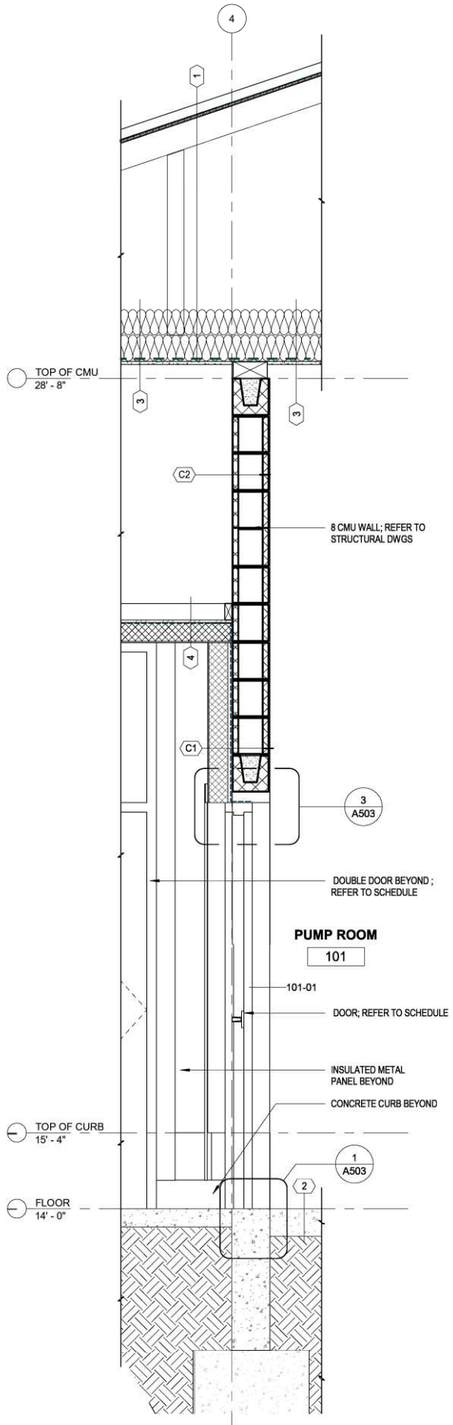
2 A303 WALL SECTION - EAVES AT GRID 1

3/4" = 1'-0"



3 A303 WALL SECTION AT ENTRY AT GRID 5

3/4" = 1'-0"



4 A303 WALL SECTION AT ENTRY - AT GRID 4

3/4" = 1'-0"

REVISIONS

REV	DATE	DESCRIPTION	BY

CITY OF KODIAK ALASKA

STATE OF ALASKA 49TH DAVID L. MOORE REGISTERED PROFESSIONAL ARCHITECT APPR. 11/22/22

Architects Alaska
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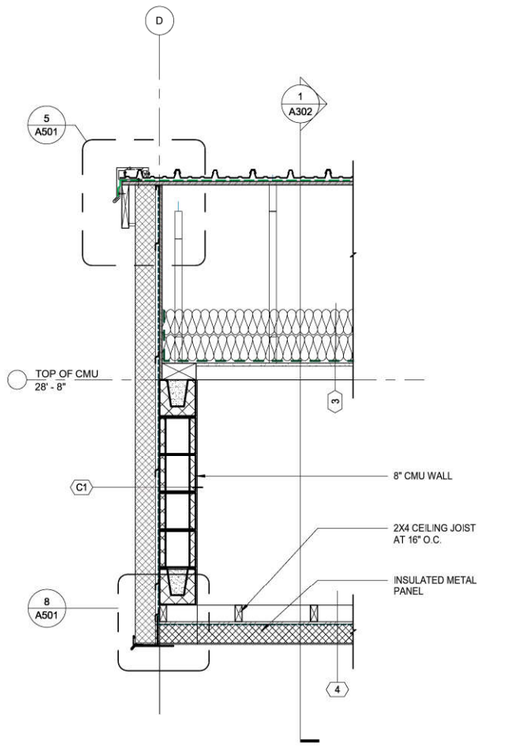
KODIAK LIFT STATION 5
KODIAK, ALASKA

WALL SECTIONS

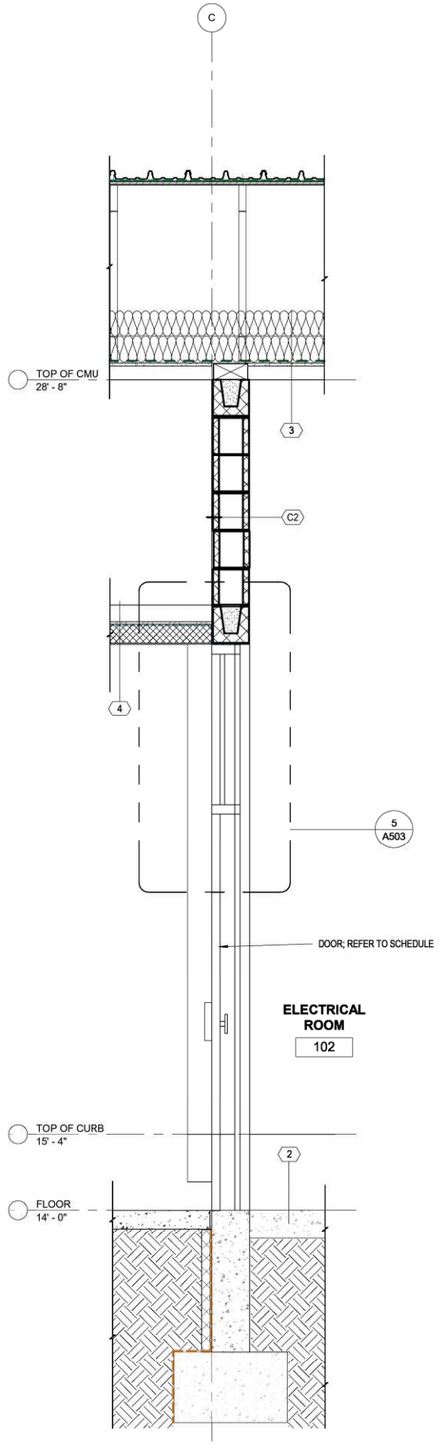
KODIAK, ALASKA

CHECKED BY:	DLM
DESIGNED BY:	WVZ
DRAWN BY:	WVZ
DATE:	11-29-2022
LOCATION	KODIAK
S32 T27S R19W SM	
PROJECT:	21058.01

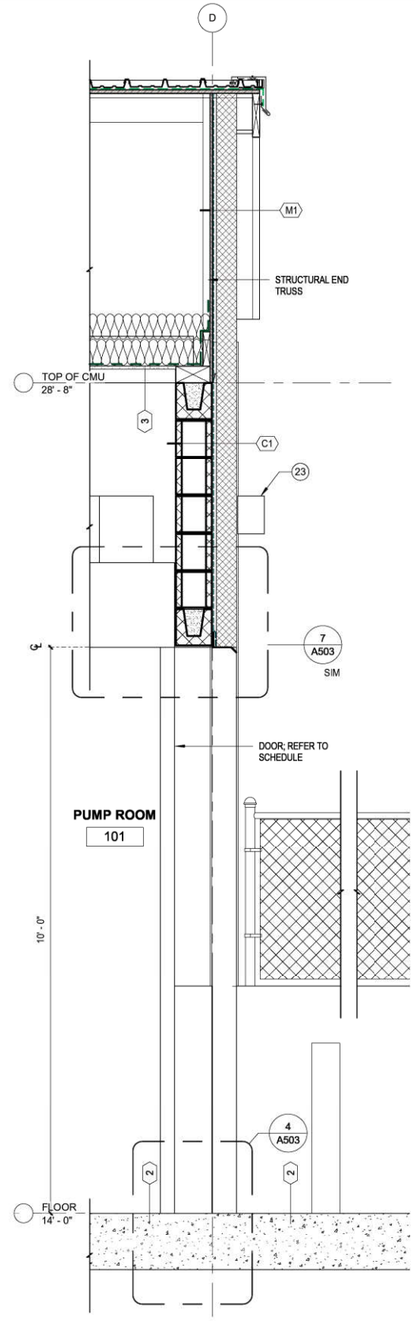
SHEET
A303



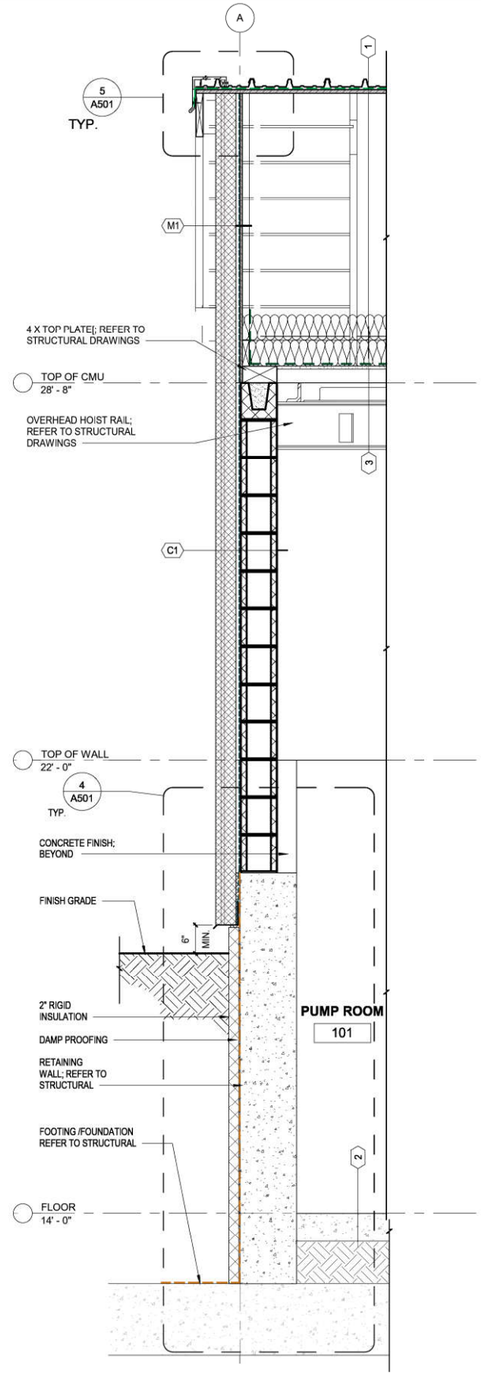
3 A304 WALL SECTION AT ENTRY - GRID D
3/4" = 1'-0"
0 2' 4' 8'



4 A304 WALL SECTION AT ENTRY - GRID C
3/4" = 1'-0"
0 2' 4' 8'



2 A304 WALL SECTION AT RAKE AT GRID D
3/4" = 1'-0"
0 2' 4' 8'



1 A304 WALL SECTION RAKE AT GRID A
3/4" = 1'-0"
0 2' 4' 8'

SHEET NOTES

(17) OVERHEAD HOIST RAIL; SEE STRUCTURAL DRAWINGS
(23) EXTERIOR FLOOD LUMINAIRE, MOUNT ABOVE, CENTERED ON OVERHEAD DOOR

REVISIONS		
REV	DATE	DESCRIPTION	BY

CITY OF KODIAK ALASKA

STATE OF ALASKA 49TH
DAVID L. MOORE
REGISTERED PROFESSIONAL ARCHITECT
APPR: 11/22/22

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KODIAK LIFT STATION 5
KODIAK, ALASKA

WALL SECTIONS

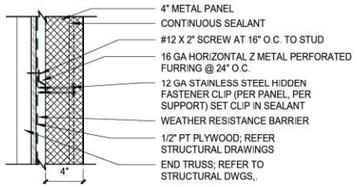
KODIAK, ALASKA

CHECKED BY:	WVZ
DESIGNED BY:	Designer
DRAWN BY:	Author
DATE:	11-29-2022
LOCATION	KODIAK
S32 T27S R19W SM	
PROJECT:	21058.01

SHEET
A304

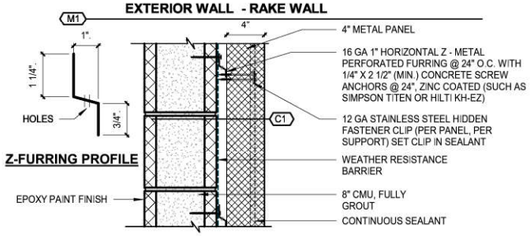
HORIZONTAL AND VERTICAL ASSEMBLIES TYPES

VERTICAL ASSEMBLY TYPES



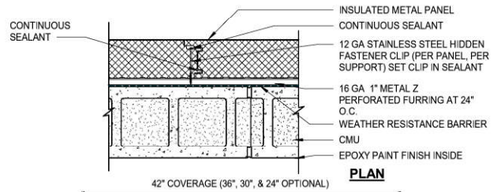
EXTERIOR WALL - RAKE WALL

M1



Z-FURRING PROFILE

ELEVATION

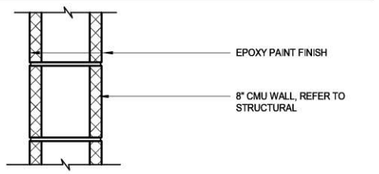


PLAN

PANEL PROFILE

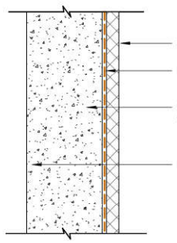
EXTERIOR WALL

C1



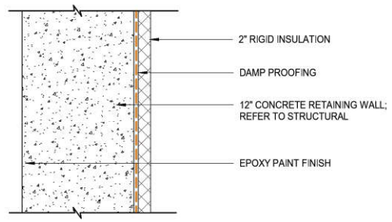
INTERIOR WALL

C2



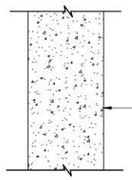
EXTERIOR CURB / FOUNDATION WALL

C3



RETAINING WALL

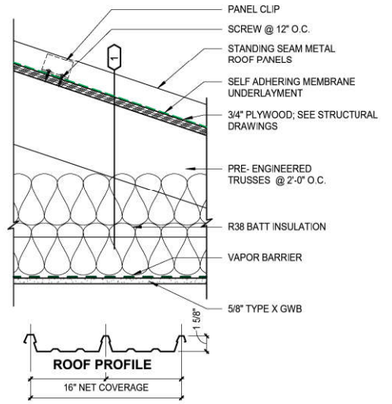
C4



FOUNDATION WALL

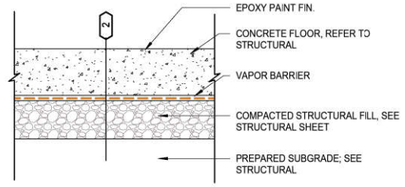
C5

HORIZONTAL ASSEMBLY TYPES



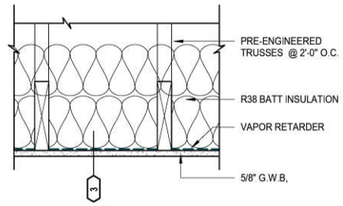
ROOF ASSEMBLY

1



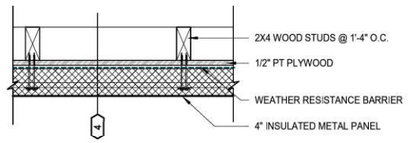
FLOOR ASSEMBLY

2



TYPICAL INTERIOR CEILING

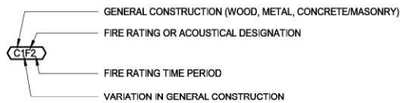
3



EXTERIOR CEILING AT ENTRY

4

WALL TYPES LEGEND AND NOTES



FULL HEIGHT STUD PARTITIONS ARE INDICATED WITH THE FOLLOWING DESIGNATIONS AFTER THE PARTITION TYPE DESIGNATION (EG.: M1 OR C2)

C FIRE RATING
(ONE HOUR PER IBC TABLE 720.1(2))

M PONY WALL
(ADD 1/2" PLYWOOD NO ACOUSTICAL INSULATION)

1. FOR A SYMMETRICAL PARTITIONS, THE LOCATION OF THE PARTITION TYPE SYMBOL ON THIS SHEET CORRESPONDS TO THE SAME ORIENTATION AS THE FLOOR PLAN
2. SEE FLOOR PLAN FOR PLUMBING WALL DIMENSIONS NOT SHOWN.
3. IF STRUCTURAL USE PANELS (S.U.P.) ARE INDICATED, REFER TO STRUCTURAL DRAWINGS FOR THICKNESS, GRADE, AND SPAN RATING.

REVISIONS

REV	DATE	DESCRIPTION	BY

CITY OF KODIAK ALASKA

STATE OF ALASKA — 49TH — DAVID L. MOORE — REGISTERED PROFESSIONAL ARCHITECT — APPR. 1/22/23

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Anchorage, Alaska 99507-2029
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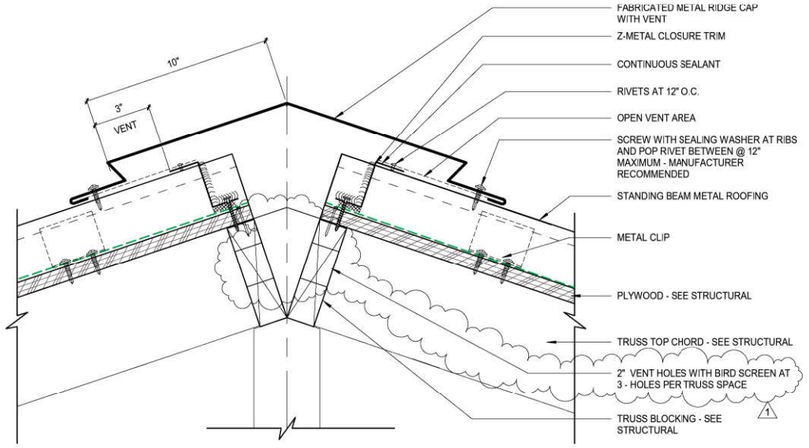
KODIAK LIFT STATION 5
KODIAK, ALASKA

VERTICAL AND HORIZONTAL ASSEMBLY TYPES

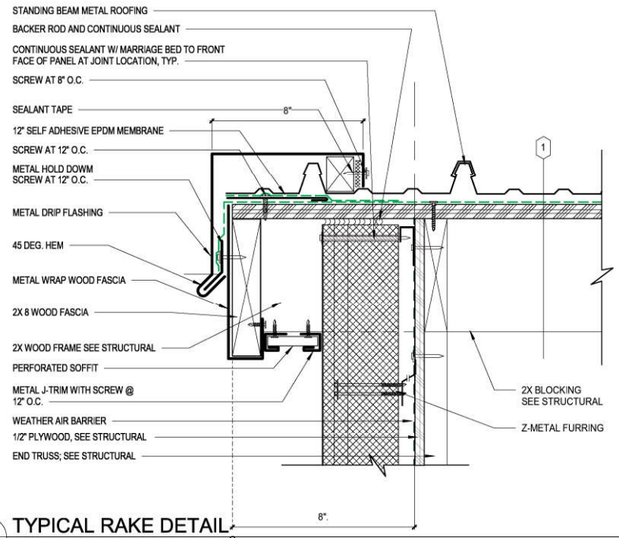
KODIAK, ALASKA

CHECKED BY:	DLM
DESIGNED BY:	WVZ
DRAWN BY:	WVZ
DATE:	11-29-2022
LOCATION	KODIAK
S32 T27S R19W SM	
PROJECT:	21058.01

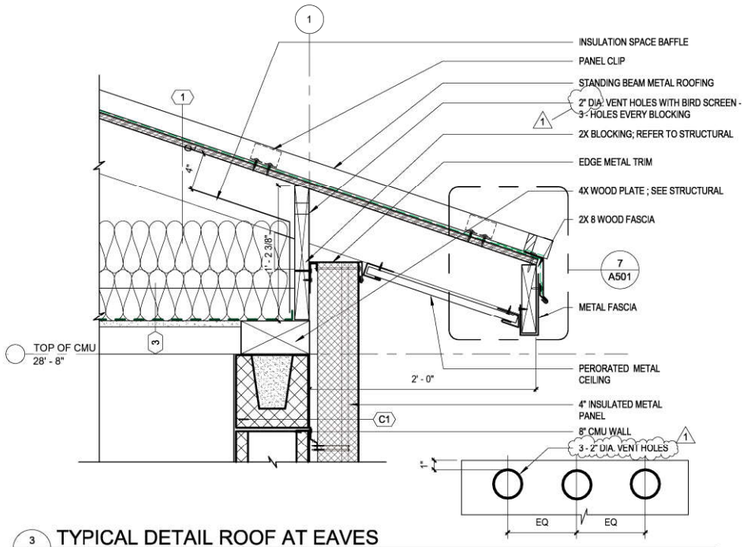
SHEET
A500



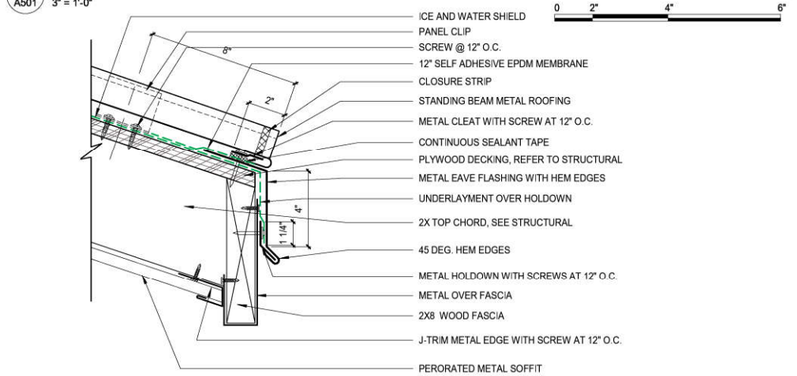
6 A501 **RIDGE DETAIL**
3" = 1'-0"



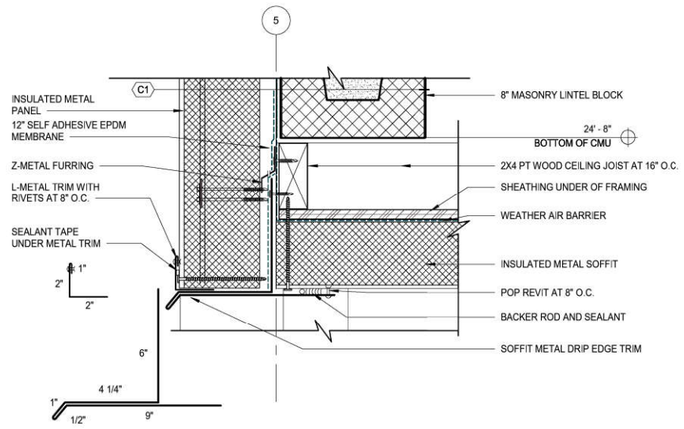
5 A501 **TYPICAL RAKE DETAIL**
3" = 1'-0"



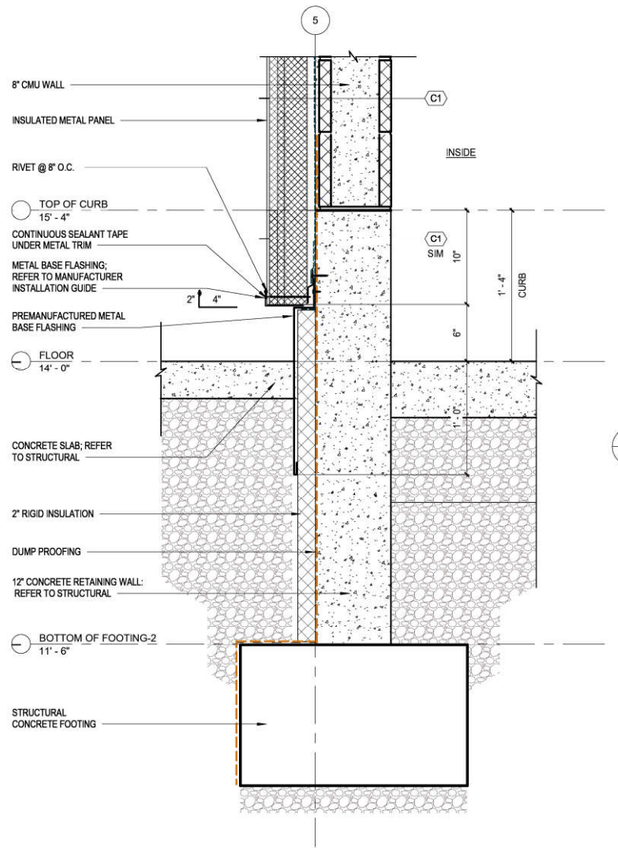
3 A501 **TYPICAL DETAIL ROOF AT EAVES**
1 1/2" = 1'-0"



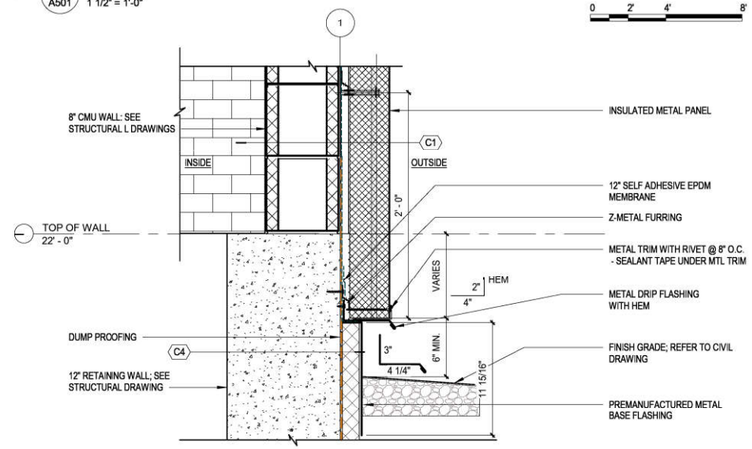
7 A501 **TYPICAL EAVE DETAIL**
3" = 1'-0"



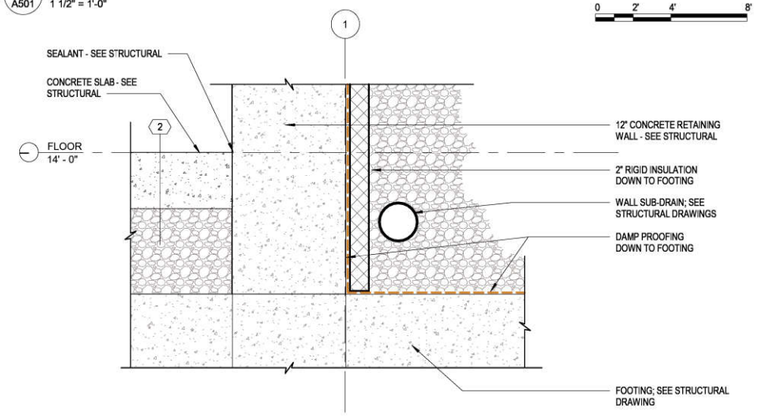
8 A501 **TYPICAL WALL SECTION ABOVE AT SOFFIT**
3" = 1'-0"



4 A501 **TYPICAL FOUNDATION WALL AT EXTERIOR CURB**
1 1/2" = 1'-0"



2 A501 **TYPICAL FOUNDATION WALL AT RETAINING WALL AND CMU**
1 1/2" = 1'-0"



1 A501 **TYPICAL FOUNDATION BASE AT CONCRETE RETAINING WALL**
1 1/2" = 1'-0"

REVISIONS			
REV	DATE	DESCRIPTION	BY
1	01-03-2023	PLAN REVIEW	BZ

CITY OF KODIAK ALASKA

STATE OF ALASKA 49TH DAVID L. MOORE 11/22/22 REGISTERED PROFESSIONAL ARCHITECT

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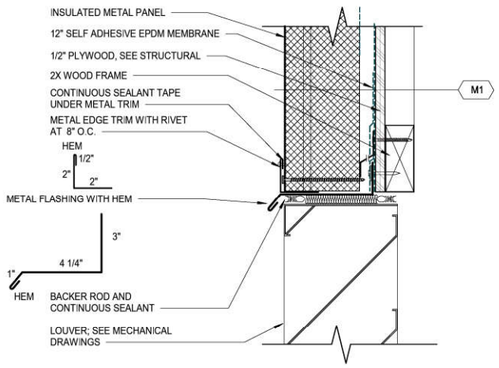
KODIAK LIFT STATION 5
KODIAK, ALASKA
KODIAK, ALASKA

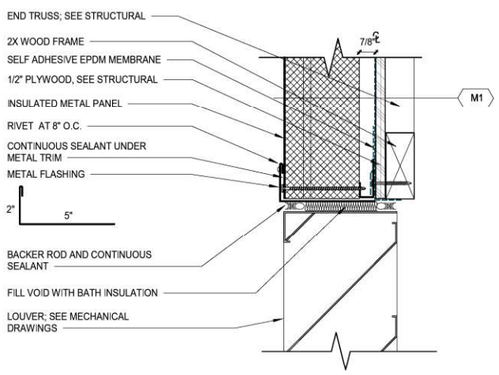
EXTERIOR DETAILS

CHECKED BY:	DLM
DESIGNED BY:	WVZ
DRAWN BY:	WVZ
DATE:	11-29-2022
LOCATION	KODIAK
S32 T27S R19W SM	
PROJECT:	21058.01

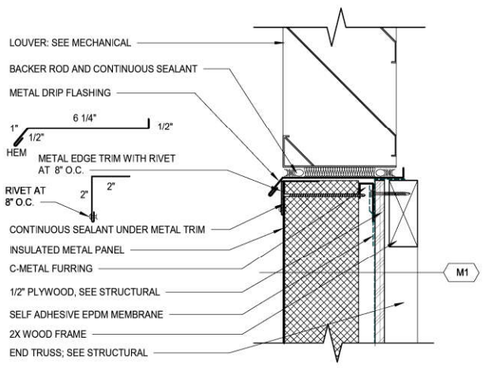
SHEET
A501



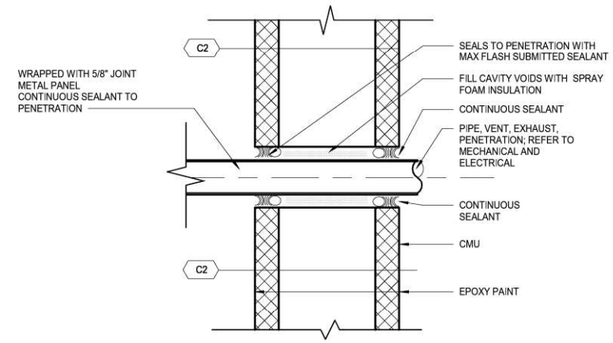
10 A502 **LOUVER HEAD DETAIL - INSUL METAL PANEL**
3" = 1'-0"



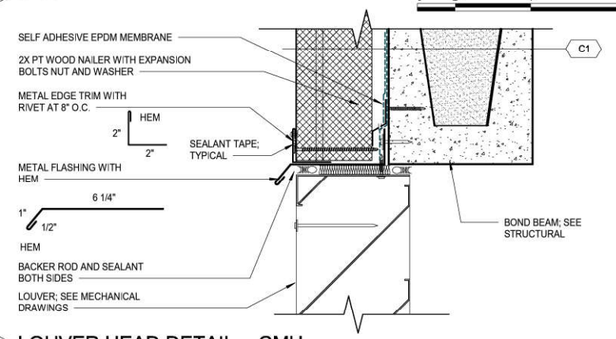
9 A502 **LOUVER JAMB DETAIL - INSUL METAL PANEL**
3" = 1'-0"



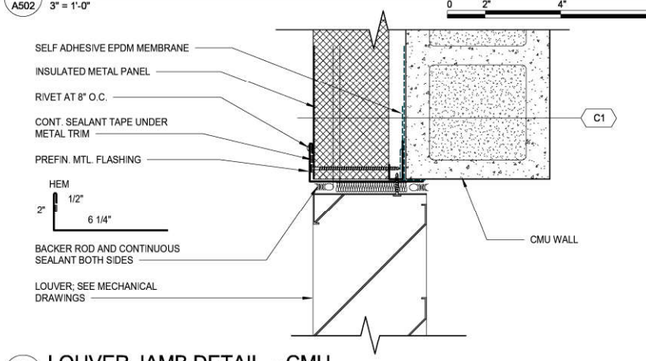
8 A502 **LOUVER SILL - INSUL METAL PANEL**
3" = 1'-0"



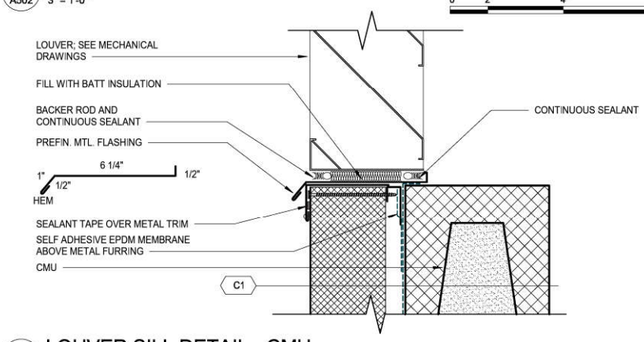
7 A502 **TYPICAL PENETRATION DETAIL - CMU**
3" = 1'-0"



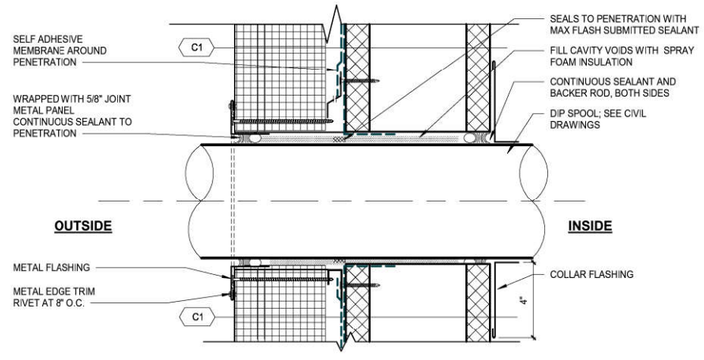
6 A502 **LOUVER HEAD DETAIL - CMU**
3" = 1'-0"



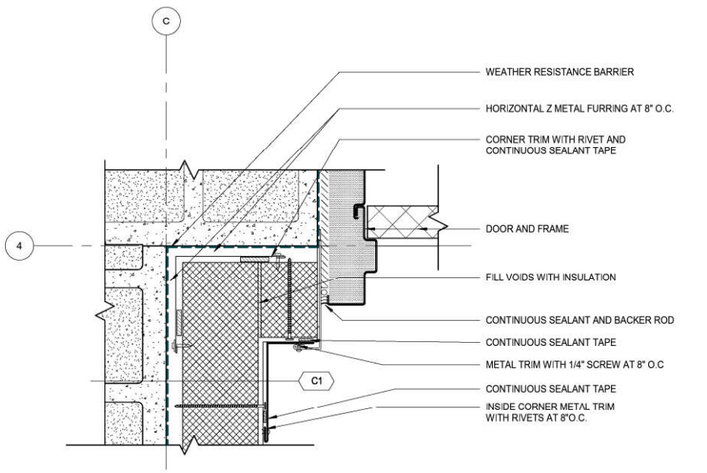
5 A502 **LOUVER JAMB DETAIL - CMU**
3" = 1'-0"



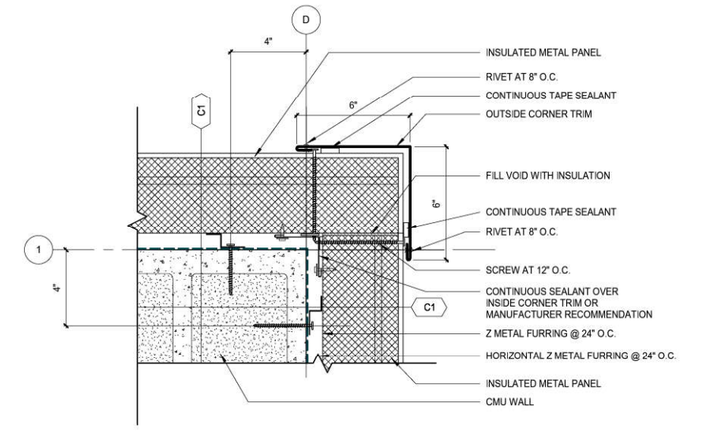
4 A502 **LOUVER SILL DETAIL - CMU**
3" = 1'-0"



3 A502 **TYPICAL PENETRATION DETAIL**
3" = 1'-0"



2 A502 **INSIDE CORNER - PLAN**
3" = 1'-0"



1 A502 **TYPICAL OUTSIDE CORNER DETAIL - PLAN**
3" = 1'-0"

REVISIONS

REV	DATE	DESCRIPTION	BY

CITY OF KODIAK ALASKA

STATE OF ALASKA 49TH DAVID L. MOORE REGISTERED PROFESSIONAL ARCHITECT 11/22/22

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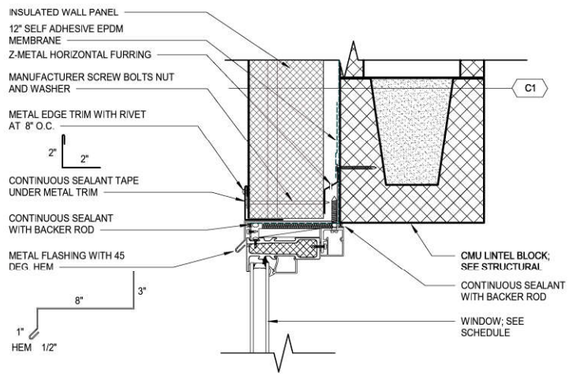
KODIAK LIFT STATION 5
KODIAK, ALASKA

EXTERIOR DETAILS

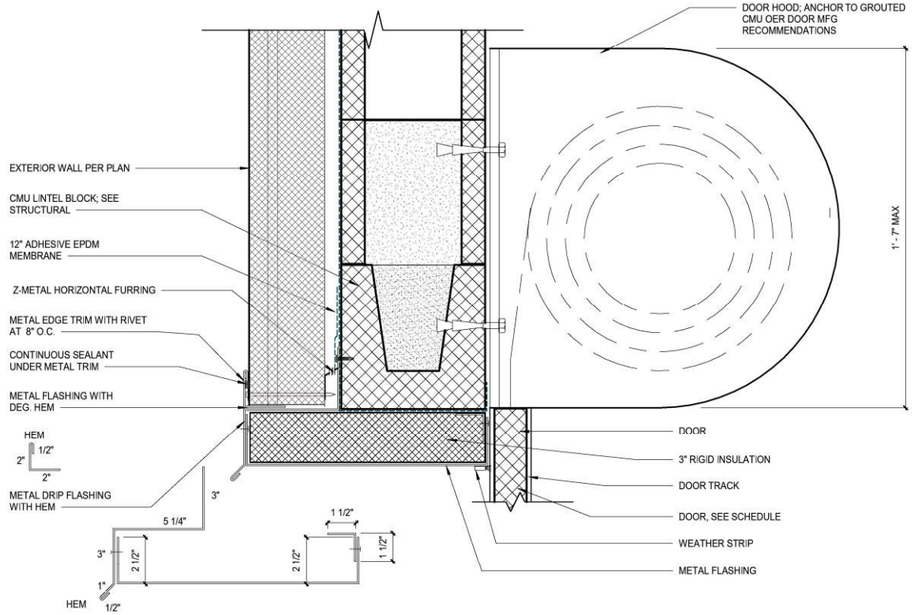
KODIAK, ALASKA

CHECKED BY:	DLM
DESIGNED BY:	WVZ
DRAWN BY:	WVZ
DATE:	11-29-2022
LOCATION	KODIAK
	S32 T27S R19W SM
PROJECT:	21058.01

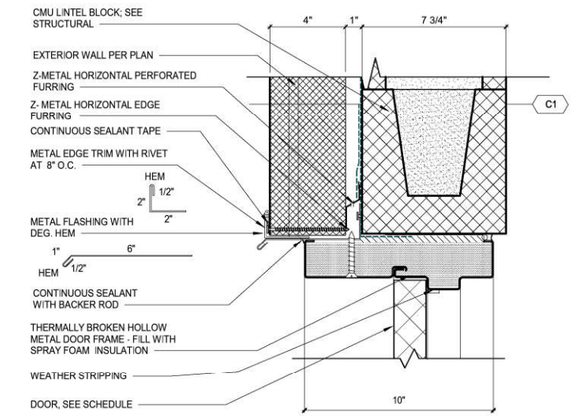
SHEET
A502



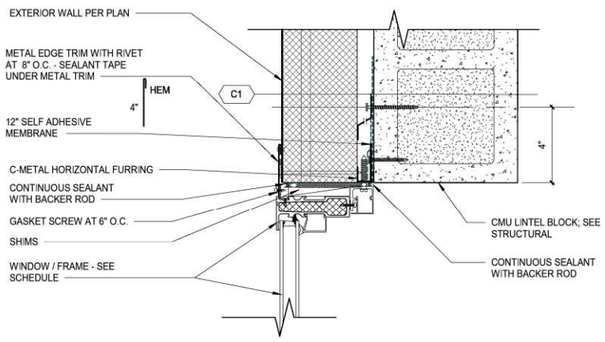
10 A503 EXTERIOR WINDOW HEAD DETAIL
3" = 1'-0"
0 2" 4" 6"



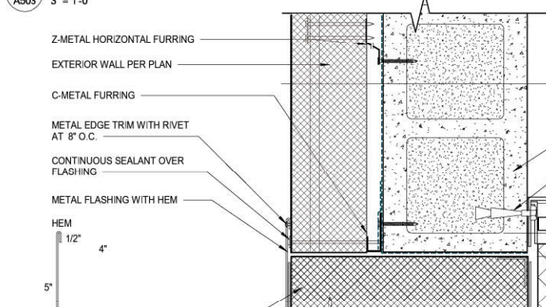
7 A503 EXTERIOR OVERHAD DOOR HEAD DETAIL
3" = 1'-0"
0 2" 4" 6"



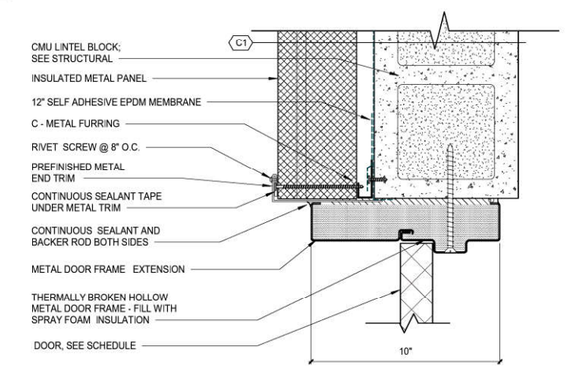
3 A503 EXTERIOR DOOR HEAD DETAIL
3" = 1'-0"
0 2" 4" 6"



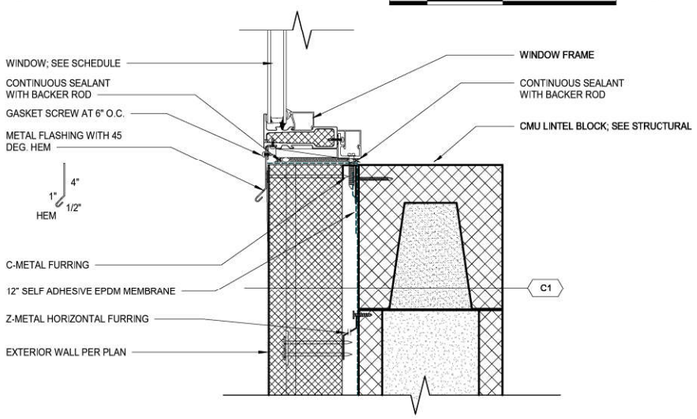
9 A503 EXTERIOR WINDOW JAMB DETAIL
3" = 1'-0"
0 2" 4" 6"



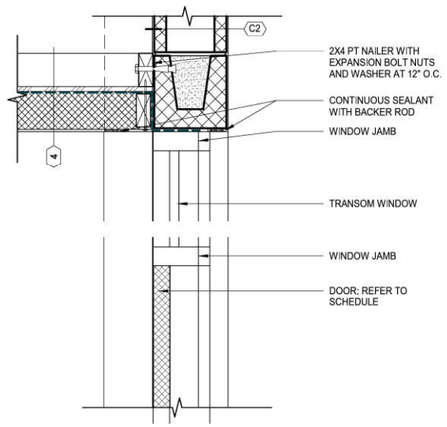
6 A503 EXTERIOR OVERHEAD DOOR JAMB DETAIL
3" = 1'-0"
0 2" 4" 6"



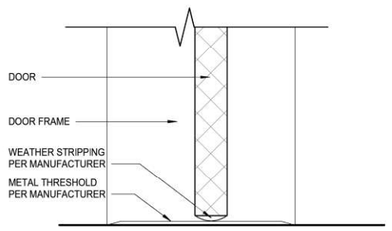
2 A503 EXTERIOR DOOR JAMB DETAIL
3" = 1'-0"
0 2" 4" 6"



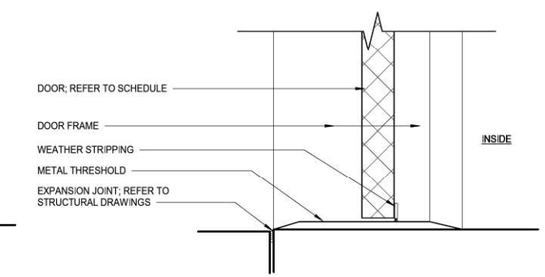
8 A503 EXTERIOR WINDOW SILL DETAIL
3" = 1'-0"
0 2" 4" 6"



5 A503 EXTERIOR DOOR HEAD AT TRANSOM
1 1/2" = 1'-0"
0 2" 4" 6"



4 A503 EXTERIOR OVERHEAD DOOR SILL DETAIL
3" = 1'-0"
0 2" 4" 6"



1 A503 EXTERIOR DOOR SILL DETAIL - TYPICAL
3" = 1'-0"
0 2" 4" 6"

REVISIONS

REV	DATE	DESCRIPTION	BY

CITY OF KODIAK ALASKA

STATE OF ALASKA 49TH
DAVID L. MOORE
REGISTERED PROFESSIONAL ARCHITECT
APPR: 11/22/22

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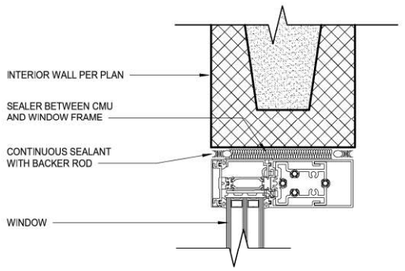
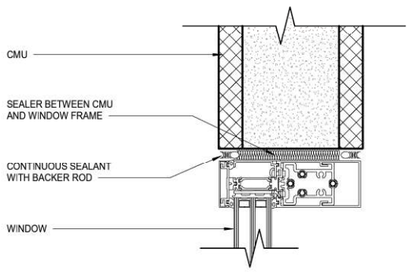
KODIAK LIFT STATION 5
KODIAK, ALASKA
EXTERIOR DOORS AND WINDOWS DETAILS
KODIAK, ALASKA

CHECKED BY:	DLM
DESIGNED BY:	WVZ
DRAWN BY:	WVZ
DATE:	11-29-2022
LOCATION	KODIAK
	S32 T27S R19W SM
PROJECT:	21058.01

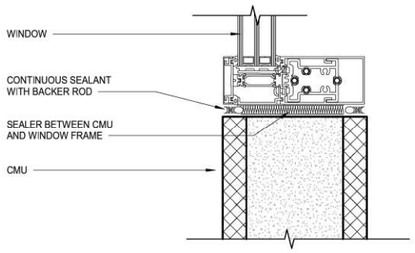
SHEE
A503



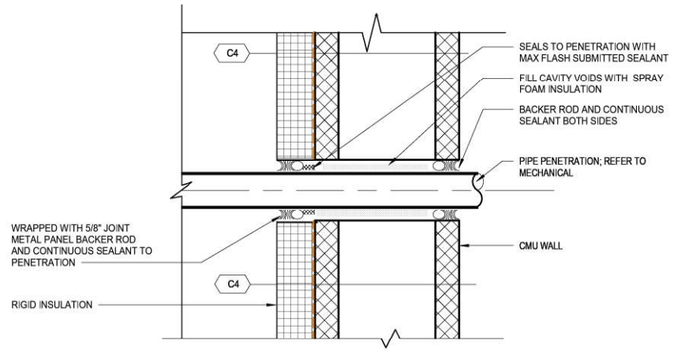
3 A504 INTERIOR WINDOW HEAD DETAIL
3" = 1'-0"
0 1' 2'



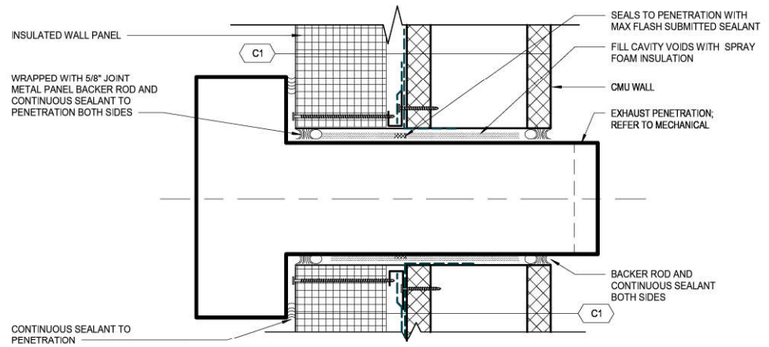
4 A504 INTERIOR WINDOW JAMB DETAIL
3" = 1'-0"
0 1' 2'



5 A504 INTERIOR WINDOW SILL DETAIL
3" = 1'-0"
0 1' 2'



2 A504 TYPICAL PENETRATION DETAIL AT GRADE
3" = 1'-0"
0 1' 2'



1 A504 EXHAUST FAN PENETRATION DETAIL
3" = 1'-0"
0 1' 2'

REVISIONS

REV	DATE	DESCRIPTION	BY

CITY OF KODIAK ALASKA

STATE OF ALASKA 49TH DAVID L. MOORE REGISTERED PROFESSIONAL ARCHITECT

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Architects Alaska, Inc.
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KODIAK LIFT STATION 5
KODIAK, ALASKA

MISCELANUOUS DETAILS

KODIAK, ALASKA

CHECKED BY:	DLM
DESIGNED BY:	WVZ
DRAWN BY:	WVZ
DATE:	11-29-2022
LOCATION	KODIAK
S32 T27S R19W SM	
PROJECT:	21058.01

SHEET
A504

ROOM FINISH SCHEDULE

NO.	NAME	FLOOR			BASE			WALLS												CEILING			COMMENTS
								NORTH			EAST			SOUTH			WEST						
		MATERIAL	FINISH	COLOR	MATERIAL	FINISH	COLOR	MATERIAL	FINISH	COLOR	MATERIAL	FINISH	COLOR	MATERIAL	FINISH	COLOR	MATERIAL	FINISH	COLOR	MATERIAL	FINISH	COLOR	
101	PUMP ROOM	CONC	NEC		-	-	-	CMU/CONC	PT	P2	CMU/CONC	PT	P2	CMU/CONC	PT	P2	CMU/CONC	PT	P2	C1	PT	P1	-
102	ELECTRICAL ROOM	CONC	NEC		-	-	-	CMU/CONC	PT	P2	CMU/CONC	PT	P2	CMU/CONC	PT	P2	CMU/CONC	PT	P2	C1	PT	P1	-

ROOM FINISH LEGEND

FLOOR MATERIALS
F1 CONCRETE
F2 WALK OFF MAT
F3 SHEET VINYL

FLOOR FINISHES
S SEALER
FF FACTORY FINISH
EC EPOXY COATING
NEC NONE-SLIP EPOXY COATING

WALL MATERIALS
W1 GYPSUM WALL BOARD
W2 EXPOSED STRUCTURE

WALL FINISHES
PT PAINT
FF FACTORY FINISH

CEILING MATERIALS
C1 GYPSUM BOARD
C2 EXPOSED STRUCTURE

CEILING FINISHES
PT PAINT
FF FACTORY FINISH

PAINT
P1 SHERWIN WILLIAMS
P2 SHERWIN WILLIAMS

EXTERIOR FINISH

EXTERIOR ROOF AND WALL FINISH

EXTERIOR METAL WALL PANELS: AEP DESIGN;
COLOR:

EXTERIOR METAL ROOF PANELS;
AEP DESIGN SPAN HP STANDING SEAM METAL ROOF PANELS
COLOR:

EXTERIOR METAL ROOF FLASHING:
MATCH COLOR OF METAL ROOF PANELS, TYPICAL

DOOR HARDWARE NOTES

1. DOOR OPERATION OF EGRESS DOORS SHALL BE READILY OPERABLE FROM EGRESS SIDE WITHOUT THE USE OF A KEY OR SPECIAL KNOWLEDGE OR EFFORT.
2. DOOR HANDLES, PULLS, LATCHES, LOCKS, AND OTHER OPERATING DEVICES ON DOORS REQUIRED TO BE ACCESSIBLE SHALL NOT REQUIRE TIGHT GRASPING, TIGHT PINCHING, OR TWISTING OF THE WRIST TO OPERATE.

BUILDING ENVELOPE REQUIREMENTS:
1. OPAQUE DOORS- SWINGING: U-0.50
2. STOREFRONT OR ALUMINUM CURTAIN WALL SYSTEM VERTICAL FENESTRATION METRAL FRAMING WITH OR WITHOUT THERMAL BREAK : U-0.40
3. ENTRANCE DOORS VERTICAL FENESTRATION METAL FRAMING WITH OR WITHOUT THERMAL BREAK : U-0.80
4. VERTICAL FENESTRATION - SHGC - PF<0.25: U-0.45
5. VERTICAL FENESTRATION - SHGC - PF>/=0.25: NO REQUIREMENT

DOOR ABBREVIATIONS

MATERIALS
ALUM ALUMINUM
IHM INSULATED HOLLOW METAL
TBIHM THERMALLY BROKEN INSULATED HOLLOW METAL

FINISHES
ANOD ANODIZED
FF FACTORY FINISH
PT PAINT

GLAZING TYPES
IGL INSULATED GLAZING

SAFETY GLAZING

GL-1 FULLY TEMPERED INSULATED GLAZING

GL-2 MONOLITHIC FULLY TEMPERED FLOAT GLAZING

SAFETY GLAZING

SAFETY GLAZING LOCATIONS: PER IBC SECTION 2406.4, SAFETY (TEMPERED) GLAZING SHALL BE PROVIDED AT THE FOLLOWING LOCATIONS:
1. GLAZING IN DOORS.
2. GLAZING LOCATED WITHIN 24 INCHES OF EITHER VERTICAL EDGE OF A DOOR WHERE THE BOTTOM EDGE OF THE GLAZING IS LESS THAN 60 INCHES ABOVE THE WALKING SURFACE.
3. GLAZING IN WINDOWS WHERE THE BOTTOM EDGE IS LESS THAN 18 INCHES ABOVE THE FLOOR, AND THE TOP EDGE IS GREATER THAN 36 INCHES ABOVE THE FLOOR.

DOOR HARDWARE GROUP

HW-1 - SWING DOOR

QTY.	DESCRIPTION	FINISH	MANUFACTURES
3 EA	HINGES	630	IVES
1 EA	CLASSROOM LOCKSET	626	SCHLAGE
1 EA	KICK PLATE	630	IVES
1 EA	DOOR SWEEP	600	NATUNAL GUARD PRODUCTS
1 SET	WEATHERSTRIPPING	BK	ZERO
1 EA	CLOSER	626	LCN
1 EA	THRESHOLD	AL	NATUNAL GUARD PRODUCTS

HW-2 - DCUBLE DOOR WITH TRANSOM

QTY.	DESCRIPTION	FINISH	MANUFACTIRES
6 EA	HINGES	630	IVES
1 EA	STOREROOM LOCKSET	626	SCHLAGE
1 EA	KICK PLATE	630	IVES
1 EA	DOOR SWEEP	600	NATUNAL GUARD PRODUCTS
1 SET	WEATHERSTRIPPING	BK	ZERO
1 EA	CLOSER	626	LCN
1 EA	THRESHOLD	AL	NATUNAL GUARD PRODUCTS

HW-3 - OVERHEAD DOOR

DOOR HARDWARE FOR MANUFACTURER

GENERAL NOTES

1. REFER TO WRITTEN SPECIFICATIONS FOR DOOR HARDWARE
2. THE DOOR SWING INDICATED ON THE DOORS SHALL SWING TO THE MAXIMUM EXTENT (BEYOND 90 DEG.) WHERE NOT OBSTRUCTED BY ADJACENT WALLS.
3. ALL DOORS TO HAVE ADA COMPLIANT LEVER STYLE HANDLES, TYPICAL

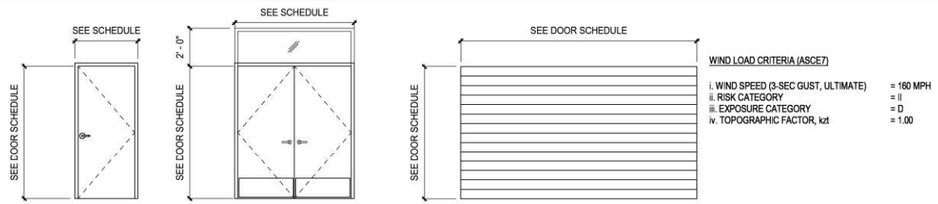
DOOR SCHEDULE

NO.	SIZE		DOOR				FRAME			LOW VOLTAGE	HARDWARE GROUP	RATING	DETAILS			COMMENTS
	WIDTH	HEIGHT	TYPE	MATERIAL	FINISH	GLASS	TYPE	MATERIAL	FINISH				HEAD	JAMB	THRESHOLD	
101-01	3' - 0"	7' - 0"	A	MTL	FF		A	MTL	PT		HW-1	-	3/A503	2/A503	1/A503	1, 4, 5
101-02	12' - 0"	10' - 0"	C	MTL	FF		C	MTL	PT		HW-3	-	6/A503	2/A503	1/A503	3, 5
102-01	6' - 0"	7' - 0"	Z	MTL	FF		B	MTL	PT		HW-2	GL-1	7/A503	2/A503	1/A503	2

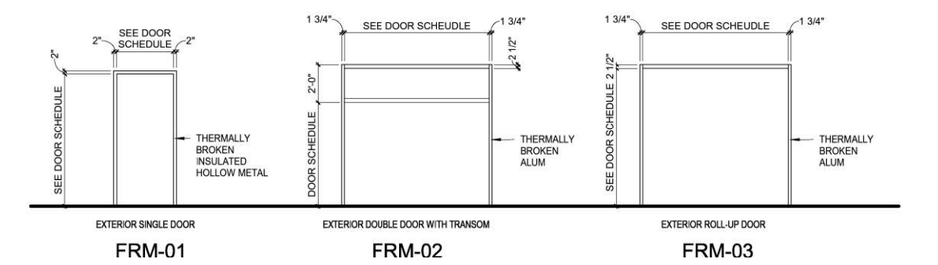
DOOR REMARKS

1. SINGLE SWING INSULATED DOOR
2. DOUBLE SWING INSULATED DOOR WITH TRANSOM
3. OVERHEAD INSULATED DOOR - MANUAL LIFT OPERATED

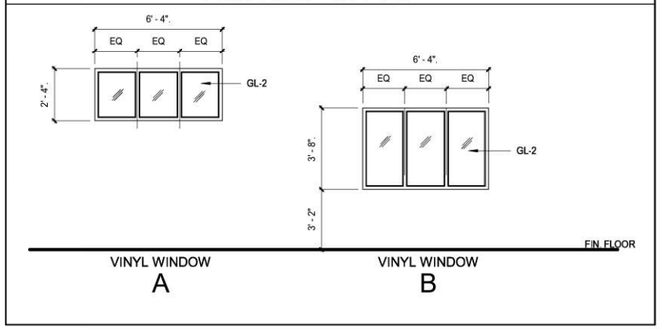
DOOR TYPES



DOOR FRAME TYPES



WINDOW TYPES



REVISIONS

REV	DATE	DESCRIPTION	BY

CITY OF KODIAK ALASKA

STATE OF ALASKA 49TH DAVID L. MOORE REGISTERED PROFESSIONAL ARCHITECT

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KODIAK LIFT STATION 5
KODIAK, ALASKA

SCHEDULES

KODIAK, ALASKA

CHECKED BY:	DLM
DESIGNED BY:	WVZ
DRAWN BY:	WVZ
DATE:	11-29-2022
LOCATION	KODIAK
S32 T27S R19W SM	
PROJECT:	21058.01

SHEET
A601

ABBREVIATIONS

A	COMPRESSED AIR	EXT	EXTERIOR	LAT	LEAVING AIR TEMPERATURE	RAT	RETURN AIR TEMPERATURE
ADA	AMERICAN DISABILITIES ACT	F	FAHRENHEIT	LB	POUND	RCP	REFLECTED CEILING PLAN
AFF	ABOVE FINISHED FLOOR	FA	FREE AREA	LF	LINEAR FEET	RECIRC	RECIRCULATE
AMP	AMPERE	FCO	FLOOR CLEANOUT	LWT	LEAVING WATER TEMPERATURE	RH	RELATIVE HUMIDITY
AP	ACCESS PANEL	FD-X	FLOOR DRAIN DESG.	M/A	MIXED AIR	RHC-X	REHEAT COIL DESG.
APD	AIR PRESSURE DROP	FDC	FIRE DEPARTMENT CONNECTION,	MAT	MIXED AIR TEMPERATURE	RPM	REVOLUTIONS PER MINUTE
APPROX	APPROXIMATELY	FIN	FINISH	MAX	MAXIMUM	S/A	SUPPLY AIR
ARCH	ARCHITECT	FLR	FLOOR	MBH	1,000 BTU/HR	SAN	SANITARY
AS-X	AIR SEPARATOR DESG.	FO	FUEL OIL	MC	MECHANICAL CONTRACTOR	SHT	SHEET
BDD	BACKDRAFT DAMPER	FOR	FUEL OIL RETURN	MECH	MECHANICAL	SPEC	SPECIFICATIONS
BLDG	BUILDING	FOS	FUEL OIL SUPPLY	MIN	MINIMUM	SS	SANITARY SEWER
B-X	BOILER DESG.	FOT-X	FUEL OIL TANK DESG.	MISC	MISCELLANEOUS	STRUCT	STRUCTURAL
BOD	BOTTOM OF DUCT	FOV	FUEL OIL VENT	MOD	MOTOR OPERATED DAMPER	T&P	TEMPERATURE & PRES VALVE
BTU	BRITISH THERMAL UNIT	FP-X	FIRE PUMP DESG.	MOV	MOTOR OPERATED VALVE	TAB	TEST & BALANCE
BV	BALL VALVE	FPM	FEET PER MINUTE	MTD	MOUNTED	T/A	TRANSFER AIR
CD	CONDENSATE DRAIN	FPS	FEET PER SECOND	MVD	MANUAL VOLUME DAMPER	TD-X	TRENCH DRAIN DESG.
CFM	CUBIC FEET PER MINUTE	FSC	FAN SPEED CONTROLLER	NC	NORMALLY CLOSED	TDH	TOTAL DYNAMIC HEAD
CLG	CEILING	FWT-X	FIRE WATER TANK DESG.	N.C.	NOISE CRITERIA	TEMP	TEMPERATURE
CO	CLEAN OUT	GA	GAGE	NIC	NOT IN CONTRACT	TMV-X	THERMOSTATIC MIXING VALVE
CO2	CARBON DIOXIDE	GAL	GALLON	NO	NORMALLY OPEN	TSTAT	THERMOSTAT
CONT	CONTINUATION	GALV	GALVANIZED	NO.	NUMBER	TYP	TYPICAL
CP-X	CIRCULATING PUMP DESG.	GC	GENERAL CONTRACTOR	NTS	NOT TO SCALE	UH-X	UNIT HEATER DESG.
CV	CONTROL VALVE	GPD	GALLON PER DAY	OA	OUTSIDE AIR	V	VENT
CW	COLD WATER	GT-X	GLYCOL TANK DESG.	OAT	OUTSIDE AIR TEMPERATURE	VA	VOLT AMPERE
DA	DENTAL AIR	HB-X	HOSE BIB DESG.	OBD	OPPOSED BLADE DAMPER	VEL	VELOCITY
DB	DECIBEL(S)	HD	HEAD	OD	OUTSIDE DIAMETER	VERT	VERTICAL
DB	DRY BULB TEMPERATURE	HOA	HAND, OFF, AUTO STATION	OF/CI	OWNER FURN./CONTR. INST.	VF-X	VENT FAN DESG.
DDC	DIRECT DIGITAL CONTROL	HP	HORSEPOWER	OF/OI	OWNER FURN./OWNER INST.	VFD	VARIABLE FREQUENCY DRIVE
DEG	DEGREE	HT	HEIGHT	OS&Y	OPEN SCREW & YOKE	VOL	VOLUME
DISCH	DISCHARGE	HW	HOT WATER	OWS-X	OIL/WATER SEPARATOR DESG.	VTR	VENT THROUGH THE ROOF
DPS	DIFFERENTIAL PRES. SENSOR	HWG-X	HOT WATER GENERATOR DESG.	O/W	OIL WASTE	W	WASTE
DT-X	DAY TANK DESG.	HGR	HEATING GLYCOL RETURN	OZ	OUNCE	W/	WITH
DWG	DRAWING	HGS	HEATING GLYCOL SUPPLY	P-X	PLUMBING FIXTURE DESG.	W/O	WITHOUT
DWV	DRAIN, WASTE, AND VENT	HWR	HEATING WATER RETURN	PD	PRESSURE DROP	WCO	WALL CLEAN OUT
E/A	EXHAUST AIR	HWS	HEATING WATER SUPPLY	PH	PHASE (ELECTRIC)	WHA	WATER HAMMER ARRESTOR
EAT	ENTERING AIR TEMPERATURE	HRV-X	HEAT RECOVERY VENT. DESG.	PHC-X	PREHEAT COIL DESG.	WTR	WATER
EF-X	EXHAUST FAN DESG.	HX-X	HEAT EXCHANGER DESG.	PLMB	PLUMBING	'X'	AIR INLET/OUTLET DESG,
EFF	EFFICIENCY	ID	INSIDE DIAMETER	POC	POINT OF CONNECTION	YCO	YARD CLEANOUT
EL	ELEVATION	IN WC	INCHES, WATER COLUMN	PRES	PRESSURE		
ELEC	ELECTRIC	INCL	INCLUDE	PSF	POUNDS PER SQUARE FOOT		
ENT	ENTERING	INSUL	INSULATION	PSI	POUNDS PER SQUARE INCH		
ESP	EXTERNAL STATIC PRESSURE	JP-X	JOCKEY PUMP DESG.	PT-X	PRESSURE TANK DESG.		
ET-X	EXPANSION TANK DESG.	KW	KILOWATT	QTY	QUANTITY		
EWT	ENTERING WATER TEMPERATURE	KWH	KILOWATT HOUR	R/A	RETURN AIR		

HVAC LEGEND

- 16/12 — DUCT SIZE (W"xH")
- 16x12 — EXTERIOR DUCT INSULATION
- M — MOTORIZED DAMPER
- VD — VOLUME DAMPER
- DUCT ELBOW
- SUPPLY DUCT UP
- SUPPLY DUCT DOWN
- RETURN DUCT UP
- RETURN DUCT DOWN
- EXHAUST DUCT UP
- EXHAUST DUCT DOWN

PIPING LEGEND

- HGS — HEATING GLYCOL (WATER) SUPPLY
- HGR — HEATING GLYCOL (WATER) RETURN
- PIPE UP
- PIPE DOWN
- PIPE ELBOW
- PIPE TEE
- BALL VALVE
- OS&Y VALVE
- M — MOTORIZED CONTROL VALVE
- T — TEMPERATURE SENSOR
- UNIT HEATER
- CHECK VALVE
- PIPE CAP
- PUMP
- AIR VENT
- STRAINER W/ BLOWDOWN
- RELIEF VALVE
- BALANCE VALVE/CIRCUIT SETTER
- PRESSURE GAUGE
- THERMOMETER
- PROPELLER FAN

FANS

TAG	LOCATION	SERVICE	CAPACITY (CFM)	EXT S.P. (IN H20)	MOTOR POWER	VOLTAGE & PHASE (VAC/PH)	FAN SPEED (RPM)	MAKE & MODEL	NOTES
EF-1	WET WELL	ODOR CONTROL	1050	0.25	1/8 HP	120/1	1550	GREENHECK SE1-12-432-D	DIRECT DRIVE PROPELLER, NON-SPARKING CONSTRUCTION W/EXPLOSION-PROOF MOTOR, & BACKDRAFT DAMPER
EF-2	ELECTRICAL ROOM	COOLING	2000	0.25	1/4 HP	120/1	1750	GREENHECK SE1-14-432-A4	DIRECT DRIVE PROPELLER, W/ BACKDRAFT DAMPER

ELECTRIC UNIT HEATERS

TAG	CAPACITY (kW)	SERVICE	AIRFLOW (CFM)	FAN MOTOR HP	TEMPERATURE RISE (°F)	VOLTAGE & PHASE (V/PH)	MAKE & MODEL	NOTES
UH-1	5.0	WET WELL	500	1/2	25°F	480/3	MODINE HEX5-480360-3.0	EXPLOSION-PROOF W/ INTEGRAL THERMOSTAT
UH-2	3.0	ELECTRICAL ROOM	380	1/40	31°F	480/3	MODINE HER 30C 3301	INTEGRAL THERMOSTAT

REVISIONS

REV	DATE	DESCRIPTION	BY

CITY OF KODIAK ALASKA

STATE OF ALASKA 49TH — Zachary B. Baldrick ME-14283 REGISTERED PROFESSIONAL ENGINEER — 11/29/22

EDC, INC.
213 W. FIREWEED LANE
ANCHORAGE, AK 99503
(907) 276-7933
LICENSE NO. AECC705

KODIAK SANITARY SEWER
LIFT STATION 5

MECHANICAL LEGEND, ABBREVIATIONS AND GENERAL NOTES

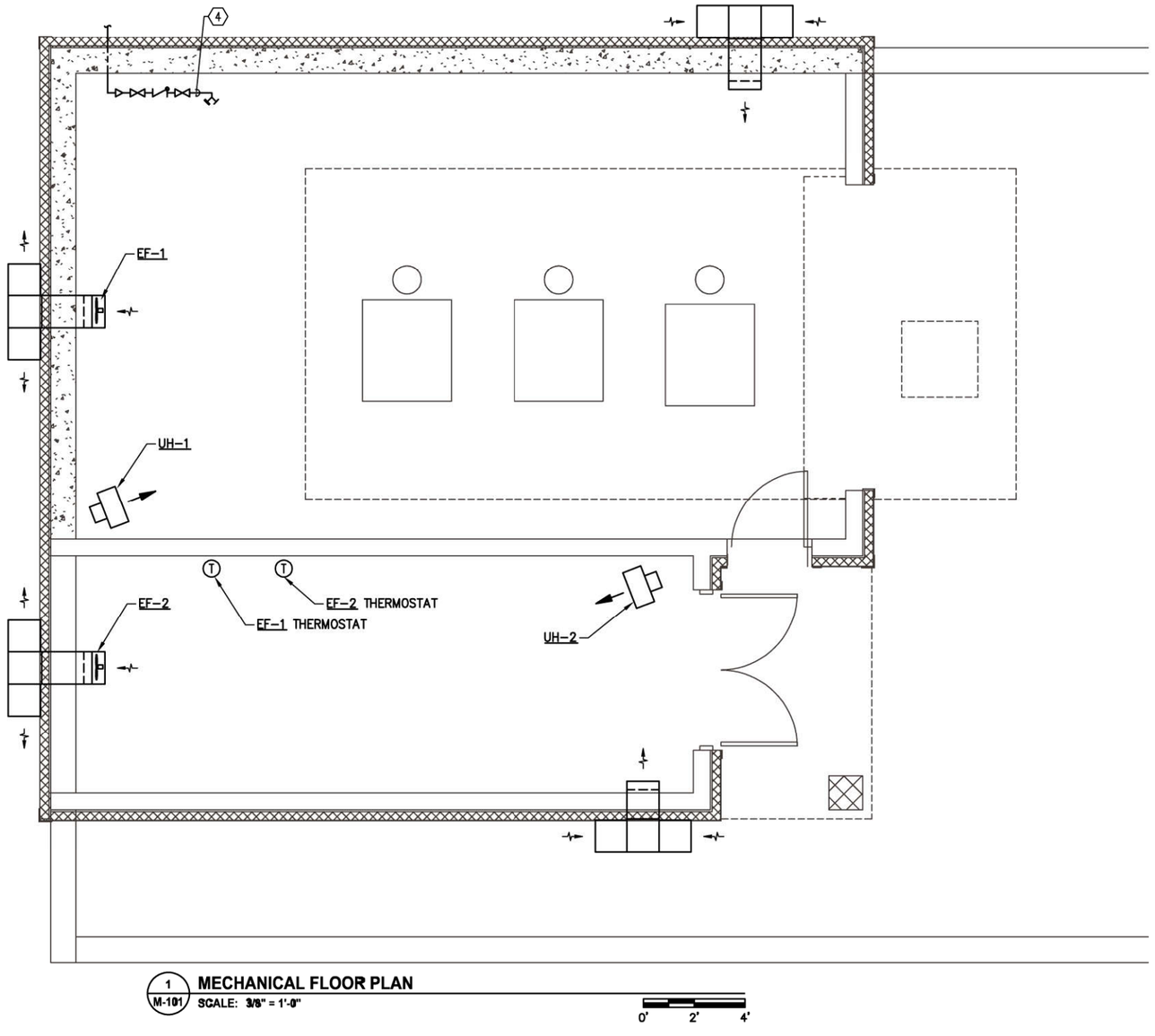
KODIAK, ALASKA

CHECKED BY:	ZB
DESIGNED BY:	ZB
DRAWN BY:	ZB
DATE	NOVEMBER 2022
LOCATION	KODIAK
	S32 T27S R19W SM
PN	1128.63263.01

SHEET
M-001

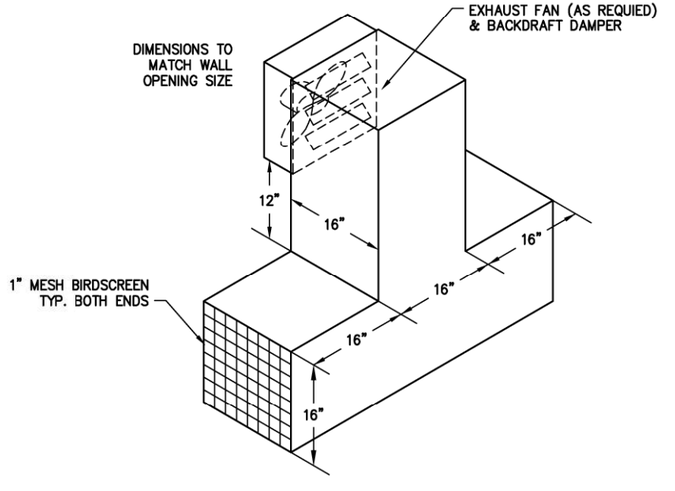
SHEET NOTES

1. INSTALL NEW UNIT HEATERS 9-FT AFF. UNIT HEATERS ARE CONTROLLED VIA INTEGRAL THERMOSTAT.
2. WALL PENETRATIONS FOR VENTILATION HOODS SHALL BE 10-FT AFF.
3. EF-1 THERMOSTAT W/ REMOTE SENSING BULB THRU WALL TO PUMP ROOM. SEAL PENETRATION.
4. 3/4" CW HOSE BIB FOR MAINTENANCE WASHDOWN. 3/4" PEX PIPING. 1" PEX THRU THE WALL WITH LINK SEAL PIPE SLEEVE OR EQUAL. 3/4" REDUCED PRESSUE ZONE ASSEMBLY BACKFLOW PREVENTER.



1 M-101 **MECHANICAL FLOOR PLAN**
SCALE: 3/8" = 1'-0"

0' 2' 4'



2 M-101 **EXHAUST FAN & SNOW HOOD DETAIL**
SCALE: NTS

REVISIONS

REV	DATE	DESCRIPTION	BY

CITY OF KODIAK ALASKA

STATE OF ALASKA 49TH
Zachary B. Baldrick
ME-14283
REGISTERED PROFESSIONAL ENGINEER
11/29/22

EDC, INC.
213 W. FIREWEED LANE
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(907) 276-7933
LICENSE NO. AECC705

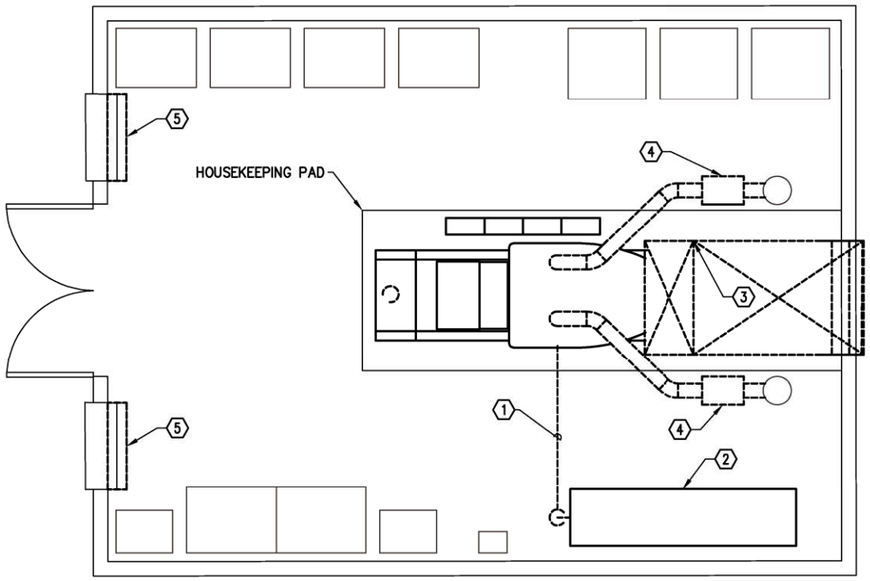
KODIAK SANITARY SEWER
LIFT STATION 5

LIFT STATION 5 MECHANICAL FLOOR PLAN

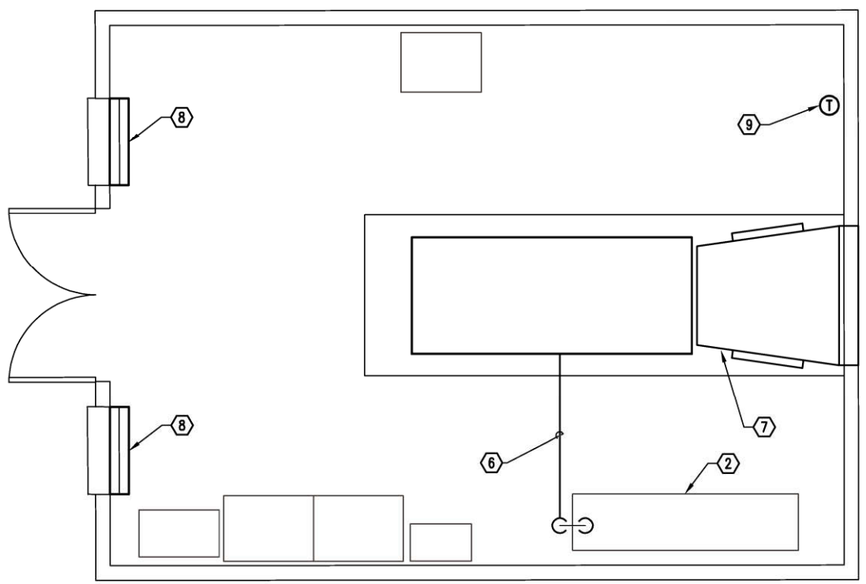
KODIAK, ALASKA

CHECKED BY:	ZB
DESIGNED BY:	ZB
DRAWN BY:	ZB
DATE	NOVEMBER 2022
LOCATION	KODIAK
	S32 T27S R19W SM
PN	1128.63263.01

SHEET
M-101



1 M-201 **LIFT STATION 5 GENERATOR BUILDING PLAN - MECHANICAL DEMOLITION**
SCALE: 3/8" = 1'-0"
0' 2' 4'



2 E301 **LIFT STATION 5 GENERATOR BUILDING PLAN - MECHANICAL NEW WORK**
SCALE: 3/8" = 1'-0"
0' 2' 4'

GENERAL SHEET NOTES

1. DEMOLISH ALL MECHANICAL EQUIPMENT ASSOCIATED WITH THE GENERATOR INCLUDING DUCTING, PIPING, VALVES, ETC. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS.
2. DISPOSE OF ALL EQUIPMENT NOT RETAINED BY OWNER AT AN APPROVED OFF-SITE LOCATION.
3. COORDINATE ALL WORK WITH ELECTRICAL EQUIPMENT DEMOLITION.
4. ALL DUCTING SHALL CONFORM TO SMACNA STANDARDS.
5. FUEL PIPING SHALL BE SCH 40 BLACK STEEL W/ THREADED FITTINGS.

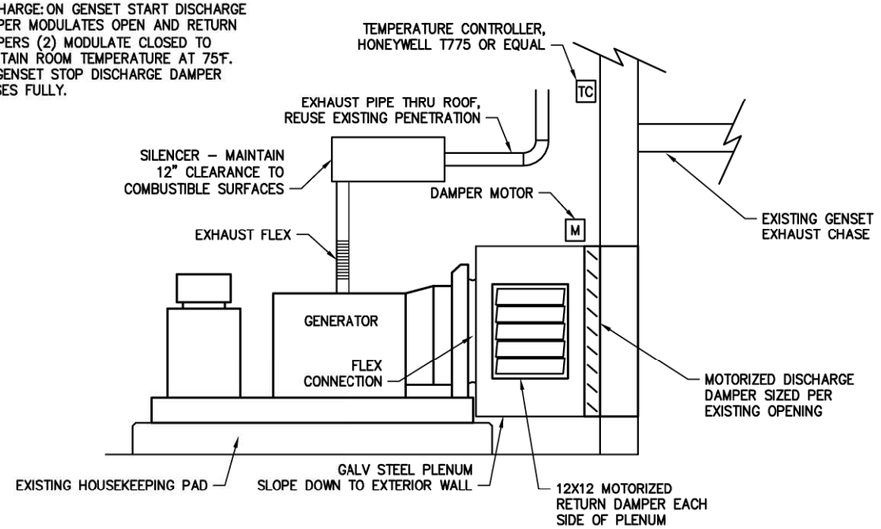
SHEET NOTES

1. DEMOLISH EXISTING 1" FOS AND FOR PIPING.
2. EXISTING FUEL TANK TO REMAIN.
3. DEMOLISH EXISTING RADIATOR EXHAUST DUCTING.
4. DEMOLISH EXISTING COMBUSTION EXHAUST DUCTING.
5. DEMOLISH EXISTING 24X24 INTAKE LOUVERS (TYP OF 2).
6. 1" FOS AND FOR PIPING WITH HIGH POINT AAV.
7. RADIATOR EXHAUST DUCTING. SEE DETAIL 3.
8. 24X24 MOTORIZED INTAKE DAMPER (TYPE OF 2).
9. COOLING ONLY THERMOSTAT TO CONTROL EXISTING EXHAUST FAN.

SEQUENCE OF OPERATION:

INTAKE: ON GENSET START INTAKE DAMPERS OPEN FULLY. ON GENSET STOP INTAKE DAMPERS CLOSE FULLY.

DISCHARGE: ON GENSET START DISCHARGE DAMPER MODULATES OPEN AND RETURN DAMPERS (2) MODULATE CLOSED TO MAINTAIN ROOM TEMPERATURE AT 75°F. ON GENSET STOP DISCHARGE DAMPER CLOSES FULLY.



3 E301 **LIFT STATION 5 GENERATOR BUILDING PLAN - GENERATOR DETAILS**
SCALE: NTS

REV	DATE	REVISIONS DESCRIPTION	BY

CITY OF KODIAK ALASKA

STATE OF ALASKA 49TH
Zachary B. Baldrick
ME-14283
REGISTERED PROFESSIONAL ENGINEER
11/29/22

EDC, INC.
213 W. FIREWEED LANE
ANCHORAGE, AK 99503
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LICENSE NO. AECC705

KODIAK SANITARY SEWER
LIFT STATION 5
GENERATOR BUILDING MECHANICAL PLANS AND DETAIL
KODIAK, ALASKA

CHECKED BY:	ZB
DESIGNED BY:	ZB
DRAWN BY:	ZB
DATE	NOVEMBER 2022
LOCATION	KODIAK
	S32 T27S R19W SM
PN	1128.63263.01

SHEET
M-201

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION
	EXPOSED CONDUIT
	UNDERGROUND CONDUIT
	3/4" X 10' COPPER CLAD STEEL GROUND ROD
	CONDUIT RUN – CHANGE IN ELEVATION
	LIQUID–TIGHT FLEXIBLE METALLIC CONDUIT
	HOME RUN
UE	UNDERGROUND ELECTRIC
OE	OVERHEAD ELECTRIC
KWH	KILOWATT–HOUR METER
	PANELBOARD
XX/YY	MOLDED CASE CIRCUIT BREAKER, X = AMPERE RATING, Y = NO. OF POLES
M	MOTOR, 3–PHASE
M	MOTOR, SINGLE PHASE
MS	MOTOR STARTER – COMBINATION
DS	DISCONNECT SWITCH
$	20A, 277V, SINGLE–POLE SWITCH
$T	MOTOR STARTER – MANUAL
	20A, 120V SIMPLEX RECEPTACLE NEMA 5–20R
GFI	20A, 120V GFI RECEPTACLE NEMA 5–20R
	20A, 120V DUPLEX RECEPTACLE NEMA 5–20R
J	JUNCTION BOX OR FITTING
	EMERGENCY PUSH BUTTON
	FLOAT SWITCH
	SEAL–OFF FITTING
M	MOTORIZED DAMPER
	TRANSDUCER
	OTHER SYMBOLS ARE AS DEFINED BY NOTE.

LUMINAIRE SCHEDULE

TYPE	LUMINAIRE SYMBOL	LAMP SIZE	MOUNTING	DESCRIPTION
L1		54W LED	CEILING @ 14'–8" AFF	CID1 HAZARDOUS LOCATION LINEAR LED, 120V, 4' LENGTH, 7,291 LUMEN, 4,000K CCT, 80 CRI. AZZ CAT# XML–07–L–C–4–U
L2		39W LED	CEILING @ 12' AFF	LINEAR LED, 120V, 4' LENGTH, 3,856 LUMEN, 4,000K CCT, 80 CRI, LITHONIA CAT# ZL1F–L48–4500LM–MVOLT –40K–80CRI
L3		22W LED	WALL @ 15' AFG	EXTERIOR FLOOD LED, 120V, 2,950 LUMEN, 4,000K CCT, LITHONIA CAT# TWX1LED–P2–40K–MVOLT
L4		27W LED	EXTERIOR CEILING	EXTERIOR CANOPY LED, 120V, 3,778 LUMEN, 4,000K CCT, TYPE V, WITH EMERGENCY BACKUP, LITHONIA CAT# VCPGXLED–V4–P1–40K–80 CRI–T5E–MVOLT–E10WH
EM1		6W LED	WALL @ 8' AFF	INDUSTRIAL EMERGENCY LED WITH 90 MINUTE BATTERY, 120V, 640 LUMEN, LITHONIA CAT# EML4L.
EM2		4W LED	WALL @ 8' AFF	INDUSTRIAL HAZARDOUS LOCATION (CID1) EMERGENCY LED WITH 3–HOUR BATTERY, 120V, AZZ CAT# XPEL–U–2–0–M.

INSTRUMENT IDENTIFIER

XX / YY

XX = FUNCTION / YY = LOOP

AE	ANALYZING ELEMENT
AI	ANALYZING INDICATOR
AIT	ANALYZING INDICATING TRANSMITTER
CL	CLOSED (FULLY)
E(x)A	VOLTAGE ALARM (X = AC OR DC)
ECA	EMERGENCY POWER AVAILABLE/UPS FAULT
EDCC	BATTERY SYSTEM TEST
EDCT	DC SYSTEM VOLTAGE
ESD	EMERGENCY SHUTDOWN
FL	FAULT LIGHT
HOA	HAND–OFF–AUTO
HS	HAND SWITCH
LAL	LEVEL ALARM LOW
LAH	LEVEL ALARM HIGH
LCS	LOCAL CONTROL STATION
LEL	LOWER EXPLOSIVE LIMIT
LI	LEVEL INDICATOR
LS	LEVEL SWITCH
LSH	LEVEL SWITCH HIGH
LSHH	LEVEL SWITCH HIGH HIGH
LSL	LEVEL SWITCH LOW
LSLL	LEVEL SWITCH LOW LOW
LT	LEVEL TRANSMITTER
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
OIT	OPERATOR INTERFACE TERMINAL
O/O	ON/OFF
TE	TEMPERATURE ELEMENT
TT	TEMPERATURE TRANSMITTER
YA	FAULT INDICATION
YAL	PILOT LAMP
YC	RUN REQUEST
YL	RUN STATUS
ZS	INTRUSION/POSITION SWITCH

ELECTRICAL ABBREVIATIONS

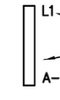
A	ANALOG SIGNAL, AMPERE
AFF	ABOVE FINISH FLOOR
AFG	ABOVE FINISH GRADE
AI	ANALOG INPUT
AO	ANALOG OUTPUT
BCU	BARE COPPER
C	CONDUIT
CID1	CLASS I, DIVISION 1, GROUP D
CKSS	CITY OF KODIAK STANDARD SPECIFICATIONS
CP	CONTROL PANEL
CT	CURRENT TRANSFORMER
CU	COPPER
D	DIGITAL SIGNAL
DEG	DEGREES
DI	DIGITAL INPUT
DO	DIGITAL OUTPUT
DPDT	DOUBLE POLE DOUBLE THROW
E	EMERGENCY
F	FRACTIONAL
FLA	FULL LOAD AMPERES
G	GROUND CONDUCTOR
GES	GROUNDING ELECTRODE SYSTEM
GFI	GROUND FAULT INTERRUPTING
GRC	GALVANIZED RIGID (STEEL) CONDUIT
GRD	GROUND
HDPE	HIGH DENSITY POLYETHYLENE (CONDUIT)
HP	HORSEPOWER
ISB	INTRINSICALLY SAFE BARRIER
KEA	KODIAK ELECTRIC ASSOCIATION
KVA	KILO–VOLT–AMPERES
LCP	LOCAL CONTROL PANEL
LS5	LIFT STATION 5
LSIG	LONG–TIME, SHORT–TIME, INSTANTANEOUS, GROUND–FAULT
LTF	LIQUID TIGHT FLEXIBLE CONDUIT (METALLIC)
MDP	MAIN DISTRIBUTION PANEL
MFR	MANUFACTURER
MLO	MAIN LUG ONLY
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE – NFPA 70
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN, NUMBER
PH	PHASE
PLC	PROGRAMMABLE LOGIC CONTROLLER
PM	POWER MONITOR
POE	POWER OVER ETHERNET
PR	PAIR
RVSS	REDUCED VOLTAGE SOFT START
SFP	SMALL FORM–FACTOR PLUGABLE (MODULE)
SIG	SIGNAL
SPD	SURGE–PROTECTION DEVICE
SS	STAINLESS STEEL
TWSH	TWISTED WIRE SHIELDED
TYP	TYPICAL
UG	UNDERGROUND
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPPLY
V	VOLTS
VFD	VARIABLE FREQUENCY DRIVE
W	WATTS
WP	WEATHERPROOF
WWTP	WASTEWATER TREATMENT PLANT
XFMR	TRANSFORMER
XP	EXPLOSION PROOF

GENERAL NOTES

1. ALL ELECTRICAL WORK SHALL BE INSTALLED IN ACCORDANCE WITH ALL REQUIREMENTS OF THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE (NEC) AND OTHER LOCALLY ADOPTED CODES GOVERNING THE PROJECT. IF DIRECT CONFLICT ARISES BETWEEN DESIGN DOCUMENTS AND GOVERNING CODES, GOVERNING CODES SHALL PREVAIL. ALL WORK SHALL BE PERFORMED UNDER THE SUPERVISION OF A CERTIFIED ELECTRICIAN LICENSED IN THE STATE OF ALASKA.
2. MATERIALS AND EQUIPMENT SHALL BE SPECIFICATION GRADE AND ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION AS SUITABLE FOR THE USE INTENDED. ALL ELECTRICAL EQUIPMENT SHALL INCLUDE THE SEAL OF A NATIONALLY RECOGNIZED TESTING LABORATORY FOR THE PURPOSE FOR WHICH IT IS INSTALLED. WHENEVER POSSIBLE, SIMILAR ITEMS SHALL BE SUPPLIED BY THE SAME MANUFACTURER THROUGHOUT THE PROJECT.
3. CALCULATE, COORDINATE AND PROVIDE THE EQUIPMENT WITH THE SHORT CIRCUIT CURRENT RATING (SCCR) FOR THE AVAILABLE FAULT CURRENT AT THE POINT OF THE SYSTEM WHERE INSTALLED. CALCULATE, COORDINATE AND PROVIDE LABELS ON ALL PANELBOARDS AND SIMILAR EQUIPMENT IN ACCORDANCE WITH NEC PARAGRAPHS 110.16 AND 110.24.
4. DIMENSIONS OF EQUIPMENT ARE APPROXIMATE. INSTALLATION SHALL BE VERIFIED BASED ON ACTUAL MANUFACTURER'S DATA AND SHOP DRAWINGS.
5. SITE WORK AND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS. CONTRACTOR SHALL FIELD LOCATE ALL BURIED INFRASTRUCTURE PRIOR TO COMMENCEMENT OF WORK. THE CONTRACTOR SHALL BEAR ALL COSTS INCURRED DUE TO THE DISTURBING OF BELOW GRADE UTILITIES.
6. ALL SINGLE PHASE BRANCH CIRCUITS SHALL BE 3/4"C, 3#12, AND ALL THREE PHASE BRANCH CIRCUITS SHALL BE 3/4"C, 4#12, UNLESS OTHERWISE NOTED. ALL CIRCUITS SHALL HAVE AN EQUIPMENT GROUNDING CONDUCTOR, OF THE WIRE TYPE, SIZED PER NEC 250.122.
7. CONTRACTOR SHALL SUBMIT REQUEST FOR SUBSTITUTION IN WRITING TO THE ENGINEER.
8. CONTRACTOR SHALL PROVIDE SEISMIC SUPPORT AND DESIGN PER IBC REQUIREMENTS.
9. WHERE EXISTING UNDERGROUND UTILITIES ARE SHOWN ON THE PLANS, MULTIPLE PARALLEL LINES MAY BE ENCOUNTERED IN THE SAME TRENCH OR GENERAL AREA. SINGLE LINES WERE SHOWN FOR CLARITY.
10. CALL BEFORE YOU DIG. ALL UTILITIES MAY NOT BE SHOWN IN THE PLANS. THE CONTRACTOR SHALL FIELD LOCATE ALL UTILITIES WITHIN WORK AREA PRIOR TO COMMENCEMENT OF WORK. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY UTILITY CONFLICTS BETWEEN PROPOSED STRUCTURES & UTILITIES. ADJUSTMENTS OF ALL STRUCTURES MAY BE NECESSARY TO AVOID UTILITY CONFLICTS. ADJUSTMENTS SHALL BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION. HAND DIG WITHIN 36" OF ALL UTILITIES NOT SCHEDULED FOR DEMOLITION.

EQUIPMENT TAG LEGEND

LUMINAIRES



- L1 — LUMINAIRE TYPE
- TYPICAL LUMINAIRE
- A–3a — UPPERCASE LETTER DENOTES PANEL NAME, NUMBER DENOTES CIRCUIT NUMBER(S), LOWERCASE LETTER DENOTES SWITCH LEG

SNAP SWITCHES

- $3,a — NUMBER DENOTES SWITCH CONFIGURATION. LOWER CASE LETTER DENOTES SWITCH LEG.

EQUIPMENT CONNECTIONS

- P–1 — EQUIPMENT TAG
- A–1,3 — LETTER DENOTES PANEL NAME, NUMBER DENOTES CIRCUIT NUMBER(S)

RECEPTACLES

- +48" — HEIGHT ABOVE FINISH FLOOR
- A–1 — LETTER DENOTES PANEL NAME, NUMBER DENOTES CIRCUIT NUMBER(S)

INSTRUMENTATION LEGEND

XX / YY	FIELD MOUNTED INSTRUMENT XX = FUNCTION; YY = TAG NO.
XX / YY	PANEL MOUNTED INSTRUMENT XX = FUNCTION; YY = TAG NO.
XX / YY	PLC MOUNTED INSTRUMENT XX = FUNCTION; YY = TAG NO.
XX / YY	PLC FUNCTION XX = FUNCTION; YY = TAG NO.
XX	PLC CONTROL PANEL XX = CONTROL PANEL NAME / TAG NO.
XX / YY	FIELD MOUNTED INSTRUMENT LIGHT XX = FUNCTION; YY = TAG NO.
XX / YY	PANEL MOUNTED INSTRUMENT LIGHT XX = FUNCTION; YY = TAG NO.

REVISIONS

REV	DATE	DESCRIPTION	BY

CITY OF KODIAK ALASKA

STATE OF ALASKA 49TH — Cory L. Wardrope — EE 129346 — REGISTERED PROFESSIONAL ENGINEER — 11/29/22

EDC, INC.
213 W. FIREWEED LANE
ANCHORAGE, AK 99503
(907) 276-7933
LICENSE NO. AECC705

KODIAK SANITARY SEWER
LIFT STATION 5

ELECTRICAL ABBREVIATIONS LEGENDS AND SCHEDULES

KODIAK, ALASKA

CHECKED BY:	CW
DESIGNED BY:	CW
DRAWN BY:	CW,OM
DATE	NOVEMBER 2022
LOCATION	KODIAK
	S32 T27S R19W SM
PN	1128.63263.01

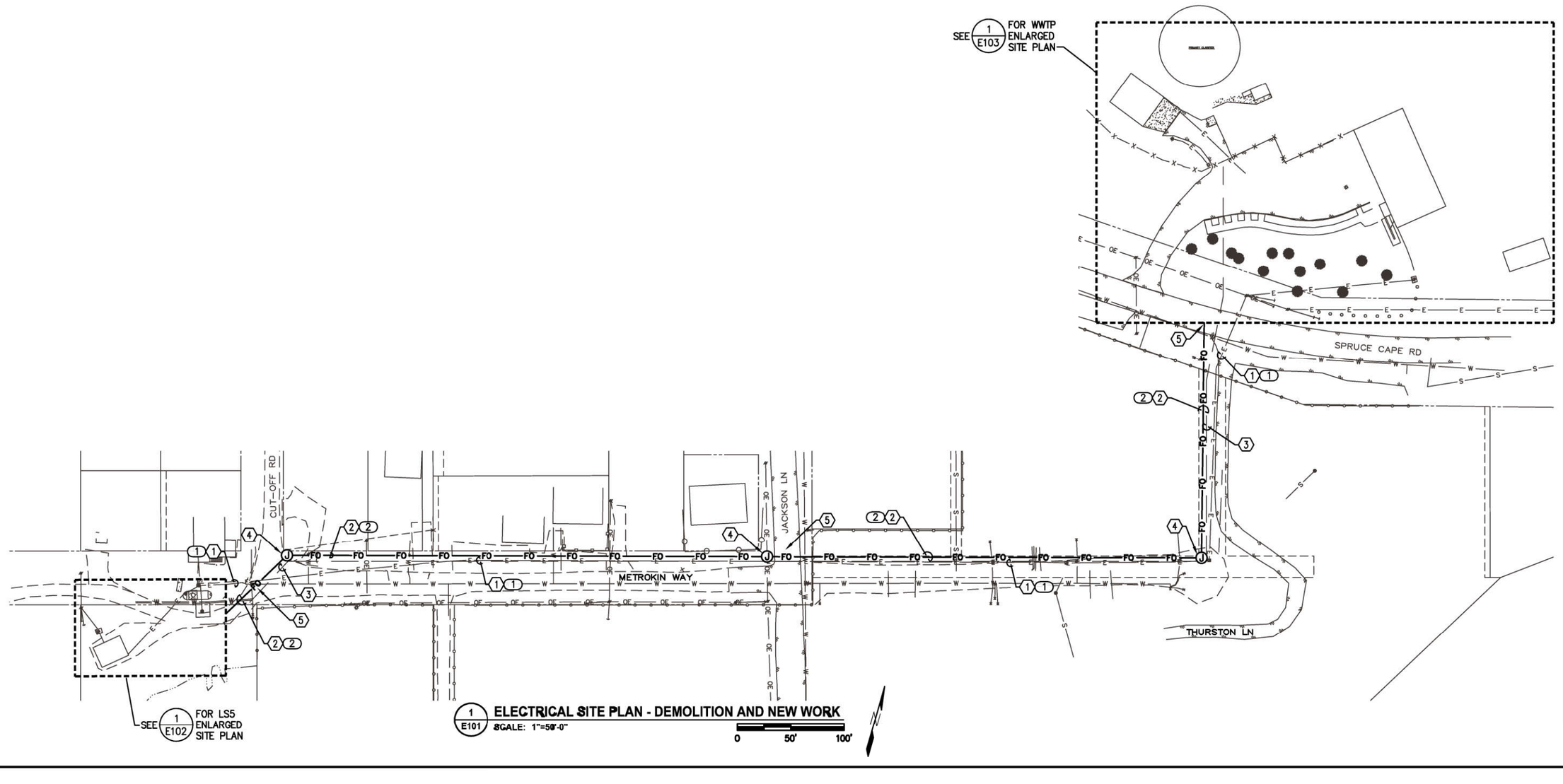
SHEET
E001

SHEET NOTES

1. DEMOLISH STANDBY FEEDER BETWEEN LS5 AND THE WWTP TREATMENT BUILDING WHERE EXPOSED DURING INSTALLATION OF FORCEMAIN AND OPTICAL FIBER COMMUNICATIONS LINE. FIELD LOCATE AND REMOVE BELOW GRADE J-BOXES (TYP. OF 7).
2. PROVIDE NEW OPTICAL FIBER COMMUNICATIONS LINE BETWEEN NEW LS5 AND THE WWTP HEADWORKS BUILDING LCP. INTENT IS FOR OPTICAL FIBER ROUTING TO FOLLOW FORCEMAIN ROUTING. SEE DETAILS ON SHEET E601.
3. NEW FORCEMAIN, SEE CIVIL.
4. BELOW GRADE OPTICAL FIBER JUNCTION BOX. SEE DETAILS ON SHEET E601.
5. ROUTE HDPE CONDUIT IN A 4" GRC SLEEVE AT ROAD CROSSINGS. SEE DETAIL ON SHEET E601.

CIRCUIT SCHEDULE

TAG	DESCRIPTION
1	3-1/2"C, 3#500 (3H), 1#1/0 (G) (PER ASBUILT)
2	2" HDPE, 12-STRAND FO CABLE, 2" HDPE SPARE WITH PULL STRING



1/E101 **ELECTRICAL SITE PLAN - DEMOLITION AND NEW WORK**
SCALE: 1"=50'-0"
0 50' 100'

REVISIONS

REV	DATE	DESCRIPTION	BY

CITY OF KODIAK ALASKA

STATE OF ALASKA 49TH
Cory L. Wardrope
EE 129346
REGISTERED PROFESSIONAL ENGINEER
11/29/22

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213 W. FIREWEED LANE
ANCHORAGE, AK 99503
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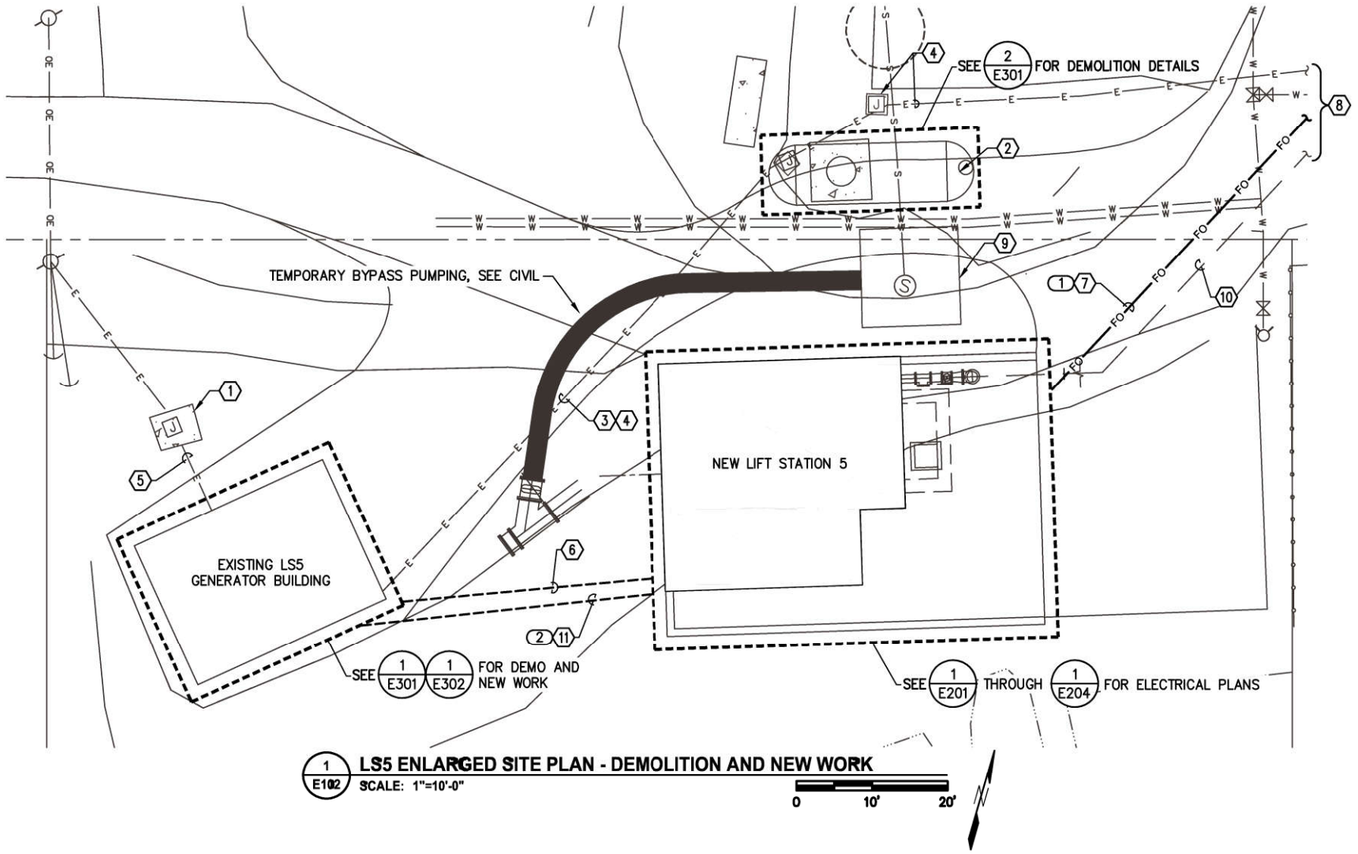
KODIAK SANITARY SEWER
LIFT STATION 5

ELECTRICAL SITE PLAN

KODIAK, ALASKA

CHECKED BY:	CW
DESIGNED BY:	CW
DRAWN BY:	CW,OM
DATE	NOVEMBER 2022
LOCATION	KODIAK
	S32 T27S R19W SM
PN	1128.63263.01

SHEET
E101



1 E102 **LS5 ENLARGED SITE PLAN - DEMOLITION AND NEW WORK**

SCALE: 1"=10'-0"

0 10' 20'

SHEET NOTES

1. EXISTING UTILITY (KEA) TRANSFORMER TO REMAIN.
2. EXISTING LS5 DRY WELL TO BE DEMOLISHED. DEMOLISH ALL ELECTRICAL EQUIPMENT AFTER NEW LIFT STATION IS OPERATIONAL.
3. EXISTING LS5 DRY WELL POWER AND CONTROL CIRCUITS. PROTECT IN PLACE DURING CONSTRUCTION. DEMOLISH AFTER NEW LIFT STATION IS OPERATIONAL. MULTIPLE CIRCUITS EXIST IN THIS AREA. SINGLE LINES ARE USED FOR CLARITY. FIELD VERIFY LOCATIONS TO PREVENT DAMAGE DURING CONSTRUCTION.
4. DEMOLISH STANDBY FEEDER BETWEEN GENERATOR BUILDING AND THE WWTP TREATMENT BUILDING, INCLUDING J-BOXES (APPROXIMATELY SEVEN (7)).
5. APPROXIMATE ROUTING OF EXISTING SERVICE LATERALS. DISCONNECT AND RECONNECT AS REQUIRED FOR SERVICE EQUIPMENT REPLACEMENT. COORDINATE WORK WITH KEA.
6. NEW LS5 FEEDERS; BELOW GRADE, SINGLE LINE SHOWN FOR CLARITY. SEE POWER ONE-LINE DETAIL 1, SHEET E502 FOR DETAILS. SEE SHEET E601 FOR TRENCH DETAILS.
7. OPTICAL FIBER COMMUNICATIONS LINE TO WWTP TREATMENT BUILDING. SEE SHEET E101 AND E103 FOR GENERAL ROUTING.
8. SEE SHEET E101 FOR CONTINUATION.
9. EXISTING LS5 WET WELL TO BE ABANDONED. SALVAGE LEVEL TRANSDUCER AND FLOAT SWITCHES AND TURN OVER TO OWNER. DEMOLISH ASSOCIATED CONDUITS AND CONDUCTORS.
10. NEW FORCEMAIN, SEE CIVIL.
11. NEW BELOW GRADE COMMUNICATIONS LINE BETWEEN CONTROL PANELS. SEE SHEETS E203, E601, AND E702 FOR ADDITIONAL INFORMATION.

E# SEE E502 FOR ELECTRICAL EQUIPMENT SCHEDULE.

CIRCUIT SCHEDULE	
TAG	DESCRIPTION
1	2" HDPE, 12-STRAND FO CABLE, 2" HDPE SPARE WITH PULL STRING
2	2"C, 4PR CAT6 CABLE

REVISIONS

REV	DATE	DESCRIPTION	BY

CITY OF KODIAK ALASKA

STATE OF ALASKA 49TH Cory L. Wardrope EE 129346 REGISTERED PROFESSIONAL ENGINEER 11/29/22

EDC, INC.
213 W. FIREWEED LANE
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(907) 276-7933
LICENSE NO. AECC705

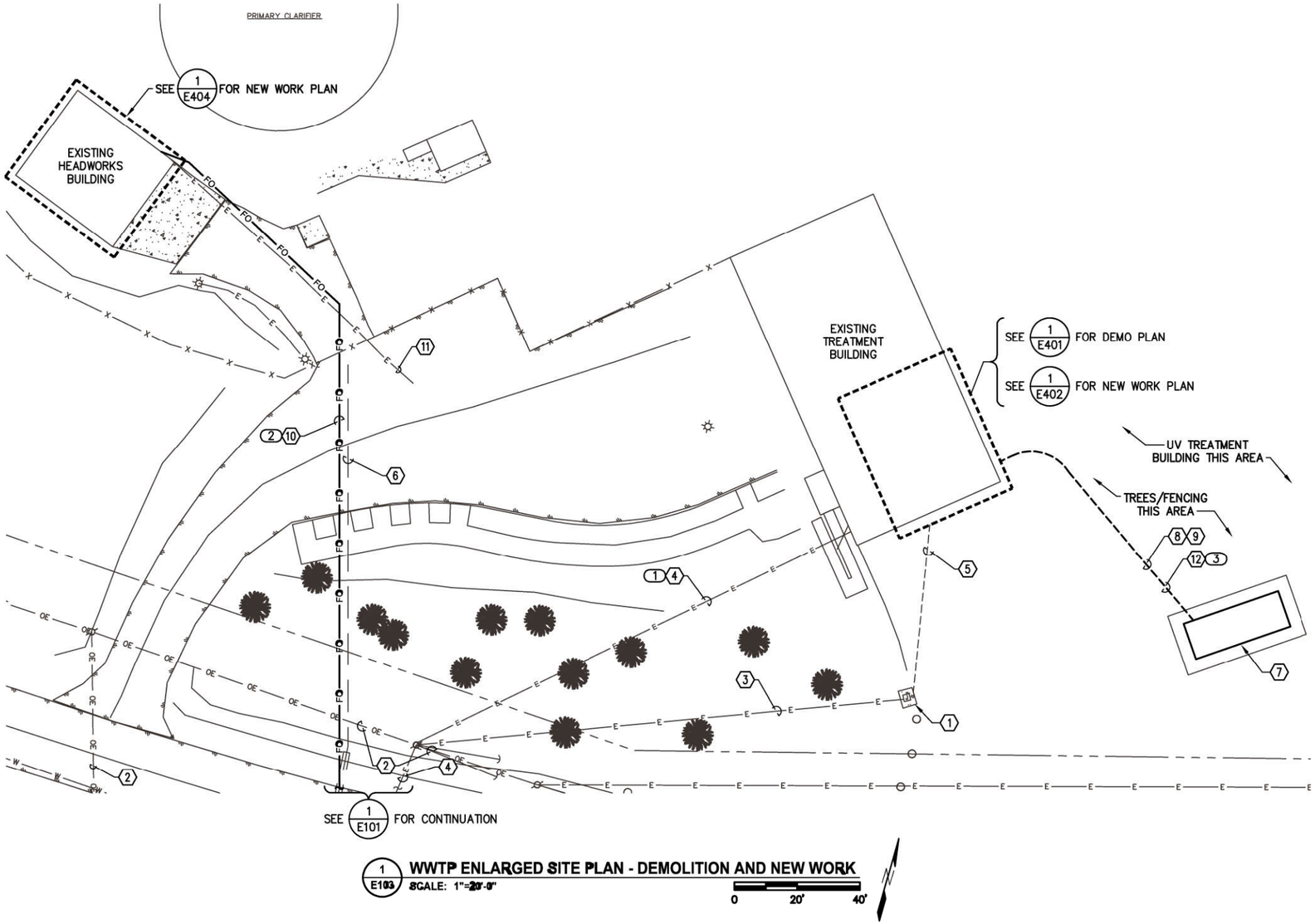
KODIAK SANITARY SEWER
LIFT STATION 5

LS5 ENLARGED SITE PLAN - DEMOLITION AND NEW WORK

KODIAK, ALASKA

CHECKED BY:	CW
DESIGNED BY:	CW
DRAWN BY:	CW,OM
DATE	NOVEMBER 2022
LOCATION	KODIAK
	S32 T27S R19W SM
PN	1128.63263.01

SHEET
E102



1/E103 **WWTP ENLARGED SITE PLAN - DEMOLITION AND NEW WORK**
SCALE: 1"=20'-0"
0 20' 40'

GENERAL SHEET NOTES

1. SEE CIVIL FOR CONTRACTOR SURVEY AND DESIGN REQUIREMENTS ASSOCIATED WITH STANDBY GENERATOR MODULE.
2. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS.
3. SINGLE LINES ARE USED FOR CLARITY WHERE MULTIPLE LINES MAY EXIST.

SHEET NOTES

1. EXISTING UTILITY (KEA) TRANSFORMER TO REMAIN.
2. EXISTING KEA OVERHEAD PRIMARY.
3. EXISTING KEA BELOW GRADE PRIMARY.
4. DEMOLISH BELOW GRADE STANDBY FEEDER BETWEEN TREATMENT BUILDING AND GENERATOR BUILDING. ROUTING SHOWN IS ASSUMED, FIELD VERIFY LOCATION.
5. EXISTING WWTP SERVICE LATERALS. ROUTING SHOWN IS ASSUMED; FIELD VERIFY. DISCONNECT AND RECONNECT AS REQUIRED FOR EQUIPMENT REPLACEMENT. COORDINATE WORK WITH KEA.
6. NEW FORCEMAIN, SEE CIVIL.
7. NEW WWTP STANDBY GENERATOR MODULE. SEE SHEET E403 FOR FLOOR PLAN. LOCATION WILL BE BASED ON CONTRACTOR'S SURVEY AND SITING.
8. PROVIDE NEW STANDBY FEEDER TO TREATMENT BUILDING. SEE POWER ONE-LINE DETAIL 2 ON SHEET E502 FOR FEEDER DETAILS.
9. PROVIDE GENERATOR MODULE FEEDER CIRCUIT. SEE POWER ONE-LINE DETAIL 2 ON SHEET E502 FOR FEEDER DETAILS.
10. NEW OPTICAL FIBER COMMUNICATIONS LINE ROUTED TO HEADWORKS LCP.
11. HEADWORKS BUILDING FEEDER FROM TREATMENT BUILDING. FIELD VERIFY LOCATION AND PROTECT IN PLACE.
12. GENERATOR RUN REQUEST AND RUNNING STATUS SIGNALS TO TREATMENT BUILDING.

E# SEE E502 FOR ELECTRICAL EQUIPMENT SCHEDULE.

CIRCUIT SCHEDULE

TAG	DESCRIPTION
1	3-1/2"C, 3#500 (3H), 1#1/0 (G) (PER ASBUILT)
2	2" HDPE, 12-STRAND FO CABLE, 2" HDPE SPARE WITH PULL STRING
3	1"C, 4#14 (4SIG), 1#14 (G)

REVISIONS

REV	DATE	DESCRIPTION	BY

CITY OF KODIAK ALASKA

STATE OF ALASKA 49TH Cory L. Wardrope EE 129346 REGISTERED PROFESSIONAL ENGINEER 11/29/22

EDC, INC.
213 W. FIREWEED LANE
ANCHORAGE, AK 99503
(907) 276-7933
LICENSE NO. AECC705

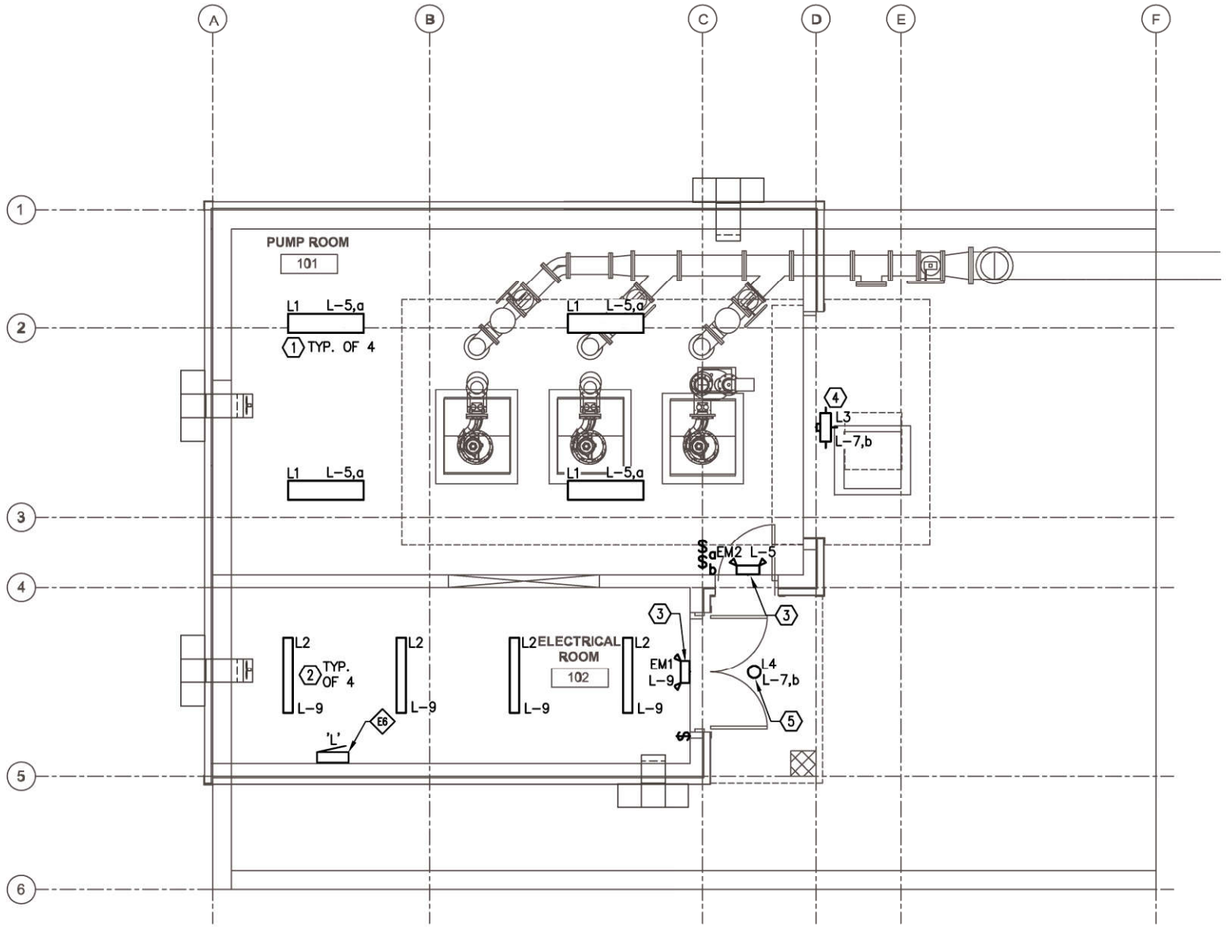
KODIAK SANITARY SEWER
LIFT STATION 5

WWTP ENLARGED SITE PLAN

KODIAK, ALASKA

CHECKED BY:	CW
DESIGNED BY:	CW
DRAWN BY:	CW,OM
DATE	NOVEMBER 2022
LOCATION	KODIAK
	S32 T27S R19W SM
PN	1128.63263.01

SHEET
E103



1 E201 **LIFT STATION 5 LIGHTING PLAN - NEW WORK**
SCALE: 1/4" = 1'-0"

0 4' 8'

GENERAL SHEET NOTES

1. EQUIPMENT IN HAZARDOUS AREAS SHALL MEET THE REQUIREMENTS OF NEC ARTICLES 500, 501 AND 504 AS APPLICABLE.
2. SEE HAZARDOUS AREA PLAN ON SHEET E204.
3. SEE LUMINAIRE SCHEDULE ON SHEET E001.

SHEET NOTES

1. CID1 RATED LUMINAIRE, CEILING MOUNTED. COORDINATE INSTALLATIONS WITH OVERHEAD HOIST RAILS, SEE DETAIL 1 ON SHEET S-15.
2. PENDANT HANG LUMINAIRE AT 10'-0" AFF.
3. EMERGENCY EGRESS LUMINAIRE, MOUNT ABOVE DOOR AT 8'-0" AFF.
4. EXTERIOR FLOOD LUMINAIRE, MOUNT ABOVE OVERHEAD DOOR AT 12'-0" AFG.
5. EXTERIOR UNDER CANOPY LUMINAIRE, MOUNT RECESSED IN CANOPY.

E SEE E502 FOR ELECTRICAL EQUIPMENT SCHEDULE.

REVISIONS			
REV	DATE	DESCRIPTION	BY

CITY OF KODIAK ALASKA

STATE OF ALASKA 49TH
Cory L. Wardrope
EE 129346
REGISTERED PROFESSIONAL ENGINEER
11/29/22

EDC, INC.
213 W. FIREWEED LANE
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(907) 276-7933
LICENSE NO. AECC705

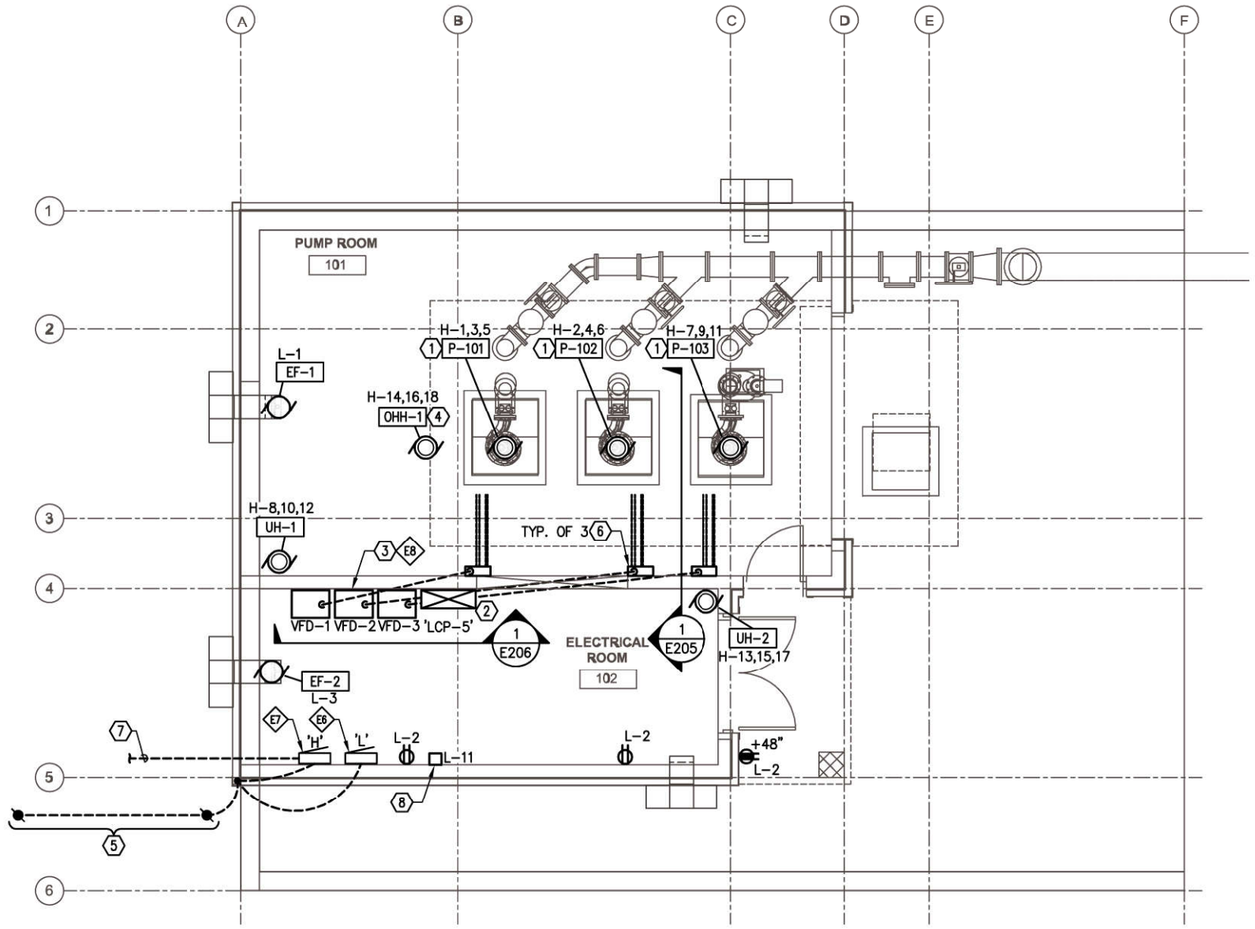
KODIAK SANITARY SEWER
LIFT STATION 5

LIFT STATION 5 LIGHTING PLAN - NEW WORK

KODIAK, ALASKA

CHECKED BY:	CW
DESIGNED BY:	CW
DRAWN BY:	CW,OM
DATE	NOVEMBER 2022
LOCATION	KODIAK
	S32 T27S R19W SM
PN	1128.63263.01

SHEET
E201



1 E202 **LIFT STATION 5 POWER PLAN - NEW WORK**

SCALE: 1/4" = 1'-0"

0 4' 8'

GENERAL SHEET NOTES

1. EQUIPMENT IN HAZARDOUS AREAS SHALL MEET THE REQUIREMENTS OF NEC ARTICLES 500, 501 AND 504 AS APPLICABLE.
2. SEE HAZARDOUS AREA PLAN ON SHEET E204.
3. SEE INSTRUMENTATION PLAN AND SCHEDULE ON SHEET E203.
4. CONTRACTOR SHALL PREPARE A CONDUIT DEVELOPMENT PLAN SUBMITTAL FOR REVIEW BY THE ENGINEER.

SHEET NOTES

1. SUBMERSIBLE PUMP BELOW IN WET WELL.
2. LOCAL CONTROL PANEL 'LCP-5'.
3. WALL-MOUNT VARIABLE FREQUENCY DRIVE (VFD) UNITS, TYP. OF 3.
4. OVERHEAD HOIST, SEE STRUCTURAL.
5. GROUNDING ELECTRODE SYSTEM (GES): TWO 3/4"x10' CU-CLAD STEEL GROUND RODS DRIVEN 12" MINIMUM BELOW GRADE. BOND TO BUILDING STEEL. SEE SHEET E502 FOR DETAILS.
6. CID1 RATED J-BOX. TERMINATE PUMP MANUFACTURER SUPPLIED POWER AND CONTROL/SENSOR CABLES TO SPLICE BLOCKS. PROVIDE SEAL-OFF FITTINGS IN UNCLASSIFIED SIDE OF CID1 BOUNDARY. CONTINUATION OF CIRCUITS TO VFDs AND LCP-5 NOT SHOWN FOR CLARITY.
7. FEEDERS TO PANELS 'H' AND 'L' FROM LS5 GENERATOR BUILDING. SEE SHEET E102 FOR CONTINUATION. SEE POWER ONE-LINE DETAIL 1 SHEET E502 FOR FEEDER DETAILS.
8. SCADA UNINTERRUPTIBLE POWER SUPPLY (UPS).

E# SEE SHEET E502 FOR ELECTRICAL EQUIPMENT SCHEDULE.

EQUIPMENT CONNECTION SCHEDULE

TAG ID	LOAD					CIRCUIT SIZE	NOTES
	KVA	HP	FLA	V	PH		
P-101	–	100	124	480	3	SEE POWER ONE-LIME SHEET E501	1,4
P-102	–	100	124	480	3	SEE POWER ONE-LIME SHEET E501	1,4
P-103	–	100	124	480	3	SEE POWER ONE-LIME SHEET E501	1,4
EF-1	–	F	–	120	1	3/4"C, 2#12 (H,N), 1#12 (G)	2
EF-2	–	1/4	5.8	120	1	3/4"C, 2#10 (H,N), 1#10 (G)	1,2
UH-1	5.0	1/2	7.2	480	3	3/4"C, 3#10 (3H), 1#10 (G)	1,2
UH-2	3.0	F	–	480	3	3/4"C, 3#12 (3H), 1#12 (G)	2
OHH-1	–	3	4.8	480	3	3/4"C, 3#10 (3H), 1#10 (G)	1,3

NOTES:
1. CID1 RATED OPERATOR OR EQUIPMENT.
2. SEE MECHANICAL FOR EQUIPMENT AND CONTROL DETAILS.
3. SEE STRUCTURAL FOR EQUIPMENT DETAILS.
4. SEE CIVIL/PROCESS MECHANICAL FOR EQUIPMENT DETAILS.

REVISIONS

REV	DATE	DESCRIPTION	BY

CITY OF KODIAK ALASKA

STATE OF ALASKA 49TH Cory L. Wardrope EE 129346 REGISTERED PROFESSIONAL ENGINEER 11/29/22

EDC, INC.
213 W. FIREWEED LANE
ANCHORAGE, AK 99503
(907) 276-7933
LICENSE NO. AECC705

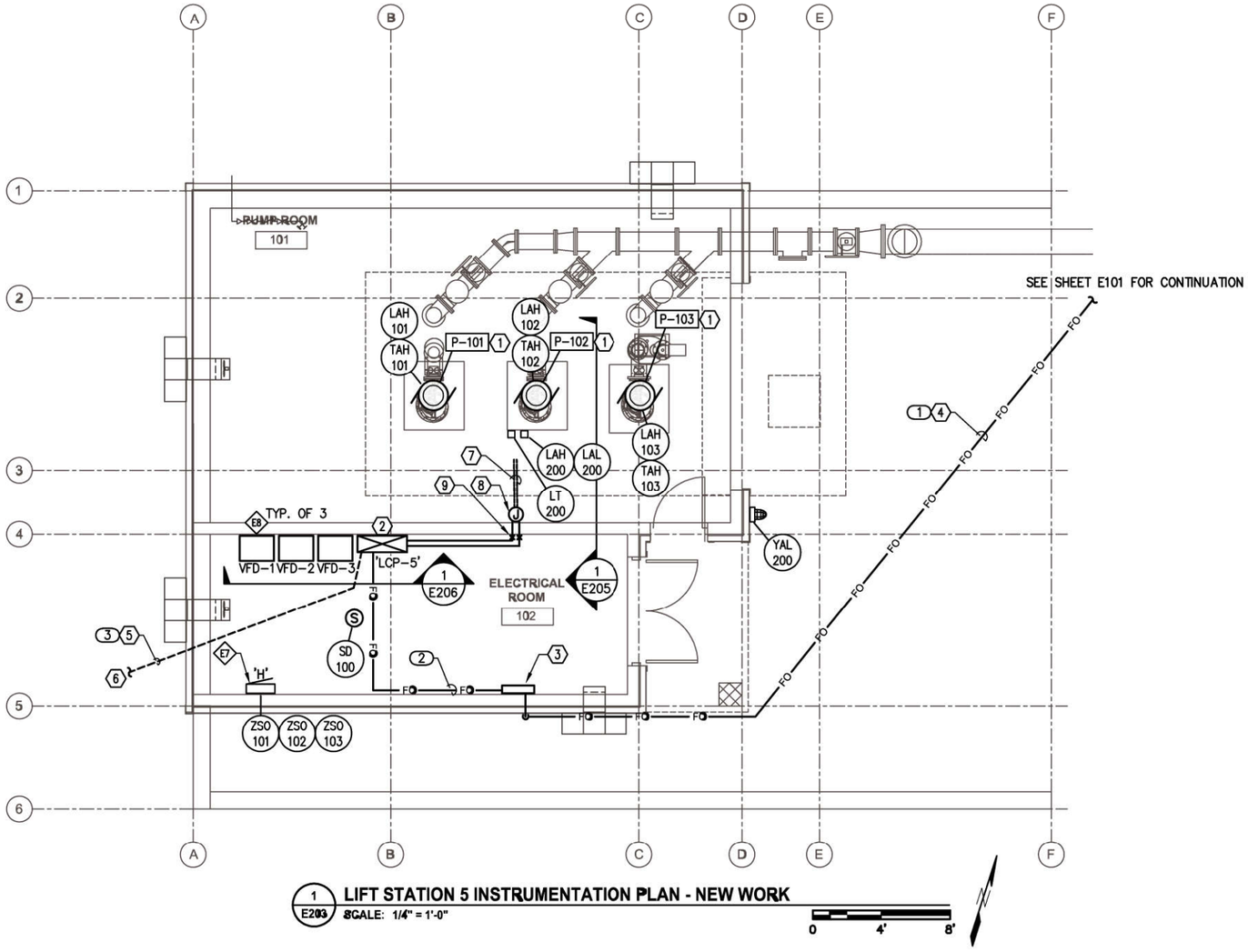
KODIAK SANITARY SEWER
LIFT STATION 5

LIFT STATION 5 POWER PLAN - NEW WORK

KODIAK, ALASKA

CHECKED BY:	CW
DESIGNED BY:	CW
DRAWN BY:	CW,OM
DATE	NOVEMBER 2022
LOCATION	KODIAK
	S32 T27S R19W SM
PN	1128.63263.01

SHEET
E202



1 E203 **LIFT STATION 5 INSTRUMENTATION PLAN - NEW WORK**

SCALE: 1/4" = 1'-0"

0 4' 8'

GENERAL SHEET NOTES

1. EQUIPMENT IN HAZARDOUS LOCATIONS SHALL MEET THE REQUIREMENTS OF NEC ARTICLES 500, 501 AND 504 AS APPLICABLE.
2. SEE HAZARDOUS AREA PLAN ON SHEET E204.
3. SEE SHEET E702 FOR NETWORK CONNECTION DETAILS.
4. CONTRACTOR SHALL PREPARE A CONDUIT DEVELOPMENT PLAN SUBMITTAL FOR REVIEW BY THE ENGINEER.

SHEET NOTES

1. SUBMERSIBLE PUMP BELOW IN WET WELL.
2. LOCAL CONTROL PANEL 'LCP-5'.
3. OPTICAL FIBER PATCH PANEL. PROVIDE CONNECTION BETWEEN PATCH PANEL AND ETHERNET SWITCH IN 'LCP-5'.
4. OPTICAL FIBER COMMUNICATIONS LINE TO WWTP HEADWORKS BUILDING BELOW GRADE. WHERE 90 DEGREE BENDS ARE REQUIRED IN THE OPTICAL FIBER RACEWAY SYSTEM, GRC SWEEPS SHALL BE UTILIZED. SEE E101 FOR CONTINUATION.
5. ETHERNET CONNECTION, BELOW GRADE, TO GENERATOR BUILDING LOCAL CONTROL PANEL. SEE SHEET E702 FOR NETWORK CONNECTION DETAILS.
6. SEE SHEET E102 FOR CONTINUATION.
7. LEVEL MONITORING EQUIPMENT CONDUITS STUBBED INTO WET WELL. SEE INSTRUMENT CONNECTION SCHEDULE THIS SHEET.
8. NEMA 4X JUNCTION BOX WITH TERMINAL STRIPS FOR SPLICING INSTRUMENTATION WIRING. SIZE BOX TO INCLUDE LEVEL TRANSMITTER BELLOWS.
9. CID1 RATED SEAL-OFF FITTING, TYP.

E# SEE E502 FOR ELECTRICAL EQUIPMENT SCHEDULE.

CIRCUIT SCHEDULE

TAG	DESCRIPTION
1	2" HDPE, 12-STRAND OPTICAL FIBER CABLE, 2" HDPE SPARE WITH PULL STRING
2	3/4"C, 2-STRAND OPTICAL FIBER PATCH CORD.
3	2"C, 4PR CAT6 CABLE.

INSTRUMENT CONNECTION SCHEDULE

TAG ID	SIGNAL CIRCUIT SIZE	DESTINATION	POWER CIRCUIT SIZE (IF REQUIRED)	DESTINATION	NOTES
LAH-101 TAH-101	3/4"C, 4#14 (4SIG), 1#14 (G)	SCADA			
LAH-102 TAH-102	3/4"C, 4#14 (4SIG), 1#14 (G)	SCADA			
LAH-103 TAH-103	3/4"C, 4#14 (4SIG), 1#14 (G)	SCADA			
LAL-200 LAH-200	3/4"C, 4#14 (4SIG), 1#14 (G)	SCADA			1
LT-200	3/4"C, 1PR18 TWSH	SCADA			1
YAL-200	3/4"C, 2#14 (2SIG), 1#14 (G)	SCADA			
ZSO-101 ZSO-102 ZSO-103	3/4"C, 6#14 (6SIG), 1#14 (G)	SCADA	3/4"C, 2#14 (+24V, -0V), 1#14 (G)	SCADA	

NOTES:
1. SEE CIVIL/PROCESS MECHANICAL FOR ELEVATION SET POINTS.

REVISIONS

REV	DATE	DESCRIPTION	BY

CITY OF KODIAK ALASKA

STATE OF ALASKA 49TH Cory L. Wardrope EE 129346 REGISTERED PROFESSIONAL ENGINEER 11/29/22

EDC, INC.
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ANCHORAGE, AK 99503
(907) 276-7933
LICENSE NO. AECC705

KODIAK SANITARY SEWER
LIFT STATION 5

LIFT STATION 5 INSTRUMENTATION PLAN - NEW WORK

KODIAK, ALASKA

CHECKED BY:	CW
DESIGNED BY:	CW
DRAWN BY:	CW,OM
DATE	NOVEMBER 2022
LOCATION	KODIAK
	S32 T27S R19W SM
PN	1128.63263.01

SHEET
E203

HAZARDOUS AREA LEGEND

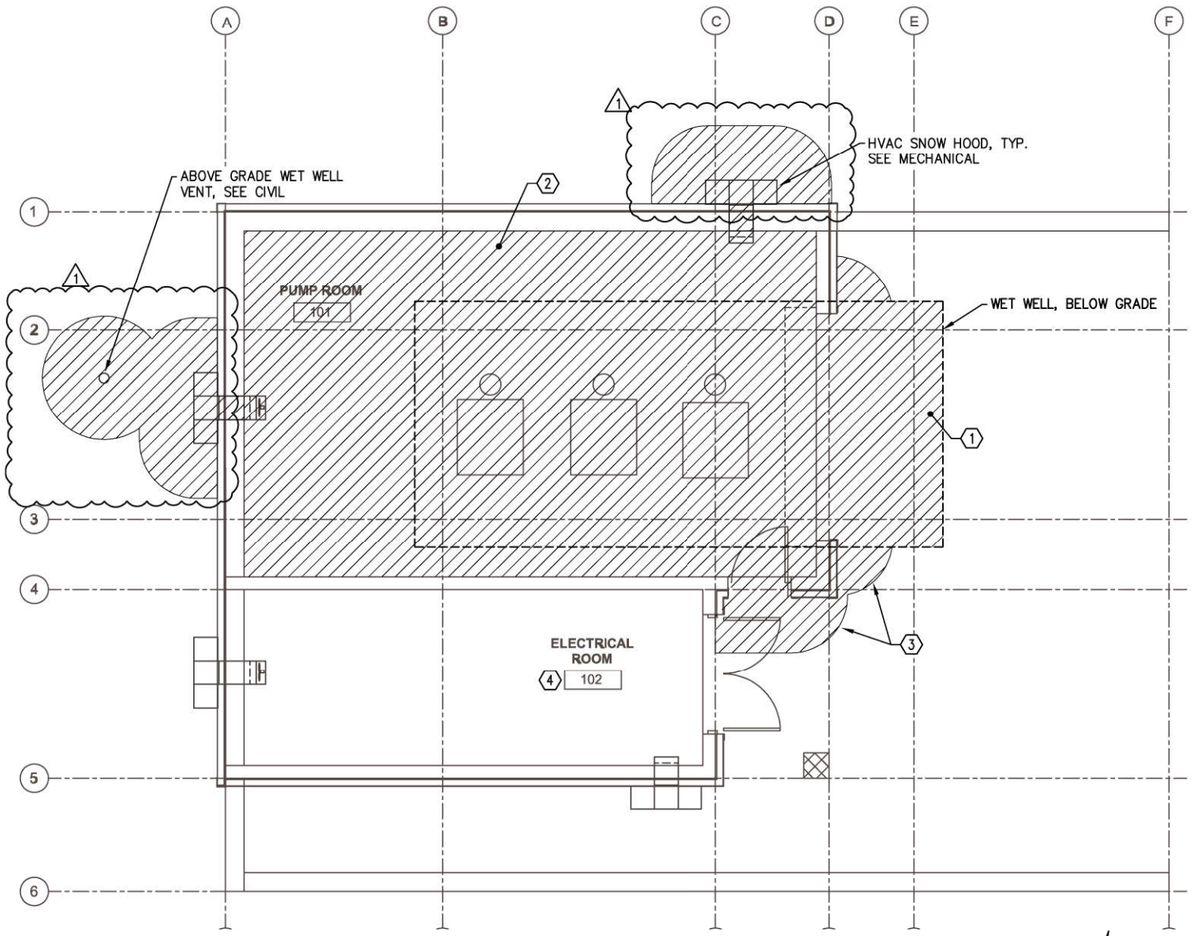
CLASS I, DIVISION 1, GROUP D

GENERAL SHEET NOTES

1. EQUIPMENT IN HAZARDOUS LOCATIONS SHALL MEET THE REQUIREMENTS OF NEC ARTICLES 500, 501 AND 504 AS APPLICABLE.

SHEET NOTES

1. THE ENTIRE VOLUME OF THE THE WET WELL IS A CLASS I, DIVISION 1, (CID1) HAZARDOUS AREA IN ACCORDANCE WITH NFPA 820.
2. THE ENTIRE VOLUME OF THE PUMP ROOM IS A CID1 HAZARDOUS AREA IN ACCORDANCE WITH NFPA 820.
3. THE PUMP ROOM CID1 HAZARDOUS AREA EXTENDS 3' IN ALL DIRECTIONS OF OPENINGS (DOORS, VENTS, ETC.).
4. THE ENTIRE VOLUME OF THE ELECTRICAL ROOM IS UNCLASSIFIED.



1 E204 **LIFT STATION 5 HAZARDOUS AREA PLAN**

SCALE: 1/4" = 1'-0"

0 4' 8'

REV	DATE	DESCRIPTION	BY
1	01/2023	PLAN REVIEW	CW

REVISIONS

CITY OF KODIAK ALASKA

STATE OF ALASKA 49TH
Cory L. Wardrope
EE 129346
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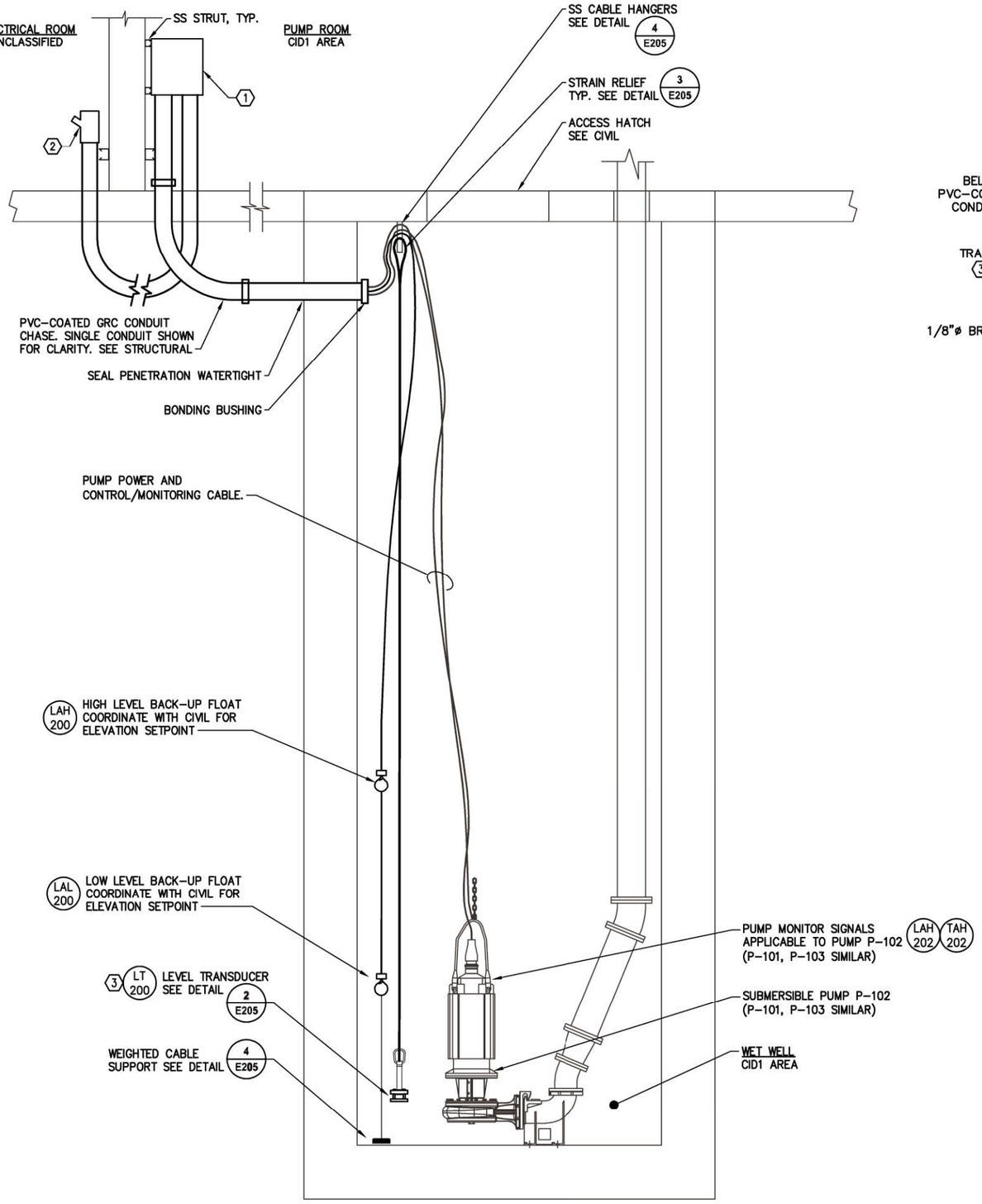
KODIAK SANITARY SEWER
LIFT STATION 5

LIFT STATION 5 HAZARDOUS AREA PLAN

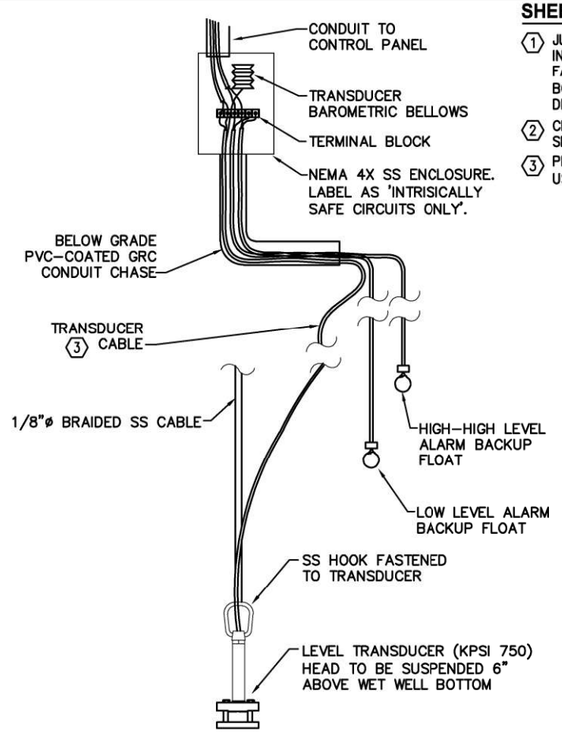
KODIAK, ALASKA

CHECKED BY:	CW
DESIGNED BY:	CW
DRAWN BY:	CW,OM
DATE	NOVEMBER 2022
LOCATION	KODIAK
	S32 T27S R19W SM
PN	1128.63263.01

SHEET
E204



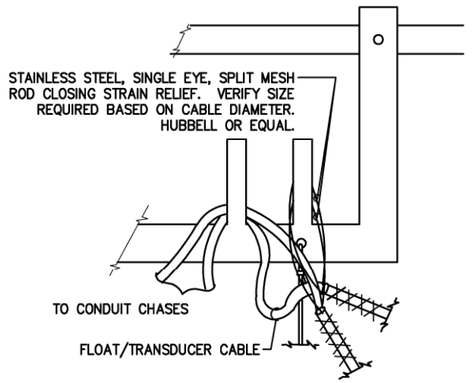
1 E205 LIFT STATION 5 WET WELL DETAILS
SCALE: NTS



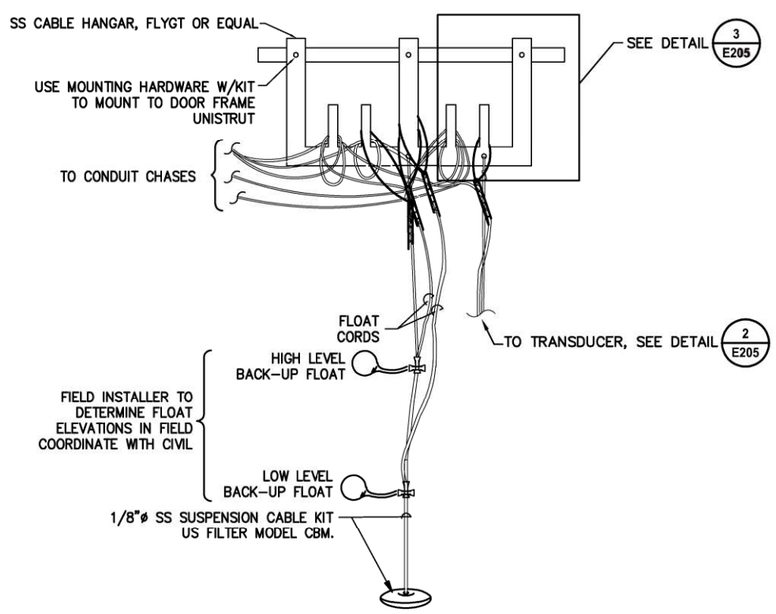
2 E205 TRANSDUCER/FLOAT DETAIL
SCALE: NTS

SHEET NOTES

1. JUNCTION BOX, REQUIREMENTS VARY FOR PUMP AND TRANSDUCER/FLOAT INSTALLATION. PUMP POWER AND SENSOR CIRCUITS SHALL BE TERMINATED ON FACTORY INSTALLED TERMINALS IN A CID1 RATED EXPLOSION PROOF JUNCTION BOX; TRANSDUCER/FLOAT JUNCTION BOX REQUIREMENTS ARE DETAILED IN DETAIL 2, THIS SHEET.
2. CIRCUITS CONTINUE TO VFD OR LCP-5 AS SCHEDULED IN THE PLANS. SEE SHEET E206 FOR ELEVATION DETAIL OF VFD AND LCP-5.
3. PROVIDE TRANSDUCER WITH CABLE PROTECTION AS OUTLINED IN THE PRODUCT USER'S MANUAL (GARDEN HOSE AND CONDUIT ATTACHMENT).



3 E205 CABLE SUPPORT DETAIL
SCALE: NTS



4 E205 CABLE SUPPORT DETAIL
SCALE: NTS

REV	DATE	DESCRIPTION	BY

REVISIONS

CITY OF KODIAK ALASKA

STATE OF ALASKA 49TH
Cory L. Wardrope
EE 129346
REGISTERED PROFESSIONAL ENGINEER
11/29/22

EDC, INC.
213 W. FIREWEED LANE
ANCHORAGE, AK 99503
(907) 276-7933
LICENSE NO. AECC705

KODIAK SANITARY SEWER
LIFT STATION 5

LIFT STATION 5 WET WELL DETAILS

KODIAK, ALASKA

CHECKED BY:	CW
DESIGNED BY:	CW
DRAWN BY:	CW,OM
DATE	NOVEMBER 2022
LOCATION	KODIAK
	S32 T27S R19W SM
PN	1128.63263.01

SHEET
E205

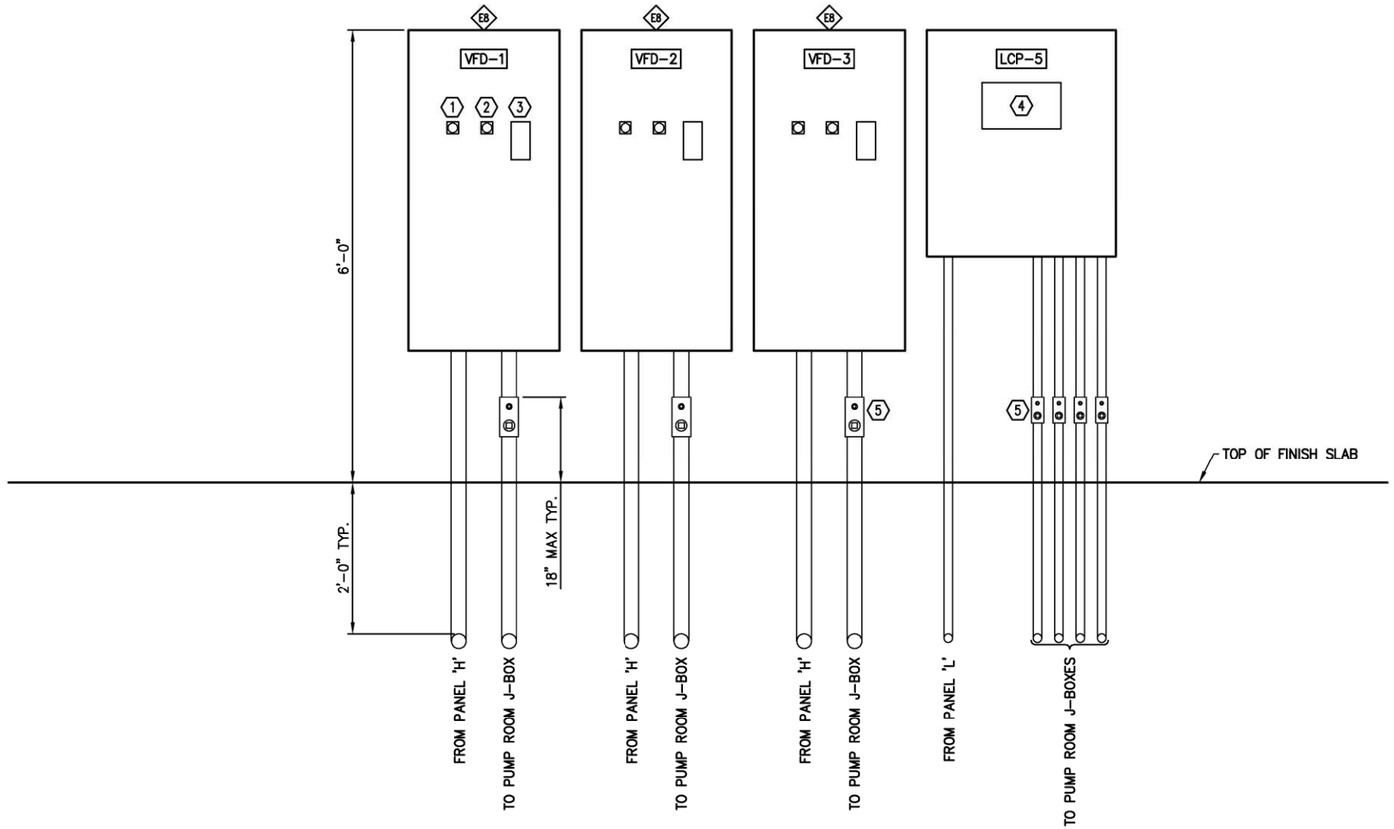
GENERAL SHEET NOTES

1. NOT ALL CONDUITS ARE SHOWN. PROVIDE ALL CONDUITS AS REQUIRED FOR A FUNCTIONAL SYSTEM.
2. COORDINATE WITH STRUCTURAL IN CONDUIT DEVELOPMENT AND INSTALLATION.

SHEET NOTES

1. VFD HOA SWITCH, TYP.
2. VFD E-STOP SWITCH, TYP.
3. VFD HMI, TYP.
4. SCADA HMI.
5. CID1 RATED SEAL-OFF FITTING, TYP.

E# SEE SHEET E502 FOR ELECTRICAL EQUIPMENT SCHEDULE



1 / E206 **LIFT STATION 5 ELECTRICAL ROOM ELEVATION DETAIL**
SCALE: NTS

REVISIONS		
REV	DATE	DESCRIPTION	BY

CITY OF KODIAK ALASKA

STATE OF ALASKA 49TH
Cory L. Wardrope
EE 129346
REGISTERED PROFESSIONAL ENGINEER
11/29/22

EDC, INC.
213 W. FIREWEED LANE
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(907) 276-7933
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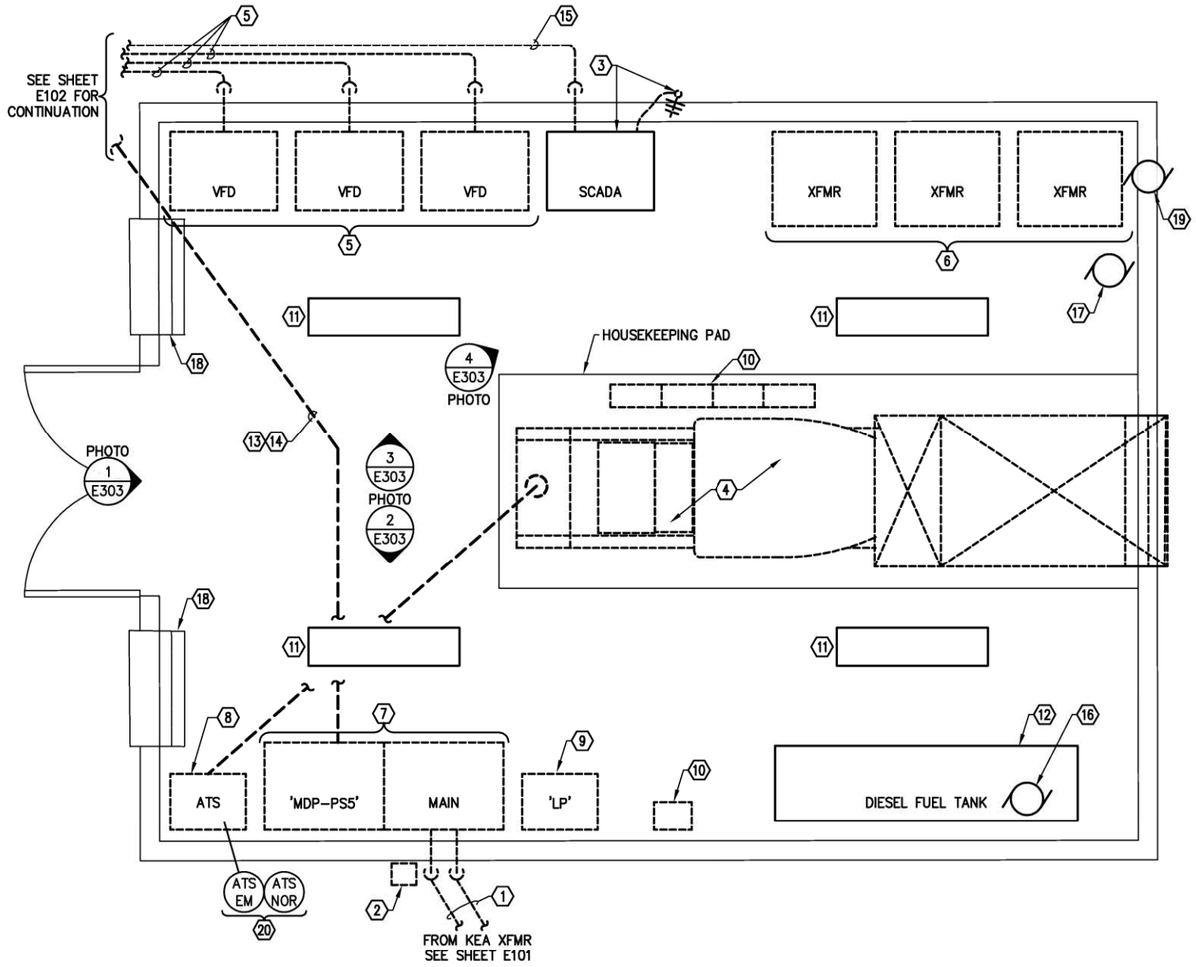
KODIAK SANITARY SEWER
LIFT STATION 5

LIFT STATION 5 ELECTRICAL ROOM ELEVATION DETAIL

KODIAK, ALASKA

CHECKED BY:	CW
DESIGNED BY:	CW
DRAWN BY:	CW,OM
DATE	NOVEMBER 2022
LOCATION	KODIAK
	S32 T27S R19W SM
PN	1128.63263.01

SHEET
E206



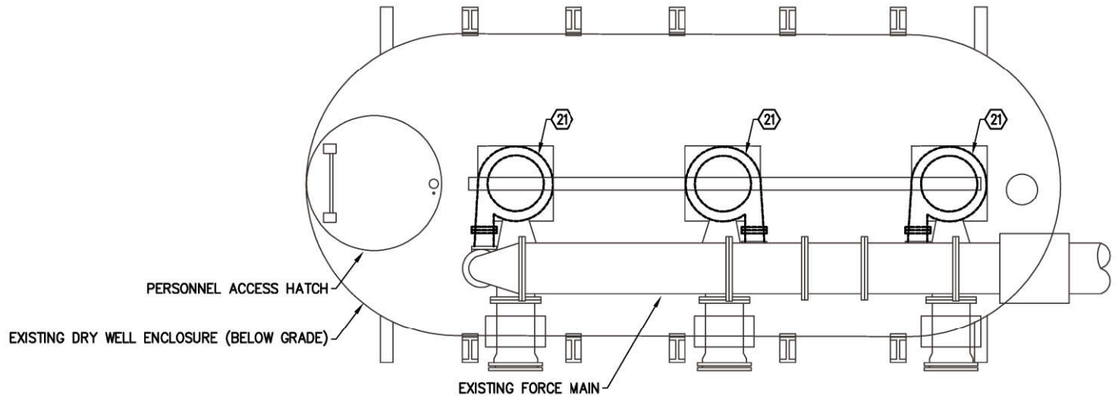
1 E301 **LIFT STATION 5 GENERATOR BUILDING PLAN - EXISTING AND DEMOLITION**
SCALE: 1/2" = 1'-0"
0 2' 4'

GENERAL SHEET NOTES

1. DEMOLISH ALL ELECTRICAL EQUIPMENT ASSOCIATED WITH THE DRY WELL AND WET WELL. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS. CONTRACTOR SHALL ADHERE TO CONFINED SPACE REQUIREMENTS WHEN PERFORMING BELOW GRADE WORK.
2. DRY WELL: DEMOLISH ALL MOTORS, APPLIANCES, SENSORS, RELAYS, PANELS, AND ALL OTHER ELECTRICAL EQUIPMENT WHETHER OR NOT SPECIFICALLY INDICATED. CONDUIT, RECEPTACLES, SENSORS, RELAYS, ETC., WITHIN THE DRY WELL ARE NOT SHOWN FOR CLARITY BUT SHALL BE DEMOLISHED.
3. DEMOLISH ALL CONDUIT AND WIRING IN ENTIRETY, UNLESS ASSOCIATED WITH EQUIPMENT TO REMAIN.
4. DISPOSE OF ALL EQUIPMENT NOT RETAINED BY OWNER AT AN APPROVED OFF-SITE LOCATION.
5. COORDINATE ALL WORK WITH CIVIL EQUIPMENT DEMOLITION.
6. BELOW GRADE CONDUIT MAY BE ABANDONED IN PLACE. CUT FLUSH AND PATCH TO MATCH EXISTING.

SHEET NOTES

1. DISCONNECT SERVICE LATERALS FOR EQUIPMENT REPLACEMENT. COORDINATE WORK/OUTAGE WITH KEA AND OWNER. SEE POWER ONE-LINE ON SHEET E501.
2. SHUNT TRIP OPERATOR TO BE REPLACED.
3. SCADA CONTROL PANEL TO REMAIN. REMOVE ANTENNA, RADIO, AND ASSOCIATED CONDUIT AND CABLING. SELECTIVELY DEMOLISH DEVICENET CABLING AND HAND SWITCH DISCRETE WIRING BETWEEN CONTROL PANEL AND THREE (3) VFD UNITS; DEVICENET CABLING TO POWER MONITOR (LOCATED IN 'MAIN') TO REMAIN.
4. DEMOLISH STANDBY GENERATOR POWER AND CONTROL CIRCUITS. COORDINATE WITH OTHERS FOR REMOVAL OF GENERATOR SET AND ASSOCIATED DUCTWORK, EXHAUST, ETC. PROVIDE ALL REQUIRED PATCHING AND SEALING OF UNUSED OPENINGS.
5. DEMOLISH VFD UNITS, TYP. OF 3, AND ASSOCIATED CONDUIT AND CONDUCTORS.
6. DEMOLISH ISOLATION TRANSFORMERS, TYP. OF 3.
7. DEMOLISH 'MAIN' AND 'MDP-PS5' SWITCHBOARD. SALVAGE EXISTING POWER MONITOR FOR RE-INSTALLATION.
8. DEMOLISH AUTOMATIC TRANSFER SWITCH (ATS).
9. DEMOLISH PANEL 'LP'.
10. DEMOLISH GENERATOR BATTERY CHARGER AND ASSOCIATED BATTERIES.
11. CEILING MOUNT LIGHT FIXTURES TO REMAIN.
12. EXISTING DIESEL FUEL TANK TO REMAIN.
13. DEMOLISH BELOW GRADE STANDBY FEEDER BETWEEN GENERATOR BUILDING AND THE WWTP TREATMENT BUILDING.
14. DEMOLISH DRY WELL UNIT HEATER BRANCH CIRCUIT.
15. DEMOLISH WET WELL INSTRUMENT CIRCUITS, 1-1/4"C, (1) DATA CABLE AND 4#14.
16. EXHAUST FAN 'EF-P55-18' TO REMAIN.
17. UNIT HEATER 'EUH-P55-03' TO REMAIN.
18. DEMOLISH WALL-MOUNT CORD-AND-PLUG BOX FAN.
19. EXHAUST FAN TO REMAIN.
20. ATS EMERGENCY AND NORMAL POSITION STATUS SIGNALS TO SCADA. FIELD VERIFY WIRING; PROTECT IN PLACE FOR RECONNECTION TO NEW EQUIPMENT.
21. DEMOLISH 125HP PUMP POWER AND CONTROL CIRCUITS, TYP. OF 3.



2 E301 **LIFT STATION 5 DRY WELL PLAN - DEMOLITION**
SCALE: NTS

REV	DATE	DESCRIPTION	BY
		REVISIONS	

CITY OF KODIAK ALASKA

STATE OF ALASKA 49TH
Cory L. Wardrope
EE 129346
REGISTERED PROFESSIONAL ENGINEER
11/29/22

EDC, INC.
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(907) 276-7933
LICENSE NO. AECC705

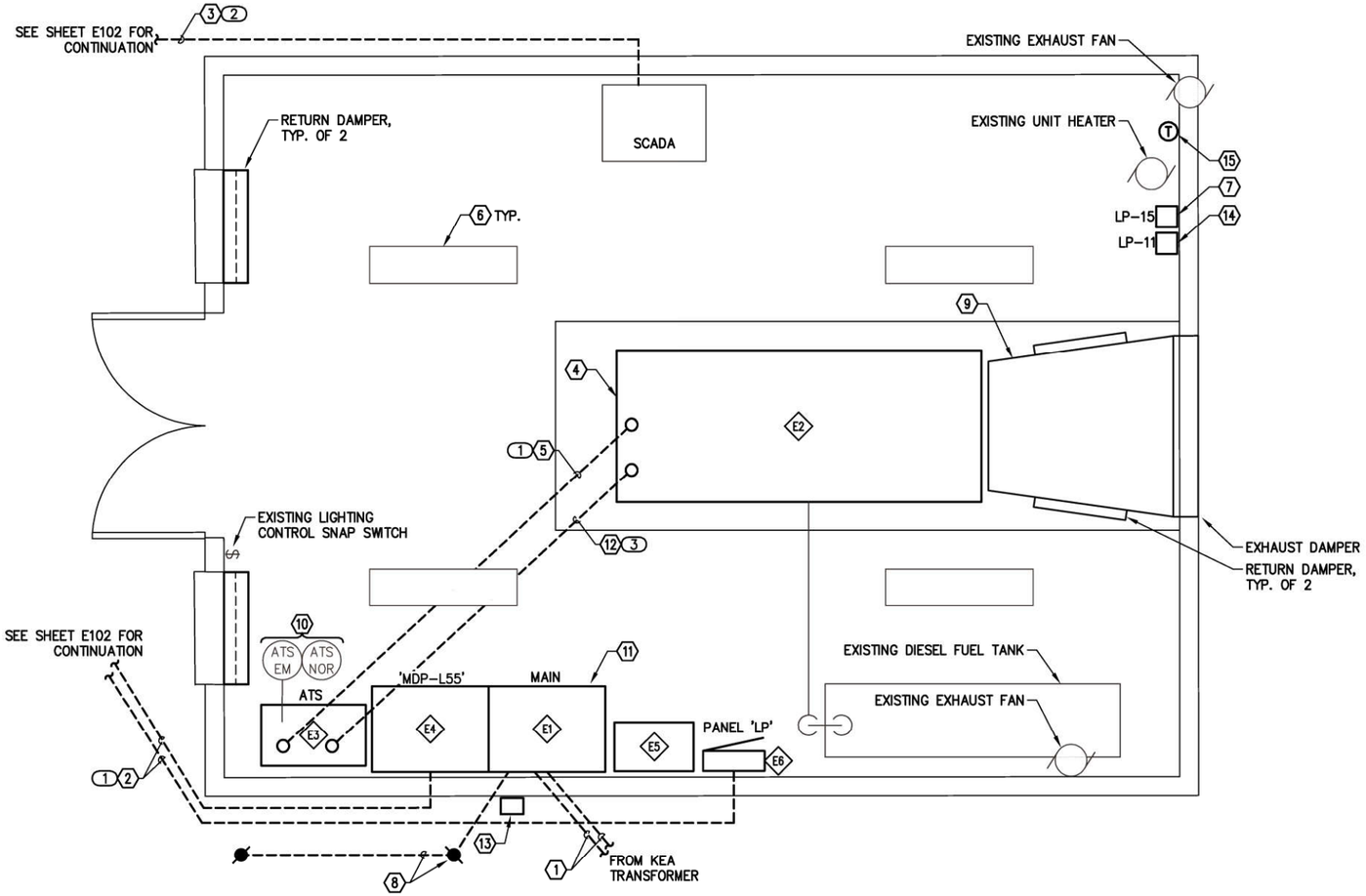
KODIAK SANITARY SEWER
LIFT STATION 5

LIFT STATION 5 GENERATOR BUILDING PLAN - DEMOLITION

KODIAK, ALASKA

CHECKED BY:	CW
DESIGNED BY:	CW
DRAWN BY:	CW,OM
DATE	NOVEMBER 2022
LOCATION	KODIAK
	S32 T27S R19W SM
PN	1128.63263.01

SHEET
E301



1 E302 **LIFT STATION 5 GENERATOR BUILDING PLAN - NEW WORK**

SCALE: 1/2" = 1'-0"

0 2' 4'

N

GENERAL SHEET NOTES

1. COORDINATE SERVICE RECONNECTION WITH UTILITY (KEA) AND OWNER.
2. RECONNECT ALL EXISTING EQUIPMENT. EXISTING CONDUCTORS MAY BE REUSED PROVIDED THEY PASS TESTING REQUIREMENTS AND HAVE ADEQUATE LENGTH FOR TERMINATION WITHOUT SPICING.
3. SEE PANEL SCHEDULES ON SHEET E503.

SHEET NOTES

(1) RECONNECT SERVICE LATERALS TO NEW SERVICE EQUIPMENT.

(2) PROVIDE FEEDERS TO NEW LS5. SEE POWER ONE-LINE DETAIL 1 SHEET E502 FOR FEEDER DETAILS.

(3) ETHERNET CONNECTION TO LS5 CONTROL PANEL. SEE SHEET E702 FOR NETWORK CONNECTION DETAILS.

(4) STANDBY GENERATOR SET. PROVIDE NEW CONNECTIONS TO EXISTING FUEL TANK.

(5) PROVIDE STANDBY FEEDER IN EXISTING BELOW SLAB CONDUIT.

(6) EXISTING LIGHT FIXTURE. LIGHTING CONTROLLED VIA SNAP SWITCH LOCATED AT BUILDING ENTRANCE.

(7) GENERATOR BATTERY CHARGER.

(8) PROVIDE GROUNDING ELECTRODE SYSTEM (GES). SEE DETAIL 3 ON SHEET E502 FOR DETAILS.

(9) GENERATOR EXHAUST DUCTING, SEE MECHANICAL.

(10) RECONNECT EXISTING SIGNAL CIRCUITS FOR ATS EMERGENCY AND NORMAL STATUS TO SCADA.

(11) INSTALL SALVAGED POWER MONITOR IN NEW EQUIPMENT AND RECONNECT TO SCADA DEVICENET NETWORK.

(12) GENERATOR RUN REQUEST AND GENERATOR RUNNING STATUS SIGNALS.

(13) KEYED SHUNT-TRIP OPERATOR. WIRE TO EXISTING SOURCE. CONFIGURE TO DISCONNECT SERVICE AND STANDBY MAIN BREAKERS. COORDINATE KEYING REQUIREMENTS WITH OWNER.

(14) HVAC LOUVER CONTROLLER, SEE MECHANICAL. WIRE CONTROLLER TO MODULATE MOTORIZED INTAKE, EXHAUST, AND RETURN DAMPERS.

(15) LINE-VOLTAGE THERMOSTAT. INTERCEPT EXHAUST FAN BRANCH CIRCUIT AND WIRE IN THERMOSTAT FOR COOLING CONTROL, SEE MECHANICAL.

(E#) SEE E502 FOR ELECTRICAL EQUIPMENT SCHEDULE.

CIRCUIT SCHEDULE	
TAG	DESCRIPTION
(1)	SEE POWER ONE-LINE SHEET E502 FOR CIRCUIT DETAILS
(2)	2"C, 4PR CAT6 CABLE
(3)	1"C, 4#14 (4SIG), 1#14 (G)

REVISIONS		
REV	DATE	DESCRIPTION
		BY

CITY OF KODIAK ALASKA

STATE OF ALASKA 49TH Cory L. Wardrope EE 129346 REGISTERED PROFESSIONAL ENGINEER 11/29/22

EDC, INC.
213 W. FIREWEED LANE
ANCHORAGE, AK 99503
(907) 276-7933
LICENSE NO. AECC705

KODIAK SANITARY SEWER
LIFT STATION 5

LIFT STATION 5 GENERATOR BUILDING PLAN - NEW WORK

KODIAK, ALASKA

CHECKED BY:	CW
DESIGNED BY:	CW
DRAWN BY:	CW,OM
DATE	NOVEMBER 2022
LOCATION	KODIAK
	S32 T27S R19W SM
PN	1128.63263.01

SHEET
E302

DOWL FILE No: 235-42
PLOT DATE 2022-11-29 14:36 SAVED DATE 2022-10-28 15:38
p:\Projects\DOWL\kodiak lift station 5\Dwgs\Elec\E302 LIFT STATION 5 GENERATOR BUILDING NEW WORK PLAN.dwg

1 E303 **LIFT STATION 5 GENERATOR BUILDING - PHOTO LOOKING WEST**
SCALE: NTS

2 E303 **LIFT STATION 5 GENERATOR BUILDING - PHOTO LOOKING NORTH**
SCALE: NTS

SHEET NOTES

1. DEMOLISH GENERATOR SET AND ALL ASSOCIATED EQUIPMENT UNLESS NOTED OTHERWISE.
2. DIESEL FUEL TANK TO REMAIN FOR RE-USE.
3. DIESEL FUEL LINES TO BE REPLACED FOR NEW GENERATOR SET, SEE MECHANICAL.
4. DEMOLISH SERVICE DISCONNECT MAIN CIRCUIT BREAKER.
5. DEMOLISH MAIN DISTRIBUTION PANEL 'MDP-PS5'.
6. DEMOLISH AUTOMATIC TRANSFER SWITCH (ATS).
7. DEMOLISH PANEL 'LP'.
8. DEMOLISH GENERATOR BATTERY CHARGER AND ASSOCIATED CONDUITS AND CONDUCTORS.
9. SCADA CONTROL PANEL TO REMAIN.
10. DEMOLISH VARIABLE FREQUENCY DRIVE (VFD) UNITS, TYP. OF 3, AND ASSOCIATED CONDUITS AND CONDUCTORS. DEMOLISH DEVICENET CABLING BETWEEN VFD UNITS AND SCADA CONTROL PANEL.
11. DEMOLISH WALL-MOUNT CORD-AND-PLUG BOX FANS, TYP. OF TWO.
12. DEMOLISH ISOLATION TRANSFORMERS, TYP. OF 3, AND ASSOCIATED CONDUCTORS.
13. EXHAUST FAN TO REMAIN FOR RE-USE.
14. UNIT HEATER TO REMAIN FOR RE-USE.
15. LIGHT FIXTURES TO REMAIN, TYP. OF 4.
16. SALVAGE POWER MONITOR.

3 E303 **LIFT STATION 5 GENERATOR BUILDING - PHOTO LOOKING SOUTH**
SCALE: NTS

4 E303 **LIFT STATION 5 GENERATOR BUILDING - PHOTO LOOKING SOUTHWEST**
SCALE: NTS

REV	DATE	DESCRIPTION	BY

REVISIONS

CITY OF KODIAK ALASKA

STATE OF ALASKA 49TH
Cory L. Wardrope
EE 129346
REGISTERED PROFESSIONAL ENGINEER
11/29/22

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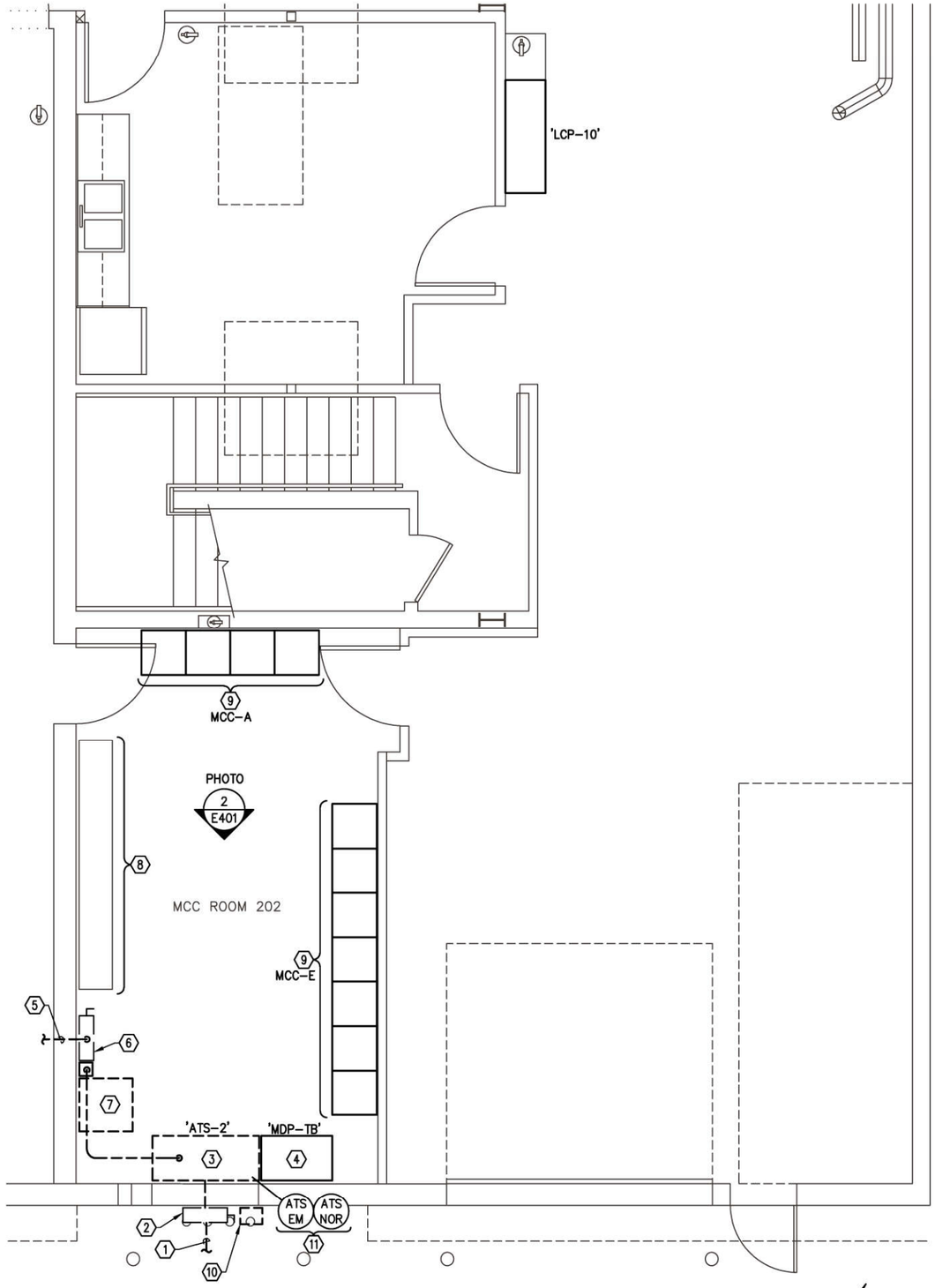
KODIAK SANITARY SEWER
LIFT STATION 5

LIFT STATION 5 GENERATOR BUILDING PHOTOS

KODIAK, ALASKA

CHECKED BY:	CW
DESIGNED BY:	CW
DRAWN BY:	CW,OM
DATE	NOVEMBER 2022
LOCATION	KODIAK
S32 T27S R19W SM	
PN	1128.63263.01

SHEET
E303



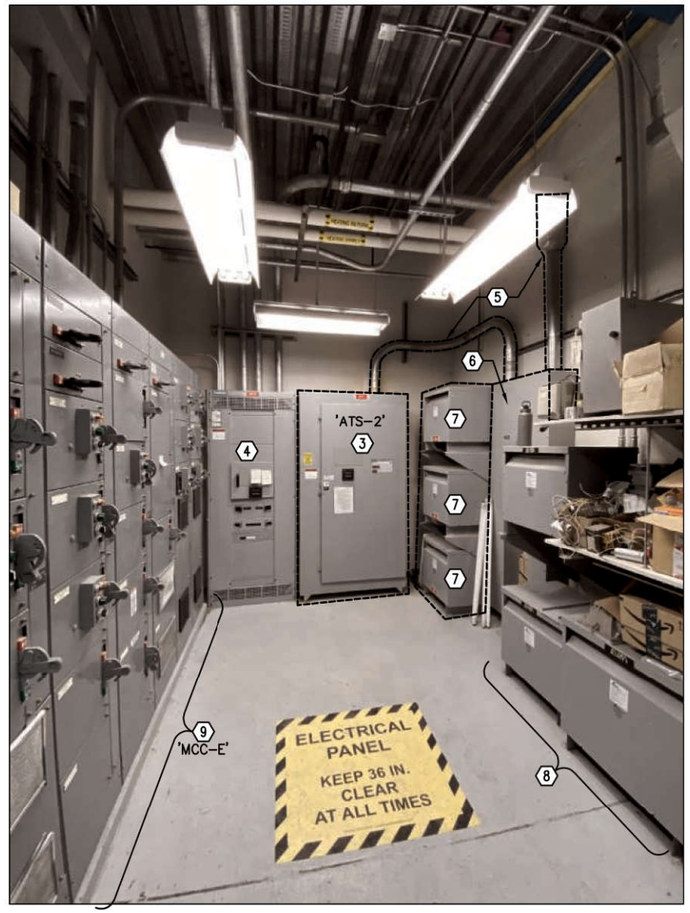
1 E401 **WWTP ELECTRICAL ROOM 202 LARGE SCALE PLAN - DEMOLITION**
SCALE: 1" = 2' - 6"
0 30" 60"

GENERAL SHEET NOTES

1. DEMOLISH ALL CONDUIT, WIRE AND CABLING ASSOCIATED WITH EQUIPMENT SCHEDULED FOR DEMOLITION.
2. SEE DEMOLITION POWER ONE-LINE ON SHEET E501 FOR CIRCUIT DETAILS.
3. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS.

SHEET NOTES

1. SERVICE LATERALS TO BE DISCONNECTED AND RECONNECTED FOR EQUIPMENT REPLACEMENT. COORDINATE WORK WITH KEA AND OWNER. SEE SHEET E103 FOR CONTINUATION.
2. SERVICE DISCONNECT CIRCUIT BREAKER TO BE DEMOLISHED.
3. AUTOMATIC TRANSFER SWITCH TO BE DEMOLISHED.
4. TREATMENT BUILDING MAIN DISTRIBUTION PANEL 'MDP-TB' TO REMAIN.
5. STANDBY FEEDER CIRCUIT TO BE DEMOLISHED. SEE SHEET E103 FOR CONTINUATION.
6. STANDBY DISCONNECT CIRCUIT BREAKER TO BE DEMOLISHED
7. ZIG-ZAG TRANSFORMER BANK TO BE DEMOLISHED.
8. ELECTRICAL EQUIPMENT TO REMAIN.
9. MOTOR CONTROL CENTER (MCC) TO REMAIN.
10. SHUNT-TRIP OPERATOR TO BE DEMOLISHED.
11. ATS EMERGENCY AND NORMAL POSITION STATUS SIGNALS TO 'LCP-10'. FIELD VERIFY WIRING; PROTECT IN PLACE FOR RECONNECTION TO NEW EQUIPMENT



2 E401 **WWTP ELECTRICAL ROOM 202 PHOTO**
SCALE: NTS

REVISIONS		
DESCRIPTION	DATE	BY

CITY OF KODIAK ALASKA

STATE OF ALASKA 49TH
Cory L. Wardrope
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REGISTERED PROFESSIONAL ENGINEER
11/29/22

EDC, INC.
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LICENSE NO. AECC705

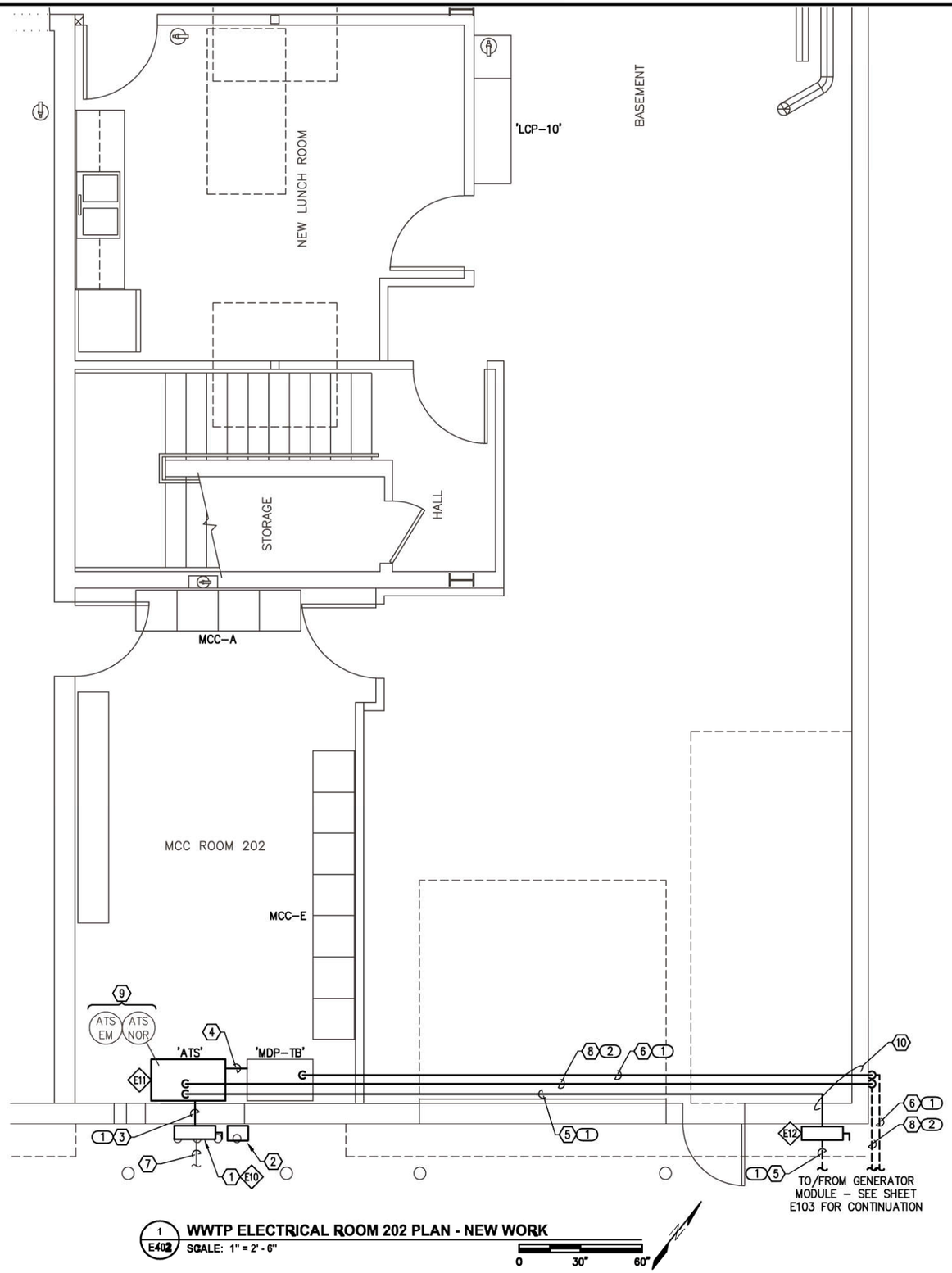
KODIAK SANITARY SEWER
LIFT STATION 5

WWTP ELECTRICAL ROOM 202
LARGE SCALE PLAN - DEMOLITION

KODIAK, ALASKA

CHECKED BY:	CW
DESIGNED BY:	CW
DRAWN BY:	CW,OM
DATE	NOVEMBER 2022
LOCATION	KODIAK
	S32 T27S R19W SM
PN	1128.63263.01

SHEET
E401



1 E402 **WWTP ELECTRICAL ROOM 202 PLAN - NEW WORK**
SCALE: 1" = 2' - 6"
0 30" 60"

GENERAL SHEET NOTES

1. SEE POWER ONE-LINE DETAIL 2 SHEET E502 FOR CIRCUIT DETAILS.

SHEET NOTES

1. SERVICE DISCONNECT CIRCUIT BREAKER. BOND TO EXISTING GROUNDING ELECTRODE SYSTEM AND BUILDING STEEL.
2. KEYED SHUNT-TRIP OPERATOR. WIRE TO EXISTING SOURCE. CONFIGURE TO DISCONNECT SERVICE AND STANDBY MAIN BREAKERS. COORDINATE KEYING REQUIREMENTS WITH OWNER.
3. SERVICE ENTRANCE CONDUCTORS TO ATS. FIELD VERIFY EXISTING CONDUITS FOR RE-USE.
4. CONNECT ATS LOAD LUGS TO 'MDP-TB' MAIN LUGS. FIELD VERIFY EXISTING CONDUITS FOR RE-USE.
5. STANDBY FEEDER FROM GENERATOR MODULE.
6. PROVIDE CIRCUIT BREAKER AND FEEDER FROM 'MDP-TB' TO GENERATOR MODULE.
7. EXISTING SERVICE LATERALS RECONNECTED TO NEW SERVICE EQUIPMENT. COORDINATE ALL WORK WITH KEA. SEE SHEET E103 FOR CONTINUATION.
8. GENERATOR RUN REQUEST AND RUNNING STATUS SIGNALS TO ATS.
9. RECONNECT EXISTING SIGNAL CIRCUITS FOR ATS EMERGENCY AND NORMAL POSITION STATUS SIGNALS TO 'LCP-10'.
10. ROUTE NEW CIRCUITS IN CEILING SPACE. PROVIDE CORE DRILLING TO EXISTING BUILDING WALL. EXTERIOR ROUTING BELOW GRADE.

E# SEE E502 FOR ELECTRICAL EQUIPMENT SCHEDULE.

CIRCUIT SCHEDULE	
TAG	DESCRIPTION
1	SEE POWER ONE-LINE, SHEET E502.
2	1"C, (4)#14 (4SIG), 1#14 (G).

REVISIONS		
REV	DATE	DESCRIPTION
		BY

CITY OF KODIAK ALASKA

STATE OF ALASKA 49TH
Cory L. Wardrope
EE 129346
REGISTERED PROFESSIONAL ENGINEER
11/29/22

EDC, INC.
213 W. FIREWEED LANE
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(907) 276-7933
LICENSE NO. AECC705

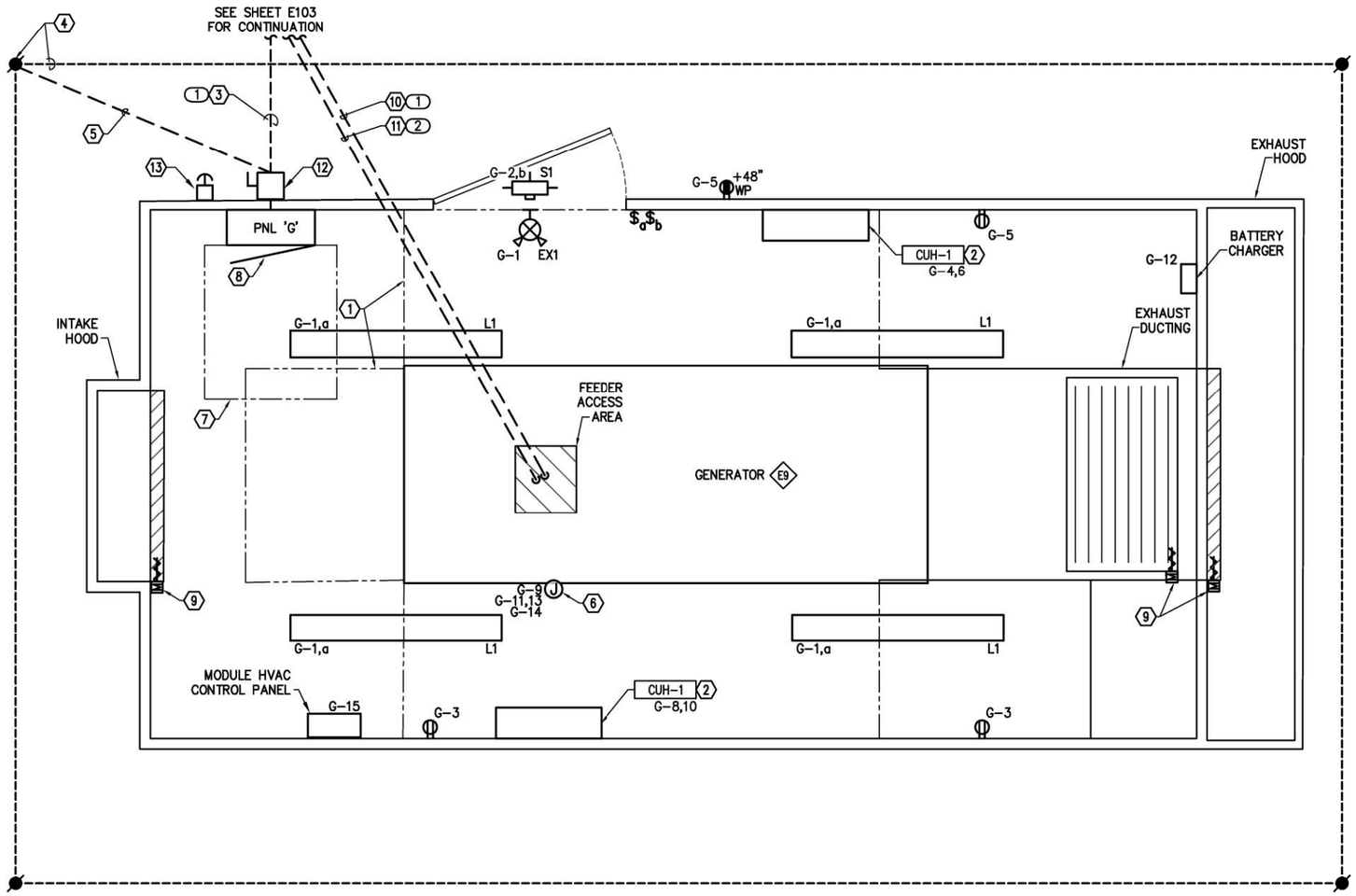
KODIAK SANITARY SEWER
LIFT STATION 5

WWTP ELECTRICAL ROOM 202 PLAN - NEW WORK

KODIAK, ALASKA

CHECKED BY:	CW
DESIGNED BY:	CW
DRAWN BY:	CW,OM
DATE	NOVEMBER 2022
LOCATION	KODIAK
	S32 T27S R19W SM
PN	1128.63263.01

SHEET
E402



1 E403 **WWTP GENERATOR MODULE PLAN - NEW WORK**
SCALE: NTS

GENERAL SHEET NOTES

1. GENERATOR MODULE STRUCTURAL PAD IS A DESIGN REQUIREMENT OF THE CONTRACTOR. SEE CIVIL DRAWINGS AND SPECIFICATION SECTION 26 32 14 FOR ADDITIONAL INFORMATION.

SHEET NOTES

1. MAINTAIN ADEQUATE WORKING SPACE AROUND GENERATOR, 36-INCHES MINIMUM.
2. CABINET UNIT HEATERS (CUH-1) SHALL BE PROVIDED WITH THERMOSTATIC CONTROL TO MAINTAIN MINIMUM ENCLOSURE TEMPERATURE OF 50°F WITH AN OUTSIDE AIR TEMPERATURE OF -10°F. MANUFACTURER SHALL SIZE HEATERS IN ACCORDANCE WITH THIS REQUIREMENT.
3. BELOW-GRADE FEEDER FROM TREATMENT BUILDING 'MDP-TB' TO PANEL 'G'.
4. GROUND RING: 3/4" X 10' COPPER CLAD STEEL GROUND ROD IMBEDDED 12" BELOW GRADE AT EACH CORNER OF THE BUILDING, AND INTERCONNECTED WITH #2/0 BCU BURIED 30" BELOW GRADE. USE EXOTHERMIC WELDS FOR ALL BELOW GRADE CONNECTIONS. TYPICAL FOR ALL CONNECTIONS.
5. #6 BCU GROUNDING ELECTRODE CONDUCTOR.
6. GENERATOR EQUIPMENT: 200W BATTERY BLANKET HEATER, 2500W COOLANT HEATER, 200W OIL PAN HEATER, 200W ANTI-CONDENSING HEATER.
7. MAINTAIN ELECTRICAL CLEAR SPACE IN ACCORDANCE WITH NEC ARTICLE 110.26.
8. TRANSFORMER LOCATED BELOW PANEL 'G'.
9. MOTORIZED LOUVERS TO BE POWERED/CONTROLLED THROUGH MODULE CONTROL PANEL.
10. BELOW-GRADE STANDBY FEEDER FROM GENSET TO ATS IN TREATMENT BUILDING.
11. GENERATOR CONTROL CIRCUITS TO ATS IN TREATMENT BUILDING.
12. GENERATOR MODULE DISCONNECT SWITCH.
13. GENERATOR EMERGENCY STOP SWITCH. WIRE TO GENERATOR CONTROLS TO SHUTDOWN GENERATOR SET.

E# SEE SHEET E502 FOR ELECTRICAL EQUIPMENT SCHEDULE.

CIRCUIT SCHEDULE

TAG	DESCRIPTION
1	SEE POWER ONE-LINE SHEET E502.
2	1"C, 4#14 (4SIG), 1#14 (G), & CAT6 CABLE.

EQUIPMENT CONNECTION SCHEDULE

TAG ID	LOAD					CIRCUIT SIZE	NOTES
	KVA	HP	FLA	V	PH		
CUH-1	2	–	–	208	1	PER MANUFACTURER	CHROMALOX OR EQUAL

FIXTURE SCHEDULE

TYPE	SYMBOL	WATTAGE	MOUNTING	DESCRIPTION
EX1		2x1.5W LED	WALL MOUNT ABOVE DOOR	EXIT SIGN/EMERGENCY LIGHT FIXTURE, 2-LAMP, SINGLE FACE, RED LETTERS, 120V, 90 MIN. Ni-CAD BATTERY. BASIS OF DESIGN (LITHONIA #LHQM-LED-R)
L1		39W LED	CEILING MOUNT	LINEAR LED, 48", 4500 LUMENS, 4000K COLOR TEMPERATURE, 80 CRI, 120V. BASIS OF DESIGN (LITHONIA #ZL1F-L48-4500LM-MDD-MVOLT-40K-80CRI-WH)
S1		18W LED	WALL MOUNT ABOVE DOOR	LED EXTERIOR WALLPACK , 2,124 LUMENS, 5000K COLOR TEMPERATURE, 120V. BASIS OF DESIGN (LITHONIA#TWS LED-P1-50K-MVOLT-PE)

REVISIONS

REV	DATE	DESCRIPTION	BY

CITY OF KODIAK ALASKA

STATE OF ALASKA 49TH Cory L. Wardrope EE 129346 REGISTERED PROFESSIONAL ENGINEER 11/29/22

EDC, INC.
213 W. FIREWEED LANE
ANCHORAGE, AK 99503
(907) 276-7933
LICENSE NO. AECC705

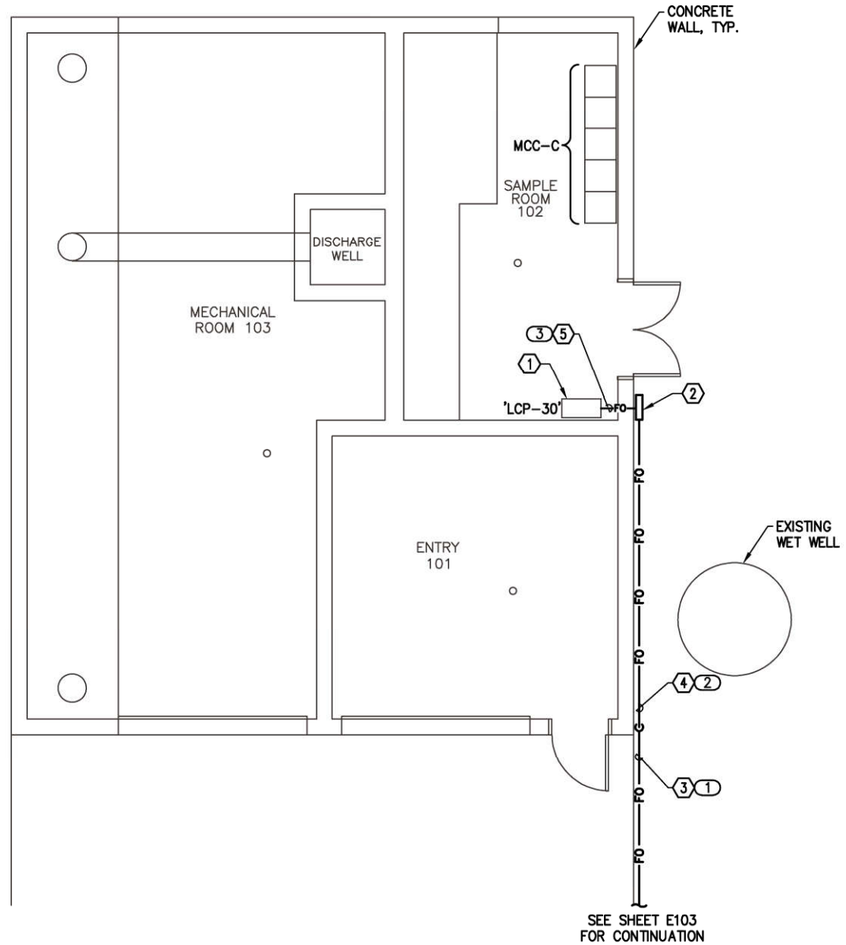
KODIAK SANITARY SEWER
LIFT STATION 5

WWTP GENERATOR MODULE PLAN – NEW WORK

KODIAK, ALASKA

CHECKED BY:	CW
DESIGNED BY:	CW
DRAWN BY:	CW,OM
DATE	NOVEMBER 2022
LOCATION	KODIAK
	S32 T27S R19W SM
PN	1128.63263.01

SHEET
E403



1 / E404 **WWTP HEADWORKS BUILDING PLAN - EXISTING AND NEW WORK**
SCALE: 1/4" = 1'-0"

0 4' 8'

GENERAL SHEET NOTES

1. CONTRACTOR SHALL SURVEY AND VERIFY ALL EXISTING FIELD CONDITIONS. COORDINATE INSTALLATION WITH ENGINEER AND OWNER.
2. SEAL CONDUIT PENETRATIONS. PROVIDE CONDUIT CAPS FOR SPARE CONDUITS.

SHEET NOTES

(1) HEADWORKS LOCAL CONTROL PANEL 'LCP-30'.
(2) NEMA 4X OPTICAL FIBER PATCH PANEL. COIL MINIMUM 10' OF OPTICAL FIBER CABLE IN ENCLOSURE AND TERMINATE ALL OPTICAL FIBER STRANDS.
(3) BELOW-GRADE OPTICAL FIBER COMMUNICATIONS LINE FROM LS5.
(4) TRANSITION OPTICAL FIBER COMMUNICATIONS LINE TO ABOVE GRADE AND TERMINATE IN PATCH PANEL.
(5) CORE DRILL WALL. TERMINATE OPTICAL FIBER JUMPER CABLE TO NETWORK SWITCH IN 'LCP-30'. PROVIDE OPTICAL FIBER SFP MODULE AS REQUIRED.

E# SEE SHEET E502 FOR ELECTRICAL EQUIPMENT SCHEDULE.

CIRCUIT SCHEDULE	
TAG	DESCRIPTION
(1)	2" HDPE, 12-STRAND OPTICAL FIBER CABLE. 2" HDPE SPARE WITH PULL STRING.
(2)	1" GRC, 12-STRAND OPTICAL FIBER CABLE.
(3)	1" GRC, 2-STRAND OPTICAL FIBER JUMPER.

REVISIONS

REV	DATE	DESCRIPTION	BY

CITY OF KODIAK ALASKA

STATE OF ALASKA 49TH
Cory L. Wardrope
EE 129346
REGISTERED PROFESSIONAL ENGINEER
11/29/22

EDC, INC.
213 W. FIREWEED LANE
ANCHORAGE, AK 99503
(907) 276-7933
LICENSE NO. AECC705

KODIAK SANITARY SEWER
LIFT STATION 5

WWTP HEADWORKS BUILDING PLAN

KODIAK, ALASKA

CHECKED BY:	CW
DESIGNED BY:	CW
DRAWN BY:	CW,OM
DATE	NOVEMBER 2022
LOCATION	KODIAK
	S32 T27S R19W SM
PN	1128.63263.01

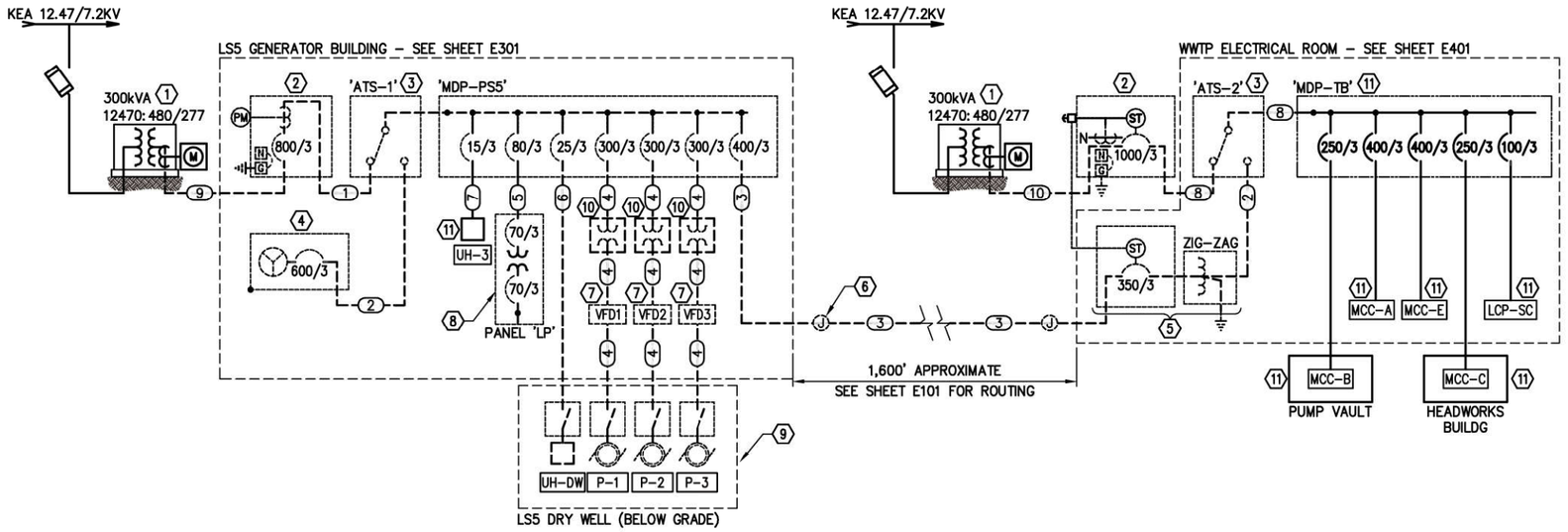
SHEET
E404

GENERAL SHEET NOTES

1. CONDUITS AND CONDUCTORS ASSOCIATED WITH EQUIPMENT SCHEDULED FOR DEMOLITION SHALL BE REMOVED IN THEIR ENTIRETY UNLESS OTHERWISE NOTED.
2. COORDINATE WITH KEA FOR SERVICE DISCONNECT AND RECONNECT AS REQUIRED FOR EQUIPMENT REPLACEMENT.
3. CONTRACTOR SHALL COORDINATE, PLAN, AND SEQUENCE WORK WITH OTHER TRADES. SEE SEQUENCE OF WORK SUBMITTAL REQUIREMENTS IN PROJECT SPECIFICATIONS.

SHEET NOTES

1. KODIAK ELECTRIC ASSOCIATION (KEA) UTILITY SERVICE TRANSFORMER TO REMAIN.
2. DEMOLISH SERVICE DISCONNECT. COORDINATE WORK WITH KEA AND OWNER.
3. DEMOLISH AUTOMATIC TRANSFER SWITCH.
4. DEMOLISH STANDBY GENERATOR.
5. DEMOLISH STANDBY DISCONNECT AND ZIG-ZAG TRANSFORMER BANK. FIELD VERIFY AND DEMOLISH ASSOCIATED RELAYING EQUIPMENT.
6. DEMOLISH J-BOXES (TYP. OF 7) AND STANDBY FEEDER CIRCUIT.
7. DEMOLISH VARIABLE FREQUENCY DRIVE (VFD) UNITS, ASSOCIATED ISOLATION TRANSFORMERS.
8. DEMOLISH TRANSFORMER AND PANEL 'LP'.
9. DEMOLISH ALL ELECTRICAL CIRCUITS AND EQUIPMENT ASSOCIATED WITH THE EXISTING LS5 DRY WELL.
10. DEMOLISH ISOLATION TRANSFORMERS.
11. EQUIPMENT TO REMAIN.



1 E501 **POWER ONE-LINE DIAGRAM - EXISTING AND SELECTIVE DEMOLITION**
SCALE: NTS

CIRCUIT SCHEDULE

TAG	DESCRIPTION
(1)	2 EACH: 3-1/2"C, 4#500 (3H, N), 1#2/0 (G)
(2)	2 EACH: 3"C, 3#300 (3H), 1#3/0 (N), 1#2/0 (G)
(3)	3-1/2"PVC, 3#500 (3H), 1#1/0 (G)
(4)	2"C, 3#3/0 (3H), 1#1/0 (G)
(5)	1-1/2"C, 3#4 (3H), 1#6 (G)
(6)	3/4"C, 3#10 (3H), 1#10 (G)
(7)	3/4"C, 3#12 (3H), 1#12 (G)
(8)	3 EACH: 3"C, 4#400 (3H, N), 1#2/0 (G)
(9)	2 EACH: 3-1/2"C, 4#500 (3H, N)
(10)	3 EACH: 3"C, 4#400 (3H, N)

REV	DATE	DESCRIPTION	BY
		REVISIONS	

CITY OF KODIAK ALASKA

STATE OF ALASKA 49TH Cory L. Wardrope EE 129346 REGISTERED PROFESSIONAL ENGINEER 11/29/22

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POWER ONE-LINE DIAGRAM – EXISTING AND SELECTIVE DEMOLITION

KODIAK, ALASKA

CHECKED BY:	CW
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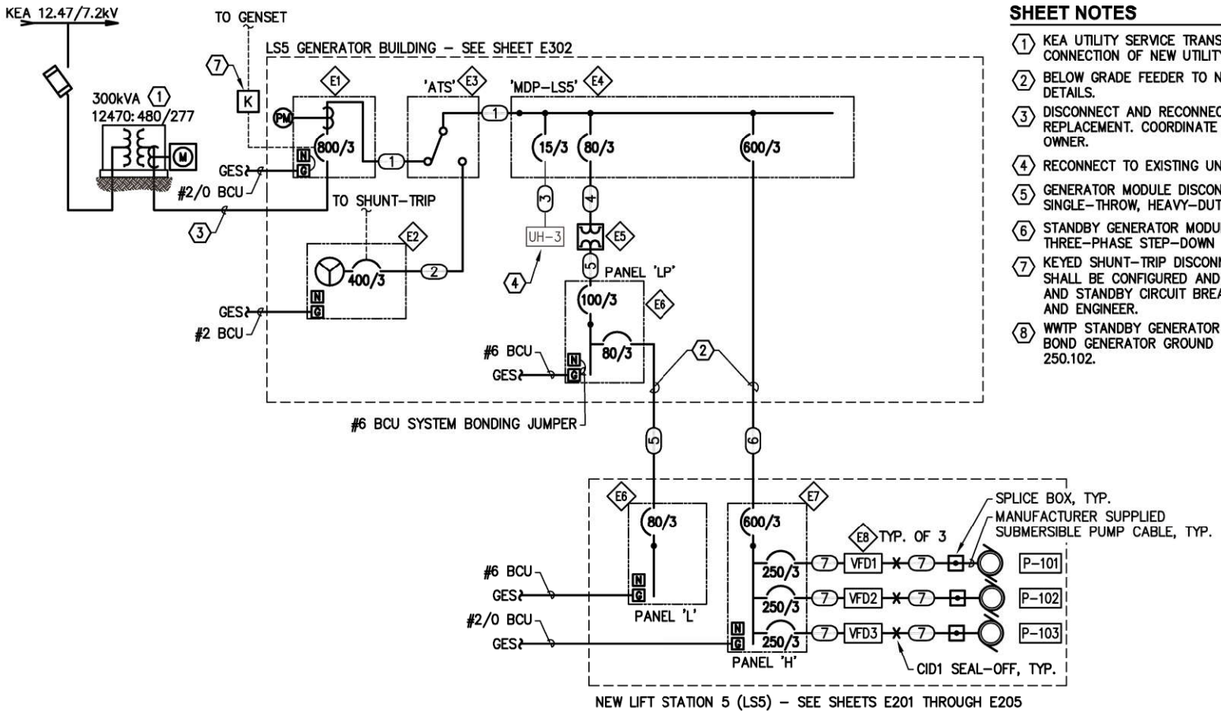
SHEET
E501



GENERAL SHEET NOTES

1. SEE SHEET E503 FOR PANEL SCHEDULES.

SHEET NOTES

(1) KEA UTILITY SERVICE TRANSFORMER TO REMAIN. COORDINATE WITH KEA FOR CONNECTION OF NEW UTILITY SERVICE.

(2) BELOW GRADE FEEDER TO NEW LIFT STATION 5 (LS5). SEE SHEET E102 FOR DETAILS.

(3) DISCONNECT AND RECONNECT SERVICE LATERALS FOR SERVICE EQUIPMENT REPLACEMENT. COORDINATE ALL WORK WITH KEA. COORDINATE OUTAGES WITH OWNER.

(4) RECONNECT TO EXISTING UNIT HEATER.

(5) GENERATOR MODULE DISCONNECT SWITCH; 60A, 480V, 3ø, THREE-POLE SINGLE-THROW, HEAVY-DUTY, NEMA 4X

(6) STANDBY GENERATOR MODULE PANEL 'G' AND ASSOCIATED 480:208/120V, THREE-PHASE STEP-DOWN TRANSFORMER.

(7) KEYED SHUNT-TRIP DISCONNECT SWITCH IN NEMA 4X ENCLOSURE. SHUNT-TRIP SHALL BE CONFIGURED AND WIRED TO OPEN THE RESPECTIVE FACILITY'S MAIN AND STANDBY CIRCUIT BREAKERS. COORDINATE KEY REQUIREMENTS WITH OWNER AND ENGINEER.

(8) WWTP STANDBY GENERATOR INSTALLED AS A SEPARATELY DERIVED SYSTEM; BOND GENERATOR GROUND AND NEUTRAL BUS IN ACCORDANCE WITH NEC 250.102.

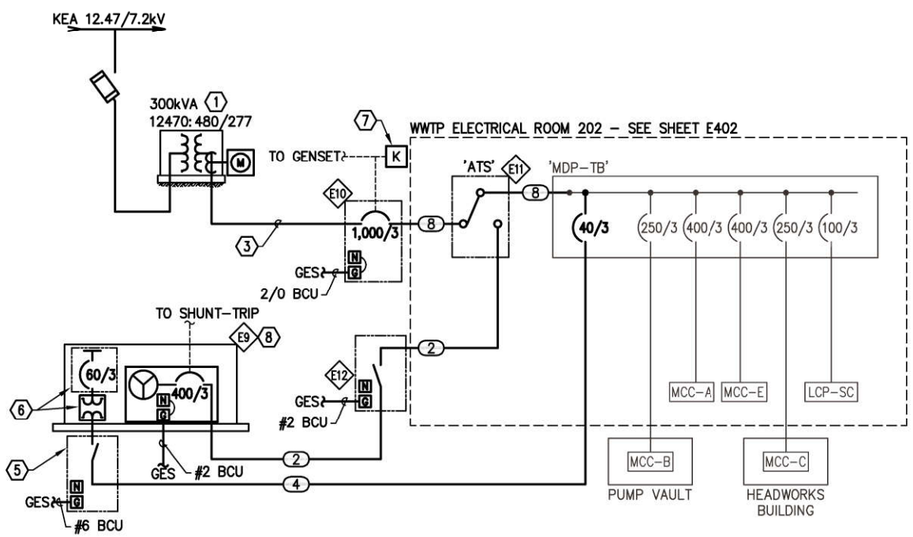
ELECTRICAL EQUIPMENT SCHEDULE

ITEM NO.	DESCRIPTION	MANUFACTURER OR EQUAL
E1	800A, 480V, 3ø, 4-WIRE, 65k AIC, NEMA 1, SERVICE ENTRANCE RATED ENCLOSED CIRCUIT BREAKER DISCONNECT. PROVIDE WITH FACTORY INSTALLED SPD, 125kA PER MODE.	SQUARE D
E2	250KW, 480/277V, 3ø, 4-WIRE, DIESEL-FIRED GENERATOR.	SEE SPECIFICATIONS AND MECHANICAL
E3	800A, 480V, 3ø, 4-WIRE, 3-POLE DOUBLE-THROW (SOLID NEUTRAL), 65k AIC, NEMA 1 AUTOMATIC TRANSFER SWITCH.	ASCO 7000
E4	800A, 480V, 3ø, 3-WIRE, 65k AIC, NEMA 1 MAIN DISTRIBUTION PANEL 'MDP-LS5'.	SQUARE D QED
E5	30KVA, 480:208/120, TRANSFORMER, DRY TYPE, NEMA 1.	SQUARE D
E6	200A, 208/120V, 3ø, 4-WIRE, PANELBOARD, NEMA 1.	SQUARE D NQ
E7	600A, 480V, 3ø, 3-WIRE PANELBOARD, NEMA 1.	SQUARE D I-LINE
E8	100HP HEAVY DUTY VARIABLE FREQUENCY DRIVE, 480V, 3ø, NEMA 12.	SEE SPECIFICATIONS
E9	VENDOR PACKAGED GENERATOR MODULE. GENERATOR: 250KW, 480/277V, 3ø, 4-WIRE, DIESEL-FIRED WITH 48-HOUR RUNTIME SUB-BASE FUEL TANK.	SEE SPECIFICATIONS AND SHEET E403
E10	1,000A, 480V, 3ø, 4-WIRE, 65k AIC, SERVICE ENTRANCE RATED ENCLOSED CIRCUIT BREAKER DISCONNECT WITH ELECTRONIC LSIG, NEMA 3R. PROVIDE WITH FACTORY INSTALLED SPD, 125kA PER MODE.	SQUARE D
E11	1,000A, 480/277V, 3ø, 4-WIRE, 4-POLE DOUBLE-THROW (SWITCHED NEUTRAL), 65k AIC, NEMA 1 ATS	ASCO 7000
E12	400A, 480V, 3ø, NON-FUSIBLE DISCONNECT SWITCH, NEMA 3R.	SQUARE D

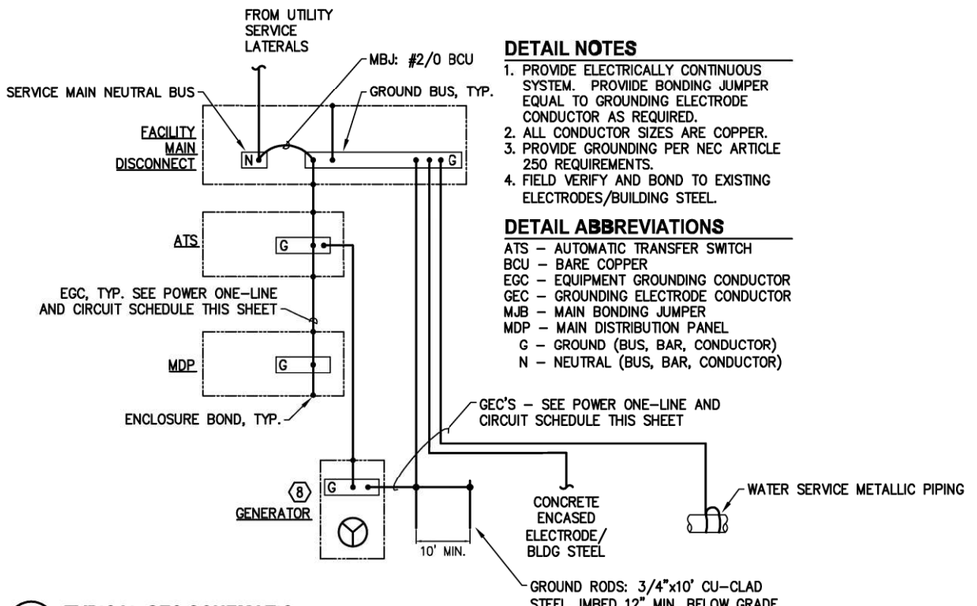
CIRCUIT SCHEDULE

TAG	DESCRIPTION
(1)	2 EACH: 3-1/2"C, 4#500 (3H, N), 1#1/0 (G)
(2)	2 EACH: 3"C, 4#4/0 (3H, N), 1#2 (G)
(3)	3/4"C, 3#12 (3H), 1#12 (G)
(4)	1-1/2"C, 3#4 (3H), 1#6 (G)
(5)	2"C, 4#2 (3H, N), 1#6 (G)
(6)	2 EACH: 3"C, 3#350 (3H), 1#1 (G)
(7)	2"C, 3#2/0 (3H), 1#4 (G)
(8)	3 EACH: 3"C, 4#400 (3H, N), 1#2/0 (G)

(1) E502 **POWER ONE-LINE - LS5 NEW WORK**
SCALE: NTS



(2) E502 **POWER ONE-LINE - WWTP NEW WORK**
SCALE: NTS



DETAIL NOTES

1. PROVIDE ELECTRICALLY CONTINUOUS SYSTEM. PROVIIDE BONDING JUMPER EQUAL TO GROUNDING ELECTRODE CONDUCTOR AS REQUIRED.
2. ALL CONDUCTOR SIZES ARE COPPER.
3. PROVIDE GROUNDING PER NEC ARTICLE 250 REQUIREMENTS.
4. FIELD VERIFY AND BOND TO EXISTING ELECTRODES/BUILDING STEEL.

DETAIL ABBREVIATIONS

ATS - AUTOMATIC TRANSFER SWITCH
BCU - BARE COPPER
EGC - EQUIPMENT GROUNDING CONDUCTOR
GEC - GROUNDING ELECTRODE CONDUCTOR
MJB - MAIN BONDING JUMPER
MDP - MAIN DISTRIBUTION PANEL
G - GROUND (BUS, BAR, CONDUCTOR)
N - NEUTRAL (BUS, BAR, CONDUCTOR)

(3) E502 **TYPICAL GES SCHEMATIC**
SCALE: NTS

REV	DATE	DESCRIPTION	BY
		REVISIONS	

CITY OF KODIAK ALASKA

STATE OF ALASKA 49TH
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POWER ONE-LINE DIAGRAMS - NEW WORK

KODIAK, ALASKA

CHECKED BY:	CW
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DRAWN BY:	CW,OM
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LOCATION	KODIAK
	S32 T27S R19W SM
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SHEET
E502

E4

E7

E6

E6

SHEET NOTES

1. EXISTING EQUIPMENT TO BE CONNECTED TO NEW PANEL.
2. PROVIDE NEW BREAKER IN EXISTING SWITCHBOARD.
3. SEE SHEET E504 FOR WWTP SERVICE LOAD SUMMARY.
4. PROVIDE BREAKER PROVISIONS FOR LOCK-OUT TAG-OUT.

E# SEE SHEET E502 FOR ELECTRICAL EQUIPMENT SCHEDULE.

VOLTAGE: 480/277
BUS: 1,000
MAIN: MLO

PANEL 'MDP-TB' SCHEDULE (3)

LOCATION: WWTP ELECTRICAL ROOM 202

MIN. A.I.C. RATING: 22,000
ENCLOSURE: NEMA 1
MOUNTING:

CKT	AMP	LOAD DESCRIPTION	KVA	LOAD	A	B	C	LOAD	KVA	LOAD DESCRIPTION	AMP	CKT
1					0.0							2
3		MCC-A FEEDER (EXISTING)				0.0				MCC-B FEEDER (EXISTING)		4
5							0.0					6
7					0.0							8
9		MCC-C FEEDER (EXISTING)				0.0				MCC-E FEEDER (EXISTING)		10
11							0.0					12
13				F	0.0							14
15	40/3	GENERATOR MODULE FEEDER		F		0.0				LCP-SC FEEDER (EXISTING)		16
17				F			0.0					18
19					0.0							20
(2) 21						0.0						22
23							0.0					24
25					0.0							26
27						0.0						28
29							0.0					30
31					0.0							32
33						0.0						34
35							0.0					36
37					0.0							38
39						0.0						40
41							0.0					42
*					0.0	0.0	0.0					

TOTAL KVA: 0.0
AMPS: 0.0

	SUMMARY BY LOAD TYPE	CONNECTED KVA PH A	PH B	PH C	FEED	TOTAL KVA	NEC%	NEC TOTAL	NOTES:
L	LIGHTING	0.0	0.0	0.0		0.0	1.25	0.0	
R	RECEPTACLES	0.0	0.0	0.0		0.0	10K+50%	0.0	
M	MOTORS	0.0	0.0	0.0		0.0	1.00	0.0	
LM	LARGEST MOTOR	0.0	0.0	0.0		0.0	1.25	0.0	
C	CONTINUOUS	0.0	0.0	0.0		0.0	1.25	0.0	
N	NON-CONTINUOUS	0.0	0.0	0.0		0.0	1.00	0.0	
S	SPARE	0.0	0.0	0.0		0.0	1.00	0.0	
X	NON-COINCIDENT	0.0	0.0	0.0		0.0	0.00	0.0	
O	OTHER	0.0	0.0	0.0		0.0	1.00	0.0	
F	FEEDER	0.0	0.0	0.0		0.0	1.00	0.0	
TOTAL KVA (PHASE)		0.0	0.0	0.0		0.0		0.0	
TOTAL AMPERES		0.0	0.0	0.0		0.0		0.0	
PHASE BALANCE, ABC		A-B	B-C	C-A					
PERCENT									

VOLTAGE: 208/120
BUS: 125A
MAIN: 60A

PANEL 'G' SCHEDULE

LOCATION: WWTP STANDBY GENERATOR MODULE

MIN. A.I.C. RATING: 10,000
ENCLOSURE:
MOUNTING: SURFACE

CKT	AMP	LOAD DESCRIPTION	KVA	LOAD	A	B	C	LOAD	KVA	LOAD DESCRIPTION	AMP	CKT
1	20/1	INTERIOR LIGHTING	0.2	L	0.3			L	0.1	EXTERIOR LIGHTING	20/1	2
3	20/1	INTERIOR RECEPTACLES	0.4	R		1.4		C	1.0	UNIT HEATER CUH-1	20/2	4
5	20/1*	RECEPTACLES	0.4	R			1.4	C	1.0			6
7		SPACE			1.0			C	1.0	UNIT HEATER CUH-2	20/2	8
9	15/1	GENSET BATTERY HEATER	0.2	C		1.2		C	1.0			10
11		GENSET BLOCK HEATER	1.2	C			1.4	C	0.2	GENSET BATTERY CHARGER	15/1	12
13	20/2		1.2	C	1.6			C	0.4	GENSET ALTERNATOR HEATER	20/1	14
15	20/1	MODULE HVAC CONTROL PANEL	0.1	C		0.1				SPACE		16
17		SPACE					0.0			SPACE		18
19					0.0							20
21						0.0						22
23							0.0					24
25					0.0							26
27						0.0						28
29							0.0					30
31					0.0							32
33						0.0						34
35							0.0					36
37					0.0							38
39						0.0						40
41							0.0					42
					2.9	2.7	2.8					

* INDICATES 5mA GFCI BREAKER

TOTAL KVA: 8.4
AMPS: 23.3

	SUMMARY BY LOAD TYPE	CONNECTED KVA PH A	PH B	PH C	FEED	TOTAL KVA	NEC%	NEC TOTAL	NOTES:
L	LIGHTING	0.3	0.0	0.0		0.3	1.25	0.4	
R	RECEPTACLES	0.0	0.4	0.4		0.8	10K+50%	0.8	
M	MOTORS	0.0	0.0	0.0		0.0	1.00	0.0	
LM	LARGEST MOTOR	0.0	0.0	0.0		0.0	1.25	0.0	
C	CONTINUOUS	2.6	2.3	2.4		7.3	1.25	9.1	
N	NON-CONTINUOUS	0.0	0.0	0.0		0.0	1.00	0.0	
S	SPARE	0.0	0.0	0.0		0.0	1.00	0.0	
X	NON-COINCIDENT	0.0	0.0	0.0		0.0	0.00	0.0	
O	OTHER	0.0	0.0	0.0		0.0	1.00	0.0	
F	FEEDER	0.0	0.0	0.0		0.0	1.00	0.0	
TOTAL KVA (PHASE)		2.9	2.7	2.8		8.4		10.3	
TOTAL AMPERES		24.2	22.5	23.3		23.3		28.6	
PHASE BALANCE, ABC		A-B	B-C	C-A					
PERCENT									

REVISIONS REV	DATE	DESCRIPTION	BY

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LIFT STATION 5

PANEL SCHEDULES

KODIAK, ALASKA

CHECKED BY:	CW
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DRAWN BY:	CW,OM
DATE	NOVEMBER 2022
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	S32 T27S R19W SM
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SHEET
E503

WWTP SERVICE LOAD CALCULATION

(1) EXISTING DEMAND LOAD

EXISTING 12 MONTH MAXIMUM DEMAND LOAD	=	145.1 KVA *
NEC FACTOR 0.25%	=	36.3 KVA
SUBTOTAL	=	181.4 KVA

(2) DELETED LOADS

ITEM	DESCRIPTION		
1	NONE	=	0.0 KVA
	SUBTOTAL	=	0.0 KVA

(3) LOADS NOT ACCOUNTED FOR IN 12-MONTH MAX DEMAND

ITEM	DESCRIPTION		
1	NONE	=	0.0 KVA
	SUBTOTAL	=	0.0 KVA

(4) ADDITIONAL DEMAND LOAD

ITEM	DESCRIPTION		
1	STANDBY GENERATOR MODULE	=	8.4 KVA
	SUBTOTAL	=	8.4 KVA

TOTAL NEW SERVICE DEMAND LOAD

LOAD 1 – LOAD 2 + LOAD 3 + LOAD 4 = **189.8 KVA**

228.3 AMPS @480V

* VALUE PROVIDED BY KEA ON OCTOBER 5, 2022. POWER FACTOR OF 0.9 ASSUMED.

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LIFT STATION 5

LOAD SUMMARY

KODIAK, ALASKA

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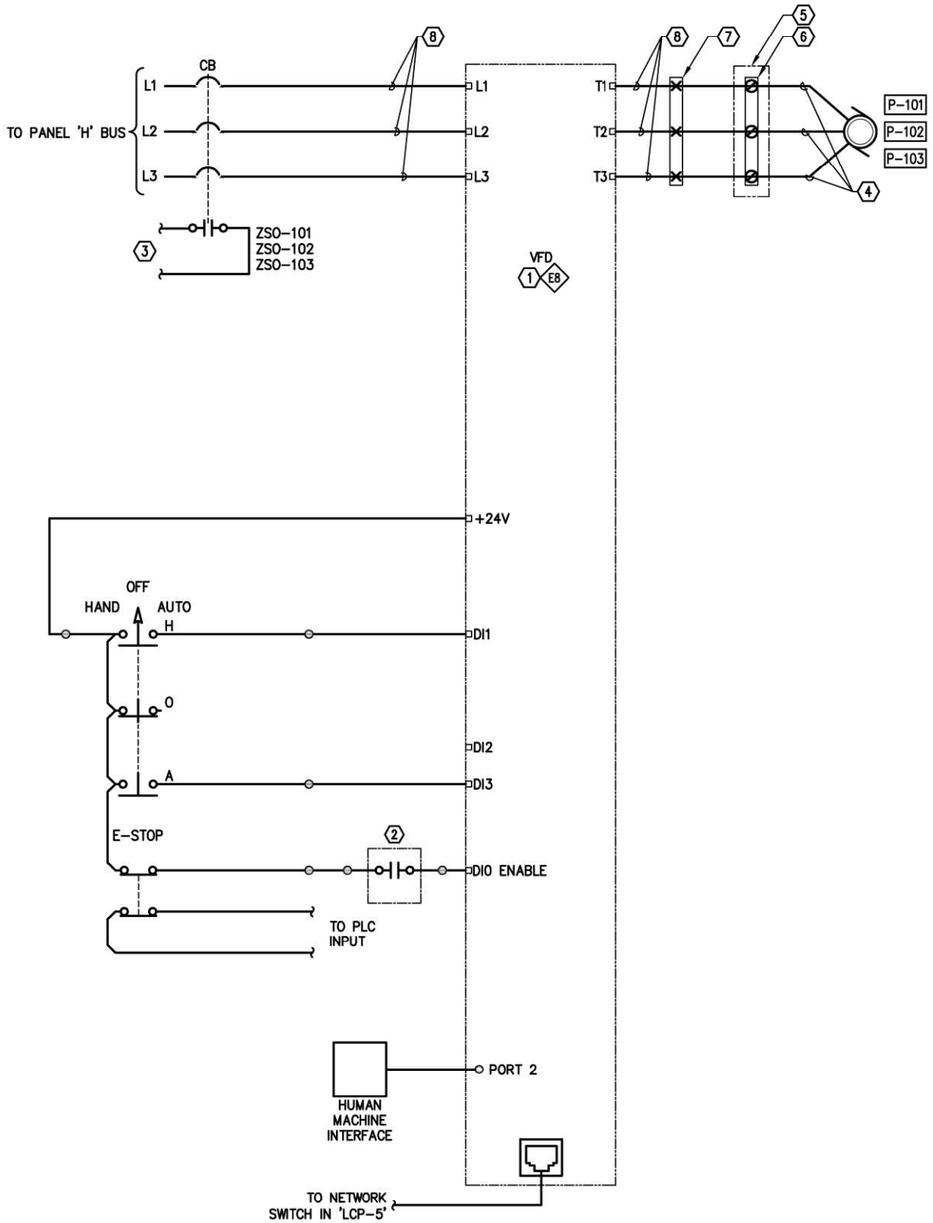
SHEET
E504



1 E505 **MOTOR STARTER SCHEMATICS**
SCALE: NTS

SHEET NOTES

1. VARIABLE FREQUENCY DRIVE (VFD). SEE POWER ONE-LINE SHEET E502, AND SPECIFICATIONS FOR DETAILS.
2. PUMP PROTECTION RELAY ENABLE SIGNAL. SEE SHEET E707 FOR DETAILS.
3. CIRCUIT BREAKER STATUS INDICATION TO SCADA.
4. PUMP MANUFACTURER SUPPLIED SUBMERSIBLE PUMP POWER CABLE.
5. CID1 RATED JUNCTION BOX.
6. TERMINAL SPLICE BLOCKS AS REQUIRED.
7. CID1 RATED SEAL-OFF FITTING.
8. CIRCUIT SIZE PER POWER ONE-LINE DETAIL 1 ON SHEET E502.

E8 SEE SHEET E502 FOR ELECTRICAL EQUIPMENT SCHEDULE.

X-## SEE SHEET E202 FOR EQUIPMENT CONNECTION SCHEDULE

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MOTOR STARTER SCHEMATICS

KODIAK, ALASKA

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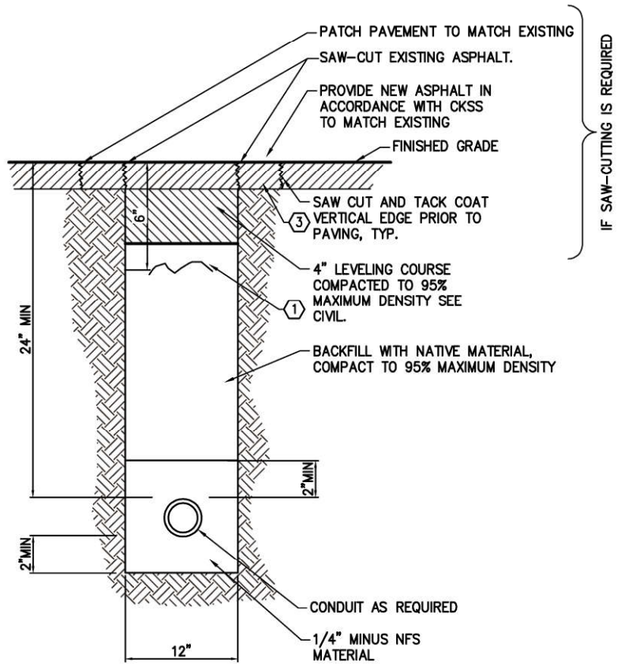
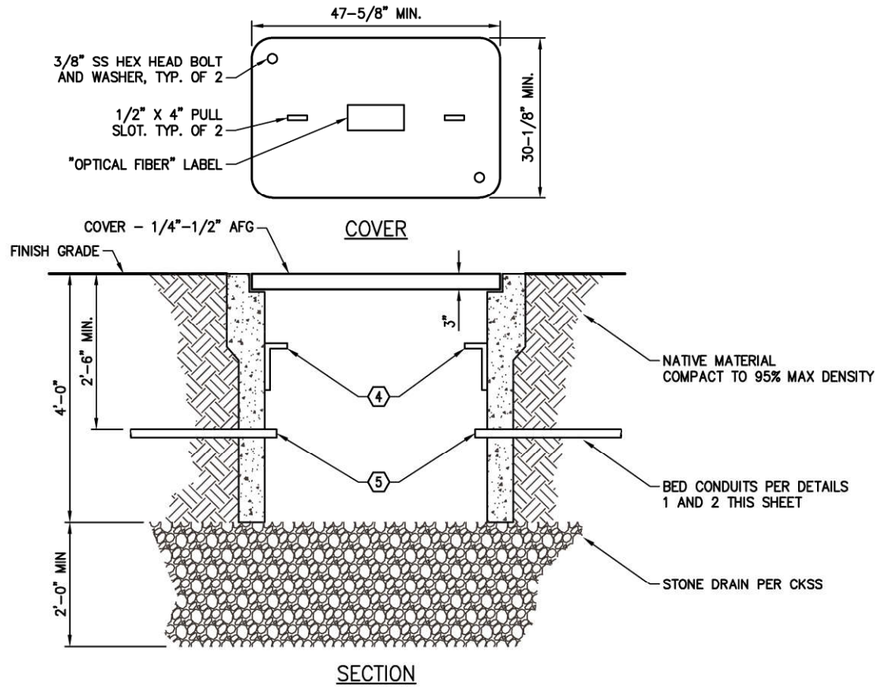
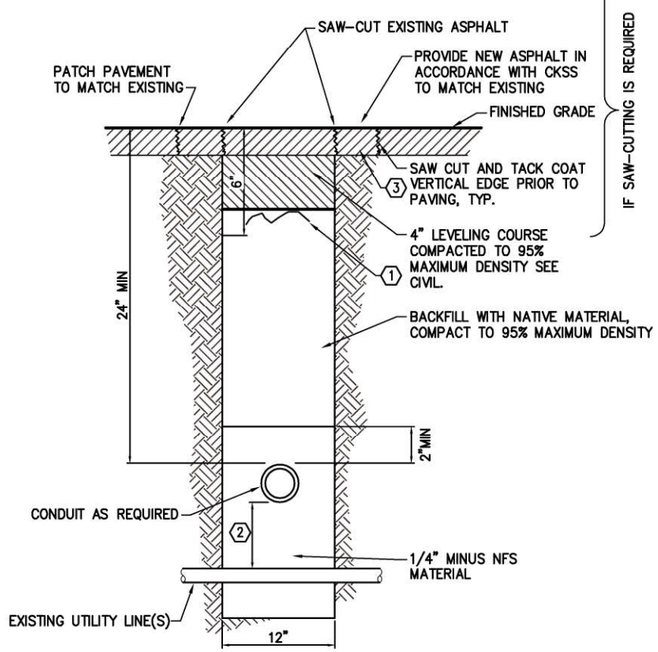


1 E601 **TRENCH DETAIL**
SCALE: NTS



3 E601 **OPTICAL FIBER J-BOX DETAIL**
SCALE: NTS



2 E601 **UTILITY CROSSING DETAIL**
SCALE: NTS

SHEET NOTES

1. 6" WIDE DETECTIBLE WARNING TAPE READING, "CAUTION: BURIED ELECTRIC BELOW."
2. MAINTAIN 12" MINIMUM SEPARATION ABOVE EXISTING UNDERGROUND UTILITIES. 24" BURIAL DEPTH MAY BE REDUCED TO 12" TO ACHIEVE THIS 12" SEPARATION PROVIDED THAT 2" OF CONCRETE IS PLACED ABOVE THE CONDUIT WHEREVER ITS BURIAL DEPTH IS LESS THAN 24".
3. AFTER TRENCH HAS BEEN COMPACTED, AN ADDITIONAL 12" OF ASPHALT SHALL BE REMOVED FROM EACH EDGE OF THE ORIGINAL CUT. THE ENGINEER MAY REQUIRE MORE THAN A 12" ADDITIONAL CUT IF THE EXISTING PAVEMENT HAS BEEN LIFTED DURING THE REMOVAL PROCESS OR IF THE JOINT DOES NOT OCCUR ON UNDISTURBED MATERIAL.
4. CABLE HANGER TYP. 2 EACH ALL 4 SIDES. ANCHOR WITH SS THROUGH BOLTS, NUTS AND WASHERS.
5. HDPE CONDUIT, PROVIDE WATERTIGHT SEAL TO CONDUIT ENDS AFTER CABLE INSTALLATION.

E# SEE E502 FOR ELECTRICAL EQUIPMENT SCHEDULE.

REVISIONS		
DESCRIPTION	DATE	BY
REV		

CITY OF KODIAK ALASKA

STATE OF ALASKA 49TH Cory L. Wardrope EE 129346 REGISTERED PROFESSIONAL ENGINEER 11/29/22

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KODIAK SANITARY SEWER
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ELECTRICAL DETAILS

KODIAK, ALASKA

CHECKED BY:	CW
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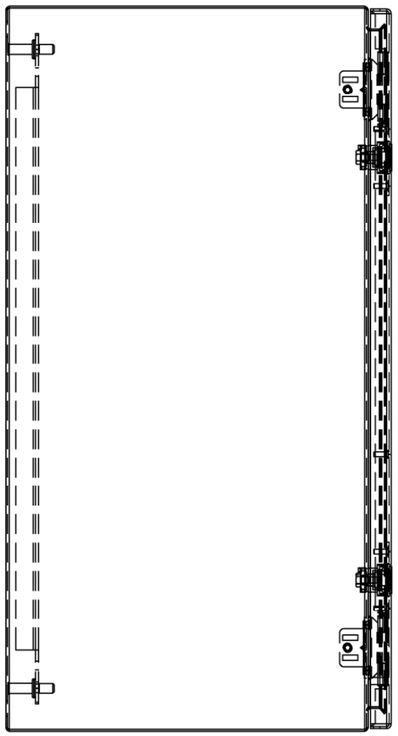
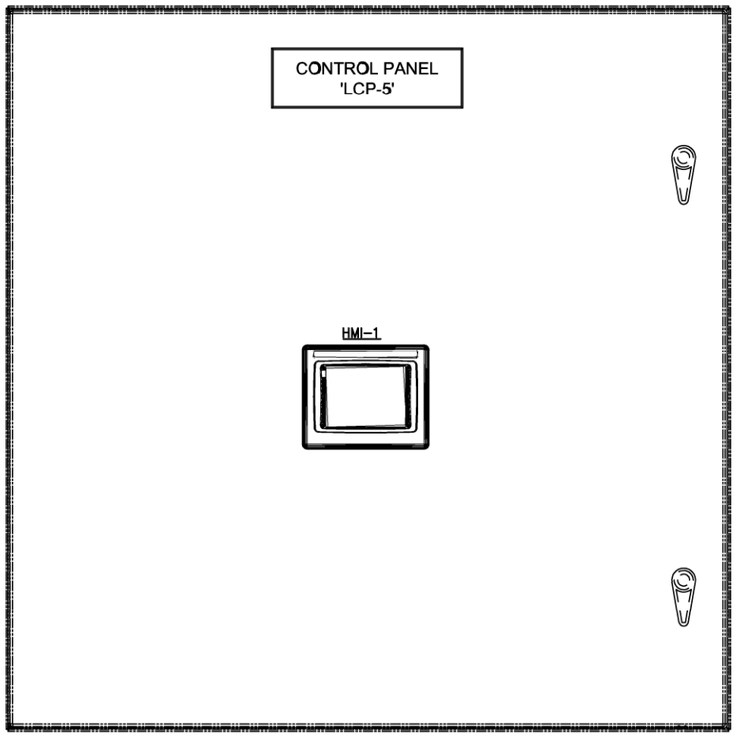
DRAWN BY:	CW,OM
DATE	NOVEMBER 2022
LOCATION	KODIAK
	S32 T27S R19W SM
PN	1128.63263.01

SHEET
E601



SIDE VIEW



FRONT VIEW

CONTROL PANEL FUNCTIONAL DESCRIPTION

CONTROL PANEL FEATURES:

THE PANEL IS A TRIPLEX LIFT STATION CONTROL PANEL, CONTROLLING 3ø PUMPS. THE CONTROLS INCLUDE LEAD/LAG PUMP CONTROL AND HIGH/LOW LEVEL ALARMS. THE PANEL VIEW DISPLAY SHALL INCLUDE THE FOLLOWING FEATURES:

1. GRAPHIC DISPLAY OF WET WELL LEVEL, LEAD AND LAG PUMP SETPOINTS, PUMPS RUNNING, PUMP SPEED, PUMP FAULT, PUMPS (VFD) NOT IN AUTO, AND HIGH AND LOW LEVEL ALARM SETPOINTS.
2. GRAPHIC DISPLAY ADJUSTMENT OF PUMP ON/OFF AND LEVEL ALARM SETPOINTS.
3. AUTO-ALTERNATION OF LEAD PUMP SELECT OPTIONS.
4. RUN-TIME METER AND CYCLE COUNTER.

THE PANEL HAS A VOLTAGE MONITOR WHICH WILL DISABLE THE OPERATION OF ALL PUMPS IN ALL MODES OF OPERATION DURING A HIGH/LOW VOLTAGE, PHASE LOSS OR PHASE IMBALANCE CONDITION.

EACH PUMP HAS A VARIABLE FREQUENCY DRIVE (VFD) WITH INTERNAL OVERLOAD, PHASE LOSS, PHASE REVERSAL AND PHASE IMBALANCE PROTECTION. IF ANY OF THESE CONDITIONS OCCURS THE PUMP WILL BE DISABLED. THE FAULT MUST BE MANUALLY CLEARED USING THE GRAPHIC DISPLAY.

EACH PUMP IS ALSO EQUIPPED WITH A PUMP MONITOR RELAY THAT SENSES PUMP SEAL CHAMBER LEAKAGE AND OVER-TEMPERATURE CONDITIONS. SENSING OF A SEAL CHAMBER LEAK SHALL CREATE AN ALARM CONDITION BUT THE PUMP WILL REMAIN OPERATIONAL, UNLESS OTHERWISE RECOMMENDED BY THE PUMP MANUFACTURER. SENSING OF AN OVER-TEMPERATURE CONDITION WILL DISABLE THE PUMP AND CREATE AN ALARM.

OPERATING MODES:

- HAND – IN HAND MODE THE PUMP WILL RUN CONTINUOUSLY UNLESS AN OVERLOAD, VOLTAGE MONITOR, VFD OR OVER-TEMPERATURE FAULT OCCURS. A PUMP SHUTDOWN CONDITION WILL CREATE AN ALARM AND RESULT IN PUMP SHUTDOWN.
- OFF – IN THE OFF MODE THE PUMP WILL BE DISABLED.
- AUTO – IN THE AUTO MODE THE NORMAL PUMPING OPERATION WILL BE IN A LEAD/LAG1/LAG2 CONFIGURATION WITH ALL PUMP SELECTOR SWITCHES IN 'AUTO' AND THE CONTROL SET TO AUTO-ALTERNATE SO THAT THE LEAD, LAG1 AND LAG2 PUMPS ALTERNATE AUTOMATICALLY ON EACH PUMPING CYCLE. WHEN A PUMP IS CALLED TO RUN IT WILL RUN UNLESS AN OVERLOAD, OVER-TEMPERATURE OR VOLTAGE MONITOR FAULT OCCURS. ANY OF THESE CONDITIONS WILL CREATE AN ALARM AND RESULT IN PUMP SHUTDOWN.

  THE LEAD PUMP IS ENERGIZED WHEN WASTEWATER IN THE WET WELL RISES TO AN ELEVATION ABOVE THE 'CALL FOR LEAD PUMP' LEVEL.

  IF THE LEAD PUMP DOES NOT ENERGIZE OR IF THE WASTEWATER RISES IN THE WET WELL FASTER THAN THE LEAD PUMP CAN REMOVE IT, THE LAG1 PUMP IS ENERGIZED WHEN THE WASTEWATER RISES ABOVE THE ELEVATION OF THE 'CALL FOR LAG1 PUMP' SETPOINT. SIMILARLY, IF LAG1 DOES NOT ENERGIZE OF IF THE WASTEWATER RISES IN THE WET WELL FASTER THAN THE LEAD AND LAG1 PUMPS CAN REMOVE IT, THE LAG2 PUMP IS ENERGIZED WHEN THE WASTEWATER RISES ABOVE THE ELEVATION OF THE 'CALL FOR LAG2 PUMP' SETPOINT.

  IF THE LEAD PUMP NOR THE LAG PUMPS ARE ENERGIZED OR IF THE WASTEWATER RISES IN THE PUMP STATION FASTER THAN THE PUMPS CAN REMOVE IT, THE 'HIGH LEVEL' ALARM IS ACTIVATED AND THE EXTERNAL AUDIBLE/VISUAL ALARMS ARE ENERGIZED WHEN THE INFLUENT REACHES A LEVEL ABOVE THE 'HIGH LEVEL' SETPOINT. THE EXTERNAL AUDIBLE AND VISIBLE (STROBE) ALARMS CAN BE DE-ENERGIZED BY PRESSING THE SILENCE BUTTON ON THE GRAPHIC DISPLAY. THE GRAPHIC DISPLAY ALARM INDICATION WILL REMAIN ON AS LONG AS THE ALARM CONDITION EXISTS. ONCE SILENCED, THE EXTERNAL ALARMS WILL RESPOND TO SUBSEQUENT ALARMS EVEN IF EXISTING ALARMS ARE STILL ACTIVE.

  ALL PUMPS ARE DE-ENERGIZED WHEN WASTEWATER IN THE WET WELL FALLS BELOW THE ELEVATION OF THE 'PUMPS OFF' SETPOINT. IF THE LEVEL IN THE WET WELL CONTINUES TO FALL BELOW THE ELEVATION OF THE 'LOW LEVEL' SETPOINT, THE 'LOW LEVEL' ALARM IS ACTIVATED AND THE AUDIBLE/VISUAL ALARMS ARE ENERGIZED, AND ALL PUMPS WILL BE DISABLED.

COORDINATE WITH PUMP SUPPLIER AND CIVIL FOR WET WELL LEVEL ELEVATIONS.

THIS CONTROL PANEL SHALL INTERFACE WITH THE SCADA HEADEND SYSTEM LOCATED AT THE WWTF. THIS CONTROL PANEL SHALL INTERFACE WITH EXISTING LOCAL CONTROL PANEL LOCATED IN THE WWTF HEADWORKS BUILDING, AND WITH THE EXISTING LOCAL CONTROL PANEL LOCATED IN THE LS5 GENERATOR BUILDING. ALL MONITORING, ALARM, STATUS INFORMATION SHALL BE COMMUNICATED FROM LS5 AND LS5 GENERATOR BUILDING TO THE SCADA HEADEND.

REVISIONS			
REV	DATE	DESCRIPTION	BY

CITY OF KODIAK ALASKA

STATE OF ALASKA 49TH
Cory L. Wardrope
EE 129346
REGISTERED PROFESSIONAL ENGINEER
11/29/22

EDC, INC.
213 W. FIREWEED LANE
ANCHORAGE, AK 99503
(907) 276-7933
LICENSE NO. AECC705

KODIAK SANITARY SEWER
LIFT STATION 5

CONTROL PANEL FRONT ELEVATION AND NARRATIVE

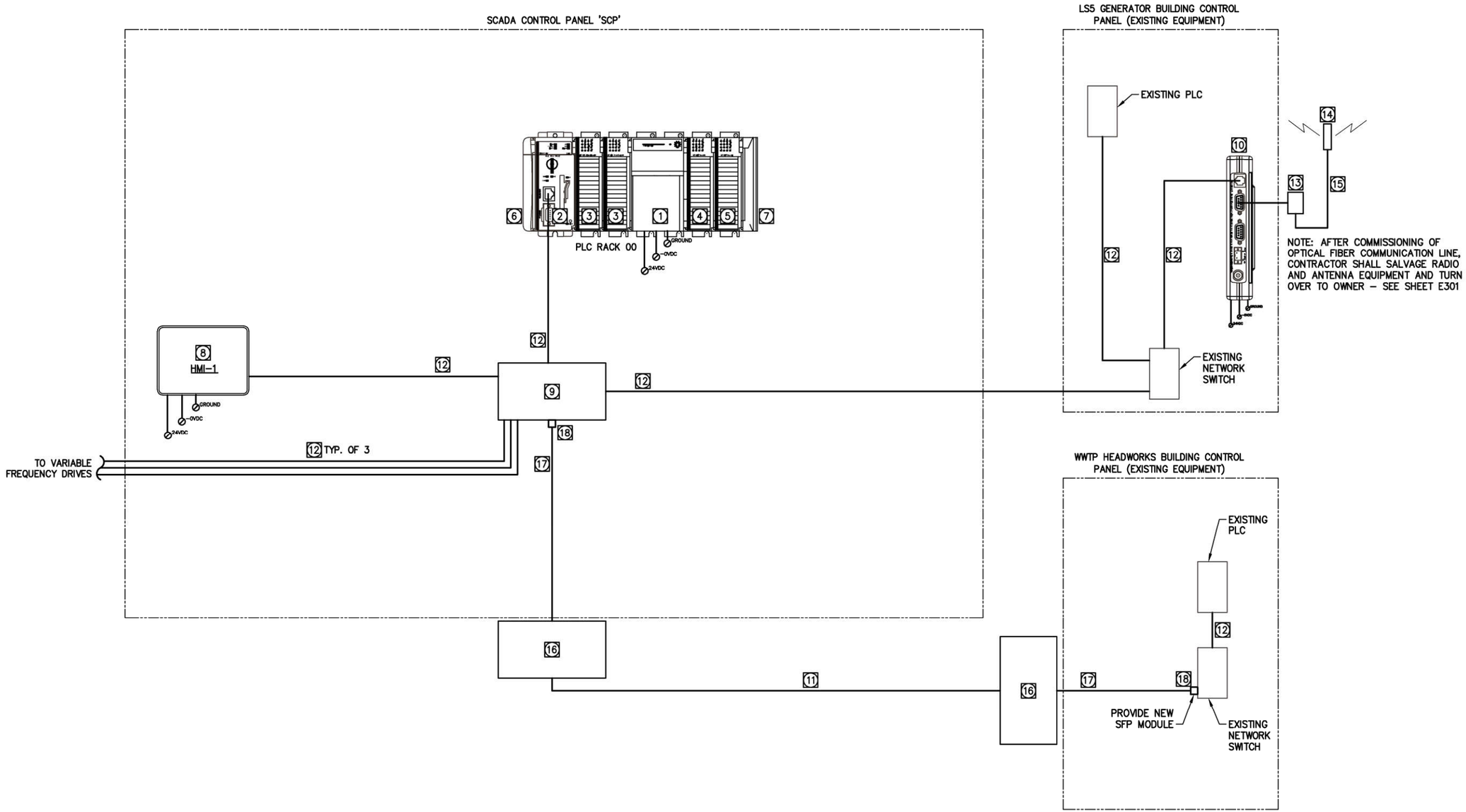
KODIAK, ALASKA

CHECKED BY:	CW
DESIGNED BY:	CW
DRAWN BY:	CW,OM
DATE	NOVEMBER 2022
LOCATION	KODIAK
	S32 T27S R19W SM
PN	1128.63263.01

SHEET
E701

DOWL FILE No: 235-42
PLOT DATE 2022-11-29 14:36 SAVED DATE 2022-10-25 13:14
p:\Projects\DOWL\kodiak lift station 5\Dwgs\Elec\E701 CONTROL PANEL FRONT ELEVATION AND NARRATIVE.dwg

REF	PART NUMBER	MFGR	MODULE USE / TYPE	REF	PART NUMBER	MFGR	MODULE USE / TYPE	REF	PART NUMBER	MFGR	MODULE USE / TYPE
1	1769–PB4	AB	24VDC POWER SUPPLY	7	1769–ECR	AB	RIGHT END CAP	13	–	–	BULKHEAD MOUNTED FILTER PROTECTOR (EXISTING)
2	1769–L33ER	AB	CENTRAL PROCESSING UNIT (CPU)	8	2715P–T12WD	AB	PANELVIEW DISPLAY	14	–	–	YAGI ANTENNA (EXISTING)
3	1769–IQ16	AB	16 POINT DISCRETE INPUT MODULE	9	1783–BMS20CGP	AB	MANAGED ETHERNET SWITCH	15	–	–	HELIAX CABLE (EXISTING)
4	1769–OB16	AB	16 POINT DISCRETE OUTPUT MODULE	10	ORBIT MCR	MDS	ORBIT SERIES TRANSCEIVER	16	–	CORNING	OPTICAL FIBER PATCH PANEL
5	1769–IF8	AB	8 POINT ANALOG INPUT MODULE	11	–	CORNING	12–STRAND OPTICAL FIBER CABLE, SINGLE MODE	17	–	CORNING	2–STRAND OPTICAL FIBER PATCH CORD, SINGLE MODE
6	1769–ECL	AB	LEFT END CAP	12	–	–	CAT6 ETHERNET CABLE, 4PR, RJ45	18	–	CISCO	OPTICAL FIBER SFP MODULE



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Cory L. Wardrope
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REGISTERED PROFESSIONAL ENGINEER
11/29/22

EDC, INC.
213 W. FIREWEED LANE
ANCHORAGE, AK 99503
(907) 276-7933
LICENSE NO. AECC705

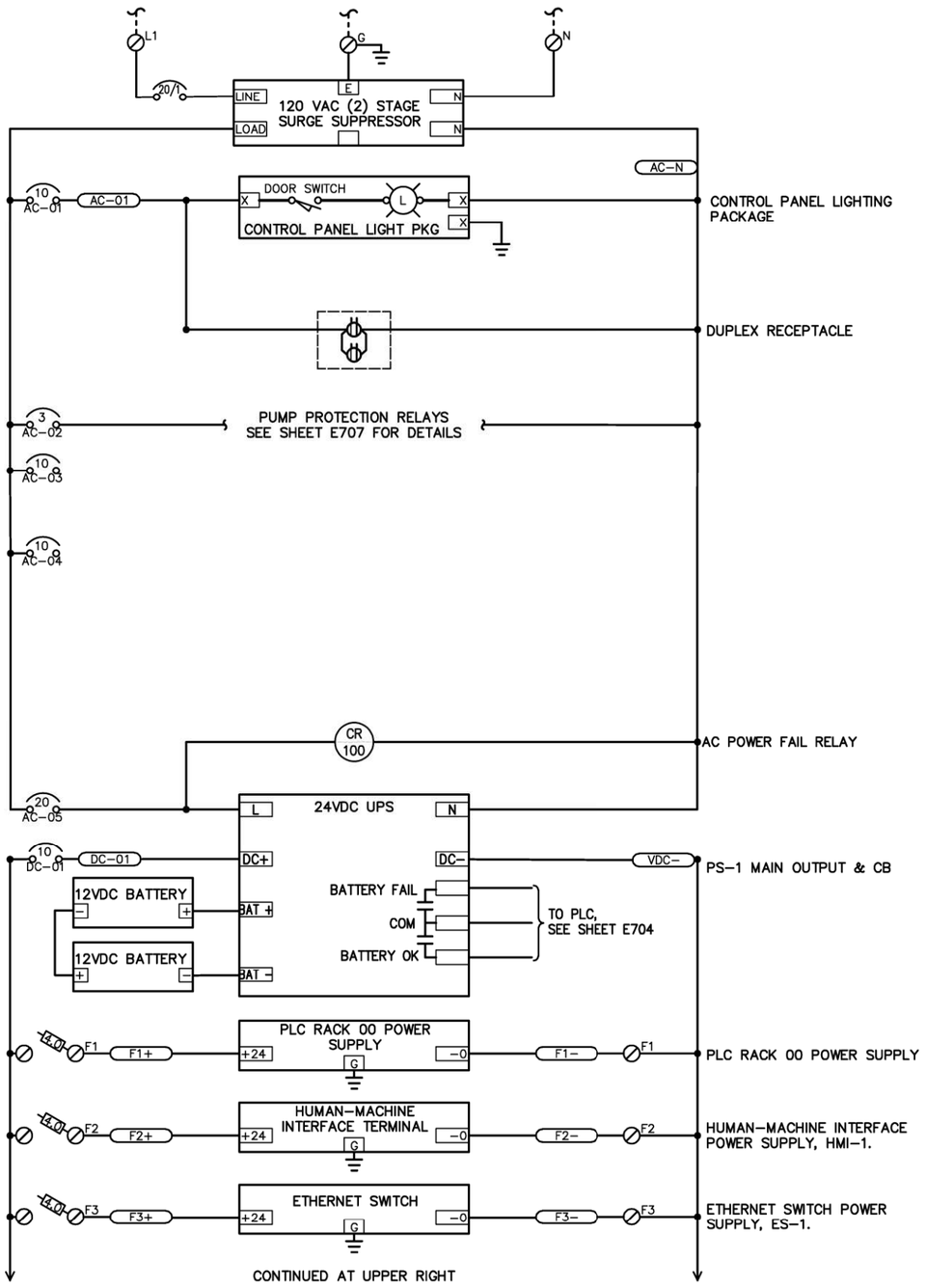
KODIAK SANITARY SEWER
LIFT STATION 5

CONTROL PANEL PLC RACK VIEW

KODIAK, ALASKA

CHECKED BY:	CW
DESIGNED BY:	CW
DRAWN BY:	CW,OM
DATE	NOVEMBER 2022
LOCATION	KODIAK
	S32 T27S R19W SM
PN	1128.63263.01

SHEET
E702



CONTINUED FROM LOWER LEFT

4.0 F4	F4+	SEE SHEET E704 FOR DETAILS	F4- F4 — RACK 00 DISCRETE INPUT MODULE, SLOT 2
4.0 F5	F5+	SEE SHEET E704 FOR DETAILS	F5- F5 — RACK 00 DISCRETE INPUT MODULE, SLOT 3
4.0 F6	F6+	SEE SHEET E705 FOR DETAILS	F6- F6 — RACK 00 DISCRETE OUTPUT MODULE, SLOT 4
4.0 F7	F7+	SEE SHEET E706 FOR DETAILS	F7- F7 — RACK 00 ANALOG INPUT MODULE, SLOT 5
4.0 F8	F8+		F8- F8 — SPARE
4.0 F9	F9+		F9- F9 — SPARE
4.0 F10	F10+		F10- F10 — SPARE
4.0 F11	F11+		F11- F11 — SPARE
4.0 F12	F12+		F12- F12 — SPARE
4.0 F13	F13+		F13- F13 — SPARE
4.0 F14	F14+		F14- F14 — SPARE
4.0 F15	F15+		F15- F15 — SPARE
4.0 F16	F16+		F16- F16 — SPARE
4.0 F17	F17+		F17- F17 — SPARE
4.0 F18	F18+		F18- F18 — SPARE

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CITY OF KODIAK ALASKA

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Cory L. Wardrope
EE 129346
REGISTERED PROFESSIONAL ENGINEER
11/29/22

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(907) 276-7933
LICENSE NO. AECC705

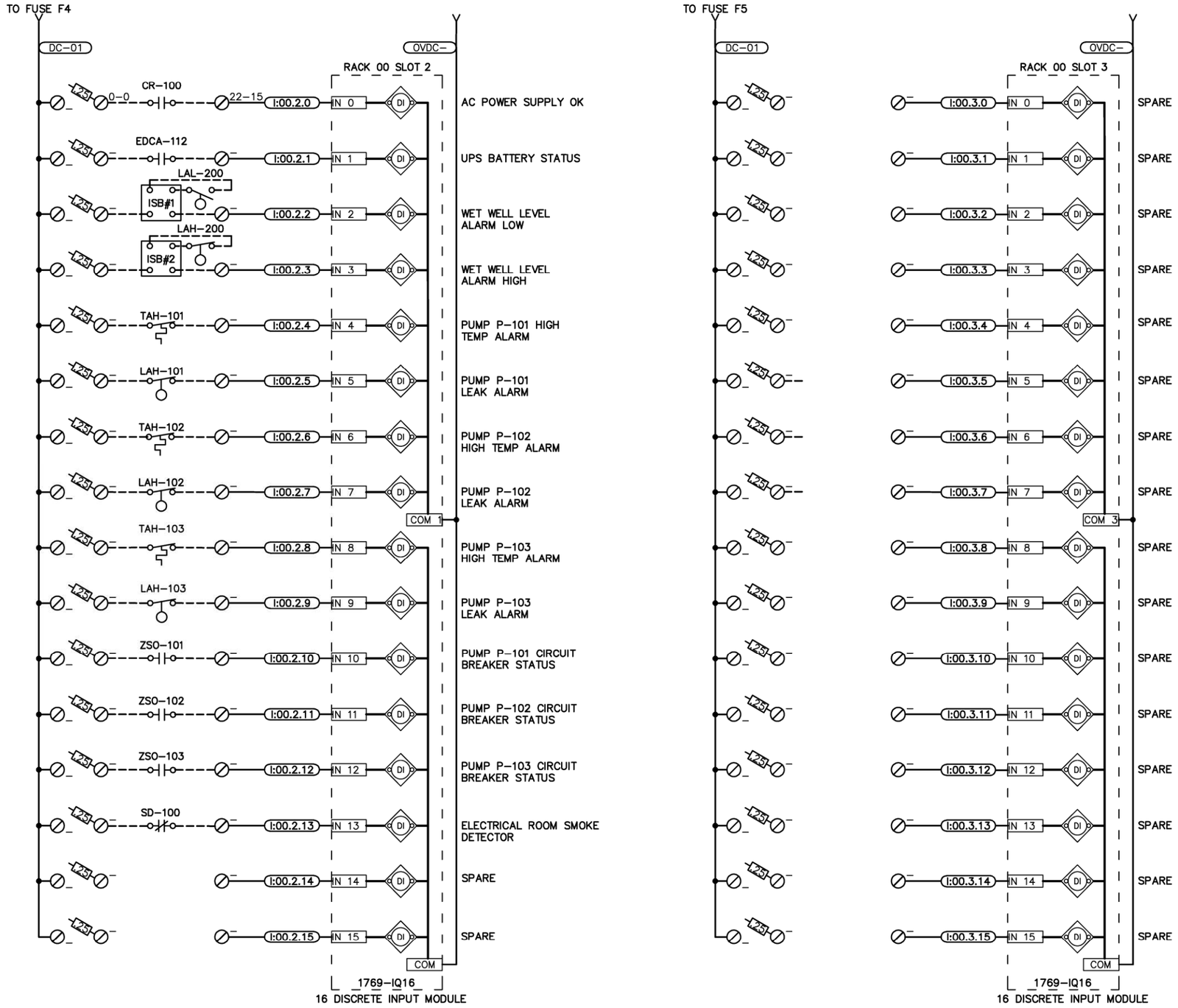
KODIAK SANITARY SEWER
LIFT STATION 5

CONTROL PANEL PLC POWER DISTRIBUTION

KODIAK, ALASKA

CHECKED BY:	CW
DESIGNED BY:	CW
DRAWN BY:	CW,OM
DATE	NOVEMBER 2022
LOCATION	KODIAK
	S32 T27S R19W SM
PN	1128.63263.01

SHEET
E703



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Cory L. Wardrope
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11/29/22

EDC, INC.
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(907) 276-7933
LICENSE NO. AECC705

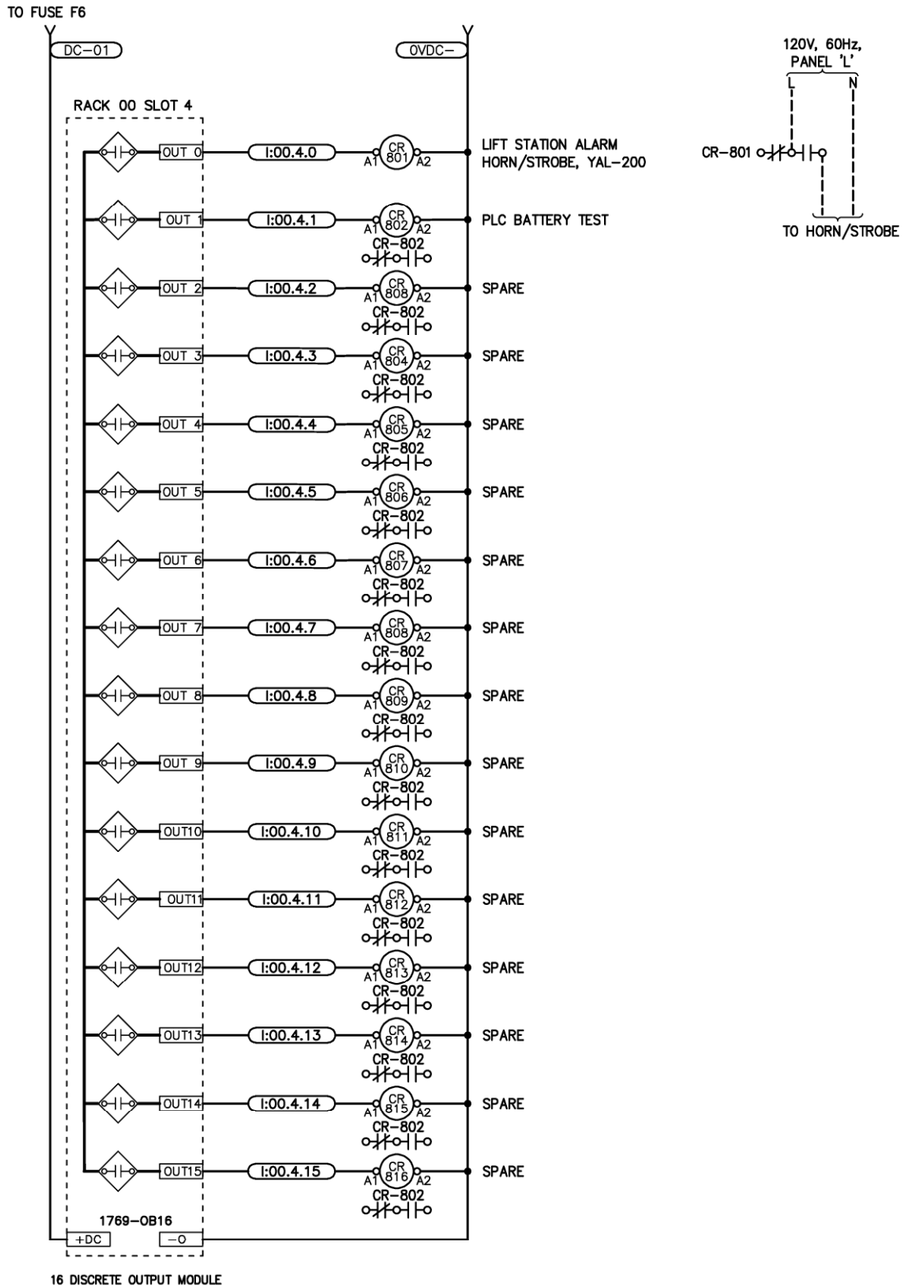
KODIAK SANITARY SEWER
LIFT STATION 5

CONTROL PANEL PLC DISCRETE INPUTS

KODIAK, ALASKA

CHECKED BY:	CW
DESIGNED BY:	CW
DRAWN BY:	CW,OM
DATE	NOVEMBER 2022
LOCATION	KODIAK
	S32 T27S R19W SM
PN	1128.63263.01

SHEET
E704



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CITY OF KODIAK ALASKA

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Cory L. Wardrope
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11/29/22

EDC, INC.
213 W. FIREWEED LANE
ANCHORAGE, AK 99503
(907) 276-7933
LICENSE NO. AECC705

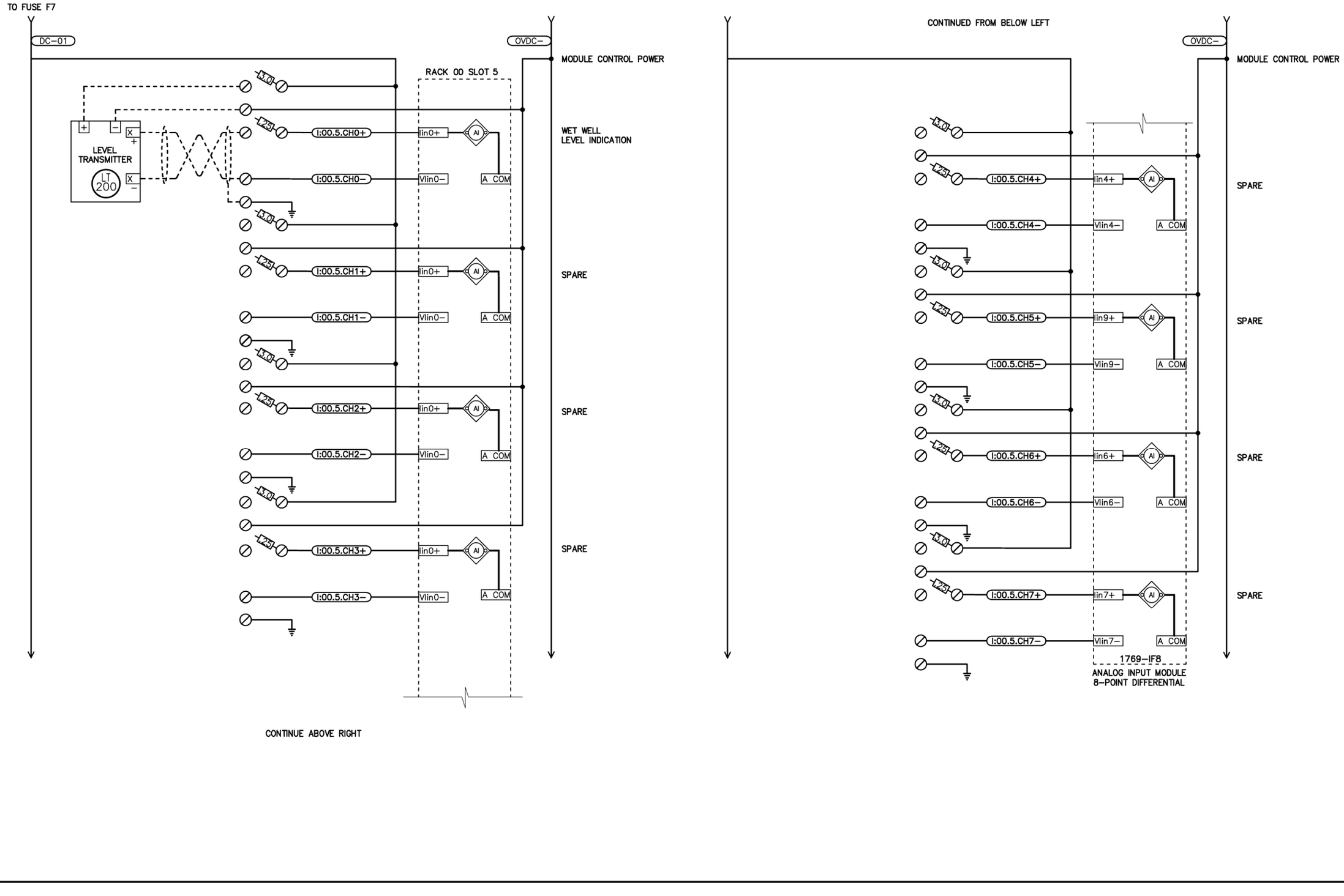
KODIAK SANITARY SEWER
LIFT STATION 5

CONTROL PANEL PLC DISCRETE OUTPUTS

KODIAK, ALASKA

CHECKED BY:	CW
DESIGNED BY:	CW
DRAWN BY:	CW,OM
DATE	NOVEMBER 2022
LOCATION	KODIAK
	S32 T27S R19W SM
PN	1128.63263.01

SHEET
E705



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CITY OF KODIAK ALASKA

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Cory L. Wardrope
EE 129346
REGISTERED PROFESSIONAL ENGINEER
11/29/22

EDC, INC.
213 W. FIREWEED LANE
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(907) 276-7933
LICENSE NO. AECC705

KODIAK SANITARY SEWER
LIFT STATION 5

CONTROL PANEL PLC ANALOG INPUTS

KODIAK, ALASKA

CHECKED BY:	CW
DESIGNED BY:	CW
DRAWN BY:	CW,DM
DATE	NOVEMBER 2022
LOCATION	KODIAK
	S32 T27S R19W SM
PN	1128.63263.01

SHEET
E706

DOWL FILE No: 235-42
PLOT DATE 2022-11-29 14:37 SAVED DATE 2022-10-06 13:03
p:\Projects\DOWL\kodiak lift station 5\Dwgs\Elec\E706 CONTROL PANEL PLC ANALOG INPUTS.dwg

SCADA CABINET

PLC RACK 00

DI

HIGH TEMP ALARM PUMP P-101 — COM1 / IN 4 — I:00.2.4

LEAK ALARM PUMP P-101 — COM1 / IN 5 — I:00.2.5

DO

PUMP P-101 RESET — +VDC / OUT 1 — 0:00.3.1

DI

HIGH TEMP ALARM PUMP P-102 — COM1 / IN 6 — I:00.2.6

LEAK ALARM PUMP P-102 — COM1 / IN 7 — I:00.2.7

DO

PUMP P-102 RESET — +VDC / OUT 1 — 0:00.3.1

DI

HIGH TEMP ALARM PUMP P-103 — COM1 / IN 8 — I:00.2.8

LEAK ALARM PUMP P-103 — COM1 / IN 9 — I:00.2.9

DO

PUMP P-103 RESET — +VDC / OUT 1 — 0:00.3.1

24V−

24V+

12.5 2.5

CR 301 (A2 / A1) — 12 / 11 / 14

(1)(3)

PUMP PROTECTION RELAY

HI TEMP — 8 / 7

LEAK — 11 / 10

9

12

L1 — N — (4)

3 — P-101-SF1

4 — P-101-SF2

1 — P-101-OT1

2 — P-101-OT2

PUMP P-101 MOTOR

MPR1 — CR MPR1 — (2) — PS1− — SEE SHEET E505

PUMP P-102 MOTOR

MPR2 — CR MPR2 — (2) — PS1− — SEE SHEET E505

PUMP P-103 MOTOR

MPR3 — CR MPR3 — (2) — PS1− — SEE SHEET E505

FIELD WIRING

SHEET NOTES

1. PUMP PROTECTION RELAY PROVIDED BY PUMP SUPPLIER. RELAYS SHALL BE LISTED FOR USE WITH NEW SUBMERSIBLE PUMPS AND SHALL BE LOCATED IN THE NEW SCADA LOCAL CONTROL PANEL 'LCP-5'.
2. STOP PUMP ON HIGH MOTOR TEMPERATURE.
3. DINRAIL MOUNT EQUIPMENT AND TERMINAL BLOCKS, TYP.
4. 120VAC RELAY POWER FROM SCADA. SEE SHEET E703 FOR DETAILS.

REVISIONS			
REV	DATE	DESCRIPTION	BY

CITY OF KODIAK ALASKA

STATE OF ALASKA — 49TH — Cory L. Wardrope — EE 129346 — REGISTERED PROFESSIONAL ENGINEER — 11/29/22

EDC, INC.
213 W. FIREWEED LANE
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(907) 276-7933
LICENSE NO. AECC705

KODIAK SANITARY SEWER
LIFT STATION 5

PUMP PROTECTION SCHEMATIC

KODIAK, ALASKA

CHECKED BY:	CW
DESIGNED BY:	CW
DRAWN BY:	CW,OM
DATE	NOVEMBER 2022
LOCATION	KODIAK
	S32 T27S R19W SM
PN	1128.63263.01

SHEET
E707