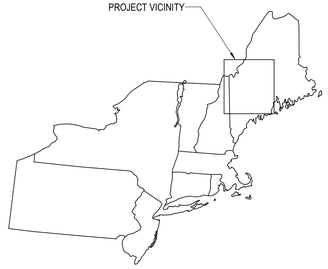
Contract Drawings For

EFFLUENT CHARACTERISTIC DESIGN AT EMBDEN REARING STATION



State Location Map

Vicinity Map

ISSUED FOR BIDS

HDR Project No. 10377389
BGS Project No. 3289

EMBDEN, MAINE
SOMERSET COUNTY

Date: SEPTEMBER 11, 2024

STATE OF MAINE
Jeffrey K. Chandler PE17167
LICENSED PROFESSIONAL ENGINEER

Digitally signed by Jeffrey K. Chandler, Jr.
Date: 2024.09.12 11:15:59-05'00'

Autodesk Docs://10377389_Maine_Effluent_Trimnt_DESIGN_2022/10377389-10-Gnrl.
9/11/2024 8:55:03 AM

INDEX OF DRAWINGS

SHEET #	DESCRIPTION
SERIES 10 - GENERAL	
10G-000	COVER SHEET
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10G-003	GENERAL LEGEND
10G-004	CIVIL LEGEND
10G-005	MECHANICAL LEGEND
10G-006	ELECTRICAL LEGEND
10G-007	INSTRUMENTATION LEGEND
10S-001	GENERAL STRUCTURAL NOTES
10S-501	GENERAL STRUCTURAL DETAILS 1
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10S-503	GENERAL STRUCTURAL DETAILS 3
10S-504	GENERAL STRUCTURAL DETAILS 4
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10E-651	ELECTRICAL SCHEDULES
SERIES 11 - SITE	
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11X-101	EXISTING SITE DEMOLITION PLAN
11C-101	GENERAL CIVIL SITE PLAN
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11C-115	EROSION CONTROL PLAN
11C-501	EROSION CONTROL DETAILS
11D-101	OVERALL PROCESS PIPING PLAN
11D-701	PROCESS 3D REPRESENTATIONS AND PHOTOGRAPHS
11E-101	OVERALL ELECTRICAL PLAN

INDEX OF DRAWINGS

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12S-301	SECTIONS
12S-303	ROOF FRAMING SECTIONS AND DETAILS
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15D-401	ENLARGED SLUDGE PUMP BLDG PROCESS PIPING PLAN & SECTION
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15D-501	PROCESS PIPING DETAILS
15M-101	MECHANICAL PLAN
15E-101	POWER PLAN

ADD ALTERNATE #1

ISSUE	DATE	DESCRIPTION
A	09/11/2024	ISSUED FOR BIDS

PROJECT MANAGER	A. GURSKI
CIVIL	J. GAGNON
STRUCTURAL	B. BRADLEY
ARCHITECTURAL	M. BASKIN
PROCESS	J. CHANDLER
MECHANICAL	J. CHANDLER
ELECTRICAL	A. KANER
PROJECT NUMBER	10377389

STATE OF MAINE
Jeffrey K. Chandler PE17167
LICENSED PROFESSIONAL ENGINEER

Digitally signed by Jeffrey K. Chandler, Jr.
Date: 2024.09.12 11:16:43-05'00'

MAINE
DEPT OF INLAND FISHERIES AND WILDLIFE

Effluent Characteristic Design at Embden Rearing Station

SHEET INDEX

0 1" 2"

FILENAME	10377389-10-G.rvt
SCALE	RNONE

SHEET
10G-001

A/C	AIR CONDITIONING
A/E	ARCHITECT/ENGINEER
A	AMPERE
AB	ANCHOR BOLT
ABAN	ABANDON
ABC	AGGREGATE BASE COURSE
ABT	ABOUT
AC	ALTERNATING CURRENT
ACK	ACKNOWLEDGE
ACP	ACOUSTIC CEILING PANEL, ASPHALTIC CONCRETE PAVEMENT
ACST	ACOUSTIC
AD	ADDENDUM, AREA DRAIN
ADDL	ADDITIONAL
ADH	ADHESIVE
ADJ	ADJUSTABLE, ADJACENT
AF	AMP FRAME, AMP FUSE
AFF	ABOVE FINISH FLOOR
AFG	ABOVE FINISH GRADE
AGGR	AGGREGATE
AI	AREA INLET, ANALOG INPUT
AIC	AMPS INTERRUPTING CAPACITY
ALIG	ALIGNMENT
ALT	ALTERNATE, ALTITUDE
ALUM	ALUMINUM
AM	ACOUSTICAL MATERIAL
AMB	AMBIENT
ANC	ANCHOR
AO	ANALOG OUTPUT
AP	ACCESS PANEL
APRX	APPROXIMATE
APVD	APPROVED
ARCH	ARCHITECTURAL
ASSY	ASSEMBLY
AT	ACOUSTICAL TILE, AMP TRIP
ATC	ACOUSTICAL TILE CEILING
ATM	ATMOSPHERE
AUTO	AUTOMATIC
AUX	AUXILIARY
AVE	AVENUE
AVG	AVERAGE
AWG	AMERICAN WIRE GAGE
AWT	ACOUSTICAL WALL TILE
B TO B	BACK TO BACK
BAL	BALANCE
BBD	BULLETIN BOARD
BC	BASE CABINET, BOTTOM CHORD, BOLT CENTER, BOLT CIRCLE
BD	BOARD
BE	BOTH ENDS, BELL END
BF	BOTH FACES, BOTTOM FACE, BLIND FLANGE, BOARD FEET
BITUM	BITUMINOUS
BKG	BACKING
BL	BASE LINE
BLDG	BUILDING
BLK	BLOCK
BLKG	BLOCKING
BM	BENCHMARK, BEAM
BOC	BACK OF CURB
BOD	BOTTOM OF DUCT
BOG	BOTTOM OF GRILLE
BOL	BOTTOM OF LOUVER, BOLLARD
BOP	BOTTOM OF PIPE
BOR	BOTTOM OF REGISTER
BOT	BOTTOM
BOU	BOTTOM OF UNIT
BP	BASE PLATE
BRG	BEARING
BRGP	BEARING PLATE
BRKT	BRACKET
BS	BOTH SIDES
BTU	BRITISH THERMAL UNIT
BTW	BETWEEN
BTWLD	BUTT WELD
BU	BELL UP, BUILT-UP
BUR	BUILT-UP ROOFING
BW	BOTH WAYS
BYP	BYPASS
CTOC	CENTER TO CENTER
C&G	CURB AND GUTTER
C	CHANNEL SHAPE, CENTIGRADE, CONDUIT
CAB	CABINET
CAP	CAPACITY
CAT	CATALOG, CATEGORY
CAV	CAVITY
CB	CATCH BASIN
CCB	CONCRETE BLOCK
CCW	COUNTER CLOCKWISE
CDF	CONTROLLED-DENSITY FILL
CE	CONCRETE EDGE
CER	CERAMIC
CF	CUBIC FEET (FOOT)
CFL	COUNTER FLASHING
CHBD	CHALKBOARD
CHD	CHORD
CHFR	CHAMFER
CHH	COMMUNICATION HANDHOLE
CI	CURB INLET
CIP	CAST-IN-PLACE
CIPB	CONCRETE INTERLOCKING PAVER BALLAST
CIRC	CIRCULATION, CIRCULAR
CJ	CONSTRUCTION JOINT
CKT	CIRCUIT
CL	CENTERLINE, CLASS, CLOSE
CLG	CEILING

CLKG	CAULKING
CLR	CLEAR
CMH	COMMUNICATION MANHOLE
CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONRY UNIT
CO	CLEANOUT, CONCRETE OPENING
COL	COLUMN
COM	COMMON
COMB	COMBINATION
COMM	COMMUNICATION
COMP	COMPOSITION, COMPRESSIBLE, COMPOSITE
CON	CONCENTRIC
CONC	CONCRETE
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUOUS
COOR	COORDINATE
CORR	CORROSIVE, CORRUGATED
CP	CHECKER PLATE, CONTROL POINT
CPLG	COUPLING
CRL	CORROSION-RESISTANT LINING
CSC	COMPRESSION SLEEVE COUPLING
CSK	COUNTERSINK
CSS	CLINIC SERVICE SINK
CT	CERAMIC TILE
CTJ	CONTRACTION JOINT
CTR	CENTER
CTRL	CONTROL
CVT	CULVERT
CU	COPPER, CUBIC
CW	CLOCKWISE
CY	CUBIC YARD
d	PENNY (NAIL MEASURE)
D	DEEP, DIFFUSER, DRAIN
DB	DUCT BANK, DECIBEL, DRY BULB
DBA	DEFORMED BAR ANCHOR
DBL	DOUBLE
DC	DIRECT CURRENT
DEG	DEGREE
DEG C	DEGREE CENTIGRADE
DEG F	DEGREE FAHRENHEIT
DEMO	DEMOLITION
DEP	DEPRESSED
DEPT	DEPARTMENT
DET	DETAIL
DI	DROP INLET, DUCTILE IRON, DIGITAL INPUT
DIA	DIAMETER
DIAG	DIAGONAL, DIAGRAM
DIFF	DIFFERENTIAL, DIFFERENCE
DIM	DIMENSION
DISCH	DISCHARGE
DIST	DISTANCE, DISTRIBUTION
DIV	DIVISION
DL	DEAD LOAD
DMJ	DOUBLE MECHANICAL JOINT
DMPF	DAMP PROOFING
DN	DOWN
DO	DISSOLVED OXYGEN, DIGITAL OUTPUT, DITTO
DP	DEPTH
DPDT	DOUBLE POLE, DOUBLE THROW
DPST	DOUBLE POLE, SINGLE THROW
DS	DOWN SPOUT
DT	DOUBLE TEE, DRIP TRAP ASSEMBLY
DUP	DUPLICATE
DWG	DRAWING
DWL	DOWEL
DWR	DRAWER
E	EAST
EA	EACH, EXHAUST AIR
EC	ELECTRICAL CONTRACTOR
ECC	ECCENTRIC
ED	EQUIPMENT DRAIN
EDB	ELECTRICAL DUCT BANK
EE	EACH END
EF	EACH FACE
EFF	EFFLUENT, EFFICIENCY
EHH	ELECTRICAL HANDHOLE
EIFS	EXTERIOR INSULATION & FINISH SYSTEM
EJ	EXPANSION JOINT
EL	ELBOW, ELEVATION
ELEC	ELECTRICAL
EMBD	EMBEDDED
EMER	EMERGENCY
EMH	ELECTRICAL MANHOLE
ENCL	ENCLOSURE
ENGR	ENGINEER
ENTR	ENTRANCE
EOP	EDGE OF PAVEMENT
EQ	EQUAL
EQUIP	EQUIPMENT
EQUIV	EQUIVALENT
ES	EACH SIDE, EQUAL SPACE, EMERGENCY SHOWER
ESEW	EMERGENCY SHOWER AND EYE WASH
EST	ESTIMATE
EW	EACH WAY, EMERGENCY, EYE/FACE WASH
EWC	ELECTRIC WATER COOLER
EWEF	EACH WAY, EACH FACE
EWTB	EACH WAY, TOP AND BOTTOM
EXC	EXCAVATION
EXH	EXHAUST
EXP	EXPANSION, EXPOSED
EXST	EXISTING
EXT	EXTERIOR, EXTERNAL, EXTENSION

F TO F	FACE TO FACE
F&B	FACE AND BYPASS
FAB	FABRICATE
FB	FLOOR BEAM
FBD	FIBERBOARD
FBG	FIBERGLASS
FBM	BOARD FOOT MEASURE
FBO	FURNISHED BY OWNER
FC	FLUSHING CONNECTION
FCA	FLANGED COUPLING ADAPTER
FD	FLOOR DRAIN
FDC	FLEXIBLE DUCT CONNECTION
FDR	FEEDER
FDTN	FOUNDATION
FE	FLANGED END
FEC	FIRE EXTINGUISHER CABINET
FES	FLARED END SECTION
FEXT	FIRE EXTINGUISHER
FF	FAR FACE, FACTORY FINISH, FLAT FACE
FG	FINISHED GRADE
FH	FIRE HYDRANT
FIG	FIGURE
FIN	FINISH
FJT	FLUSH JOINT
FL	FLOW, FLOW LINE
FLEX	FLEXIBLE
FLG	FLANGE
FLOR	FLUORESCENT
FLR	FLOOR
FLS	FLASHING, FLUSH
FN	FENCE
FO	FINISHED OPENING
FOB	FLAT ON BOTTOM
FOC	FACE OF CONCRETE, FACE OF CURB
FOF	FACE OF FINISH
FOM	FACE OF MASONRY
FOS	FACE OF STUDS
FOT	FLAT ON TOP
FPT	FEMALE PIPE THREAD
FR	FRAME
FRP	FIBERGLASS REINFORCED PLASTIC
FRTM	FIRE RETARDANT TREATED MATERIAL
FS	FLOOR SINK, FAR SIDE
FT	FEET, FOOT
FTG	FOOTING, FITTING
FUR	FURRED, FURRING
FURN	FURNITURE, FURNISH
FUT	FUTURE
FV	FACE VELOCITY
FW	FIELD WELD, FIRE WALL
FWD	FORWARD
FWE	FURNISHED WITH EQUIPMENT
FXTR	FIXTURE
G	GRILLE, GROUND
GA	GAGE (METAL THICKNESS)
GAL	GALLON
GALV	GALVANIZED
GB	GRAB BAR, GRADE BREAK
GC	GROOVED COUPLING
GD	GUARD
GEN	GENERAL
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFMU	GROUND FACE MASONRY UNIT
GG	GUTTER GRADE
GJ	GROOVED JOINT
GL	GLASS
GLB	GLASS BLOCK, GLULAM BEAM
GND	GROUND
GP	GUY POLE
GR	GRADE
GRTG	GRATING
GSB	GYPSUM SHEATHING BOARD
GT	GREASE TRAP
GVL	GRAVEL
GW	GUY WIRE
GWB	GYPSUM WALLBOARD
GYP	GYPSUM HARDBOARD
H	HIGH
HB	HOSE BIBB
HBD	HARDBOARD
HC	HANDICAPPED, HOLLOW CORE, HORIZONTAL CURVE, HORIZONTAL CENTERLINE
HD	HEAD, HOT DIP
HDR	HEADER
HDW	HARDWARE
HEX	HEXAGONAL
HGR	HANGER
HH	HANDHOLE
HID	HIGH-INTENSITY DISCHARGE
HM	HOLLOW METAL
HMA	HOT MIX ASPHALT
HORIZ	HORIZONTAL
HP	HIGH POINT, HORSEPOWER
HPC	HORIZONTAL POINT OF CURVATURE
HPS	HIGH-PRESSURE SODIUM
HPT	HORIZONTAL POINT OF TANGENCY
HR	HOSE REEL, HOUR
HS	HEADED STUD, HIGH STRENGTH
HSS	HOLLOW STRUCTURAL SHAPE
HT	HEIGHT
HTG	HEATING
HV	HIGH VOLTAGE
HVAC	HEATING, VENTILATING AND AIR CONDITIONING
HWD	HARDWOOD
HWL	HIGH WATER LEVEL
HYD	HYDRAULIC
HZ	HERTZ, CYCLES PER SECOND

ID	INSIDE DIAMETER, INTERIOR DIMENSION
IE	INVERT ELEVATION, FOR EXAMPLE
IF	INSIDE FACE
IH	INTAKE HOOD
IMP	IMPACT
IN	INCH
INC	INCLUDE, INCANDESCENT
INF	INFLUENT
INSTR	INSTRUMENTATION
INSUL	INSULATION
INT	INTERIOR, INTERSECTION
INTR	INTERMEDIATE, INTERIOR
INV	INVERT
IPS	IRON PIPE SIZE
IPT	INTERNAL PIPE THREAD
IR	INSIDE RADIUS, IRON ROD
IRR	IRRIGATION
ISO	ISOMETRIC
JB	JUNCTION BOX
JCT	JUNCTION
JF	JOINT FILLER
JST	JOIST
JT	JOINT
K	KIP
KB	KNEE BRACE
KCMIL	THOUSAND CIRCULAR MILS
KD	KNOCK DOWN
KO	KNOCK OUT
KSI	KIPS PER SQUARE INCH
KW	KILOWATT
L	ANGLE, LENGTH, LAVATORY, LINTEL
LAD	LADDER
LAM	LAMINATE
LATL	LATERAL
LB	LAG BOLT, POUND
LCTB	LIQUID CHALK AND TACK BOARD
LDG	LANDING
LDR	LEADER
LE	LIFTING EYE
LF	LINEAR FOOT
LG	LONG
LH	LEFT HAND
LIN	LINEAR
LIQ	LIQUID
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LMLU	LIQUID MARKER LECTURE UNIT
LNG	LONGITUDINAL
LOC	LOCATION
LP	LOW POINT
LPS	LOW-PRESSURE SODIUM
LR	LONG RADIUS
LT	LEFT
LTD	LIMITED
LTG	LIGHTING
LTL	LINTEL
LTNG	LIGHTNING
LV	LOW VOLTAGE
LVL	LAMINATED VENEER LUMBER
LVR	LOUVER
LW	LIGHTWEIGHT
LWC	LIGHTWEIGHT CONCRETE
LWL	LOW WATER LEVEL
MA	MIXED AIR
MACH	MACHINED
MAINT	MAINTENANCE
MAN	MANUAL
MATL	MATERIAL
MAX	MAXIMUM
MB	MACHINE BOLT
MBR	MEMBER
MC	MECHANICAL CONTRACTOR, MECHANICAL COUPLING, MOMENT CONNECTION
MCB	METAL CORNER BEAD
MCJ	MASONRY CONTROL JOINT
MDMJ	MODIFIED DOUBLE MECHANICAL JOINT
MECH	MECHANICAL
MED	MEDIUM
MFR	MANUFACTURER
MH	MANHOLE, METAL HALIDE
MIN	MINIMUM
MIR	MIRROR
MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT
ML	MASONRY LINTEL
MLO	MAIN LUGS ONLY
MMB	MEMBRANE
MO	MASONRY OPENING
MOD	MODULAR, MODIFY
MON	MONUMENT
MPT	MALE PIPE THREAD
MRGWB	MOISTURE-RESISTANT GYPSUM WALLBOARD
MS	MOP SINK
MSL	MEAN SEA LEVEL
MT	MOUNT
MU	MASONRY UNIT
MULL	MULLION
MV	MEDIUM VOLTAGE
MW	MONITORING WELL

N	NORTH, NEUTRAL
NA	NOT APPLICABLE
NAT	NATURAL, NATIONAL
NC	NORMALLY CLOSED
NEG	NEGATIVE
NF	NEAR FACE, NON-FUSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN, NUMBER
NOM	NOMINAL
NPS	NOMINAL PIPE SIZE
NPT	NATIONAL PIPE THREAD
NS	NEAR SIDE
NTS	NOT TO SCALE
NWL	NORMAL WATER LEVEL
O TO O	OUT TO OUT
OA	OUTSIDE AIR, OVERALL
OC	ON CENTER
OCPD	OVER CURRENT PROTECTION DEVICE
OD	OUTSIDE DIAMETER
OED	OPEN END DUCT
OF	OUTSIDE FACE, OFFICE FURNISHING
OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED OWNER INSTALLED
OG	ORIGINAL GROUND
OH	OVERHEAD
OPNG	OPENING
OPP	OPPOSITE
OPT	OPTIONAL
OR	OUTSIDE RADIUS
ORD	OVERFLOW ROOF DRAIN
ORIG	ORIGINAL
OVFL	OVERFLOW
OVHG	OVERHANG
OZ	OUNCE
P	PAINT
PA	PUBLIC ADDRESS
PAR	PARALLEL, PARAPET
PB	PANIC BAR, PULL BOX
PBD	PARTICLE BOARD
PC	POINT OF CURVE, PIECE, PRECAST
PCC	POINT OF COMPOUND CURVATURE
PCF	POUNDS PER CUBIC FOOT
PCT	PERCENT
PE	PLAIN END
PED	PEDESTAL
PEN	PENETRATION
PERF	PERFORATED
PERM	PERMANENT
PERP	PERPENDICULAR
PF	POWER FACTOR
PFMU	PREFACED MASONRY UNIT
PH	PHASE
PI	POINT OF INTERSECTION
PKG	PACKAGE
PL	PLATE, PROPERTY LINE, PRECAST LINTEL
PLAS	PLASTER
PLAT	PLATFORM
PLBG	PLUMBING
PLF	POUNDS PER LINEAR FOOT
PNEU	PNEUMATIC
POL	POLISH
POS	POSITIVE, POSITION
PP	POLYPROPYLENE, POWER POLE
PRC	POINT OF REVERSE CURVATURE
PREF	PREFINISHED
PREFAB	PREFABRICATED
PRELIM	PRELIMINARY
PREP	PREPARE
PRES	PRESSURE
PRI	PRIMARY
PROP	PROPERTY, PROPOSED
PROT	PROTECTION
PS	PIPE SUPPORT
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSIA	POUNDS PER SQUARE INCH ABSOLUTE
PSIG	POUNDS PER SQUARE INCH GAGE
PST	PRESTRESSED
PT	POINT, POINT OF TANGENCY
PTN	PARTITION
PVC	POLYVINYL CHLORIDE, POINT OF VERTICAL CURVE
PVC-RGS	PVC COATED RGS
PVMT	PAVEMENT
PWD	PLYWOOD
PWJ	PLYWOOD WEB JOIST
PZ	PIEZOMETER
Q	RATE OF FLOW
QT	QUARRY TILE
QTR	QUARTER
QTY	QUANTITY
QUAL	QUALITY

R&R	REMOVE AND REPLACE
R&S	REMOVE AND SALVAGE
R	RADIUS, REGISTER, RISER
RA	RETURN AIR
RB	RESILIENT BASE, ROCK BERM
RCPT	RECEPTACLE
RD	ROOF DRAIN
REC	RECESS
RECD	RECEIVED
RECT	RECTANGULAR
RED	REDUCER
REF	REFERENCE
REINF	REINFORCING
REM	REMOVE
REQD	REQUIRED
RESIL	RESILIENT
RET	RETAINING, RETURN
REV	REVISION, REVERSE
RF	RESILIENT FLOORING
RFG	ROOFING
RFL	REFLECTED, REFLECTOR
RGH	ROUGH
RGS	RIGID GALVANIZED STEEL
RH	RELIEF HOOD, RIGHT HAND, RELATIVE HUMIDITY
RL	REQUIRED LAP
RLFA	RELIEF AIR
RND	ROUND
RNG	RUNNING
RO	ROUGH OPENING
ROW	RIGHT-OF-WAY
RPM	REVOLUTIONS PER MINUTE
RR	RAILROAD
RSP	ROCK SLOPE PROTECTION
RT	RIGHT
RVT	RESILIENT VINYL TILE
RY	READY
S	SOUTH, SINK
SA	SUPPLY AIR
SAMU	SOUND-ABSORBING MASONRY UNIT
SAN	SANITARY
SB	SPLASH BLOCK
SC	SOLID CORE
SCH	SCHEDULE
SCHEM	SCHEMATIC
SCN	SCREEN
SE	STEEL/ALUMINUM EDGE
SEC	SECONDARY, SECONDS
SECT	SECTION
SEP	SEPARATE
SF	SQUARE FOOT, SILT FENCE
SG	SHEET GLASS, SEALANT GROOVE
SH	SHOWER
SHT	SHEET
SHTG	SHEATHING
SIL	SILENCE
SIM	SIMILAR
SJ	SLAB JOINT
SL	SLOPE, STEEL LINTEL
SLTD	SLOTTED
SLV	SLEEVE
SMLS	SEAMLESS
SOG	SLAB ON GRADE
SP	SOUNDPROOF, STANDPIPE
SPA	SPACING
SPEC	SPECIFICATION
SPLY	SUPPLY
SPST	SINGLE POLE SINGLE THROW
SPT	SET POINT
SQ	SQUARE
SR	SHORT RADIUS
SS	SERVICE SINK
SST	STAINLESS STEEL
ST	STREET
STA	STATION
STD	STANDARD
STIF	STIFFENER
STIR	STIRRUP
STL	STEEL
STOR	STORAGE
STR	STRUCTURAL, STRAIGHT
SUB	SUBSTITUTE
SUC	SUCTION
SUSP	SUSPENDED
SY	SQUARE YARD
SYM	SYMBOL
SYMM	SYMMETRICAL
SYN	SYNTHETIC
SYS	SYSTEM
T&B	TOP AND BOTTOM
T&G	TONGUE AND GROOVE
T	TILE, TREAD
TA	TOILET ACCESSORY, TEMPERED AIR
TAN	TANGENT
TBM	TEMPORARY BENCHMARK
TCE	TEMPORARY CONSTRUCTION EASEMENT
TEF	TROWELED EPOXY FLOORING
TEMP	TEMPORARY, TEMPERATURE
THD	THREAD
THK	THICK
THRESH	THRESHOLD
TKBD	TACK BOARD

TOB	TOP OF BOLT, TOP OF BANK, TOP OF BEAM, TOP OF BERM
TOC	TOP OF CURB, TOP OF CONCRETE
TOD	TOP OF DUCT
TOF	TOP OF FOOTING
TOG	TOP OF GRATING
TOL	TOLERANCE, TOP OF LEDGER
TOM	TOP OF MASONRY
TOP	TOP OF PLATE
TOPO	TOPOGRAPHY
TOS	TOP OF SLAB, TOP OF STEEL, TO OF SLOPE
TOW	TOP OF WALL
TP	TOILET PARTITION, TELEPHONE POLE, TOE PLATE, TRAP PRIMER
TPD	TOILET PAPER DISPENSER
TPG	TOPPING, THROUGH PLATE GIRDER
TR	TRANSOM
TRANS	TRANSITION
TRD	TRENCH DRAIN
TYP	TYPICAL
U	URINAL
UG	UNDERGROUND
ULT	ULTIMATE
UNFN	UNFINISHED
UNO	UNLESS NOTED OTHERWISE
UTIL	UTILITY
V	VENT, VELOCITY, VOLT
VA	VOLT AMPERE
VAC	VACUUM
VAR	VARNISH, VARIABLE, VOLT AMPERES REACTIVE
VB	VAPOR BARRIER, VINYL BASE, VALVE BOX
VC	VERTICAL CURVE
VCP	VITRIFIED CLAY PIPE
VCT	VINYL COMPOSITION TILE, VERTICAL CENTERLINE
VEL	VELOCITY
VENT	VENTILATION
VERT	VERTICAL
VERTS	VERTICAL REINFORCING
VG	VERTICAL GRAIN
VIF	VERIFY IN FIELD
VIN	VINYL
VOL	VOLUME
VPC	VERTICAL POINT OF CURVATURE
VPI	VERTICAL POINT OF INTERSECTION
VPT	VERTICAL POINT OF TANGENCY
VS	VERSUS, VAPOR SEAL
VTR	VENT THROUGH ROOF
VWC	VINYL WALL COVERING
W/	WITH
W/O	WITHOUT
W	WATT, WEST, WIDE, WINDOW, WIRE, WIDE FLANGE BEAM
WB	WOOD BASE
WC	WATER CLOSET, WATER COLUMN
WD	WOOD, WIDTH
WF	WIDE FLANGE, WASH FOUNTAIN
WG	WIRE GLASS, WATER GAGE
WH	WALL HYDRANT, WEEP HOLE
WI	WROUGHT IRON
WL	WATER LEVEL
WLD	WELDED
WM	WIRE MESH
WP	WEATHERPROOF
WS	WATERSTOP, WATER SURFACE
WSCT	WAINSCOT
WT	WEIGHT, WATER TIGHT
WTHP	WATERPROOF, WORKING POINT
WWF	WELDED WIRE FABRIC
XP	EXPLOSION-PROOF
XS	EXTRA STRONG
XSECT	CROSS SECTION
XXS	DOUBLE EXTRA STRONG
YH	YARD HYDRANT
YS	YIELD STRENGTH

GENERAL NOTES

1. THESE ABBREVIATIONS APPLY TO THE ENTIRE SET OF CONTRACT DRAWINGS.
2. LISTING OF ABBREVIATIONS DOES NOT IMPLY THAT ALL ABBREVIATIONS ARE USED IN THE CONTRACT DRAWINGS.
3. ABBREVIATIONS SHOWN ON THIS SHEET INCLUDE VARIATIONS OF A WORD. FOR EXAMPLE, "MOD" MAY MEAN MODIFY OR MODIFICATION, "INC" MAY MEAN INCLUDED OR INCLUDING, AND "REINF" MAY MEAN REINFORCE OR REINFORCING.
4. SEE INSTRUMENTATION AND GENERAL LEGEND SHEETS FOR PROJECT-SPECIFIC EQUIPMENT AND PIPING SYSTEM ABBREVIATIONS.

ISSUE	DATE	DESCRIPTION
A	09/11/2024	ISSUED FOR BIDS

PROJECT MANAGER	A. GURSKI
CIVIL	J. GAGNON
STRUCTURAL	B. BRADLEY
ARCHITECTURAL	M. BASKIN
PROCESS	J. CHANDLER
MECHANICAL	J. CHANDLER
ELECTRICAL	A. KANER
PROJECT NUMBER	10377389

STATE OF MAINE
Jeffrey K. Chandler PE17167
LICENSED PROFESSIONAL ENGINEER

Digitally signed by Jeffrey K. Chandler, Jr.
Date: 2024.09.12 11:41:39-05'00'

MAINE
DEPT OF INLAND FISHERIES AND WILDLIFE

Effluent Characteristic Design at Embden Rearing Station

GENERAL ABBREVIATIONS

0 1" 2"

FILENAME 10377389-10-G.rvt
SCALE NONE

SHEET 10G-002

Autodesk Docs://10377389_Maine_Effluent_Trtmnt_DESIGN_2022/10377389-10-G.rvt
9/11/2024 8:54:56 AM

MATERIALS IN PLAN/SECTION

FILLED REGIONS - MATERIALS
"MATERIAL" FILLED REGIONS ARE DRAFTING HATCH PATTERNS THAT REPRESENTS AN ACTUAL MATERIAL OR PRODUCT.

- MATERIAL - BITUMINOUS PAVING (ASPHALT)
- MATERIAL - CONCRETE - ARCHITECTURE PRECAST WALL PANEL
- MATERIAL - CONCRETE - ARCHITECTURAL PRECAST WALL PANEL
- MATERIAL - CONCRETE - CAST-IN-PLACE
- MATERIAL - CONCRETE - GLASS FIBER REINFORCED
- MATERIAL - CONCRETE - LIGHTWEIGHT
- MATERIAL - CONCRETE - STRUCTURAL
- MATERIAL - EFIS
- MATERIAL - FILL - COURSE - CRUSHED STONE
- MATERIAL - FILL - FINE - GRAVEL
- MATERIAL - FILL - FINE - SAND
- MATERIAL - FILL - MEDIUM - GRAVEL
- MATERIAL - FILTER POINT MAT - PLAN
- MATERIAL - FIREPROOFING - MINERAL WOOL
- MATERIAL - FIREPROOFING - SEALANT
- MATERIAL - FIREPROOFING - SPRAY-APPLIED
- MATERIAL - FLOOR - CARPET - STYLE 1
- MATERIAL - FLOOR - CARPET - STYLE 2
- MATERIAL - FLOOR - TERRAZZO - STYLE 1
- MATERIAL - FLOOR - TERRAZZO - STYLE 2
- MATERIAL - GLAZING
- MATERIAL - GLAZING - SPANDREL
- MATERIAL GRATING - PLAN
- MATERIAL GRATING - SECTION
- MATERIAL - GROUT
- MATERIAL - GYPSUM - PLASTER
- MATERIAL - GYPSUM - WALLBOARD
- MATERIAL - INSULATION - BATTING - SECTION
- MATERIAL - INSULATION - RIGID FOAM
- MATERIAL - MASONRY - BRICK
- MATERIAL - MASONRY - CMU
- MATERIAL - MASONRY - DOLMITE
- MATERIAL - MASONRY - MORTAR
- MATERIAL - MASONRY - STRUCTURAL CLAY TILE
- MATERIAL - METAL - ALUMINUM
- MATERIAL - METAL - CHECKERED PLATE - PLAN
- MATERIAL - METAL - ORNAMENTAL
- MATERIAL - METAL - STEEL
- MATERIAL - PLASTER STUCCO
- MATERIAL - PLASTIC
- MATERIAL - RESILIENT TILE
- MATERIAL - RIPRAP - PLAN AND/OR SECTION
- MATERIAL - SEALANT - ACOUSTICAL
- MATERIAL - SEALANT - FIRE SEALANT
- MATERIAL - SOD - SECTION

- MATERIAL - SOIL - COMPACTED - EARTH
- MATERIAL - SOIL - COMPACTED - FINE
- MATERIAL - SOIL - UNDISTURBED - FINE
- MATERIAL - SOIL - UNDISTURBED - EARTH
- MATERIAL - STONE - CAST
- MATERIAL - STONE - CUT FINISHED
- MATERIAL - SYSTEM - DRAINABLE EXTERIOR INSULATION AND FINISH
- MATERIAL - TERRAZZO - 1
- MATERIAL - TERRAZZO - 2
- MATERIAL - TILE - PORCELAIN
- MATERIAL - WEEP JOINT MORTAR PROTECTION SYSTEM - SECTION
- MATERIAL - WOOD - FINISH - COURSE GRAIN
- MATERIAL - WOOD - FINISH - FINE GRAIN
- MATERIAL - WOOD - FINISH VERTICAL GRAIN
- MATERIAL - WOOD FLOORING
- MATERIAL - WOOD - GLULAM
- MATERIAL - WOOD - MDF
- MATERIAL - WOOD - PARTICLE BOARD
- MATERIAL - WOOD - PLYWOOD
- MATERIAL - WOOD - CONTINUOUS - SECTION
- MATERIAL - WOOD - BLOCKING - SECTION

Filled Regions - Graphics
GRAPHIC FILLED REGIONS ARE DRAFTING HATCH PATTERNS THAT ARE A SIMPLE GRAPHIC PATTERN AND DOES NOT REPRESENT A MATERIAL OR PRODUCT.

- MATERIAL - RESILIENT SHEET
- GRAPHIC - CONTRACT LIMIT - NOT-IN-CONTRACT

Filled Regions - Surface
SURFACE FILLED REGIONS ARE MODELING HATCH PATTERNS THAT REPRESENT A MATERIAL OR PRODUCT AS REPRESENTED ON A VERTICAL OR HORIZONTAL SURFACE.

Ceiling Tiles

- SURFACE - CEILING TILE - 24" x 24"
- SURFACE - CEILING TILE - 24" x 24" - DEMO
- SURFACE - CEILING TILE - 24" x 48"
- SURFACE - CEILING TILE - 24" x 48" - DEMO
- SURFACE - CEILING TILE - 24" x 72"
- SURFACE - CEILING TILE - 24" x 72" - DEMO
- SURFACE - CEILING TILE - 48" x 48"
- SURFACE - CEILING TILE - 48" x 48" - DEMO
- SURFACE - CEILING - ACOUSTICAL TILE - SECTION

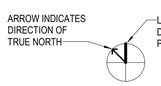
Masonry

- SURFACE - MASONRY - BRICK - MODULAR - RUNNING BOND
- SURFACE - MASONRY - CMU - 8" x 16" - RUNNING BOND
- SURFACE - MASONRY - CMU - 8" x 16" - STACKED BOND

Metals

- SURFACE - ENTRANCE GRID - 65 MM

GENERAL SYMBOLOGY



NORTH ARROW

PLAN TITLE ON SHEET

DETAIL

FOR REFERENCING DETAILS INCLUDED IN DRAWING SET.
1. DETAIL NUMBER
2. SHEET WHERE DETAIL IS LOCATED *

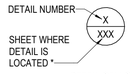
SECTION

1. SECTION NUMBER
2. SHEET WHERE SECTION VIEW IS FIRST CUT *

ELEVATION

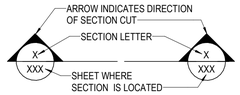
1. ELEVATION IDENTIFICATION NUMBER
2. SHEET WHERE POINT OF VIEW MARKER CAN BE FOUND *

SECTION, DETAIL, ELEVATION TITLE

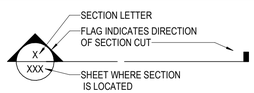


DETAIL CALLOUT

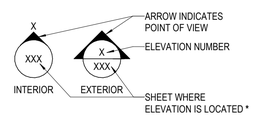
FOR REFERENCING DETAILS INCLUDED IN DRAWING SET.



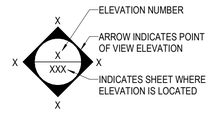
FULL BUILDING SECTION CUT MARKER



SECTION CUT MARKER



SINGLE ELEVATION OR PHOTO MARKER



MULTIPLE ELEVATION OR PHOTO MARKER

TARGET ELEVATION MARKER

* EXCEPTIONS WHERE THE SHEET NUMBER IS REPLACED BY A DASH (-)

1. FOR COMMON DETAILS, SECTIONS, ELEVATIONS OR DETAILS THAT ARE CUT OR CALLED OUT ON MULTIPLE SHEETS.
2. SECTIONS, ELEVATIONS OR DETAILS THAT ARE LOCATED ON THE SAME SHEET THEY ARE CUT OR CALLED OUT ON.

GENERAL TAGGING

ROOM/SPACE NAME
XX-XX — ROOM OR SPACE

XXX — DOOR

DOOR MARK / STAIR
XXX | XXX
XXXX | XXXX — FIRE DOOR/STAIR

A — NEW COLUMN GRID BUBBLE

A — EXISTING COLUMN GRID BUBBLE

X — WALL TYPE

X — CURTAIN WALL

X — WINDOW TYPE

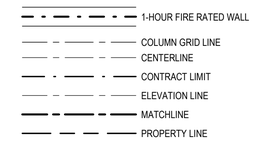
X — ACCESSORY, FURNITURE, AND MISCELLANEOUS EQUIPMENT IDENTIFIER

KEYNOTE NUMBER
X — LOUVER TYPE
— SHEET KEYNOTE

— REVISION DELTA

EQUIPMENT IDENTIFICATION

NOTE: THE BELOW EQUIPMENT TAG IS AN EXAMPLE ONLY. MODIFY FIELDS AS REQUIRED PER THE PROJECT STANDARD.



PIPING

NOTE: THE BELOW PIPE TAG IS AN EXAMPLE ONLY. MODIFY FIELDS AS REQUIRED PER THE PROJECT STANDARD.

GENERAL LINE STYLES

- 4-HOUR FIRE RATED WALL
- 3-HOUR FIRE RATED WALL
- 2-HOUR FIRE RATED WALL
- 1-HOUR FIRE RATED WALL
- COLUMN GRID LINE
- CENTERLINE
- CONTRACT LIMIT
- ELEVATION LINE
- MATCHLINE
- PROPERTY LINE

SHEET NAMING CONVENTION

AREA DESIGNATION

10	GENERAL
11	SITE
12	CHEMICAL DOSING BUILDING (ADD ALTERNATE #1)
13	DRUMFILTER BUILDING AND BACKWASH LIFT STATION
14	CLARIFIER AND CLARIFIER LIFT STATION
15	SLUDGE STORAGE TANK AND SLUDGE MIXING BUILDING

SINGLE DISCIPLINE DESIGNATOR & DISCIPLINE ORDER*

G	GENERAL
X	DEMOLITION/HAZARDOUS MATERIAL
V	SURVEYING/MAPPING
B	GEOTECHNICAL
C	CIVIL
L	LANDSCAPE
S	STRUCTURAL
A	ARCHITECTURAL
I	INTERIORS
Q	EQUIPMENT
F	FIRE PROTECTION
P	PLUMBING
D	PROCESS
M	MECHANICAL
E	ELECTRICAL
W	DISTRIBUTED ENERGY
T	TELECOMMUNICATIONS
R	RESOURCE
U	UNIVERSAL/OTHER DISCIPLINES
Y	INSTRUMENTATION & CONTROLS
Z	CONTRACTOR/SHOP DRAWINGS
O	OPERATIONS

SHEET TYPE DESIGNATOR

0	GENERAL (SYMBOLS, LEGENDS)
1	PLANS
2	ELEVATIONS
3	SECTIONS
4	LARGE SCALE VIEWS
5	DETAILS
6	SCHEDULES AND DIAGRAMS
7	OTHER VIEWS

*NCS ALLOWS THE COMBINED USE OF BOTH SINGLE AND DOUBLE LETTER DISCIPLINE DESIGNATORS WITHIN A PROJECT.

EXAMPLE (WITH AREA DESIGNATION, SINGLE LETTER DESIGNATOR)

1	2						BUILDING 12
AREA DESIGNATION							
		D	-				PROCESS
DISCIPLINE DESIGNATOR							
				1			PLAN
SHEET TYPE DESIGNATOR							
					0	1	SHEET 01
SHEET NUMBER							
1	2	D	-	1	0	1	EXAMPLE

FIRE & LIFE SAFETY

GENERAL NOTES

1. THIS IS A STANDARD SHEET SHOWING COMMON SYMBOLOGY. ALL SYMBOLS ARE NOT NECESSARILY USED ON THIS PROJECT.
2. SCREENING OR SHADING OF WORK IS USED TO INDICATE EXISTING COMPONENTS OR TO DE-EMPHASIZE PROPOSED IMPROVEMENTS TO HIGHLIGHT SELECTED TRADE WORK. REFER TO CONTEXT OF EACH SHEET FOR USAGE.

ISSUE	DATE	DESCRIPTION
A	09/11/2024	ISSUED FOR BIDS

PROJECT MANAGER	A. GURSKI
CIVIL	J. GAGNON
STRUCTURAL	B. BRADLEY
ARCHITECTURAL	M. BASKIN
PROCESS	J. CHANDLER
MECHANICAL	J. CHANDLER
ELECTRICAL	A. KANER
PROJECT NUMBER	10377389

STATE OF MAINE — Jeffrey K. Chandler PE17167 — LICENSED PROFESSIONAL ENGINEER

Digitally signed by Jeffrey K. Chandler, Jr.
Date: 2024.09.12 11:17:13-05'00'

MAINE — DEPT. OF INLAND FISHERIES AND WILDLIFE

Effluent Characteristic Design at Embden Rearing Station

GENERAL LEGEND

0 — 1" — 2"

FILENAME: 10377389-10-G.rvt
SCALE: NONE

SHEET: **10G-003**

Autodesk Docs://10377389_Maine_Effluent_Trtmnt_DESIGN_2022/10377389-10-G.rvt
9/11/2024 8:54:52 AM

CIVIL MAPPING SYMBOLOGY

- EMBANKMENT SLOPE (CUT)
- EMBANKMENT SLOPE (FILL)
- H:V — EMBANKMENT SLOPE RIGHT ARROW RIGHT
- H:V — EMBANKMENT SLOPE LEFT ARROW LEFT
- 123 — SPOT ELEVATION/POINT #
- SURVEY BENCHMARK
- CP-X — SURVEY CONTROL POINT
- HORIZONTAL CONTROL POINT
- VERTICAL CONTROL POINT
- SECTION CORNER MONUMENT
- SECTION CORNER NO MONUMENT
- IDENTIFICATION AND APPROXIMATE LOCATION OF SOIL TEST HOLE
- TEST PIT
- SOIL BORING
- BUOY
- FLOW ARROW
- WATER LEVEL IN SECTION/PROFILE
- TIDE GAUGE
- EXISTING UTILITY POLE
- DOWNGUY
- J — EXTERIOR UTILITY JUNCTION BOX
- XXX — INTERSTATE HIGHWAY SYMBOL
- XXX — US HIGHWAY SYMBOL
- XXX — STATE HIGHWAY SYMBOL
- HAY BALE SILT CHECK
- TEMPORARY SEDIMENT TRAP
- PIEZOMETER
- RXR — RAIL SIGNAL
- RAIL SWITCH
- SIGN
- TIRE TREDDLE
- TRAFFIC ARM WITH CARD READER
- TRAFFIC ARM MECHANICAL SWING

- CO — CLEANOUT
- CULVERT END SYMBOL (WITH CULVERT SHOWN BETWEEN SYMBOLS)
- X — FIRE HYDRANT
- F — FUEL OIL METER
- F — FUEL OIL MANHOLE
- F — FUEL OIL VAULT
- GT — GREASE TRAP
- GC — GRIT CHAMBER
- HEADWALL
- I — INDUSTRIAL WASTE WATER METER
- I — INDUSTRIAL WASTE WATER MANHOLE
- G — NATURAL GAS METER
- G — NATURAL GAS RECEIVER
- G — NATURAL GAS TRAP
- G — NATURAL GAS LINE VAULT
- MW — MONITORING WELL
- X — POST INDICATOR VALVE
- PS X — PUMP STATION
- S — SANITARY MANHOLE
- ST — SEPTIC TANK
- X — TANK BELOW GROUND
- X — TANK HORIZONTAL ABOVE GROUND
- X — TANK VERTICAL ABOVE GROUND

- CB — STORM CATCH BASIN
- CB — STORM ROUND CATCH BASIN
- D — STORM DRAINAGE MANHOLE
- WATER/AIR VENT
- W — WATER BACKFLOW PREVENTER
- WATER BLOWOFF
- W — WATER METER
- WATER SHUTOFF
- WS — WATER SOFTENER
- W — WATER VALVE VAULT
- VALVE

UTILITY/CIVIL LINE SYMBOLOGY

- PIPELINE
- LARGE PIPELINE
- UTILITY BENEATH STRUCTURE
- RAILROAD
- CENTERLINE
- BOTTOM OF DITCH
- PROPERTY LINE (LOCATION ACQUIRED FROM CITYOF EMBDEN ASSESSMENT MAP UPDATED APRIL 1, 2019 BY EASTERN MAPPING SERVICES, NEWBURGH MAINE. PROPERTY LINE LOCATIONS SHOWN ARE APPROXIMATE ONLY.)
- EASEMENT
- LIMITS OF CONSTRUCTION
- ROW
- EXISTING CONTOUR (MINOR)
- 25 — EXISTING CONTOUR W/ELEVATION (MAJOR)
- X — EXISTING FENCE
- EXISTING VEGETATION/BRUSH LINE
- X — FENCE - BARB WIRE
- FENCE - CHAIN LINK
- X — FENCE - FIELD
- X — FENCE - OTHER
- FENCE - WOOD
- XX — FENCE - WOVEN WIRE
- FLOOD LIMIT (25 YEAR)
- FLOOD LIMIT (50 YEAR)
- FLOOD LIMIT (100 YEAR)
- FLOOD LIMIT (200 YEAR)
- FLOOD LIMIT (500 YEAR)
- HIGHWAY GUARDRAIL
- LEVEE TOP
- LEVEE TOE
- NEW CONTOUR (MINOR)
- 25 — NEW CONTOUR (MAJOR)
- RB — ROCK BERM
- SF — SILT FENCE
- TOE OF SLOPE
- TOP OF SLOPE

- FO FO — FIBER OPTIC
- FUEL OIL
- NATURAL GAS
- INDUSTRIAL WASTE WATER
- SANITARY SEWER
- STORM SEWER
- DOMESTIC WATER
- DOMESTIC WATER NON-POTABLE

SURVEY INFORMATION:

1. OWNER OF RECORD: STATE OF MAINE
   TAX MAP 34 LOT 4
   BOOK 574 PAGE 300
2. BEARINGS ARE BASED ON STATE PLANE COORDINATE SYSTEM, MAINE WEST ZONE, NAD 83 PER GPS OBSERVATION.
3. ELEVATIONS ARE BASED ON NAVD88 PER GPS OBSERVATION.
4. NO BOUNDARY SURVEYING PERFORMED BY THIS SURVEYOR, SEE PLAN REF. 2.

GENERAL NOTES:

1. THIS IS A STANDARD CIVIL SYMBOLOGY SHEET. ALL SYMBOLS ARE NOT NECESSARILY USED ON THIS PROJECT.
2. SCREENING OR SHADING OF WORK IS USED TO INDICATE EXISTING COMPONENTS OR TO DE-EMPHASIZE PROPOSED IMPROVEMENTS TO HIGHLIGHT SELECTED TRADE WORK. REFER TO CONTEXT OF EACH SHEET FOR USAGE.
3. PRIOR TO COMMENCEMENT OF ANY EARTH DISTURBANCE, SEE 11C-115 FOR NOTES SPECIFIC TO LIMIT OF DISTURBANCE, UTILITY COORDINATION, AND EROSION AND SEDIMENT CONTROL.
4. EXISTING CONDITIONS PLANIMETRICS AND DATA OBTAINED FROM OWEN HASKELL, INC. PROFESSIONAL LAND SURVEYORS.
5. CONTRACTOR IS RESPONSIBLE FOR ALL SURVEY STAKING OPERATIONS.
6. NO PROVISIONS HAVE BEEN MADE FOR ANY TEMPORARY CONDITIONS THAT MAY ARISE DURING CONSTRUCTION PRIOR TO COMPLETION OF THE STRUCTURE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADEQUATE DESIGN AND CONSTRUCTION DURING THE PROCESS OF THE PROJECT.
7. CONTRACTOR SHALL MAINTAIN WORKING RED LINE DRAWINGS.

ISSUE	DATE	DESCRIPTION
A	09/11/2024	ISSUED FOR BID

PROJECT MANAGER	A. GURSKI
CIVIL	J. GAGNON
STRUCTURAL	B. BRADLEY
ARCHITECTURAL	M. BASKIN
PROCESS	J. CHANDLER
MECHANICAL	J. CHANDLER
ELECTRICAL	A. KANER
PROJECT NUMBER	10377389

STATE OF MAINE — Jennifer N. Gagnon PE13751 — LICENSED PROFESSIONAL ENGINEER

Digitally signed by Gagnon, Jennifer N
Date: 2024.09.12 13:20:55 -04'00'

MAINE DEPT. OF INLAND FISHERIES AND WILDLIFE

Effluent Characteristic Design at Embden Rearing Station

GENERAL CIVIL LEGEND

0 1" 2"

FILENAME 10377389-10G-004.DWG
SCALE AS NOTED
SHEET 10G-004

C:\USERS\LTRAVISDC\ACCDOCS\HDR\10377389_MAINE_EFFLUENT_TRTMNT_DESIGN_2022\PROJECT FILES\HDR\10_EMBDEN\01_GENERAL_G\01\03_SHEETS\10377389-10G-004.DWG
06/10/2024 10:36:59 AM

PIPING SYSTEMS

- COLD WATER, POTABLE (CW)
- HOT WATER, POTABLE (HW)
- HOT WATER RECIRCULATING, POTABLE (HWC)
- NPW — NON POTABLE COLD WATER
- 140 — HOT WATER - TEMPERATURE, POTABLE
- TW — TEPID WATER, POTABLE
- TWR — TEPID WATER RETURN, POTABLE
- SAN — SANITARY SEWER BELOW GRADE
- SAN — SANITARY SEWER ABOVE GRADE
- V — SANITARY VENT
- AW — ACID WASTE
- AV — ACID VENT
- CWV — COMBINATION WASTE AND VENT
- PD — PRESSURE DRAINAGE
- SD — STORM DRAIN ABOVE GRADE
- SD — STORM DRAIN BELOW GRADE
- OD — STORM DRAIN OVERFLOW
- NG — NATURAL GAS
- LP — LIQUEFIED PROPANE
- CA — COMPRESSED AIR
- HWS — HEATING HOT WATER SUPPLY
- HWR — HEATING HOT WATER RETURN
- GHWS — GLYCOL HEATING HOT WATER SUPPLY
- GHWR — GLYCOL HEATING HOT WATER RETURN
- CHWS — CHILLED WATER SUPPLY
- CHWR — CHILLED WATER RETURN
- GCWS — GLYCOL CHILLED WATER SUPPLY
- GCWR — GLYCOL CHILLED WATER RETURN
- CWS — CONDENSER WATER SUPPLY
- CWR — CONDENSER WATER RETURN
- RL — REFRIGERANT LIQUID
- RS — REFRIGERANT SUCTION
- CD — CONDENSATE DRAIN
- CPD — CONDENSATE PUMP DISCHARGE
- STM -15 — STEAM SUPPLY - PSI
- BBD — BOILER BLOW DOWN
- BF — BOILER FEED
- SV — STEAM VENT
- MU — MAKE-UP WATER

PIPING SYMBOLOGY

- PIPE ANCHOR
- PIPE GUIDE
- EXPANSION JOINT
- PT — PRESSURE/ TEMPERATURE PORT
- THERMOMETER
- THERMOWELL
- PRESSURE GAUGE
- TEMPERATURE GAUGE
- FLEXIBLE PIPING CONNECTION
- WYE STRAINER
- MANUAL AIR VENT
- A — AUTOMATIC AIR VENT
- M — METER (WATER, GAS, OTHER)
- FCO — FLOOR CLEANOUT
- CO — CLEANOUT
- WCO — WALL CLEANOUT
- GCO — DOUBLE GRADE CLEANOUT
- WATER HAMMER ARRESTOR
- E — EARTHQUAKE VALVE
- CONCENTRIC REDUCER
- ECCENTRIC REDUCER, FLAT ON BOTTOM
- ECCENTRIC REDUCER, FLAT ON TOP
- ELBOW, 90° TURN DOWN
- ELBOW, 90° TURN UP
- TEE, OUTLET UP
- TEE, OUTLET DOWN
- TEE, OUTLET UP W/ 90° TURN
- TEE, OUTLET DOWN W/ 90° TURN
- PIPE BREAK
- PIPE CAP
- BLIND FLANGE
- UNION
- FLOW ARROW
- SHUTOFF VALVE (NORMALLY OPEN)
- SHUTOFF VALVE (NORMALLY CLOSED)
- DRAIN VALVE
- CHECK VALVE
- VB — VACUUM BREAKER
- AUTOMATIC FLOW CONTROL VALVE
- CALIBRATED MANUAL BALANCING VALVE
- OR — PRESSURE-RELIEF VALVE
- PRESSURE-REDUCING VALVE (PRV)
- AUTOMATIC CONTROL VALVE, 2-WAY
- AUTOMATIC CONTROL VALVE, 3-WAY
- BFP — BACKFLOW PREVENTER
- XX-1 — PLUMBING FIXTURE

HVAC SYMBOLOGY

- 24x18 — SUPPLY AIR OR OUTSIDE AIR DUCT UP (SECTION CUT, FIRST DIMENSION DUCT WIDTH)
- SUPPLY AIR OR OUTSIDE AIR DUCT DOWN (NO SECTION CUT)
- RETURN AIR DUCT UP (SECTION CUT)
- RETURN AIR DUCT DOWN (NO SECTION CUT)
- EXHAUST AIR DUCT UP (NO SECTION CUT)
- EXHAUST AIR DUCT DOWN (NO SECTION CUT)
- ROUND ELBOW UP
- ROUND ELBOW DOWN
- TRANSITION - RECTANGULAR TO ROUND DUCT
- STANDARD BRANCH
- ELBOW - W/TURNING VANE (RECTANGULAR)
- ELBOW - (RECTANGULAR), SMOOTH RADIUS
- 18x24 — RECTANGULAR DUCT OR OPENING SIZE FIRST NUMBER INDICATES SIZE OF SIDE SHOWN
- 18 ⌀ — ROUND DUCT SIZE
- R OR D — RECTANGULAR DUCT INCLINE - RISE OR DROP IN RESPECT TO THE AIR FLOW
- R OR D — ROUND DUCT INCLINE - RISE OR DROP IN RESPECT TO THE AIR FLOW
- 18x24 — HIDDEN DUCT
- T 9'-10" B 9'-0" / 18x10 — DUCT/PIPE ELEVATION TAG ABOVE FINISH FLOOR
- VOLUME DAMPER
- M — MOTOR OPERATED DAMPER
- FIRE DAMPER
- S — SMOKE DAMPER
- S — SMOKE AND FIRE DAMPER
- FLEXIBLE CONNECTION
- FLEXIBLE DUCT - TWO LINE
- FLEXIBLE DUCT - ONE LINE
- ACOUSTICAL LINING - DUCT DIMENSIONS FOR NET FREE AREA
- UC — UNDERCUT DOOR
- NEW TO EXISTING CONNECTION
- REMOVE EXISTING UP TO THIS POINT
- HVAC EMERGENCY SHUTDOWN SWITCH

- TAG-SIZE CFM — SUPPLY AIR REGISTER
- TAG-SIZE CFM — EXHAUST AIR OR RETURN AIR GRILLE
- TAG CFM — EXHAUST AIR OR RETURN AIR GRILLE
- TAG CFM — SUPPLY AIR ASSEMBLY SQUARE DIFFUSER
- TAG CFM — SUPPLY AIR ASSEMBLY ROUND DIFFUSER

TEMPERATURE CONTROL DIAGRAM SYMBOLOGY

MISCELLANEOUS DEVICE IDENTIFIER

CO	SPACE CARBON MONOXIDE SENSOR
CO2	SPACE CARBON DIOXIDE SENSOR
H	SPACE HUMIDITY SENSOR
NO2	SPACE NITROGEN DIOXIDE SENSOR
S	SPACE TEMPERATURE SENSOR
T	THERMOSTAT

CONTROL DEVICE IDENTIFIER

AFS	AIRFLOW MEASURING STATION
AM	AIRFLOW MEASURING SENSOR
CO	CARBON MONOXIDE SENSOR
CO2	CARBON DIOXIDE SENSOR
F	FLOW SWITCH
FRZ	FREEZE STAT
H	HUMIDITY SENSOR
HS	HIGH STATIC SWITCH
LS	LOW STATIC SWITCH
NO2	NITROGEN DIOXIDE SENSOR
P	PRESSURE SENSOR
S	SPACE TEMPERATURE SENSOR
SD	SMOKE DETECTOR
T	TEMPERATURE SENSOR
TS	TEMPERATURE SWITCH
ΔP	DIFFERENTIAL PRESSURE SENSOR

CONTROL INPUT/OUTPUT IDENTIFIER

AI	ANALOG INPUT
AO	ANALOG OUTPUT
DI	DIGITAL INPUT
DO	DIGITAL OUTPUT

COIL IDENTIFIERS

CC	CHILLED WATER COOLING COIL
DG	DIRECT FIRED GAS BURNER
DX	DIRECT EXPANSION COOLING COIL
EH	ELECTRIC HEATING COIL
ER	DIRECT EVAPORATIVE COIL
FC	FACE AND BYPASS COOLING COIL
FH	FACE AND BYPASS HEATING COIL
HC	HEATING HOT WATER HEATING COIL
IG	INDIRECT FIRED GAS BURNER
ST	STEAM HEATING COIL

CONTROL ABBREVIATIONS

BTU	BTU METER
COMM	COMMUNICATION
CT	CURRENT TRANSMITTER
EC	ELECTRONICALLY COMMUTATED
EF	EXHAUST FAN
FM	FLOW METER
M	MOTOR ACTUATOR
MA	MIXED AIR
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
OA	OUTDOOR AIR
RA	RETURN AIR
RF	RETURN FAN
RL	RELIEF FAN
SA	SUPPLY AIR
SF	SUPPLY FAN
TCC	TEMPERATURE CONTROL CONTRACTOR
VFD	VARIABLE FREQUENCY DRIVE

- S — DUCT MOUNTED SMOKE DETECTOR
- T — TEMPERATURE AVERAGING SENSOR
- M — MOTOR OPERATED DAMPER
- M — MOTOR OPERATED SINGLE BLADE DAMPER
- BACKDRAFT DAMPER
- HUMIDIFIER
- AFS — AIRFLOW MEASURING STATION
- INTAKE/ EXHAUST LOUVER
- FILTER
- FRZ — FREEZE STAT
- SEE CONTROL ABBREVIATIONS (TYP)
- M XX — FAN
- EC XX — FAN WITH EC MOTOR
- PUMP
- EC — PUMP WITH EC MOTOR

ABBREVIATIONS

AD	ACCESS DOOR
AFR	ABOVE FINISHED ROOF
AHU	AIR HANDLING UNIT
APD	AIR PRESSURE DROP
ARF	ABOVE RAISED FLOOR
AV	AIR VALVE
BAS	BUILDING AUTOMATION SYSTEM
BDD	BACK DRAFT DAMPER
BHP	BRAKE HORSE POWER
BOE	BOTTOM OF EQUIPMENT
BTUH	BRITISH THERMAL UNITS PER HOUR
CAV	CONSTANT AIR VOLUME
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
COP	COEFFICIENT OF PERFORMANCE
COR	CONTRACTING OFFICER'S REPRESENTATIVE
CRAC	COMPUTER ROOM AIR CONDITIONER
CU	CONDENSING UNIT
DB	DRY BULB
DDC	DIRECT DIGITAL CONTROL
DH	DEHUMIDIFIER
DX	DIRECT EXPANSION
EAT	ENTERING AIR TEMPERATURE
EDH	ELECTRIC DUCT HEATER
EER	ENERGY EFFICIENCY RATIO
EMCS	ENERGY MANAGEMENT CONTROL SYSTEM
ERU	ENERGY RECOVERY UNIT
ESP	EXTERNAL STATIC PRESSURE
ESS	EMERGENCY SHUTOFF SWITCH
EWT	ENTERING WATER TEMPERATURE
F	FUTURE
FA	FREE AREA
FCP	FAN CONTROL PANEL
FCU	FAN COIL UNIT
FDBK	FEEDBACK
FLA	FULL LOAD AMPS
FLT	FILTER
FPB	FAN POWERED BOX
FPM	FEET PER MINUTE
GC	GENERAL CONTRACTOR
GE	GRAVITY EXHAUST
GI	GRAVITY INTAKE
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
I/O	INPUT/OUTPUT
I/P	CURRENT TO PNEUMATIC
IAQ	INDOOR AIR QUALITY
IPLV	INTEGRATED PART LOAD VALUE
LAT	LEAVING AIR TEMPERATURE
LVR	LOUVER
LWT	LEAVING WATER TEMPERATURE
MAU	MAKE-UP AIR UNIT
MBH	THOUSAND BTUH
MCC	MOTOR CONTROL CENTER
NC	NOISE CRITERIA
NO	NUMBER
NRC	NOISE REDUCTION COEFFICIENT
OS&Y	OUTSIDE SCREW AND YOKE
PD	PRESSURE DROP
PPH	POUNDS PER HOUR
RH	RELATIVE HUMIDITY
RTU	ROOFTOP UNIT
S	SIGNAL PORT
SCFM	STANDARD CUBIC FEET PER MINUTE
SEER	SEASONAL ENERGY EFFICIENCY RATIO
SP	STATIC PRESSURE
TC	TECHNOLOGY CONTRACTOR
TCP	TEMPERATURE CONTROL PANEL
TD	TEMPERATURE DIFFERENTIAL
TES	THERMAL ENERGY STORAGE
TSP	TOTAL STATIC PRESSURE
UH	UNIT HEATER
V&C	VALVE AND CAP
VAV	VARIABLE AIR VOLUME
VRF	VARIABLE REFRIGERANT FLOW
VTR	VENT THROUGH ROOF
WB	WET BULB
WC	WATER COLUMN
WPD	WATER PRESSURE DROP

GENERAL NOTES

GENERAL MECHANICAL DEMOLITION NOTES

1. THE CONTRACTOR SHALL COMPLETELY REMOVE ALL PIPING, DUCTWORK, COILS, EQUIPMENT, TERMINAL UNITS, ASSOCIATED CONTROLS, WIRING, AND OTHER ITEMS SHOWN BOLD AND/OR BOLD DASHED LINES UNLESS SPECIFICALLY NOTED OTHERWISE. THE ITEMS INDICATED ON THE DRAWINGS TO BE REMOVED ARE ONLY TO INDICATE IN GENERAL THE AMOUNT OF DEMOLITION WORK INVOLVED. A SITE INVESTIGATION BY THE CONTRACTOR MUST BE PERFORMED TO AID IN DETERMINING THE COMPLETE EXTENT OF WORK INVOLVED.
2. PIPING AND DUCTWORK EMBEDDED IN FLOORS, WALLS, AND CEILINGS MAY REMAIN IF SUCH MATERIALS DO NOT INTERFERE WITH NEW INSTALLATIONS. REMOVE MATERIALS ABOVE ACCESSIBLE CEILINGS. REMAINING PIPING SHALL BE DRAINED AND CAPPED WITHOUT CREATING DEAD LEGS IN THE SYSTEM. REMAINING DUCTWORK SHALL BE CAPPED.
3. LOCATE, IDENTIFY, AND PROTECT MECHANICAL SERVICES PASSING THROUGH DEMOLITION AREA AND SERVING OTHER AREAS OUTSIDE THE DEMOLITION LIMITS. MAINTAIN SERVICES TO AREAS OUTSIDE DEMOLITION LIMITS. WHEN SERVICES MUST BE INTERRUPTED, NOTIFY OWNER AND INSTALL TEMPORARY SERVICES FOR AFFECTED AREAS.
4. EXISTING EQUIPMENT BEING REMOVED AND CONSIDERED SALVAGEABLE BY THE OWNER SHALL BE TURNED OVER TO THE OWNER.
5. CONTRACTORS SHALL COORDINATE AND SCHEDULE ALL NECESSARY UTILITY SHUT-OFFS WITH OWNER PRIOR TO PROCEEDING WITH SUCH WORK.
6. COORDINATE SAW-CUTTING OF THE FLOOR OR WALL WITH OTHER TRADES.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PATCHING, PAINTING, REPAIRING OR REPLACEMENT OF ALL WALLS, FLOORS, CEILINGS, OR OTHER BUILDING ELEMENTS THAT ARE DISTURBED AS PART OF THE DEMOLITION OR INSTALLATION OF MECHANICAL WORK. SUCH WORK SHALL MATCH THE EXISTING CONSTRUCTION, FINISH, AND RATING. FIRE SEAL WALL OPENINGS AS REQUIRED.
8. REPLACE/REPAIR DAMAGED PIPING AND/OR DUCTWORK INSULATION TO MATCH EXISTING.
9. CONTRACTOR SHALL PROVIDE WORK IN PHASES AS REQUIRED BY THE CONTRACT DOCUMENTS WHILE MINIMIZING POTENTIAL WORK DELAYS AND UTILITY SHUT-DOWNS. COORDINATE ALL WORK WITH PROJECT PHASING PLAN AND WORK SHOWN ON DEMOLITION AND NEW PLANS. ALL EXISTING AREAS OF THE BUILDING NOT A PART OF A CURRENT PHASE OF WORK SHALL REMAIN OPERATIONAL WHILE WORK IN EACH INDIVIDUAL PHASE IS COMPLETED.

GENERAL MECHANICAL NOTES

1. THESE NOTES ARE NOT ALL INCLUSIVE. REFER TO DRAWINGS AND SPECIFICATION FOR ADDITIONAL REQUIREMENTS.
2. THIS IS A STANDARD MECHANICAL (HVAC AND PLUMBING) SYMBOLOGY AND ABBREVIATIONS SHEET. LISTING OF SYMBOLS AND ABBREVIATIONS DOES NOT IMPLY ALL SYMBOLS AND ABBREVIATIONS HAVE BEEN USED ON THIS PROJECT.
3. VALVE SYMBOLS SHOWN HERE ARE APPLICABLE ONLY TO MECHANICAL SHEETS.
4. PROVIDE ALL MATERIALS, LABOR, AND EQUIPMENT FOR COMPLETE AND OPERABLE SYSTEMS AS INDICATED ON THE DRAWINGS AS SPECIFIED, OR AS REQUIRED BY CODE.
5. MECHANICAL INSTALLATION SHALL COMPLY WITH THE ADA/ABA ACCESSIBILITY GUIDELINES.
6. DETAILS APPLY TO THE ENTIRE PROJECT AND ARE ONLY REFERENCED TO PROVIDE CLARITY IF THERE ARE MULTIPLE DETAILS THAT COULD APPLY TO A PARTICULAR PROJECT CONDITION.
7. COORDINATE LOCATION OF ALL MECHANICAL EQUIPMENT, DUCTWORK, AND PIPING WITH OTHER TRADES BEFORE PROCEEDING WITH WORK. DO NOT INSTALL MECHANICAL EQUIPMENT, DUCTWORK, OR PIPING ABOVE ELECTRICAL EQUIPMENT WHERE PROHIBITED BY ELECTRICAL CODES (SWITCHBOARDS, PANELS, ETC.).
8. LIGHT LINE WEIGHT INDICATES EXISTING PIPING, DUCTWORK, AND/OR EQUIPMENT TO REMAIN. BOLD LINE WEIGHT INDICATES NEW WORK TO BE INSTALLED AS WORK OF THIS CONTRACT.
9. COORDINATE INSTALLATION OF OUTSIDE AIR INTAKE WITH INSTALLATION OF PLUMBING VENTS, FLUES AND EXHAUST/RELIEF OUTLETS TO MAINTAIN 10' SEPARATION.
10. ALL WORK IN FINISHED SPACES SHALL BE LOCATED ABOVE CEILINGS, IN CHASES OR OTHER CONCEALED ACCESSIBLE LOCATIONS UNLESS NOTED OTHERWISE. LOCATE AND ARRANGE VALVES, DRAIN FITTINGS, ETC. TO BE ACCESSIBLE THROUGH LAY-IN CEILINGS, ACCESS PANELS OR ACCESS DOORS. PROVIDE AN ACCESS PANEL OR DOOR FOR ALL NON-ACCESSIBLE INSTALLATIONS. COORDINATE LOCATION OF ACCESS PANELS OR DOORS WITH THE ARCHITECT/ENGINEER AND OTHER TRADES.
11. ALL MATERIALS LOCATED IN PLENUM SHALL BE RATED FOR PLENUM INSTALLATION.
12. ALL DUCTWORK, PIPING, AND EQUIPMENT SUPPORTED FROM STRUCTURAL STEEL SHALL BE COORDINATED WITH ALL TRADES. ALL ATTACHMENTS TO STEEL BAR JOISTS, TRUSSES, OR JOIST GIRDERS SHALL BE AT PANEL POINTS OR AS SHOWN ON THE MECHANICAL OR STRUCTURAL DRAWINGS. WELDING TO STRUCTURAL MEMBERS SHALL NOT BE PERMITTED.
13. ALL MISCELLANEOUS METALS AND MATERIALS REQUIRED TO ENSURE PROPER INSTALLATION AND AS SHOWN IN DETAILS FOR PIPING, DUCTWORK, AND EQUIPMENT (UNLESS OTHERWISE NOTED) SHALL BE PROVIDED BY THE INSTALLING CONTRACTOR.
14. PROVIDE DIELECTRIC UNIONS AT ALL CONNECTIONS OF DISSIMILAR METALS (SUCH AS COPPER TO GALVANIZED STEEL).
15. PROVIDE ISOLATION VALVES AT EACH PIECE OF EQUIPMENT. ALSO PROVIDE ISOLATION VALVES ON EACH BRANCH AND/OR RISER SERVING MULTIPLE PIECES OF EQUIPMENT OR FIXTURES AND ELSEWHERE AS INDICATED. INSTALL VALVES AS CLOSE TO MAIN AS POSSIBLE.

GENERAL HVAC NOTES

1. DUCTWORK DIMENSIONS: FIRST NUMBER INDICATES SIDE OF DUCTWORK SHOWN. ALL DIMENSIONS ARE IN INCHES AND ARE INSIDE CLEAR DIMENSIONS.
2. VOLUME DAMPERS ABOVE PLASTER OR GYPBOARD CEILINGS SHALL HAVE EXTENSION RODS AND CHROME-PLATED ESCUTCHEON PLATES.
3. COORDINATE ALL GRILLE, REGISTER AND DIFFUSER LOCATIONS WITH REFLECTED CEILING PLAN, LIGHTING, AND ALL OTHER CEILING MOUNTED DEVICES.
4. PROVIDE FLEXIBLE CONNECTIONS IN ALL DUCTWORK AND PIPING SYSTEMS CONNECTED TO FANS, PUMPS AND OTHER EQUIPMENT WHICH REQUIRE VIBRATION ISOLATION.
5. PROVIDE ACCESSIBLE VOLUME DAMPERS OR OTHER MEANS OF AIRFLOW ADJUSTMENT AT ALL DUCT RUN-OUTS TO DIFFUSERS AND GRILLES.
6. PROVIDE DUCT ACCESS DOORS AT OUTSIDE AIR INTAKE PLENUMS.
7. ALL DUCT RUN-OUTS TO DIFFUSERS AND GRILLES SHALL BE THE SAME AS THE DIFFUSER OR GRILLE NECK SIZE UNLESS NOTED OTHERWISE.
8. ALL PIPING RUNOUTS SHALL BE 3/4" UNLESS NOTED OTHERWISE.

GENERAL PLUMBING NOTES

1. SANITARY SEWER PIPING SMALLER THAN 3" SHALL BE SLOPED AT 1/4" PER FOOT, 3" AND LARGER SHALL BE SLOPED AT 1/8" PER FOOT.
2. WALL HYDRANTS SHALL BE INSTALLED BETWEEN 18" MIN AND 24" MAX ABOVE FINISH GRADE. COORDINATE ELEVATIONS OF FINISH FLOOR OR FINISH EXTERIOR GRADE. PROVIDE ACCESSIBLE INSIDE SHUTOFF VALVE FOR EACH WALL HYDRANT.
3. INSTALL WALL CLEANOUTS (WCO) ON ALL SANITARY AND STORM RISERS AT 30" ABOVE FINISH FLOOR UNLESS NOTED OTHERWISE. COORDINATE EXACT HEIGHT WITH OTHER TRADES TO ENSURE ACCESSIBILITY.
4. ROUTE ALL STORM PIPING AS HIGH AS POSSIBLE AND SLOPE AT 1/8" PER FOOT UNLESS NOTED OTHERWISE. OVERFLOW DOWN SPOUT NOZZLES SHALL BE INSTALLED AT 12" ABOVE FINISH EXTERIOR GRADE UNLESS NOTED OTHERWISE.
5. PROVIDE BACKFLOW PREVENTERS IN ACCORDANCE WITH THE LOCAL CODES. PROVIDE AIR GAP FITTINGS FOR ALL RPZ BACKFLOW PREVENTERS AND ROUTE DISCHARGE PIPING TO NEAREST FLOOR DRAIN OR FLOOR SINK OR AS SHOWN ON DRAWINGS.
6. PROVIDE GAS REGULATORS, REGULATOR VENT PIPING, SHUTOFF VALVES, DIRT LEGS, AND UNIONS ON ALL GAS FIRED EQUIPMENT. REGULATE GAS PRESSURE AS REQUIRED FOR EACH SPECIFIC PIECE OF GAS FIRED EQUIPMENT.

ISSUE	DATE	DESCRIPTION
A	09/11/2024	ISSUED FOR BIDS

PROJECT MANAGER	A. GURSKI
CIVIL	J. GAGNON
STRUCTURAL	B. BRADLEY
ARCHITECTURAL	M. BASKIN
PROCESS	J. CHANDLER
MECHANICAL	J. CHANDLER
ELECTRICAL	A. KANER
PROJECT NUMBER	10377389

STATE OF MAINE — Jeffrey K. Chandler PE17167 — LICENSED PROFESSIONAL ENGINEER

Digitally signed by Jeffrey K. Chandler, Jr.
Date: 2024.09.12 11:17:32-05'00'

MAINE DEPT OF INLAND FISHERIES AND WILDLIFE

Effluent Characteristic Design at Embden Rearing Station

MECHANICAL LEGEND

0 1" 2"

FILENAME	10377389-10-G.rvt
SCALE	12" = 1'-0"
SHEET	10G-005

Autodesk Docs://10377389_Maine_Effluent_Tlmnt_DESIGN_2022/10377389-10-G.rvt
9/11/2024 8:54:47 AM

ONE-LINE, POWER, AND LIGHTING SYMBOLOGY

X
20A
3P

X
100AF
80AT
3P

LOW VOLTAGE CIRCUIT BREAKER (CB). RATING AND NO. OF POLES AS SHOWN. WHEN SPECIFIC TYPE, OTHER THAN MCCB, IS REQUIRED, X INDICATES TYPE.

TYPES

MCCB - MOLDED CASE
ICCB - INSULATED CASE
LVP - LOW VOLTAGE POWER
MCP - MOTOR CIRCUIT PROTECTOR (RATING PER CONNECTED LOAD)

TRIP UNIT

L - LONG TIME PICKUP
S - SHORT TIME PICKUP
I - INSTANTANEOUS PICKUP
G - GROUND FAULT PICKUP
A - ARC ENERGY REDUCTION MODE

X — INTERLOCK: X - INDICATES TYPE

TYPES

E - ELECTRICAL
M - MECHANICAL
K - KEY

GFP — GROUND FAULT PROTECTION

52 — MEDIUM VOLTAGE CIRCUIT BREAKER

FUSE, RATING, AND NUMBER OF FUSES AS NOTED

FUSED CUTOUT, CURRENT RATING, FUSE RATING, AND QUANTITY AS NOTED

FUSIBLE SWITCH, CURRENT RATING, FUSE RATING, AND QUANTITY AS NOTED (3 POLE UON)

NON-FUSED SWITCH, CURRENT RATING, AND NUMBER OF POLES AS NOTED (3 POLE UON)

DISCONNECT OR DRAWOUT CONNECTION

A C B — MAGNETIC MOTOR STARTER

A C B — SEPARATELY MOUNTED COMBINATION MAGNETIC MOTOR STARTER AND DISCONNECT

D C — MOTOR/LOAD CONTROLLER

D C — SEPARATELY MOUNTED MOTOR/LOAD CONTROLLER WITH SHORT CIRCUIT PROTECTION AND DISCONNECT

MOTOR STARTER AND CONTROLLER SUBSCRIPTS

A - MAGNETIC STARTER NEMA SIZE
B - STARTER TYPE
NONE - FULL VOLTAGE NON-REVERSING (FVNR)
FVR - FULL VOLTAGE REVERSING
2S - TWO SPEED
RVAT - REDUCED VOLTAGE AUTO TRANSFORMER
C - CONTROL DIAGRAM OR CONTROLS SCHEDULE NUMBER (IF REQUIRED)
D - CONTROLLER TYPE
VFD - VARIABLE FREQUENCY DRIVE
SS - SOLID STATE
CONT - CONTACTOR

J — SEPARATELY MOUNTED COMBINATION MOTOR STARTER OR CONTROLLER; SEE ELECTRICAL ONE - LINE DIAGRAM OR SCHEDULE FOR DESCRIPTION

J — SEPARATELY MOUNTED MOTOR STARTER OR CONTROLLER; SEE ELECTRICAL ONE-LINE DIAGRAM OR SCHEDULE FOR DESCRIPTION

X J — NON-FUSED SAFETY SWITCH, 30A, 3P, X INDICATES AMP RATING GREATER THAN 30A

X J Y — FUSED SAFETY SWITCH, 3P, X INDICATES AMP RATING GREATER THAN 30A, Y INDICATES FUSE SIZE

CB J — SEPARATELY MOUNTED CIRCUIT BREAKER; SEE ELECTRICAL ONE - LINE DIAGRAM OR SCHEDULE FOR DESCRIPTION

7 1/2 — MOTOR WITH DESIGN HORSEPOWER (WHEN INDICATED)

HP

G — GENERATOR

ATS — TRANSFER SWITCH, CURRENT RATING, AND NUMBER OF POLES AS NOTED
ATS - AUTOMATIC
MTS - MANUAL

TRANSFORMER
3-PHASE, 3-WIRE DELTA CONNECTION
3-PHASE, 4-WIRE GROUNDED WYE CONNECTION

LP100
208/120V
3 , 4W — SWITCHBOARD OR PANELBOARD; NAME, VOLTAGE, PHASE, NUMBER OF WIRES WHEN INDICATED

100
KVA — NON-MOTOR LOAD WITH DESIGN KVA, KW, OR AMP

VOLTAGE TRANSFORMER (VT, PT, OR CPT)

CURRENT TRANSFORMER (CT)

WH — UTILITY WATT-HOUR METER PER UTILITY REQUIREMENTS

DMP — DIGITAL METERING PACKAGE

GROUND

LIGHTNING ARRESTER

SPD — LOW VOLTAGE SURGE PROTECTIVE DEVICE

SS — SELECTOR SWITCH

PB — PUSHBUTTON

IC — INSTRUMENTATION / CONTROL DEVICE

SV — SOLENOID VALVE

CONTROL PANEL INTEGRAL OR PROVIDED WITH ASSOCIATED EQUIPMENT

CONTROL PANEL WITH DISCONNECT SWITCH INTEGRAL OR PROVIDED WITH ASSOCIATED EQUIPMENT

J OR J — JUNCTION OR PULL BOX

PANELBOARD (250V TO 600V)

PANELBOARD (LESS THAN 250V)

X — ELECTRICAL EQUIPMENT ENCLOSURE: SWITCHBOARD, MOTOR CONTROL CENTER, CONTROL PANEL, TRANSFORMER OR OTHER EQUIPMENT AS INDICATED. ESTIMATED SIZE AS INDICATED. WHEN USED X INDICATES EQUIPMENT TYPE.

EQUIPMENT TYPES

ATS - AUTOMATIC TRANSFER SWITCH
CP - CONTROL PANEL
MTS - MANUAL TRANSFER SWITCH
MCC - MOTOR CONTROL CENTER
UPS - UNINTERRUPTIBLE POWER SUPPLY
VFD - VARIABLE FREQUENCY DRIVE
SB - SWITCHBOARD
SG - SWITCHGEAR
T - TRANSFORMER

PLUG-IN RECEPTACLE STRIP, QUANTITY AND SPACING OF RECEPTACLES AS NOTED OR SPECIFIED

X Y — SPECIAL-PURPOSE RECEPTACLE AS DEFINED ON PLANS

X Y — TWO RECEPTACLES IN 2-GANG BOX UNDER COMMON COVER PLATE

X Y — DUPLEX RECEPTACLE

X Y — SIMPLEX RECEPTACLE

X Y — RECESSED FLOOR MOUNTED BOX, QUANTITY AND TYPE OF RECEPTACLES AS INDICATED

SUBSCRIPTS

X - INDICATES TYPE
GFCI - GROUND FAULT CIRCUIT INTERRUPTER
IG - ISOLATED GROUND
TR - TAMPER RESISTANT
PLH - PLUG LOAD HALF CONTROLLED
PLD - PLUG LOAD DUAL CONTROLLED
USB - USB CHARGING STATION
SPD - SURGE PROTECTIVE DEVICE
Y - INDICATES CIRCUIT NUMBER FROM PANELBOARD

CONDUIT TURNING UP

CONDUIT TURNING DOWN

(#X) — HOMERUN TO SOURCE (E.G. PANELBOARD, MCC) NUMBER IN PARENTHESES REPRESENTS CONDUCTOR SIZE OTHER THAN #12
SINGLE PHASE: 2#12, 1#12G IN 3/4"C
THREE PHASE: 3#12, 1#12G IN 3/4"C
UNLESS OTHERWISE NOTED, CONDUCTOR SIZE IS FOR ENTIRE CIRCUIT, SOURCE TO LAST DEVICE. ALSO, SEE ONE LINE DIAGRAM FOR CIRCUIT REQUIREMENTS

CONDUIT CONNECTION TO EQUIPMENT

CIRCUIT RUN BETWEEN DEVICES EXPOSED IN NON-ARCHITECTURALLY FINISHED AREAS; CONCEALED IN ARCHITECTURALLY FINISHED AREAS. CONDUIT AND CONDUCTOR SIZES SHALL BE THE SAME AS THE HOMERUN FOR THE CIRCUIT.

CONDUIT RUN BETWEEN DEVICES CONCEALED IN NON-ARCHITECTURALLY FINISHED AREAS OR UNDER FLOOR SLAB. CONDUIT AND CONDUCTOR SIZES SHALL BE THE SAME AS THE HOMERUN FOR THE CIRCUIT.

(#X) — CIRCUIT HASH MARKS (WHEN INDICATED); LONG, SHORT, SINGLE DOT, AND DOUBLE DOT REPRESENT PHASE, NEUTRAL, EQUIPMENT GROUND, AND ISOLATED EQUIPMENT GROUND, RESPECTIVELY. X REPRESENTS CONDUCTOR SIZE OTHER THAN #12 IN 3/4" CONDUIT.

CIRCUIT CONTINUATION

CONDUIT STUBBED OUT AND CAPPED

CORD AND PLUG CONNECTION

XXX XXX — CONDUIT TAG OR CIRCUIT NUMBER - WIRE AND CONDUIT SIZE AS SPECIFIED IN CIRCUIT SCHEDULE ON THE SHEETS

GROUND CABLE

GROUND ROD

X Y Z — CEILING/PENDANT/BOLLARD MOUNTED LUMINAIRE, LAMP TYPE AS SPECIFIED

X Y Z — CEILING/PENDANT/BOLLARD MOUNTED LUMINAIRE, LAMP TYPE AS SPECIFIED, EMERGENCY (INTERNAL OR EXTERNAL POWER SOURCE AS INDICATED)

X Y Z — WALL MOUNTED LUMINAIRE, LAMP TYPE AS SPECIFIED

X Y Z — WALL MOUNTED LUMINAIRE, LAMP TYPE AS SPECIFIED, EMERGENCY (INTERNAL OR EXTERNAL POWER SOURCE AS INDICATED)

X Y Z — WALL MOUNTED FLOOD LUMINAIRE, LAMP TYPE AS SPECIFIED

X Y Z — POLE/STANCHION MOUNTED LUMINAIRE, LAMP TYPE AS SPECIFIED

X Y Z — POLE/STANCHION MOUNTED LUMINAIRE, LAMP TYPE AS SPECIFIED, EMERGENCY (INTERNAL OR EXTERNAL POWER SOURCE AS INDICATED

X Y Z — POLE/STANCHION MOUNTED FLOOR LUMINAIRE, LAMP TYPE AS SPECIFIED

X Y Z — CEILING/PENDANT MOUNTED LUMINAIRE, LAMP TYPE AS SPECIFIED

X Y Z — WALL MOUNTED LUMINAIRE, LAMP TYPE AS SPECIFIED

X Y Z — CEILING/PENDANT MOUNTED LUMINAIRE, LAMP TYPE AS SPECIFIED, ALL OR PARTIAL EMERGENCY (INTERNAL OR EXTERNAL POWER SOURCE AS INDICATED

X Y Z — WALL MOUNTED LUMINAIRE, LAMP TYPE AS SPECIFIED, ALL OR PARTIAL EMERGENCY (INTERNAL OR EXTERNAL POWER SOURCE AS INDICATED

X Y — EMERGENCY LIGHT, NUMBER OF ATTACHED HEADS AS SHOWN

X Y — EMERGENCY LIGHT, REMOTE MOUNTED HEAD

X Y X Y — DOUBLE-FACED CEILING OR WALL MOUNTED EXIT LIGHT; DIRECTIONAL ARROWS (IF REQUIRED) AS INDICATED ON PLANS

X Y X Y — SINGLE-FACED CEILING OR WALL MOUNTED EXIT LIGHT; DIRECTIONAL ARROWS (IF REQUIRED) AS INDICATED ON PLANS

LIGHTING FIXTURE SUBSCRIPTS

X - INDICATES LUMINAIRE TYPE PER LUMINAIRE SCHEDULE
Y - INDICATES CIRCUIT NUMBER FROM PANELBOARD
Z - INDICATES CONTROLLING SWITCH (IF REQUIRED)
NL - NIGHT LIGHT UNSWITCHED

X — ROOM/AREA LIGHTING CONTROL TYPE, SEE LIGHTING CONTROL SCHEDULE FOR REQUIREMENTS

2 a — LOW VOLTAGE DIGITAL WALL SWITCH, NUMBER INDICATES QUANTITY OF PUSH BUTTONS PER SINGLE GANG PLATE, LETTER INDICATES CONTROL ZONE WHEN SHOWN

Y X — WALL SWITCH

SUBSCRIPTS

X - INDICATES TYPE
NONE - SINGLE POLE
2 - DOUBLE POLE
3 - THREE-WAY
4 - FOUR-WAY
K - KEY SWITCH
P - PILOT LIGHT
L - LIGHTED HANDLE
DM - DIMMING
MC - MOMENTARY CONTACT
T - TIMER

Y X — Y - INDICATES CONTROLLING SWITCH (IF REQUIRED)

MANUAL MOTOR STARTER

SUBSCRIPTS

X - INDICATES TYPE
HP - HORSEPOWER RATED
TE - HORSEPOWER RATED WITH FT - THERMAL ELEMENT HORSEPOWER RATED WITH FUSETRON FUSE
Y - INDICATES SWITCH TYPE
NONE - TOGGLE SWITCH TYPE
R - ROTARY SWITCH TYPE

PC — PHOTOCELL

TC — TIME CLOCK

OSX — LIGHTING CONTROL OCCUPANCY SENSOR, WALL MOUNTED, X INDICATES SPECIFIC TYPE AS SPECIFIED

OSX — LIGHTING CONTROL OCCUPANCY SENSOR, CEILING MOUNTED, X INDICATES SPECIFIC TYPE AS SPECIFIED

COMMUNICATION SYMBOLOGY

WALL MOUNTED TELEPHONE OUTLET

WALL MOUNTED DATA OUTLET

WALL MOUNTED COMBINATION TELEPHONE AND DATA OUTLET

RECESSED FLOOR MOUNTED TELEPHONE OUTLET

RECESSED FLOOR MOUNTED DATA OUTLET

RECESSED FLOOR MOUNTED COMBINATION TELEPHONE AND DATA OUTLET

AUDIO/VISUAL SYMBOLOGY

TV — TELEVISION OUTLET

S — CEILING MOUNT SPEAKER

S X — WALL MOUNT SPEAKER

SPEAKER SUBSCRIPTS
X - INDICATES HEIGHT

H — HORN TYPE TRANSDUCER

VC — VOLUME CONTROL

PAHE — HEAD END EQUIPMENT

M — FLOOR MOUNTED MICROPHONE JACK

M — WALL MOUNTED MICROPHONE JACK

SECURITY SYMBOLOGY

DOOR POSITION SWITCH

COMBINATION ELECTRIC DOOR STRIKE AND POSITION SWITCH

R P — PROXIMITY CARD READER

R K — PROXIMITY CARD READER WITH KEYPAD

M — DUAL TECHNOLOGY MOTION DETECTOR

REQUEST TO EXIT MOTION DETECTOR

REQUEST TO EXIT PUSH BUTTON

G — GLASS BREAK DETECTOR

PTZ — CCTV CAMERA PAN/TILT/ZOOM WHEN INDICATED

SEC — SECURITY EQUIPMENT CABINET

R — REMOTE KEYPAD/CONTROL STATION

EMERGENCY ALARM SYMBOLOGY

E — ALARM BELL

E — ALARM HORN

E — ALARM FLASHING LIGHT

E — ALARM BELL AND FLASHING LIGHT COMBINATION UNIT

E — ALARM HORN AND FLASHING LIGHT COMBINATION UNIT

E — PUSHBUTTON OR PULLSTATION

SITE SYMBOLOGY

EXTERIOR PAD MOUNTED TRANSFORMER

POLE - MOUNTED TRANSFORMER

X Y — ELECTRICAL HANDHOLE OR MANHOLE
X - INDICATES SEQUENCE NUMBER
Y- MHX OR HHX

X Y — POLE/STANCHION MOUNTED FLOOD LUMINAIRE, LAMP TYPE AS SPECIFIED

X Y — POLE MOUNTED AREA OR ROADWAY LUMINAIRE, LAMP TYPE AS SPECIFIED

X Y — HIGH MAST LIGHTING, NUMBER OF LUMINAIRES AS SPECIFIED

LIGHTING FIXTURE SUBSCRIPTS

X - INDICATES LUMINAIRE TYPE PER LUMINAIRE SCHEDULE
Y - INDICATES CIRCUIT NUMBER FROM PANELBOARD

POWER POLE

DOWNGUY

E — UNDERGROUND (UNO) ELECTRICAL AND COMMUNICATION SYSTEMS PATHWAY

OHE — OVERHEAD ELECTRICAL AND COMMUNICATION SYSTEMS PATHWAY

CONTROL SYMBOLOGY

ELECTRICAL CONNECTION

or or — NO ELECTRICAL CONNECTION

SV or — SOLENOID VALVE

X Y — CONTROL/RELAY COIL:
X-INDICATES TYPE
Y-INDICATES LOOP NUMBER, WHEN USED

TYPE

CR-CONTROL RELAY
PC-PHOTOCELL
DP-DEFINITE PURPOSE
M-MOTOR STARTER
TC-TIME CLOCK
LC-LIGHTING CONTACTOR
TR-TIMING RELAY

NORMALLY OPEN CONTACT (N.O.)

NORMALLY CLOSED CONTACT (N.C.)

MICROPROCESSOR (PLC, RTU, ETC.) OUTPUT

MICROPROCESSOR (PLC, RTU, ETC.) INPUT

FIELD WIRING EXTERNAL TO CONTROL PANEL

NORMALLY OPEN TIME DELAY RELAY CONTACT WITH TIME DELAY ON CLOSING AFTER COIL IS ENERGIZED

NORMALLY CLOSED TIME DELAY RELAY CONTACT WITH TIME DELAY ON OPENING AFTER COIL IS ENERGIZED

NORMALLY OPEN TIME DELAY RELAY CONTACT WITH TIME DELAY ON OPENING AFTER COIL IS DE-ENERGIZED

NORMALLY CLOSED TIME DELAY RELAY CONTACT WITH TIME DELAY ON CLOSING AFTER COIL IS DE-ENERGIZED

NORMALLY OPEN TEMPERATURE SWITCH; CLOSE ON RISING TEMPERATURE

NORMALLY CLOSED TEMPERATURE SWITCH; OPEN ON RISING TEMPERATURE

NORMALLY OPEN FLOW SWITCH; CLOSE ON INCREASING FLOW

NORMALLY CLOSED FLOW SWITCH; OPEN ON INCREASING FLOW

NORMALLY OPEN LEVEL SWITCH, CLOSE ON RISING LEVEL

NORMALLY CLOSED LEVEL SWITCH, OPEN ON RISING LEVEL

NORMALLY OPEN PRESSURE SWITCH, CLOSE ON INCREASING PRESSURE

NORMALLY CLOSED PRESSURE SWITCH, OPEN ON INCREASING PRESSURE

NORMALLY OPEN LIMIT SWITCH, CLOSE ON REACHING LIMIT

NORMALLY CLOSED LIMIT SWITCH, OPEN ON REACHING LIMIT

CONTROL SYMBOLOGY

OFF
HAND AUTO
XOO
OOX — 3 POSITION SELECTOR SWITCH, MAINTAINED CONTACTS; UNLESS OTHERWISE NOTED, 2-POSITION SIMILAR

NORMALLY OPEN PUSHBUTTON, MOMENTARY CONTACT UNLESS OTHERWISE NOTED

NORMALLY CLOSED PUSHBUTTON, MOMENTARY CONTACT UNLESS OTHERWISE NOTED

X — INDICATING LIGHT: X INDICATES LENS COLOR

X — PUSH TO TEST INDICATING LIGHT: X INDICATES LENS COLOR

LENS COLORS

R - RED Y - YELLOW
G - GREEN W - WHITE
B - BLUE A - AMBER

THERMAL OVERLOAD ELEMENT

OL
(X) — THERMAL OVERLOAD RELAY CONTACT. WHEN SHOWN X INDICATES QUANTITY.

CPT — CONTROL POWER TRANSFORMER (CPT)

RTM — RUN TIME METER

GENERAL NOTES

1. THIS IS A STANDARD ELECTRICAL SYMBOLOGY SHEET. NOT ALL SYMBOLS MAY BE USED ON THIS PROJECT.
2. SCREENING OR SHADING OF WORK IS USED TO INDICATE EXISTING COMPONENTS OR TO DE-EMPHASIZE PROPOSED IMPROVEMENTS TO HIGHLIGHT SELECTED TRADE WORK. REFER TO CONTEXT OF EACH SHEET FOR USAGE.
3. SEE P&ID LEGEND SHEET FOR PROJECT SPECIFIC EQUIPMENT SYMBOLS, EQUIPMENT ABBREVIATIONS, AND PIPING SYSTEM ABBREVIATIONS.

ISSUE	DATE	DESCRIPTION
A	09/11/2024	ISSUED FOR BIDS

PROJECT MANAGER	A. GURSKI
CIVIL	J. GAGNON
STRUCTURAL	B. BRADLEY
ARCHITECTURAL	M. BASKIN
PROCESS	J. CHANDLER
MECHANICAL	J. CHANDLER
ELECTRICAL	A. KANER
PROJECT NUMBER	10377389

STATE OF MAINE
Andrew D. Kaner
PE18016
LICENSED
PROFESSIONAL ENGINEER

Kaner, Andrew D

Digitally signed by Kaner, Andrew D.
DN: E=Andrew.Kaner@hdrinc.com, CN="Kaner, Andrew D", OU=Users, OU=St Louis Park-1601 Utica Ave South, OU=Minnesota, OU=United States, OU=Offices, DC=Intranet, DC=hdr
Date: 2024.09.12 15:06:43-05'00'

MAINE
DEPT OF INLAND FISHERIES AND WILDLIFE

Effluent Characteristic Design at Embden Rearing Station

ELECTRICAL LEGEND

0 1" 2"

FILENAME	10377389-10-G.rvt
SCALE	12" = 1'-0"

SHEET
10G-006

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1 2 3 4 5 6 7 8

PRIMARY ELEMENT SYMBOLOGY

- ORIFICE PLATE
- PITOT TUBE OR ANNUBAR
- FI — ROTOMETER
- SONIC OR ULTRASONIC FLOWMETER
- M — MAGNETIC FLOWMETER
- FI — MASS DISPERSION FLOWMETER
- FLUME
- WEIR
- PROPELLER OR TURBINE METER
- VENTURI TUBE
- VENTURI FLUME
- FLOAT SWITCH
- TE — TEMPERATURE ELEMENT WITH THERMOWELL
- FG — SIGHT FLOW GLASS

LINE TYPES

- MAIN PROCESS LINE
- SECONDARY PROCESS LINE
- AUXILIARY PROCESS LINE
- DIRECTION OF FLOW
- PNEUMATIC SIGNAL
- ELECTRICAL SIGNAL
- HYDRAULIC SIGNAL
- O — SOFTWARE OR DATA LINK
- SIGNAL CONNECTION
- CROSSOVER - NO CONNECTION
- X — CAPILLARY

CROSS REFERENCE SYMBOLOGY

X | YYYYYYY — CONTINUATION TO THE RIGHT
Z

YYYYYYY | X — CONTINUATION TO THE LEFT
Z

TEXT
X = CONNECTOR NUMBER
Y = SHEET CONTINUATION
Z = TO/FROM DESCRIPTION

INSTRUMENT SYMBOLOGY

- LOCALLY MOUNTED FIELD INSTRUMENTATION
- MOUNTED ON PANEL FRONT
- MOUNTED INSIDE PANEL
- XXX — FRONT PANEL MOUNTED ON AUXILIARY PANEL (SUBSCRIPT INDICATES PANEL)
- MOUNTED INSIDE AUXILIARY PANEL
- PILOT LIGHT
- INSTRUMENT FUNCTIONS SHARING COMMON HOUSING
- I — COMPLEX INTERLOCK AS DEFINED IN CONTROL DIAGRAM OR IN SPECIFICATIONS
- SHARED DISPLAY, SHARED CONTROL, FIELD MOUNTED
- SHARED DISPLAY, SHARED CONTROL, PRIMARY LOCATION - NORMALLY ACCESSIBLE TO OPERATOR
- PROGRAMMABLE LOGIC CONTROL, PRIMARY LOCATION - NORMALLY ACCESSIBLE TO OPERATOR
- PROGRAMMABLE LOGIC CONTROL, FIELD MOUNTED

CONTROL SWITCH NOTATION ABBREVIATIONS

XXX / XXXX

ACK	ACKNOWLEDGE
ESTOP	EMERGENCY STOP
FAIL	FAILURE
FOR	FORWARD-OFF-REVERSE
FR	FORWARD-REVERSE
FS	FAST-SLOW
HA	HAND-AUTO
HOA	HAND-OFF-AUTO
HOR	HAND-OFF-REMOTE
LL	LEAD-LAG
LLS	LEAD-LAG-STANDBY
LOR	LOCAL-OFF-REMOTE
LR	LOCAL-REMOTE
LS	LEAD-STANDBY
MA	MANUAL-AUTO
OAC	OPEN-AUTO-CLOSE
OC	OPEN-CLOSE
OO	ON-OFF
OSC	OPEN-STOP-CLOSE
RJ	RUN-JOG
RJR	RUN-JOG-REVERSE
SIL	SILENCE
SS	START-STOP

VALVES

- BALL VALVE
- BUTTERFLY VALVE
- CONE VALVE
- CHECK VALVE
- DOUBLE-DISK CHECK VALVE
- BALL CHECK VALVE
- DIAPHRAGM VALVE
- GATE VALVE
- GLOBE VALVE
- KNIFE GATE VALVE
- NEEDLE VALVE
- PINCH VALVE
- PLUG VALVE
- THREE-WAY BALL VALVE
- THREE-WAY PLUG VALVE
- PRESSURE-REDUCING VALVE
- PRESSURE-REGULATING VALVE
- THREE-WAY CONTROL VALVE
- PRESSURE-RELIEF VALVE
- X — AIR-RELEASE VACUUM VALVE
  A = AIR RELEASE
  VAC = VACUUM

ACTUATOR SYMBOLOGY

- M P S — OPERATOR ABBREVIATIONS:
  M = MOTOR
  P = PNEUMATIC
  S = SOLENOID
- FLOAT OPERATOR
- SPRING-OPPOSED SINGLE-ACTING PNEUMATIC CYLINDER
- DOUBLE-ACTING PNEUMATIC CYLINDER
- PNEUMATIC DIAPHRAGM
- PNEUMATIC DIAPHRAGM WITH POSITIONER

INSTRUMENT IDENTIFICATION LETTERS

	FIRST LETTER: MEASURED OR INITIATING VARIABLE	FIRST LETTER: VARIABLE MODIFIER	SUCCEEDING LETTERS: READOUT OR PASSIVE FUNCTION	SUCCEEDING LETTERS: OUTPUT/ACTIVE FUNCTION	SUCCEEDING LETTERS: FUNCTION MODIFIER
A	ANALYSIS		ALARM		
B	BURNER, COMBUSTION		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
C	USERS CHOICE			CONTROL	CLOSED
D	USERS CHOICE	DIFFERENTIAL			DEVIATION
E	VOLTAGE		SENSOR (PRIMARY ELEMENT)		
F	FLOW RATE	RATIO (FRACTION)			
G	USER'S CHOICE		GLASS, GAUGE VIEWING DEVICE		
H	HAND				HIGH
I	CURRENT (ELECTRICAL)		INDICATE		
J	POWER	SCAN	SCAN		
K	TIME, TIME SCHEDULE	TIME; RATE OF CHANGE		CONTROL STATION	
L	LEVEL		LIGHT		LOW
M	USER'S CHOICE				MIDDLE, INTERMEDIATE
N	USER'S CHOICE		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
O	USER'S CHOICE		ORIFICE, RESTRICTION		
P	PRESSURE, VACUUM		POINT (TEST) CONNECTION		
Q	QUANTITY	INTEGRATE, TOTALIZE	INTEGRATE, TOTALIZE		
R	RADIATION		RECORD		RUN
S	SPEED, FREQUENCY	SAFETY		SWITCH	STOP
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION	MULTIFUNCTION
V	VIBRATION, MECH. ANALYSIS			VALVE, DAMPER, LOUVER	
W	WEIGHT, FORCE		WELL PROBE		
X	UNCLASSIFIED	X AXIS	ACCESSORY DEVICES UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED
Y	EVENT, STATE OR PRESENCE	Y AXIS		AUXILIARY DEVICES	
Z	POSITION, DIMENSION	Z AXIS SAFETY INSTRUMENTED SYSTEM		DRIVER, ACTUATOR, UNCLASSIFIED FINAL CONTROL ELEMENT	

ABBREVIATIONS

MISCELLANEOUS INSTRUMENTATION

AI	ANALOG INPUT
AO	ANALOG OUTPUT
CL2	CHLORINE (ANALYZER MODIFIER)
CO	CARBON MONOXIDE (ANALYZER MODIFIER)
CO2	CARBON DIOXIDE (ANALYZER MODIFIER)
COMB	COMBUSTIBLES (ANALYZER MODIFIER)
COND	CONDUCTIVITY (ANALYZER MODIFIER)
DEN	DENSITY (ANALYZER MODIFIER)
DI	DIGITAL INPUT
DO	DIGITAL OUTPUT
DO	DISSOLVED OXYGEN (ANALYZER MODIFIER)
E/P	VOLTAGE TO PNEUMATIC
H2S	HYDROGEN SULFIDE (ANALYZER MODIFIER)
HCL	HYDROGEN CHLORIDE (ANALYZER MODIFIER)
I/O	INPUT/OUTPUT
I/P	CURRENT TO PNEUMATIC
NOX	NITROGEN OXIDE (ANALYZER MODIFIER)
OI	OPERATOR INTERFACE
O2	OXYGEN (ANALYZER MODIFIER)
P&ID	PROCESS AND INSTRUMENTATION DIAGRAM
SS	SUSPENDED SOLIDS (ANALYZER MODIFIER)
TURB	TURBIDITY (ANALYZER MODIFIER)
WAN	WIDE AREA NETWORK

TYPES OF POWER SUPPLY

A	PLANT COMPRESSED AIR
IA	INSTRUMENTATION AIR
ES	ELECTRIC SUPPLY
NG	NATURAL GAS
HYD	HYDRAULIC

EQUIPMENT ABBREVIATIONS

XXX

ABBREVIATIONS

PIPING SYSTEM IDENTIFICATION

PLI	PLANT INFLUENT
SWH	SOFT WATER (HOT)
ABI	AERATION BASIN INFLUENT
BWR	BACKWASH RETURN
BD	BASIN DRAIN
CLI	CLARIFIER INFLUENT
CWI	CLEARWELL INFLUENT
CBI	CONTACT BASIN INFLUENT
DE	DECANT
FTI	FILTER INFLUENT
FLCI	FLOCCULATION INFLUENT
GBI	GRIT BASIN INFLUENT
OVFL	OVERFLOW
RWS	RAW WATER SUPPLY
SGB	SLUDGE BLOWDOWN
SUP	SUPERNATANT
TFI	TRICKLING FILTER INFLUENT
BWS	BACKWASH SUPPLY
CEN	CENTRATE
DS	DIGESTED SLUDGE
FIL	FILTRATE
GTS	GRIT SLURRY
PSG	PRIMARY SLUDGE
RAS	RETURN ACTIVATED SLUDGE
SCM	SCUM
SSG	SECONDARY SLUDGE
SG	SLUDGE
TSG	THICKENED SLUDGE
WAS	WASTE ACTIVATED SLUDGE
WLW	WELL WATER
SCK	SLUDGE CAKE
NG	NATURAL GAS
CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
GR	GLYCOL RETURN
GS	GLYCOL SUPPLY
HTWR	HEATING WATER RETURN
HTWS	HEATING WATER SUPPLY
ALS	ALUM SOLUTION
AMGV	AMMONIA GAS (VACUUM)
AMS	AMMONIA SOLUTION
CARS	CARBON (SLURRY)
CLGV	CHLORINE GAS (VACUUM)
CLS	CHLORINE SOLUTION
FLU	FLUORIDE
POSA	POLYMER SOLUTION (ANIONIC)
POSC	POLYMER SOLUTION (CATIONIC)
POL	POLYPHOSPHATE
SDGV	SULFUR DIOXIDE GAS (VACUUM)
SDS	SULFUR DIOXIDE SOLUTION
FC	FERRIC CHLORIDE
SHY	SODIUM HYDROXIDE
IW	IRRIGATION WATER
NPW	NON POTABLE WATER
SW	SEAL WATER
SVW	SERVICE WATER
SP	SUMP
PWC	POTABLE WATER (COLD)
PWH	POTABLE WATER (HOT)
CA	COMPRESSED AIR
IA	INSTRUMENT AIR
LPA	LOW PRESSURE PROCESS AIR
DG	DIGESTER GAS
CLGP	CHLORINE GAS (PRESSURE)
CLL	CHLORINE LIQUID
SDGP	SULFUR DIOXIDE GAS (PRESSURE)
SDL	SULFUR DIOXIDE LIQUID
STW	STORMWATER
CVT	CULVERT
FOD	FOUNDATION DRAIN
ASH	ASH
ASHS	ASH SLURRY
RFGT	REFRIGERANT
AV	ACID VENT
AW	ACID WASTE
RL	RAIN LEADER
SRL	SECONDARY RAIN LEADER
VT	VENT
WST	WASTE
FOR	FUEL OIL RETURN
FOS	FUEL OIL SUPPLY
SAN	SANITARY SEWER
POT	POTASSIUM PERMANGANATE
SUL	SULFURIC ACID
CARD	CARBON (DRY)
CKD	CEMENT KILN DUST
LM	LIME (DRY)
FW	FINISHED WATER
SMP	SAMPLE
ACE	ACETYLENE
ARG	ARGON
HE	HELIUM
HYD	HYDROGEN
MET	METHANE
NIT	NITROGEN
NTO	NITROUS OXIDE
UPW	ULTRA PURE WATER

MISCELLANEOUS SYMBOLOGY

GENERAL NOTES

1. THIS IS A STANDARD INSTRUMENTATION SYMBOLOGY AND ABBREVIATIONS SHEET. LISTING OF SYMBOLS AND ABBREVIATIONS DOES NOT IMPLY ALL SYMBOLS AND ABBREVIATIONS HAVE BEEN USED ON THIS PROJECT.
2. SEE PROCESS, MECHANICAL AND PLUMBING LEGEND SHEET FOR MISCELLANEOUS PIPING SYMBOLS.
3. SCREENING OR SHADING OF WORK IS USED TO INDICATE EXISTING COMPONENTS OR TO DE-EMPHASIZE PROPOSED IMPROVEMENTS TO HIGHLIGHT SELECTED TRADE WORK. REFER TO CONTEXT OF EACH SHEET FOR USAGE.
4. VALVE SYMBOLS SHOWN HERE ARE APPLICABLE ONLY TO INSTRUMENTATION DIAGRAMS. SEE PROCESS, MECHANICAL AND PLUMBING LEGEND SHEET FOR VALVE SYMBOLS USED ELSEWHERE ON THE SHEETS.

D C B A

ISSUE	DATE	DESCRIPTION
A	09/11/2024	ISSUED FOR BIDS

PROJECT MANAGER	A. GURSKI
CIVIL	J. GAGNON
STRUCTURAL	B. BRADLEY
ARCHITECTURAL	M. BASKIN
PROCESS	J. CHANDLER
MECHANICAL	J. CHANDLER
ELECTRICAL	A. KANER
PROJECT NUMBER	10377389

STATE OF MAINE — Andrew D. Kaner PE18016 — LICENSED PROFESSIONAL ENGINEER

Kaner, Andrew D — Digitally signed by Kaner, Andrew D. DN: E=Andrew.Kaner@hdrinc.com, CN="Kaner, Andrew D", OU=Users, OU=St Louis Park-1601 Utica Ave South, OU=Minnesota, OU=United States, OU=Offices, DC=Intranet, DC=hdr. Date: 2024.09.12 15:06:49-05'00'

MAINE — DEPT. OF INLAND FISHERIES AND WILDLIFE

Effluent Characteristic Design at Embden Rearing Station

INSTRUMENTATION LEGEND

0 1" 2"

FILENAME 10377389-10-G.rvt
SCALE 12" = 1'-0"

SHEET **10G-007**

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GENERAL

G1. SCOPE
THE NOTES ON THIS SHEET AND THE STANDARD STRUCTURAL DETAILS ARE GENERAL AND APPLY TO THE ENTIRE PROJECT WHETHER SPECIFICALLY CALLED OUT OR NOT, EXCEPT WHERE THERE ARE SPECIFIC INDICATIONS TO THE CONTRARY ON STRUCTURAL SHEETS. IF THERE ARE QUESTIONS, THEY SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER AND ANSWERED IN WRITING PRIOR TO CONSTRUCTION.

G2. APPLICABLE SPECIFICATIONS AND CODES
1. MAINE UNIFORM BUILDING AND ENERGY CODE (MUBEC) WITH APPLICABLE EDITIONS OF THE CODE REFERENCED STANDARDS.
2. ACI 318-14
3. ACI 350-06
4. ACI 530-13
5. LOCAL JURISDICTION AMENDMENTS

G3. DESIGN CRITERIA
1. APPLIES TO ALL STRUCTURES (UNO)
   A. DEAD LOAD:
      a. ACTUAL TRIBUTARY STRUCTURE WEIGHT
      b. SUPERIMPOSED DEAD LOAD:
   B. LIVE LOAD:
      a. ELEVATED FLOORS: 100 PSF
      b. WALKWAYS, STAIRS, GRATING: 100 PSF
      c. SLAB ON GRADE: 250 PSF
      d. ROOF: 20 PSF (NOT REDUCIBLE)
   C. WIND:
      a. BASIC WIND SPEED: 110 MPH
      b. EXPOSURE: C
      c. IMPORTANCE FACTOR: 1.0
   D. SEISMIC:
      a. ABOVE GRADE, NON WATER BEARING STRUCTURES:
         1. RISK CATEGORY: II
         2. IMPORTANCE FACTOR: 1.0
         3. SPECTRAL RESPONSE ACCELERATION, SS = 0.296
         4. SPECTRAL RESPONSE ACCELERATION, S1 = 0.075
         5. SITE CLASS: D
         6. SEISMIC DESIGN CATEGORY: B
         7. SPECTRAL RESPONSE COEFFICIENT, SDS = 0.308
         8. SPECTRAL RESPONSE COEFFICIENT, SD1 = 0.119
         9. ANALYSIS PROCEDURE: ELF
   E. SNOW LOAD:
      a. GROUND SNOW LOAD = 70 PSF
      b. FLAT ROOF SNOW LOAD
         1. UPPER AND LOWER PAVILIONS = 58.8 PSF
         2. FILTER BUILDING = 61.6 PSF
      c. EXPOSURE FACTOR
         1. UPPER AND LOWER PAVILIONS = 1.0
         2. FILTER BUILDING = 1.0
      d. IMPORTANCE FACTOR, ALL BUILDINGS = 1.0
      e. THERMAL FACTOR
         1. UPPER AND LOWER PAVILIONS = 1.2
         2. FILTER BUILDING = 1.1

G4. THE FOLLOWING NON-CONTRACTUAL GEOTECHNICAL REPORT WAS DEVELOPED FOR THIS PROJECT AND IS THE BASIS OF THIS STRUCTURAL DESIGN:
GEOTECHNICAL FIRM NAME: SUMMIT GEOENGINEERING SERVICES
ADDRESS: 210 MAINE AVENUE, FARMINGDALE, MN 04344
REPORT NUMBER: 22429
REPORT DATE: MARCH 31, 2023
ALLOWABLE [NET] SOIL BEARING = 2,500

G5. SAFETY
SAFETY AND STRUCTURE STABILITY DURING CONSTRUCTION ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. STRUCTURES HAVE BEEN DESIGNED TO RESIST THE DESIGN LIVE LOADS ONLY AS A COMPLETED STRUCTURE.

G6. OPENINGS
OPENINGS FOR PIPES, DUCTS, CONDUITS, ETC. ARE NOT ALL SHOWN ON THE STRUCTURAL DRAWINGS. COORDINATE AND PROVIDE OPENINGS AS REQUIRED TO ACCOMMODATE ALL WORK SHOWN OR SPECIFIED IN THE CONTRACT DOCUMENTS AND OTHERWISE REQUIRED FOR THE FURNISHING OF A FUNCTIONALLY COMPLETE PROJECT. REINFORCE AROUND OPENINGS PER STANDARD STRUCTURAL DETAILS UNLESS OTHERWISE SHOWN.

G7. SPECIAL INSPECTIONS
SPECIAL INSPECTIONS ARE REQUIRED IN ACCORDANCE WITH CHAPTER 1 AND CHAPTER 17 OF THE IBC (CBC). PAYMENT FOR THESE INSPECTIONS IS NOT THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE FOR FULL ACCESS TO THE WORK BY THE SPECIAL INSPECTOR AND SHALL PROVIDE FOR THESE INSPECTIONS IN HIS CONSTRUCTION SCHEDULE IN ACCORDANCE WITH THE SPECIFICATIONS. A SPECIAL INSPECTION PLAN WILL BE SUBMITTED UNDER SEPARATE COVER WITH THE PERMIT APPLICATION.

G8. STANDARD DETAILS
THE STANDARD DETAILS DEPICT TYPICAL DETAILING TO BE USED ON THIS PROJECT. IF CONDITIONS ARE NOT EXPLICITLY SHOWN ON THE DRAWINGS THEY SHALL BE MADE SIMILAR TO THE STANDARD DETAILS. OBTAIN APPROVAL OF ENGINEER IN WRITING FOR SIMILAR CONDITIONS PRIOR TO CONSTRUCTION.

G9. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND ELEVATIONS OF EXISTING CONSTRUCTION AS REQUIRED TO COORDINATE NEW CONSTRUCTION. SUBMIT REQUIRED CHANGES FOR APPROVAL.

G10. CONTRACTOR TO SUBMIT FOR REVIEW ALL EQUIPMENT SIZES, OPERATING WEIGHTS, VIBRATION FORCES, SUPPORT LOCATIONS, ALONG WITH ANY FLOOR OPENINGS, NOTCHES, AND RECESSES REQUIRED BY SUCH EQUIPMENT. CONCRETE SUPPORT PADS AND/OR FRAMING REQUIRED TO SUPPORT SAID EQUIPMENT SHALL NOT BE FABRICATED AND PLACED UNTIL THE CONCRETE SUPPORT PADS AND/OR FRAMING IS APPROVED TO SUPPORT THE EQUIPMENT.

WOOD FRAMING

WF1. SEE SPECIFICATION FOR GRADE OF LUMBER TO BE USED FOR ALL WALL FRAMING, BLOCKING, MISC FRAMING.

WF2. FOR CONNECTIONS NOT DETAILED, REFERENCE IBC TABLE 23.04.9.1 FOR TYPICAL WOOD ADJACENT TO CONCRETE.

CONCRETE

C1. DESIGN STRENGTHS:
F'c = 4,500 PSI WATER-BEARING STRUCTURES
4,000 PSI ALL OTHER STRUCTURAL CONCRETE
Fy = 60,000 PSI

C2. CONCRETE COVER
UNLESS OTHERWISE NOTED, PROVIDE CONCRETE COVER FOR REINFORCING AS FOLLOWS:
CONCRETE DEPOSITED AGAINST EARTH: 3"
ALL OTHER: 2"
SEE DRAWINGS FOR EXCEPTIONS

C3. SEE SPECIFICATIONS FOR REINFORCING PLACEMENT REQUIREMENTS.

C4. REFER TO OTHER DISCIPLINE DRAWINGS PRIOR TO CONSTRUCTION FOR EMBEDDED ITEMS AND PENETRATIONS NOT SHOWN ON STRUCTURAL DRAWINGS. AS REQUIRED TO ACCOMMODATE ALL WORK SHOWN OR SPECIFIED IN THE CONTRACT DOCUMENTS AND OTHERWISE REQUIRED FOR THE FURNISHING OF A FUNCTIONALLY COMPLETE PROJECT. REINFORCE AROUND OPENINGS PER STANDARD STRUCTURAL DETAILS UNLESS OTHERWISE SHOWN.

C5. PROVIDE 3/4" CHAMFERS AT ALL EXPOSED EDGES NOT ALL CHAMFERS MAY BE SHOWN ON DRAWINGS.

C6. FIELD ADJUST REINFORCING AT OPENINGS AND EMBEDDED ITEMS AS INDICATED.

C7. ANCHOR BOLTS NOT SPECIFIED BY ENGINEER SHALL BE DESIGNED AND CERTIFIED BY A REGISTERED PROFESSIONAL ENGINEER, RETAINED BY THE CONTRACTOR, IN ACCORDANCE WITH APPLICABLE PROJECT AND CODE REQUIREMENTS. SUBMIT AS A SHOP DRAWING FOR REVIEW AND APPROVAL BY THE ENGINEER. COORDINATE LOCATION, SIZE AND EMBEDMENT PRIOR TO CASTING CONCRETE.

C8. CONTINUOUS WATERSTOP SHALL BE INSTALLED IN JOINTS SUBJECT TO STATIC WATER PRESSURE.

C9. ABSOLUTELY NO WELDING OF REINFORCING BARS OR TORCHING TO BEND REINFORCING BARS SHALL BE ALLOWED WITHOUT SPECIFIC APPROVAL FROM THE STRUCTURAL ENGINEER.

C10. CONTRACTOR SHALL SUBMIT A CONCRETE PLACEMENT PLAN IDENTIFYING JOINT TYPES, JOINT LOCATIONS AND CONCRETE PLACEMENT SEQUENCE.

C11. ALL CAST IN PLACE AND POST-INSTALLED ANCHORS INDICATED IN THE STRUCTURAL DOCUMENTS SHALL COMPLY WITH APPENDIX D OF ACI 318 AND CHAPTER 19 OF THE IBC. ALL EXPANSION AND ADHESIVE ANCHORS SHALL HAVE THE ICC REPORT SHOWING EQUIVALENT LOAD CAPACITY. SUBMIT AND INSTALL PER THE ICC EVALUATION REPORT.

MASONRY

M1. DESIGN STRENGTHS:
F'm= 1900 PSI
Fy = 60,000 PSI

M2. GROUT FOR FILLING MASONRY CAVITIES TO BE COARSE GROUT UNO, MAXIMUM COARSE AGGREGATE SIZE IS 3/8 INCH.

M3. GROUT POURS SHALL NOT EXCEED 4 FEET IN HEIGHT UNLESS CLEANOUTS ARE PROVIDED IN THE BOTTOM COURSE OF THE CELL(S) TO BE GROUTED AND WRITTEN PERMISSION IS OBTAINED FOR HIGH LIFT GROUTING.

M4. RESTRICTED BAR ANCHORAGE:
IN CASES WHERE REINFORCING BARS CANNOT BE EXTENDED AS FAR AS REQUIRED, THE BARS SHALL EXTEND AS FAR AS POSSIBLE AND END IN STANDARD HOOK. SHOW ON SHOP DRAWINGS AND HIGHLIGHT WITH A BOX TO BRING TO ENGINEER'S ATTENTION.

M5. ANCHOR BOLTS:
ALL EXPANSION AND ADHESIVE ANCHORS SHALL HAVE THE ICC REPORT SHOWING EQUIVALENT LOAD CAPACITY. SUBMIT AND INSTALL PER THE ICC EVALUATION REPORT.

M6. IF BOND BEAMS AT INTERSECTING WALLS ARE SHOWN ON THE DRAWINGS TO MEET AT DIFFERENT ELEVATIONS, EXTEND REINFORCING OF BOTH BOND BEAMS AROUND INTERSECTING CORNER NOT LESS THAN 4 FEET IN EACH DIRECTION.

M7. LINTEL BLOCKS SHALL NOT BE USED AS BOND BEAM BLOCKS EXCEPT AT OPENINGS WHERE BOND BEAMS AND LINTELS COINCIDE.

ALUMINUM

A1. STRUCTURAL ALUMINUM YIELD STRENGTHS
STRUCTURAL ALUMINUM: Fy=35 KSI
STRUCTURAL ALUMINUM IS ALLOY 6061-T6 UNO

A2. DIMENSIONS:
TO CENTERLINES OF COLUMNS AND BEAMS, TOP SURFACES OF BEAMS AND TUBES AND BACKS OF CHANNELS AND ANGLES UNO.

A3. ELEVATIONS:
TOP OF ALUMINUM REFERS TO TOP SURFACE OR FLANGE OF MEMBER UNO.

A4. WHEN FILLET WELD SIZE IS NOT INDICATED, PROVIDE MAXIMUM WELD SIZE FOR THE MATERIAL THICKNESS IN ACCORDANCE WITH THE LATEST EDITION OF THE "ALUMINUM DESIGN MANUAL" BY THE ALUMINUM ASSOCIATION.

A5. ALUMINUM IN CONTACT WITH DISSIMILAR MATERIALS OR CONCRETE:
CONTACT SURFACES SHALL BE PROVIDED WITH GALVANIC SEPARATION PER SPECIFICATIONS.

STAINLESS STEEL

SS1. DESIGN STRENGTHS:
STAINLESS BARS AND SHAPES - ASTM A484, FY = 30 KSI
STAINLESS STEEL PLATE AND STRIP - ASTM A666 TYPE 316, FY = 30 KSI

SS2. FASTENERS:
BOLTS - ASTM A193, TYPE 316
NUTS - ASTM A194, TYPE 316

SS3. WELDING MATERIALS AND PROCEDURES FOR WELDING STAINLESS STEEL SHALL BE IN ACCORDANCE WITH AWS D1.6.

STEEL

S1. DESIGN STRENGTHS:
WIDE FLANGE AND TEES: Fy=50 KSI
PIPES: Fy=35 KSI
STAINLESS STEEL Fy=33 KSI
HSS SECTIONS Fy=46 KSI
ALL OTHER PLATES AND SHAPES: Fy=36 KSI

S2. DIMENSIONS:
TO CENTERLINES OF COLUMNS AND BEAMS, TOP SURFACES OF BEAMS AND TUBES AND BACKS OF CHANNELS AND ANGLES UNO.

S3. ELEVATIONS:
TOP OF STEEL REFERS TO TOP SURFACE OF MEMBER OR FLANGE UNO.

S4. WHEN FILLET WELD SIZE IS NOT INDICATED, PROVIDE MAXIMUM WELD SIZE BASED ON MATERIAL THICKNESS IN ACCORDANCE WITH AISC SPECIFICATIONS.

S5. ALL BOLTED STRUCTURAL CONNECTIONS ARE BEARING TYPE CONNECTIONS UNLESS OTHERWISE SPECIFIED TO BE SLIP-CRITICAL. PROVIDE LOAD INDICATING WASHERS AT SLIP-CRITICAL CONNECTIONS.

S6. CONFORM TO AISC 360, STEEL CONSTRUCTION MANUAL AND AISC 341, SEISMIC DESIGN MANUAL.

WOOD ROOF TRUSSES

WT1. THE CONTRACTOR SHALL SUBMIT A COMPLETE SET OF CALCULATIONS AND SHOP DRAWINGS OF THE ROOF SYSTEM TO THE ENGINEER FOR REVIEW PRIOR TO FABRICATION. THE CALCULATIONS SHALL INCLUDE THE FOLLOWING: TRUSS LAYOUT DRAWING, INDIVIDUAL TRUSS DESIGNS, TEMPORARY BRACING AND PERMANENT BRACING. SHOP DRAWINGS SHALL INDICATE THE TRUSS LAYOUT, TEMPORARY, AND PERMANENT BRACING LOCATIONS. THE CALCULATIONS AND SHOP DRAWINGS FOR THE PERMANENT BRACING SHALL INCLUDE THE BRACING MEMBER SIZE, LOCATIONS AND THE POSITIONING OF THE CONNECTOR PLATES. ALL CALCULATIONS AND SHOP DRAWINGS SHALL BE SIGNED AND SEALED BY THE CONTRACTOR'S LICENSED ENGINEER.

WT2. WOOD TRUSSES SHALL BE DESIGNED BY THE MANUFACTURER TO RESIST THE LOADS PER THE CODE AND AS SHOWN ON THE TRUSS LOADING DIAGRAMS WHERE SHOWN ON THE DRAWINGS.

WT3. TRUSSES SHALL BE DESIGNED UNDER THE FOLLOWING FORMAT:
1. LATERAL FORCES APPLIED TO THE TRUSSES SUCH AS DRAG TRUSS LOADS, COLLECTORS, ETC ARE INDICATED ON THE PLANS WHERE APPLICABLE.
2. ALL TRUSS TO TRUSS CONNECTIONS ARE THE RESPONSIBILITY OF THE CONTRACTOR'S ENGINEER.
3. IT IS THE RESPONSIBILITY OF THE CONTRACTOR'S ENGINEER TO REVIEW ALL OF THE DESIGN SPECIFICATIONS, ROOF TRUSS SUPPORT CONDITIONS DRAG DETAILS AND TO INCORPORATE THESE REQUIREMENTS INTO THE ENGINEERING DESIGN OF THE TRUSS SYSTEM.
4. THE CONTRACTOR'S ENGINEER SHALL DEVELOP A TRUSS LAYOUT PLAN FOR THE TRUSS SYSTEM THAT CLEARLY INDICATES THE TRUSS VERTICAL SUPPORT CONDITIONS, TRUSS-TO-TRUSS CONNECTIONS, DRAG TRUSSES AND COLLECTORS, AND ANY OTHER FIELD INSTALLED REINFORCEMENT. INCLUDING FIELD-INSTALLED TOP CHORD REINFORCEMENT AT THE EAVES AS NECESSARY TO EXECUTE THE TRUSS SYSTEM DESIGN. THE TRUSS ROOF FRAMING PLAN SHALL BE SEALED BY THE CONTRACTOR'S ENGINEER AND SHALL BE INCLUDED WITH THE INDIVIDUAL TRUSS CT SHEETS. THE CONTRACTOR'S ENGINEER SHALL ALSO PROVIDE PROPER SUPERVISION OF ANY TRUSS COMPANY TECHNICIANS.
5. ALL TRUSS-TO-STRUCTURE (WALLS OR BEAMS) CONNECTIONS ARE THE RESPONSIBILITY OF THE ENGINEER OF RECORD.
6. TEMPORARY ERECTION BRACING AND PERMANENT WEB BRACING SHALL BE DESIGNED BY THE CONTRACTOR'S ENGINEER.

WT4. THE CONTRACTOR'S ENGINEER SHALL DESIGN ALL APPLIED DEAD, LIVE, WIND, AND SEISMIC LOADS PLUS THE LATERAL SUPPORT LOADS SHOWN BELOW. ADDITIONALLY, THE CONTRACTOR'S ENGINEER WILL BE RESPONSIBLE FOR DESIGNING THE TEMPORARY AND PERMANENT BRACING.

WT5. MINIMUM TRUSS GRAVITY FRAMING LOADS FOR THE TRUSS DESIGN SHALL BE PER THE TRUSS LOADING DIAGRAMS. SELF WEIGHT OF THE TRUSS OVER 3 PSF SHALL ME ADDED TO THE DEAD LOAD.

WT6. COORDINATE ADDITIONAL LOADS WITH MECHANICAL AND ELECTRICAL.

POST-INSTALLED ANCHORS

PA1. POST-INSTALLED ANCHORS SHALL ONLY BE USED WHERE SPECIFIED ON THE CONTRACT DRAWINGS. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ENGINEER-OF-RECORD (EOR) PRIOR TO INSTALLING POST-INSTALLED ANCHORS FOR MISSING OR MISPLACED CAST-IN-PLACE ANCHORS.

PA2. CARE SHALL BE TAKEN IN PLACING POST-INSTALLED ANCHORS TO AVOID CONFLICTS WITH EXISTING REBAR. HOLES SHALL BE DRILLED AND CLEANED IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.

PA3. SUBSTITUTION REQUESTS, FOR PRODUCTS OTHER THAN THOSE SPECIFIED, SHALL BE SUBMITTED BY THE CONTRACTOR TO THE EOR ALONG WITH CALCULATIONS THAT ARE PREPARED & SEALED BY A REGISTERED PROFESSIONAL ENGINEER. THE CALCULATIONS SHALL DEMONSTRATE THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE PERTINENT EQUIVALENT PERFORMANCE VALUES (MINIMUM) OF THE SPECIFIED PRODUCT USING THE APPROPRIATE DESIGN PROCEDURE AND/OR STANDARD(S) AS REQUIRED BY THE BUILDING CODE. PRODUCT ICC-ES CODE REPORTS SHALL BE INCLUDED WITH THE SUBMITTAL PACKAGE.

PA4. UNLESS NOTED OTHERWISE ON PLANS ACCEPTABLE CONCRETE ANCHORS PRODUCTS SHALL BE:
1. MECHANICAL ANCHORS FOR USE IN CRACKED AND UNCRACKED CONCRETE SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ACI 355.2 AND ICC-ES AC 193. PRE-APPROVED MECHANICAL ANCHORS INCLUDE:
   A. KWIK BOLT 3 (ICC-ES ESR-2302) AND KWIK BOLT TZ (ICC-ES ESR-1917) BY HILTI, INC.
   B. TRUBOLT+ (ICC-ES ESR-2427) BY ITW RAMSET/REDHEAD.
   C. STRONG BOLT (ICC-ES ESR-1771) AND STRONG BOLT 2 (ICC-ES ESR-3037) BY SIMPSON STRONG TIE ANCHOR SYSTEMS.
2. ADHESIVE ANCHORS FOR USE IN CRACKED AND UNCRACKED CONCRETE SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ACI 308. ADHESIVE ANCHORS SHALL NOT BE USED IN OVERHEAD APPLICATIONS OR SUSTAINED TENSILE LOAD APPLICATIONS WHERE FAILURE WOULD RESULT IN RISK TO THE PUBLIC. PRE-APPROVED ADHESIVE ANCHORS INCLUDE:
   A. HIT-RE-500 SD (ICC-ES ESR-2322) SYSTEM ADHESIVE ANCHORS BY HILTI, INC.
   B. EPCON G5 (ICC-ES ESR-1137) ADHESIVE ANCHORING SYSTEM BY ITW RAMSET/REDHEAD.
   C. SET-XP (ICC-ES ESR-2508) ADHESIVE ANCHORING SYSTEMS BY SIMPSON STRONG TIE ANCHOR SYSTEMS.

PRE-ENGINEERED METAL BUILDING NOTES:

PMB1. THE DESIGN OF PRE-ENGINEERED SYSTEMS SPECIFIED IN THE CONTRACT DOCUMENTS WHICH ARE DESIGNED/ENGINEERED BY OTHERS, IS THE SOLE RESPONSIBILITY OF THE SUPPLIER AND ITS DESIGN ENGINEER, LICENSED IN THE PROJECT STATE. SUBMITTALS OF SUCH SYSTEMS TO THE STRUCTURAL ENGINEER OF RECORD SHALL BE REVIEWED FOR CONFORMANCE WITH THE CONTRACT DOCUMENTS WITH REGARD TO THE ARRANGEMENT AND OR SIZES OF MEMBERS SHOWN ON THE STRUCTURAL CONTRACT DOCUMENTS, AND THE SUPPLIERS INTERPRETATION OF THE DESIGN INFORMATION INCLUDED IN THE CONTRACT DOCUMENTS. SUCH REVIEW BY THE STRUCTURAL ENGINEER OF RECORD SHALL NOT IMPLY ANY RESPONSIBILITY FOR THE ACTUAL DESIGN OF SUCH SYSTEMS OR MEMBERS. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE DIMENSIONAL ACCURACY AND CONFORMANCE WITH THE INFORMATION CONTAINED IN THE DRAWINGS.

PMB2. GENERAL CONTRACTOR SHALL SUBMIT ACTUAL PRE-ENGINEERED FRAME AND COLUMN REACTIONS TO ENGINEER FOR FOUNDATION VERIFICATION PRIOR TO PLACING CONCRETE FOR FOUNDATIONS. NOTE THAT CHANGES IN FOUNDATIONS DUE TO THESE FINAL REACTIONS ARE LIKELY SINCE THE ORIGINAL FOUNDATION DESIGN IS BASED ON ASSUMED REACTIONS. THE OWNER AND ENGINEER WILL NOT ACCEPT ANY ADDITIONAL CHARGES FOR THESE FOUNDATION CHANGES.

POST-INSTALLED ANCHORS

PA1. POST-INSTALLED ANCHORS SHALL ONLY BE USED WHERE SPECIFIED ON THE CONTRACT DRAWINGS. OBTAIN APPROVAL FROM THE ENGINEER–OF-RECORD (EOR) PRIOR TO INSTALLING POST-INSTALLED ANCHORS FOR MISSING OR MISPLACED CAST-IN-PLACE ANCHORS.

PA2. CARE SHALL BE TAKEN IN PLACING POST-INSTALLED ANCHORS TO AVOID CONFLICTS WITH EXISTING REBAR. HOLES SHALL BE DRILLED AND CLEANED IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.

PA3. SUBSTITUTION REQUESTS, FOR PRODUCTS OTHER THAN THOSE SPECIFIED BELOW, SHALL BE SUBMITTED TO THE ENGINEER OF RECORD ALONG WITH CALCULATIONS THAT ARE PREPARED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER. THE CALCULATIONS SHALL DEMONSTRATE THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE PERTINENT EQUIVALENT DESIGN PERFORMANCE VALUES (MINIMUM) OF THE SPECIFIED PRODUCT USING THE APPROPRIATE DESIGN PROCEDURE AND/OR STANDARD(S) AS REQUIRED BY THE BUILDING CODE. PRODUCT ICC-ES REPORTS SHALL BE INCLUDED WITH THE SUBMITTAL PACKAGE.

PA4. UNLESS NOTED OTHERWISE ON PLANS, ACCEPTANCE CONCRETE ANCHORS PRODUCTS SHALL BE:
1. MECHANICAL ANCHORS FOR USE IN CRACKED AND UNCRACKED CONCRETE SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ACI355.2 AND ICC-ES AC 193. PRE-APPROVED MECHANICAL ANCHORS INCLUDES:
   A. KWIK BOLT 3 (ICC-ES ESR-2302) AND KWIK BOLT TZ (ICC-ES ESR-1917) BY HILTI, INC.
   B. TRUBOLT+ (ICC-ES ESR-2427) BY ITW RAMSET/REDHEAD.
   C. STRONG BOLT (ICC-ES ESR-1771) AND STRONG BOLT 2 (ICC-ES ESR-3037) BY SIMPSON STRONG TIE ANCHOR SYSTEMS.
2. ADHESIVE ANCHORS FOR USE IN CRACKED AND UNCRACKED CONCRETE SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ACI 308. ADHESIVE ANCHORS SHALL NOT BE USED IN OVERHEAD APPLICATIONS OR SUSTAINED TENSILE LOAD APPLICATIONS WHERE FAILURE WOULD RESULT IN RISK TO THE PUBLIC. PRE-APPROVED ADHESIVE ANCHORS INCLUDE:
   A. HIT-RE-500 SD (ICC-ES ESR-2322) SYSTEM ADHESIVE ANCHORS BY HILTI, INC.
   B. EPCON G5 (ICC-ES ESR-1137) ADHESIVE ANCHORING SYSTEM BY ITW RAMSET/REDHEAD.
   C. SET-XP (ICC-ES ESR-2508) ADHESIVE ANCHORING SYSTEMS BY SIMPSON STRONG TIE ANCHOR SYSTEMS.

STAINLESS STEEL

SS1. DESIGN STRENGTH:
STAINLESS BARS AND SHAPES - ASTM A484, FY = 30 KSI
STAINLESS STEEL PLATE AND STRIP - ASTM A666 TYPE 316, FY = 30 KSI

SS2. FASTENERS:
BOLTS - ASTM A193, TYPE 316
NUTS - ASTM A194, TYPE 316

SS3. WELDING MATERIALS AND PROCEDURES FOR WELDING STAINLESS STEEL SHALL BE IN ACCORDANCE WITH AWS D1.6.

DEFERRED SUBMITTALS

DS1. DEFERRED SUBMITTALS ARE THOSE PORTIONS OF THE DESIGN WHICH ARE NOT SUBMITTED AT THE TIME OF PERMIT APPLICATION AND WHICH ARE TO BE SUBMITTED TO THE PERMITTING AGENCY FOR ACCEPTANCE PRIOR TO INSTALLATION OF THAT PORTION OF THE WORK.

DS2. THE FOLLOWING IS A LIST OF DEFERRED SUBMITTALS PER IBC SECTION 107.3.4.1 THAT ARE EXPECTED TO CONTAIN STRUCTURAL CALCULATIONS OF SAFETY RELATED SYSTEM INFORMATION FOR REVIEW TO MEET BUILDING PERMITTING REQUIREMENTS FOR DESIGNED SYSTEMS. PRIOR TO INSTALLATION OF THE INDICATED STRUCTURAL ELEMENT, EQUIPMENT, DISTRIBUTION SYSTEM, OR COMPONENT OR ITS ANCHORAGE THE CONTRACTOR SHALL SUBMIT THE REQUIRED ENGINEER CERTIFICATION SUPPORTING DATA AND DRAWINGS FOR REVIEW AND ACCEPTANCE BY THE ENGINEER, ADDITIONALLY, ACCEPTANCE INDICATED ON THE ENGINEER'S COMMENT FORM, ALONG WITH THE COMPLETED FINAL SUBMITTAL SHALL THEN BE FILED BY THE CONTRACTOR AND ACKNOWLEDGED AS ACCEPTED BY THE PERMITTING AGENCY PRIOR TO INSTALLATION OF THESE ITEMS.

ISSUE	DATE	DESCRIPTION
A	09/11/2024	ISSUED FOR BIDS

PROJECT MANAGER	A. GURSKI
CIVIL	J. GAGNON
STRUCTURAL	B. BRADLEY
ARCHITECTURAL	M. BASKIN
PROCESS	J. CHANDLER
MECHANICAL	J. CHANDLER
ELECTRICAL	A. KANER
PROJECT NUMBER	10377389

STATE OF MAINE Bruce A. Bradley PE15026 LICENSED PROFESSIONAL ENGINEER
Digitally signed by Bruce Bradley
Date: 2024.09.17 20:31:44-04'00'

MAINE DEPT OF INLAND FISHERIES AND WILDLIFE

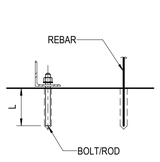
Effluent Characteristic Design at Embden Rearing Station

GENERAL STRUCTURAL NOTES

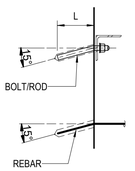
0 1" 2"

FILENAME 10377389-10-G.rvt
SCALE 12" = 1'-0"

SHEET 10S-001



VERTICAL



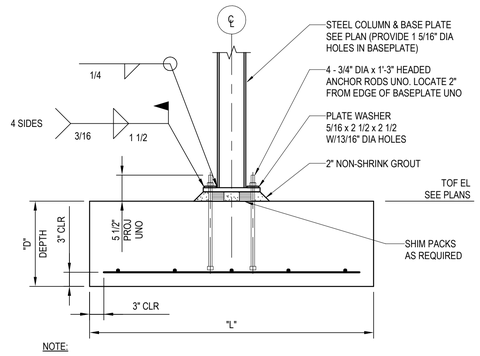
HORIZONTAL

REINFORCING BARS		ANCHOR BOLTS/RODS	
BAR SIZE	EMBED LENGTH (L)	DIA (IN)	EMBED LENGTH (L)
#3	4"	3/8"	5"
#4	5"	1/2"	6"
#5	6"	5/8"	7"
#6	7"	3/4"	8"
#7	8"	7/8"	9"
#8	9"	1"	10"
#9	10"		
#10	12"		

NOTES:

1. ADHESIVE TYPE IS SUBJECT TO APPROVAL OF THE ENGINEER OF RECORD.
2. EMBEDMENT LENGTHS SHOWN ARE MINIMUM UNLESS NOTED OTHERWISE ON DRAWINGS OR AS OTHERWISE REQUIRED BY SPECIFICATIONS.
3. FOR ADDITIONAL REQUIREMENTS, SEE SPECIFICATION SECTION 03 15 19.

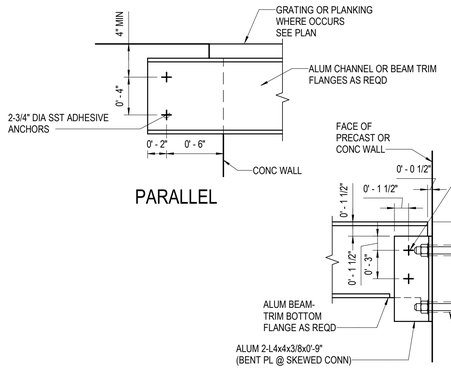
1 ADHESIVE ANCHOR DETAIL AND SCHEDULE
NOT TO SCALE



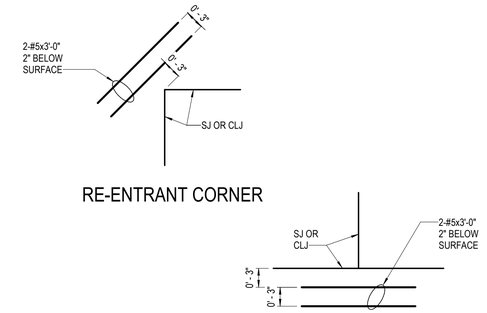
NOTE:

1. FOR FOOTING, SEE PLAN AND SCHEDULE FOR SIZE AND REINFORCING.

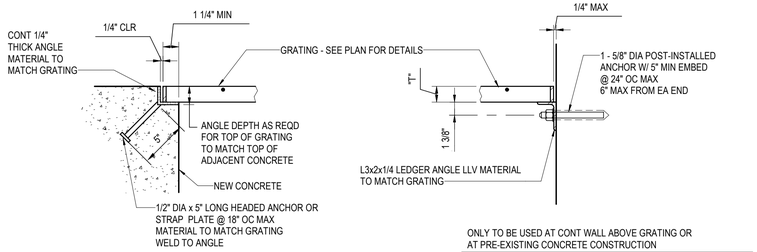
2 SPREAD FOOTING
NOT TO SCALE



3 ALUMINUM BEAM TO WALL CONNECTION
NOT TO SCALE



4 ADDITIONAL SLAB REINFORCING
NOT TO SCALE

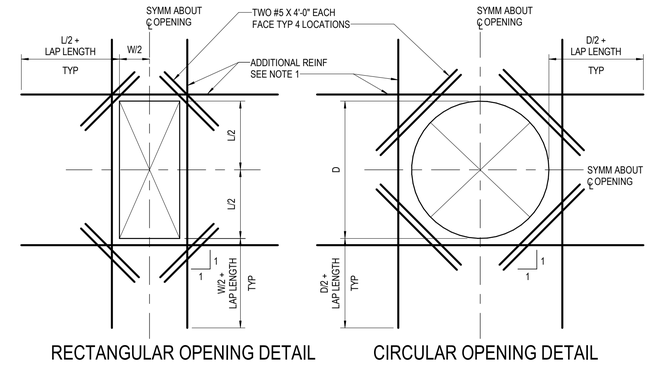


NOTES:

1. GRATING SIZE PER CONTRACT DOCUMENTS.
2. ALL ENDS AND OPENINGS SHALL BE BANDED, SEE SPECIFICATION.
3. ATTACH GRATING TO ALL SUPPORT ANGLES WITH BOLTED CLIPS, SPACED AT 2'-0" MAX CENTERS.
4. PROVIDE DISSIMILAR MATERIAL PROTECTION FOR ALUMINUM IN CONTACT WITH CONCRETE PER SPECIFICATION.

5 GRATING AND SUPPORT
NOT TO SCALE

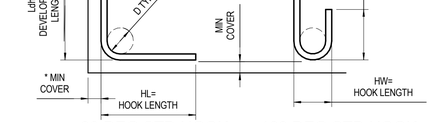
ONLY TO BE USED AT CONT WALL ABOVE GRATING OR AT PRE-EXISTING CONCRETE CONSTRUCTION



NOTES:

1. PROVIDE ADDITIONAL REINFORCING THE SAME SIZE AS DISCONTINUOUS REINFORCEMENT AT OPENING. QUANTITY OF REINFORCING IN EACH DIRECTION SHALL BE EQUAL TO OR ONE GREATER THAN THE NUMBER OF DISCONTINUOUS BARS. PLACE 1/2 OF ADDITIONAL REINFORCING BARS EACH SIDE OF OPENING. PLACE ADDITIONAL REINFORCEMENT AT 3" OC (TYPICAL BOTH DIRECTIONS AND ALL LAYERS OF REINFORCEMENT). START FIRST BAR 2" CLEAR TO OPENING.
2. EXTEND ADDITIONAL REINFORCING BEYOND EDGE OF OPENING AS SHOWN ABOVE. ADDITIONAL BARS MAY TERMINATE AT THE END OF THE WALL WITH A STANDARD HOOK WHERE THE LENGTH OF THE WALL WILL NOT PERMIT BARS TO EXTEND AS SHOWN ABOVE.
3. TYPICAL WALL OR SLAB REINFORCING NOT SHOWN FOR CLARITY. TERMINATE TYPICAL REINFORCING 2" CLEAR TO OPENING.
4. OPENINGS 12" OR LESS IN SLABS AND WALLS, NO EXTRA REBARS ARE REQUIRED UNLESS SHOWN OTHERWISE. TYPICAL REINFORCING SHALL BE RESPACED (NOT CUT) TO ALLOW FOR OPENINGS TO BE MADE.
5. UNLESS SHOWN OTHERWISE ON DRAWINGS, PROVIDE EXTRA REINFORCING AROUND OPENINGS AS SHOWN AND INDICATED ABOVE.
6. PROVIDE ADDITIONAL DOWELS PER NOTE 1 ABOVE FOR ALL OPENINGS NEAR THE FLOOR SLAB, BASE SLAB, OR CORNERS.

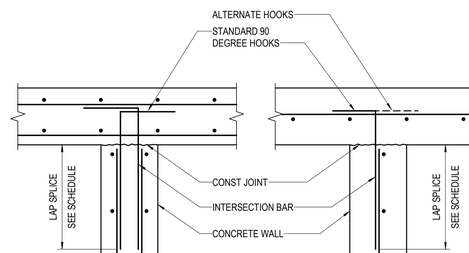
6 EXTRA REINFORCING AROUND OPENINGS
NOT TO SCALE



BAR SIZE GRADE 60	HL	HW	TL	D	f'c=4.0 OR 4.5 KSI
					Ldh *
#3	6"	3"	3"	2 1/4"	6"
#4	8"	4"	4 1/2"	3"	7"
#5	10"	5"	5"	3 3/4"	9"
#6	1'-0"	6"	6"	4 1/2"	10"
#7	1'-2"	7"	7"	5 1/4"	12"
#8	1'-4"	8"	8"	6"	14"
#9	1'-7"	11 3/4"	10 1/2"	9 1/2"	15"
#10	1'-10"	1'-1 1/4"	11 1/2"	10 3/4"	17"
#11	2'-0"	1'-2 3/4"	1'-1"	12"	19"

* COMPLYING WITH MINIMUM COVER REQUIREMENTS OF ACI 318, 12.5.3. OTHERWISE Ldh MUST BE RE-CALCULATED.

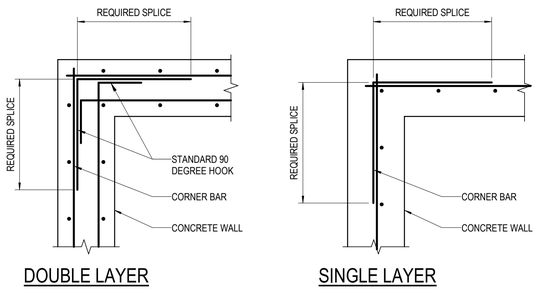
10 REINFORCING HOOK SCHEDULE
NOT TO SCALE



NOTE:

1. INTERSECTION BARS TO BE SAME SPACING AS HORIZONTAL BARS.

7 WALL REINFORCING AT INTERSECTION
NOT TO SCALE



NOTE:

1. CORNER BARS TO BE SAME SIZE AND SPACING AS HORIZONTAL BARS.

8 WALL REINFORCING AT CORNER
NOT TO SCALE

LAP SPLICE AND EMDEDMENT LENGTHS f'c =4.0 ksi f'c =4.5 ksi fy = 60 ksi		
BAR	BARS SPACED GREATER THAN 4"	BARS SPACED LESS THAN OR EQUAL TO 4"
#3	14"	20"
#4	19"	32"
#5	29"	46"
#6	39"	62"
#7	55"	87"
#8	69"	107"
#9	76"	116"
#10	97"	140"
#11	120"	146"

NOTES:

1. PROVIDE MINIMUM LAP SPLICE LENGTHS AND EMBEDMENTS PER TABLE UNLESS NOTED OTHERWISE. EMBEDMENT LENGTH EQUALS THE LAP SPLICE LENGTH UNLESS OTHERWISE NOTED.
2. BAR SPACING AT LAP SPLICE IS THE MINIMUM CLEAR DISTANCE BETWEEN LAPPED BARS PLUS ONE BAR DIAMETER.
3. ALL SPLICES TO BE CONTACT SPLICES AND WIRED TOGETHER UNLESS OTHERWISE APPROVED BY THE ENGINEER.

9 CONCRETE REINFORCING LAP AND EMBEDMENT SCHEDULE
NOT TO SCALE

PROJECT MANAGER	A. GURSKI
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MECHANICAL	J. CHANDLER
ELECTRICAL	A. KANER
PROJECT NUMBER	10377389

ISSUE	DATE	DESCRIPTION
A	09/11/2024	ISSUED FOR BIDS

STATE OF MAINE — Bruce A. Bradley PE15026 — LICENSED PROFESSIONAL ENGINEER

Digitally signed by Bruce Bradley
Date: 2024.09.17 20:31:54-04'00'

MAINE DEPT. OF INLAND FISHERIES AND WILDLIFE

Effluent Characteristic Design at Embden Rearing Station

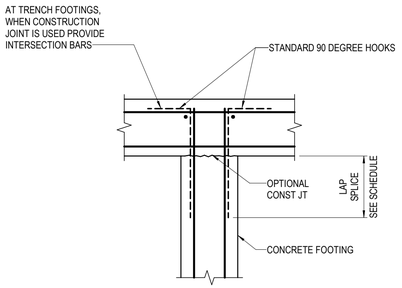
GENERAL STRUCTURAL DETAILS 1

0 1" 2"

FILENAME 10377389-10-G.rvt
SCALE As indicated

SHEET 10S-501

Autodesk Docs://10377389_Maine_Effluent_Trtmnt_DESIGN_2022/10377389-10-G.rvt
9/11/2024 8:54:32 AM

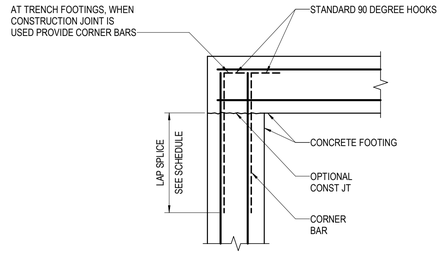


NOTE:

1. INTERSECTION BARS TO BE SAME SIZE AND SPACING AS FOOTING REINFORCING.

1 TYPICAL FOOTING REINFORCING AT INTERSECTION

NOT TO SCALE

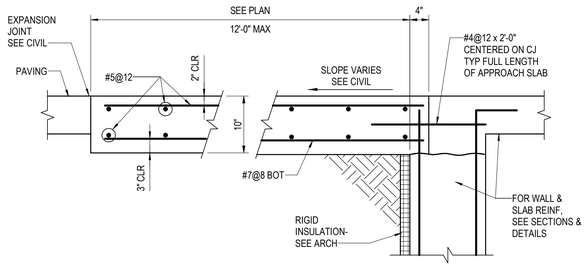


NOTE:

1. CORNER BARS TO BE SAME SIZE AND SPACING AT FOOTING REINFORCING.

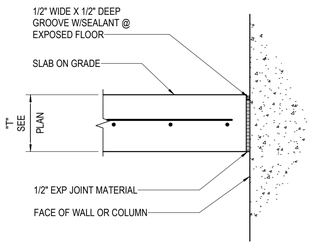
2 TYPICAL FOOTING REINFORCING AT CORNER

NOT TO SCALE



3 APPROACH SLAB

NOT TO SCALE

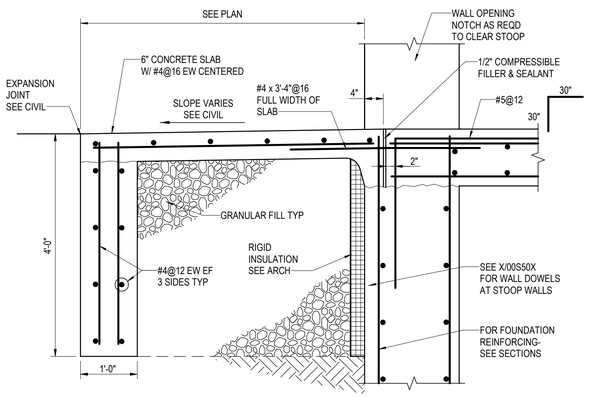


NOTES:

1. AT SLAB-ON-GRADE.

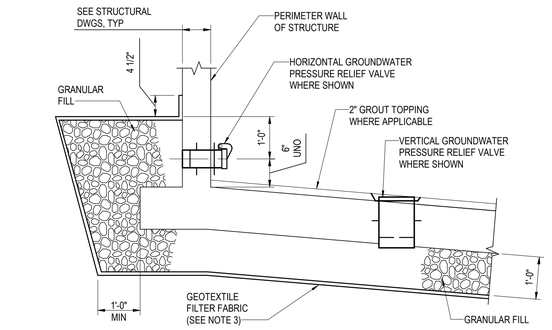
4 TYPICAL ISOLATION JOINT (IJ)

NOT TO SCALE



5 DOOR STOOP

NOT TO SCALE

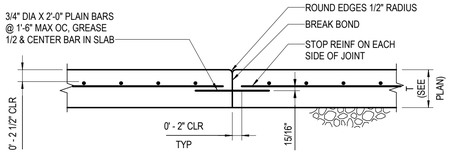


NOTES:

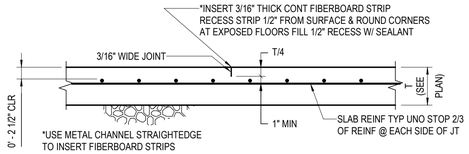
1. SEE PLANS FOR NUMBER AND LOCATION OF PRESSURE RELIEF VALVES.
2. PLACE GRANULAR FILL UNDER ENTIRE STRUCTURE BASE SLAB.
3. LAP FILTER FABRIC 12" AT SPLICES AND COVER PUNCTURES AND TEARS WITH AN ADDITIONAL LAYER OF FABRIC LAPPED 12" ALL AROUND.

6 GROUNDWATER PRESSURE RELIEF VALVES

NOT TO SCALE



SAWED CONTROL JOINT



FORMED CONTROL JOINT

DOWELLED CONSTRUCTION JOINT (DSJ)

NOTE:

1. ANY ONE OF THE DETAILS ABOVE MAY BE USED AT LOCATIONS INDICATED ON DRAWINGS AS "SJ," AT CONTRACTOR'S OPTION.
2. WHERE "DSJ" IS INDICATED ON PLAN, THE "DSJ" SHALL BE USED.

9 SLAB-ON-GRADE JOINT

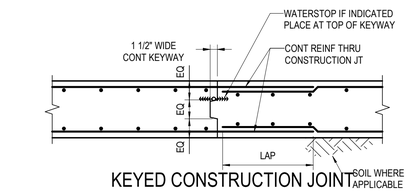
NOT TO SCALE

NOTES:.

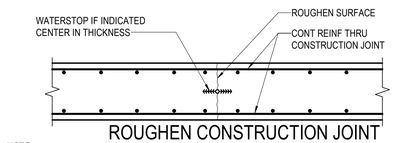
1. "S" = BAR SPACING INDICATED ON THE DRAWINGS.
2. FOR HORIZONTAL REINF BAR LOCATION RELATIVE TO VERTICAL REINF BAR LOCATION (INSIDE OR OUTSIDE SEE DRAWING (INSIDE SHOWN).

10 HORIZONTAL WALL JOINTS WITH WATERSTOPS

NOT TO SCALE



KEYED CONSTRUCTION JOINT



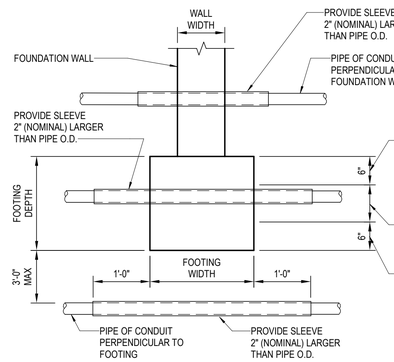
ROUGHEN CONSTRUCTION JOINT

NOTE:

1. SEE SPECIFICATION FOR REQUIREMENT TO TIE WATERSTOPS IN PLACE TO PREVENT MOVEMENT OR FOLDING OVER.

7 COSTRUCTION JOINT (CJ)

NOT TO SCALE



NOTES:

1. FOR PIPES 3'-0" OR LESS BELOW FOOTING, PROVIDE SLEEVES AS SHOWN.
2. FOR PIPES AND CONDUITS MORE THAN 3'-0" BELOW FOOTING, PIPE SLEEVE MAY BE ELIMINATED.
3. COORDINATE WITH MECH, ELECT AND OTHER AFFECTED TRADES.

8 INSTALLATION OF PIPES/CONDUITS

NOT TO SCALE

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PROJECT MANAGER	A. GURSKI
CIVIL	J. GAGNON
STRUCTURAL	B. BRADLEY
ARCHITECTURAL	M. BASKIN
PROCESS	J. CHANDLER
MECHANICAL	J. CHANDLER
ELECTRICAL	A. KANER
PROJECT NUMBER	10377389

STATE OF MAINE · Bruce A. Bradley PE15026 · LICENSED PROFESSIONAL ENGINEER

Digitally signed by Bruce Bradley
Date: 2024.09.17 20:32:03-04'00'

Effluent Characteristic Design at Embden Rearing Station

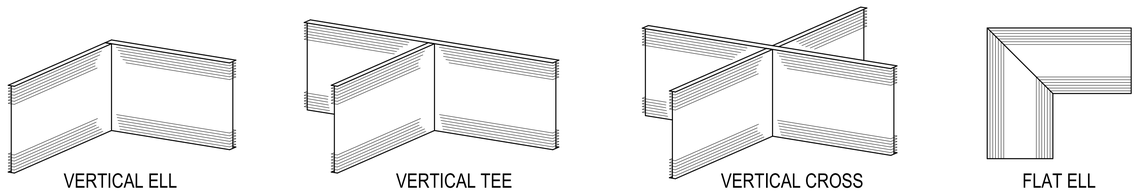
GENERAL STRUCTURAL DETAILS 2

0 1" 2"

FILENAME 10377389-10-G.rvt
SCALE As indicated

SHEET 10S-502

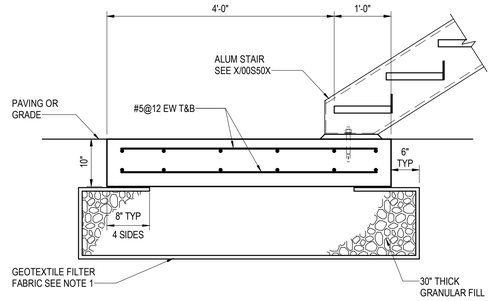
Autodesk Docs://10377389_Maine_Effluent_Trtmnt_DESIGN_2022/10377389-10-G.rvt
9/11/2024 8:54:29 AM



NOTES:

1. BULB TYPE WATERSTOPS SHALL BE HANDLED SIMILAR TO AS SHOWN WITH BULB JOINTS MITERED FOR FULL CONTINUITY OF HOLLOW BULB.
2. ONLY STRAIGHT BUTT JOINT WELDS ARE ALLOWED IN THE FIELD.

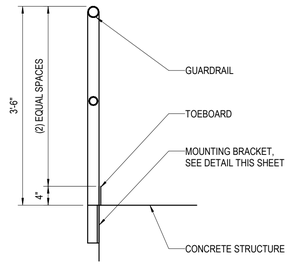
1 SHOP FABRICATED WATERSTOP
NOT TO SCALE



NOTES:

1. LAP FILTER FABRIC 12" AT SPLICES AND COVER PUNCTURES AND TEARS WITH AN ADDITIONAL LAYER OF FABRIC LAPPED 12" ALL AROUND.

2 STAIR PAD
NOT TO SCALE

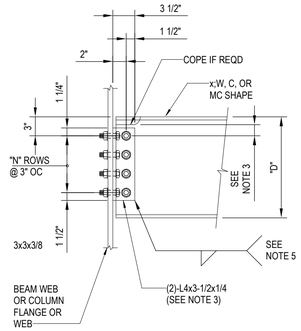


3 MTL-GUARDRAIL - SIDE MOUNTED - CONC
NOT TO SCALE

NOTES:

1. TOEBOARD NOT SHOWN.

4 MTL-GUARDRAIL - SIDE MOUNTED BRACKET - CONC
NOT TO SCALE

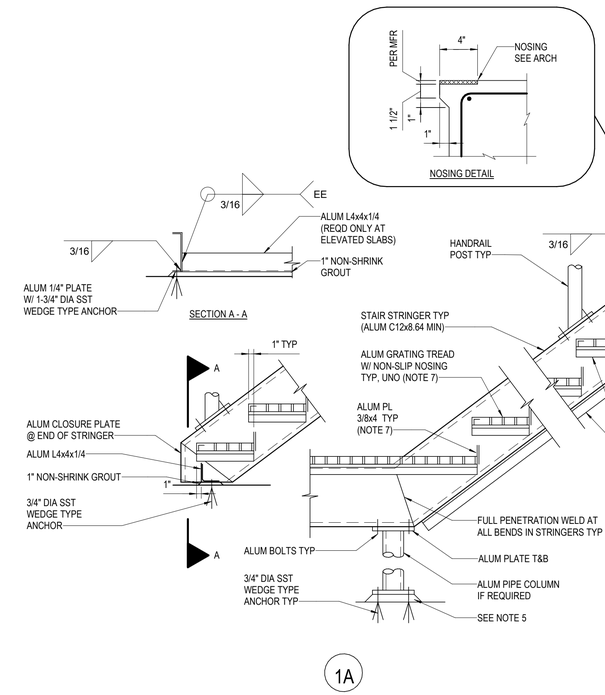


STANDARD BOLTED CONNECTION SCHEDULE		
NOMINAL BEAM SIZE "D"	NUMBER OF BOLT ROWS "N"	WELD SIZE
W8	2	3/16
W10	2	3/16
W12	3	3/16
W14	3	3/16
W16	3	1/4
W18	4	1/4
W21	4	1/4
W24	4	1/4
W27	5	1/4
W30	5	5/16
W33	6	5/16
W36	6	5/16

NOTES:

1. ALL BOLTS SHALL BE 3/4"∅ A325-N FOR STEEL CONSTRUCTION. ALL BOLTS SHALL BE 3/4"∅ SST FOR ALL OTHER CONSTRUCTION.
2. PROVIDE MINIMUM NUMBER OF BOLT ROWS "N" SHOWN AS THE TYPICAL CONN. INCREASE NUMBER OF ROWS AND / OR BOLT DIA. IF INDICATED ON PLANS.
3. MIN. DISTANCE FROM ℄ OF TOP BOLT TO A COPE SHALL BE 1-1/2". WHERE DEEP COPES ARE REQD., INCREASE DISTANCE FROM TOP OF BEAM TO ℄ OF TOP BOLT.
4. USE STANDARD OR SHORT HORIZONTAL SLOTTED HOLES AS REQUIRED.
5. WELD DOUBLE ANGLES TO BEAM WEB IN LIEU OF BOLTING AT CONTRACTORS OPTION.

5 TYPICAL BEAM CONNECTION
NOT TO SCALE



1A

ALUMINUM STAIR NOTES:

1. DETAILS SHOWN FOR ALUMINUM GRATING TREADS. FRP CHECKERED PL AND ALUMINUM CHECKERED PL TREADS ARE SIMILAR. SEE ARCH STAIR SCHEDULE FOR TREAD MATERIALS.
2. STAIRS AND LANDINGS SHALL BE DESIGNED BY FABRICATOR SUBJECT TO APPROVAL OF ENGINEER. DESIGN LIVE LOAD SHALL BE AS STATED BELOW.
3. ANCHOR ALUMINUM TO CONCRETE WITH 3/4" DIA STAINLESS STEEL ANCHOR BOLTS, NUTS, AND WASHERS AS SHOWN IN DETAIL.
4. ALL STAIRS, LANDINGS, THEIR CONNECTIONS AND SUPPORTS SHALL BE DESIGNED FOR A LIVE LOAD OF 100 PSF UNIFORM LOAD OR A CONCENTRATED LIVE LOAD OF 1000 LB, WHICHEVER PRODUCES THE GREATER STRESSES AND REACTIONS. THE 1000 LB LOAD SHALL BE ABLE TO BE PLACED ANYWHERE ON THE STAIR SYSTEM. STAIR DEFLECTION DUE TO LIVE LOAD SHALL NOT EXCEED SPAN/480. SEE SPECIFICATION SECTION 05 50 00 FOR ADDITIONAL STAIR DESIGN REQUIREMENTS.
5. BASE PLATES FOR ALUMINUM COLUMNS SHALL REST ON 1" NON-SHRINK GROUT.
6. SEE ARCH DETAILS FOR STAIR DETAILS NOT SHOWN.
7. PROVIDE CHECKERED PLATE TREAD CLOSED RISERS WHERE INDICATED ON ARCH DRAWINGS.

NOTE:

1. FOR ADDL INFORMATION, SEE 1A

1B

6 ALUMINUM STAIR
NOT TO SCALE

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STATE OF MAINE
Bruce A. Bradley PE15026
LICENSED PROFESSIONAL ENGINEER

Digitally signed by Bruce Bradley
Date: 2024.09.17 20:32:12-04'00'

MAINE DEPT. OF INLAND FISHERIES AND WILDLIFE

Effluent Characteristic Design at Embden Rearing Station

GENERAL STRUCTURAL DETAILS 3

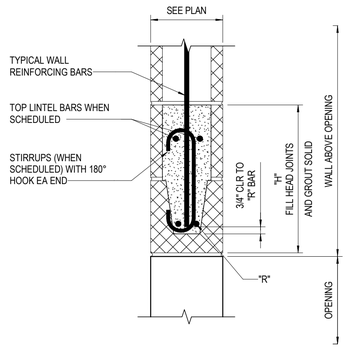
0 1" 2"

FILENAME 10377389-10-G.rvt
SCALE 12" = 1'-0"

SHEET 10S-503

Autodesk Docs://10377389_Maine_Effluent_Trtmnt_DESIGN_2022/10377389-10-G.rvt
9/11/2024 8:54:26 AM

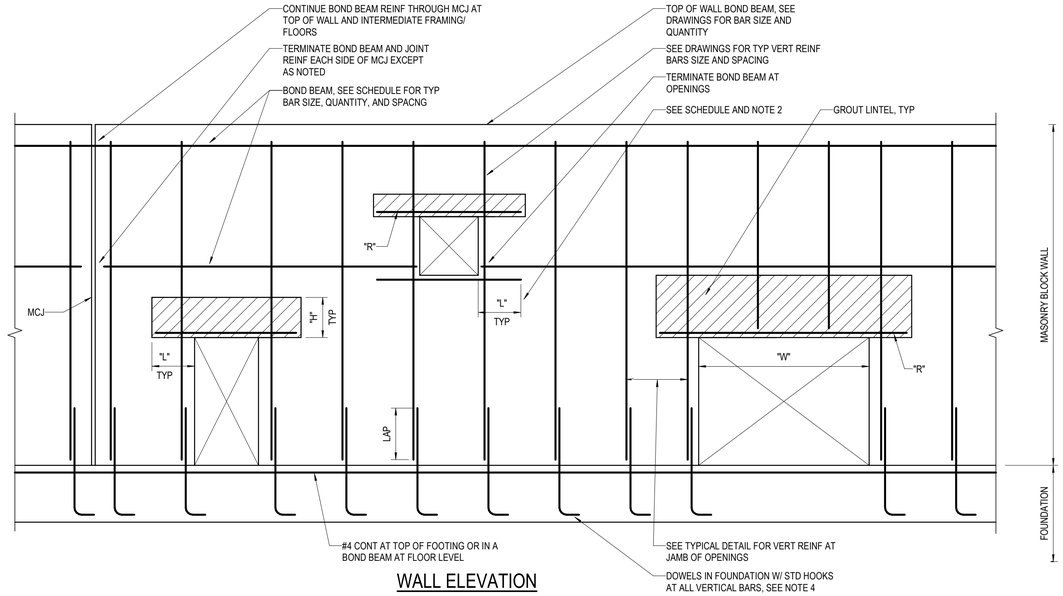
LINTEL REINFORCEMENT SCHEDULE						
MARK	"W"	"R"	"L"	"H"	STIRRUPS	REMARKS
ML-1	1'-4" THRU 3'-4"	(1) #5	25"	8"	-	-
ML-2	1'-4" THRU 3'-4"	(2) #5	25"	16"	-	-
ML-3	3'-5" THRU 6'-8"	(2) #5	25"	24"	-	-
ML-4	6'-9" THRU 10'-0"	(2) #6	30"	32"	-	-
ML-5	10'-1" THRU 12'-0"	(2) #7	35"	32"	#3@16"	-



LINTEL AT OPENING

NOTES:

1. OPENINGS 8" OR LESS WIDE MAY OCCUR WITHOUT LINTEL REINFORCING AS LONG AS NO REINFORCINGS IS INTERUPTED.
2. ML-1 TO BE USED ONLY AT NON-LOAD BEARING SITUATIONS.
3. SEE DRAWINGS FOR LINTEL TYPES. WHERE LINTEL TYPES ARE NOT SHOWN, PROVIDELINTELS FROM THE ABOVE SCHEDULE BASED ON THICKNESS OF WALL AND MAX CLEAR OPENING WIDTH AND VERIFY LINTEL TYPE W/ ENGINEER PRIOR TO CONSTRUCTION.



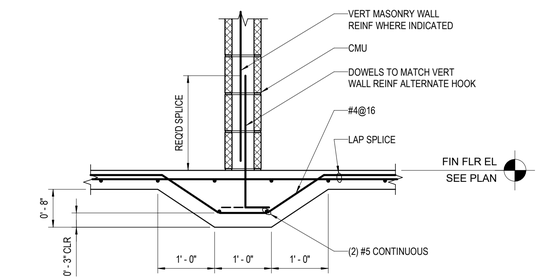
WALL ELEVATION

NOTES:

1. ONLY LINTEL GROUT IS SHOWN. GROUT SOLID ALL REINFORCED CELLS. SEE CMU WALL REINFORCING SCHEDULE.
2. WHERE OTHER DRAWING DETAILS INDICATE SOLID MASONRY SILL, PLACE BOND BEAM REINF IN FIRST COURSE BELOW SOLID CMU.
3. PROVIDE BOND BEAM AT ALL ELEVATED FLOORS WITH SAME REINFORCING AS TOP OF WALL, UNO.
4. STRAIGHT BARS EMBEDDED ONE CONCRETE LAP LENGTH INTO CONC FOUNDATION MAY BE USED AT CONTRACTOR'S OPTION.
5. LINTEL REINFORCING AND BARS PASSING THROUGH "H" SHALL NOT BE SPLICED.
6. SHORE LINTEL MINIMUM 7 DAYS AFTER GROUTING OR UNTIL GROUT ATTAINS FULL DESIGN STRENGTH.

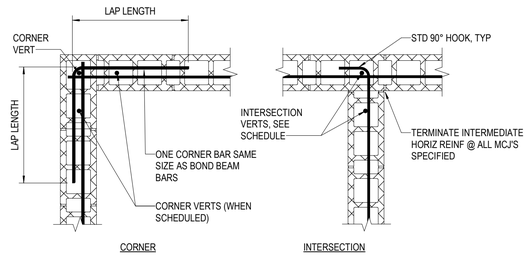
1 CMU REINFORCING SEISMIC DESIGN CATEGORY "C" AND LOWER

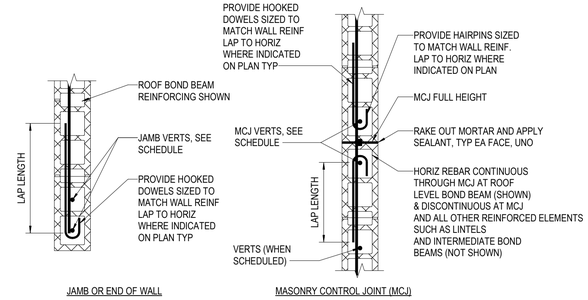
NOT TO SCALE



6 THICKENED SLAB DETAIL

3/4" = 1'-0"





NOTES:

1. FOR REINFORCING, SEE CMU WALL REINFORCING SHEDULE.
2. INDICATES LOCATION OF VERTICAL BARS AT CENTERLINE OF WALL, UNO IN SCHEDULE.
3. EXTEND MCJ FULL HEIGHT OF MASONRY BOND BEAM.
4. LIMIT DISTANCE BETWEEN MCJ TO MAX 24'-0". SEE DRAWINGS FOR LOCATIONS.
5. HORIZONTAL JOINT REINFORCING NOT SHOWN.
6. MODIFY BAR CONFIGURATION SHOWN AS REQUIRED WHERE TWO VERTICAL REINFORCING BARS ARE SHOWN ON THE SCHEDULE.
7. SEE ARCHITECTURAL DRAWINGS FOR MCJ DETAILS AND REMAINDER OF JOINT DETAILS.

5 CMU WALL REINFORCING

NOT TO SCALE

MASONRY LAP SPLICE LENGTHS : f'm=1900 psi, fy=60000 psi				
BAR SIZE	8" BLOCK		12" BLOCK	
	BAR @ CL	BAR @ EDGE	BAR @ CL	BAR @ EDGE
#3	19"	19"	19"	19"
#4	25"	31"	25"	28"
#5	31"	48"	31"	43"
#6	57"	-	52"	-

WHEN REQD SPLICE LENGTH EXCEEDS 4'-0" USE HIGH LIFT GROUTING WITH NO SPLICES OR USE MECHANICAL TENSION SPLICES WITH LOW LIFT GROUTING.

2 CMU REINFORCING LAP SCHEDULE

NOT TO SCALE

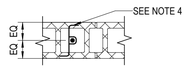
MASONRY REINFORCING SPLICE TABLE			
BAR SIZE	6" BLOCK	8" BLOCK	
	BAR @ CL	BAR @ CL	BAR @ EDGE
#4	2'-1"	2'-1"	2'-7"
#5	3'-3"	2'-7"	4'-0"
#6	-	4'-9"	8'-2"
#7	-	6'-7"	-

WHEN REQUIRED SPLICE LENGTH EXCEEDS 4'-8" - USE MECHANICAL TENSION SPLICES WITH LOW LIFT GROUTING.

3 MASONRY REINFORCING SPLICE TABLE

NOT TO SCALE

TYPE	REINFORCING LOCATION	8" WALL THK
VERTS	VERTICAL BARS	#5 @ 48" CTS, SINGLE CENTERED
	JAMBS/ENDS/MCJ	2 - #5
	CORNERS / INTERSECTIONS	1 - #5
HORIZ	TOP OF WALL BOND BEAMS	2 - #5
	INTERMEDIATE BOND BEAMS	N/A
	HORIZ JOINT REINF	9 GAGE WIRE, TRUSS TYPE JOINT REINF @ 16" OC BETWEEN BOND BEAMS
	BELOW OPENINGS	1 - #5
	LINTELS	1 - #5



SINGLE CENTERED

NOTES:

1. PROVIDE THE ABOVE SCHEDULED MINIMUM WALL REINFORCING IN ALL CMU, UNO. SEE CMU WALL REINFORCEMENT DETAIL.
2. GROUT ONLY THE CELLS WITH REINFORCING.
3. MAINTAIN MINIMUM 3" X 3" CONTINUOUS VERTICAL CELL AT EACH REBAR. PLACE WALLS TO MAXIMUM 4'-0" HEIGHT BEFORE GROUTING.
4. PROVIDE WIRE REBAR POSITIONERS TO HOLD BARS IN PLACE.
5. STOP GROUT POUR 1/2" BELOW TOP OF COURSE AT EACH GROUT LIFT.

4 CMU REINFORCING SCHEDULE

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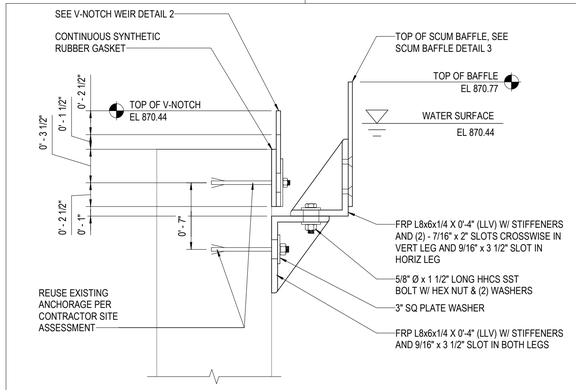
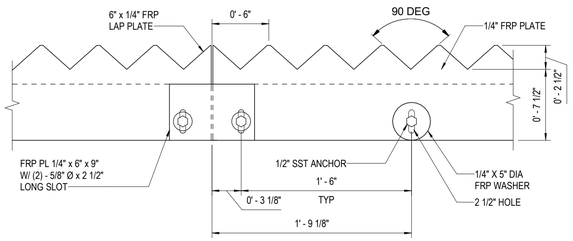
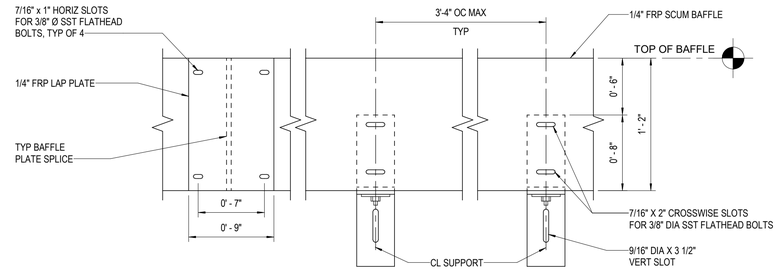


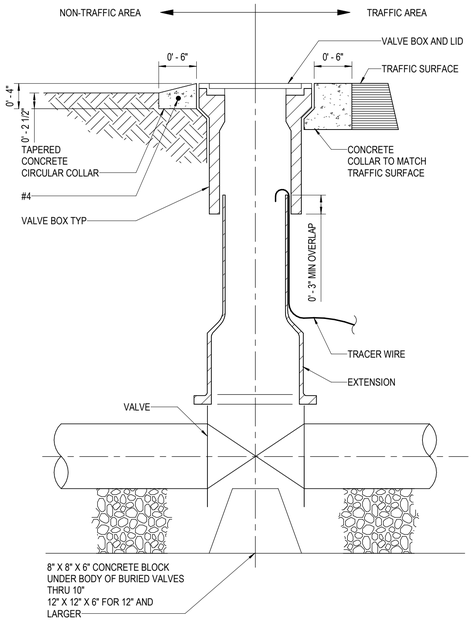
1 FRP SCUM BAFFLE & WEIR PLATE DETAIL
NOT TO SCALE



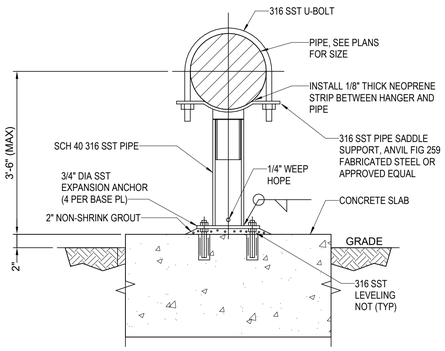
2 FRP V-NOTCH WEIR PLATE
NOT TO SCALE



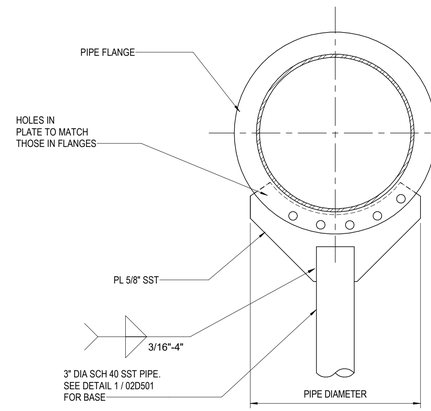
3 FRP SCUM BAFFLE
NOT TO SCALE



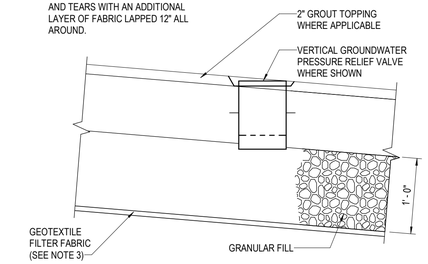
7 BURIED VALVE BOX W/ TRACER WIRE DETAIL
NOT TO SCALE



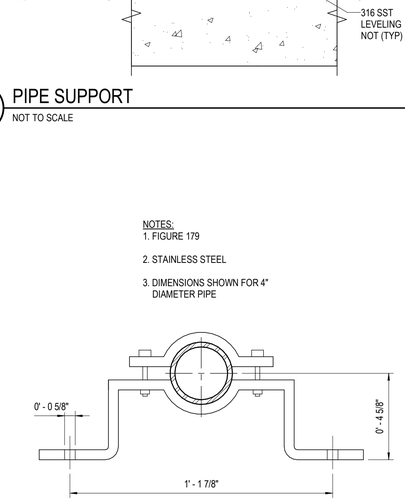
4 PIPE SUPPORT
NOT TO SCALE



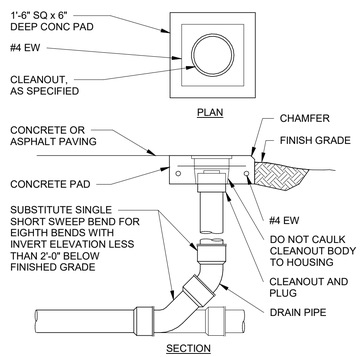
5 FLANGED PIPE SUPPORT
NOT TO SCALE



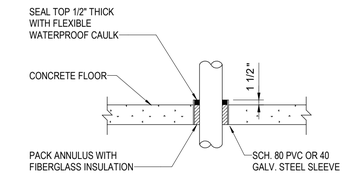
6 TYPICAL GROUNDWATER PRESSURE RELIEF VALVE DETAIL
NOT TO SCALE



8 OFFSET PIPE CLAMP
NOT TO SCALE



9 GRADE CLEANOUT
NOT TO SCALE



10 TYPICAL PIPE PENETRATION THRU FLOOR
NOT TO SCALE

ISSUE	DATE	DESCRIPTION
A	09/11/2024	ISSUED FOR BIDS

PROJECT MANAGER	A. GURSKI
CIVIL	J. GAGNON
STRUCTURAL	B. BRADLEY
ARCHITECTURAL	M. BASKIN
PROCESS	J. CHANDLER
MECHANICAL	J. CHANDLER
ELECTRICAL	A. KANER
PROJECT NUMBER	10377389

STATE OF MAINE Jeffrey K. Chandler PE17167 LICENSED PROFESSIONAL ENGINEER

Digitally signed by Jeffrey K. Chandler, Jr.
Date: 2024.09.12 11:18:25-05'00'

MAINE DEPT. OF INLAND FISHERIES AND WILDLIFE

Effluent Characteristic Design at Embden Rearing Station

GENERAL PROCESS DETAILS 1

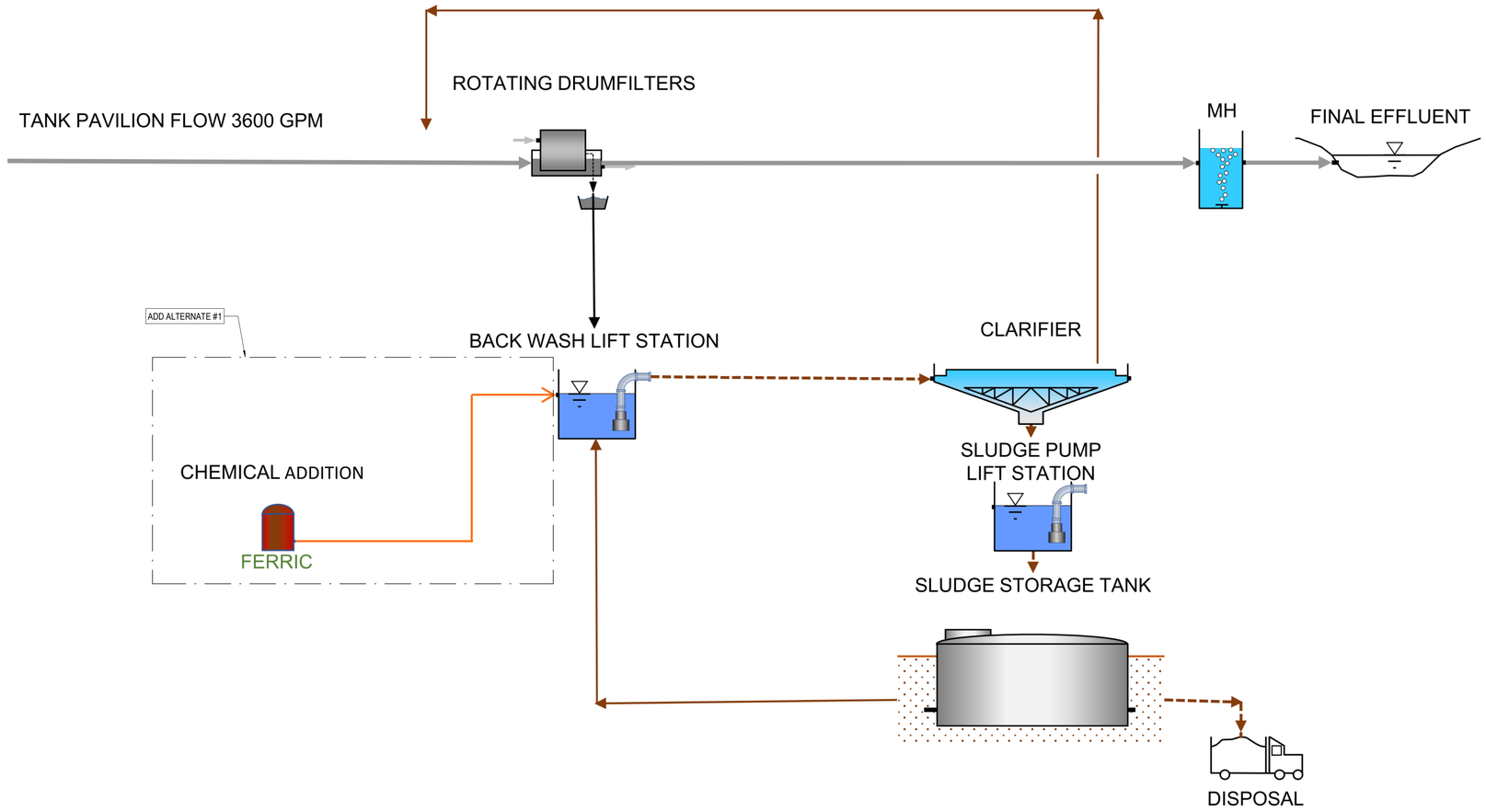
0 1" 2"

FILENAME 10377389-10-G.rvt
SCALE As indicated

SHEET 10D-501

Autodesk Docs://10377389_Maine_Effluent_Trtmnt_DESIGN_2022/10377389-10-G.rvt
9/11/2024 8:55:23 AM

EMBDEN FLOW SCHEMATIC



ISSUE	DATE	DESCRIPTION
A	09/11/2024	ISSUED FOR BIDS

PROJECT MANAGER	A. GURSKI
CIVIL	J. GAGNON
STRUCTURAL	B. BRADLEY
ARCHITECTURAL	M. BASKIN
PROCESS	J. CHANDLER
MECHANICAL	J. CHANDLER
ELECTRICAL	A. KANER
PROJECT NUMBER	10377389

STATE OF MAINE
Jeffrey K. Chandler
PE17167
LICENSED PROFESSIONAL ENGINEER

Digitally signed by Jeffrey K. Chandler, Jr.
Date: 2024.09.12 11:20:09-05'00'

MAINE DEPT OF INLAND FISHERIES AND WILDLIFE

Effluent Characteristic Design at Embden Rearing Station

WATER FLOW SCHEMATIC

0 1" 2"

FILENAME	10377389-10-G.rvt
SCALE	12" = 1'-0"

SHEET **10D-601**

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9/11/2024 8:55:20 AM

ADD ALTERNATE #1

CHEMICAL FEED PUMP SCHEDULE

DESIGNATION	DESCRIPTION	MAX BACK PRESSURE (BAR)	PUMP CAPACITY AT MAX BACK PRESSURE (L/H)	STROKE VOLUME (ML/STROKE)	MAX STROKE RATE (STROKES/MIN)	NOMINAL DIAMETER (MM)	WEIGHT (KG)	VOLTAGE	MAX VOLUME (L/HR)	MANUFACTURER	MODEL
GammaX 1009	CHEMICAL FEED	25	7.5	0.63	200	8X4	10	230/1	80	PROMINENT	GXLA 2508

NON-CLOG PUMP SCHEDULE

DESIGNATION	SERVICE	TYPE	NORMAL OPERATING POINT	MOTOR HORSEPOWER	VOLTAGE	FULL SPEED	DISCHARGE SIZE	AVAILABLE SUBMERGENCE	CONTROLS	SOLIDS	MAKER & MODLE DRAWN	OTHER MANUFACTURER
BWLSP1301	BACKWASH LIFT STATION PUMP	SUBMERSIBLE END SUCTION NON CLOG	66 GPM @ 13.5' TDH	3/4	240/1	1800 RPM	2"	1'	FLOATS	2"	WEIL CK2549-1750	
BWLSP1302	BACKWASH LIFT STATION PUMP	SUMBERSIBLE END SUCTION NON CLOG	66 GPM @ 13.5' TDH	3/4	240/1	1800RPM	2"	1'	FLOATS	2"	WEIL CK2549-1750	
SMP--1	FILTER BUILDING	NON-CLOG SCREW PUMP	N/A	10	240/1	1800RPM	6"	N/A	PACKAGE	3"	VAUGHAN CHOPPER PUMP	

SELF-PRIMING PUMP SCHEDULE

DESIGNATION	DESCRIPTION	NORMAL OPERATING POINT	MOTOR HORSEPOWER	VOLTAGE	SOLIDS	DRY REPRIME SUCTION LIFT	MAKE, MODEL, & SPEED DRAWN	MOTOR RPM
CVP-1	CLARIFIER VACUUM PUMP 3" CONNECTION	50 GPM @ 6' TDH	2	240/1	2.5"	6'	T3A-B-4	1800
CHP-1	CLARIFIER HOPPER PUMP 3" CONNECTIONS	75 GPM @ 9' TDH	2	240/1	2.5"	7'	T3A-B-4	1800

PIPING MATERIAL SCHEDULE

GROUP NO.	PIPE	JOINTS, FITTINGS, COATINGS AND LININGS
1	DUCTILE IRON, CLASS 150	CEMENT MORTAR LINED, FLANGED OR RESTRAINED MECHANICAL JOINTS
2	PVC, SCHEDULE 40, ASTM D1785	POLYVINYL CHLORIDE SCHEDULE 40. NORMAL IMPACT, SOCKET SOLVENT WELDED JOINTS
3	PVC, SCHEDULE 80, ASTM D1785	POLYVINYL CHLORIDE SCHEDULE 40. NORMAL IMPACT, SOCKET SOLVENT WELDED JOINTS
4	PVC SEWER PIPE, ASTM D3034 AND ASTM F679, SDR26	BELL & SPIGOT FITTINGS W/ RESTRAINING JOINTS WITHIN 30' OF FITTINGS
5	PVC SEWER PIPE, ASTM D3034 AND ASTM F679, SDR35	BELL & SPIGOT FITTINGS W/ RESTRAINING JOINTS WITHIN 30' OF FITTINGS

PIPE LEGEND

PIPE TAG	FUNCTION	PIPE MATERIALS			FIELD TEST REQUIRMENTS		
		EXPOSED PIPE	BURIED PIPE	UNDERSLAB PIPE	TEST PRESSURE	TEST MEDIUM	ALLOWABLE LEAKAGE (SEE NOTE 1)
PBW	PUMPED BACKWASH WATER	2	3	3	30	WATER	(A)
DRN	DRAIN	5	5	4	NOTE 4	WATER	(A)
SLU	SLUDGE PIPING 3" AND SMALLER	3	3	3	75	WATER	(A)
SLU	SLUDGE PIPING 4" AND LARGER	1	1	1	75	WATER	(A)
CHEM	CHEMICAL	2*	2*	2*	N/A	N/A	N/A

ADD ALTERNATE #1

* DRAIN WASTE AND VENT PIPING SYSTEM WITH LONG RADIUS BENDS

NOTES

NOTE 1
LEAKAGE ALLOWANCE IS AS FOLLOWS
(A) PIPES SO DESIGNATED SHALL SHOW ZERO LEAKAGE.
(B) PIPES SO DESIGNATED SHALL SHOW ZERO LEAKAGE FOR UNBURIED PIPE AND NOT MORE THAN 0.02 GALLONS PER INCH OF DIAMTER PER 100 FEET OF BURIED PIPE.
(C) PIPES SO DESIGNATED SHALL NOT SHOW LEAKAGE OF MORE THAN 0.15 GALLON PER HOUR PER INCH OF DIAMETER PER 100 FEET OF PIPE.

NOTE 2
FOR FIELD TEST PROCEDURES AND ADDITIONAL TEST REQUIREMENTS, SEE SPECIFICATIONS.

NOTE 3
STATIC WATER TEST WITH SURFACE 5-FEET ABOVE HIGH POINT OF PIPE.

NOTES 4
FOR PIPE LINING AND COATING SEE SPECIFICATIONS.

PROCESS MANHOLE SCHEDULE

MANHOLE TAG	SHEET NUMBER	INSIDE DIMENSION	CENTERLINE ELEVATION	PIPE	IN OR OUT	DIRECTION	ORIGIN OR DESTINATION	VALVE	LID TYPE	RIM ELEVATION	FLOOR ELEVATION	NOTES	STEPS AND LID
MH 10 (EXISTING)		5'	~391.67	21" SDR 35 (EXISTING)	IN	W	MH 9 (EXISTING)		C.I.	~398.77	EXISTING		EXISTING
			~391.67	21" SDR 35 (EXISTING)	OUT	NE	DRUMFILTER BUILDING (EXISITNG)						
			~391.67	21" SDR 35 (EXISTING)	OUT	SE	DRUMFILTER BUILDING (EXISITNG)						
			~396.67	6" SCH 80 PVC (EXISTING)	OUT	N	DRY HYDRANT (EXISITNG)						
			392.16	4" SDR 35	IN	NW	CLARIFIER						
MH 11		4'	390.52	21" SDR 35	IN	W	DRUMFILTER BUILDING (EXISITNG)		24" CAST IRON FRAME AND LID	394.12	386.7		NE
			388.24	24" SDR 35 (EXISTING)	OUT	S	RIVER						

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ARCHITECTURAL	M. BASKIN
PROCESS	J. CHANDLER
MECHANICAL	J. CHANDLER
ELECTRICAL	A. KANER
PROJECT NUMBER	10377389

STATE OF MAINE Jeffrey K. Chandler PE17167 LICENSED PROFESSIONAL ENGINEER

Digitally signed by Jeffrey K. Chandler, Jr.
Date: 2024.09.12 11:21:31-05'00'

MAINE DEPT OF INLAND FISHERIES AND WILDLIFE

Effluent Characteristic Design at Embden Rearing Station

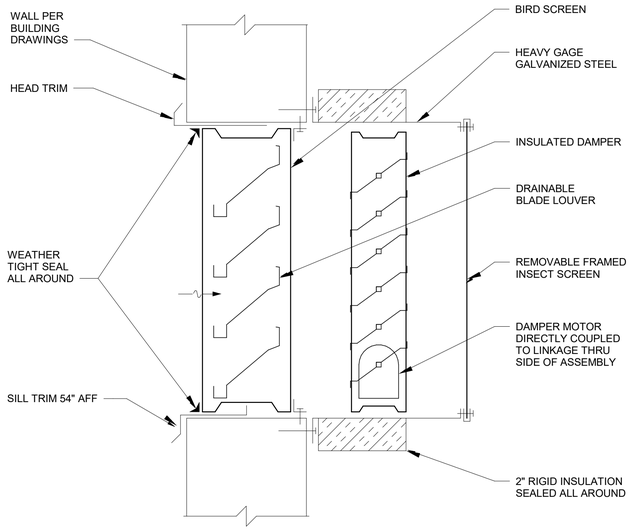
PROCESS SCHEDULES

0 1" 2"

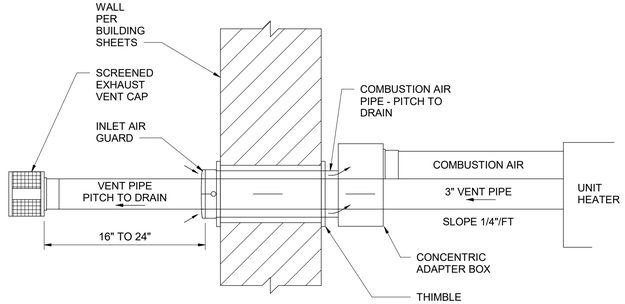
FILENAME 10377389-10-G.rvt

SCALE

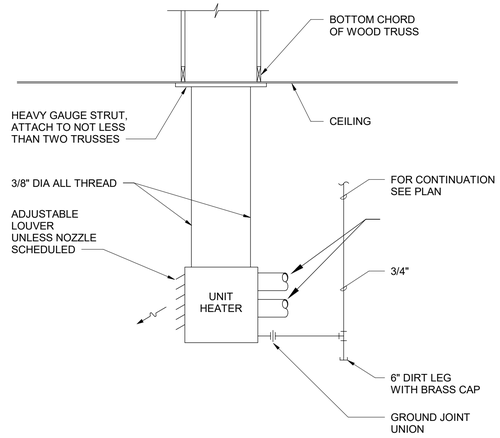
SHEET 10D-602



1 LOUVER & DAMPER DETAIL
NOT TO SCALE



2 VENTING DETAIL
NOT TO SCALE



3 GAS FIRED UNIT HEATER
NOT TO SCALE

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ARCHITECTURAL	M. BASKIN
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MECHANICAL	J. CHANDLER
ELECTRICAL	A. KANER
PROJECT NUMBER	10377389

STATE OF MAINE Jeffrey K. Chandler PE17167 LICENSED PROFESSIONAL ENGINEER

Digitally signed by Jeffrey K. Chandler, Jr.
Date: 2024.09.12 11:22:22-05'00'

MAINE DEPT. OF INLAND FISHERIES AND WILDLIFE

Effluent Characteristic Design at Embden Rearing Station

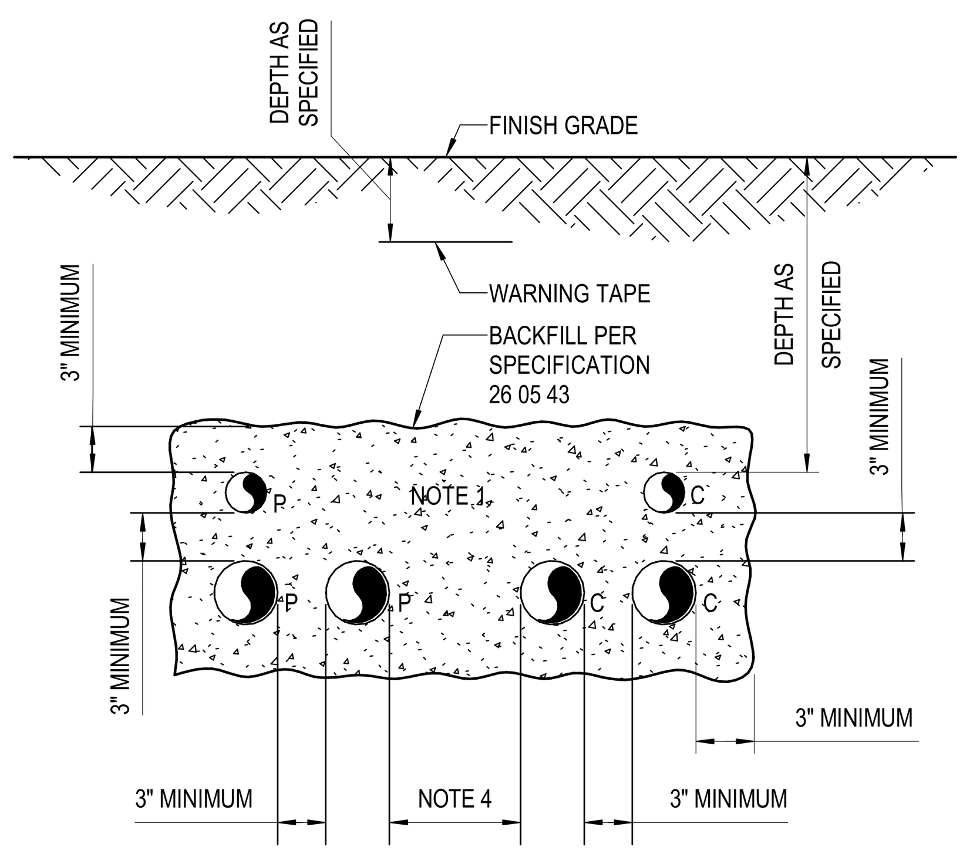
MECHANICAL DETAILS

0 1" 2"

FILENAME 10377389-10-G.rvt
SCALE As indicated

SHEET 10M-501

Autodesk Docs://10377389_Maine_Effluent_Trtmnt_DESIGN_2022/10377389-10-G.rvt
9/11/2024 8:54:37 AM

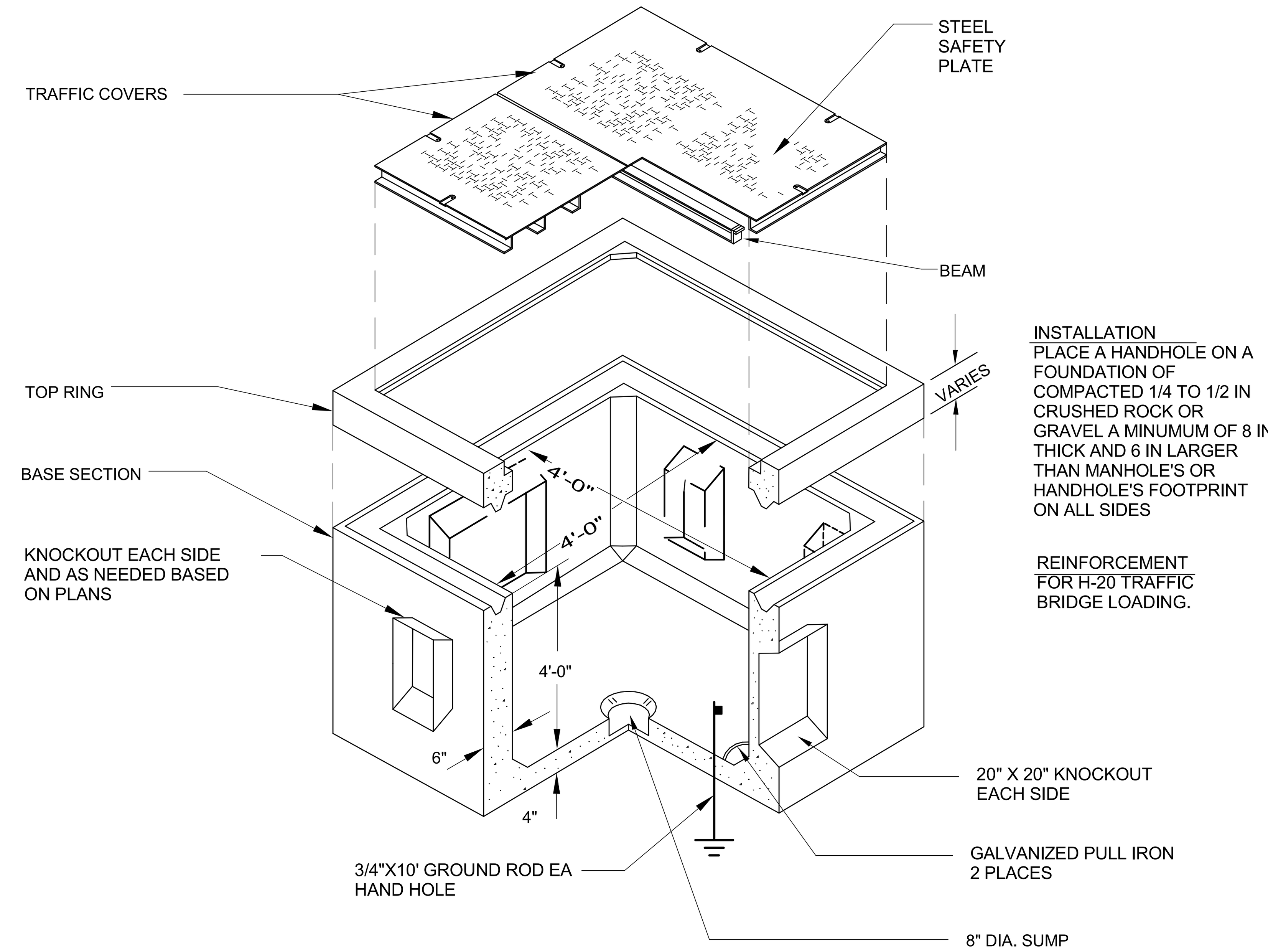


NOTES:

1. NUMBER OF CONDUITS AS REQUIRED FOR THE APPLICATION.
2. P SUBSCRIPT ELECTRICAL POWER OR CONTROL CONDUIT.
3. C SUBSCRIPT COMMUNICATION (TELEPHONE, DATA, INSTRUMENTATION) CONDUIT.
4. 6" MINIMUM WHEN POWER CONDUIT CONTAINS LESS THAN 1000V. 12" MINIMUM WHEN POWER CONDUIT CONTAINS MORE THAN 1000V.

1 DIRECT BURIED CONDUIT(S) SECTION

1 1/2" = 1'-0"

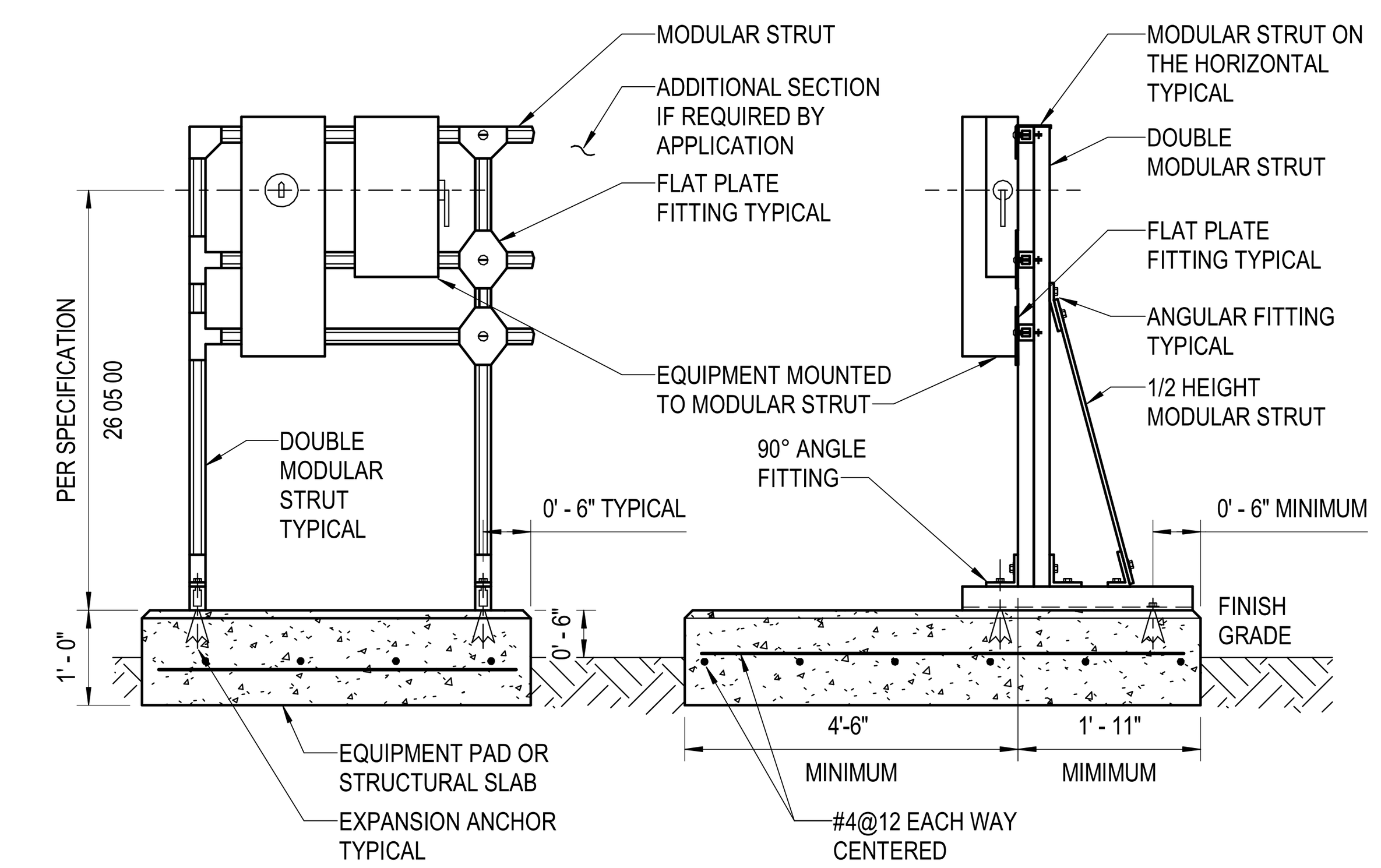


INSTALLATION
PLACE A HANDHOLE ON A FOUNDATION OF COMPACTED 1/4 TO 1/2 IN CRUSHED ROCK OR GRAVEL A MINUMUM OF 8 IN THICK AND 6 IN LARGER THAN MANHOLE'S OR HANDHOLE'S FOOTPRINT ON ALL SIDES

REINFORCEMENT
FOR H-20 TRAFFIC BRIDGE LOADING.

2 HANDHOLE DETAIL

12" = 1'-0"



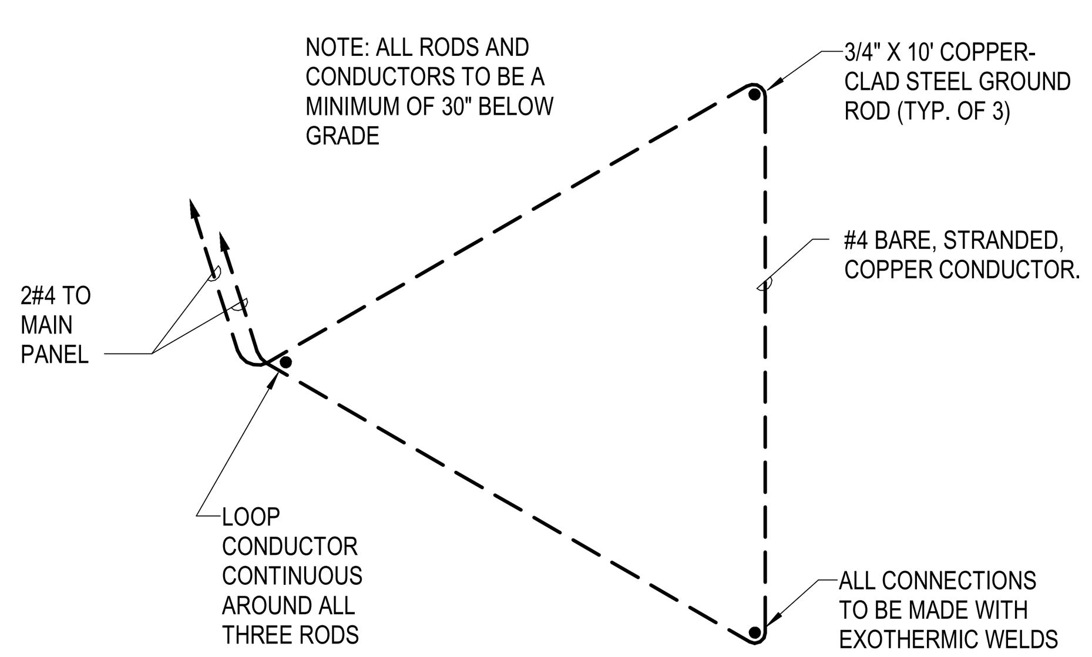
FRONT VIEW **SIDE VIEW**

NOTES

1. COMBINED EQUIPMENT LOADS PER 36" SPAN SHALL NOT EXCEED 500LBS.
2. PROVIDE GROUNDING FOR OUTDOOR INSTALLATIONS, PER SPECIFICATION 26 05 00.
3. MODULAR STRUCT WIDTH: 1 5/8".
4. RACK ASSEMBLY MATERIAL: GALVANIZED PER SPECIFICATION 26 05 00.
5. ANCHORS: STAINLESS STEEL, 1/2" DIAMETER, 3 1/2" EMBEDMENT, PER SPECIFICATION 03 15 19.
6. REPAIR CUT ENDS AND DAMAGED SURFACES IN ACCORDANCE WITH SPECIFICATION 05 50 00.

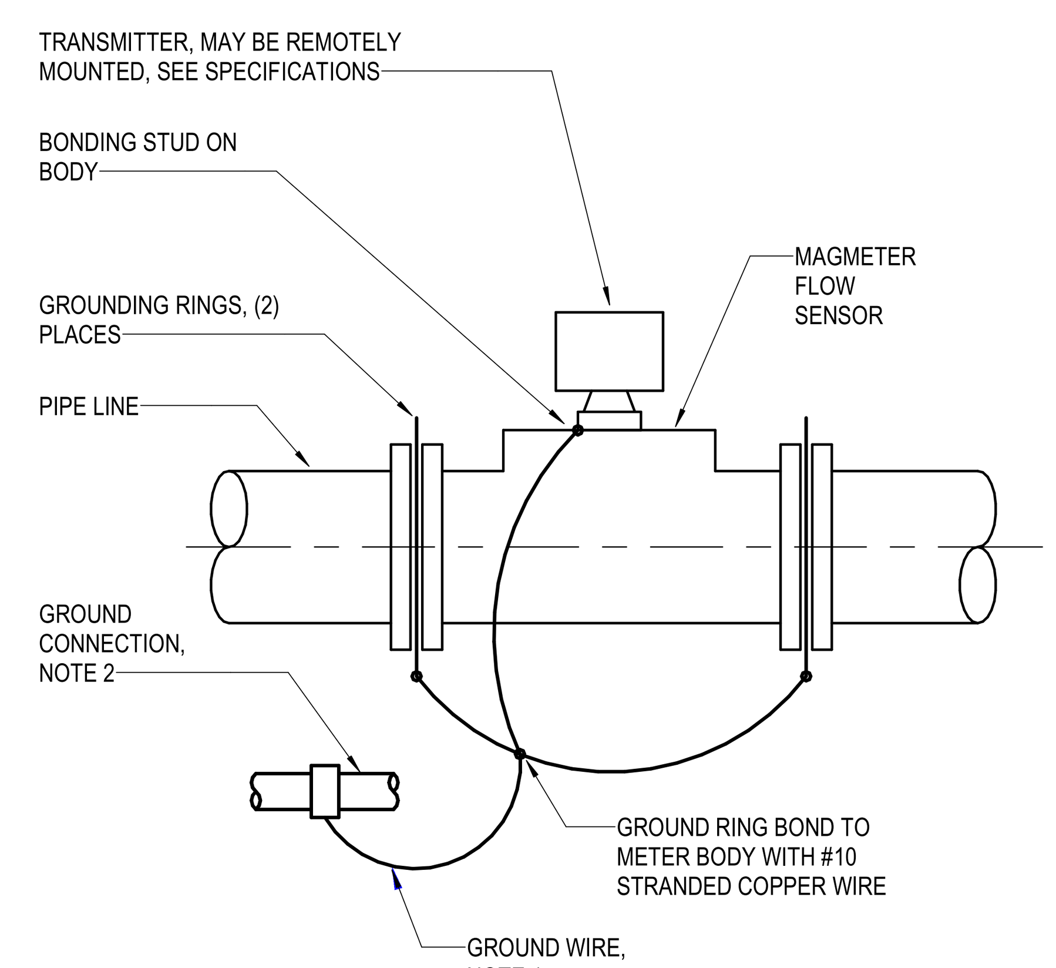
3 MODULAR EQUIPMENT RACK ON CONCRETE PAD

1/2" = 1'-0"



4 GROUND FIELD DETAIL

12" = 1'-0"



NOTES:

1. NO. 10 AWG INSULATED IF LENGTH IS LESS THAN 6'. IF MORE THAN 6', INSTALL CONDUCTOR IN 3/4" CONDUIT.
2. BOND MAGMETER TO ONE OF THE FOLLOWING ACCEPTABLE GROUNDS:
   A. POWER CIRCUIT GROUND CONDUCTOR AT TRANSMITTER.
   B. NEAREST AVAILABLE EQUIPMENT GROUND CONNECTION POINT.
   C. SEPARATE TAIL FROM EMBEDDED GROUND MAT.

5 MAGNETIC FLOW METER GROUNDING RING BONDING

12" = 1'-0"

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CIVIL	J. GAGNON
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ARCHITECTURAL	M. BASKIN
PROCESS	J. CHANDLER
MECHANICAL	J. CHANDLER
ELECTRICAL	A. KANER
PROJECT NUMBER	10377389

STATE OF MAINE
Andrew D. Kaner
PE18016
LICENSED PROFESSIONAL ENGINEER

Kaner, Andrew D

Digitally signed by Kaner, Andrew D
Date: 2024.09.12 15:07:06-05'00'

Effluent Characteristic Design at Embden Rearing Station

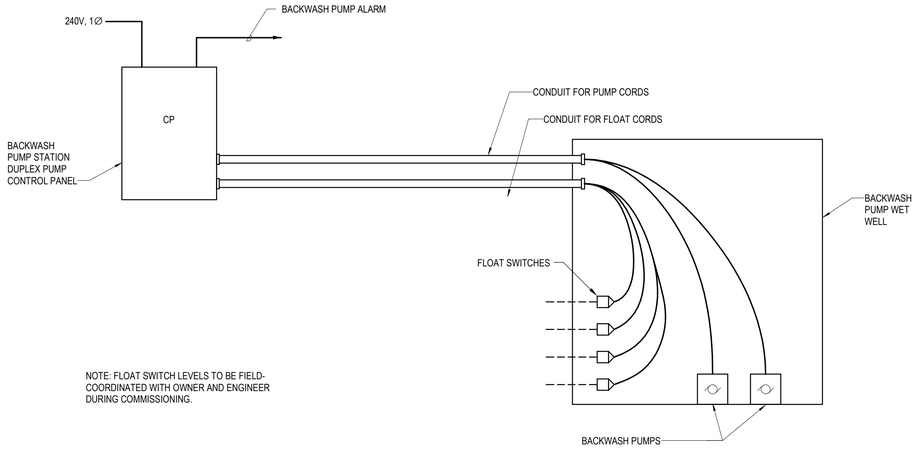
GENERAL ELECTRICAL DETAILS 1

0 1" 2"

FILENAME 10377389-10-G.rvt

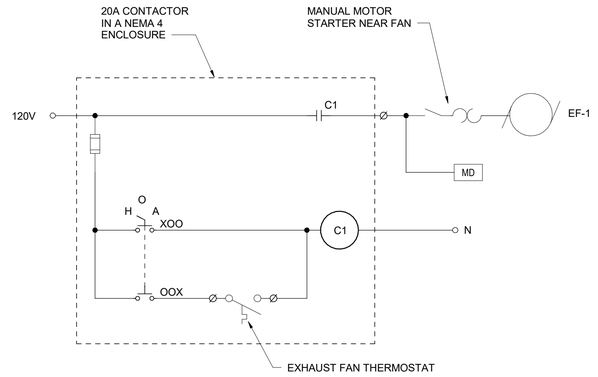
SCALE As indicated

SHEET **10E-501**



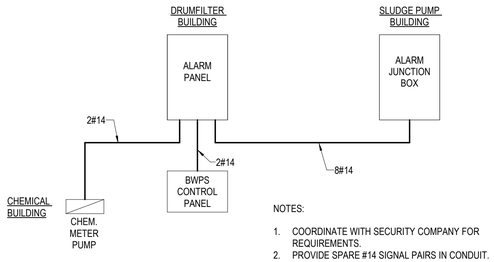
1 BACKWASH PUMP SYSTEM - BLOCK DIAGRAM

NOT TO SCALE



2 WIRING DIAGRAM - EXHAUST FAN

NOT TO SCALE



NOTES:

1. COORDINATE WITH SECURITY COMPANY FOR REQUIREMENTS.
2. PROVIDE SPARE #14 SIGNAL PAIRS IN CONDUIT.

3 ALARM BLOCK DIAGRAM

12" = 1'-0"

ALARM PANEL - DRUMFILTER BUILDING	
1a - 1b	AJB - SLUDGE BLDG.
2a - 2b	BACKWASH PUMP CONTROLLER
3a - 3b	CHEMICAL FEED PUMP
4a - 4b	
5a - 5b	
6a - 6b	
7a - 7b	
8a - 8b	

ALARM JUNCTION BOX - SLUDGE BUILDING	
1a - 1b	CLARIFIER PANEL ALARM
2a - 2b	SLUDGE PUMP TRIP
3a - 3b	HEAT TRACE 1
4a - 4b	HEAT TRACE 2
5a - 5b	
6a - 6b	
7a - 7b	
8a - 8b	

4 ALARM JUNCTION BOX SCHEDULES

NOT TO SCALE

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MECHANICAL	J. CHANDLER
ELECTRICAL	A. KANER
PROJECT NUMBER	10377389

STATE OF MAINE
Andrew D. Kaner PE18016
LICENSED PROFESSIONAL ENGINEER

Kaner, Andrew D.

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DN: E=Andrew.Kaner@hdrinc.com, CN="Kaner, Andrew D", OU=Users, OU=St Louis Park-1801 Utica Ave South, OU=Minnesota, OU=United States, OU=Offices, DC=Intranet, DC=Hdr
Date: 2024.09.12 15:07:11-05'00'

MAINE
DEPT. OF INLAND FISHERIES AND WILDLIFE

Effluent Characteristic Design at Embden Rearing Station

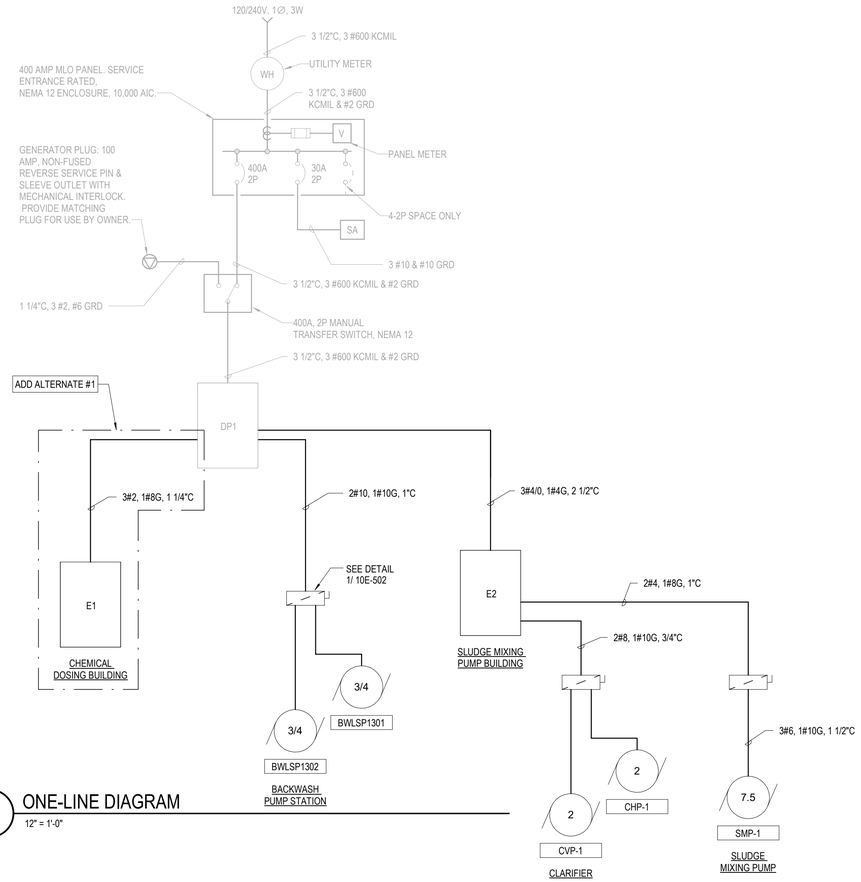
GENERAL ELECTRICAL DETAILS 2

0 1" 2"

FILENAME 10377389-10-G.rvt

SCALE 12" = 1'-0"

SHEET **10E-502**



1 ONE-LINE DIAGRAM

12" = 1'-0"

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PROJECT NUMBER	10377389

STATE OF MAINE
Andrew D. Kaner
PE18016
LICENSED
PROFESSIONAL ENGINEER

Kaner, Andrew D

Digitally signed by Kaner, Andrew D
DN: E=Andrew.Kaner@hdrinc.com, CN="Kaner, Andrew D", OU=Users, OU=St Louis Park-1601 Utica Ave South, OU=Minnesota, OU=United States, OU=Offices, DC=Intranet, DC=Hdr
Date: 2024.09.12 15:07:20-05'00'

MAINE
DEPT. OF INLAND FISHERIES AND WILDLIFE

Effluent Characteristic Design at Embden Rearing Station

DIAGRAMS

0 1" 2"

FILENAME 10377389-10-G.rvt

SCALE 12" = 1'-0"

SHEET 10E-601

Autodesk Docs://10377389_Maine_Effluent_Trtmnt_DESIGN_2022/10377389-10-G.rvt
9/11/2024 8:55:09 AM

PANELBOARD SCHEDULE

PANEL: **DP1** 120/ 240 VOLTS 1 PHASE 3 W

400 AMP MAINS:

ENCLOSURE : NEMA 12

X MAIN LUGS ONLY

MAIN BREAKER

BRANCH BREAKERS

ITEM	POLE	AMP. RAT.	CIR. NO.	LEFT PHASE A	LEFT PHASE B	RIGHT PHASE A	RIGHT PHASE B	CIR. NO.	AMP. RAT.	POLE	ITEM
Surge Arrester	2	30	1	-		0.59		2	20	1	Lights
			3		-		0.60	4	20	1	Receptacles
Garage/Office.	2	100	5	6.00		0.50		6	20	1	Heat
			7		6.00		0.50	8	15	1	Exhaust Fan
Pavillion Building, Panel DP2	2	100	9	6.11		4.01		10	100	2	Drum Sreen 1
			11		5.89		4.01	12			
Headtank, Panel DP3	2	100	13	4.47		4.01		14	100	2	Drum Screen 2
			15		5.27		4.01	16			
Sludge Transfer Pump	2	35	17	2.33		0.20		18	20	1	Clarifier Sampler Receptacle
			19		2.33		1.15	20	20	2	Service Water Pump
E-1 (CHEM. DOSING BLDG.)	2	100	21	5.26		1.15		22			
			23		4.94		0.50	24	20	1	FLOW METER FM-1
E-2 (SLUDGE PUMP BLDG.)	2	225	25	14.13		-		26	20	1	Spare
			27		13.92		-	28	20	1	Spare
BACKWASH PUMP STATION	2	30	29	1.66		-		30			Space Only
			31		1.66		-	32			Space Only
Space Only			33	-		-		34			Space Only
Space Only			35		-		-	36			Space Only
Space Only			37	-		-		38			Space Only
Space Only			39		-		-	40			Space Only
Space Only			41	-		-		42			Space Only
				20.57	21.15	10.46	10.27				
				31.03	31.42	TOTALS, KW					

ADD ALTERNATE #1

FEEDER: X TOP

BOTTOM

FEED THRU LUGS

TOTAL CONN. LOAD 59,130 WATTS

TOTAL CONN. LOAD 246 AMPS

LOCATION: Microscreen Building

INTEG. EQUIP. RATING 10,000 AMPS RMS SYM.

NOTE: CONTRACTOR MUST FIELD-VERIFY AVAILABLE SPACE IN PANEL 'DP1' FOR NEW BREAKERS.

PANELBOARD NO: **E2**

VOLTAGE:	240/120	**BUS RATING...**	225	**ENCLOSURE:**	NEMA 12
PHASE:	1	**MAIN OC DEVICE:**	200	**MOUNTING:**	SURFACE
WIRE:	3+GND	**INTERRUPTING RATING (KA):**	10	**LOCATION:**	SLUDGE PUMP BLDG.
200% NEUTRAL:	NO	**SERVICE ENTRANCE LABEL:**	NO		

CKT NO.	DESCRIPTION	CONNECTED LOAD (VA) LTS	REC	MECH	MISC	OCP AMPS	P		OCP AMPS	P	CONNECTED LOAD (VA) LTS	REC	MECH	MISC	DESCRIPTION	CKT NO.
1	SMP-1			5,040		70	2	A	40	2			2,880		CLARIFIER	2
3				5,040				B					2,880			4
5	SH-2			444		15	1	A	20	1		540			RECEPTACLES	6
7	SLF-1			696		15	1	B	20	1		300			LIGHTING	8
9	SLF-2			696		15	1	A	20	1		25			OUTDOOR LIGHT	10
11	HEAT TRACE			2,500		30	2	B	20	1					SPARE	12
13				2,500				A	20	1					SPARE	14
15	HEAT TRACE			2,500		30	2	B	20	1					SPARE	16
17				2,500				A	20	1					SPARE	18
19	SPARE					20	1	B	20	1					SPARE	20
21	SPARE					20	1	A	20	1					SPARE	22
23	SPARE					20	1	B	20	1					SPARE	24
25	SPARE					20	1	A	20	1					SPARE	26
27	SPARE					20	1	B	PER	2					SPD	28
29	SPARE					20	1	A	MFG.							30

LOAD SUMMARY

	LTS	REC	MECH	MISC	SPARE	TOTAL		PHASE BALANCE	
CONNECTED LOAD (KVA)	0.0	0.9	27.7	0.0	---	28.5	240	LINE-TO-LINE VOLTS	PHASE A (KVA) 15
DEMAND FACTOR	1.25	NEC	1.00	1.00	20%	---	119	CONNECTED AMPS	PHASE B (KVA) 14
DESIGN LOAD (KVA)	0.0	0.9	27.7	0.0	5.7	34.2	143	DESIGN AMPS	

LUMINAIRE SCHEDULE

ID	DESCRIPTION	MANUFACTURER	SOURCE TYPE	SOURCE LUMENS	SOURCE WATTS	VOLTS	MOUNTING TYPE	MOUNTING HEIGHT	CONTROL
B1	STRIP LIGHT (4')	LITHONIA: CLX SERIES, 4000K, 80 CRI	LED	5,000	34.8	120	SURFACE	-	A
B2	STRIP LIGHT, NON-METALLIC (2')	LDPI: LENM-2-2-LED-V1	LED	4,530	34	120	SURFACE	-	A
W1	WEATHER-PROOF WALLPACK W/ EMERGENCY BACKUP, COLD-WEATHER RATED	LITHONIA: ARC1 SERIES, 4000K, P3	LED	3,000	25	120	WALL	8' AFF	B

GENERAL NOTES:
1. WHERE LUMINAIRES ARE SHOWN ON THE DRAWINGS AS EMERGENCY TYPE, PROVIDE INTEGRAL BATTERY AND EMERGENCY DRIVER.

LIGHTING CONTROL STRATEGY DESCRIPTION:
A. MANUAL ON / MANUAL OFF: OCCUPANT MANUALLY TURNS THE LIGHTS ON WHEN ENTERING SPACE. OCCUPANT MANUALLY TURNS THE LIGHTS OFF WHEN LEAVING THE SPACE.

B. PHOTOCELL TURNS LIGHTS ON AT DUSK AND OFF WHEN DAYLIGHT IS PRESENT. WHERE SHOWN ON PLANS, A WALL SWITCH ALLOWS OCCUPANT TO MANUALLY TURN OFF LIGHTS.

PANELBOARD NO: **E1**

VOLTAGE:	240/120	**BUS RATING...**	100	**ENCLOSURE:**	NEMA 4X
PHASE:	1	**MAIN OC DEVICE:**	100/2	**MOUNTING:**	SURFACE
WIRE:	3+GND	**INTERRUPTING RATING (KA):**	10	**LOCATION:**	CHEM. DOSING BLDG.
200% NEUTRAL:	NO	**SERVICE ENTRANCE LABEL:**	NO		

ADD ALTERNATE #1

CKT NO.	DESCRIPTION	CONNECTED LOAD (VA) LTS	REC	MECH	MISC	OCP AMPS	P		OCP AMPS	P	CONNECTED LOAD (VA) LTS	REC	MECH	MISC	DESCRIPTION	CKT NO.
1	CHEM. FEED PUMP			696		20	1	A	20	1		540			RECEPTACLES	2
3	WATER HEATER			1,000		20	2	B	20	1	300				LIGHTING	4
5				1,000				A	20	1	25				OUTDOOR LIGHT	6
7	UH-1			444		15	1	B	20	1			696		EF-1	8
9	MAU-1			2,500		40	2	A	20	1				500	ALARM PANEL	10
11				2,500				B	20	1					SPARE	12
13	SPARE					20	1	A	20	1					SPARE	14
15	SPARE					20	1	B	20	1					SPARE	16
17	SPARE					20	1	A	PER	2					SPD	18
19	SPARE					20	1	B	MFG.							20

LOAD SUMMARY

	LTS	REC	MECH	MISC	SPARE	TOTAL		PHASE BALANCE	
CONNECTED LOAD (KVA)	0.3	0.5	8.8	0.5	---	10.2	240	LINE-TO-LINE VOLTS	PHASE A (KVA) 5
DEMAND FACTOR	1.25	NEC	1.00	1.00	20%	---	43	CONNECTED AMPS	PHASE B (KVA) 5
DESIGN LOAD (KVA)	0.4	0.5	8.8	0.5	2.0	12.3	51	DESIGN AMPS	

ELECTRICAL EQUIPMENT INSTALLATION SCHEDULE

BUILDING	AREA DESIGNATION	CONDUIT MOUNTING	CONDUIT MATERIAL	RECEPT. & SWITCHES MOUNTING	SAFETY SWITCH, STARTERS, CONTROL STATIONS, ETC. MATERIAL	SAFETY SWITCH, STARTERS, CONTROL STATIONS, ETC. TYPE	ENCLOSURES, PULL & J-BOX, WIREWAYS MATERIAL	ENCLOSURES, PULL & J-BOX, WIREWAYS TYPE
CHEMICAL DOSING BUILDING	DRY, CORROSIVE	SURFACE	FIBERGLASS	SURFACE	FIBERGLASS	NEMA 4X	FIBERGLASS	NEMA 4X
SLUDGE PUMP BUILDING	DAMP	SURFACE	RGS	SURFACE	AL	NEMA 12	AL	NEMA 12

ADD ALTERNATE #1

ISSUE	DATE	DESCRIPTION
A	09/11/2024	ISSUED FOR BIDS

PROJECT MANAGER	A. GURSKI
CIVIL	J. GAGNON
STRUCTURAL	B. BRADLEY
ARCHITECTURAL	M. BASKIN
PROCESS	J. CHANDLER
MECHANICAL	J. CHANDLER
ELECTRICAL	A. KANER
PROJECT NUMBER	10377389

STATE OF MAINE Andrew D. Kaner PE18016 LICENSED PROFESSIONAL ENGINEER

Kaner, Andrew D. Digitally signed by Kaner, Andrew D. DN: E=Andrew.Kaner@hdrinc.com, CN="Kaner, Andrew D", OU=Users, OU=St Louis Park-1601 Utica Ave South, OU=Minnesota, OU=United States, OU=Offices, DC=intranet, DC=hdr Date: 2024.09.12 15:07:26-05'00'

MAINE DEPT OF INLAND FISHERIES AND WILDLIFE

Effluent Characteristic Design at Embden Rearing Station

ELECTRICAL SCHEDULES

0 1" 2"

FILENAME 10377389-10-G.rvt

SCALE 12" = 1'-0"

SHEET **10E-651**

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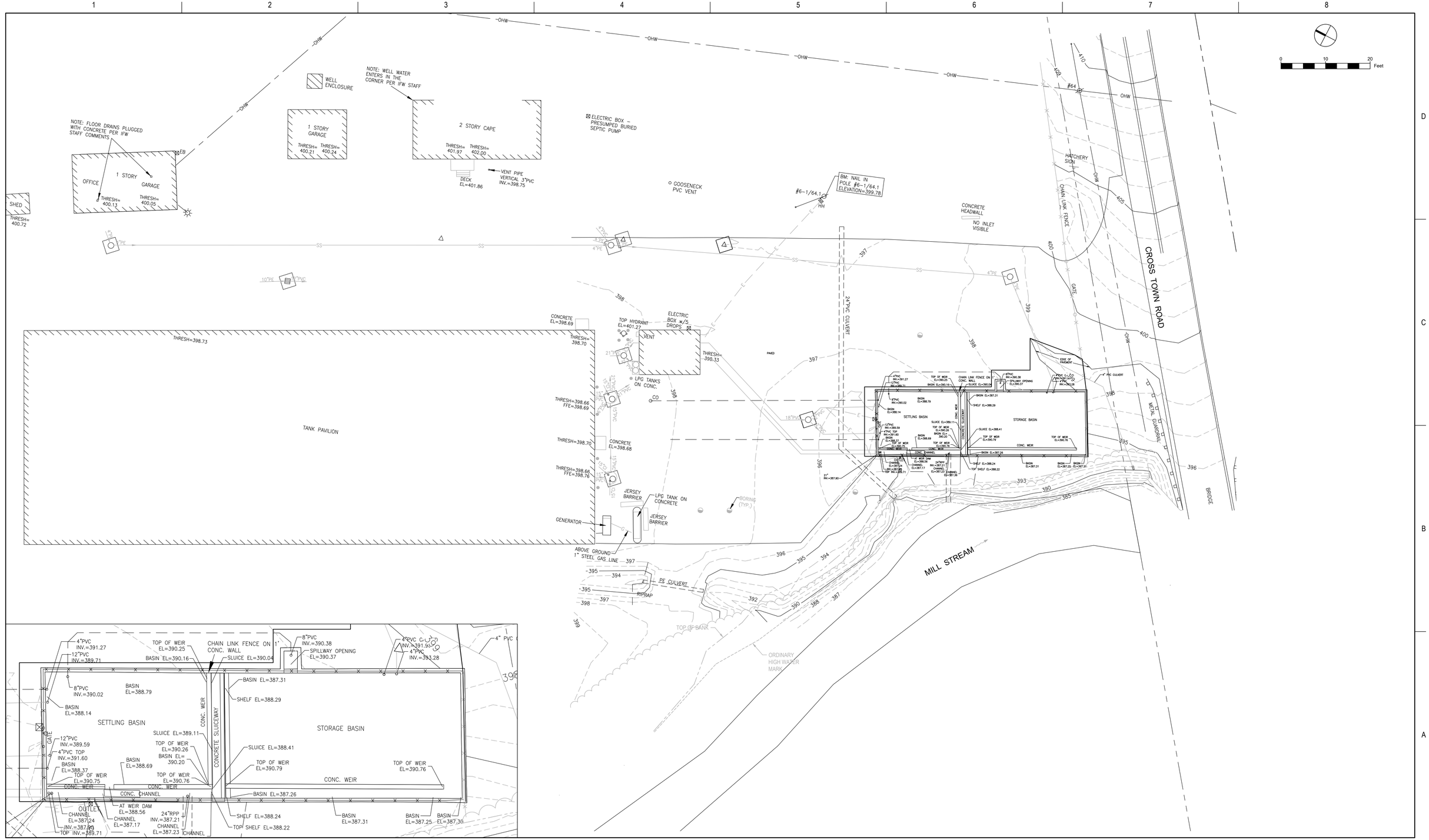

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A	09/11/2024	ISSUED FOR BID
ISSUE	DATE	DESCRIPTION

PROJECT MANAGER	A. GURSKI
CIVIL	J. GAGNON
STRUCTURAL	B. BRADLEY
ARCHITECTURAL	M. BASKIN
PROCESS	J. CHANDLER
MECHANICAL	J. CHANDLER
ELECTRICAL	A. KANER
PROJECT NUMBER	10377389

STATE OF MAINE Jennifer N. Gagnon PE13751 LICENSED PROFESSIONAL ENGINEER

Digitally signed by Gagnon, Jennifer N
Date: 2024.09.12 13:20:39 -04'00'

MAINE DEPT. OF INLAND FISHERIES AND WILDLIFE

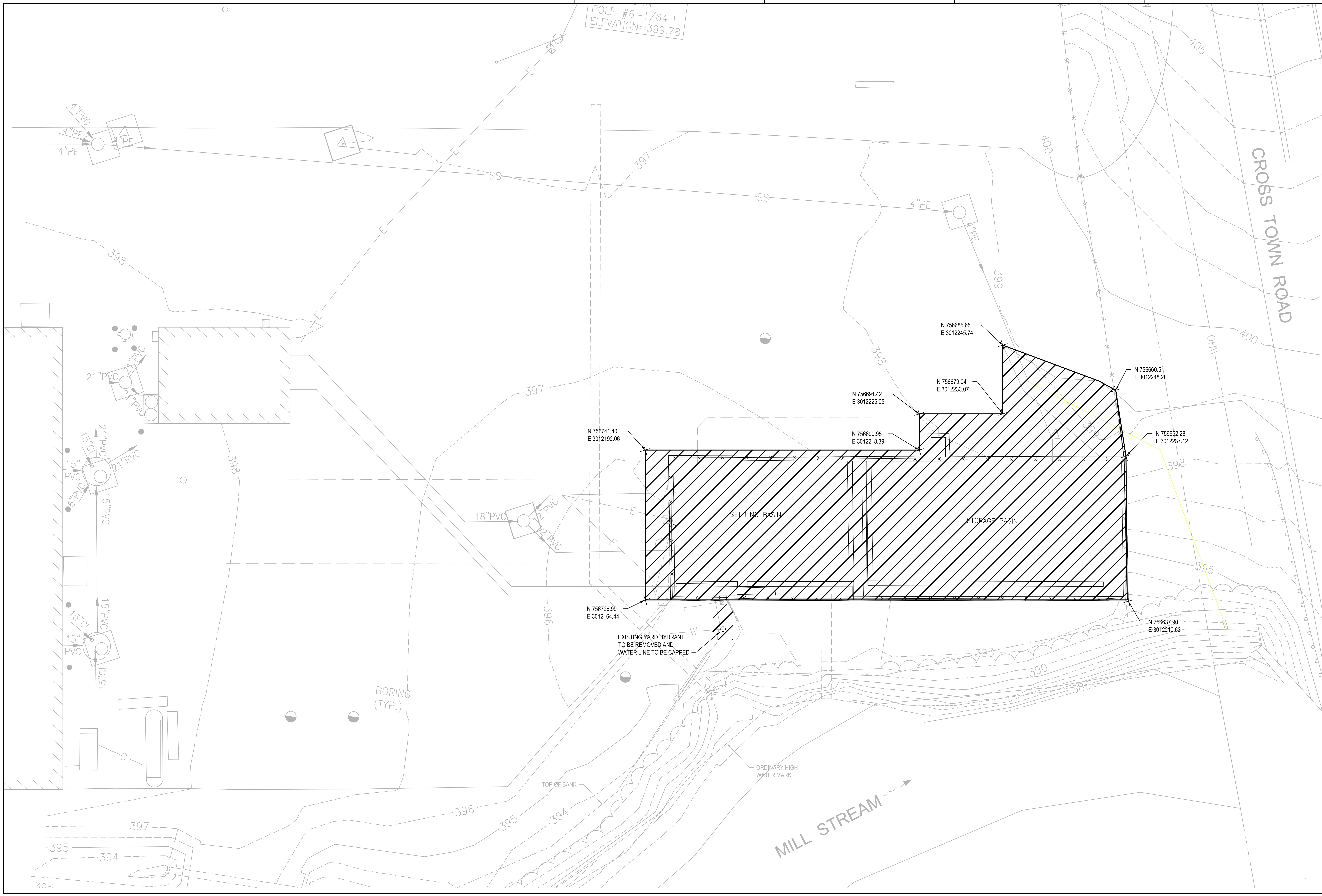
Effluent Characteristic Design at Embden Rearing Station

EXISTING TOPOGRAPHIC SURVEY

0 1" 2"

FILENAME 10377389-11V-101.DWG
SCALE AS NOTED

SHEET 11V-101



0 10 20 Feet

GENERAL NOTES:

1. REMOVE PERIMETER FENCING AND HANDRAIL AROUND STILLING AND STORAGE BASINS.
2. REMOVED CONCRETE LINED SETTLING AND STORAGE BASINS.
3. EXISTING YARD HYDRANT TO BE REMOVED AND WATER LINE TO BE CAPPED.
4. DRAIN PIPE BETWEEN SETTLING BASIN AND STORAGE BASIN TO BE ABANDONED.
5. REMOVE DETERIORATED PAVEMENT AROUND EXISTING SETTLING AND STORAGE BASINS FOR HMA PLACEMENT OVER BACKFILL AND DEMOLITION AREA.
6. AREA OF DISTURBANCE LIMITED TO AREA OF EXISTING PAVEMENT AND CONCRETE LINED SETTLING AND STORAGE BASINS.

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HDR

ISSUE	DATE	DESCRIPTION
A	09/11/2024	ISSUED FOR BID

PROJECT MANAGER	A. GURSKI
CIVIL	J. GAGNON
STRUCTURAL	B. BRADLEY
ARCHITECTURAL	M. BASKIN
PROCESS	J. CHANDLER
MECHANICAL	J. CHANDLER
ELECTRICAL	A. KANER
PROJECT NUMBER	10377389

STATE OF MAINE · Jennifer N. Gagnon PE13751 · LICENSED · PROFESSIONAL ENGINEER

Digitally signed by Gagnon, Jennifer N
Date: 2024.09.12 13:20:26 -04'00'

MAINE DEPT. OF INLAND FISHERIES AND WILDLIFE

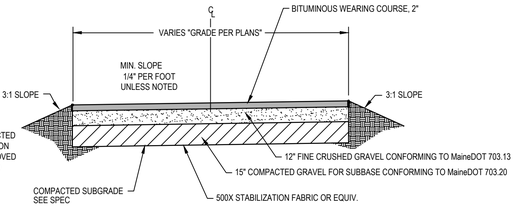
Effluent Characteristic Design at Embden Rearing Station

DEMOLITION PLAN

0 1" 2"

FILENAME	10377389-11X-101.DWG
SCALE	

SHEET **11X-101**



NOTE: IF NATIVE SUBGRADE CANNOT BE COMPACTED TO ACHIEVE 95% MODIFIED PROCTOR COMPACTION LEVEL AN ADDITIONAL 8" OF SOIL SHALL BE REMOVED AND REPLACED WITH SUBBASE CONFORMING TO MaineDOT 703.20 WITH STABILIZATION FABRIC.

1
-

TYPICAL BITUMINOUS ROADWAY & PARKING LOT SECTION

NOT TO SCALE

0 10 20 Feet

DRUMFILTER BUILDING
MH10
BACKWASH PUMP STATION
LIMITS OF 2" HMA PAVEMENT, SEE DETAIL 1/11C-101
SLUDGE PUMP BUILDING
CLARIFIER
SLUDGE STORAGE TANK
CHEMICAL BUILDING
ADD ALTERNATE #1
TOP OF BANK
ORDINARY HIGH WATER MARK
WELL
CROSS TOWN ROAD
MILL STREAM
OHW

N 756685.65
E 3012245.74
N 756660.51
E 3012248.28
N 756694.42
E 3012225.05
N 756679.04
E 3012233.07
N 756741.40
E 3012192.06
N 756704.21
E 3012209.53
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E 3012218.39
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E 3012220.01
N 756719.49
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N 756685.53
E 3012199.70
N 756726.99
E 3012164.44
N 756694.45
E 3012183.63
N 756638.24
E 3012210.75
N 756758.59
E 3012126.42
N 756765.65
E 3012104.01

A	09/11/2024	ISSUED FOR BID
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STATE OF MAINE
Jennifer N. Gagnon
PE13751
LICENSED
PROFESSIONAL ENGINEER

Digitally signed by Gagnon, Jennifer N
Date: 2024.09.12 13:20:04 -04'00'

MAINE
DEPT. OF INLAND FISHERIES AND WILDLIFE

Effluent Characteristic Design at Embden Rearing Station

GENERAL SITE PLAN

0 1" 2"

FILENAME 10377389-11C-101.DWG
SCALE AS NOTED

SHEET 11C-101

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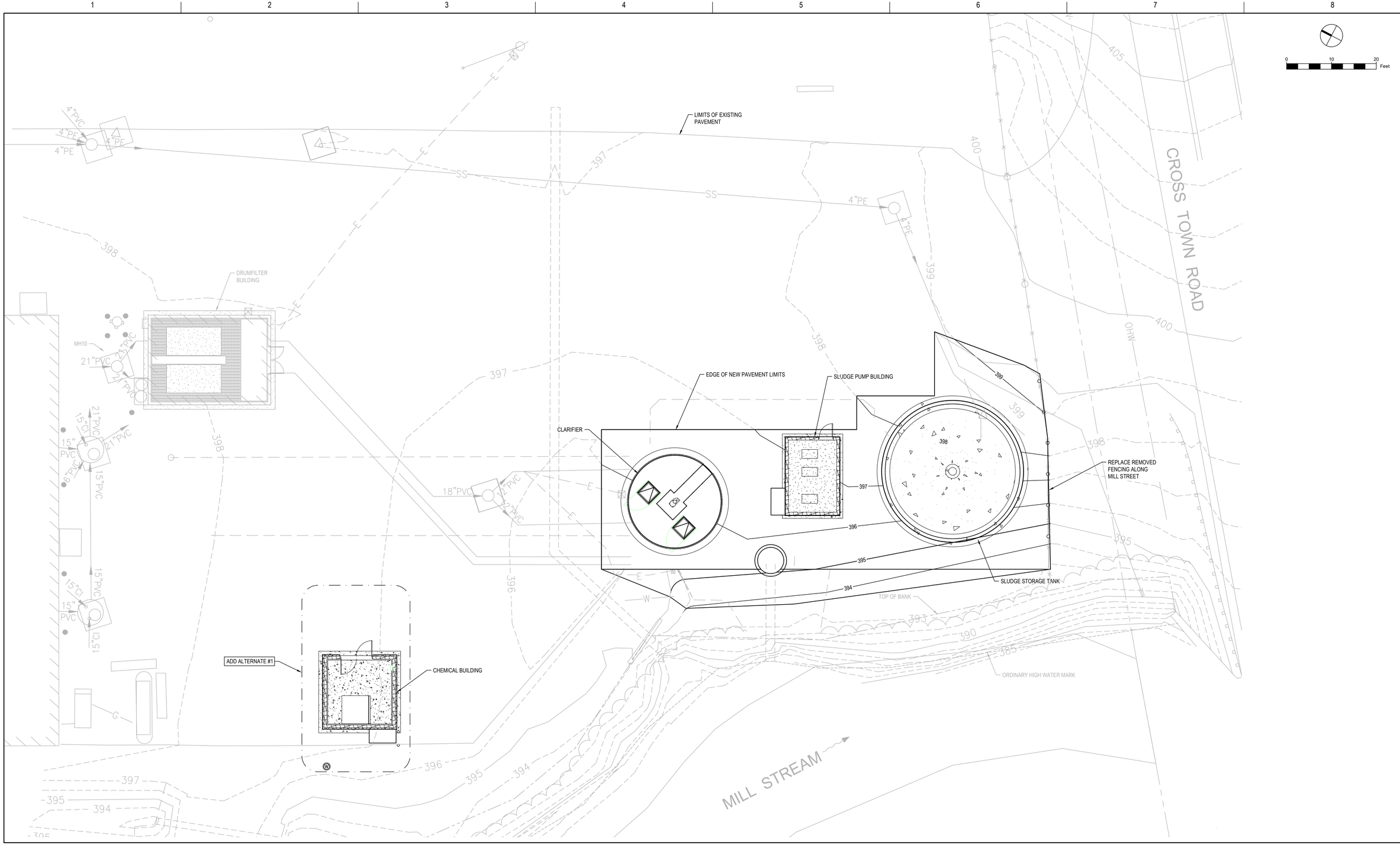

		PROJECT MANAGER	A. GURSKI
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		PROCESS	J. CHANDLER
		MECHANICAL	J. CHANDLER
		ELECTRICAL	A. KANER
A	09/11/2024	ISSUED FOR BID	
ISSUE	DATE	DESCRIPTION	PROJECT NUMBER 10377389

STATE OF MAINE
Jennifer N. Gagnon
PE13751
LICENSED
PROFESSIONAL ENGINEER

Digitally signed by Gagnon, Jennifer N
Date: 2024.09.12 13:19:28 -04'00'

MAINE
DEPT. OF INLAND FISHERIES AND WILDLIFE

Effluent Characteristic Design at Embden Rearing Station

GRADING/DRAINAGE PLAN

0 1" 2"

FILENAME 10377389-11C-102.DWG
SCALE AS NOTED

SHEET 11C-102

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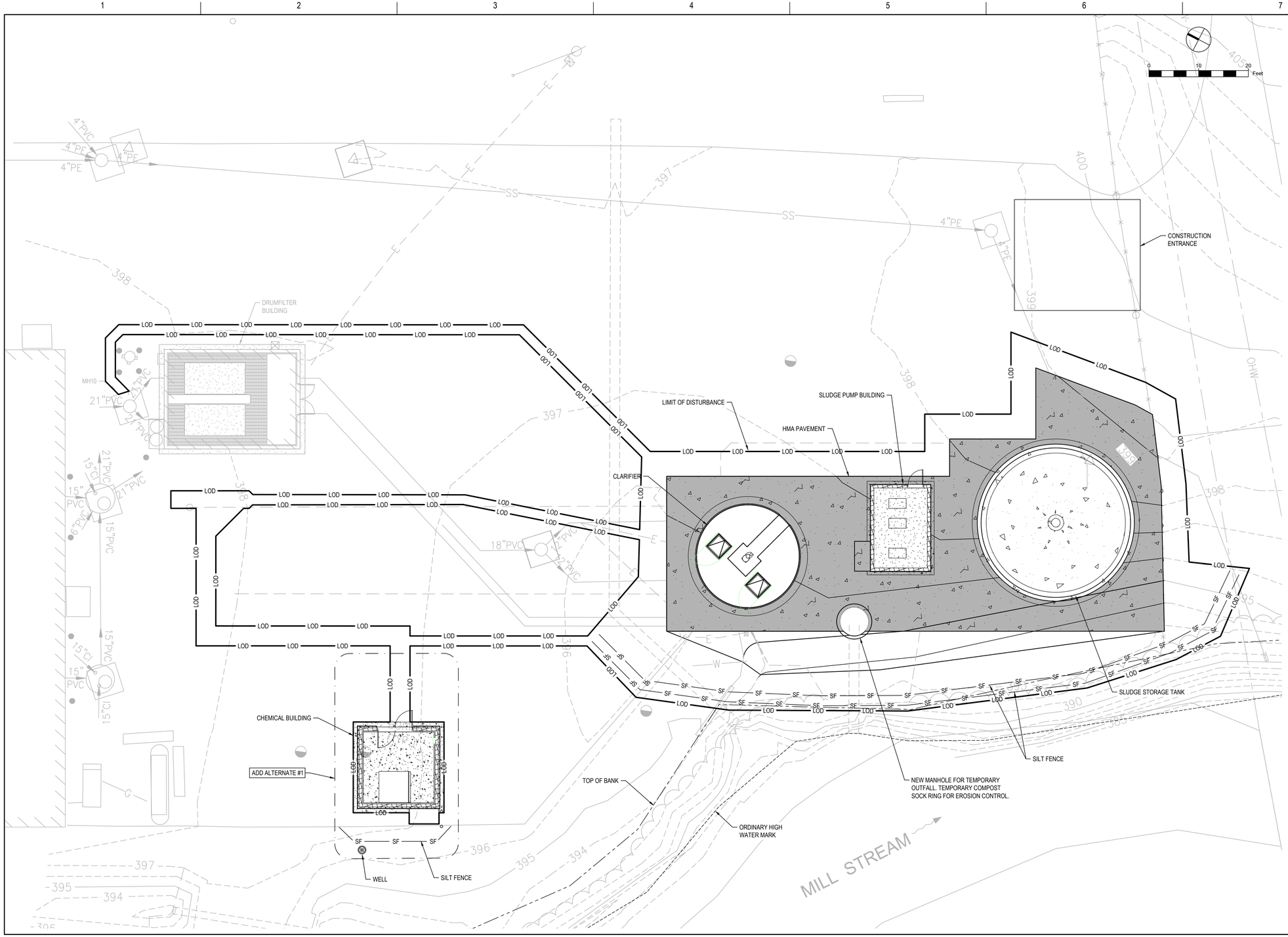

EROSION CONTROL NOTES:

1. FOR GENERAL NOTES, SEE 10G-004.
2. ALL EARTH DISTURBANCES, INCLUDING CLEARING AND GRUBBING, AS WELL AS CUTS AND FILLS SHALL BE DONE IN ACCORDANCE WITH THE APPROVED E&S PLAN. A COPY OF THE APPROVED E&S PLAN MUST BE AVAILABLE AT THE PROPOSED PROJECT SITE AT ALL TIMES. THE MDEP SHALL BE NOTIFIED OF ANY CHANGES TO THE APPROVED PLAN PRIOR TO IMPLEMENTATION OF THOSE CHANGES. THE MDEP MAY REQUIRE A WRITTEN SUBMITTAL OF THOSE CHANGES FOR REVIEW AND APPROVAL AT ITS DISCRETION.
3. PRIOR TO COMMENCEMENT OF ANY EARTH DISTURBANCE ACTIVITIES INCLUDING CLEARING AND GRUBBING, CONTRACTOR TO CLEARLY DELINEATE THE LIMITS OF DISTURBANCE (LOD) AS SHOWN ON THE PLANS. INSTALL APPROPRIATE BARRIERS WHERE EQUIPMENT MAY NOT BE PARKED, STAGED, OPERATED OR LOCATED FOR ANY PURPOSE.
4. AT LEAST 7 DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, INCLUDING CLEARING AND GRUBBING, THE OWNER AND/OR OPERATOR SHALL INVITE ALL CONTRACTORS, THE LANDOWNER, APPROPRIATE MUNICIPAL OFFICIALS, THE E&S PLAN PREPARER, THE LICENSED PROFESSIONAL RESPONSIBLE FOR OVERSIGHT OF CRITICAL STAGES OF IMPLEMENTATION OF THE E&S PLAN, AND A REPRESENTATIVE FROM THE LOCAL CONSERVATION DISTRICT TO AN ON-SITE PRECONSTRUCTION MEETING.
5. AT LEAST THREE DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITY, OR EXPANDING INTO AN AREA PREVIOUSLY UNMARKED, ALL CONTRACTORS INVOLVED IN THESE ACTIVITIES SHALL NOTIFY DIGSAFE BEFORE STARTING CONSTRUCTION ACTIVITIES. IT IS REQUIRED THAT DIGSMART SCAN FOR BURRIED UTILITIES BEFORE ANY EXCAVATION IS PERFORMED.
6. SITE ACCESS IS THE FIRST LAND DISTURBANCE ACTIVITY TO TAKE PLACE AT THE SITE AND CONTRACTOR SHALL INSTALL BMPS PER THE ESC PLAN: ENTRANCE TO THE SITE (GRAVEL CONSTRUCTION ENTRANCE AT CONSTRUCTION LAYDOWN YARD EXISTING), CONSTRUCTION ROUTES, AND AREAS DESIGNATED FOR EQUIPMENT OR OTHER USE AT THE SITE INCLUDING PARKING AND STOCKPILES. SOIL STOCKPILES SHALL BE PLACED IN THE AREAS SPECIFIED ON THE E&S PLAN SHEETS AND SIZED IN ACCORDANCE WITH MDEP STANDARDS SPECIFIED ON THE DETAIL SHEETS.
7. PERFORM MAINTENANCE AT EXISTING CULVERTS, REMOVING ACCUMULATED SEDIMENT IN EXISTING DITCHES AND DRAINAGE AS INDICATED ON EROSION AND SEDIMENT CONTROL PLANS.
8. FOR ALL EXISTING ACCESS ROADS, MEASURES SHALL BE TAKEN TO MAINTAIN COVER ON EXISTING SURFACES, AND KEEPING PUBLIC ROADS CLEAR FROM DEBRIS.
9. INSTALL PERIMETER BMPS (SILT FENCING) IN ACCORDANCE WITH INSTALLATION METHODS SPECIFIED ON PLAN AND DETAIL SHEETS AFTER THE CONSTRUCTION SITE IS ACCESSED, KEEPING ASSOCIATED CLEARING AND GRUBBING LIMITED TO ONLY THAT AMOUNT REQUIRED FOR INSTALLING PERIMETER BMPS.
10. IMPLEMENT CONSTRUCTION ACTIVITIES ONLY AFTER ALL DOWNSLOPE E&S BMPS HAVE BEEN CONSTRUCTED AND STABILIZED. NO ADDITIONAL CLEARING AND GRADING OF UPLAND AREAS ARE PLANNED.
11. INSTALL SILT FENCE WITHIN THE LOD PRIOR TO ANY EARTHWORK DISTURBANCE.
12. REMOVAL OF TEMPORARY SILT FENCING CAN OCCUR FOLLOWING SITE CLEANUP OF THE PAVED AREAS. STABILIZE ANY DISTURBANCES ASSOCIATED WITH THE REMOVAL OF THE BMPS.
13. ANY WASTE OR EXCESS MATERIALS NOT SUITABLE FOR ON-SITE USAGE SHALL BE DISPOSED OF AT A MDEP APPROVED WASTE SITE. MATERIALS WILL BE REUSED OR RECYCLED IF POSSIBLE. ANY OFF-SITE STOCKPILE/SPOIL AREAS SHALL BE A MDEP-APPROVED SITE WITH AN APPROVED E&S.
15. PREVENTION OF INVASIVES
    a. NO CULTIVARS, INVASIVE OR OTHER UNACCEPTABLE PLANT SPECIES MAY BE USED FOR ANY MITIGATION, BIOENGINEERING, VEGETATIVE BANK STABILIZATION OR ANY OTHER WORK AUTHORIZED BY THIS GP. HOWEVER, NON-NATIVE SPECIES AND CULTIVARS MAY BE USED WHEN IT IS APPROPRIATE AND SPECIFIED IN A WRITTEN VERIFICATION, SUCH AS USING SECALE CEREALE (ANNUAL RYE) TO QUICKLY STABILIZE A SITE. ALL PCNS SHOULD EXPLAIN THE REASON FOR USING NON-NATIVE SPECIES OR CULTIVARS.
    b. CONSTRUCTION MATERIALS INSPECTION: CONSTRUCTION MATERIAL SUCH AS SEED MIXES, MULCH, TOPSOIL, FILL, SAND, GRAVEL, CRUSHED STONE, AND ROCK BROUGHT TO THE SITE FROM AN OUTSIDE SOURCE WILL BE FREE OF INVASIVE PLANT MATERIALS. IN ADDITION, DURING ALL ASPECTS OF CONSTRUCTION, SOIL AND/OR SPOIL MATERIALS WILL ONLY BE TEMPORARILY STOCKPILED (I.E., WILL BE SPREAD AND GRADED TO MATCH ORIGINAL CONTOURS AT THE EARLIEST PRACTICABLE TIME FOLLOWING CONSTRUCTION ACTIVITIES). PROPER METHODS FOR SEGREGATING STOCKPILED AND SPOIL MATERIAL WILL BE IMPLEMENTED, AND EXCAVATED SOIL WILL BE REUSED TO THE MAXIMUM EXTENT POSSIBLE ON THE SITE THAT IT WAS EXCAVATED FROM, AS A MEANS TO LIMIT OPPORTUNITIES FOR PROLIFERATION OF NON-NATIVE FLORA AND OTHER INVASIVE SPECIES. APPROPRIATE SEDIMENT AND EROSION CONTROL MEASURES, SUCH AS SITE STABILIZATION VIA MULCHING AND RESEEDING AREAS OF EXPOSED SOIL AS SOON AS PRACTICABLE, WILL BE IMPLEMENTED.
    c. CONSTRUCTION EQUIPMENT SANITATION: THE INTRODUCTION OF NON-NATIVE INVASIVE PLANT SPECIES WILL BE CONTROLLED BY ASSURING THAT ALL CONSTRUCTION EQUIPMENT (E.G., HEAVY MACHINERY, AND CONSTRUCTION MATS) IS CLEAN UPON ARRIVAL ON SITE, AS WELL AS CLEAN PRIOR TO LEAVING THE SITE. IN ORDER TO PREVENT THE SPREAD OF INVASIVE WEEDS THAT COULD BE TRANSPORTED FROM RELATIVELY DISTANT LOCATIONS, EFFECTIVE WASHING OF EQUIPMENT PRIOR TO ARRIVAL AT THE SITE WILL BE DONE WITH COMPRESSED AIR, HIGH-PRESSURE WATER, OR A HIGH-PRESSURE STEAM CLEANER, ON A HARD SURFACE WITH CONTROLLED DRAINAGE. ADDITIONALLY, ANY EQUIPMENT UTILIZED IN AREAS WITH AN ABUNDANCE OF INVASIVE SPECIES WILL BE CLEANED PRIOR TO MOVING TO ANOTHER SITE. THE INTENT IS THAT EQUIPMENT SHOULD ARRIVE AT THE SITE CLEAN AND LEAVE THE SITE CLEAN. THE LOCATION OF ANY PROJECT EQUIPMENT CLEANING STATIONS WILL BE IDENTIFIED BY THE CONTRACTOR. IF AN EQUIPMENT CLEANING STATION IS ESTABLISHED ON THE SITE, IT SHALL BE LOCATED SUCH THAT ANY INVASIVE SPECIES SEEDS AND OTHER VIABLE PLANT PARTS CANNOT ESCAPE IN RUNOFF OR THROUGH OTHER MEANS.
    d. INVASIVE SPECIES CONTROL AND REMOVAL: IF INVASIVE SPECIES ARE OBSERVED AT THE SITE FOLLOWING CONSTRUCTION ACTIVITIES, THEN APPROPRIATE TREATMENT, CONTROL, AND REMOVAL METHODS WILL BE DEVELOPED THROUGH CONSULTATION WITH APPROPRIATE STATE AND FEDERAL AGENCIES.
16. RESTORATION: AREAS WHERE SOIL IS TEMPORARILY DISTURBED DURING CONSTRUCTION WILL BE GRADED, STABILIZED, AND RESTORED IN ACCORDANCE WITH THE SITE-SPECIFIC EROSION AND SEDIMENTATION CONTROL PLAN. FOLLOWING CONSTRUCTION ACTIVITIES, TEMPORARILY DISTURBED AREAS WILL BE STABILIZED USING APPROPRIATE EROSION AND SEDIMENT CONTROL METHODS.

ISSUE	DATE	DESCRIPTION
A	09/11/2024	ISSUED FOR BID

PROJECT MANAGER	A. GURSKI
CIVIL	J. GAGNON
STRUCTURAL	B. BRADLEY
ARCHITECTURAL	M. BASKIN
PROCESS	J. CHANDLER
MECHANICAL	J. CHANDLER
ELECTRICAL	A. KANER
PROJECT NUMBER	10377389

STATE OF MAINE Jennifer N. Gagnon PE13751 LICENSED PROFESSIONAL ENGINEER

Digitally signed by Gagnon, Jennifer N
Date: 2024.09.12 13:22:00 -04'00'

MAINE DEPT OF INLAND FISHERIES AND WILDLIFE

Effluent Characteristic Design at Embden Rearing Station

EROSION CONTROL PLAN

0 1" 2"

FILENAME 10377389-11C-115.DWG
SCALE AS NOTED

SHEET 11C-115

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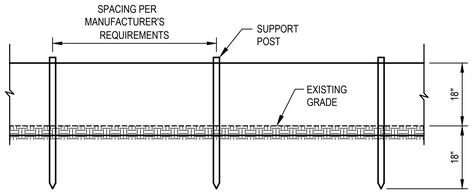
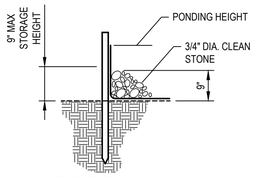
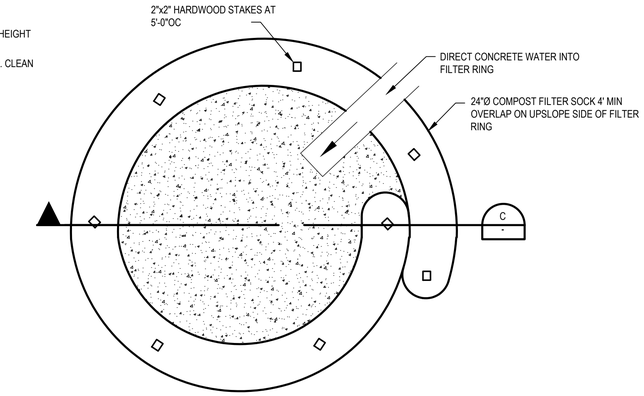


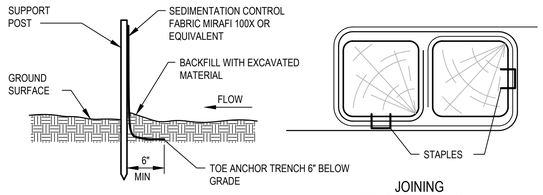
PLAN VIEW



WITHOUT TRENCHING



PLAN



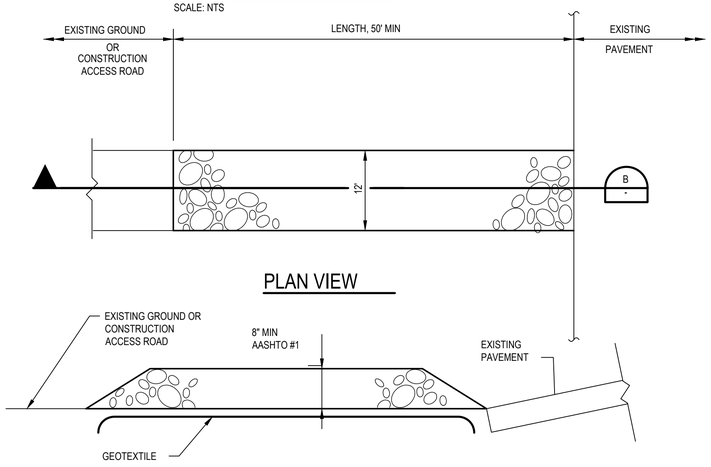
SECTION VIEW

JOINING FENCE SECTIONS

NOTES:
1. FABRIC SHALL MEET/EXCEED PROPERTIES IN MDEP BMP.
2. STAKES SHALL BE HARDWOOD OR STEEL EQUIVALENT.
3. SILT FENCE SHALL BE PLACED ON LEVEL EXISTING GRADE WITH BOTH ENDS OF THE FENCE RUN UPSLOPE 8 FEET AT 45 DEGREES TO PREVENT FLOW RUN-AROUND.
4. REMOVE SEDIMENT WHEN ACCUMULATIONS ARE HALF THE ABOVE-GROUND HEIGHT OF THE FENCE.

SILT FENCE DETAIL

SCALE: NTS



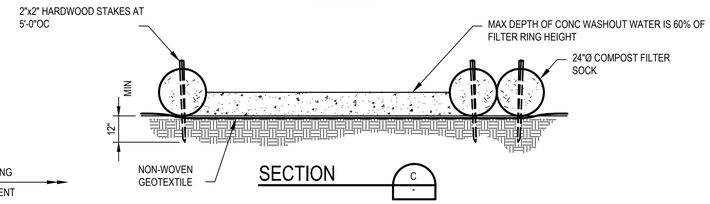
PLAN VIEW

SECTION B -

NOTES:
1. AGGREGATE: AGGREGATE SUBBASE
2. AGGREGATE THICKNESS: NOT LESS THAN 6 INCHES OF AASHTO #1.
3. WIDTH: NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS.
4. LENGTH: AS REQUIRED, BUT NOT LESS THAN 50 FEET. GEOTEXTILE: MIRAFI 600X, OR EQUIVALENT TO BE PLACED OVER THE ENTIRE AREA TO BE COVERED WITH AGGREGATE. PIPING OF SURFACE WATER UNDER ENTRANCE SHALL BE PROVIDED AS REQUIRED.
5. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OF SEDIMENT ONTO EXISTING DRIVES OR PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH AGGREGATE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING STORM DRAINS, DITCHES, OR WATERWAYS. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO TMI ACCESS ROAD SHALL BE REMOVED IMMEDIATELY.
6. A STOCKPILE OF AASHTO #1 STONE SHALL BE MAINTAINED NEARBY FOR USE.
7. IF EXCESS SEDIMENT IS BEING DEPOSITED ON TMI ACCESS ROADEXTEND LENGTH OF ROCK CONSTRUCTION ENTRANCE OR ADD WASH RACK.

ROCK CONSTRUCTION ENTRANCE

SCALE: NTS

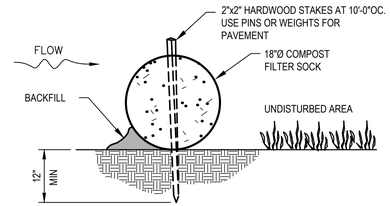


SECTION

TYPICAL COMPOST SOCK CONCRETE WASHOUT RING

SCALE: NTS

NOTES:
1. IF NEEDED, INSTALL ON FLAT GRADE FOR OPTIMUM PERFORMANCE.
2. NON-WOVEN GEOTEXTILE SHALL MEET THE FOLLOWING EQUIVALENT REQUIREMENTS:
   PHYSICAL PROPERTY (TEST METHOD) WITH MINIMUM PERMISSIBLE VALUE
   GRAB TENSILE STRENGTH (ASTM D 4632) - 120 POUNDS
   GRAB TENSILE ELONGATION (ASTM D 4632) - 50%
   TRAPEZOID TEAR STRENGTH (ASTM D 4533) - 50 POUNDS
   CBR PUNCTURE STRENGTH (ASTM D 6241) - 310 POUNDS
   APPARENT OPENING SIZE (ASTM D 4751) - 0.212 MM (US #70 SIEVE)
   UV RESISTANCE (500 HOURS) (ASTM D 4355) -70% STRENGTH RETENTION
3. 18"Ø FILTER SOCK MAY BE STACKED ONTO DOUBLE 24"Ø SOCKS IN PYRAMIDAL CONFIGURATION FOR ADDED HEIGHT.



COMPOST FILTER SOCK

SCALE: NTS

NOTES:
1. MATERIAL TO BE MULTI-FILAMENT POLYPROPYLENE.
2. COMPOST FILTER SOCK SHALL BE PLACED ALONG THE BOUNDARY OF ANY TEMPORARY STOCKPILES A MINIMUM OF 4 DAYS AFTER CESSATION OF ACTIVITY.
3. TRAFFIC SHALL NOT BE PERMITTED TO CROSS FILTER SOCKS.
4. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES HALF THE ABOVEGROUND HEIGHT OF THE SOCK AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN.
5. SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION.
6. SOCKS SHALL BE REPLACED AFTER TWELVE MONTHS OF USE.
7. UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK, STAKES AND SOCK SHALL BE REMOVED.

ISSUE	DATE	DESCRIPTION
A	09/11/2024	ISSUED FOR BID

PROJECT MANAGER	A. GURSKI
CIVIL	J. GAGNON
STRUCTURAL	B. BRADLEY
ARCHITECTURAL	M. BASKIN
PROCESS	J. CHANDLER
MECHANICAL	J. CHANDLER
ELECTRICAL	A. KANER
PROJECT NUMBER	10377389

STATE OF MAINE Jennifer N. Gagnon PE13751 LICENSED PROFESSIONAL ENGINEER

Digitally signed by Gagnon, Jennifer N
Date: 2024.09.12 13:22:16 -04'00'

MAINE DEPT OF INLAND FISHERIES AND WILDLIFE

Effluent Characteristic Design at Embden Rearing Station

EROSION CONTROL DETAILS

0 1" 2"

FILENAME 10377389-11C-501.DWG
SCALE Custom
SHEET 11C-501

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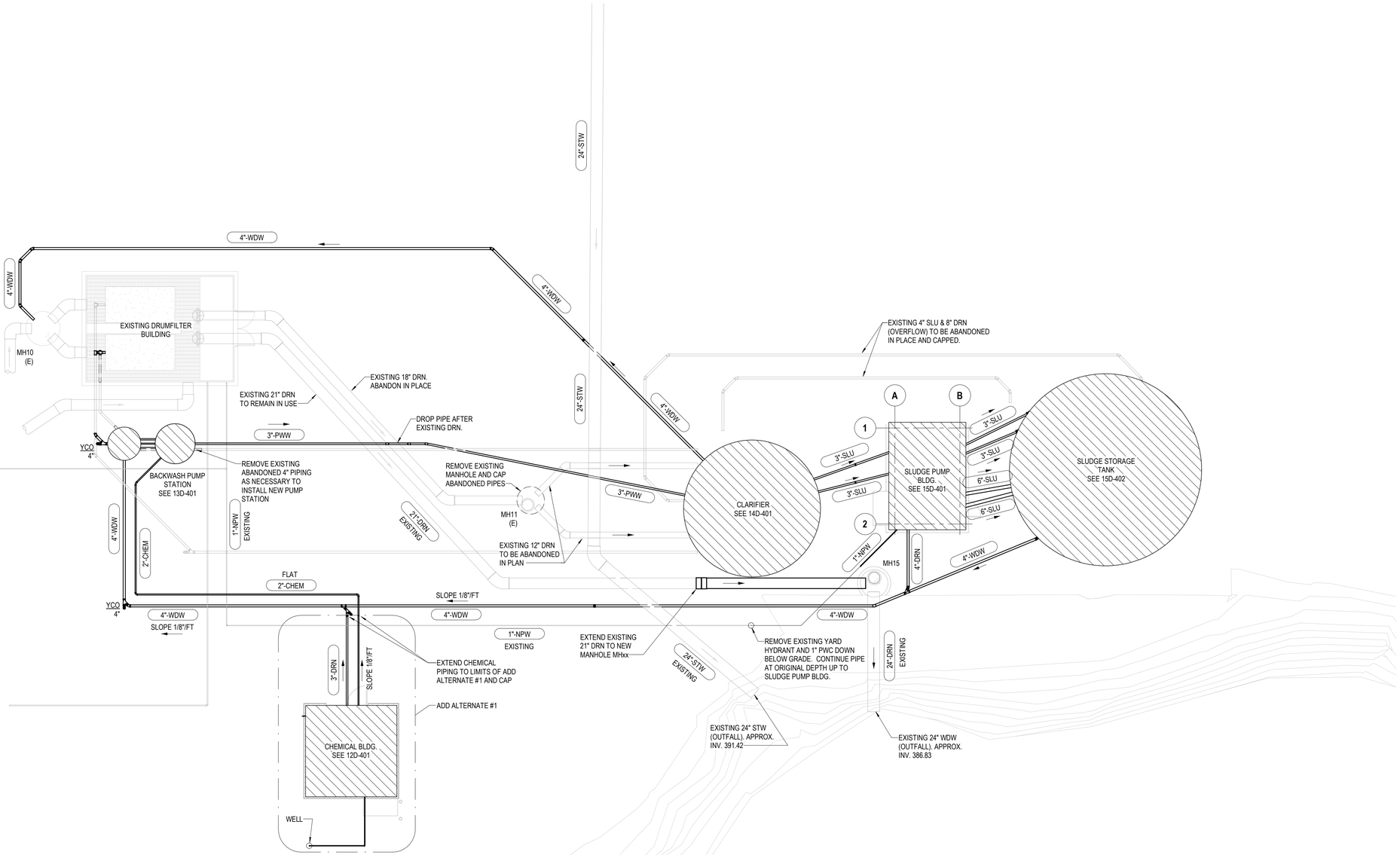

0 5' 10' 20'

1 OVERALL SITE PROCESS PIPING PLAN

1" = 10'-0"

ISSUE	DATE	DESCRIPTION
A	09/11/2024	ISSUED FOR BIDS

PROJECT MANAGER	A. GURSKI
CIVIL	J. GAGNON
STRUCTURAL	B. BRADLEY
ARCHITECTURAL	M. BASKIN
PROCESS	J. CHANDLER
MECHANICAL	J. CHANDLER
ELECTRICAL	A. KANER
PROJECT NUMBER	10377389

STATE OF MAINE Jeffrey K. Chandler PE17167 LICENSED PROFESSIONAL ENGINEER

Digitally signed by Jeffrey K. Chandler, Jr.
Date: 2024.09.12 11:26:19-05'00'

MAINE DEPT. OF INLAND FISHERIES AND WILDLIFE

Effluent Characteristic Design at Embden Rearing Station

EMBDEN STATE FISH HATCHERY
OVERALL PROCESS PIPING PLAN

0 1" 2"

FILENAME 10377389-11-D.rvt

SCALE 1" = 10'-0"

SHEET **11D-101**

Autodesk Docs://10377389_Maine_Effluent_Trtmnt_DESIGN_2022/10377389-11-D.rvt
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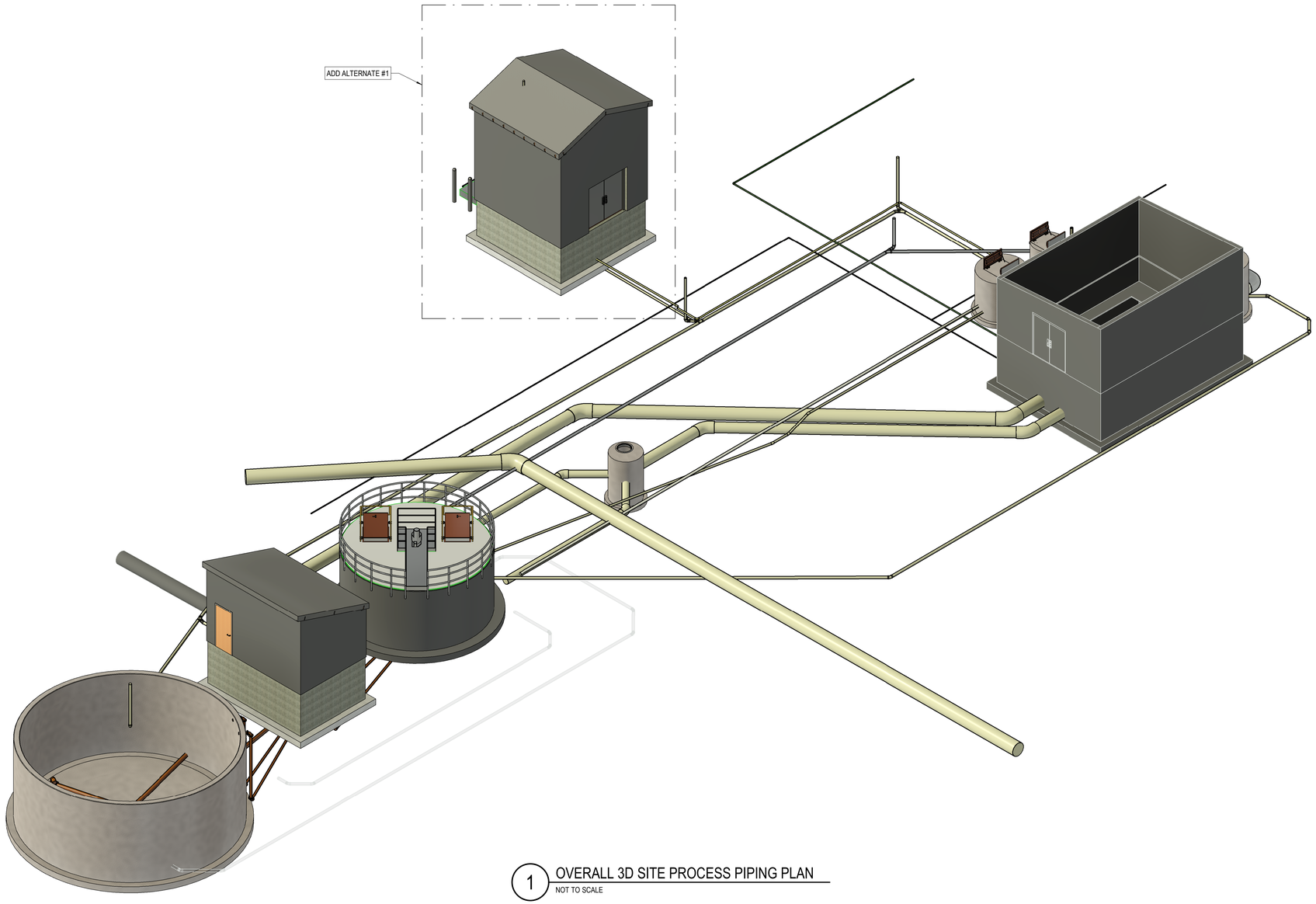

1 OVERALL 3D SITE PROCESS PIPING PLAN
NOT TO SCALE

SHEET IS FOR REFERENCE ONLY AND WILL NOT BE INCLUDED WITHIN BID SET

ISSUE	DATE	DESCRIPTION
A	09/11/2024	ISSUED FOR BIDS

PROJECT MANAGER	A. GURSKI
CIVIL	J. GAGNON
STRUCTURAL	B. BRADLEY
ARCHITECTURAL	M. BASKIN
PROCESS	J. CHANDLER
MECHANICAL	J. CHANDLER
ELECTRICAL	A. KANER
PROJECT NUMBER	10377389

STATE OF MAINE Jeffrey K. Chandler PE17167 LICENSED PROFESSIONAL ENGINEER

Digitally signed by Jeffrey K. Chandler, Jr.
Date: 2024.09.12 11:27:10-05'00'

MAINE DEPT. OF INLAND FISHERIES AND WILDLIFE

Effluent Characteristic Design at Embden Rearing Station

EMBDEN STATE FISH HATCHERY
PROCESS 3D REPRESENTATIONS AND PHOTOGRAPHS

0 1" 2"

FILENAME 10377389-11-D.rvt
SCALE

SHEET 11D-701

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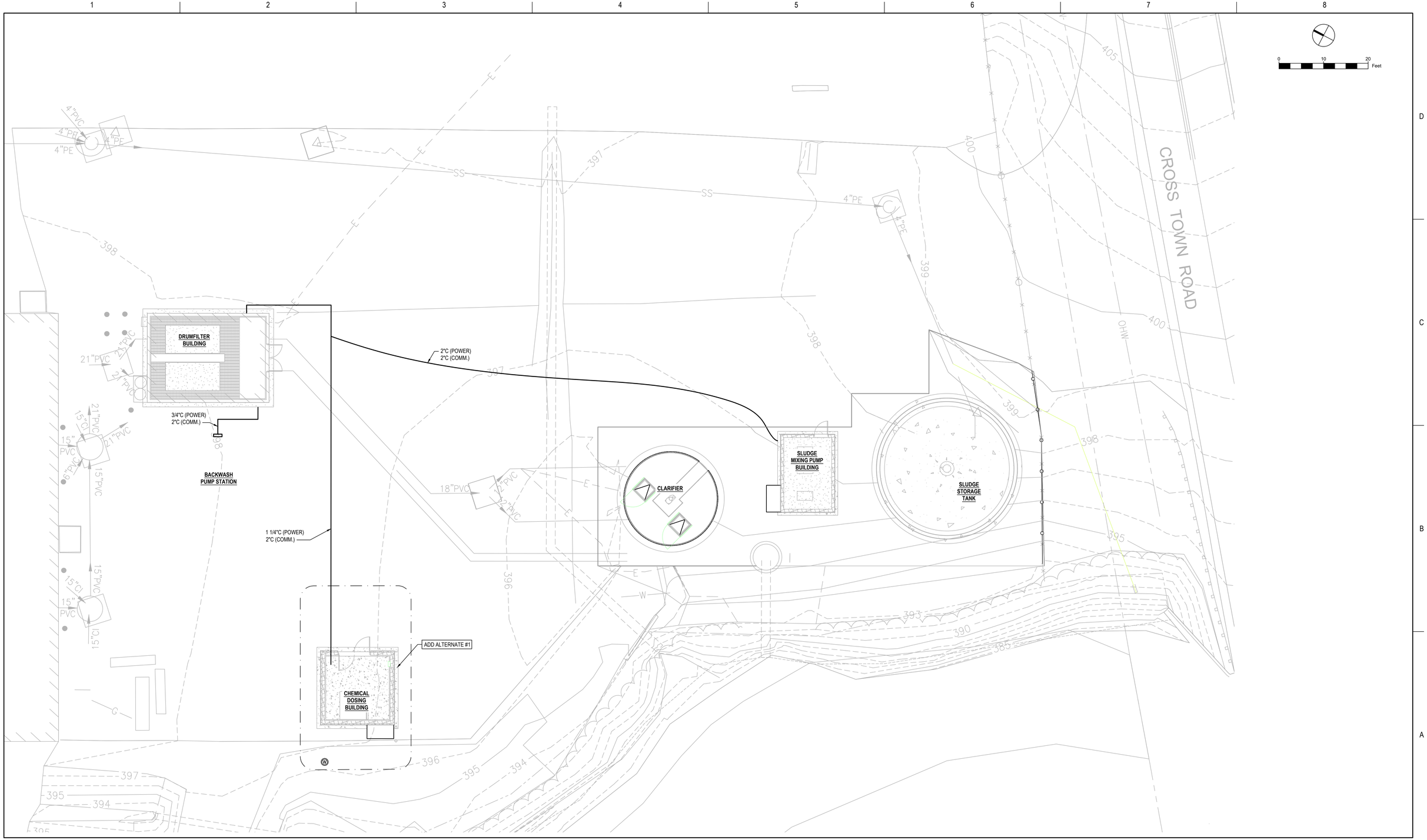

ISSUE	DATE	DESCRIPTION
A	09/11/2024	ISSUED FOR BID

PROJECT MANAGER	A. GURSKI
CIVIL	J. GAGNON
STRUCTURAL	B. BRADLEY
ARCHITECTURAL	M. BASKIN
PROCESS	J. CHANDLER
MECHANICAL	J. CHANDLER
ELECTRICAL	A. KANER
PROJECT NUMBER	10377389

STATE OF MAINE
Andrew D. Kaner
PE18016
LICENSED
PROFESSIONAL ENGINEER

Kaner, Andrew D

Digitally signed by Kaner, Andrew D
DN: E=Andrew.Kaner@hdrinc.com, CN="Kaner, Andrew D", OU=Users, OU=St Louis Park-1601 Utica Ave South, OU=Minnesota, OU=United States, OU=Offices, DC=Intranet, DC=hdr
Date: 2024.09.12 15:07:37-05'00'

MAINE
DEPT. OF INLAND FISHERIES AND WILDLIFE

Effluent Characteristic Design at Embden Rearing Station

OVERALL ELECTRICAL PLAN

0 1" 2"

FILENAME 10377389-11E-101.DWG
SCALE AS NOTED

SHEET 11E-101

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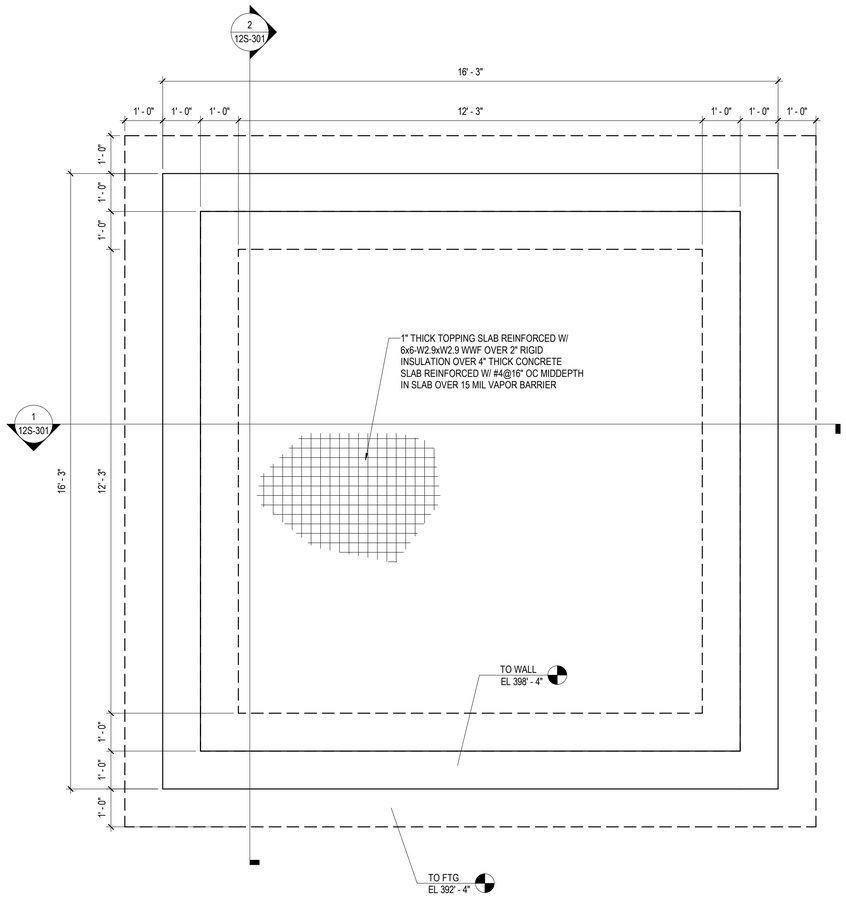
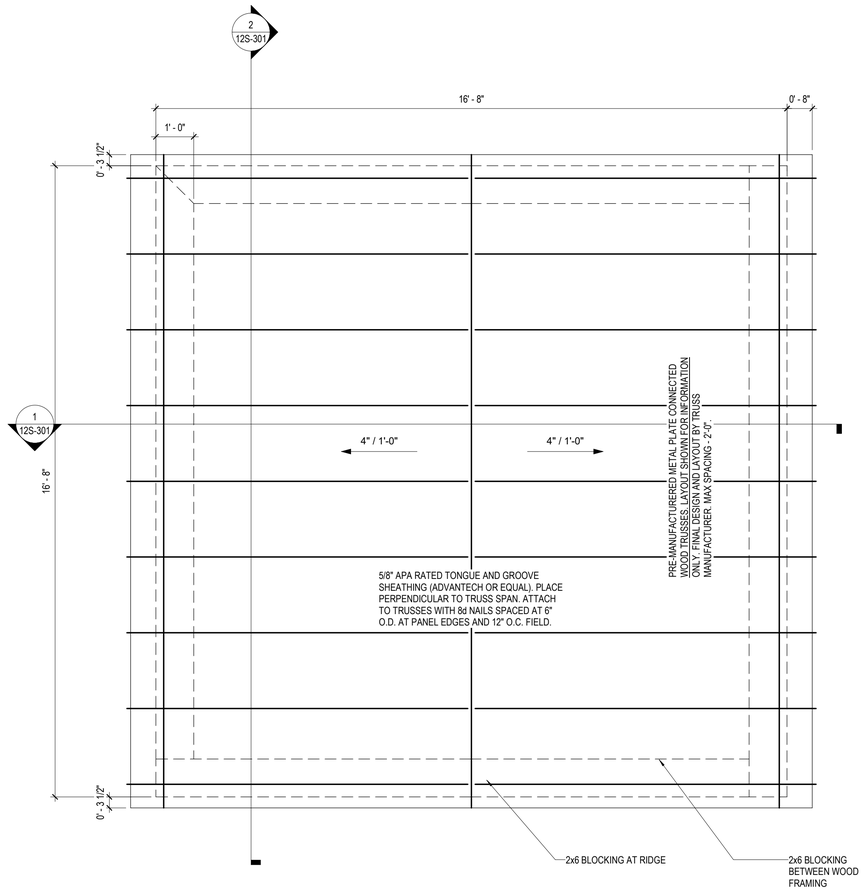
06/10/2024 10:36:59 AM



1 FOUNDATION PLAN

1/2" = 1'-0"



2 ROOF FRAMING PLAN

1/2" = 1'-0"

GENERAL NOTES:

1. SEE SHEET 00S-100 FOR GENERAL STRUCTURAL NOTES.
2. SEE 00S-500 SERIES SHEETS FOR TYPICAL STRUCTURAL DETAILS.
3. REFER TO ARCHITECTURAL, PROCESS, MECHANICAL, PLUMBING, ELECTRICAL, AND DRAWINGS OF OTHER TRADES FOR LOCATIONS OF OPENINGS, DEPRESSIONS, FLOOR SLOPES AND DRAINS.
4. PRE-ENGINEERED TRUSSES SHALL BE DESIGNED BY TRUSS SUPPLIER.
5. COORDINATE ROF OPENING SIZES WITH ARCHITECTURAL DRAWINGS.
6. TEMPORARY AND PERMANENT BRACING NOT SHOWN. SIZES AND LOCATIONS OF BRACING TO BE DESIGNED BY CONTRACTOR'S ENGINEER AND SUBMITTED WITH TRUSS SHOP DRAWINGS FOR REVIEW PRIOR TO CONSTRUCTION.

ADD ALTERNATE #1

ISSUE	DATE	DESCRIPTION
A	09/11/2024	ISSUED FOR BIDS

PROJECT MANAGER	A. GURSKI
CIVIL	J. GAGNON
STRUCTURAL	B. BRADLEY
ARCHITECTURAL	M. BASKIN
PROCESS	J. CHANDLER
MECHANICAL	J. CHANDLER
ELECTRICAL	A. KANER
PROJECT NUMBER	10377389

STATE OF MAINE
Bruce A. Bradley
PE15026
LICENSED
PROFESSIONAL ENGINEER

Digitally signed by Bruce Bradley
Date: 2024.09.17 20:32:43-04'00'

MAINE
DEPT OF INLAND FISHERIES AND WILDLIFE

Effluent Characteristic Design at Embden Rearing Station

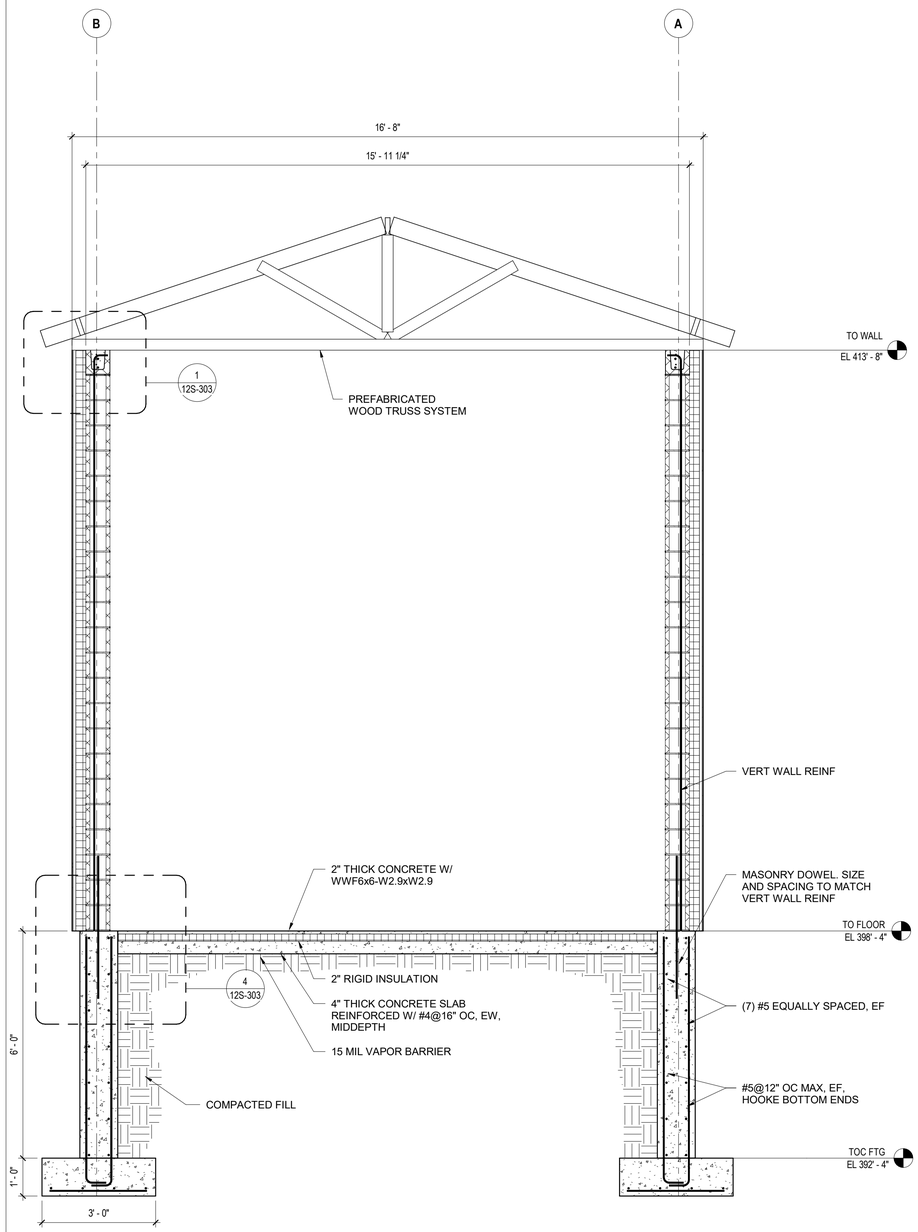
CHEMICAL DOSING BUILDING STRUCTURAL PLANS

0 1" 2"

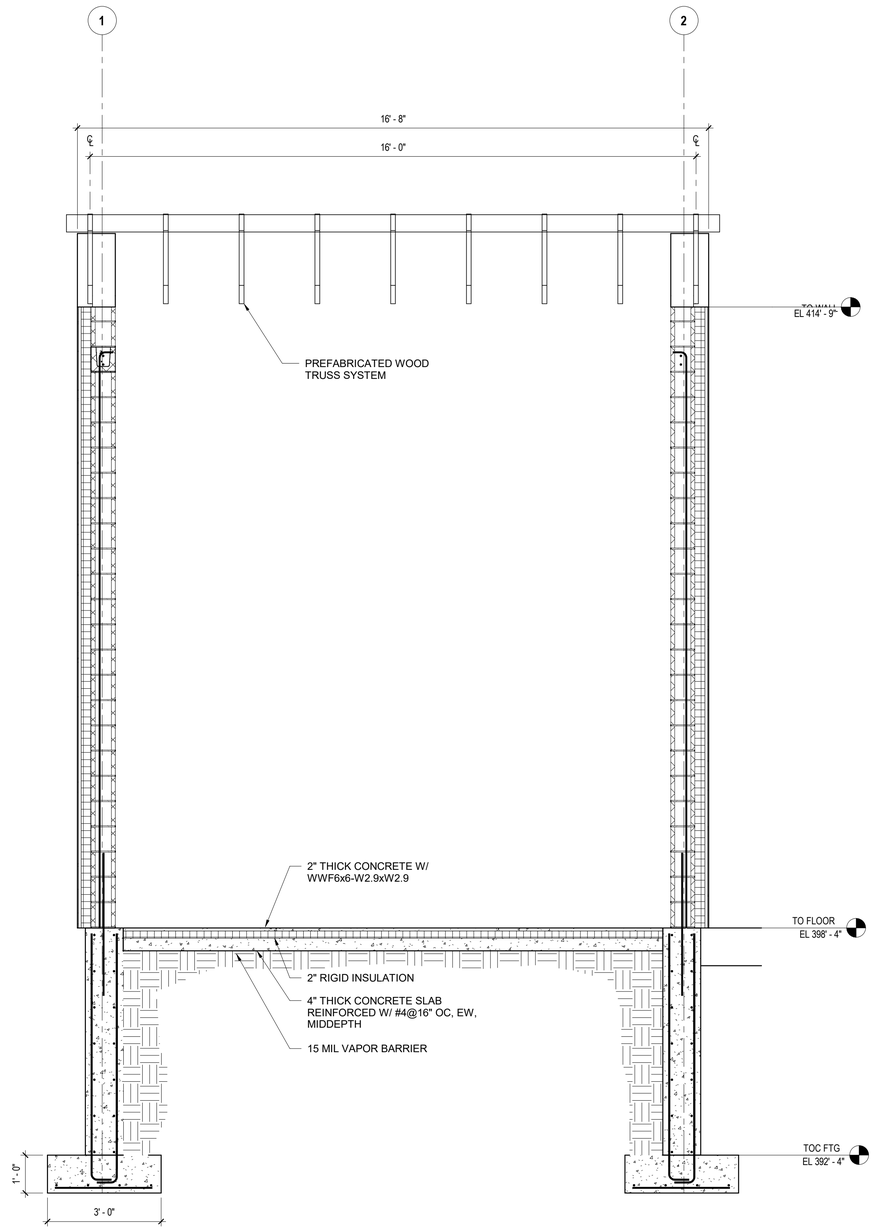
FILENAME 10377389-52-SA.rvt

SCALE 1/2" = 1'-0"

SHEET **12S-101**



1 SECTION 1
1/2" = 1'-0"



2 SECTION
1/2" = 1'-0"

ADD ALTERNATE #1

ISSUE	DATE	DESCRIPTION
A	09/11/2024	ISSUED FOR BIDS

PROJECT MANAGER	A. GURSKI
CIVIL	J. GAGNON
STRUCTURAL	B. BRADLEY
ARCHITECTURAL	M. BASKIN
PROCESS	J. CHANDLER
MECHANICAL	J. CHANDLER
ELECTRICAL	A. KANER
PROJECT NUMBER	10377389

STATE OF MAINE
Bruce A. Bradley PE15026
LICENSED PROFESSIONAL ENGINEER

Digitally signed by Bruce Bradley
Date: 2024.09.17 20:32:52-04'00'

MAINE DEPT OF INLAND FISHERIES AND WILDLIFE

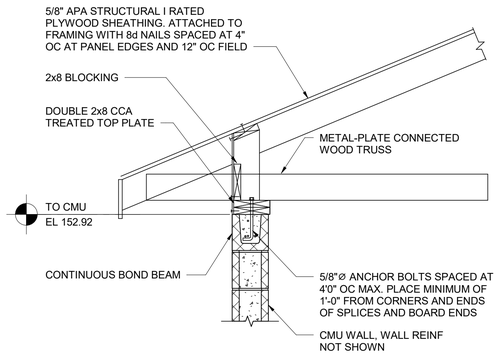
Effluent Characteristic Design at Embden Rearing Station

CHEMICAL DOSING BUILDING SECTIONS

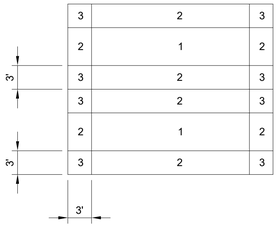
0 1" 2"

FILENAME 10377389-52-SA.rvt
SCALE 1/2" = 1'-0"

SHEET
12S-301



1 SECTION 1
3/4" = 1'-0"

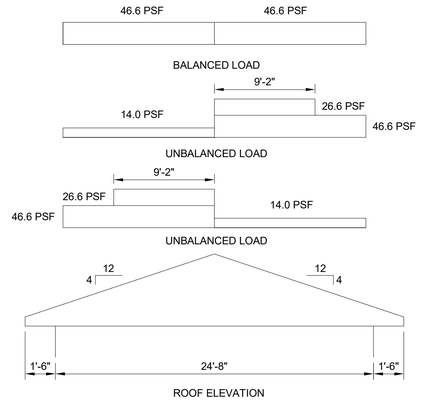


ZONE	WIND PRESSURE
1	-36.8 PSF
	16.0 PSF
2	-43.1 PSF
	16.0 PSF
3	-72.9 PSF
	16.0 PSF

TOP CHORD DEAD LOAD = 10 PSF (EXCLUDING TRUSS SELF-WEIGHT)

BOTTOM CHORD DEAD LOAD = 10 PSF

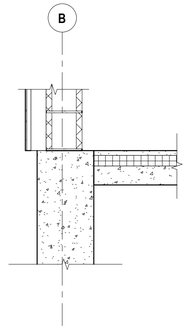
2 DETAIL
12" = 1'-0"



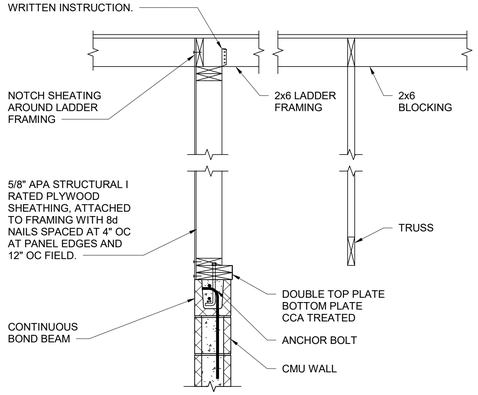
3 DETAIL
12" = 1'-0"

NOTES:

1. PRE-ENGINEERED TRUSSES SHALL BE DESIGNED BY TRUSS SUPPLIER.
2. COORDINATE ROOF OPENING SIZES WITH ARCHITECTURAL DRAWINGS.
3. TEMPORARY AND PERMANENT BRACING NOT SHOWN. SIZES AND LOCATIONS OF BRACING TO BE DESIGNED BY CONTRACTOR'S ENGINEER AND SUBMITTED WITH TRUSS SHOP DRAWINGS FOR REVIEW PRIOR TO CONSTRUCTION.



4 SECTION 2
3/4" = 1'-0"



5 END WALL SECTION
3/4" = 1'-0"

ADD ALTERNATE #1

ISSUE	DATE	DESCRIPTION
A	09/11/2024	ISSUED FOR BIDS

PROJECT MANAGER	A. GURSKI
CIVIL	J. GAGNON
STRUCTURAL	B. BRADLEY
ARCHITECTURAL	M. BASKIN
PROCESS	J. CHANDLER
MECHANICAL	J. CHANDLER
ELECTRICAL	A. KANER
PROJECT NUMBER	10377389

STATE OF MAINE Bruce A. Bradley PE15026 LICENSED PROFESSIONAL ENGINEER

Digitally signed by Bruce Bradley
Date: 2024.09.17 20:33:01-04'00'

MAINE DEPT. OF INLAND FISHERIES AND WILDLIFE

Effluent Characteristic Design at Embden Rearing Station

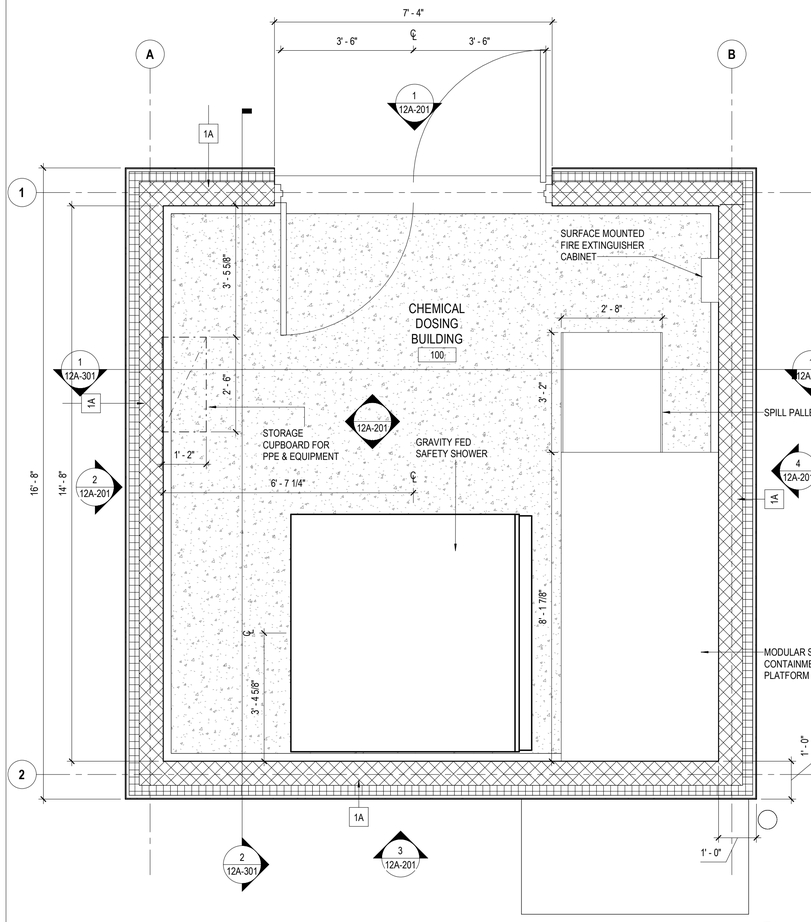
ROOF FRAMING SECTIONS AND DETAILS

0 1" 2"

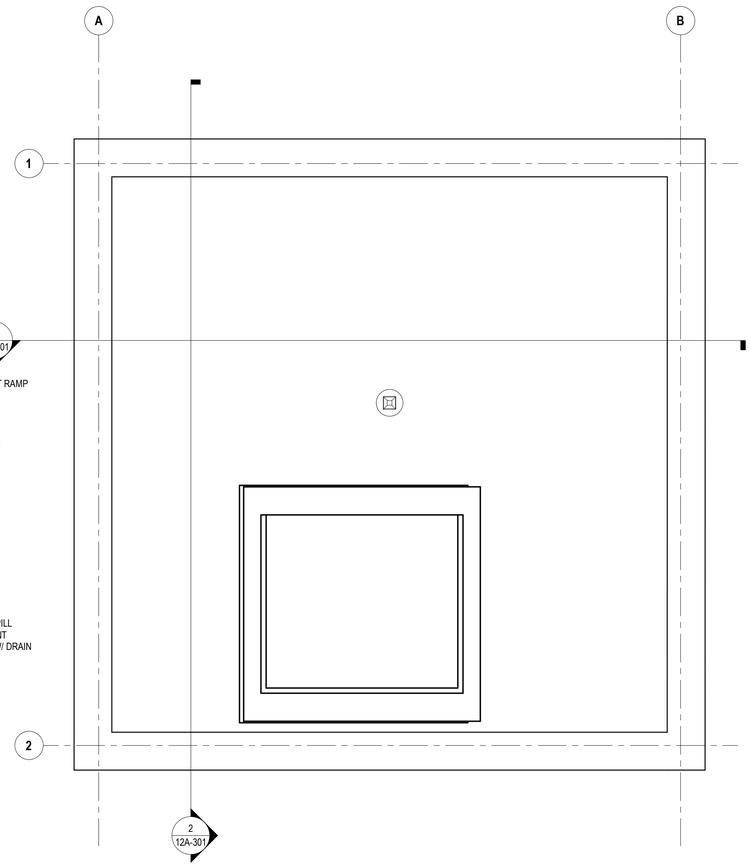
FILENAME 10377389-52-SA.rvt
SCALE As indicated

SHEET **12S-303**

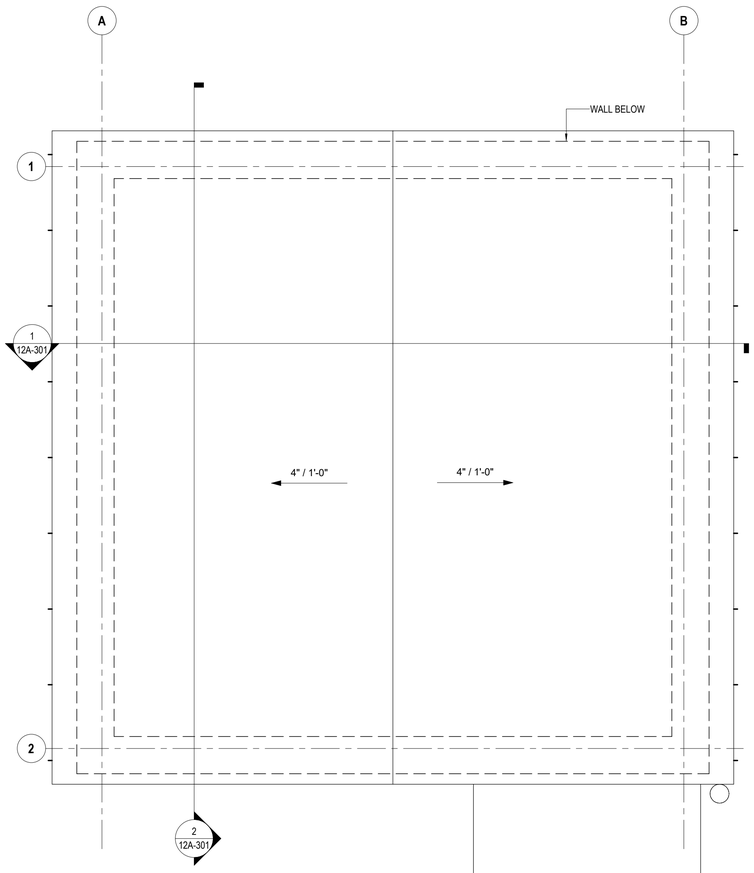
Autodesk Docs://10377389_Maine_Effluent_Trtmnt_DESIGN_2022/10377389-12-SA.rvt
9/11/2024 9:02:21 AM



1 FIRST FLOOR
1/2" = 1'-0"



2 METER MH RCP
1/2" = 1'-0"



3 ROOF
1/2" = 1'-0"

NOTES:

1. ALL DOOR FRAMES SHALL BE FRP.
2. SEE STRUCTURAL DRAWINGS FOR STEEL REINFORCING TO BE INSTALLED IN LOAD BEARING MASONRY WALLS
3. ALL MASONRY WALLS SHALL HAVE HORIZONTAL JOINT REINFORCING AT 1'-4" OC.
4. GROUT CMU SOLID AT LOCATIONS WHERE ITEMS ARE TO BE MOUNTED TO THE WALLS.
5. COORDINATE WITH ALL OTHER DRAWINGS AND TRADES FOR LOCATIONS OF ITEMS BUILT INTO OR ANCHORED TO THE MASONRY WALLS.
6. ALL EQUIPMENT DIMENSIONS ARE BASED UPON A SPECIFIC MANUFACTURER. THE GENERAL CONTRACTOR WILL COORDINATE THE FINAL DIMENSIONS WITH THE EQUIPMENT TO BE SUPPLIED FOR THE PROJECT.

ADD ALTERNATE #1

ISSUE	DATE	DESCRIPTION
A	09/11/2024	ISSUED FOR BIDS

PROJECT MANAGER	A. GURSKI
CIVIL	J. GAGNON
STRUCTURAL	B. BRADLEY
ARCHITECTURAL	M. BASKIN
PROCESS	J. CHANDLER
MECHANICAL	J. CHANDLER
ELECTRICAL	A. KANER
PROJECT NUMBER	10377389

LICENSED ARCHITECT
Michael A. Baskin
5595
STATE OF MAINE

Digitally signed by Baskin, Michael Alan
Date: 2024.09.16 15:42:13-04'00'

MAINE DEPT OF INLAND FISHERIES AND WILDLIFE

Effluent Characteristic Design at Embden Rearing Station

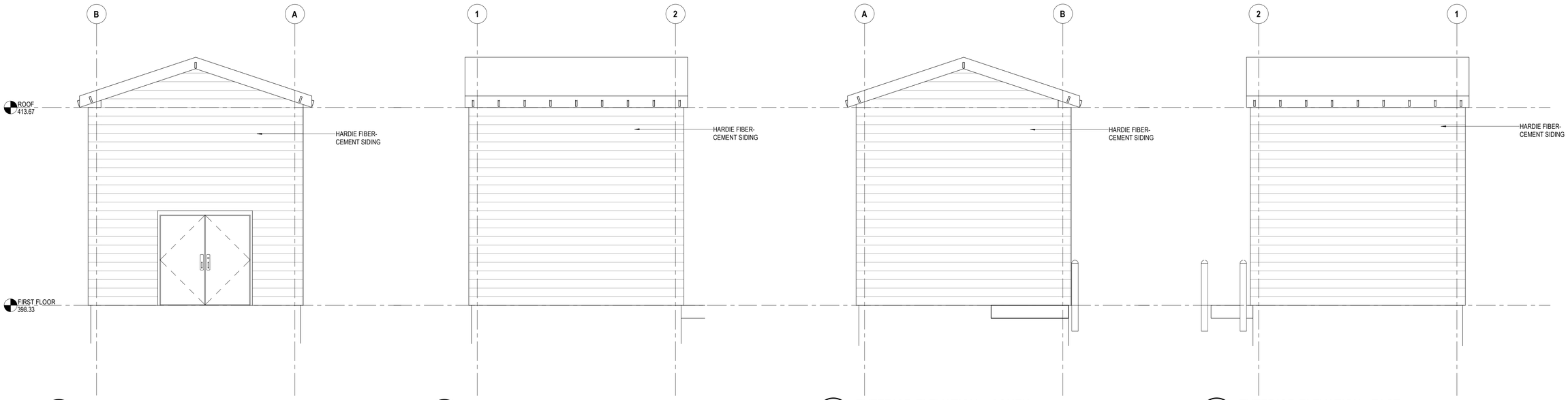
CHEMICAL DOSING BUILDING PLANS

0 1" 2"

FILENAME 10377389-52-SA.rvt
SCALE As indicated

SHEET
12A-101

Autodesk Docs://10377389_Maine_Effluent_Trtmnt_DESIGN_2022/10377389-12-SA.rvt
9/11/2024 9:02:40 AM

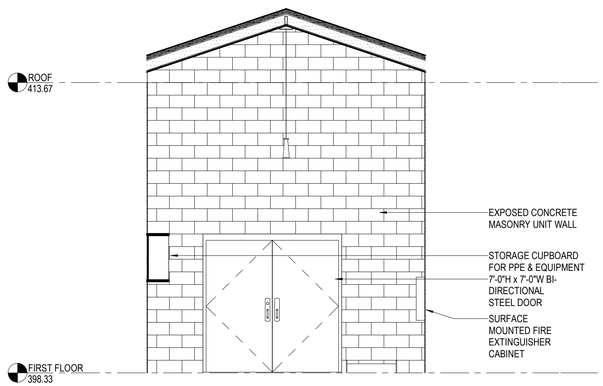


1 EXTERIOR ELEVATION - NORTH
1/4" = 1'-0"

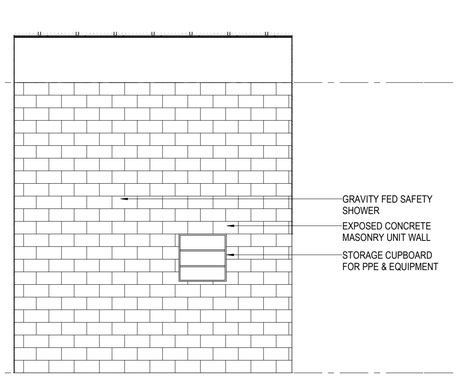
2 EXTERIOR ELEVATION - WEST
1/4" = 1'-0"

3 EXTERIOR ELEVATION - SOUTH
1/4" = 1'-0"

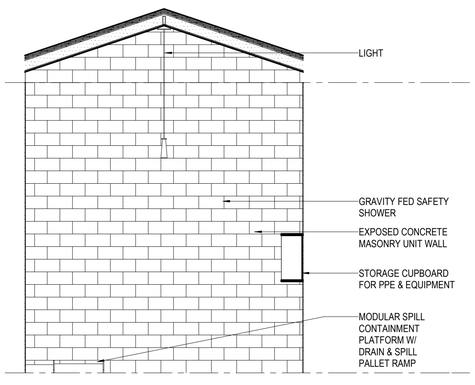
4 EXTERIOR ELEVATION - EAST
1/4" = 1'-0"



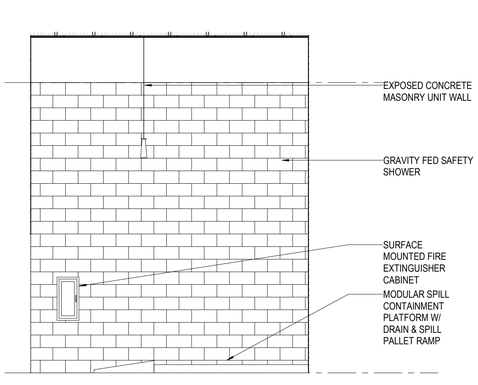
5 INTERIOR ELEVATION - NORTH
1/4" = 1'-0"



7 INTERIOR ELEVATION - WEST
1/4" = 1'-0"



6 INTERIOR ELEVATION - SOUTH
1/4" = 1'-0"



8 INTERIOR ELEVATION -EAST
1/4" = 1'-0"

ADD ALTERNATE #1

ISSUE	DATE	DESCRIPTION
A	09/11/2024	ISSUED FOR BIDS

PROJECT MANAGER	A. GURSKI
CIVIL	J. GAGNON
STRUCTURAL	B. BRADLEY
ARCHITECTURAL	M. BASKIN
PROCESS	J. CHANDLER
MECHANICAL	J. CHANDLER
ELECTRICAL	A. KANER
PROJECT NUMBER	10377389

LICENSED ARCHITECT
Michael A. Baskin
5595
STATE OF MAINE

Digitally signed by Baskin, Michael Alan
Date: 2024.09.16 15:42:31-04'00'

MAINE
DEPT OF INLAND FISHERIES AND WILDLIFE

Effluent Characteristic Design at Embden Rearing Station

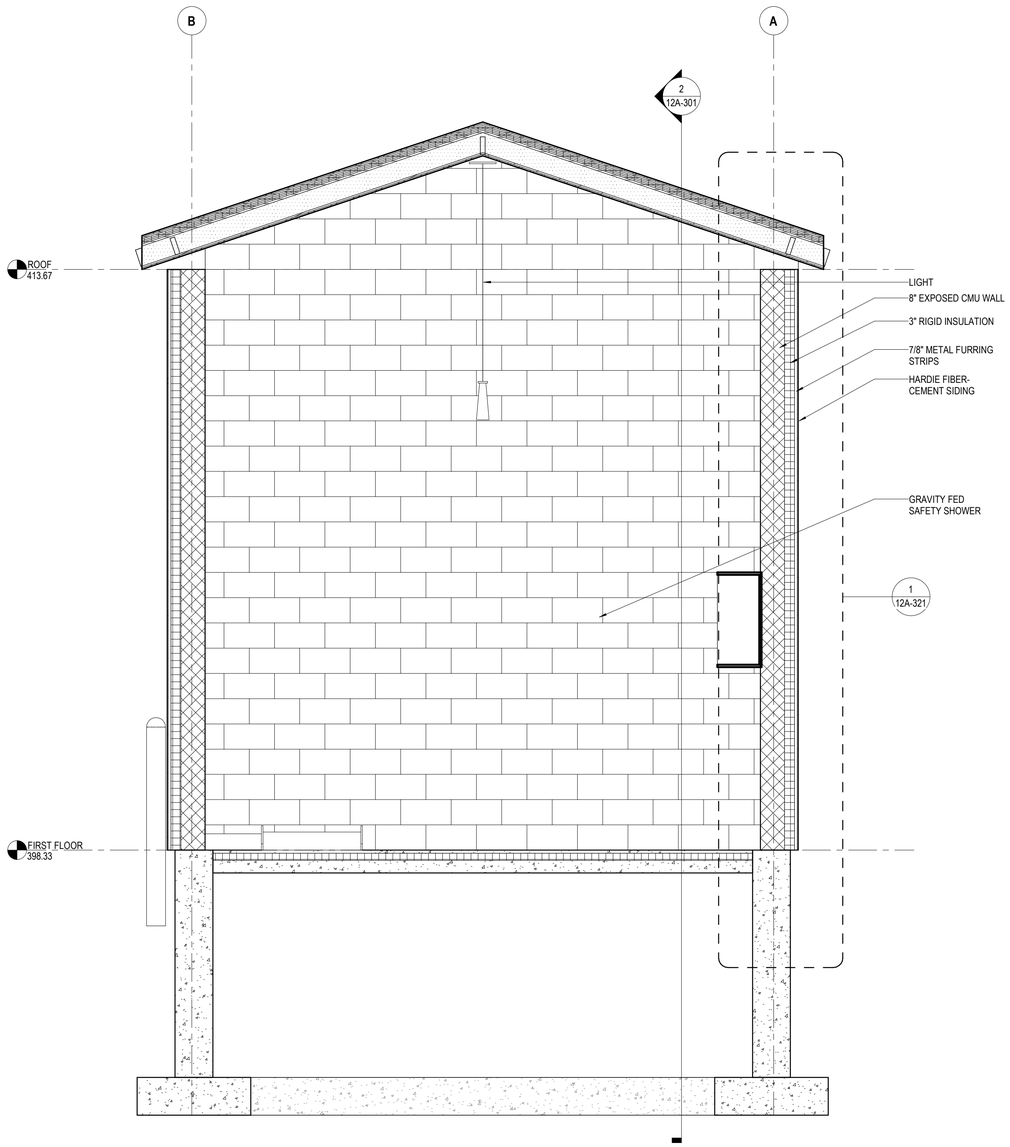
CHEMICAL DOSING BUILDING ELEVATIONS

0 1" 2"

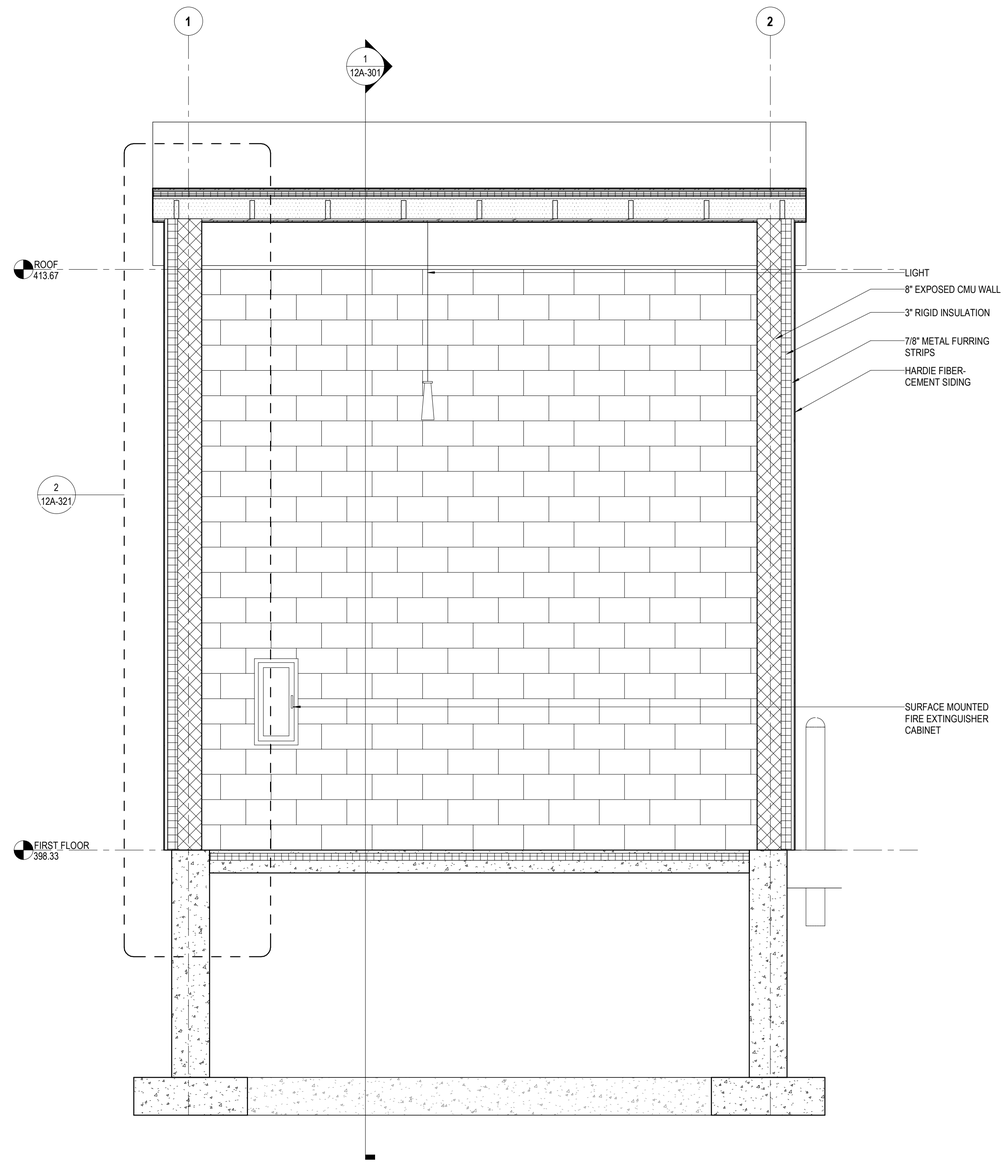
FILENAME 10377389-52-SA.rvt
SCALE 1/4" = 1'-0"

SHEET
12A-201

Autodesk Docs://10377389_Maine_Effluent_Trfmnt_DESIGN_2022/10377389-12-SA.rvt
9/11/2024 9:02:37 AM



1 NORTH-SOUTH SECTION
1/2" = 1'-0"



2 EAST-WEST SECTION
1/2" = 1'-0"

ADD ALTERNATE #1

ISSUE	DATE	DESCRIPTION
A	09/11/2024	ISSUED FOR BIDS

PROJECT MANAGER	A. GURSKI
CIVIL	J. GAGNON
STRUCTURAL	B. BRADLEY
ARCHITECTURAL	M. BASKIN
PROCESS	J. CHANDLER
MECHANICAL	J. CHANDLER
ELECTRICAL	A. KANER
PROJECT NUMBER	10377389

LICENSED ARCHITECT
Michael A. Baskin
5595
STATE OF MAINE

Digitally signed by Baskin, Michael Alan
Date: 2024.09.16 15:48:34-04'00'

MAINE DEPT. OF INLAND FISHERIES AND WILDLIFE

Effluent Characteristic Design at Embden Rearing Station

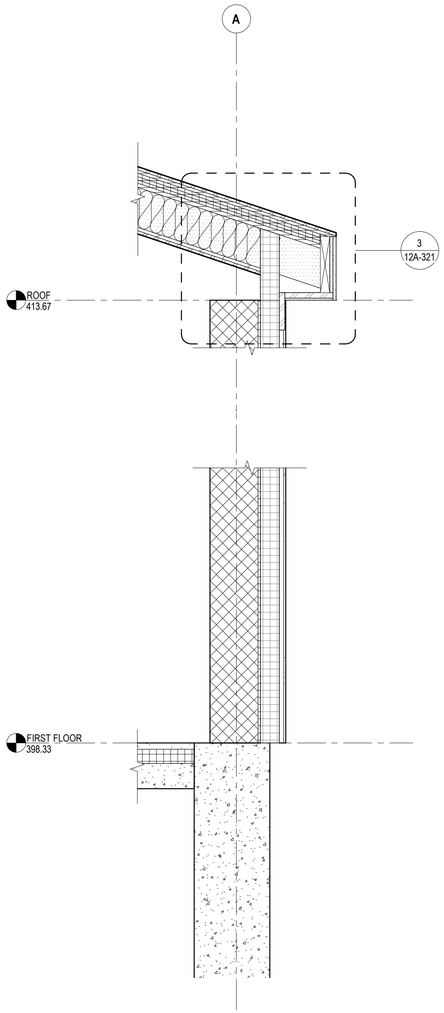
CHEMICAL DOSING BUILDING BUILDING SECTIONS

0 1" 2"

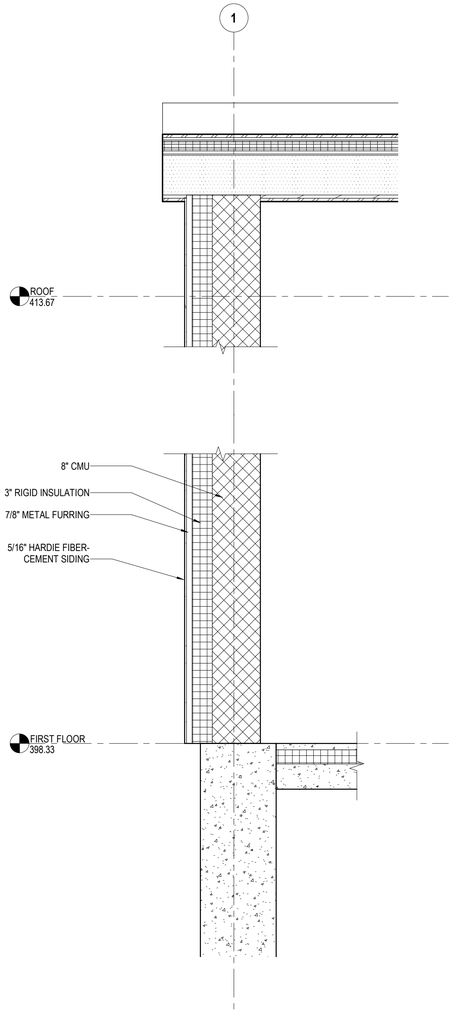
FILENAME 10377389-52-SA.rvt
SCALE 1/2" = 1'-0"

SHEET 12A-301

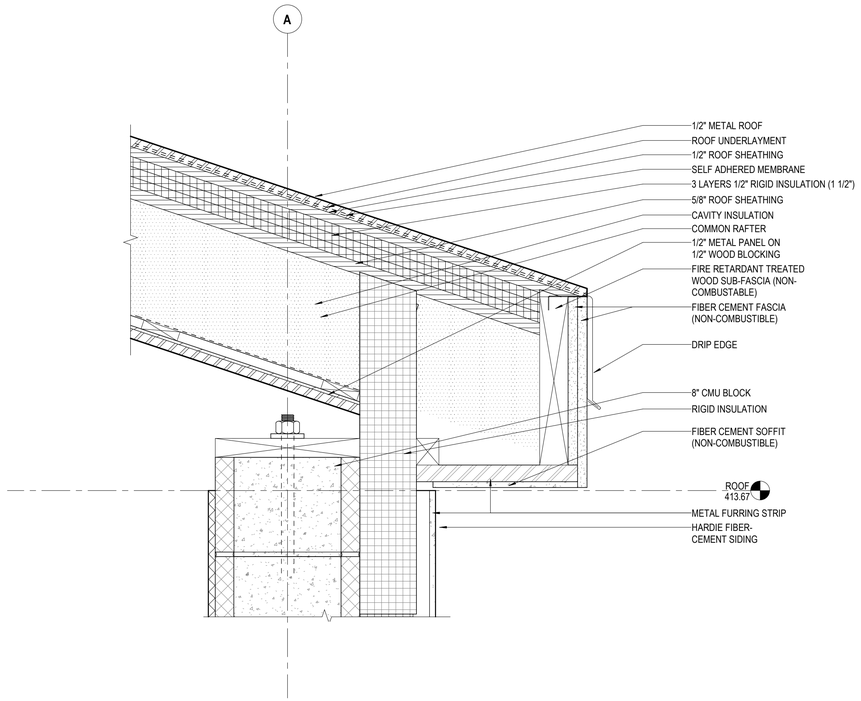
Autodesk Docs://10377389_Maine_Effluent_Trtmnt_DESIGN_2022/10377389-12-SA.rvt
9/11/2024 9:02:35 AM



1 NORTH-SOUTH WALL SECTION
1" = 1'-0"



2 EAST-WEST WALL SECTION
1" = 1'-0"



3 ROOF DETAIL
3" = 1'-0"

ADD ALTERNATE #1

ISSUE	DATE	DESCRIPTION
A	09/11/2024	ISSUED FOR BIDS

PROJECT MANAGER	A. GURSKI
CIVIL	J. GAGNON
STRUCTURAL	B. BRADLEY
ARCHITECTURAL	M. BASKIN
PROCESS	J. CHANDLER
MECHANICAL	J. CHANDLER
ELECTRICAL	A. KANER
PROJECT NUMBER	10377389

LICENSED ARCHITECT
Michael A. Baskin
5595
STATE OF MAINE

Digitally signed by Baskin, Michael Alan
Date: 2024.09.16 15:44:11-04'00'

MAINE DEPT. OF INLAND FISHERIES AND WILDLIFE

Effluent Characteristic Design at Embden Rearing Station

CHEMICAL DOSING BUILDING WALL SECTIONS AND DETAILS

0 1" 2"

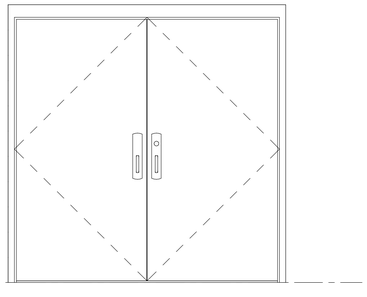
FILENAME 10377389-52-SA.rvt
SCALE As indicated

SHEET **12A-321**

Autodesk Docs://10377389_Maine_Effluent_Tfmmit_DESIGN_2022/10377389-12-SA.rvt
9/11/2024 9:02:32 AM

Door Schedule												
Mark	Type	Width	Height	Thickness	Sill Height	Rough Width	Rough Height	Head Height	Frame Type	Frame Material	Finish	Fire Rating
1	84" x 80"	7' - 0"	7' - 0"	0' - 1 3/4"	0' - 0"	7' - 4"	7' - 4"	7' - 0"	TYPE I	METAL	PAINT	

Room Schedule						
Level	Number	Name	Wall Finish	Ceiling Finish	Floor Finish	Base Finish
FIRST FLOOR	100	CHEMICAL DOSING BUILDING	EXPOSED CMU	METAL PANEL	CONC/SEAL	



FIRST FLOOR
398.33

1 DOOR TYPE I
1/2" = 1'-0"

ADD ALTERNATE #1

Autodesk Docs://10377389_Maine_Effluent_Trtmnt_DESIGN_2022/10377389-12-SA.rvt
9/11/2024 9:02:29 AM

ISSUE	DATE	DESCRIPTION
A	09/11/2024	ISSUED FOR BIDS

PROJECT MANAGER	A. GURSKI
CIVIL	J. GAGNON
STRUCTURAL	B. BRADLEY
ARCHITECTURAL	M. BASKIN
PROCESS	J. CHANDLER
MECHANICAL	J. CHANDLER
ELECTRICAL	A. KANER
PROJECT NUMBER	10377389

LICENSED ARCHITECT
Michael A. Baskin
5595
STATE OF MAINE

Digitally signed by Baskin, Michael Alan
Date: 2024.09.16 15:44:25-04'00'

MAINE
DEPT OF INLAND FISHERIES AND WILDLIFE

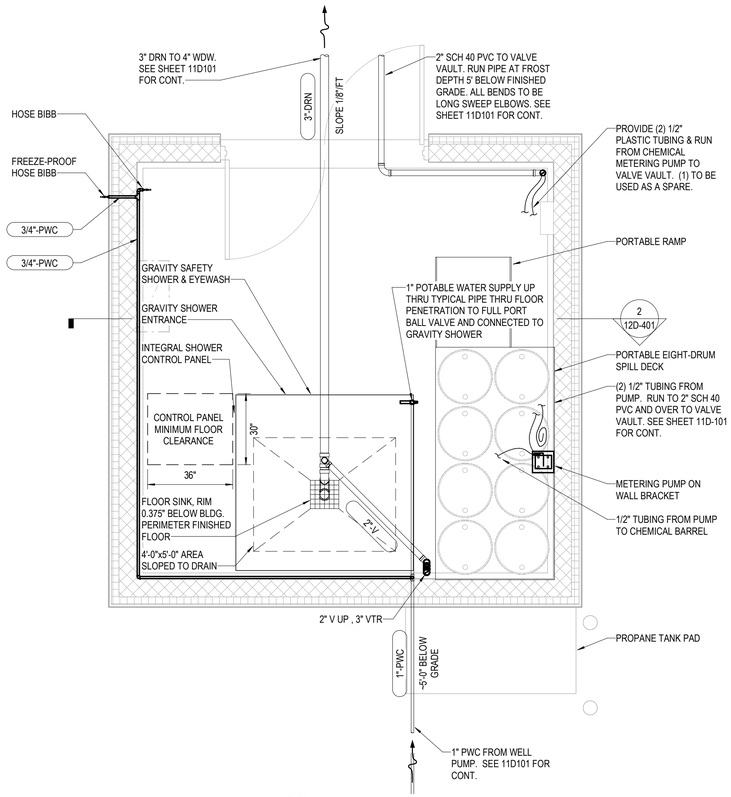
Effluent Characteristic Design at Embden Rearing Station

CHEMICAL DOSING BUILDING
DOOR SCHEDULE AND DETAILS

0 1" 2"

FILENAME 10377389-52-SA.rvt
SCALE 1/2" = 1'-0"

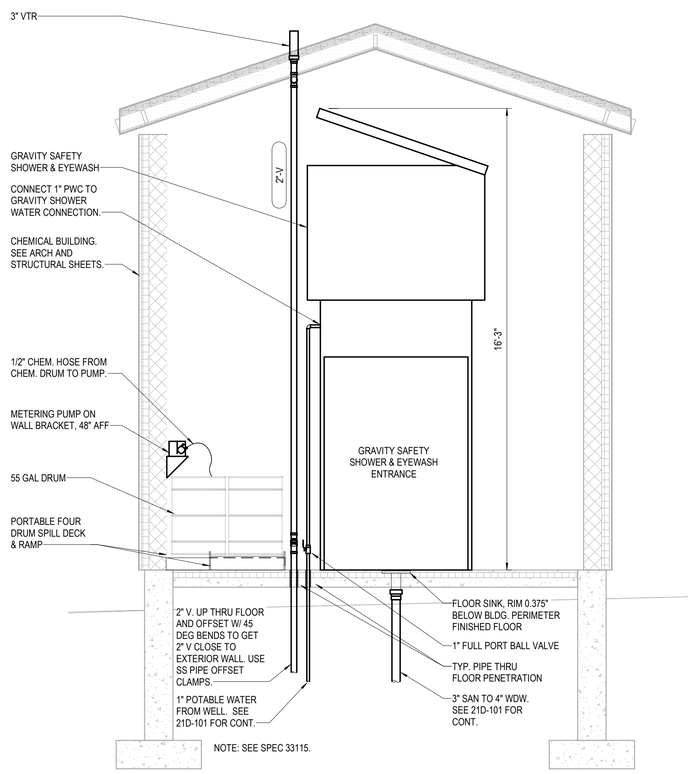
SHEET
12A-601



0 1' 2' 4'

1 CHEMICAL BUILDING PROCESS PIPING PLAN

3/8" = 1'-0"



0 1' 2' 4'

2 CHEMICAL BUILDING PROCESS PIPING SECTION

3/8" = 1'-0"

ADD ALTERNATE #1

ISSUE	DATE	DESCRIPTION
A	09/11/2024	ISSUED FOR BIDS

PROJECT MANAGER	A. GURSKI
CIVIL	J. GAGNON
STRUCTURAL	B. BRADLEY
ARCHITECTURAL	M. BASKIN
PROCESS	J. CHANDLER
MECHANICAL	J. CHANDLER
ELECTRICAL	A. KANER
PROJECT NUMBER	10377389

STATE OF MAINE
Jeffrey K. Chandler
PE17167
LICENSED
PROFESSIONAL ENGINEER

Digitally signed by Jeffrey K. Chandler, Jr.
Date: 2024.09.12 11:29:56-05'00'

MAINE DEPT. OF INLAND FISHERIES AND WILDLIFE

Effluent Characteristic Design at Embden Rearing Station

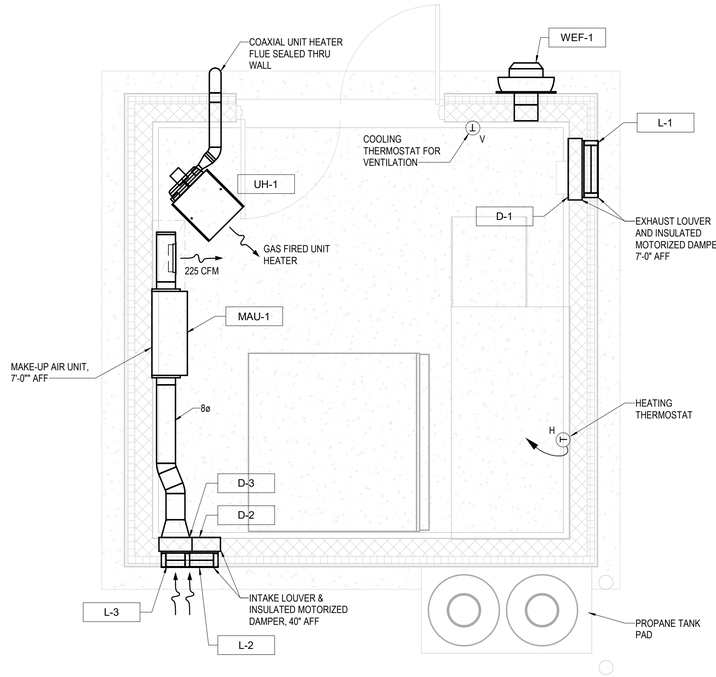
CHEMICAL DOSING BUILDING ENLARGED PROCESS PIPING PLAN & SECTION

0 1" 2"

FILENAME 10377389-12-D.rvt

SCALE 3/8" = 1'-0"

SHEET 12D-401



0 1' 2' 4'

1 MECHANICAL FLOOR PLAN
3/8" = 1'-0"

ADD ALTERNATE #1

ISSUE	DATE	DESCRIPTION
A	09/11/2024	ISSUED FOR BIDS

PROJECT MANAGER	A. GURSKI
CIVIL	J. GAGNON
STRUCTURAL	B. BRADLEY
ARCHITECTURAL	M. BASKIN
PROCESS	J. CHANDLER
MECHANICAL	J. CHANDLER
ELECTRICAL	A. KANER
PROJECT NUMBER	10377389

STATE OF MAINE
Jeffrey K. Chandler
PE17167
LICENSED
PROFESSIONAL ENGINEER

Digitally signed by Jeffrey K. Chandler, Jr.
Date: 2024.09.12 11:30:19-05'00'

MAINE
DEPT OF INLAND FISHERIES AND WILDLIFE

Effluent Characteristic Design at Embden Rearing Station

CHEMICAL DOSING BUILDING MECHANICAL PLAN

0 1" 2"

FILENAME 10377389-12-ME.rvt
SCALE 3/8" = 1'-0"

SHEET **12M-101**

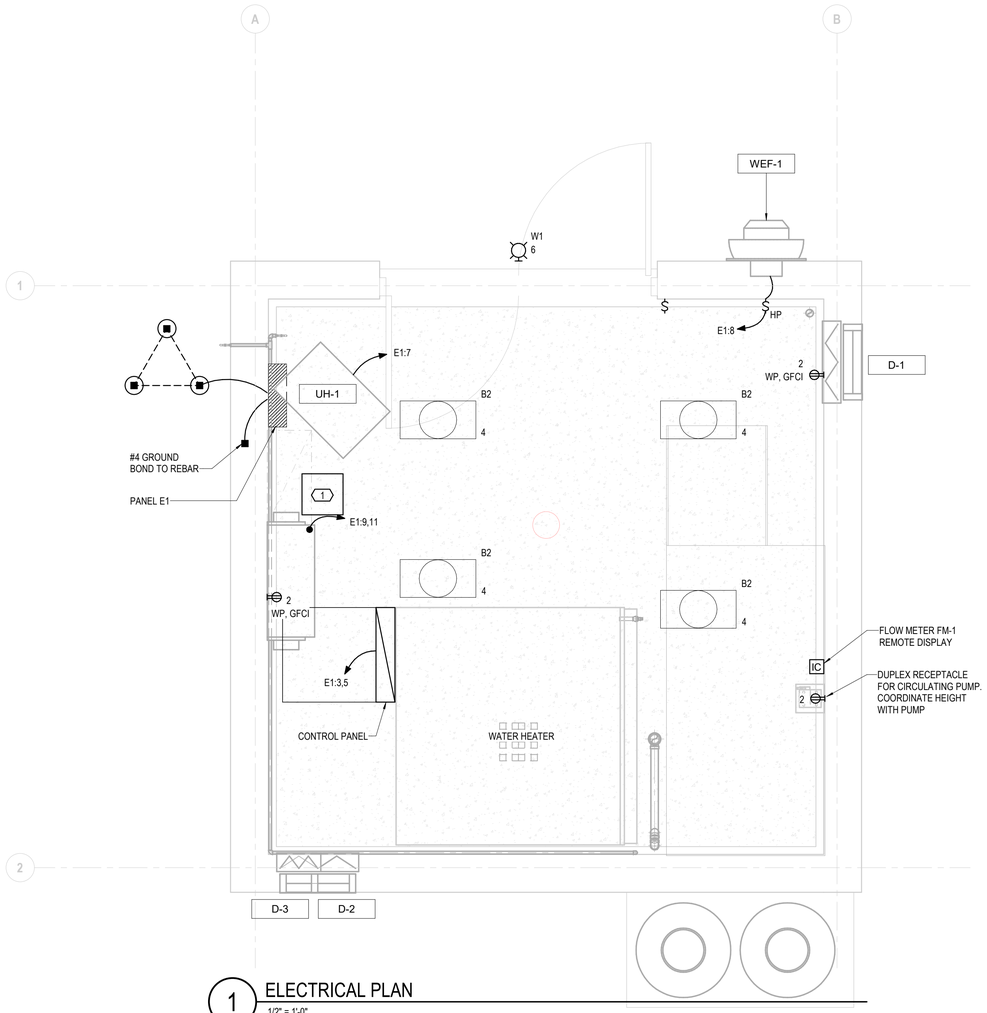
Autodesk Docs://10377389_Maine_Effluent_Trtmnt_DESIGN_2022/10377389-12-ME.rvt
9/11/2024 9:01:56 AM

GENERAL NOTES

1. HVAC CONTROLS AND AUXILIARY INSTRUMENTS (T-STAT, DAMPERS, ETC.) NOT SHOWN. REFER TO MECHANICAL DRAWINGS FOR DETAILS. REFER TO SPECIFICATION 23 09 00 FOR ADDITIONAL WIRING REQUIREMENTS.
2. VERIFY/COORDINATE RATINGS FOR EQUIPMENT SUPPLIED BY THE SELECTED MANUFACTURER. WHERE RATINGS ARE OTHER THAN AS REQUIRED FOR SPECIFIED UNIT, DISCONNECTS, MOTOR STARTERS, OVERCURRENT DEVICES AND RELATED REVISIONS SHALL BE PROVIDED ACCORDINGLY. THE CONTRACTOR THAT FURNISHES EQUIPMENT WITH RATINGS OTHER THAN AS NOTED SHALL BE RESPONSIBLE FOR COORDINATION AND COSTS FOR REVISIONS TO ACCOMMODATE SELECTED.
3. MOTORS RATED 120 VOLT AND LESS THAN 1/3 HP SHALL HAVE 15/1 BRANCH CIRCUIT BREAKER IN PANEL. MOTORS RATED 120 VOLT, 1/3 HP AND LARGER SHALL HAVE 20/1 BRANCH CIRCUIT BREAKER IN PANEL.
4. WHERE DISCONNECT IS NOT SHOWN ON PLANS, LOCATE AT EQUIPMENT PER NEC.
5. ELECTRICAL CONTRACTOR SHALL PROVIDE CIRCUIT TO EQUIPMENT AS INDICATED.
6. SAFETY SWITCHES SHALL BE FUSIBLE UNLESS NOTED OTHERWISE. PROVIDE FUSES SIZED PER MANUFACTURERS RECOMMENDATIONS.
7. FRACTIONAL HORSEPOWER SINGLE PHASE MOTORS SHALL BE PROVIDED WITH INTEGRAL OVERLOAD PROTECTION.

KEYNOTES (##)

1. PROVIDE 2#8, #10G IN 3/4"C.



1 ELECTRICAL PLAN
1/2" = 1'-0"

ADD ALTERNATE #1

ISSUE	DATE	DESCRIPTION
A	09/11/2024	ISSUED FOR BIDS

PROJECT MANAGER	A. GURSKI
CIVIL	J. GAGNON
STRUCTURAL	B. BRADLEY
ARCHITECTURAL	M. BASKIN
PROCESS	J. CHANDLER
MECHANICAL	J. CHANDLER
ELECTRICAL	A. KANER
PROJECT NUMBER	10377389

STATE OF MAINE
Andrew D. Kaner
PE18016
LICENSED
PROFESSIONAL ENGINEER

Kaner, Andrew D

Digitally signed by Kaner, Andrew D
DN: E=Andrew.Kaner@hdrinc.com, CN=Kaner, Andrew D*, OU=Users, OU=St Louis Park-1601 Utica Ave South, OU=Minnesota, OU=United States, OU=Offices, DC=Intranet, DC=hdr
Date: 2024.09.12 15:07:47 -05'00'

MAINE
DEPT OF INLAND FISHERIES AND WILDLIFE

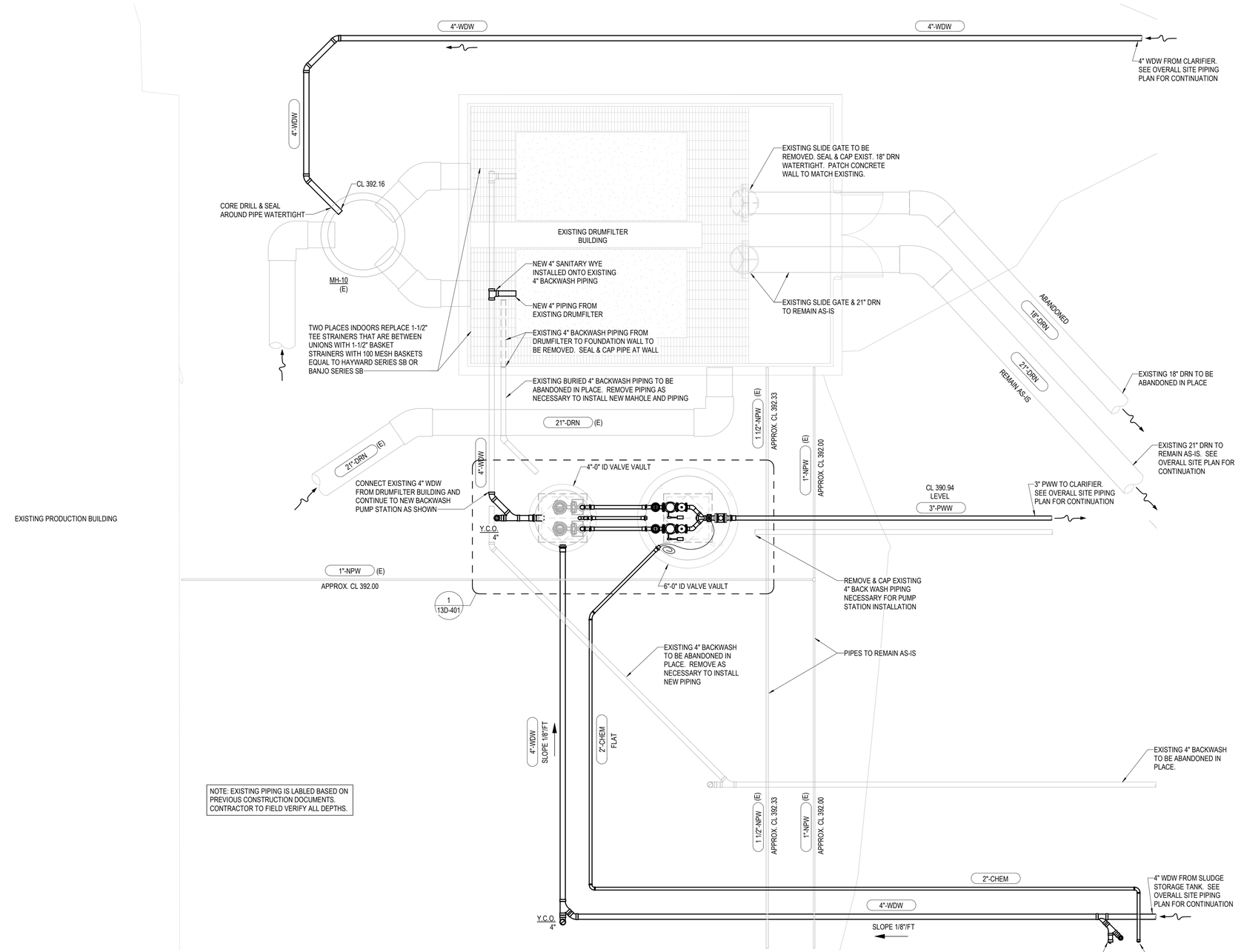
Effluent Characteristic Design at Embden Rearing Station

CHEMICAL DOSING BUILDING ELECTRICAL PLAN

0 1" 2"

FILENAME	10377389-12-ME.rvt
SCALE	1/2" = 1'-0"

SHEET **12E-101**



1 DRUMFILTER BUILDING & BACKWASH LIFT STATION PROCESS PIPING PLAN
1/4" = 1'-0"

ISSUE	DATE	DESCRIPTION
A	09/11/2024	ISSUED FOR BIDS

PROJECT MANAGER	A. GURSKI
CIVIL	J. GAGNON
STRUCTURAL	B. BRADLEY
ARCHITECTURAL	M. BASKIN
PROCESS	J. CHANDLER
MECHANICAL	J. CHANDLER
ELECTRICAL	A. KANER
PROJECT NUMBER	10377389

STATE OF MAINE
Jeffrey K. Chandler
PE17167
LICENSED
PROFESSIONAL ENGINEER

Digitally signed by Jeffrey K. Chandler, Jr.
Date: 2024.09.12 11:30:46-05'00'

MAINE
DEPT OF INLAND FISHERIES AND WILDLIFE

Effluent Characteristic Design at Embden Rearing Station

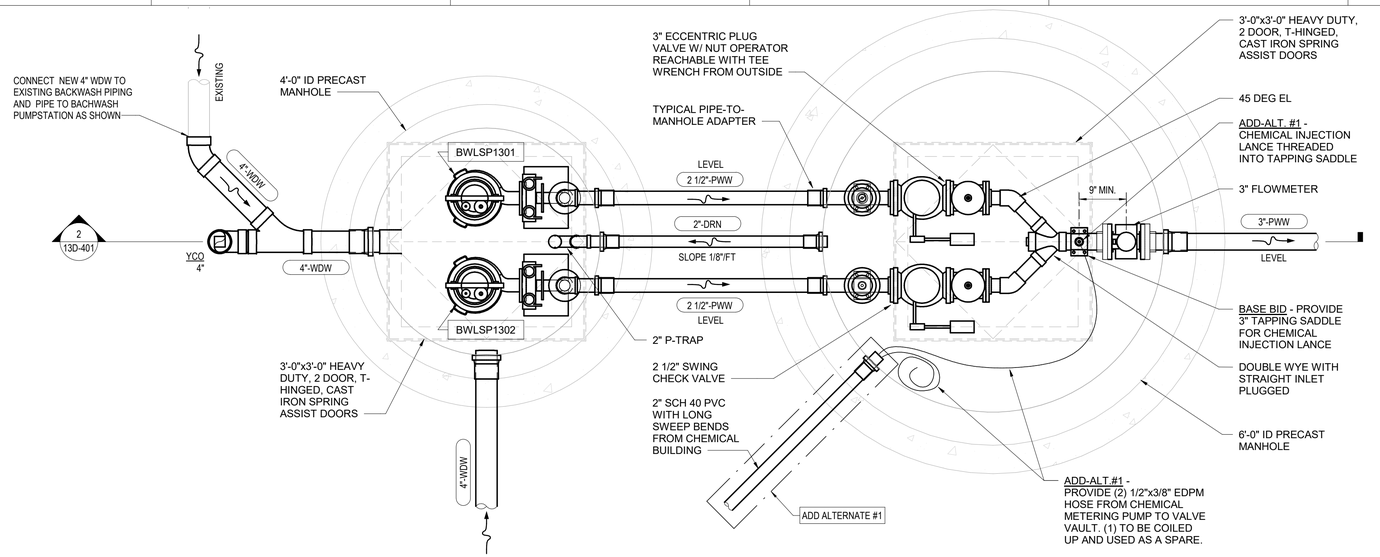
DRUMFILTER BUILDING & BACKWASH PUMP STATION PARTIAL PROCESS PIPING PLAN

0 1" 2"

FILENAME 10377389-13-D.rvt
SCALE 1/4" = 1'-0"

SHEET 13D-101

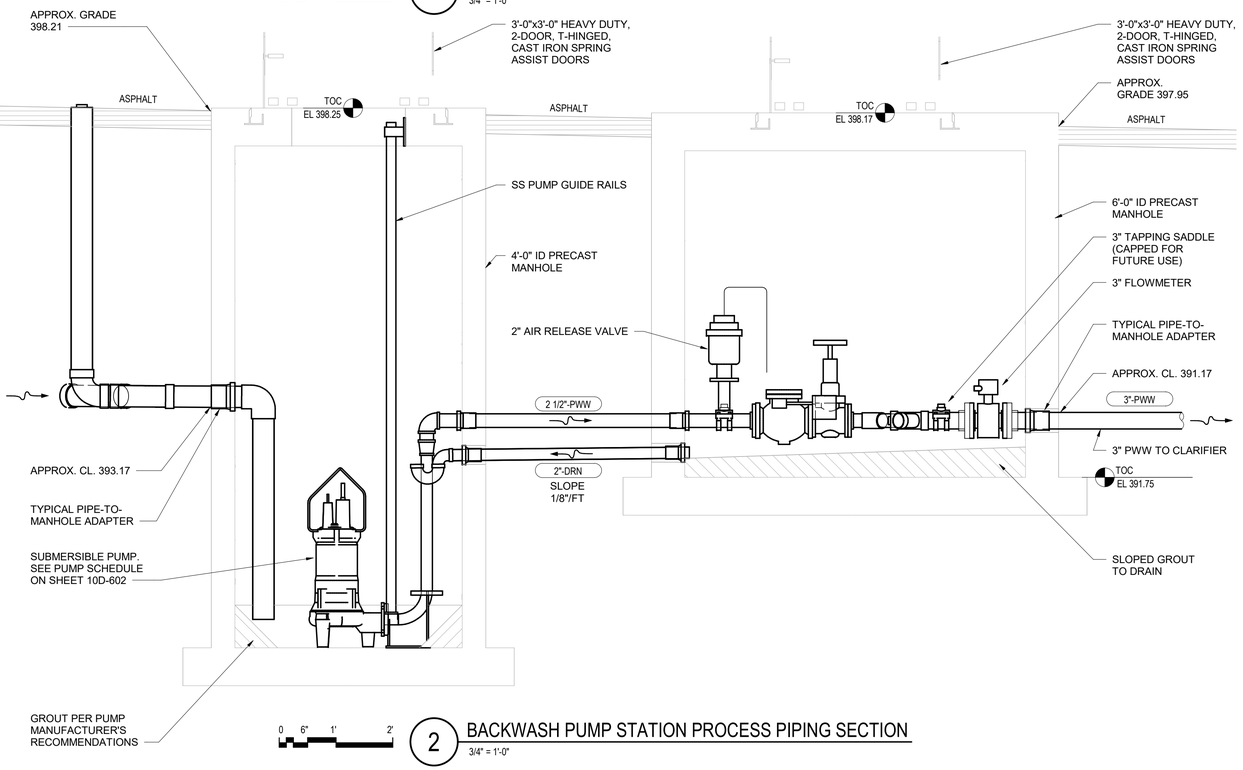
Autodesk Docs://10377389_Maine_Effluent_Tfmnt_DESIGN_2022/10377389-13-D.rvt
9/11/2024 9:03:30 AM



0 6" 1' 2'

1 BACKWASH PUMP STATION PROCESS PIPING PLAN

3/4" = 1'-0"



0 6" 1' 2'

2 BACKWASH PUMP STATION PROCESS PIPING SECTION

3/4" = 1'-0"

ISSUE	DATE	DESCRIPTION
A	09/11/2024	ISSUED FOR BIDS

PROJECT MANAGER	A. GURSKI
CIVIL	J. GAGNON
STRUCTURAL	B. BRADLEY
ARCHITECTURAL	M. BASKIN
PROCESS	J. CHANDLER
MECHANICAL	J. CHANDLER
ELECTRICAL	A. KANER
PROJECT NUMBER	10377389

STATE OF MAINE
Jeffrey K. Chandler PE17167
LICENSED PROFESSIONAL ENGINEER

Digitally signed by Jeffrey K. Chandler, Jr.
Date: 2024.09.12 11:37:17-05'00'

MAINE DEPT OF INLAND FISHERIES AND WILDLIFE

Effluent Characteristic Design at Embden Rearing Station

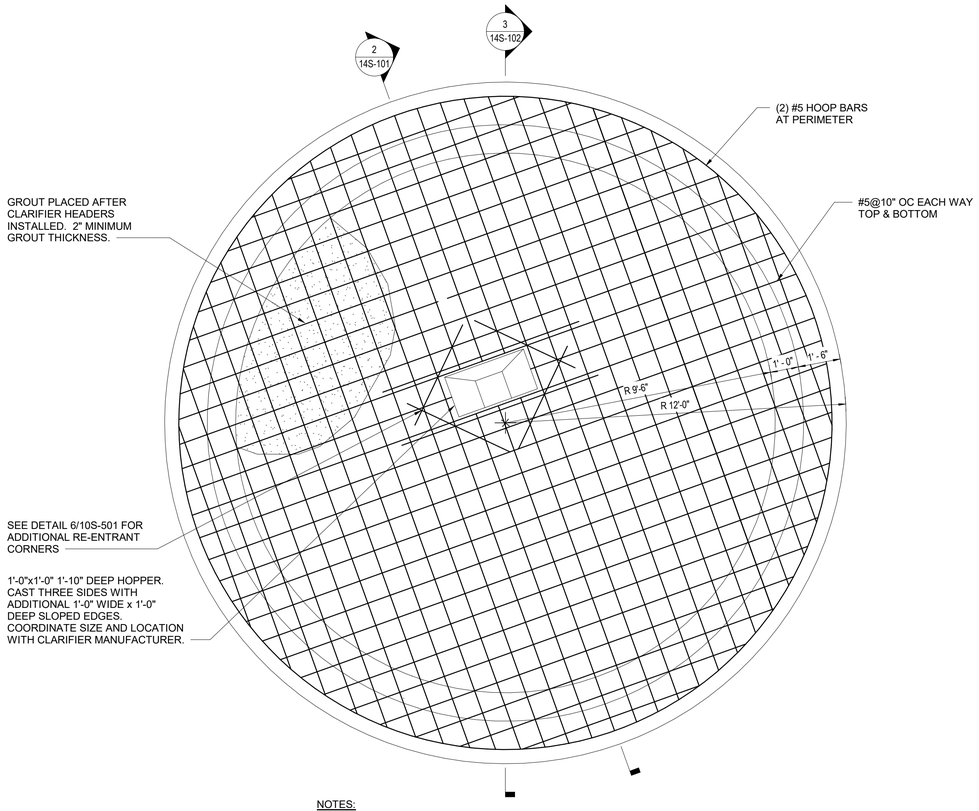
DRUMFILTER BUILDING & BACKWASH PUMP STATION
BACKWASH PUMP STATION PROCESS PIPING & SECTION

0 1" 2"

FILENAME 10377389-13-D.rvt
SCALE 3/4" = 1'-0"

SHEET 13D-401

Autodesk Docs://10377389_Maine_Effluent_Trmnt_DESIGN_2022/10377389-13-D.rvt
9/11/2024 9:03:27 AM

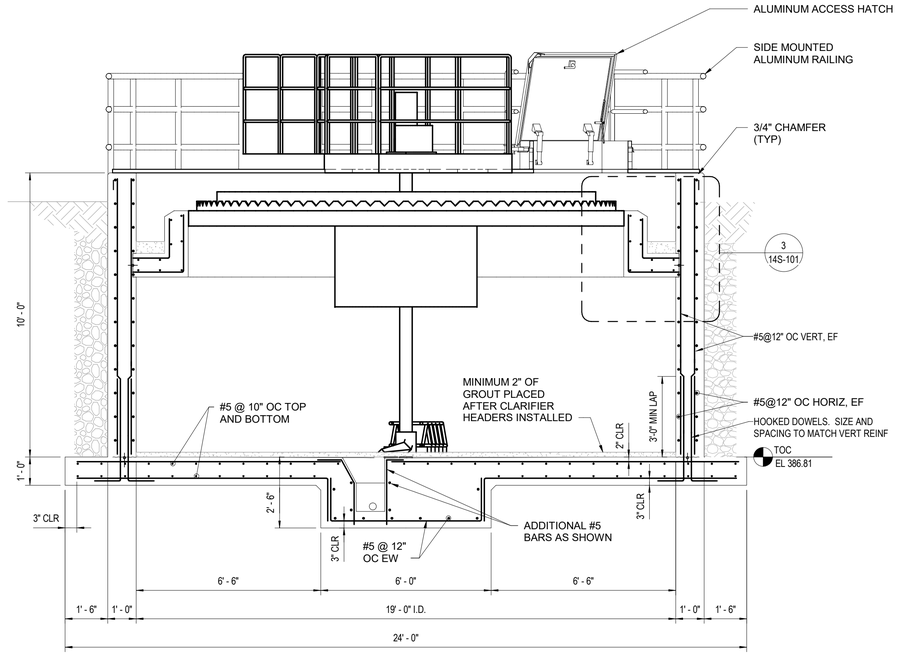


NOTES:

1. CLARIFIER CONCRETE SLAB SHALL HAVE A ROUGH BROOM FINISH.
2. SMOOTH FINISH STEEL FORMS OR SMOOTH FORM LINERS SHALL BE USED FOR ALL CLARIFIER WALLS. RACEWAY WALLS SHALL HAVE A SMOOTH SURFACE FINISH FREE FROM ABRASIONS, HOLES, PITS, FLAWS OR ANY SURFACE IRREGULARITIES AND IS NON-ABRASIVE TO TOUCH AS DETERMINDED BY THE ENGINEER OR OWNER'S REPRESENTATIVE. SEE SPECIFICATION SECTION.
3. COORDINATE ALL PIPE PENETRATIONS WITH PROCESS SHEETS.

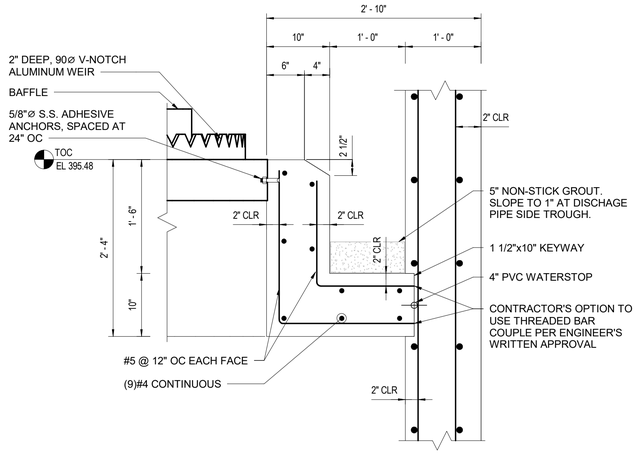
0 1' 2' 4'

1 FOUNDATION PLAN
3/8" = 1'-0"



0 1' 2' 4'

2 CLARIFIER SECTION
3/8" = 1'-0"



0 1' 2' 4'

3 TROUGH DETAIL
1" = 1'-0"

ISSUE	DATE	DESCRIPTION
A	09/11/2024	ISSUED FOR BIDS

PROJECT MANAGER	A. GURSKI
CIVIL	J. GAGNON
STRUCTURAL	B. BRADLEY
ARCHITECTURAL	M. BASKIN
PROCESS	J. CHANDLER
MECHANICAL	J. CHANDLER
ELECTRICAL	A. KANER
PROJECT NUMBER	10377389

STATE OF MAINE
Bruce A. Bradley
PE15026
LICENSED
PROFESSIONAL ENGINEER

Digitally signed by Bruce Bradley
Date: 2024.09.17 20:33:20-04'00'

MAINE
DEPT OF INLAND FISHERIES AND WILDLIFE

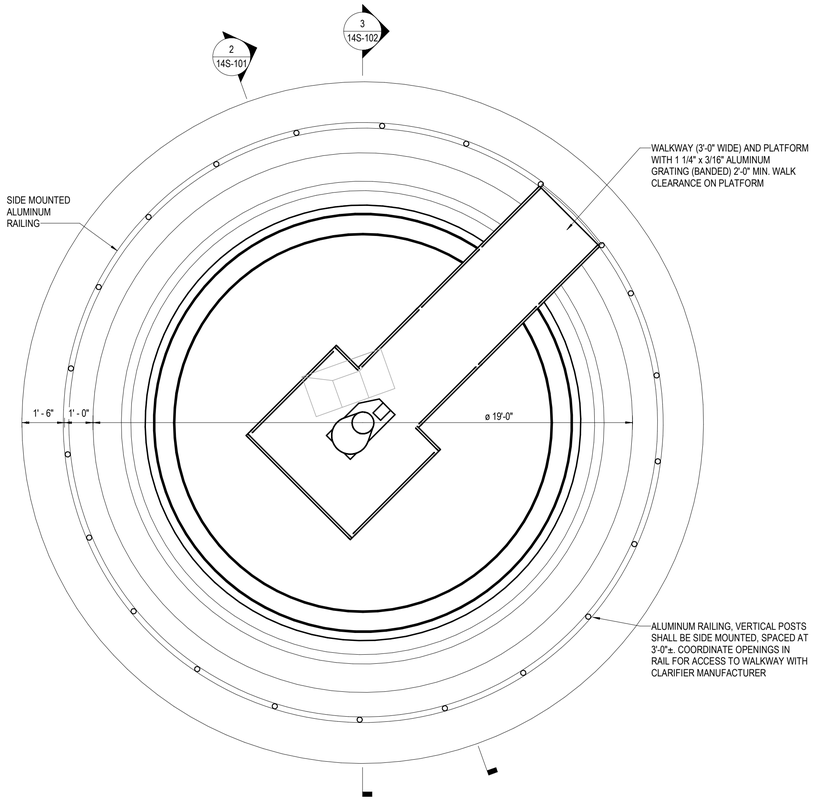
Effluent Characteristic Design at Embden Rearing Station

CLARIFIER
FOUNDATION PLAN, SECTION & DETAILS

0 1" 2"

FILENAME 10377389-14-SA.rvt
SCALE As indicated

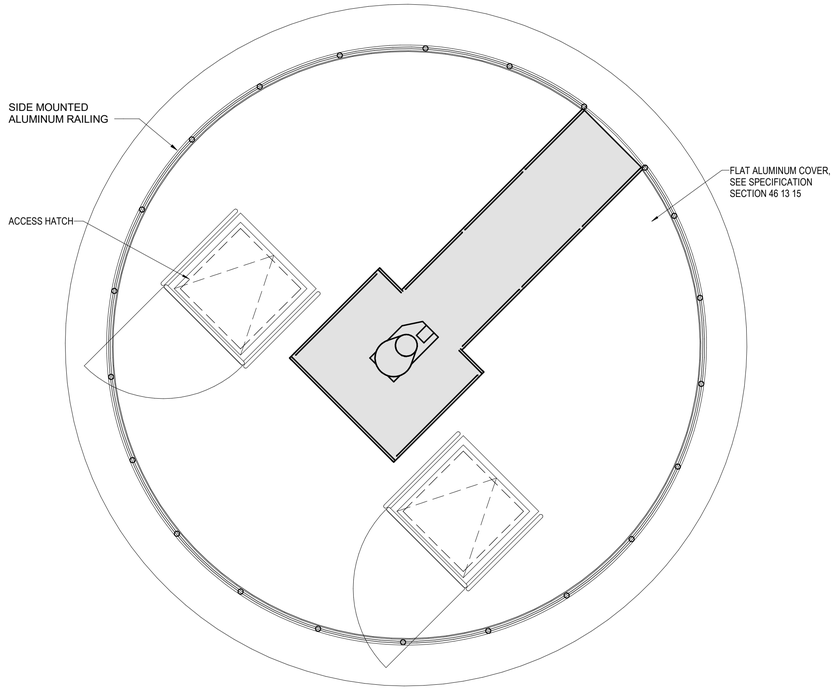
SHEET
14S-101



0 1' 2' 4'

1 CLARIFIER PLAN

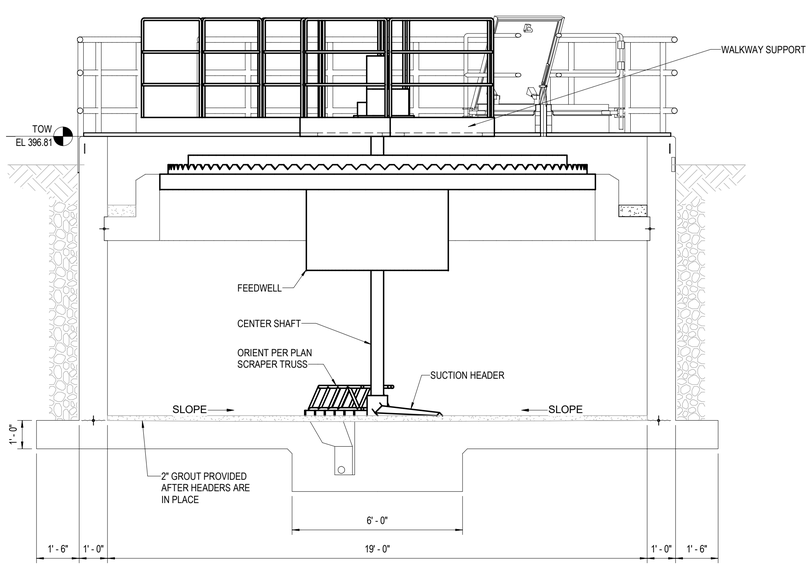
3/8" = 1'-0"



0 1' 2' 4'

2 CLARIFIER COVER PLAN

3/8" = 1'-0"



0 1' 2' 4'

3 CLARIFIER SECTION

3/8" = 1'-0"

A	09/11/2024	ISSUED FOR BIDS
ISSUE	**DATE**	**DESCRIPTION**

PROJECT MANAGER	A. GURSKI
CIVIL	J. GAGNON
STRUCTURAL	B. BRADLEY
ARCHITECTURAL	M. BASKIN
PROCESS	J. CHANDLER
MECHANICAL	J. CHANDLER
ELECTRICAL	A. KANER
PROJECT NUMBER	10377389

STATE OF MAINE
Bruce A. Bradley PE15026
LICENSED PROFESSIONAL ENGINEER

Digitally signed by Bruce Bradley
Date: 2024.09.17 20:33:28-04'00'

MAINE DEPT OF INLAND FISHERIES AND WILDLIFE

Effluent Characteristic Design at Embden Rearing Station

CLARIFIER PLANS & SECTION

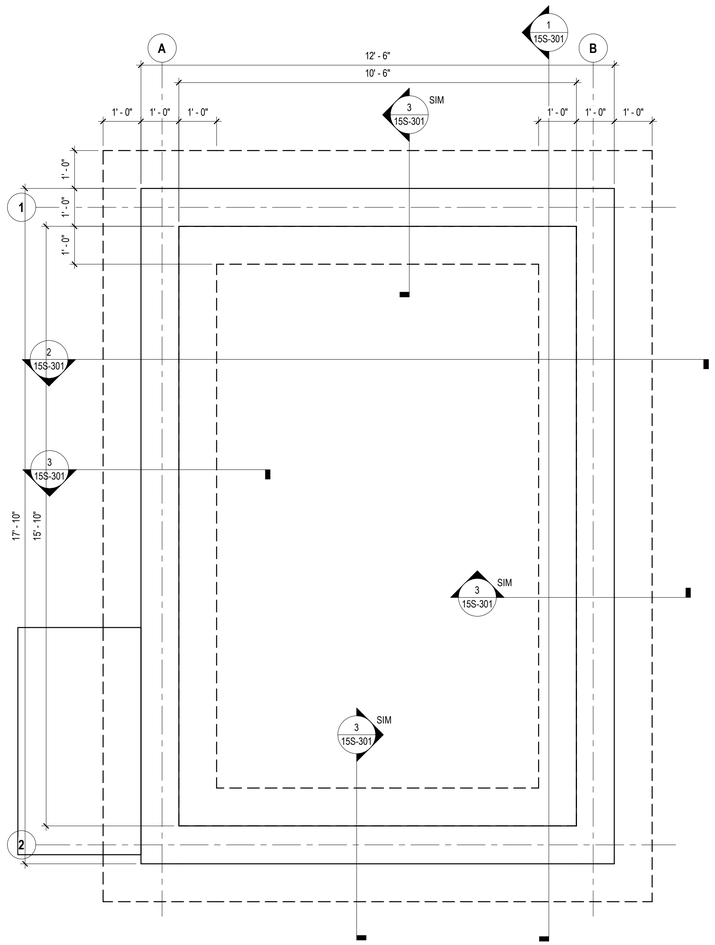
0 1" 2"

FILENAME 10377389-14-SA.rvt

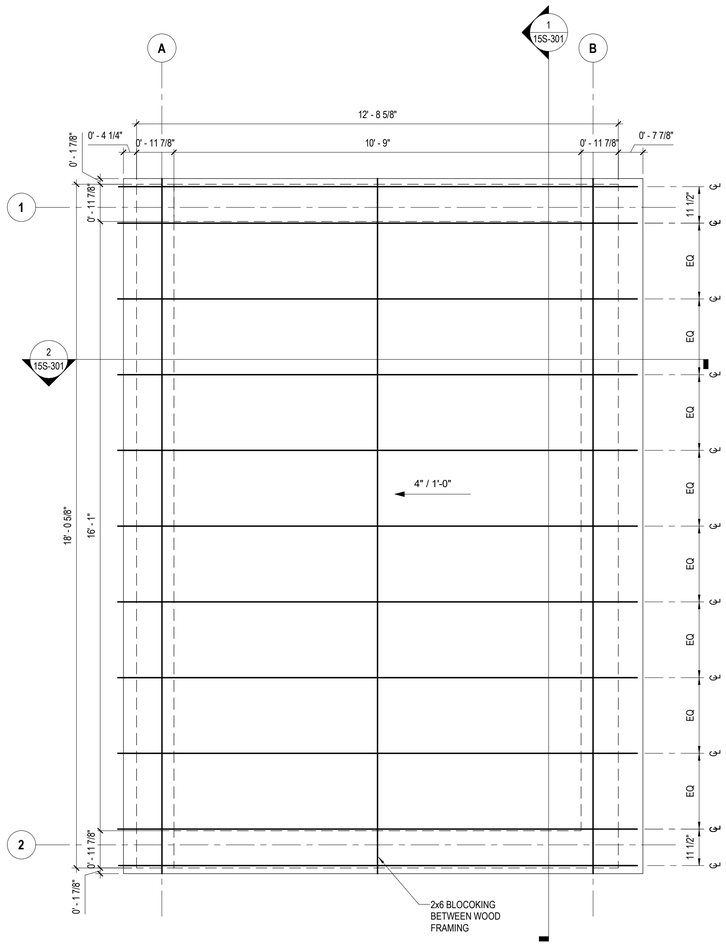
SCALE 3/8" = 1'-0"

SHEET 14S-102

Autodesk Docs://10377389_Maine_Effluent_Trtmnt_DESIGN_2022/10377389-14-SA.rvt
9/11/2024 9:04:57 AM



1 SLUDGE BLDG FLOOR
1/2" = 1'-0"



2 SLUDGE BLDG ROOF
1/2" = 1'-0"

GENERAL NOTES:

1. SEE SHEET 00S-100 FOR GENERAL STRUCTURAL NOTES.
2. SEE 00S-500 SERIES SHEETS FOR TYPICAL STRUCTURAL DETAILS.
3. REFER TO ARCHITECTURAL, PROCESS, MECHANICAL, PLUMBING, ELECTRICAL, AND DRAWINGS OF OTHER TRADES FOR LOCATIONS OF OPENINGS, DEPRESSIONS, FLOOR SLOPES AND DRAINS.

ISSUE	DATE	DESCRIPTION
A	09/11/2024	ISSUED FOR BIDS

PROJECT MANAGER	A. GURSKI
CIVIL	J. GAGNON
STRUCTURAL	B. BRADLEY
ARCHITECTURAL	M. BASKIN
PROCESS	J. CHANDLER
MECHANICAL	J. CHANDLER
ELECTRICAL	A. KANER
PROJECT NUMBER	10377389

STATE OF MAINE
Bruce A. Bradley PE15026
LICENSED PROFESSIONAL ENGINEER

Digitally signed by Bruce Bradley
Date: 2024.09.17 20:33:35-04'00'

MAINE DEPT. OF INLAND FISHERIES AND WILDLIFE

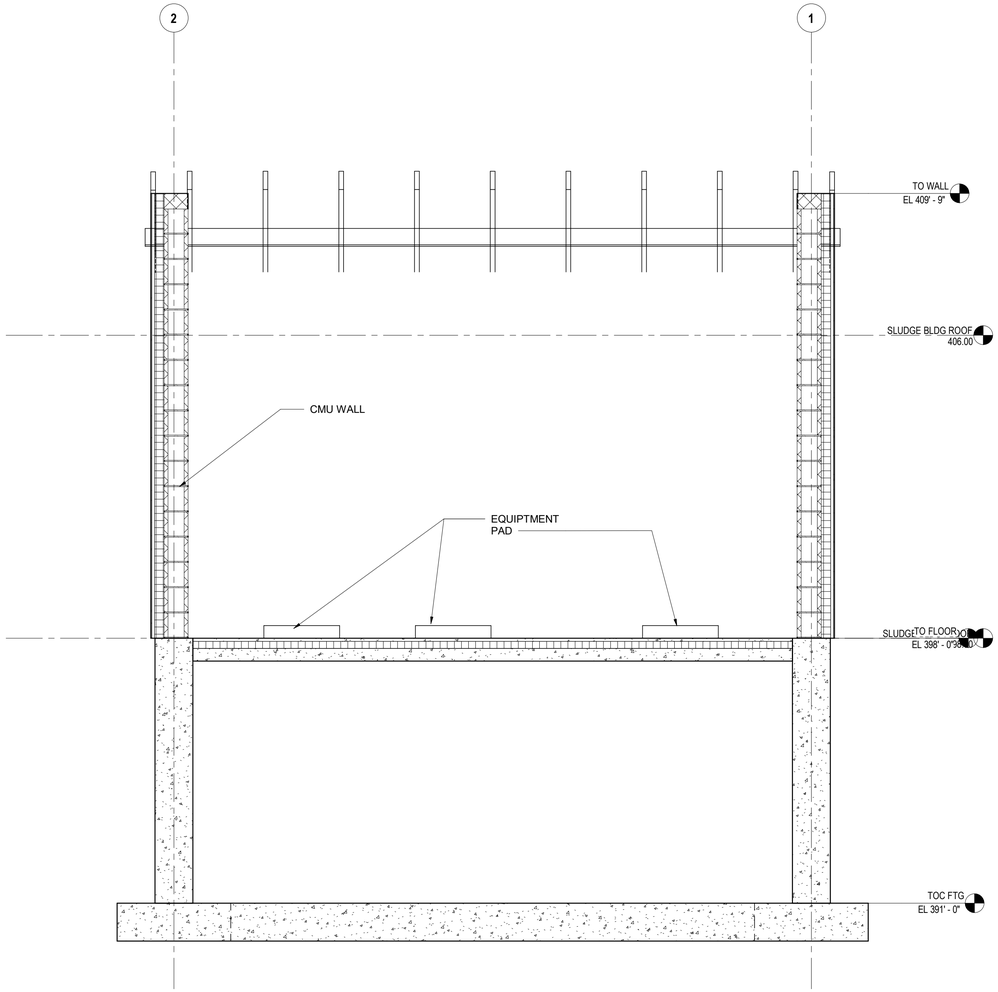
Effluent Characteristic Design at Embden Rearing Station

SLUDGE STORAGE TANK STRUCTURAL PLANS

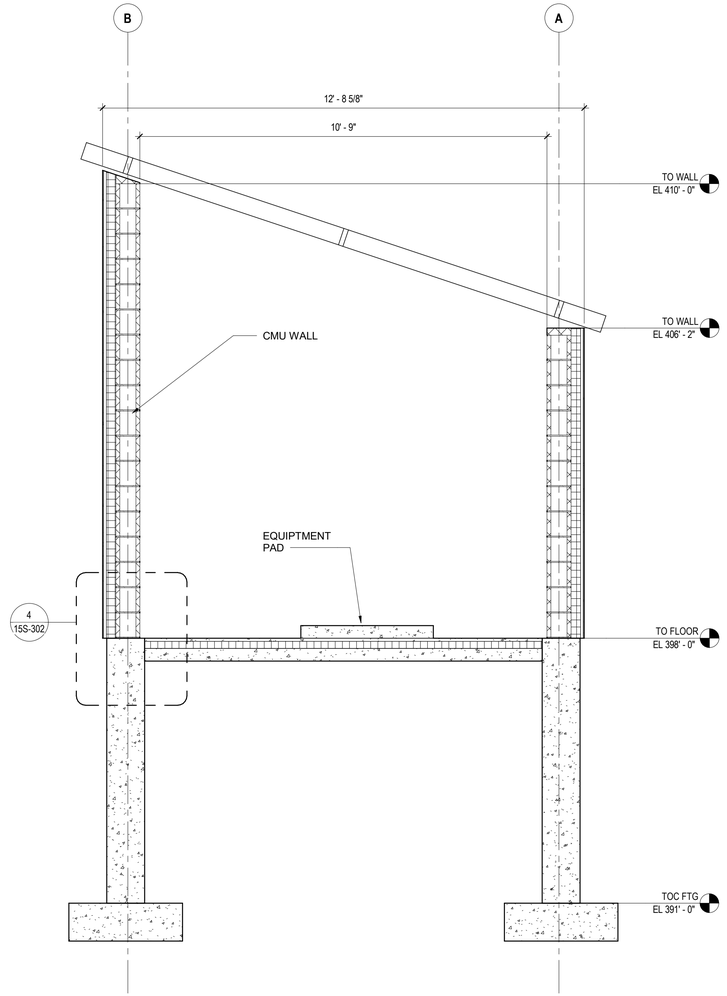
0 1" 2"

FILENAME 10377389-15-SA.rvt
SCALE 1/2" = 1'-0"

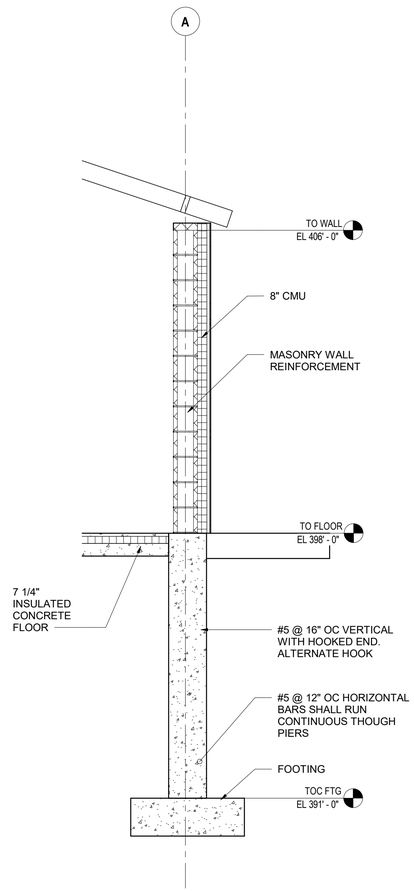
SHEET 15S-101



1 SECTION 2
1/2" = 1'-0"



2 SECTION 1
1/2" = 1'-0"



3 SECTION
1/2" = 1'-0"

ISSUE	DATE	DESCRIPTION
A	09/11/2024	ISSUED FOR BIDS

PROJECT MANAGER	A. GURSKI
CIVIL	J. GAGNON
STRUCTURAL	B. BRADLEY
ARCHITECTURAL	M. BASKIN
PROCESS	J. CHANDLER
MECHANICAL	J. CHANDLER
ELECTRICAL	A. KANER
PROJECT NUMBER	10377389

STATE OF MAINE
Bruce
A.
Bradley
PE15026
LICENSED
PROFESSIONAL ENGINEER

Digitally signed by Bruce Bradley
Date: 2024.09.17 20:33:45-04'00'

MAINE
DEPT. OF INLAND FISHERIES AND WILDLIFE

Effluent Characteristic Design at Embden Rearing Station

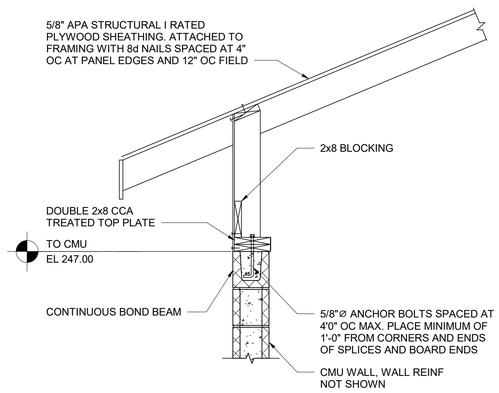
SLUDGE MIXING PUMP BUILDING SECTIONS

0 1" 2"

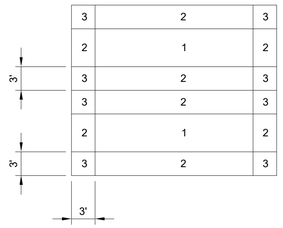
FILENAME 10377389-15-SA.rvt
SCALE 1/2" = 1'-0"

SHEET 15S-301

Autodesk Docs://10377389_Maine_Effluent_Trtmnt_DESIGN_2022/10377389-15-SA.rvt
9/11/2024 9:07:15 AM



2 SECTION 1
3/4" = 1'-0"

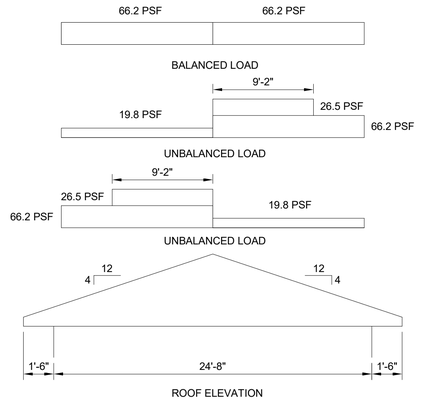


ZONE	WIND PRESSURE
1	-33.1 PSF
	16.0 PSF
2	-39.8 PSF
	16.0 PSF
3	-62.8 PSF
	16.0 PSF

TOP CHORD DEAD LOAD = 10 PSF (EXCLUDING TRUSS SELF-WEIGHT)

BOTTOM CHORD DEAD LOAD = 10 PSF

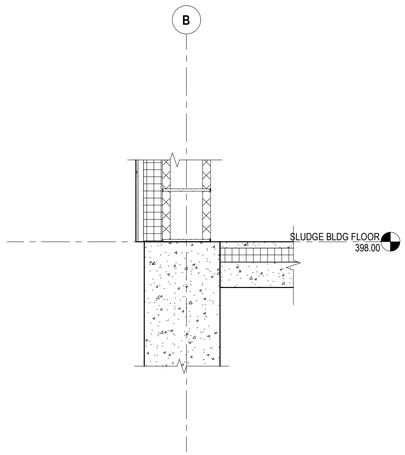
1 DETAIL 1
12" = 1'-0"



3 DETAIL 2
12" = 1'-0"

NOTES:

1. PRE-ENGINEERED TRUSSES SHALL BE DESIGNED BY TRUSS SUPPLIER.
2. COORDINATE ROOF OPENING SIZES WITH ARCHITECTURAL DRAWINGS.
3. TEMPORARY AND PERMANENT BRACING NOT SHOWN. SIZES AND LOCATIONS OF BRACING TO BE DESIGNED BY CONTRACTOR'S ENGINEER AND SUBMITTED WITH TRUSS SHOP DRAWINGS FOR REVIEW PRIOR TO CONSTRUCTION.



4 SECTION 2
1" = 1'-0"

ISSUE	DATE	DESCRIPTION
A	09/11/2024	ISSUED FOR BIDS

PROJECT MANAGER	A. GURSKI
CIVIL	J. GAGNON
STRUCTURAL	B. BRADLEY
ARCHITECTURAL	M. BASKIN
PROCESS	J. CHANDLER
MECHANICAL	J. CHANDLER
ELECTRICAL	A. KANER
PROJECT NUMBER	10377389

STATE OF MAINE Bruce A. Bradley PE15026 LICENSED PROFESSIONAL ENGINEER

Digitally signed by Bruce Bradley
Date: 2024.09.17 20:33:53-04'00'

MAINE DEPT. OF INLAND FISHERIES AND WILDLIFE

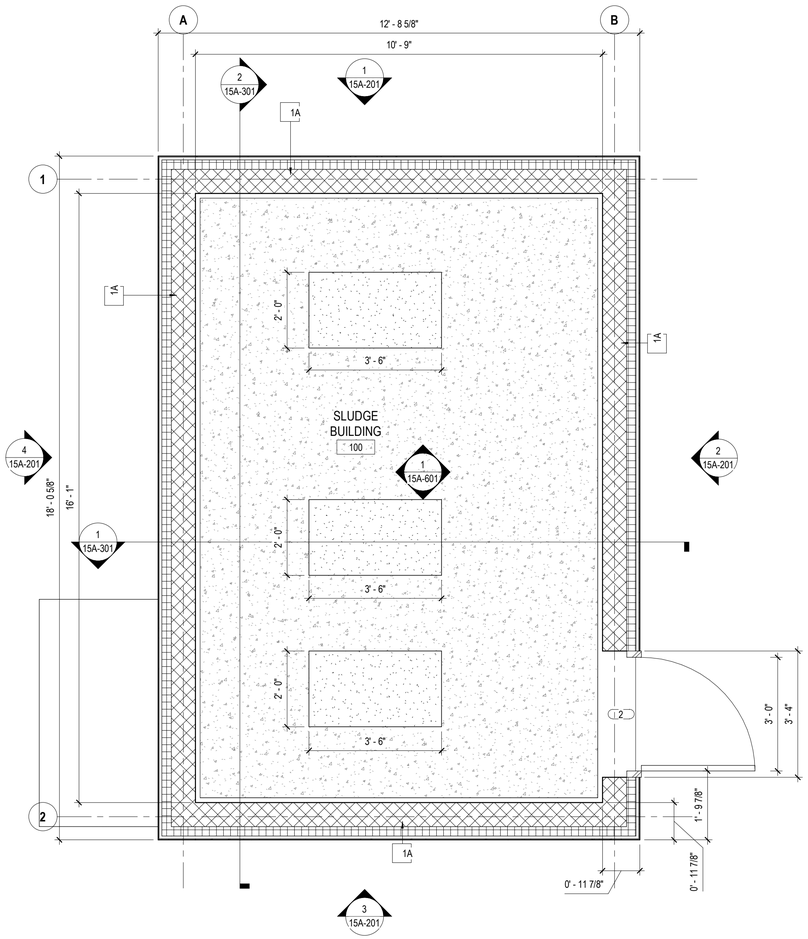
Effluent Characteristic Design at Embden Rearing Station

SLUDGE MIXING PUMP BUILDING ROOF FRAMING SECTIONS AND DETAILS

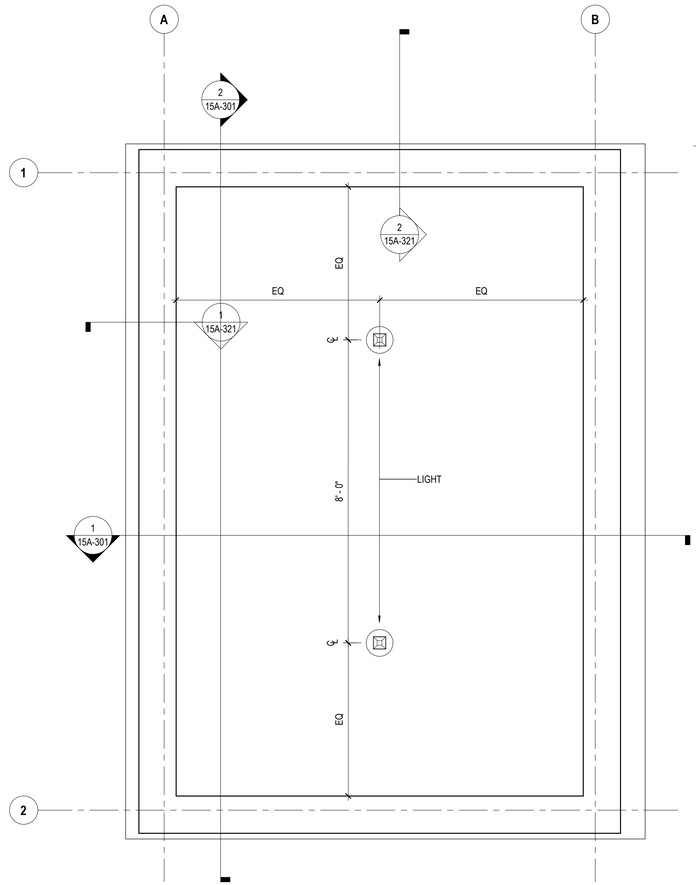
0 1" 2"

FILENAME 10377389-15-SA.rvt
SCALE As indicated

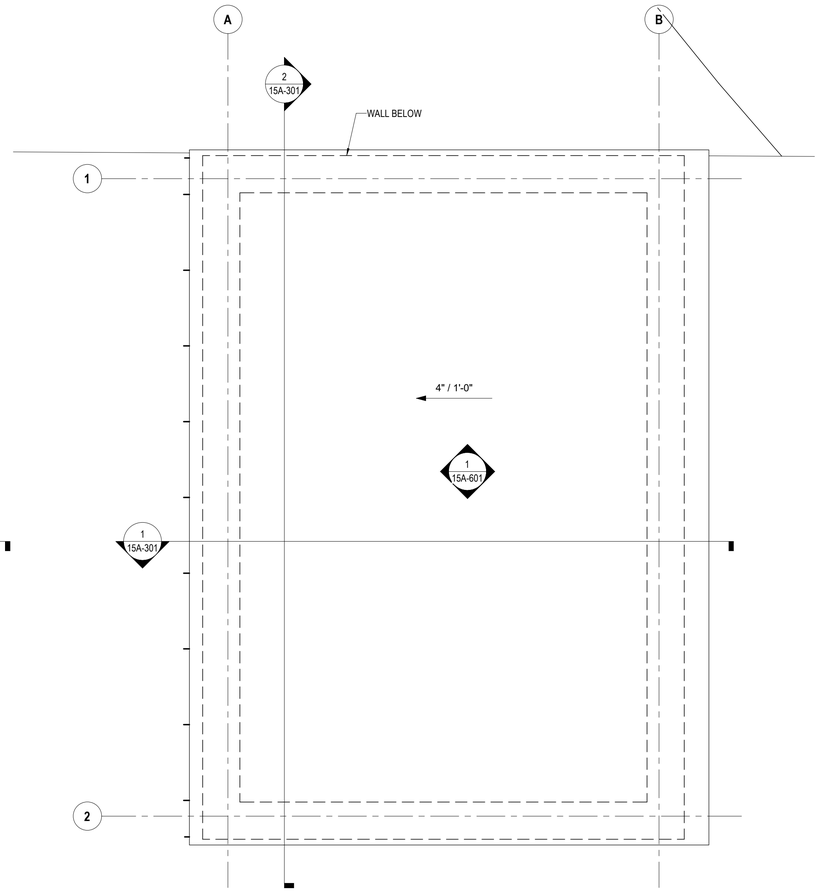
SHEET **15S-302**



1 SLUDGE BLDG FLOOR
1/2" = 1'-0"



2 SLUDGE BLDG RCP
1/2" = 1'-0"



3 SLUDGE BLDG ROOF
1/2" = 1'-0"

NOTES:

1. ALL DOOR FRAMES SHALL BE FRP.
2. SEE STRUCTURAL DRAWINGS FOR STEEL REINFORCING TO BE INSTALLED IN LOAD BEARING MASONRY WALLS
3. ALL MASONRY WALLS SHALL HAVE HORIZONTAL JOINT REINFORCING AT 1'-4" OC.
4. GROUT CMU SOLID AT LOCATIONS WHERE ITEMS ARE TO BE MOUNTED TO THE WALLS.
5. COORDINATE WITH ALL OTHER DRAWINGS AND TRADES FOR LOCATIONS OF ITEMS BUILT INTO OR ANCHORED TO THE MASONRY WALLS.

ISSUE	DATE	DESCRIPTION
A	09/11/2024	ISSUED FOR BIDS

PROJECT MANAGER	A. GURSKI
CIVIL	J. GAGNON
STRUCTURAL	B. BRADLEY
ARCHITECTURAL	M. BASKIN
PROCESS	J. CHANDLER
MECHANICAL	J. CHANDLER
ELECTRICAL	A. KANER
PROJECT NUMBER	10377389

LICENSED ARCHITECT
Michael A. Baskin
5595
STATE OF MAINE

Digitally signed by Baskin, Michael Alan
Date: 2024.09.16 15:44:55-04'00'

MAINE
DEPT OF INLAND FISHERIES AND WILDLIFE

Effluent Characteristic Design at Embden Rearing Station

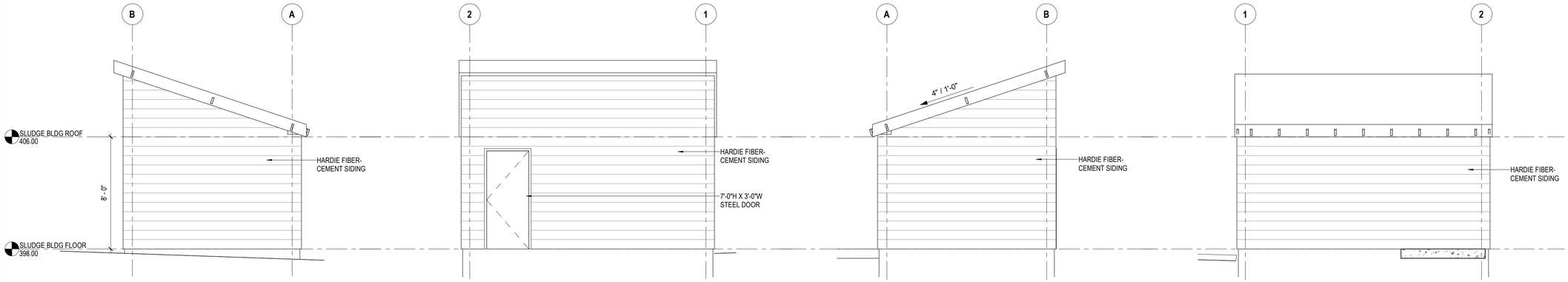
SLUDGE MIXING PUMP BUILDING PLANS

0 1" 2"

FILENAME 10377389-15-SA.rvt
SCALE As indicated

SHEET 15A-101

Autodesk Docs://10377389_Maine_Effluent_Tmmt_DESIGN_2022/10377389-15-SA.rvt
9/11/2024 9:07:30 AM

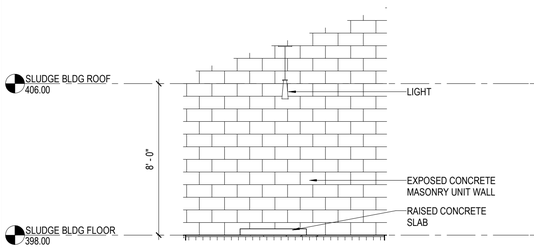


1 EXTERIOR ELEVATION - NORTHEAST
1/4" = 1'-0"

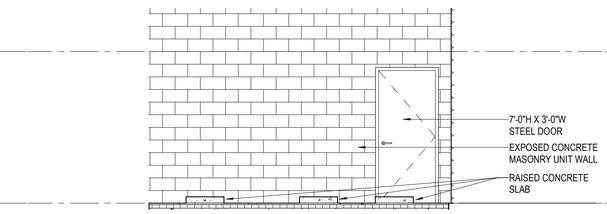
2 EXTERIOR ELEVATION - SOUTHEAST
1/4" = 1'-0"

3 EXTERIOR ELEVATION - SOUTHWEST
1/4" = 1'-0"

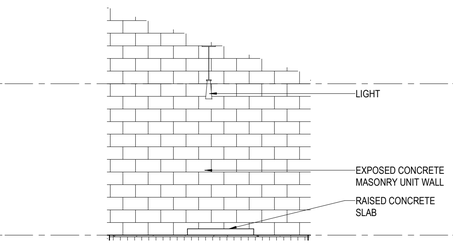
4 EXTERIOR ELEVATION - NORTHWEST
1/4" = 1'-0"



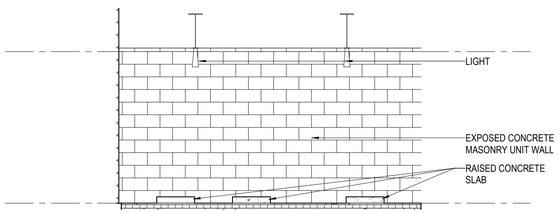
5 INTERIOR ELEVATION - NORTHEAST
1/4" = 1'-0"



6 INTERIOR ELEVATION - SOUTHEAST
1/4" = 1'-0"



7 INTERIOR ELEVATION - SOUTHWEST
1/4" = 1'-0"



8 INTERIOR ELEVATION - NORTHWEST
1/4" = 1'-0"

D C B A

Autodesk Docs://10377389_Maine_Effluent_Tmmit_DESIGN_2022/10377389-15-SA.rvt
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HDR

ISSUE	DATE	DESCRIPTION
A	09/11/2024	ISSUED FOR BIDS

PROJECT MANAGER	A. GURSKI
CIVIL	J. GAGNON
STRUCTURAL	B. BRADLEY
ARCHITECTURAL	M. BASKIN
PROCESS	J. CHANDLER
MECHANICAL	J. CHANDLER
ELECTRICAL	A. KANER
PROJECT NUMBER	10377389

LICENSED ARCHITECT
Michael A. Baskin
5595
STATE OF MAINE

Digitally signed by Baskin, Michael Alan
Date: 2024.09.16 15:45:25-04'00'

MAINE DEPT OF INLAND FISHERIES AND WILDLIFE

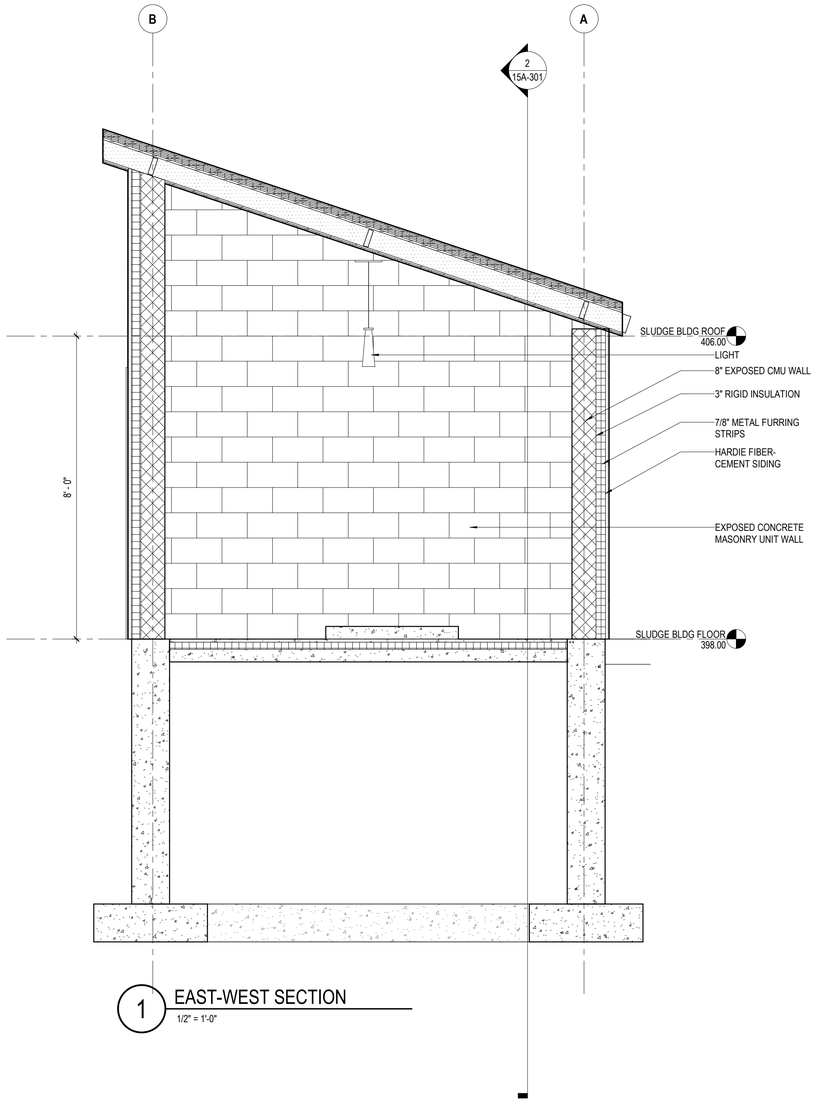
Effluent Characteristic Design at Embden Rearing Station

SLUDGE MIXING PUMP BUILDING ELEVATIONS

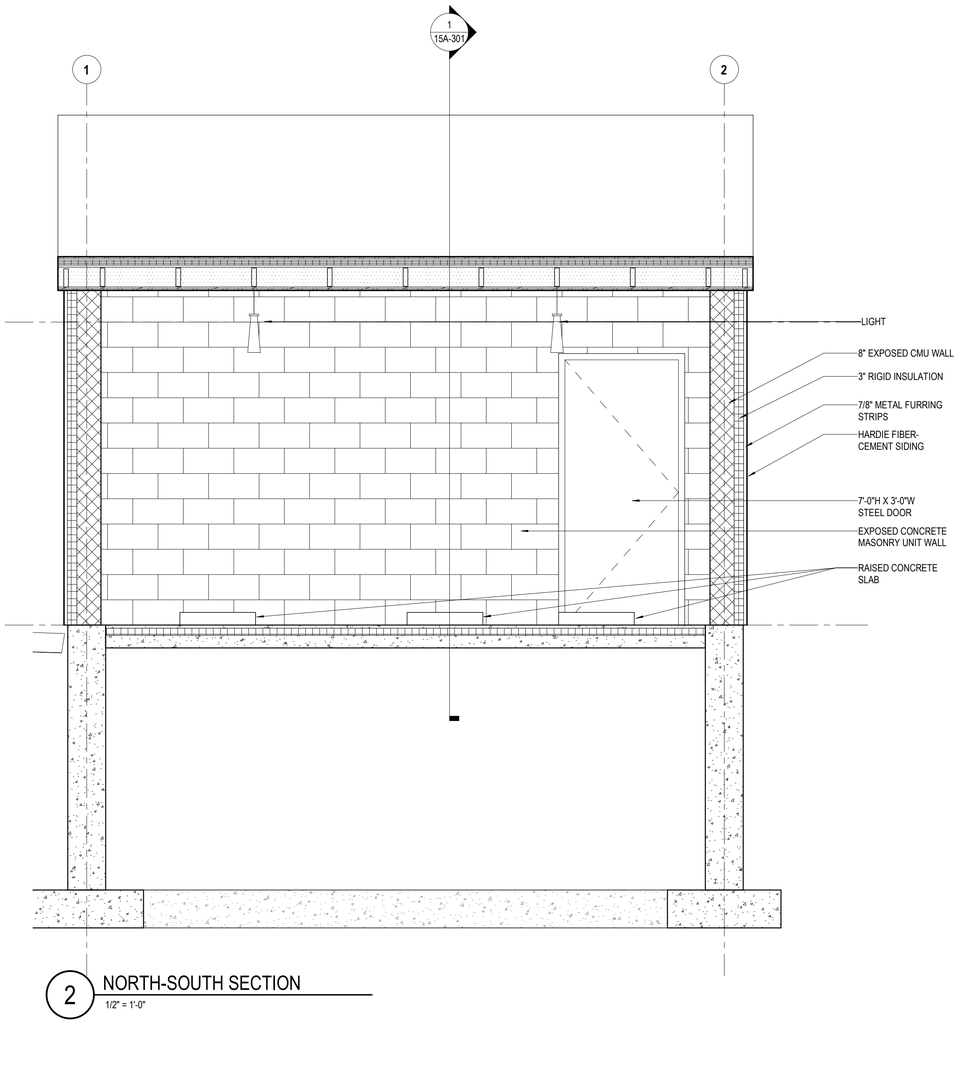
0 1" 2"

FILENAME 10377389-15-SA.rvt
SCALE 1/4" = 1'-0"

SHEET
15A-201



1 EAST-WEST SECTION
1/2" = 1'-0"



2 NORTH-SOUTH SECTION
1/2" = 1'-0"

ISSUE	DATE	DESCRIPTION
A	09/11/2024	ISSUED FOR BIDS

PROJECT MANAGER	A. GURSKI
CIVIL	J. GAGNON
STRUCTURAL	B. BRADLEY
ARCHITECTURAL	M. BASKIN
PROCESS	J. CHANDLER
MECHANICAL	J. CHANDLER
ELECTRICAL	A. KANER
PROJECT NUMBER	10377389

LICENSED ARCHITECT
Michael A. Baskin
5595
STATE OF MAINE

Digitally signed by Baskin, Michael Alan
Date: 2024.09.16 15:47:27-04'00'

MAINE DEPT. OF INLAND FISHERIES AND WILDLIFE

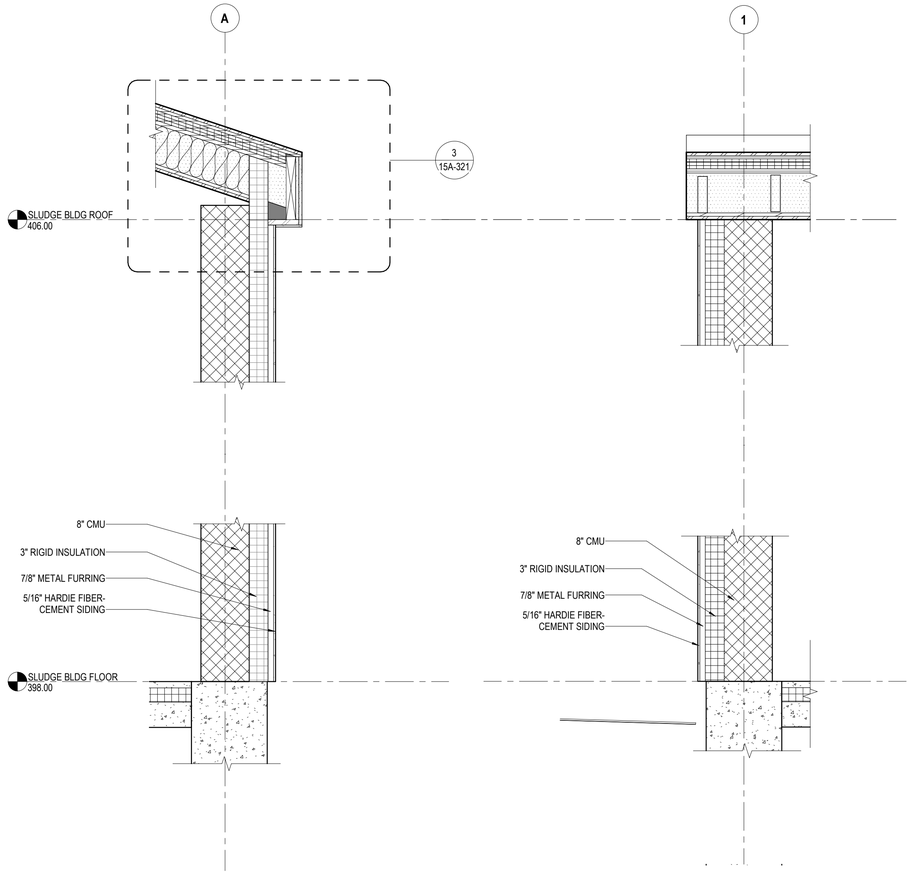
Effluent Characteristic Design at Embden Rearing Station

SLUDGE MIXING PUMP BUILDING
BUILDING SECTIONS

0 1" 2"

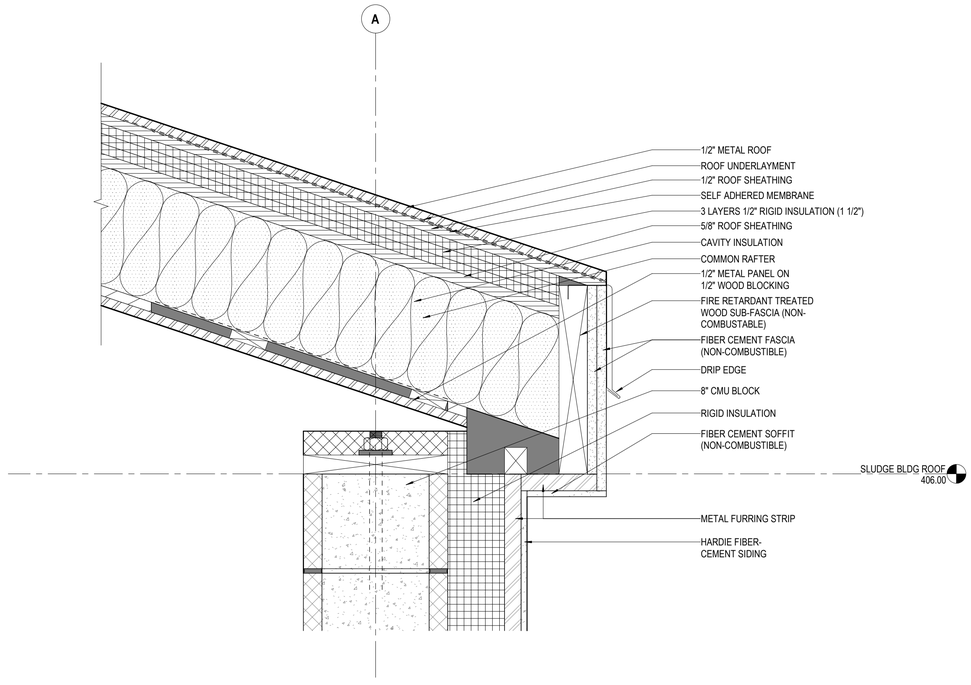
FILENAME 10377389-15-SA.rvt
SCALE 1/2" = 1'-0"

SHEET **15A-301**



1 EAST-WEST WALL SECTION
1" = 1'-0"

2 NORTH-SOUTH WALL SECTION
1" = 1'-0"



3 ROOF DETAIL
3" = 1'-0"

D
C
B
A

Autodesk Docs://10377389_Maine_Effluent_Trtmnt_DESIGN_2022/10377389-15-SA.rvt
9/11/2024 5:07:21 AM

ISSUE	DATE	DESCRIPTION
A	09/11/2024	ISSUED FOR BIDS

PROJECT MANAGER	A. GURSKI
CIVIL	J. GAGNON
STRUCTURAL	B. BRADLEY
ARCHITECTURAL	M. BASKIN
PROCESS	J. CHANDLER
MECHANICAL	J. CHANDLER
ELECTRICAL	A. KANER
PROJECT NUMBER	10377389

LICENSED ARCHITECT
Michael A. Baskin
5595
STATE OF MAINE

Digitally signed by Baskin, Michael Alan
Date: 2024.09.16 15:46:27-04'00'

MAINE DEPT. OF INLAND FISHERIES AND WILDLIFE

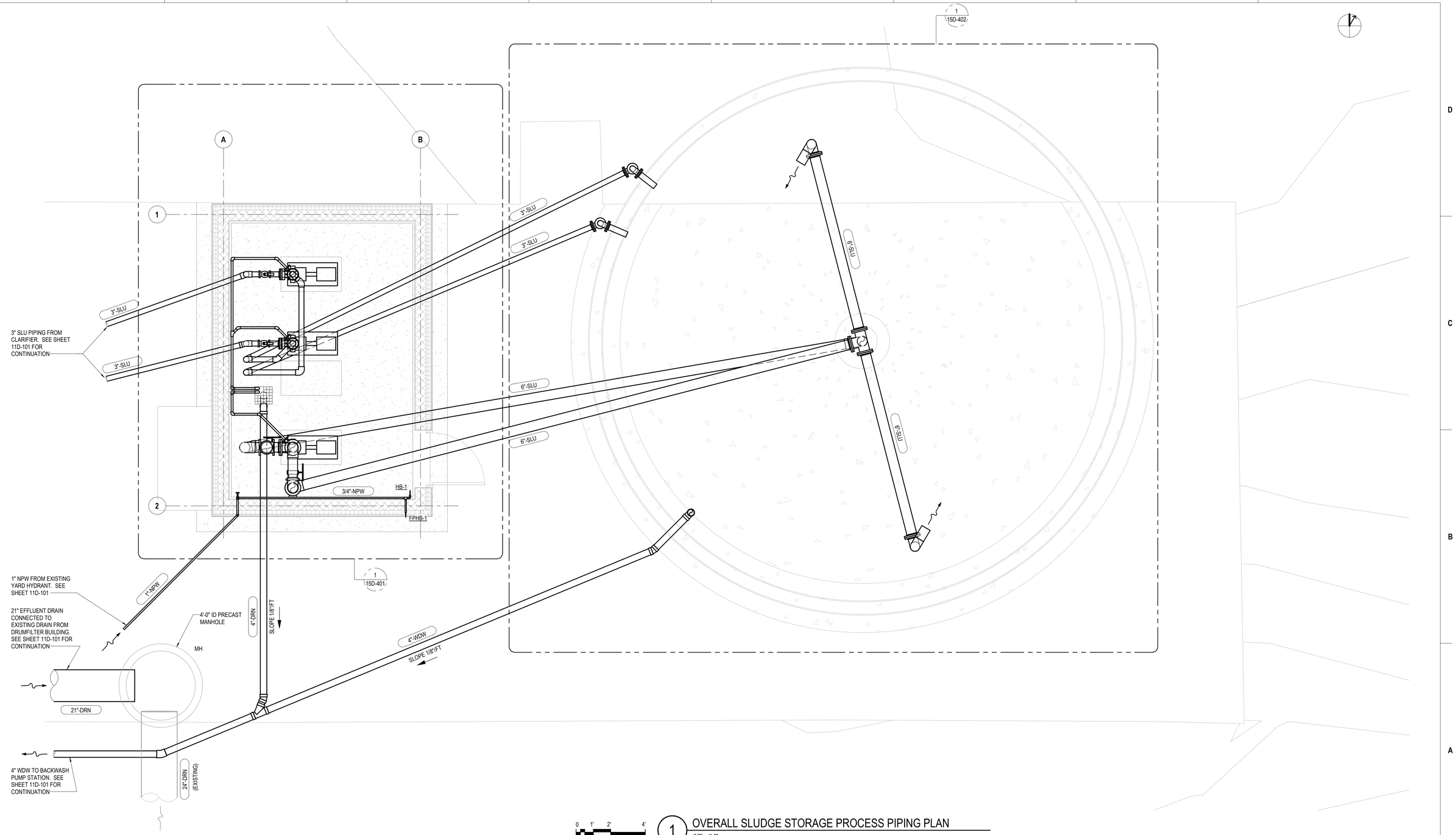
Effluent Characteristic Design at Embden Rearing Station

SLUDGE MIXING PUMP BUILDING
WALL SECTIONS AND DETAILS

0 1" 2"

FILENAME 10377389-15-SA.rvt
SCALE As indicated

SHEET
15A-321



0 1" 2" 4"

1 OVERALL SLUDGE STORAGE PROCESS PIPING PLAN

3/8" = 1'-0"

ISSUE	DATE	DESCRIPTION
A	09/11/2024	ISSUED FOR BIDS

PROJECT MANAGER	A. GURSKI
CIVIL	J. GAGNON
STRUCTURAL	B. BRADLEY
ARCHITECTURAL	M. BASKIN
PROCESS	J. CHANDLER
MECHANICAL	J. CHANDLER
ELECTRICAL	A. KANER
PROJECT NUMBER	10377389

STATE OF MAINE
Jeffrey K. Chandler PE17167
LICENSED PROFESSIONAL ENGINEER

Digitally signed by Jeffrey K. Chandler, Jr.
Date: 2024.09.12 11:37:47-05'00'

MAINE DEPT. OF INLAND FISHERIES AND WILDLIFE

Effluent Characteristic Design at Embden Rearing Station

SLUDGE STORAGE TANK AND SLUDGE MIXING PUMP BUILDING
PARTIAL SITE PROCESS PIPING PLAN

0 1" 2"

FILENAME 10377389-15-D.rvt
SCALE 3/8" = 1'-0"

SHEET **15D-101**

Autodesk Docs://10377389_Maine_Effluent_Trtmnt_DESIGN_2022/10377389-15-D.rvt
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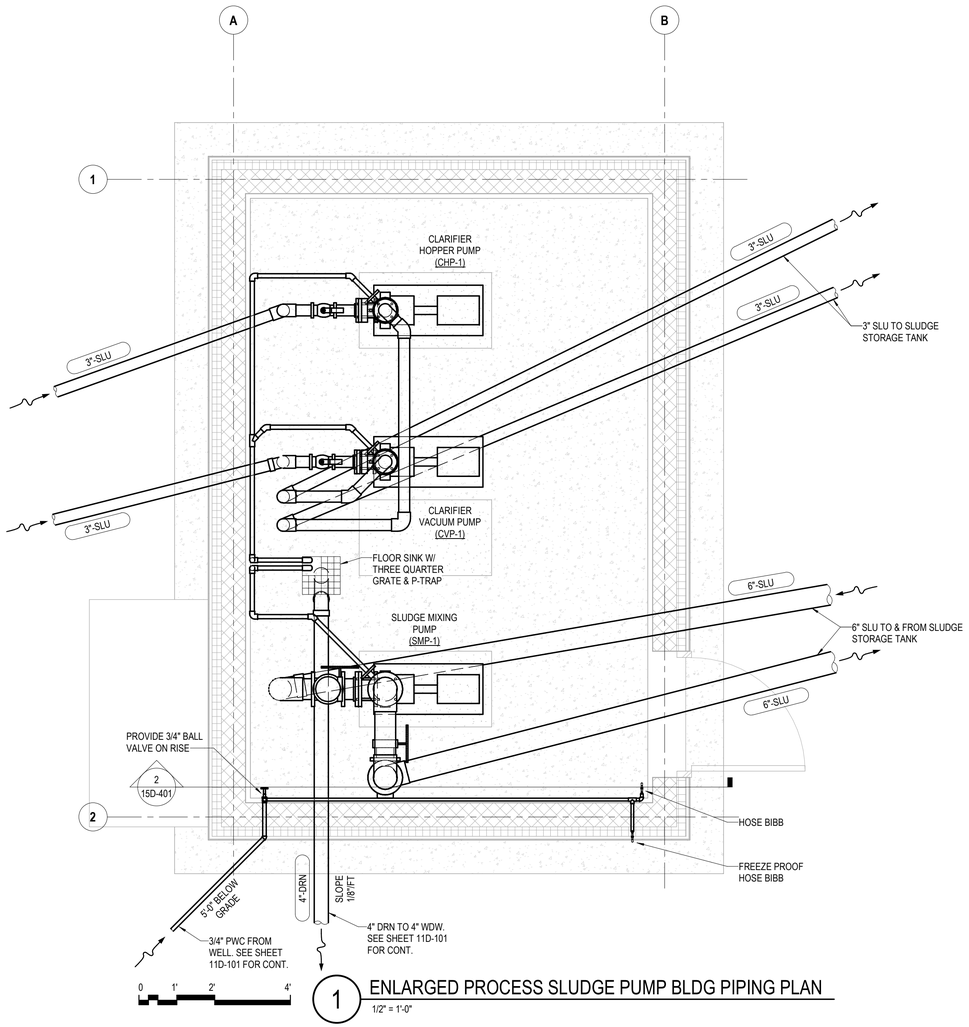
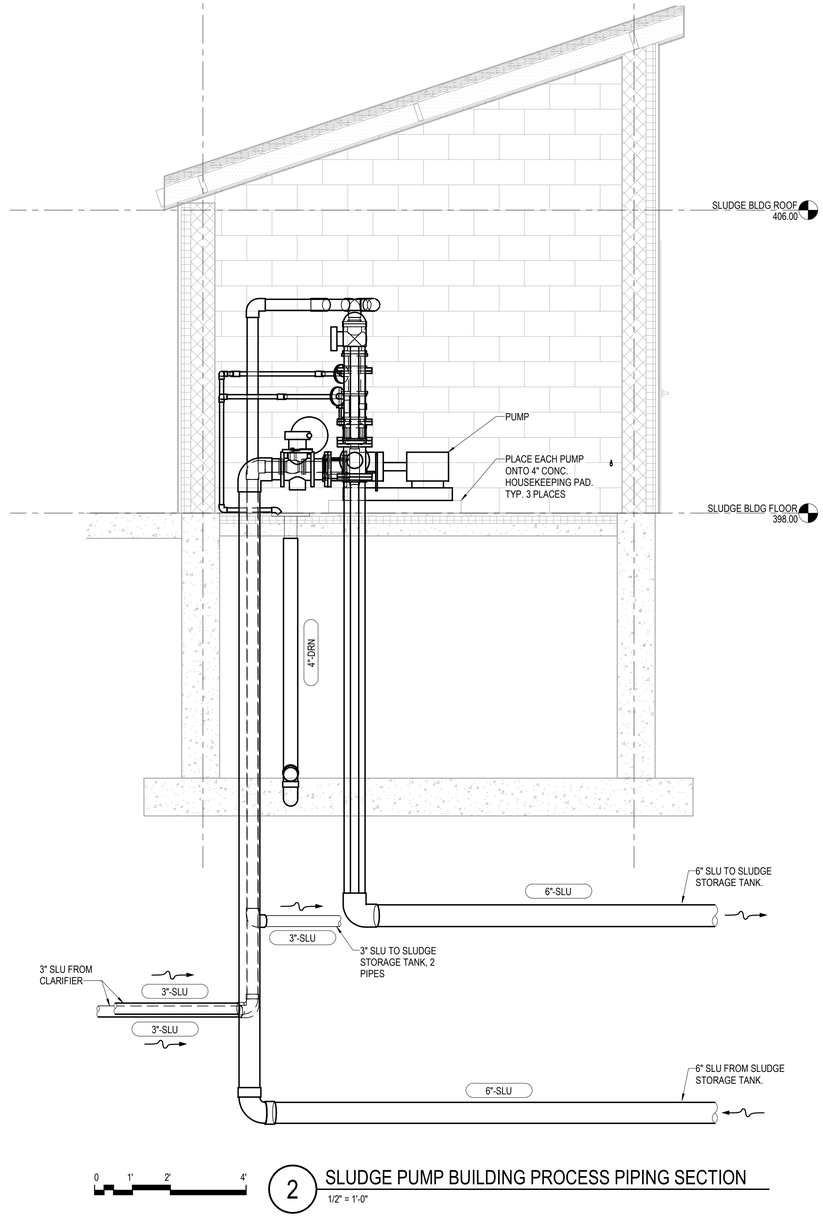


1 ENLARGED PROCESS SLUDGE PUMP BLDG PIPING PLAN

1/2" = 1'-0"



2 SLUDGE PUMP BUILDING PROCESS PIPING SECTION

1/2" = 1'-0"

ISSUE	DATE	DESCRIPTION
A	09/11/2024	ISSUED FOR BIDS

PROJECT MANAGER	A. GURSKI
CIVIL	J. GAGNON
STRUCTURAL	B. BRADLEY
ARCHITECTURAL	M. BASKIN
PROCESS	J. CHANDLER
MECHANICAL	J. CHANDLER
ELECTRICAL	A. KANER
PROJECT NUMBER	10377389

STATE OF MAINE
Jeffrey K. Chandler
PE17167
LICENSED
PROFESSIONAL ENGINEER

Digitally signed by Jeffrey K. Chandler, Jr.
Date: 2024.09.12 11:37:57-05'00'

MAINE
DEPT. OF INLAND FISHERIES AND WILDLIFE

Effluent Characteristic Design at Embden Rearing Station

SLUDGE STORAGE TANK AND SLUDGE MIXING PUMP BUILDING ENLARGED SLUDGE PUMP BLDG PROCESS PIPING PLAN & SECTION

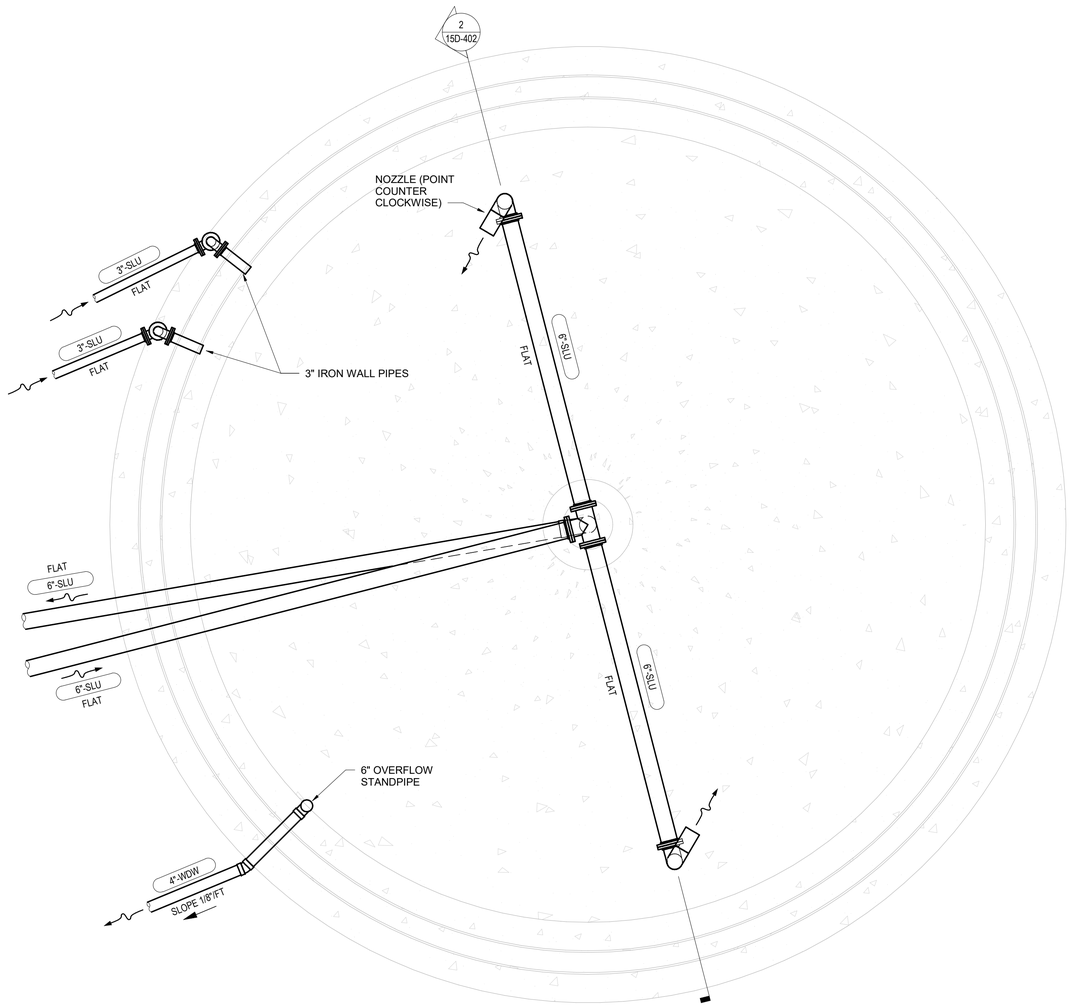
0 1" 2"

FILENAME 10377389-15-D.rvt

SCALE 1/2" = 1'-0"

SHEET **15D-401**

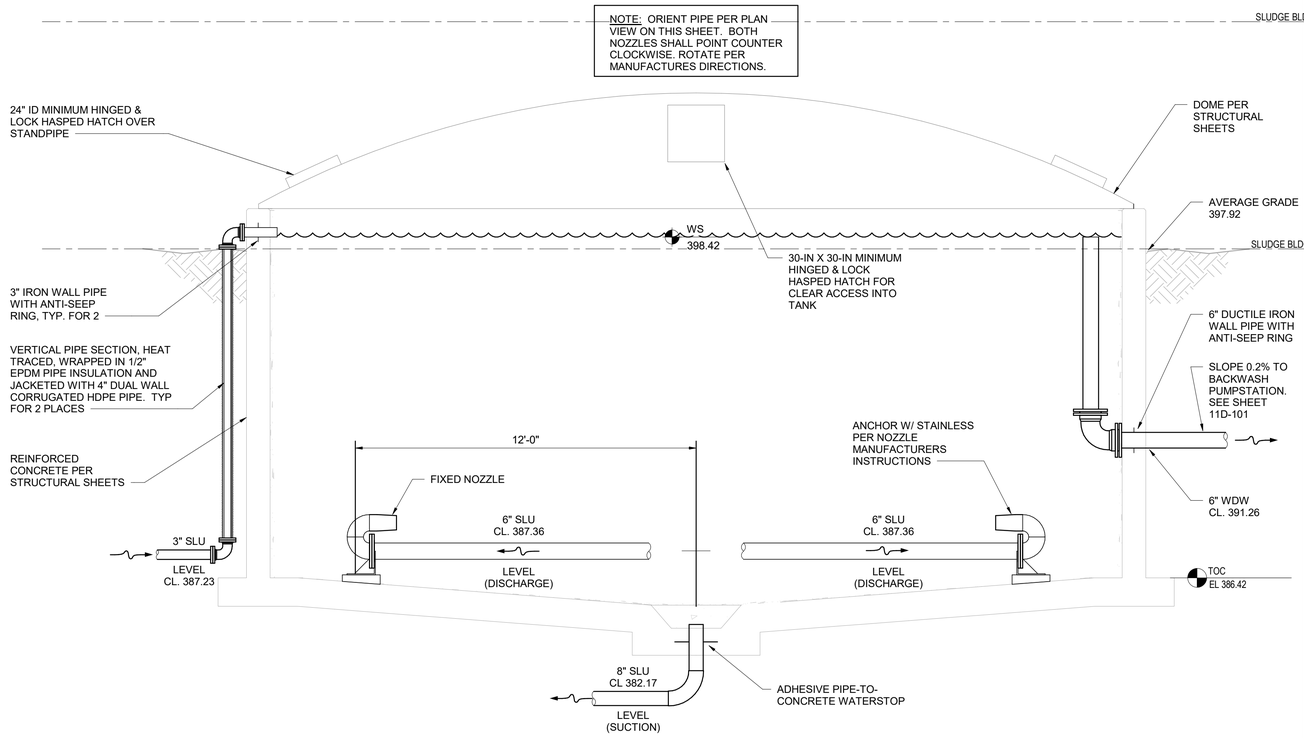
Autodesk Docs://10377389_Maine_Effluent_Trtmnt_DESIGN_2022/10377389-15-D.rvt
9/11/2024 9:06:58 AM



0 1' 2' 4'

1 ENLARGED SLUDGE STORAGE TANK PROCESS PIPING PLAN

3/8" = 1'-0"



0 1' 2' 4'

2 SLUDGE STORAGE TANK PROCESS PIPING SECTION

3/8" = 1'-0"

ISSUE	DATE	DESCRIPTION
A	09/11/2024	ISSUED FOR BIDS

PROJECT MANAGER	A. GURSKI
CIVIL	J. GAGNON
STRUCTURAL	B. BRADLEY
ARCHITECTURAL	M. BASKIN
PROCESS	J. CHANDLER
MECHANICAL	J. CHANDLER
ELECTRICAL	A. KANER
PROJECT NUMBER	10377389

STATE OF MAINE Jeffrey K. Chandler PE17167 LICENSED PROFESSIONAL ENGINEER

Digitally signed by Jeffrey K. Chandler, Jr.
Date: 2024.09.12 11:38:42-05'00'

MAINE DEPT OF INLAND FISHERIES AND WILDLIFE

Effluent Characteristic Design at Embden Rearing Station

SLUDGE STORAGE TANK AND SLUDGE MIXING PUMP BUILDING ENLARGED SLUDGE STORAGE PROCESS PIPING PLAN & SECTION

0 1" 2"

FILENAME 10377389-15-D.rvt

SCALE 3/8" = 1'-0"

SHEET 15D-402

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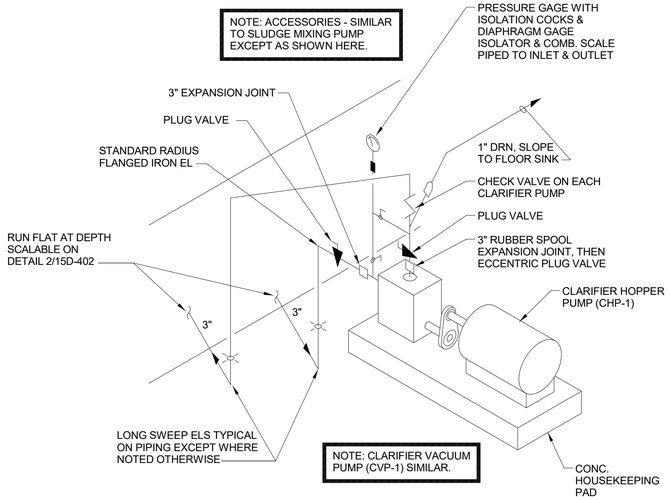
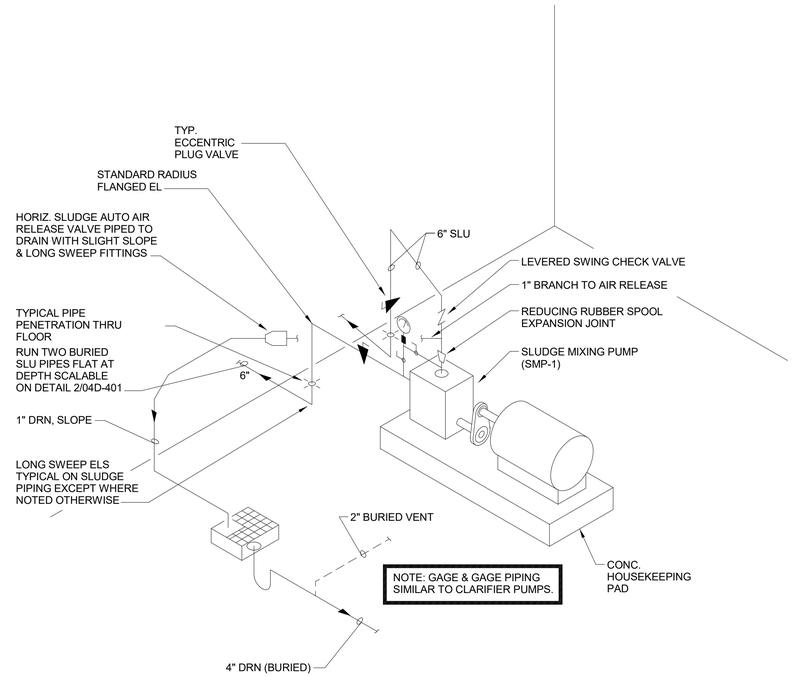
9/11/2024 9:05:54 AM



1 CLARIFIER HOPPER PUMP (CHP-1)
3/8" = 1'-0"



2 SLUDGE MIXING PUMP DIAGRAM (SMP-1)
3/8" = 1'-0"

ISSUE	DATE	DESCRIPTION
A	09/11/2024	ISSUED FOR BIDS

PROJECT MANAGER	A. GURSKI
CIVIL	J. GAGNON
STRUCTURAL	B. BRADLEY
ARCHITECTURAL	M. BASKIN
PROCESS	J. CHANDLER
MECHANICAL	J. CHANDLER
ELECTRICAL	A. KANER
PROJECT NUMBER	10377389

STATE OF MAINE Jeffrey K. Chandler PE17167 LICENSED PROFESSIONAL ENGINEER

Digitally signed by Jeffrey K. Chandler, Jr.
Date: 2024.09.12 11:39:04-05'00'

MAINE DEPT OF INLAND FISHERIES AND WILDLIFE

Effluent Characteristic Design at Embden Rearing Station

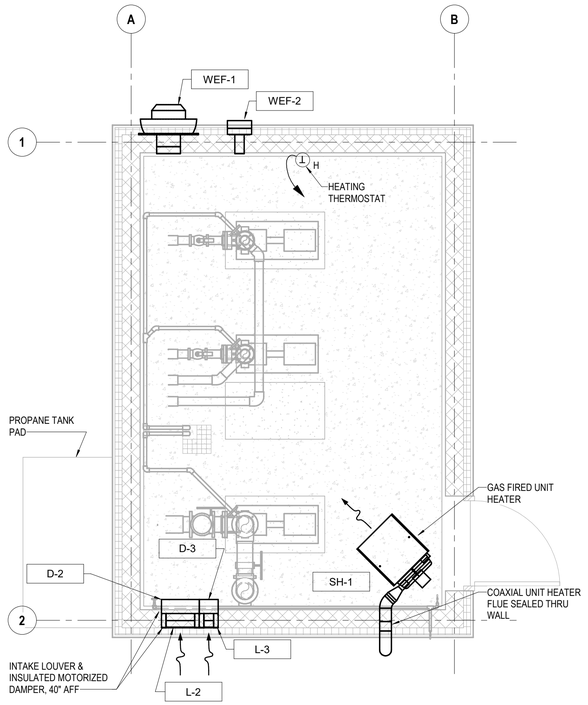
SLUDGE STORAGE TANK AND SLUDGE MIXING PUMP BUILDING PROCESS PIPING DETAILS

0 1" 2"

FILENAME 10377389-15-D.rvt
SCALE 3/8" = 1'-0"

SHEET 15D-501

Autodesk Docs://10377389_Maine_Effluent_Trtmnt_DESIGN_2022/10377389-15-D.rvt
9/11/2024 9:05:51 AM



0 1' 2' 4'

1 MECHANICAL FLOOR PLAN
3/8" = 1'-0"

ISSUE	DATE	DESCRIPTION
A	09/11/2024	ISSUED FOR BIDS

PROJECT MANAGER	A. GURSKI
CIVIL	J. GAGNON
STRUCTURAL	B. BRADLEY
ARCHITECTURAL	M. BASKIN
PROCESS	J. CHANDLER
MECHANICAL	J. CHANDLER
ELECTRICAL	A. KANER
PROJECT NUMBER	10377389

STATE OF MAINE
Jeffrey K. Chandler PE17167
LICENSED PROFESSIONAL ENGINEER

Digitally signed by Jeffrey K. Chandler, Jr.
Date: 2024.09.12 11:39:42-05'00'

MAINE DEPT. OF INLAND FISHERIES AND WILDLIFE

Effluent Characteristic Design at Embden Rearing Station

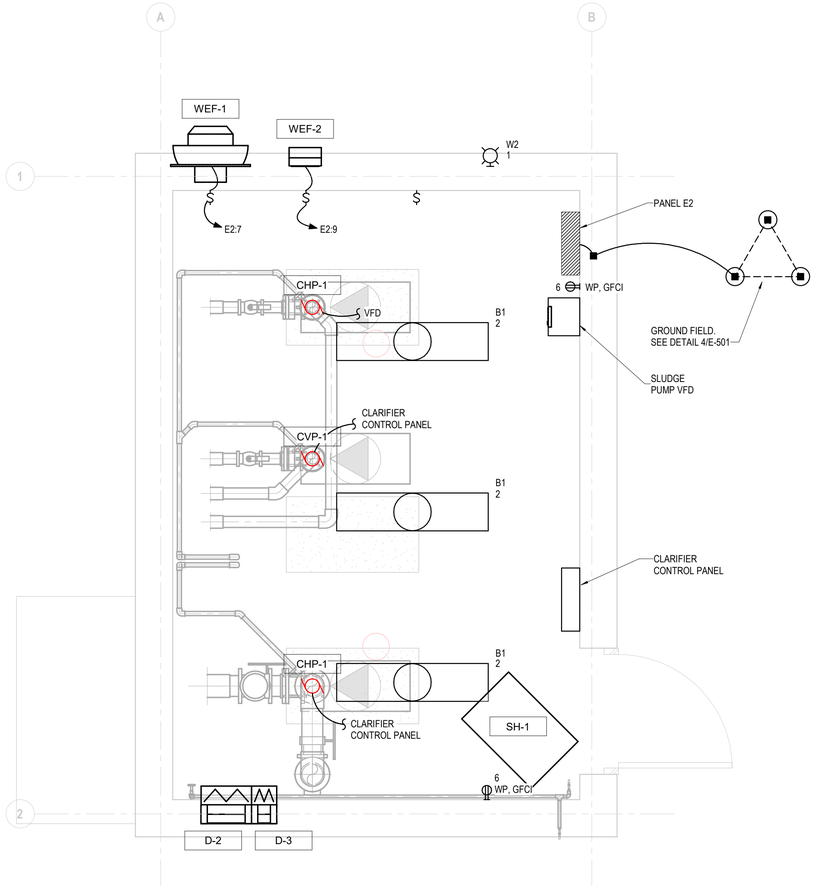
SLUDGE MIXING PUMP BUILDING MECHANICAL PLAN

0 1" 2"

FILENAME 10377389-15-ME.rvt
SCALE 3/8" = 1'-0"

SHEET **15M-101**

Autodesk Docs://10377389_Maine_Effluent_Trtmnt_DESIGN_2022/10377389-15-ME.rvt
9/11/2024 9:06:37 AM



1 POWER PLAN
1/2" = 1'-0"

ISSUE	DATE	DESCRIPTION
A	09/11/2024	ISSUED FOR BIDS

PROJECT MANAGER	A. GURSKI
CIVIL	J. GAGNON
STRUCTURAL	B. BRADLEY
ARCHITECTURAL	M. BASKIN
PROCESS	J. CHANDLER
MECHANICAL	J. CHANDLER
ELECTRICAL	A. KANER
PROJECT NUMBER	10377389

STATE OF MAINE
Andrew D. Kaner
PE18016
LICENSED
PROFESSIONAL ENGINEER

Kaner, Andrew D

Digitally signed by Kaner, Andrew D
DN: E=Andrew.Kaner@hdrinc.com, CN=Kaner, Andrew D', OU=Users, OU=St Louis Park-1601 Utica Ave South, OU=Minnesota, OU=United States, OU=Offices, DC=Intranet, DC=hdr
Date: 2024.09.12 15:08:01 -05'00'

MAINE
DEPT. OF INLAND FISHERIES AND WILDLIFE

Effluent Characteristic Design at Embden Rearing Station

SLUDGE MIXING PUMP BUILDING POWER PLAN

0 1" 2"

FILENAME 10377389-15-ME.rvt
SCALE 1/2" = 1'-0"

SHEET **15E-101**

Autodesk Docs://10377389_Maine_Effluent_Trtmnt_DESIGN_2022/10377389-15-ME.rvt
9/11/2024 9:06:41 AM