

DISINFECTION AND pH CONTROL PROJECT

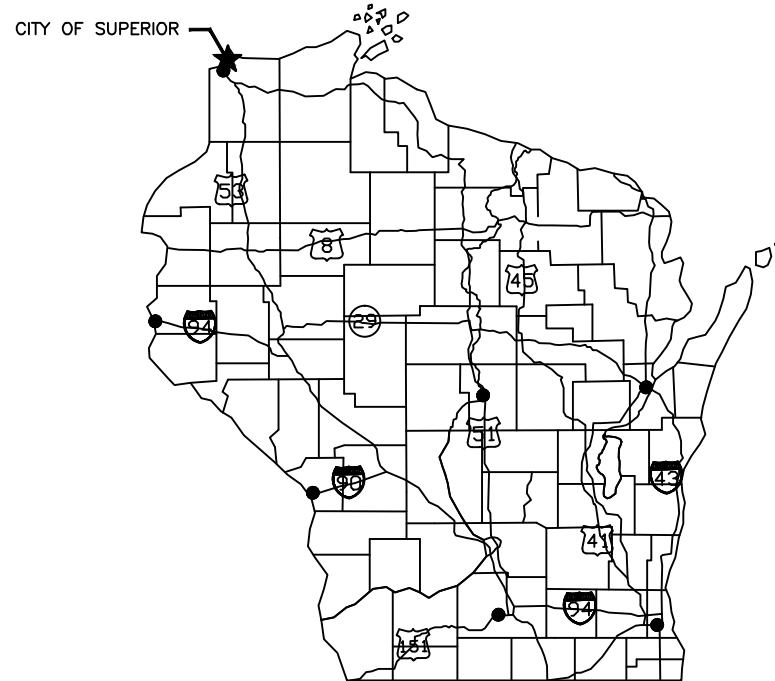
FOR THE

CITY OF SUPERIOR ENVIRONMENTAL SERVICES

DIVISION OF PUBLIC WORKS

SUPERIOR, WISCONSIN

NOVEMBER, 2010



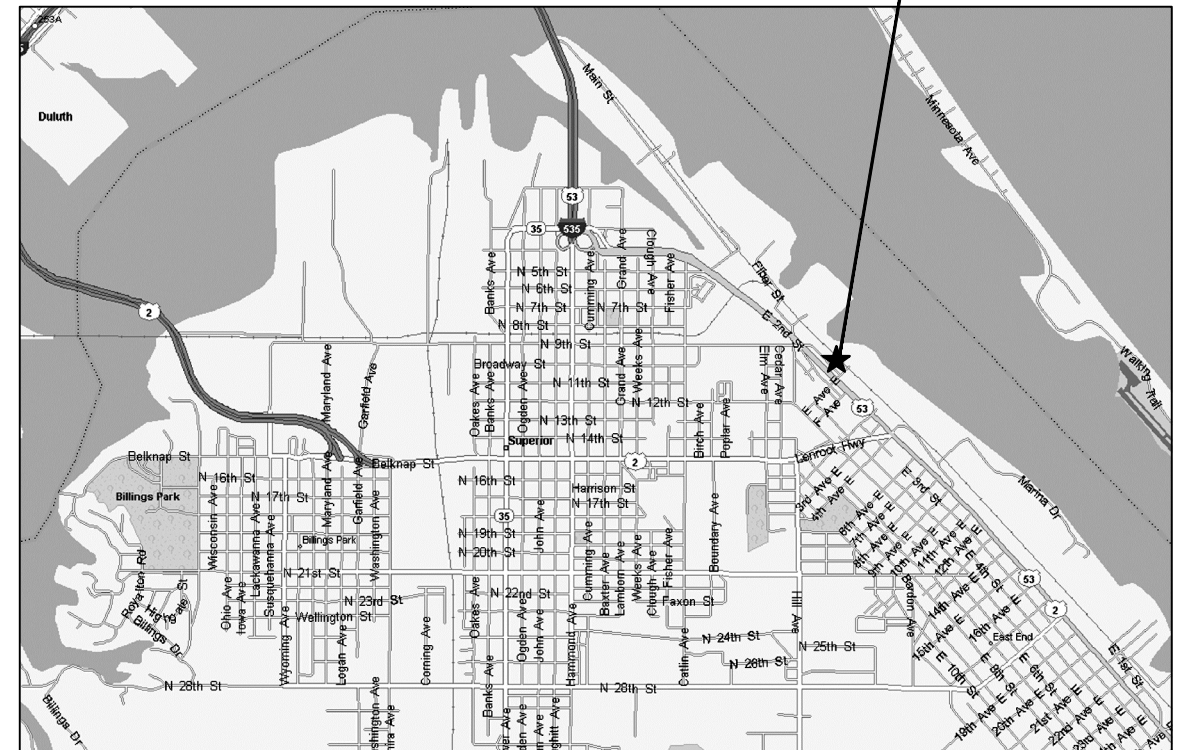
AREA PLAN
NO SCALE



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CONTRACT 1-2010
PROJECT # BTOUVD



MAIN WWT AND COMBINED
SEWAGE TREATMENT PLANT
(CSTP) 2

LOCATION PLAN
NO SCALE



RECORD DRAWING

DATE: 12-05-13
CONTRACTOR: RJS CONSTRUCTION GROUP
CONSTRUCTED: DECEMBER, 2013
NOTE:

THESE DRAWINGS WERE PREPARED FROM
INFORMATION SUPPLIED BY THE CONTRACTOR'S
RECORD DRAWINGS KEPT AT THE
CONSTRUCTION SITE DURING CONSTRUCTION.



SHEET
1
00-GO.01
JOB NO. 3359.003

UNIT DESIGN CRITERIA

I. Design Influent Flows

	Main WWTP	CSTP.2
Annual Average Flow, mgd	4.0	--
Peak Monthly Average Flow, mgd	8.0	--
Peak Hourly Flow, mgd	15	75

II. WPDDES Effluent Requirements:

	Superior Bay of Lake Superior	A Slip Emptying into Superior Bay
Receiving Stream:		
CBOD₅		
Monthly Average, mg/L	25	--
Weekly Average, mg/L	40	--
BOD₅		
Monthly Average, mg/L	--	30
Weekly Average, mg/L	--	45
Suspended Solids		
Monthly Average, mg/L	30	60
Weekly Average, mg/L	45	--
Ammonia Nitrogen		
Variable Daily Maximum, mg/L (Nov 1 - April 30)	Pending WPDDES Permit Renewal	Pending WPDDES Permit Renewal
Weekly Average, mg/L	--	--
Monthly Average, mg/L	--	--
Fecal Coliform (Year Round)		
Monthly Geometric Mean, # colonies/100 mL	400	400
Dissolved Oxygen		
Daily Minimum, mg/L	--	--
Chlorine Residual		
Daily Maximum, mg/L	0.038	0.038
Weekly Average, mg/L	--	--
Effluent Phosphorous		
Monthly Average, mg/L	1.0	1.0
pH		
Range, standard units	6.0 to 9.0	6.0 to 9.0

III. Unit Design Criteria for Additions/Modifications

A. Disinfection- Main WWTP

	Ultraviolet light (UV) Disinfection	
Type	Ultraviolet light (UV) Disinfection	--
Number of Channels	2	--
Number of UV Banks	4	--
Number of UV Modules per Bank	12	--
Average UV Transmittance @ 253.7 NM	45%	--
Dosing	Flow Paced with UVT Meter Feedback	--

B. Disinfection- C STP2

		Liquid (Sodium Hypochlorite)
Chlorination		
Type	--	--
Contact Tank Volume (@HVL)	--	1.2 Mil. Gal.
Length to Width Ratio	--	43.4: 1
HRT (@75 MGD)	--	23.2 Minutes
Storage Criteria	--	2 mg Cl ₂ / L & 70.5 MG = 1180 Gal (@1.0 Lbs. Cl ₂ / Gal)
Storage	--	4 Totes @ 330Gal ea.
Number of Chemical Feed Pumps	--	2
Type of Pump	--	Peristaltic
Pump Capacity, ea.	--	0.5 to 52 Gal/ Hr (Depending on Tube Size)
Control	--	Flow Paced
Dechlorination		
Type	--	Liquid (Sodium Bisulfite)
Storage Criteria	--	5 mg/ L & 70.5 MG = 270 Gal (@38%)
Storage	--	1- 1,150 Gal Bulk Tank
Number of Chemical Feed Pumps	--	2
Type of Pump	--	Peristaltic
Pump Capacity, ea.	--	0.12 to 12 Gal/ Hr (Depending on Tube Size)
Control	--	Flow Paced

C. pH Control

	Liquid (Magnesium Hydroxide Solution)	
Primary Clarifier Effluent		
Type	Liquid (Magnesium Hydroxide Solution)	--
Storage	55 Gal drums	--
Feed Unit	1- Metering Pump	--
Capacity	0.1 to 10.0 Gal/hr	--
Control	Manual	--
Final Effluent		
Type	Carbonation	--
Storage	10 Ton Pressure Vessel	--
Feed Unit	Pressurized Solution Feed Panel	--
Capacity	2000 Lbs/ Max. Day, 200 Lbs./ Ave. Day	--
Control	4- 20mA signal from pH to CO ₂ Control Valve	--

DRAWING LIST

SHEET NO. DRAWING NO. TITLE

SHEET NO.	DRAWING NO.	TITLE
00-GENERAL		
1	00-G0.01	TITLE SHEET AND LOCATION MAP
2	00-G0.02	DESIGN CRITERIA AND LIST OF DRAWINGS
3	00-G0.03	STANDARD SYMBOLS - 1
4	00-G0.04	STANDARD SYMBOLS - 2
5	00-G0.05	ABBREVIATIONS
6	00-G6.01	HYDRAULIC PROFILE
05-SITE		
7	05-D1.01	DEMOLITION PLAN
8	05-C1.01	LOCATION PLAN
9	05-C1.02	GRADING PLAN
10	05-M1.01	OVERALL YARD PIPING PLAN
11	05-M1.02	ENLARGED YARD PIPING PLANS AND DETAILS
12	05-E1.01	ELECTRICAL PLAN
20-pH ADJUSTMENT BUILDING		
13	20-ASM1.01	PLANS
14	20-ASM3.01	SECTIONS AND ELEVATIONS
15	20-HE1.01	HVAC AND ELECTRICAL - PLANS
40-UV BUILDING		
16	40-ASM1.01	LIFE SAFETY, ROOF, AND ROOF FRAMING PLANS
17	40-ASM1.02	FOUNDATION PLAN
18	40-ASM1.03	FLOOR PLAN
19	40-ASM2.01	ELEVATIONS
20	40-ASM3.01	SECTIONS AND DETAILS - 1
21	40-ASM3.02	SECTIONS AND DETAILS - 2
22	40-ASM6.01	SCHEMATIC
23	40-P1.01	PLUMBING - PLAN
24	40-H1.01	HVAC - PLAN
25	40-E1.01	ELECTRICAL - PLAN
55-DEWATERING BUILDING		
26	55-D1.01	DEMOLITION PLAN
27	55-ASM1.01	PLAN AND SECTIONS
28	55-ASM5.01	DETAILS
29	55-ASM6.01	SCHEMATICS
30	55-HE1.01	HVAC AND ELECTRICAL - PLANS
75-C STP2 CHLORINE CONTACT TANK		
31	75-ASME1.01	PLAN
32	75-ASM3.01	SECTIONS
33	75-ASM3.02	SECTION AND DETAIL
99-SCHEDULES AND DETAILS		
34	99-C5.01	CIVIL - DETAILS
35	99-A5.01	ARCHITECTURAL/STRUCTURAL - DETAILS - 1
36	99-A5.02	ARCHITECTURAL/STRUCTURAL - DETAILS - 2
37	99-A5.03	ARCHITECTURAL/STRUCTURAL - DETAILS - 3
38	99-A5.04	ARCHITECTURAL/STRUCTURAL - DETAILS - 4
39	99-A5.06.01	ARCHITECTURAL/STRUCTURAL - SCHEDULES AND DETAILS
40	99-P5.01	PLUMBING DETAILS
41	99-H5.01	HVAC - DETAILS
42	99-H6.01	HVAC - SCHEDULES
43	99-E5.01	ELECTRICAL - DETAILS
44	99-E6.01	ELECTRICAL - SCHEDULES, SCADA RISER, AND ONE-LINE DIAGRAM

DATE	REVISIONS	NO.
12/17/13	RECORD DRAWING	1

DATE: NOVEMBER, 2010
 DES BY: BIL CHK BY: SWS
 RECORD DRAWING
 BY: SAI
 DATE: 12-05-13
 CONTRACTOR: RUS CONST.

DESIGN CRITERIA AND LIST OF DRAWINGS
 DISINFECTION AND pH CONTROL
 CITY OF SUPERIOR ENVIRONMENTAL SERVICES DIVISION OF PUBLIC WORKS
 SUPERIOR, WI



DRAFTING SYMBOLS

DETAIL NOTATION

 DETAIL LETTER
 DRAWING THAT DETAIL IS SHOWN ON

SECTION NOTATION

 SECTION NUMBER
 DRAWING THAT SECTION IS SHOWN ON

SECTION SCALE

 SECTION NUMBER
 DRAWING THAT SECTION IS SHOWN ON

ELEVATION NOTATION

 ELEVATION LETTER
 DRAWING THAT ELEVATION IS SHOWN ON

EQUIPMENT IDENTIFICATION

 TYPE OF EQUIPMENT
 EQUIPMENT GROUP

ROOM IDENTIFICATION

 NAME
 ROOM IDENTIFICATION

DOOR IDENTIFICATION

 DOOR IDENTIFICATION

WINDOW IDENTIFICATION

 WINDOW IDENTIFICATION

KEY/SPECIFIC NOTE CALL-OUT

 KEY/SPECIFIC NOTE CALL-OUT

PARTITION TYPE REFERENCE

 PARTITION TYPE REFERENCE

CENTER LINE OF BEAM-COLUMN FRAME SYSTEM

 CENTER LINE OF BEAM-COLUMN FRAME SYSTEM

POINTS OF VIEW BEING CONSIDERED MATCH LINE

 POINTS OF VIEW BEING CONSIDERED MATCH LINE

REVISION

 REVISION

FINISH ELEVATION

 FINISH ELEVATION

SPOT ELEVATION

 SPOT ELEVATION

EXISTING OBJECTS ARE SCREENED

 EXISTING OBJECTS ARE SCREENED

EXISTING OBJECTS TO BE ABANDONED

 EXISTING OBJECTS TO BE ABANDONED

EXISTING OBJECTS TO BE DEMOLISHED

 EXISTING OBJECTS TO BE DEMOLISHED

HIDDEN OBJECT

 HIDDEN OBJECT

FUTURE OBJECT

 FUTURE OBJECT

OBJECT SUPPLIED BY OWNER

 OBJECT SUPPLIED BY OWNER

ARCHITECTURAL SYMBOLS

- EARTH
- SAND, PLASTER, STUCCO
- CONCRETE
- BRICK
- CONCRETE BLOCK
- ACOUSTIC BLOCK
- ASHLAR STONE VENEER
- METAL
- METAL LATH
- WOOD-FINISH
- WOOD-FRAMING
- PLYWOOD
- ACOUSTICAL TILE
- GYPSUM BOARD
- BATT INSULATION
- RIGID INSULATION
- CHECKERED PLATE
- HANDRAIL

TOPOGRAPHICAL SYMBOLS

- AREA OF THE SITE
- CORPORATE LIMITS
- PROPERTY LINE AND/OR RIGHT OF WAY

- RIGHT OF WAY MARKER
- CONSTRUCTION EASEMENT ON SEWER AND WATER PLANS
- PERMANENT EASEMENT ON SEWER AND WATER PLANS
- SECTION LINE
- CENTER LINE
- SOIL BORING
- BENCH MARK
- PROPERTY STAKE
- PRIVATE WELL
- EXISTING UTILITY POLE
- NEW UTILITY POLE
- BURIED TELEPHONE CABLE PEDESTAL SIGN
- LIGHT POLE
- DECIDUOUS TREE
- CONIFEROUS TREE
- DECIDUOUS SHRUBS
- CONIFEROUS SHRUBS
- INTERMITTENT STREAM
- STREAM OR RIVER
- WETLAND AREA
- RAILROAD - LARGE SCALE
- BRIDGE
- EXISTING CULVERT
- SILT FENCE
- FENCE
- GUARD RAIL
- CURB, GUTTER AND INLET
- REJECT CURB
- CONTOUR LINES
- EXISTING DEPRESSION
- TOP OF CUT OR BERM

PIPING SYMBOLS

- FLANGE JOINT
- GROOVED JOINT
- MECHANICAL JOINT
- PUSH - ON JOINT
- RUBBER EXPANSION JOINT
- SOLVENT WELD OR THREADED JOINT
- PIPE COUPLING WITH TENSION TIES
- SMALL DIAMETER PIPE
- WALL PIPE
- WALL SLEEVE
- FABRICATED WALL SLEEVE
- SHUT OFF VALVE
- FLOOR STAND IN PLAN
- STOP PLATE - EMBEDDED
- SLIDE GATE - EMBEDDED
- SLIDE GATE - SURFACE MOUNTED
- SLUICE GATE
- PRESSURE/VACUUM RELIEF
- LIQUID RING COMPRESSOR
- ORIFICE PLATE
- MANOMETER
- FLOOR DRAIN
- ROOF DRAIN
- HUB DRAIN
- HOSE BIBB
- WATER HAMMER ARRESTER
- WATER SUPPLY/DRAINAGE FIXTURE UNITS
- THERMOMETER
- TRAP PRIMER
- YARD HYDRANT

UNDERGROUND UTILITY SYMBOLS

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-

PIPING DESIGNATIONS

- AIR
- COMPRESSED AIR
- COLD WATER
- COLD WATER RETURN
- COLD WATER SUPPLY
- DISINFECTED EFFLUENT WATER
- NATURAL GAS PIPING
- HOT WATER
- HEATING HOT WATER RETURN
- HEATING HOT WATER SUPPLY
- LOW PRESSURE CONDENSATE
- LOW PRESSURE STEAM
- NONPOTABLE WATER
- REFRIGERANT LIQUID
- REFRIGERANT SUCTION
- SUMP PUMP DISCHARGE
- SOFT WATER
- VENT PIPE
- WASTE BELOW GRADE
- WASTE ABOVE GRADE
- STORM BELOW GRADE
- STORM ABOVE GRADE

VALVE SYMBOLS

- AIR PRESSURE RELIEF VALVE
- BALANCING VALVE
- BALL VALVE
- BALL CHECK VALVE
- BUTTERFLY VALVE
- CHECK VALVE
- GAS SHUTOFF PLUG VALVE
- GATE VALVE
- GLOBE VALVE
- LOW PRESSURE CHECK VALVE
- PRESSURE REDUCING VALVE
- PRESSURE RELIEF VALVE
- TELESCOPIC VALVE
- 3-WAY VALVE
- TRIPLE DUTY VALVE

PIPING SYMBOLS

- ELBOW DOWN
- ELBOW UP
- METER
- STRAINER
- TEE DOWN
- TEE UP
- UNION
- GAS PRESSURE REGULATOR
- PRESSURE INDICATOR
- PRESSURE TRANSMITTER
- TEMPERATURE ELEMENT
- TEMPERATURE INDICATOR
- TEMPERATURE TRANSMITTER
- MANUAL AIR VENT
- CONCENTRIC REDUCER
- ECCENTRIC REDUCER
- FLEXIBLE CONNECTOR

DATE: NOVEMBER, 2010	DES BY: SAI	CHK BY: SWS
REVISIONS	NO.	DATE
1	1	10/27/10

STANDARD SYMBOLS - 1

DISINFECTION AND pH CONTROL
 ENVIRONMENTAL SERVICES DIVISION OF PUBLIC WORKS
 SUPERIOR, WI

STRAND ASSOCIATES, INC. ENGINEERS

SHEET
3
 00-G0.03
 JOB NO. 3559.003

ELECTRICAL SYMBOLS

LIGHTING

- FIXTURE SYMBOL (TYPICAL)
A-INDICATES FIXTURE TYPE
2-INDICATES CIRCUIT NUMBER
b-INDICATES SWITCHING
SOLID CIRCLE INDICATES ALWAYS ON
- INCANDESCENT, HID, SURFACE OR PENDANT
- INCANDESCENT, HID, WALL
- 1X4 FLUORESCENT, SURFACE OR PENDANT
- 1X8 FLUORESCENT, SURFACE OR PENDANT
- FLUORESCENT, WALL
- 1X4 FLUORESCENT, RECESSED
- 2X2 FLUORESCENT, RECESSED
- 2X4 FLUORESCENT, RECESSED
- CAN, FLUORESCENT OR HID
- EXIT, SURFACE, PENDANT OR RECESSED
- EXIT, WALL
- EMERGENCY LIGHTING
- SWITCHES**
- SINGLE POLE
- TWO POLE
- THREE WAY
- FOUR WAY
- KEYED
- DIMMER
- MANUAL SWITCH (HORSEPOWER RATED)
- WEATHER PROOF
- SWITCH WITH PILOT LIGHT
- LIGHTING CONTROL STATION
- LOCKOUT STOP SWITCH
- DOOR POSITION SWITCH
- PHOTOCELL

EQUIPMENT AND WIRING

- GROUND ROD 10'-5/8" DIA. COPPER CLAD
- TRANSFORMER
- DISCONNECT, F=FUSED, B=CIRCUIT BREAKER
- MOTOR STARTER MAGNETIC
- CIRCUIT BREAKER COMBINATION STARTER
- MANUAL STARTER WITH THERMAL OVERLOAD PROTECTION
- JUNCTION BOX
- LINE VOLTAGE THERMOSTAT
- LINE VOLTAGE THERMOSTAT W/REMOTE BULB
- 480V LOAD, REFER TO MCC SCHEDULE FOR EQUIPMENT NUMBER
- VARIABLE FREQUENCY DRIVE

POWER SYMBOLS

- UNDERGROUND ELECTRIC
- OVERHEAD ELECTRIC
- CIRCUIT NUMBER (TYPICAL)
- OTHERWISE SHOWN PANEL DESIGNATION (TYP.)
DUPLX, 125 VOLT, WP INDICATES WEATHERPROOF
- DUPLX, 125 VOLT, ABOVE FURNITURE
- DOUBLE DUPLX, 125 VOLT, ABOVE FURNITURE
- DOUBLE DUPLX, 125 VOLT
- SINGLE CONVENIENCE, 125 VOLT FOR ELECTRIC WATER COOLER
- EXPLOSION-PROOF, ABOVE FURNITURE
- EXPLOSION-PROOF
- FIXED EQUIPMENT CONNECTION
- POWER OUTLET, VOLTAGE & AMPERAGE AS INDICATED
- AUTOMATIC TRANSFER SWITCH (ONE-LINE DIAGRAM)
- CIRCUIT BREAKER (ONE-LINE DIAGRAM)
- METER (ONE-LINE DIAGRAM)
- PANELBOARD

FIRE ALARM AND DETECTION SYMBOLS

- FIRE ALARM CONTROL PANEL
- FIRE ANNUNCIATOR CONTROL PANEL
- STROBE; WALL MOUNT - ADA RATED
STROBE CANDELA RATING 80" AFF
- HORN STROBE; WALL MOUNT - ADA RATED
STROBE CANDELA RATING 80" AFF
- SPEAKER STROBE; WALL MOUNT - ADA RATED
STROBE CANDELA RATING 80" AFF
- HORN; WALL MOUNT - ADA RATED
- SPEAKER; WALL MOUNT - ADA RATED
- STROBE; CEILING MOUNT - ADA RATED
STROBE CANDELA RATING
- HORN STROBE; CEILING MOUNT - ADA RATED
STROBE CANDELA RATING
- SPEAKER STROBE; CEILING MOUNT - ADA RATED
STROBE CANDELA RATING
- AREA OF RESCUE ASSISTANCE
- EMERGENCY TELEPHONE SYSTEM
- HEAT DETECTOR; CEILING MOUNT
- SMOKE DETECTOR; CEILING MOUNT
- ELEVATOR RECALL SMOKE DETECTOR
- NITROUS OXIDE SENSOR
- CARBON MONOXIDE SENSOR
- SWITCH INDICATION
- DUCT SMOKE DETECTOR
DUCT SIZE
- REMOTE TEST SWITCH
SWITCH INDICATION
- FIRE ALARM PULL STATION
- SPRINKLER FLOW SWITCH
- SPRINKLER VALVE TAMPER SWITCH
- FIRE ALARM BELL

INSTRUMENTATION EQUIPMENT

- ANALYSIS ELEMENT
- ANALYSIS INDICATING TRANSMITTER,
*: DO=DISSOLVED OXYGEN, PH=PH, TRB=TURBIDITY, TSS=TOTAL SUSPENDED SOLIDS, GD=GAS DETECTOR, CA=CHLORINE ANALYZER, OP=OXYGEN PURITY, LEL=LOWER EXPLOSIVE LIMIT, PR=PROXIMITY, MST=MOISTURE, UVT=UV TRANSMITTANCE
- CONTROL SWITCH
DEVICE TYPE (SEE MCC SCHEDULE)
- DENSITY ELEMENT
- DENSITY INDICATING TRANSMITTER
- FLOW ELEMENT
- FLOW INDICATING TRANSMITTER,
*: M=MAGNETIC, TM= THERMAL MASS
DP=DIFFERENTIAL PRESSURE, U=ULTRASONIC
- FLOW SWITCH
*: P=PADDLE, T=THERMAL, C=CAPACITANCE, A=AIR FLOW
- HAND SWITCH
*: SS=SAFETY SWITCH
- POWER ELEMENT (CURRENT XFMR, POTENTIAL XFMR)
- POWER INDICATING TRANSMITTER
- TIME SWITCH
- LEVEL ELEMENT
- LEVEL INDICATING TRANSMITTER,
*: S=SUBMERSIBLE, U=ULTRASONIC, R=RING TYPE
- LEVEL SWITCH,
*: C=CONDUCTANCE, F=BALL FLOAT, V=VIBRATING FORK, B=BUILDING FLOODING
- DIFFERENTIAL PRESSURE INDICATING TRANSMITTER
- PRESSURE INDICATING TRANSMITTER
*: R=RING TYPE
- PRESSURE SWITCH
*: R=RING TYPE
- SPEED SWITCH
- TEMPERATURE ELEMENT
- TEMPERATURE INDICATING TRANSMITTER
*: R=RTD, T=THERMOCOUPLE
- TEMPERATURE SWITCH
- VIBRATION ELEMENT
- VIBRATION INDICATING TRANSMITTER
- WEIGHT ELEMENT
- TORQUE SWITCH
- WEIGHT TRANSMITTER (SCALE)
- PRESENCE/ABSENCE DETECTOR
- POSITION SWITCH,
*: D=DOOR, L=LIMIT
- SOLENOID VALVE
- FIXED SECURITY CAMERA
- FAN, TILT, ZOOM SECURITY CAMERA

TECHNOLOGY SYMBOLS

- DATA JACK
- PHONE JACK
- VOICE AND DATA JACKS
- WALL MOUNT VOIP PHONE JACK 54" AFF
- SCADA NETWORK JACK
- DATA RACK
- COAX CABLE
- POWER POLE
- PA SYSTEM HORN SPEAKER; 10'-0" AFF
- PA SYSTEM SPEAKER
- SPEAKER; CEILING MOUNT
A=SPEAKER TYPE
- KEY PAD
- GLASS BREAK DETECTOR
- MOTION SENSOR
- PUSH BUTTON
- ELECTRIC STRIKE
- MAGNETIC LOCK
- INTERCOM STATION
- OCCUPANCY SENSOR
SEE SPECIFICATION FOR SENSOR TYPE
- CARD READER
- REMOTE VOLUME CONTROL

DUCTWORK SYMBOLS

- SUPPLY DUCT (UP OR SECTION)
- SUPPLY OR OUTSIDE AIR DUCT (DOWN/OR AWAY)
- EXHAUST DUCT (UP OR SECTION)
- EXHAUST OR RETURN DUCT (DOWN/OR AWAY)
- ROUND DUCTWORK UP
- ROUND DUCTWORK DOWN
- FLEXIBLE CANVAS CONNECTION
- TURNING VANES

DAMPER SYMBOLS

- AUTOMATIC DAMPER
- BACKDRAFT DAMPER
- MANUAL VOLUME DAMPER
- 1-1/2 HR. FIRE DAMPER

FIELD MOUNTED CONTROLS

- THERMOSTAT
- ROOM HUMIDISTAT
- PRESSURE SENSOR
- ROOM SENSOR
- DUCT SMOKE DETECTOR
- PRESSURE GAUGE

ACTUATORS

- MOTOR (ELECTRIC)
- PNEUMATIC
- SOLENOID

EQUIPMENT SYMBOLS

- ACCUMULATOR
- AIR FLOW DIRECTION
- BASE MOUNTED PUMP
- BLOWER
- CEILING DIFFUSER WITH FLEXIBLE DUCT
- CENTRIFUGAL PUMP
- CONNECT TO EXISTING
- DRIP TRAP
- DUCT BOOST COIL
- EQUIPMENT TAG
- FLAME ARRESTER
- FLAME CELL
- FLAME TRAP ASSEMBLY
- GRINDER
- INLINE PUMP
- POSITIVE DISPLACEMENT PUMP
- ROOF EXHAUST FAN
- UNIT HEATER
- VARIABLE AIR VOLUME (VAV) BOX WITH ELECTRIC REHEAT COIL
- VARIABLE AIR VOLUME (VAV) BOX WITH HEATING HOT WATER REHEAT COIL
- FLOATING MIXER
- SCREW CONVEYOR

DATE:	NOVEMBER, 2010
DES BY:SAI	CHK BY: SWS
RECORD DRAWING	RECORD DRAWING
BY: SAI	DATE:12-05-13
	CONTRACTOR: RUS CONST.

STANDARD SYMBOLS - 2
DISINFECTION AND pH CONTROL
CITY OF SUPERIOR ENVIRONMENTAL SERVICES DIVISION OF PUBLIC WORKS
SUPERIOR, WI



GENERAL EQUIPMENT ABBREVIATIONS

AC AIR COMPRESSOR
 ACU ACCUMULATOR
 AOV AIR OPERATED VALVE
 AM ANOXIC MIXER
 AST AUTOMATIC STRAINER
 BSLP BLENDED SLUDGE PUMP
 B BLOWER
 BLR BOILER
 BFV BUTTERFLY VALVE
 CENT CENTRIFUGE
 CNTP CENTRATE PUMP
 CENTP CENTRIFUGE FEED PUMP
 CP CHEMICAL PUMP
 COMP COMPRESSOR
 DBC DEWATERED BIOSOLIDS CONVEYOR
 DP DRAINAGE PUMP
 DRLP DIGESTER RECIRCULATION PUMP
 DSLMP DIGESTER MIXING PUMP
 DSLTP DIGESTED SLUDGE TRANSFER PUMP
 DOW DOWNWARD OPENING WEIR GATE
 EFC EXCESS FLOW CLARIFIER
 EFP EXCESS FLOW PUMP
 EFSPP EXCESS FLOW SOLIDS PUMP
 EP EFFLUENT PUMP
 FC FINAL CLARIFIER
 FILT FILTER
 FM FLOWMETER
 GC GRIT CLASSIFIER
 GFM GAS FLOW METER
 GCS GAS COMPRESSOR SKID
 GP GRIT PUMP
 GRN GRINDER
 GT GRIT TRAP
 GUH GAS UNIT HEATER
 GW GRIT WASHER
 HBT HYDRO-PNEUMATIC BOOSTER TANK
 HTX HEAT EXCHANGER
 IP INFLUENT PUMP
 MA MOTORIZED ACTUATOR
 MBV MOTORIZED BALL VALVE
 MFS MECHANICAL FINE SCREEN
 MIX MIXER
 MOV MOTOR OPERATED VALVE
 MP MIXING PUMP
 MPE MISCELLANEOUS PROCESS EQUIPMENT
 MST MANUAL STRAINER
 MT MICROTURBINE
 NRP NITRATE RECYCLE PUMP
 OCD OVERHEAD COILING DOOR
 OCE ODOR CONTROL EQUIPMENT
 PC PROGRESSING CAVITY PUMP
 PCD PRIMARY CLARIFIER DRIVE
 PCFD PRIMARY CLARIFIER FLOCCULATOR DRIVE
 PF POLYMER FEEDER
 PFP POLYMER FEED PUMP
 PRCP PHOSPHORUS REMOVAL CHEMICAL PUMP
 PRCT PHOSPHORUS REMOVAL CHEMICAL TANK
 PRFP PROCESS RETURN FLOW PUMP
 PRSP PRIMARY SLUDGE PUMP
 PTP POLYMER TRANSFER PUMP
 RAD REFRIGERATED AIR DRYER
 RASP RETURN ACTIVATED SLUDGE PUMP
 RM RAPID MIXER
 SAM SAMPLER
 SCMP SCUM PUMP
 SCW SCREENINGS WASHER
 SEJ SEWAGE EJECTOR
 SG SLIDE GATE
 SHP SODIUM HYPOCHLORITE PUMP
 SLG SLUICE GATE
 SP SUMP PUMP
 SSC SCREENINGS SCREW CONVEYOR
 STCP STRUVITE CHEMICAL PUMP
 STG STOP GATE
 SV SOLENOID VALVE
 UV ULTRAVIOLET DISINFECTION

FLUID ABBREVIATIONS

A AIR
 BSL BLENDED SLUDGE
 CA COMPRESSED AIR
 CNT CENTRATE
 CDG COMPRESSED DIGESTER GAS
 CLS CHLORINE SOLUTION
 CNT CENTRATE
 CW COLD WATER
 CWR CHILLED WATER RETURN
 CWS CHILLED WATER SUPPLY
 D DRAIN
 DEW DISINFECTED EFFLUENT WATER
 DG DIGESTER GAS
 DIV DIVERSION
 DRL DIGESTER RECIRCULATION
 DS DIGESTER SUPERNATANT
 DSL DIGESTED SLUDGE
 DSLMD DIGESTER SLUDGE MIXER DISCHARGE
 DSLMS DIGESTER SLUDGE MIXER SUCTION
 EFW EXCESS FLOW
 EFS EXCESS FLOW SOLIDS
 FE FINAL EFFLUENT
 F FORCE MAIN
 G NATURAL GAS
 GR GRIT
 HOCL HYPOCHLORITE
 HW HOT WATER
 HWR HOT WATER RETURN
 HWS HOT WATER SUPPLY
 ML MIXED LIQUOR
 NPW NONPOTABLE WATER
 OF OVERFLOW
 OC ODOR CONTROL
 PDP PERFORATED DRAIN PIPE
 PE PLANT EFFLUENT
 PEC POLYELECTROLYTE CHEMICAL
 PI PLANT INFLUENT
 PRC PHOSPHORUS REMOVAL CHEMICAL
 PRE PRIMARY EFFLUENT
 PRF PROCESS RETURN FLOW
 PRI PRIMARY INFLUENT
 PRS PRIMARY SLUDGE
 PSS PLANT SANITARY SEWER
 PW POTABLE WATER
 PWR PROCESS WATER RETURN
 PWS PROCESS WATER SUPPLY
 RAS RETURN ACTIVATED SLUDGE
 RW RAW WASTEWATER
 SAM SAMPLE
 SAN SANITARY SEWER
 SB SODIUM BISULFITE
 SCM SCUM
 SCMD SCUM DECANT
 SE SECONDARY EFFLUENT
 SH SODIUM HYPOCHLORITE
 SPD SUMP PUMP DISCHARGE
 ST STORM SEWER
 STC STRUVITE CHEMICAL
 SW SERVICE WATER
 SWS SEAL WATER SUPPLY
 V VENT
 WAS WASTE ACTIVATED SLUDGE
 WML WASTE MIXED LIQUOR

GENERAL/HVAC ABBREVIATIONS

ACH AIR CHANGES PER HOUR
 AFF ABOVE FINISHED FLOOR
 ALT ALTERNATE
 AP ACCESS PANEL
 BOD BOTTOM OF DUCT
 BTU BRITISH THERMAL UNIT
 BTUH BRITISH THERMAL UNIT PER HOUR
 CFM CUBIC FEET PER MINUTE
 CLG CEILING
 COND CONDENSATE
 DAT DISCHARGE AIR TEMPERATURE
 DB DRY BULB TEMPERATURE
 DDC DIRECT DIGITAL CONTROL
 DG DOOR GRILLE
 DX DIRECT EXPANSION
 EA EXHAUST AIR
 EAT ENTERING AIR TEMPERATURE
 EL ELEVATION
 ESP EXTERNAL STATIC PRESSURE
 EWT ENTERING WATER TEMPERATURE
 FC FAIL CLOSED
 FLA FULL LOAD AMPS
 FO FAIL OPEN
 FPI FINS PER INCH
 FPM FEET PER MINUTE
 FT FEET
 GA GAUGE
 GPM GALLONS PER MINUTE
 LAT LEAVING AIR TEMPERATURE
 LWT LEAVING WATER TEMPERATURE
 MBH THOUSANDS OF BTU PER HOUR
 MC MECHANICAL CONTRACTOR
 NA NOT APPLICABLE
 NC NORMALLY CLOSED
 NO NORMALLY OPEN
 NPT NATIONAL PIPE THREAD
 NTS NOT TO SCALE
 OA OUTSIDE AIR
 OC ON CENTER
 OV OUTLET VELOCITY
 PD PRESSURE DROP
 PSI POUNDS PER SQUARE INCH
 PSIG POUNDS PER SQUARE INCH GAUGE
 RA RETURN AIR
 RPM REVOLUTIONS PER MINUTE
 SA SUPPLY AIR
 SP STATIC PRESSURE

HVAC EQUIPMENT ABBREVIATIONS

ACCU AIR COOLED CONDENSING UNIT
 AFR ARCHITECTURAL FINE TUBE RADIATION
 AHU AIR HANDLING UNIT
 AS AIR SEPARATOR
 BLR BOILER
 BB BASEBOARD
 C CONVECTOR
 CD CEILING DIFFUSER
 CHILL CHILLER
 CT COOLING TOWER
 CUH CABINET UNIT HEATER
 CWP CHILLED WATER PUMP
 DC DRY COOLER
 DH DEHUMIDIFIER
 DL DRUM LOUVER
 EBB ELECTRIC BASEBOARD
 EDH ELECTRIC DUCT HEATER
 EF EXHAUST FAN
 EG EXHAUST GRILLE
 EJ EXPANSION JOINT
 EL EXPANSION LOOP
 ER EXHAUST REGISTER
 ERC ELECTRIC REHEAT COIL
 ERU ENERGY RECOVERY UNIT
 EUH ELECTRIC UNIT HEATER
 EWH ELECTRIC WALL HEATER
 FCU FAN COIL UNIT
 FD FIRE DAMPER
 FR FINNED TUBE RADIATION
 FUR FURNACE
 GRV GRAVITY ROOF VENTILATOR
 GUH GAS UNIT HEATER
 HC HEATING COIL
 HP HEAT PUMP
 HRP HEAT RECOVERY PUMP
 HU HUMIDIFIER
 HWH HOT WATER UNIT HEATER
 HWP HOT WATER PUMP

HTX HEAT EXCHANGER

L LOUVER
 MAU MAKE-UP AIR UNIT
 P PUMP
 PWP PROCESS WATER PUMP
 RF RETURN FAN
 RG RETURN GRILLE
 RR REGISTER
 RTU ROOFTOP UNIT
 SD SUCTION DIFFUSER
 SF SUPPLY FAN
 SG SUPPLY GRILLE
 SR SUPPLY REGISTER
 SS SPLIT SYSTEM
 ST STEAM TRAP
 SUH STEAM UNIT HEATER
 TCP TEMPERATURE CONTROL PANEL
 TG TRANSFER GRILLE
 UH UNIT HEATER
 UV UNIT VENTILATOR
 VAV VARIABLE AIR VOLUME BOX
 VD VOLUME DAMPER
 VFD VARIABLE FREQUENCY DRIVE

PLUMBING ABBREVIATIONS

AEW APRON END WALL
 BF BLIND FLANGE
 CA COMPRESSED AIR
 CB CATCH BASIN
 CD CONDENSATE DRAIN
 CI CAST IRON
 CO CLEAN OUT
 COND CONDENSATE
 CPVC CHLORINATED POLYVINYL CHLORIDE
 CW COLD WATER
 D DRAIN
 DCBP DOUBLE CHECK BACKFLOW PREVENTER
 DF DRINKING FOUNTAIN
 DFU DRAINAGE FIXTURE UNIT
 DI DUCTILE IRON
 ESEW EMERGENCY SHOWER EYEWASH
 EW EYEWASH
 EWC ELECTRIC WATER COOLER
 FCO FLOOR CLEAN OUT
 FD FLOOR DRAIN
 HB HOSE BIBB
 HD HUB DRAIN
 HDPE HIGH DENSITY POLYETHYLENE
 HHWR HEATING HOT WATER RETURN
 HHWS HEATING HOT WATER SUPPLY
 HR HOSE REEL
 HWL HIGH WATER LEVEL
 HW HOT WATER
 IE INVERT ELEVATION
 IWH INSTANTANEOUS WATER HEATER
 IWP INDIRECT WASTE PIPE
 L LAVATORY
 MB MOP BASIN
 MH MANHOLE
 PHWP PROCESS HOT WATER PUMP
 POC POINT OF CONNECTION
 PRV PRESSURE REDUCING VALVE
 PVC POLYVINYL CHLORIDE
 QC QUICK CONNECT
 RCP REINFORCED CONCRETE PIPE
 RD ROOF DRAIN
 RZBP REDUCED ZONE BACKFLOW PREVENTER
 S SINK
 SD SHOWER DRAIN
 SEJ SEWAGE EJECTOR
 SHR SHOWER
 SP SUMP PUMP
 SS STAINLESS STEEL
 SV SOLENOID VALVE
 SVS SERVICE SINK
 T TANK
 TD TRENCH DRAIN
 U URINAL
 V VENT
 VB VACUUM BREAKER
 VCP VITRIFIED CLAY PIPE
 VTR VENT THRU ROOF
 W WASTE PIPE
 WCO WALL CLEANOUT
 WC WATER CLOSET
 WH WATER HEATER
 WS WATER SOFTENER
 WSFU WATER SERVICE FIXTURE UNIT

ELECTRICAL ABBREVIATIONS

A AMPERE
 AF AMPERE FRAME
 AFF ABOVE FINISHED FLOOR
 AFG ABOVE FINISHED GRADE
 AHJ AUTHORITY HAVING JURISDICTION
 AHU AIR HANDLING UNIT
 AIC AMPERE INTERRUPTING CAPACITY
 AL ALUMINUM
 AT AMPERE TRIP
 ATS AUTOMATIC TRANSFER SWITCH
 AV AUDIO VISUAL
 AWG AMERICAN WIRE GAUGE
 BLDG BUILDING
 C CONDUIT
 CAT CATALOG
 CATV CABLE TELEVISION
 CB CIRCUIT BREAKER
 CCTV CLOSED CIRCUIT TELEVISION
 CKT CIRCUIT
 CL CENTERLINE
 CLG CEILING
 COL COLUMN
 CPP COPPER PATCH PANEL
 CT CURRENT TRANSFORMER
 CTE CONNECT TO EXISTING
 CU COPPER
 CUH CABINET UNIT HEATER
 D DEDICATED
 DC DIRECT CURRENT
 DISC DISCONNECT
 DWG DRAWING
 E EMERGENCY
 EC ELECTRICAL CONTRACTOR
 EDH ELECTRIC DUCT HEATER
 EF EXHAUST FAN
 EMT ELECTRICAL METALLIC TUBING
 EOL END OF LINE DEVICE
 EWC ELECTRIC WATER COOLER
 EX EXISTING
 FACP FIRE ALARM CONTROL PANEL
 FCU FAN COIL UNIT
 FLA FULL LOAD AMPERES
 FPP FIBER PATCH PANEL
 FPCP FIRE PUMP CONTROL PANEL
 FR FIRE RETARDANT
 FT FEET
 FDA FOOD AND DRUG ADMINISTRATION
 FVNR FULL VOLTAGE NON-REVERSING
 G GROUND
 GC GENERAL CONTRACTOR
 GFP GROUND FAULT PROTECTION (EQUIPMENT)
 GFCI GROUND FAULT CKT INTERRUPTER
 HACR HEATING AND AIR CONDITIONING RATED
 HP HORSEPOWER
 HV HIGH VOLTAGE
 HVAC HEATING, VENTILATING, & AIR
 HZ HERTZ
 IG ISOLATED GROUND
 IMC INTERMEDIATE METAL CONDUIT
 JB JUNCTION BOX
 KCMIL ONE THOUSAND CIRCULAR MILS
 KO KNOCKOUT
 KVA KILOVOLT AMPERES
 KVAR KILOVOLT AMPERES REACTIVE
 KW KILOWATT
 LTG LIGHTING
 LV LOW VOLTAGE
 MATV MASTER ANTENNA TELEVISION
 MC METAL CLAD
 MCB MAIN CIRCUIT BREAKER
 MCCB MOLDED CASE CIRCUIT BREAKER
 MCM THOUSAND CIRCULAR MILS
 MCP MOTOR CIRCUIT PROTECTOR
 MDP MAIN DISTRIBUTION PANELBOARD
 MISC MISCELLANEOUS
 MLO MAIN LUGS ONLY
 MO MOTOR OPERATED
 MSB MAIN SWITCHBOARD
 MTD MOUNTED
 MTG MOUNTING
 MTS MANUAL TRANSFER SWITCH
 MV MEDIUM VOLTAGE
 MW MICROWAVE OR MEGAWATT
 NA NOT APPLICABLE
 NC NORMALLY CLOSED
 NAC NOTIFICATION APPLIANCE CIRCUIT PANEL
 NEC NATIONAL ELECTRIC CODE
 NIC NOT IN CONTRACT


NL NIGHT LIGHT
 NM NONMETALLIC
 NO NORMALLY OPEN
 NSF NATIONAL SANITARY FOUNDATION
 NTS NOT TO SCALE
 OCB OIL CIRCUIT BREAKER
 P POLE
 PB PULL BOX
 PC PULL CORD
 PH PH SENSOR
 Ø PHASE
 PNL PANELBOARD
 PRI PRIMARY
 PS PRESSURE SWITCH
 PT POTENTIAL TRANSFORMER
 PTZ PANTEL ZOOM CAMERA
 PVC POLYVINYL CHLORIDE
 PWR POWER
 RSC RIGID GALVANIZED STEEL CONDUIT
 RVNR REDUCED VOLTAGE NON-REVERSING
 SC SHORT CIRCUIT
 SE SERVICE ENTRANCE
 SEC SECONDARY
 SS STAINLESS STEEL
 SV SOLENOID VALVE
 SW SWITCH
 TEL TELEPHONE
 TYP TYPICAL
 UG UNDERGROUND
 UH UNIT HEATER
 UPS UNINTERRUPTIBLE POWER SUPPLY
 UTP UNSHIELDED TWISTED PAIR
 V VOLTS
 VFD VARIABLE FREQUENCY DRIVE
 W WIRE OR WATT
 WD HIGH PRESSURE WASH DOWN
 WL WET LOCATION
 WP WEATHERPROOF
 XFMR TRANSFORMER
 XP EXPLOSION PROOF
 Y WYE

DATE:	NOVEMBER, 2010
DES BY:SAI	CHK BY:SW
RECORD DRAWING	
BY:SAI	DATE:12-05-13
CONTRACTOR:RUS CONST.	

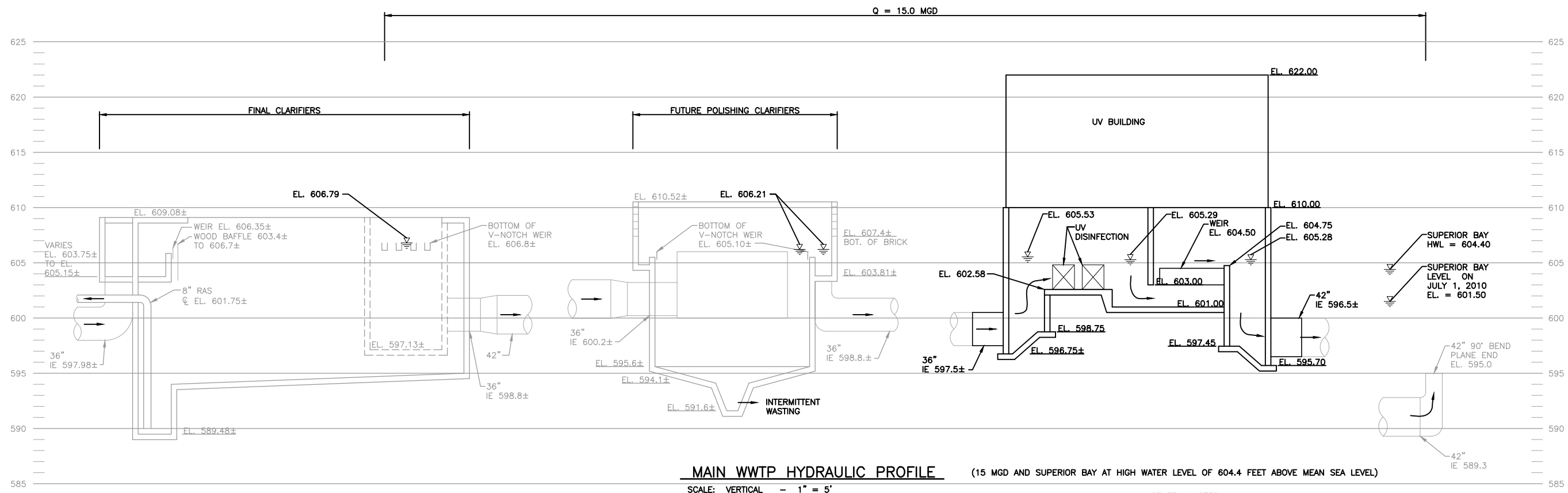
ABBREVIATIONS

DISINFECTION AND pH CONTROL

CITY OF SUPERIOR ENVIRONMENTAL SERVICES DIVISION OF PUBLIC WORKS
SUPERIOR, WI



SHEET
5
00-00.05
JOB NO. 3559.003



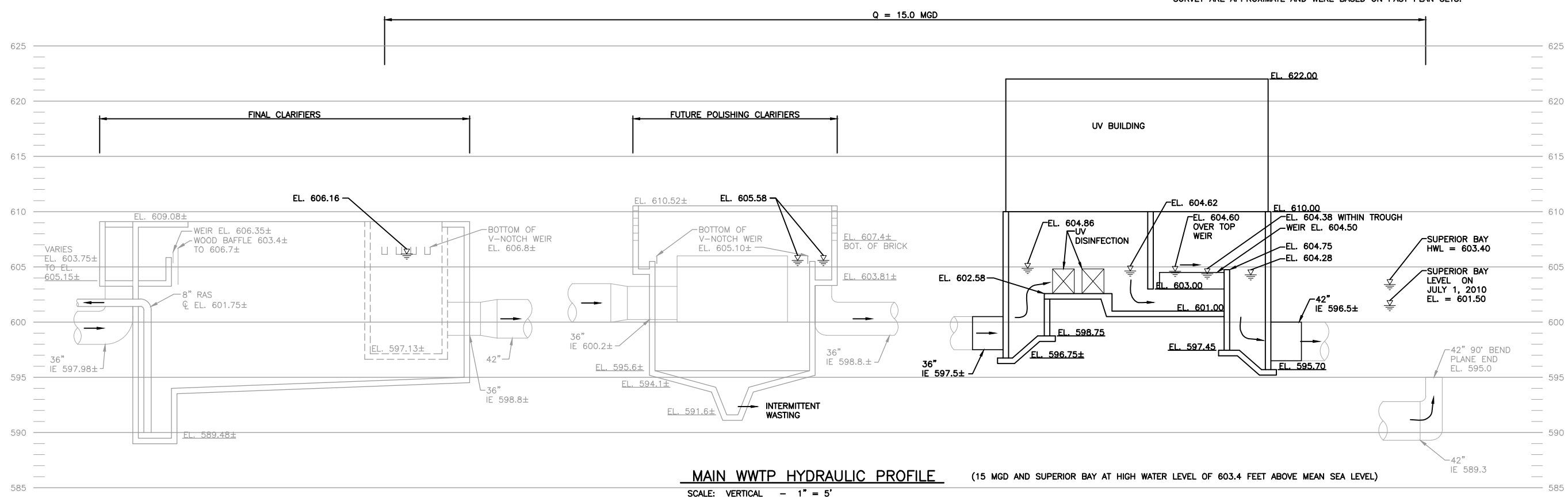
MAIN WWTP HYDRAULIC PROFILE

(15 MGD AND SUPERIOR BAY AT HIGH WATER LEVEL OF 604.4 FEET ABOVE MEAN SEA LEVEL)

SCALE: VERTICAL - 1" = 5'
HORIZONTAL - NO SCALE

GENERAL NOTES:

1. HYDRAULIC PROFILE SHOWN ASSUMES BOTH UV CHANNELS IN SERVICE WHEN 15 MGD IS BEING PROCESSED THROUGH THE MAIN WWTP. HYDRAULIC PROFILE ALSO ASSUMES BOTH POLISHING CLARIFIERS AND ALL FOUR FINAL CLARIFIERS ARE IN-SERVICE WHEN 15 MGD IS BEING PROCESSED THRU THE MAIN WWTP.
2. EXISTING ELEVATIONS SHOWN IN THIS PROFILE THAT WERE INACCESSIBLE DURING SITE SURVEY ARE APPROXIMATE AND WERE BASED ON PAST PLAN SETS.



MAIN WWTP HYDRAULIC PROFILE

(15 MGD AND SUPERIOR BAY AT HIGH WATER LEVEL OF 603.4 FEET ABOVE MEAN SEA LEVEL)

SCALE: VERTICAL - 1" = 5'
HORIZONTAL - NO SCALE

DATE:	REVISIONS	NO.	DATE: NOVEMBER, 2010	DES BY: BIL	CHK BY: SWS	RECORD DRAWING	BY: SAI	DATE: 12-05-13	CONTRACTOR: RUS CONST.
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HYDRAULIC PROFILE
 DISINFECTION AND pH CONTROL
 CITY OF SUPERIOR ENVIRONMENTAL SERVICES DIVISION OF PUBLIC WORKS
 SUPERIOR, WI

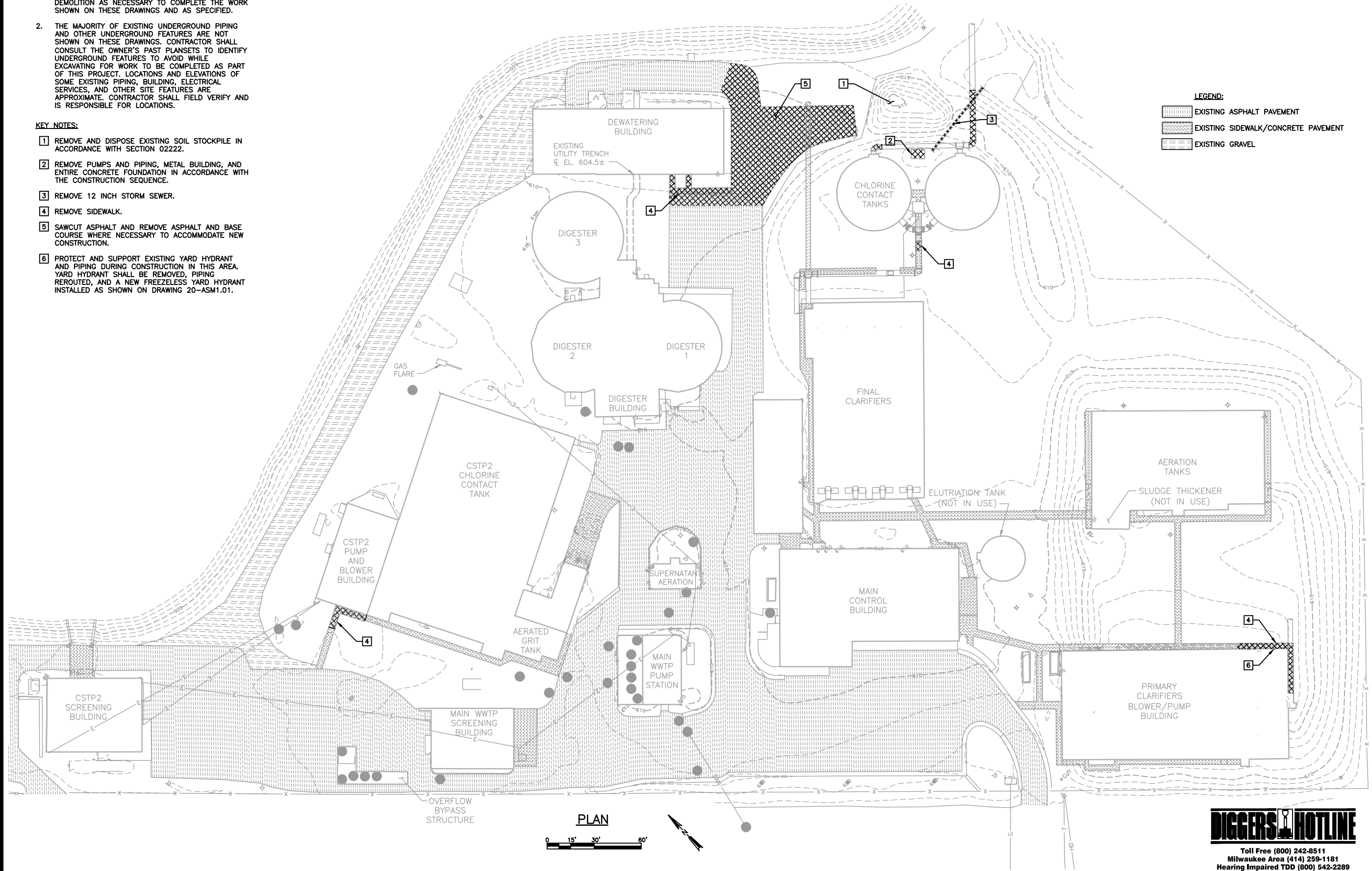


GENERAL NOTES:

1. ALL SITE DEMOLITION MAY NOT BE SHOWN ON THIS PLAN. CONTRACTOR SHALL PROVIDE ADDITIONAL DEMOLITION AS NECESSARY TO COMPLETE THE WORK SHOWN ON THESE DRAWINGS AND AS SPECIFIED.
2. THE MAJORITY OF EXISTING UNDERGROUND PIPING AND OTHER UNDERGROUND FEATURES ARE NOT SHOWN ON THESE DRAWINGS. CONTRACTOR SHALL CONSULT THE OWNER'S PAST PLANSSETS TO IDENTIFY UNDERGROUND FEATURES TO AVOID WHILE EXCAVATING FOR WORK TO BE COMPLETED AS PART OF THIS PROJECT. LOCATIONS AND ELEVATIONS OF SOME EXISTING PIPING, BUILDING, ELECTRICAL SERVICES, AND OTHER SITE FEATURES ARE APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY AND IS RESPONSIBLE FOR LOCATIONS.

KEY NOTES:

- 1 REMOVE AND DISPOSE EXISTING SOIL STOCKPILE IN ACCORDANCE WITH SECTION 02222.
- 2 REMOVE PUMPS AND PIPING, METAL BUILDING, AND ENTIRE CONCRETE FOUNDATION IN ACCORDANCE WITH THE CONSTRUCTION SEQUENCE.
- 3 REMOVE 12 INCH STORM SEWER.
- 4 REMOVE SIDEWALK.
- 5 SAWCUT ASPHALT AND REMOVE ASPHALT AND BASE COURSE WHERE NECESSARY TO ACCOMMODATE NEW CONSTRUCTION.
- 6 PROTECT AND SUPPORT EXISTING YARD HYDRANT AND PIPING DURING CONSTRUCTION IN THIS AREA. YARD HYDRANT SHALL BE REMOVED, PIPING REROUTED, AND A NEW FREEZELESS YARD HYDRANT INSTALLED AS SHOWN ON DRAWING 20-ASM1.01.



LEGEND:
 EXISTING ASPHALT PAVEMENT
 EXISTING SIDEWALK/CONCRETE PAVEMENT
 EXISTING GRAVEL

NO.	REVISIONS	DATE:
1	RECORD DRAWING	05/07/08

DATE: NOVEMBER, 2010	DES BY: BJL	CHK BY: SWS
BY: SAI	DATE: 12-05-13	CONTRACTOR: RUS CONST.

SITE DEMOLITION PLAN

DISINFECTION AND pH CONTROL
 CITY OF SUPERIOR ENVIRONMENTAL SERVICES DIVISION OF PUBLIC WORKS
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7
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 JOB NO. 3559.003

GENERAL NOTES:

1. BENCHMARKS:

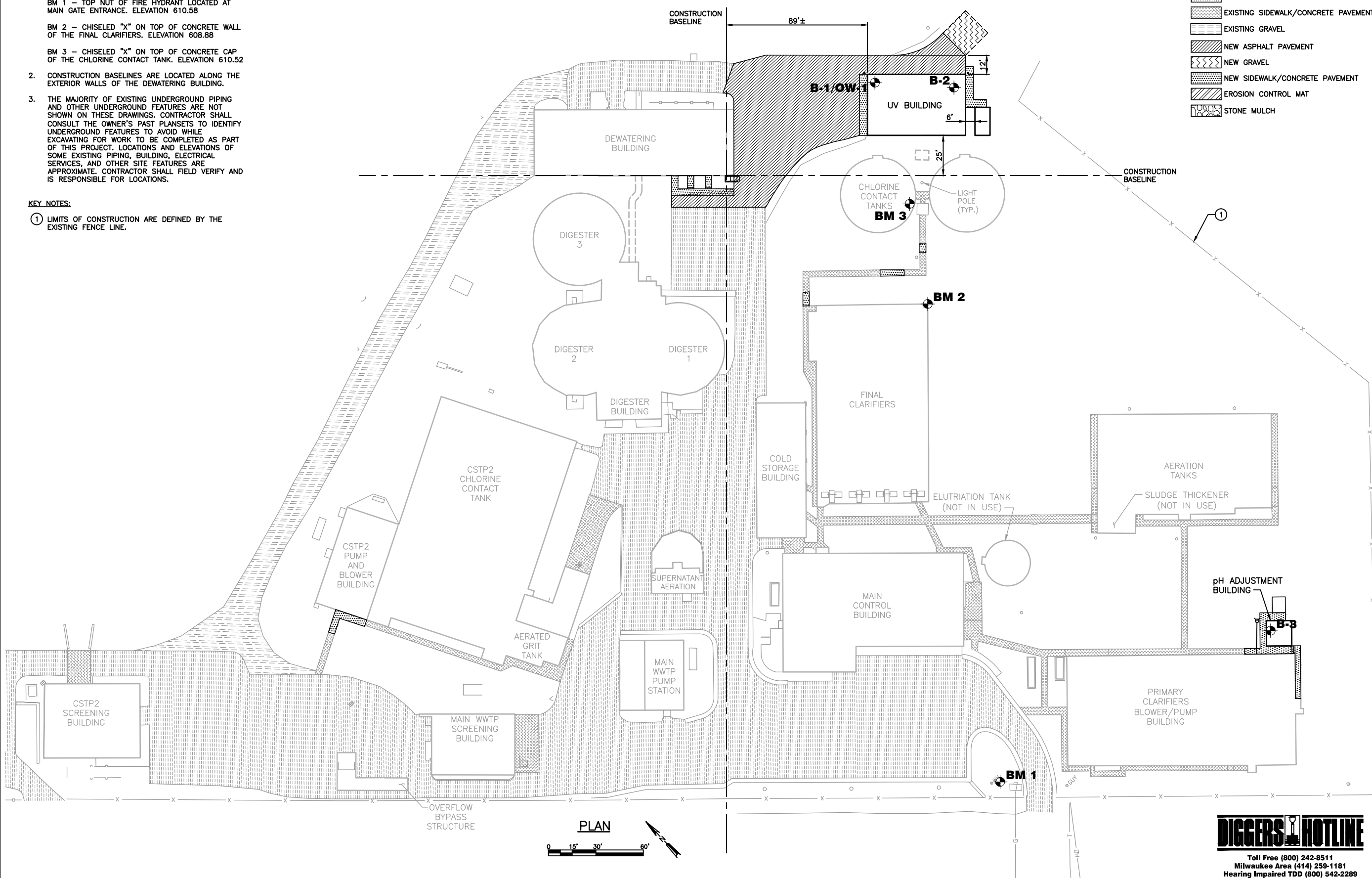
- BM 1 - TOP NUT OF FIRE HYDRANT LOCATED AT MAIN GATE ENTRANCE. ELEVATION 610.58
 - BM 2 - CHISELED "X" ON TOP OF CONCRETE WALL OF THE FINAL CLARIFIERS. ELEVATION 608.88
 - BM 3 - CHISELED "X" ON TOP OF CONCRETE CAP OF THE CHLORINE CONTACT TANK. ELEVATION 610.52
2. CONSTRUCTION BASELINES ARE LOCATED ALONG THE EXTERIOR WALLS OF THE DEWATERING BUILDING.
3. THE MAJORITY OF EXISTING UNDERGROUND PIPING AND OTHER UNDERGROUND FEATURES ARE NOT SHOWN ON THESE DRAWINGS. CONTRACTOR SHALL CONSULT THE OWNER'S PAST PLANSETS TO IDENTIFY UNDERGROUND FEATURES TO AVOID WHILE EXCAVATING FOR WORK TO BE COMPLETED AS PART OF THIS PROJECT. LOCATIONS AND ELEVATIONS OF SOME EXISTING PIPING, BUILDING, ELECTRICAL SERVICES, AND OTHER SITE FEATURES ARE APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY AND IS RESPONSIBLE FOR LOCATIONS.

KEY NOTES:

- ① LIMITS OF CONSTRUCTION ARE DEFINED BY THE EXISTING FENCE LINE.

LEGEND:

	EXISTING ASPHALT PAVEMENT
	EXISTING SIDEWALK/CONCRETE PAVEMENT
	EXISTING GRAVEL
	NEW ASPHALT PAVEMENT
	NEW GRAVEL
	NEW SIDEWALK/CONCRETE PAVEMENT
	EROSION CONTROL MAT
	STONE MULCH



DATE:	NOVEMBER, 2010
REVISIONS	NO. 1
NO.	1
DATE:	NOVEMBER, 2010
DES BY:	BJL
CHK BY:	SWS
RECORD DRAWING	BY: SAI
DATE:	12-05-13
CONTRACTOR:	RUS CONST.

SITE LOCATION PLAN

DISINFECTION AND pH CONTROL
CITY OF SUPERIOR ENVIRONMENTAL SERVICES DIVISION OF PUBLIC WORKS
SUPERIOR, WI



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GENERAL NOTES:

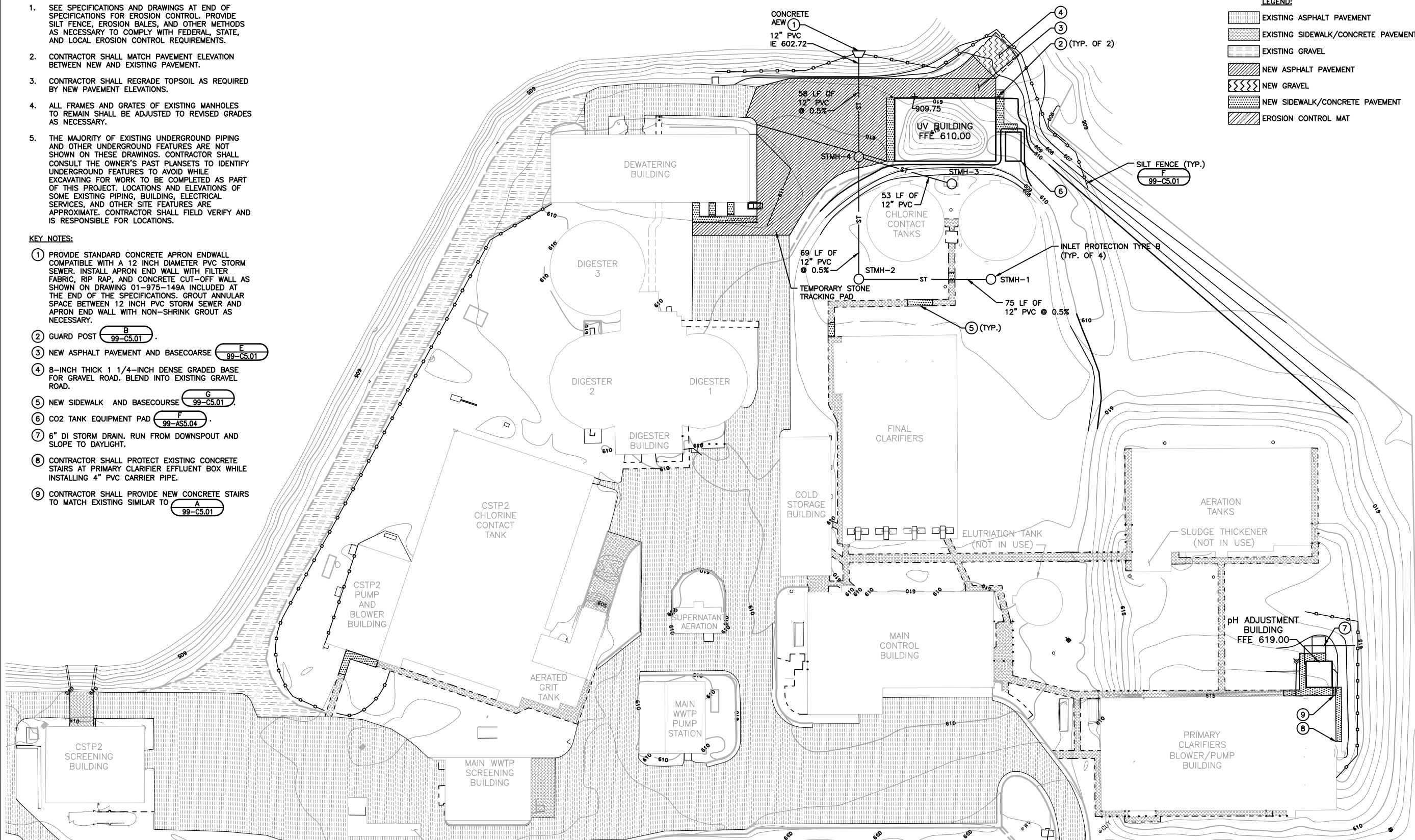
- SEE SPECIFICATIONS AND DRAWINGS AT END OF SPECIFICATIONS FOR EROSION CONTROL. PROVIDE SILT FENCE, EROSION BALES, AND OTHER METHODS AS NECESSARY TO COMPLY WITH FEDERAL, STATE, AND LOCAL EROSION CONTROL REQUIREMENTS.
- CONTRACTOR SHALL MATCH PAVEMENT ELEVATION BETWEEN NEW AND EXISTING PAVEMENT.
- CONTRACTOR SHALL REGRADE TOPSOIL AS REQUIRED BY NEW PAVEMENT ELEVATIONS.
- ALL FRAMES AND GRATES OF EXISTING MANHOLES TO REMAIN SHALL BE ADJUSTED TO REVISED GRADES AS NECESSARY.
- THE MAJORITY OF EXISTING UNDERGROUND PIPING AND OTHER UNDERGROUND FEATURES ARE NOT SHOWN ON THESE DRAWINGS. CONTRACTOR SHALL CONSULT THE OWNER'S PAST PLANSETS TO IDENTIFY UNDERGROUND FEATURES TO AVOID WHILE EXCAVATING FOR WORK TO BE COMPLETED AS PART OF THIS PROJECT. LOCATIONS AND ELEVATIONS OF SOME EXISTING PIPING, BUILDING, ELECTRICAL SERVICES, AND OTHER SITE FEATURES ARE APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY AND IS RESPONSIBLE FOR LOCATIONS.

KEY NOTES:

- PROVIDE STANDARD CONCRETE APRON ENDWALL COMPATIBLE WITH A 12 INCH DIAMETER PVC STORM SEWER. INSTALL APRON END WALL WITH FILTER FABRIC, RIP RAP, AND CONCRETE CUT-OFF WALL AS SHOWN ON DRAWING 01-975-149A INCLUDED AT THE END OF THE SPECIFICATIONS. GROUT ANNULAR SPACE BETWEEN 12 INCH PVC STORM SEWER AND APRON END WALL WITH NON-SHRINK GROUT AS NECESSARY.
- GUARD POST **B** 99-C5.01
- NEW ASPHALT PAVEMENT AND BASECOURSE **E** 99-C5.01
- 8-INCH THICK 1 1/4-INCH DENSE GRADED BASE FOR GRAVEL ROAD. BLEND INTO EXISTING GRAVEL ROAD.
- NEW SIDEWALK AND BASECOURSE **G** 99-C5.01
- CO2 TANK EQUIPMENT PAD **F** 99-AS5.04
- 6" DI STORM DRAIN. RUN FROM DOWNSPOUT AND SLOPE TO DAYLIGHT.
- CONTRACTOR SHALL PROTECT EXISTING CONCRETE STAIRS AT PRIMARY CLARIFIER EFFLUENT BOX WHILE INSTALLING 4" PVC CARRIER PIPE.
- CONTRACTOR SHALL PROVIDE NEW CONCRETE STAIRS TO MATCH EXISTING SIMILAR TO **A** 99-C5.01

LEGEND:

[Pattern]	EXISTING ASPHALT PAVEMENT
[Pattern]	EXISTING SIDEWALK/CONCRETE PAVEMENT
[Pattern]	EXISTING GRAVEL
[Pattern]	NEW ASPHALT PAVEMENT
[Pattern]	NEW GRAVEL
[Pattern]	NEW SIDEWALK/CONCRETE PAVEMENT
[Pattern]	EROSION CONTROL MAT



DATE:	NOVEMBER, 2010
DES BY:	BIL
CHK BY:	SWS
RECORD DRAWING:	NO
BY:	SAI
DATE:	12-05-13
CONTRACTOR:	RUS CONST.

SITE GRADING PLAN

DISINFECTION AND pH CONTROL
CITY OF SUPERIOR ENVIRONMENTAL SERVICES DIVISION OF PUBLIC WORKS
SUPERIOR, WI



SHEET
9
05-C1.02
JOB NO. 3559.003

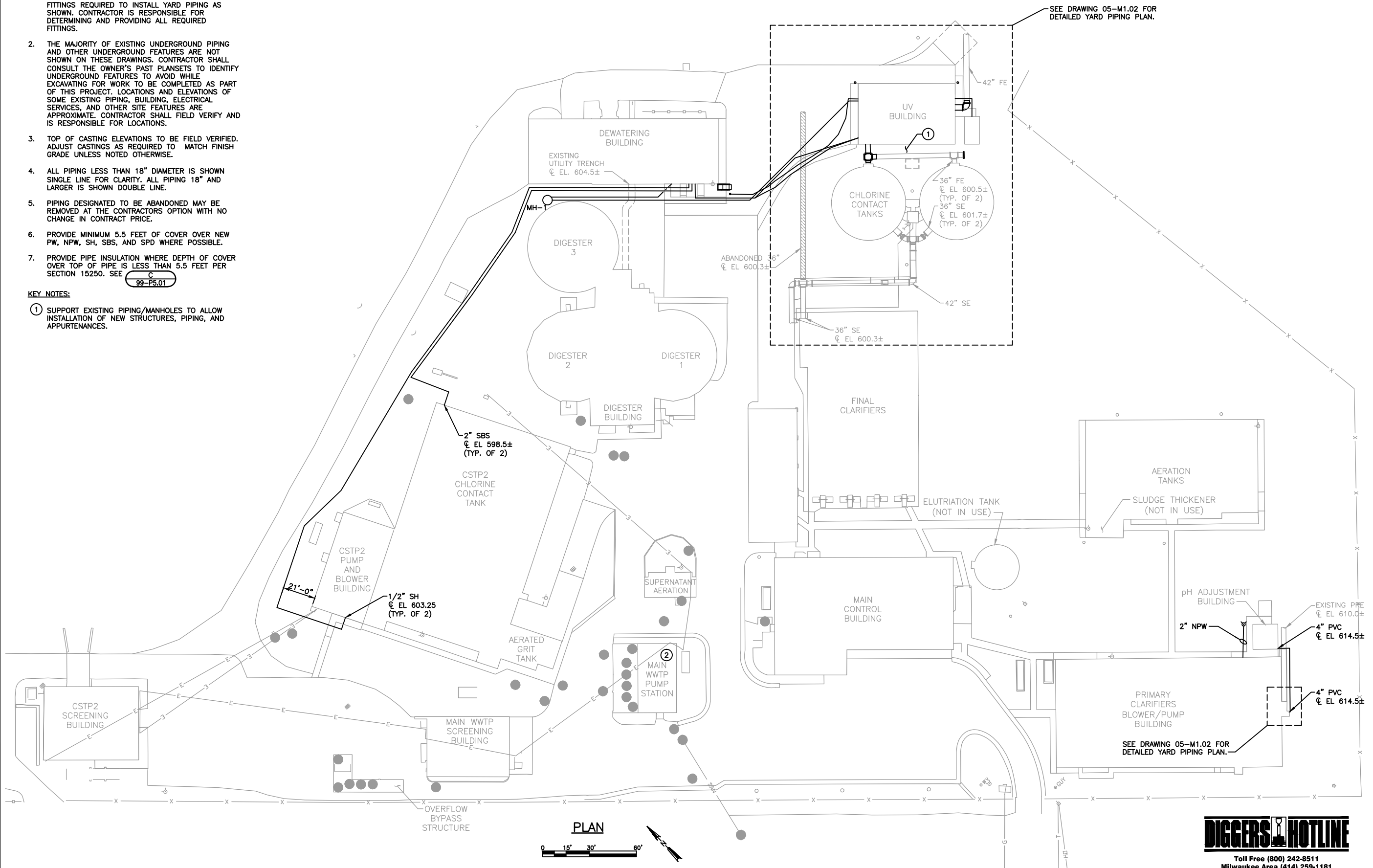
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GENERAL NOTES:

1. THIS DRAWING DOES NOT INDICATE ALL PIPE FITTINGS REQUIRED TO INSTALL YARD PIPING AS SHOWN. CONTRACTOR IS RESPONSIBLE FOR DETERMINING AND PROVIDING ALL REQUIRED FITTINGS.
2. THE MAJORITY OF EXISTING UNDERGROUND PIPING AND OTHER UNDERGROUND FEATURES ARE NOT SHOWN ON THESE DRAWINGS. CONTRACTOR SHALL CONSULT THE OWNER'S PAST PLANSETS TO IDENTIFY UNDERGROUND FEATURES TO AVOID WHILE EXCAVATING FOR WORK TO BE COMPLETED AS PART OF THIS PROJECT. LOCATIONS AND ELEVATIONS OF SOME EXISTING PIPING, BUILDING, ELECTRICAL SERVICES, AND OTHER SITE FEATURES ARE APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY AND IS RESPONSIBLE FOR LOCATIONS.
3. TOP OF CASTING ELEVATIONS TO BE FIELD VERIFIED. ADJUST CASTINGS AS REQUIRED TO MATCH FINISH GRADE UNLESS NOTED OTHERWISE.
4. ALL PIPING LESS THAN 18" DIAMETER IS SHOWN SINGLE LINE FOR CLARITY. ALL PIPING 18" AND LARGER IS SHOWN DOUBLE LINE.
5. PIPING DESIGNATED TO BE ABANDONED MAY BE REMOVED AT THE CONTRACTOR'S OPTION WITH NO CHANGE IN CONTRACT PRICE.
6. PROVIDE MINIMUM 5.5 FEET OF COVER OVER NEW PW, NPW, SH, SBS, AND SPD WHERE POSSIBLE.
7. PROVIDE PIPE INSULATION WHERE DEPTH OF COVER OVER TOP OF PIPE IS LESS THAN 5.5 FEET PER SECTION 15250. SEE 99-P5.01

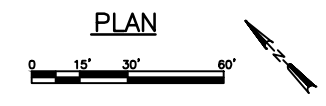
KEY NOTES:

- ① SUPPORT EXISTING PIPING/MANHOLES TO ALLOW INSTALLATION OF NEW STRUCTURES, PIPING, AND APPURTENANCES.



SEE DRAWING 05-M1.02 FOR DETAILED YARD PIPING PLAN.

SEE DRAWING 05-M1.02 FOR DETAILED YARD PIPING PLAN.



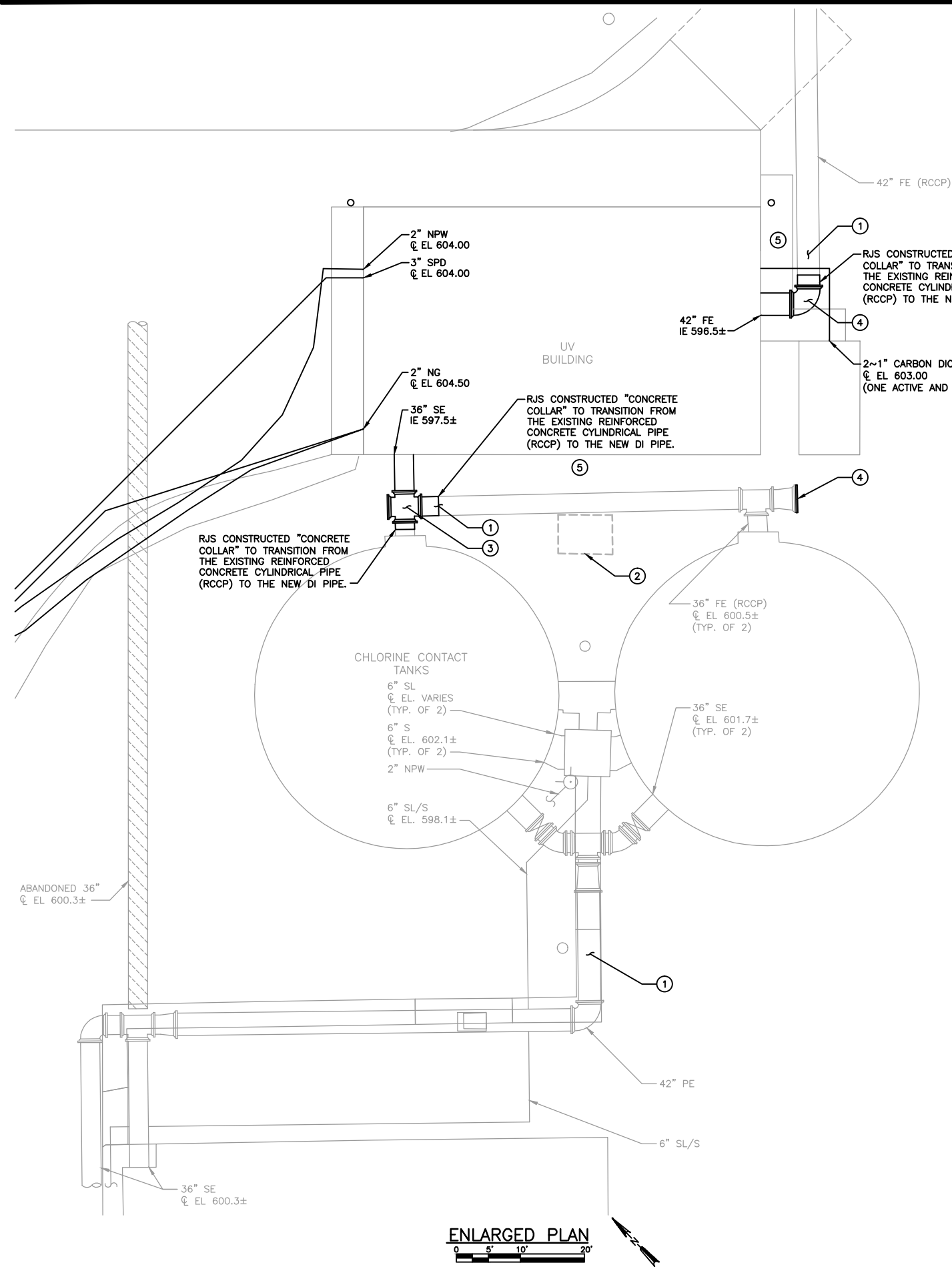
DATE:	NOVEMBER, 2010
REVISIONS	NO. 1
NO.	1
DES BY:	BIL
CHK BY:	SWS
RECORD DRAWING	BY: SAI
DATE:	12-05-13
CONTRACTOR:	RJS CONST.

SITE
OVERALL YARD PIPING PLAN
 DISINFECTION AND pH CONTROL
 CITY OF SUPERIOR ENVIRONMENTAL SERVICES DIVISION OF PUBLIC WORKS
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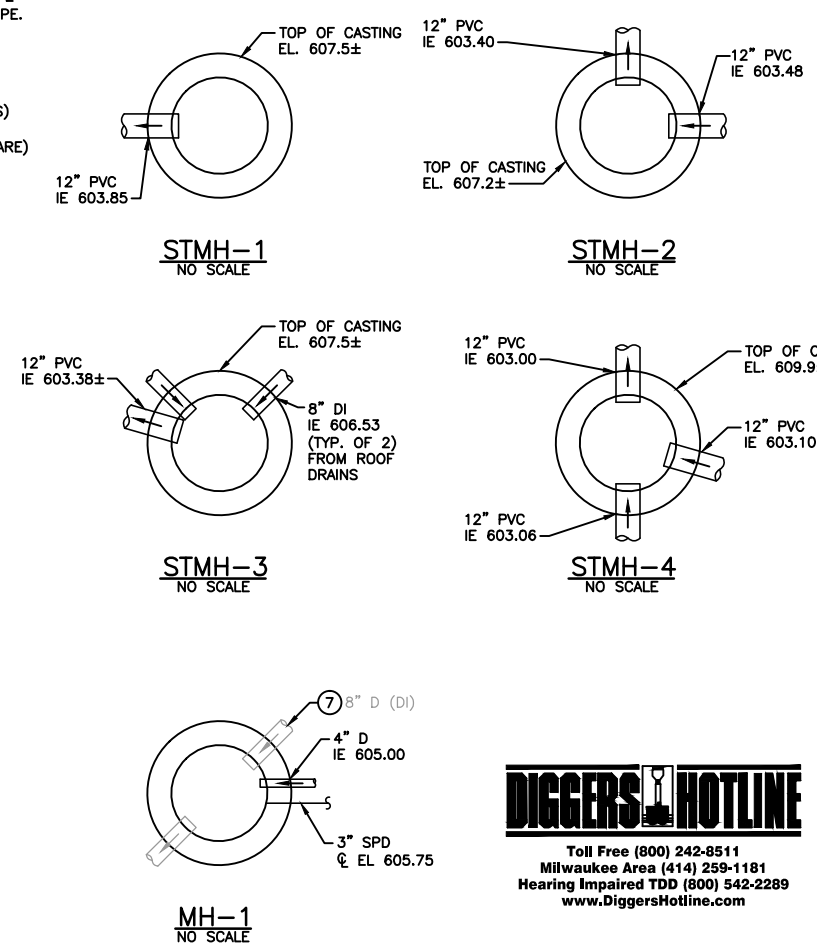
ENLARGED PLAN
0 5 10 20'

GENERAL NOTES:

1. THE MAJORITY OF EXISTING UNDERGROUND PIPING AND OTHER UNDERGROUND FEATURES ARE NOT SHOWN ON THESE DRAWINGS. CONTRACTOR SHALL CONSULT THE OWNER'S PAST PLANSETS TO IDENTIFY UNDERGROUND FEATURES TO AVOID WHILE EXCAVATING FOR WORK TO BE COMPLETED AS PART OF THIS PROJECT. LOCATIONS AND ELEVATIONS OF SOME EXISTING PIPING, BUILDING, ELECTRICAL SERVICES, AND OTHER SITE FEATURES ARE APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY AND IS RESPONSIBLE FOR LOCATIONS.
2. THIS DRAWING DOES NOT INDICATE ALL PIPE FITTINGS REQUIRED TO INSTALL YARD PIPING AS SHOWN. CONTRACTOR IS RESPONSIBLE FOR DETERMINING AND PROVIDING ALL REQUIRED FITTINGS.
3. REFER TO MANHOLE DETAIL DRAWING 01-975-43A FOUND AT THE END OF THE SPECIFICATIONS.
4. MANHOLE RIM ELEVATIONS SHALL MATCH FINISHED GRADE UNLESS NOTED OTHERWISE.
5. PROVIDE MINIMUM 4'-0" DIAMETER MANHOLE UNLESS LISTED TO BE LARGER OR SMALLER. CONTRACTOR SHALL CONFIRM MINIMUM MANHOLE SIZE LISTED AND PROVIDE LARGER MANHOLE IF REQUIRED BY PIPING.

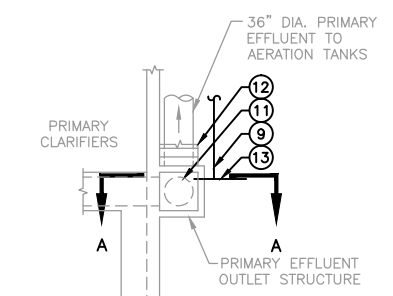
KEY NOTES:

- 1 CONFIRM LOCATION AND ELEVATION OF EXISTING 36" AND 42" PIPE.
- 2 CONFIRM LOCATION AND ELEVATION OF PIPELINES ENTERING AND EXITING THIS STRUCTURE.
- 3 REMOVE 36" ELBOW AND 36" PIPING AS NECESSARY TO INSTALL NEW 36" CROSS, PIPING, AND COUPLINGS AS NECESSARY TO PROVIDE WATERTIGHT SEAL INTO NEW UV BUILDING. PROVIDE WATERTIGHT PLUG ON THE UNUSED LEG OF THE 36" CROSS. PROVIDE BYPASS PUMPING AS INDICATED IN SECTION 01010
- 4 SAWCUT SECTION OF EXISTING 42" PIPELINE AND REMOVE TO THE EXISTING 36" BY 42" INCREASER. PROVIDE WATERTIGHT PLUG ON THE 42" SIDE OF THE INCREASER. INSTALL NEW 42" ELBOW, PIPING, AND COUPLINGS AS NECESSARY TO PROVIDE WATERTIGHT SEAL. PROVIDE BYPASS PUMPING AS INDICATED IN SECTION 01010.
- 5 SUPPORT EXISTING PIPING/MANHOLES/STRUCTURES TO ALLOW INSTALLATION OF NEW STRUCTURE, PIPING, AND APPURTENANCES.
- 6 ANCHOR 1 1/2" PVC SAMPLER LINE CARRIER PIPE TO WALL WITH SS HARDWARE. TERMINATE 1 1/2" PVC PIPE 4" ABOVE EXISTING PRIMARY EFFLUENT CHANNEL INVERT. THREAD FLEXIBLE SAMPLER TUBING AND SAMPLE STRAINER THROUGH 1 1/2" PVC CARRIER PIPE AND ALLOW STRAINER TO REST ON PRE CHANNEL INVERT.
- 7 EXCAVATE TO LOCATE THE EXISTING 8" D EXITING THE DEWATERING BUILDING AND CONFIRM PIPE ELEVATION. INSTALL "DOG-HOUSE" MANHOLE OVER TOP OF 8" D AND POUR CAST-IN-PLACE MANHOLE BOTTOM TO FORM A WATERTIGHT MANHOLE. CONTRACTOR SHALL ASSUME EXISTING 8" D IS APPROXIMATELY 6 FEET BELOW GROUND SURFACE.
- 8 CORE OPENING IN EXISTING WALL. INSTALL 4" DIA. CARRIER PIPE. SEAL ANNULAR SPACE WITH LINK-SEAL AND GROUT FLUSH WITH BOTH FACES OF WALL AT PRIMARY EFFLUENT OUTLET STRUCTURE.
- 9 4" DIA. PVC CARRIER PIPE FOR SAMPLER AND CHEMICAL SOLUTION TUBING. PROVIDE INSULATION OVER 4" DIA. CARRIER PIPE.
- 10 FOR CLARITY, SAMPLER AND pH ADJUSTMENT CHEMICAL TUBING ARE NOT SHOWN FROM OR IN 4" AND 1 1/2" DIA. CARRIER PIPING. PROVIDE SAMPLER AND CHEMICAL TUBING IN CARRIER PIPING AS WELL AS 1/8" DIA. NYLON ROPE TO BE USED FOR FUTURE TUBING REPLACEMENT BETWEEN SAMPLE INTAKE AND CHEMICAL APPLICATION POINTS AND pH ADJUSTMENT BUILDING. TIE OFF 1/8" DIA. NYLON ROPE AT BOTH ENDS.
- 11 ANCHOR 1 1/2" PVC pH ADJUSTMENT CHEMICAL TUBING CARRIER PIPE TO WALL.
- 12 CONTRACTOR SHALL PROTECT CONCRETE STAIRS DURING INSTALLATION OF 4" PVC CARRIER PIPE.
- 13 PROVIDE APPROXIMATE 10 FT LONG 4" PVC PIPE TO DRAIN CONDENSATE BUILDUP OR CLEAN CARRIER PIPE. PROVIDE END CAP WITH NPT LID.

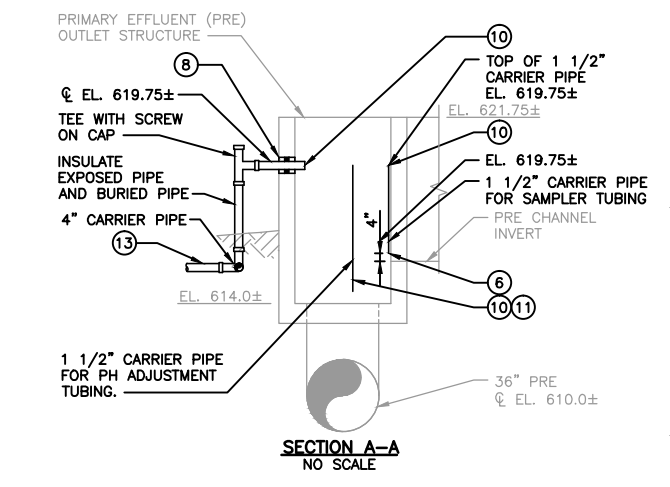


MH-1
NO SCALE

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ENLARGED PLAN
0 5 10 20'



SECTION A-A
NO SCALE

DATE:	NOVEMBER, 2010
DES BY:	B:JL
CHK BY:	SWS
RECORD DRAWING:	SAI
DATE:	12-05-13
CONTRACTOR:	RJS CONST.

SITE
ENLARGED YARD PIPING PLANS AND DETAILS
DISINFECTION AND pH CONTROL
CITY OF SUPERIOR ENVIRONMENTAL SERVICES DIVISION OF PUBLIC WORKS
SUPERIOR, WI



GENERAL NOTES:

- REFER TO SPECIFICATION SECTION 16990 FOR WIRING ASSOCIATED WITH THE PLANT SCADA SYSTEM.
- WHERE CONDUITS IN EXISTING BUILDINGS ARE PAINTED TO MATCH THE WALLS, ALL NEW CONDUITS INSTALLED IN THOSE BUILDINGS SHALL BE PAINTED TO MATCH EXISTING CONDUITS.
- THE MAJORITY OF EXISTING UNDERGROUND PIPING AND OTHER UNDERGROUND FEATURES ARE NOT SHOWN ON THESE DRAWINGS. CONTRACTOR SHALL CONSULT THE OWNER'S PAST PLANS/SETS TO IDENTIFY UNDERGROUND FEATURES TO AVOID WHILE EXCAVATING FOR WORK TO BE COMPLETED AS PART OF THIS PROJECT. LOCATIONS AND ELEVATIONS OF SOME EXISTING PIPING, BUILDING, ELECTRICAL SERVICES, AND OTHER SITE FEATURES ARE APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY AND IS RESPONSIBLE FOR LOCATIONS.

2~3 1/2" C. FOR PP-40-01 POWER
 2" C. FOR COMMUNICATION FIBER
 1 1/2" C. FOR PP-55-01 POWER
 3/4" C. FOR FLOAT SWITCH (LS-75-01) WIRING
 2" C. SPARE (7) (8)

1 1/2" C. FOR PP-55-01 POWER

2~3 1/2" C. FOR PP-40-01 POWER
 2" C. FOR COMMUNICATION FIBER
 3/4" C. FOR FLOAT SWITCH (LS-75-01) WIRING
 2" C. SPARE (7)

NEMA 4X STAINLESS STEEL JUNCTION BOX WITH TERMINAL BLOCKS AS REQUIRED FOR FLOAT SWITCH LS-75-01. COORDINATE EXACT LOCATION OF FLOAT SWITCH WITH OWNER PRIOR TO INSTALLATION

3/4" C. FOR FLOAT SWITCH (LS-75-01) WIRING (7) (8)

2~3 1/2" C. FOR POWER
 2" C. FOR COMMUNICATION FIBER
 2" C. SPARE (7)

2" C. FOR COMMUNICATION FIBER
 2" C. SPARE (7)

2~3 1/2" C. FOR PP-40-01 POWER (2)
 2" C. SPARE (1) (7) (8)

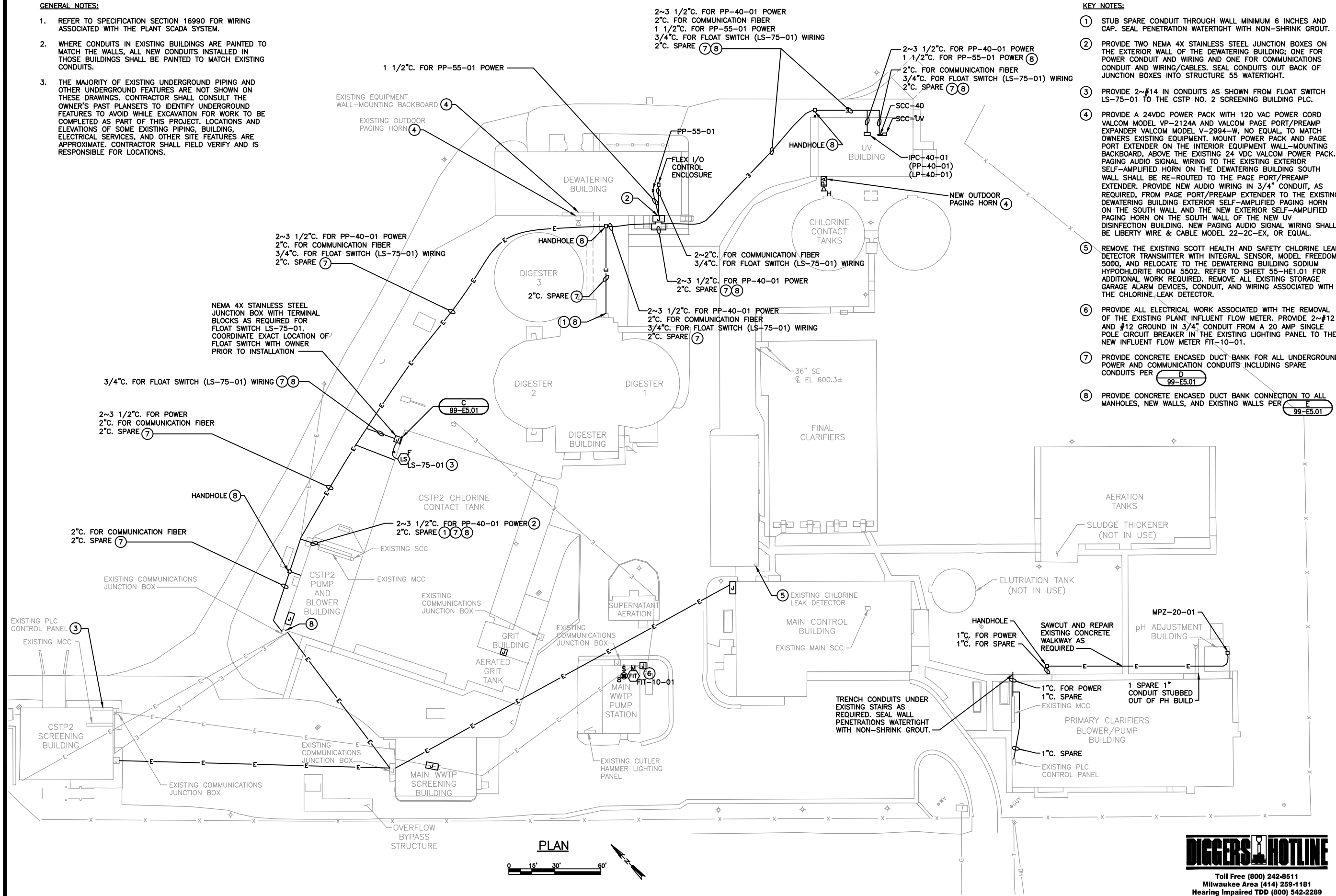
2~3 1/2" C. FOR PP-40-01 POWER
 2" C. FOR COMMUNICATION FIBER
 3/4" C. FOR FLOAT SWITCH (LS-75-01) WIRING
 2" C. SPARE (7)

2~3 1/2" C. FOR PP-40-01 POWER
 2" C. FOR COMMUNICATION FIBER
 3/4" C. FOR FLOAT SWITCH (LS-75-01) WIRING
 2" C. SPARE (7) (8)

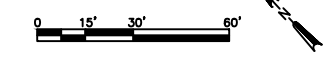
2~3 1/2" C. FOR PP-40-01 POWER
 2" C. FOR COMMUNICATION FIBER
 3/4" C. FOR FLOAT SWITCH (LS-75-01) WIRING
 2" C. SPARE (7)

KEY NOTES:

- STUB SPARE CONDUIT THROUGH WALL MINIMUM 6 INCHES AND CAP. SEAL PENETRATION WATERTIGHT WITH NON-SHRINK GROUT.
- PROVIDE TWO NEMA 4X STAINLESS STEEL JUNCTION BOXES ON THE EXTERIOR WALL OF THE DEWATERING BUILDING; ONE FOR POWER CONDUIT AND WIRING AND ONE FOR COMMUNICATIONS CONDUIT AND WIRING/CABLES. SEAL CONDUITS OUT BACK OF JUNCTION BOXES INTO STRUCTURE 55 WATERTIGHT.
- PROVIDE 2~#14 IN CONDUITS AS SHOWN FROM FLOAT SWITCH LS-75-01 TO THE CSTP NO. 2 SCREENING BUILDING PLC.
- PROVIDE A 24VDC POWER PACK WITH 120 VAC POWER CORD EXPANDER VALCOM MODEL VP-2124A AND VALCOM PAGE PORT/PREAMP EXPANDER VALCOM MODEL V-2994-W, NO EQUAL, TO MATCH OWNERS EXISTING EQUIPMENT. MOUNT POWER PACK AND PAGE PORT EXTENDER ON THE INTERIOR EQUIPMENT WALL-MOUNTING BACKBOARD, ABOVE THE EXISTING 24 VDC VALCOM POWER PACK. PAGING AUDIO SIGNAL WIRING TO THE EXISTING EXTERIOR SELF-AMPLIFIED HORN ON THE DEWATERING BUILDING SOUTH WALL SHALL BE RE-ROUTED TO THE PAGE PORT/PREAMP EXTENDER. PROVIDE NEW AUDIO WIRING IN 3/4" CONDUIT, AS REQUIRED, FROM PAGE PORT/PREAMP EXTENDER TO THE EXISTING DEWATERING BUILDING EXTERIOR SELF-AMPLIFIED PAGING HORN ON THE SOUTH WALL AND THE NEW EXTERIOR SELF-AMPLIFIED PAGING HORN ON THE SOUTH WALL OF THE NEW UV DISINFECTANT BUILDING. NEW PAGING AUDIO SIGNAL WIRING SHALL BE LIBERTY WIRE & CABLE MODEL 22-2C-EX, OR EQUAL.
- REMOVE THE EXISTING SCOTT HEALTH AND SAFETY CHLORINE LEAK DETECTOR TRANSMITTER WITH INTEGRAL SENSOR, MODEL FREEDOM 5080, AND RELOCATE TO THE DEWATERING BUILDING SODIUM HYPOCHLORITE ROOM 5502. REFER TO SHEET 55-HE1.01 FOR ADDITIONAL WORK REQUIRED. REMOVE ALL EXISTING STORAGE GARAGE ALARM DEVICES, CONDUIT, AND WIRING ASSOCIATED WITH THE CHLORINE LEAK DETECTOR.
- PROVIDE ALL ELECTRICAL WORK ASSOCIATED WITH THE REMOVAL OF THE EXISTING PLANT INFLUENT FLOW METER. PROVIDE 2~#12 AND #12 GROUND IN 3/4" CONDUIT FROM A 20 AMP SINGLE POLE CIRCUIT BREAKER IN THE EXISTING LIGHTING PANEL TO THE NEW INFLUENT FLOW METER FIT-10-01.
- PROVIDE CONCRETE ENCASED DUCT BANK FOR ALL UNDERGROUND POWER AND COMMUNICATION CONDUITS INCLUDING SPARE CONDUITS PER (99-E5.01)
- PROVIDE CONCRETE ENCASED DUCT BANK CONNECTION TO ALL MANHOLES, NEW WALLS, AND EXISTING WALLS PER (99-E5.01)



PLAN



NO.	REVISIONS	DATE
1	RECORD DRAWING	11/17/13

DATE: NOVEMBER, 2010
 DES BY: DDG CHK BY: SWS
 BY: SAI
 DATE: 12-05-13
 CONTRACTOR: RUS CONST.

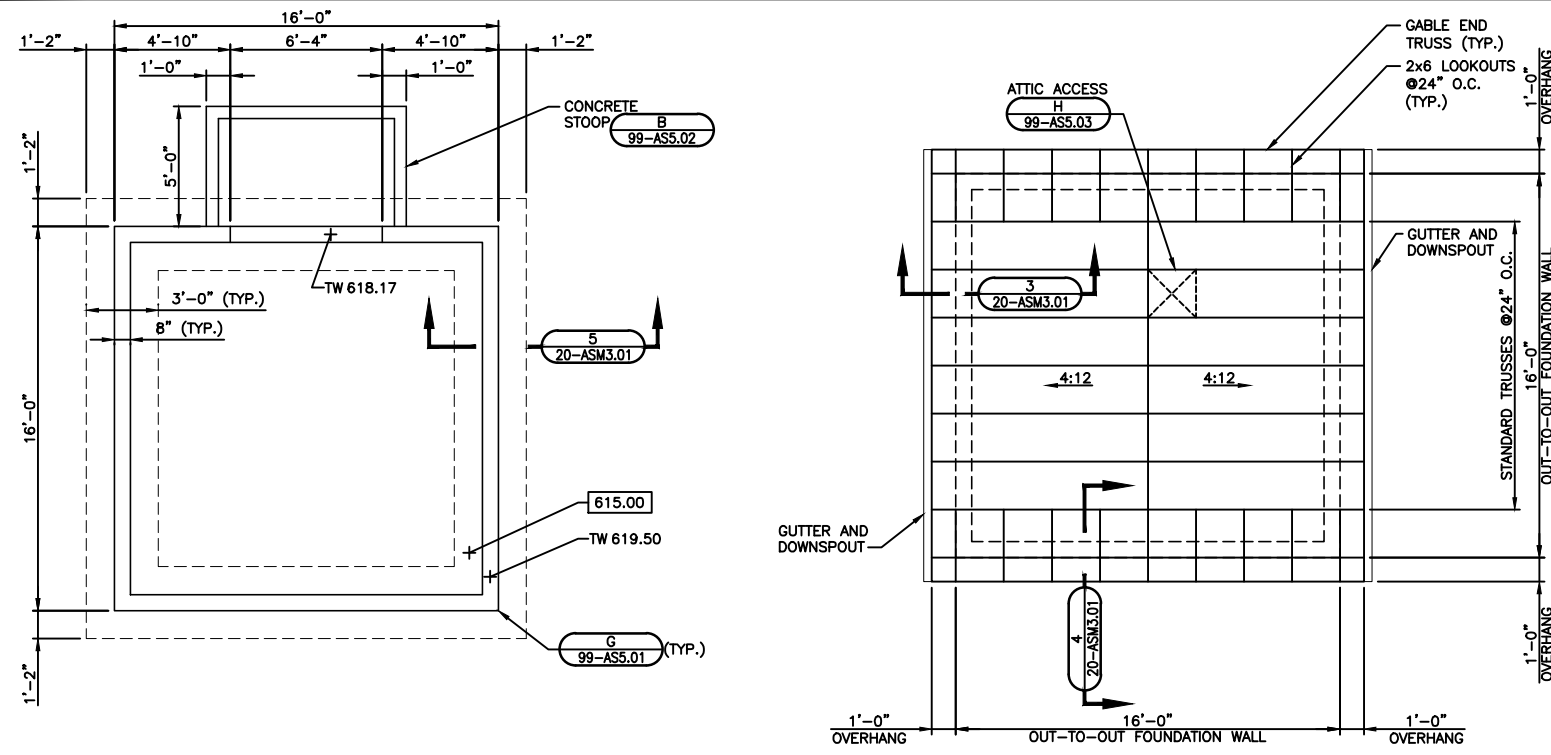
SITE ELECTRICAL PLAN
 DISINFECTION AND pH CONTROL
 CITY OF SUPERIOR ENVIRONMENTAL SERVICES DIVISION OF PUBLIC WORKS
 SUPERIOR, WI



SHEET
12
 05-E1.01
 JOB NO. 3559.003



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FOUNDATION PLAN

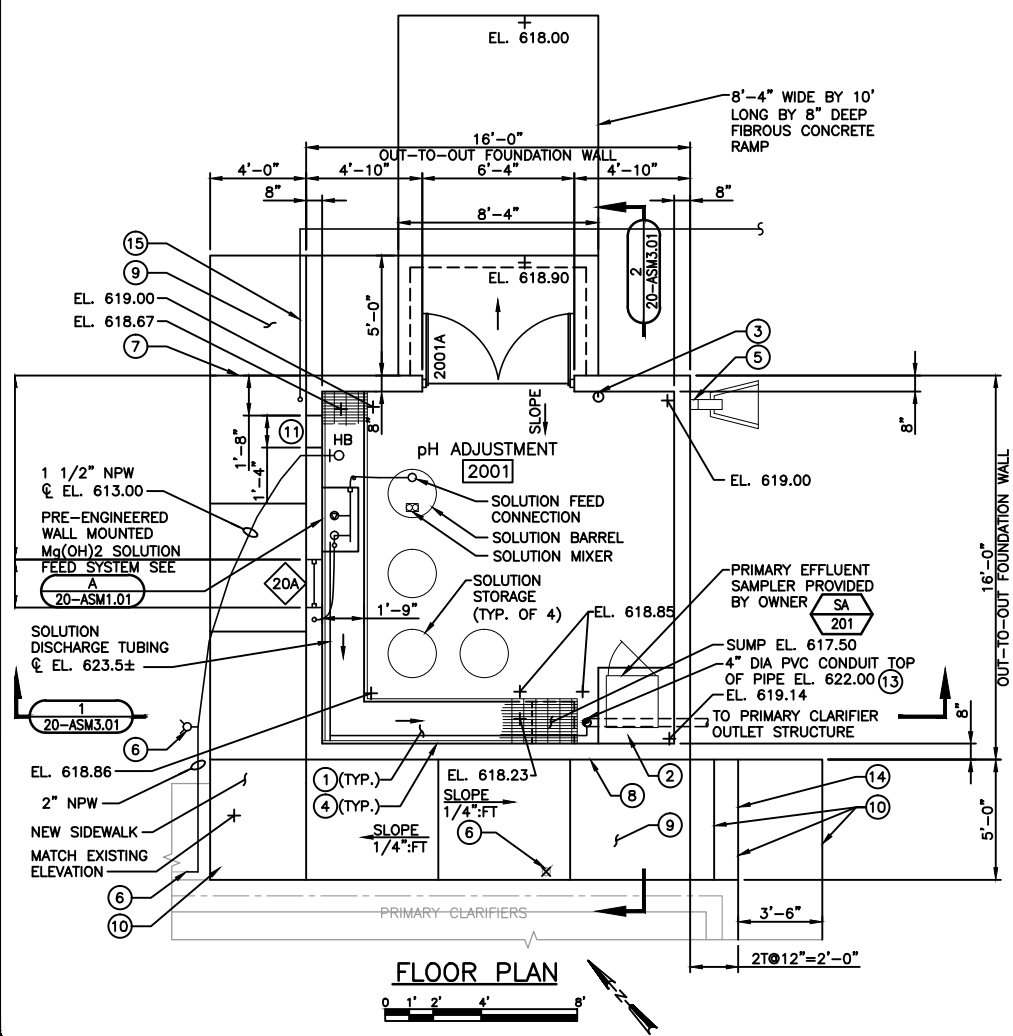
ROOF PLAN

GENERAL NOTES:

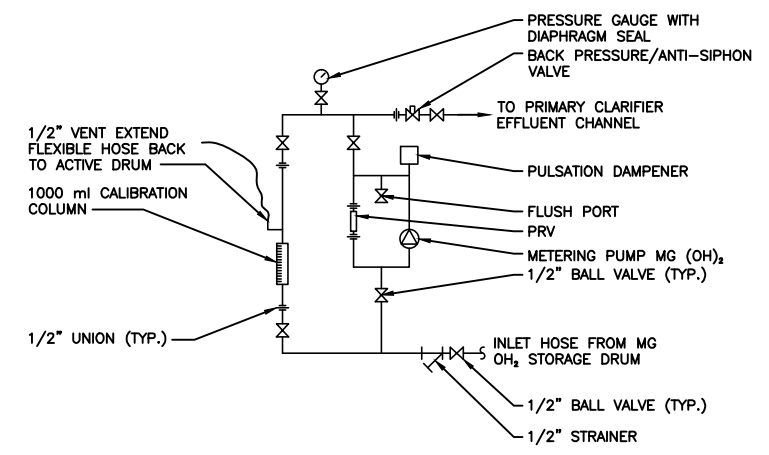
- INSIDE FACE OF EXTERIOR PLYWOOD SHALL LINE UP WITH OUTSIDE FACE OF FOUNDATION WALL.
- SEE ROOM FINISH SCHEDULE FOR TREATMENT OF WALLS, FLOOR, AND CEILING.
- WALLS SHALL BE FRAMED WITH 2x6 WOOD STUDS @24" O.C. STUDS SHALL BE CENTERED UNDER TRUSSES.
- 2~2x8 HEADERS ARE REQUIRED ABOVE ALL OPENINGS IN STUD WALLS. PROVIDE BLOCKING BETWEEN 2x HEADER MEMBERS AS REQUIRED.
- PROVIDE DOUBLE STUDS FULL HEIGHT OF WALL EACH SIDE OF DOOR OPENING.
- PROVIDE SINGLE STUD UNDER EACH END OF ALL WINDOW AND DOOR HEADERS.
- SEE DETAIL (A) 99-AS6.01 FOR WINDOW HEAD, JAMB, AND SILL DETAIL.
- DETAIL FOR EXTERIOR DOOR JAMB AND HEAD TO BE SIMILAR TO DETAILS FOR WINDOW JAMB AND HEAD.
- COORDINATE LOCATIONS AND REQUIREMENTS OF SOLUTION FEED EQUIPMENT WITH EQUIPMENT SUPPLIER.
- FOR FOUNDATION LEGEND, SEE (A) 40-ASM1.02

KEY NOTES:

- FIBERGLASS GRATING PER (A) 99-AS5.04
- CONCRETE EQUIPMENT PAD (K) 99-AS5.01
- MOUNT FIRE EXTINGUISHER TO WALL.
- FIBERGLASS GRATING SUPPORT ANGLE
- DOWNSPOUT TO SPILL ONTO SPLASH PAD.
- REMOVE EXISTING YARD-HYDRANT. TAP INTO EXISTING NPW LINE AND ROUTE NEW 2" NPW LINE AS SHOWN, INSTALL NEW FREEZELESS YARD HYDRANT, AND EXTEND 1 1/2" NPW LINE INTO BUILDING WITH HOSE BIBB.
- PROVIDE SIDEWALK JOINTS PER SPECIFICATIONS.
- PROVIDE 1/2" EXPANSION MATERIAL BETWEEN SIDEWALK AND FOUNDATION WALL (TYP.).
- SLOPE NEW SIDEWALK 1/4" PER FOOT AWAY FROM NEW BUILDING.
- SAWCUT AND REMOVE AND REPLACE EXISTING SIDEWALK/STAIRS WITHIN LIMITS SHOWN. INSTALL EXPANSION MAT'L AT INTERFACE BETWEEN NEW AND EXISTING CONCRETE AND AT PRIMARY CLARIFIER WALL.
- HVAC LOUVER OPENING.
- REMOVE AND REPLACE EXISTING YARD HYDRANT.
- 4" DIA. PVC CONDUIT TO CARRY 3/4" DIA. FLEXIBLE SAMPLER INTAKE TUBING AND 3/4" DIA. FLEXIBLE MG OH₂ DISCHARGE TUBING FROM BUILDING TO PRIMARY CLARIFIER EFFLUENT STRUCTURE. PROVIDE REMOVABLE CAP FOR 4" PVC CONDUIT, DRILL TWO HOLES IN CAP TO ACCOMMODATE TUBING, AND SEAL CAP TO PROVIDE AIR TIGHT SEAL.
- EXTERIOR CONCRETE STAIRS (A) 99-C5.01
- DOWNSPOUT TO DRAIN INTO 6" DI. RUN BELOW-GROUND TO GRADE.



FLOOR PLAN



pH ADJUSTMENT SYSTEM PIPING SCHEMATIC

PH ADJUSTMENT BUILDING PLANS

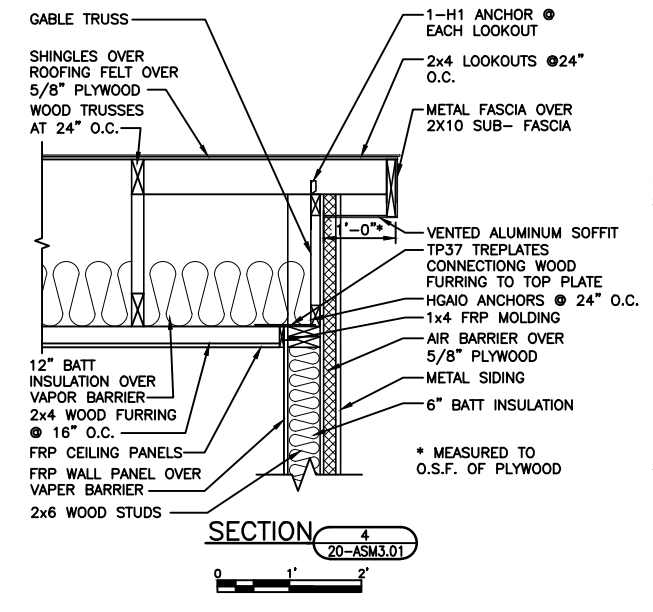
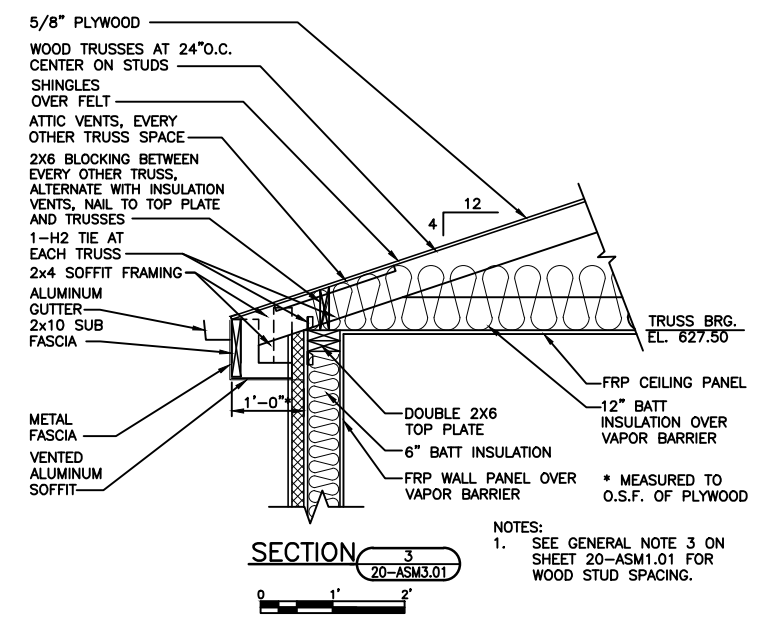
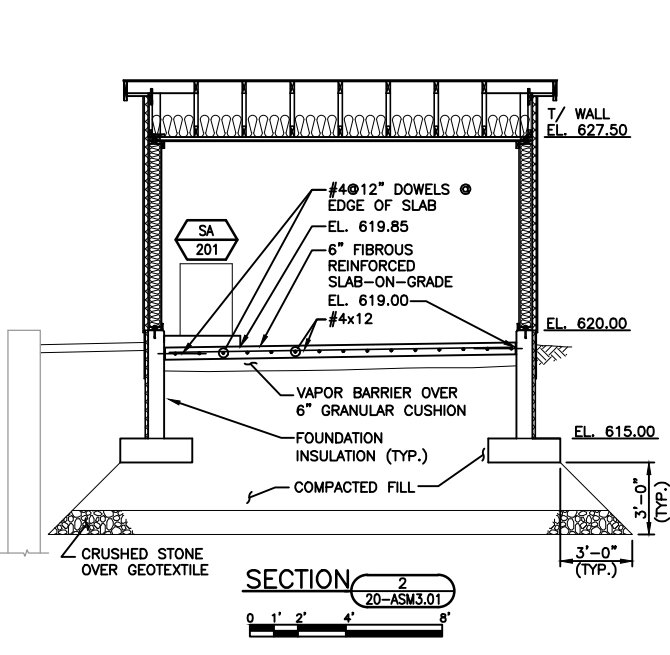
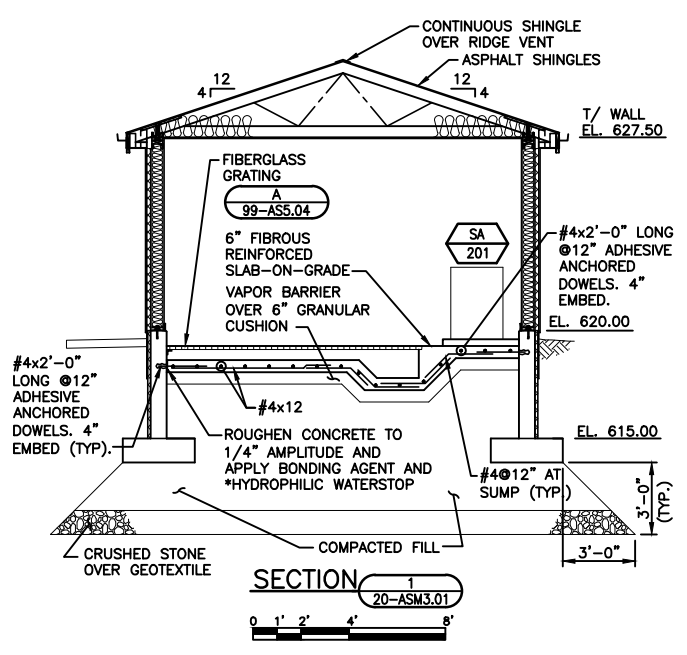
DISINFECTION AND pH CONTROL
CITY OF SUPERIOR ENVIRONMENTAL SERVICES DIVISION OF PUBLIC WORKS
SUPERIOR, WI

DATE: NOVEMBER, 2010	DES BY: RAB	CHK BY: SWS
REVISIONS	NO.	DATE
1		

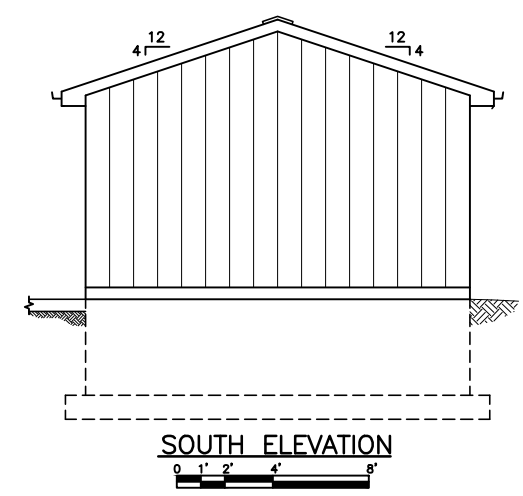
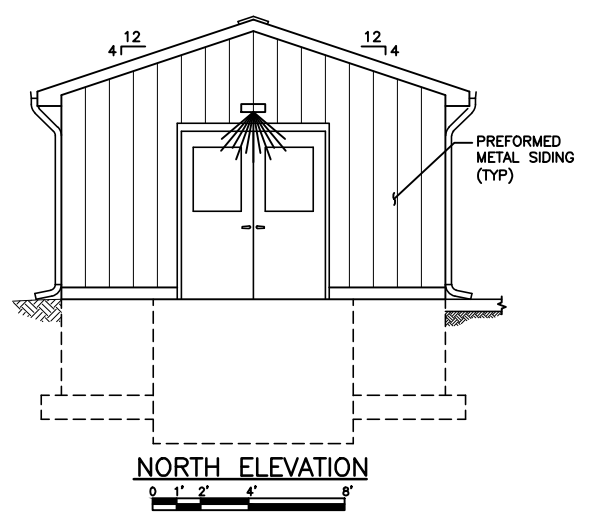
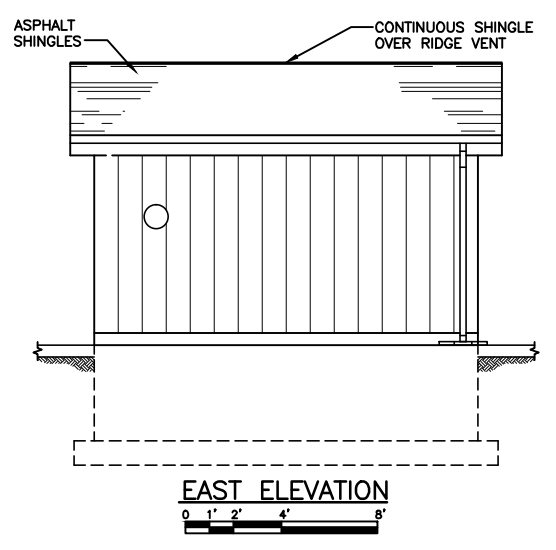
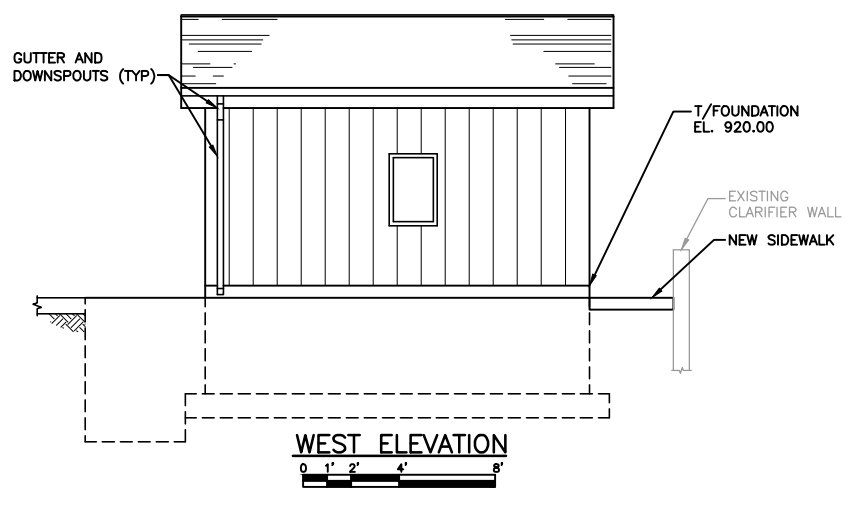
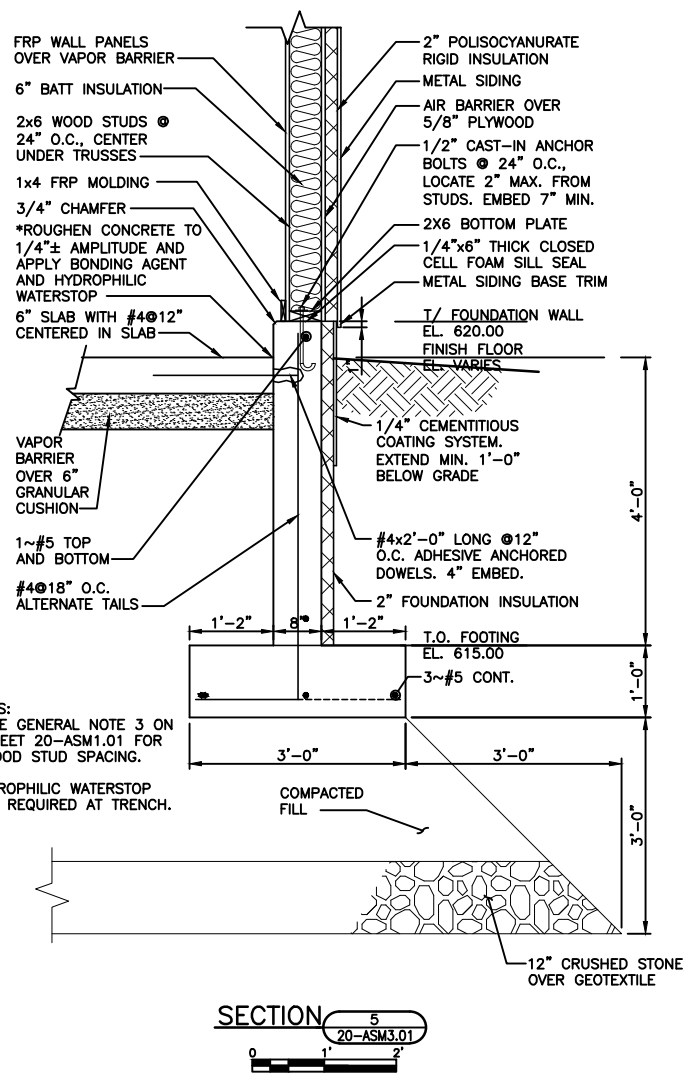
RECORD DRAWING
BY: SAI
DATE: 12-05-13
CONTRACTOR: RUS CONST.

STRAND ASSOCIATES, INC. ENGINEERS

SHEET **13**
20-ASM1.01
JOB NO. 3559.003



NOTES:
1. SEE GENERAL NOTE 3 ON SHEET 20-ASM1.01 FOR WOOD STUD SPACING.



DATE:	NOVEMBER, 2010
DES BY:	RAB
CHK BY:	SWS
RECORD DRAWING	
BY:	SAI
DATE:	12-05-13
CONTRACTOR:	RUS CONST.

PH ADJUSTMENT BUILDING SECTIONS AND ELEVATIONS
 DISINFECTION AND pH CONTROL
 CITY OF SUPERIOR ENVIRONMENTAL SERVICES DIVISION OF PUBLIC WORKS
 SUPERIOR, WI



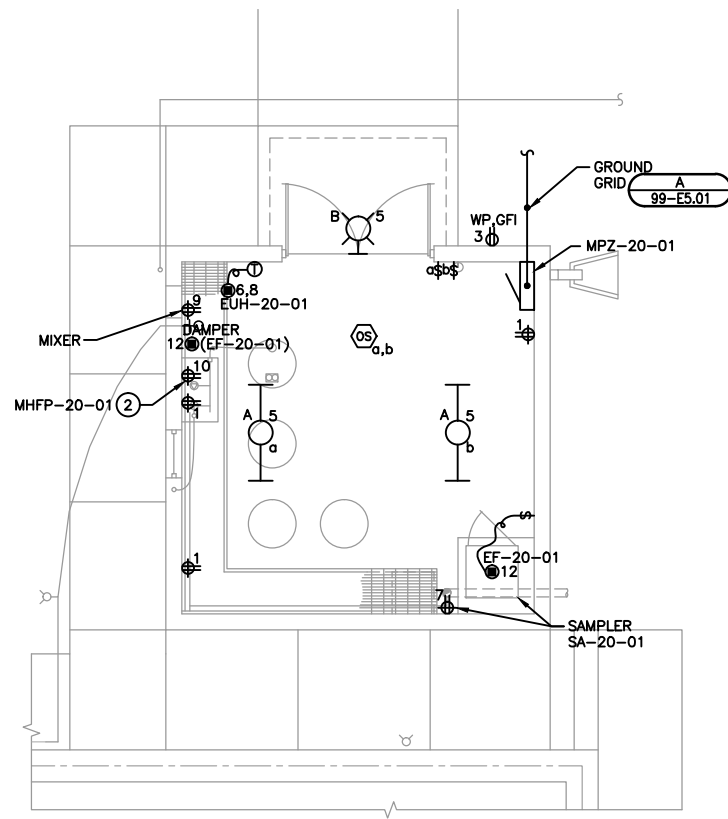
SHEET
14
 20-ASM3.01
 JOB NO. 3559.003

GENERAL NOTES:

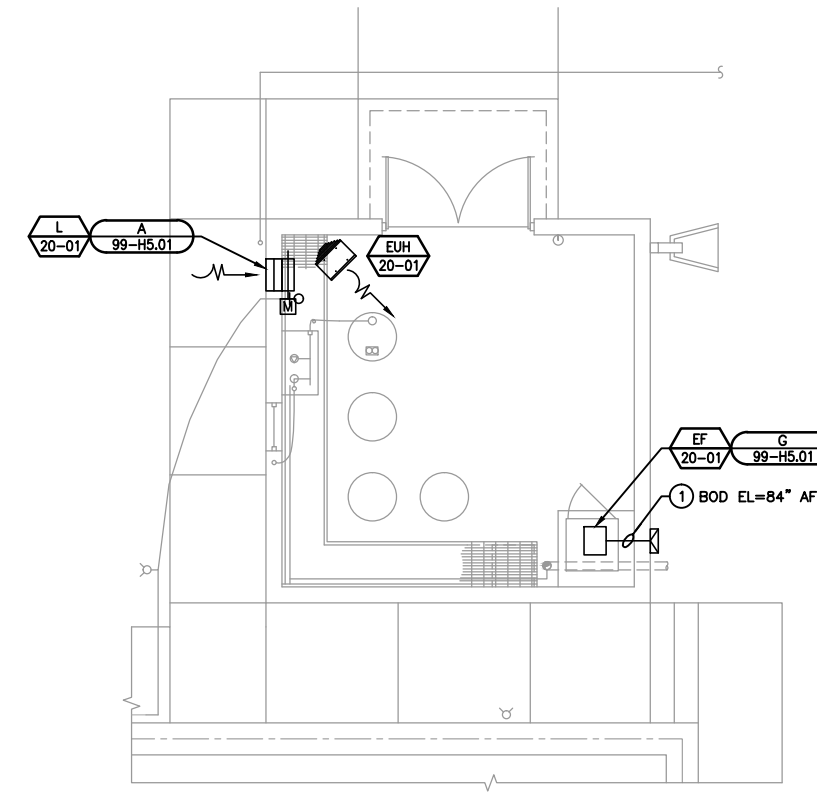
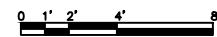
- COORDINATE LOCATIONS AND REQUIREMENTS OF SOLUTION FEED EQUIPMENT WITH EQUIPMENT SUPPLIER.
- THERMOSTATS ON EXTERIOR WALLS SHALL HAVE INSULATED BASES.

KEY NOTES:

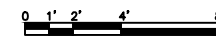
- PROVIDE 8/8 EXHAUST DUCT AND MANUFACTURER'S SCREENED WALL CAP.
- PROVIDE A MICARTA LABEL AS SPECIFIED ABOVE THE RECEPTACLE WITH THE FOLLOWING TEXT (LINE 1: "CHEMICAL PUMP") (LINE 2: "MHFP-20-01").



ELECTRICAL PLAN



HVAC PLAN



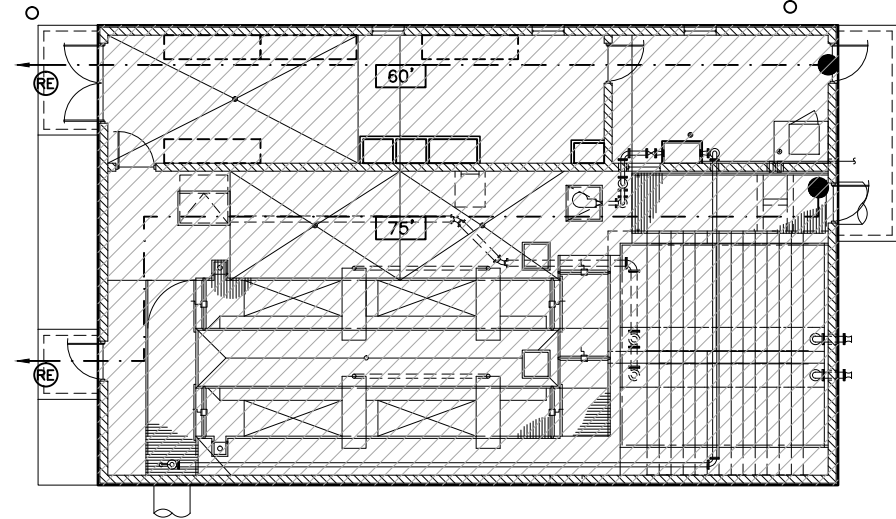
MINI POWER ZONE MPZ-20-01

Service:	480V, 1Ø, 2 Wire Primary; 120/240V, 1Ø, 3 Wire Secondary	Enclosure:	NEMA 1	Mounting:	Surface								
Main Breaker:	40A M.C.B. Primary S.E. Rated; 60A M.C.B. Secondary			Main Bus:	Copper								
Location:	pH Adjustment Building - Structure 20			SCIC:	18 & AIC								
Room Number/Description	Amps	Poles	Ckt. #	Phase A	Phase B	Phase A	Phase B	Ckt. #	Amps	Poles	Room Number/Description		
INDOOR RECEPTACLES	20	1	1	540		300		2	80	2	MAIN		
OUTDOOR RECEPTACLE	20	1	3		180		300	4					
LIGHTS	20	1	5	390		2500		6					
SAMPLER RECEPTACLE (SA-20-01)	20	1	7		1000		2500	8	30	2	ELECTRIC UNIT HEATER (EUH-20-01)		
MIXER RECEPTACLE	20	1	9	700		0		10	20	1	CHEM PUMP RECEPT (MHFP-20-01)		
SPARE	20	1	11		0		0	12	20	1	EXHAUST FAN AND DAMPER (EF-20-01)		
Total Load per Phase per Side (VA)				1630	1180	2800	2800						
Total Load Phase A (VA)				4430	VA					Total Connected Load (A)		35	A
Total Load Phase B (VA)				3980	VA					Total Connected Load + 25%		44	A
Total Connected Load (VA)				8410	VA					Spare 25%		11	A
								Feeder Load		55	A		

DATE:	NOVEMBER, 2010
DES BY:	DDG
CHK BY:	SWS
RECORD DRAWING	
BY:	SAI
DATE:	12-05-13
CONTRACTOR:	RJS CONST.

**PH ADJUSTMENT BUILDING
HVAC AND ELECTRICAL
PLANS**
 DISINFECTION AND pH CONTROL
 CITY OF SUPERIOR ENVIRONMENTAL SERVICES DIVISION OF PUBLIC WORKS
 SUPERIOR, WI





LIFE SAFETY PLAN
NO SCALE

LIFE SAFETY LEGEND

- 100' TRAVEL DISTANCE (FEET)
- EGRESS PATH
- (RE) REQUIRED EXIT
- F1 OCCUPANCY

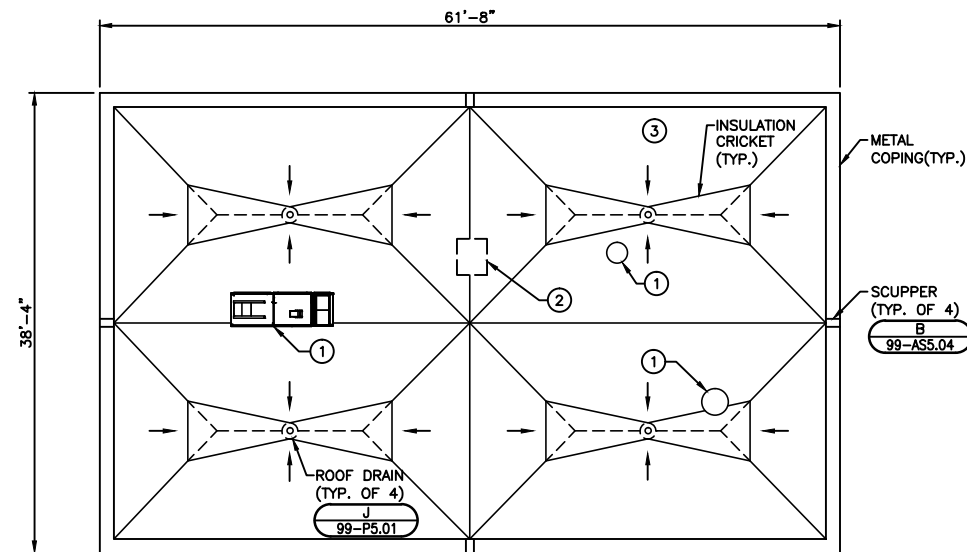
STRUCTURE 40 - BUILDING CODE INFORMATION		
BUILDING CODE	WISCONSIN COMMERCIAL BUILDING CODE	
OCCUPANCY TYPE	F-1 FACTORY INDUSTRIAL MODERATE HAZARD	
CONSTRUCTION TYPE	TYPE 5B	
	<u>ALLOWABLE</u>	<u>ACTUAL</u>
NO. OF STORIES	2 STORIES	1 STORY
BUILDING HEIGHT	40 FEET	12 FEET
BUILDING AREA PER STORY	8,500 S.F.	2,363 S.F.
EXIT ACCESS TRAVEL DISTANCE	200 FEET	75 FEET
COMMON PATH OF EGRESS	75 FEET	30 FEET
FIRE PROTECTION	NON-SPRINKLERED	
BUILDING VOLUME	27,816 C. F. (<50,000 C.F.)	
OCCUPANT LOAD	21 OCCUPANTS (INDUSTRIAL = 100 S.F. PER OCCUPANT)	
NO. OF REQUIRED EXITS	1 EXIT (OCCUPANTS < 49; AND TRAVEL DISTANCE < 75 FEET)	
NOTES:		

GENERAL NOTES:

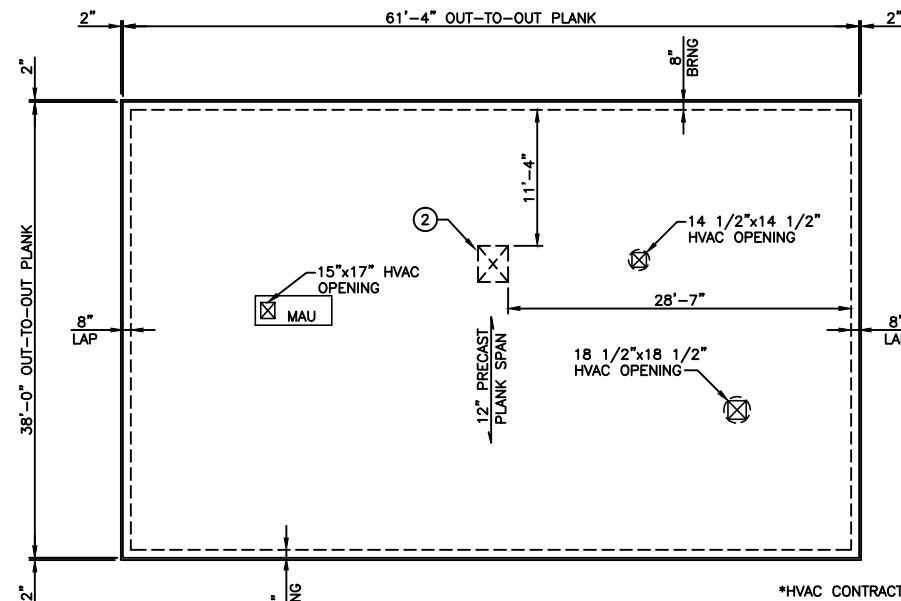
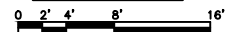
- TOTAL INSULATION THICKNESS AT ROOF DRAINS SHALL BE 1 1/2 INCHES MIN.
- SLOPE INSULATION 1/4" PER FOOT.
- COORDINATE HVAC ROOF PENETRATION LOCATIONS AND SIZES WITH HVAC SUPPLIER.
- PRECAST PLANK TO BE DESIGNED FOR 51 PSF UNIFORM SNOW LOAD, 15 PSF DEAD LOAD, 5 PSF COLLATERAL LOAD AND HVAC EQUIPMENT LOADS. COORDINATE HVAC EQUIPMENT LOADS W/ HVAC SUPPLIER.

KEY NOTES:

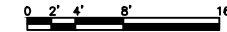
- ROOF MOUNTED HVAC EQUIPMENT.
- ROOF HATCH. 2'-6"x3'-0". K
99-AS5.03
- SINGLE PLY ROOFING FULLY ADHERED.



ROOF PLAN



ROOF FRAMING PLAN



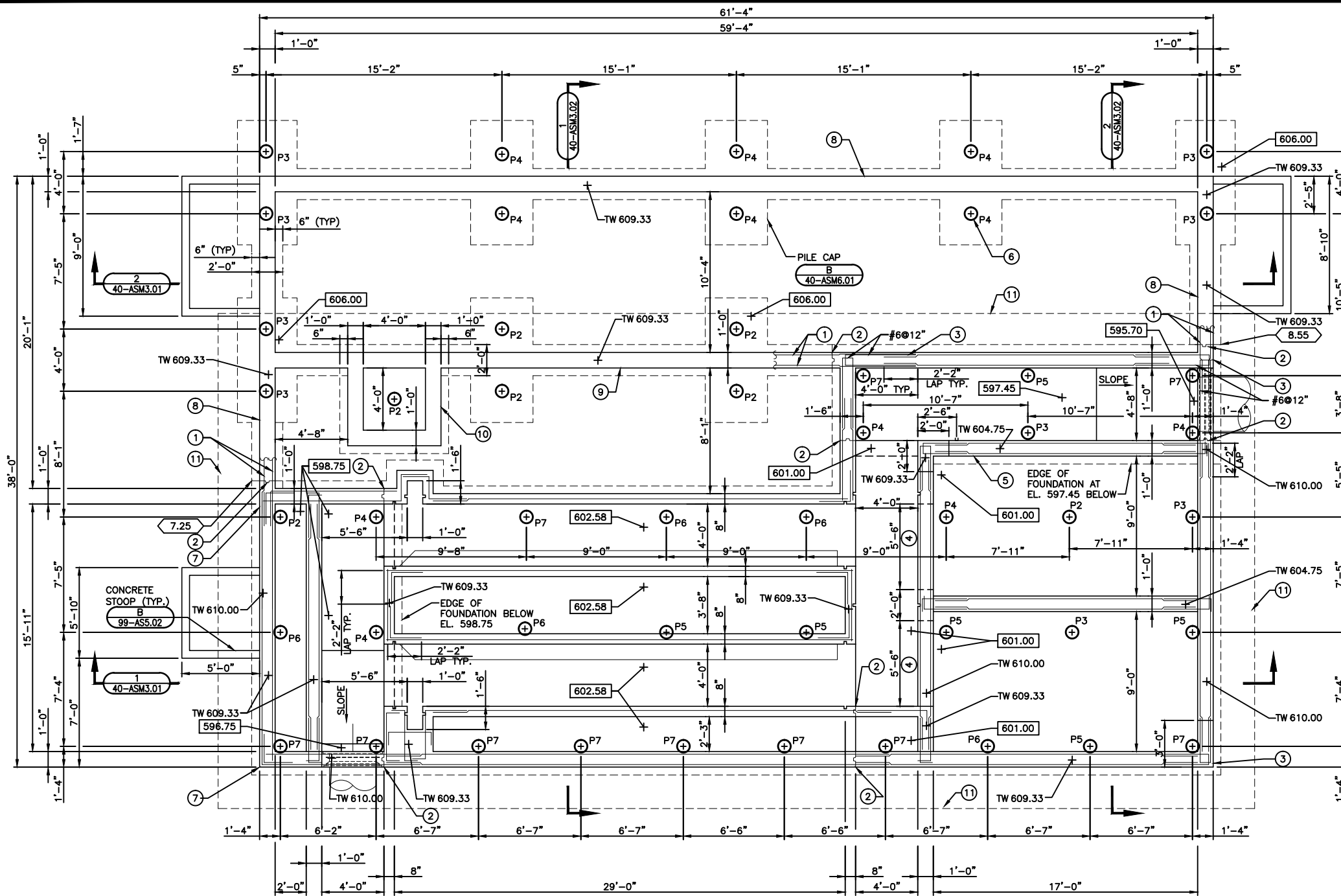
*HVAC CONTRACTOR TO VERIFY OPENING SIZES AND LOCATIONS. MINIMUM DISTANCE FROM EDGE OF BUILDING TO ROOF-MOUNTED HVAC EQUIPMENT SHALL BE 10 FT.

DATE:	REVISIONS	NO.	DATE: NOVEMBER, 2010
12/05/13	RECORD DRAWING	1	DES BY: KRB CHK BY: SWS
			BY: SAI
			DATE: 12-05-13
			CONTRACTOR: RJS CONST.

UV BUILDING
LIFE SAFETY, ROOF, AND ROOF FRAMING PLANS
DISINFECTION AND pH CONTROL
CITY OF SUPERIOR ENVIRONMENTAL SERVICES DIVISION OF PUBLIC WORKS
SUPERIOR, WI

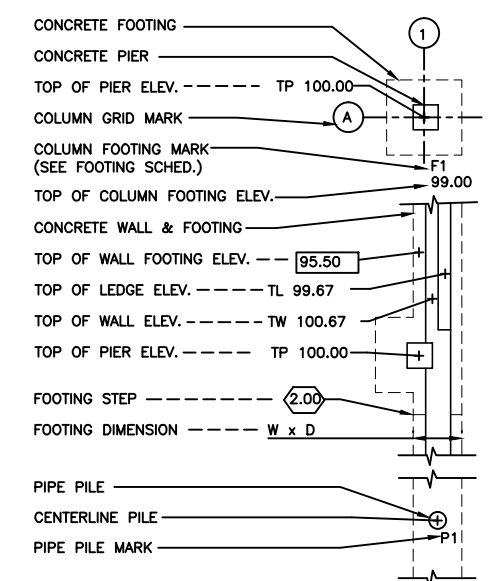


SHEET
16
40-ASM1.01
JOB NO. 3559.003



- GENERAL NOTES:**
- SEE GENERAL STRUCTURAL/ARCHITECTURAL NOTES SHEET 99-AS6.01
 - FOR FOUNDATION WALL CORNER REINFORCING SEE **C** 99-AS5.01
 - FOR TANK CORNER REINFORCING SEE **F** 99-AS5.01
 - FOR TANK TEE REINFORCING SEE **H** 99-AS5.01
 - FOR FOUNDATION LEGEND SEE **A** 40-ASM1.02
 - PROVIDE #5@12" WITH 2'-2" LAPS FOR ALL HORIZONTAL REINFORCING UNLESS SHOWN OTHERWISE.
 - FOR PILE CAPS AT MAT SLAB FOUNDATION SEE **C** 40-ASM6.01
 - FOR PILE SPLICES SEE **C** 40-ASM1.02

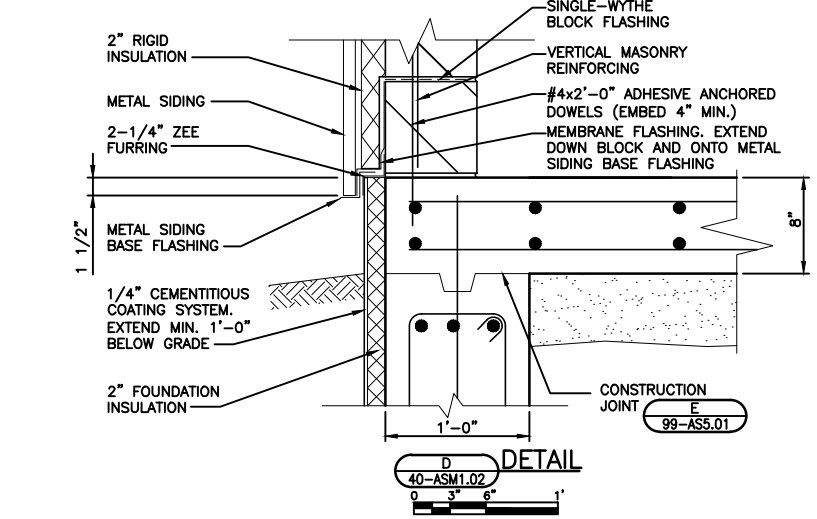
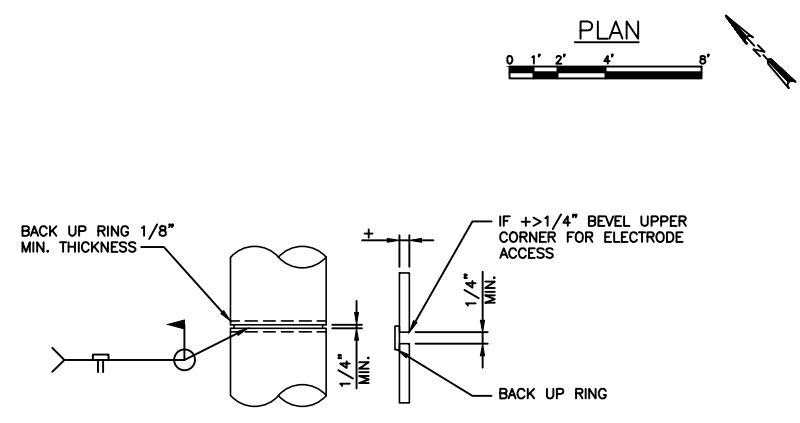
- KEY NOTES:**
- EXTEND FOUNDATION WALL AND STRIP FOOTING REINFORCING INTO TANK OR CHANNEL WALL MINIMUM 2'-2" FOR #5 BARS AND 3'-8" FOR #6 BARS. SEE BUILDING SECTIONS FOR SIZE AND NUMBER OF BARS.
 - CONSTRUCTION JOINT IN WALL **E** 99-AS5.01
 - PROVIDE TANK CORNER REINFORCING. SEE GENERAL NOTE 3.
 - PROVIDE OPENING AT BOTTOM OF WALL FROM EL. 601.00 TO 603.00.
 - 2'-0" DEEP x 1'-0" WIDE BEAM ABOVE WALL. TOP OF BEAM EL. 610.00. POUR BEAM INTEGRALLY WITH ELEVATED SLAB NEAR FLOOR DOOR 4001B. FOR BEAM DETAILS SEE **2** AND **D** 40-ASM3.02 AND 40-ASM6.01
 - 9" CONCRETE FILLED PIPE PILE (TYP.). SEE **B** 40-ASM1.02 FOR MINIMUM REQUIRED CAPACITIES.
 - PROVIDE FOUNDATION WALL CORNER REINFORCING. SEE GENERAL NOTE 2.
 - FOR FOUNDATION WALL REINFORCING SEE **A** 40-ASM3.01
 - PROVIDE FOUNDATION WALL REINFORCING SAME AS **A** 40-ASM3.01
 - DRAINAGE STATION **F** 99-P5.01
 - PROVIDE INTERLOCKING STEEL SHEET PILING AS SHOWN PRIOR TO DEWATERING THE AREA ENCLOSED BY THE SHEET PILING. BOTTOM OF SHEET PILING SHALL BE AT OR BELOW EL. 571.00. TOP OF SHEET PILING SHALL BE AT OR ABOVE 606.00. THE SHEET PILING SHALL BE PROVIDED TO LIMIT THE AMOUNT OF DEWATERING THAT IS REQUIRED FOR CONSTRUCTION OF THE FOUNDATIONS. CONTRACTOR SHALL ASSUME IN THEIR BID THE SHEET PILING SHALL PERMANENTLY REMAIN IN-PLACE. THE SHEET PILING MAY BE REMOVED AFTER DEWATERING IS NO LONGER REQUIRED IF REMOVAL CAN BE PERFORMED WITHOUT DISTURBING NEW OR EXISTING FOUNDATIONS AS DETERMINED BY THE PROJECT SOILS ENGINEER. IF THE SHEET PILING CAN BE REMOVED, CONTRACTOR SHALL OFFER A CREDIT TO THE OWNER FOR CONSIDERATION PRIOR TO SUBSTANTIAL REMOVAL OF THE SHEETING AT CONTRACTORS OPTION. CONTRACTOR SHALL BE RESPONSIBLE FOR SHEET PILING DESIGN.



PILE CAPACITY REQUIREMENTS

PILE DESIGNATION	MINIMUM REQUIRED WORKING CAPACITY (TONS)	ESTIMATED PILE LENGTH (FT)
P1	15	45
P2	20	50
P3	25	55
P4	30	57
P5	35	60
P6	40	60
P7	45	72

NOTE: ESTIMATED PILE LENGTH IS BASED ON INFORMATION GIVEN IN THE GEOTECHNICAL REPORT COMPLETED FOR THIS PROJECT AND MADE PART OF THE SPECIFICATIONS. ACTUAL PILE LENGTHS MAY DIFFER THAN WHAT IS ESTIMATED.



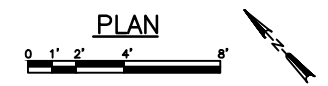
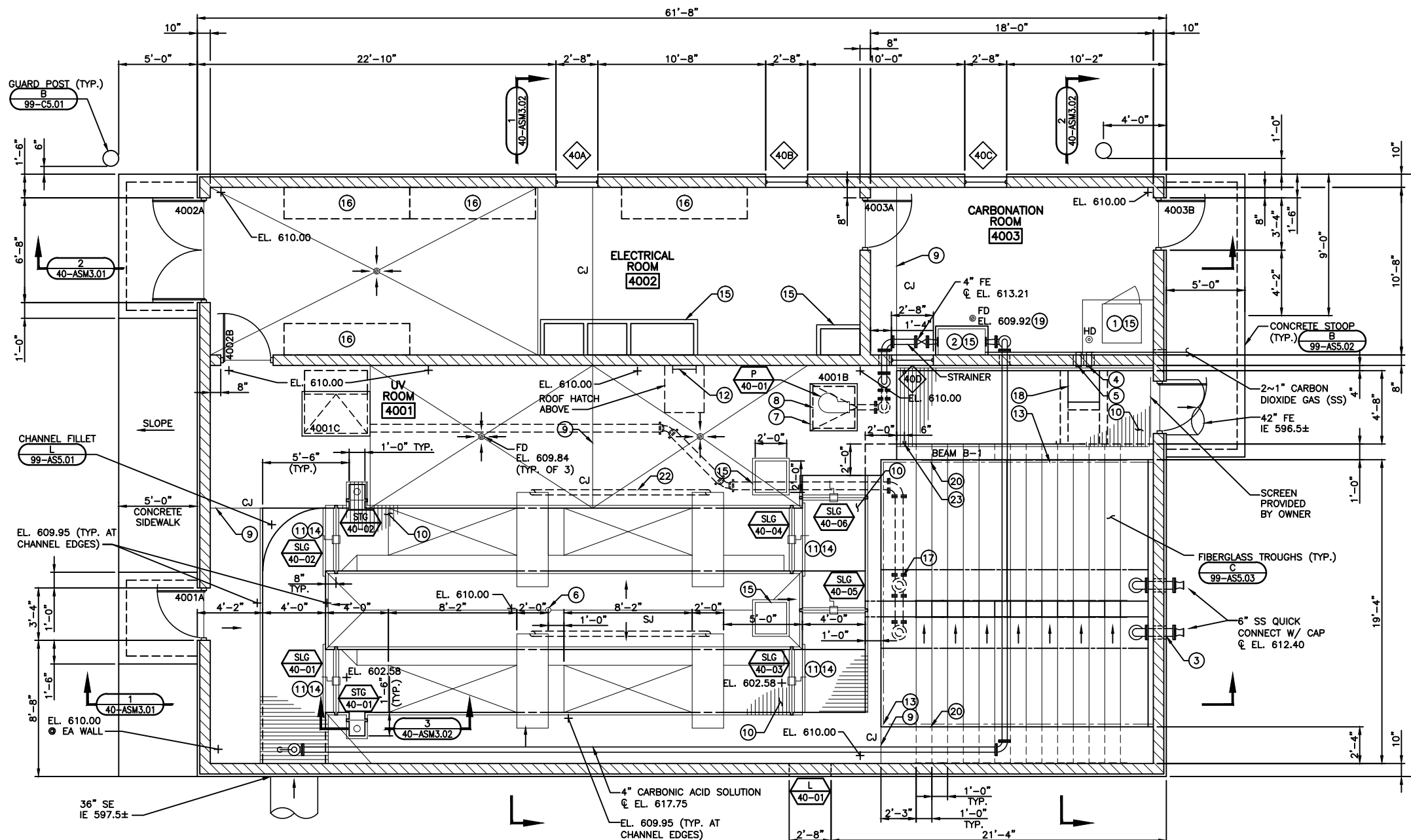
FOUNDATION LEGEND
A 40-ASM1.02 NO SCALE

DATE:	NOVEMBER, 2010
REVISIONS	NO RECORD DRAWINGS
NO.	1
DES BY:KRB	CHK BY: SWS
RECORD DRAWING	BY: SAI
DATE:12-05-13	CONTRACTOR: RUS CONST.

UV BUILDING FOUNDATION PLAN
 DISINFECTION AND pH CONTROL
 CITY OF SUPERIOR ENVIRONMENTAL SERVICES DIVISION OF PUBLIC WORKS
 SUPERIOR, WI

STRAND ASSOCIATES, INC. ENGINEERS

SHEET **17**
 40-ASM1.02
 JOB NO. 3559.003



GENERAL NOTES:

1. SEE GENERAL STRUCTURAL/ARCHITECTURAL NOTES SHEET 99-ASM6.01.
2. CONFIRM ALL DIMENSIONS AND ELEVATIONS WITH EQUIPMENT MANUFACTURERS AND SUPPLIERS.
3. PROVIDE #4@48" O.C. CONTINUOUS VERTICAL MASONRY REINFORCING AT ALL EXTERIOR WALLS. ALIGN WITH #4@48" FOUNDATION DOWELS AND PROVIDE MIN. 1'-8" LAPS.

KEY NOTES:

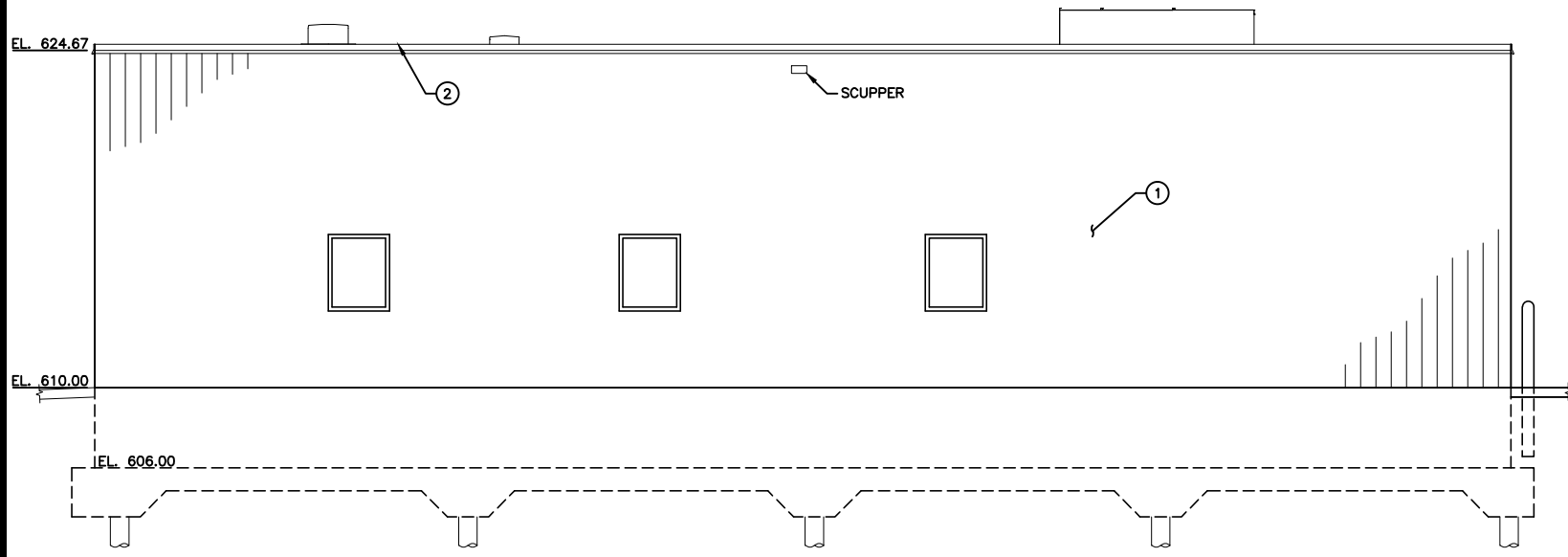
- ① EFFLUENT SAMPLER PROVIDED BY OWNER.
- ② CARBON DIOXIDE FEED PANEL.
- ③ PROVIDE STAINLESS STEEL ESCUTCHEON PLATE TO SEAL 6" QUICK CONNECT PIPES AND 4" ROOF DRAIN PIPES TO SIDING PER 99-ASS.02.
- ④ 4 INCH PVC CONDUITS FOR SAMPLER TUBING AND pH ANALYZER. PROVIDE REMOVABLE 4" CAPS WITH DRILLED HOLES TO ALLOW TUBING AND ANALYZER WIRE TO PASS THROUGH. PROVIDE GROMMET FOR AIR TIGHT SEAL.
- ⑤ SEE pH PROBE MOUNTING DETAILS IN 40-ASM3.02.
- ⑥ FLUSH-MOUNT HOIST SOCKET TO BE PROVIDED AND LOCATED BY UV EQUIPMENT MANUFACTURER.
- ⑦ 3'-0"x3'-0" FLOOR DOOR. COORDINATE LOCATION WITH FINAL LAYOUT OF PUMP. PROVIDE ADDITIONAL REINFORCEMENT AT OPENINGS PER 99-ASS.01.
- ⑧ PROVIDE SS HOOK AND KELLUM GRIPS FOR POWER CABLE AND FLOAT CABLE.
- ⑨ PROVIDE CONSTRUCTION JOINT (CJ) IN FLOOR SLAB PER 99-ASS.01.
- ⑩ FIBERGLASS PANELS 99-ASS.04. HOLD BACK 2" FROM SLIDE GATES AND UV EQUIPMENT AND PROVIDE NEOPRENE GASKET 99-ASS.04.
- ⑪ FIBERGLASS PANEL SUPPORT ANGLE 99-ASS.03.
- ⑫ ALUMINUM LADDER TO ROOF HATCH ABOVE 99-ASS.03.
- ⑬ SIDE-MOUNTED ALUMINUM RAILING WITH TOEBOARD 99-ASS.03.
- ⑭ FIBERGLASS PANEL AT GATE 99-ASS.03.
- ⑮ CONCRETE EQUIPMENT PAD 99-ASS.01.
- ⑯ STORAGE SHELVING BY OWNER.
- ⑰ 6" MUD DRAIN VALVE (TYP. OF 2).
- ⑱ PROVIDE 2'-0" SQUARE ACCESS HATCH IN FIBERGLASS PLANKING SYSTEM WITH SLOTTED OPENING TO ALLOW REMOVAL/INSPECTION OF THE EFFLUENT SAMPLER TUBING, THE pH PROBE AND THE LEVEL TRANSDUCER. PROVIDE FIBERGLASS SUPPORTS AND HARDWARE AS NECESSARY.
- ⑲ LOCALLY PITCH TO FLOOR DRAIN.
- ⑳ PROVIDE 3FT WIDE SAFETY CHAIN BETWEEN ALUMINUM HANDRAIL IN TWO LOCATIONS. 99-ASS.03.
- ㉑ SEE 99-ASS.04 FOR SLIDE GATE SCHEDULE.
- ㉒ PROVIDE 4" PVC CARRIER PIPE (TYP. OF 2).
- ㉓ PROVIDE SURFACE-MOUNTED GUDE FRAME FOR STOP GATE. STOP GATE WILL ONLY BE IN-PLACE WHEN PUMP P-40-01 OR PIPING NEED TO BE ACCESSED WITHIN THE EFFLUENT CHANNEL.

DATE:	NOVEMBER, 2010
DES BY:	BIL CHK BY: SWS
RECORD DRAWING	NO
BY:	SAI
DATE:	12-05-13
CONTRACTOR:	RUS CONST.

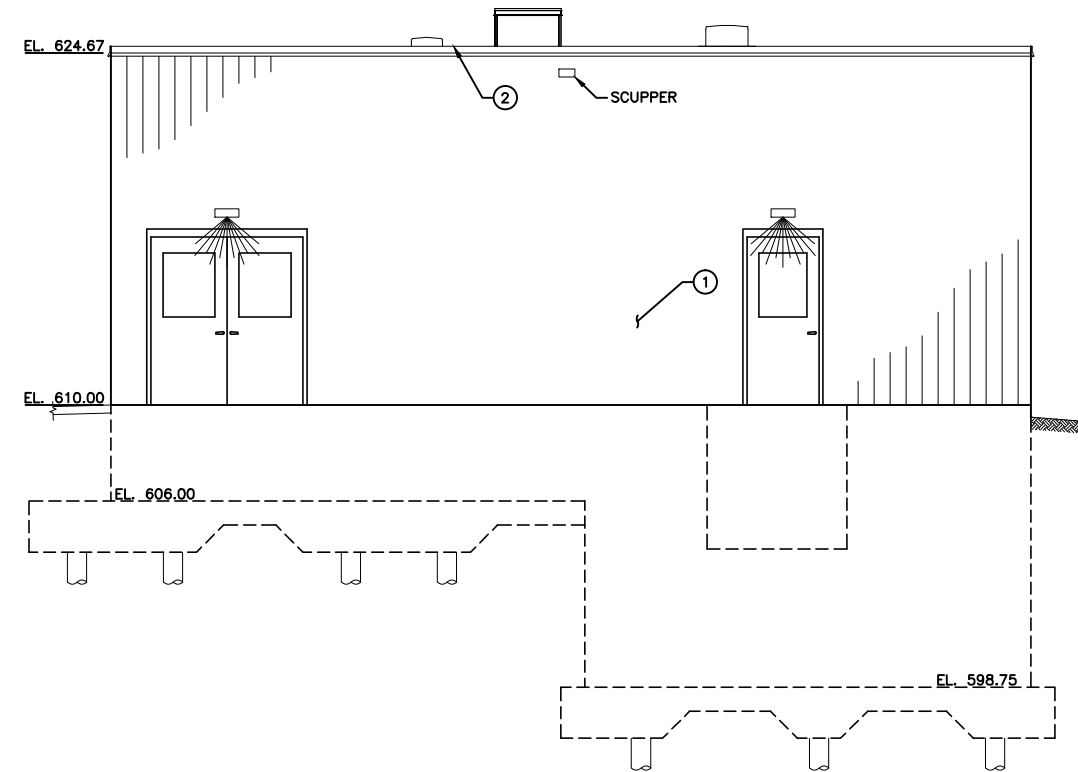
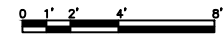
**UV BUILDING
FLOOR PLAN**

DISINFECTION AND pH CONTROL
CITY OF SUPERIOR ENVIRONMENTAL SERVICES DIVISION OF PUBLIC WORKS
SUPERIOR, WI

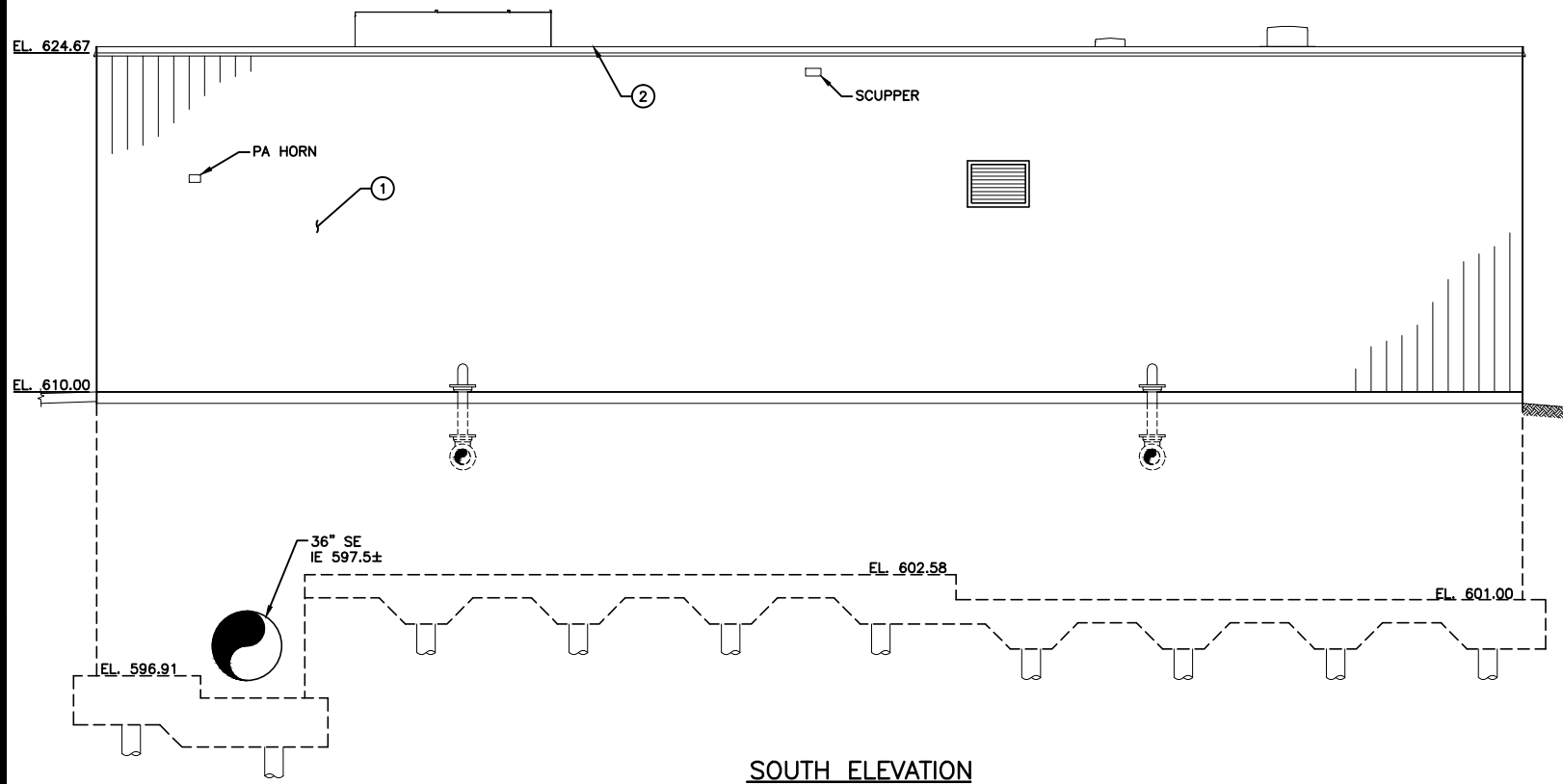




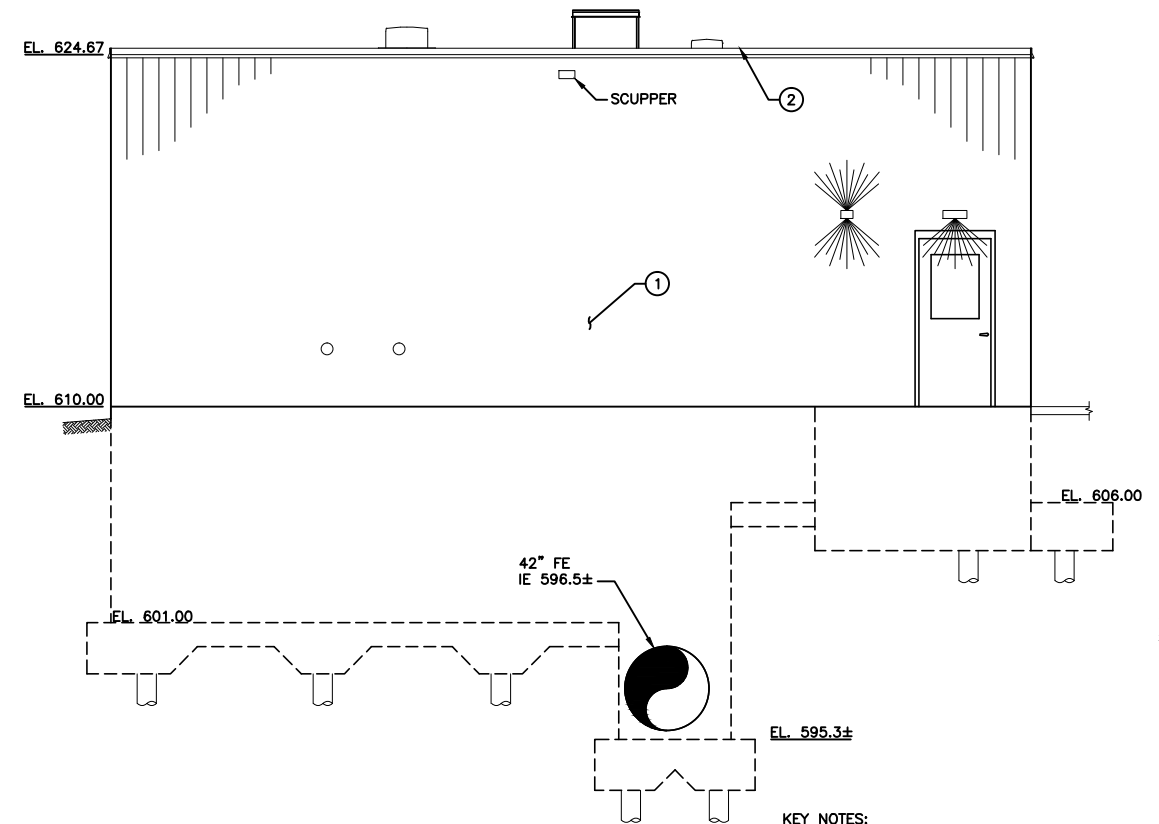
NORTH ELEVATION



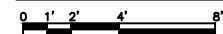
WEST ELEVATION



SOUTH ELEVATION



EAST ELEVATION



KEY NOTES:

- ① METAL SIDING.
- ② METAL COPING.

DATE:	NOVEMBER, 2010
DES BY:	KRB
CHK BY:	SWS
BY:	SAI
DATE:	12-05-13
CONTRACTOR:	RUS CONST.

**UV BUILDING
ELEVATIONS**

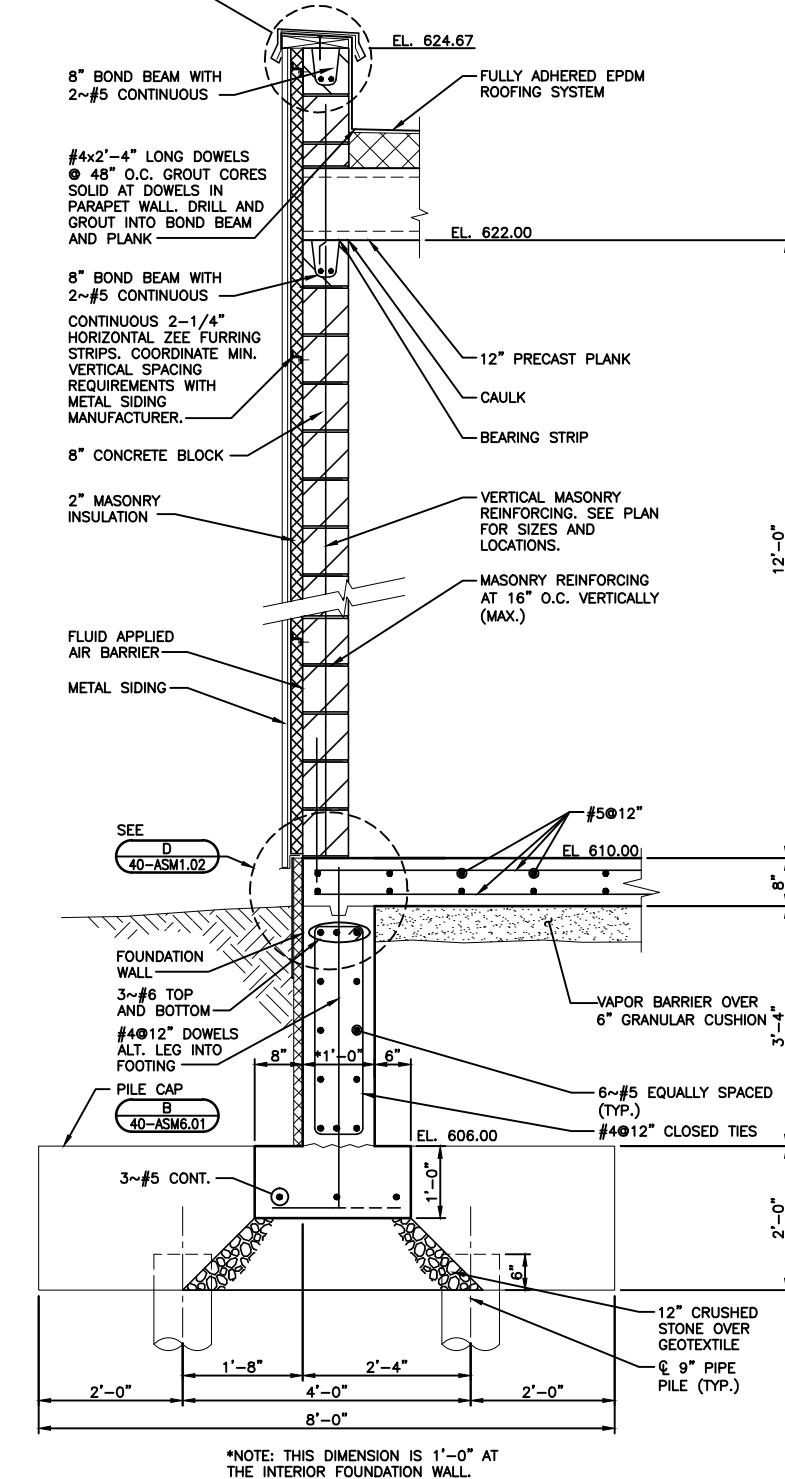
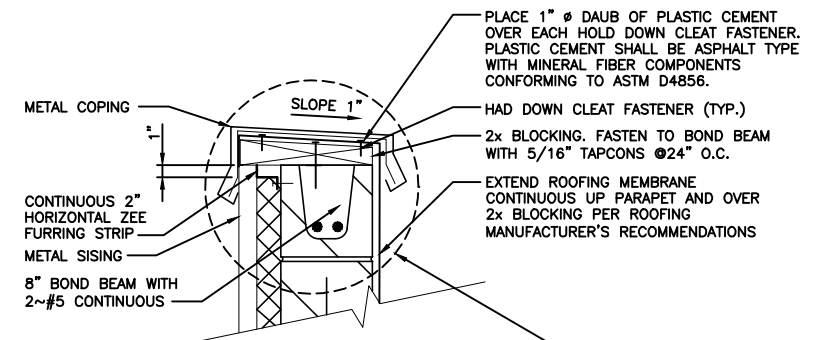
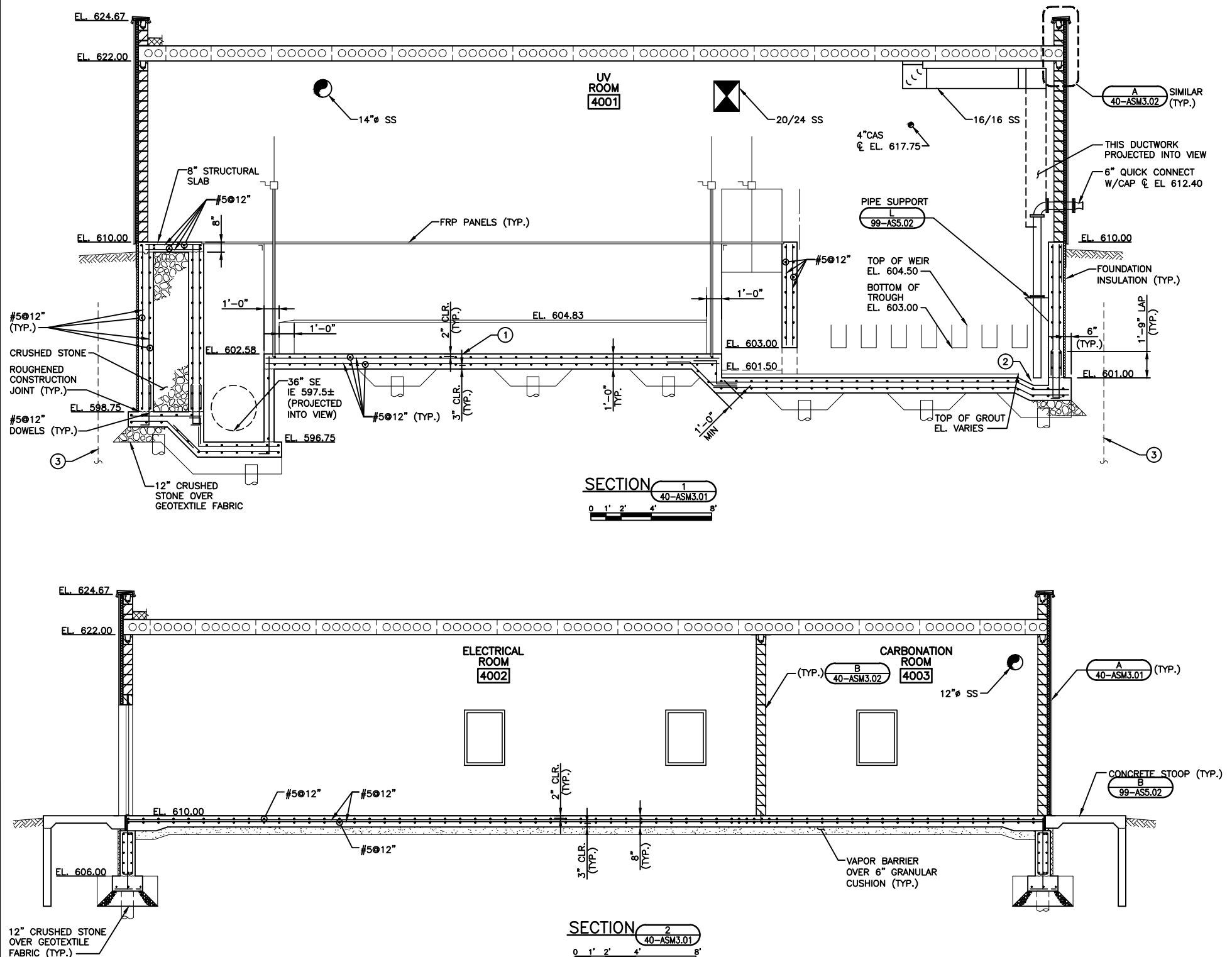
DISINFECTION AND pH CONTROL
CITY OF SUPERIOR ENVIRONMENTAL SERVICES DIVISION OF PUBLIC WORKS
SUPERIOR, WI



SHEET
19
40-ASM2.01
JOB NO. 3559.003

KEY NOTES:

- ① TOP OF CONCRETE CHANNELS HOUSING THE UV EQUIPMENT SHALL BE INSTALLED FLAT (NO SLOPE) TO ACCOMMODATE THE UV EQUIPMENT. CONTRACTOR SHALL CONFIRM ALL DIMENSIONS AND ELEVATIONS WITH EQUIPMENT MANUFACTURERS.
- ② 2'-0" SQUARE SUMP PROJECTED INTO VIEW. BOTTOM EL. 600.50..
- ③ PROVIDE INTERLOCKING STEEL SHEET PILING AS SHOWN PRIOR TO DEWATERING THE AREA ENCLOSED BY THE SHEET PILING. BOTTOM OF SHEET PILING SHALL BE AT OR BELOW EL. 571.00. TOP OF SHEET PILING SHALL BE AT OR ABOVE 606.00. THE SHEET PILING SHALL BE PROVIDED TO LIMIT THE AMOUNT OF DEWATERING THAT IS REQUIRED FOR CONSTRUCTION OF THE FOUNDATIONS. CONTRACTOR SHALL ASSUME IN THEIR BID THE SHEET PILING SHALL PERMANENTLY REMAIN IN-PLACE. THE SHEET PILING MAY BE REMOVED AFTER DEWATERING IS NO LONGER REQUIRED IF REMOVAL CAN BE PERFORMED WITHOUT DISTURBING NEW OR EXISTING FOUNDATIONS AS DETERMINED BY THE PROJECT SOILS ENGINEER. IF THE SHEET PILING CAN BE REMOVED, CONTRACTOR SHALL OFFER A CREDIT TO THE OWNER FOR CONSIDERATION PRIOR TO SUBSTANTIAL REMOVAL OF THE SHEETING AT CONTRACTORS OPTION. CONTRACTOR SHALL BE RESPONSIBLE FOR SHEET PILING DESIGN.



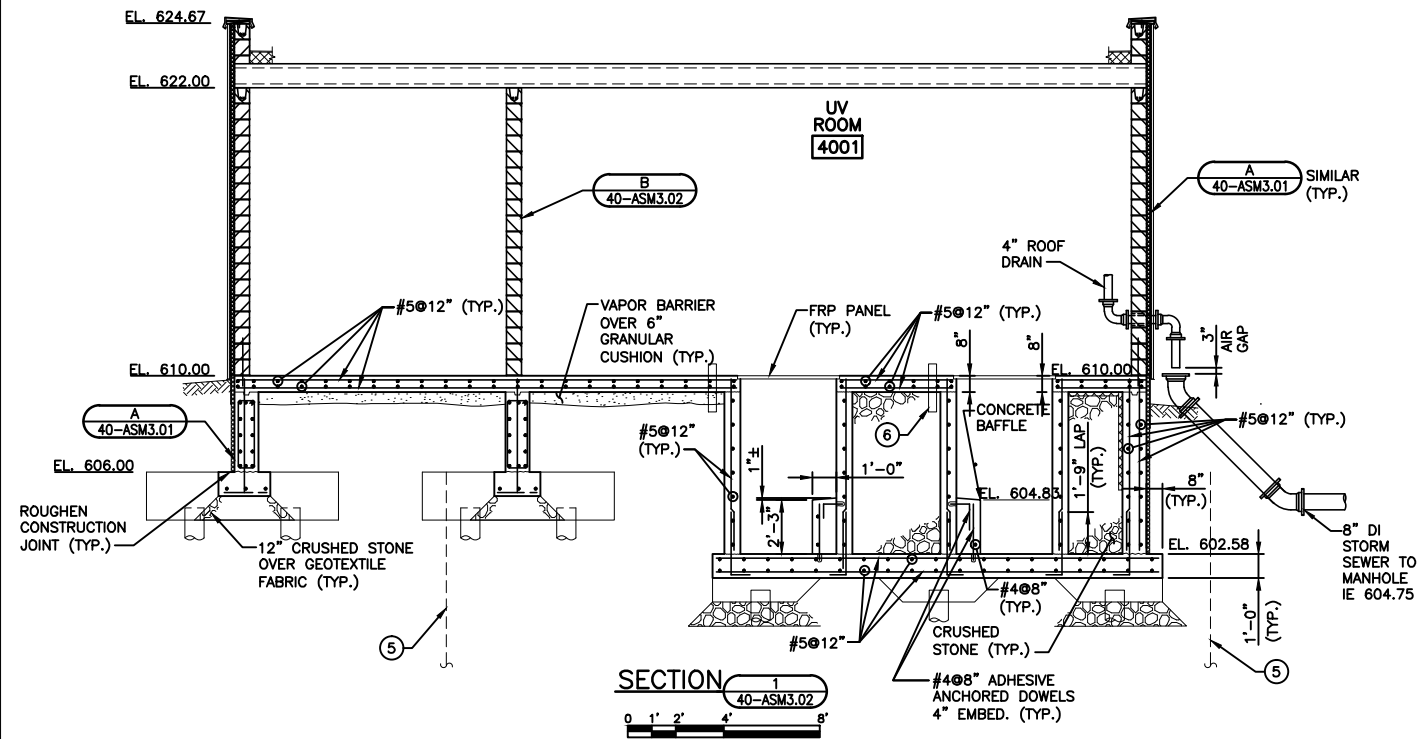
DATE:	NOV/2010	REVISIONS:	NO.:	1
RECORD DRAWING	DES BY: KRB	CHK BY: SWS	DATE: 12-05-13	CONTRACTOR: RUS CONST.

UV BUILDING SECTIONS AND DETAILS - 1

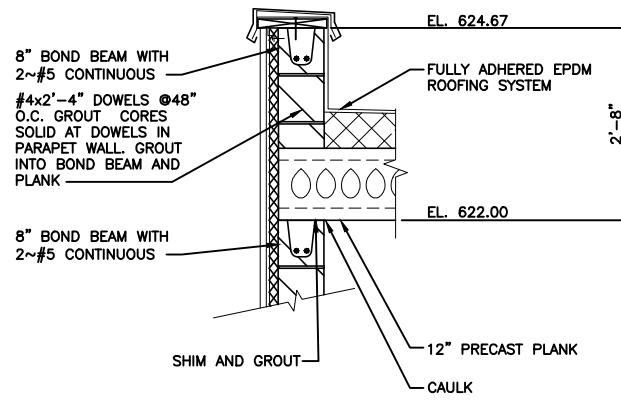
DISINFECTION AND pH CONTROL
CITY OF SUPERIOR ENVIRONMENTAL SERVICES DIVISION OF PUBLIC WORKS
SUPERIOR, WI

STRAND ASSOCIATES, INC. ENGINEERS

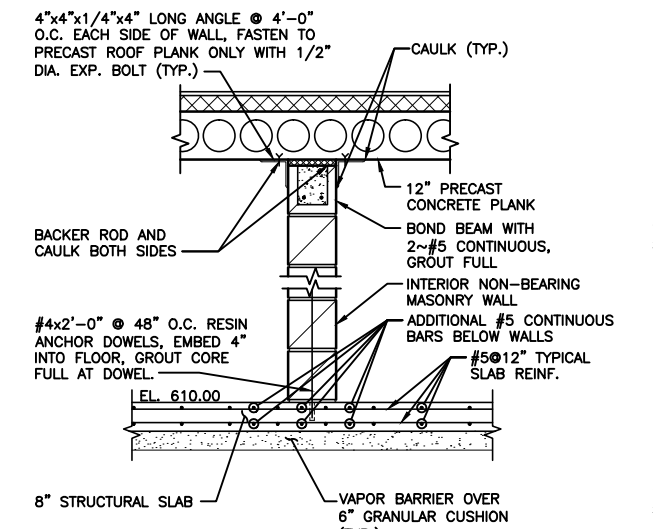
SHEET
20
40-ASM3.01
JOB NO. 3559.003



SECTION 1
40-ASM3.02
0 1' 2' 4' 8'



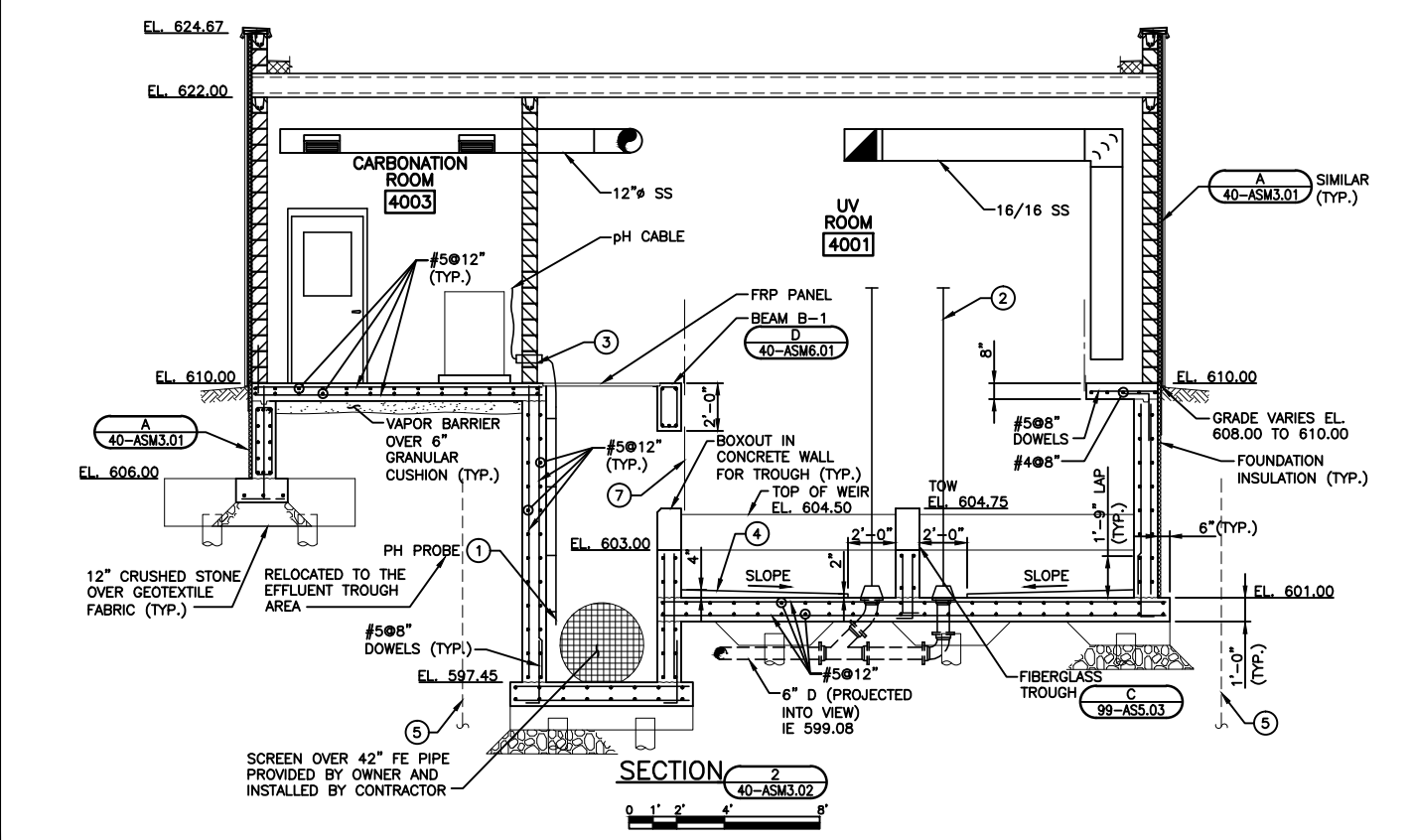
A
40-ASM3.02
NON-BEARING PLANK
0 1' 2'



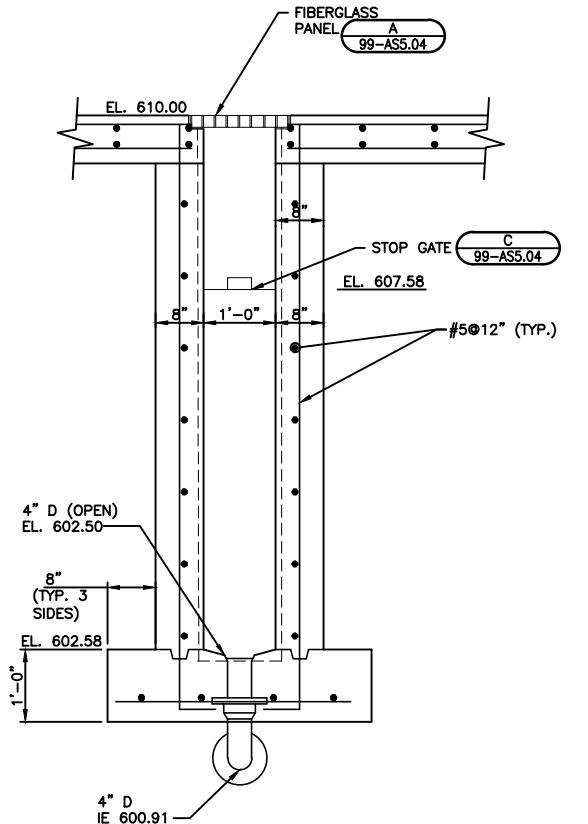
B
40-ASM3.02
TYPICAL INTERIOR NON-BEARING WALL SECTION
NO SCALE

KEY NOTES:

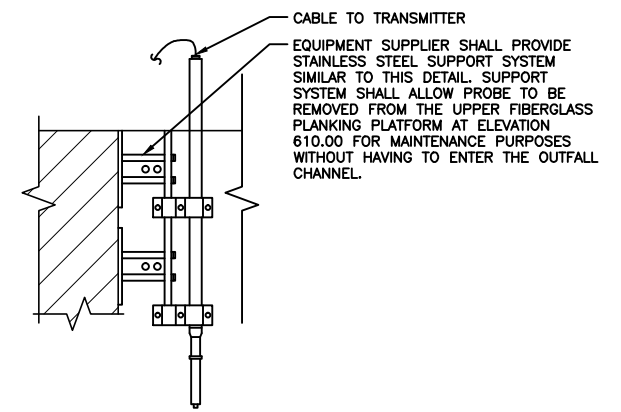
- 1 PH PROBE MOUNTING SYSTEM BY PH PROBE MANUFACTURER.
- 2 6\"/>



SECTION 2
40-ASM3.02
0 1' 2' 4' 8'



C
40-ASM3.02
SECTION 3
40-ASM3.02
0 1' 2'

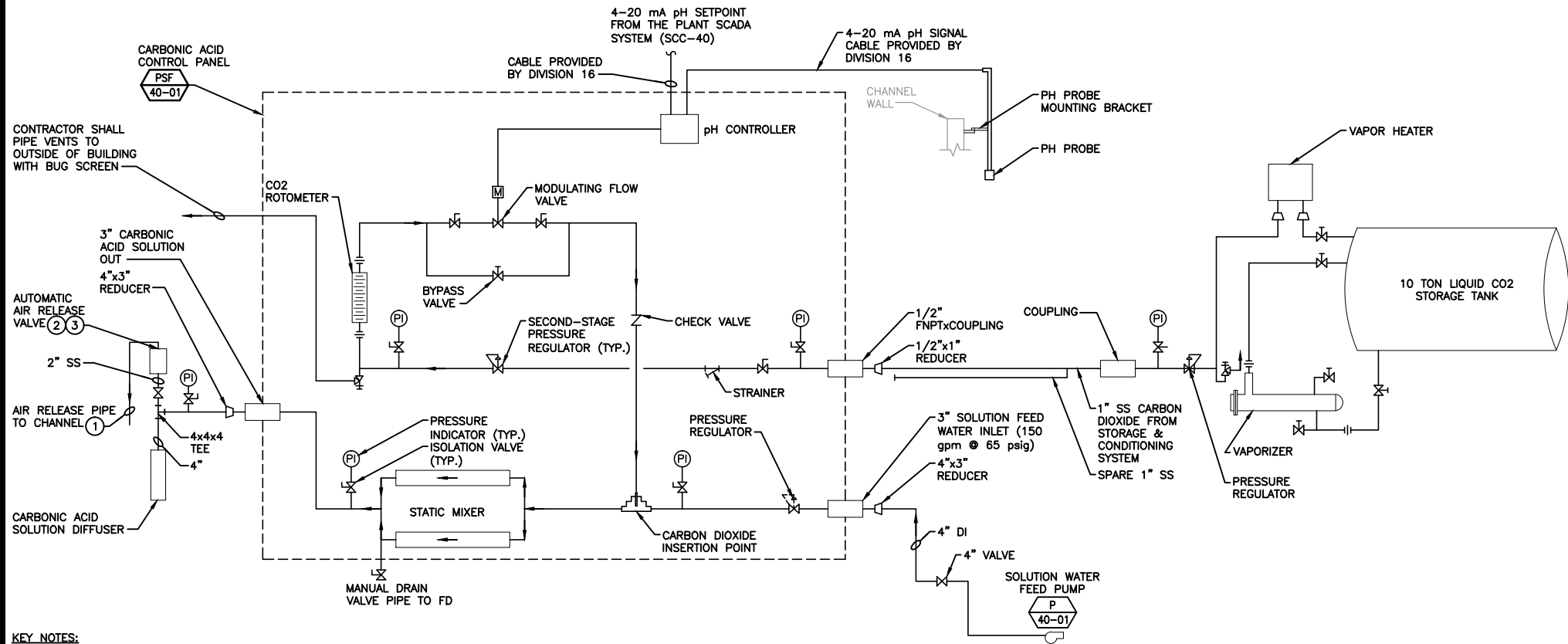


C
40-ASM3.02
pH ANALYZER MOUNTING
NO SCALE

DATE:	NOVEMBER, 2010
DES BY:	KRB
CHK BY:	SWS
RECORD DRAWING	
BY:	SAI
DATE:	12-05-13
CONTRACTOR:	RJS CONST.

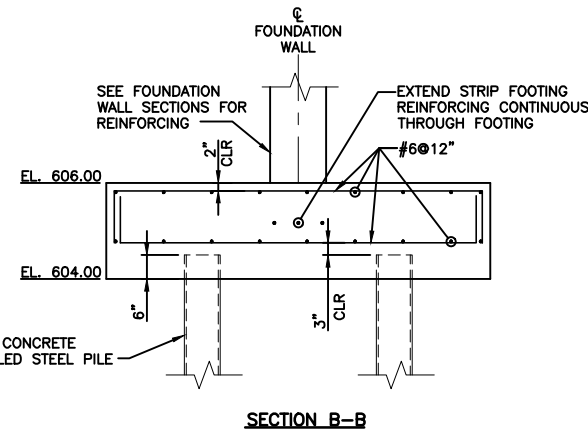
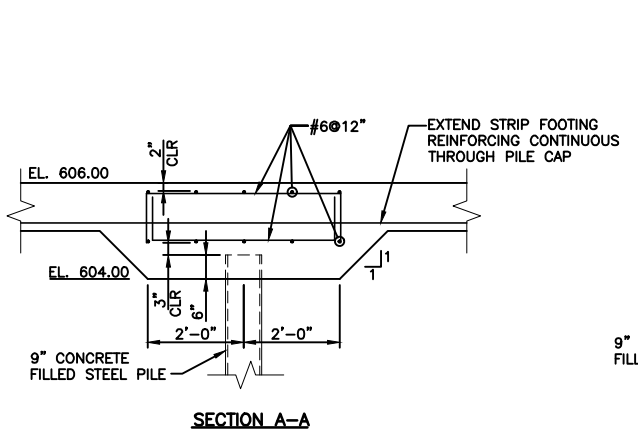
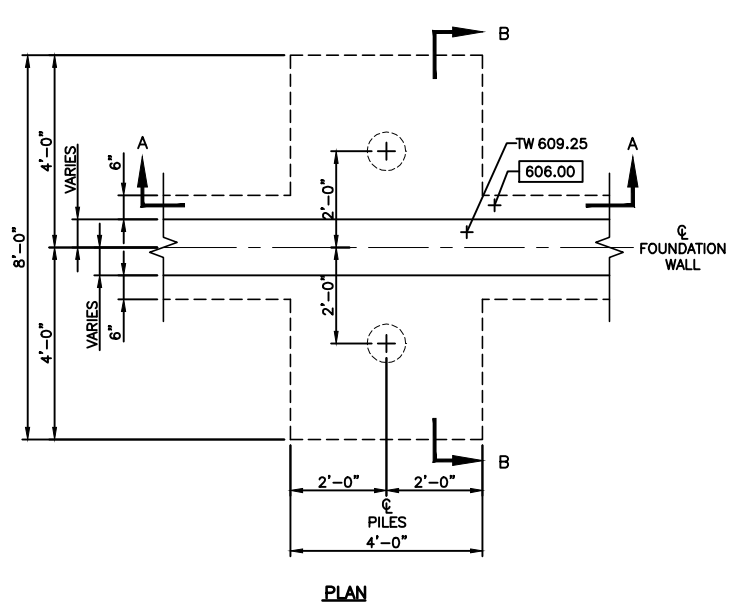
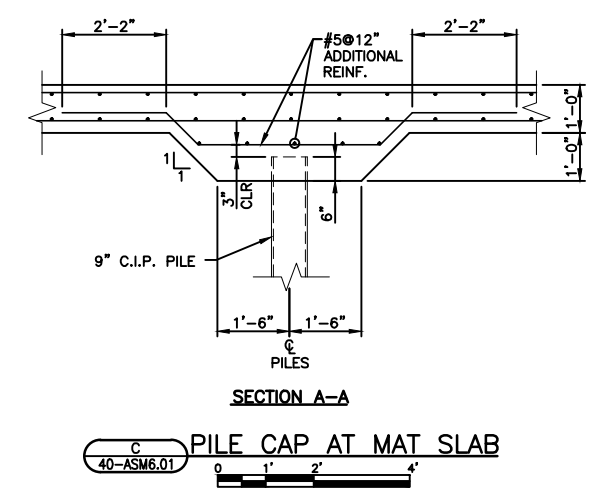
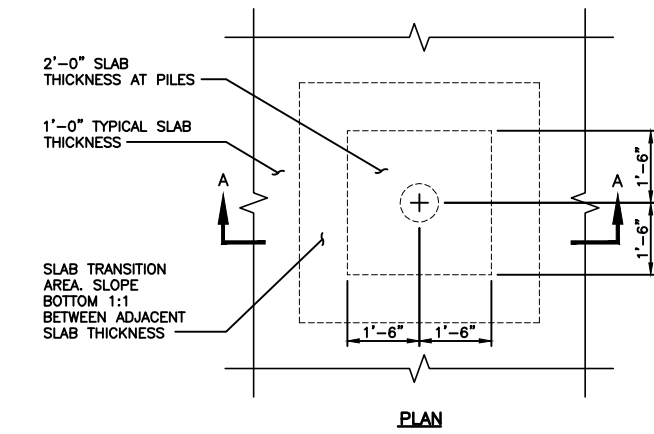
UV BUILDING
SECTIONS AND DETAILS - 2
DISINFECTION AND pH CONTROL
CITY OF SUPERIOR ENVIRONMENTAL SERVICES DIVISION OF PUBLIC WORKS
SUPERIOR, WI



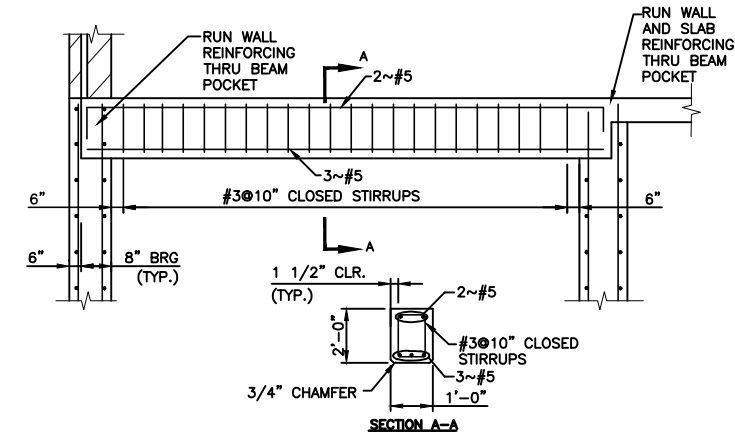


- KEY NOTES:**
- 1 PROVIDE SS AIR RELEASE PIPING FROM OUTLET OF AUTOMATIC AIR RELEASE VALVE ROUTED TO CHANNEL BELOW.
 - 2 INSTALL AUTOMATIC AIR RELEASE VALVE IN VERTICAL AT HIGH POINT IN 4" CARBONIC ACID SOLUTION PIPING, AS RECOMMENDED BY MANUFACTURER.
 - 3 PROVIDE TAPPED BLIND FLANGE CONNECTION OR FLANGED CONNECTION OF AUTOMATIC AIR RELEASE VALVE AT 4x4x4 TEE. PROVIDE SS PIPING CONNECTIONS FROM TEE TO VALVE INLET. AIR RELEASE VALVE TO BE SIZED AND FURNISHED BY CARBONIC ACID FEED SYSTEM MANUFACTURER AS SPECIFIED.

40-ASM6.01 CARBONIC ACID FEED SYSTEM SCHEMATIC
NO SCALE



40-ASM6.01 PILE CAP
NO SCALE

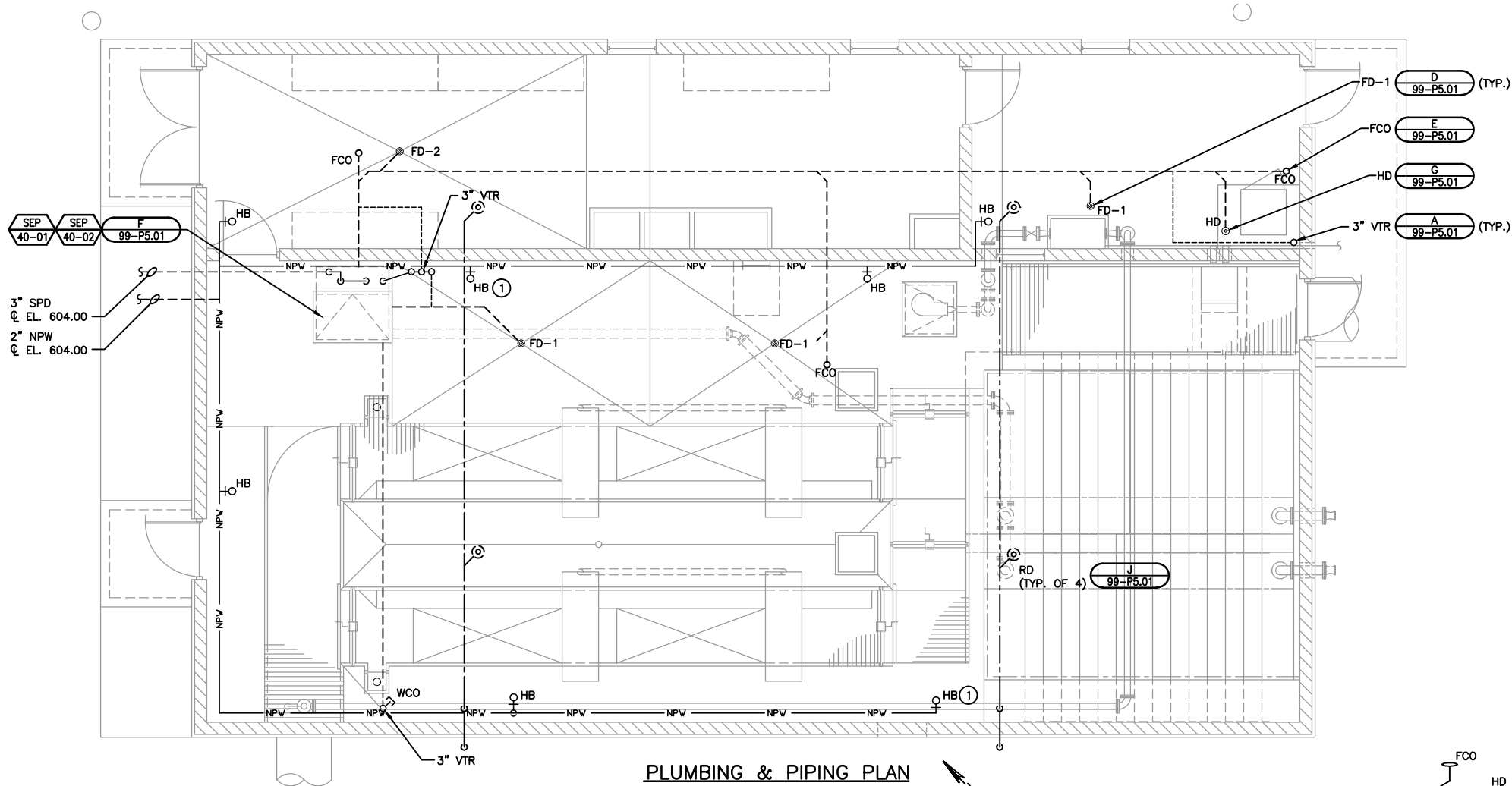


40-ASM6.01 CONCRETE BEAM B-1
NO SCALE

DATE:	NOVEMBER, 2010
REVISIONS	NO. 1
NO.	1
DES BY:	RAB
CHK BY:	SWS
RECORD DRAWING	BY: SAI
DATE:	12-05-13
CONTRACTOR:	RUS CONST.

UV BUILDING SCHEMATIC
DISINFECTION AND pH CONTROL
CITY OF SUPERIOR ENVIRONMENTAL SERVICES DIVISION OF PUBLIC WORKS
SUPERIOR, WI





PLUMBING & PIPING PLAN



GENERAL NOTES:

1. DRAWING INTENT IS TO INDICATE GENERAL ARRANGEMENT, DESIGN AND INTENT OF WORK, AND IS PARTIALLY DIAGRAMMATIC. DRAWING SHALL NOT BE SCALED.
2. SEE ARCHITECTURAL DRAWINGS FOR FINISHED FLOOR ELEVATIONS.
3. COORDINATE WITH OTHER TRADES TO ELIMINATE ANY CONFLICTS BETWEEN PIPING, DUCTWORK, ELECTRICAL WORK, ETC.

KEY NOTES:

1. PROVIDE WARNING SIGN AT EACH HB AS SHOWN IN DETAIL M 99-P5.01

SEP 40-01 SEP 40-02 F 99-P5.01

3" SPD
CL. EL. 604.00
2" NPW
CL. EL. 604.00

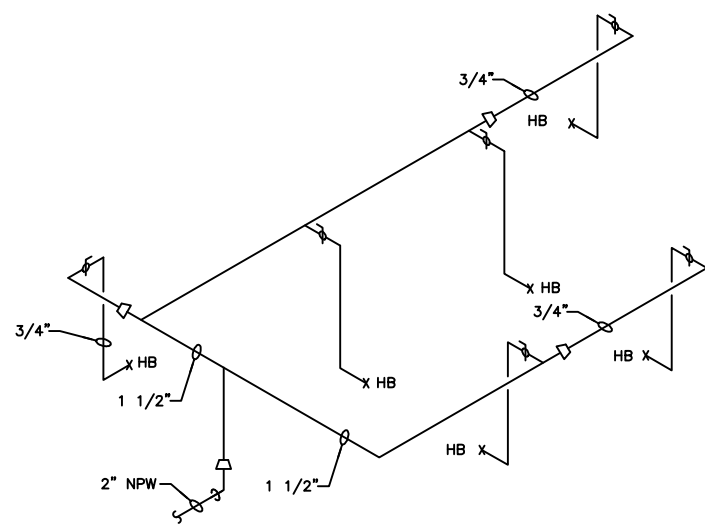
FD-1 D 99-P5.01 (TYP.)

FCO E 99-P5.01

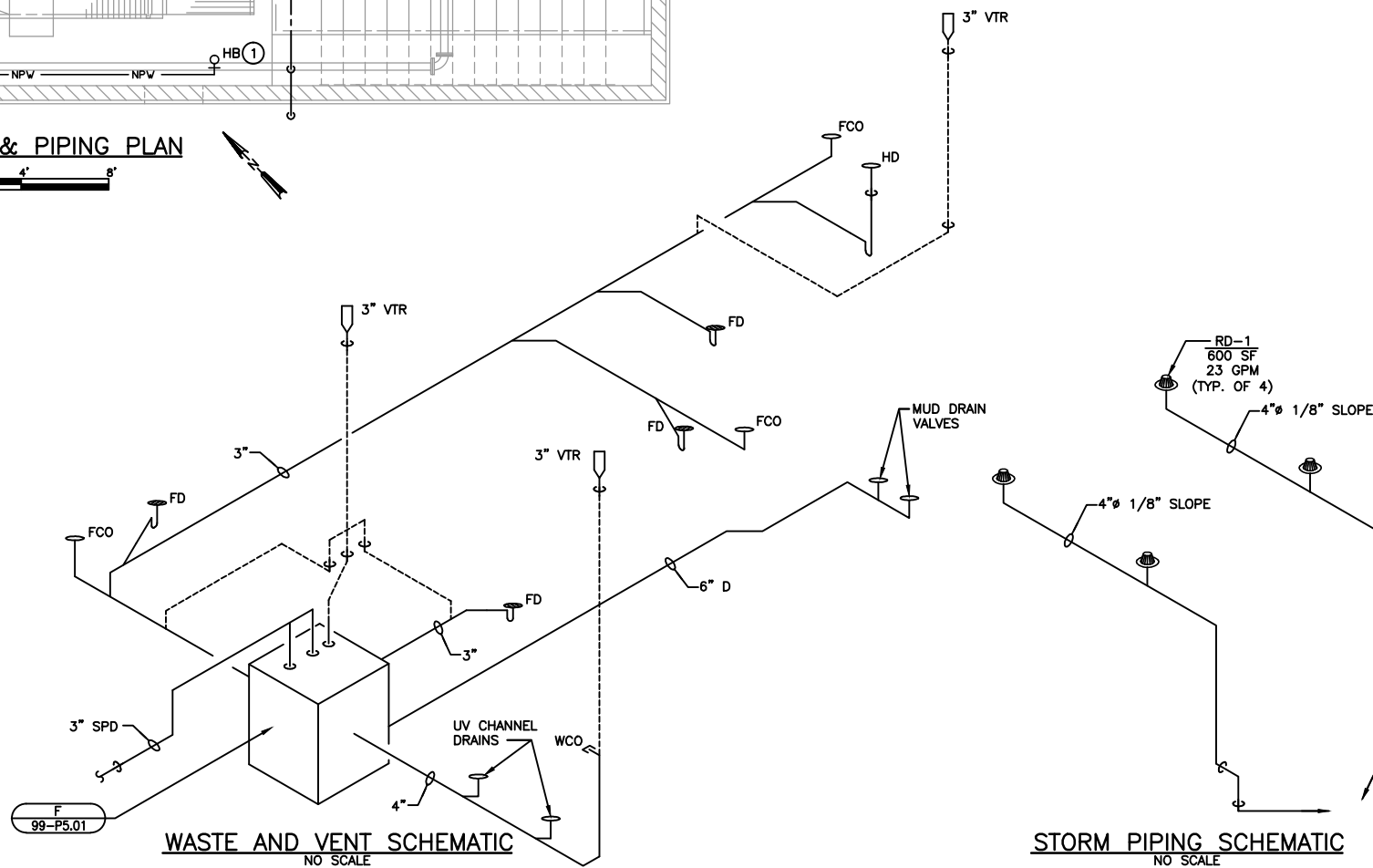
HD G 99-P5.01

3" VTR A 99-P5.01 (TYP.)

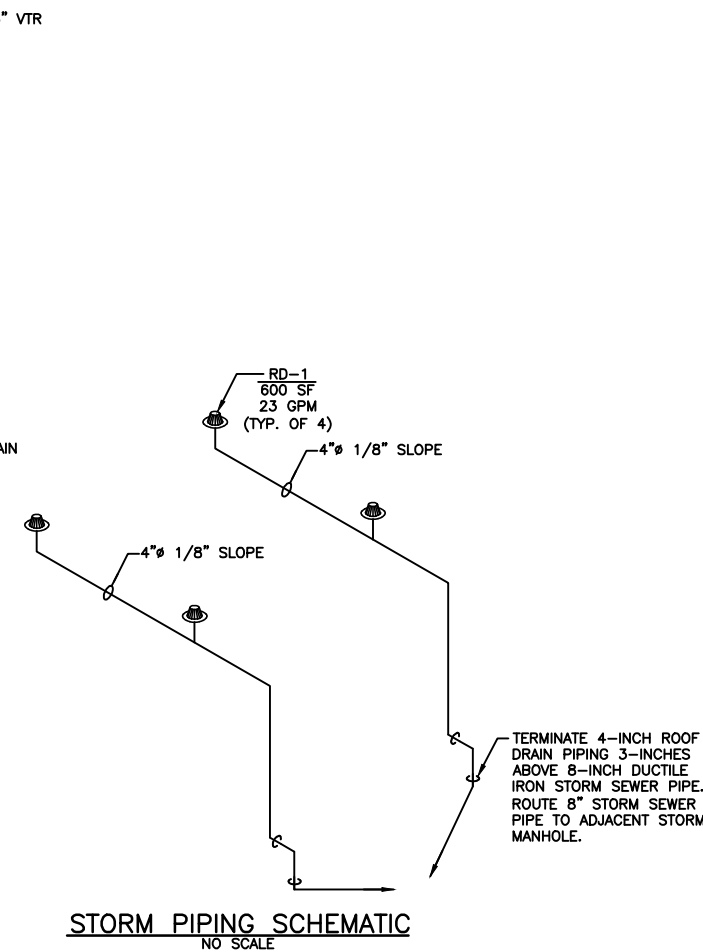
RD (TYP. OF 4) J 99-P5.01



NPW SCHEMATIC
NO SCALE



WASTE AND VENT SCHEMATIC
NO SCALE



STORM PIPING SCHEMATIC
NO SCALE

DATE:	NOV/05/10
REVISIONS	
NO.	1
DATE: NOVEMBER, 2010	DES BY: BJL CHK BY: SWS
	RECORD DRAWING
	BY: SAI
	DATE: 12-05-13
	CONTRACTOR: RUS CONST.

**UV BUILDING
PLUMBING
PLAN**
DISINFECTION AND pH CONTROL
CITY OF SUPERIOR ENVIRONMENTAL SERVICES DIVISION OF PUBLIC WORKS
SUPERIOR, WI



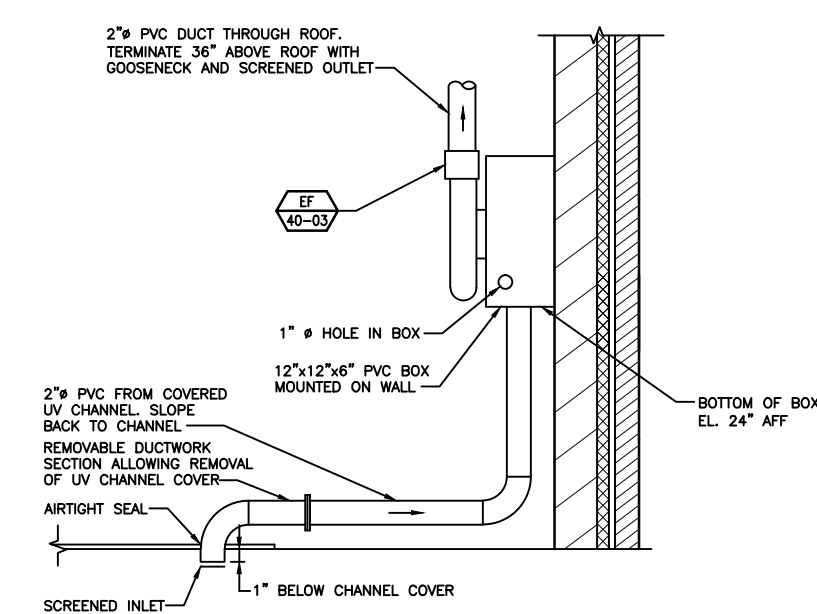
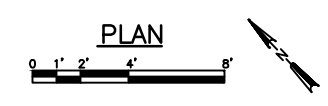
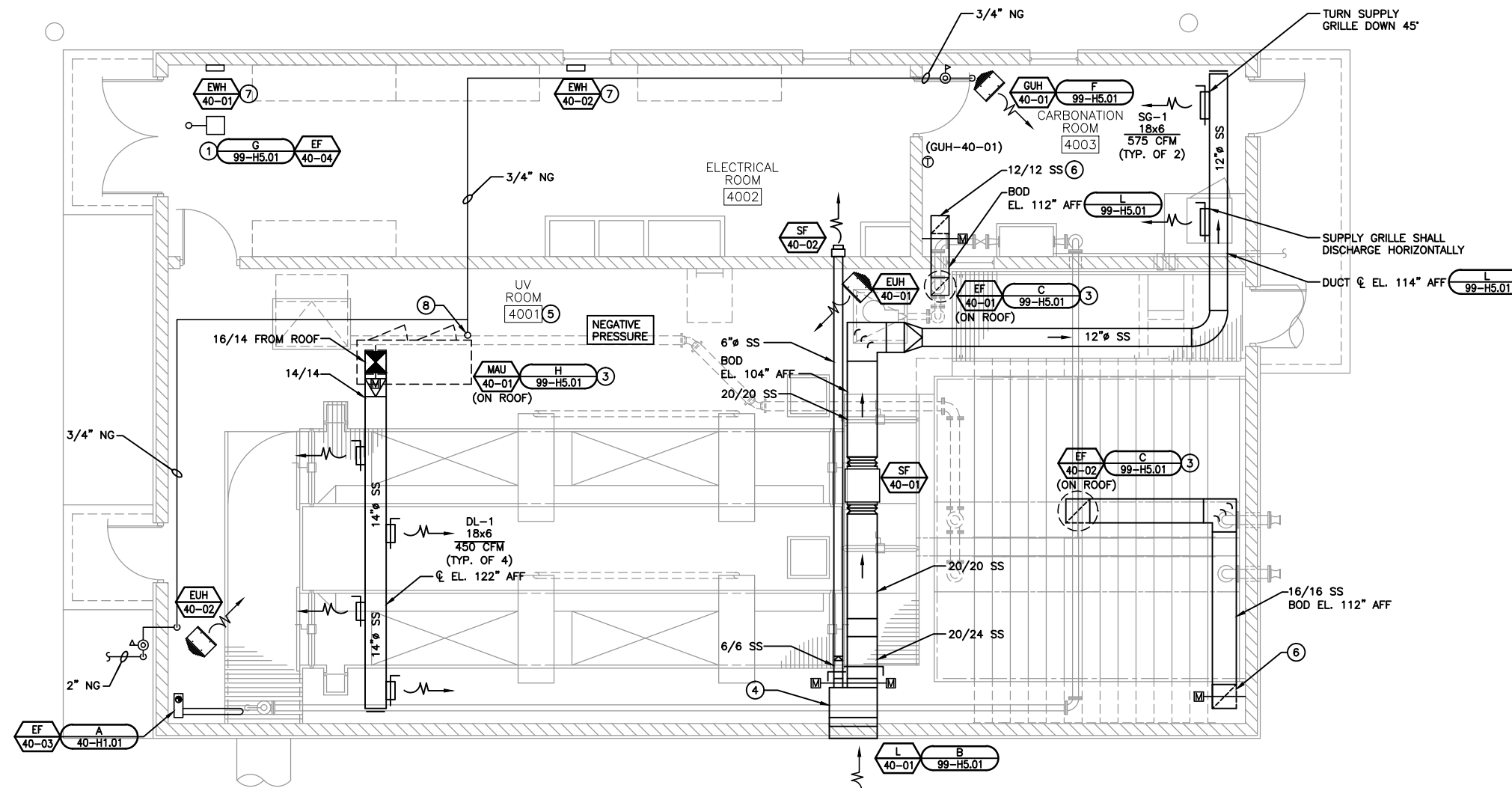
SHEET
23
40-P1.01
JOB NO. 3559.003

GENERAL NOTES:

1. ALL DUCTWORK IN UV ROOM SHALL BE 304 SS.

KEY NOTES:

- 1 PROVIDE 6" DIAMETER EXHAUST DUCT AND MANUFACTURERS ROOF CAP.
- 2 ANGLE DRUM LOUVERS DOWN 45° FROM HORIZONTAL.
- 3 MAINTAIN TEN FEET OF CLEARANCE TO ROOF EDGES FOR EQUIPMENT MAINTENANCE.
- 4 32"x20"x16" PLENUM BEHIND LOUVER. PROVIDE ACCESS DOOR FOR LOUVER SCREEN CLEANING.
- 5 EQUIPMENT AND ACCESSORIES IN THIS ROOM SHALL BE SUITABLE FOR CORROSIVE (NEMA 4X) ENVIRONMENTS.
- 6 DUCT DOWN TO 12" AFF. SCREEN INLET.
- 7 MOUNT BOTTOM OF WALL HEATER 12" AFF.
- 8 UP TO REGULATOR, SHUTOFF VALVE, AND MAKEUP AIR UNIT ON ROOF.



A UV CHANNEL EXHAUST FAN
40-H1.01 NO SCALE

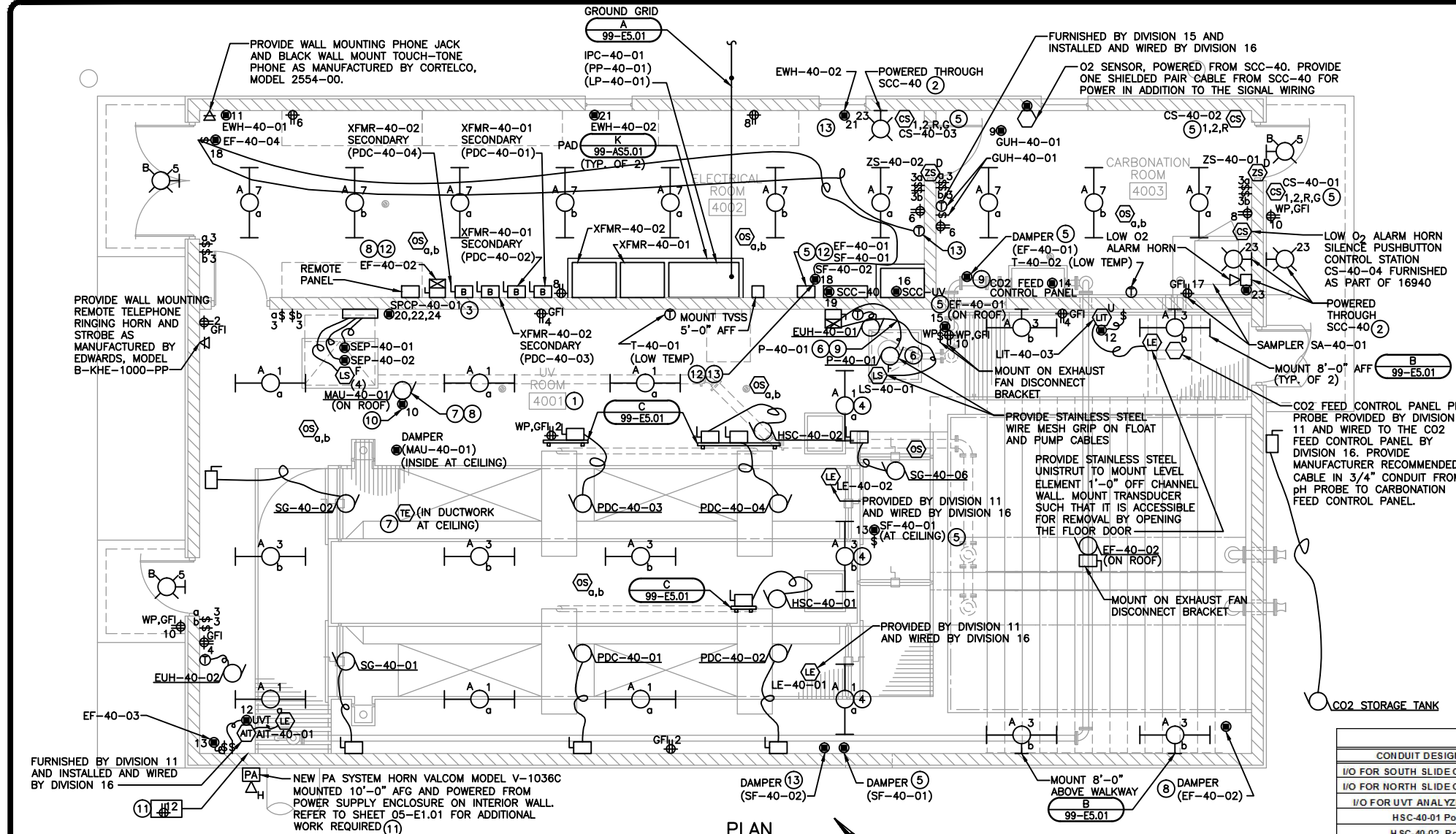
DATE:	REVISIONS	NO.	DATE: NOVEMBER, 2010	DES BY: OPK	CHK BY: SWS	RECORD DRAWING	BY: SAI	DATE: 12-05-13	CONTRACTOR: RUS CONST.
12/07/10	RECORD DRAWING	1							

**UV BUILDING
HVAC
PLAN**

DISINFECTION AND pH CONTROL
CITY OF SUPERIOR ENVIRONMENTAL SERVICES DIVISION OF PUBLIC WORKS
SUPERIOR, WI



SHEET
24
40-H1.01
JOB NO. 3559.003



GENERAL NOTES:

1. REFER TO SPECIFICATION SECTION 16990 FOR WIRING ASSOCIATED WITH THE PLANT SCADA SYSTEM.

KEY NOTES:

- ① ALL ELECTRICAL WORK AND EQUIPMENT IN THIS AREA SHALL BE RATED NEMA 4X.
- ② PROVIDE CARBONATION ROOM LOW O2 ALARM LIGHT AS MANUFACTURED BY EDWARDS, MODEL 94R-N5 WITH WALL MOUNTING BRACKET, MODEL WBR. ALARM LIGHT SHALL BE MOUNTED 8'-0" AFG. PROVIDE ALARM HORN AS MANUFACTURED BY FEDERAL SIGNAL CORPORATION MODEL 350TR, MOUNTED 8'-0" AFG.
- ③ SEWAGE EJECTOR PUMP CONTROL PANEL (SPCP-40-01), FLOAT SWITCHES, AND PUMPS FURNISHED BY DIVISION 15 AND INSTALLED BY DIVISION 16. PROVIDE STAINLESS STEEL WIRE MESH GRIPS ON ALL PUMP AND FLOAT CABLES. ALL ELECTRICAL WORK AND EQUIPMENT IN THE SUMP SHALL BE RATED CLASS 1 DIVISION 1, GROUPS C AND D.
- ④ PENDANT MOUNT FIXTURE FLUSH WITH BOTTOM OF ADJACENT DUCTWORK.
- ⑤ CONTACTOR ENCLOSURE FOR EF-40-01 AND SF-40-01 AND CONTROL STATIONS CS-40-01, CS-40-02, AND CS-40-03 SHALL BE FURNISHED AS PART OF 16940 AND WIRED BY DIVISION 16. EF-40-01 AND SF-40-01 SHALL BE POWERED FROM LP-40-01 THROUGH THIS CONTRACTOR ENCLOSURE. PROVIDE 2~#12 AND #12 GROUND IN 3/4" CONDUIT FROM THE CONTACTOR ENCLOSURE TO EACH OF THE ASSOCIATED DAMPERS.
- ⑥ VFD ENCLOSURE FURNISHED AS PART OF 16940. PROVIDE ONE 2" CONDUIT FROM VFD ENCLOSURE TO PUMP FOR MANUFACTURER FURNISHED PUMP POWER AND CONTROL CABLE. PUMP CONDUIT SHALL BE ROUTED IN THE FLOOR SLAB AND TERMINATED AT THE UV SYSTEM EFFLUENT FLOW CHANNEL ABOVE THE WATER LEVEL.
- ⑦ DISCHARGE AIR TEMPERATURE SENSOR FURNISHED BY DIVISION 15 AND INSTALLED AND WIRED BY DIVISION 16. PROVIDE MANUFACTURER RECOMMENDED CABLE IN 3/4" CONDUIT FROM TEMPERATURE SENSOR TO MAU-40-01.
- ⑧ COMBINATION STARTER FURNISHED AS PART OF 16940. PROVIDE 2~#12 AND #12 GROUND IN 3/4" CONDUIT FROM THE EF-40-02 COMBINATION STARTER TO THE ASSOCIATED DAMPER. PROVIDE 2~#14 IN 3/4" CONDUIT FROM THE EF-40-02 COMBINATION STARTER TO MAU-40-01 FOR RUNNING INTERLOCK.
- ⑨ PROVIDE 8~#14 IN 3/4" CONDUIT FROM THE P-40-01 VFD ENCLOSURE TO THE CO2 FEED CONTROL PANEL FOR START/STOP, RUNNING, FAILED, AND HOA STATUS SIGNALS.
- ⑩ MAU RECEPTACLE PROVIDED BY DIVISION 15 AND WIRED BY DIVISION 16.
- ⑪ PROVIDE A DUPLEX RECEPTACLE AND VALCOM POWER SUPPLY MODEL VP-2124A FOR THE OUTDOOR PAGING HORN IN A NEMA 4X STAINLESS STEEL ENCLOSURE. WALL MOUNT ENCLOSURE ON THE INTERIOR WALL AT THE SAME ELEVATION AS THE EXTERIOR PAGING HORN. PROVIDE A 3/4" CONDUIT THROUGH THE EXTERIOR WALL FROM THE POWER SUPPLY ENCLOSURE TO THE PAGING HORN FOR THE MANUFACTURER PROVIDED 24 VDC POWER SUPPLY CORD TO THE EXTERIOR PAGING HORN. PROVIDE MOUNTING BRACKET FOR POWER SUPPLY.
- ⑫ COORDINATE ENCLOSURE LOCATION WITH DIVISION 15 PRIOR TO INSTALLATION TO MAINTAIN NEC WORKING CLEARANCE WITH SF-40-02 DUCTWORK.
- ⑬ EF-40-04, SF-40-02, AND ASSOCIATED DAMPER SHALL BE WIRED IN SERIES THROUGH THE WALL MOUNTED THERMOSTAT SUCH THAT BOTH FANS SHALL RUN AND THE DAMPER SHALL OPEN WHEN THE ROOM TEMPERATURE RISES ABOVE THE THERMOSTAT SETPOINT.

UV SYSTEM CONDUIT AND WIRING SCHEDULE

CONDUIT DESIGNATION	ORIGIN	TERMINATION	CONDUIT SIZE	CONDUCTORS
I/O FOR SOUTH SLIDE GATE SG-40-01	SCC-UV	SG-40-01	3/4"	10-#14 (OPEN, CLOSE, OPENED, CLOSED, IN REMOTE)
I/O FOR NORTH SLIDE GATE SG-40-02	SCC-UV	SG-40-02	3/4"	10-#14 (OPEN, CLOSE, OPENED, CLOSED, IN REMOTE)
I/O FOR UV ANALYZER AIT-40-01	SCC-UV	AIT-40-01	3/4"	Shielded Pair (UV TRANSMITTANCE)
HSC-40-01 Power	PDC-40-02	HSC-40-01	3/4"	3-#12, #12 Ground
HSC-40-02 Power	PDC-40-04	HSC-40-02	3/4"	3-#12, #12 Ground
HSC-40-01 Control Power	PDC-40-02	HSC-40-01	3/4"	2-#14
HSC-40-02 Control Power	PDC-40-04	HSC-40-02	3/4"	2-#14
Serial Communications and Ground	SCC-UV	HSC-40-02	3/4"	Shielded Pair, #14 GND
Serial Communications and Ground	HSC-40-02	PDC-40-04	3/4"	Shielded Pair, #14 GND
Serial Communications and Ground	PDC-40-04	PDC-40-03	3/4"	Shielded Pair, #14 GND
Serial Communications and Ground	PDC-40-03	PDC-40-01	3/4"	Shielded Pair, #14 GND
Serial Communications and Ground	PDC-40-01	PDC-40-02	3/4"	Shielded Pair, #14 GND
Serial Communications and Ground	PDC-40-02	HSC-40-01	3/4"	Shielded Pair, #14 GND
UV Channel 1 Low Water Level Alarm	LWL Sensor (LE-40-01)	PDC-40-02	3/4"	2-#14
UV Channel 1 Low Water Level Alarm	PDC-40-02	PDC-40-01	3/4"	2-#14
UV Channel 2 Low Water Level Alarm	LWL Sensor (LE-40-02)	PDC-40-04	3/4"	2-#14
UV Channel 2 Low Water Level Alarm	PDC-40-04	PDC-40-03	3/4"	2-#14

LIGHTING PANEL LP-40-01

Room Number/Description	Amps	Poles	Ckt. #	Phase A	Phase B	Phase C	Phase A	Phase B	Phase C	Ckt. #	Poles	Amps	Room Number/Description									
UV RM LIGHTING	20	1	1	1120			720			2	1	20	UV RM RECEPTACLES									
UV RM LIGHTING	20	1	3		1340			540		4	1	20	UV RM RECEPTACLES									
OUTDOOR LIGHTING	20	1	5			480			360	6	1	20	ELEC AND CO2 RM RECEPTACLES									
ELEC AND CO2 ROOM LIGHTING	20	1	7	1370				360		8	1	20	ELEC AND CO2 RM RECEPTACLES									
CO2 RM UNIT HEATER (EUH-40-01)	20	1	9		450			720		10	1	20	OUTDOOR / ROOFTOP RECEPTACLES									
ELEC RM WALL HEATER (EWH-40-01) WEST	20	1	11			1500			350	12	1	20	UT-40-03, AIT-40-01, & PA PWR SUPPLY									
SF-40-01 & DAMPER, EF-40-03	20	1	13	900			1800			14	1	20	CO2 FEED SYSTEM CONTROL PANEL									
EF-40-01 & DAMPER	20	1	15		920			500		16	1	20	SCC-UV									
SAMPLER RECEPTACLE SA-40-01	20	1	17			1000			900	18	1	20	ELEC RM FANS (SF-40-01 & EF-40-04)									
SCC-40	20	1	19	1000			1200			20			SUMP PUMP CONTROL PANEL (SPCP-40-01)									
ELEC RM WALL HEATER (EWH-40-02)	20	1	21		1800			1200		22	3	30										
ELEC RM WALL HEATER (EUH-40-02) EAST	20	1	23			0			1200	24												
SCC-40 CO2 RM ALARM	20	1	25	0		0				26	1	20	SPARE									
SPARE	20	1	27		0			0		28	1	20	SPARE									
SPARE	20	1	29			0			0	30	1	20	SPARE									
Total Load per Phase per Side (VA)													4390	4510	2960	4080	2960	2810				
Total Load Phase A (VA)													8470	VA						Total Connected Load (A)	60	A
Total Load Phase B (VA)													7470	VA						Total Connected Load + 25%	75	A
Total Load Phase C (VA)													5790	VA						Spare 25%	19	A
Total Connected Load (VA)													21730	VA						Feeder Load	94	A

DISTRIBUTION PANEL PP-40-01

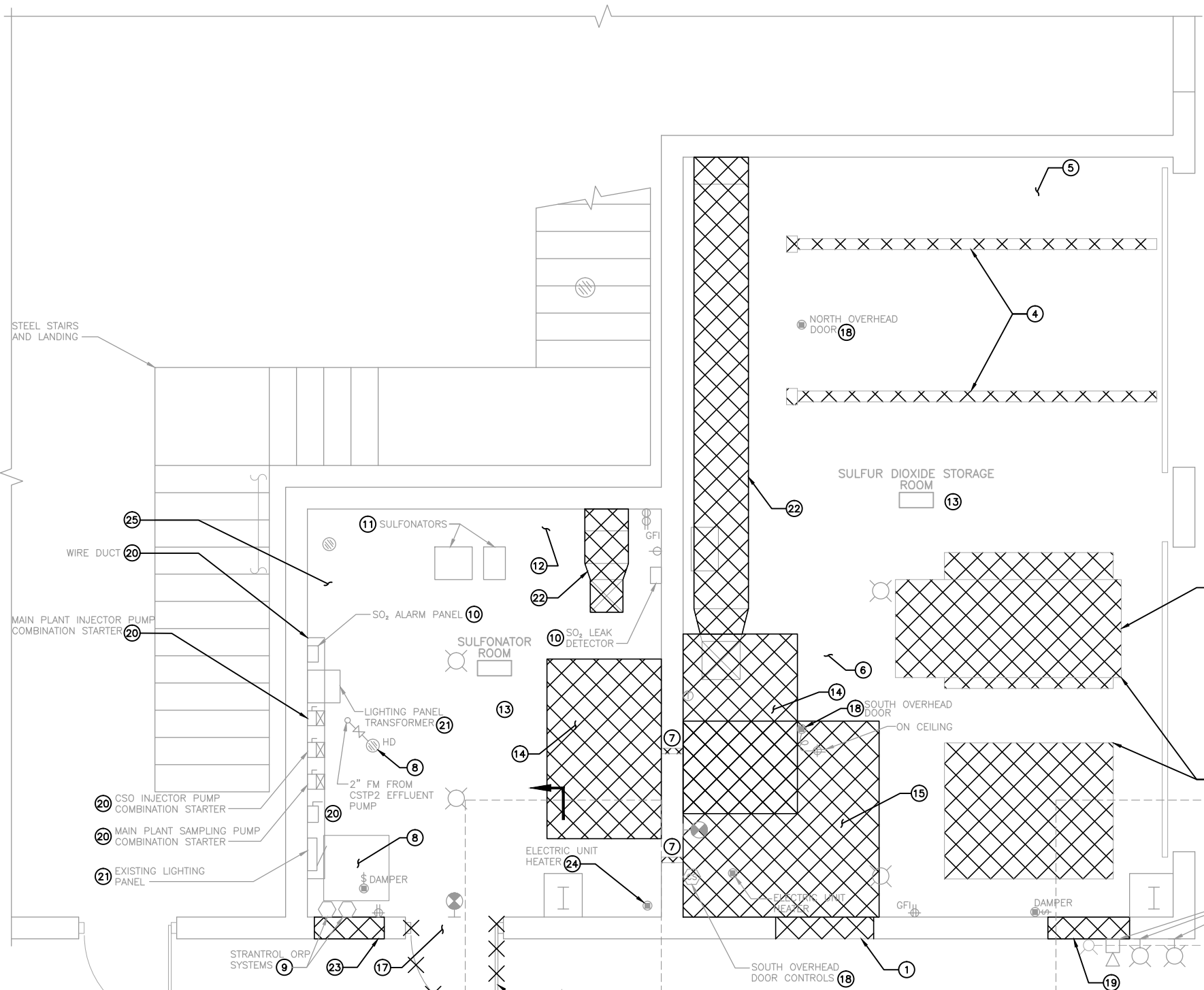
Room Number/Description	Amps	Poles	Ckt. #	Phase A	Phase B	Phase C	Phase A	Phase B	Phase C	Ckt. #	Amps	Poles	Room Number/Description									
PDC-40-01 & PDC-40-02 TRANSFORMER (XFMR-40-01)	175	3	1	23400			10000			2			SPARE									
PDC-40-03 & PDC-40-04 TRANSFORMER (XFMR-40-02)	175	3	7	23400			4200		4200	8	20	3	ELECTRIC UNIT HEATER SOUTH UV ROOM (EUH-40-02)									
OUTDOOR CO2 STORAGE TANK	45	3	13	2100			1600		1600	14			UV ROOM EXHAUST FAN & MAKEUP AIR UNIT (EF-40-02) & (MAU-40-01)									
CARBONATION SYSTEM CARRIER WATER PUMP COMBINATION STARTER (P-40-01)	100	3	19	13800			0		0	20			SLIDE GATES SG-40-01, SG-40-02, SG-40-06									
DEWATERING BUILDING CHEMICAL ROOM POWER PANEL FEEDER (PP-55-01)	100	3	25	13856			2500		2500	26			UV ROOM NORTH ELECTRIC UNIT HEATER (EUH-40-02)									
MAIN	400	6	31	0			1670			32			WALL MOUNTED TVSS									
			33	0			1670			34												
			35	0			1670			36												
			37	0			0			38												
			39	0			0			40												
			41	0			0			42												
			44							50					LP-40-01 TRANSFORMER							
Total Load per Phase per Side (VA)													76556	76556	76556	19970	19970	19970				
Total Load Phase A (VA)													96626	VA						Total Connected Load (A)	348	A
Total Load Phase B (VA)													96626	VA						Total Connected Load + 25%	435	A
Total Load Phase C (VA)													96626	VA						Spare 25%	109	A
Total Connected Load (VA)													289578	VA						Feeder Load	544	A

IPC-40-01 ELEVATION
NO SCALE

DATE:	NOVEMBER, 2010
REVISIONS:	DES BY: DDG CHK BY: SWS
NO.:	1
RECORD DRAWING:	RECORD DRAWING
BY:	SAI
DATE:	12-05-13
CONTRACTOR:	RUS CONST.

UV BUILDING ELECTRICAL PLAN
 DISINFECTION AND pH CONTROL
 CITY OF SUPERIOR ENVIRONMENTAL SERVICES DIVISION OF PUBLIC WORKS
 SUPERIOR, WI





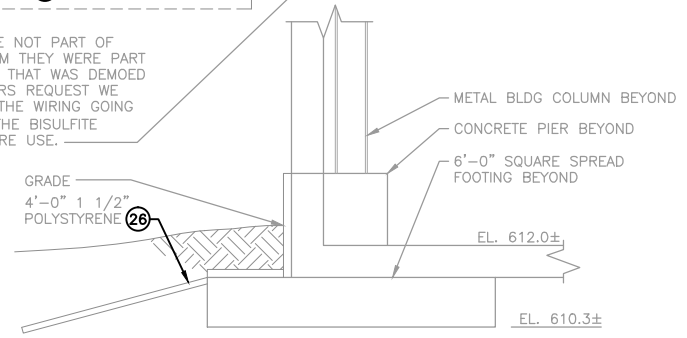
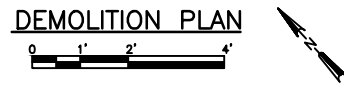
GENERAL NOTES:

1. REMOVE ALL CONCRETE AND OTHER BASES FOR EQUIPMENT BEING REMOVED. REMOVE ALL CONCRETE BASES TO 1-INCH BELOW FLOOR AND PATCH WITH CONCRETE REPAIR TOPPING TO MATCH EXISTING FLOOR.
2. DIVISION 16 CONTRACTOR SHALL REMOVE ALL EXISTING ELECTRICAL WORK AND EQUIPMENT (INCLUDING CONTROL PANELS, JUNCTION BOXES, POWER AND CONTROL WIRING AND CONDUIT, ETC.) IN THIS AREA, UNLESS OTHERWISE NOTED.
3. ALL RECESSED DEVICES (SWITCHES, RECEPTACLES, ETC.) SHALL BE REMOVED AND REMAINING OPENINGS IN FLOORS, WALLS, AND CEILING SHALL BE FILLED OR PATCHED TO MATCH EXISTING.
4. ALL CONDUIT AND WIRE RUN EXPOSED SHALL BE REMOVED TO POINT OF ORIGIN.
5. SEE NEW CONSTRUCTION DRAWINGS FOR ANY ADDITIONAL REQUIREMENTS FOR DEMOLITION. PROVIDE ALL DEMOLITION AS REQUIRED FOR NEW CONSTRUCTION.
6. SEE HVAC PLANS FOR WALL PENETRATIONS.
7. ALL CONDUIT PENETRATIONS BETWEEN INTERIOR SPACES SHALL BE CONSIDERED FIRE RATED PENETRATIONS AND BE SEALED TO MAINTAIN THE EXISTING FIRE RATING.
8. REMOVE ALL EXISTING ELECTRICAL EQUIPMENT AND MATERIALS ASSOCIATED WITH THE ITEMS BEING REMOVED AND SHOWN ON THIS DRAWING, AS WELL AS ALL EXISTING ELECTRICAL DEVICES, MATERIALS, AND EQUIPMENT NOT BEING REUSED. HATCHING ON ELECTRICAL ITEMS BEING REMOVED IS NOT SHOWN FOR CLARITY.

KEY NOTES:

- 1 REMOVE WALL FOR NEW DOOR. CONFIRM LOCATION OF STRUCTURAL MEMBERS AND COORDINATE DOOR LOCATION ACCORDINGLY.
- 2 TON CONTAINERS TO BE REMOVED BY OWNER.
- 3 REMOVE TON CONTAINER SCALES. REPAIR CONCRETE FLOOR.
- 4 REMOVE TON CONTAINER RAILS. PATCH FLOOR WITH CONCRETE REPAIR TOPPING TO MATCH EXISTING FLOOR. TON CONTAINERS TO BE REMOVED BY OWNER.
- 5 REMOVE ADJUSTABLE GANTRY WITH CASTERS AND FRAME AND ELECTRIC TROLLEY AND HOIST (NOT SHOWN). DELIVER TO OWNER.
- 6 REMOVE SULFUR DIOXIDE MANIFOLD, PIPING, AND EQUIPMENT (NOT SHOWN).
- 7 REMOVE DOOR AND FRAME AROUND WALL OPENING.
- 8 REMOVE AND PLUG SMALL DIAMETER PIPE PENETRATIONS THROUGH FLOOR SLAB. THE 2 INCH DIAMETER PVC FORCEMAIN FROM THE CSTP2 EFFLUENT PUMP AND THE HUB DRAIN THE 2" FM DISCHARGES TO SHALL REMAIN. RELOCATE CSTP2 EFFLUENT SAMPLER TO WHERE SHOWN. PREPARE AND PAINT 2" FM AND HD.
- 9 REMOVE WALL MOUNTED STRANTRON REDOX ORP EQUIPMENT, PIPING AND APPURTENANCES.
- 10 EXISTING SO₂ ALARM PANEL, SULFONATOR ROOM SO₂ TRANSMITTER, AND SENSOR SHALL REMAIN. REMOVE SENSOR FROM EXISTING SO₂ STORAGE ROOM AND ALL ASSOCIATED CONDUIT AND WIRING BACK TO SO₂ TRANSMITTER.
- 11 REMOVE TWO SULFONATORS ALONG WITH ALL PIPING AND APPURTENANCES.
- 12 REMOVE ONE WASTEWATER SAMPLER (NOT SHOWN) AND DELIVER TO OWNER. RELOCATE OTHER SAMPLER WHERE SHOWN.
- 13 REMOVE ALL FRP WALL AND CEILING PANELS IN THIS ROOM.
- 14 REMOVE CONCRETE FLOOR FOR SUMP.
- 15 REMOVE CONCRETE FLOOR AS REQUIRED FOR PIPING INSTALLATION. PROVIDE SHORING AS REQUIRED TO PREVENT UNDERMINING ADJACENT 6'-0" SQUARE SPREAD FOOTING. REPLACE WITH NEW CONCRETE.
- 16 REMOVE DOOR AND FRAME.
- 17 REMOVE UPPER PART OF WALL FOR NEW RAISED DOOR.
- 18 EXISTING OVERHEAD DOOR OPERATORS AND ALL ASSOCIATED CONTROL DEVICES, CONDUIT, AND WIRING SHALL REMAIN. REMOVE EXISTING 120VAC POWER CONDUIT AND WIRING FROM EXISTING LIGHTING PANEL BACK TO OPERATOR WHICH SHALL BE POWERED FROM THE NEW LIGHTING PANEL.
- 19 REMOVE LOUVER AND PREPARE OPENING FOR NEW DUCT THROUGH WALL. PROVIDE INSULATED METAL FLASHING AROUND NEW DUCT TO CLOSE OPENING.
- 20 REMOVE THE EXISTING UNUSED COMBINATION STARTERS, DISCONNECT, AND ALL ASSOCIATED CONDUIT AND WIRING BACK TO POINT OF ORIGIN. REMOVE WIRE DUCT AND ALL ASSOCIATED 480V, 3Ø CONDUCTORS BACK TO THE MAIN CONTROL BUILDING MCC FEEDER BREAKER.
- 21 REMOVE EXISTING LIGHTING PANEL AND TRANSFORMER AND PROVIDE A NEMA 4X JUNCTION BOX WITH TERMINAL BLOCKS. TERMINATE EXISTING LIGHTING PANEL CIRCUITS BEING REUSED IN JUNCTION BOX AND ALTER AND EXTEND ALL CONDUCTORS IN NEW CONDUIT FROM THE JUNCTION BOX TO HYPOCHLORITE ROOM 5502 LIGHTING PANEL LP-55-01.
- 22 REMOVE DUCT AND SUPPORTS. SEAL PENETRATIONS OPENED BY DUCT REMOVAL AIR TIGHT.
- 23 REMOVE LOUVER AND SEAL OPENING AIRTIGHT. MATCH EXISTING WALL CONSTRUCTION INCLUDING METAL PANEL EXTERIOR, INSULATED CAVITY SPACE, AND INTERIOR FRP WALL PANELS.
- 24 REMOVE ALL EXISTING HVAC EQUIPMENT, WIRING, CONDUIT, DISCONNECTS, ETC.
- 25 REMOVE COMPONENTS OF MEZZANINE ROOF AND OTHER COMPONENTS AS NECESSARY IN THIS AREA TO ALLOW CONTRACTOR TO INSTALL NEW 5'-4" DIAMETER BISULFITE STORAGE TANK IN THE LOCATION SHOWN ON DRAWING 55-ASM1.01. REINSTALL MEZZANINE ROOF AFTER TANK IS INSTALLED.
- 26 REPLACE EXISTING FOUNDATION INSULATION DISTURBED DURING CONSTRUCTION.
- 27 EXISTING STARTER AND ALL ASSOCIATED CONTROL CONDUIT AND WIRING SHALL REMAIN TO MAINTAIN EXISTING CSO SAMPLING PUMP OPERATION. STARTER SHALL BE POWERED FROM NEW POWER PANEL PP-55-01. REMOVE EXISTING POWER CONDUCTORS TO STARTER BACK TO POINT OF ORIGIN. RELOCATE STARTER TO THE SOUTH AND ALTER AND EXTEND EXISTING CONDUIT AND WIRING AS REQUIRED TO MAINTAIN NEC WORKING CLEARANCES.

THESE HORN AND STROBES WERE NOT PART OF THE SO₂ LEAK DETECTOR SYSTEM THEY WERE PART OF A SHAFT MONITORING SYSTEM THAT WAS DEMOED BY SHEET 7 NOTE 2. PER OWNERS REQUEST WE LEFT THESE ON THE WALL WITH THE WIRING GOING BACK IN A NEMA 4X J/BOX IN THE BISULFITE ROOM 5501 FOR POSSIBLE FUTURE USE.



SECTION 1-1
55-D1.01

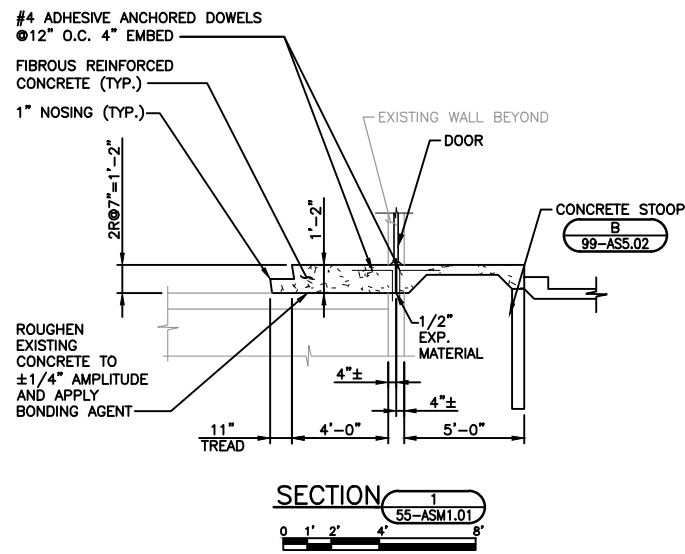
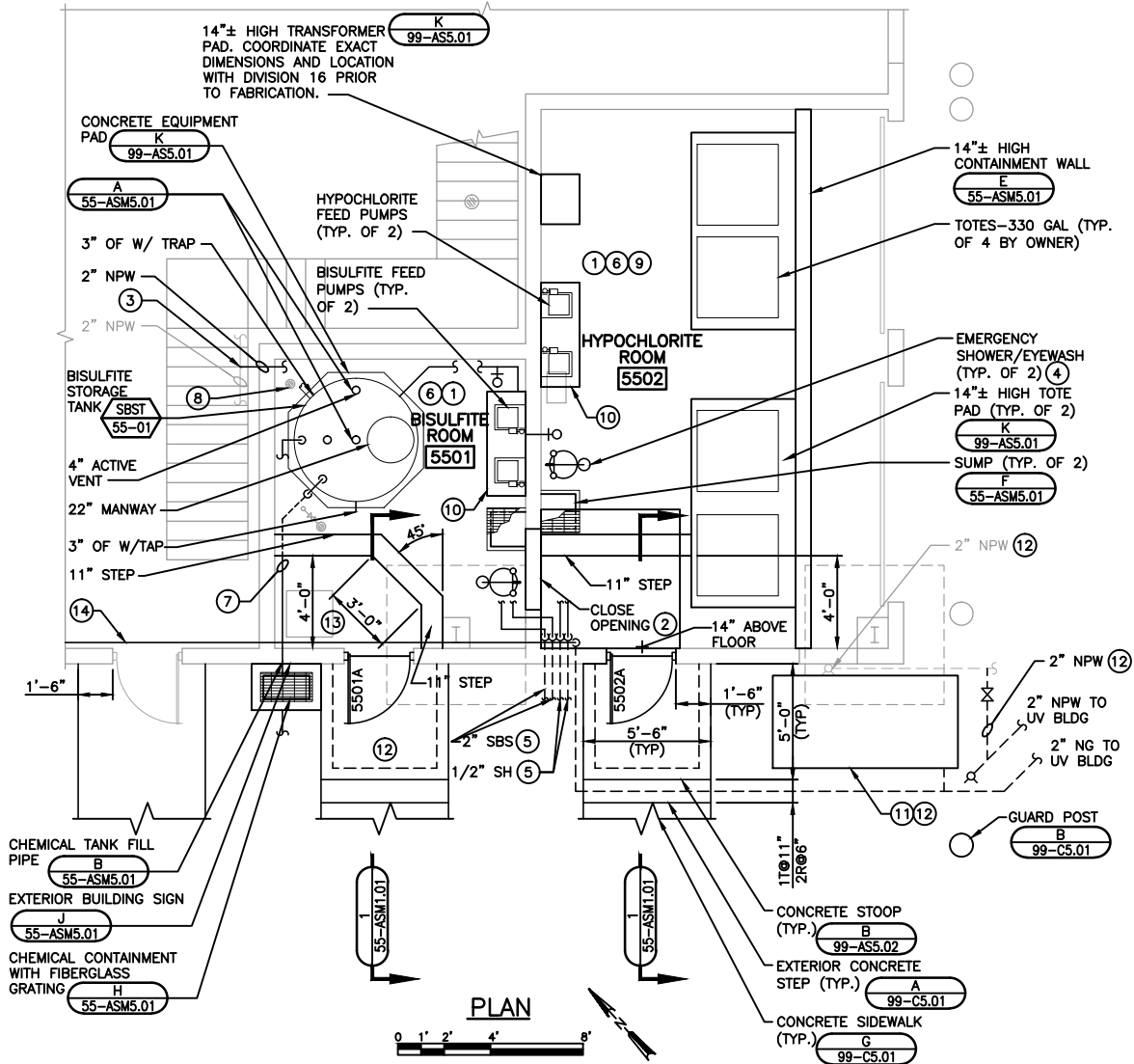
**DEWATERING BUILDING
DEMOLITION PLAN**
 DISINFECTION AND pH CONTROL
 CITY OF SUPERIOR ENVIRONMENTAL SERVICES DIVISION OF PUBLIC WORKS
 SUPERIOR, WI



SHEET
26
 55-D1.01
 JOB NO. 3559.003

NO.	REVISIONS	DATE
1	RECORD DRAWING	10/27/10

DATE: NOVEMBER, 2010	DES BY: RGF	CHK BY: SWS
BY: SAI	RECORD DRAWING	DATE: 12-05-13
		CONTRACTOR: RUS CONST.



- GENERAL NOTES:**
1. SEE HYPOCHLORITE AND BISULFITE SCHEMATICS FOR ADDITIONAL TANK, PIPING, AND OTHER DETAILS.
 2. IN AREAS WHERE WALLS OR CONCRETE BASES ARE REMOVED, PATCH FLOOR WITH POLYMER MODIFIED LEVELING COMPOUND AS SPECIFIED.
 3. ALL MATERIALS AND DEVICES IN HYPOCHLORITE AND BISULFITE ROOMS SHALL BE RATED FOR CORROSIVE ENVIRONMENT.
 4. ALL PIPE OPENINGS THROUGH WALLS AND FLOORS SHALL BE SEALED LIQUID AND AIR TIGHT. SEE SPECIFICATIONS.
 5. AT NEW DOORS, PROVIDE DOOR SUPPORT FRAMES (D 55-ASM5.01) PROVIDE FLASHING AS REQUIRED TO CONCEAL FRAMES. FRAMES TO BE SHOP PRIMED. FLASHING TO MATCH EXISTING BUILDING.
 6. SEE ROOM FINISH SCHEDULE FOR FLOOR, WALL, AND CEILING FINISHES.

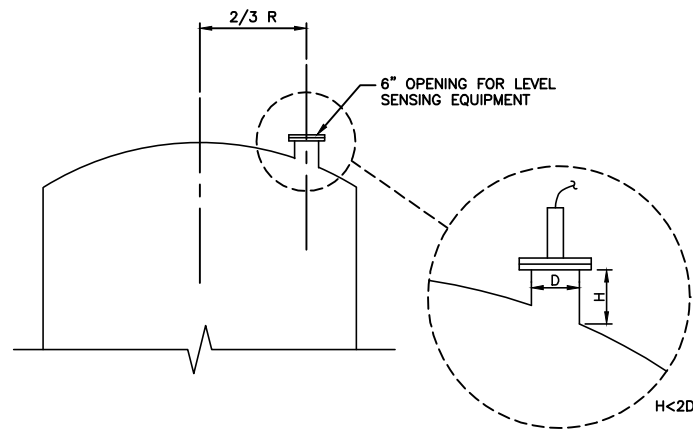
- KEY NOTES:**
- 1 PROVIDE CHEMICALLY RESISTANT COATING ON FLOORS AND WALLS OF CONTAINMENT AREA TO TOP OF 24" CONCRETE WALL INCLUDING TOP OF BASE PADS AND STAIR LANDING AREAS. SEE DIVISION 9 SPECIFICATIONS.
 - 2 CLOSE OPENING TO MATCH EXISTING CONSTRUCTION. NEW CONCRETE KNEEWALL TO BE REINFORCED W/#4@8" EACH WAY DOWELED INTO EXISTING CONCRETE WALLS AND FLOORS. ROUGHEN EXISTING WALLS AND FLOOR TO ±1/4" AMPLITUDE, APPLY BONDING AGENT, AND PROVIDE HYDROPHILIC WATERSTOP.
 - 3 TAP NEW 2" NPW PIPING INTO EXISTING 2" NPW PIPING.
 - 4 PROVIDE NEW EMERGENCY SHOWER/EYEWASH.
 - 5 PROVIDE SPARE CHEMICAL PIPE TO EACH APPLICATION POINT. PROVIDE MIN 6"-6" COVER OVER ALL UNDERGROUND PIPING.
 - 6 PROVIDE NEW FRP PANELS OVER NEW VAPOR BARRIER ON EXISTING WALLS AND CEILING IN THIS ROOM.
 - 7 ROUTE CHEMICAL FILL PIPING AS LOW AS POSSIBLE ABOVE TOP OF CONTAINMENT WALL. PROVIDE LEAK PROTECTION TO CONTAINMENT AREA.
 - 8 PROVIDE CHEMICAL RESISTANT EXPANDABLE PLUG FOR EXISTING FLOOR DRAIN.
 - 9 PREP AND PAINT EXISTING EXPOSED STRUCTURAL STEEL THAT SUPPORTS EXISTING MEZZANINE.
 - 10 CHEMICAL FEED PUMP WALL MOUNTED (C 55-ASM5.01).
 - 11 PROVIDE EQUIPMENT PAD FOR MECHANICAL EQUIPMENT. PER (F 99-ASS.04) EXCEPT DO NOT UNDERCUT EXISTING BUILDING FOOTING.
 - 12 WHERE PAD OR STOOP OVERLAPS EXISTING FOOTING, STOP FOUNDATION WALLS AT TOP OF FOOTING. PROVIDE SHORING AS REQUIRED TO PREVENT UNDERMINING EXISTING SPREAD FOOTING. LOCATE NPW LINE IN THIS AREA DURING EXCAVATION. TAP INTO EXISTING 2" NPW LINE PROVIDE CURB STOP SHUTOFF VALVE, AND ROUTE NEW 2" NPW AND PROVIDE NEW FREEZELESS YARD HYDRANT. PATCH HOLE IN BUILDING WALL AFTER REMOVING EXISTING YARD HYDRANT.
 - 13 RELOCATED CSTP2 EFFLUENT SAMPLER.
 - 14 TAP INTO EXISTING 2" NG WITHIN BUILDING AND ROUTE NEW 2" NG APPROXIMATELY 50 FEET HORIZONTALLY TO WHERE SHOWN EXITING THE BUILDING FROM THE HYPOCHLORITE ROOM. PROVIDE ALL FITTINGS, SUPPORTS VERTICAL PIPING RUNS, AND APPURTENANCES AS NECESSARY.

DATE:	NOVEMBER, 2010
DES BY:RFG	CHK BY: SWS
RECORD DRAWING	RECORD DRAWING
BY: SAI	DATE:12-05-13
CONTRACTOR: RUS CONST.	

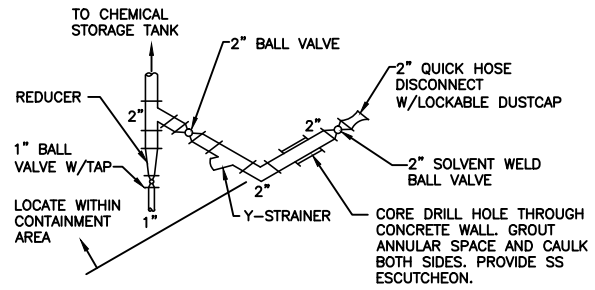
**DEWATERING BUILDING
PLAN AND SECTIONS**

DISINFECTION AND pH CONTROL
CITY OF SUPERIOR ENVIRONMENTAL SERVICES DIVISION OF PUBLIC WORKS
SUPERIOR, WI

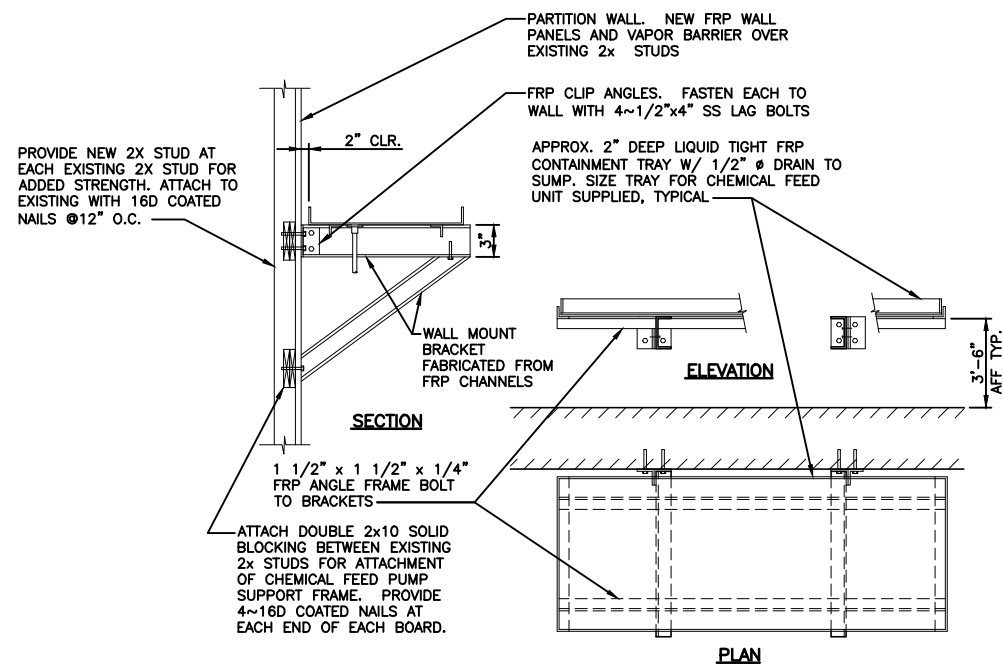




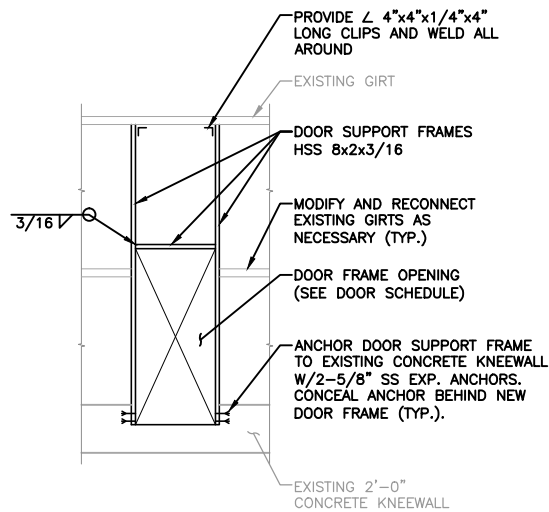
A ULTRASONIC LEVEL TRANSDUCER OPENING
55-ASM5.01 NO SCALE



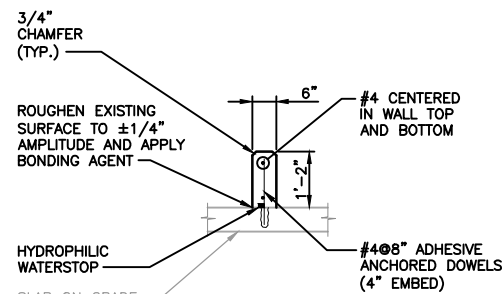
B CHEMICAL TANK FILL PIPE (SIMILAR)
55-ASM5.01 NO SCALE



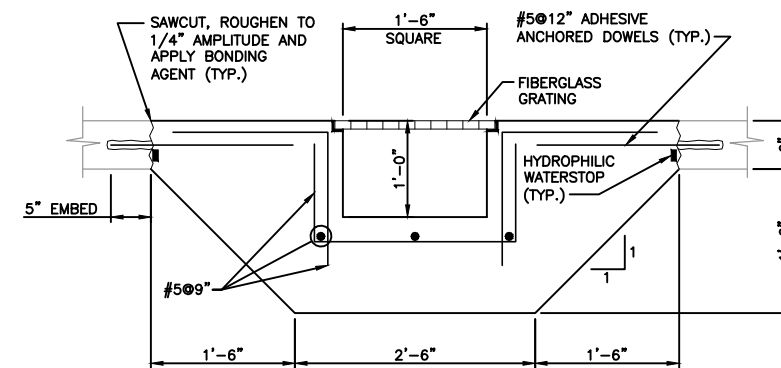
C CHEMICAL FEED PUMP WALL MOUNTING
55-ASM5.01 NO SCALE



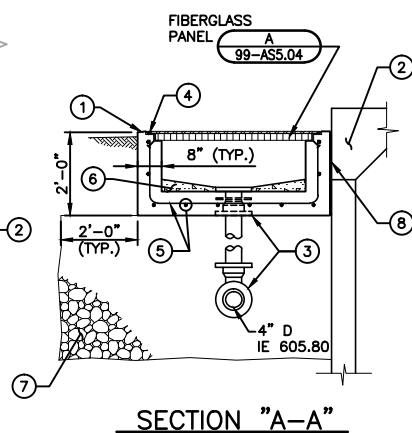
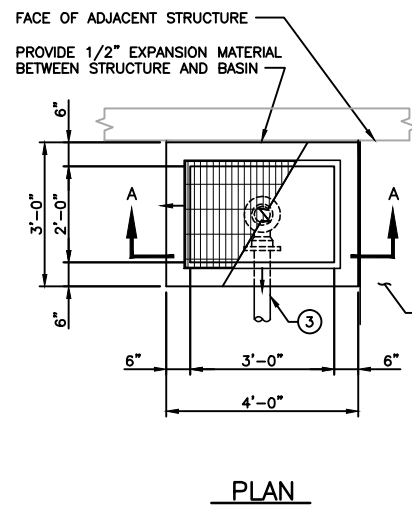
D DOOR FRAME SUPPORT
55-ASM5.01 NO SCALE



E CONTAINMENT WALL
55-ASM5.01 NO SCALE



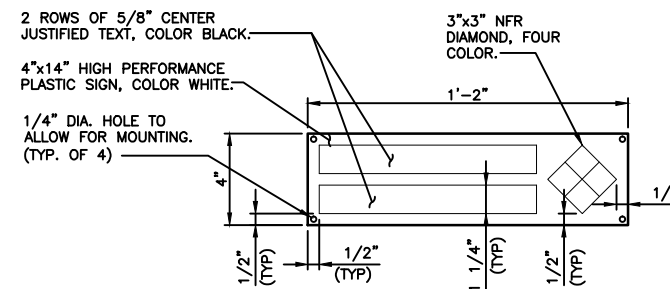
F SUMP DETAIL
55-ASM5.01



H SPILL CONTAINMENT BASIN
55-ASM5.01 NO SCALE

KEY NOTES:

- 1 PROVIDE 1/2" PITCH AWAY FROM BUILDING TO ADJOINING WALK OR SURFACE..
- 2 CONCRETE STOOP
- 3 PROVIDE PIPING AS INDICATED ON STRUCTURE OR PIPING DRAWINGS.
- 4 PROVIDE COMPRESSIBLE GASKET BONDED TO BOTTOM OF FIBERGLASS PANEL (TYP.).
- 5 REINFORCE WITH #5x8" EACH WAY AS SHOWN.
- 6 GROUT BOTTOM TO DRAIN.
- 7 PROVIDE 3'-0" OF CRUSHED STONE BELOW CONCRETE.
- 8 1/2" EXPANSION MATERIAL.



J EXTERIOR BUILDING SIGN
55-ASM5.01 NO SCALE

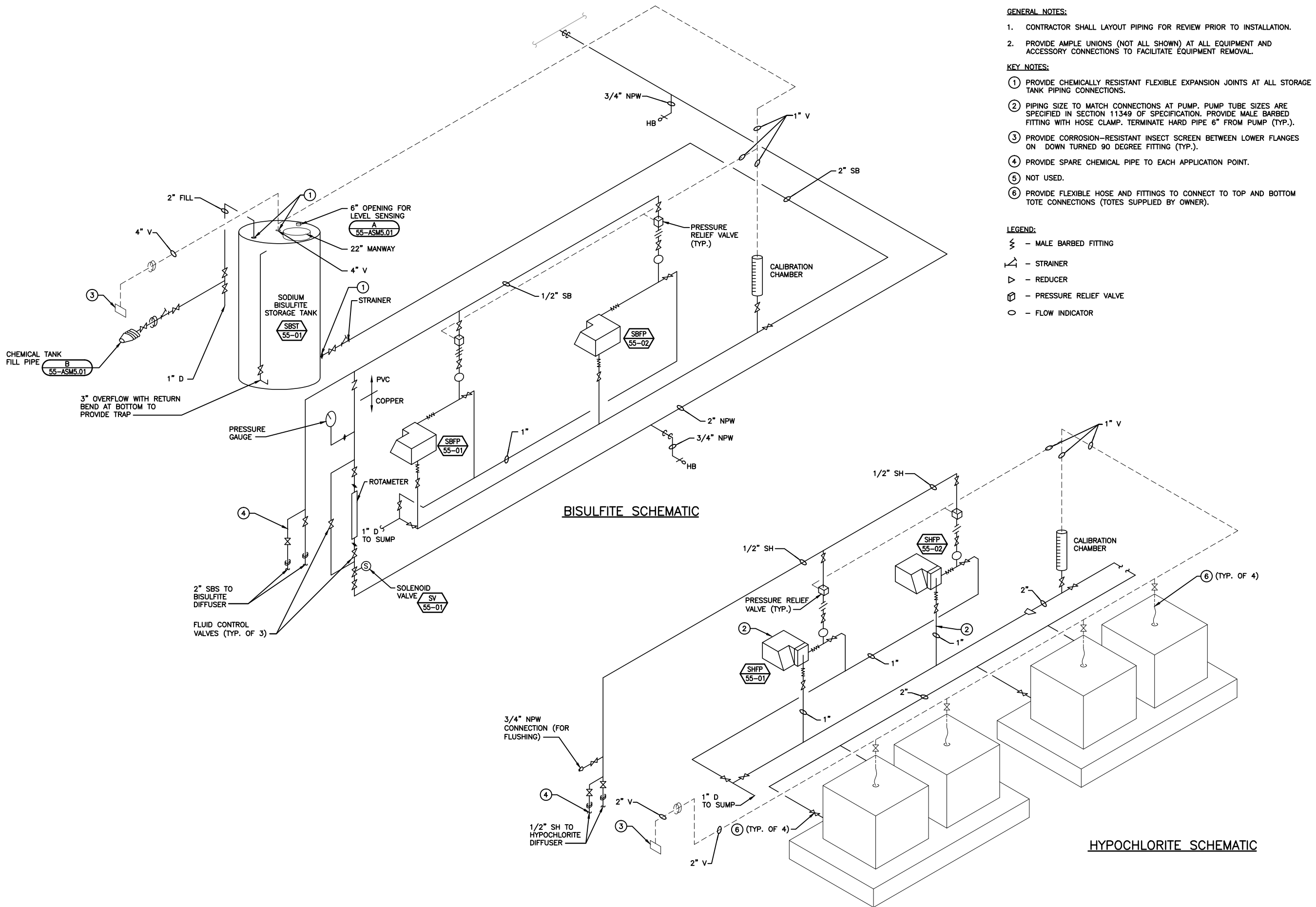
NOTES:

1. MOUNT TO METAL WALL PANEL WITH 4x1/4" STAINLESS STEEL RIVETS.
2. CONTRACTOR SHALL CONFIRM WORDING ON SIGN WITH OWNER.
3. PROVIDE ONE FOR BISULFITE ROOM AND ONE FOR HYPOCHLORITE ROOM.

DATE:	NOVEMBER, 2010
REVISIONS	NO. 1
NO.	1
DES BY:RFG	CHK BY: SWS
RECORD DRAWING	BY: SAI
CONTRACTOR: RUS CONST.	DATE:12-05-13

DEWATERING BUILDING DETAILS
DISINFECTION AND pH CONTROL
CITY OF SUPERIOR ENVIRONMENTAL SERVICES DIVISION OF PUBLIC WORKS
SUPERIOR, WI





- GENERAL NOTES:**
- CONTRACTOR SHALL LAYOUT PIPING FOR REVIEW PRIOR TO INSTALLATION.
 - PROVIDE AMPLE UNIONS (NOT ALL SHOWN) AT ALL EQUIPMENT AND ACCESSORY CONNECTIONS TO FACILITATE EQUIPMENT REMOVAL.
- KEY NOTES:**
- PROVIDE CHEMICALLY RESISTANT FLEXIBLE EXPANSION JOINTS AT ALL STORAGE TANK PIPING CONNECTIONS.
 - PIPING SIZE TO MATCH CONNECTIONS AT PUMP. PUMP TUBE SIZES ARE SPECIFIED IN SECTION 11349 OF SPECIFICATION. PROVIDE MALE BARBED FITTING WITH HOSE CLAMP. TERMINATE HARD PIPE 6" FROM PUMP (TYP.).
 - PROVIDE CORROSION-RESISTANT INSECT SCREEN BETWEEN LOWER FLANGES ON DOWN TURNED 90 DEGREE FITTING (TYP.).
 - PROVIDE SPARE CHEMICAL PIPE TO EACH APPLICATION POINT.
 - NOT USED.
 - PROVIDE FLEXIBLE HOSE AND FITTINGS TO CONNECT TO TOP AND BOTTOM TOTE CONNECTIONS (TOTES SUPPLIED BY OWNER).

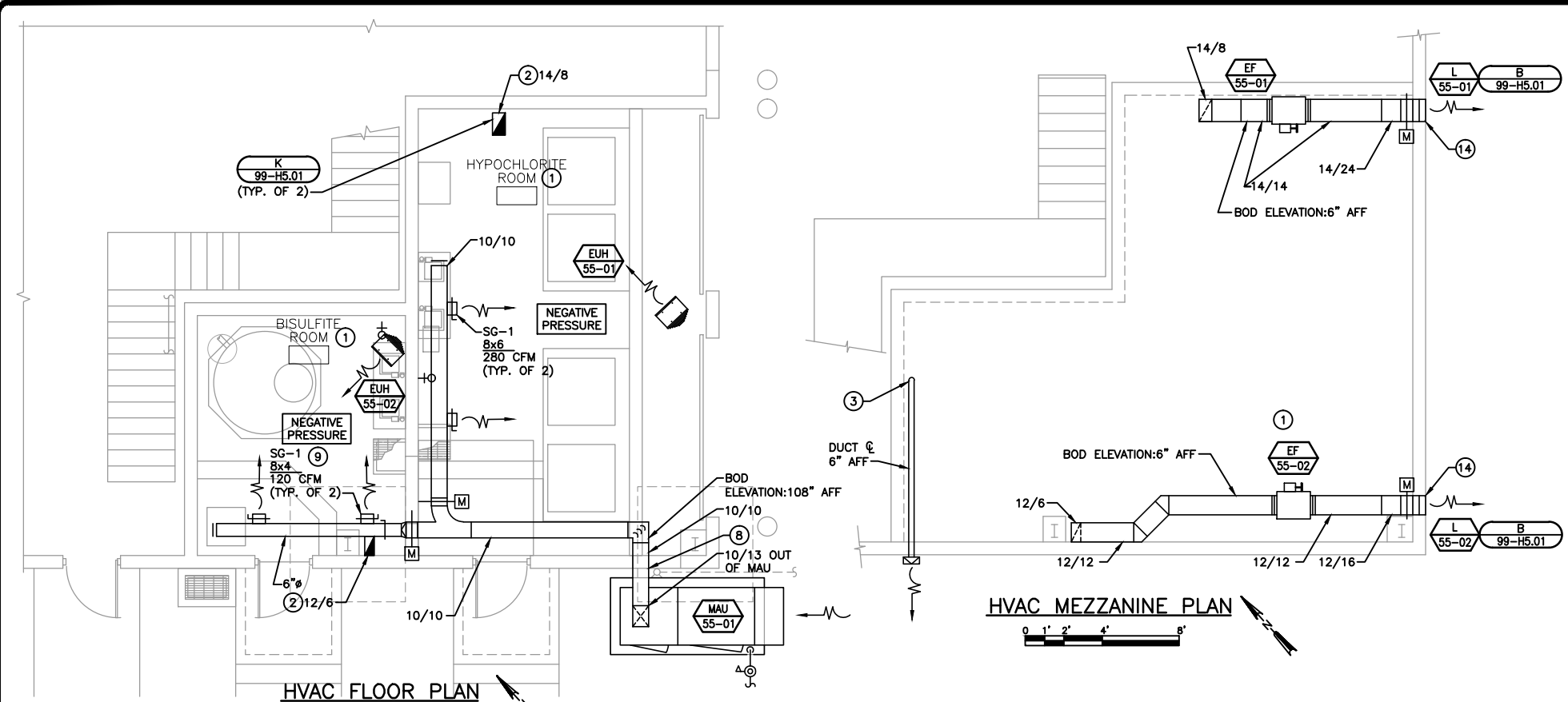
- LEGEND:**
- ⚡ - MALE BARBED FITTING
 - ▧ - STRAINER
 - ▾ - REDUCER
 - ⊞ - PRESSURE RELIEF VALVE
 - - FLOW INDICATOR

DATE:	NOVEMBER, 2010
REVISIONS	NO. 1
NO.	1
DES BY:	B:JL
CHK BY:	SWS
RECORD DRAWING	BY: SAI
DATE:	12-05-13
CONTRACTOR:	RUS CONST.

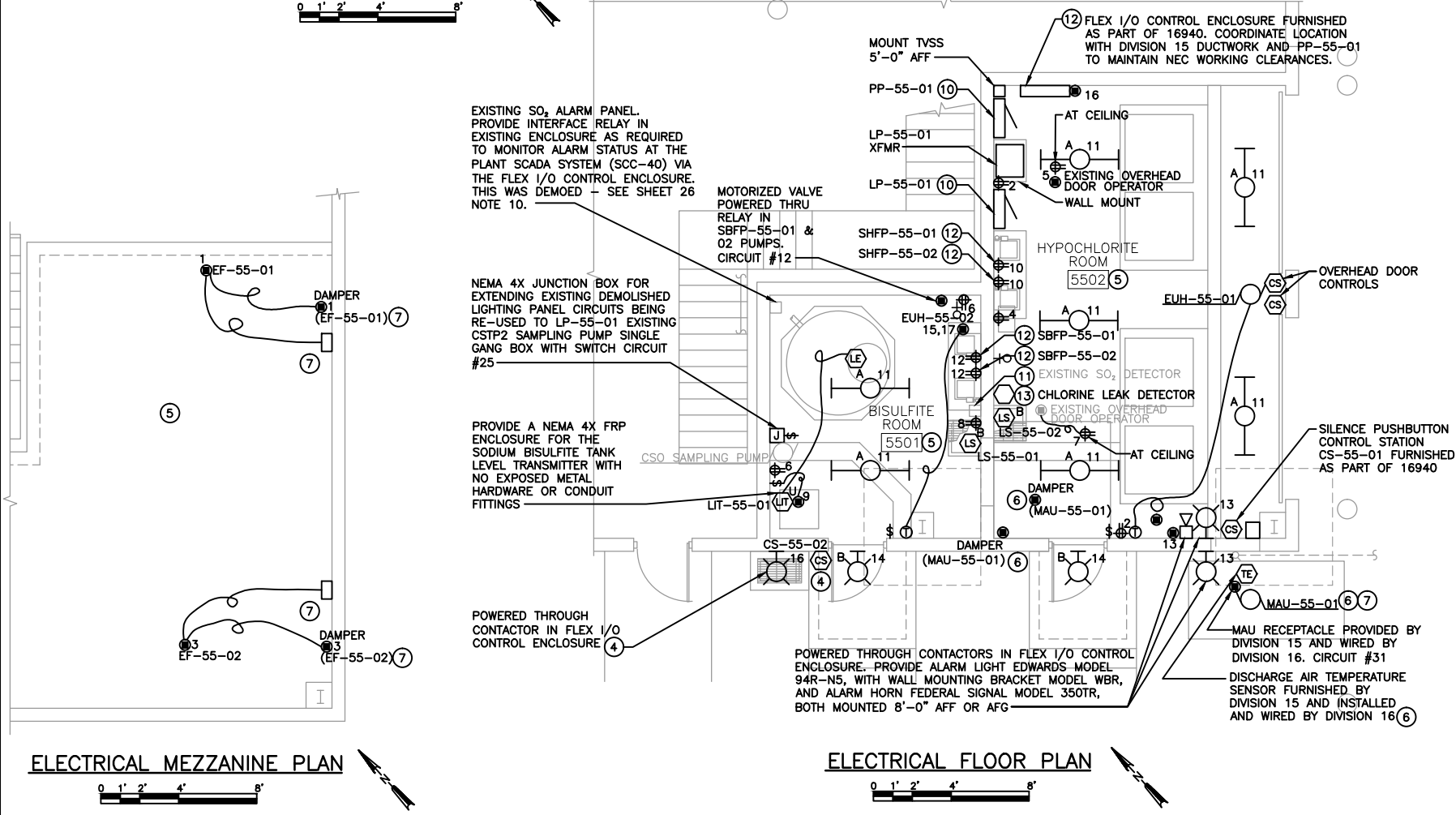
DEWATERING BUILDING SCHEMATICS

DISINFECTION AND pH CONTROL
CITY OF SUPERIOR ENVIRONMENTAL SERVICES DIVISION OF PUBLIC WORKS
SUPERIOR, WI





- GENERAL NOTES**
- ALL DUCTWORK IN THIS BUILDING SHALL BE FRP OR PVC. STAINLESS STEEL IS NOT ACCEPTABLE.
 - FANS AND DUCTWORK LOCATED ON MEZZANINE SHALL BE SUPPORTED FROM MEZZANINE FLOOR. PROVIDE NEOPRENE BASE ISOLATORS FOR FANS SUPPORTED IN THIS MANNER.
 - REFER TO SPECIFICATION SECTION 16990 FOR WIRING ASSOCIATED WITH THE PLANT SCADA SYSTEM. ALL SCADA SYSTEM WIRING IN THIS AREA SHALL BE WIRED TO THE FLEX I/O CONTROL ENCLOSURE IN HYPOCHLORITE ROOM 5502.
 - ALL 480V EQUIPMENT SHOWN SHALL BE POWERED FROM PP-55-01. ALL 120V EQUIPMENT SHOWN SHALL BE POWERED FROM LP-55-01.
- KEY NOTES**
- EQUIPMENT AND ACCESSORIES LOCATED IN AND SERVING THIS SPACE SHALL BE SUITABLE FOR CORROSIVE (NEMA 4X) ENVIRONMENTS.
 - DUCT TO MEZZANINE FROM TOP OF CONTAINMENT AREA. SCREEN INLET.
 - EXHAUST FROM BISULFITE TANK BELOW, OVER TO WALL. PROVIDE WALL CAP. PROVIDE FRP OR PVC SLEEVE IN LIEU OF STAINLESS STEEL.
 - PROVIDE CHEMICAL TANK HIGH LEVEL ALARM LIGHT AS MANUFACTURED BY EDWARDS, MODEL 94R-N5 WITH WALL MOUNTING BRACKET, MODEL WBR. ALARM LIGHT SHALL BE MOUNTED 8'-0" AFF. RESET CONTROL STATION CS-55-02 FURNISHED AS PART OF 16940.
 - ALL ELECTRICAL WORK AND EQUIPMENT IN THIS AREA SHALL BE RATED NEMA 4X; ALL MATERIAL SHALL BE PVC OR FRP.
 - PROVIDE 2-#14 AND #14 GROUND IN 3/4" CONDUIT FROM MAU-55-01 TO EACH OF THE ASSOCIATED DAMPERS. PROVIDE MANUFACTURER RECOMMENDED CABLE IN 3/4" CONDUIT FROM MAU-55-01 TO THE DISCHARGE AIR TEMPERATURE SENSOR.
 - CONTACTOR ENCLOSURES FURNISHED AS PART OF 16940. PROVIDE 4-#14 IN 3/4" CONDUIT FROM EACH OF THE EXHAUST FAN CONTACTOR ENCLOSURES TO MAU-55-01.
 - ROUTE DUCT THROUGH PENETRATION FROM REMOVED LOUVER. SEAL PENETRATION AROUND DUCT. SEE (99-H5.01) FOR DETAILS.
 - PROVIDE BALANCING DAMPER AND OUTLET SCREEN OF SIZE SHOWN, TO MATCH DUCT MATERIAL.
 - PP-55-01 AND LP-55-01 SHALL EACH BE MOUNTED IN NEMA 4X, PVC OR FRP ENCLOSURES.
 - RELOCATE EXISTING SO2 DETECTOR AND SENSOR AS REQUIRED FOR NEW CHEMICAL PUMPS. ALTER AND EXTEND EXISTING CONDUIT AND WIRING AS REQUIRED TO MAINTAIN EXISTING FUNCTIONALITY.
 - RECEPTACLES SHALL BE POWERED FROM LP-55-01 THROUGH CONTACTORS IN THE FLEX I/O CONTROL ENCLOSURE IN HYPOCHLORITE ROOM 5502. PROVIDE A MICARTA LABEL AS SPECIFIED ABOVE THE RECEPTACLE WITH THE FOLLOWING TEXT (LINE 1: "CHEMICAL PUMP") (LINE 2: "SHFP-55-01" OR "SHFP-55-02" OR "SBFP-55-01" OR "SBFP-55-02" AS REQUIRED).
 - RELOCATE AND WALL MOUNT EXISTING LOOP POWERED CHLORINE LEAK DETECTOR FROM THE EXISTING STORAGE GARAGE. PROVIDE A NEW CHLORINE SENSOR TO MATCH EXISTING.
 - PROVIDE FRAMING AS REQUIRED AT HVAC OPENINGS.



LIGHTING PANEL LP-55-01

Room Number/Description	Amps	Poles	Ckt. #	Phase A	Phase B	Phase C	Phase A	Phase B	Phase C	Ckt. #	Poles	Amps	Room Number/Description			
EP-55-01 & DAMPER	20	1	1	300						2	1	20	HYPOCHLORITE RM RECEPT.			
EP-55-02 DAMPER	20	1	3		900	1000		180		4	1	20	HYPOCHLORITE RM RECEPT.			
NORTH HYPO RM OVERHEAR DOOR	20	1	5						300	6	1	20	BISULFITE RM RECEPT.			
SOUTH HYPO RM OVERHEAR DOOR	20	1	7	1000			180			8	1	20	BISULFITE RM RECEPT.			
SB TANK LEVEL XMITTER (LIT-55-01)	20	1	9		300			200		10	1	20	SHFP-55-01 & SHFP-55-02 RECEPT.			
HYPOCHL. AND BISULFITE RM LIGHTS	20	1	11			1120			200	12	1	20	SBFP-55-02 & SBFP-55-01 RECEPT.			
CHLORINE LEAK LIGHTS AND HORN	20	1	13	300			250			14	1	20	OUTDOOR LIGHTS			
BISULFITE RM UNIT HTR (EUH-55-02)	20	2	15		1000			500		16	1	20	FLEX I/O ENCLOSURE			
SPARE	20	1	17			1000			0	18	1	20	SPARE			
SPARE	20	1	19	0			0	0	0	20	1	20	SPARE			
SPARE	20	1	21	0			0	0	0	22	1	20	SPARE			
SPARE	20	1	23						0	24	1	20	SPARE			
CSTP2 SAMPLING PUMP	20	1	25						0	26	2	20	SPARE			
SO2 DETECTOR	20	1	27							28	2	20	SPARE			
CSTP2 SAMPLER	20	1	29							30	2	20	SPARE			
GFCE RECEPT AT MAU	20	1	31							32	2	20	SPARE			
SPARE	20	1	33							34	1	15	SPARE			
SPARE	15	1	35							36	1	15	SPARE			
SPARE	15	1	37							38	1	15	SPARE			
SPARE	15	1	39							40	1	15	SPARE			
SPARE	20	1	41							42	1	15	SPARE			
Total Load per Phase per Side (VA)				2100	2200	3120	610	880	550							
Total Load Phase A (VA)				2710	VA						Total Connected Load (A)				26	A
Total Load Phase B (VA)				3060	VA						Total Connected Load + 25%				33	A
Total Load Phase C (VA)				3860	VA						Spares 25%				8	A
Total Connected Load (VA)				9470	VA						Feeder Load				41	A

POWER PANEL PP-55-01

Room Number/Description	Amps	Poles	Ckt. #	Phase A	Phase B	Phase C	Phase A	Phase B	Phase C	Ckt. #	Amps	Poles	Room Number/Description			
TVSS-55-01	30	3	1	470			5000			2	4	25	LP-55-01 TRANSFORMER			
			3		470			5000		4	25	3				
			5			470			5000	6	25	3				
HYPOCHLORITE ROOM ELECTRIC UNIT HEATER (EUH-55-01)	15	3	7	1670			2000			8	15	3	HYPOCHLORITE ROOM AND BISULFITE ROOM MAKEUP AIR UNIT MAU-55-01			
			9		1670			2000		10	15	3				
			11			1670		2000		12	15	3				
			13	0			0	0	0	14						
			15	0			0	0	0	16						
			17	0			0	0	0	18						
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			21	0			0	0	0	22						
			23	0			0	0	0	24						
			25	0			0	0	0	26						
			27	0			0	0	0	28						
			29	0			0	0	0	30						
Total Load per Phase per Side (VA)				2140	2140	2140	7000	7000	7000							
Total Load Phase A (VA)				9140	VA						Total Connected Load (A)				33	A
Total Load Phase B (VA)				9140	VA						Total Connected Load + 25%				41	A
Total Load Phase C (VA)				9140	VA						Spares 25%				10	A
Total Connected Load (VA)				27420	VA						Feeder Load				52	A

DEWATERING BUILDING HVAC AND ELECTRICAL PLANS

DISINFECTION AND pH CONTROL
SUPERIOR, WI

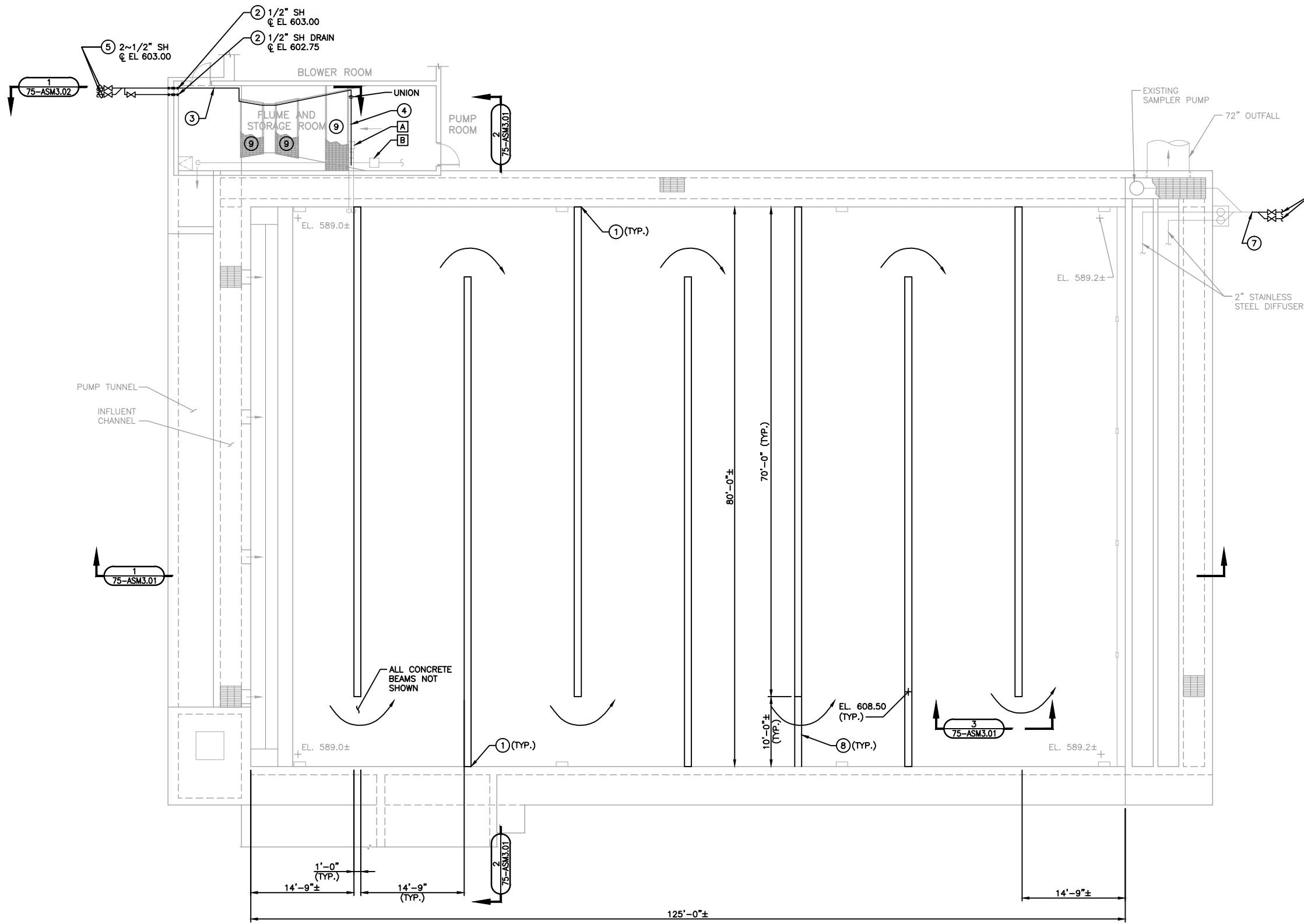
CITY OF SUPERIOR ENVIRONMENTAL SERVICES DIVISION OF PUBLIC WORKS

DATE: NOVEMBER, 2010
DES BY: OPK
CHK BY: SWS
RECORD DRAWING

DATE: 12-05-13
CONTRACTOR: RUS CONST.

STRAND ASSOCIATES, INC. ENGINEERS

SHEET 30
55-HE1.01
JOB NO. 3559.003



DEMOLITION KEY NOTES:

- [A]** REMOVE ORP SAMPLE PUMP, REMOVE PUMP SUCTION AND DISCHARGE PIPING AND SUPPORTS FROM THE FLUME ROOM OUT INTO THE CHLORINE CONTACT TANK. REMOVE ALL ELECTRICAL EQUIPMENT ASSOCIATED WITH THIS PUMP INCLUDING, BUT NOT LIMITED TO THE WALL-MOUNTED ELECTRICAL DISCONNECT AND THE WALL-MOUNTED ORP CONTROL PANEL, AND THE FLOAT SWITCH/SUPPORTS WITHIN THE CHLORINE CONTACT TANK. REMOVE ELECTRICAL CONDUIT/WIRE/BOXES BACK TO WHERE IT ENTERS THIS ROOM AND CAP CONDUITS. REMOVE TWO CONCRETE PUMP BASES DOWN TO FLOOR LEVEL. FILL SUCTION AND DISCHARGE PIPE SLEEVES ENTERING THIS ROOM FROM THE OUTSIDE WITH NON-SHRINK GROUT AND PROVIDE FOUR CAPS. PREPARE AND PAINT THE CONCRETE FLOOR AND CONCRETE MASONRY WALL WITHIN THIS ROOM WHERE THESE ITEMS HAVE BEEN REMOVED.
- [B]** REMOVE PUMP AND CONCRETE BASE DOWN TO FLOOR LEVEL. REMOVE 2 INCH DIAMETER PUMP SUCTION LINE BACK TO THE WETWELL WITHIN THIS BUILDING AND CAP PIPE WATERTIGHT. REMOVE 1.5 INCH DIAMETER DISCHARGE PIPING WITHIN THIS ROOM AND FROM THE FLUME BELOW. SEAL THE CONCRETE SLAB WHERE THE DISCHARGE PIPE PENETRATED THROUGH THE FLOOR SLAB. REMOVE ALL ELECTRICAL EQUIPMENT RELATED TO THIS PUMP. PREPARE AND PAINT THE CONCRETE FLOOR AND CONCRETE MASONRY WALL WHERE THESE ITEMS HAVE BEEN REMOVED.

GENERAL NOTES:

1. PROVIDE 2'-2" LAP LENGTHS FOR ALL HORIZONTAL WALL REINFORCING.
2. REFER TO SPECIFICATION SECTION 16990 FOR WIRING ASSOCIATED WITH THE SCADA SYSTEM.

KEY NOTES:

- ① WHERE NEW WALLS MEET EXISTING, ROUGHEN EXISTING CONCRETE TO 1/4"± AMPLITUDE, APPLY BONDING AGENT, AND INSTALL #5@12" ADHESIVE ANCHORED DOWELS EACH FACE. PROVIDE 6" MIN EMBED. LAP HORIZONTAL REINFORCING 2'-2" ONTO DOWELS (TYP.).
- ② CORE DRILL CONCRETE FOR PIPE PENETRATIONS. SEAL ALL PIPE PENETRATIONS WITH LINK SEAL AND NON-SHRINK GROUT.
- ③ MOUNT PIPING TO WALL USING FIBERGLASS OR PLASTIC FASTENERS WITH SS HARDWARE.
- ④ 9 FT. LONG 1/2" SCHEDULE 80 CPVC SH DIFFUSER. DRILL 6~1/8" DIA. EQUALLY SPACED HOLES ON BOTTOM OF DIFFUSER. ATTACH TO CONCRETE WALL WITH FIBERGLASS UNISTRUT AND STAINLESS STEEL HARDWARE. PROVIDE UNION AND SUPPORTS TO ALLOW DIFFUSER TO BE REMOVED FOR CLEANING.
- ⑤ SEE DETAIL **A** 75-ASM3.02 (TYP. OF 3).
- ⑥ SEE DETAIL **A** 75-ASM3.02 (TYP. OF 2).
- ⑦ CONNECT TO EXISTING 2" PVC SOLUTION PIPE.
- ⑧ 1'-0" WIDE BY 1'-6" HIGH CONCRETE BEAM FROM EL. 607.00 TO EL. 608.50. FOR REINFORCING, SEE **3** 75-ASM3.01 (TYP. OF 7).
- ⑨ REPLACE GRATING WITH FIBERGLASS PLANK SYSTEM. MATCH THICKNESS OF EXISTING GRATING. **A** 99-AS5.04

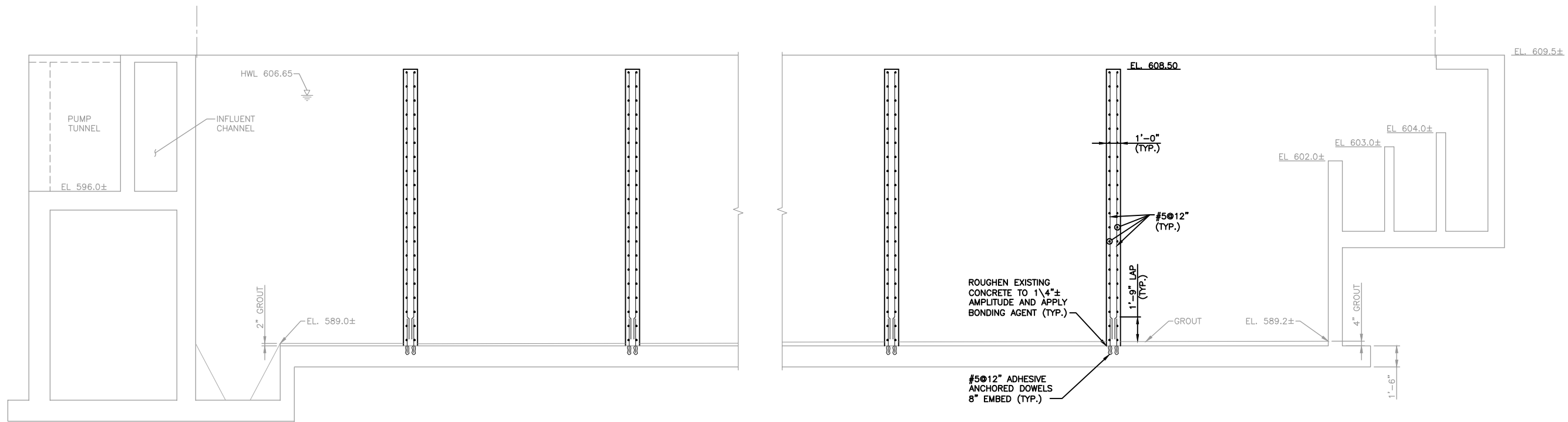
DATE:	NOVEMBER, 2010
DES BY:RGF	CHK BY:SWS
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BY: SAI	DATE:12-05-13
CONTRACTOR: RUS CONST.	

**CSTP2 CHLORINE CONTACT TANK
PLAN**

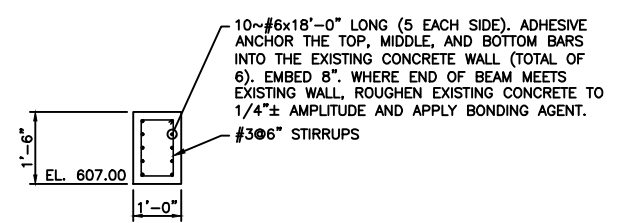
DISINFECTION AND pH CONTROL
CITY OF SUPERIOR ENVIRONMENTAL SERVICES DIVISION OF PUBLIC WORKS
SUPERIOR, WI



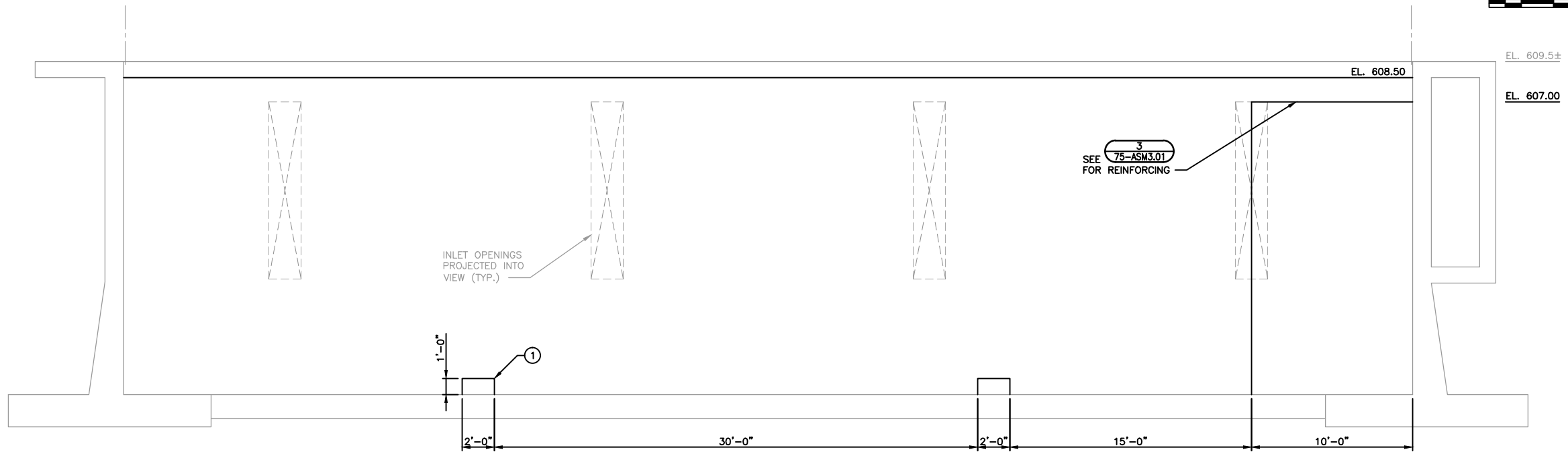
SHEET
31
75-DASM1.01
JOB NO. 3559.003



SECTION 1
75-ASM3.01
0 1' 2' 4' 8'



SECTION 3
75-ASM3.01
0 1' 2' 4'



SECTION 2
75-ASM3.01
0 1' 2' 4' 8'

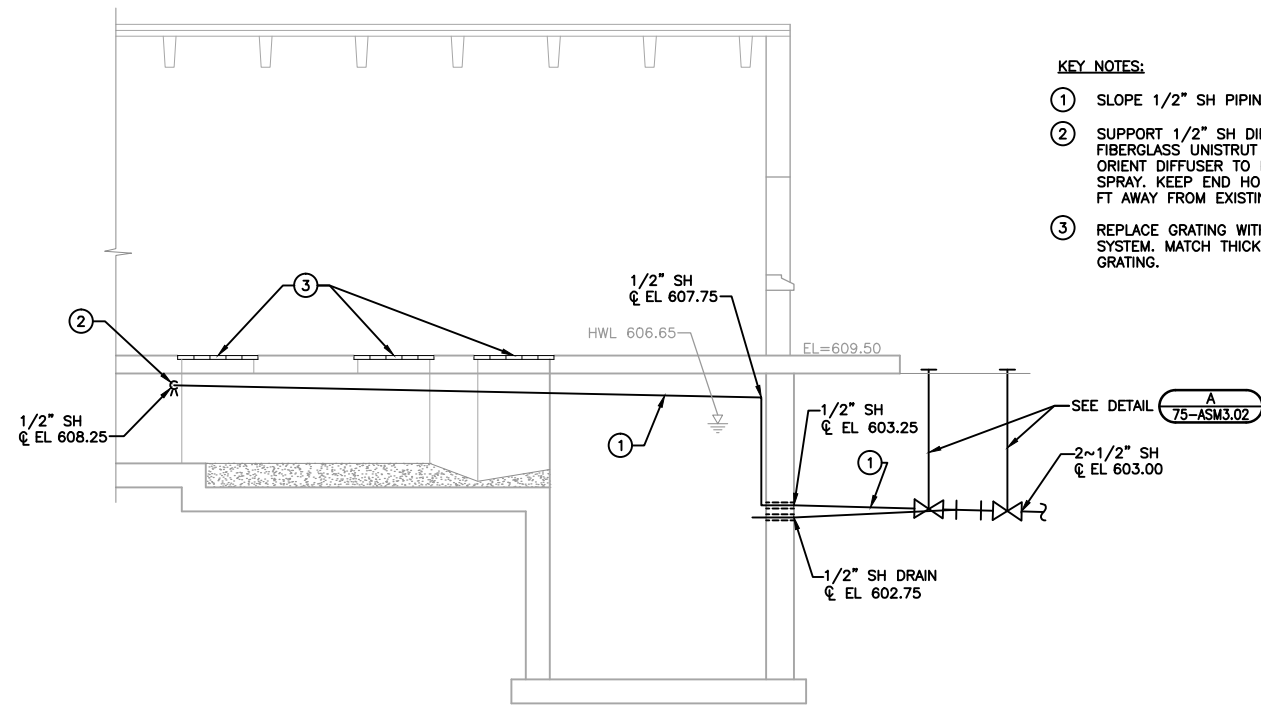
- KEY NOTES:
- 1 PROVIDE 2'-0" WIDE BY 1'-0" HIGH OPENINGS IN NEW WALLS (TYP. EACH WALL). PROVIDE ADDITIONAL REINFORCING AT OPENINGS PER C 99-AS5.01

NO.	REVISIONS	DATE:
1	RECORD DRAWING	12/05/13

DATE: NOVEMBER, 2010
DES BY: RGF CHK BY: SWS
RECORD DRAWING
BY: SAI
DATE: 12-05-13
CONTRACTOR: RUS CONST.

CSTP2 CHLORINE CONTACT TANK SECTIONS
 DISINFECTION AND pH CONTROL
 CITY OF SUPERIOR ENVIRONMENTAL SERVICES DIVISION OF PUBLIC WORKS
 SUPERIOR, WI



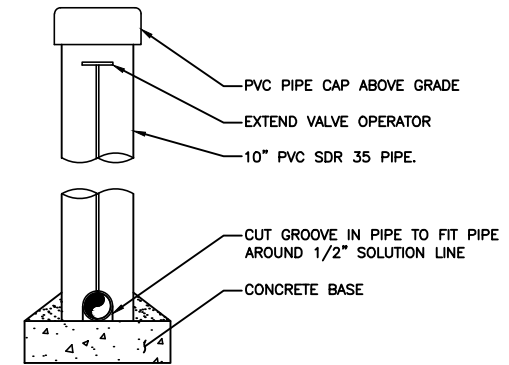
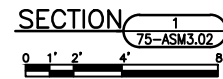


KEY NOTES:

- ① SLOPE 1/2" SH PIPING TO DRAIN.
- ② SUPPORT 1/2" SH DIFFUSER FROM FIBERGLASS UNISTRUT SPANNING CHANNEL. ORIENT DIFFUSER TO PRODUCE DOWNWARD SPRAY. KEEP END HOLES IN DIFFUSER 2 FT AWAY FROM EXISTING CONCRETE WALLS.
- ③ REPLACE GRATING WITH FIBERGLASS PLANK SYSTEM. MATCH THICKNESS OF EXISTING GRATING.

A
99-AS5.04

A
75-ASM3.02



NOTE: INSTALL CONCRETE BASE UNDER VALVES. INSTALL 10" PVC, SDR 35, PIPE OVER VALVES AND SOLUTION PIPE. NOTCH 10" PIPE AS NECESSARY TO FIT OVER SOLUTION PIPE AND REST ON CONCRETE BASE. GROUT AROUND 10" PIPE TO PROVIDE SEAL.

A
75-ASM3.02
DETAIL
NO SCALE

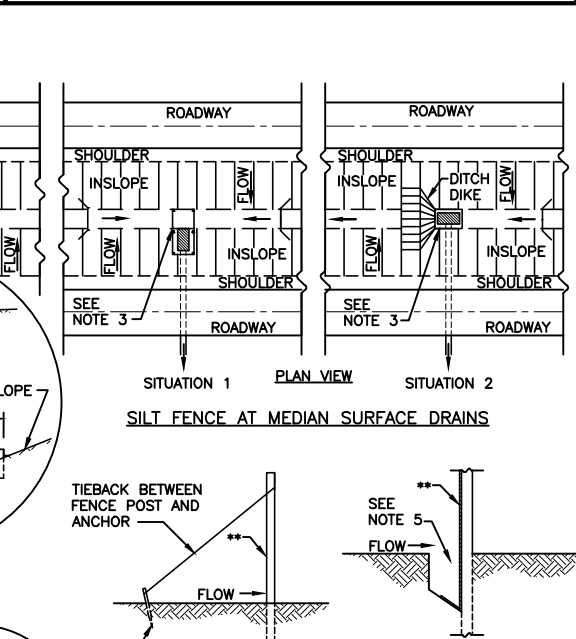
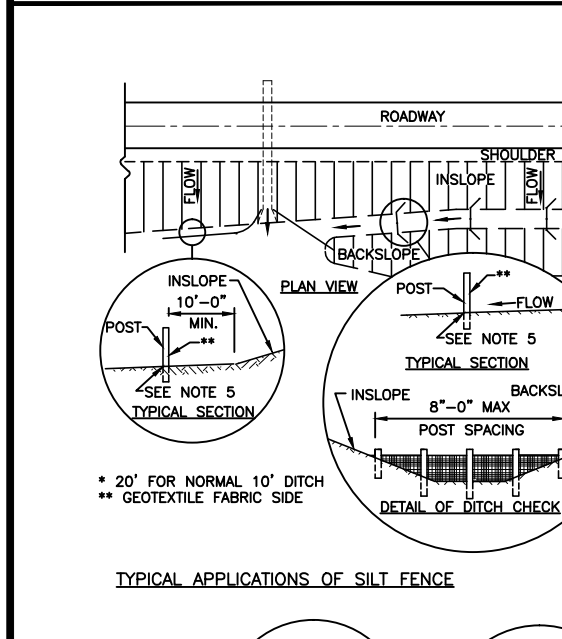
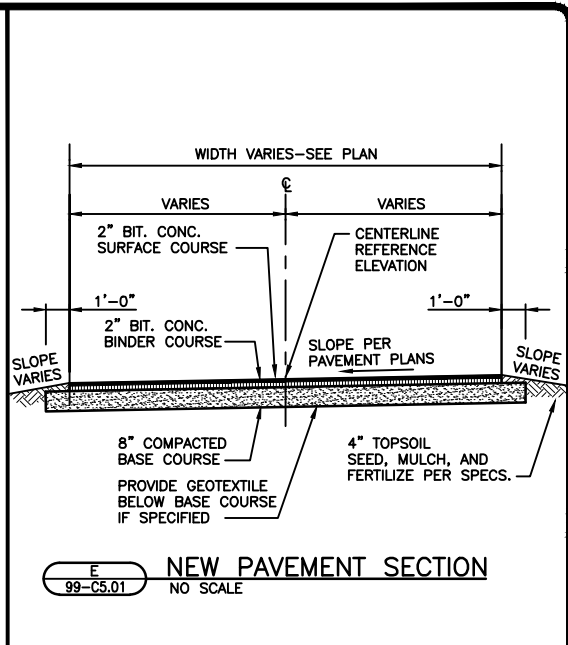
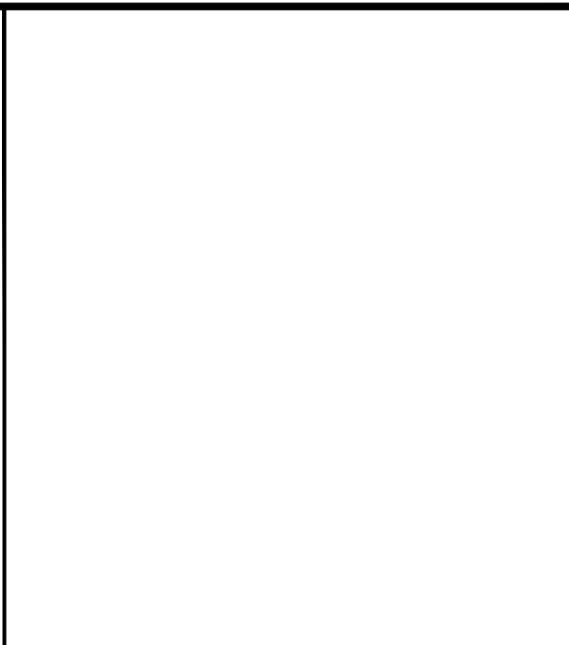
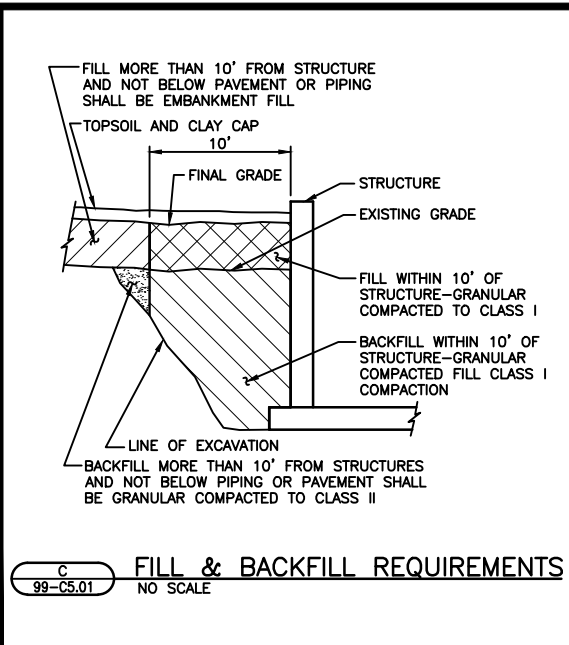
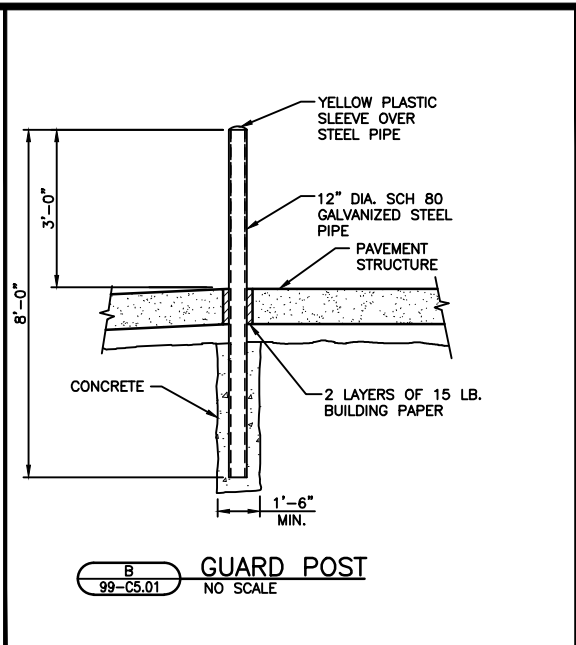
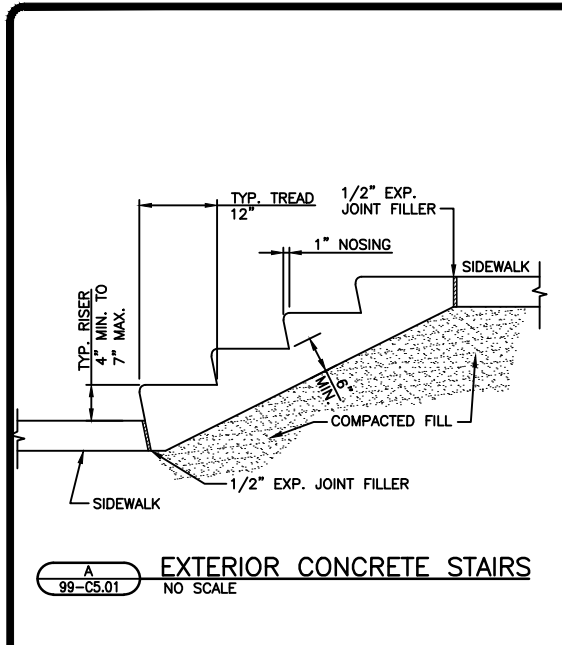
NO.	REVISIONS	DATE
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DATE: NOVEMBER, 2010	DES BY: RGF	CHK BY: SWS
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BY: SAI	DATE: 12-05-13	CONTRACTOR: RUS CONST.

CSTP2 CHLORINE CONTACT TANK
SECTION AND DETAIL
 DISINFECTION AND pH CONTROL
 CITY OF SUPERIOR ENVIRONMENTAL SERVICES DIVISION OF PUBLIC WORKS
 SUPERIOR, WI

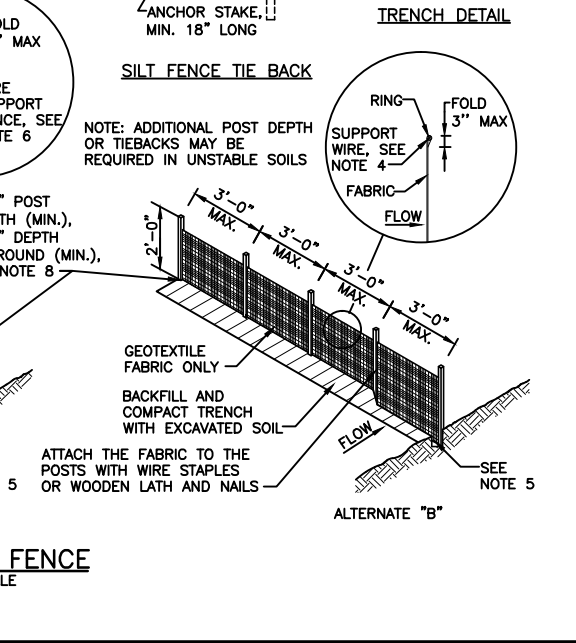
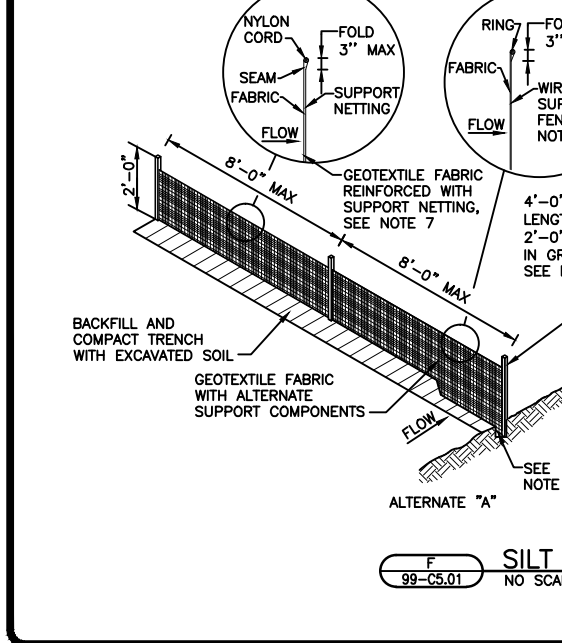
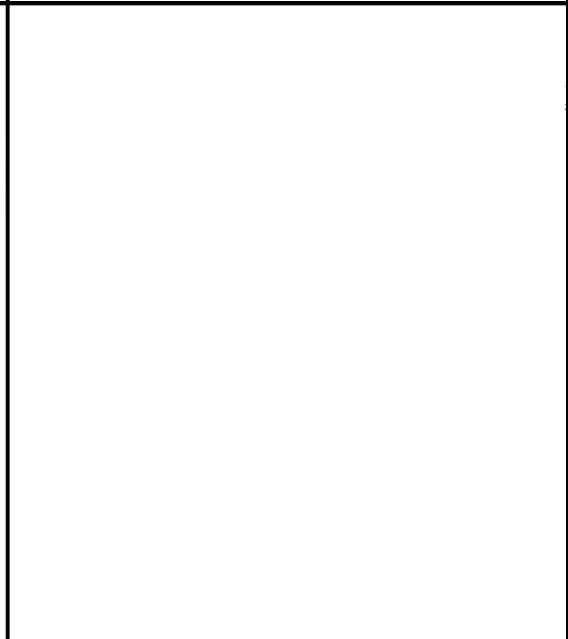
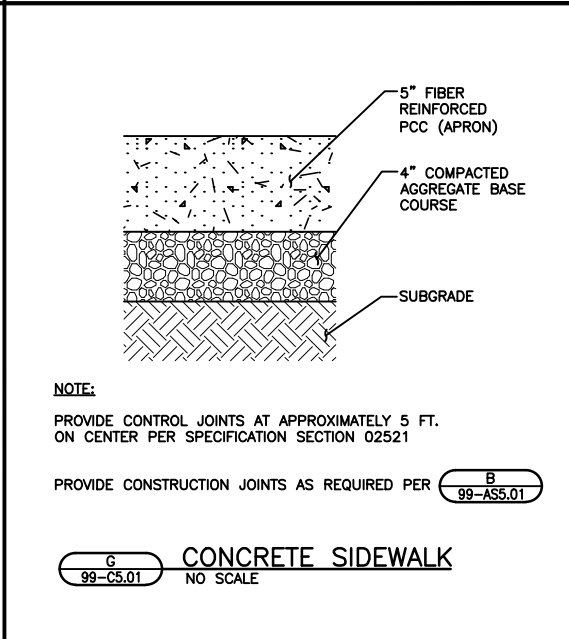


SHEET
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 75-ASM3.02
 JOB NO. 3559.003



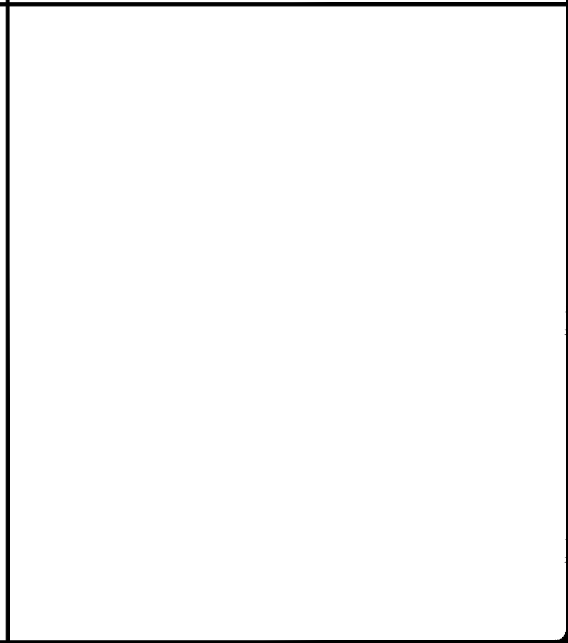
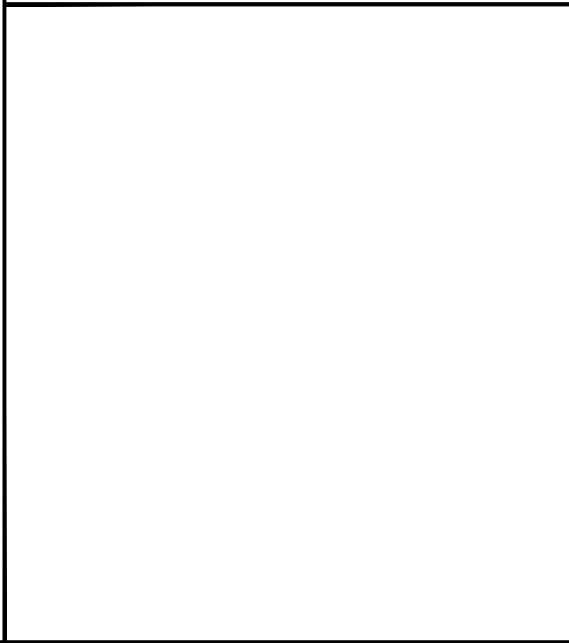
NOTES:

1. DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.
2. WHEN POSSIBLE THE SILT FENCE SHALL BE CONSTRUCTED IN AN ARC OR HORSESHOE SHAPE, WITH THE ENDS POINTING UPSLOPE TO MAXIMIZE BOTH STRENGTH AND EFFECTIVENESS.
3. CROSS BRACE WITH 2"x4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
4. MINIMUM 14 GAGE WIRE REQUIRED, FOLD FABRIC 3" OVER THE WIRE AND STAPLE OR PLACE WIRE RINGS ON 12" C-C.
5. EXCAVATE TRENCH A MINIMUM OF 4" WIDE AND 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC, FOLD MATERIAL TO FIT TRENCH AND BACKFILL AND COMPACT TRENCH WITH EXCAVATED SOIL.
6. WIRE SUPPORT FENCE SHALL BE 14 GAGE MINIMUM WOVEN WIRE WITH A MAXIMUM MESH SPACING OF 6". SECURE TOP OF GEOTEXTILE FABRIC TO TOP OF FENCE WITH STAPLES OR WIRE RINGS AT 12" C TO C.
7. GEOTEXTILE FABRIC SHALL BE REINFORCED WITH AN INDUSTRIAL POLYPROPYLENE NETTING WITH A MAXIMUM MESH SPACING OF 1/4" OR EQUAL. A HEAVY DUTY NYLON TOP SUPPORT CORD OR EQUIVALENT IS REQUIRED.
8. STEEL POSTS SHALL BE STUDDED "TEE" OR "U" TYPE WITH A MINIMUM WEIGHT OF 1.2 LBS/LINEAR FOOT WITHOUT ANCHORS, OR ANCHORS SUFFICIENT TO RESIST POST MOVEMENT ARE REQUIRED. WOOD POSTS SHALL BE A MINIMUM SIZE OF 4" DIAMETER, OR 2 1/2"x3 1/2", EXCEPT WOOD POSTS FOR GEOTEXTILE FABRIC REINFORCED WITH NETTING SHALL BE A MINIMUM SIZE OF 1 1/8"x1 1/8" OAK OR HICKORY.
9. ALTERNATES "A" AND "B" ARE EQUAL AND EITHER MAY BE USED.



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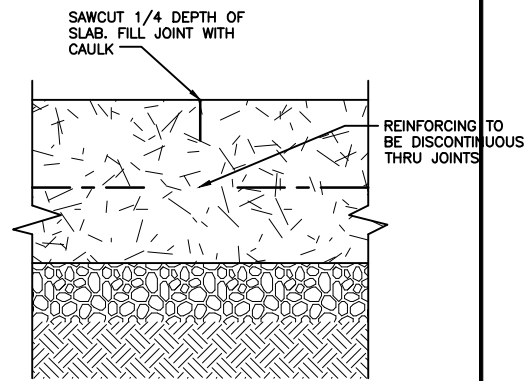


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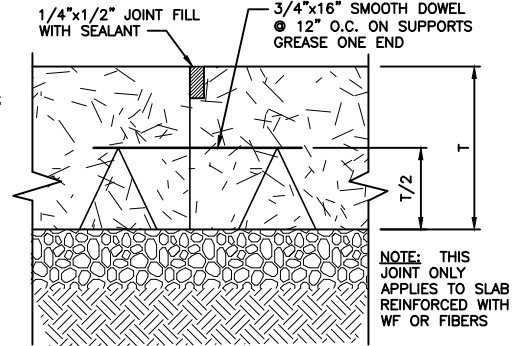
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 DISINFECTION AND pH CONTROL
 CITY OF SUPERIOR ENVIRONMENTAL SERVICES DIVISION OF PUBLIC WORKS
 SUPERIOR, WI

STRAND ASSOCIATES, INC. ENGINEERS

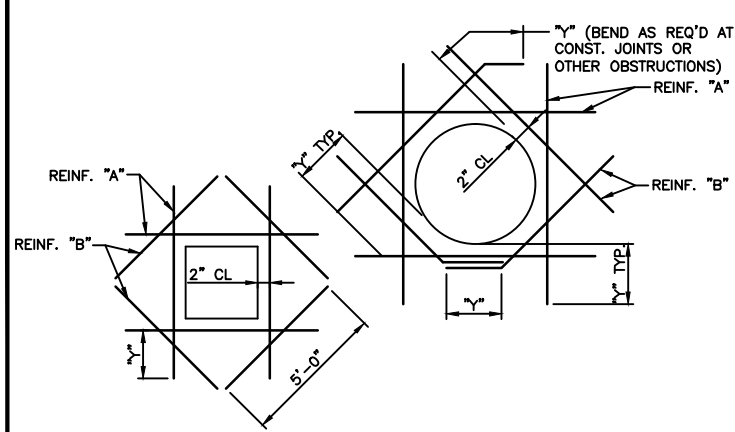
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 99-C5.01
 JOB NO. 3559.003



A TYPICAL SLAB SAWN JOINT
99-AS5.01 NO SCALE

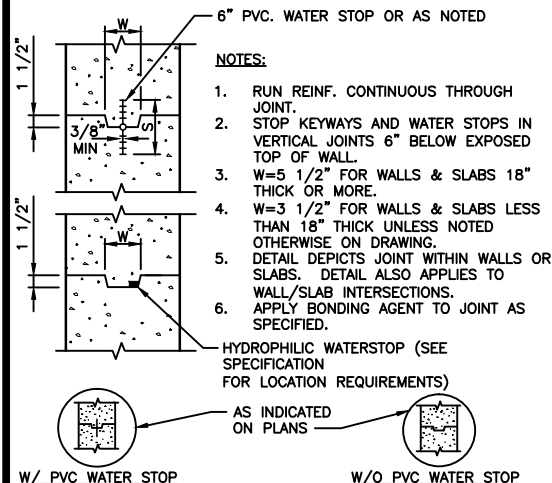


B SLAB ON GRADE JOINT
99-AS5.01 NO SCALE

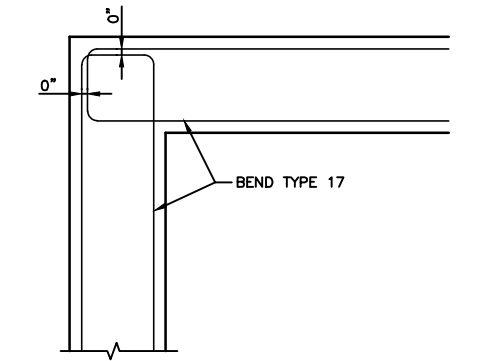


C REINFORCEMENT AT CONCRETE OPENINGS
99-AS5.01 NO SCALE

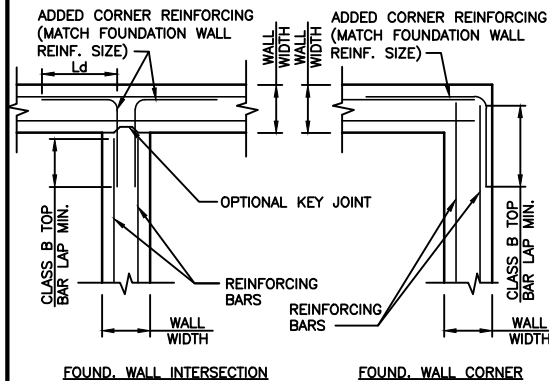
- NOTES:**
1. MOVE REINF. MAX. OF 2" TO CLEAR OPENING. CUT REMAINING BAR THROUGH OPENING. WHERE REINF. MUST BE CUT, ADD REINF. "A" AT LEAST EQUAL IN AREA TO THAT WHICH WAS CUT AND EXTEND BEYOND OPENING DISTANCE "Y".
 2. DIAGONAL BARS "B" TO BE PLACED:
 - A. AT ϕ OF WALL WHERE ONE LAYER OF REINF. IS PROVIDED.
 - B. AT EACH FACE OF WALL WHERE TWO LAYERS OF REINF. ARE PROVIDED.
 - C. AT TOP & BOTTOM OF ALL SLABS.
 3. UNLESS OTHERWISE NOTED, SIZE OF REINF. "B" SHALL BE THE SIZE OF THE LARGEST REINF. BAR CUT.
 4. Y = CLASS B LAP
 5. THIS DETAIL IS TO BE USED WHEN NO OTHER DETAIL IS SPECIFIED.
 6. MINIMUM REINF. "A" & "B" AROUND ANY AND ALL OPENINGS SHALL BE #4.



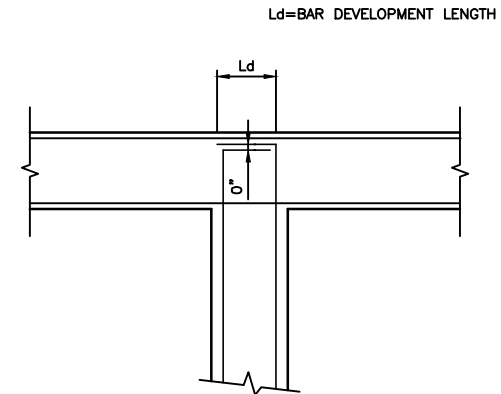
E CONSTRUCTION JOINT
99-AS5.01 NO SCALE



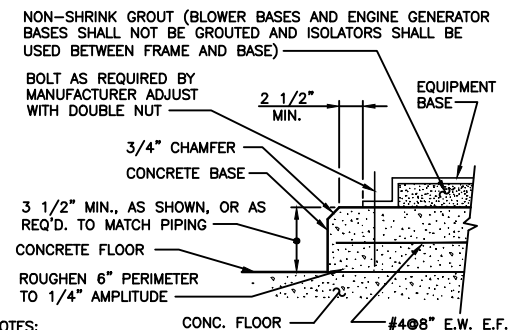
F TANK CORNER REINFORCING
99-AS5.01 NO SCALE



G FOUNDATION WALL CORNER REINFORCEMENT
99-AS5.01 NO SCALE

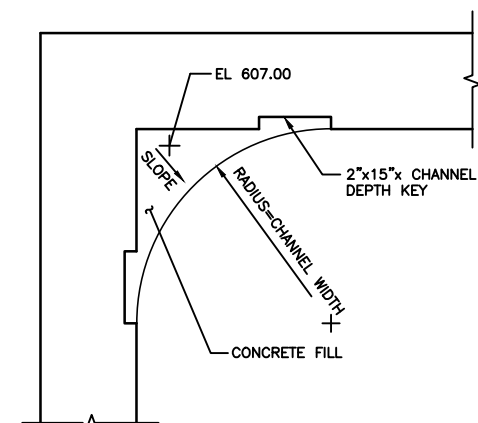


H TANK TEE REINFORCING
99-AS5.01 NO SCALE



- NOTES:**
1. CONCRETE PAD BY CONTRACTOR SUPPLYING EQUIPMENT.
 2. ANCHOR CONCRETE BASE TO FLOOR WITH 1/2" EXPANSION BOLTS ϕ 18" O.C., MINIMUM 4 PER PAD. IF CONCRETE PAD IS LESS THAN 10" HIGH, ANCHOR EQUIPMENT PAD DIRECTLY TO CONCRETE FLOOR.
 3. APPLY BONDING AGENT TO FLOOR PRIOR TO PLACING CONCRETE PAD.

K CONCRETE EQUIPMENT PAD
99-AS5.01 NO SCALE



L TYPICAL CHANNEL FILLET
99-AS5.01 NO SCALE

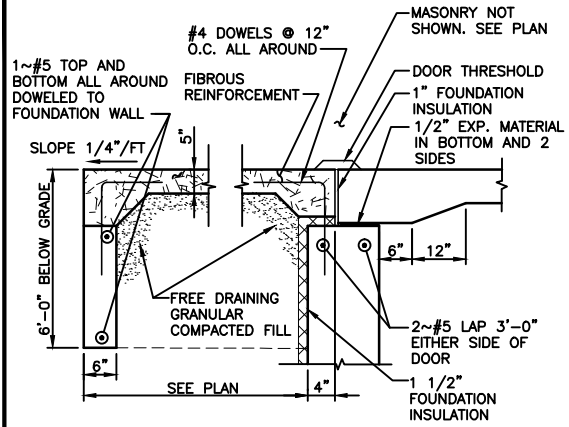
DATE:	NOVEMBER, 2010
DES BY:	SAI
CHK BY:	SWS
RECORD DRAWING	
BY:	SAI
DATE:	12-05-13
CONTRACTOR:	RUS CONST.

**ARCHITECTURAL/STRUCTURAL
DETAILS - 1**

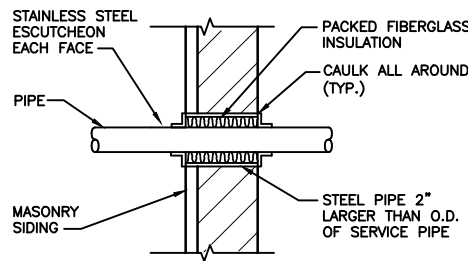
DISINFECTION AND pH CONTROL
CITY OF SUPERIOR ENVIRONMENTAL SERVICES DIVISION OF PUBLIC WORKS
SUPERIOR, WI



SHEET
35
99-AS5.01
JOB NO. 3559.003



B CONCRETE STOOP
99-AS5.02 NO SCALE



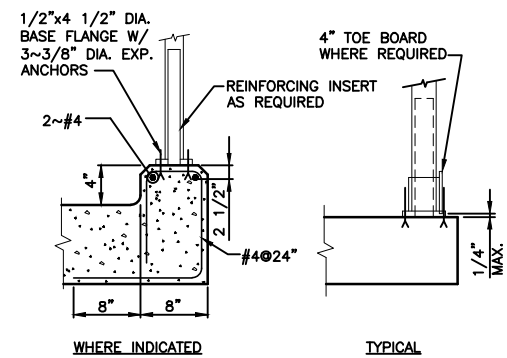
E MASONRY SLEEVE
99-AS5.02 NO SCALE

TYPE	MISCELLANEOUS LINTELS
TYPE B-1	LINTEL BLOCK 2~#5 CONTINUOUS
TYPE A-1	L5"x3 1/2"x5/16" 3/16" 4-12 3/16" 4-12

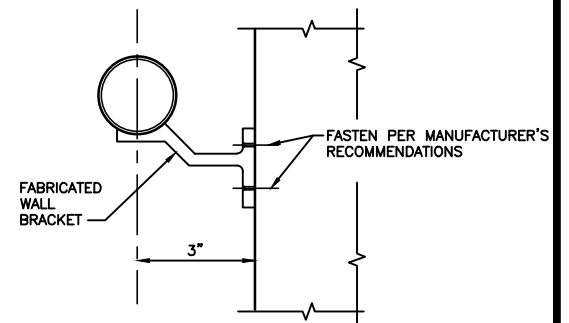
NOTES:

1. LINTELS ARE REQUIRED OVER ALL MASONRY OPENINGS.
2. LINTELS SHALL HAVE A MINIMUM BEARING OF 8".
3. GROUT MASONRY FULL 16" EACH SIDE OF OPENINGS UNDER ALL LINTELS TO FLOOR.

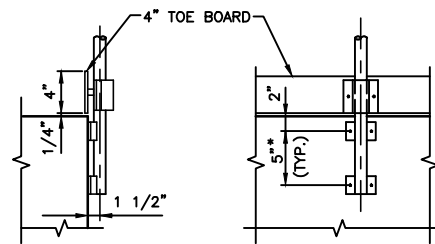
F LINTEL DETAILS
99-AS5.02 NO SCALE



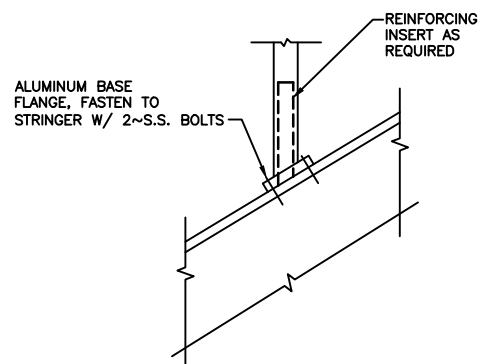
G RAILING TOP MOUNTING
99-AS5.02 NO SCALE



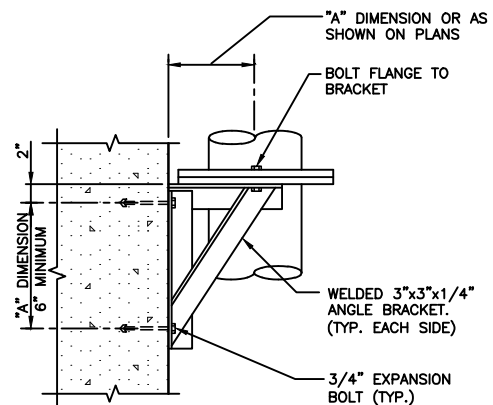
H HANDRAIL WALL MOUNTING
99-AS5.02 NO SCALE



J RAILING SIDE MOUNTING
99-AS5.02 NO SCALE



K RAILING STRINGER MOUNTING
99-AS5.02 NO SCALE



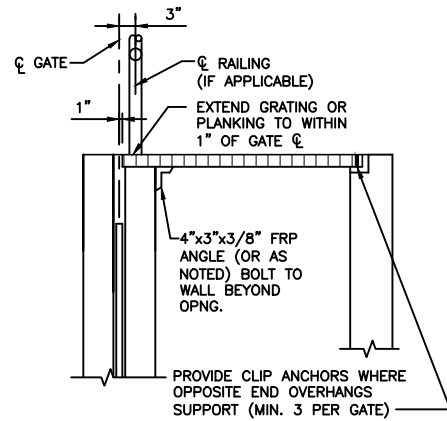
L WALL MOUNT PIPE SUPPORT
99-AS5.02 NO SCALE

DATE:	NOVEMBER, 2010
DES BY:	SAI
CHK BY:	SWS
RECORD DRAWING	
BY:	SAI
DATE:	12-05-13
CONTRACTOR:	RUS CONST.

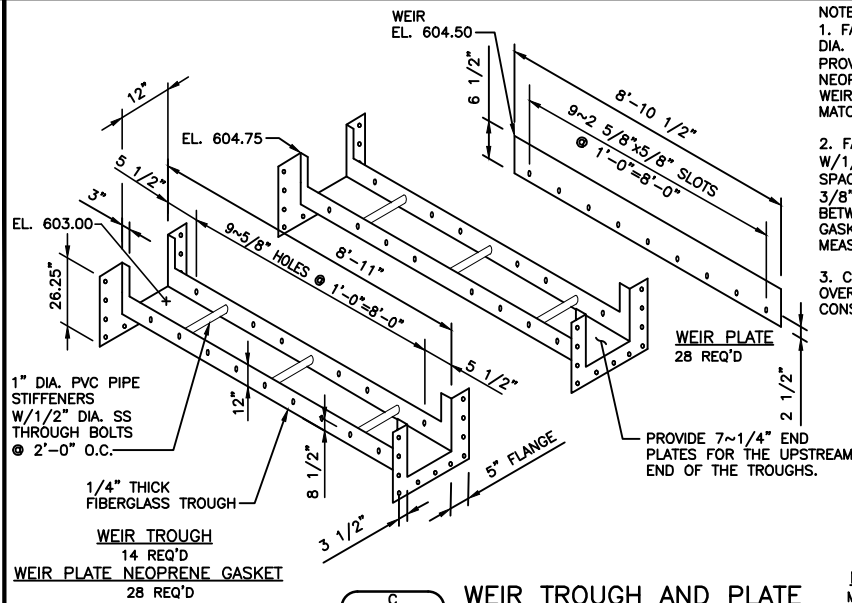
**ARCHITECTURAL/STRUCTURAL
DETAILS - 2**
DISINFECTION AND pH CONTROL
CITY OF SUPERIOR ENVIRONMENTAL SERVICES DIVISION OF PUBLIC WORKS
SUPERIOR, WI



SHEET
36
99-AS5.02
JOB NO. 3559.003



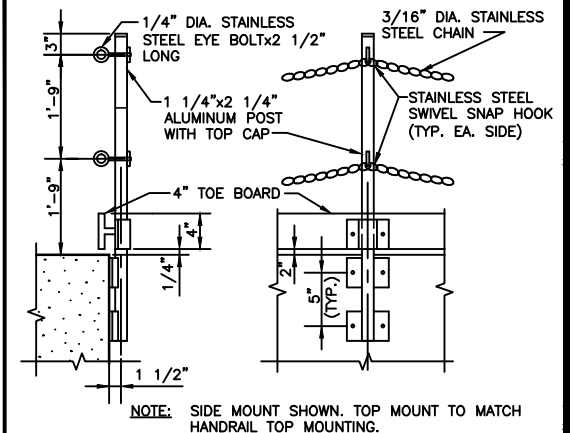
B GRATING AND PANELS AT GATES
99-AS5.03 NO SCALE



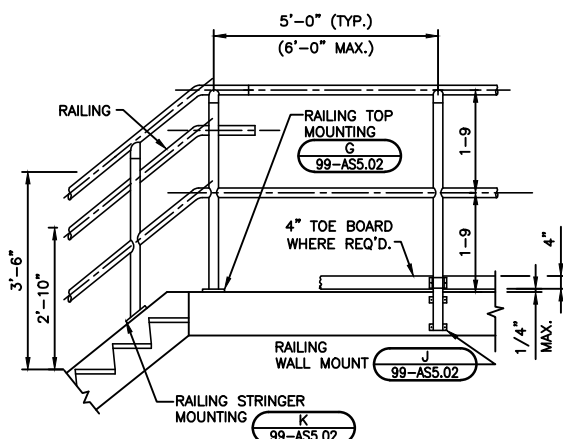
C WEIR TROUGH AND PLATE
99-AS5.03 NO SCALE

NOTES:
1. FASTEN WEIRS TO TROUGHS W/1/2" DIA. SS BOLTS AT SPACING NOTED. PROVIDE 1/4" THICK BY 9" WIDE NEOPRENE GASKET BETWEEN TROUGH AND WEIR. TRIM GASKET AS REQUIRED TO MATCH TROUGH OPENINGS.
2. FASTEN TROUGH TO CONCRETE WALL W/1/2" DIA. SS EXPANSION BOLTS AT SPACING NOTED. PROVIDE 5" WIDE x 3/8" MIN. THICKNESS NEOPRENE GASKET BETWEEN CONCRETE AND TROUGH. SIZE GASKET THICKNESS BASED ON FIELD MEASUREMENTS.
3. CONTRACTOR SHALL VERIFY THAT OVERALL LENGTH IS COMPATIBLE WITH CONSTRUCTED CONCRETE WALLS.

NEOPRENE GASKET FOR FLANGES
MINIMUM OF 28 REQ'D. MORE AS NECESSARY TO SEAL FIBERGLASS FLANGES TO CONCRETE WALLS



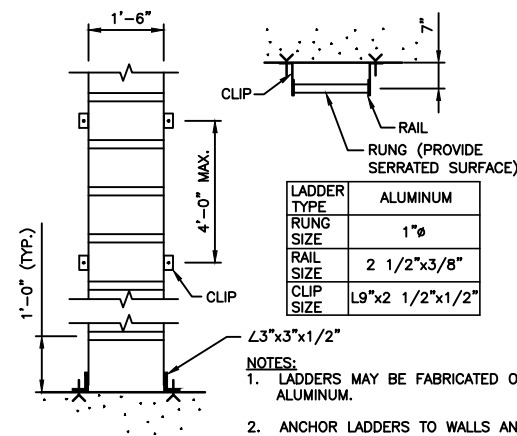
D SAFETY CHAIN
99-AS5.03 NO SCALE



E ALUMINUM RAILING
99-AS5.03 NO SCALE

NOTES:

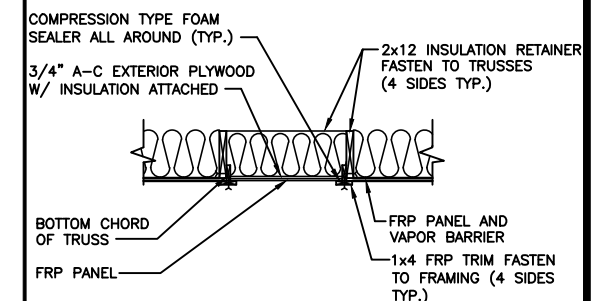
1. ALL RAILS & POSTS SHALL BE ALUMINUM. ALL ACCESSORIES SHALL BE ALUMINUM OR STAINLESS STEEL.
2. ALL RAIL SYSTEMS SHALL MEET OSHA PERFORMANCE STANDARDS FOR PUBLIC AND INDUSTRIAL APPLICATIONS AND APPLICABLE BUILDING CODE.
3. EXTEND HANDRAILS HORIZONTALLY A MIN. 1'-0" BEYOND TOP RISER. HANDRAILS SHALL CONTINUE TO SLOPE FOR THE DEPTH OF ONE TREAD BEYOND THE BOTTOM RISER.
4. MOUNT RAILING TO WALLS OR GUARDRAIL POST PER



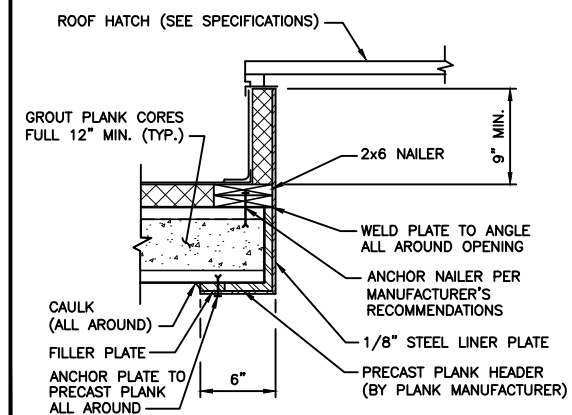
F LADDER
99-AS5.03 NO SCALE

LADDER TYPE	ALUMINUM
RUNG SIZE	1"Ø
RAIL SIZE	2 1/2"x3/8"
CLIP SIZE	L9"x2 1/2"x1/2"

- NOTES:
1. LADDERS MAY BE FABRICATED OF ALUMINUM.
2. ANCHOR LADDERS TO WALLS AND FLOOR PER MFR. REQUIREMENTS SUBJECT TO ENGINEER APPROVAL.



H ATTIC ACCESS
99-AS5.03 NO SCALE



K ROOF HATCH
99-AS5.03 NO SCALE

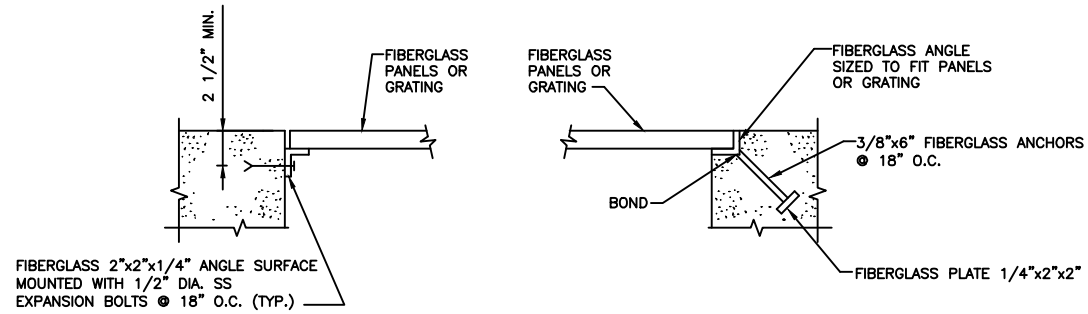
NO.	REVISIONS	DATE
1	RECORD DRAWING	01/07/13

DATE: NOVEMBER, 2010
DES BY: SAI CHK BY: SWS
RECORD DRAWING
BY: SAI
DATE: 12-05-13
CONTRACTOR: RUS CONST.

ARCHITECTURAL/STRUCTURAL
DETAILS - 3
 DISINFECTION AND pH CONTROL
 CITY OF SUPERIOR ENVIRONMENTAL SERVICES DIVISION OF PUBLIC WORKS
 SUPERIOR, WI



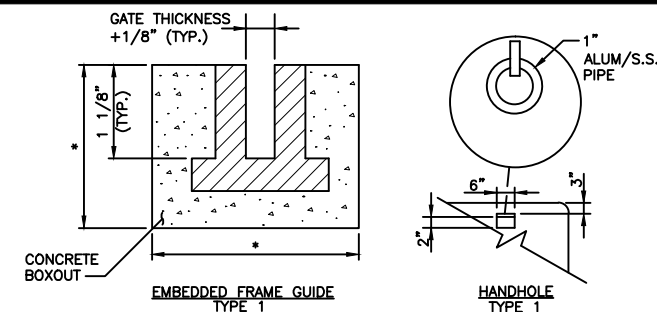
SHEET
37
99-AS5.03
JOB NO. 3559.003



A FIBERGLASS PANELS AND GRATING
99-AS5.04 NO SCALE

REFERENCE DWG. NUMBER	STOP GATE				GROOVES							
	GATE NUMBER	NO. REQUIRED	THICKNESS	DIMENSION "A"	DIMENSION "B"	NO. OF HANDLES	TYPE OF HANDLES	NO. REQUIRED	TYPE OF GROOVES	DIMENSION "C"	DIMENSION "D"	DIMENSION "E"
40-ASML 03	1	1	1/4	*	5'-0"	1	2	1	1	1'-0"	7'-5"	7'-5"
40-ASML 03	2	1	1/4	*	5'-0"	1	2	1	1	1'-0"	7'-5"	7'-5"

*DIMENSIONS TO BE DETERMINED BY MANUFACTURER.



EMBEDDED FRAME GUIDE TYPE 1

HANDHOLE TYPE 1

SURFACE MOUNTED GUIDE FRAME TYPE 2

HANDLE TYPE 2

CHANNEL MOUNTED GUIDE FRAME TYPE 3

HANDLE TYPE

GROOVE TYPE

STOP_GATE

GUIDE FRAME

STOP_GATE

GUIDE FRAME

STOP_GATE

GUIDE FRAME

STOP_GATE

GUIDE FRAME

STOP_GATE

GUIDE FRAME

STOP_GATE

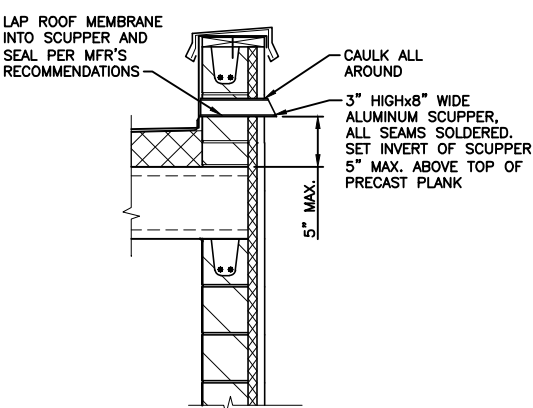
GUIDE FRAME

STOP_GATE

GUIDE FRAME

STOP_GATE

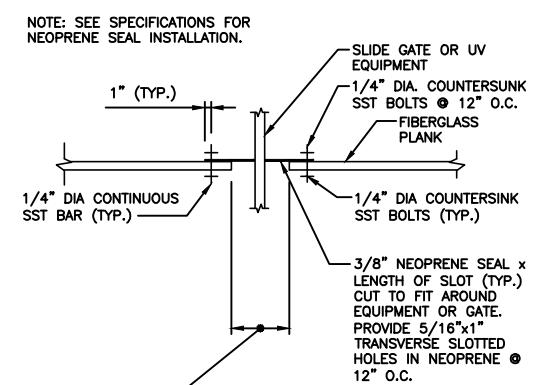
GUIDE FRAME



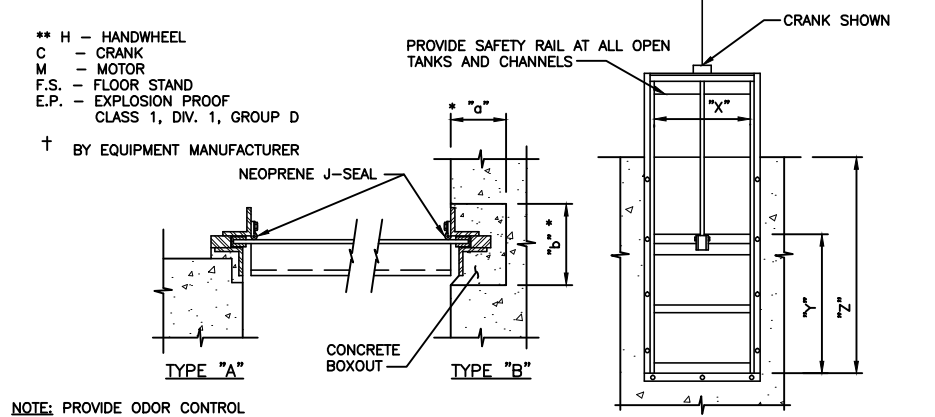
B SCUPPER DETAIL
99-AS5.04

REFERENCE DWG. NUMBER	EQUIPMENT NUMBER	DIMENSION "A"	DIMENSION "B"	DIMENSION "C"	MOUNTING TYPE SIDS	MOUNTING TYPE INVERT	OPERATOR TYPE **	ELECTRICAL RATING	MOTOR (hp) +	CONTROL SERVICE	REMARKS
40-ASML 03	SLG-40-01	4'-0"	5'-0"	7'-5"	B	B	M	4X	1	Open/Close	
40-ASML 03	SLG-40-02	4'-0"	5'-0"	7'-5"	B	B	M	4X	1	Open/Close	
40-ASML 03	SLG-40-03	4'-0"	5'-0"	7'-5"	B	B	C	-	-	-	
40-ASML 03	SLG-40-04	4'-0"	5'-0"	7'-5"	B	B	C	-	-	-	
40-ASML 03	SLG-40-05	4'-0"	6'-0"	8'-6"	B	B	C	-	-	-	
40-ASML 03	SLG-40-06	4'-0"	6'-0"	8'-6"	B	B	M	4X	1	Open/Close	

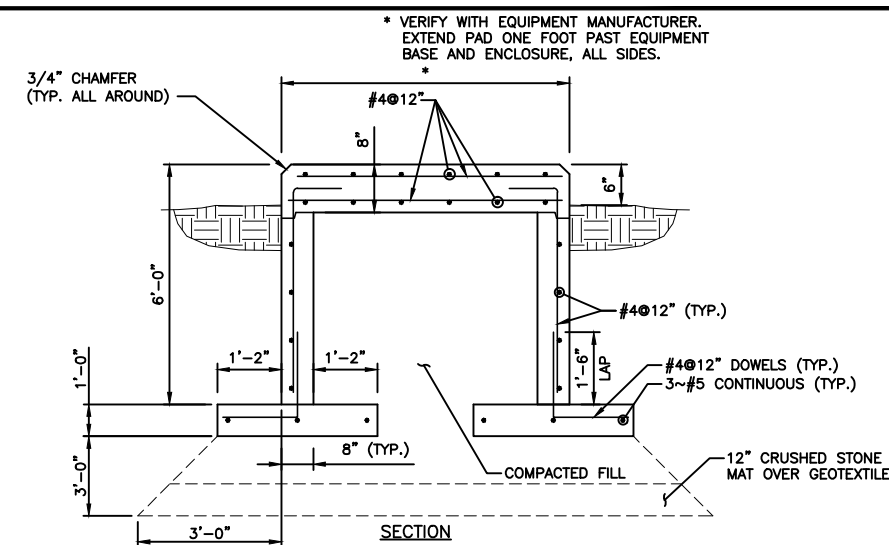
C STOP GATES
99-AS5.04 NO SCALE



D NEOPRENE SEAL
99-AS5.04 NO SCALE



E SLIDE GATE DETAILS
99-AS5.04 NO SCALE



F EQUIPMENT PAD
99-AS5.04 NO SCALE

DATE:	REVISIONS	NO.	DATE:	CHK BY:	CONTRACTOR:
NOVEMBER, 2010	1	1	NOVEMBER, 2010	SAI	RUS CONST.

ARCHITECTURAL/STRUCTURAL DETAILS - 4
DISINFECTION AND pH CONTROL
CITY OF SUPERIOR ENVIRONMENTAL SERVICES DIVISION OF PUBLIC WORKS
SUPERIOR, WI



SHEET **38**
99-AS5.04
JOB NO. 3559.003

DOOR SCHEDULE															
DOOR NUMBER	DOOR				FRAME			HARDWARE GROUP		LINTEL	DETAILS			NOTES	
	SIZE	MATERIAL	TYPE		TYPE	MATERIAL	LABEL	GROUP			TYPE	HEAD	JAMB		SILL
			ACTIVE	INACTIVE				ACTIVE	INACTIVE						
2001A	(2) 3'-0" X 7'-0"	STL	HG	HG	LHR	RHR	1	STL	-	-	A/99-AS6.01	A/99-AS6.01	-	1, 4	
4001A	3'-0" X 7'-0"	STL	HG	-	LHR	-	1	STL	-	1	B-1	-	-	1, 3	
4001B	3'-0" X 3'-0"	AL	FD	-	-	-	-	AL	-	-	-	-	-	2	
4001C	2'-6" X 4'-0"	AL	FD	-	-	-	-	AL	-	-	-	-	-	2	
4002A	(2) 3'-2" X 7'-0"	STL	HG	HG	RHR	LHR	1	STL	-	1	A-1	-	-	1, 3	
4002B	3'-0" X 7'-0"	STL	HG	-	LR	-	1	STL	-	4	B-1	-	-	1, 3	
4003A	3'-0" X 7'-0"	STL	HG	-	LH	-	1	STL	-	4	B-1	-	-	1, 3	
4003B	3'-0" X 7'-0"	STL	HG	-	RHR	-	1	STL	-	1	B-1	-	-	1, 3	
5501A	3'-0" X 7'-0"	STL	HG	-	LHR	-	1	STL	-	3	-	-	-	1	
5501B	3'-0" X 7'-0"	STL	HG	-	LHR	-	1	STL	-	3	-	-	-	1	

LEGEND:

MATERIAL	TYPE	SWING
STL = STEEL	F = FLUSH (NO GLASS)	LH = LEFT HAND
AL = ALUMINUM	HG = HALF GLASS	RH = RIGHT HAND
FRP = FIBERGLASS	OHS = OVERHEAD SECTIONAL FLOOR DOOR	LHR = LEFT HAND REVERSE
	FD =	RHR = RIGHT HAND REVERSE

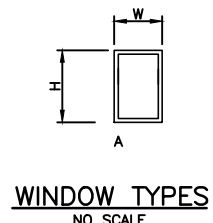
NOTES:
 1. SEE SPECIFICATIONS FOR HARDWARE GROUPS
 2. SIZE INDICATES CLEAR OPENING WIDTH BY OPENING LENGTH.
 3. SEE DETAIL F/99-AS5.02 FOR LINTEL DETAILS.
 4. HEAD AND JAMB DETAILS SIMILAR TO WINDOW DETAILS REFERENCED.

WINDOW SCHEDULE								
WINDOW NUMBER	SIZE (W x H)	SILL ELEVATION	FRAME MATERIAL	GLAZING TYPE	TYPE	SILL / JAMB / HEAD DETAILS	LINTEL TYPE	NOTES
40A	2'-8" X 3'-4"	613.33	AL	DOUBLE PANE	A - FIXED	B/99-AS6.01	B-1	1
40B	2'-8" X 3'-4"	613.33	AL	DOUBLE PANE	A - FIXED	B/99-AS6.01	B-1	1
40C	2'-8" X 3'-4"	613.33	AL	DOUBLE PANE	A - FIXED	B/99-AS6.01	B-1	1
40D	2'-8" X 3'-4"	613.33	AL	SINGLE PANE	A - FIXED	C/99-AS6.01	B-1	1

LEGEND: FRP = FIBERGLASS STL = STEEL AL = ALUMINUM

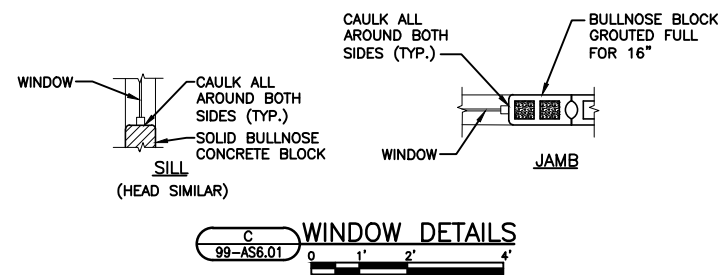
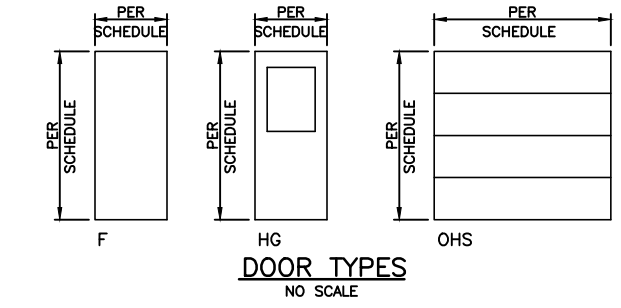
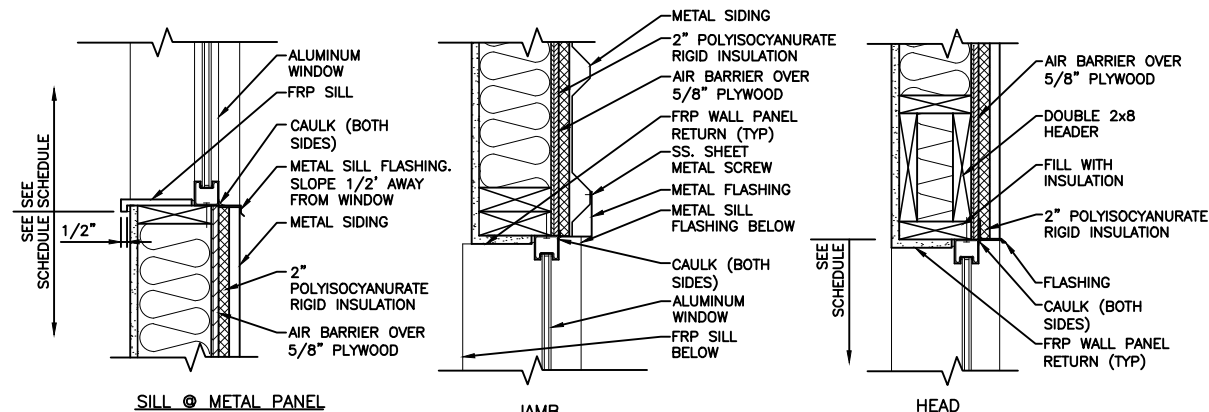
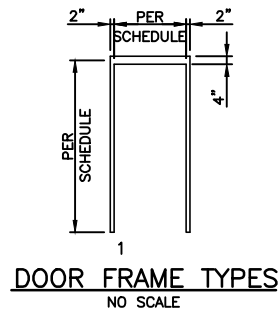
NOTES:
 1. SEE DETAIL F/99-AS5.02 FOR LINTEL DETAILS.

STRUCTURAL DESIGN CRITERIA		
DESIGN CODES	BUILDING CODE	WI COMMERCIAL BLDG. CODE
	CONCRETE DESIGN CODE	ACI 308-11
	MASONRY DESIGN CODE	ACI 530-08
	OCCUPANCY CATEGORY	III
FLOOR LIVE LOAD	UNIFORMLY DISTRIBUTED (PSF)	100
	CONCENTRATED (LBS)	EQUIPMENT OPERATING WEIGHTS VARY
	IMPACT	FROM EQUIP. MFR.
ROOF LIVE LOAD	REDUCTION	PER IBC CODE
	MINIMUM ROOF LIVE LOAD (PSF)	20
ROOF SNOW LOAD	GROUND SNOW LOAD (P _g) (PSF)	60
	FLAT ROOF SNOW LOAD (P _f)	50.8
	SNOW EXPOSURE FACTOR (C _e)	1.0
	SNOW LOAD IMPORTANCE FACTOR (I _s)	1.1
	THERMAL FACTOR (C _t)	1.1
	SLOPED ROOF SNOW LOAD (PSF)	50.8
	DRIFT LOADS	PER IBC CODE
WIND LOAD	BASIC 3-SECOND GUST WIND SPEED (MPH)	90
	WIND IMPORTANCE FACTOR (I _w)	1.15
	WIND EXPOSURE	C
	INTERNAL PRESSURE COEFFICIENT (GC _{pi})	0.18
EARTHQUAKE DESIGN DATA	COMPONENTS AND CLADDING DESIGN WIND PRESSURE (PSF)	PER IBC CODE
	SEISMIC IMPORTANCE FACTOR (I _e)	1.25
	SITE CLASS	D
OTHER LOADS	SPECTRAL RESPONSE COEFFICIENTS	S _{DS} = 0.059 S _{D1} = 0.029
	SEISMIC DESIGN CATEGORY	A
	LATERAL EARTH PRESSURE (PCF EQUIV. FLUID)	DRY - UNRESTRAINED TOP: 40 DRY - RESTRAINED TOP BELOW WATER TABLE: 55 BELOW WATER TABLE: 85
	LATERAL FLUID PRESSURE (PCF)	62.4
GEOTECHNICAL	BUOYANCY (PCF X DEPTH BELOW GROUNDWATER LEVEL)	62.4
	NET ALLOWABLE SOIL BEARING PRESSURE	STRUCTURE 20: 2000 PSF
	PLANNED SUBGRADE	STRUCTURE 20: 3' BELOW BOT. OF BASE SLAB OR FOOTING STRUCTURE 40: 1' BELOW BOT. OF BASE SLAB OR FOOTING



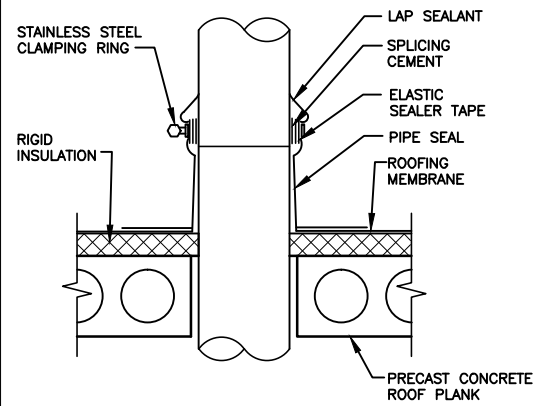
BUILDING CODE SUMMARY						
APPLICABLE CODES						
BUILDING, MECHANICAL AND HVAC - 2010 WISCONSIN COMMERCIAL BUILDING CODE						
PLUMBING - CHAPTER COMM 82 (DESIGN, CONSTRUCTION, INSTALLATION, SUPERVISION, MAINTENANCE, AND INSPECTION OF PLUMBING)						
ELECTRICAL - 2008 NATIONAL ELECTRICAL CODE						
BUILDING CODE ANALYSIS						
BLDG NO.	BUILDING NAME	STORIES	OCCUPANCY	ALLOWABLE AREA (S.F.)	ACTUAL AREA (S.F.)	CONSTRUCTION TYPE
20	PH ADJUSTMENT BUILDING	1	F1 - FACTORY INDUSTRIAL MODERATE HAZARD	8,500	256	5B NO
40	UV BUILDING	1	F1 - FACTORY INDUSTRIAL MODERATE HAZARD	15,500	2,146	5B NO
NOTES: 1. SEE 40-ASM.1.01 FOR ADDITIONAL BUILDING CODE INFORMATION AND LIFE SAFETY PLAN FOR STRUCTURE 40.						

ROOM FINISH SCHEDULE								
ROOM NO.	ROOM NAME	FLOOR	N. WALL	E. WALL	S. WALL	W. WALL	CEILING	
							TYPE	HGT.
20 - PH ADJUSTMENT BUILDING								
2001	PH ADJUSTMENT	F1	W2	W2	W2	W2	C2	8'-0"
40 - UV BUILDING								
4001	UV ROOM	F2	W1	W1	W1	W1	C1	12'-0"
4002	ELECTRICAL ROOM	F1	W1	W1	W1	W1	C1	12'-0"
4003	CARBONATION ROOM	F1	W1	W1	W1	W1	C1	12'-0"
55 - DEWATERING BUILDING								
5501	BISULFITE ROOM	F2	F2/W2	F2/W2	F2/W2	F2/W2	C2	11'-0"
5502	HYPOCHLORITE ROOM	F2	F2/W2	F2/W2	F2/W2	F2/W2	C2	11'-0"
LEGEND:								
CODE	FLOOR	DESCRIPTION	CODE	WALL	DESCRIPTION	CODE	CEILING	DESCRIPTION
F1	SEALED CONCRETE	W1	PAINT CONCRETE BLOCK	C1	PAINT PRECAST CONCRETE PLANK			
F2	CHEMICAL RESISTANT COATING	W2	FRP WALL PANELS	C2	FRP CEILING PANELS			

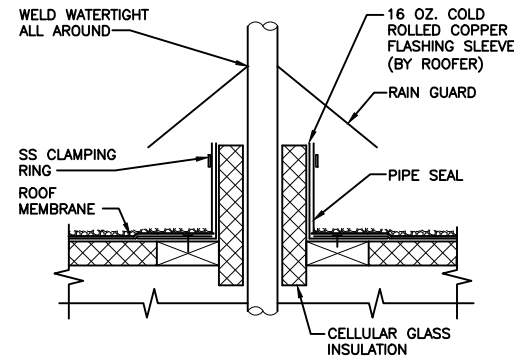


- GENERAL ARCHITECTURAL/STRUCTURAL NOTES:
- STRUCTURES HAVE BEEN DESIGNED IN ACCORDANCE WITH THE DESIGN CRITERIA AND LOADS INDICATED IN THE TABLES BELOW.
 - PROVIDE CRUSHED STONE MAT AND GEOTEXTILE UNDER BASE SLABS AND FOOTINGS WHERE SHOWN ON THE DRAWINGS PER SPECIFICATION SECTION 02222.
 - FILL AND BACKFILL SHALL MEET THE REQUIREMENTS OF THE SPECIFICATIONS AND DETAIL C 99-C5.01.
 - PROVIDE CLEAR COVER TO REINFORCING AS SPECIFIED IN SECTION 03200, UNLESS NOTED OTHERWISE.
 - PROVIDE ADDITIONAL REINFORCING AT OPENINGS IN REINFORCED CONCRETE WALLS AND SLABS PER DETAIL C 99-AS5.01.
 - HORIZONTAL REINFORCING BARS IN CONCRETE WALLS SHALL BE PLACED OUTSIDE VERTICAL BARS UNLESS SHOWN OTHERWISE.
 - BELOW-GRADE STRUCTURES WITH TOP SLABS SHALL NOT BE BACKFILLED UNTIL TOP SLAB IS IN PLACE AND HAS REACHED ITS 28 DAY DESIGN STRENGTH.
 - TYPICAL FOUNDATION WALL CORNER REINFORCING SHALL BE PER DETAIL G 99-AS5.01.

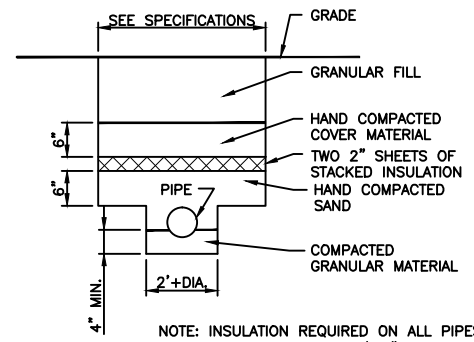
ARCHITECTURAL/STRUCTURAL SCHEDULES AND DETAILS
 DISINFECTION AND pH CONTROL
 CITY OF SUPERIOR ENVIRONMENTAL SERVICES DIVISION OF PUBLIC WORKS
 SUPERIOR, WI
 STRAND ASSOCIATES, INC. ENGINEERS
 SHEET 39
 99-AS6.01
 JOB NO. 3559.003



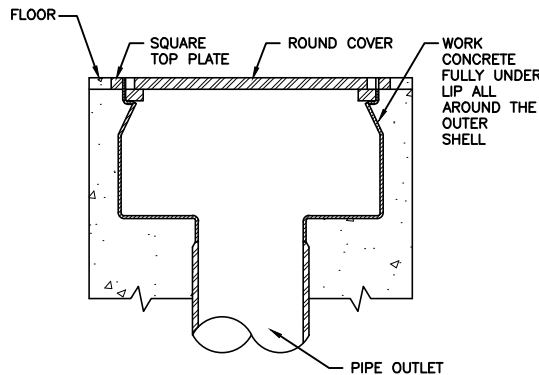
A COLD PIPE ROOF PENETRATION
99-P5.01 NO SCALE



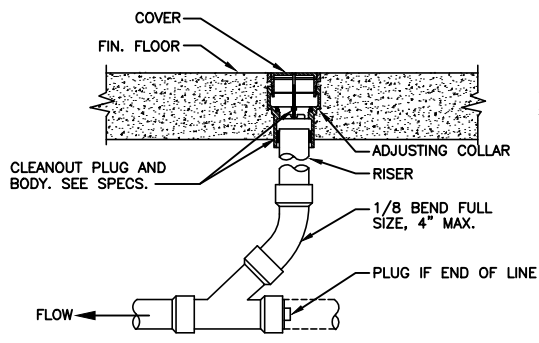
B HOT PIPE ROOF PENETRATION
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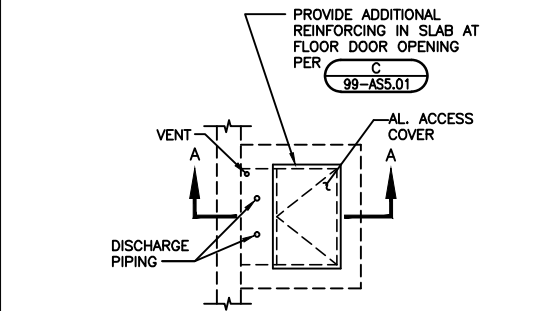
C UNDERGROUND PIPE INSULATION
99-P5.01 NO SCALE



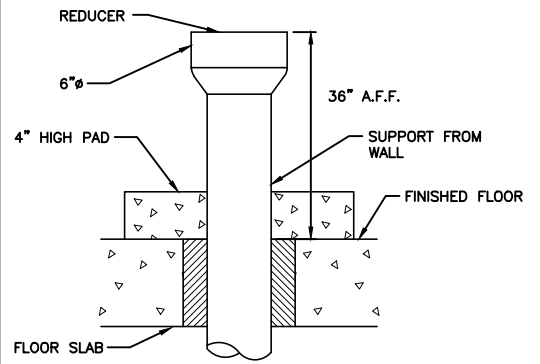
D FLOOR DRAIN -- FD-1
99-P5.01 NO SCALE



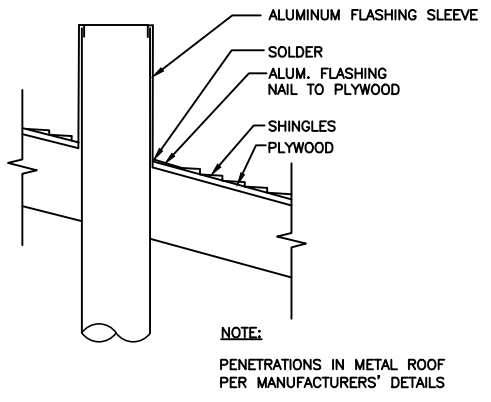
E FLOOR CLEANOUT
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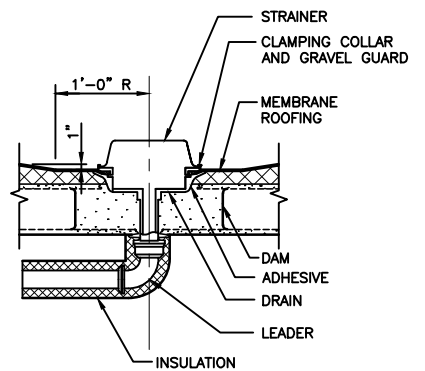
C 99-AS5.01



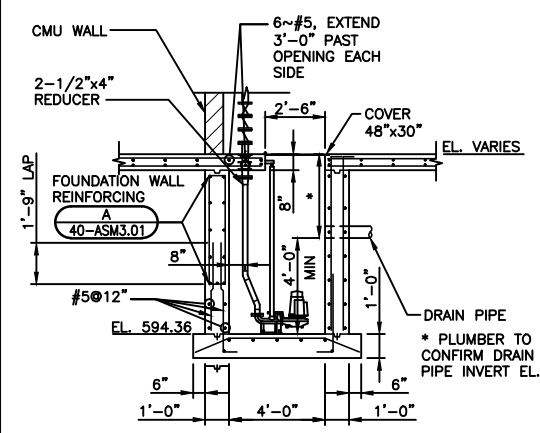
G HUB DRAIN
99-P5.01 NO SCALE



H COLD PIPE ROOF PENETRATION
99-P5.01 NO SCALE

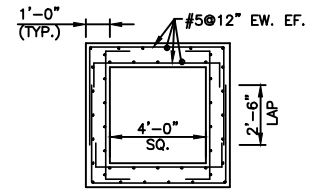


J ROOF DRAIN
99-P5.01 NO SCALE



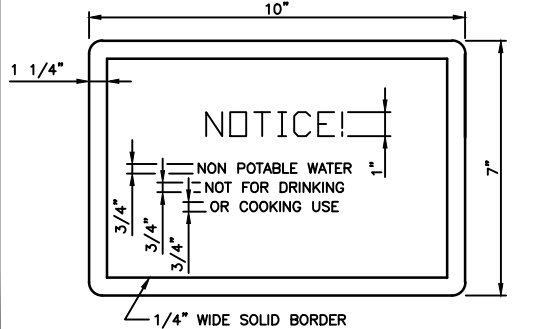
SECTION A-A

NOTE: ALL REINF. #5@12", 2" CLEAR



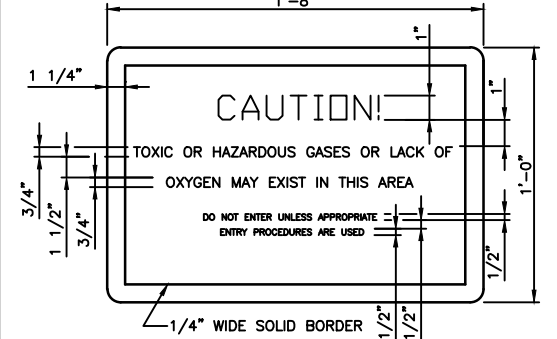
F DRAINAGE STATION
99-P5.01 NO SCALE

CONTRACTOR SHALL PROVIDE SIGN NEAR ALL NONPOTABLE (NPW) AND PLW WATER SERVICES. SIGN SHALL BE FIBERGLASS WITH BLACK LETTERS ON A YELLOW BACKGROUND AND MOUNTED TO MASONRY WALLS WITH 4-3/16" DIA. STAINLESS STEEL EXPANSION ANCHORS OR TO RAILING WITH STAINLESS STEEL HARDWARE.



M NON-POTABLE WATER SIGN
99-P5.01 NO SCALE

CONTRACTOR SHALL PROVIDE SIGN NEAR ENTRANCE TO ALL WETWELLS, AND CHEMICAL STORAGE AREAS. SIGN SHALL BE FIBERGLASS WITH BLACK LETTERS ON A YELLOW BACKGROUND AND MOUNTED TO MASONRY WALLS WITH 4-3/16" DIA. STAINLESS STEEL EXPANSION ANCHORS OR TO RAILING WITH STAINLESS STEEL HARDWARE.

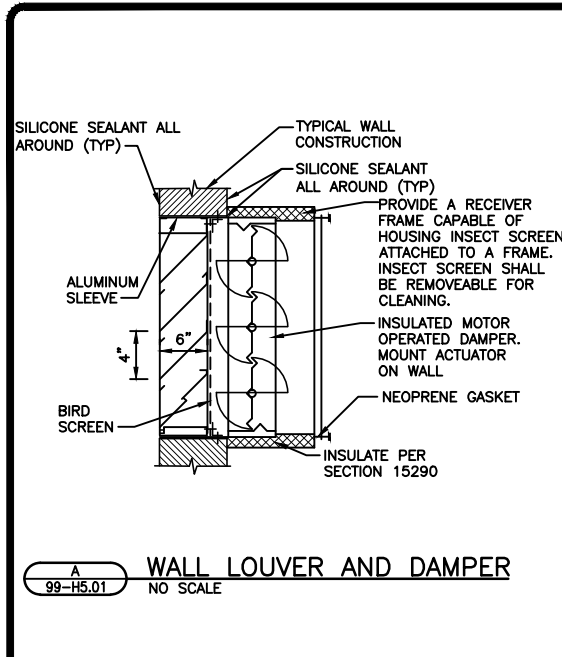


N WARNING SIGN
99-P5.01 NO SCALE

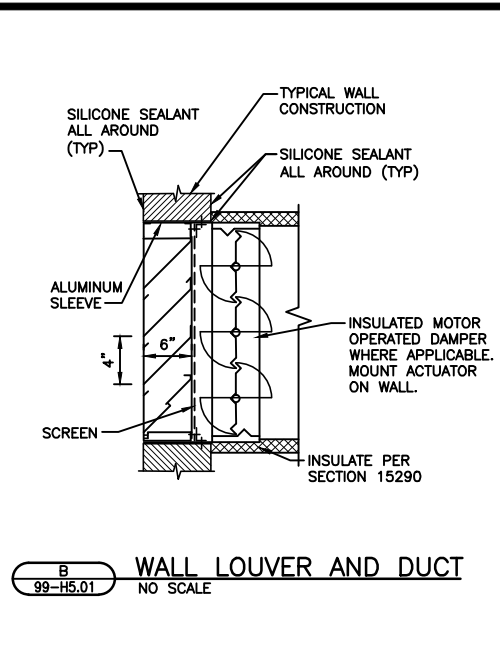
DATE:	NOVEMBER, 2010
DES BY:	SAI
CHK BY:	SWS
RECORD DRAWING:	RECORD DRAWING
BY:	SAI
DATE:	12-05-13
CONTRACTOR:	RUS CONST.

PLUMBING DETAILS
DISINFECTION AND pH CONTROL
CITY OF SUPERIOR ENVIRONMENTAL SERVICES DIVISION OF PUBLIC WORKS
SUPERIOR, WI

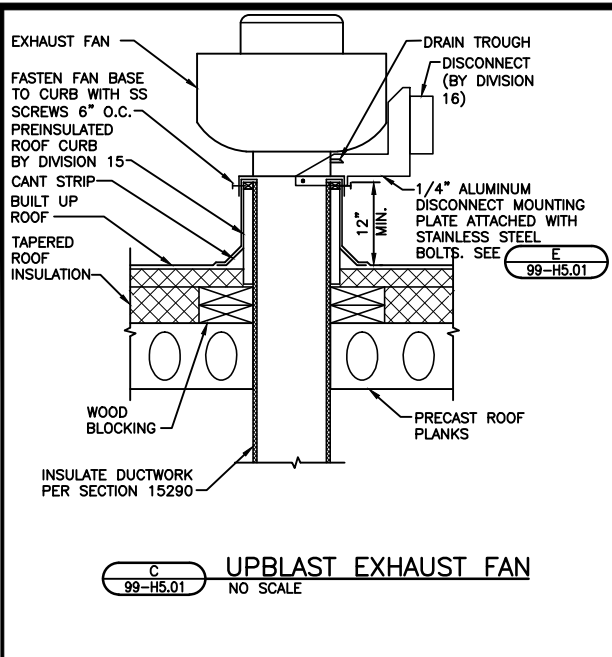




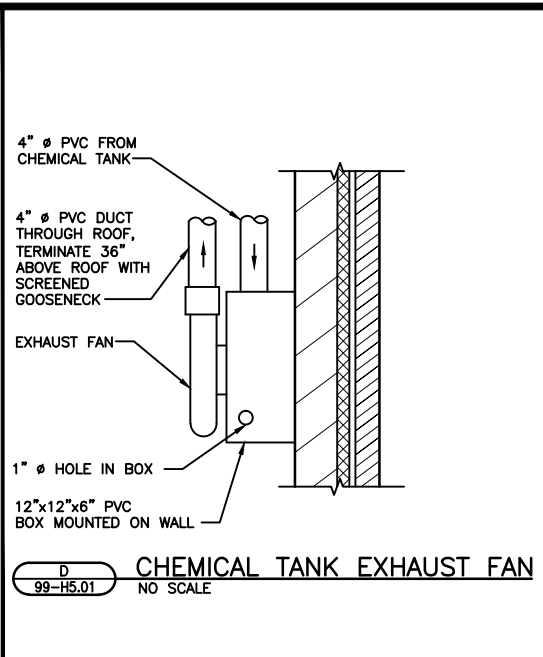
A WALL LOUVER AND DAMPER
99-H5.01 NO SCALE



B WALL LOUVER AND DUCT
99-H5.01 NO SCALE



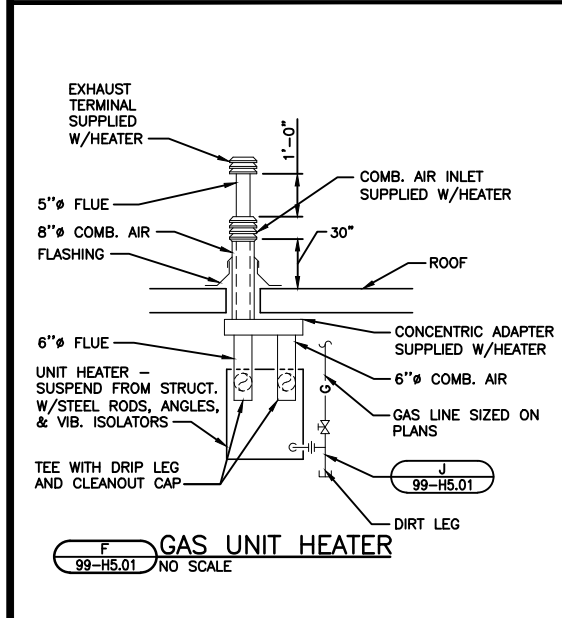
C UPBLAST EXHAUST FAN
99-H5.01 NO SCALE



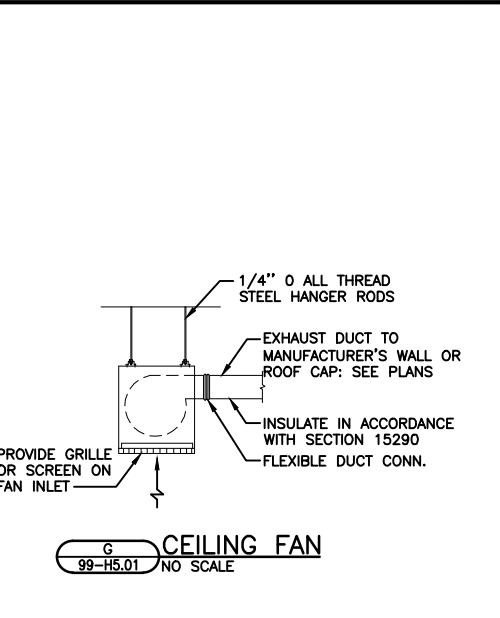
D CHEMICAL TANK EXHAUST FAN
99-H5.01 NO SCALE



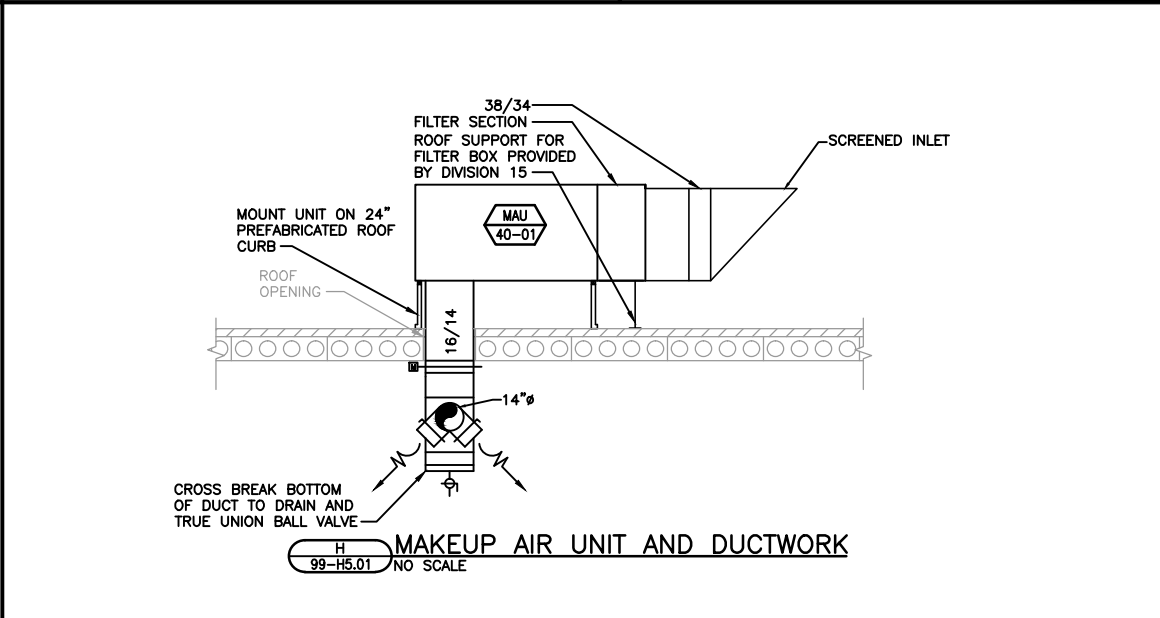
E DISCONNECT MOUNTING STAND
99-H5.01 NO SCALE



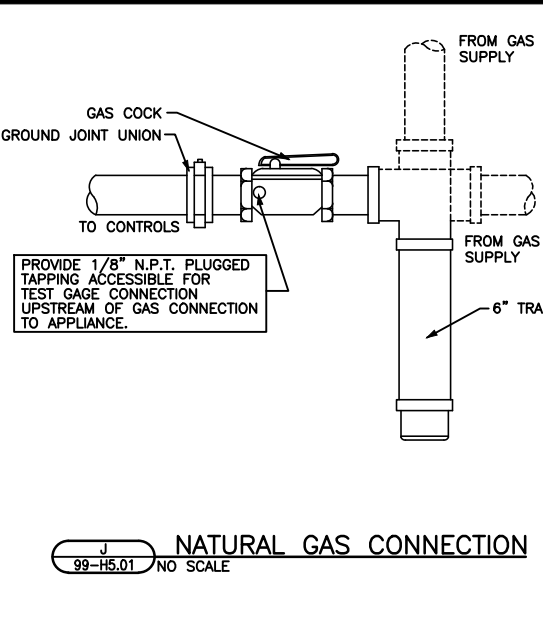
F GAS UNIT HEATER
99-H5.01 NO SCALE



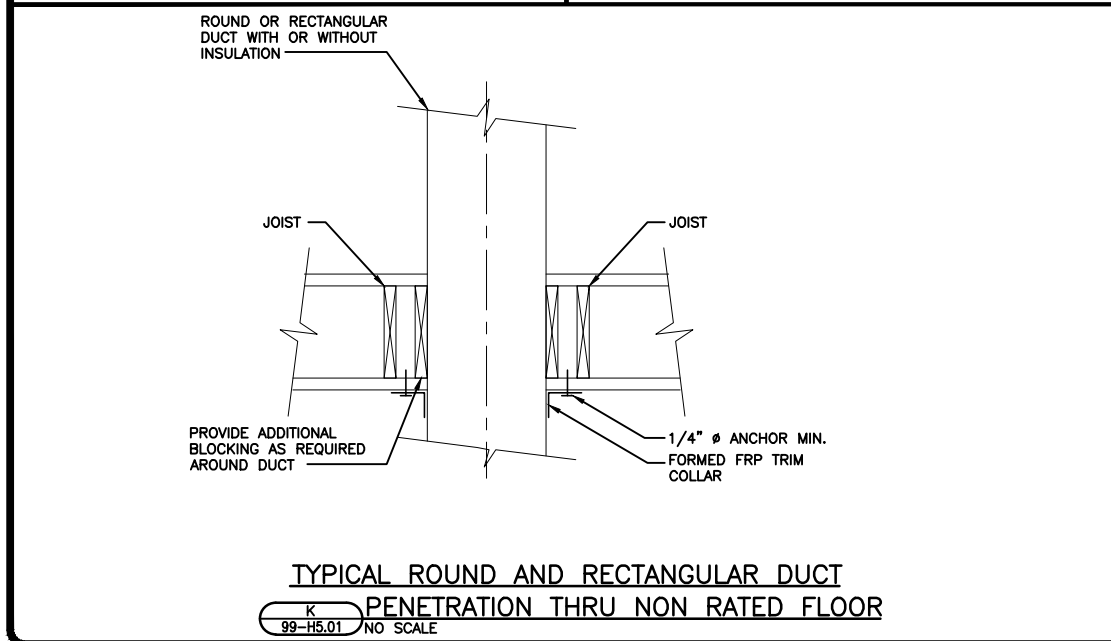
G CEILING FAN
99-H5.01 NO SCALE



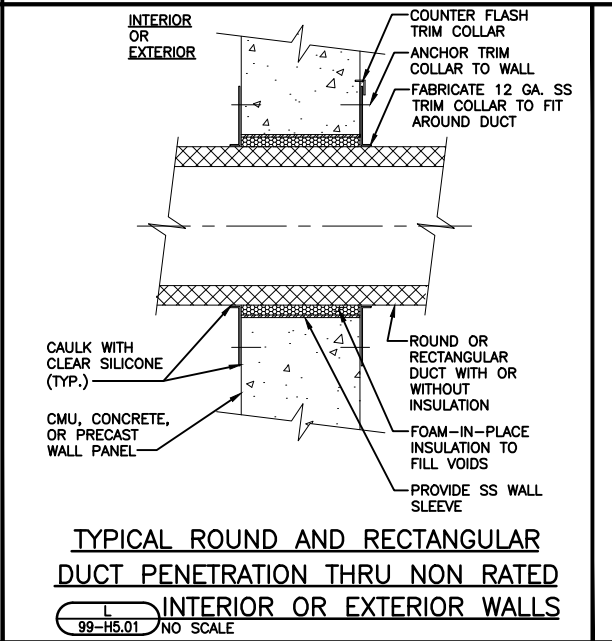
H MAKEUP AIR UNIT AND DUCTWORK
99-H5.01 NO SCALE



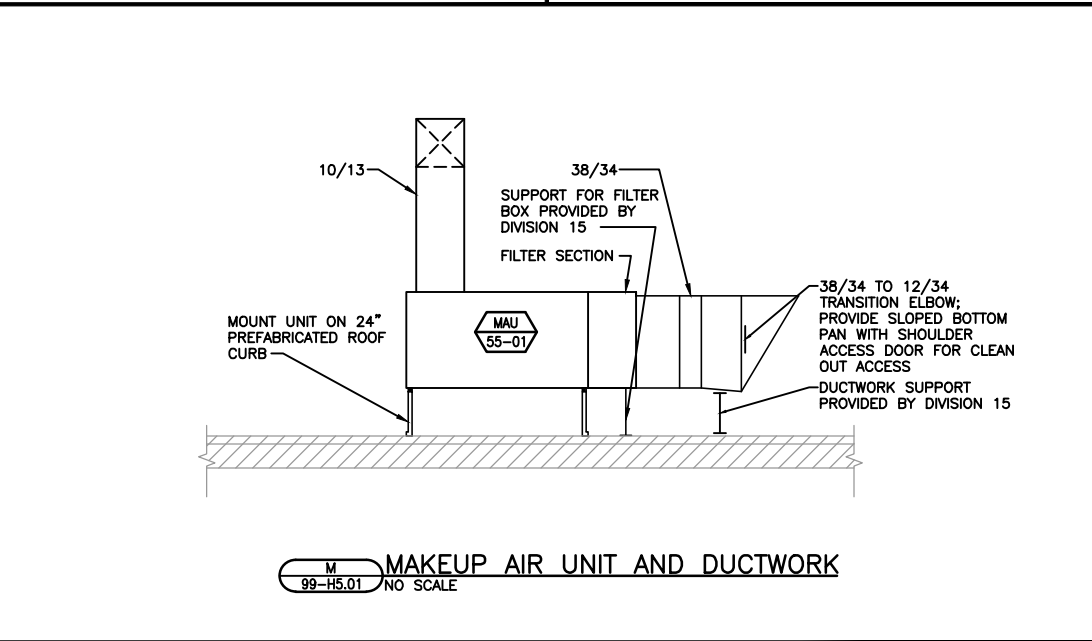
J NATURAL GAS CONNECTION
99-H5.01 NO SCALE



K TYPICAL ROUND AND RECTANGULAR DUCT PENETRATION THRU NON RATED FLOOR
99-H5.01 NO SCALE



L TYPICAL ROUND AND RECTANGULAR DUCT PENETRATION THRU NON RATED INTERIOR OR EXTERIOR WALLS
99-H5.01 NO SCALE



M MAKEUP AIR UNIT AND DUCTWORK
99-H5.01 NO SCALE

DATE:	NOVEMBER, 2010
DES BY:SAI	CHK BY: SWS
RECORD DRAWING	RECORD DRAWING
BY: SAI	DATE:12-05-13
CONTRACTOR: RUS CONST.	

HVAC DETAILS
DISINFECTION AND pH CONTROL
CITY OF SUPERIOR ENVIRONMENTAL SERVICES DIVISION OF PUBLIC WORKS
SUPERIOR, WI

STRAND ASSOCIATES, INC. ENGINEERS

SHEET **41**
99-H5.01
JOB NO. 3559.003

MAKE UP AIR UNIT SCHEDULE																					
UNIT NO. MAU-	LOCATION	SERVICE	GREENHECK MODEL NO.	AIRFLOW (CFM)	EXT. STATIC PRESSURE (IN W.C.)	FILTER TYPE	NATURAL GAS HEATING SECTION							ELECTRICAL				OPERATING WEIGHT (LBS.)	REMARKS		
							MAX. PRESSURE (IN W.C.)	MIN. PRESSURE (IN W.C.)	INPUT (MBH)	OUTPUT (MBH)	EAT (°F)	LAT (°F)	STAGES	MOTOR (HP)	VOLTAGE	PHASE	MCA			MAXIMUM BREAKER	STARTER/DISCONNECT BY
40-01	UV BLDG	UV ROOM	DGX-110-H12	1800	0.4	2" ALUMINUM	14"	7"	179.6	165.2	-25	60	25	1	460	3	2.9	15	MANUFACTURER	713	
55-01	DEWATERING BLDG	CHEMICAL ROOMS	DGX-108-H12	800	0.4	2" ALUMINUM	14"	7"	79.8	73.4	-25	60	25	1/2	460	3	1.7	15	MANUFACTURER	710	

FAN SCHEDULE																	
UNIT NO. EF-	LOCATION	SERVICE	GREENHECK MODEL NO.	AIRFLOW (CFM)	EXT. S.P. (IN. W.C.)	MOTOR SIZE (HP)	FAN TYPE	MOTOR TYPE	DRIVE	SOUND POWER (SONES)	ELECTRICAL				OPERATING WEIGHT (LBS.)	REMARKS	
											VOLTAGE	PHASE	STARTER BY	DISCONNECT BY			
EF-20-01	pH ADJUSTMENT BLDG	pH ADJUSTMENT BLDG	CSP-A510	400	0.25	217 W	CEILING	ODP	DIRECT	1.2	115	1	N/A	N/A	36		
EF-40-01	UV BLDG	CARBONATION ROOM	CUBE-121	1150	0.5	1/3	UPBLAST	TEFC	BELT	10.0	115	1	DIV 16	DIV 16	68		
EF-40-02	UV BLDG	UV ROOM	CUBE-141	2000	0.5	1/2	UPBLAST	TEFC	BELT	12.9	460	3	DIV 16	DIV 16	99	①	
EF-40-03	UV BLDG	UV CHANNEL	36770	240	0.25	FRAC	BLOWER	ODP	DIRECT	-	115	1	N/A	DIV 16	9	①②	
EF-40-04	UV BLDG	ELECTRICAL ROOM	CSP-B150	125	0.25	129W	CEILING	ODP	DIRECT	0.8	115	1	N/A	MANUFACTURER	10		
EF-55-01	MEZZANINE	HYPOCHLORITE ROOM	BSQ-100	625	0.5	1/4	INLINE	TEFC	BELT	8.4	115	1	DIV 16	DIV 16	66	①	
EF-55-02	MEZZANINE	BISULFITE ROOM	BSQ-80	275	0.5	1/4	INLINE	TEFC	BELT	8.9	115	1	DIV 16	DIV 16	67	①	
EF-55-03	BISULFITE ROOM	BISULFITE TANK	36770	240	0.5	FRAC	BLOWER	ODP	DIRECT	-	115	1	N/A	DIV 16	9	①②	
SF-40-01	UV BLDG	CARBONATION ROOM	BSQ-140	1150	0.5	1/4	INLINE	TEFC	BELT	6.6	115	1	DIV 16	DIV 16	86	①	
SF-40-02	UV BLDG	ELECTRICAL ROOM	CSP-B150	125	0.5	129W	CABINET	ODP	DIRECT	1.5	115	1	N/A	MANUFACTURER	10		

- ① FAN AND ACCESSORIES SHALL BE SUITABLE FOR CORROSIVE (NEMA 4X) ENVIRONMENTS.
 ② MODEL NUMBER CORRESPONDS TO MANUFACTURER ITT-JABSCO.

WALL LOUVER SCHEDULE														
UNIT NO. L-	LOCATION	SERVICE	GREENHECK MODEL NO.	AIRFLOW (CFM)	WIDTH (IN)	HEIGHT (IN)	BLADE DEPTH (IN)	MAX. APD (IN WG)	MAX. FACE VEL. (FPM)	FREE AREA (SQ. FT.)	SCREEN		TOP ELEVATION	REMARKS
											TYPE	LOCATION		
20-01	pH ADJUSTMENT ROOM	EF-20-01 INTAKE	ESD-635	400	16	16	6	0.02	701	0.57	INSECT	BACK	6'-8" AFF	
40-01	UV ROOM	SF-40-01/EF-40-04 INTAKE	ESD-635	1275	32	24	6	0.01	509	2.50	INSECT	BACK	10'-8" AFF	
55-01	MEZZANINE	EF-55-01 RELIEF	ESD-635	625	14	24	6	0.06	648	0.96	INSECT	BACK	14'-4" AFF	①
55-02	MEZZANINE	EF-55-02 RELIEF	ESD-635	275	12	16	6	0.06	690	0.40	INSECT	BACK	13'-8" AFF	①

- ① ELEVATION MEASURED FROM GROUND FLOOR.

GAS FIRED UNIT HEATER SCHEDULE															
UNIT NO. GUH-	LOCATION	MODINE MODEL NO.	UNIT TYPE	FAN SECTION		NATURAL GAS HEATING SECTION				VENTING TYPE	ELECTRICAL			REMARKS	
				SUPPLY AIR (CFM)	FAN (HP)	MAX. PRESSURE (IN. W.C.)	MIN. PRESSURE (IN. W.C.)	INPUT (MBH)	OUTPUT (MBH)		VOLTAGE	PHASE	FLA		DISCONNECT BY
40-01	CARBONATION ROOM	HDS30	SEP COMB	505	1/15	14	5	30	24	TYPE B	115	1	3.7	DIV. 16	

ELECTRIC HEATER SCHEDULE									
UNIT NO.	LOCATION	Q-MARK MODEL NO.	CAPACITY (WATTS)	CAPACITY (BTU)	ELECTRICAL				REMARKS
					VOLTAGE	PHASE	FLA	DISCONNECT BY	
EUH-20-01	pH ADJUSTMENT BLDG	MUH-05	5000	17,000	240	1	21.0	DIV 16	
EUH-40-01	UV ROOM	JUW-500	5000	17,060	480	3	6.3	MANUFACTURER	①
EUH-40-02	UV ROOM	JUW-750	7500	25,590	480	3	9.3	MANUFACTURER	①
EWH-40-01	ELECTRICAL ROOM	CWH120	1800	6143	120	1	15.0	MANUFACTURER	②
EWH-40-02	ELECTRICAL ROOM	CWH120	1800	6143	120	1	15.0	MANUFACTURER	②
EUH-55-01	HYPOCHLORITE ROOM	JUW-500	5000	17,060	480	3	6.3	MANUFACTURER	①
EUH-55-02	BISULFITE ROOM	JUW-200	2000	6,824	208	1	10.1	MANUFACTURER	①

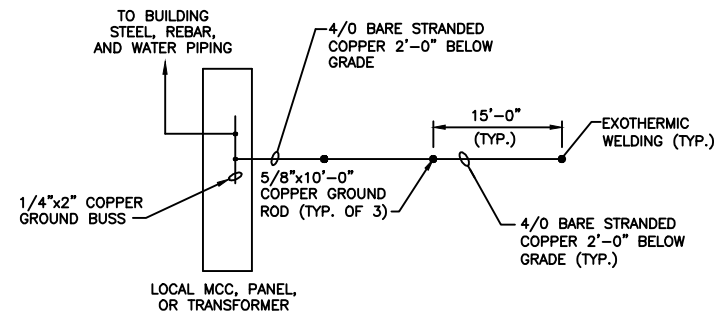
- ① HEATER AND ACCESSORIES SHALL BE SUITABLE FOR CORROSIVE (NEMA 4X) ENVIRONMENTS.
 ② PROVIDE SURFACE MOUNTING FRAME AND DISCONNECT ON FACE.

DESIGN CONDITIONS				
APPLICABLE BUILDING CODE:		SUMMER EXTERIOR: 86°F DB / 70°F WB		
WI COMM 62		WINTER EXTERIOR: -25°F DB		
OCCUPANCY TYPE	VENTILATION	SUMMER INTERIOR (DB/WB)	WINTER INTERIOR (DB)	REMARKS
ELECTRICAL ROOM	--	104/AMBIENT	60	
SODIUM HYPOCHLORITE SODIUM BISULFITE	1 CFM/SF CONTINUOUS	AMBIENT	60	
pH ADJUSTMENT BUILDING	14 ACH INTERMITTENT	AMBIENT	60	
UV BUILDING UV ROOM	6 ACH CONTINUOUS	AMBIENT	60	
UV BUILDING CARBONATION ROOM	30 ACH INTERMITTENT	AMBIENT	60	

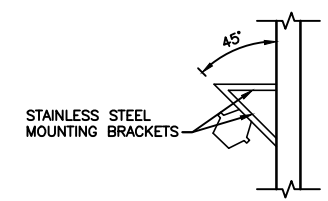
DATE:	NOVEMBER, 2010
REVISIONS	NO. 1
DES BY: QPK	CHK BY: SWS
RECORD DRAWING	BY: SAI
DATE: 12-05-13	CONTRACTOR: RUS CONST.

HVAC SCHEDULES
 DISINFECTION AND pH CONTROL
 CITY OF SUPERIOR ENVIRONMENTAL SERVICES DIVISION OF PUBLIC WORKS
 SUPERIOR, WI

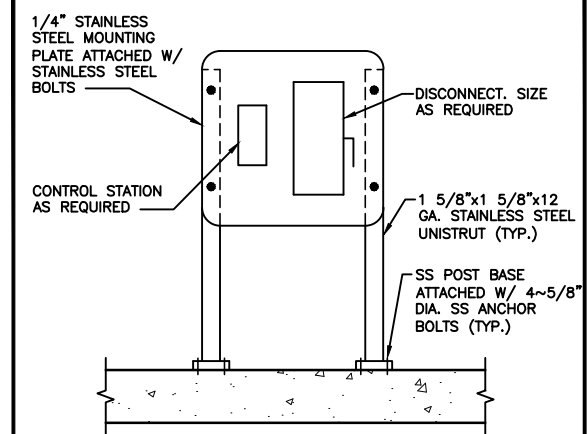




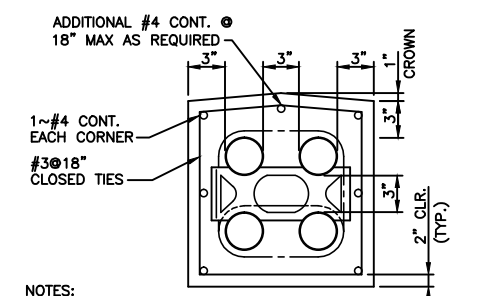
A GROUND GRID
99-E5.01 NO SCALE



B FIXTURE MOUNTING DETAIL
99-E5.01 NO SCALE

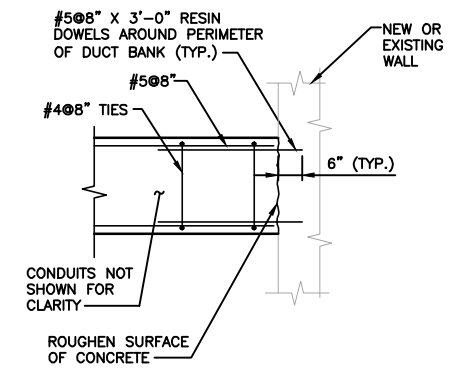


C CONTROL STATION MOUNTING
99-E5.01 NO SCALE



- NOTES:
1. MINIMUM COVER TO TOP OF ENVELOPE SHALL BE 24"
 2. NON-FERROUS TIE WIRES TO BE EMBEDDED IN DUCT BED CONCRETE.
 3. PROVIDE CONDUIT QUANTITY AND SIZES AS INDICATED ON THE DRAWING. CONTRACTOR SHALL MAINTAIN 3" MIN. SPACING BETWEEN CONDUITS.

D CONCRETE ENCASED DUCT BANK
99-E5.01 NO SCALE



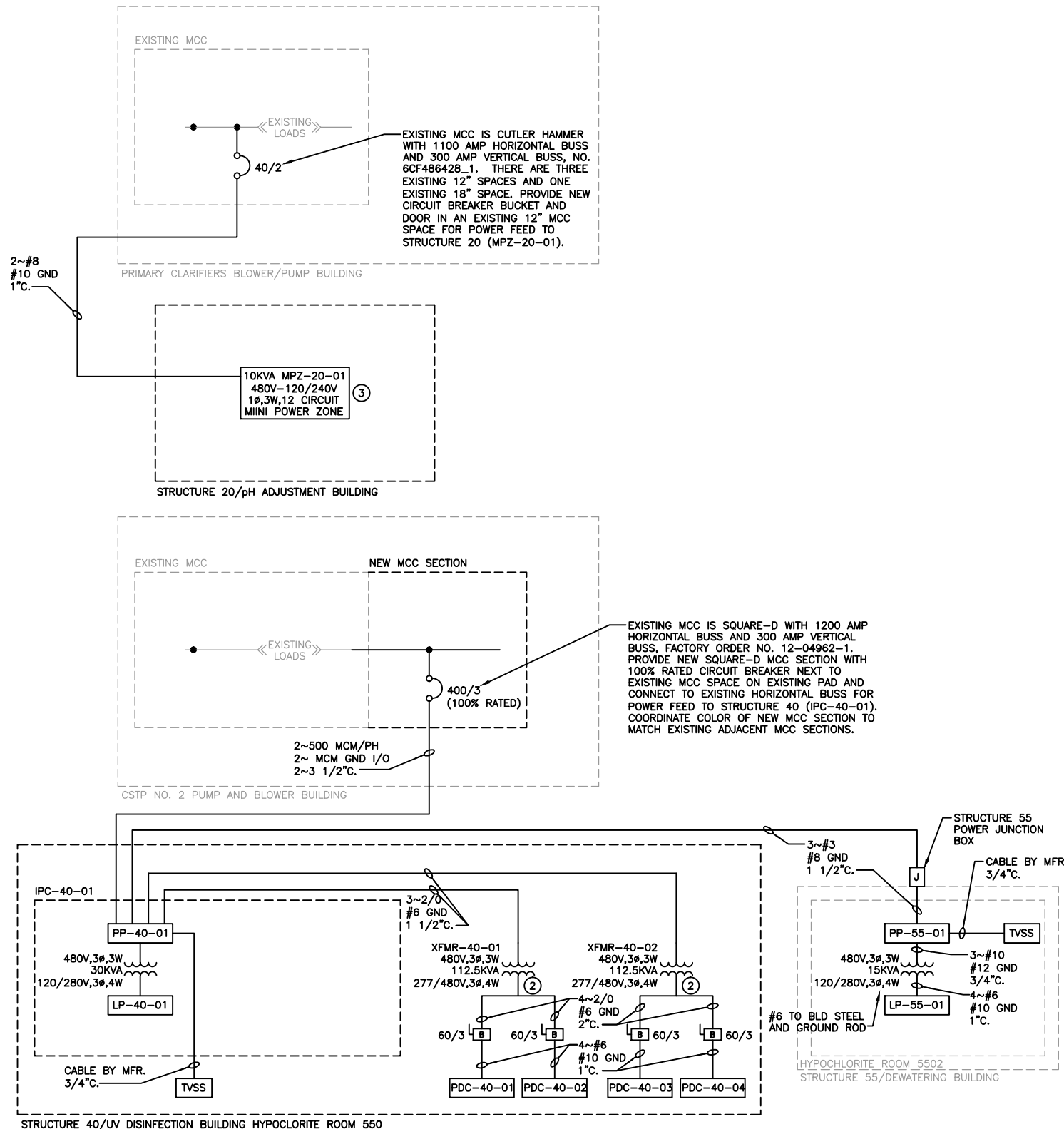
E DUCT BANK CONNECTION TO ALL MANHOLES/WALLS
99-E5.01 NO SCALE

DATE:	NOV/05/10
REVISIONS	
NO.	1
DATE: NOVEMBER, 2010	DES BY: SAI
	CHK BY: SWS
	RECORD DRAWING
	BY: SAI
	DATE: 12-05-13
	CONTRACTOR: RUS CONST.

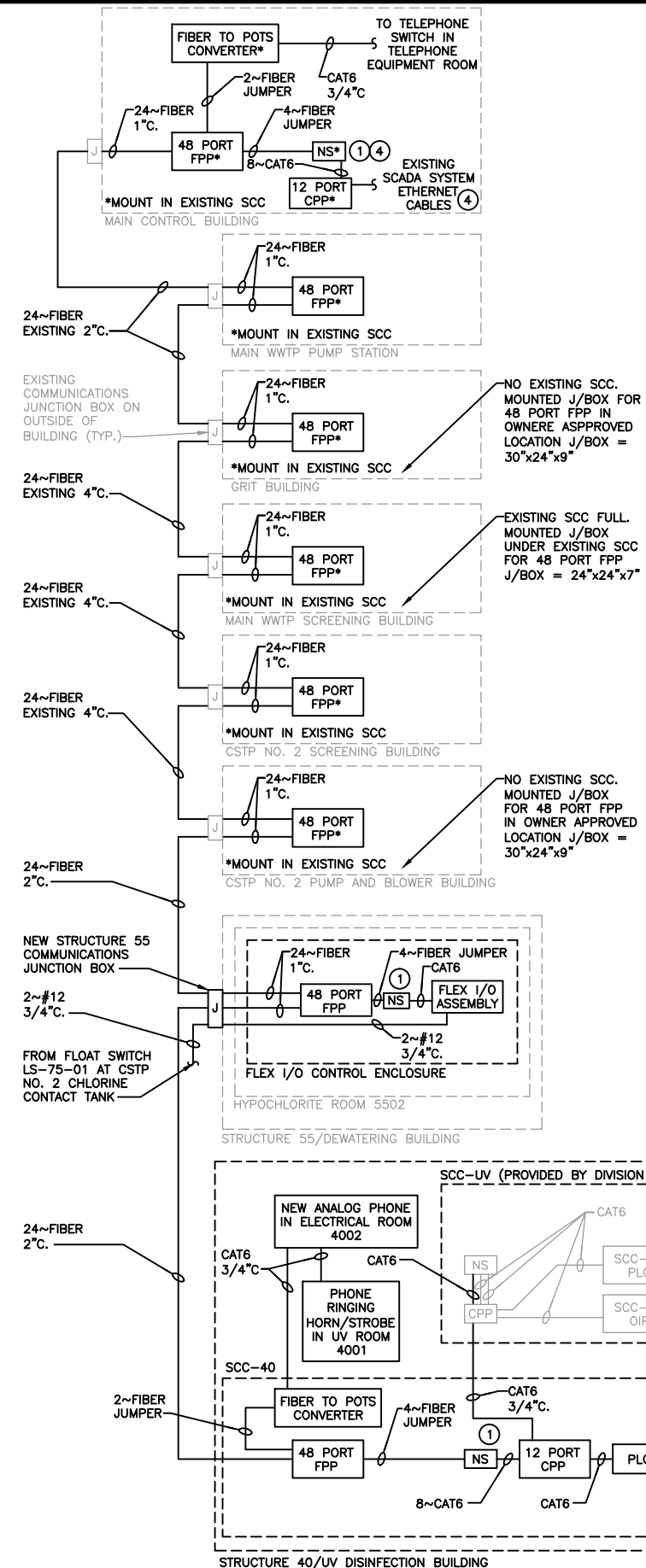
ELECTRICAL DETAILS
DISINFECTION AND pH CONTROL
CITY OF SUPERIOR ENVIRONMENTAL SERVICES DIVISION OF PUBLIC WORKS
SUPERIOR, WI



FIXTURE SCHEDULE					
Fixture Type	Manufacturer(s)	Model Number	Lamp Type	Mounting	Remarks
A	Metallux	VT3-332-D-R-UNV-ER81	3-32W T8	Surface	Provide top and end watertite hubs and stainless steel latches and mounting hardware.
B	Neptun	21080-FLD-UNV-LD	1-80W Induction	Wall	Exact fixture model shall be provided to match existing fixtures. Provide photocell option



ELECTRICAL SYSTEM ONE-LINE DIAGRAM
NO SCALE



SCADA SYSTEM RISER DIAGRAM
NO SCALE

CONTROL DEVICES (OIL TIGHT, HEAVY DUTY)	
INDICATING LIGHTS (PUSH TO TEST)	
R	RED (FAIL)
G	GREEN (RUN)
A	AMBER
B	BLUE
W	WHITE
C	CLEAR
PUSHBUTTONS	
1	START
2	STOP
3	LOCK OUT STOP
4	RESET
5	FORWARD
6	REVERSE
7	FAST
8	SLOW
9	JOG FWD.
0	JOG REV.
Z	SPECIAL
M	MAINT. CONT.

FIBER CABLE SCHEDULE	
FIBER	USE
1	SCADA SEND
2	SCADA RECEIVE
3	SCADA 2 SEND
4	SCADA 2 RECEIVE
5	UV BUILDING POTS SEND
6	UV BUILDING POTS RECEIVE
7	SPARE
8	SPARE
9	SPARE
10	SPARE
11	SPARE
12	SPARE
13	SPARE
14	SPARE
15	SPARE
16	SPARE
17	SPARE
18	SPARE
19	SPARE
20	SPARE
21	SPARE
22	SPARE
23	SPARE
24	SPARE

- GENERAL NOTES:**
- CONTRACTOR SHALL FIELD VERIFY, WITH THE OWNER, THE LOCATION OF THE EXISTING 4 INCH COMMUNICATION CONDUITS AND SCC'S IN EXISTING STRUCTURES WHICH ARE NOT SHOWN
- KEY NOTES:**
- NETWORK SWITCH SHALL HAVE MINIMUM 2~PAIRS OF FIBER SEND/RECEIVE PORTS AND 8 ETHERNET PORTS.
 - PROVIDE SECONDARY LUGS AS REQUIRED TO FEED EACH PDC CIRCUIT BREAKER.
 - MINI POWER ZONE SHALL BE SQUARE-D MODEL MPZ10S40F.
 - REMOVE EXISTING 4~PORT LINKSYS NETWORK SWITCH AND PLUG EXISTING SCADA SYSTEM ETHERNET CABLES INTO NEW INDUSTRIAL NETWORK SWITCH.

DATE:	NOVEMBER, 2010
DES BY:DDG	CHK BY: SWS
RECORD DRAWING	RECORD DRAWING
BY: SAI	DATE: 12-05-13
CONTRACTOR: RUS CONST.	

ELECTRICAL SCHEDULES, SCADA RISER, AND ONE-LINE DIAGRAM

DISINFECTION AND PH CONTROL

CITY OF SUPERIOR ENVIRONMENTAL SERVICES DIVISION OF PUBLIC WORKS

SUPERIOR, WI

STRAND ASSOCIATES, INC. ENGINEERS

SHEET **44**
99-E6.01
JOB NO. 3559.003