



# CITY OF WOODBURN, OREGON

## I-5 PUMP STATION AND FORCE MAIN UPGRADES

**PROJECT NO. 2018-012-11**  
**JULY 2021 VOLUME 3 OF 3**

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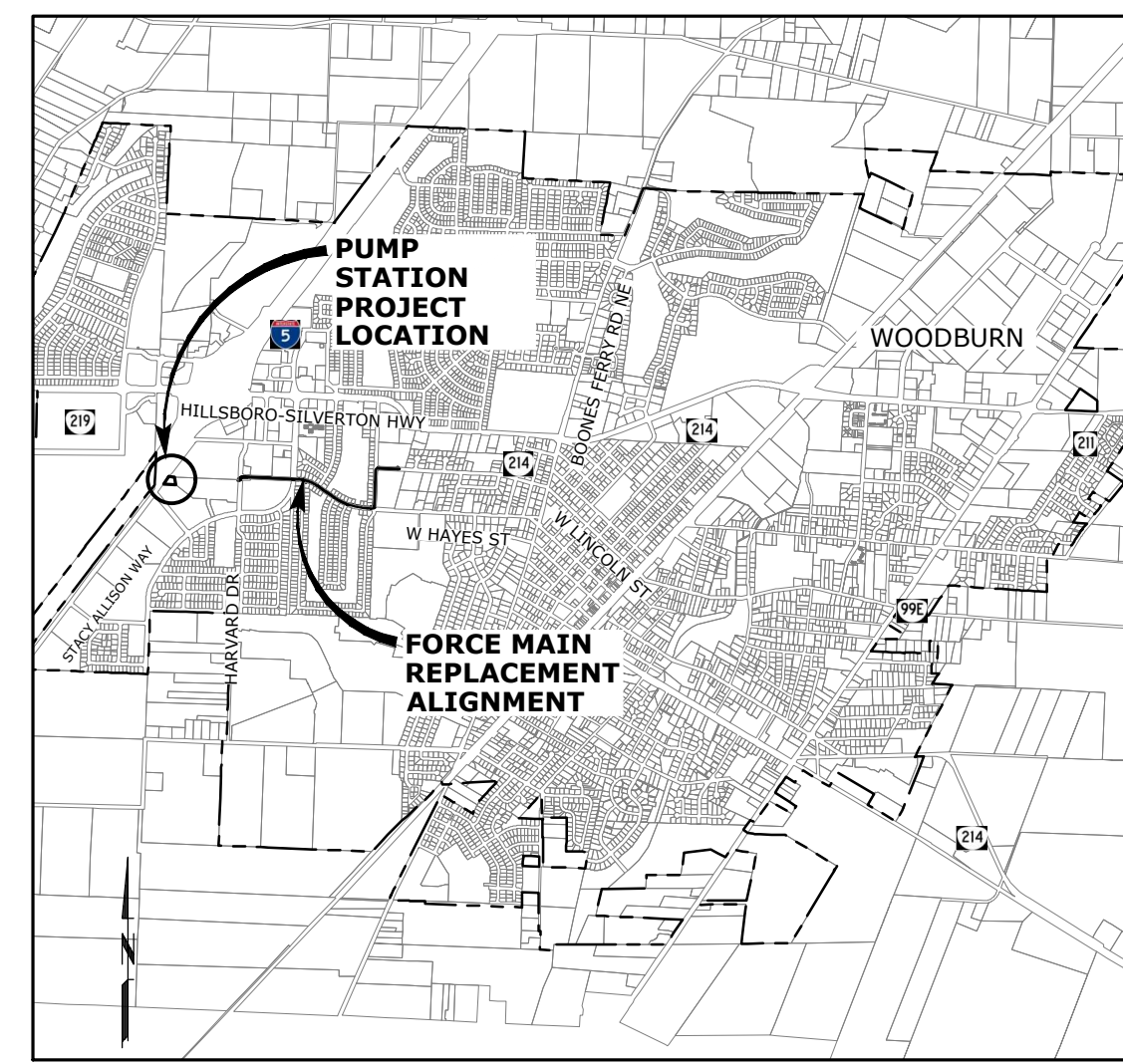
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**VICINITY MAP**  
 SCALE: 1"=1,500'

ATTENTION: OREGON LAW REQUIRES THE CONTRACTOR TO FOLLOW THE RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH OAR 952-001-0090. THE CONTRACTOR MAY OBTAIN COPIES OF THE RULES BY CALLING THE UTILITY NOTIFICATION CENTER. (NOTE: THE TELEPHONE NUMBER FOR THE OREGON UTILITY NOTIFICATION CENTER IS 503-246-6699.)



888 SW 5TH AVENUE, SUITE 1170  
 PORTLAND, OREGON 97204  
 P 503.225.9010

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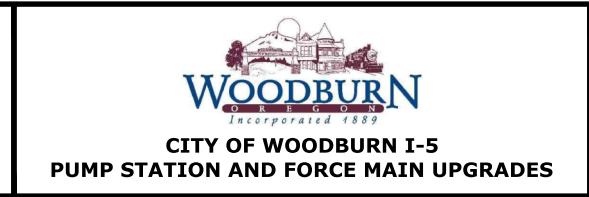
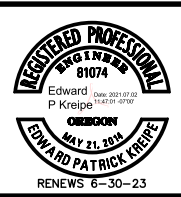


**PROJECT OVERVIEW**  
SCALE: 1"=200'

NO.	DATE	BY	REVISION

NOTICE  
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IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

CAS DESIGNED  
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**PROJECT OVERVIEW**  
PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: JUNE 2021

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## GENERAL NOTES

1. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE 2021 EDITION OF THE OREGON STANDARD SPECIFICATIONS FOR CONSTRUCTION AND ALL APPLICABLE LOCAL, STATE, AND FEDERAL CODES AND REGULATION.
2. CONTRACTOR SHALL HAVE A COPY OF THESE APPROVED PLANS AND DETAILS ON-SITE AT ALL TIMES DURING CONSTRUCTION.
3. ANY REVISIONS MADE TO THESE PLANS MUST BE REVIEWED AND APPROVED BY THE AGENCY PRIOR TO ANY IMPLEMENTATION IN THE FIELD.
4. THE CONTRACTOR SHALL HAVE ALL UTILITIES VERIFIED ON THE GROUND PRIOR TO ANY CONSTRUCTION. CALL ONE CALL LOCATE AT LEAST 48 HOURS IN ADVANCE. THE PUBLIC WORKS DEPARTMENT AND ENGINEERING DIVISION SHALL BE CONTACTED IMMEDIATELY IF A CONFLICT EXISTS (503-982-5240).
5. THE CONTRACTOR SHALL AT ALL TIMES ABIDE BY APPLICABLE SAFETY RULES OF OR-OSHA AND IN PARTICULAR THOSE PERTAINING TO ADEQUATE SHORING AND TRENCH PROTECTION.
6. EXISTING UTILITY LOCATIONS ARE APPROXIMATE ONLY, EXACT LOCATIONS TO BE DETERMINED IN THE FIELD BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UTILITIES NOT SHOWN ON THE PLANS. THE CONTRACTOR SHALL COORDINATE WORK WITH ALL UTILITY COMPANIES AS REQUIRED TO COMPLETE THE PROJECT.
7. ALL DAMAGE(S) CAUSED BY THE CONTRACTOR SHALL BE RESTORED TO AN "AS GOOD OR BETTER" CONDITION.
8. PROPERTY OWNERS/RESIDENTS SHALL HAVE ACCESS TO THEIR PROPERTIES AT ALL TIMES DURING CONSTRUCTION ACTIVITIES. CONTRACTOR TO MAKE ALLOWANCES FOR ANY LOCAL DELIVERIES AND/OR GARBAGE PICK-UP. PROVIDE WRITTEN NOTICE TO ALL PROPERTY OWNERS AT LEAST 2 WORK DAYS IN ADVANCE OF WORK IN AND OR CROSSING DRIVEWAYS.
9. CONTRACTOR MAY PROCURE WATER FROM A CITY FIRE HYDRANT ONLY AFTER APPROVAL OF THE ENGINEER AND INSTALLATION OF BACKFLOW PREVENTOR BY CITY DRINKING WATER SECTION CREW.
10. ONLY CITY STAFF CAN OPERATE LIVE WATER VALVES AND FIRE HYDRANTS. NOTIFY THE CITY OF WOODBURN PRIOR TO THE NEED FOR THE OPERATION OF LIVE WATER LINES.
11. CONTRACTOR SHALL REMOVE ALL EXISTING SIGNS, MAILBOXES, FENCES, LANDSCAPING, AND ETC. AS REQUIRED TO AVOID DAMAGE DURING CONSTRUCTION AND REPLACE THEM TO EXISTING OR BETTER CONDITION WHEN WORK IS COMPLETED. MAILBOXES SHALL BE TEMPORARILY RELOCATED. MEANS, METHODS AND LOCATIONS AS APPROVED BY THE ENGINEER.
12. THE CONTRACTOR SHALL LOCATE AND MARK ALL EXISTING PROPERTY AND STREET MONUMENTS PRIOR TO CONSTRUCTION. ANY MONUMENTS DISTURBED DURING CONSTRUCTION OF THE PROJECT SHALL BE REPLACED AND RECORDED BY A REGISTERED LAND SURVEYOR AT THE CONTRACTOR'S EXPENSE.
13. THE CONTRACTOR SHALL INSTALL AND MAINTAIN ALL THE REQUIRED EROSION CONTROL MEASURES IN ACCORDANCE WITH THE NOTES AND PLANS.
14. ALL PIPE TRENCH BACKFILL SHALL BE CLASS 3 WITH TYPE D PIPE ZONE MATERIAL, SEE SHEET GD-2 FOR DETAILS.

## GRADING AND PAVING NOTES

1. IMMEDIATELY FOLLOWING FINE GRADING OPERATIONS, COMPACT AND PROOF ROLL SUBGRADE AREAS TO ACHIEVE AT LEAST 95% OF MAXIMUM DENSITY FOR A 9" DEPTH PER AASHTO T-99. EMBANKMENTS OR FILLS ARE TO BE CONSTRUCTED IN 6" MAXIMUM LIFTS, WITH EACH LIFT BEING COMPACTED TO 95% MAXIMUM OF DENSITY PRIOR TO PROCEEDING WITH THE NEXT LIFT. AREAS RECEIVING STRUCTURAL FILL ARE TO BE TESTED BY A QUALIFIED TESTING LAB.
2. AGGREGATE BASE ROCK SHALL BE ¾"-0 CRUSHED ROCK. AGGREGATE BASE IS TO BE COMPACTED IN 6" MAXIMUM LIFTS TO 95% OF MAXIMUM DRY DENSITY PER AASHTO T-99.
3. THE LIFTS OF ASPHALT CONCRETE ARE TO BE CLASS AS CALLED OUT ON PLANS AND MATERIAL TO BE PER ODOT SPECIFICATIONS. CONTRACTOR TO PROVIDE THE OWNER WITH A PAVING MIX CERTIFICATE OF COMPLIANCE FROM THE ASPHALT PAVEMENT PLANT. PAVE ONLY DURING DRY WEATHER AND WHEN THE SURFACE TEMPERATURE IS 40 DEGREES OR WARMER.
4. INSPECTION OF SUBGRADE, BASE ROCK, AND ASPHALT CONCRETE WILL BE MADE BY A QUALIFIED INDEPENDENT TESTING LAB EMPLOYED BY THE AGENCY.
5. ALL MATERIALS, INSTALLATION, TEST, AND INSPECTIONS ARE TO BE IN STRICT ACCORDANCE WITH THE AGENCY STANDARDS.
6. SAWCUT STRAIGHT MATCHLINES TO CREATE A BUTT JOINT BETWEEN THE EXISTING PAVEMENT AND NEW PAVEMENT. APPLY PRIME COAT AT JOINT SURFACES AND SAND SEAL ALL NEW PAVEMENT JOINTS.

## SANITARY SEWER NOTES

1. ALL SANITARY SEWER & WATER LINE CROSSINGS SHALL CONFORM TO OAR 333.
2. BACKFILL TRENCH WITH 1"-0 CRUSHED ROCK COMPACTED IN 6" LIFTS TO 95% OF ASHTO T-99. PIPE TRENCH BEDDING SHALL BE CLEAN 1"-0 CRUSHED ROCK. SEE TYPICAL TRENCH DETAILS ON SHEET GD-1.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SEWER BYPASS ACTIVITIES THAT MAY BE REQUIRED DURING THE CONSTRUCTION OF THE NEW SEWER MAIN, NEW MANHOLES, AND SANITARY SEWER SERVICES. SEWER BYPASS SHALL BE INCIDENTAL TO THIS CONTRACT.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE THAT OCCURS TO ASPHALT PAVEMENT CONCRETE STRUCTURES, SURVEY MONUMENTS, OTHER UTILITIES, VALVE BOXES, METER BOXES, SIGNS, ETC. DUE TO CONSTRUCTION ACTIVITIES.
5. TRENCH DEWATERING SHALL BE INCIDENTAL TO THE PROJECT.
6. CALL 1-800-332-2344 (OR 811) BEFORE YOU DIG!

## SURVEY CONTROL NOTES

HORIZONTAL DATUM:  
THE HORIZONTAL DATUM IS OREGON STATE PLANE COORDINATES NAD83(2011)(EPOCH:2010.0000), NORTH ZONE.

VERTICAL DATUM:  
THE VERTICAL DATUM IS NAVD 88 REFERENCED TO THE SITE BENCHMARK SHOWN ON SHT C-1.

DESIGN SURVEY:  
SURVEY PROVIDED BY PBS ENGINEERING AND ENVIRONMENTAL INC. DATED 1-30-2020.

## UTILITY CONTACT INFORMATION

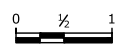
UTILITY	CONTACT PERSON	PHONE NUMBER
CENTURY LINK	JOSH FALLIN	(503) 399-4931
AT&T	TOM NORMOYLE	(503) 588-1899
NWN GAS	DANIEL KIZER	(503) 226-4211 EXT 8166
PGE (POWER)	DARRIN PERKINS	(503) 463-4325
PGE (ILLUMINATION)	JEFF STEIGLEDER ALISON BAZIAK	(503) 672-5462 (503) 463-4381
DATAVISION	JASON RIGGS	(503) 792-3611
WAVE BROADBAND	DEREK ANDERSON JERRY BENSON	(503) 798-6651 (503) 307-0350
CITY WATER	CURTIS STULTZ	(503) 982-5268
CITY SEWER COLLECTIONS AND STREETS	CURTIS STULTZ	(503) 982-5268

## LAND USE APPROVAL NOTES

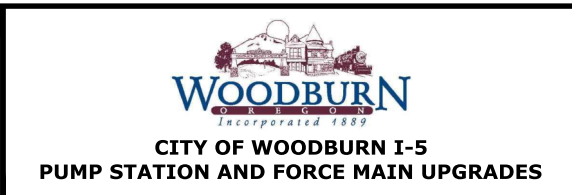
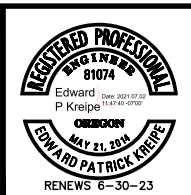
APPLICANT: CITY OF WOODBURN  
 ADDRESS: 598 STACY ALLISON WAY  
 TAX LOT: 052W12C002301  
 FILE NO.: DR 21-01 & EXCP 21-01  
 DATE OF DECISION: MARCH 22,2021  
 DECISION: APPROVED, WITH CONDITIONS

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EPK  
CHECKED



**GENERAL NOTES**

PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: JUNE 2021

SHEET  
**G-3**  
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@	AT
AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY & TRANSPORTATION OFFICIALS
AB	ANCHOR BOLT
ABAN(D)	ABANDON(ED)
ABS	ACRYLONITRILE BUTADIENE STYRENE
ABV	ABOVE / ALCOHOL BY VOLUME
AC	ASPHALTIC CONCRETE
ACP	ASPHALTIC CONCRETE PAVING
AD	AREA DRAIN
ADJ	ADJUSTABLE
ADJC	ADJACENT
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHR	ANCHOR
AL	ALUMINUM
ALT	ALTERNATE
AMP	AMPERE
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
APPROX	APPROXIMATE
APPVD	APPROVED
APWA	AMERICAN PUBLIC WORKS ASSOCIATION
ARCH	ARCHITECTURAL
ARV	AIR RELEASE VALVE
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS
ASSN	ASSOCIATION
ASSY	ASSEMBLY
ASTM	AMERICAN SOCIETY FOR TESTING & MATERIALS
ATM	ATMOSPHERE
AUTO	AUTOMATIC
AUX	AUXILIARY
AVE	AVENUE
AVG	AVERAGE
AWWA	AMERICAN WATER WORKS ASSOCIATION
B&S	BELL & SPIGOT
BC	BOLT CIRCLE
BD	BOARD
BETW	BETWEEN
BF	BOTH FACE
BFD	BACKFLOW PREVENTION DEVICE
BFILL	BACKFILL
BFV	BUTTERFLY VALVE
BHP	BRAKE HORSEPOWER
BKGD	BACKGROUND
BLDG	BUILDING
BLK	BLOCK
BLVD	BOULEVARD
BM	BENCHMARK / BEAM
BMP	BEST MANAGEMENT PRACTICES
BO	BLOW-OFF
BOC	BACK OF CURB
BS	BOTH SIDES
BSMT	BASEMENT
BTF	BOTTOM FACE
BTU	BRITISH THERMAL UNIT
BV	BALL VALVE
BW	BOTH WAYS
C	CELSIUS
C TO C	CENTER TO CENTER
CARV	COMBINATION AIR RELEASE VALVE
CATV	CABLE TELEVISION
CB	CATCH BASIN
CCP	CONCRETE CYLINDER PIPE
CCW	COUNTER CLOCKWISE
CFM	CUBIC FEET PER MINUTE
CFS	CUBIC FEET PER SECOND
CHAN	CHANNEL
CHEM	CHEMICAL
CHFR	CHAMFER
CHKV	CHECK VALVE
CI	CAST IRON
CIP	CAST IRON PIPE
CIPC	CAST IN PLACE CONCRETE
CISP	CAST IRON SOIL PIPE
CJ	CONSTRUCTION JOINT
CL OR C/L	CENTER LINE
CL2	CHLORINE
CLG	CEILING
CLINK	CENTURY LINK
CLJ	CONTROL JOINT
CLR	CLEAR
CLSM	CONTROLLED LOW STRENGTH MATERIAL
CMP	CORRUGATED METAL PIPE

CMU	CONCRETE MASONRY UNIT
CND	CONDUIT
CO	CLEANOUT
COL	COLUMN
COMB	COMBINATION
CONC	CONCRETE
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUOUS / CONTINUATION
CONTR	CONTRACT(OR)
COORD	COORDINATE
COP	COPPER
CORP	CORPORATION
CORR	CORRUGATED
CP	CONTROL POINT
CPLG	COUPLING
CPVC	CHLORINATED POLYVINYL CHLORIDE
CR	CRUSHED ROCK
CS	COMBINED SEWER
CSP	CONCRETE SEWER PIPE
CT	COURT
CTR	CENTER
CU	CUBIC
CULV	CULVERT
CV	CONTROL VALVE
CW	CLOCKWISE / COLD WATER
CY	CUBIC YARDS
CYL	CYLINDER LOCK
D	DRAIN
DC	DIRECT CURRENT
DEFL	DEFLECTION
DET	DETAIL
DI	DUCTILE IRON
DIA	DIAMETER
DIM	DIMENSION
DIR	DIRECTION
DIST	DISTANCE
DN	DOWN
DR	DRIVE
DS	DOWNSPOUT
DWG	DRAWING
DWL	DOWEL
DWV	DRAIN WASTE AND VENT
DWY	DRIVEWAY
E OR ELEC	ELECTRICAL
EA	EACH
ECC	ECCENTRIC
EF	EACH FACE
EL	ELEVATION
ELB	ELBOW
ENCL	ENCLOSURE
EOP	EDGE OF PAVEMENT
EQ	EQUAL
EQL SP	EQUALLY SPACED
EQUIP	EQUIPMENT
ESC	EROSION AND SEDIMENT CONTROL
ESMT	EASEMENT
EW	EACH WAY
EXC	EXCAVATE
EXIST	EXISTING
EXP	EXPANSION
EXP BT	EXPANSION BOLT
EXP JT	EXPANSION JOINT
EXT	EXTERIOR
F	FAHRENHEIT
F TO F	FACE TO FACE
FA	FORCED AIR
FAB	FABRICATE
FB	FLAT BAR
FCA	FLANGED COUPLING ADAPTER
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FDN	FOUNDATION
FEXT	FIRE EXTINGUISHER
FF	FAR FACE
FGL	FIBERGLASS
FH	FIRE HYDRANT
FIN	FINISH(ED)
FIPT	FEMALE IRON PIPE THREAD
FITG	FITTING
FL	FLOOR LINE
FLEX	FLEXIBLE
FLG	FLANGE
FLL	FLOW LINE
FLR	FLOOR
FM	FORCE MAIN
FO	FIBER OPTIC

FOC	FACE OF CONCRETE
FOF	FACE OF FINISH
FOM	FACE OF MASONRY
FOS	FACE OF STUDS
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FRP	FIBERGLASS REINFORCED PLASTIC
FT	FEET / FOOT
FTG	FOOTING
FUT	FUTURE
FXTR	FIXTURE
G	GAS
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GC	GROOVED COUPLING
GFA	GROOVED FLANGE ADAPTER
GI	GALVANIZED IRON
GIP	GALVANIZED IRON PIPE
GJ	GRIP JOINT
GL	GLASS
GLV	GLOBE VALVE
GND	GROUND
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GPS	GALLONS PER SECOND
GR	GRADE
GR LN	GRADE LINE
GRTG	GRATING
GV	GATE VALVE
GRVL	GRAVEL
GYP	GYP SUM
HB	HOSE BIBB
HC	HOLLOW CORE
HDPE	HIGH DENSITY POLYETHYLENE
HDR	HEADER
HDWE	HARDWARE
HGR	HANGER
HGT	HEIGHT
HH	HANDHOLD
HM	HOLLOW METAL
HMAC	HOT MIX ASPHALT CONCRETE
HNDRL	HANDRAIL
HOA	HAND-OFF-AUTO
HOR	HAND-OFF-REMOTE
HORIZ	HORIZONTAL
HP	HIGH PRESSURE / HORSEPOWER
HPG	HIGH PRESSURE GAS
HPT	HIGH POINT
HR	HOUR
HSB	HIGH STRENGTH BOLT
HV	HOSE VALVE
HVAC	HEATING, VENTILATION, AIR CONDITIONING
HWL	HIGH WATER LINE
HWY	HIGHWAY
HYD	HYDRANT
HYDR	HYDRAULIC
HZ	HERTZ
I&C	INSTRUMENTATION & CONTROL
IAW	IN ACCORDANCE WITH
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IF	INSIDE FACE
IMPVT	IMPROVEMENT
IN	INCH
INCC	INCLUDE(D)(ING)
INFL	INFLUENT
INJ	INJECTION
INSTL	INSTALLATION / INSTALL
INSUL	INSULATION
INTER	INTERCEPTOR
INTR	INTERIOR
INV	INVERT
IP	IRON PIPE
IPT	IRON PIPE THREAD
IR	IRON ROD
IRRIG	IRRIGATION
JT	JOINT
JUNC	JUNCTION
KPL	KICK PLATE
KVA	KILOVOLT AMPERE
KW	KILOWATT
KWY	KEYWAY

L	LENGTH
LAB	LABORATORY
LAV	LAVATORY
LB	POUND
LF	LINEAR FOOT
LFST	LIFT STATION
LIN	LINEAL
LN	LANE
LOC	LOCATION
LONG	LONGITUDINAL
LP	LOW PRESSURE
LPT	LOW POINT
LRG	LARGE
LS	LONG SLEEVE / LUMP SUM
LT	LEFT
LVL	LEVEL
LWL	LOW WATER LINE
MAN	MANUAL
MAT	MATERIAL
MAX	MAXIMUM
MCC	MOTOR CONTROL CENTER
MCP	MASTER CONTROL PANEL
MECH	MECHANICAL
MET	METAL
MFR	MANUFACTURER
MGD	MILLION GALLONS PER DAY
MH	MANHOLE
MIN	MINIMUM
MIPT	MALE IRON PIPE THREAD
MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT
MON	MONUMENT / MONOLITHIC
MOT	MOTOR
MP	MILEPOST
MSL	MEAN SEAL LEVEL
MTD	MOUNTED
NA	NOT APPLICABLE
NC	NORMALLY CLOSED
NF	NEAR FACE
NIC	NOT IN CONTRACT
NO / NO.	NORMALLY OPEN / NUMBER
NOM	NOMINAL
NORM	NORMAL
NRS	NON-RISING STEM
NTS	NOT TO SCALE
O TO O	OUT TO OUT
OC	ON CENTER
OD	OUTSIDE DIAMETER
ODOT	OREGON DEPARTMENT OF TRANSPORTATION
OF	OVERFLOW / OUTSIDE FACE
OPNG	OPENING
OPP	OPPOSITE
ORIG	ORIGINAL
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
OVHD	OVERHEAD
P&ID	PROCESS & INSTRUMENTATION DIAGRAM
PC	POINT OF CURVE
PCC	POINT OF COMPOUND CURVE
PCVC	POINT OF CURVATURE ON VERTICAL CURVE
PE	PLAIN END
PERF	PERFORATED
PERM	PERMANENT
PERP	PERPENDICULAR
PG	PRESSURE GAUGE
PGE	PORTLAND GENERAL ELECTRIC
PH	PIPE HANGER
PI	POINT OF INTERSECTION
PIVC	POINT OF INTERSECTION ON VERTICAL CURVE
PL OR P/L	PROPERTY LINE / PLATE / PLASTIC
PLBG	PLUMBING
PNL	PANEL
POC	POINT OF CURVATURE
POLY	POLYETHYLENE
PP	POWER POLE
PRC	POINT OF REVERSE CURVATURE
PRCST	PRECAST
PREP	PREPARATION
PRESS	PRESSURE
PRKG	PARKING
PROP	PROPERTY
PRV	PRESSURE REDUCING VALVE

PS	PUMP STATION
PSIG	POUNDS PER SQUARE INCH GAUGE
PSL	PIPE SLEEVE
PSPT	PIPE SUPPORT
PT	POINT OF TANGENCY
PTVC	POINT OF TANGENCY ON VERTICAL CURVE
PV	PLUG VALVE
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
PWR	POWER
QTY	QUANTITY
RAD	RADIUS
RC	REINFORCED CONCRETE
RCP	REINFORCED CONCRETE PIPE
RD	ROAD / ROOF DRAIN
RDCR	REDUCER
REF	REFERENCE
REINF	REINFORCE(D)(ING)(MENT)
REQ'D	REQUIRED
RESTR	RESTRAINED
RFC	RESTRAINED FLANGE COUPLING ADAPTER
RM	ROOM
RND	ROUND
RO	ROUGH OPENING
R/W	RIGHT-OF-WAY
RBPB	REDUCED PRESSURE BACKFLOW PREVENTION
RPM	REVOLUTIONS PER MINUTE
RR	RAILROAD
RST	REINFORCED STEEL
RT	RIGHT
SALV	SALVAGE
SAN	SANITARY
SC	SOLID CORE
SCHED	SCHEDULE
SD	STORM DRAIN
SDL	SADDLE
SDR	STANDARD DIMENSION RATIO
SECT	SECTION
SHLDR	SHOULDER
SHT	SHEET
SIM	SIMILAR
SLP	SLOPE
SLV	SLEEVE
SOLN	SOLUTION
SP	SOIL PIPE / SEWER PIPE
SPCL	SPECIAL
SPEC(S)	SPECIFICATION(S)
SPG	SPACING
SPL	SPOOL
SPRT	SUPPORT
SQ	SQUARE
SQ FT	SQUARE FOOT
SQ IN	SQUARE INCH
SQ YD	SQUARE YARD
SS	SANITARY SEWER
SSMH	SANITARY SEWER MANHOLE
SST	STAINLESS STEEL
ST	STREET
STA	STATION
STD	STANDARD
STL	STEEL
STOR	STORAGE
STR	STRAIGHT
STRUCT	STRUCTURE / STRUCTURAL
SUBMG	SUBMERGED
SUCT	SUCTION
SV	SOLENOID VALVE
S/W	SIDEWALK
SWD	SIDEWATER DEPTH
SWGR	SWITCH GEAR
SYMM	SYMMETRICAL
SYS	SYSTEM
T OR TEL	TELEPHONE
T&B	TOP & BOTTOM
TAN	TANGENCY
TB	THRUST BLOCK
TBM	TEMPORARY BENCHMARK
TC	TOP OF CONCRETE / TOP OF CURB
TCE	TEMPORARY CONSTRUCTION EASEMENT
TDH	TOTAL DYNAMIC HEAD
TEMP	TEMPERATURE / TEMPORARY
T&G	TONGUE & GROOVE
THK	THICK / THICKNESS

THRD	THREAD (ED)
THRU	THROUGH
TP	TEST PIT / TOP OF PAVEMENT / TURNING POINT
TRANS	TRANSITION
TSP	TRI-SODIUM PHOSPHATE
TST	TOP OF STEEL
TW	TOP OF WALL
TYP	TYPICAL
UG	UNDERGROUND
UH	UNIT HEATER
UN	UNION
UON	UNLESS OTHERWISE NOTED
USGS	UNITED STATES GEOLOGIC SURVEY
V	VENT / VOLT
VAC	VACUUM
VB	VACUUM BREAKER
VBOX	VALVE BOX
VC	VERTICAL CURVE
VERT	VERTICAL
VFD	VARIABLE FREQUENCY DRIVE
VOL	VOLUME
VCP	VITRIFIED CLAY PIPE
VTR	VENT THROUGH ROOF
W	WATER
W/	WITH
W/IN	WITHIN
W/O	WITHOUT
W/W	WALL TO WALL
WD	WOOD
WF	WIDE FLANGE
WH	WATER HEATER
WI	WROUGHT IRON
WM	WATER METER
WP	WORKING POINT / WATERPROOFING
WS	WATER SERVICE
WSDOT	WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
WT	WEIGHT
WTP	WATER TREATMENT PLANT
WTRT	WATERTIGHT
WWF	WELDED WIRE FABRIC
WWTF	WASTEWATER TREATMENT FACILITY
WWTP	WASTEWATER TREATMENT PLANT
X SECT	CROSS SECTION
XFMR	TRANSFORMER
YD	YARD DRAIN / YARD
YH	YARD HYDRANT
YR	YEAR
ZN	ZINC

NO.	DATE	BY	REVISION

NOTICE

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

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CAS DRAWN

EPK CHECKED

RENEWS 6-30-23

CITY OF WOODBURN I-5  
PUMP STATION AND FORCE MAIN UPGRADES

ABBREVIATIONS

PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: JUNE 2021

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G:\PDX\_Projects\19\2469 - Woodburn I-5 PS & FM - Design\CAD\Sheets\19-2469-OR-GEN.dwg G-5 7/2/2021 10:55 AM CATHERINE.SOTO 23.0s (LMS Tech)

## PIPE & FITTING SYMBOLS

PLANT	SCHEMATIC	
		WELDED JOINT
		FLANGED JOINT
		GROOVED END JOINT
		MECHANICAL JOINT
		PUSH-ON JOINT (RUBBER GASKET)
		FLANGED COUPLING ADAPTER
		DOUBLE BALL FLEXIBLE EXTENSION COUPLING
		FLEXIBLE COUPLING W/ THRUST RING
		90° BEND UP
		90° BEND DOWN
		TEE UP
		TEE DOWN
		LATERAL UP
		LATERAL DOWN
		CONCENTRIC REDUCER
		ECCENTRIC REDUCER
		UNION
		BLIND FLANGE
		CAP
		LONG SLEEVE
		FLEXIBLE COUPLING
		FITTING (45°)

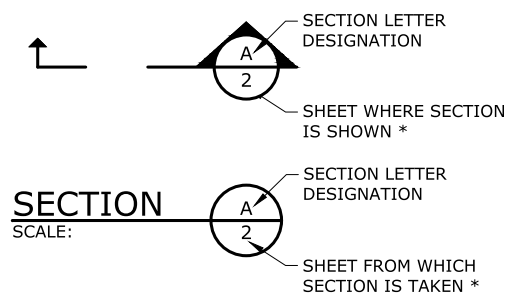
PLANT	SCHEMATIC	
		BUTTERFLY VALVE
		GATE VALVE
		GLOBE VALVE
		BALL VALVE
		BALANCING VALVE
		PLUG VALVE (TOP)
		PLUG VALVE (SIDE)
		3-WAY PLUG VALVE
		SWING CHECK VALVE
		CHECK VALVE
		DOUBLE CHECK ASSEMBLY
		BALL SWING CHECK
		SILENT CHECK VALVE
		PRESSURE REDUCING VALVE
		ALTITUDE CONTROL VALVE
		SOLENOID VALVE
		RELIEF VALVE
		NEEDLE VALVE
		HOSE BIBB (SIDE)
		REDUCED PRESSURE BACKFLOW PREVENTER W/ GATE VALVES
		HOSE BIBB (TOP)

## TOPOGRAPHIC LEGEND

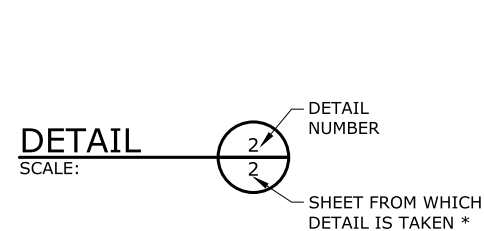
	EXISTING	PROPOSED
WATERLINE	--- W ---	--- 12"DI W ---
ELECTRICITY	--- E ---	--- E ---
GAS	--- G ---	--- 4"G ---
FIBER OPTIC	--- FO ---	--- 2"FO ---
TELEPHONE/TELEMETRY	--- T ---	--- T ---
CABLE TELEVISION	--- CATV ---	--- CATV ---
SANITARY SEWER LINE	--- 8"SS ---	--- 8"SS ---
SANITARY SEWER FORCE MAIN	--- SS ---	--- 6"FM ---
ABOVE GRADE FORCE MAIN		--- 6"FM ---
STORM DRAIN	--- 8"SD ---	--- 8"SD ---
ABANDON PIPE		+++++
DRAINAGE DITCH	-----	-----
BARBWIRE FENCE	--- X X X ---	--- X X X ---
CHAIN LINK FENCE	--- O O O ---	--- O O O ---
SEDIMENT FENCE		--- □ □ ---
STRAW WATTLES	~~~~~	~~~~~
CENTERLINE	-----	-----
EASEMENT/PROPERTY LINE	-----	-----
RIGHT-OF-WAY	-----	-----
EDGE OF PAVEMENT/AC	-----	-----
EDGE OF GRAVEL	-----	-----
CURB	=====	=====
SIDEWALK	-----	-----
STRUCTURE OR FACILITY	=====	=====
CONTOUR MINOR	-----	-----
CONTOUR MAJOR	----- 200 -----	----- 200 -----
MANHOLE	○	○
CLEAN-OUT	○	○
CATCH BASIN/FIELD INLET	□	□
THRUST BLOCK	△	△
AIR RELEASE ASSEMBLY	○	○
FIRE HYDRANT ASSEMBLY	○	○
WATER METER	⊕	⊕
REMOVABLE BOLLARD	○	○
BOLLARD	●	●
PULL BOX/JUNCTION BOX	□	□
UTILITY POLE	○	○
GUY WIRE	└	└
LIGHT POST	★	★
MAILBOX	□	□
SIGN	└	└
BENCHMARK	⊕	⊕
TREE DECIDUOUS	☼	☼
TREE CONIFEROUS	☼	☼
TREE TO BE REMOVED	☼	☼
SURFACE ELEVATION	+ 176.63	+ 176.63

## SECTION AND DETAIL DESIGNATIONS

### SECTION DESIGNATIONS



### DETAIL DESIGNATIONS



\* NOTE: IF PLAN AND SECTION FOR DETAIL CALL-OUT AND DETAIL ARE SHOWN ON THE SAME DRAWING, DRAWING NUMBER IS REPLACED WITH A DASH.

## MISCELLANEOUS PIPING SYMBOLS

	STRAINER
	SIGHT GLASS
	PRESSURE GAUGE W/ COCK
	PRESSURE SWITCH W/ COCK
	METER
	SLIP-ON JOINT PIPE
	RESTRAINED JOINT PIPE

NO.	DATE	BY	REVISION

NOTICE

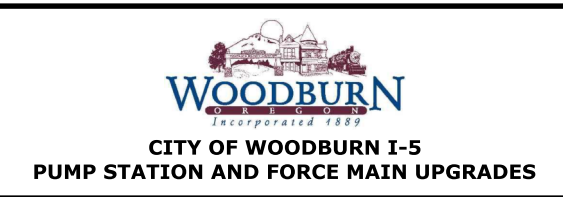
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CAS DRAWN

EPK CHECKED



PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: JUNE 2021

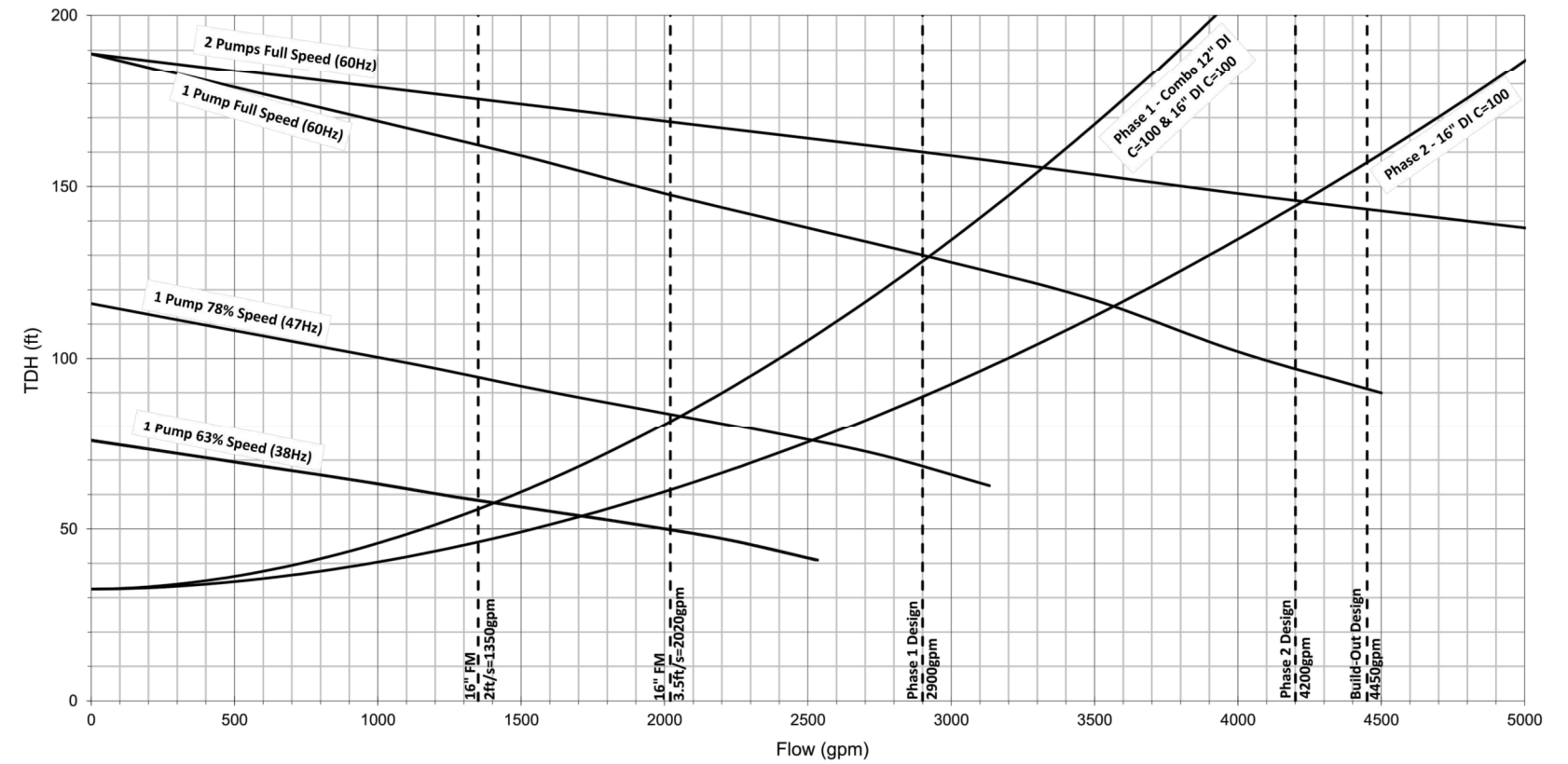
SHEET G-5 5 of 83

## I-5 PUMP STATION AND FORCE MAIN DESIGN DATA TABLE

PUMP STATION	
LOCATION	598 STACY ALLISON WAY, WOODBURN, OR 97071
TYPE (INITIAL INSTALLATION)	DUPLEX SUBMERSIBLE SEWAGE PUMP STATION WITH VARIABLE SPEED DRIVES
TYPE (BUILD-OUT INSTALLATION)	TRIPLEX SUBMERSIBLE SEWAGE PUMP STATION WITH VARIABLE SPEED DRIVES
FIRM CAPACITY OF PUMP STATION (INITIAL INSTALLATION)-PHASE 1	2,900 GPM AT 128 FEET TDH
FIRM CAPACITY OF PUMP STATION -PHASE 2	4,200 GPM AT 144 FEET TDH
FIRM CAPACITY OF PUMP STATION (BUILD-OUT INSTALLATION)	4,450 GPM AT 157 FEET TDH (NEW PUMPS WILL BE REQUIRED)
MOTOR HORSEPOWER, HP	140 HP
PUMP STARTS (INFLOW AT HALF MAX PUMP CAPACITY)	5 TOTAL STARTS PER HOUR
WET WELL OPERATIONAL VOLUME	5285 GALLONS (PUMPS OFF TO LEAD PUMP ON)
LEVEL CONTROL TYPE	PRESSURE TRANSDUCER WITH MULTITRODE BACKUP AND OVERFLOW FLOAT
ALARM TELEMETRY TYPE	RADIO WITH CELLULAR BACKUP
STANDBY POWER TYPE-PHASE 1	200 KW PERMANENT DIESEL STANDBY GENERATOR CONNECTED TO AN AUTOMATIC TRANSFER SWITCH
STANDBY POWER TYPE (BUILD-OUT/PHASE 2 INSTALLATION)	300 KW PERMANENT DIESEL STANDBY GENERATOR CONNECTED TO AN AUTOMATIC TRANSFER SWITCH
FUEL TANK CAPACITY	600 GAL TANK SIZED FOR 24 HOURS OF CONTINUOUS OPERATION AT FULL LOAD
OVERFLOW POINT	SSMH LOCATED APPROXIMATELY 500 FEET WEST OF PUMP STATION SITE ACROSS INTERSTATE 5
OVERFLOW ELEVATION	174.65
TIME TO OVERFLOW	7.7 HRS @ EXIST ADWF=673 GPM
EPA RELIABILITY CLASS	1
AIR RELEASE VALVES	2-2" CARV AND 1-4" CARV AT INITIAL INSTALLATION; 3-2" CARV AND 1-4" CARV AT BUILD-OUT INSTALLATION
100-YR FLOOD ELEVATION	166.00

FORCE MAIN	
TYPE AND LENGTH (INITIAL INSTALLATION)	6350 FT OF TOTAL FORCE MAIN LENGTH COMPRISED OF: 3230 FT OF 16-INCH DI & 3120 FT OF EXIST 12-INCH DI
TYPE AND LENGTH (BUILD-OUT/PHASE 2 INSTALLATION)	6350 FT OF 16-INCH DI
PROFILE DESCRIPTION	THE 12-INCH FORCE MAIN LEAVES PUMP STATION AND ASCENDS FOR 550 FT TO A LOCAL HIGH POINT AND THE FIRST CARV. THE FM THEN CONTINUES FLAT FOR APPROXIMATELY 700 FT UNTIL CONNECTION POINT WITH 16-INCH FORCE MAIN SW OF THE INTERSECTION OF W HAYES ST AND HARVARD DR. THE FM THEN DESCENDS FOR APPROXIMATELY 540 FEET BEFORE ASCENDING FOR 540 FEET TO A LOCAL HIGH POINT AND THE SECOND CARV. THE FM THEN DESCENDS FOR 650 FEET BEFORE ASCENDING 530 FEET TO A LOCAL HIGH POINT AND THE THIRD CARV. THE FM THEN DESCENDS FOR 490 FEET BEFORE ASCENDING FOR 500 FEET TO A LOCAL HIGH POINT, THE FOURTH CARV AND THE CONNECTION POINT WITH 12-INCH FM 300 FT EAST OF THE INTERSECTION OF W LINCOLN ST AND N CASCADE DR. THE FM CONTINUES FLAT FOR APPROXIMATELY 2000 FT TO THE DISCHARGE MANHOLE WITH THE FIFTH CARV INSTALLED APPROXIMATELY HALFWAY THROUGH THE FLAT SECTION.
AIR RELEASE VALVES	5-4" CARV STATIONS
AVERAGE FORCE MAIN DETENTION TIME	1.52 HRS @ EXIST ADWF=673 GPM
DISCHARGE MANHOLE LOCATION	APPROXIMATELY 150 FT EAST OF THE INTERSECTION OF HIGHWAY 214 AND ASTOR WAY

## SYSTEM HEAD AND PUMP CURVES

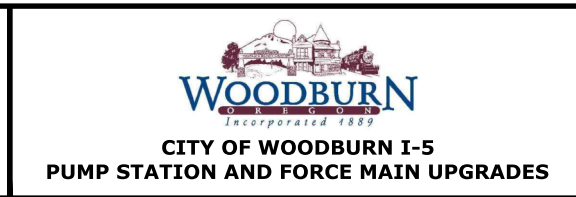
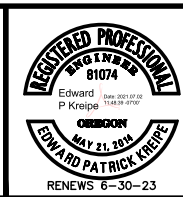


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NO.	DATE	BY	REVISION

NOTICE  
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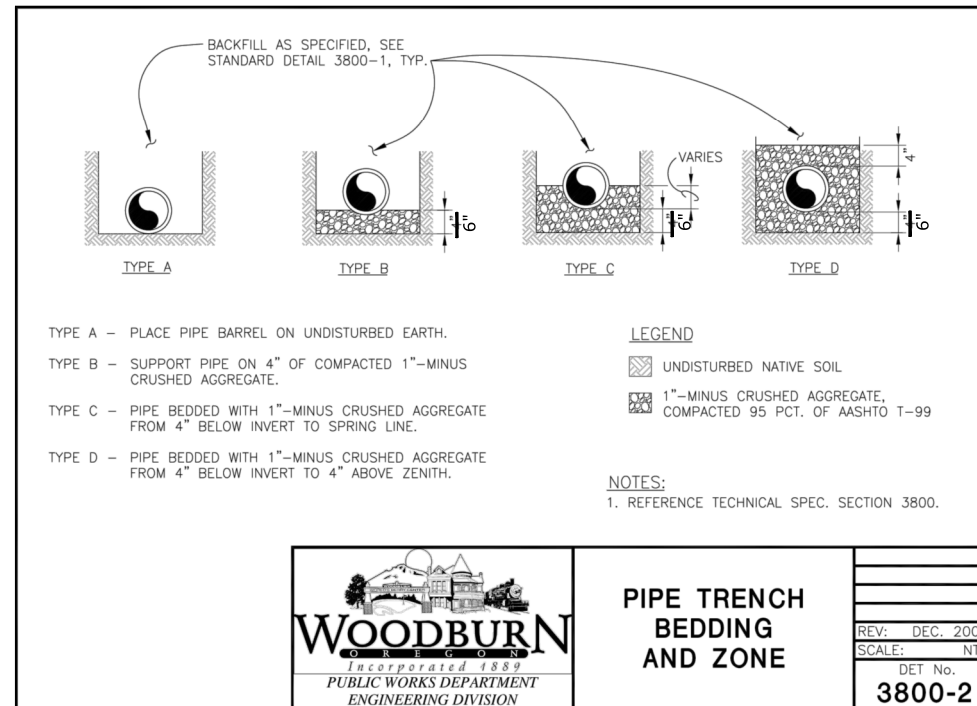
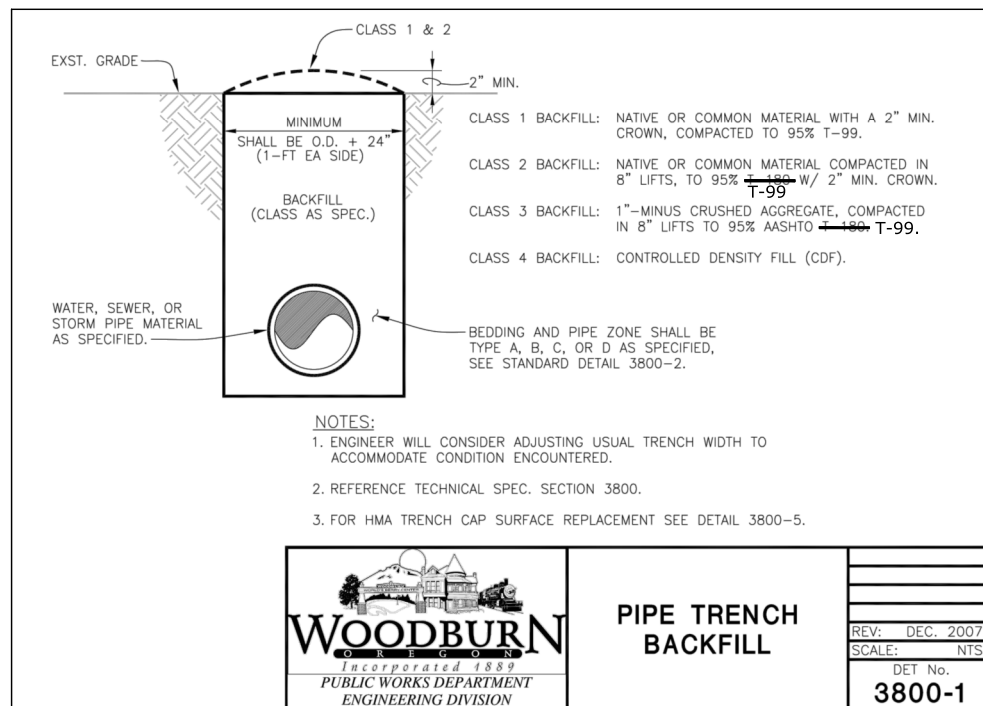
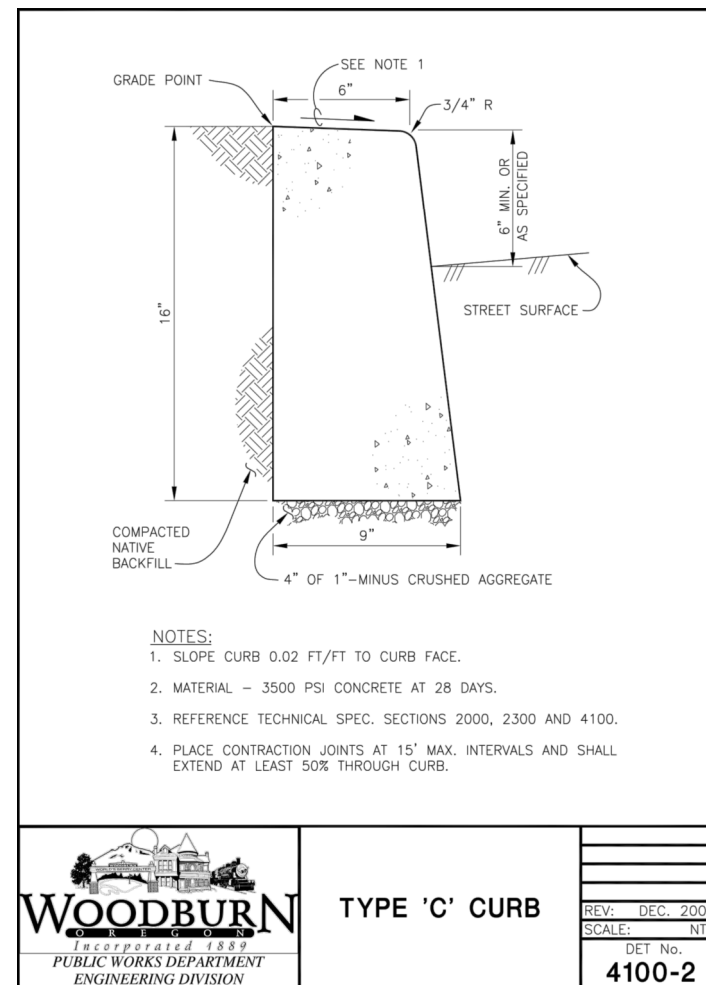
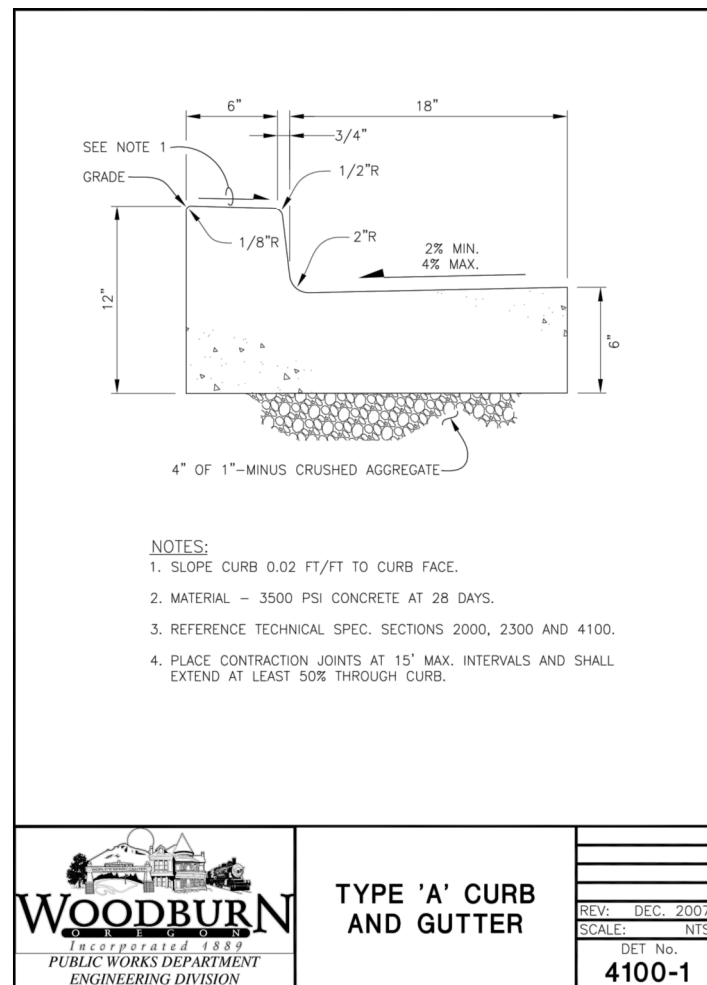
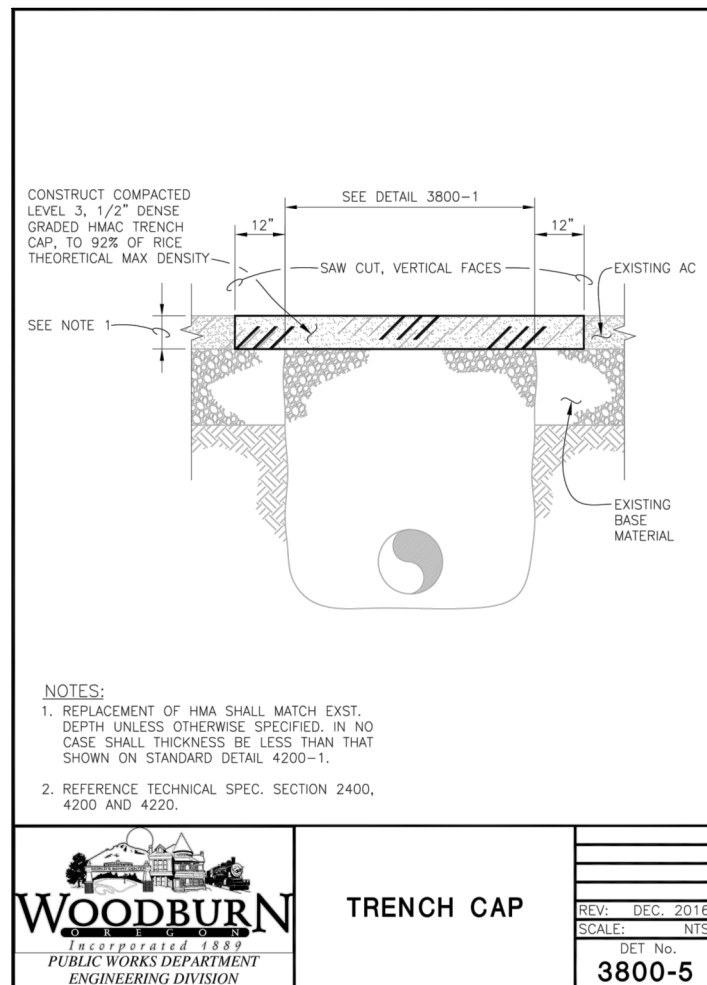
CAS  
DESIGNED  
EJJ  
DRAWN  
EPK  
CHECKED



DESIGN DATA SUMMARY TABLE AND SYSTEM HEAD- CAPACITY CURVES			
PROJECT NO.:	19-2469.303	SCALE:	AS SHOWN
DATE:	JUNE 2021		

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NOTICE

0 1/2 1

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CAS DRAWN

EPK CHECKED

REGISTERED PROFESSIONAL ENGINEER

81074

Edward P. Kreipe

OR

EDWARD PATRICK KREIPE

MAY 21, 2014

RENEWS 6-30-23

**murraysmith**

**WOODBURN**  
 Incorporated 1889  
 CITY OF WOODBURN I-5  
 PUMP STATION AND FORCE MAIN UPGRADES

**GENERAL DETAILS - 1**

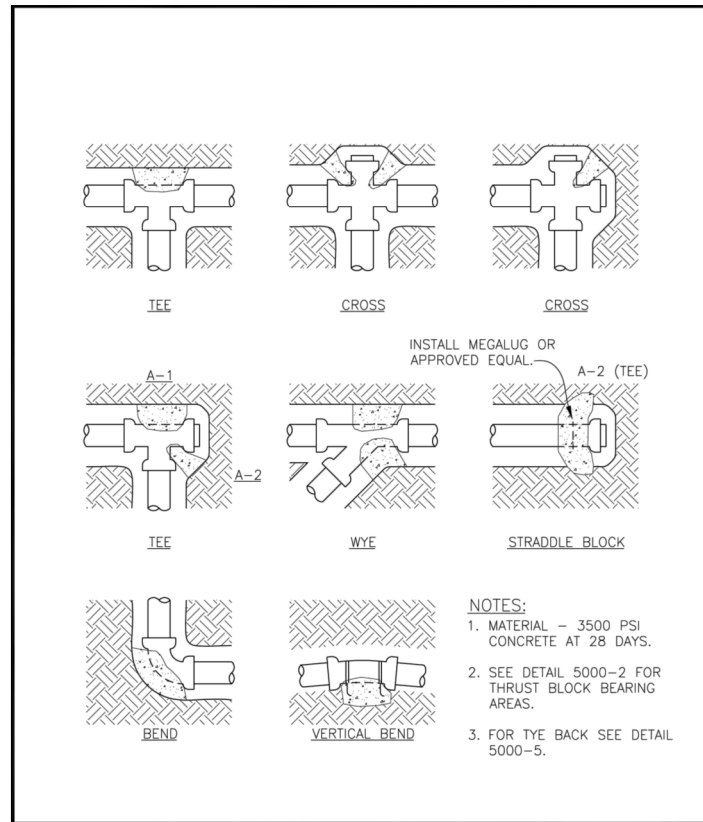
PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: JUNE 2021

SHEET

**GD-1**

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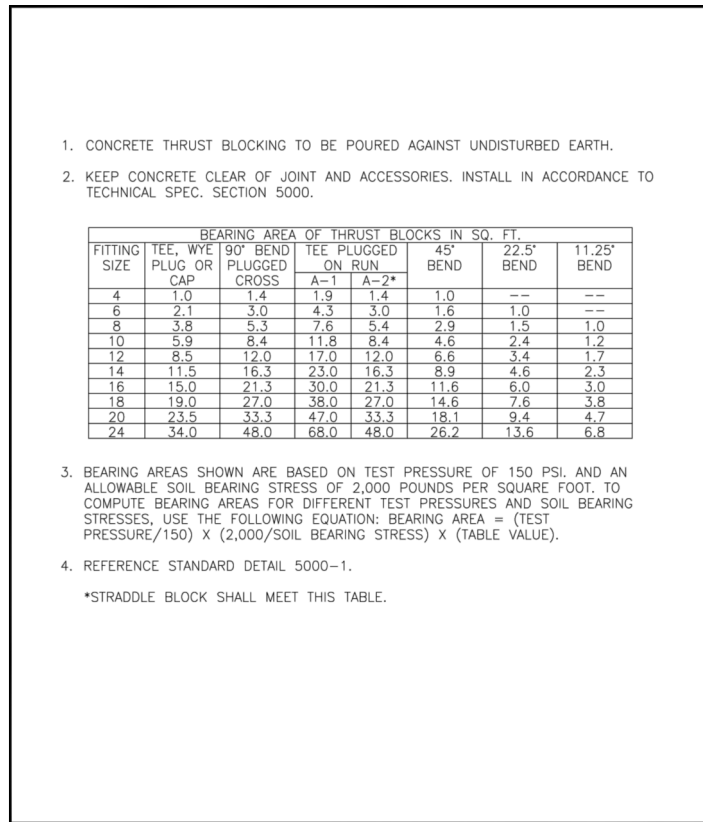


- NOTES:**
1. MATERIAL - 3500 PSI CONCRETE AT 28 DAYS.
  2. SEE DETAIL 5000-2 FOR THRUST BLOCK BEARING AREAS.
  3. FOR TIE BACK SEE DETAIL 5000-5.

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Incorporated 1889  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION

**THRUST  
BLOCKING**

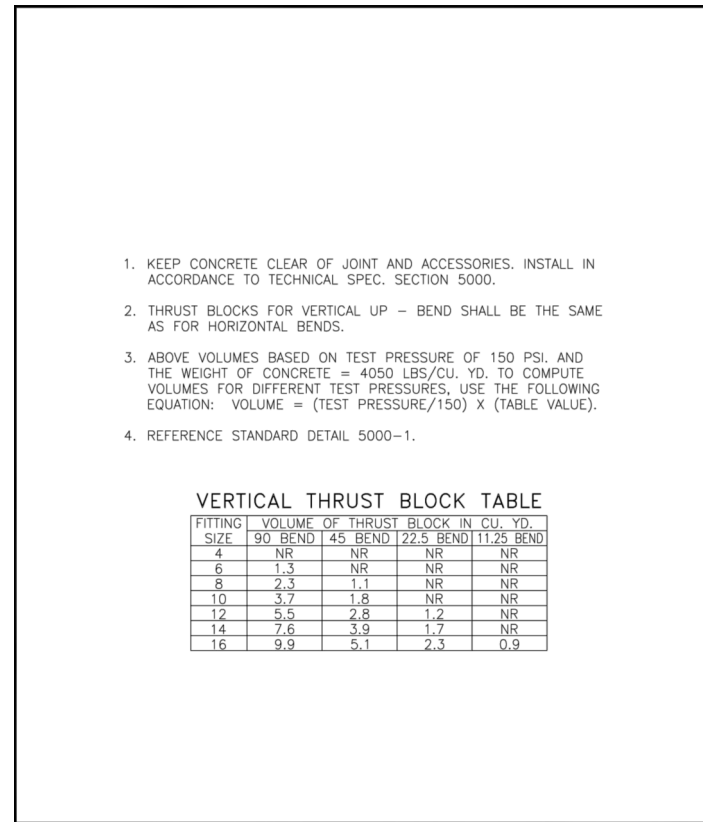
REV: DEC. 2007  
SCALE: NTS  
DET No.  
**5000-1**



**WOODBURN**  
Incorporated 1889  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION

**HORIZONTAL  
THRUST BLOCK  
TABLES**

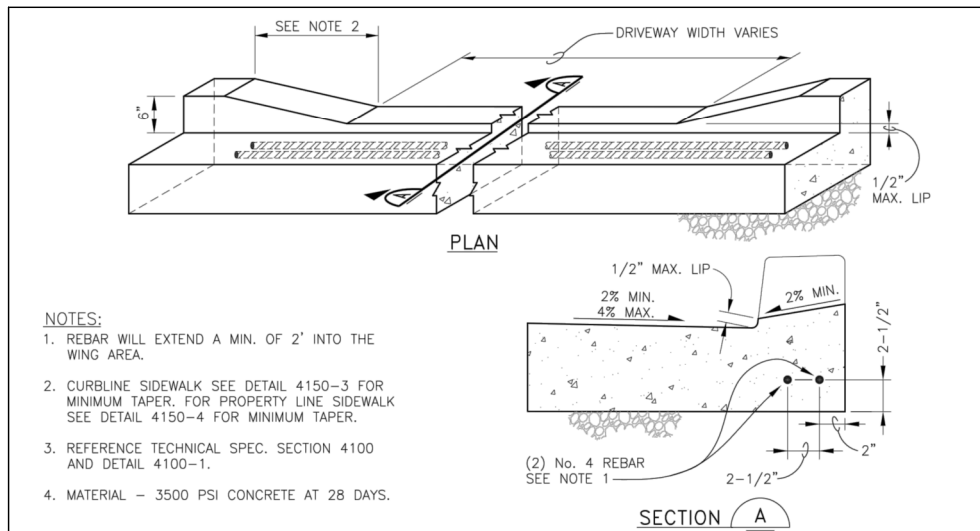
REV: DEC. 2007  
SCALE: NTS  
DET No.  
**5000-2**



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**VERTICAL BEND  
THRUST BLOCK  
TABLES**

REV: DEC. 2007  
SCALE: NTS  
DET No.  
**5000-3**

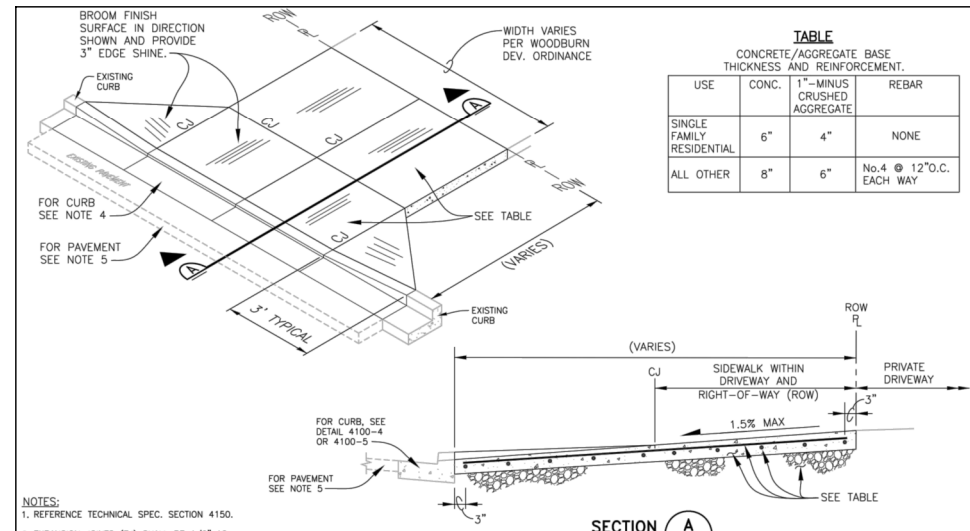


- NOTES:**
1. REBAR WILL EXTEND A MIN. OF 2' INTO THE WING AREA.
  2. CURBLINE SIDEWALK SEE DETAIL 4150-3 FOR MINIMUM TAPER. FOR PROPERTY LINE SIDEWALK SEE DETAIL 4150-4 FOR MINIMUM TAPER.
  3. REFERENCE TECHNICAL SPEC. SECTION 4100 AND DETAIL 4100-1.
  4. MATERIAL - 3500 PSI CONCRETE AT 28 DAYS.

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ENGINEERING DIVISION

**TYPE 'A' CURB  
AT DRIVEWAY**

REV: DEC. 2007  
SCALE: NTS  
DET No.  
**4100-4**



- NOTES:**
1. REFERENCE TECHNICAL SPEC. SECTION 4150.
  2. EXPANSION JOINTS (EJ) SHALL BE 1/2" AC IMPREGIATED JOINT FILLER AT ALL DISSIMILAR VERTICAL SURFACES.
  3. MATERIAL - 3500 PSI CONCRETE AT 28 DAYS.
  4. CURBS WITH CRACKING, SETTLEMENT, DRAINAGE PROBLEMS OR SIGNIFICANT DETERIORATION SHALL BE REPLACED UNLESS APPROVED BY ENGINEERING DEPARTMENT.
  5. ASPHALT STREETS SHALL BE REPAIRED TO FIX ANY OVERCUTS OR DAMAGE CAUSED BY PLACING CURB FORMS. REPAIR SHALL BE A MINIMUM OF 1FT WIDE AND THE ENTIRE LENGTH OF THE CURB REPLACEMENT AREA. ALL LIMITS SHALL BE CLEANLY SAW CUT.

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ENGINEERING DIVISION

**DRIVEWAY  
APPROACH**

REV: AUG. 2020  
SCALE: NTS  
DET No.  
**4150-1**

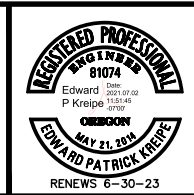
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**NOTICE**

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CAS DESIGNED  
CAS DRAWN  
EPK CHECKED



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CITY OF WOODBURN I-5  
PUMP STATION AND FORCE MAIN UPGRADES

**GENERAL DETAILS - 2**

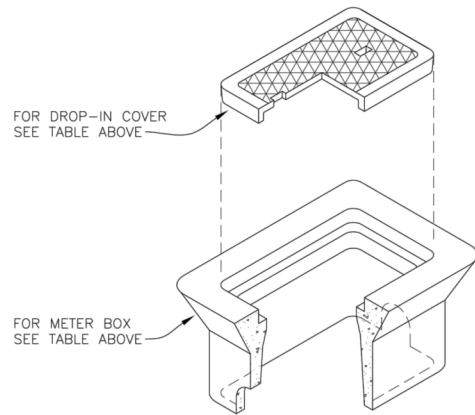
PROJECT NO.: 19-2469.303   SCALE: AS SHOWN   DATE: JUNE 2021

SHEET  
**GD-2**  
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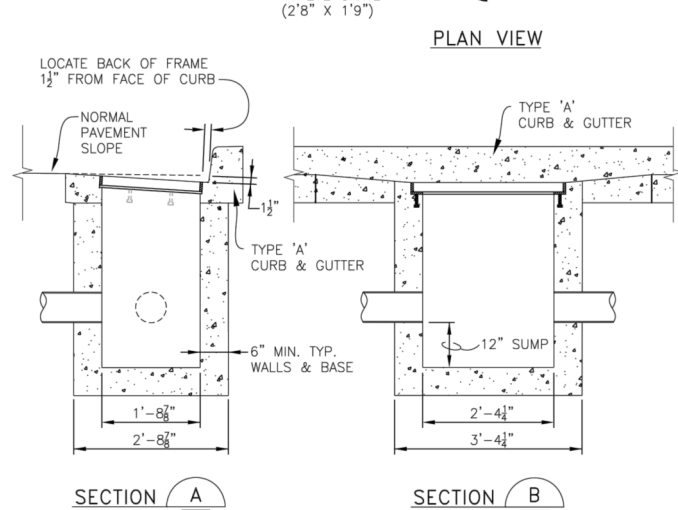
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BROOKS PRODUCTS		
DIA.	COVER	METER BOX
1"	No. 37-T CAST IRON COVER*	No. 37 MB-BODY*
2"	No. 65-TF STEEL COVER (FLUSH)*	No. 65 MB-BODY*
* OR APPROVED EQUAL		

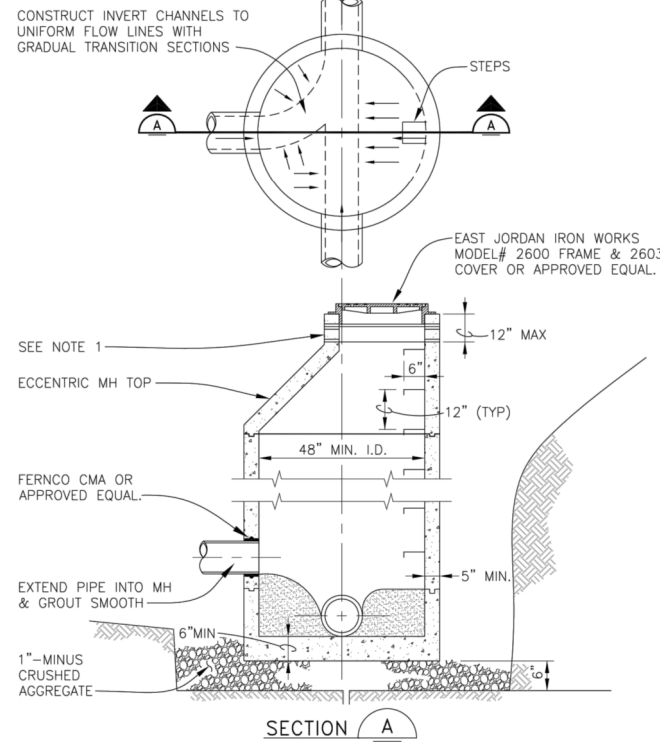


<p><b>WOODBURN</b> Incorporated 1889 PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION</p>	<p><b>METER BOX</b></p>	REV: FEB 2020
		SCALE: NTS
DET No.		<b>5050-1</b>

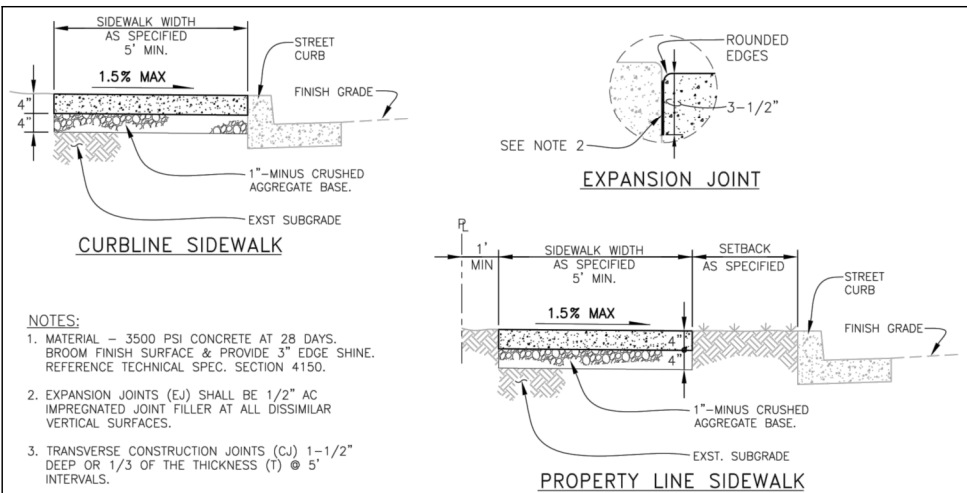
- NOTES:**
1. MATERIAL - 3500 PSI CONCRETE AT 28 DAYS.
  2. PRECAST INLETS MUST BE REVIEWED AND APPROVED BY PUBLIC WORKS PRIOR TO INSTALLATION.
  3. CAST IN PLACE SHALL BE CONSTRUCTED AT THE MINIMUM DIMENSIONS SHOWN.
  4. CONCRETE INLETS SHALL CONFORM TO ODOT STD DRAWING RD364.



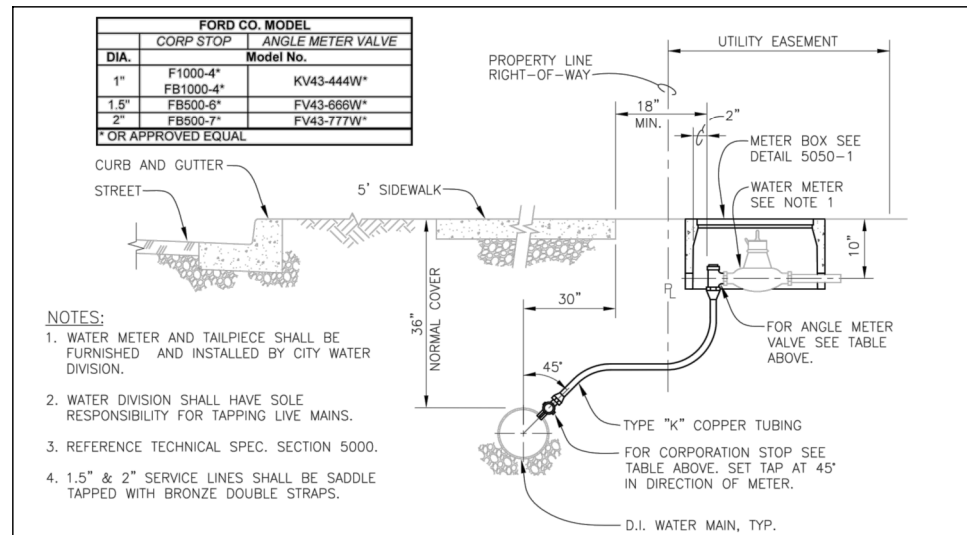
<p><b>WOODBURN</b> Incorporated 1889 PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION</p>	<p><b>INLET</b></p>	REV: AUG. 2009
		SCALE: NTS
DET No.		<b>7100-4</b>



<p><b>WOODBURN</b> Incorporated 1889 PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION</p>	<p><b>STORM SEWER MANHOLE</b></p>	REV: DEC. 2007
		SCALE: NTS
DET No.		<b>7500-1</b>



<p><b>WOODBURN</b> Incorporated 1889 PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION</p>	<p><b>SIDEWALKS</b></p>	REV: JULY 2018
		SCALE: NTS
DET No.		<b>4150-8</b>



<p><b>WOODBURN</b> Incorporated 1889 PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION</p>	<p><b>WATER SERVICE CONNECTION</b></p>	REV: MAY 2011
		SCALE: NTS
DET No.		<b>5000-4</b>

NO.	DATE	BY	REVISION

**NOTICE**

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

CAS DESIGNED  
CAS DRAWN  
EPK CHECKED

**REGISTERED PROFESSIONAL ENGINEER**

81074

Edward P. Kreipe

**EDWARD PATRICK KREIPE**

MAY 21, 2018

RENEWS 6-30-23

**murraysmith**

**WOODBURN**  
Incorporated 1889

**CITY OF WOODBURN I-5 PUMP STATION AND FORCE MAIN UPGRADES**

**GENERAL DETAILS - 3**

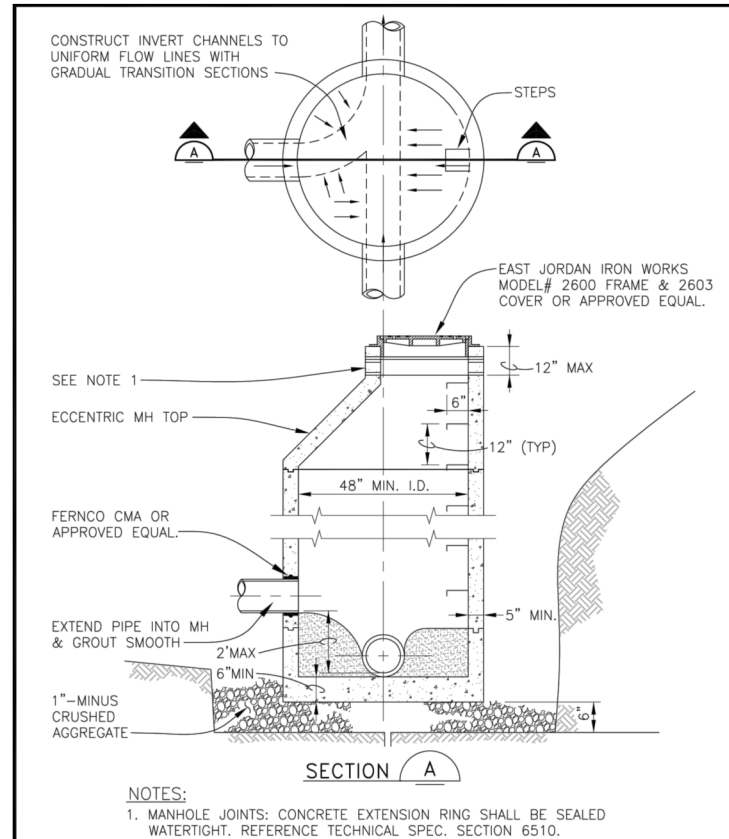
PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: JUNE 2021

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**GD-3**

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NOTES:  
1. MANHOLE JOINTS: CONCRETE EXTENSION RING SHALL BE SEALED WATERTIGHT. REFERENCE TECHNICAL SPEC. SECTION 6510.

 <p><b>WOODBURN</b> ORIGON Incorporated 1889 PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION</p>	<p><b>SANITARY SEWER MANHOLE</b></p>	REV: DEC. 2007
		SCALE: NTS
		DET No. 6510-3

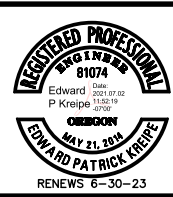
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IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

CAS DESIGNED  
CAS DRAWN  
EPK CHECKED



  
CITY OF WOODBURN I-5  
PUMP STATION AND FORCE MAIN UPGRADES

GENERAL DETAILS - 4			
PROJECT NO.: 19-2469.303	SCALE: AS SHOWN	DATE: JUNE 2021	

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GD-4  
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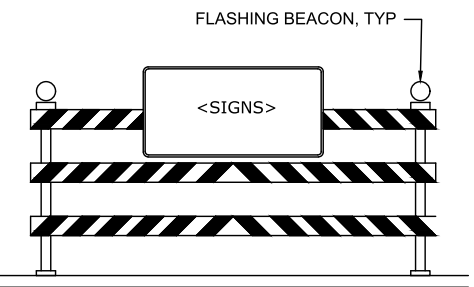
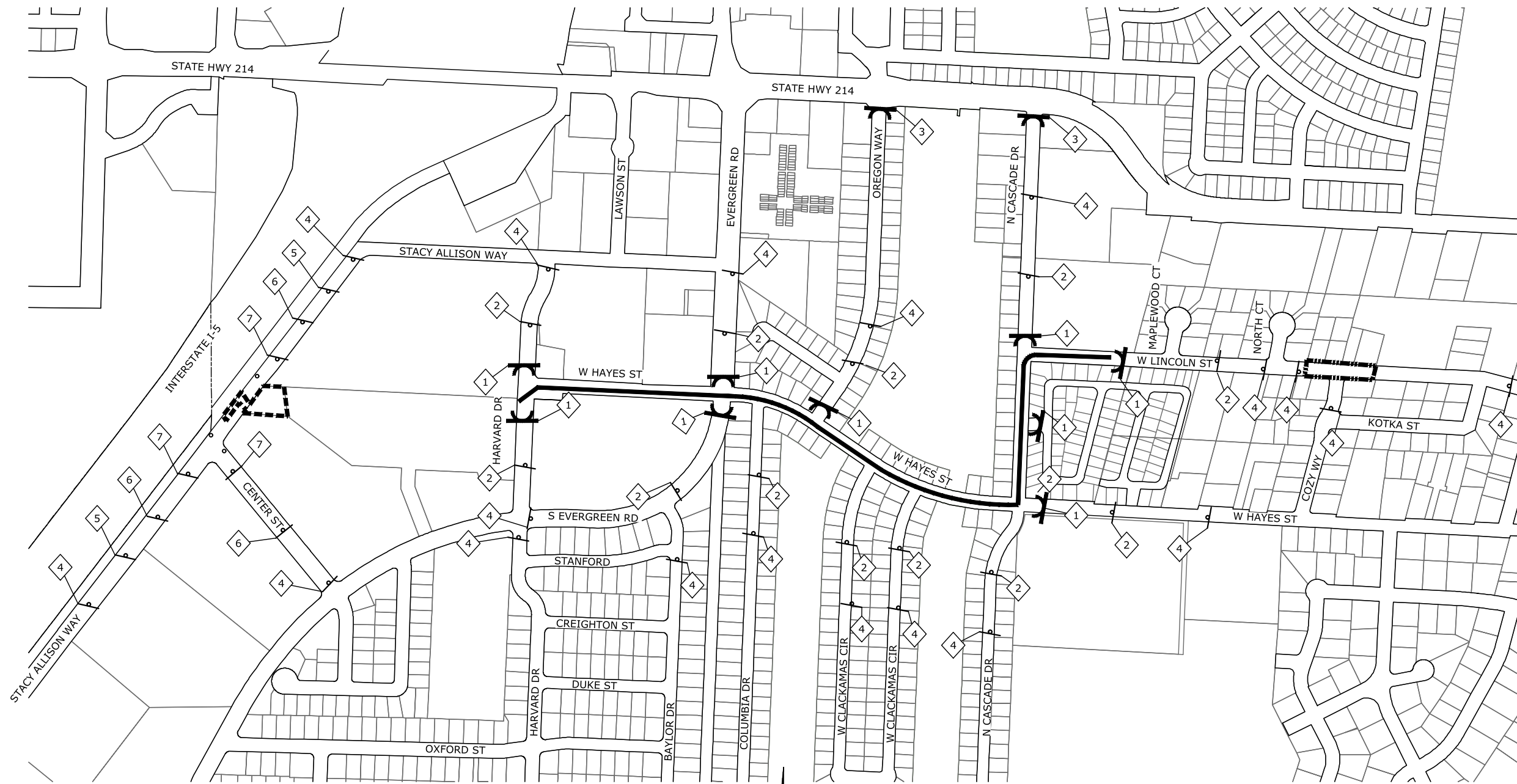
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**NOTES:**

1. THESE TRAFFIC CONTROL PLANS ARE INTENDED TO SHOW THE ANTICIPATED TRAFFIC CONTROL CONCEPTS AND ARE NOT INTENDED TO BE COMPLETE TRAFFIC CONTROL PLANS. THE CONTRACTOR SHALL SUBMIT TRAFFIC CONTROL PLANS THAT ARE PREPARED BY THEIR TRAFFIC CONTROL SUPERVISOR.
2. ROAD CLOSURE SIGN SHALL BE COVERED AND MOVED OUT OF THE TRAVEL LANE WHEN WORK IS NOT OCCURRING ON THAT STREET, EXCEPT FOR W HAYES ST THIS STREET MAY REMAIN CLOSED FOR A PERIOD OF ONE WEEK, BUT THEN MUST BE REOPENED. NO ROAD CLOSURES ARE ALLOWED DURING WEEKENDS.
3. MAINTAIN ACCESS TO DRIVEWAYS AT ALL TIMES OR COORDINATE BRIEF CLOSURES TO RESIDENTS 48 HOURS IN ADVANCE. DRIVEWAY CLOSURES SHALL NOT EXCEED 2 HOURS.
4. COORDINATE ROAD CLOSURES WITH SCHOOL BUSES, EMERGENCY SERVICES, AND COMMERCIAL VEHICLES SUCH AS DELIVERIES, GARBAGE, AND OTHER CONTRACTORS PER 150.55.
5. CONTRACTOR TO INSTALL PARKING SIGNS AT LEAST 48 HOURS IN ADVANCE OF STREET CLOSURES.

**SIGN LEGEND**

1	ROAD CLOSED LOCAL TRAFFIC ONLY <small>R11-3a 60"x30"</small>	2	ROAD CLOSED AHEAD <small>W 20-3 36"x36"</small>
3	ROAD CLOSED TO THRU TRAFFIC <small>R11-4 60"x30"</small>	4	ROAD WORK AHEAD <small>W 20-1 48"x48"</small>
5	ONE LANE ROAD AHEAD <small>W 20-4 36"x36"</small>	6	BE PREPARED TO STOP <small>W 3-4 48"x48"</small>
7	[Pedestrian Sign] <small>CW 23-2 48"x48"</small>		



**TEMPORARY TYPE 3 BARRICADE**  
SCALE: NTS

**PLAN**  
SCALE: 1"=500'

**LEGEND**

- FM PIPE ZONE
- PUMP STATION WORK ZONE
- ARV RETROFIT AREA
- TEMP TRAFFIC CONTROL SIGN ON TEMP SIGN SUPPORT
- TEMPORARY TYPE 3 BARRICADE, SEE DET THIS SHT
- FLAGGER STATION

NO.	DATE	BY	REVISION

NOTICE

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CAS DESIGNED  
BAW DRAWN  
MLC CHECKED

REGISTERED PROFESSIONAL ENGINEER  
No. 58379  
State of Oregon  
Expires July 21, 2024  
MICHAEL L. CARR

**murraysmith**

**WOODBURN**  
Incorporated 1889  
CITY OF WOODBURN I-5  
PUMP STATION AND FORCE MAIN UPGRADES

**TRAFFIC CONTROL OVERVIEW**

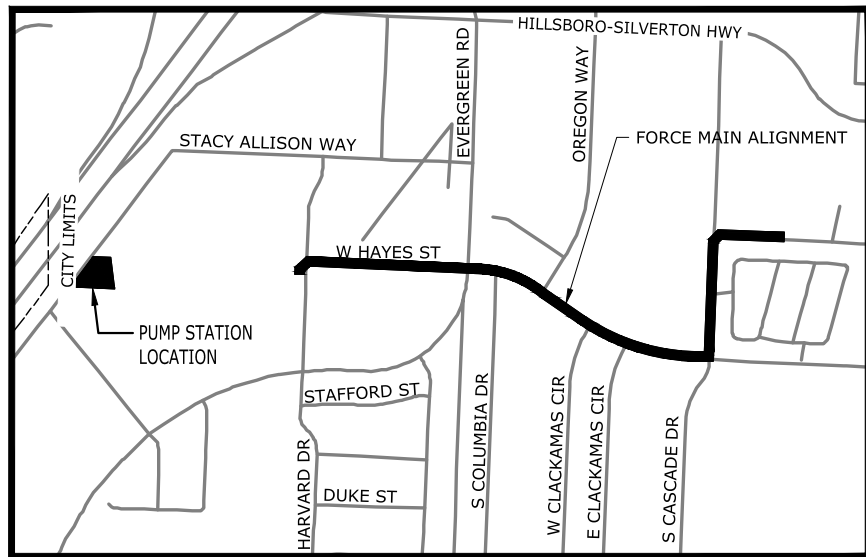
PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: JUNE 2021

SHEET

**TC-1**

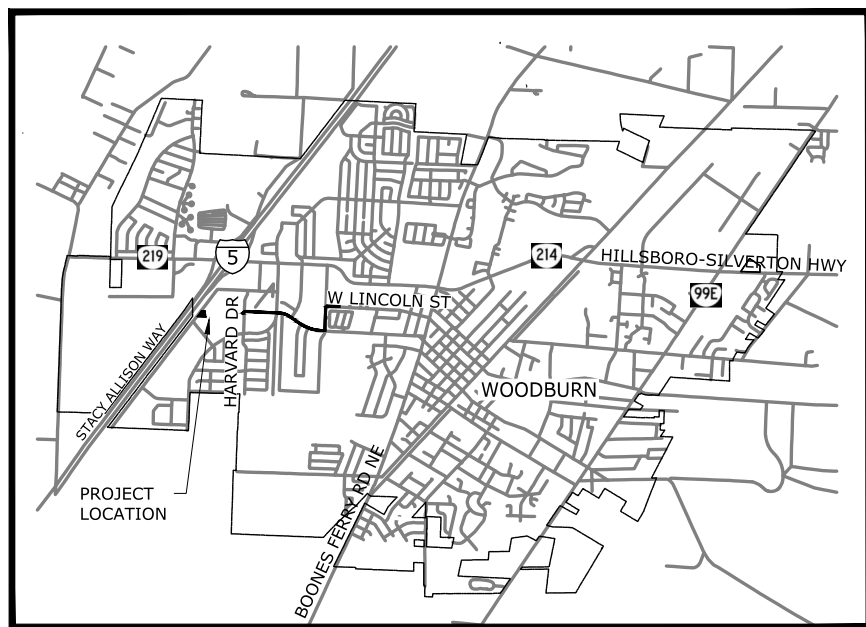
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# EROSION AND SEDIMENT CONTROL PLANS



**SITE MAP**

SCALE: 1"=500'



**VICINITY MAP**

SCALE: 1"=2500'

**PROJECT LOCATION:**

PUMP STATION ADDRESS: 598 STACY ALLISON WAY WOODBURN, OR 97071  
 LAT= 45°8'49"N  
 LONG= 122°52'59"W

**PROPERTY DESCRIPTION:**

TAX LOT NUMBER: 0521W12002301  
 TAX ZONING CODE: CG

**RATIONALE STATEMENT**

A COMPREHENSIVE LIST OF AVAILABLE BEST MANAGEMENT PRACTICES (BMP) OPTIONS BASED ON DEQ'S GUIDANCE MANUAL HAS BEEN REVIEWED TO COMPLETE THIS EROSION AND SEDIMENT CONTROL PLAN. SOME OF THE ABOVE LISTED BMP'S WERE NOT CHOSEN BECAUSE THEY WERE DETERMINED TO NOT EFFECTIVELY MANAGE EROSION PREVENTION AND SEDIMENT CONTROL FOR THIS PROJECT BASED ON SPECIFIC SITE CONDITIONS, INCLUDING SOIL CONDITIONS TOPOGRAPHIC CONSTRAINTS, ACCESSIBILITY TO THE SITE, AND OTHER RELATED CONDITIONS, AS THE PROJECT PROGRESSES AND THERE IS A NEED TO REVISE THE ESC PLAN, AN ACTION PLAN WILL BE SUBMITTED.

INITIAL \_\_\_\_\_

**DEVELOPER NAME**

CITY OF WOODBURN  
 CONTACT: CURTIS STULTZ  
 202 YOUNG STREET  
 WOODBURN, OR 97071  
 PHONE: (503) 982-5268

**PLANNING / ENGINEERING / SURVEYING FIRM**

MURRAYSMITH  
 CONTACT: EDDIE KREIPE, P.E.  
 888 SW 5TH AVE (SUITE 1170)  
 PORTLAND, OR 97204  
 PHONE: (503) 225-9010  
 FAX: (503) 225-9022

**NARRATIVE DESCRIPTIONS**

**EXISTING SITE CONDITIONS**

PARTIALLY DEVELOPED PUMP STATION SITE WITH GRAVEL SURFACE. EXISTING 2 LANE ROADWAY, SIDEWALKS, BIKE LANES/SHOULDER

**DEVELOPED CONDITIONS**

\* FULLY DEVELOPED AND ENCLOSED PUMP STATION SITE AND REPLACEMENT OF PORTION OF EXISTING FORCE MAIN

**NATURE OF CONSTRUCTION ACTIVITY AND ESTIMATED TIME TABLE**

- \* CONSTRUCTION OF PUMP STATION IMPROVEMENT (08/2021 TO 12/2022)
- \* REPLACEMENT OF PORTION OF EXISTING 8-INCH FORCE MAIN WITH NEW 16-INCH SANITARY FORCE MAIN (08/2021 TO 12/2021)

TOTAL SITE AREA = 0.33 ACRES

TOTAL DISTURBED AREA = 0.80 ACRES

**SITE SOIL CLASSIFICATION:**

WOODBURN SILT - ON SITE SOILS HAVE MODERATE TO HIGH EROSION POTENTIAL.

SOIL VARIES FROM RELATIVE SOFT SILTS TO VERY STIFF SILT WITH TRACES OF SAND.

**ATTENTION EXCAVATORS:**

OREGON LAW REQUIRES YOU TO FOLLOW RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH OAR 952-001-0090. YOU MAY OBTAIN COPIES OF THESE RULES FROM THE CENTER BY CALLING 503-232-1987. IF YOU HAVE ANY QUESTIONS ABOUT THE RULES, YOU MAY CONTACT THE CENTER. YOU MUST NOTIFY THE CENTER AT LEAST TWO BUSINESS DAYS, BEFORE COMMENCING AN EXCAVATION. CALL 503-246-6699.

**STANDARD EROSION AND SEDIMENT CONTROL PLAN DRAWING NOTES:**

- HOLD A PRE-CONSTRUCTION MEETING OF PROJECT CONSTRUCTION PERSONNEL THAT INCLUDES THE INSPECTOR TO DISCUSS EROSION AND SEDIMENT CONTROL MEASURES AND CONSTRUCTION LIMITS. (SCHEDULE A.8.C.I.(3))
- ALL INSPECTIONS MUST BE MADE IN ACCORDANCE WITH DEQ 1200-C PERMIT REQUIREMENTS. (SCHEDULE A.12.B AND SCHEDULE 8.1)
- INSPECTION LOGS MUST BE KEPT IN ACCORDANCE WITH DEQ'S 1200-C PERMIT REQUIREMENTS. (SCHEDULE A.1.C AND 8.2)
- RETAIN A COPY OF THE ESCP AND ALL REVISIONS ON SITE AND MAKE IT AVAILABLE ON REQUEST TO DEQ, AGENT, OR THE LOCAL MUNICIPALITY. DURING INACTIVE PERIODS OF GREATER THAN SEVEN (7) CONSECUTIVE CALENDAR DAYS, THE ABOVE RECORDS MUST BE RETAINED BY THE PERMIT REGISTRANT BUT DO NOT NEED TO BE AT THE CONSTRUCTION SITE. (SCHEDULE B.2.C)
- ALL PERMIT REGISTRANTS MUST IMPLEMENT THE ESCP. FAILURE TO IMPLEMENT ANY OF THE CONTROL MEASURES OR PRACTICES DESCRIBED IN THE ESCP IS A VIOLATION OF THE PERMIT. (SCHEDULE A.8.A)
- THE ESCP MUST BE ACCURATE AND REFLECT SITE CONDITIONS. (SCHEDULE A.12.C.1)
- SUBMISSION OF ALL ESCP REVISIONS IS NOT REQUIRED. SUBMITTAL OF THE ESCP REVISIONS IS ONLY UNDER SPECIFIC CONDITIONS. SUBMIT ALL NECESSARY REVISION TO DEQ OR AGENT WITHIN 10 DAYS. (SCHEDULE A.12.C.IV. AND V)
- PHASE CLEARING AND GRADING TO THE MAXIMUM EXTENT PRACTICAL TO PREVENT EXPOSED INACTIVE AREAS FROM BECOMING A SOURCE OF EROSION. (SCHEDULE A.7.A.III)
- IDENTIFY, MARK, AND PROTECT (BY CONSTRUCTION FENCING OR OTHER MEANS) CRITICAL RIPARIAN AREAS AND VEGETATION INCLUDING IMPORTANT TREES AND ASSOCIATED ROOTING ZONES, AND VEGETATION AREAS TO BE PRESERVED. IDENTIFY VEGETATIVE BUFFER ZONES BETWEEN THE SITE AND SENSITIVE AREAS (E.G., WETLANDS), AND OTHER AREAS TO BE PRESERVED, ESPECIALLY IN PERIMETER AREAS. (SCHEDULE A.8.C.I.(1) AND (2))
- PRESERVE EXISTING VEGETATION WHEN PRACTICAL AND RE-VEGETATE OPEN AREAS. RE-VEGETATE OPEN AREAS WHEN PRACTICABLE BEFORE AND AFTER GRADING OR CONSTRUCTION. IDENTIFY THE TYPE OF VEGETATIVE SEED MIX USED. (SCHEDULE A.7.A.V)
- MAINTAIN AND DELINEATE ANY EXISTING NATURAL BUFFER WITHIN THE 50-FEET OF WATERS OF THE STATE. (SCHEDULE A.7.B.I AND (2)(A)(B))
- INSTALL PERIMETER SEDIMENT CONTROL, INCLUDING STORM DRAIN INLET PROTECTION AS WELL AS ALL SEDIMENT BASINS, TRAPS, AND BARRIERS PRIOR TO LAND DISTURBANCE. (SCHEDULE A.8.C.I.(5))
- CONTROL BOTH PEAK FLOW RATES AND TOTAL STORMWATER VOLUME, TO MINIMIZE EROSION AT OUTLETS AND DOWNSTREAM CHANNELS AND STREAMBANKS. (SCHEDULE A.7.C)
- CONTROL SEDIMENT AS NEEDED ALONG THE SITE PERIMETER AND AT ALL OPERATIONAL INTERNAL STORM DRAIN INLETS AT ALL TIMES DURING CONSTRUCTION, BOTH INTERNALLY AND AT THE SITE BOUNDARY. (SCHEDULE A.7.D.1)
- ESTABLISH CONCRETE TRUCK AND OTHER CONCRETE EQUIPMENT WASHOUT AREAS BEFORE BEGINNING CONCRETE WORK. (SCHEDULE A.8.C.I.(6))
- APPLY TEMPORARY AND/OR PERMANENT SOIL STABILIZATION MEASURES IMMEDIATELY ON ALL DISTURBED AREAS AS GRADING PROGRESSES. TEMPORARY OR PERMANENT STABILIZATIONS MEASURES ARE NOT REQUIRED FOR AREAS THAT ARE INTENDED TO BE LEFT UNVEGETATED, SUCH AS DIRT ACCESS ROADS OR UTILITY POLE PADS. (SCHEDULE A.8.C.II.(3))
- ESTABLISH MATERIAL AND WASTE STORAGE AREAS, AND OTHER NON-STORMWATER CONTROLS. (SCHEDULE A.8.C.I.(7))
- PREVENT TRACKING OF SEDIMENT ONTO PUBLIC OR PRIVATE ROADS USING BMPS SUCH AS: CONSTRUCTION ENTRANCE, GRAVELED (OR PAVED) EXITS AND PARKING AREAS, GRAVEL ALL UNPAVED ROADS LOCATED ONSITE, OR USE AN EXIT TIRE WASH. THESE BMPS MUST BE IN PLACE PRIOR TO LAND-DISTURBING ACTIVITIES. (SCHEDULE A.7.D.II AND A.8.C.II.(4))
- WHEN TRUCKING SATURATED SOILS FROM THE SITE, EITHER USE WATER-TIGHT TRUCKS OR DRAIN LOADS ON SITE. (SCHEDULE A.7.D.II.(5))
- CONTROL PROHIBITED DISCHARGES FROM LEAVING THE CONSTRUCTION SITE, I.E., CONCRETE WASH-OUT, WASTEWATER FROM CLEAN OUT OF STUCCO, PAINT AND CURING COMPOUNDS. (SCHEDULE A.6)
- USE BMPS TO PREVENT OR MINIMIZE STORMWATER EXPOSURE TO POLLUTANTS FROM SPILLS; VEHICLE AND EQUIPMENT FUELING, MAINTENANCE, AND STORAGE; OTHER CLEANING AND MAINTENANCE ACTIVITIES; AND WASTE HANDLING ACTIVITIES. THESE POLLUTANTS INCLUDE FUEL, HYDRAULIC FLUID, AND OTHER OILS FROM VEHICLES AND MACHINERY, AS WELL AS DEBRIS, FERTILIZER, PESTICIDES AND HERBICIDES, PAINTS, SOLVENTS, CURING COMPOUNDS AND ADHESIVES FROM CONSTRUCTION OPERATIONS. (SCHEDULE A.7.E.I.(2))
- IMPLEMENT THE FOLLOWING BMPS WHEN APPLICABLE: WRITTEN SPILL PREVENTION AND RESPONSE PROCEDURES, EMPLOYEE TRAINING ON SPILL PREVENTION AND PROPER DISPOSAL PROCEDURES, SPILL KITS IN ALL VEHICLES, REGULAR MAINTENANCE SCHEDULE FOR VEHICLES AND MACHINERY, MATERIAL DELIVERY AND STORAGE CONTROLS, TRAINING AND SIGNAGE, AND COVERED STORAGE AREAS FOR WASTE AND SUPPLIES. (SCHEDULE A.7.E.III.)
- USE WATER, SOIL-BINDING AGENT OR OTHER DUST CONTROL TECHNIQUE AS NEEDED TO AVOID WIND-BLOWN SOIL. (SCHEDULE A.7.A.IV)
- THE APPLICATION RATE OF FERTILIZERS USED TO REESTABLISH VEGETATION MUST FOLLOW MANUFACTURER'S RECOMMENDATIONS TO MINIMIZE NUTRIENT RELEASES TO SURFACE WATERS. EXERCISE CAUTION WHEN USING TIME-RELEASE FERTILIZERS WITHIN ANY WATERWAY RIPARIAN ZONE. (SCHEDULE A.9.B.III)
- IF AN ACTIVE TREATMENT SYSTEM (FOR EXAMPLE, ELECTRO-COAGULATION, FLOCCULATION, FILTRATION, ETC.) FOR SEDIMENT OR OTHER POLLUTANT REMOVAL IS EMPLOYED, SUBMIT AN OPERATION AND MAINTENANCE PLAN (INCLUDING SYSTEM SCHEMATIC, LOCATION OF SYSTEM, LOCATION OF INLET, LOCATION OF DISCHARGE, DISCHARGE DISPERSION DEVICE DESIGN, AND A SAMPLING PLAN AND FREQUENCY) BEFORE OPERATING THE TREATMENT SYSTEM. OBTAIN PLAN APPROVAL BEFORE OPERATING THE SYSTEM. OPERATE AND MAINTAIN THE TREATMENT SYSTEM ACCORDING TO MANUFACTURER'S SPECIFICATIONS. (SCHEDULE A.9.D)
- TEMPORARILY STABILIZE SOILS AT THE END OF THE SHIFT BEFORE HOLIDAYS AND WEEKENDS, IF NEEDED. THE REGISTRANT IS RESPONSIBLE FOR ENSURING THAT SOILS ARE STABLE DURING RAIN EVENTS AT ALL TIMES OF THE YEAR. (SCHEDULE A.7.B)
- AS NEEDED BASED ON WEATHER CONDITIONS, AT THE END OF EACH WORKDAY SOIL STOCKPILES MUST BE STABILIZED OR COVERED, OR OTHER BMPS MUST BE IMPLEMENTED TO PREVENT DISCHARGES TO SURFACE WATERS OR CONVEYANCE SYSTEMS LEADING TO SURFACE WATERS. (SCHEDULE A.7.E.II.(2))
- CONSTRUCTION ACTIVITIES MUST AVOID OR MINIMIZE EXCAVATION AND BARE GROUND ACTIVITIES DURING WET WEATHER. (SCHEDULE A.7.A.I)
- SEDIMENT FENCE: REMOVE TRAPPED SEDIMENT BEFORE IT REACHES ON THIRD OF THE ABOVE GROUND FENCE HEIGHT AND BEFORE FENCE REMOVAL. (SCHEDULE A.9.C.I)
- OTHER SEDIMENT BARRIERS (SUCH AS BIOBAGS): REMOVE SEDIMENT BEFORE IT REACHES TWO INCHES DEPTH ABOVE GROUND HEIGHT AND BEFORE BMP REMOVAL. (SCHEDULE A.9.C.I)
- CATCH BASINS: CLEAN BEFORE RETENTION CAPACITY HAS BEEN REDUCED BY FIFTY PERCENT. SEDIMENT BASINS AND SEDIMENT TRAPS: REMOVE TRAPPED SEDIMENTS BEFORE DESIGN CAPACITY HAS BEEN REDUCED BY FIFTY PERCENT AND AT COMPLETION OF PROJECT. (SCHEDULE A.9.C.IIIB.V)
- WITHIN 24 HOURS, SIGNIFICANT SEDIMENT THAT HAS LEFT THE CONSTRUCTION SITE, MUST BE REMEDIATED. INVESTIGATE THE CAUSE OF THE SEDIMENT RELEASE AND IMPLEMENT STEPS TO PREVENT A RECURRENCE OF THE DISCHARGE WITHIN THE SAME 24 HOURS. ANY IN-STREAM CLEAN-UP OF SEDIMENT SHALL BE PERFORMED ACCORDING TO THE OREGON DIVISION OF STATE LANDS REQUIRED TIMFRAME. (SCHEDULE A.9.B.I)
- THE INTENTIONAL WASHING OF SEDIMENT INTO STORM SEWERS OR DRAINAGE WAYS MUST NOT OCCUR. VACUUMING OR DRY SWEEPING AND MATERIAL PICKUP MUST BE USED TO CLEANUP RELEASED SEDIMENTS (SCHEDULE A.9.B.II)
- THE ENTIRE SITE MUST BE TEMPORARILY STABILIZED USING VEGETATION OR A HEAVY MULCH LAYER, TEMPORARY SEEDING, OR OTHER METHOD SHOULD ALL CONSTRUCTION ACTIVITIES CEASE FOR 30 DAYS OR MORE. (SCHEDULE A.7.F.I)
- PROVIDE TEMPORARY STABILIZATION FOR THAT PORTION OF THE SITE WHERE CONSTRUCTION ACTIVITIES CEASE FOR 14 DAYS OR MORE WITH A COVERING OF BLOWN STRAW AND A TACKIFIER, LOOSE STRAW, OR AN ADEQUATE COVERING OF COMPOST MULCH UNTIL WORK RESUMES ON THAT PORTION OF THE SITE. (SCHEDULE A.7.F.II)
- DO NOT REMOVE TEMPORARY SEDIMENT CONTROL PRACTICES UNTIL PERMANENT VEGETATION OR OTHER COVER OF EXPOSED AREAS IS ESTABLISHED. ONCE CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED, ALL TEMPORARY EROSION CONTROLS AND RETAINED SOILS MUST BE REMOVED AND DISPOSED OF PROPERLY, UNLESS DOING SO CONFLICTS WITH LOCAL REQUIREMENTS. (SCHEDULE A.8.C.II.(1) AND D.3.C.II AND III)

THE PERMITTEE IS REQUIRED TO MEET ALL THE CONDITIONS OF THE 1200-C PERMIT. THIS ESCP AND GENERAL CONDITIONS HAVE BEEN DEVELOPED TO FACILITATE COMPLIANCE WITH THE 1200-C PERMIT REQUIREMENTS. IN CASES OF DISCREPANCIES OR OMISSIONS, THE 1200-C PERMIT REQUIREMENTS SUPERCEDE REQUIREMENTS OF THIS PLAN.

**BMP MATRIX FOR CONSTRUCTION PHASES**

REFER TO DEQ GUIDANCE MANUAL FOR A COMPREHENSIVE LIST OF AVAILABLE BMP'S.

	CLEARING	MASS GRADING	UTILITY INSTALLATION	STREET CONSTRUCTION	FINAL STABILIZATION	WET WEATHER (OCT. 1 - MAY 31ST)
<b>EROSION PREVENTION</b>						
PRESERVE NATURAL VEGETATION	** X	X	X	X	X	X
GROUND COVER			X		X	X
HYDRAULIC APPLICATIONS					X	
PLASTIC SHEETING						
MATTING						
DUST CONTROL	X	X	X	X	X	X
TEMPORARY/PERMANENT SEEDING					X	X
BUFFER ZONE	** X	X	X	X	X	X
OTHER:						
<b>SEDIMENT CONTROL</b>						
SEDIMENT FENCE (PERIMETER)	** X	** X	X	X	X	X
SEDIMENT FENCE (INTERIOR)	** X	** X	X	X	X	X
STRAW WATTLES			X		X	X
FILTER BERM						
INLET PROTECTION	** X	** X	X	X	X	X
DEWATERING			X	X		X
SEDIMENT TRAP						
NATURAL BUFFER ENCROACHMENT						
COMPOST SOCK						
OTHER:						
<b>RUN OFF CONTROL</b>						
CONSTRUCTION ENTRANCE						
PIPE SLOPE DRAIN						
OUTLET PROTECTION						
SURFACE ROUGHENING						
CHECK DAMS						
OTHER:						
<b>POLLUTION PREVENTION</b>						
PROPER SIGNAGE	X	X	X	X	X	X
HAZ WASTE MGMT	X	X	X	X	X	X
SPILL KIT ON-SITE	X	X	X	X	X	X
CONCRETE WASHOUT AREA						
OTHER:						

\* SIGNIFIES ADDITIONAL BMP'S REQUIRED FOR WORK WITHIN 50' OF WATER OF THE STATE.  
 \*\* SIGNIFIES BMP THAT WILL BE INSTALLED PRIOR TO ANY GROUND DISTURBING ACTIVITY.

**INSPECTION FREQUENCY:**

SITE CONDITION	MINIMUM FREQUENCY
1. ACTIVE PERIOD	DAILY WHEN STORMWATER RUNOFF, INCLUDING RUNOFF FROM SNOW MELT, IS OCCURRING.  AT LEAST ONCE EVERY FOURTEEN (14) DAYS, REGARDLESS OF WHETHER STORMWATER RUNOFF IS OCCURRING.
2. PRIOR TO THE SITE BECOMING INACTIVE OR IN ANTICIPATION OF SITE INACCESSIBILITY.	ONCE TO ENSURE THAT EROSION AND SEDIMENT CONTROL MEASURES ARE IN WORKING ORDER. ANY NECESSARY MAINTENANCE AND REPAIR MUST BE MADE PRIOR TO LEAVING THE SITE.
3. INACTIVE PERIODS GREATER THAN FOURTEEN (14) CONSECUTIVE CALENDAR DAYS.	ONCE EVERY MONTH.
4. PERIODS DURING WHICH THE SITE IS INACCESSIBLE DUE TO INCLEMENT WEATHER.	IF PRACTICAL, INSPECTIONS MUST OCCUR DAILY AT A RELEVANT AND ACCESSIBLE DISCHARGE POINT OR DOWNSTREAM LOCATION.
5. PERIODS DURING WHICH DISCHARGE IS UNLIKELY DUE TO FROZEN CONDITIONS.	MONTHLY. RESUME MONITORING IMMEDIATELY UPON MELT, OR WHEN WEATHER CONDITIONS MAKE DISCHARGES LIKELY.

- \* HOLD A PRE-CONSTRUCTION MEETING OF PROJECT CONSTRUCTION PERSONNEL THAT INCLUDES THE INSPECTOR TO DISCUSS EROSION AND SEDIMENT CONTROL MEASURES AND CONSTRUCTION LIMITS.
- \* ALL INSPECTIONS MUST BE MADE IN ACCORDANCE WITH DEQ 1200-C PERMIT REQUIREMENTS.
- \* INSPECTION LOGS MUST BE KEPT IN ACCORDANCE WITH DEQ'S 1200-C PERMIT REQUIREMENTS.
- \* RETAIN A COPY OF THE ESCP AND ALL REVISIONS ON SITE AND MAKE IT AVAILABLE ON REQUEST TO DEQ, AGENT, OR THE LOCAL MUNICIPALITY. DURING INACTIVE PERIODS OF GREATER THAN SEVEN (7) CONSECUTIVE CALENDAR DAYS, RETAIN THE ESCP AT THE CONSTRUCTION SITE OR AT ANOTHER LOCATION.

**SHEET INDEX**  
**EROSION AND SEDIMENT CONTROL PLANS**

- ESC-1 EROSION AND SEDIMENT CONTROL COVER SHEET
- ESC-2 EROSION AND SEDIMENT CONTROL GENERAL NOTES
- ESC-3 EROSION AND SEDIMENT CONTROL DETAILS
- ESC-4 PUMP STATION EROSION AND SEDIMENT CONTROL
- ESC-5 FORCE MAIN EROSION AND SEDIMENT CONTROL - 1
- ESC-6 FORCE MAIN EROSION AND SEDIMENT CONTROL - 2
- ESC-7 FORCE MAIN EROSION AND SEDIMENT CONTROL - 3
- ESC-8 FORCE MAIN EROSION AND SEDIMENT CONTROL - 4

**PERMITTEE'S SITE INSPECTOR:** DAVID CRAIG  
 COMPANY/AGENCY: MURRAYSMITH  
 PHONE: (541) 741-2975  
 FAX: N/A  
 E-MAIL: DAVID.CRAIG@MURRAYSMITH.US  
 DESCRIPTION OF EXPERIENCE: CERTIFIED CESCL-102 BY NWETC

NO.	DATE	BY	REVISION

NOTICE  
 0 1/2 1  
 IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

CAS DESIGNED  
 BAW DRAWN  
 EPK CHECKED



**WOODBURN**  
 CITY OF WOODBURN I-5  
 PUMP STATION AND FORCE MAIN UPGRADES

**EROSION AND SEDIMENT CONTROL COVER SHEET**

PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: JUNE 2021

SHEET  
**ESC-1**  
 12 of 83

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## CITY OF WOODBURN EROSION AND SEDIMENT CONTROL NOTES

1. CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL MEASURES, IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS.
2. THE IMPLEMENTATION OF THESE ESC PLANS AND CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE ESC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ALL CONSTRUCTION IS COMPLETED AND APPROVED BY THE LOCAL JURISDICTION, AND VEGETATION/LANDSCAPING IS ESTABLISHED.
3. THE ESC FACILITIES DESCRIBED ON THIS PLAN MUST BE CONSTRUCTED IN CONJUNCTION WITH ALL CLEARING AND GRADING ACTIVITIES, AND IN SUCH A MANNER AS TO INSURE THAT SEDIMENT AND SEDIMENT LADEN WATER DOES NOT ENTER DRAINAGE SYSTEM, ROADWAYS, OR VIOLATE APPLICABLE WATER STANDARDS.
4. THE ESC FACILITIES SHOWN ON THIS PLAN ARE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING CONSTRUCTION PERIOD, THESE ESC FACILITIES SHALL BE UPGRADED AS NEEDED FOR UNEXPECTED STORM EVENTS AND TO ENSURE THAT SEDIMENT AND SEDIMENT LADEN WATER DOES NOT LEAVE THE SITE.
5. THE ESC FACILITIES SHALL BE INSPECTED DAILY BY THE APPLICANT/CONTRACTOR AND MAINTAINED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONING.
6. AT NO TIME SHALL SEDIMENT BE ALLOWED TO ACCUMULATE MORE THAN  $\frac{1}{2}$  THE BARRIER HEIGHT. ALL CATCH BASINS AND CONVEYANCE LINES SHALL BE CLEANED PRIOR TO PAVING. THE CLEANING OPERATIONS SHALL NOT FLUSH SEDIMENT-LADEN WATER INTO THE DOWNSTREAM SYSTEM.
7. STORM DRAIN INLETS, BASINS, AND AREA DRAINS SHALL BE PROTECTED UNTIL PAVEMENT SURFACES ARE COMPLETED AND/OR VEGETATION IS REESTABLISHED.
8. PAVEMENT SURFACES AND VEGETATION ARE TO BE PLACED AS RAPIDLY AS POSSIBLE.
9. SEEDING SHALL BE PERFORMED NO LATER THAN SEPTEMBER 1 FOR EACH PHASE OF CONSTRUCTION.
10. IF THERE ARE EXPOSED SOILS OR SOILS NOT FULLY ESTABLISHED FROM OCTOBER 1ST THROUGH APRIL 30TH, THE WET WEATHER EROSION PREVENTION MEASURES WILL BE IN EFFECT.
11. THE DEVELOPER SHALL REMOVE ESC MEASURE WHEN VEGETATION IS FULLY ESTABLISHED.
12. ANY SOIL OR DEBRIS TRANSPORTED ONTO ROADWAYS AND SIDEWALKS SHALL BE REMOVED. DEPOSITS SHALL BE COMPLETELY REMOVED BY SHOVELING AND/OR SWEEPING. WASHING SHALL NOT BE UTILIZED UNLESS SPECIFICALLY APPROVED IN WRITING BY THE CITY OF WOODBURN.
13. IF BMPS (BEST MANAGEMENT PRACTICES) SHOWN ARE UTILIZED BUT ARE INSUFFICIENT TO PREVENT SEDIMENT FROM REACHING WATER BODIES, ADJACENT PROPERTIES, OR PUBLIC RIGHT-OF-WAYS, ADDITIONAL BMPS SHALL BE IMPLEMENTED IMMEDIATELY TO PREVENT FURTHER ENCROACHMENT OF SEDIMENT.
14. STABILIZED AREAS SHALL BE PROVIDED FOR EMPLOYEE PARKING AND STORAGE OF CONSTRUCTION MATERIALS. ERODABLE STOCKPILES OF EARTHEN MATERIALS, SUCH AS TOPSOIL, SILTY AND CLAYEY SOILS, AND LANDSCAPE MATERIALS SHALL BE COVERED WHEN NOT BEING INCORPORATED IN THE WORK. EROSION CONTROL BMPS SHALL BE UTILIZED AS NECESSARY TO PREVENT SEDIMENT-LADEN RUNOFF FROM LEAVING OR SEDIMENT BEING TRANSPORTED FROM THESE AREAS FROM VEHICLE ACTIVITY.
15. ALL TRUCKS LEAVING THE SITE WITH EXCAVATION SPOILS MUST BE INSPECTED FOR WATER SEEPAGE. IF SATURATED SOILS ARE A PROBLEM, WATERTIGHT TRUCKS MUST BE USED OR LOADS SHALL BE DRAINED, ON-SITE, SO THAT WATER SEEPING FROM THE SOIL CANNOT DRAIN FROM THE VEHICLE.
16. CONSTRUCTION SHALL NOT BE CONSIDERED COMPLETE AND ACCEPTABLE UNTIL ALL DISTURBED SOIL SURFACES HAVE BEEN PROTECTED FROM EROSION AND WITH PERMANENT LANDSCAPING, COVERING WITH IMPERVIOUS SURFACES, RESTORED TO ORIGINAL UNDISTURBED CONDITION OR PERMANENTLY STABILIZED.
17. VEGETATED STABILIZATION AND LANDSCAPING SHALL BE FERTILIZED, WATERED AND MAINTAINED TO INSURE THAT GROWTH OF VEGETATION IS ESTABLISHED AND SUSTAINED.
18. PLACE GRASS SEED OVER BARREN SOIL;  $\frac{80}{20}$  BLEND OF DWARF PERENNIAL RYE AND CREEPING RED FESCUE, MIN. 100#/ACRE. APPLY 20-10-10 FERTILIZER IN ACCORDANCE WITH SUPPLIER'S RECOMMENDATIONS.

## WET WEATHER MEASURES

1. THE MEASURES FOR WET WEATHER CONDITIONS ARE ONE OF THE FOLLOWING OR COMBINATION TO PREVENT SOIL EROSION: ESTABLISHED GRASS, 2" MIN. STRAW MULCH COVER, EROSION CONTROL BLANKETS WITH ANCHORS, 6-MIL PLASTIC SHEET COVER OR SEDIMENT TRAP OR POND.
2. AS THE WET WEATHER APPROACHES MORE EROSION CONTROL MEASURES (AS REQUIRED BY CONSTRUCTION INSPECTOR) MAY BE NECESSARY TO REDUCE EROSION.

## DEWATERING NOTES

1. THE CONTROL OF THE GROUND WATER SHALL BE SUCH THAT SOFTENING OF THE BOTTOM OF THE EXCAVATIONS OR FORMATIONS OF "QUICK" CONDITIONS OR BOILS DURING EXCAVATION SHALL BE PREVENTED. DEWATERING SYSTEMS SHALL BE DESIGNED AND OPERATED SO AS TO PREVENT REMOVAL OF THE NATURAL SOILS.

## TREE PROTECTION NOTES

1. THE CONTRACTOR SHALL COORDINATE WITH THE PROJECT ARBORIST IN A TIMELY MANNER TO REVIEW TREE PROTECTION MEASURES AND ADDRESS QUESTIONS ON-SITE PRIOR TO THE START OF CONSTRUCTION ACTIVITY.
2. TREES TO REMAIN ON SITE SHALL BE PROTECTED BY INSTALLATION OF TREE PROTECTION FENCING AS DEPICTED ON THE TREE PRESERVATION PLAN IN ORDER TO PREVENT INJURY TO TREE TRUNKS OR ROOTS, OR SOIL COMPACTION WITHIN THE ROOT PROTECTION ZONE. FENCES SHALL BE A MINIMUM 6-FOOT HIGH 2-INCH CHAIN LINK MESH SECURED TO A MINIMUM 1.5-INCH STEEL OR ALUMINUM POSTS STEEL ON CONCRETE BLOCKS OR DRIVEN INTO THE GROUND EXCEPT WHERE MINIMUM 4-FOOT HIGH ORANGE PLASTIC MESH FENCING ON METAL STAKES IS SPECIFIED ON THE PLAN. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH THE PROJECT ARBORIST PRIOR TO OPENING, ADJUSTING OR REMOVING TREE PROTECTION FENCING.
3. WITHOUT AUTHORIZATION FROM THE PROJECT ARBORIST, NONE OF THE FOLLOWING SHALL OCCUR BENEATH THE DRIPLINE OF ANY PROTECTED TREE:
  - A. GRADE CHANGE OR CUT AND FILL;
  - B. NEW IMPERVIOUS SURFACES;
  - C. UTILITY OR DRAINAGE FIELD PLACEMENT;
  - D. STAGING OR STORAGE OF MATERIALS AND EQUIPMENT; OR
  - E. VEHICLE MANEUVERING.
 ROOT PROTECTION ZONES MAY BE ENTERED FOR TASKS LIKE SURVEYING, MEASURING, AND, SAMPLING. FENCES MUST BE CLOSED UPON COMPLETION OF THESE TASKS.
4. SILT FENCING REQUIRED TO BE INSTALLED BENEATH THE DRIPLINE OF PROTECTED TREES SHALL NOT BE TRENCHED IN PER MANUFACTURER SPECIFICATIONS TO AVOID ROOT DAMAGE. INSTEAD, USE A STRAW WATTLE OR ROLL THE BASE OF THE SILT FENCE AROUND A STRAW WATTLE AND STAKE THE WATTLE SECURELY INTO THE GROUND.
5. TREES TO BE REMOVED SHALL BE CLEARLY IDENTIFIED WITH TREE-MARKING PAINT OR OTHER METHODS APPROVED IN ADVANCED BY THE PROJECT ARBORIST. STUMPS FROM REMOVED TREES LOCATED WITHIN TREE PROTECTION ZONES SHALL REMAIN IN THE GROUND WHERE FEASIBLE. OTHERWISE, STUMPS MAY BE REMOVED BY STUMP GRINDING OR EXTRACTED FROM THE GROUND UNDER ARBORIST SUPERVISION.
6. PRUNING WILL BE NEEDED TO PROVIDE FOR OVERHEAD CLEARANCE AND TO REMOVE DEAD AND DEFECTIVE BRANCHES FOR SAFETY. THE CITY'S PARKS MAINTENANCE CREW SHALL BE RESPONSIBLE FOR ALL PRUNING. THE CITY'S PROJECT MANAGER SHALL COORDINATOR WITH THE PARK'S DEPARTMENT IN A TIMELY MANNER TO ARRANGE THE NECESSARY PRUNING PRIOR TO CONSTRUCTION.
7. THE PROJECT ARBORIST SHALL PROVIDE ON-SITE CONSULTATION DURING ALL EXCAVATION ACTIVITIES BENEATH THE DRIPLINE OF PROTECTED TREES. EXCAVATION IMMEDIATELY ADJACENT TO ROOTS LARGER THAN 2-INCHES IN DIAMETER WITHIN THE ROOT PROTECTION ZONE OF RETAINED TREES SHALL BE BY HAND OR OTHER NON-INVASIVE TECHNIQUES TO ENSURE THAT ROOTS ARE NOT DAMAGED. WHERE FEASIBLE, MAJOR ROOTS SHALL BE PROTECTED BY TUNNELING OR OTHER MEANS TO AVOID DESTRUCTION OR DAMAGE. EXCEPTIONS CAN BE MADE IF, IN THE OPINION OF THE PROJECT ARBORIST, UNACCEPTABLE DAMAGE WILL NOT OCCUR TO THE TREE.
8. FOLLOWING CONSTRUCTION AND WHERE LANDSCAPING IS DESIRED, APPLY APPROXIMATELY 3-INCHES OF MULCH BENEATH THE DRIPLINE OF PROTECTED TREES, BUT NOT DIRECTLY AGAINST TREE TRUNKS. SHRUBS AND GROUND COVERS MAY BE PLANTED WITHIN TREE PROTECTION AREAS. IF IRRIGATION IS USED, USE DRIP IRRIGATION OR LOW FLOW EMITTERS INSTALLED AT NATIVE GRADE (NO TRENCHING) ONLY BENEATH THE DRIPLINES OF PROTECTED TREES. LANDSCAPING SHALL BE PERFORMED BY HAND AND WITH HAND TOOLS ONLY BENEATH PROTECTED TREE DRIPLINES; ADJUST THE LOCATION OF PLANTS TO AVOID TREE ROOT IMPACTS.
9. THE PROJECT ARBORIST SHOULD SUPERVISE PROPER EXECUTION OF THIS PLAN DURING CONSTRUCTION ACTIVITIES THAT COULD ENCROACH ON RETAINED TREES. TREE PROTECTION SITE INSPECTION MONITORING REPORTS SHOULD BE PROVIDED TO THE CLIENT AND CITY ON A REGULAR BASIS THROUGHOUT CONSTRUCTION.

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NO.	DATE	BY	REVISION

NOTICE

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CAS  
DESIGNED

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DRAWN

EPK  
CHECKED

EDWARD PATRICK KREIPE  
RENEWS 6-30-23

**WOODBURN**  
CITY OF WOODBURN I-5  
PUMP STATION AND FORCE MAIN UPGRADES

**EROSION AND SEDIMENT CONTROL NOTES**

PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: JUNE 2021

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**BIOFILTER BAGS - TYPE 4**  
NOT TO SCALE

**PLAN DITCH INLET**

**PLAN AREA DRAIN**

**SECTION A-A DITCH INLET**

**PLAN CATCH BASIN**

**NOTES:**

1. Stake biofilter bags with 2"x2"x36" wood stakes, and use a minimum 2 stakes per bag. Drive stakes a minimum of 6" into the ground and flush with the top of the bags.
2. Omit stakes when bags are placed on pavement surface.
3. Overlap all bag joints 6".
4. Biofilter bags used on active roadways are easily displaced and made ineffective if struck by vehicles. If struck by a cyclist, falls with injury could result. On active roadways alternative inlet protection should be considered.

**GENERAL NOTES:**

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

**OREGON STANDARD DRAWINGS**

**INLET PROTECTION TYPE 4**

2021

CALC. BOOK NO. 6402, 6406, 6407 SDR DATE July, 2020

Effective Date: December 1, 2020 - May 31, 2021 RD1015

**SEDIMENT FENCE AND GEOTEXTILE BURY DETAIL - TYPE 1**  
NOT TO SCALE

**ALTERNATE SEDIMENT FENCE WITHOUT TRENCHING - TYPE 2**  
NOT TO SCALE

**GENERAL NOTES:**

1. Use 2"x2" wood fence posts.
2. Posts to be installed on downhill side of sediment fence geotextile. Position posts to prevent separation from geotextile.
3. Compact filter fabric trench backfill and soil on uphill side of fence.
4. Locate fence no closer than three feet to the toe of a slope.
5. Wing spacing shall comply with "Fence Spacing for General Application Table".

**FENCE SPACING FOR GENERAL APPLICATION TABLE**

GRADE	MAXIMUM SPACING ON GRADE
Grade < 10%	300'
10% < Grade < 15%	150'
15% < Grade < 20%	100'
20% < Grade < 30%	50'
30% < Grade	25'

**POST SPACING TABLE**

6"	Sediment Fence with Geotextile elongation less than 50%
4"	Sediment Fence with Geotextile elongation 50% or more

**GENERAL NOTES:**

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

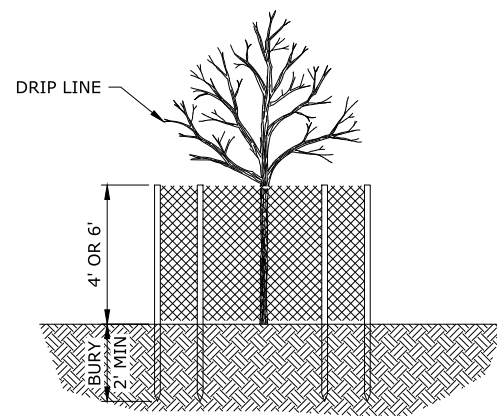
**OREGON STANDARD DRAWINGS**

**SEDIMENT FENCE**

2021

CALC. BOOK NO. 6403, 6404, 6405 SDR DATE July, 2020

Effective Date: December 1, 2020 - May 31, 2021 RD1040



- NOTES:**
1. ORANGE FENCING SHALL BE 4' IN HEIGHT, MESH CHAIN LINK FENCE SHALL BE 6' IN HEIGHT. FENCE SHALL BE SET AS SHOWN ON THE PLANS.
  2. FENCE MATERIALS SHALL CONSIST OF ORANGE CONSTRUCTION FENCING OR MESH CHAIN LINK AS SHOWN ON THE PLANS, SECURED TO A MINIMUM 1 1/2" DIAMETER STEEL OR ALUMINUM LINE POSTS.
  3. POSTS SHALL BE SET TO A DEPTH OF NO LESS THAN 2 FEET IN NATIVE SOIL.
  4. FENCE SHALL REMAIN IN PLACE UNTIL CONSTRUCTION ACTIVITIES, MOVEMENT OR REMOVAL OF FENCE REQUIRES APPROVAL BY CITY'S AUTHORIZED REPRESENTATIVE.

**TREE PROTECTION FENCING DETAIL**

SCALE: NTS

NO.	DATE	BY	REVISION

**NOTICE**

0 1/2 1

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CAS DESIGNED  
BAW DRAWN  
EPK CHECKED

**REGISTERED PROFESSIONAL ENGINEER**  
81074  
Edward P Kreipe  
MAY 21, 2014  
EDWARD PATRICK KREIPE  
RENEWS 6-30-23

**murraysmith**

**WOODBURN**  
CITY OF WOODBURN I-5  
PUMP STATION AND FORCE MAIN UPGRADES

**EROSION AND SEDIMENT CONTROL DETAILS**

PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: JUNE 2021

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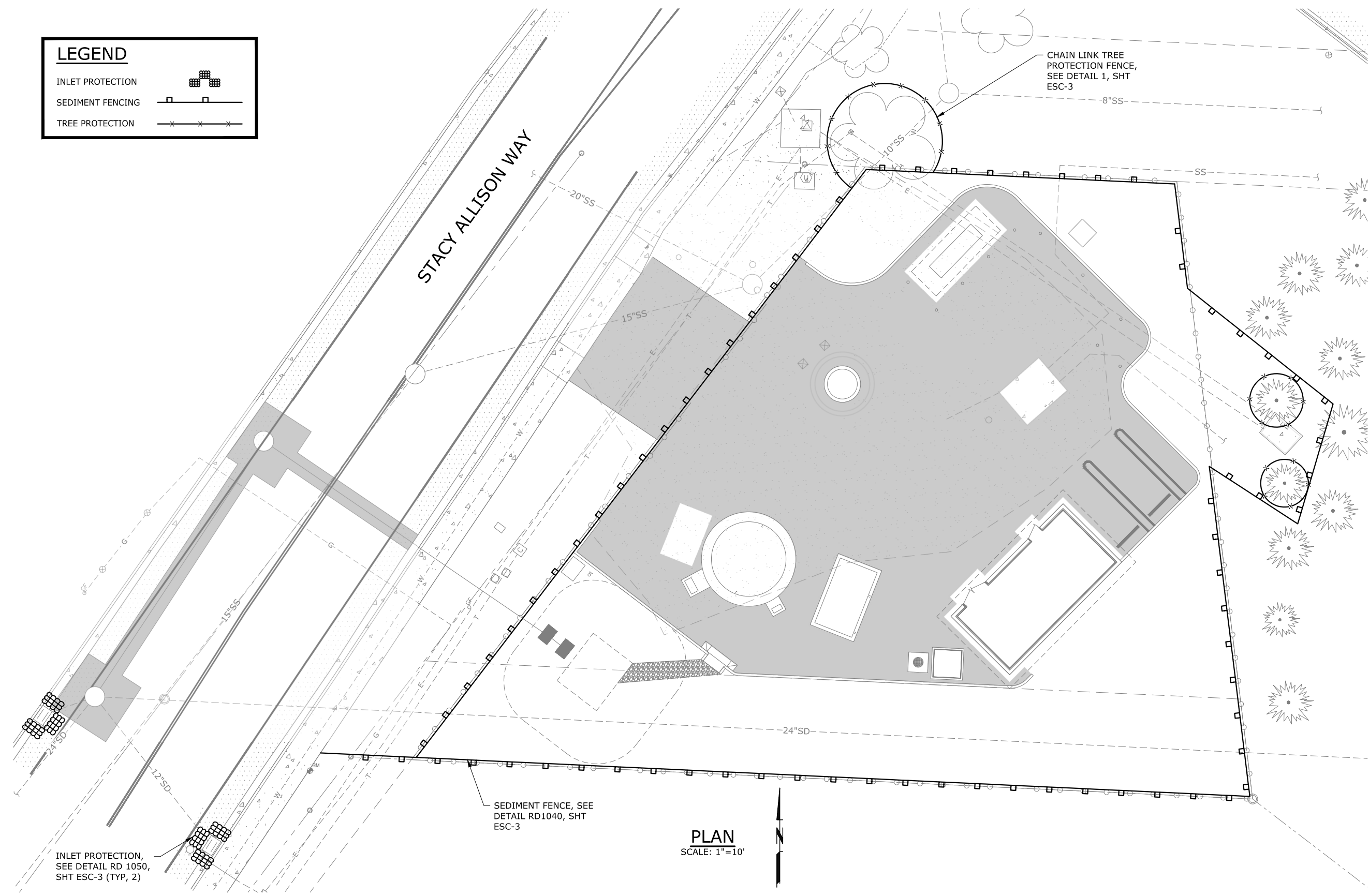
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**LEGEND**

INLET PROTECTION

SEDIMENT FENCING

TREE PROTECTION



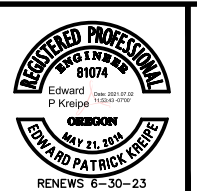
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**WOODBURN**  
Incorporated 1889

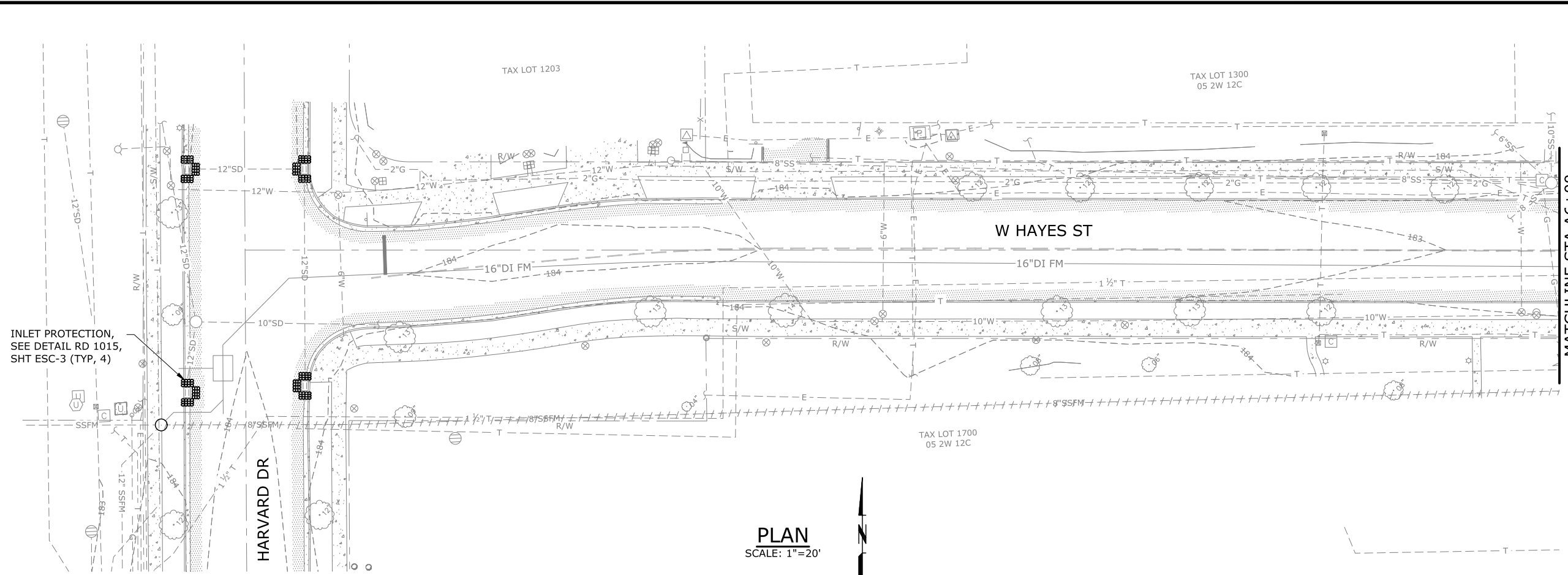
CITY OF WOODBURN I-5  
PUMP STATION AND FORCE MAIN UPGRADES

**PUMP STATION EROSION AND SEDIMENT CONTROL**

PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: JUNE 2021

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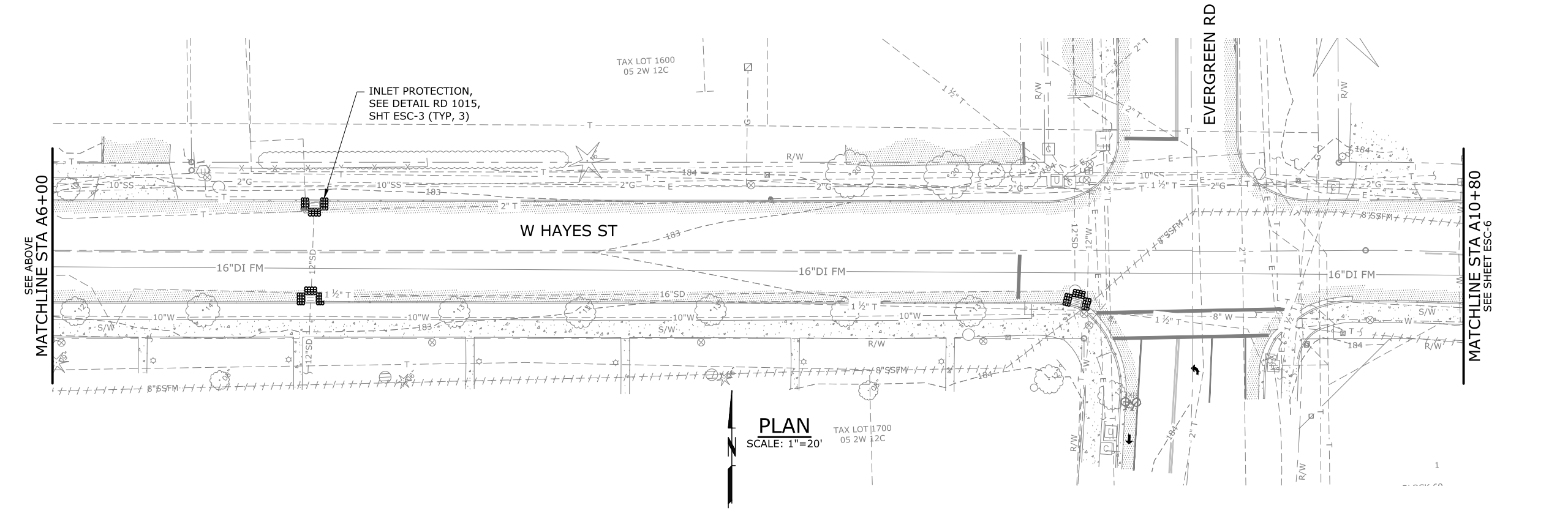
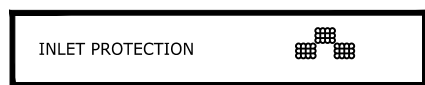
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PLAN  
SCALE: 1"=20'

NOTES:

1. CONTRACTOR TO INCLUDE ESC MEASURES AT LEAST 500' DOWN EACH SIDE STREET AND INTERSECTION AS NEEDED BASED ON EXISTING GRADE OF ROAD.

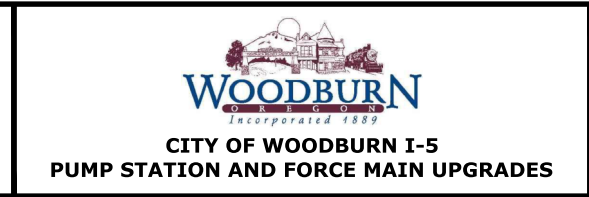
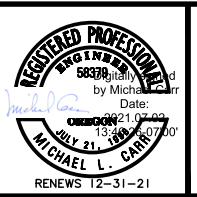


PLAN  
SCALE: 1"=20'

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PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: JUNE 2021

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16 of 83

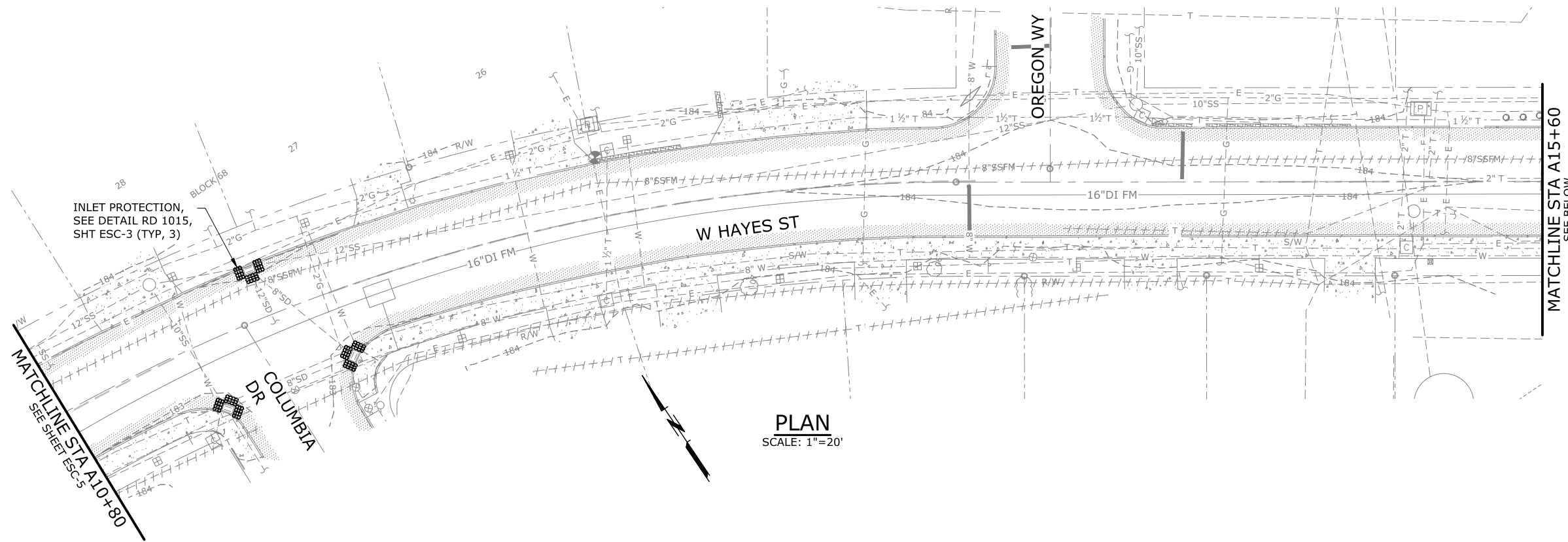


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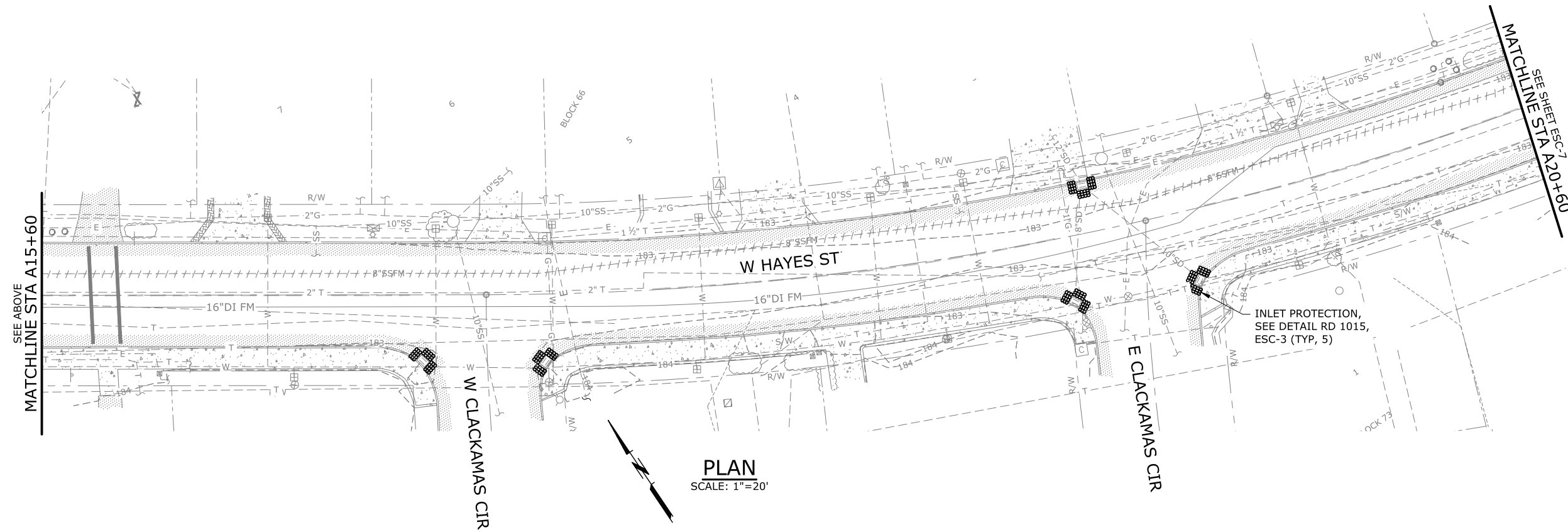
**NOTES:**

1. CONTRACTOR TO INCLUDE ESC MEASURES AT LEAST 500' DOWN EACH SIDE STREET AND INTERSECTION AS NEEDED BASED ON EXISTING GRADE OF ROAD.

INLET PROTECTION	
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**PLAN**  
SCALE: 1"=20'



**PLAN**  
SCALE: 1"=20'

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**NOTICE**

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REGISTERED PROFESSIONAL ENGINEER  
No. 58378  
State of Oregon  
Expires July 21, 2022  
MICHAEL L. CARR

**murraysmith**

**WOODBURN**  
CITY OF WOODBURN I-5  
PUMP STATION AND FORCE MAIN UPGRADES

**FORCE MAIN EROSION AND SEDIMENT CONTROL-2**

PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: JUNE 2021

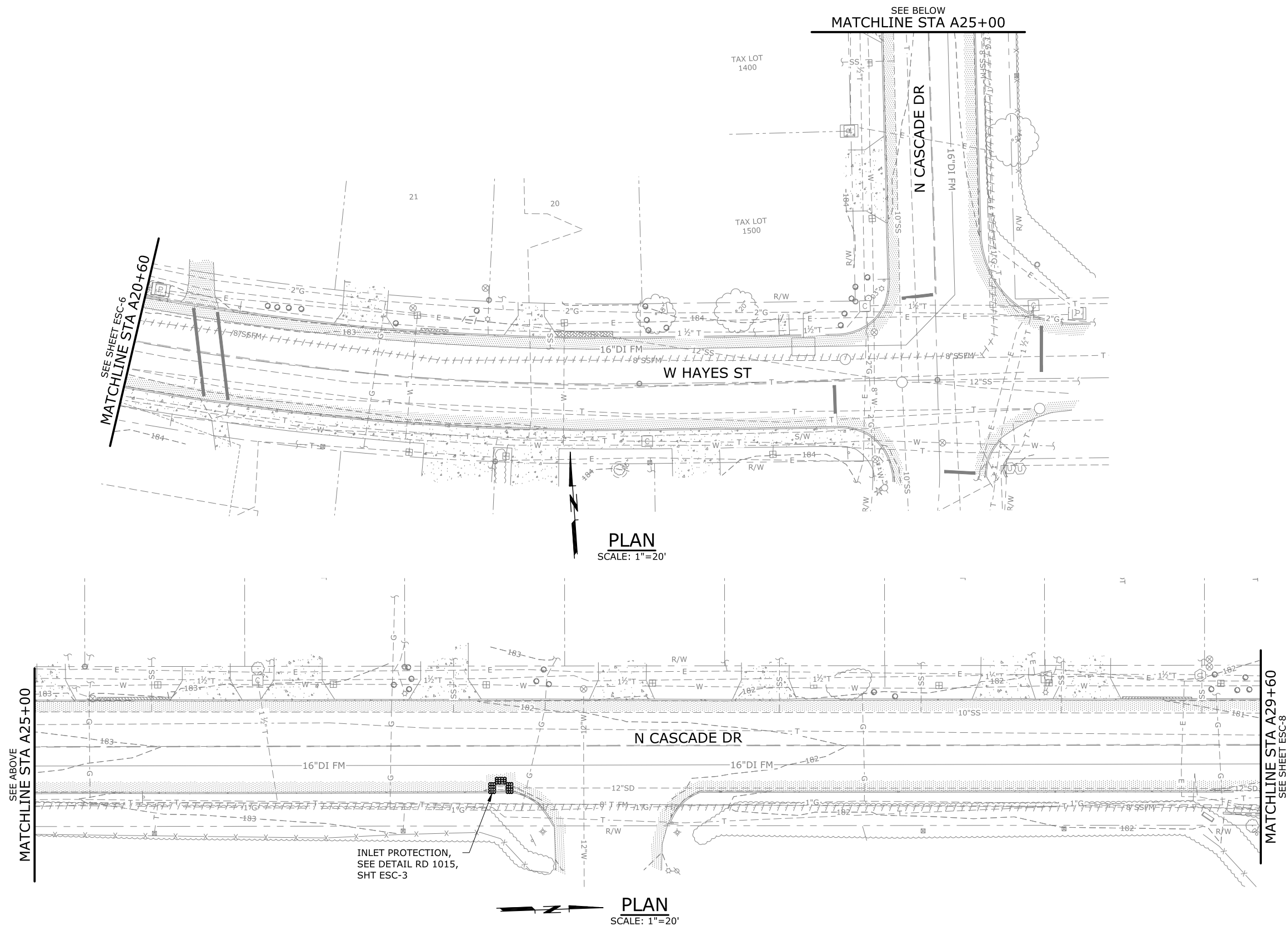
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**NOTES:**

1. CONTRACTOR TO INCLUDE ESC MEASURES AT LEAST 500' DOWN EACH SIDE STREET AND INTERSECTION AS NEEDED BASED ON EXISTING GRADE OF ROAD.

INLET PROTECTION	
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**PLAN**  
SCALE: 1"=20'

**PLAN**  
SCALE: 1"=20'

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**NOTICE**  
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**WOODBURN**  
Incorporated 1889  
CITY OF WOODBURN I-5  
PUMP STATION AND FORCE MAIN UPGRADES

**FORCE MAIN EROSION AND SEDIMENT CONTROL-3**  
PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: JUNE 2021

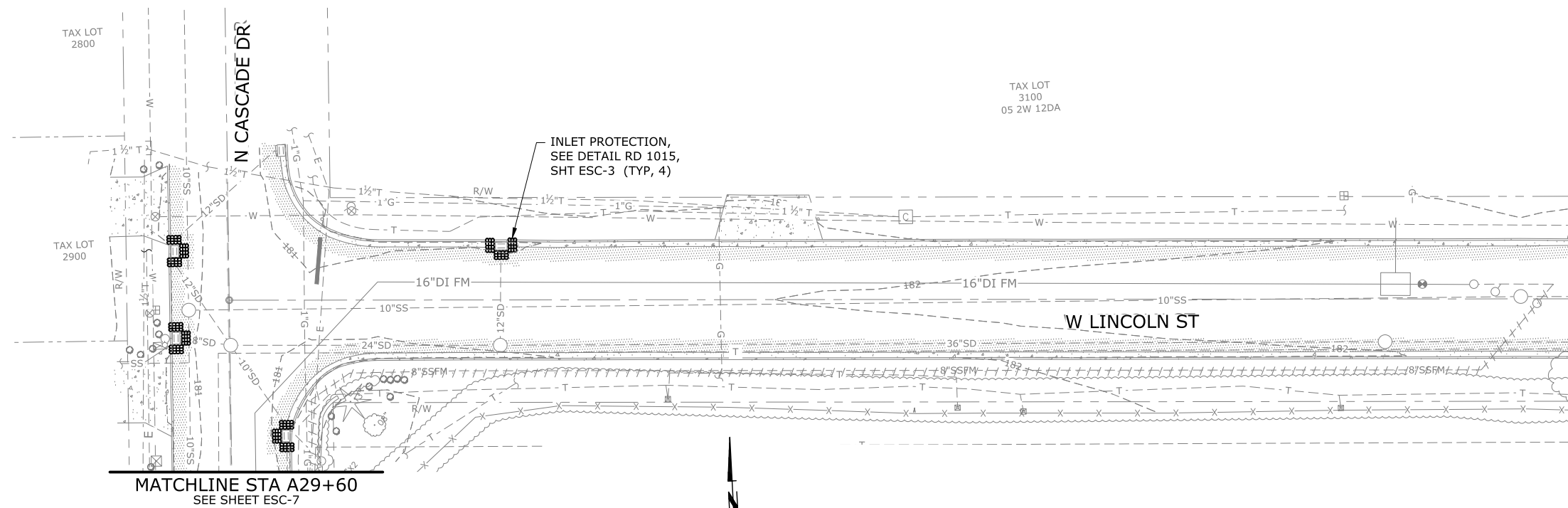
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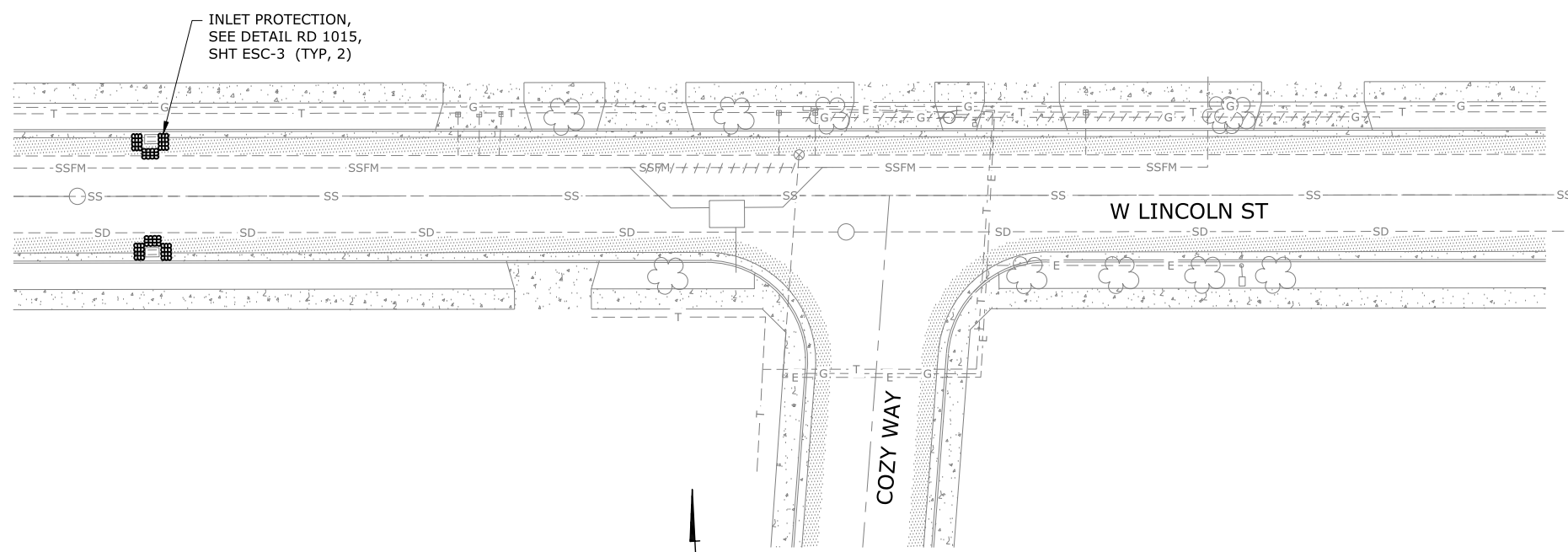
**NOTES:**

1. CONTRACTOR TO INCLUDE ESC MEASURES AT LEAST 500' DOWN EACH SIDE STREET AND INTERSECTION AS NEEDED BASED ON EXISTING GRADE OF ROAD.

INLET PROTECTION	
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**PLAN**  
SCALE: 1"=20'



**PLAN**  
SCALE: 1"=20'

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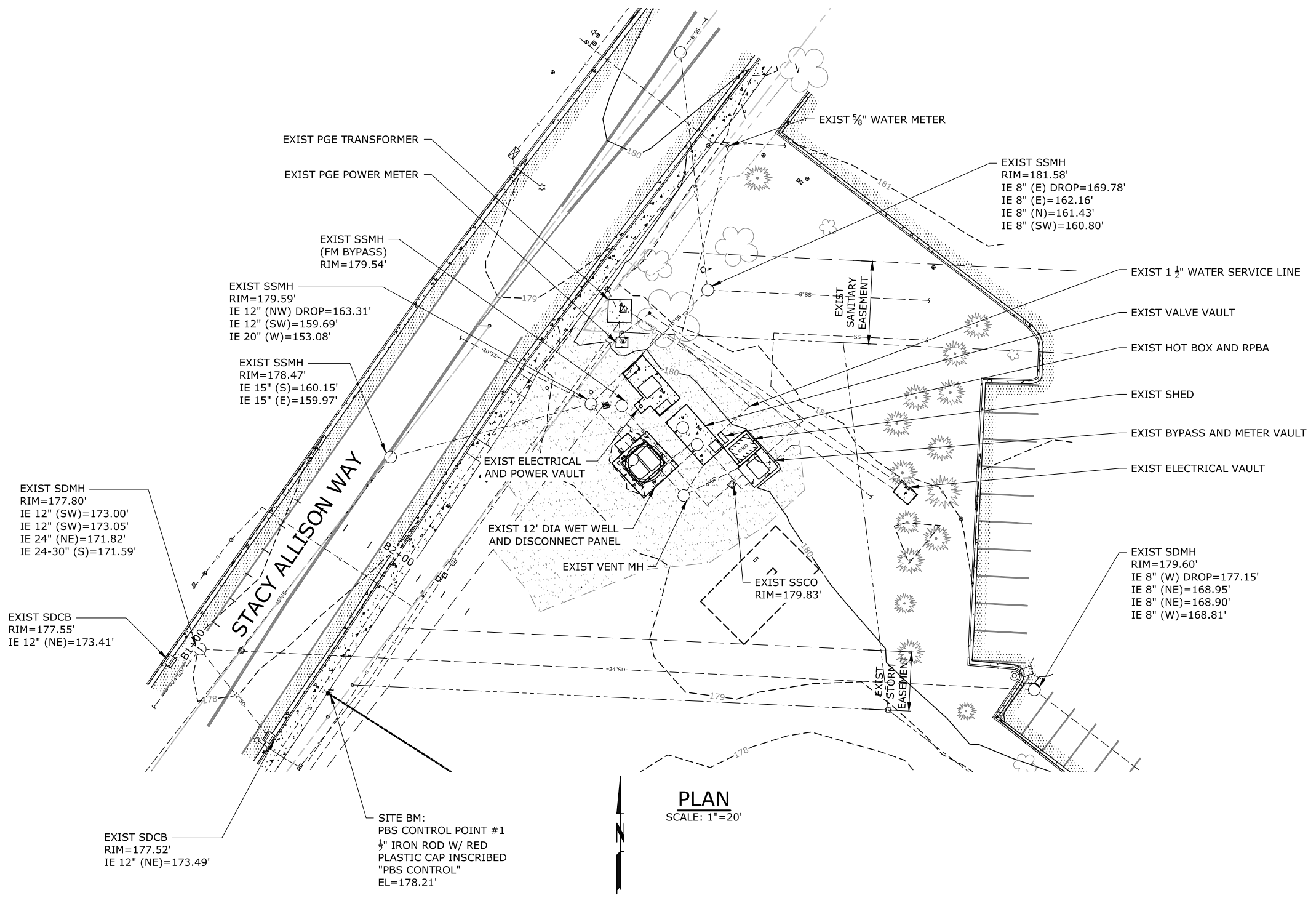


**WOODBURN**  
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CITY OF WOODBURN I-5  
PUMP STATION AND FORCE MAIN UPGRADES

<b>FORCE MAIN EROSION AND SEDIMENT CONTROL-4</b>			
PROJECT NO.:	19-2469.303	SCALE:	AS SHOWN
DATE:	JUNE 2021		

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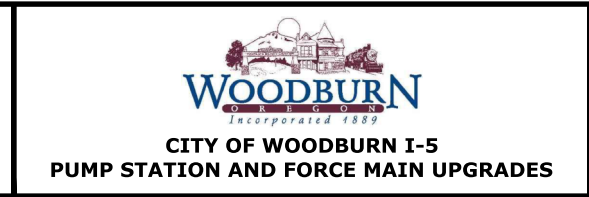
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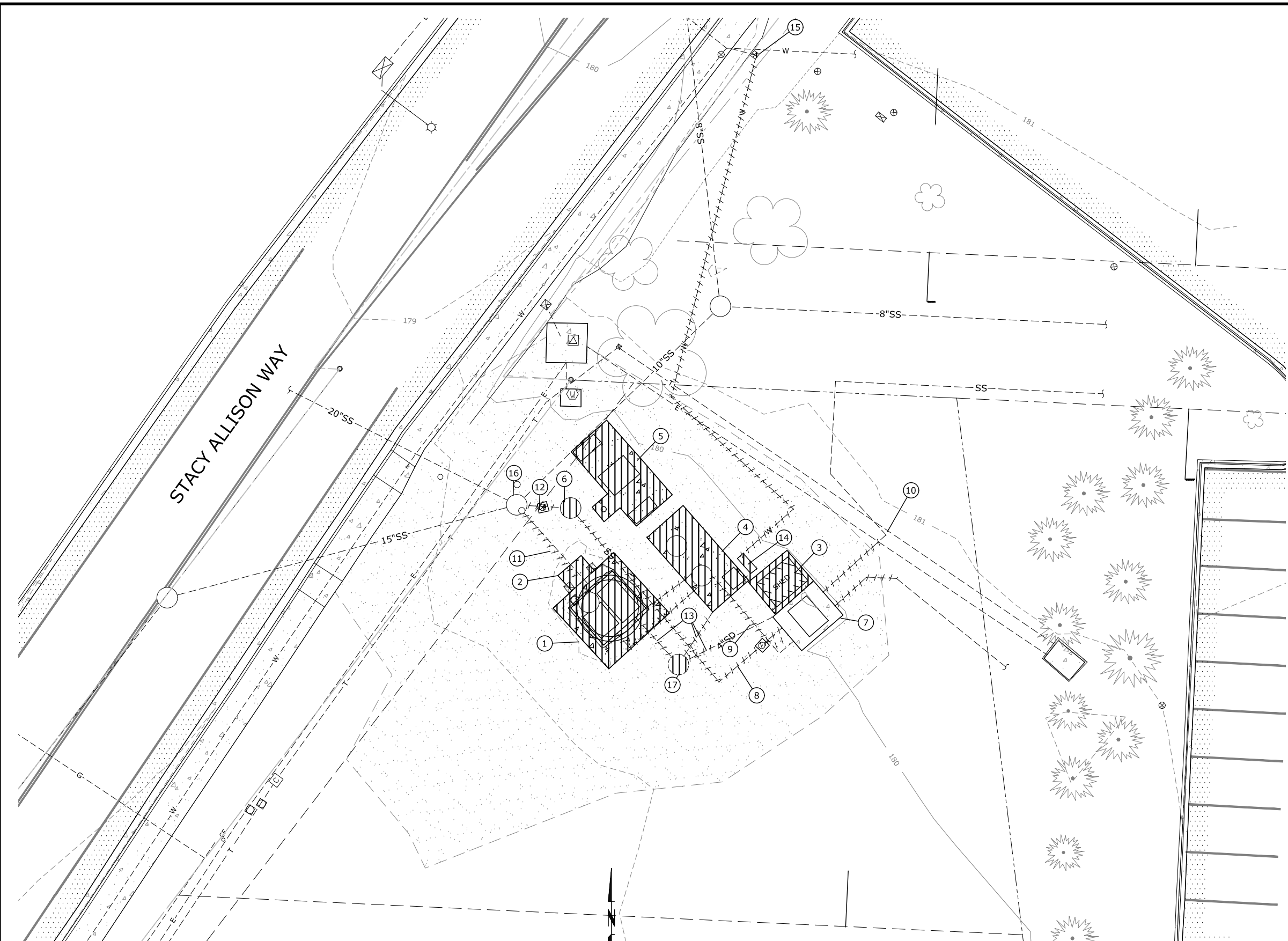


**EXISTING PUMP STATION SITE PLAN**

PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: JUNE 2021

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**PLAN**  
SCALE: 1"=10'

**KEY NOTES**

- 1 EXIST 12' DIA WET WELL, SEE SHT M-1 FOR DEMOLITION DETAIL
- 2 REMOVE, SALVAGE AND RETURN TO OWNER EXIST ELECTRICAL CABINET AND REMOVE AND DISPOSE OF CONC BASE
- 3 REMOVE AND DISPOSE EXIST SHED AND CONC BASE
- 4 REMOVE AND DISPOSE ALL VALVES AND PIPING WITHIN EXIST VALVE VAULT, SAWCUT VAULT 1' BELOW SURFACE AND DISPOSE OF TOP, BACKFILL VAULT WITH ¾"-0" CR
- 5 REMOVE, SALVAGE AND RETURN TO OWNER ALL ELECTRICAL EQUIPMENT WITHIN EXIST ELECTRICAL VAULT, SAWCUT VAULT 1' BELOW SURFACE AND DISPOSE OF TOP, BACKFILL VAULT WITH ¾"-0" CR
- 6 DEMO AND DISPOSE EXIST BYPASS MANHOLE TOP, SAWCUT 1' BELOW SURFACE, BACKFILL MANHOLE WITH ¾"-0" CR, SEE NOTE 1
- 7 EXIST VAULT TO REMAIN, REMOVE AND DISPOSE ALL PIPING AND VALVES WITHIN VAULT
- 8 REMOVE AND DISPOSE EXIST 8" DI FM AS NECESSARY TO FACILITATE INSTL OF NEW PIPING, CONTRACTOR SHALL FILL THE REST OF EXIST 8" DI PIPE W/ CLSM & ABAN AS SHOWN
- 9 REMOVE AND DISPOSE EXIST 12" DI FM AS NECESSARY TO FACILITATE INSTL OF NEW PIPING, CONTRACTOR SHALL FILL THE REST OF EXIST 12" DI PIPE W/ CLSM & ABAN AS SHOWN
- 10 REMOVE AND DISPOSE EXIST 12" DI FM FROM VAULT TO NEW FM TIE IN LOCATION, COORD WITH SHT C-4 & M-4 FOR REMOVAL LIMITS
- 11 REMOVE AND DISPOSE EXIST 24" SS PIPE, SEE SHT M-1
- 12 FILL 12" SS W/ CLSM & ABAN AS SHOWN, GROUT CORRESPONDING PENETRATION IN UPSTREAM MH
- 13 FILL 4" SD W/ CLSM & ABAN AS SHOWN, COORD ABANDONMENT OF LINE FROM VAULT WITH NEW VAULT DRAIN, SEE M SHTS
- 14 REMOVE AND DISPOSE EXIST HOT BOX AND RPBA DEVICE
- 15 CONTRACTOR TO EXCAVATE DOWN TO CORP STOP CONN POINT FOR ABANDONMENT BY CITY, CONTRACTOR TO PROVIDE ALL SHORING, EXCAVATION AND BACKFILL AS REQ'D, REMOVE AND DISPOSE OF METER BOX AND WATER SERVICE CONN DOWNSTREAM OF CORP STOP, CONTRACTOR TO COORD REMOVAL OF THE METER WITH THE CITY, RESTORE AT MINIMUM 2'-5" SIDEWALK PANELS PER DET 4150-8, SHT GD-3 W/ TYPE A CURB PER DET 4100-1, SHT GD-1, RESTORE SURROUNDING AREAS TO PRE-CONSTRUCTION CONDITIONS ONCE ABANDONMENT IS COMPLETE
- 16 REMOVE AND DISPOSE EXIST INFLUENT GATE VALVE IN MANHOLE
- 17 SAWCUT EXIST MANHOLE 1' BELOW SURFACE, BACKFILL MANHOLE WITH ¾"-0" CR

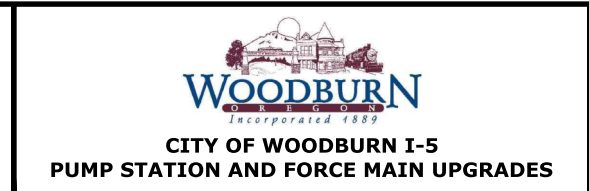
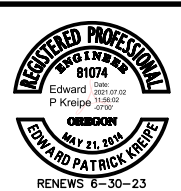
**SHEET NOTES:**

1. ABANDONMENT OF EXIST FACILITIES AND TEMPORARY BYPASSING SHALL BE COORD WITH PROPOSED UPGRADES AND PUMP STATION STARTUP. SEE SPECIFICATION 01 12 16 WORK SEQUENCING FOR MORE INFORMATION.
2. SEE SPECIFICATION SECTION 02 41 00-DEMOLITION FOR ADDITIONAL REQUIREMENTS OF ABANDONMENT OF STRUCTURES AND PIPING.

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**NOTICE**  
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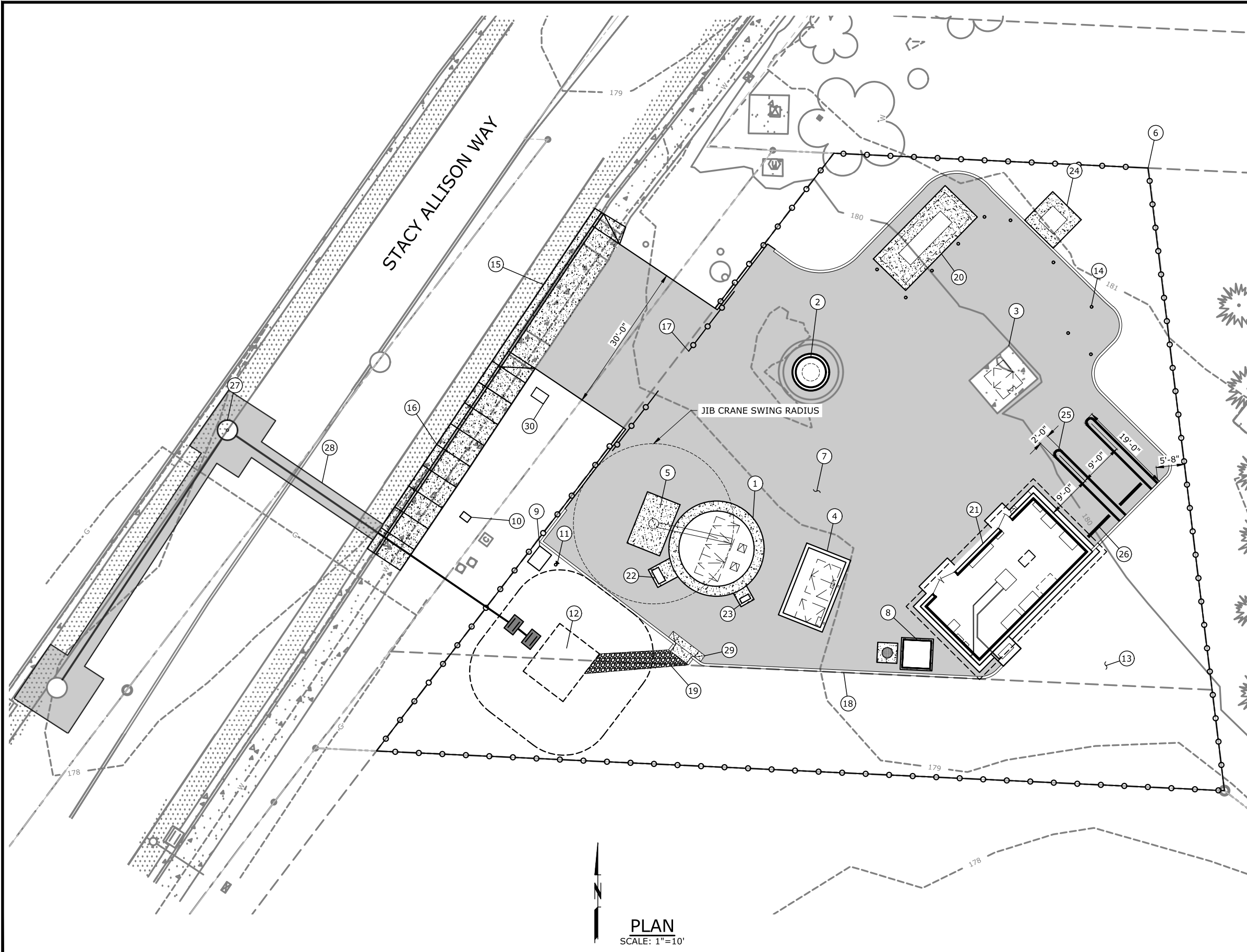


**EXISTING PUMP STATION  
DEMOLITION PLAN**

PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: JUNE 2021

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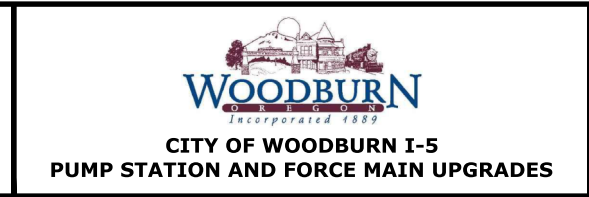
- KEY NOTES**
- 1 15' DIA CAST-IN-PLACE CONC WET WELL, SEE M-SHTS & S-SHTS
  - 2 6' DIA MH IN EXIST WET WELL, SEE SHT M-1
  - 3 EXIST VAULT, SEE SHT M-4
  - 4 VALVE VAULT, SEE M-SHTS
  - 5 JIB CRANE & CONC BASE, SEE M-SHTS & S-SHTS
  - 6 6' TALL CHAINLINK FENCE, SEE DET 4, SHT C-6
  - 7 AC PAVEMENT, SEE DET 6, SHT C-6
  - 8 4" CARV ENCLOSED IN HOT BOX, SEE M-SHTS
  - 9 RPBA ENCLOSED IN HOT BOX, SEE SHT C-4
  - 10 WATER METER, SEE SHT C-4
  - 11 YARD HYDRANT, SEE SHT C-4
  - 12 STORMWATER BASIN, SEE SHT C-7
  - 13 LANDSCAPE AREA, SEE L-SHTS
  - 14 BOLLARDS, TYP OF 10, SEE DET 1, SHT C-6
  - 15 30' WIDE CONC D/W ENTRANCE W/ TYPE A CURB, SEE CITY STD DET 4150-1 AND 4100-4 ON SHT GD-2
  - 16 6' WIDE CONC S/W REPAIR W/ TYPE A CONC CURB, SEE CITY STD DET 4150-8, SHT GD-3 AND STD DET 4100-1, SHT GD-1
  - 17 30' WIDE DOUBLE CANTILEVER GATE, SEE DET 5 SHT C-6
  - 18 TYPE C CONC CURB, SEE CITY STD DET 4100-2, GD-1
  - 19 RIP-RAP ENERGY DISSIPATOR, SEE SHT C-7
  - 20 GENERATOR W/ CONC SLAB, SEE E-SHTS & S-SHTS
  - 21 ELEC/ CONTROL BLDG, SEE A-SHTS
  - 22 PUMP DISCONNECT PANEL, SEE M-SHTS & E-SHTS
  - 23 SENSOR DISCONNECT PANEL, SEE M-SHTS & E-SHTS
  - 24 TRANSFORMER W/ CONC PAD ON GRADE PER PGE STANDARDS, SEE E-SHTS
  - 25 ON-SITE PARKING SPACES W/ 4" WIDE WHITE STRIPING AS SHOWN, TYP OF 2
  - 26 CONC WHEEL BARRIER, TYP OF 2
  - 27 4' DIA STORMWATER MANHOLE, SEE SHT C-4
  - 28 AC REPAIR TRENCH PATCH, MATCH EXIST THICKNESS, SEE CITY STD DET 3800-5, SHT GD-1
  - 29 4' CURB CUTOUT, SEE DET 2, SHT C-6
  - 30 OLDCASTLE 233-PGD 32"x44"x42" COMMUNICATION VAULT, SEE E SHTS FOR FO LINE

**PLAN**  
SCALE: 1"=10'

NO.	DATE	BY	REVISION

**NOTICE**  
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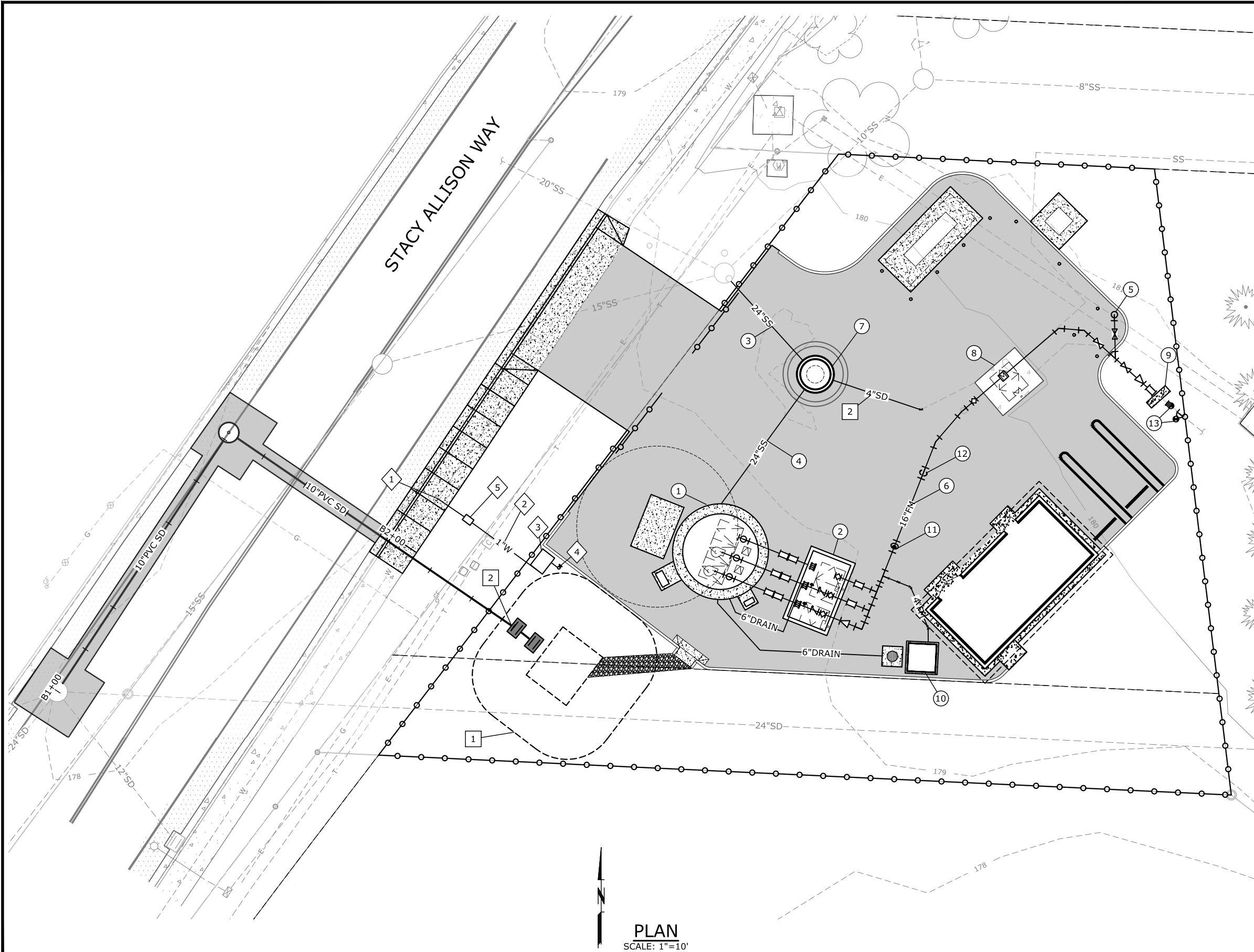
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**PUMP STATION SITE PLAN**  
PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: JUNE 2021

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**SANITARY SEWER NOTES**

- ① 15' DIA CAST-IN-PLACE CONC WET WELL, SEE M-SHTS
- ② 8'-0"x14'-0" VALVE VAULT, SEE M-SHTS
- ③ 22 LF OF 24" C900 PVC GRAVITY SEWER PIPE, SEE SHT M-1
- ④ 29 LF OF 24" C900 PVC GRAVITY SEWER PIPE, SEE M-SHTS
- ⑤ ABOVE-GRADE BYPASS/PIG LAUNCH STATION, SEE SHT M-4
- ⑥ 100 LF OF 16" CLASS 52 DI FM, SEE M-SHTS
- ⑦ 6' DIA FLAT TOP BYPASS MANHOLE INSIDE EXIST 11' DIA WET WELL, SEE SHT M-1
- ⑧ EXIST 8'-0"x10'-0" VAULT CONVERTED TO METER VAULT, SEE SHT M-4 FOR DETAILS
- ⑨ CONN TO EXIST 12" FM, APPROX IE=175.00', CONTRACTOR TO POT HOLE LOCATION AND IE OF CONN POINT, SEE SHT M-4
- ⑩ 4" CARV ENCLOSED IN HOT-BOX, SEE M-SHTS
- ⑪ 11.25° DI BEND, MJ ROLLED UP, IE=171.33
- ⑫ 11.25° DI BEND, MJ ROLLED DOWN TO HORIZ, IE=174.33
- ⑬ LINE STOP AND HOT TAP FOR TEMPORARY BYPASS CONNECTION, SEE SPEC 01 12 16

**STORM NOTES**

- ① STORMWATER DETENTION BASIN, SEE SHT C-7
- ② OVERFLOW STRUCTURE, SEE SHT C-8 FOR STORMLINE PLAN AND PROFILE

**WATER NOTES**

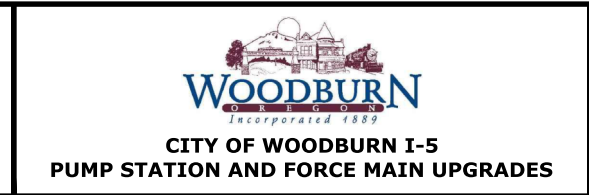
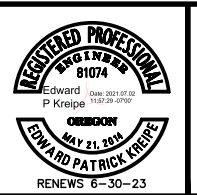
- ① 1" WATER SERVICE CONN, SEE CITY STD DET 5000-4, SHT GD-3
- ② 25 LF OF 1" COPPER WATER SERVICE LINE AT APPRX 30" DEEP
- ③ RPBA ENCLOSED IN HOT BOX, SEE DET 3, SHT C-6
- ④ 1" NON-FREEZE POST-TYPE YH, FIELD LOCATE W/ ENGINEER
- ⑤ WATER METER, SEE CITY STD DET 5050-1, SHT GD-3

PLAN  
SCALE: 1"=10'

NO.	DATE	BY	REVISION

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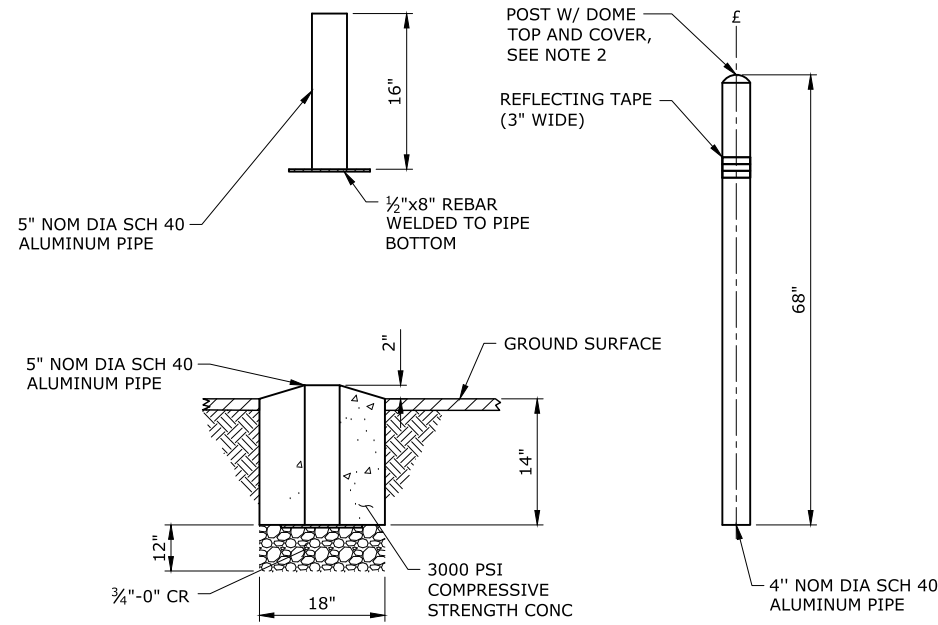
**PUMP STATION PIPING PLAN**  
PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: JUNE 2021

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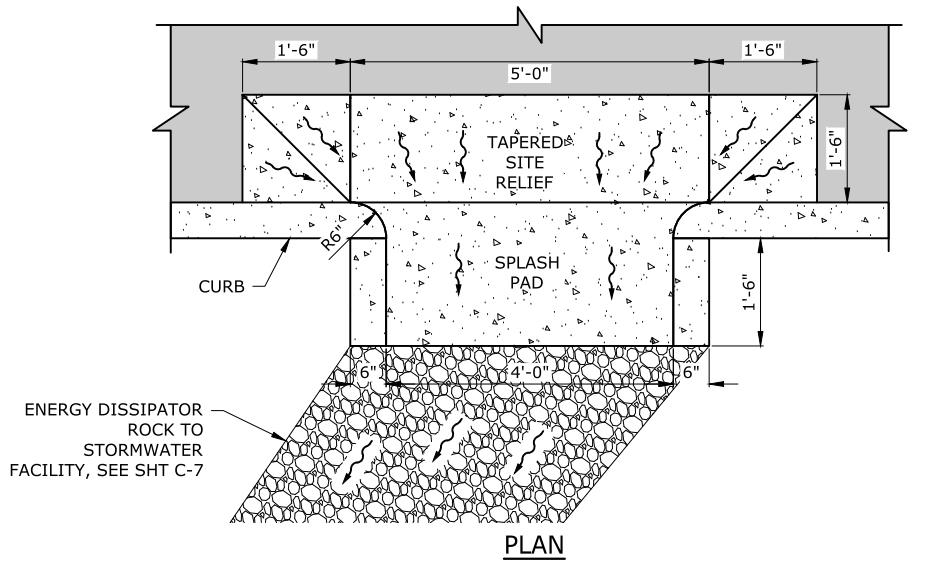


**NOTES:**

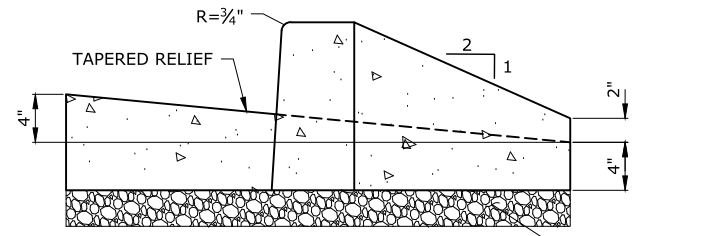
1. GENERAL LOCATION OF BOLLARDS SHOWN ON PLANS. LOCATE BOLLARDS WITH A MINIMUM 3' CLEARANCE FROM ALL UNDERGROUND PIPING AND APPURTENANCES AND A MINIMUM 2' CLEARANCE FROM ALL STRUCTURES. BOLLARD LOCATIONS SHALL BE AS DIRECTED BY THE OWNER'S REPRESENTATIVE.
2. COVER ALUMINUM PIPE WITH YELLOW 1/8" THICK HIGH DENSITY POLYETHYLENE DOME TOP BOLLARD COVER BY POST GUARD OR APPROVED EQUAL.

**4" REMOVABLE BOLLARD**

SCALE: NTS



**PLAN**



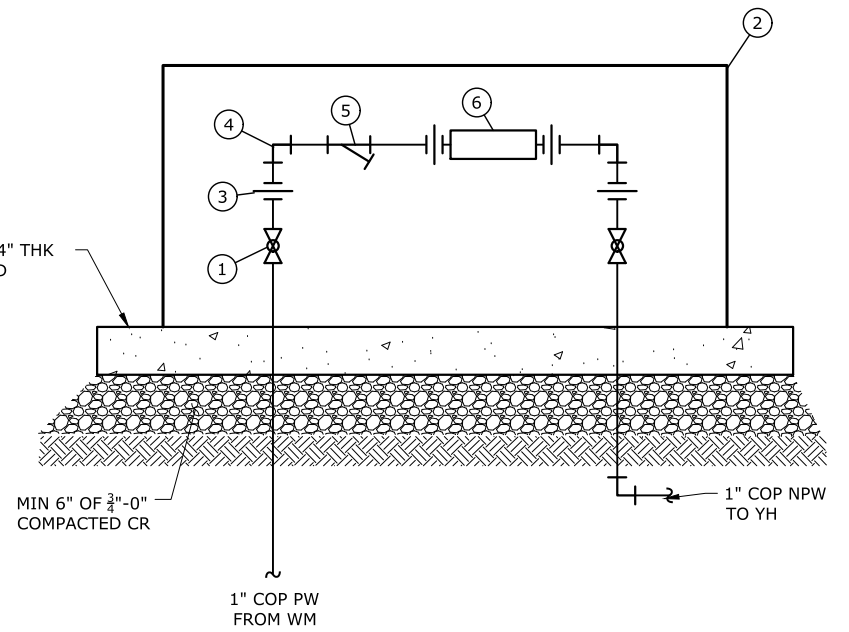
**ELEVATION**

**CURB CUTOUT**

SCALE: NTS



48"x36"x4" THK CONC PAD

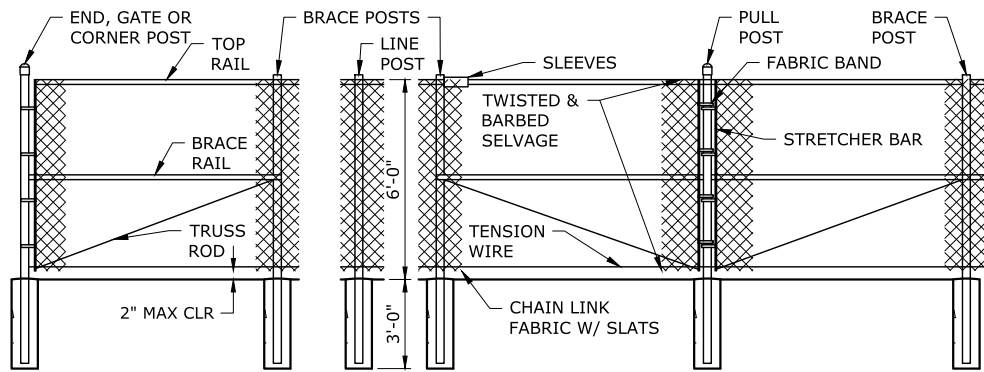


**KEY NOTES**

- 1 1" BRONZE BV, TYP OF 2
- 2 HOT BOX HB1.5 ENCLOSURE W/ HEAT TAPE, MOUNTED TO CONC SLAB PER MFR REQUIREMENTS
- 3 1" COP UNION, TYP OF 4
- 4 1" COP 90° BEND, TYP OF 3
- 5 1" BRONZE WYE STRAINER
- 6 RBPB

**HOT BOX AND PLUMBING DETAIL**

SCALE: NTS

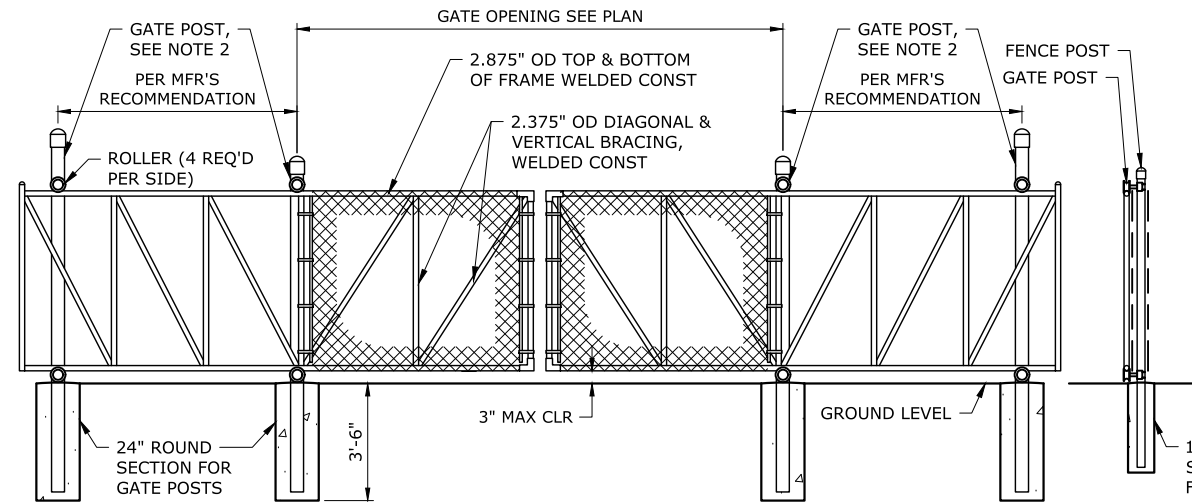


**NOTES:**

1. LAYOUT AND INSTALL FENCE POSTS TO MAINTAIN MAXIMUM 2" SPACE BETWEEN BOTTOM OF FENCE AND GROUND SURFACE.
2. CHAIN LINK FENCE FENCE TO BE POWDER COATED BLACK, SEE SPECS.

**CHAIN LINK FENCE**

SCALE: NTS

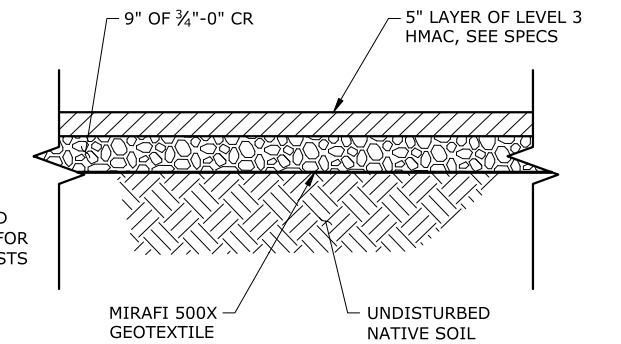


**NOTES:**

1. PROVIDE LOCK ASSY AND GATE STOP FOR EACH GATE, SEE SPECS.
2. OD FOR GATE POSTS SHALL BE SIZED BY GATE MFR FOR THE SPECIFIED GATE OPENING WIDTH

**DOUBLE CANTILEVER ROLLING GATE**

SCALE: NTS



**TYPICAL AC PAVEMENT SECTION**

SCALE: NTS



NO.	DATE	BY	REVISION

NOTICE

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BAW DRAWN  
EPK CHECKED

REGISTERED PROFESSIONAL ENGINEER  
81074  
Edward P. Kreipe  
MAY 21, 2014  
EDWARD PATRICK KREIPE  
RENEWS 6-30-23

**murraysmith**

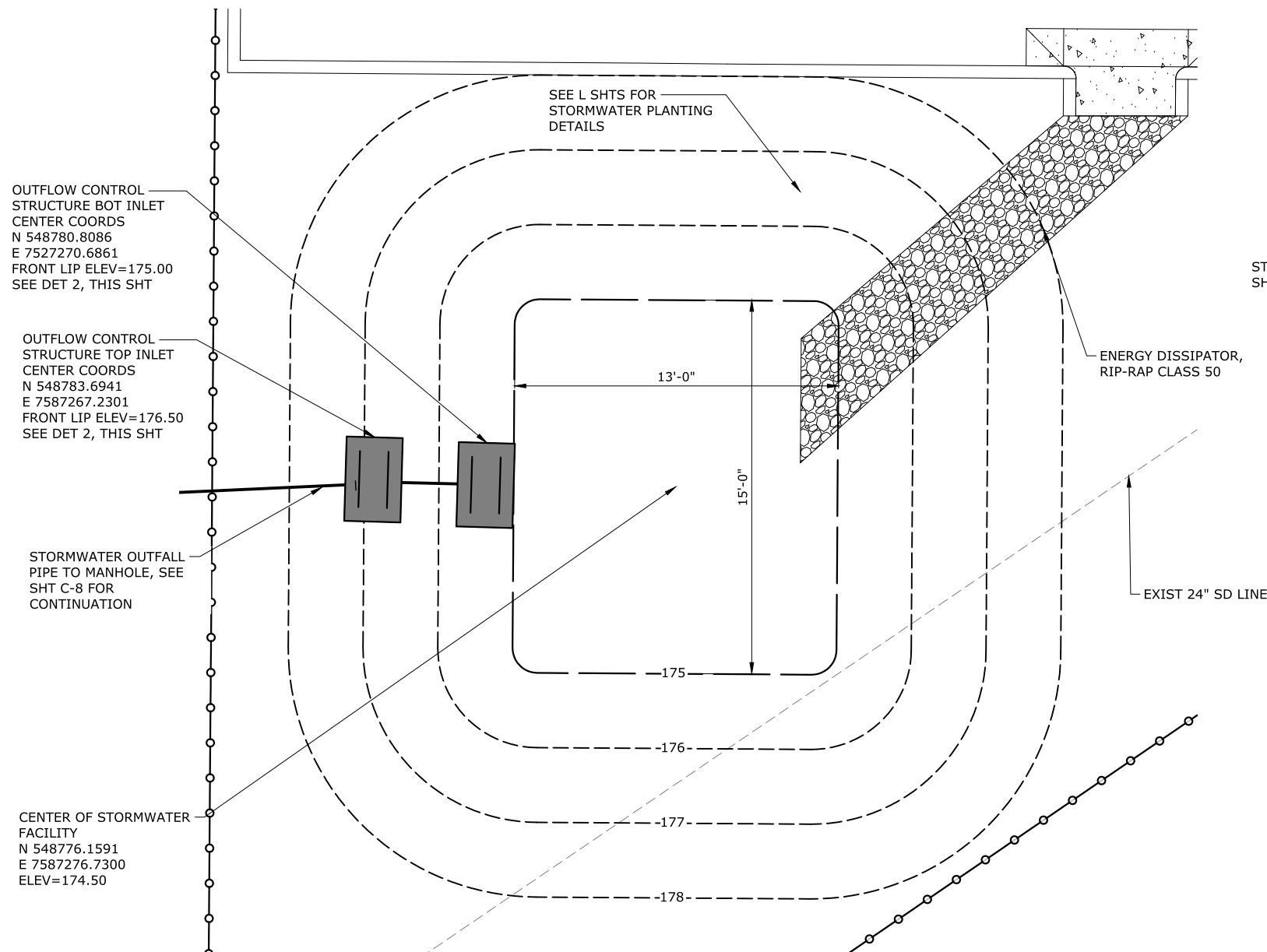
**WOODBURN**  
CITY OF WOODBURN I-5  
PUMP STATION AND FORCE MAIN UPGRADES

**PUMP STATION CIVIL DETAILS-1**

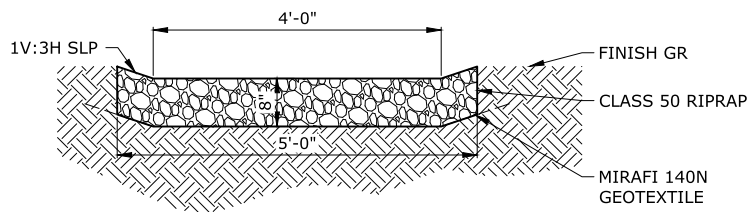
PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: JUNE 2021

SHEET  
**C-6**  
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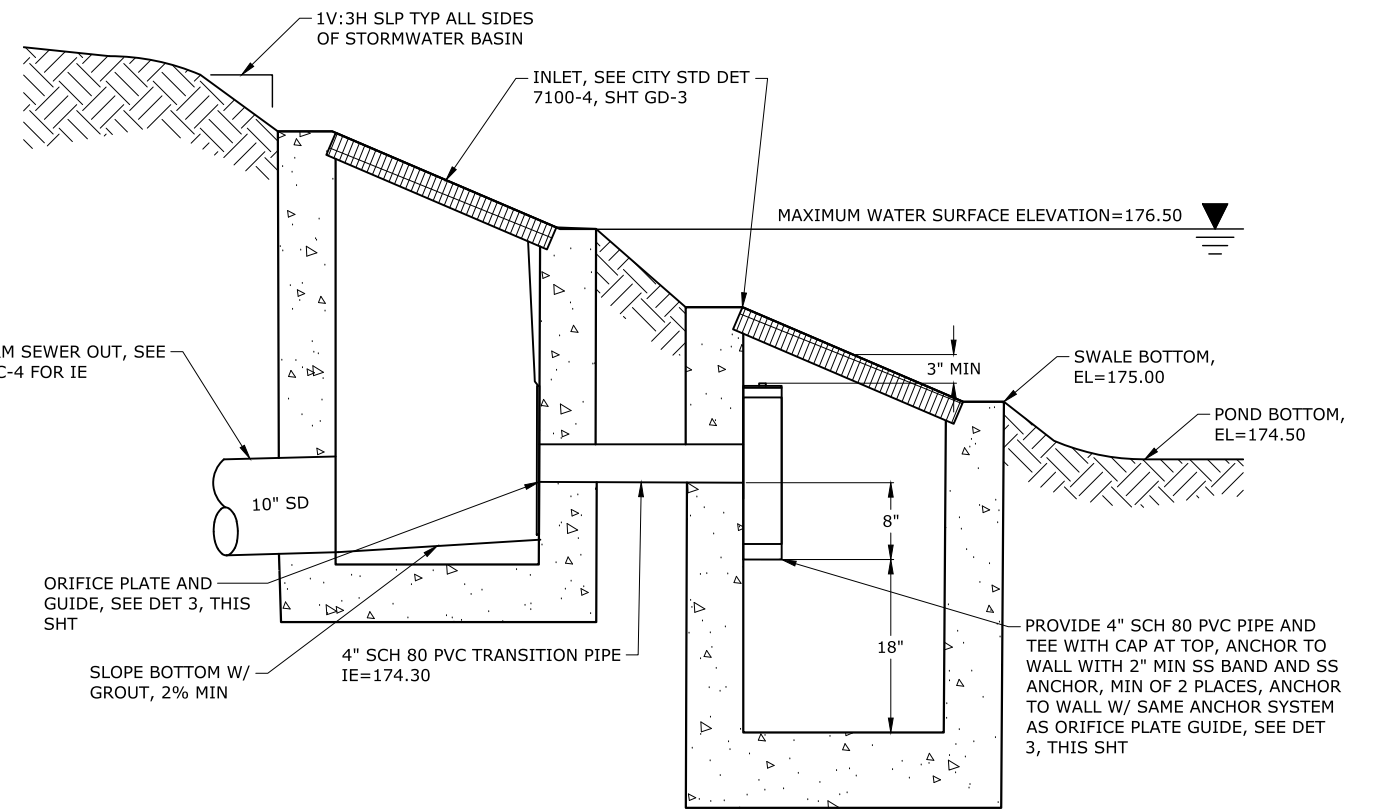
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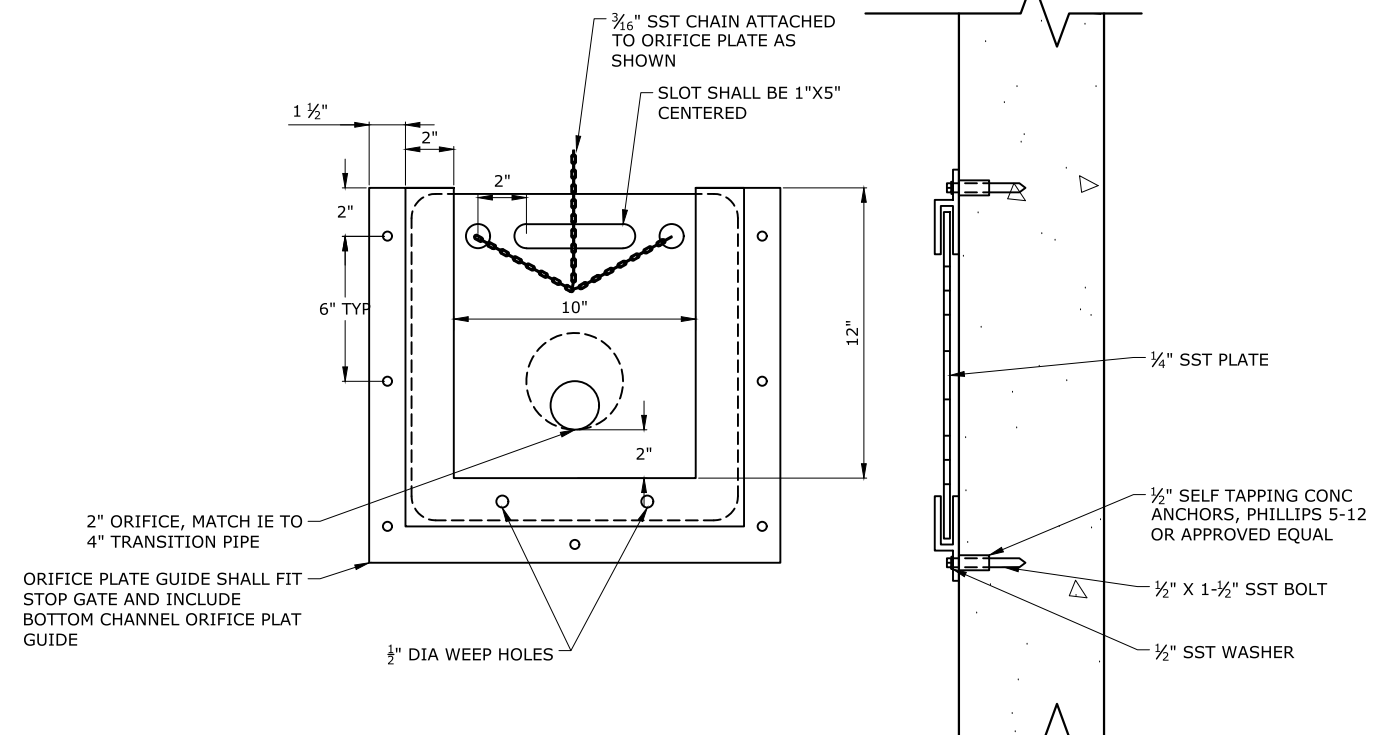
**STORMWATER FACILITY**  
SCALE: 1"=3'-0"



**ENERGY DISSIPATOR**  
SCALE: NTS



**OUTFLOW CONTROL STRUCTURE**  
SCALE: NTS

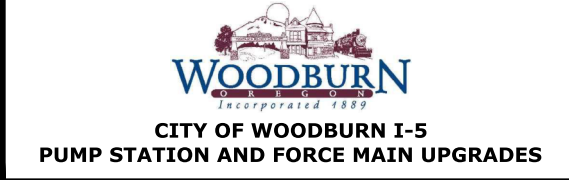


**ORIFICE PLATE**  
SCALE: NTS

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BAW DRAWN  
MLC CHECKED

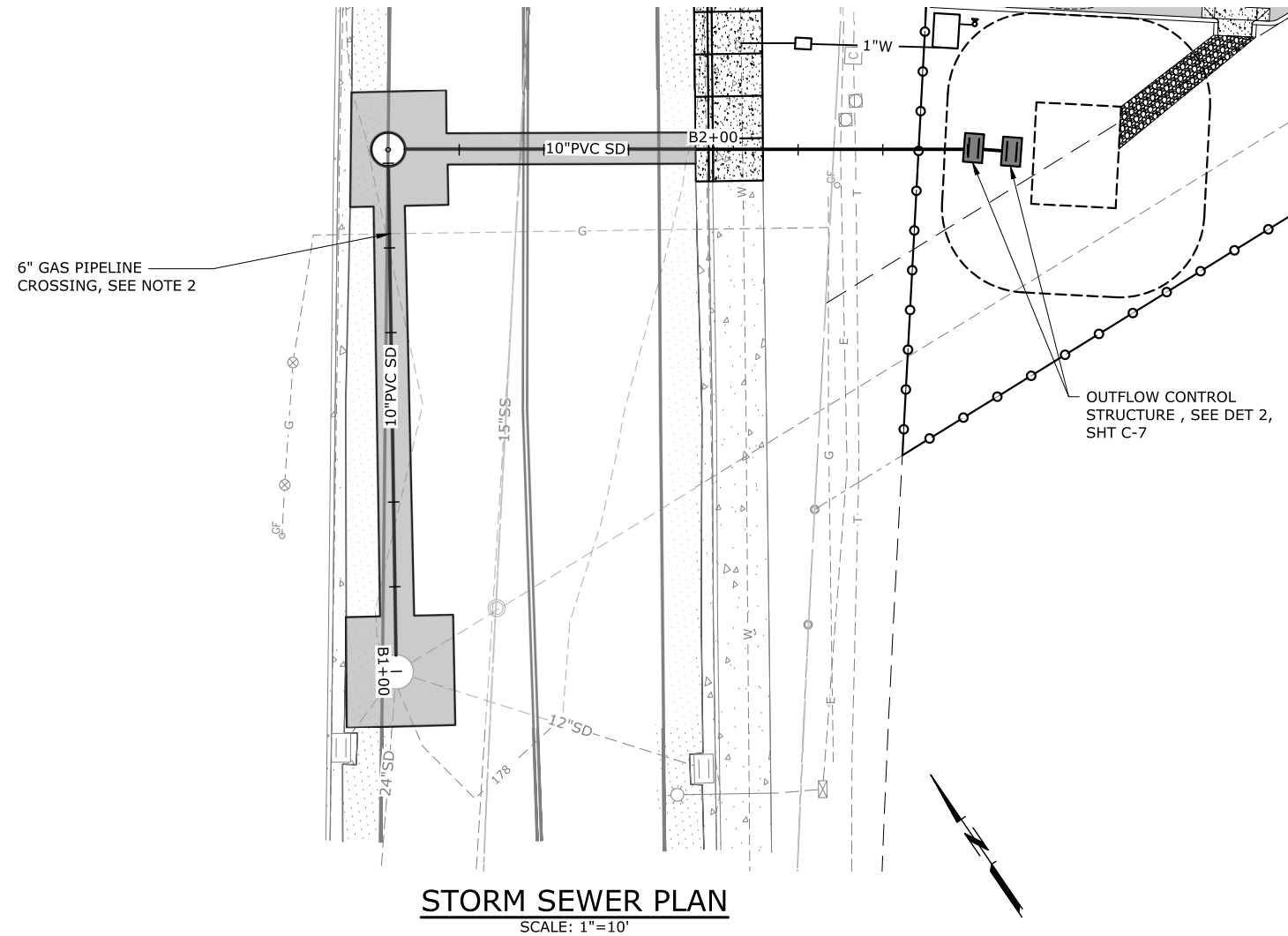


**PUMP STATION CIVIL DETAILS-2**

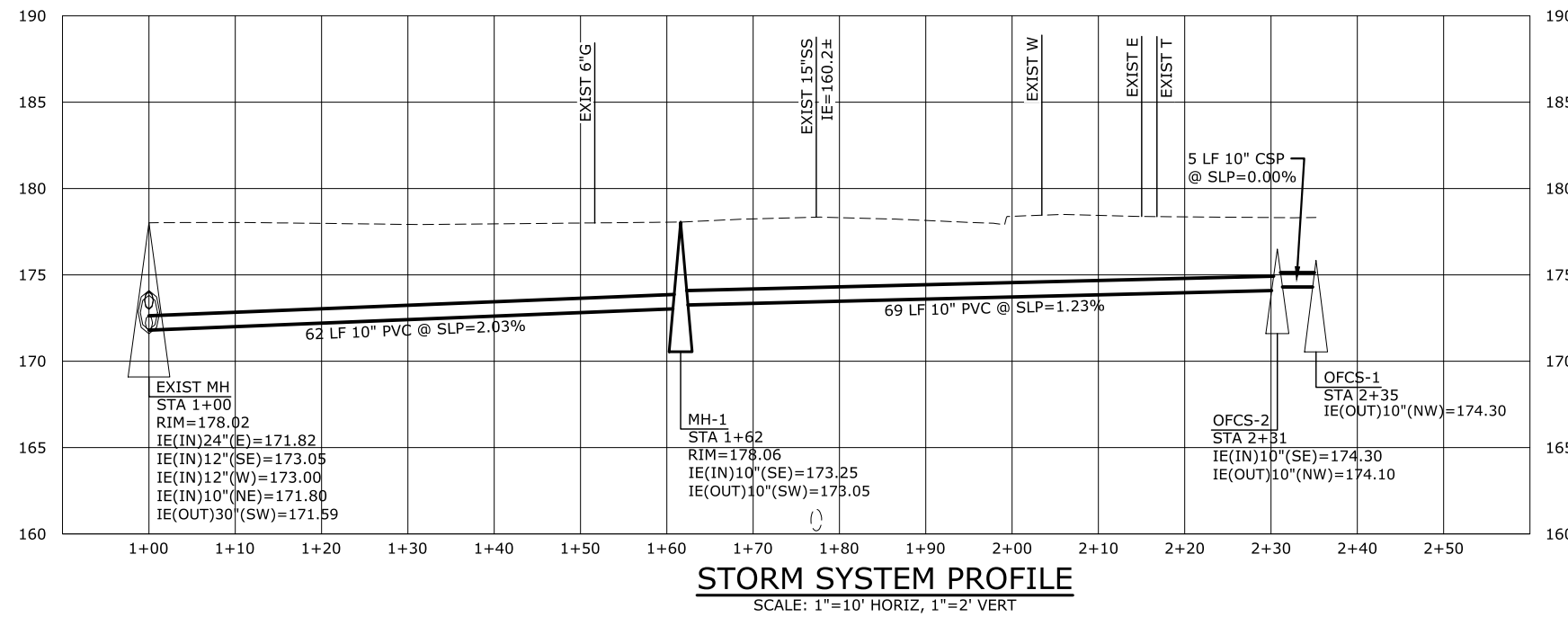
PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: JUNE 2021

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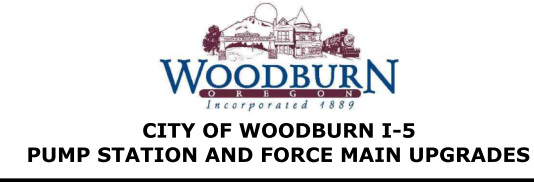
- NOTES:
1. CONTRACTOR TO POTHOLE ALL UTILITY CROSSING FOR STORM SYSTEM PLAN A MINIMUM OF 30 DAYS PRIOR TO INSTALLATION OF STORM SEWER LINE AND PROVIDE INVERT ELEVATIONS TO ENGINEER.
  2. CONTRACTOR SHALL NOTIFY NORTHWEST NATURAL 72 HOURS PRIOR TO POTHOLING FOR THIS UTILITY AND PRIOR TO INSTALLATION OF THE STORM SEWER LINE. CONTRACTOR TO COORDINATE AND ALLOW NWN TO VISIT THE SITE AND OBSERVE ALL WORK NEAR THIS GAS PIPELINE.



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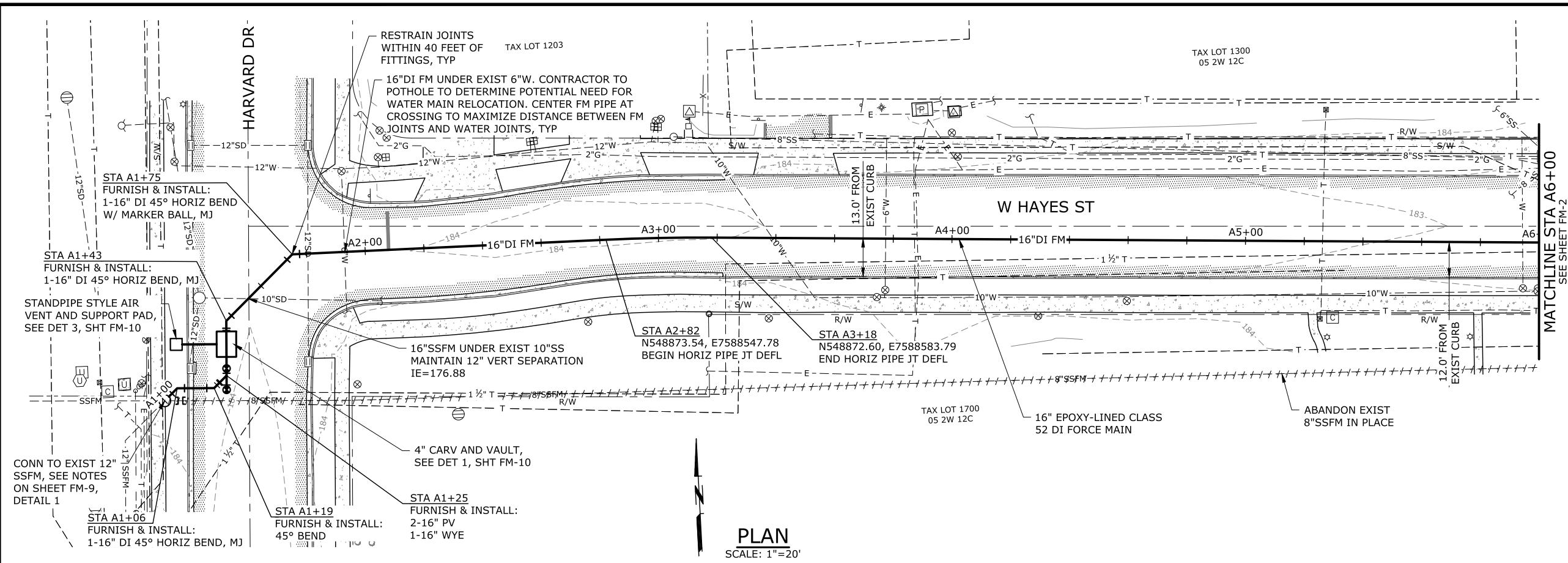


**STORM SYSTEM PLAN AND PROFILE**

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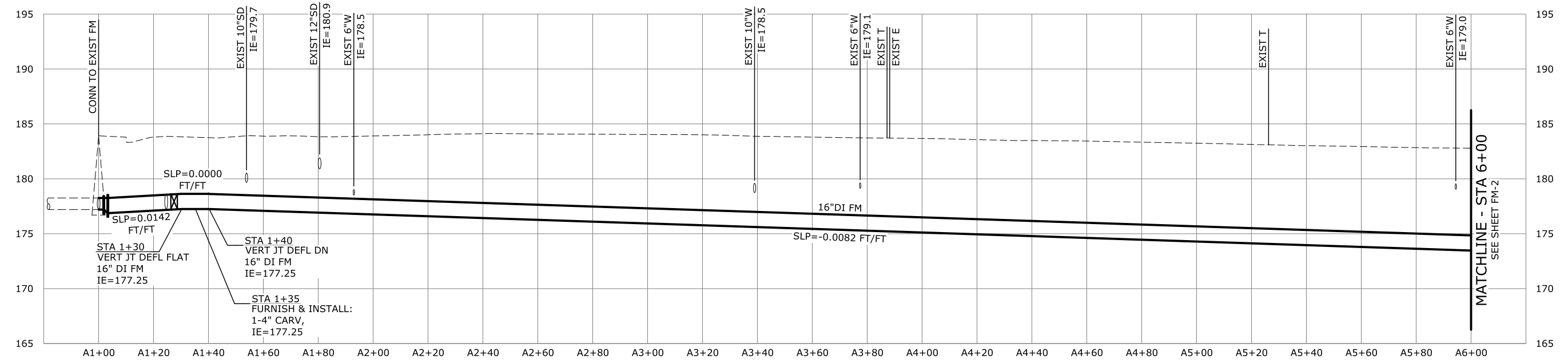
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**PLAN**  
SCALE: 1"=20'

- NOTES:**
- EXIST UTILITY LOCATIONS AND ELEVATIONS SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL POTHOLE AND VERIFY LOCATIONS, ELEVATIONS, TYPES, AND SIZES OF ALL EXIST UTILITIES PRIOR TO CONSTRUCTING NEW PIPING FAR ENOUGH IN ADVANCE TO ALLOW NECESSARY ADJUSTMENTS IN GRADE, AND SHALL NOTIFY ENGINEER OF NEED TO ADJUST PIPING INSTALLATION ACCORDINGLY. POTHOLING ELEVATION ADJUSTMENTS TO BE ACCOMPLISHED WITHOUT REWORK. ELEVATION ADJUSTMENTS SHALL BE EXPECTED AND ARE INCIDENTAL TO THE WORK.
  - CONTRACTOR TO PROVIDE ALL NECESSARY BLOCKING, FITTINGS, AND SUPPORTS TO FACILITATE FORCE MAIN TESTING.
  - PIPE CURVATURE RESULTS FROM JOINT DEFLECTION OF 3 DEGREES PER JOINT.
  - CONTRACTOR TO PROTECT, RESTRAIN, AND SUPPORT EXIST UTILITIES AS NECESSARY TO SAFELY INSTALL FORCE MAIN.
  - ALL PIPE AND FITTINGS TO BE CLASS 52 DUCTILE IRON WITH MECHANICAL JOINTS UNLESS OTHERWISE SPECIFIED.
  - ALL FITTINGS TO BE INSTALLED WITH MARKER BALLS AS SPECIFIED.



**PROFILE**  
SCALE: 1"=20' H; 1"=5' V

NO.	DATE	BY	REVISION

**NOTICE**

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DESIGNED  
NEM  
DRAWN  
MLC/JBT  
CHECKED

**REGISTERED PROFESSIONAL ENGINEER**

68378

by Michael L. Carr

Date: 07/21/2021

07/21/2021

MICHAEL L. CARR

RENEWS 12-31-21

**murraysmith**

**WOODBURN**  
INCORPORATED 1889

**CITY OF WOODBURN I-5  
PUMP STATION AND FORCE MAIN UPGRADES**

**FORCE MAIN  
PLAN AND PROFILE - 1**

PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: JUNE 2021

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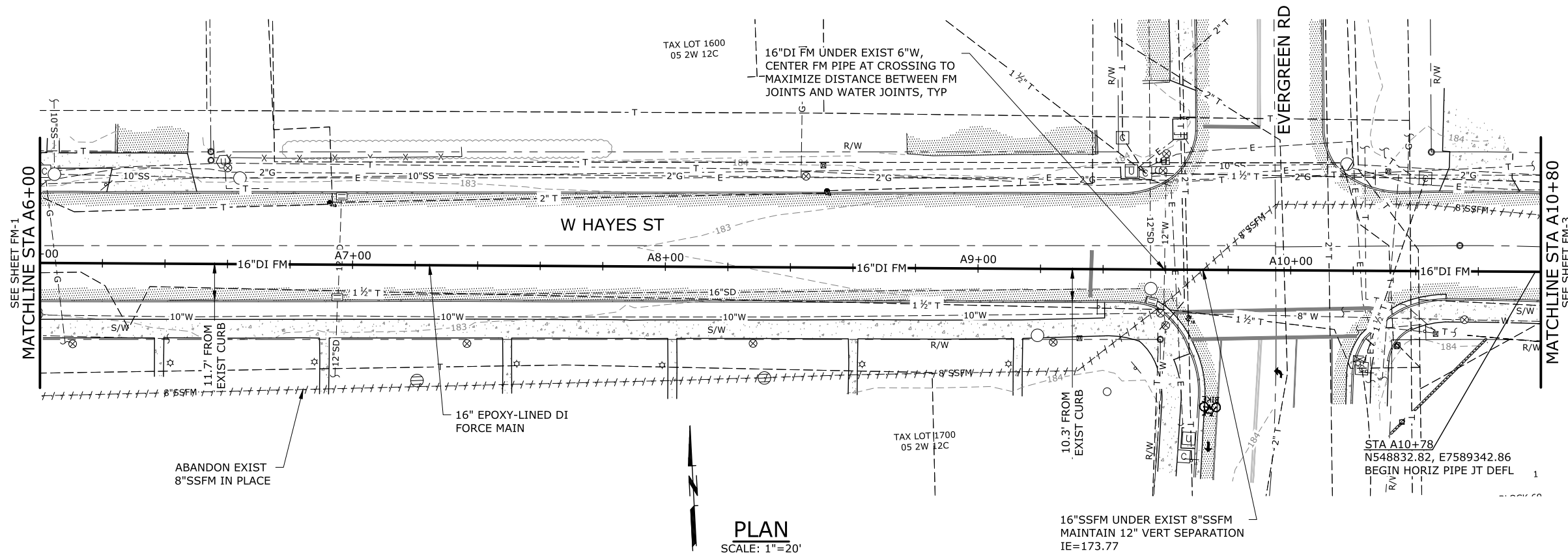
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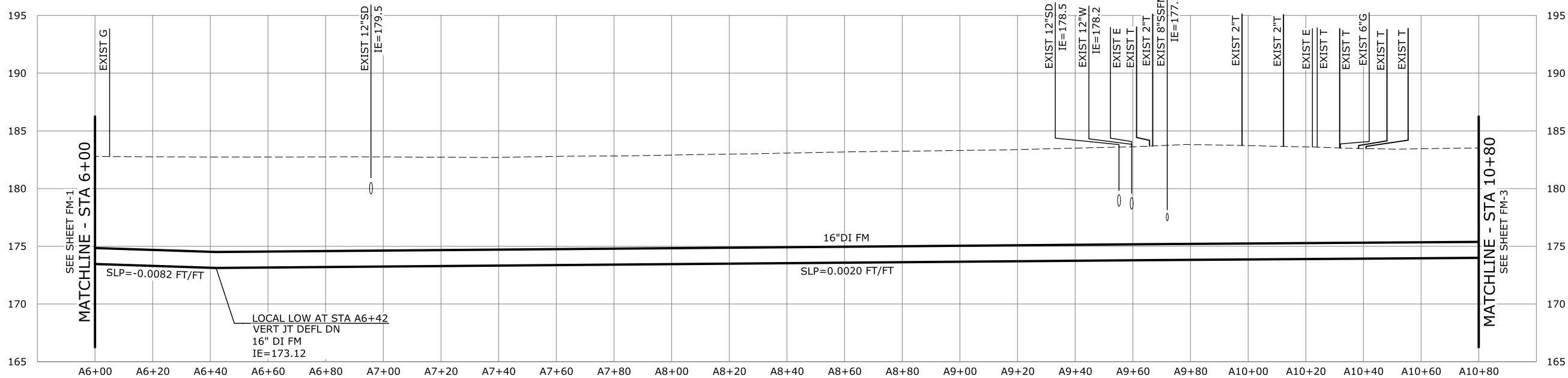
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**PLAN**  
SCALE: 1"=20'



**PROFILE**  
SCALE: 1"=20' H; 1"=5' V

NO.	DATE	BY	REVISION

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DRAWN  
**MLC/JBT**  
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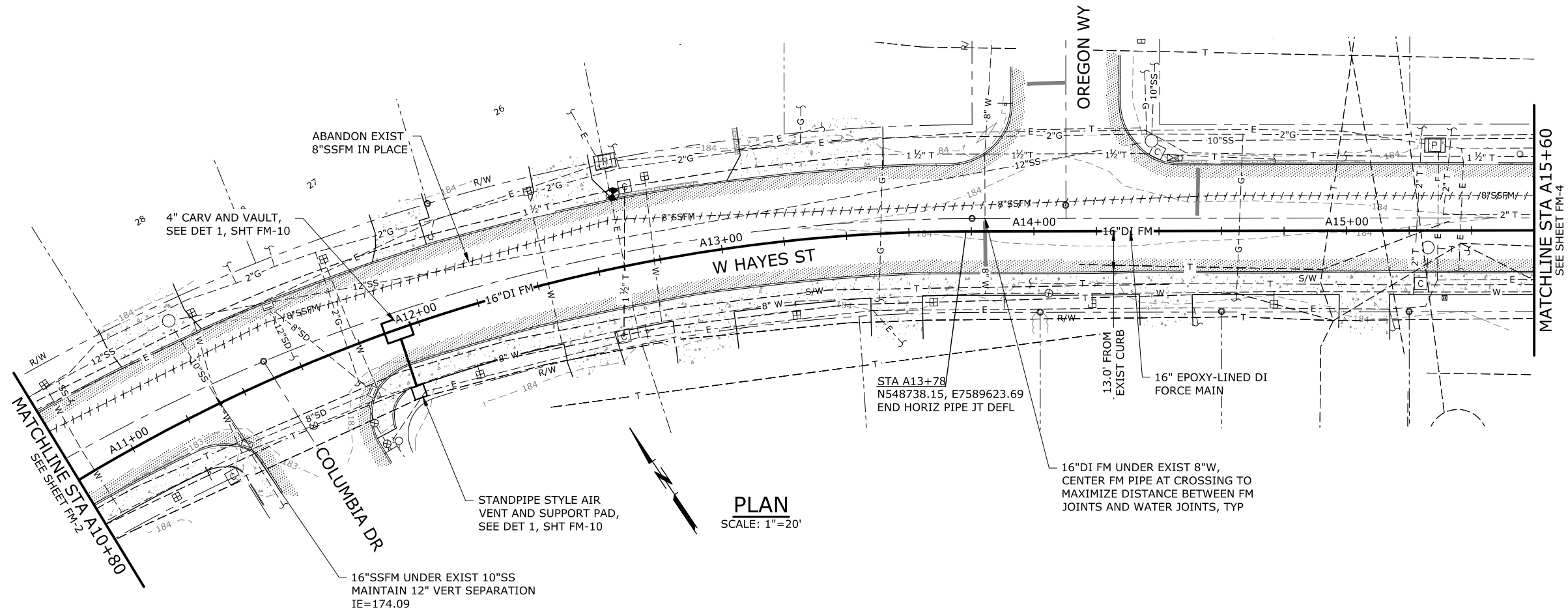


**WOODBURN**  
Incorporated 1889  
CITY OF WOODBURN I-5  
PUMP STATION AND FORCE MAIN UPGRADES

**FORCE MAIN  
PLAN AND PROFILE - 2**

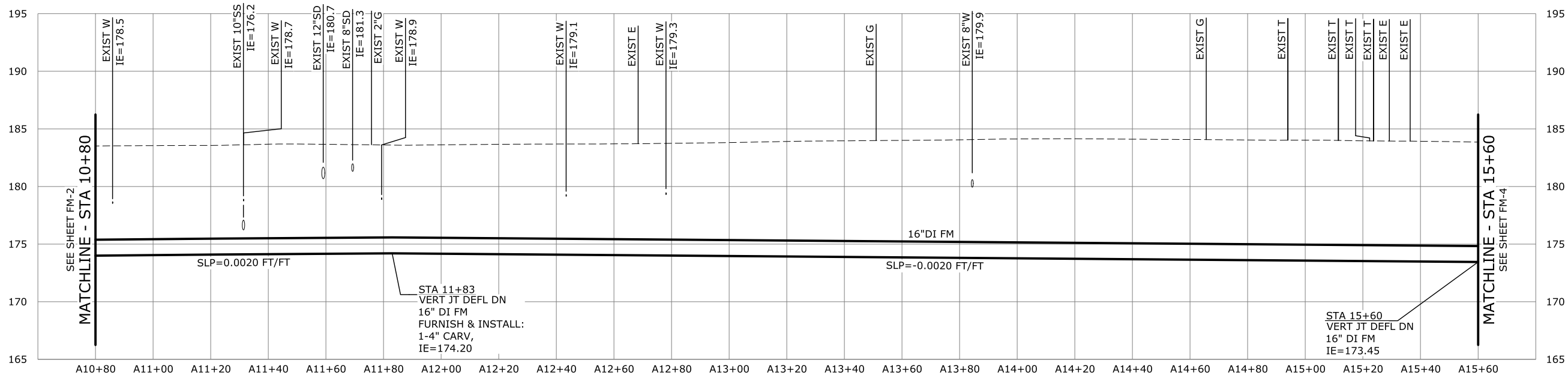
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**PLAN**  
SCALE: 1"=20'

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  - ALL PIPE AND FITTINGS TO BE CLASS 52 DUCTILE IRON WITH MECHANICAL JOINTS UNLESS OTHERWISE SPECIFIED.
  - ALL FITTINGS TO BE INSTALLED WITH MARKER BALLS AS SPECIFIED.

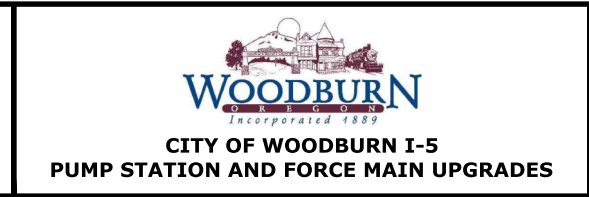


**PROFILE**  
SCALE: 1"=20' H; 1"=5' V

NO.	DATE	BY	REVISION

**NOTICE**  
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**KBR**  
DESIGNED  
**NEM**  
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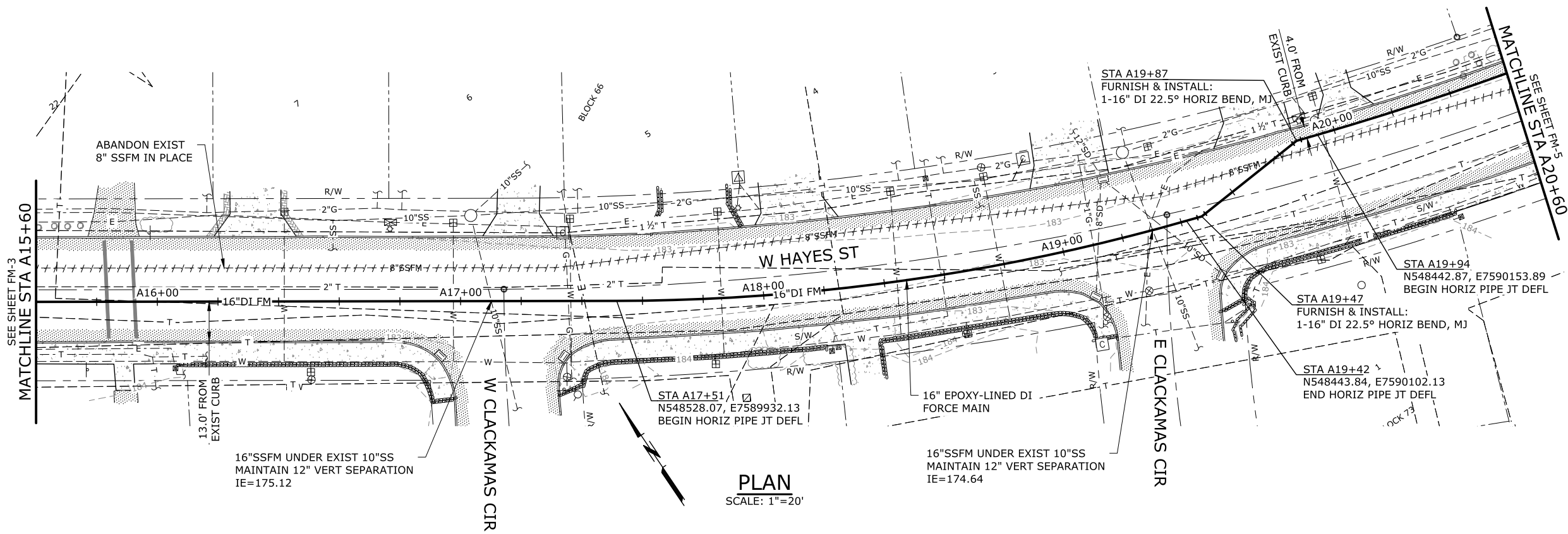


**FORCE MAIN  
PLAN AND PROFILE - 3**

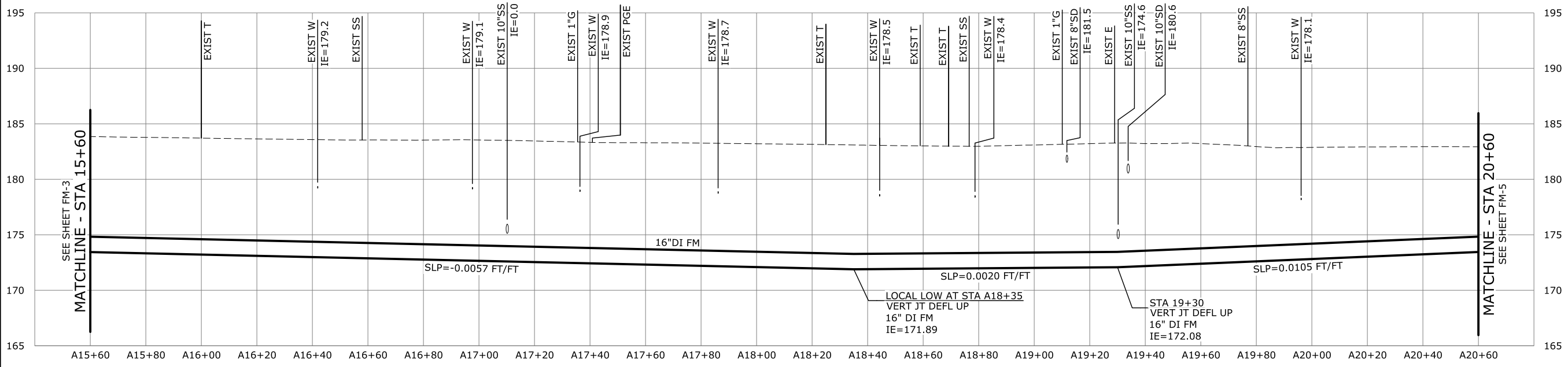
PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: JUNE 2021

SHEET  
**FM-3**  
30 of 83

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- NOTES:**
- EXIST UTILITY LOCATIONS AND ELEVATIONS SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL POTHOLE AND VERIFY LOCATIONS, ELEVATIONS, TYPES, AND SIZES OF ALL EXIST UTILITIES PRIOR TO CONSTRUCTING NEW PIPING FAR ENOUGH IN ADVANCE TO ALLOW NECESSARY ADJUSTMENTS IN GRADE, AND SHALL NOTIFY ENGINEER OF NEED TO ADJUST PIPING INSTALLATION ACCORDINGLY. POTHOLING ELEVATION ADJUSTMENTS TO BE ACCOMPLISHED WITHOUT REWORK. ELEVATION ADJUSTMENTS SHALL BE EXPECTED AND ARE INCIDENTAL TO THE WORK.
  - CONTRACTOR TO PROVIDE ALL NECESSARY BLOCKING, FITTINGS, AND SUPPORTS TO FACILITATE FORCE MAIN TESTING.
  - PIPE CURVATURE RESULTS FROM JOINT DEFLECTION OF 3 DEGREES PER JOINT.
  - CONTRACTOR TO PROTECT, RESTRAIN, AND SUPPORT EXIST UTILITIES AS NECESSARY TO SAFELY INSTALL FORCE MAIN.
  - ALL PIPE AND FITTINGS TO BE CLASS 52 DUCTILE IRON WITH MECHANICAL JOINTS UNLESS OTHERWISE SPECIFIED.
  - ALL FITTINGS TO BE INSTALLED WITH MARKER BALLS AS SPECIFIED.



NO.	DATE	BY	REVISION

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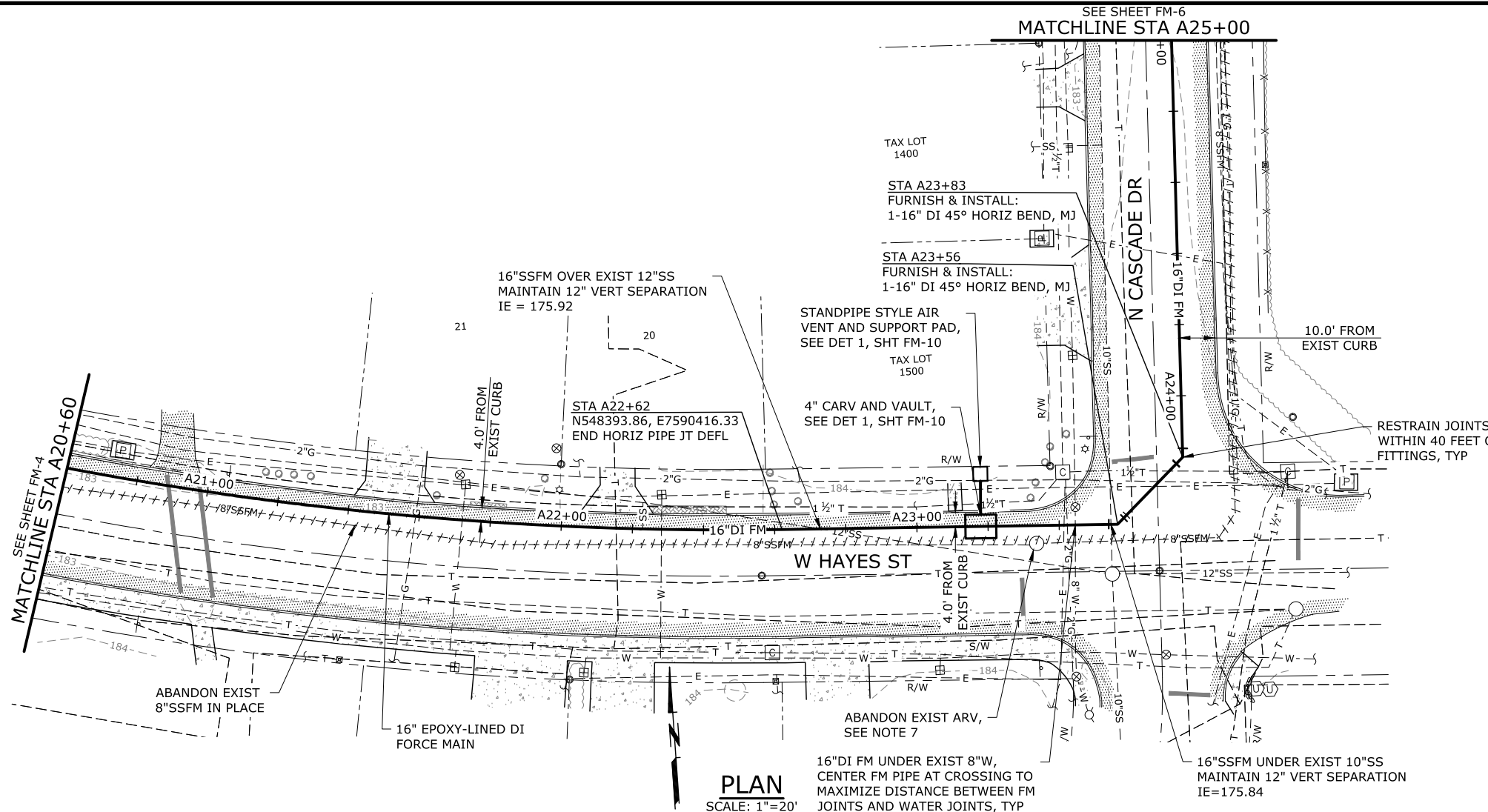


**WOODBURN**  
CITY OF WOODBURN I-5  
PUMP STATION AND FORCE MAIN UPGRADES

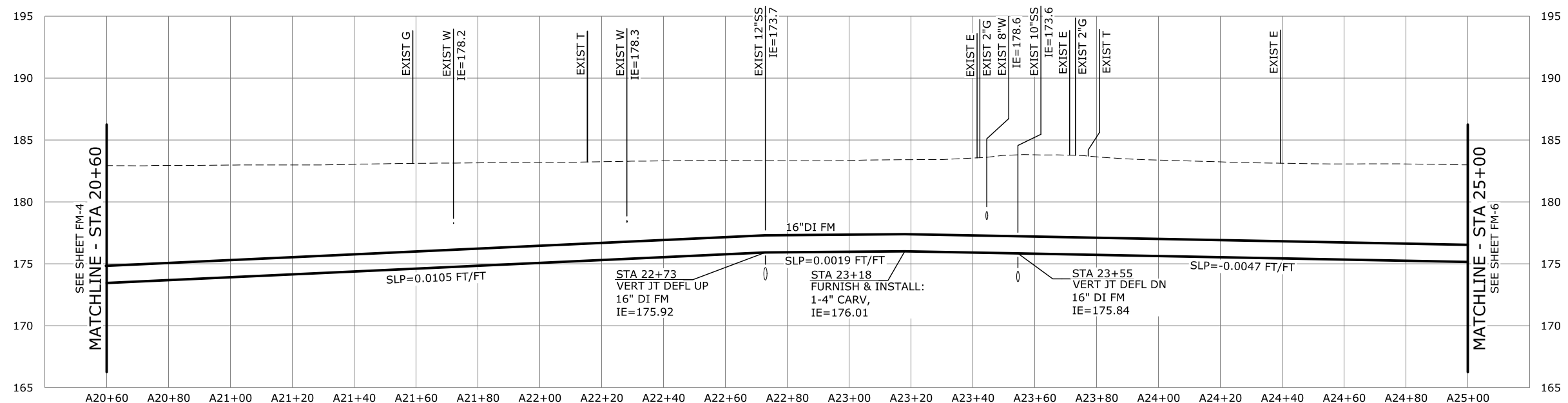
**FORCE MAIN  
PLAN AND PROFILE - 4**

PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: JUNE 2021

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**PLAN**  
SCALE: 1"=20'



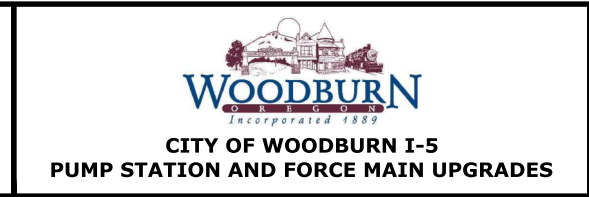
**PROFILE**  
SCALE: 1"=20' H; 1"=5' V

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  - ALL FITTINGS TO BE INSTALLED WITH MARKER BALLS AS SPECIFIED.
  - REMOVE AND DISPOSE OF EXISTING AIR RELEASE VALVE IN MANHOLE. ABANDON EXISTING MANHOLE, REMOVE TOP RING OF MANHOLE, DRILL DRAIN HOLES IN BASE AND BACKFILL W/ 3/4'-0" CRUSHED ROCK UP TO 1 FOOT BELOW SURFACE. RESTORE SURFACE TO MATCH EXISTING.

NO.	DATE	BY	REVISION

**NOTICE**  
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**FORCE MAIN  
PLAN AND PROFILE - 5**

PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: JUNE 2021

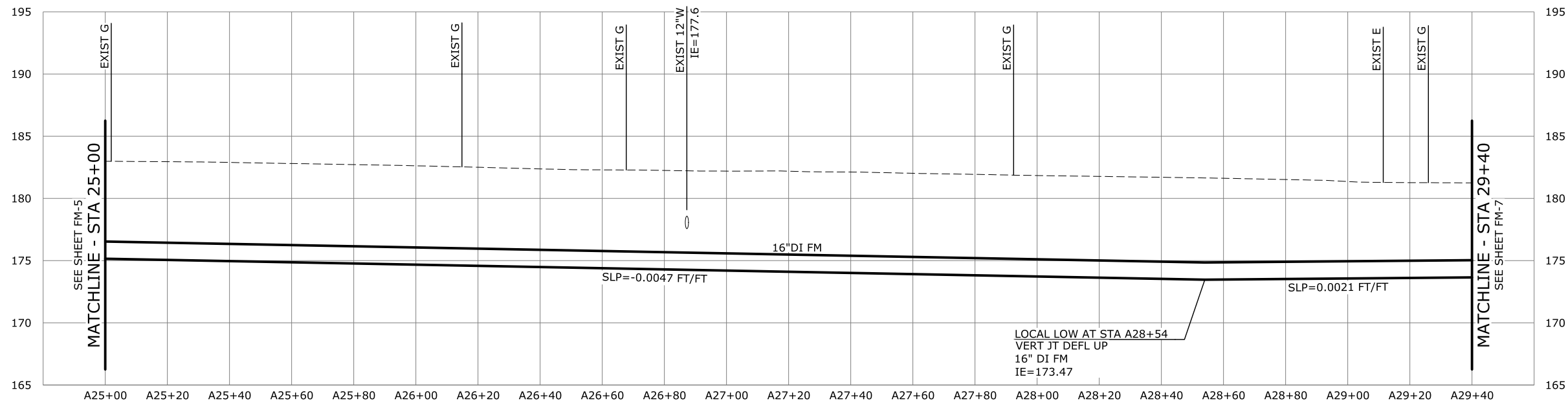
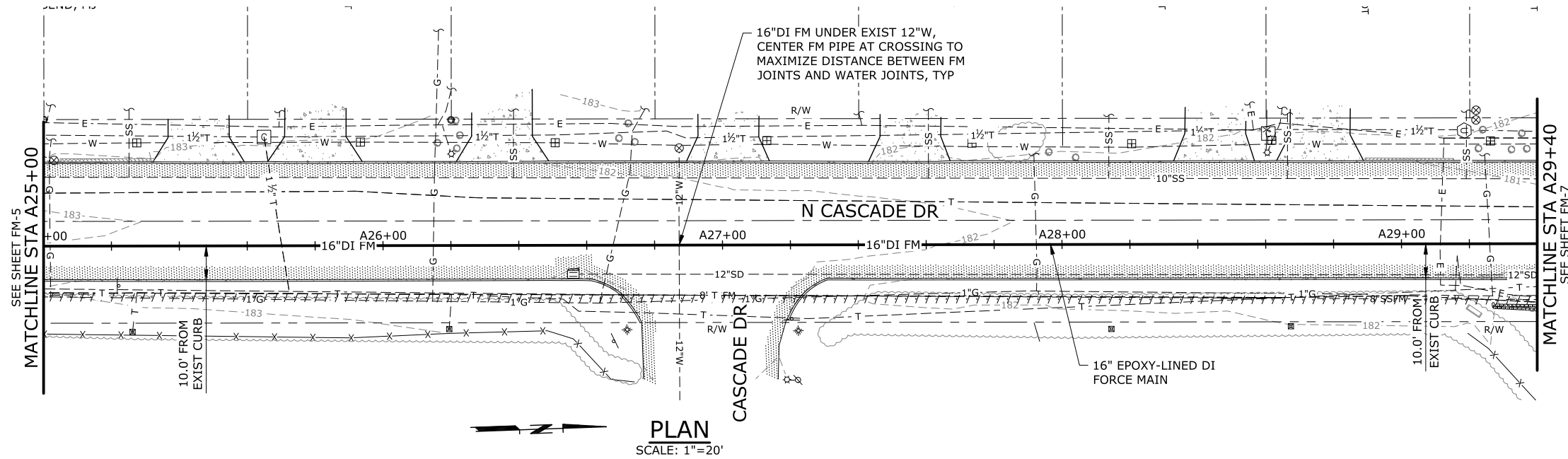
SHEET  
**FM-5**  
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**PROFILE**  
SCALE: 1"=20' H; 1"=5' V

NO.	DATE	BY	REVISION

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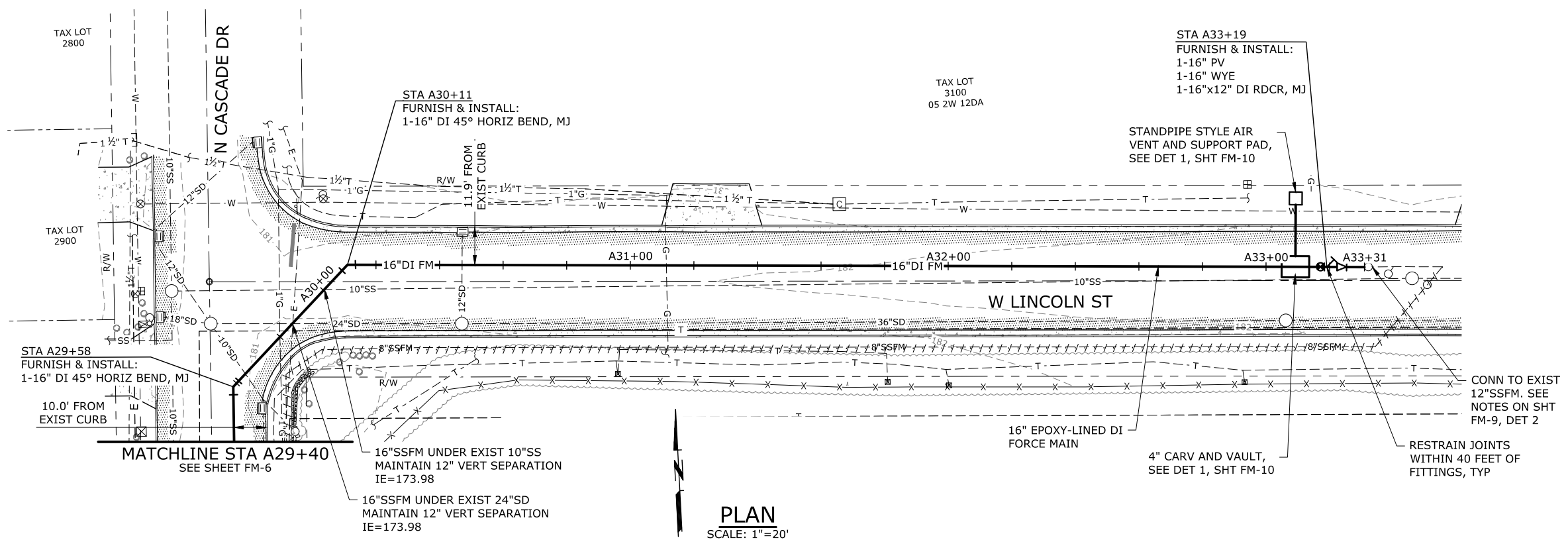


**WOODBURN**  
Incorporated 1889  
CITY OF WOODBURN I-5  
PUMP STATION AND FORCE MAIN UPGRADES

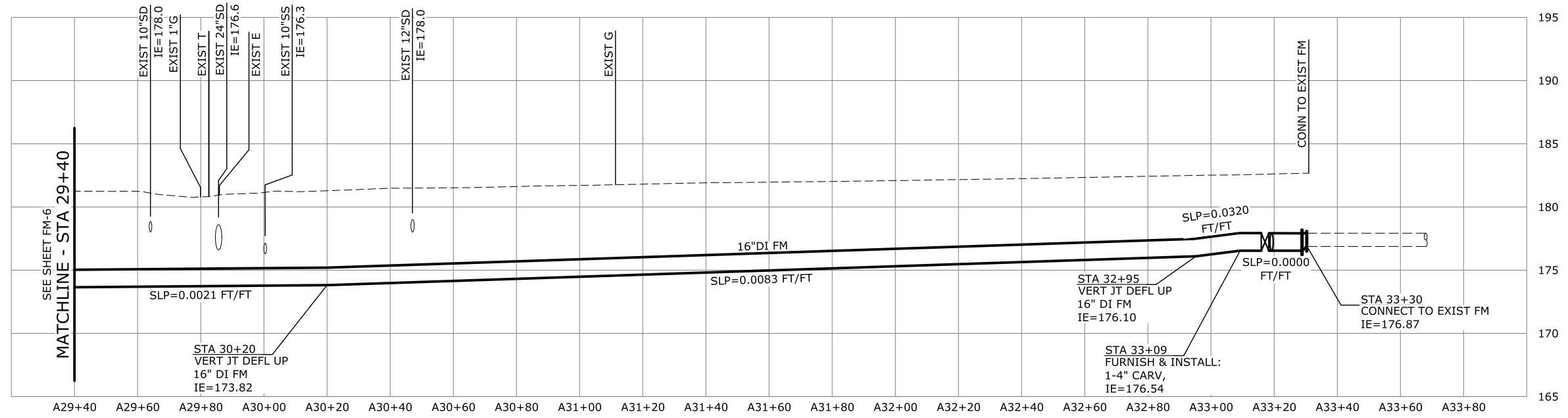
<b>FORCE MAIN PLAN AND PROFILE - 6</b>			
PROJECT NO.:	19-2469.303	SCALE:	AS SHOWN
DATE:	JUNE 2021		

SHEET  
**FM-6**  
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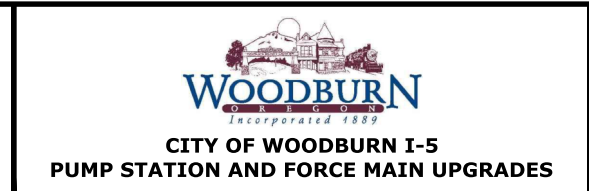
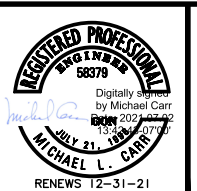


**PROFILE**  
SCALE: 1"=20' H; 1"=5' V

NO.	DATE	BY	REVISION

**NOTICE**  
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KMR  
DESIGNED  
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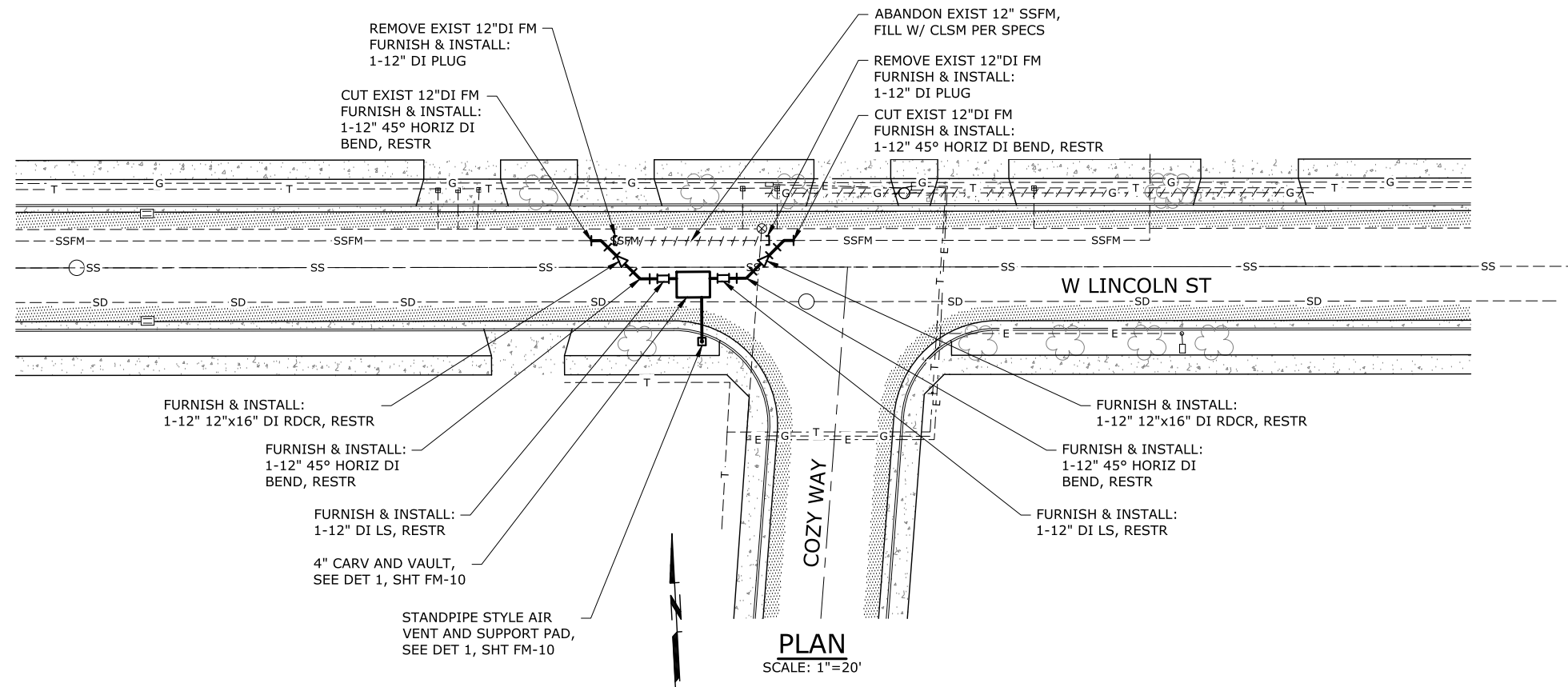


**FORCE MAIN PLAN AND PROFILE - 7**

PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: JUNE 2021

SHEET  
**FM-7**  
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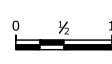
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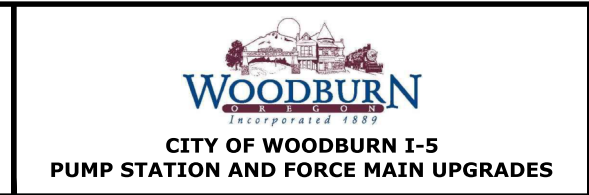
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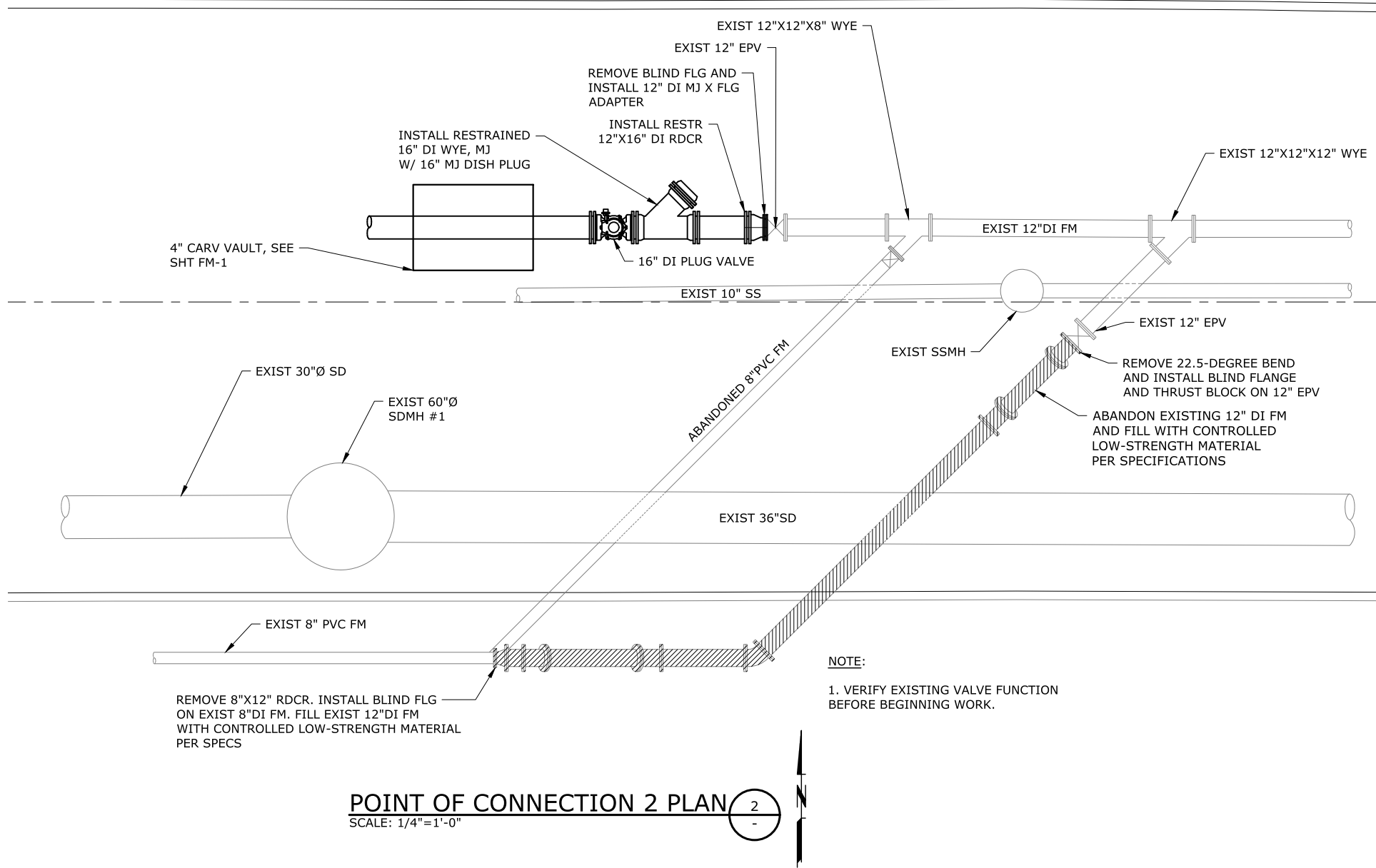


**FORCE MAIN  
 PLAN AND PROFILE - 8**

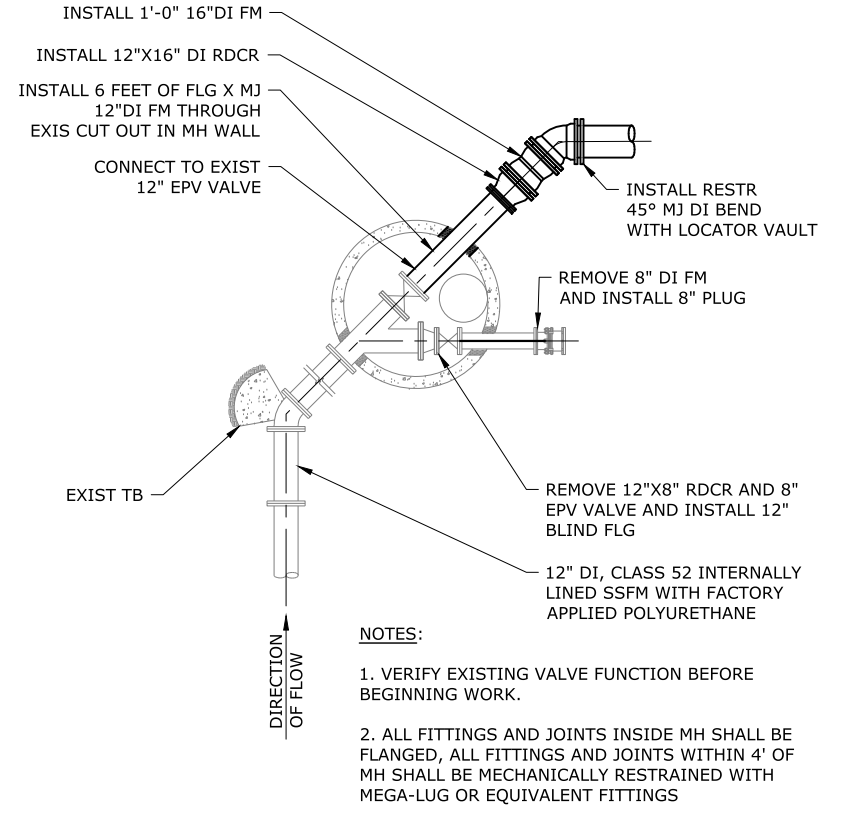
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SHEET  
**FM-8**  
 35 of 83

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**POINT OF CONNECTION 2 PLAN**  
SCALE: 1/4"=1'-0"

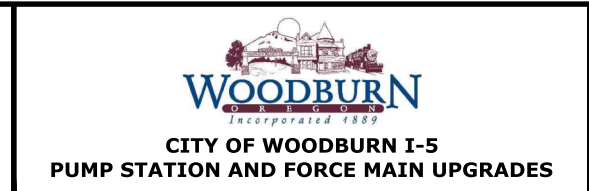


**POINT OF CONNECTION 1 PLAN**  
SCALE: 1/4"=1'-0"

NO.	DATE	BY	REVISION

NOTICE  
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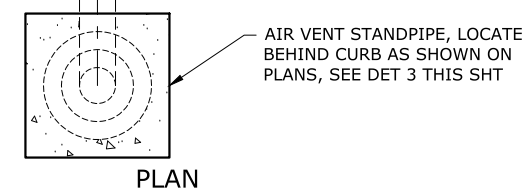
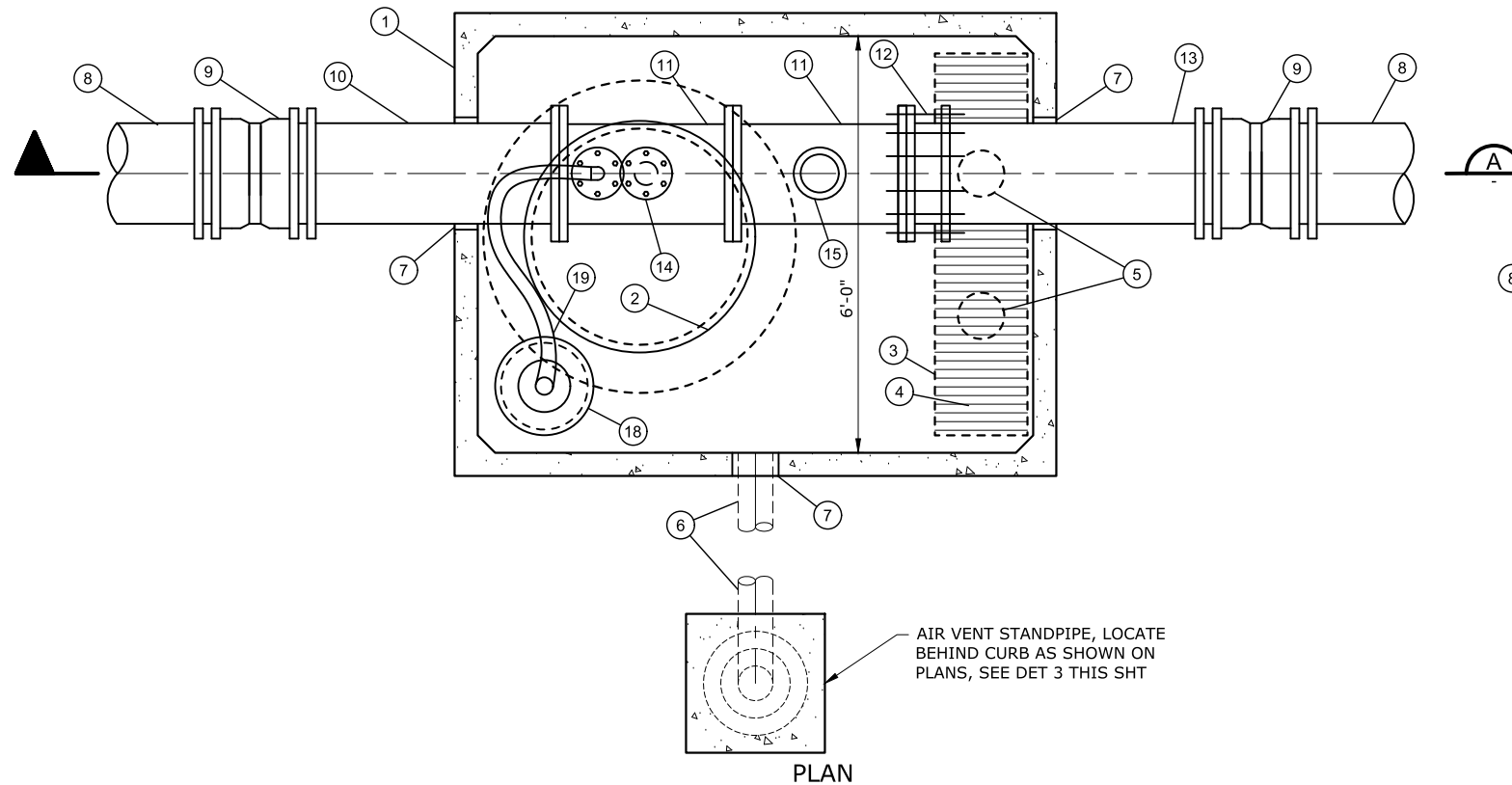
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**FORCE MAIN DETAILS - 1**  
PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: JUNE 2021

SHEET  
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36 of 83

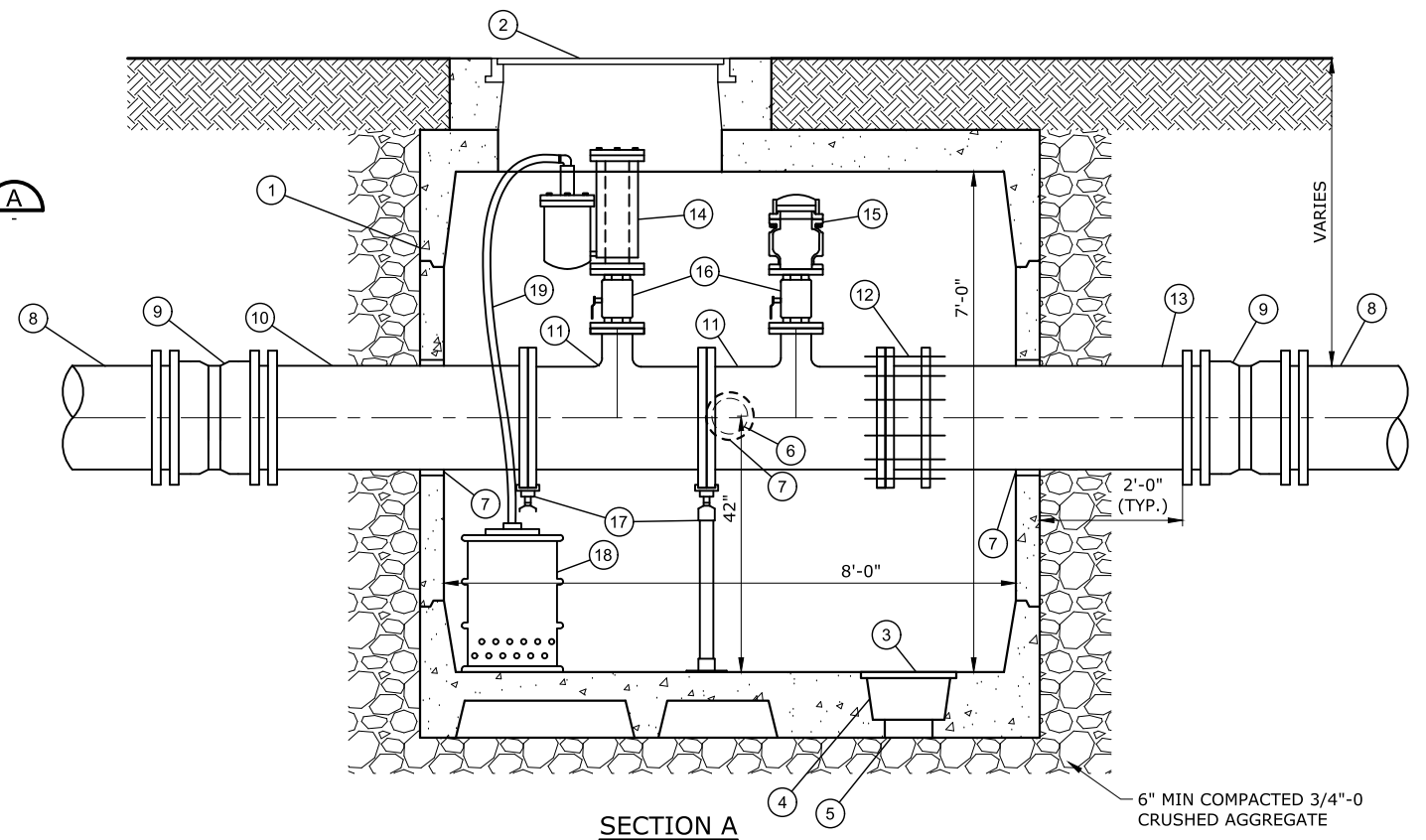
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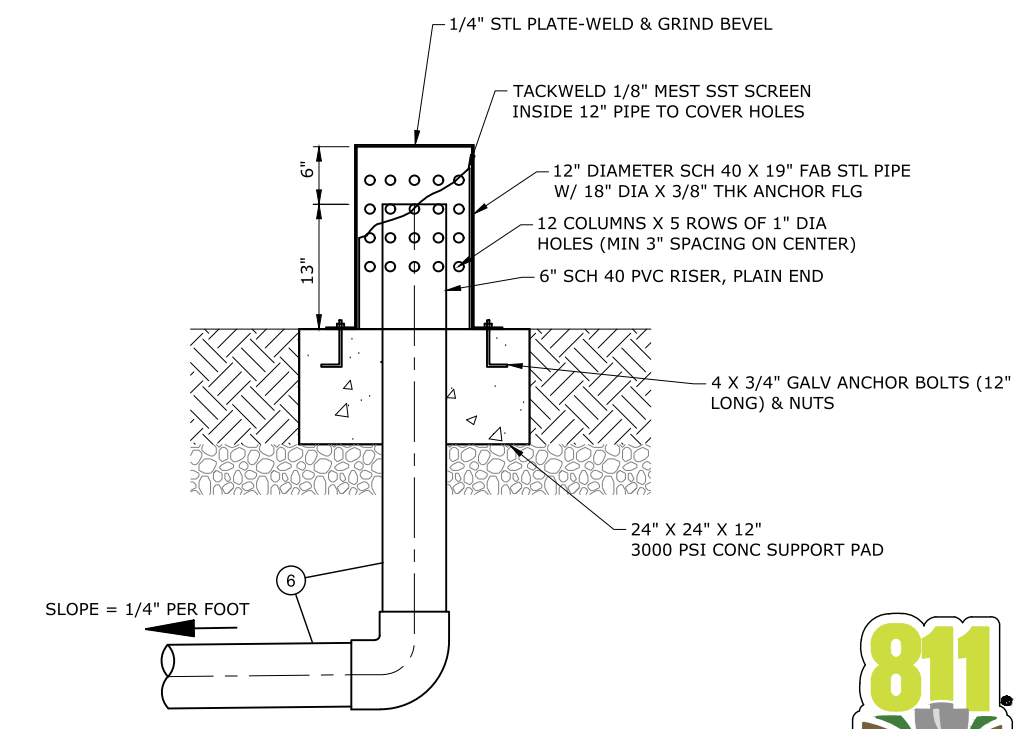
**AIR RELEASE VALVE DETAIL**  
SCALE: 3/4"=1'-0" 1

- SHEET NOTES:**
1. ORIENTATION OF VAULTS IS TYPICAL. SEE CIVIL DRAWINGS TO CONFIRM ORIENTATION AND LOCATION OF VENT PENETRATIONS.
  2. ALL PIPE SHALL BE DUCTILE IRON CLASS 52 UNLESS OTHERWISE NOTED. ALL JOINTS ON PIPES AND FITTINGS SHOWN SHALL BE RESTRAINED JOINTS.
  3. ALL PENETRATIONS SHALL BE SEALED WITH LINK-SEAL AND AN APPROVED NON-SHRINK GROUT AND COATED ON THE OUTSIDE WITH A BITUMASTIC COATING.

- KEY NOTES**
- 1 PRECAST VAULT, OLDCASTLE MODEL 687-LA OR EQ
  - 2 36" DIA MANHOLE COVER WITH MIN 12" CONC RISER, ADJUST TO EXIST GRADE AS REQ'D
  - 3 15" CAST IRON FLOOR GRATE
  - 4 12" SUMP
  - 5 8" DIA DRAIN PENETRATION THROUGH SUMP, 2 PL TYP
  - 6 6" SCH 40 PVC VENT PIPE, MIN SLOPE 1/4" PER FOOT
  - 7 LINK SEAL W/ NON-SHRINK GROUT
  - 8 16" DI FORCE MAIN, BELL-AND-SPIGOT
  - 9 16" DI SOLID SLEEVE, MJ
  - 10 16" DI SPL, PEXFLG
  - 11 16"x4" DI TEE, FLG
  - 12 16" RFCA
  - 13 16" DI SPL, PEXPE
  - 14 COMBINATION ARV, VS-4 HF BY ODOUR TECHNOLOGIES
  - 15 4" EMERGENCY AIR INLET VALVE, APCO 1500 OR APPROVED EQ
  - 16 4" DI BALL VALVE, FLG, TYP OF 2
  - 17 PIPE SUPPORTS, STANDON MODEL S89 OR APPROVED EQ, TYP OF 2
  - 18 ODOUR CONTROL UNIT BY ODOUR CONTROL SPECIALTIES OR APPROVED EQ
  - 19 FLEXIBLE HOSE WITH ADAPTERS, AS REQUIRED, SEE SECTION A SHT M-9 FOR FLEXIBLE HOSE REQUIREMENTS AND FITTINGS



**SECTION A**  
SCALE: NTS



- NOTE:**
1. COMPLETE STANDPIPE ASSEMBLY TO BE HOT DIPPED GALVANIZED

**AIR VENT STANDPIPE DETAIL**  
SCALE: NTS 3



NO.	DATE	BY	REVISION

NOTICE  
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**WOODBURN**  
CITY OF WOODBURN I-5  
PUMP STATION AND FORCE MAIN UPGRADES

**FORCE MAIN DETAILS - 2**

PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: JUNE 2021

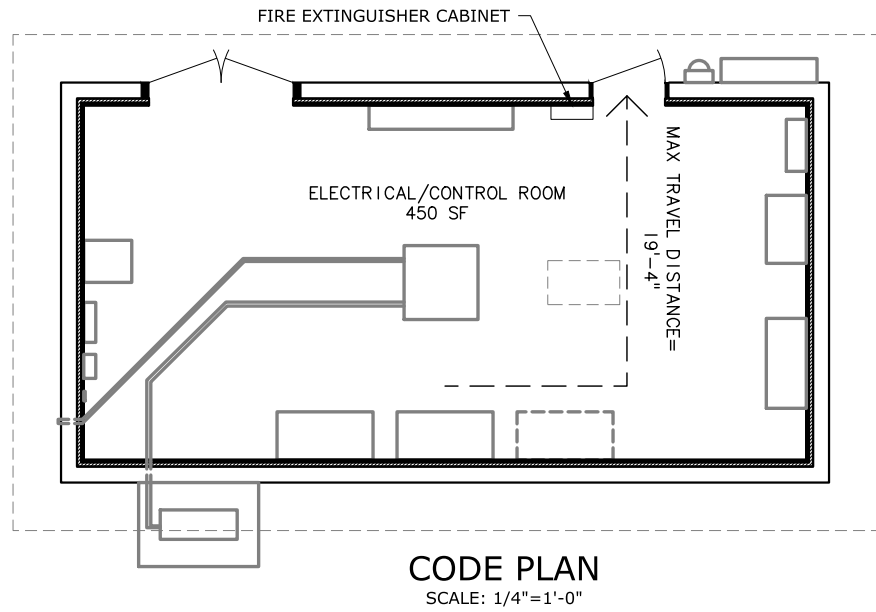
SHEET  
FM-10  
37 of 83

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Section I - Governing Codes	
2014 OFC, 2017 ORSC, 2019 OSSC, 2021 OEESC	
Section II - Building "Construction" Data	
Type of Construction	Type VB - CMU & Wood
Maximum Building Height	15 feet
Maximum Allowable Height	35 feet
Number of Stories	1 story
Allowable Number of Stories	2 stories
Basement	No
Total Floor Area Provided	Electrical/Control Building=533 square feet
	Electrical/Control Room=450 square feet
Minimum Required Property Setbacks	
Front Setback	5 Feet
Rear Setback	0-5 Feet
Section III - Building "Occupancy" Data	
Building Occupancy Classification Group(s)	U
Occupancy Classification Group by Floor	U
Occupancy Classification Group by Room	Control Room = U
Accessory or Incidental Use Areas	None
Total Occupant Load by Floor	1
Total Occupant Load for Each Room	1
Total Occupant Load for Each Occupancy Group	N/A
Section IV - Building Area Data "Actual" and "Allowable"	
Actual Building Area	533 square feet
Allowable Base Area	8,500 square feet (Type VB, Group U)
Building Frontage	See Sheet L-1, (Non-Sprinklered)
Section V - "Fire Resistant" Building Elements	
Separation of Occupancies	0 hours (U, Non-Sprinklered)
Section VI - Building "Exiting"	
Maximum Floor Area Allowance Per Occupant	N/A - Not customarily occupied
Exits Required in Each Room or Area	1
Exits Provided in Each Room or Area	2
Exits Required per Floor	1
Exits Provided per Floor	2
Exit Width Required per Exit	32 inches
Minimum Corridor Exit Width Required	30 inches
Emergency Exit Illumination	N/A
Exit Sign Layout Plan	N/A

Section VII - Building "Fire Detection and Suppression"			
Smoke Detection/Fire Alarm System Req'd	No		
Smoke Detection/Fire Alarm System Provided	No		
Type of System	N/A		
Areas Protected	N/A		
Sprinkler System Req'd	No, per OSSC 903.2.11 Exemptions		
Standpipe System Req'd	No		
Number of Fire Dept Vehicle Accesses	1		
Fire Extinguisher Locations	See Sheet A-1		
Section VIII - Occupancy Ventilation Requirements			
Not required for control room environment.			
Section IX - Energy Code Requirements			
Building is enclosed space, U occupancies. Comply with 2021 OEESC.			
Building Unit Insulation Values (Energy Code Analysis Method: 2021 OEESC.)			
Feature		Value: Code Required/Provided	
Doors: Swinging, opaque	U-0.61 (Max.) / 0.2		
Roof: Insulation entirely above deck	U-0.039 (Max.) / 0.026		
Walls: Above ground - CMU	U-0.123 (Max.) / 0.1		
Slab on-Grade Floors: Unheated slab	NR		
Lighting Layout	See Sheet E-6		
OEESC 2021			

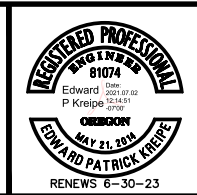
Section X - Hazardous Materials	
Hazardous Materials Present	No
Section XI - Accessibility	
Exterior Route of Travel - See Sheet A-1	
Facility is for equipment access only and does not require accessibility	
Section XII - Plumbing Fixture Count Requirements	
Not Applicable - this remotely monitored station is "not customarily occupied"	
Section XIII - Underground and Padmounted Transformers	
See Electrical Drawings	
Section XIV - Special Inspection, Structural Observation	
-Required Structural Inspection requirements are indicated on 'S' sheets and Specifications	
-Structural Observation requirements are indicated on 'S' sheets and Specifications	
Section XV - Room Specific Requirements	
Not Applicable -This remotely monitored station is "not customarily occupied"	



NO.	DATE	BY	REVISION

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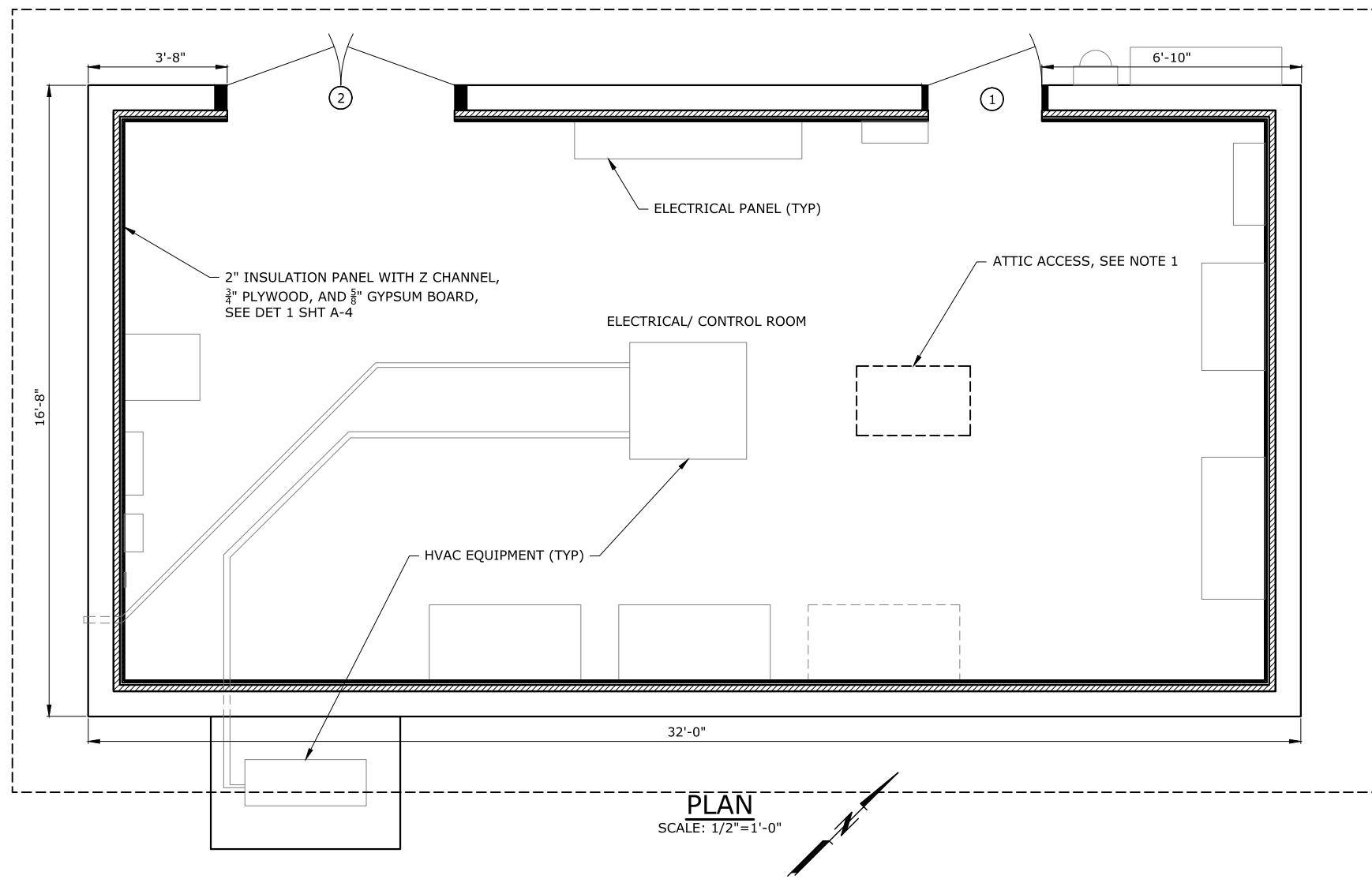
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EPK CHECKED



**WOODBURN**  
CITY OF WOODBURN I-5  
PUMP STATION AND FORCE MAIN UPGRADES

CODE SUMMARY			
PROJECT NO.:	19-2469.303	SCALE:	AS SHOWN
DATE:	JUNE 2021		

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- SHEET NOTES:**
1. APPROXIMATE LOCATION OF 22"X36" ATTIC ACCESS SHOWN. VERIFY LOCATION WITH ENGINEER.
  2. SEE E SHTS AND M SHTS FOR DETAILS ON EQUIPMENT INSIDE BUILDING.

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

MATERIAL FINISH SCHEDULE			
ITEM	FINISH	COLOR	REMARKS
CMU BLOCK-COLOR 1	COATING SYSTEM 305	NATURAL	BLOCK FACE PER SHT A-3
CMU BLOCK-COLOR 2	COATING SYSTEM 305	KHAKI	BLOCK FACE PER SHT A-3
STANDING SEAM METAL ROOFING	NO COATING SYSTEM	GREEN	BRUCE & DANA COLOR SELECTION, MATCH THIS COLOR IF A DIFFERENT METAL ROOFING SUPPLIER
GABLE END LAP SIDING AND FASCIA	COATING SYSTEM 307	SW 7055 - ENDURING BRONZE	
EXTERIOR ACCESS HATCHES AND GUARDRAILS	NO COATING SYSTEM	NATURAL	ALUMINUM HATCHES
GUTTERS & DOWNSPOUTS	COATING SYSTEM 101	GREEN	COLOR TO MATCH METAL ROOF
BLOCKOUT SOFFIT AND TRIM	COATING SYSTEM 307	SW 6003 - PROPER GRAY	
DOORS	COATING SYSTEM 101	SW 7055 - ENDURING BRONZE	FACTORY PRIME
GYPSUM BOARD WALLS AND CEILING	COATING SYSTEM 304	WHITE	
CONCRETE FLOORS	COATING SYSTEM 305	NATURAL	SEE FINISHES IN SECTION 03 30 00

DOOR SCHEDULE							
NO.	NOMINAL DOOR SIZE	ROUGH OPENING	OPEN	HARDWARE	FRAME		REMARKS
					HEAD	JAMB	
①	3'-0"x7'-0"	3'-4"x7'-4"	RHR	GROUP 1	4"	2"	EXTERIOR INSULATED DOOR
②	6'-0"x7'-10"	6'-8"x8'-0"	-	GROUP 2	2"	4"	EXTERIOR INSULATED DOUBLE DOOR

NO.	DATE	BY	REVISION

**NOTICE**

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

CAS  
DESIGNED  
BAW  
DRAWN  
EPK  
CHECKED

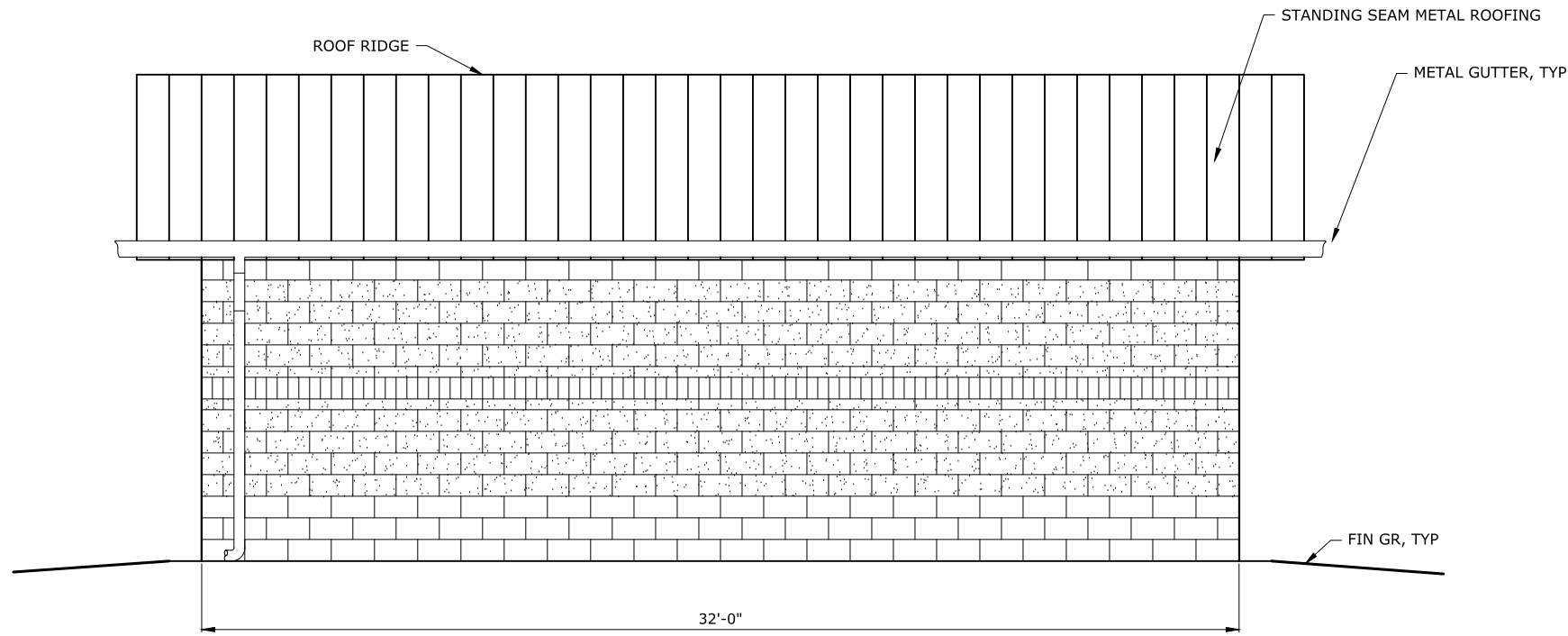


**CITY OF WOODBURN I-5  
PUMP STATION AND FORCE MAIN UPGRADES**

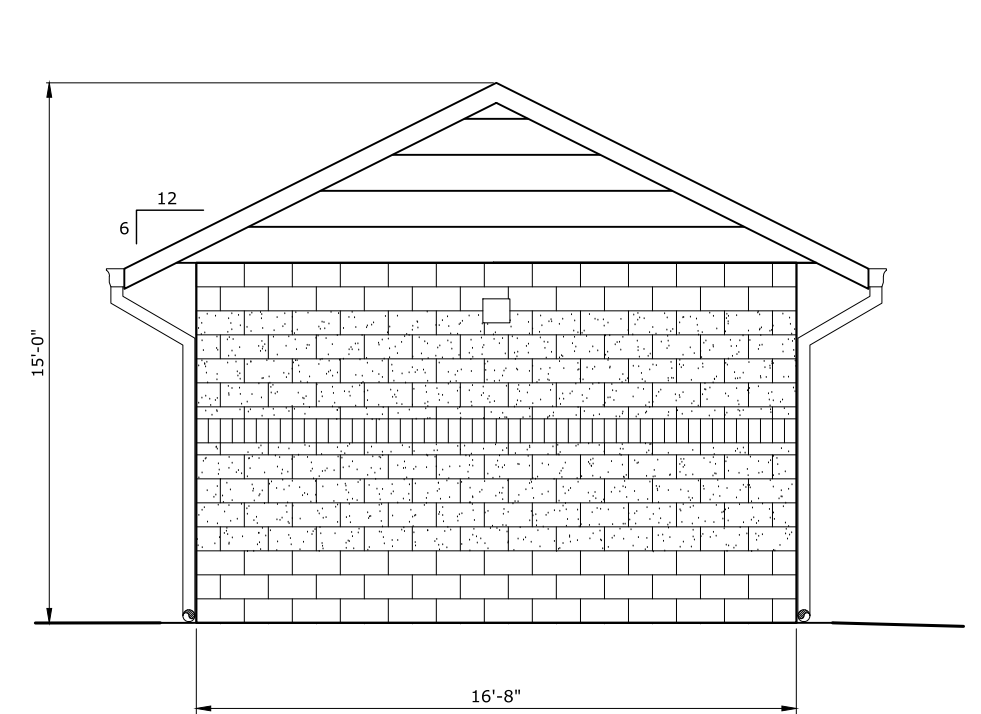
**ELECTRICAL/CONTROL ROOM  
FLOOR PLAN**

PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: JUNE 2021

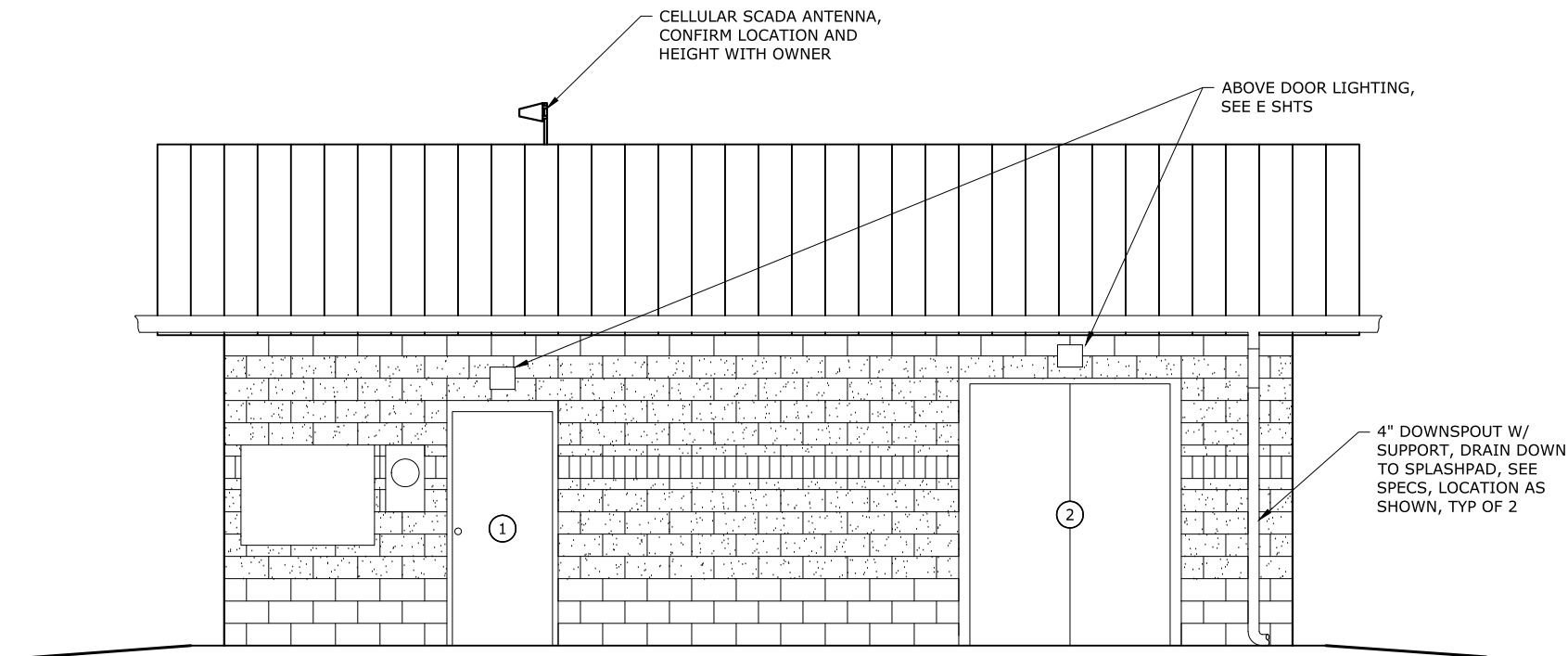
G:\PDX\_Projects\19\2469 - Woodburn I-5 PS & FM - Design\CAD\Sheets\19-2469-OR-ARCH.dwg A-3 7/1/2021 2:29 PM CATHERINE.SOTO 23.0s (LMS Tech)



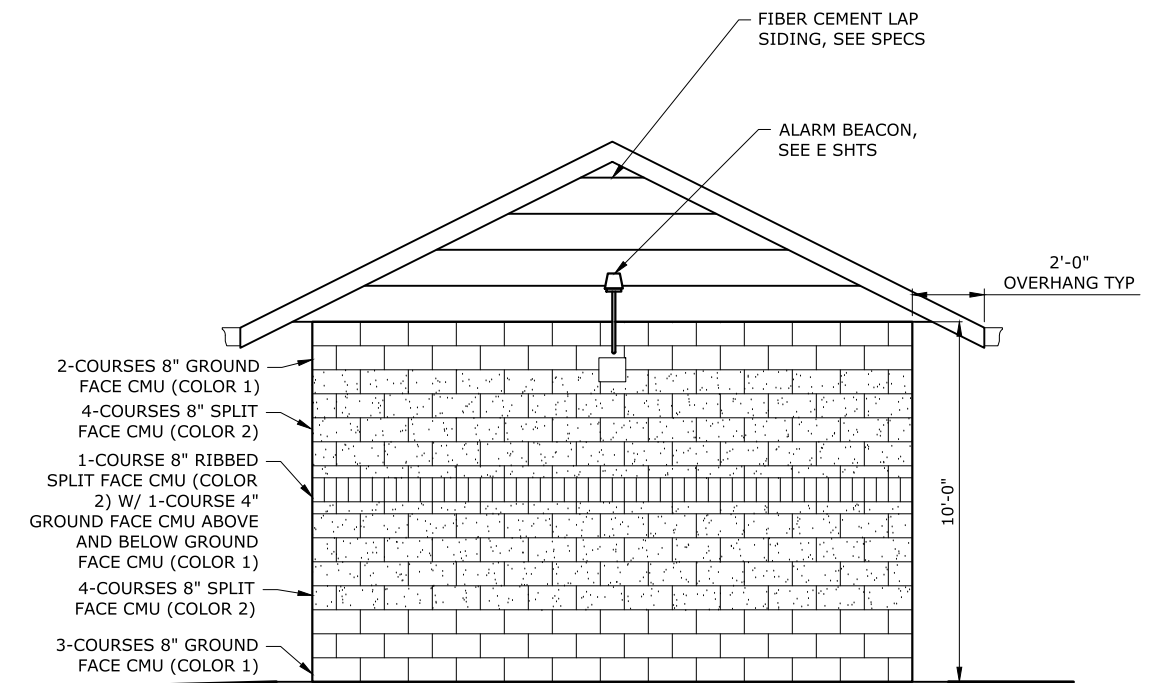
**SOUTHEAST ELEVATION**  
SCALE: 3/8"=1'-0"



**SOUTHWEST ELEVATION**  
SCALE: 3/8"=1'-0"



**NORTHWEST ELEVATION**  
SCALE: 3/8"=1'-0"



**NORTHEAST ELEVATION**  
SCALE: 3/8"=1'-0"

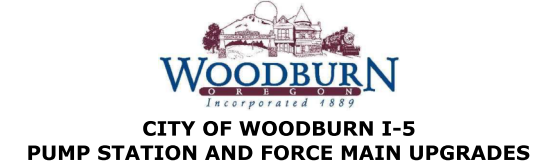
**NOTE:**

1. SEE SHEET A-2 FOR BUILDING MATERIAL MATERIAL SCHEDULES AND DOOR SCHEDULES

NO.	DATE	BY	REVISION

NOTICE  
0 1/2 1  
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

CAS  
DESIGNED  
BAW  
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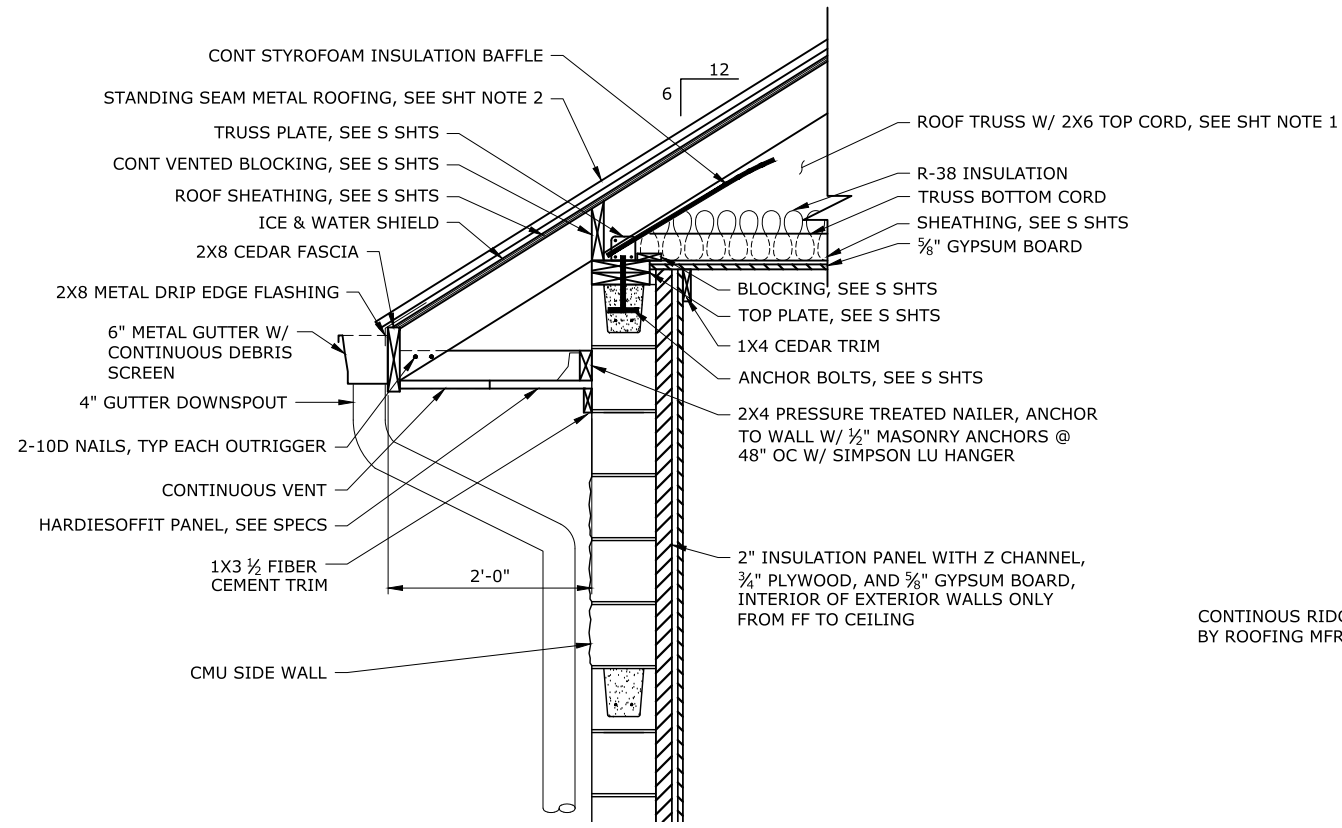


<b>ELECTRICAL/CONTROL ROOM ELEVATION-1</b>			
PROJECT NO.:	19-2469.303	SCALE:	AS SHOWN
DATE:	JUNE 2021		

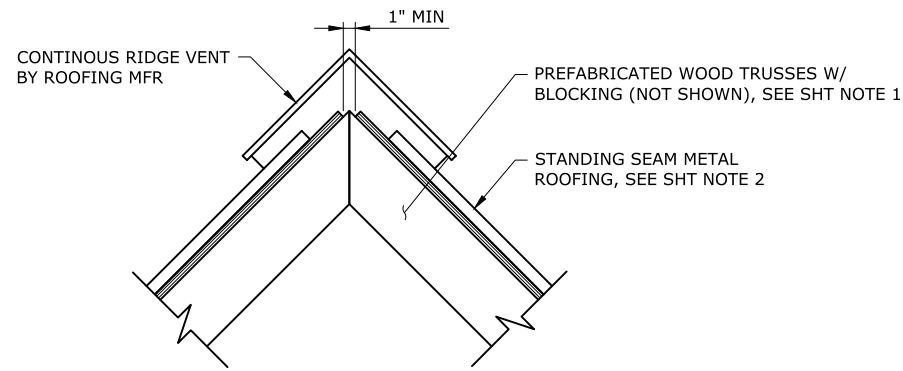
SHEET  
**A-3**  
40 of 83



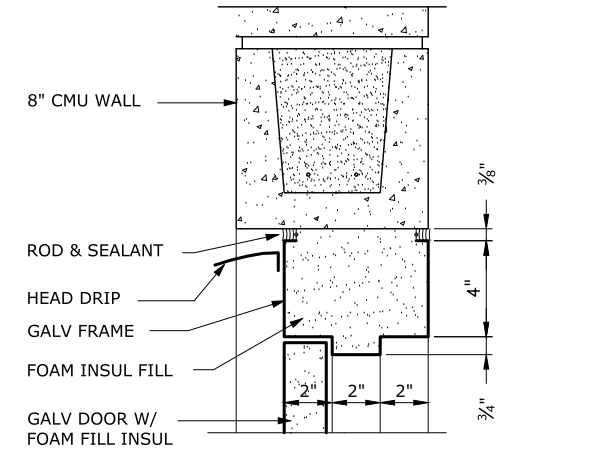
G:\PDX\_Projects\19\2469 - Woodburn I-5 PS & FM - Design\CAD\Sheets\19-2469-OR-ARCH.dwg A-4 7/1/2021 2:29 PM CATHERINE.SOTO 23.0s (LMS Tech)



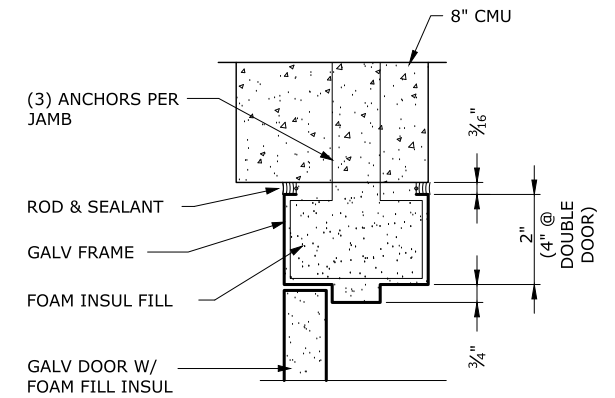
**SOFFIT DETAIL**  
SCALE: 1"=1'-0"  
1



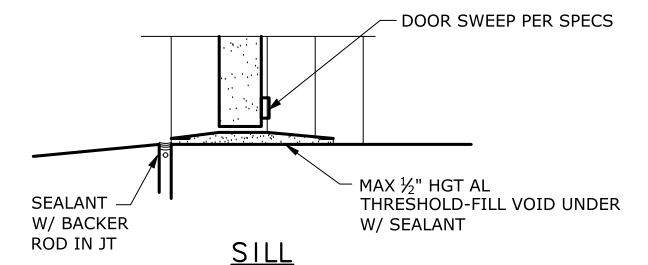
**ROOF RIDGE**  
SCALE: 1"=1'-0"  
2



**HEAD**



**JAMB**



**SILL**

**EXTERIOR DOORS**  
SCALE: 3"=1'-0"  
3

**SHEET NOTES:**

1. SELECTED STRUCTURAL COMPONENTS ARE OMITTED FOR CLARITY THIS SHEET. SEE STRUCTURAL DRAWINGS FOR COMPLETE STRUCTURAL DETAILS.
2. ROOFING SYSTEM SHALL BE INSTALLED PER MANUFACTURER'S INSTRUCTIONS AND AS SPECIFIED.

NO.	DATE	BY	REVISION

NOTICE  
0 1/2 1  
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

CAS  
DESIGNED  
BAW  
DRAWN  
EPK  
CHECKED



**WOODBURN**  
Incorporated 1889  
CITY OF WOODBURN I-5  
PUMP STATION AND FORCE MAIN UPGRADES

**ARCHITECTURAL DETAILS - 1**  
PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: JUNE 2021



X:\2018\01-PDX\1801-0351 To 1801-0375\1801-0366\1 - Project Data Files\2 - Control Building\2021\_05\_10 Final QAQC Drawings\Control Building Drawings 1801-0366.dwg S-2 5/28/2021 3:44 PM ###

**QUALITY ASSURANCE PLAN:**

**SHOP DRAWINGS & SUBMITTALS:**

SHOP DRAWINGS, SUBMITTALS AND/OR MILL CERTIFICATES FOR THE FOLLOWING ITEMS SHALL BE SUBMITTED TO THE OWNER AND ENGINEER OF RECORD FOR REVIEW A MINIMUM OF 21 DAYS PRIOR TO FABRICATION:

1. CONCRETE REINFORCING SHOP DRAWINGS FOR ALL ELEMENTS
2. WATERSTOPS, ALL EPOXIES AND GROUTS TO BE USED ON THE PROJECT, AND ANY OTHER MATERIAL OUTLINED IN THE CONSTRUCTION DRAWINGS
3. CONCRETE MIX DESIGNS
4. GRATING AND FRAMING
5. ACCESS STAIRWAY, LADDERS, AND APPURTENANCES
6. ROOF TRUSSES w/ CALCULATIONS SIGNED BY AN OREGON LICENSED PROFESSIONAL ENGINEER

**QUALITY ASSURANCE FOR SEISMIC RESISTANCE:**

QUALITY ASSURANCE FOR THE STRUCTURE'S MAIN LATERAL FORCE RESISTING SYSTEM SHALL BE PROVIDED BY SPECIAL INSPECTION AND MATERIAL TESTING OF THE FOLLOWING:

**SPECIAL INSPECTIONS:**

1. AN INDEPENDENT TESTING LABORATORY CHOSEN BY THE OWNER SHALL PROVIDE SPECIAL INSPECTIONS IN ACCORDANCE WITH CHAPTER 17 OF THE INTERNATIONAL BUILDING CODE AND OF THE TYPE AND FREQUENCY OUTLINED IN THE QUALITY CONTROL SECTION OF THESE GENERAL STRUCTURAL NOTES
2. EACH SPECIAL INSPECTION AND MATERIAL TESTING REPORT SHALL BE DISTRIBUTED TO THE OWNER, CONTRACTOR, BUILDING OFFICIAL, AND ENGINEER OF RECORD IN A TIMELY FASHION.
3. THE CONTRACTOR SHALL MAKE AVAILABLE ALL MEANS AND METHODS NECESSARY FOR THE SPECIAL INSPECTOR TO PERFORM THE REQUIRED INSPECTIONS. IN ADDITION, THE CONTRACTOR SHALL NOTIFY THE OWNER AND SPECIAL INSPECTOR A MINIMUM OF 48 HOURS BEFORE THE TIME AT WHICH THE SPECIFIED SPECIAL INSPECTION MAY BE PERFORMED.

**STRUCTURAL OBSERVATION REQUIREMENTS:**

1. THE OWNER SHALL EMPLOY THE ENGINEER OF RECORD OR AN ALTERNATE OREGON LICENSED PROFESSIONAL ENGINEER, APPROVED BY THE ENGINEER OF RECORD, TO PERFORM STRUCTURAL OBSERVATIONS IN ACCORDANCE WITH SECTION 1704.6 OF THE INTERNATIONAL BUILDING CODE.
2. STRUCTURAL OBSERVATION IS THE VISUAL OBSERVATION OF THE STRUCTURAL SYSTEM BY A REGISTERED DESIGN PROFESSIONAL FOR GENERAL CONFORMANCE TO THE APPROVED CONSTRUCTION DOCUMENTS AT SIGNIFICANT CONSTRUCTION STAGES AND AT COMPLETION OF THE STRUCTURAL SYSTEM. STRUCTURAL OBSERVATION DOES NOT INCLUDE OR WAIVE THE RESPONSIBILITY FOR ANY OTHER INSPECTION CRITERIA, INCLUDING SPECIAL INSPECTION, AS REQUIRED BY THE BUILDING OFFICIAL OR AS INDICATED WITHIN THE INTERNATIONAL BUILDING CODE.
3. DEFICIENCIES SHALL BE REPORTED IN WRITING TO THE OWNER AND THE BUILDING OFFICIAL (AND THE ENGINEER OF RECORD IF AN ALTERNATE ENGINEER IS USED FOR STRUCTURAL OBSERVATION). AT THE CONCLUSION OF THE STRUCTURAL WORK INCLUDED WITHIN THE PERMIT, THE STRUCTURAL OBSERVER SHALL SUBMIT TO THE BUILDING OFFICIAL AND THE OWNER (AND THE ENGINEER OF RECORD IF AN ALTERNATE ENGINEER IS USED FOR STRUCTURAL OBSERVATION) A WRITTEN STATEMENT THAT THE SITE VISITS HAVE BEEN MADE AND IDENTIFY ANY REPORTED DEFICIENCIES WHICH, TO THE BEST OF THE STRUCTURAL OBSERVER'S KNOWLEDGE, HAVE NOT BEEN RESOLVED.
4. THE CONTRACTOR SHALL MAKE AVAILABLE ALL MEANS AND METHODS NECESSARY FOR THE STRUCTURAL OBSERVER TO PERFORM THE REQUIRED STRUCTURAL OBSERVATIONS. IN ADDITION, THE CONTRACTOR SHALL NOTIFY THE OWNER AND STRUCTURAL OBSERVER A MINIMUM OF 48 HOURS BEFORE THE TIME AT WHICH THE SPECIFIED STRUCTURAL OBSERVATIONS MAY BE PERFORMED. IN ADDITION THE CONTRACTOR SHALL UPDATE THE STRUCTURAL OBSERVER OF THE CONSTRUCTION PROGRESS.
5. STRUCTURAL OBSERVATIONS SHALL BE PERFORMED FOR THE FOLLOWING AREAS OF WORK FOR EACH BUILDING STRUCTURE AS NOTED:

**CONTROL BUILDING:**

FORMING AND REINFORCING OF THE FOUNDATION AND SLAB ON GRADE  
 CMU WALL CONSTRUCTION AND REINFORCING PRIOR TO THE FIRST GROUT POUR  
 CONSTRUCTION OF CMU LINTEL, PRIOR TO GROUT POUR  
 INSTALLATION OF ROOF FRAMING, PRIOR TO THE INSTALLATION OF SHEATHING  
 FOLLOWING THE COMPLETION OF ALL STRUCTURAL ELEMENTS CONTAINED HEREIN

**WET WELL:**

FORMING AND REINFORCING OF THE WET WELL FLOOR SLAB PRIOR TO FIRST CONCRETE POUR  
 FORMING AND REINFORCING OF THE WET WELL WALL LIFTS PRIOR TO FORM ENCLOSURE AND CONCRETE POUR  
 FORMING AND REINFORCING OF THE WET WELL TOP SLAB PRIOR TO CONCRETE POUR  
 FORMING AND REINFORCING OF THE FOUNDATION AND SLAB ON GRADE  
 FOLLOWING THE COMPLETION OF ALL STRUCTURAL ELEMENTS CONTAINED HEREIN

**JOB SITE CONDITIONS AND SAFETY:**

1. CONTRACTOR AGREES THAT THEY SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD THE ENGINEER AND IT'S REPRESENTATIVE HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE ENGINEER.

**LEGEND:**

	CONCRETE		STEEL IN SECTION
	SHOTCRETE		BEARING PAD
	NATIVE/BACKFILL MATERIAL		COMPACTED CRUSHED SURFACING BASE COURSE

**PSE**  
 PETERSON STRUCTURAL ENGINEERS

9400 SW Barnes Rd.,  
 Suite 100  
 Portland, Oregon 97225  
 (503) 292-1635

PSE Project #: 1801-0366  
 Date: 06/30/2021

TABLE 1 REQUIRED GEOTECHNICAL SPECIAL INSPECTIONS					
SYSTEM OR MATERIAL	INSPECTION				REMARKS
	IBC CODE REFERENCE	CODE OR STANDARD REFERENCE	FREQUENCY		
			CONTINUOUS	PERIODIC	
SOILS					
GEOTECHNICAL INVESTIGATIONS	TABLE 1705.6, 1803				GEOTECHNICAL INVESTIGATION SHALL INCLUDE ITEMS OF SPECIAL INSPECTION AND TESTING AS NOTED IN TABLE 5 OF THE GUIDELINES
VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY	TABLE 1705.6			X (A)	
VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL	TABLE 1705.6			X	
PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS	TABLE 1705.6, 1803.5.1			X	TESTING OF COMPACTED FILL MATERIALS (SEE TABLE 5)
VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL	TABLE 1705.6		X		
PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	TABLE 1705.6			X	
TABLE 5 REQUIRED TESTING FOR SPECIAL INSPECTIONS					
SYSTEM OR MATERIAL	TESTING				REMARKS
	IBC CODE REFERENCE	CODE OR STANDARD REFERENCE	FREQUENCY		
			CONTINUOUS	PERIODIC	
GEOTECHNICAL					
GEOTECHNICAL ENGINEER TO PERFORM TESTING OF COMPACTED FILL MATERIALS	1803				TESTING PER GEOTECHNICAL REPORT
FILL IN-PLACE DENSITY OR PREPARED SUBGRADE DENSITY				X (A)	
MATERIAL VERIFICATION	1705.6	VARIABLES; CLASSIFICATION AND TESTING OF CONTROLLED FILL MATERIALS		X (A)	
CONCRETE					
PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	TABLE 1705.3	ASTM C172, ASTM C31 ACI 318: 26.5, 26.12	X		FABRICATE SPECIMENS AT TIME FRESH CONCRETE IS PLACED ONCE EACH DAY FOR A GIVEN CLASS OF CONCRETE, OR LESS THAN ONCE FOR EACH 150 YDS OF CONCRETE, OR LESS THAN ONCE FOR EACH 5,000 FT2 OF SURFACE AREA FOR SLABS/WALLS. ONCE EACH SHIFT FROM IN-PLACE WORK OR FROM TEST PANEL AND MINIMUM ONE SPECIMEN FOR EACH 50 CUBIC YARDS. PRECONSTRUCTION TESTS AS REQUIRED PER THE BUILDING OFFICIAL.
CONCRETE STRENGTH	TABLE 1705.3	ASTM C39	X		
CONCRETE SLUMP		ASTM C143	X		
CONCRETE AIR CONTENT	TABLE 1705.3	ASTM C231	X		
CONCRETE TEMPERATURE		ASTM C1064	X		
SHOTCRETE STRENGTH	1908.10	ASTM C42	X		IBC 1910.10: SPECIMENS SHALL BE TAKEN FROM THE IN-PLACE OR FROM TEST PANELS, AND SHALL BE TAKEN AT LEAST ONCE EACH SHIFT, BUT NOT LESS THAN ONE FOR EACH 50 CUBIC YARDS OF SHOTCRETE
MASONRY					
UNIT STRENGTH METHOD		TMS 602: ART. 1.4 B.2, TABLE 1, TABLE 2 ASTM: C62, C216, C652, 1019, C55, C90, C1386			TESTING EVERY 5,000 SQ. FT. AT LEVEL C QUALITY ASSURANCE

TABLE 6 REQUIRED SPECIAL INSPECTIONS FOR SEISMIC RESISTANCE (SEISMIC CATEGORIES C, D, E, F)					
SYSTEM OR MATERIAL	INSPECTION				REMARKS
	IBC CODE REFERENCE	CODE OR STANDARD REFERENCE	FREQUENCY		
			CONTINUOUS	PERIODIC	
MASONRY					
MASONRY CONSTRUCTION	1705.4			X	
STRUCTURAL WOOD					
FIELD GLUING OF DIAPHRAGM AND SHEAR WALL ELEMENTS FOR SEISMIC FORCE-RESISTING SYSTEMS				X	
CONNECTIONS FOR DIAPHRAGM CHORDS, COLLECTORS, BRACING, AND SHEAR WALL ANCHORAGE AND HOLD-DOWNS	1705.11.1			X	ALL CONNECTIONS VISUALLY INSPECTED
FASTENING OF DIAPHRAGM AND SHEAR WALL SHEATHING WITH EDGE NAILING < 4"				X	SPECIAL INSPECTION IS NOT REQUIRED WHEN FASTENER SPACING IS GREATER THAN 4" ON CENTER FOR WOOD SHEAR WALLS, DIAPHRAGMS, NAILING, BUILDING AND OTHER COMPONENTS IN THE SEISMIC FORCE-RESISTING SYSTEM.

TABLE 7 REQUIRED TESTING FOR SEISMIC RESISTANCE SPECIAL INSPECTIONS					
SYSTEM OR MATERIAL	TESTING				REMARKS
	IBC CODE REFERENCE	CODE OR STANDARD REFERENCE	FREQUENCY		
			CONTINUOUS	PERIODIC	
TEST A615 REINFORCEMENT USED TO RESIST EARTHQUAKE INDUCED LOAD IN SPECIAL MOMENT FRAMES, SPECIAL STRUCTURAL WALLS, AND END COUPLING BEAMS CONNECTING STRUCTURAL WALLS IN STRUCTURE ASSIGNED TO SEISMIC DESIGN CATEGORY B, C, D, E, AND F	1705.12.1		X	X (A)	NOT REQUIRED WHEN CERTIFIED MILL TEST REPORTS ARE PROVIDED
TEST A615 REINFORCEMENT FOR WELD ABILITY WHEN SUCH REINFORCEMENT IS TO BE WELDED	1705.12.1			X (A)	

TABLE 8 REQUIRED SPECIAL INSPECTIONS FOR WIND RESISTANCE					
SYSTEM OR MATERIAL	INSPECTION				REMARKS
	IBC CODE REFERENCE	CODE OR STANDARD REFERENCE	FREQUENCY		
			CONTINUOUS	PERIODIC	
NAILING, BOLTING, ANCHORING AND OTHER FASTENING OF COMPONENTS WITHIN THE MAIN WINDFORCE-RESISTING SYSTEM, INCLUDING WOOD SHEAR WALLS, WOOD DIAPHRAGMS, DRAG STRUTS, BRACES AND HOLD-DOWNS	1705.10.1			X (A)	SPECIAL INSPECTIONS ARE NOT REQUIRED FOR WOOD SHEAR WALLS AND DIAPHRAGMS WHERE THE FASTENER SPACING IS MORE THAN 4 INCHES ON CENTER OR FOR COLD-FORMED CONSTRUCTION WHERE THE SHEATHING IS GYPSUM BOARD, FIBERBOARD, OR WOOD STRUCTURAL PANEL OR STEEL SHEET ON ONE SIDE ONLY AND FASTENER SPACING IS MORE THAN 4" O.C.
FIELD GLUING OPERATIONS OF ELEMENTS OF THE MAIN WIND-FORCE-RESISTING SYSTEM.	1705.10.1		X		
ROOF COVERING, ROOF DECK, AND ROOF FRAMING CONNECTIONS	1705.11.3			X (A)	
EXTERIOR WALL COVERING AND WALL CONNECTIONS TO ROOF AND FLOOR DIAPHRAGMS AND FRAMING.	1705.11.3			X (A)	

(A) = PERIODIC SPECIAL INSPECTION DEFINED IN CONTRACT SPECIFICATIONS.

NO.	DATE	BY	REVISION

NOTICE

0 1/2 1

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

KTK DESIGNED  
 KTK DRAWN  
 RAH CHECKED

REGISTERED PROFESSIONAL ENGINEER  
 OREGON  
 TRAVIS GREGORY METERON  
 EXPIRES 12/31/22

**murraysmith**

**WOODBURN**  
 CITY OF WOODBURN I-5  
 PUMP STATION AND FORCE MAIN UPGRADES

**STRUCTURAL QUALITY CONTROL PLAN AND NOTES-1**

PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: JULY 2021

SHEET  
 S-2  
 43 of 83

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TABLE 2 REQUIRED STRUCTURAL SPECIAL INSPECTIONS					
SYSTEM OR MATERIAL	INSPECTION				REMARKS
	IBC CODE REFERENCE	CODE OR STANDARD REFERENCE	FREQUENCY		
			CONTINUOUS	PERIODIC	
FABRICATORS					
FABRICATORS	1704.2.5			X	SPECIAL INSPECTION IS REQUIRED FOR STRUCTURAL LOAD-BEARING MEMBERS AND ASSEMBLIES FABRICATED ON THE PREMISES OF A FABRICATOR'S SHOP.
	1704.2.5.1				THE SPECIAL INSPECTOR SHALL VERIFY THAT THE FABRICATOR MAINTAINS DETAILED FABRICATION AND QUALITY CONTROL PROCEDURES AND SHALL REVIEW FOR COMPLETENESS AND ADEQUACY RELATIVE TO THE CODE REQUIREMENT.
	1704.2.5.2				SPECIAL INSPECTIONS REQUIRED BY SECTION 1705 ARE NOT REQUIRED WHERE THE WORK IS DONE ON THE PREMISES OF A FABRICATOR REGISTERED AND APPROVED TO PERFORM SUCH WORK WITHOUT SPECIAL INSPECTION. APPROVAL SHALL BE BASED UPON REVIEW OF THE FABRICATOR'S WRITTEN PROCEDURAL AND QUALITY CONTROL MANUALS AND PERIODIC AUDITING OF FABRICATION PRACTICES BY A NATIONALLY RECOGNIZED ACCREDITING AUTHORITY. AT COMPLETION OF FABRICATION, THE APPROVED FABRICATOR SHALL SUBMIT A CERTIFICATE OF COMPLIANCE TO THE BUILDING OFFICIAL STATING THAT THE WORK WAS PERFORMED IN ACCORDANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS.
CONCRETE					
INSPECT REINFORCEMENT, INCLUDING PRESTRESSING TENDONS, AND VERIFY PLACEMENT	TABLE 1705.3, 1908.4	ACI 318: CH. 20, 25.2, 25.3, 26.5.1-25.6.3		X	TOLERANCES AND REINFORCING PLACEMENT PER ACI 318 26.6; SPACING LIMITS FOR REINFORCING ACI 318 25.2 PROTECTION OF REINFORCEMENT PER ACI 318 20.6
INSPECT ANCHORS CAST IN CONCRETE	TABLE 1705.3, 1908.5, 1909.1	ACI 318: 17.8.2		X	ALL BOLTS VISUALLY INSPECTED
INSPECT ANCHORS INSTALLED IN HARDENED CONCRETE	TABLE 1705.3	ACI 318: 17.8.2.4	X		SPECIAL INSPECTIONS APPLY TO ANCHOR PRODUCT NAME, TYPE, AND DIMENSIONS, HOLE DIMENSIONS, COMPLIANCE WITH DRILL BIT REQUIREMENTS, CLEANLINESS OF THE HOLE AND ANCHOR, ADHESIVE EXPIRATION DATE, ANCHOR/ADHESIVE INSTALLATION, ANCHOR EMBEDMENT, AND TIGHTENING TORQUE
		ACI 318: 17.8.2		X	
VERIFY USE OF REQUIRED MIX DESIGN(S)	TABLE 1705.3, 1904.1, 1904.2, 1908.2, 1908.3	ACI 318: CH. 19, 26.4.3, 26.4.4		X	
INSPECT CONCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES	TABLE 1705.3	ACI 318: 26.5	X		
VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES	TABLE 1705.3, 1908.10	ACI 318: 26.5.3 - 26.5.5		X (A)	
VERIFY IN-SITU CONCRETE STRENGTH PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE	TABLE 1705.3	ACI 318: 26.11.2		X (A)	
VERIFY IN-SITU CONCRETE PRIOR TO REMOVAL OF FORMS AND SHORES FROM ELEVATED BEAMS AND STRUCTURAL SLABS	TABLE 1705.3	ACI 318: 26.11.2		X (A)	
INSPECT FORMWORK FOR SHAPE, LOCATION, AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED	TABLE 1705.3	ACI 318: 26.11.1.2		X (A)	

TABLE 2 REQUIRED STRUCTURAL SPECIAL INSPECTIONS					
SYSTEM OR MATERIAL	INSPECTION				REMARKS
	IBC CODE REFERENCE	CODE OR STANDARD REFERENCE	FREQUENCY		
			CONTINUOUS	PERIODIC	
MASONRY					
MASONRY LEVEL 3					
TMS 602 TABLE 4 - LEVEL 3 QUALITY ASSURANCE					
TESTS					
PRIOR TO CONSTRUCTION, VERIFY COMPLIANCE OF SUBMITTALS PER TMS 602 ART. 1.5					
PRIOR TO CONSTRUCTION, VERIFY F'M AND FAAC PER TMS 602 ART. 1.4 B					
DURING CONSTRUCTION, VERIFY SLUMP LOW AND VISUAL STABILITY INDEX WHEN SELF-CONSOLIDATING GROUT IS DELIVERED TO THE PROJECT SITE PER TMS 602 ART. 1.5 & 1.6.3					
DURING CONSTRUCTION, VERIFY F'M AND FAAC FOR EVERY 5000 SQ. FT PER TMS 602 ART. 1.4 B					
DURING CONSTRUCTION, VERIFY PORTIONS OF MATERIALS AS DELIVERED TO THE PROJECT SITE FOR PREMIXED OR PREBLENDED MORTAR, PRESTRESSING PORTION, AND GROUT OTHER THAN SELF CONSOLIDATING GROUT PER TMS 602 ART. 1.4 B					
INSPECTION					
INSPECTION TASK	REFERENCE CODE OR STANDARD FOR CRITERIA		FREQUENCY (A)		REMARKS
	TMS 402	TMS 602	CONTINUOUS	PERIODIC	
AS MASONRY CONSTRUCTION BEGINS, VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE					
PROPORTIONS OF SITE-PREPARED MORTAR		ART. 2.1, 2.6 A, 2.6 C		X	
GRADE AND SIZE OF PRESTRESSING TENDONS AND ANCHORAGES		ART. 2.4 B, 2.4 H		X	
GRADE, TYPE, AND SIZE OF REINFORCEMENT, CONNECTORS, ANCHOR BOLTS, AND PRESTRESSING TENDONS AND ANCHORAGES		ART. 3.4, 3.4 A		X	
PRESTRESSING TECHNIQUE		ART. 3.6 B		X	
PROPERTIES OF THIN-BED MORTAR FOR AAC MASONRY		ART. 2.1, C.1	X		
SAMPLE PANEL CONSTRUCTION		ART. 1.6 D	X		
PRIOR TO GROUTING, VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE					
GROUT SPACE		ART. 3.2 D, 3.2 F	X		
PLACEMENT OF PRESTRESSING TENDONS AND ANCHORAGES	SEC. 10.8, 10.9	ART. 2.4, 3.6		X	
PLACEMENT OF REINFORCEMENT, CONNECTORS, AND ANCHOR BOLTS	SEC. 6.1, 6.3.1, 6.3.6, 6.3.7	ART. 3.2 E, 3.4	X		
PROPORTIONS OF SITE PREPARED GROUT AND PRESTRESSING GROUT FOR BONDED TENDONS		ART. 2.6 B, 2.4, G.1.B	X		
VERIFY COMPLIANCE OF THE FOLLOWING DURING CONSTRUCTION:					
MATERIALS AND PROCEDURES WITH THE APPROVED SUBMITTAL		ART. 1.5		X	
PLACEMENT OF MASONRY UNITS AND MORTAR JOINT CONSTRUCTION		ART. 3.3 B		X	
SIZE AND LOCATION OF STRUCTURAL MEMBERS		ART. 3.3 F		X	
TYPE, SIZE, AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES, OR OTHER CONSTRUCTION.	SEC. 1.2.1 E, 6.2.1, 6.3.1		X		
WELDING OF REINFORCEMENT	SEC. 6.1.6.1.2		X		
PREPARATION, CONSTRUCTION, AND PROTECTION OF MASONRY DURING COLD WEATHER (TEMPERATURE BELOW 40F) OR HOT WEATHER (TEMPERATURE ABOVE 90F)		ART. 1.8 C, 1.8 D		X	
APPLICATION AND MEASUREMENT OF PRESTRESSING FORCE		ART. 3.6 B	X		
PLACEMENT OF GROUT AND PRESTRESSING GROUT FOR BONDED TENDONS IS IN COMPLIANCE		ART. 3.5, 3.6 C	X		
PLACEMENT OF AAC MASONRY UNITS AND CONSTRUCTION OF THIN BED MORTAR JOINTS		ART. 3.6 B	X		
OBSERVE PREPARATION OF GROUT SPECIMENS, MORTAR SPECIMENS, AND/OR PRISMS		ART. 1.4 B.2.A.3, 1.4 B.2.B.3, 1.4 B.2.C.3, 1.4 B.3, 1.4 B.4	X		

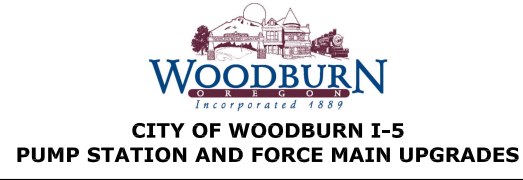
**PSE**  
PETERSON STRUCTURAL ENGINEERS

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NOTICE  
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CHECKED

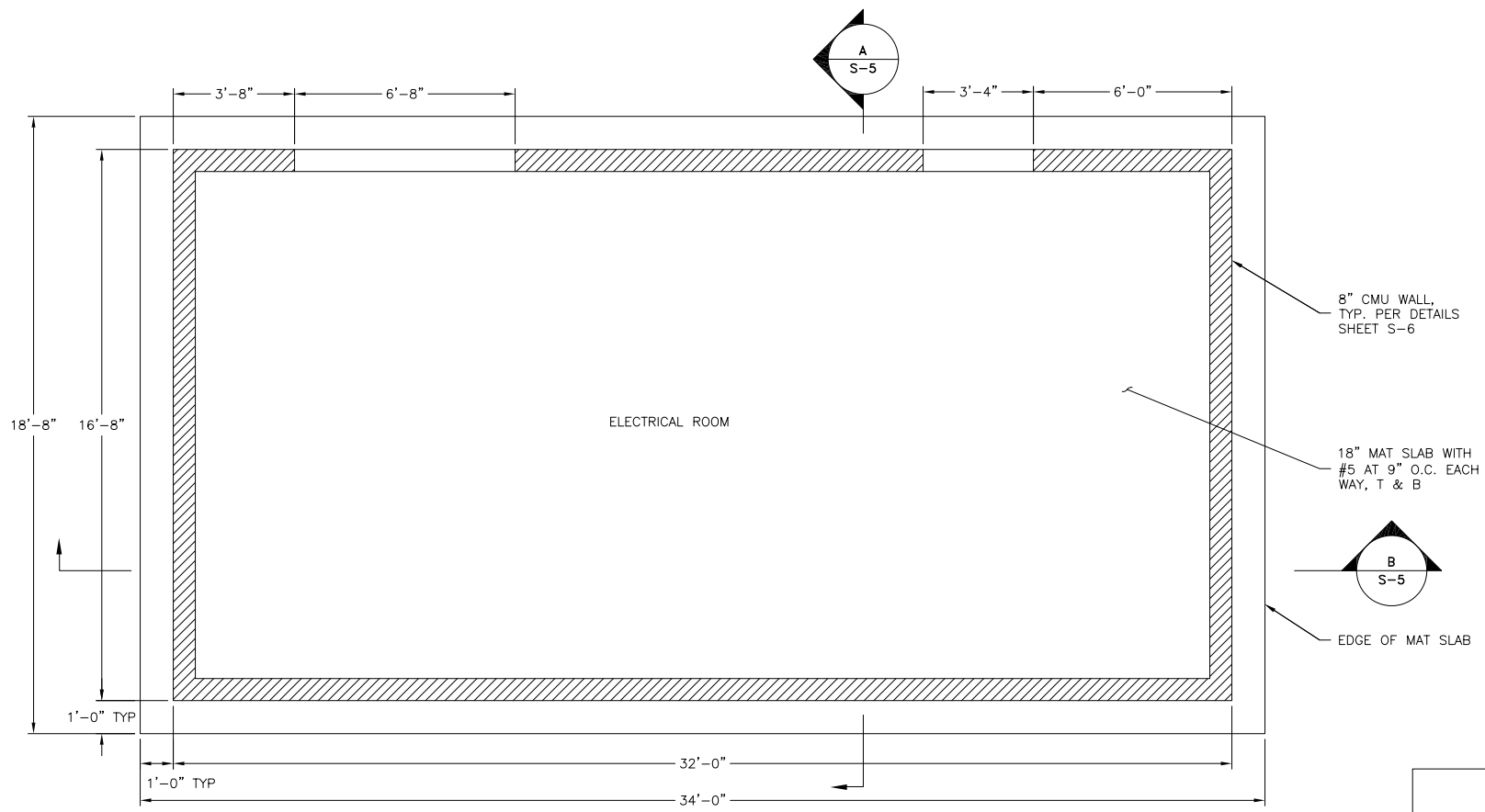


**STRUCTURAL QUALITY CONTROL PLAN AND NOTES-2**

PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: JULY 2021

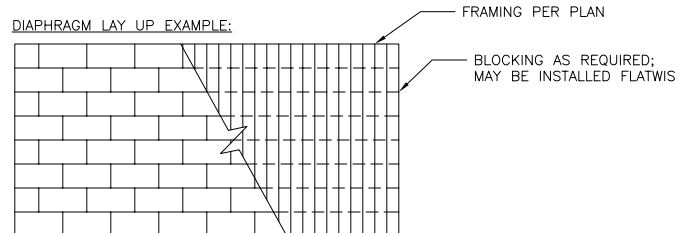
SHEET  
S-3  
44 of 83

X:\2018\01-PDX\1801-0351 To 1801-0375\1801-0366\1 - Project Data Files\2 - Control Building\2021\_05\_10 Final QAQC Drawings\Control Building Drawings 1801-0366.dwg S-4 5/28/2021 3:44 PM ##### 24.1s (LMS Tech)



ELECTRICAL/CONTROL BUILDING FOUNDATION PLAN 1 S-4  
3/8" = 1'-0"

- DIAPHRAGM NOTES:**
1. FIELD NAILING TO BE AT 12" O.C.
  2. SHEATHING TO BE SUPPORTED BY FRAMING 24" O.C. MAX.
  3. NAILS TO BE COMMON OR GALVANIZED BOX NAILS. GALVANIZED NAILS SHALL BE HOT DIPPED OR TUMBLED. NAILS TO BE 3/8" FROM PANEL EDGE.
  4. PANELS TO BE PLACED PER LAY UP EXAMPLE BELOW.



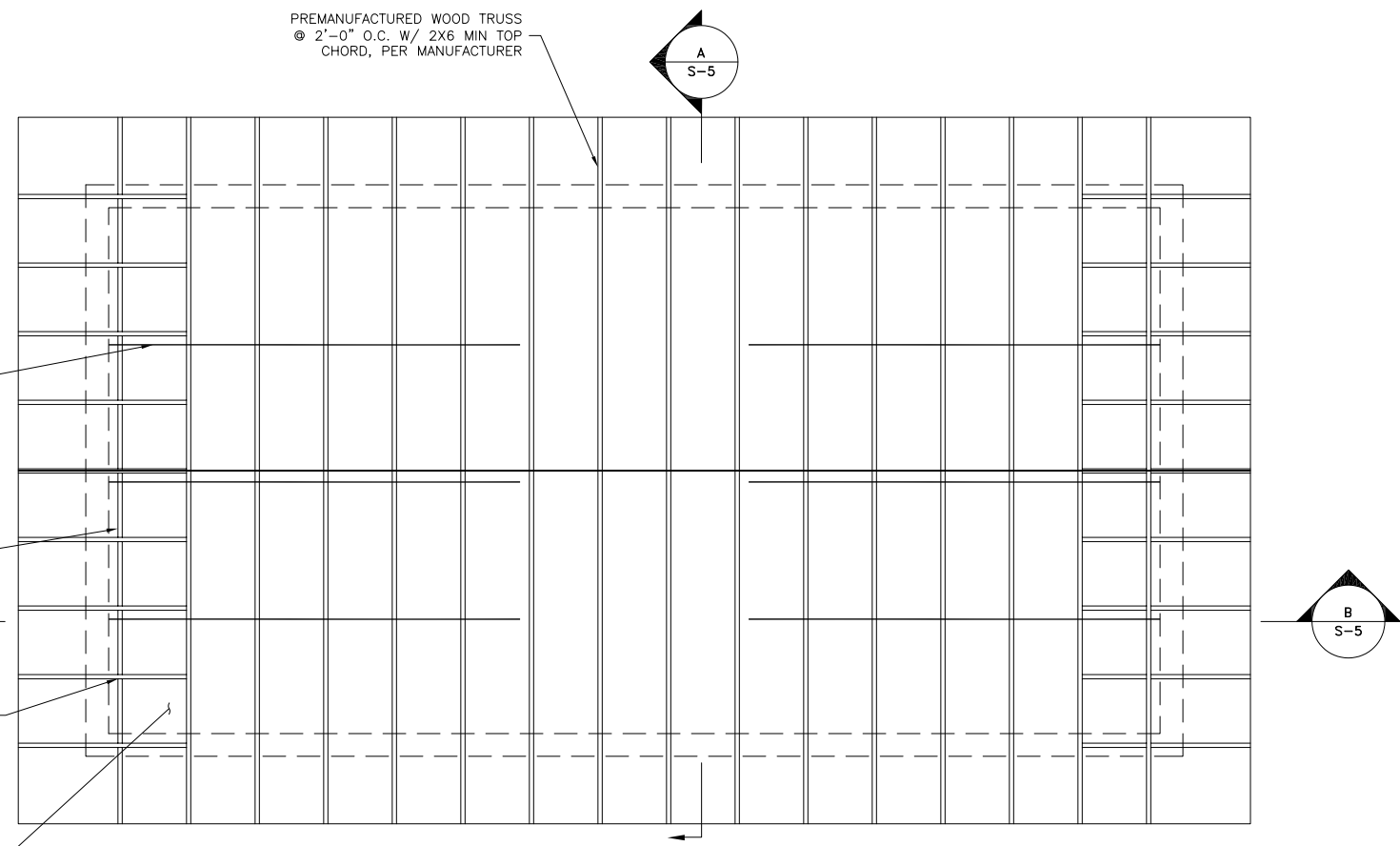
SIMPSON CS20 STRAPx12' LONG TO CEILING DIAPHRAGM BLOCKING AT 4'-0" O.C. TYP., PER DETAIL 1 S-7

SHEATH GABLE END TRUSS WITH 1/2" CDX SHEATHING W/ 8d NAILS @ 6" O.C. AT PANEL EDGES AND 12" O.C. IN THE FIELD WITH 2X BLOCKING AT 24" O.C.

LOWERED TOP CHORD AT GABLE END TRUSS FOR OUTRIGGERS, TYP

**ROOF SHEATHING**  
1/2" CDX SHEATHING W/ 10d NAILS @ 4" O.C. AT PANEL EDGES AND 12" O.C. IN THE FIELD W/ 2X BLOCKING AT 24" O.C.

**CEILING SHEATHING**  
1/2" CDX SHEATHING W/ 8d NAILS @ 6" O.C. AT PANEL EDGES AND 12" O.C. IN THE FIELD W/ 2X BLOCKING AT 24" O.C.



ROOF FRAMING PLAN 2 S-4  
3/8" = 1'-0"

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NOTICE

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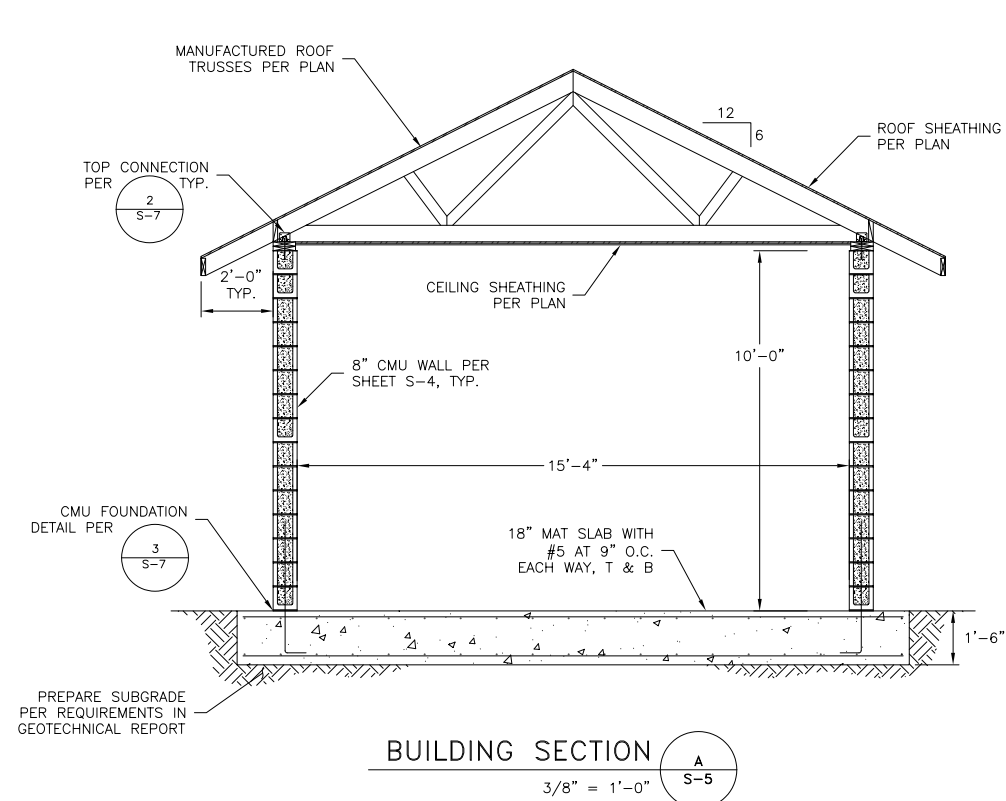
**WOODBURN**  
CITY OF WOODBURN I-5  
PUMP STATION AND FORCE MAIN UPGRADES

**ELECTRICAL/CONTROL BUILDING FOUNDATION PLAN AND ROOF FRAMING PLAN**

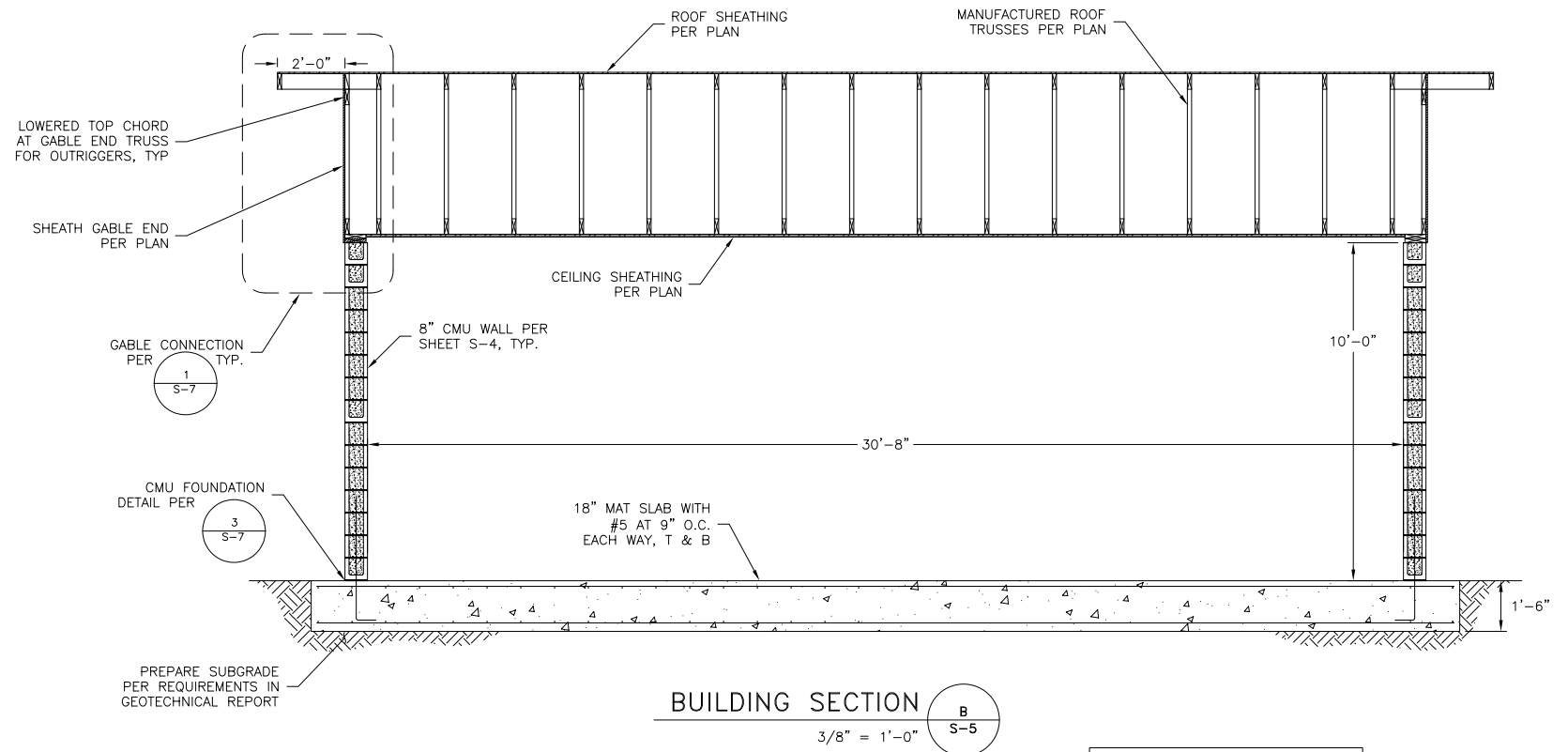
PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: JULY 2021

SHEET S-4  
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BUILDING SECTION A  
3/8" = 1'-0" S-5



BUILDING SECTION B  
3/8" = 1'-0" S-5

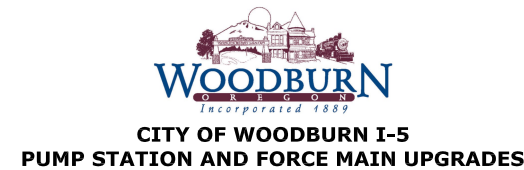
SLAB CONDUIT NOTES:  
1. CONDUITS THROUGH SLAB MUST BE 2" CLEAR OF REINFORCING  
2. MAXIMUM CONDUIT THROUGH SLAB WITHOUT SUPPLEMENTAL REINFORCEMENT: 3" DIAMETER



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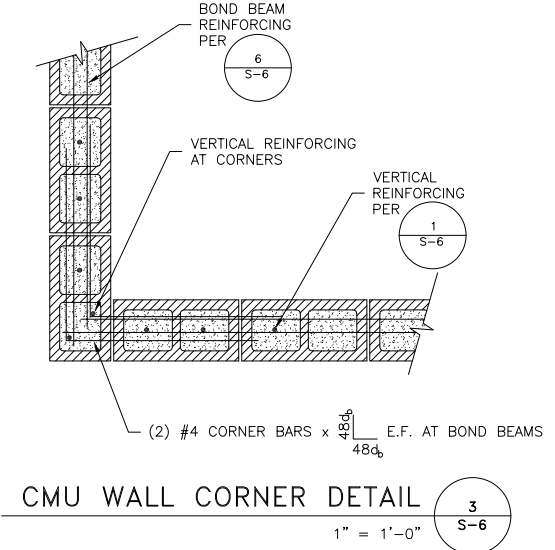
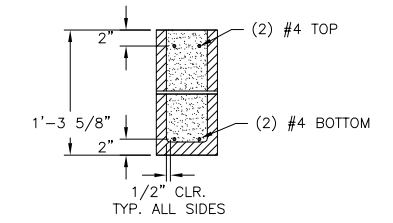
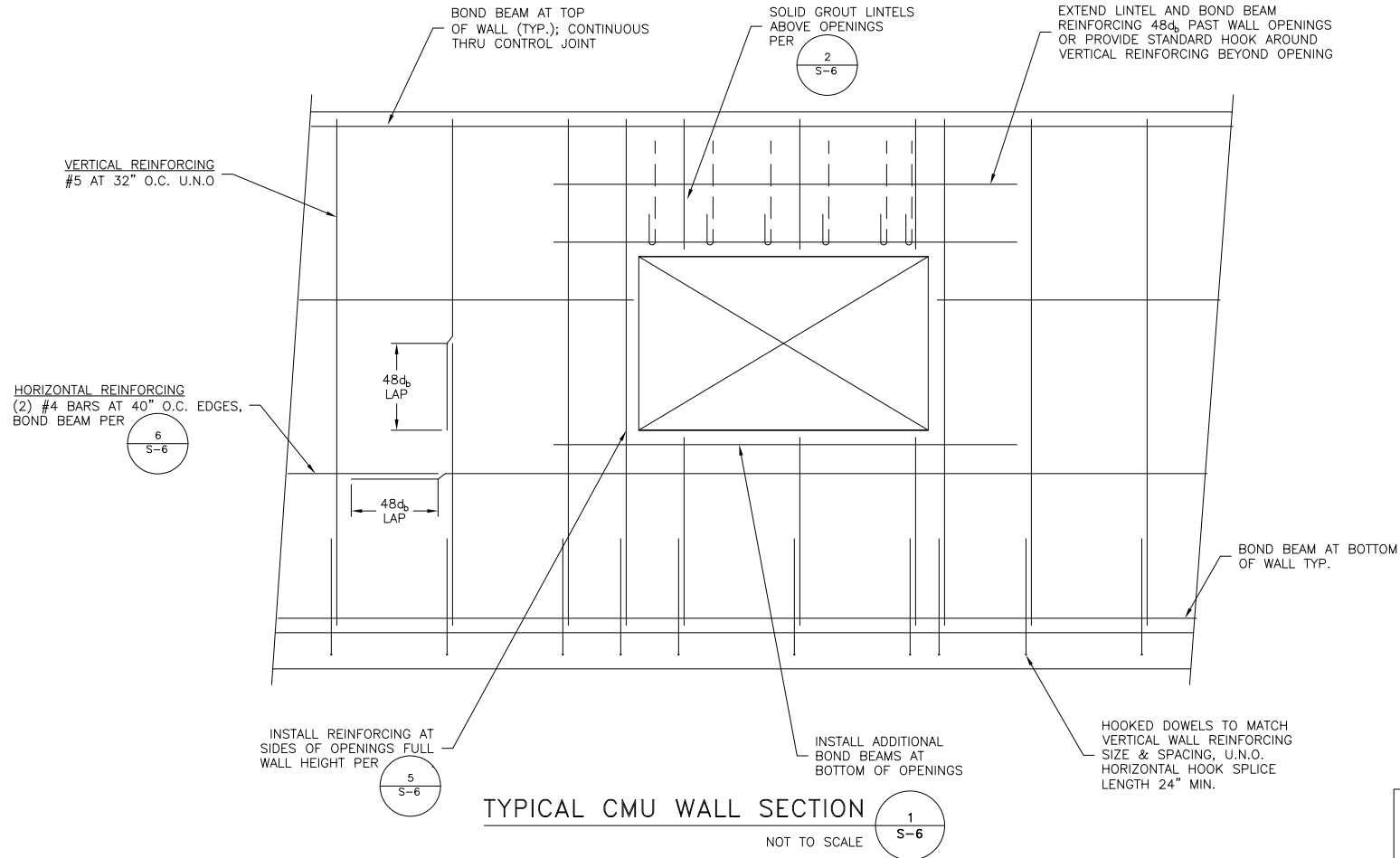
ELECTRICAL/CONTROL BUILDING  
STRUCTURAL SECTIONS

SHEET  
S-5  
46 of 83

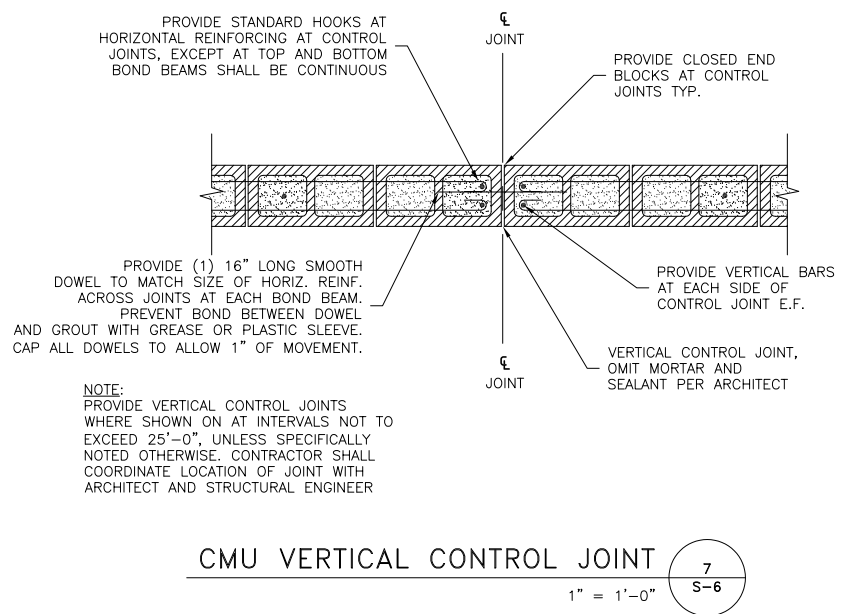
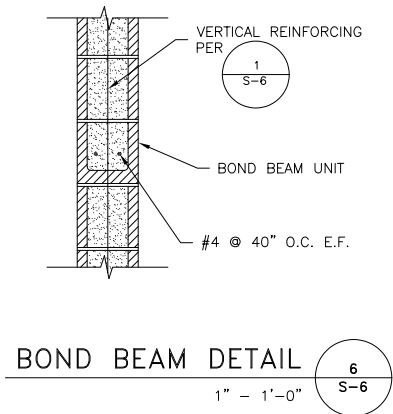
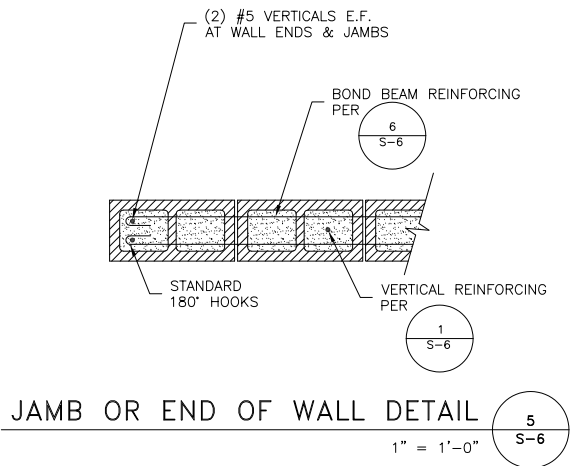
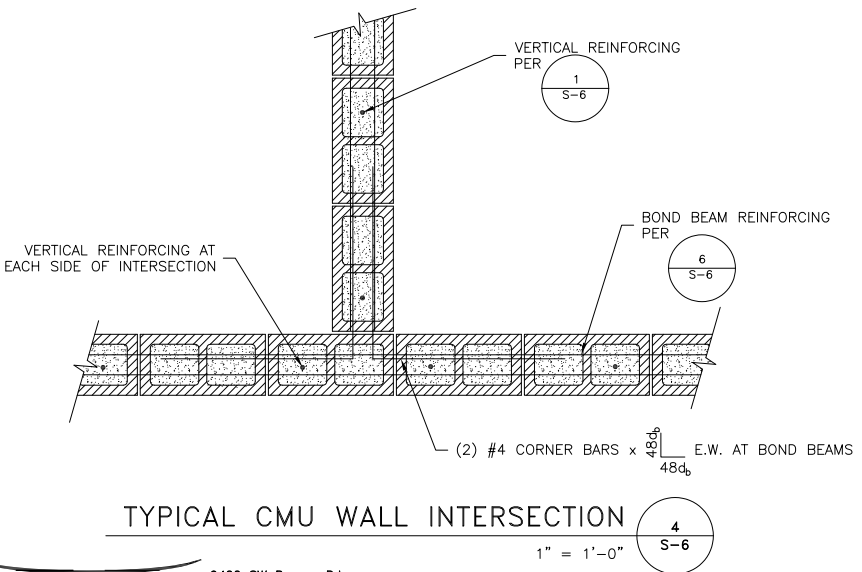
NO.	DATE	BY	REVISION

PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: JULY 2021

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- CMU NOTES:**
1. ALL CELLS SHALL BE SOLID GROUTED
  2. HOOK ALL REINFORCING THAT CANNOT BE EXTENDED.
  3. TYPICAL REINFORCING IS SHOWN. REFER TO DETAILS FOR SPECIFIC OR ADDITIONAL REINFORCING
  4. LAP ALL REINFORCING A MINIMUM OF 48 BAR DIAMETERS
  5. USE LINTEL BLOCK AT LINTELS & 48 BAR DIAMETERS PAST EACH SIDE OF LINTELS; BOND BEAM BLOCKS ARE NOT PERMITTED.
  6. BOND BEAMS AT TOP OF WALL SHALL BE CONTINUOUS WITH STANDARD REINFORCING.



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**NOTICE**  
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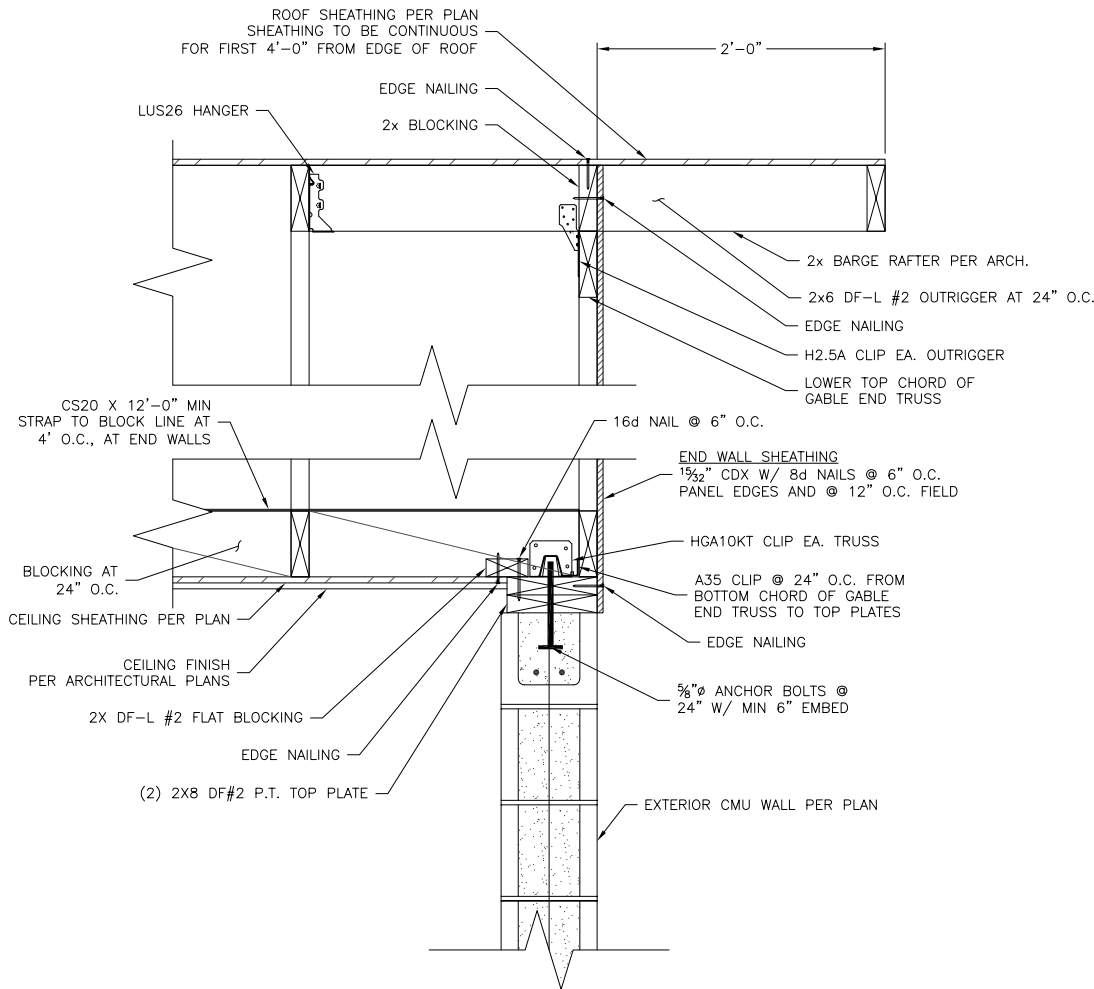
**WOODBURN**  
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**ELECTRICAL/CONTROL BUILDING**  
**CMU WALL TYPICAL DETAILS**  
PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: JULY 2021

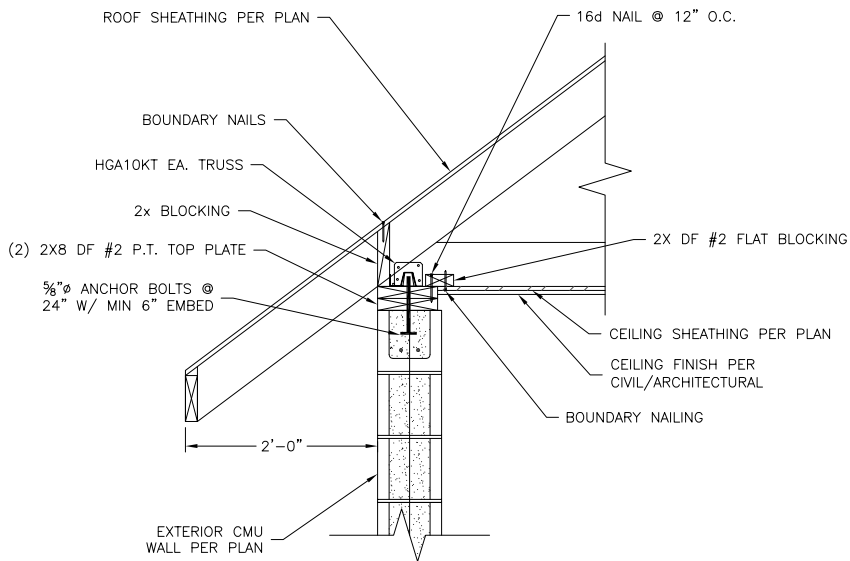
SHEET  
**S-6**  
47 of 83

NO.	DATE	BY	REVISION

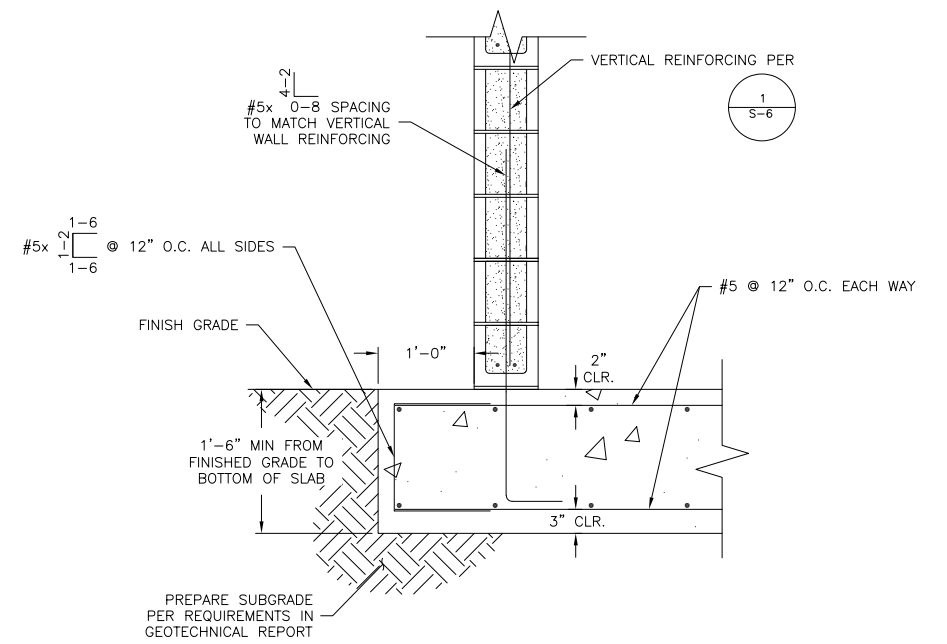
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GABLE END WALL TOP DETAIL 1  
1 1/2" = 1'-0" S-5



EXTERIOR WALL TOP DETAIL 2  
1" = 1'-0" S-5

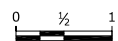


TYPICAL FOOTING DETAIL 3  
1" = 1'-0" S-5



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WOODBURN  
CITY OF WOODBURN I-5  
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ELECTRICAL/CONTROL BUILDING  
CMU WALL CONNECTION DETAILS

PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: JULY 2021

SHEET

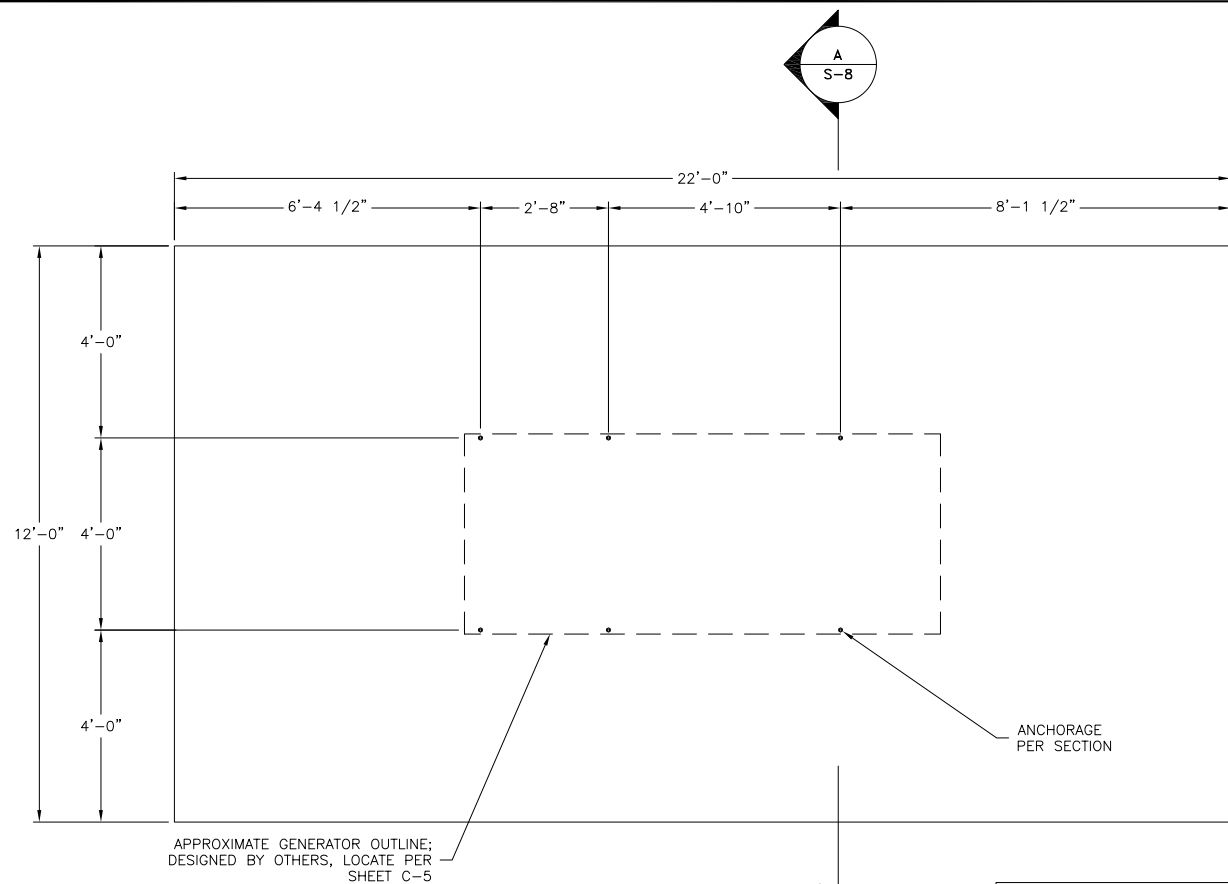
S-7

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NO.	DATE	BY	REVISION



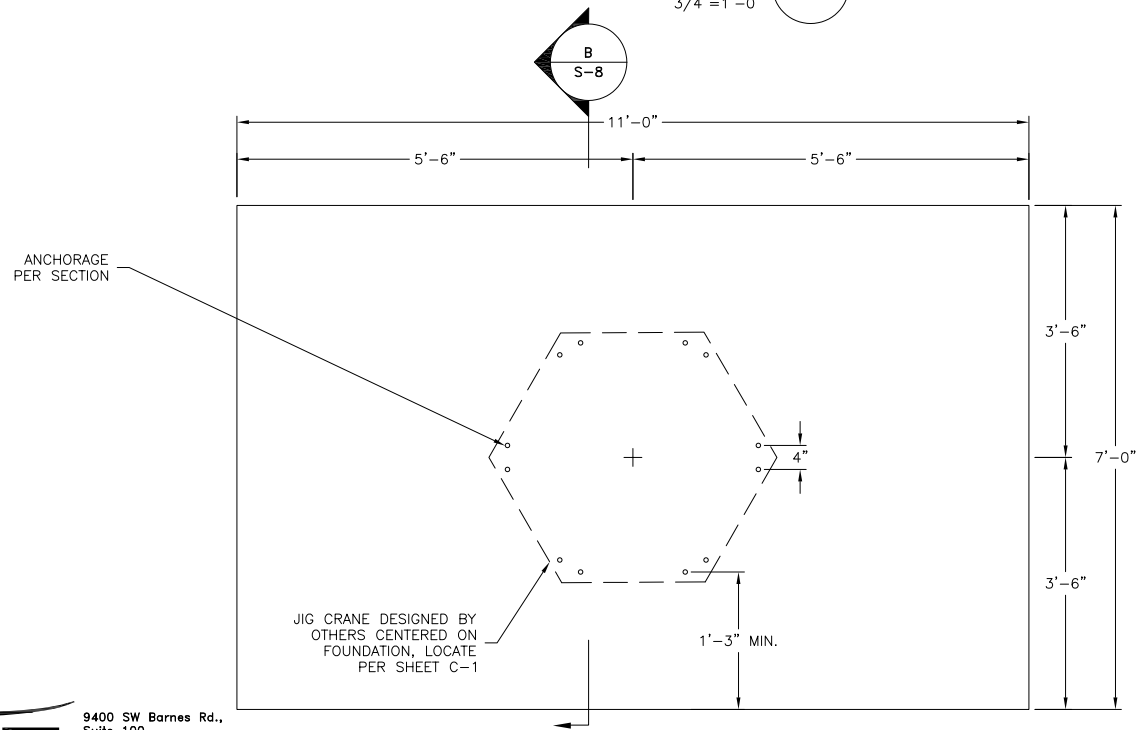
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APPROXIMATE GENERATOR OUTLINE;  
DESIGNED BY OTHERS, LOCATE PER  
SHEET C-5

GENERATOR FOUNDATION PLAN  
3/4"=1'-0"

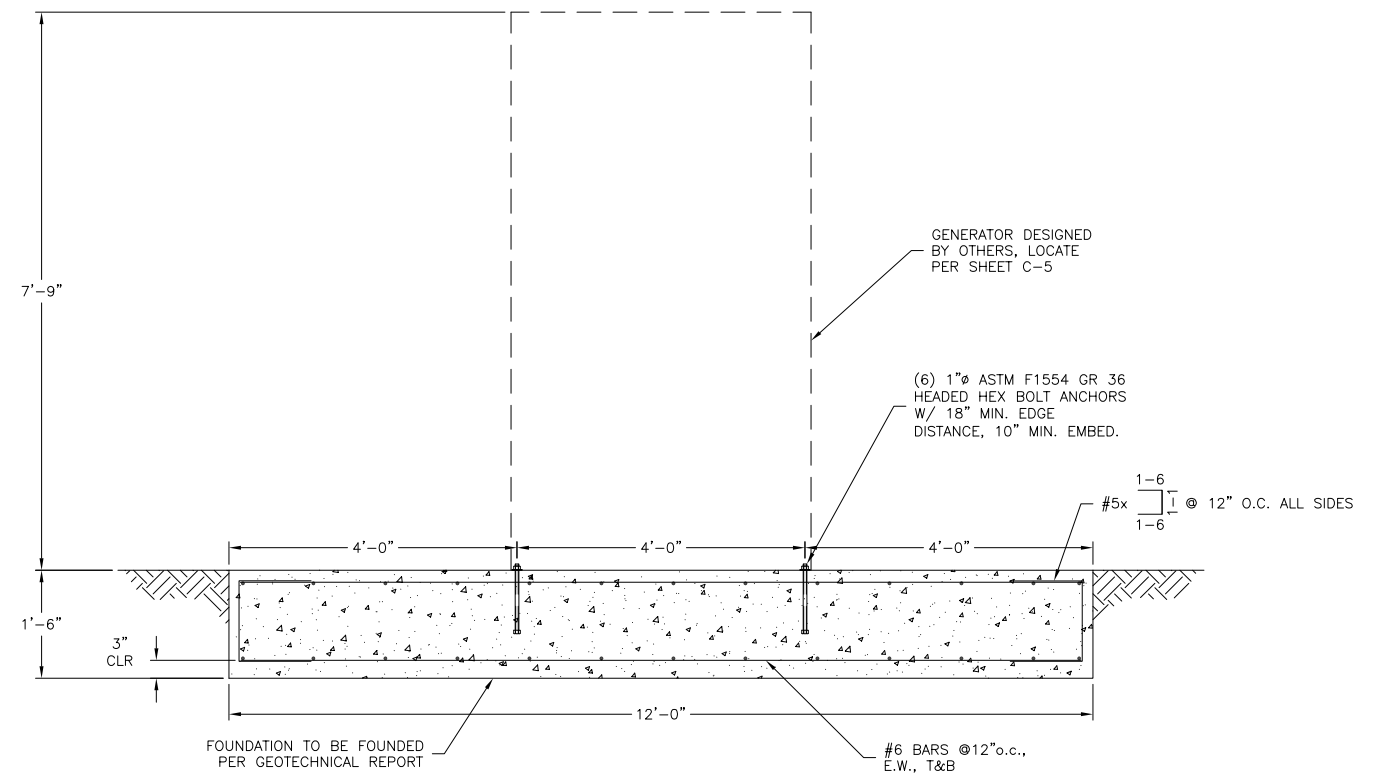
NOTES:  
1. CONTRACTOR TO VERIFY ANCHOR  
LOCATIONS PRIOR TO INSTALLATION



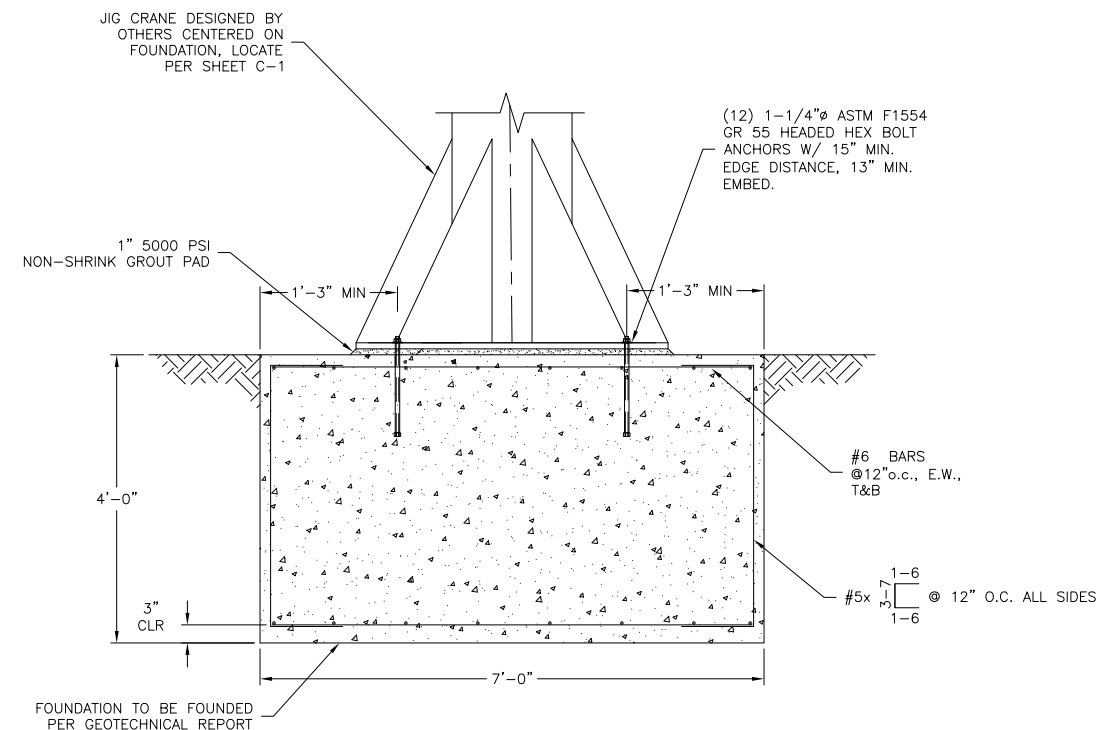
JIB CRANE DESIGNED BY  
OTHERS CENTERED ON  
FOUNDATION, LOCATE  
PER SHEET C-1

JIB CRANE FOUNDATION PLAN  
3/4"=1'-0"

NOTES:  
1. CONTRACTOR TO VERIFY ANCHOR  
LOCATIONS PRIOR TO INSTALLATION



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

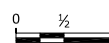


JIB CRANE FOUNDATION SECTION  
3/4"=1'-0"



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MISCELLANEOUS STRUCTURAL  
DETAILS

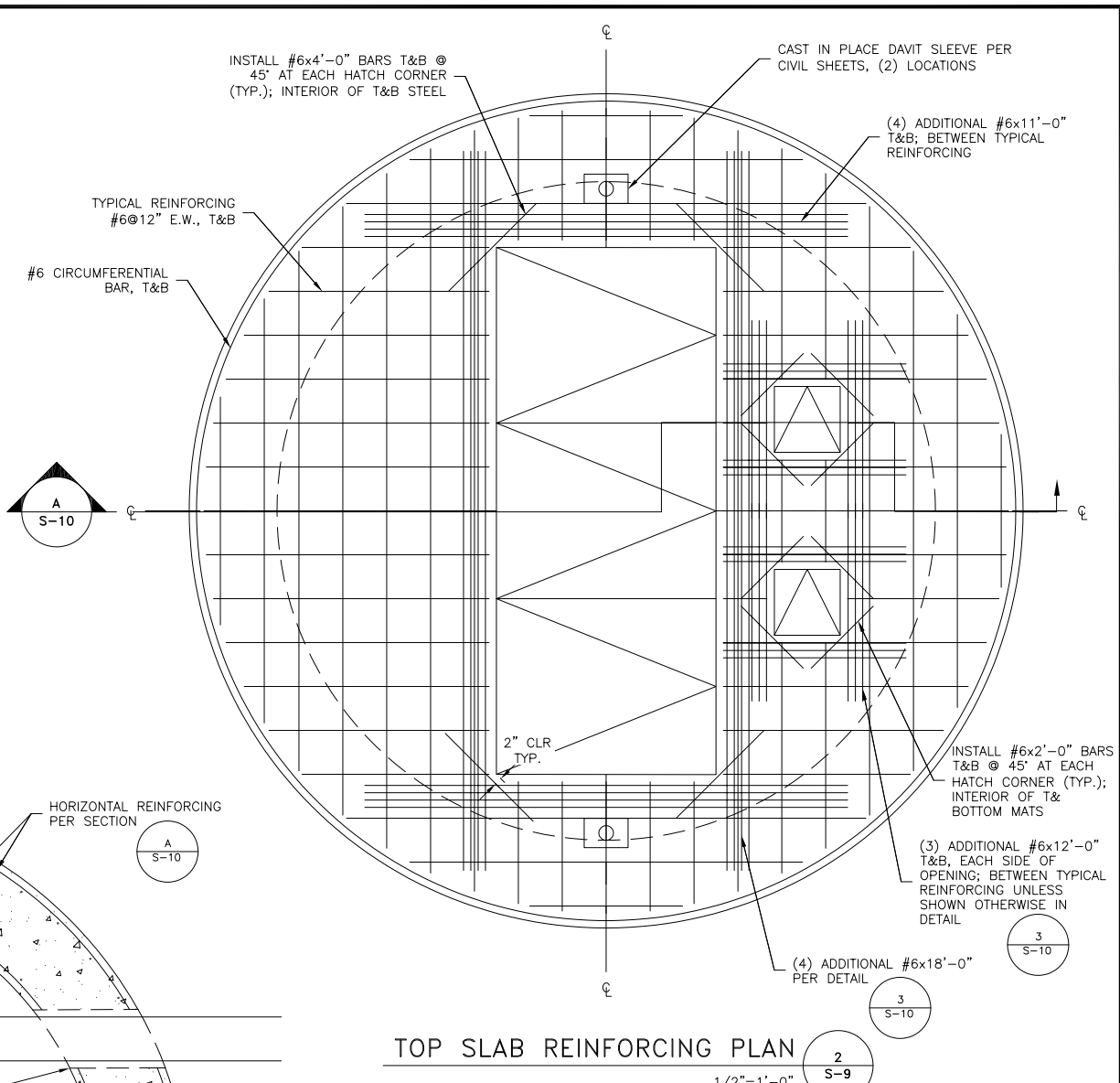
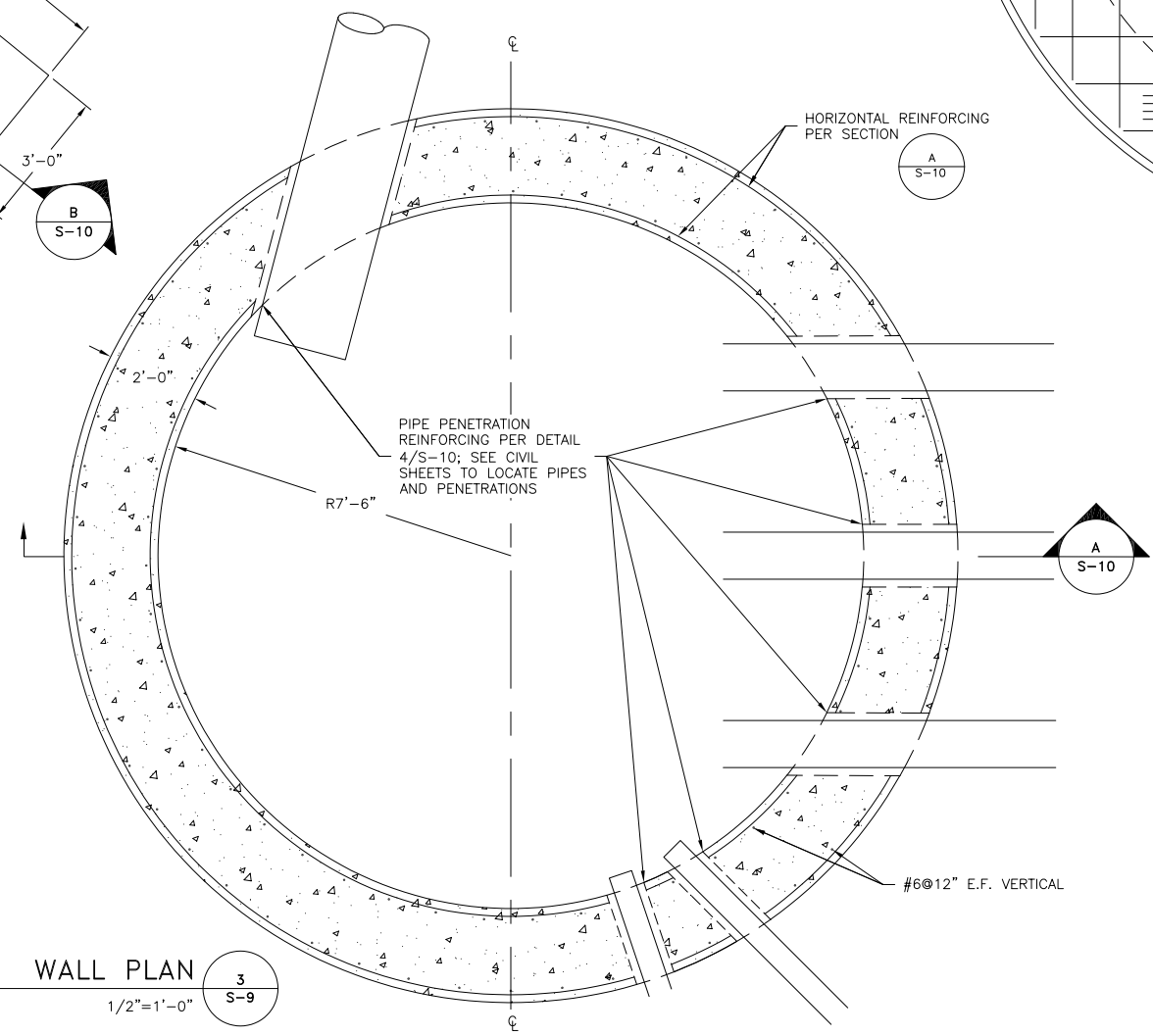
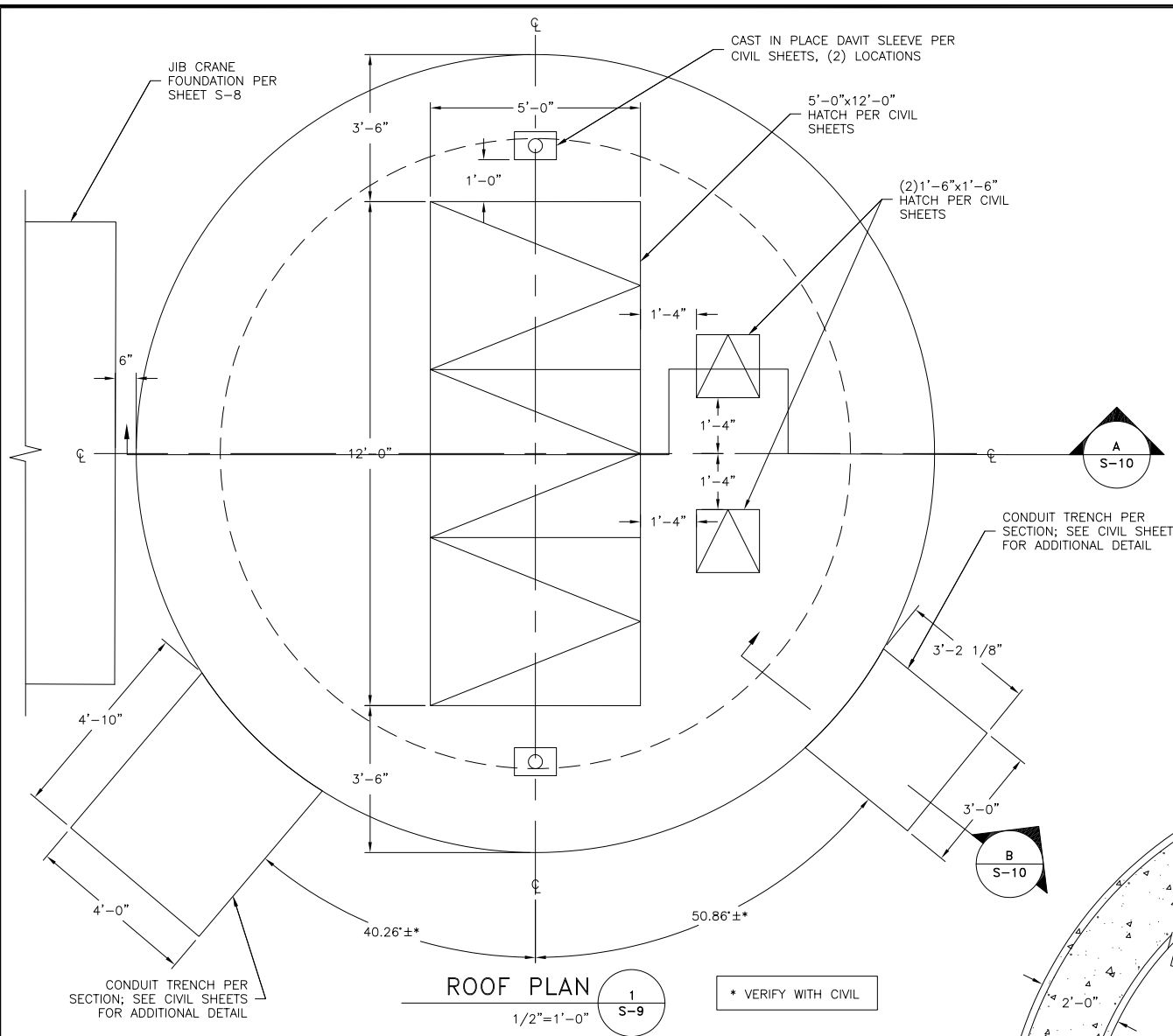
PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: JULY 2021

SHEET

S-8

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X:\2018\01-PDX\1801-0351 To 1801-0375\1801-0366\1 - Wet Well\2021\_05\_28 Final Coordination Drawings\Wet Well Drawings 1801-0366.dwg S-9 5/28/2021 3:44 PM ##### 24.1s (LMS Tech)



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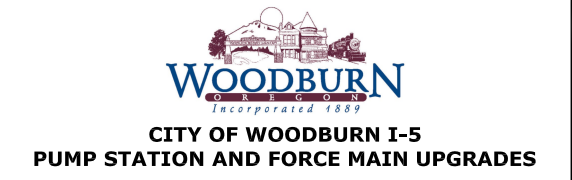
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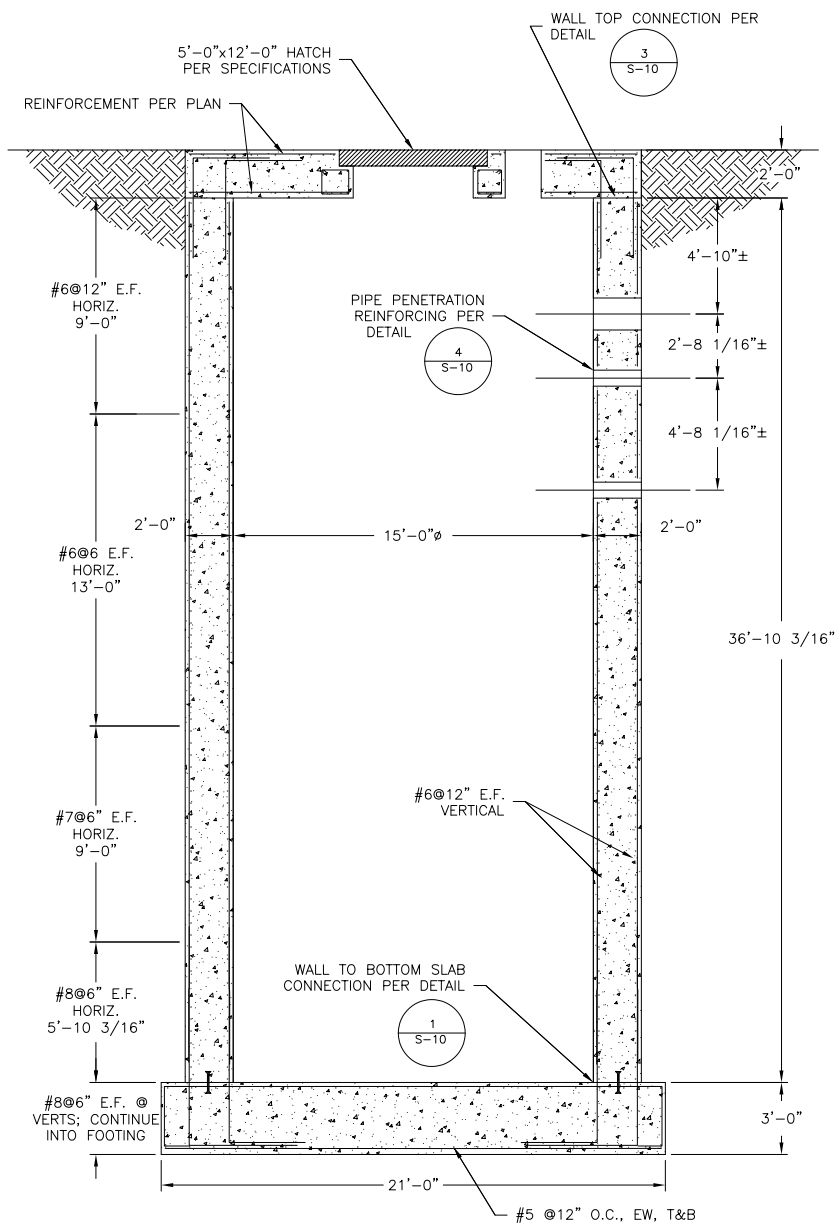
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<b>WET WELL PLANS</b>		SHEET <b>S-9</b>
PROJECT NO.: 19-2469.303	SCALE: AS SHOWN	DATE: JULY 2021
		50 of 83

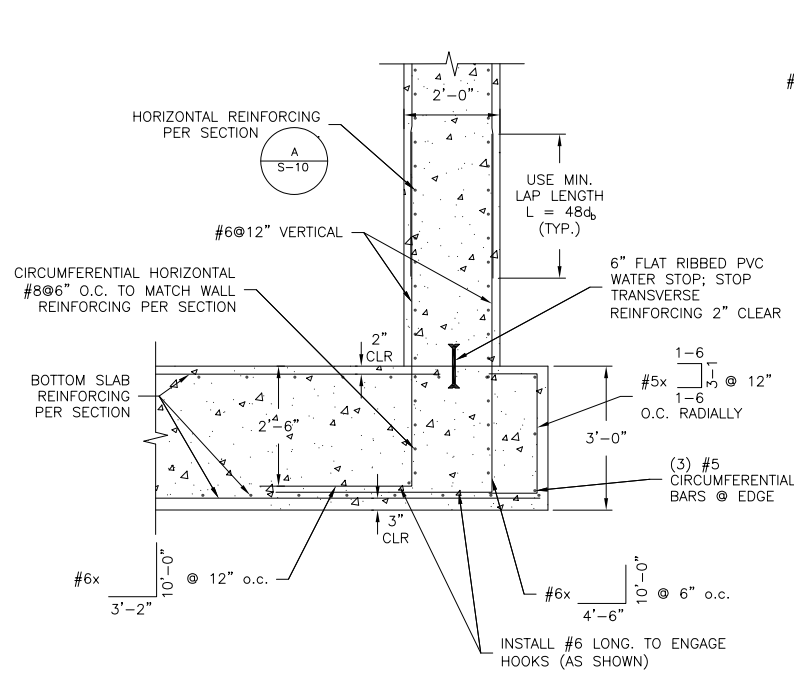
NO.	DATE	BY	REVISION

X:\2018\01-PDX\1801-0366\1 - Wet Well\2021\_05\_28 Final Coordination Drawings\Wet Well Drawings 1801-0366.dwg S-10 5/28/2021 3:44 PM ##### 24.1s (LMS Tech)

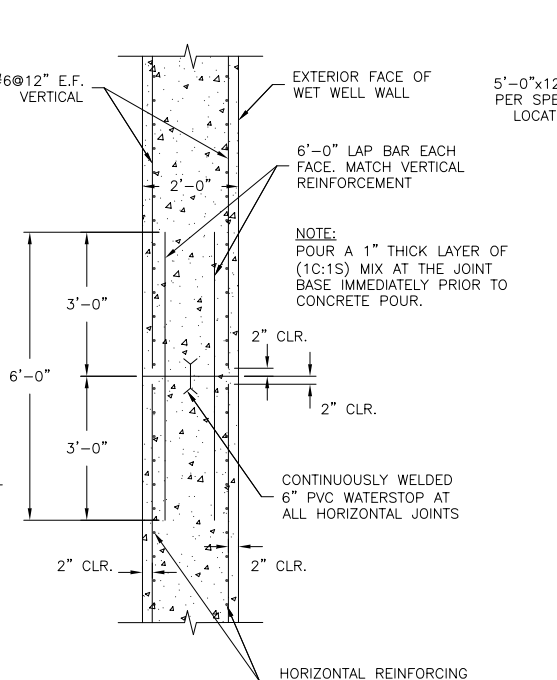


**WALL SECTION**  
A  
S-10  
1/4"=1'-0"

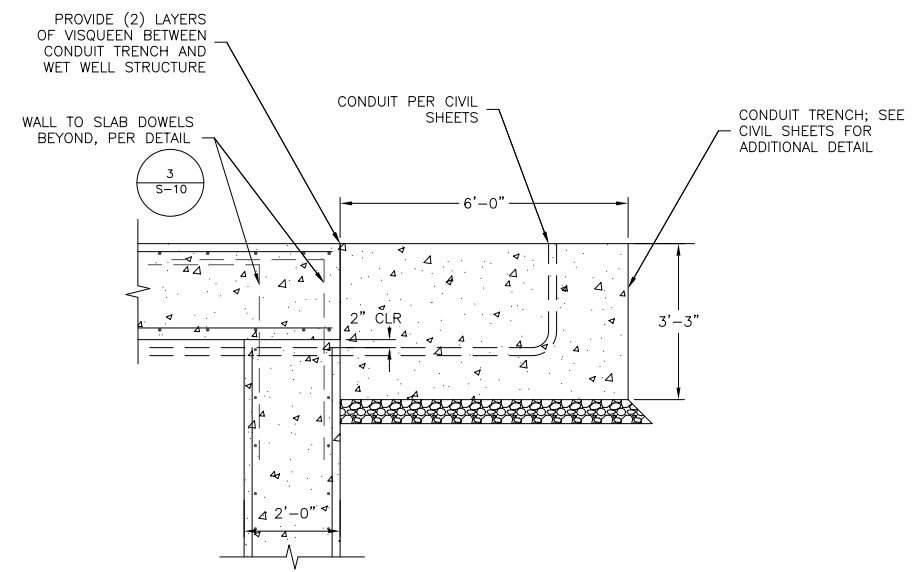
NOTES:  
1. PROVIDE WATERSTOPS AT ANY HORIZONTAL CONSTRUCTION COLD JOINTS PER DETAIL 2/S-10.



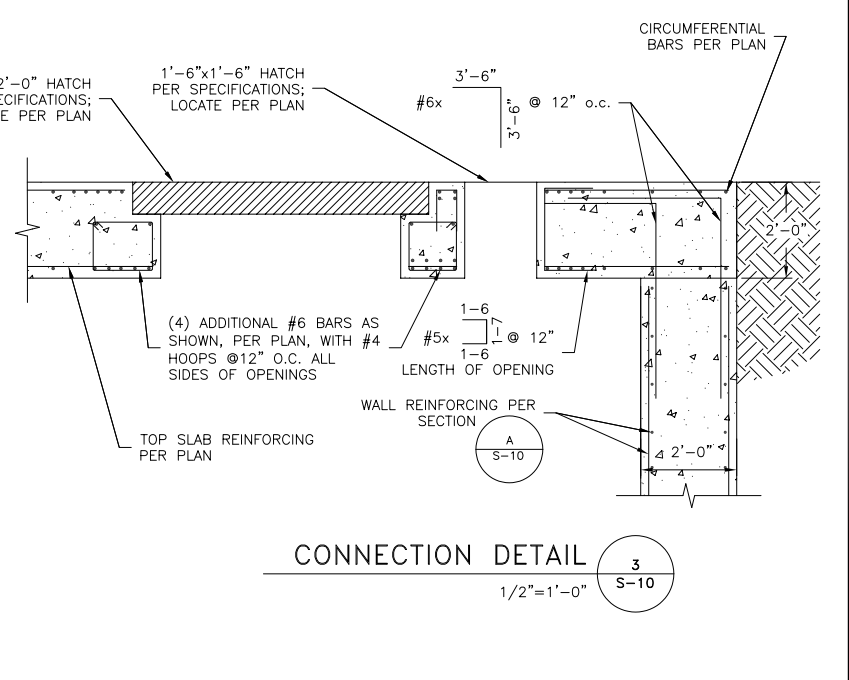
**CONNECTION DETAIL**  
1  
S-10  
1/2"=1'-0"



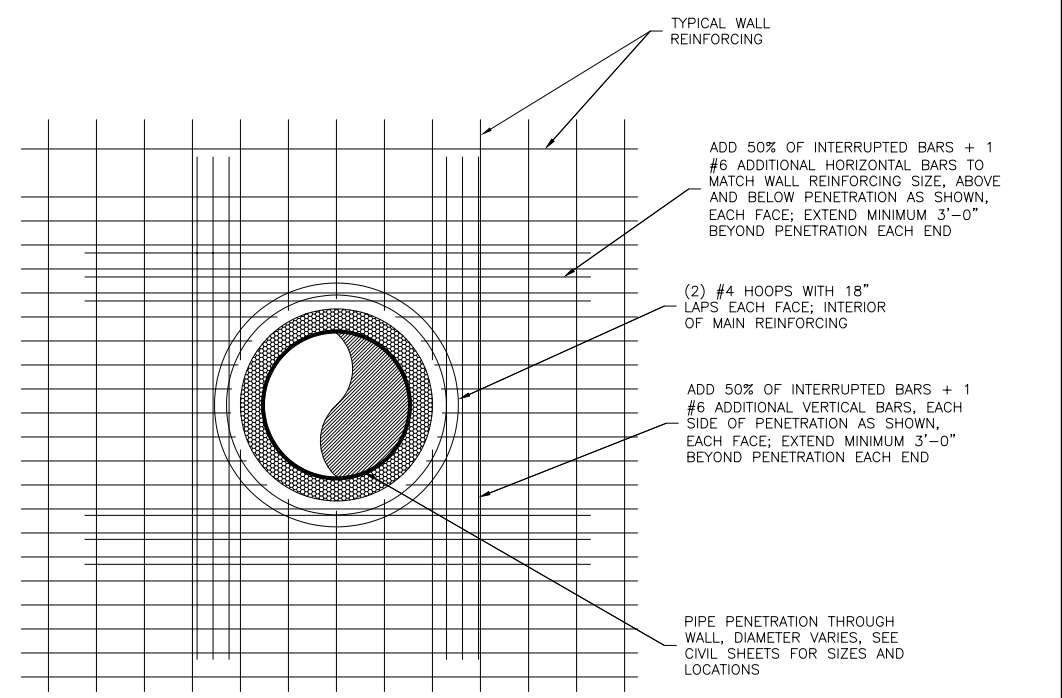
**HORIZONTAL WALL JOINT DETAIL**  
2  
S-10  
1/2"=1'-0"



**CABLE TRENCH SECTION**  
B  
S-10  
1/2"=1'-0"



**CONNECTION DETAIL**  
3  
S-10  
1/2"=1'-0"



**PENETRATION REINFORCING DETAIL**  
4  
S-10  
1/2"=1'-0"

NOTE: ALL REINFORCING SHALL BE 2" CLEAR OF ALL SURFACES OF EMBEDDED PIPE, FLANGES AND SPOOLS.

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RAH CHECKED

STRUCTURAL REGISTERED PROFESSIONAL ENGINEER  
63186PE  
Murray Smith  
NOV. 9, 2004  
OREGON  
TRAVIS GREGORY MITCHELL  
EXPIRES 12/31/22

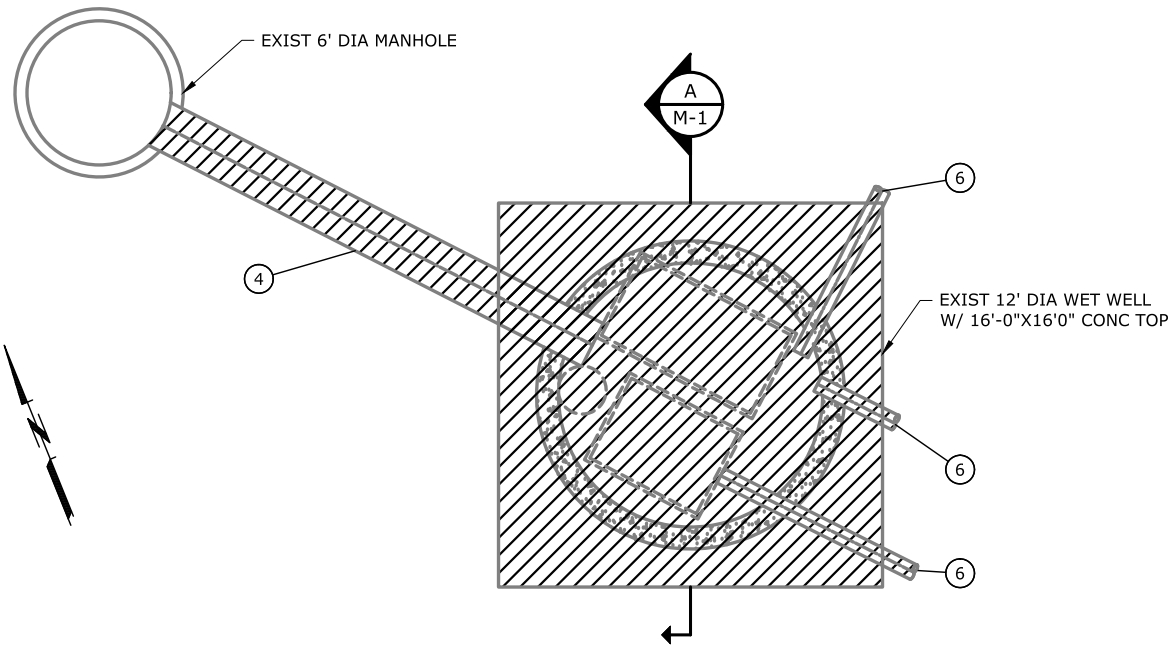
**murraysmith**

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**WET WELL SECTION AND DETAILS**  
PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: JULY 2021

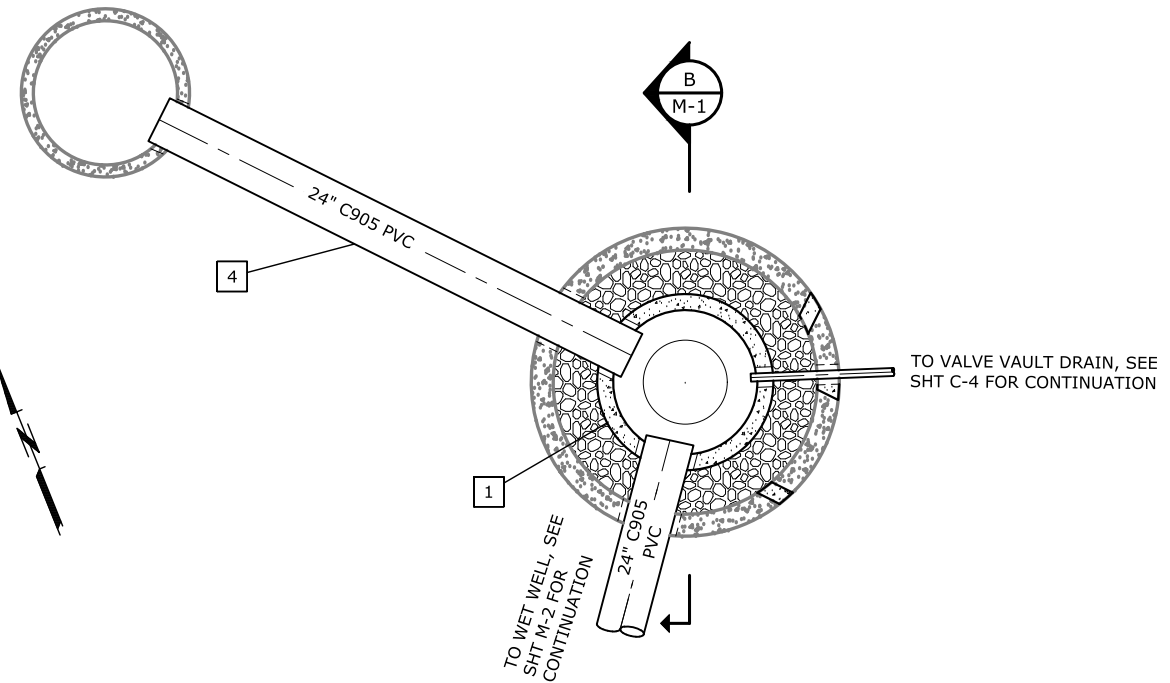
SHEET  
S-10  
51 of 83

G:\PDX\_Projects\19\2469 - Woodburn I-5 PS & FM - Design\CAD\Sheets\19-2469-OR-MECH.dwg M-1 7/1/2021 6:11 PM CATHERINE.SOTO 23.0s (LMS Tech)



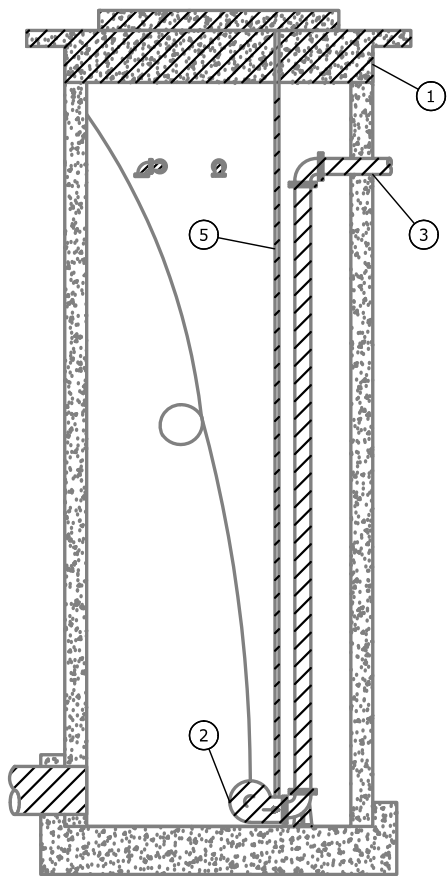
**DEMOLITION PLAN**

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



**CONVERSION PLAN**

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



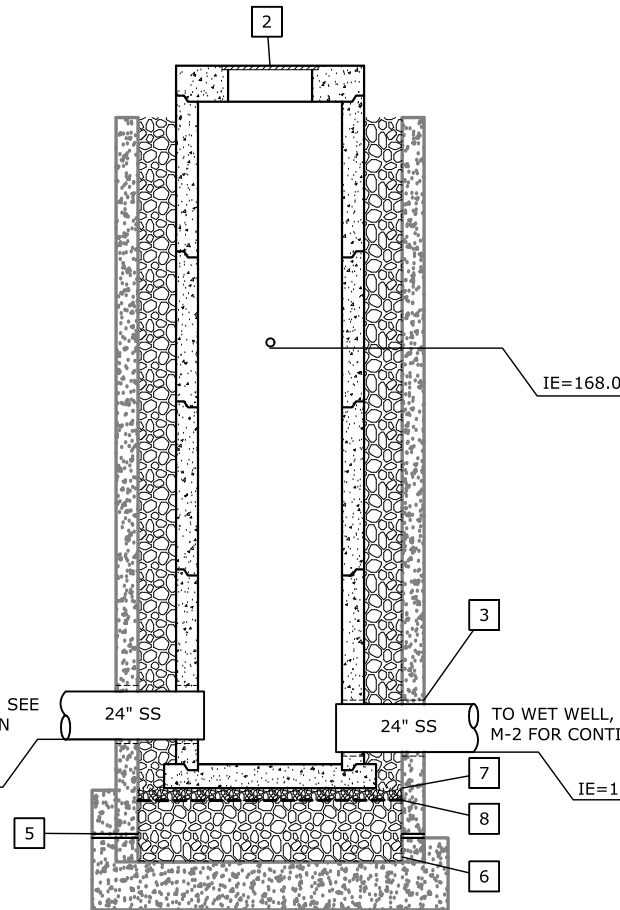
**DEMOLITION SECTION**

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

A  
M-1

**DEMOLITION KEY NOTES**

- 1 REMOVE AND DISPOSE OF WET WELL LID AND CONCRETE TOP.
- 2 REMOVE, SALVAGE AND RETURN TO OWNER SUBMERSIBLE PUMPS AND GUIDE RAILS (TYP OF 2).
- 3 REMOVE AND DISPOSE OF DISCHARGE PIPING (TYP OF 2) INSIDE WET WELL AND PATCH PENETRATIONS W/ NON-SHRINK GROUT.
- 4 REMOVE AND DISPOSE OF EXISTING 24" SS PIPING, PATCH DOWNSTREAM PENETRATION AS NECESSARY W/ NON-SHRINK GROUT WHEN NEW PIPE IS INSTALLED.
- 5 REMOVE AND DISPOSE OF ALL HARDWARE, PIPING, AND ELECTRICAL, PATCH PENETRATIONS W/ NON-SHRINK GROUT.
- 6 CUT AND CAP DISCHARGE PIPING 2 FEET BEYOND EXISTING WET WELL.



**CONVERSION SECTION**

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

B  
M-1

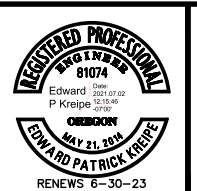
**CONVERSION KEY NOTES**

- 1 6'-0" DIAMETER PRECAST CONCRETE MANHOLE, FOR TOP ELEVATION SEE SHT C-5.
- 2 42" DIAMETER FLAT TOP MANHOLE CAST IRON FRAME AND COVER, H20 RATED W/ MANHOLE STEPS SEE CITY STD DET 6510-3, SHT GD-4.
- 3 KOR-N-SEAL, TYP ALL PENETRATIONS.
- 4 24" SEWER PIPE, INSTALL USING THE EXISTING UPSTREAM PENETRATION MODIFIED AS NEEDED, APPROXIMATE IE=153.08', CONTRACTOR TO VERIFY.
- 5 (8) 1" DRAIN HOLE PENETRATIONS, MAX 6" ABOVE WET WELL BASE.
- 6 OPEN GRADED AGGREGATE BELOW LEVELING COURSE AND TO TOP OF EXISTING WET WELL WALLS.
- 7 6" THICK 3/4"-0" LEVELING COURSE.
- 8 SUBGRADE SEPARATION W/ MIRAFI 140N NON-WOVEN FABRIC OR APPVD EQ.

NO.	DATE	BY	REVISION

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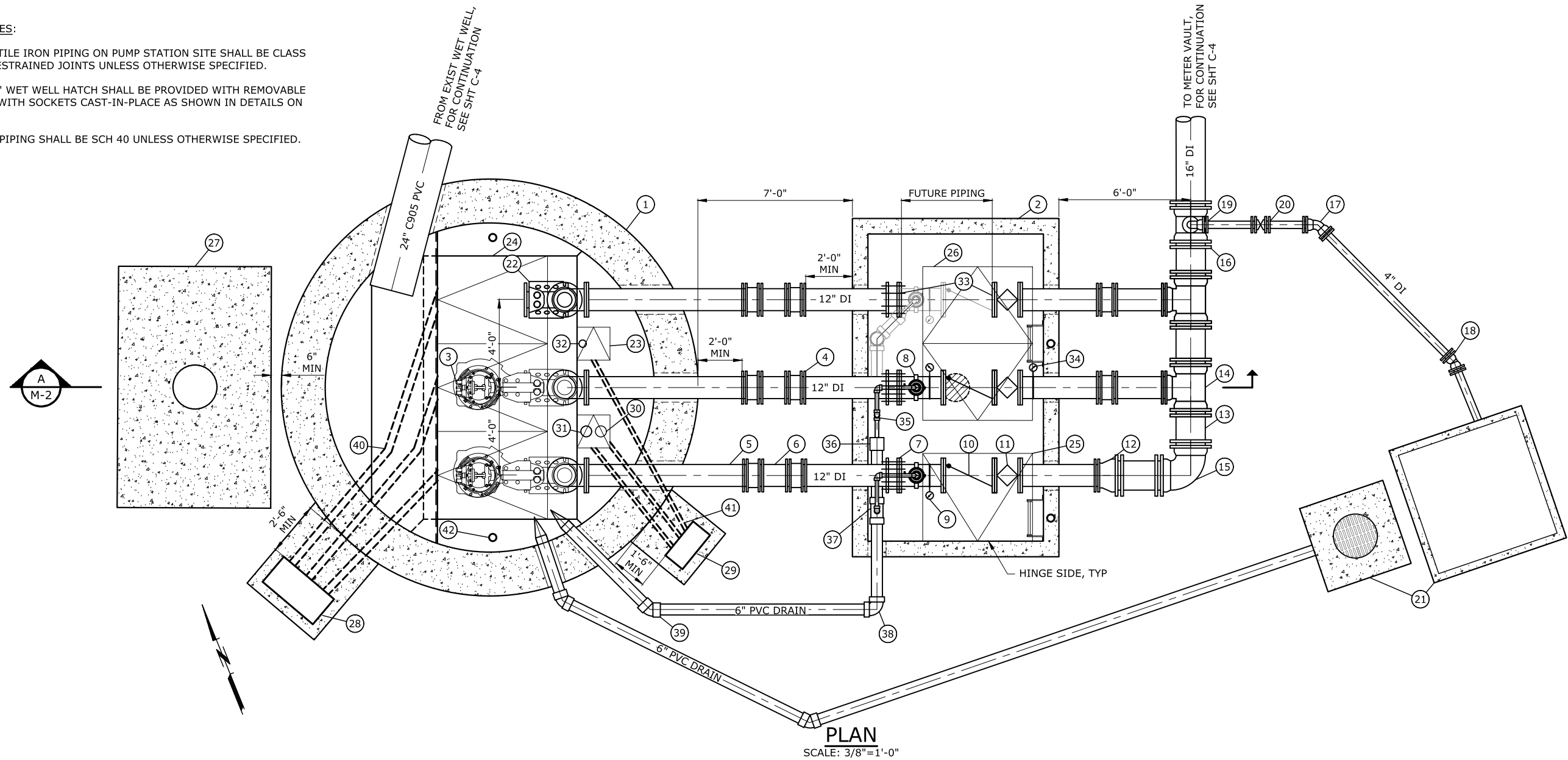
**WOODBURN**  
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PUMP STATION AND FORCE MAIN UPGRADES

**EXISTING WET WELL  
DEMOLITION AND CONVERSION  
PLANS AND SECTIONS**

PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: JUNE 2021

**SHEET NOTES:**

1. ALL DUCTILE IRON PIPING ON PUMP STATION SITE SHALL BE CLASS 52 WITH RESTRAINED JOINTS UNLESS OTHERWISE SPECIFIED.
2. 60"x144" WET WELL HATCH SHALL BE PROVIDED WITH REMOVABLE HANDRAIL WITH SOCKETS CAST-IN-PLACE AS SHOWN IN DETAILS ON SHEET M-8.
3. ALL PVC PIPING SHALL BE SCH 40 UNLESS OTHERWISE SPECIFIED.



**PLAN**  
SCALE: 3/8"=1'-0"

**KEY NOTES**

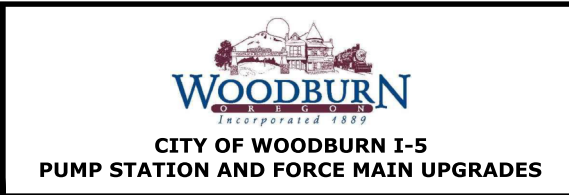
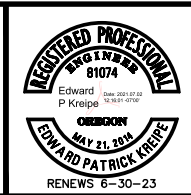
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|--|--|--|--|
| ① 15' DIA CAST-IN-PLACE WET WELL, SEE S SHTS           | ⑫ 12"x16" RDCR, MJ   | ⑳ 4" GV, MJ  | ⑳ 4" GV, MJ  |
| ② VALVE VAULT, OLDCASTLE MODEL 814LA OR APPVD EQ       | ⑬ 16" DI SPL, PEXPE, LENGTH AS REQD, TYP OF 3  | ㉑ ARV ENCLOSURE AND MUSHROOM VENT, SEE DET 1 SHT M-9       | ㉑ ARV ENCLOSURE AND MUSHROOM VENT, SEE DET 1 SHT M-9       |
| ③ SUBMERSIBLE SEWAGE PUMP, TYP OF 2, SEE SPEC 43 21 39 | ⑭ 12"x16" DI TEE, MJ, TYP OF 2   | ㉒ 8" PUMP DISCHARGE ELBOW AND GUIDE RAILS, FOR FUTURE PUMP | ㉒ 8" PUMP DISCHARGE ELBOW AND GUIDE RAILS, FOR FUTURE PUMP |
| ④ 12" DI LS, MJ, TYP OF 8                              | ⑮ 16" 90° DI BEND, MJ  |  |  |
| ⑤ 12" DI SPL, FLGXPE, LENGTH AS REQD, TYP OF 9         | ⑯ 16"x4" DI TEE, MJ  |  |  |
| ⑥ 12" DI SPL, PEXPE, LENGTH AS REQD, TYP OF 6          | ⑰ 4" 45° DI BEND, MJ   |  |  |
| ⑦ 12" RFCA, FLG, TYP OF 3                              | ⑱ 4" 90° DI BEND, MJ   |  |  |
| ⑧ 2" CARV ASSEMBLY                                     | ㉒ 4" 22.5° DI BEND, MJ   |  |  |
| ⑨ PRESS GAUGE, SEE DET 1, SHT M-6, TYP OF 2            | ㉓ 1'-6"x1'-6" CLR OPENING SINGLE LEAF ACCESS HATCH, TYP OF 2   |  |  |
| ⑩ 12" DI SWING CHKV, FLG, TYP OF 2                     | ㉔ 5'-0"x12'-0" CLR OPENING TRIPLE LEAF ACCESS HATCH W/ REMOVABLE RAILING, SEE DET 1 & 2, SHT M-8, SEE NOTE 2 |  |  |
| ⑪ 12" DI PV, FLG, TYP OF 3                             | ㉕ 4'-0"x5'-0" CLR OPENING SINGLE LEAF ACCESS HATCH W/ OSHA APPVD AL WALL MOUNT LADDER W/ 36" EXTENSION       |  |  |
|  | ㉖ 4'-0"x7'-0" CLR OPENING DOUBLE LEAF ACCESS HATCH W/ OSHA APPVD AL WALL MOUNT LADDER W/ 36" EXTENSION       |  |  |
|  | ㉗ JIB CRANE AND BASE, SEE SHT M-3 & S-SHTS   |  |  |
|  | ㉘ PUMP DISCONNECT PANEL, SEE E SHTS & DET 4, SHT M-6   |  |  |
|  | ㉙ SENSOR DISCONNECT PANEL, SEE E SHTS & DET 4, SHT M-6   |  |  |
|  | ㉚ FLOOD FOR OF ALARM   |  |  |
|  | ㉛ STILLING WELL W/ PRESSURE TRANSDUCER SEE SHT M-3   |  |  |
|  | ㉜ MULTITRODE BACKUP CONTROL SENSOR, SEE SHT M-3  |  |  |
|  | ㉝ BLIND FLANGE, TYP OF 2   |  |  |
|  | ㉞ PRESSURE GAUGE AND TRANSMITTER, SEE DET 1, SHT M-6   |  |  |
|  | ㉟ 2" PVC 90° BEND, TYP OF 5  |  |  |
|  | ㊱ 2"x6" PVC RDCR BUSHING   |  |  |
|  | ㊲ 2"x6" PVC TEE  |  |  |
|  | ㊳ 6" PVC 90° BEND  |  |  |
|  | ㊴ 6" PVC 45° BEND, TYP OF 3  |  |  |
|  | ㊵ 4" SCH 40 PVC CONDUIT, LENGTH AS REQD, TYP OF 3  |  |  |
|  | ㊶ 2" SCH 40 PVC CONDUIT, LENGTH AS REQD, TYP OF 3  |  |  |
|  | ㊷ DAVIT CRANE SOCKET, SEE SPECS, TYP OF 4  |  |  |

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NOTICE  
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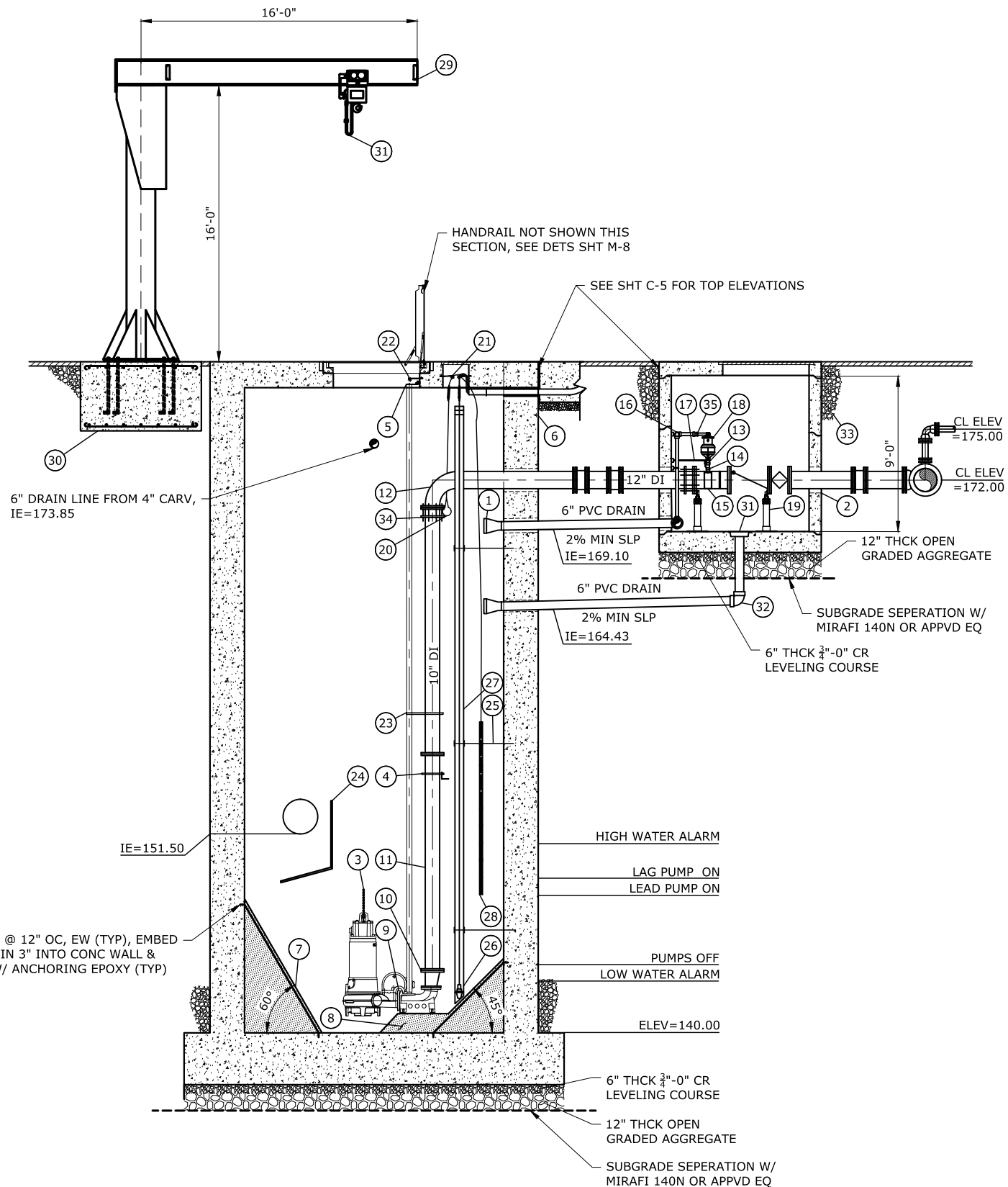
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MECHANICAL PLAN  
PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: JUNE 2021

SHEET  
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**SECTION**  
SCALE: 1/4"=1'-0"  
A  
M-1

**KEY NOTES**

- 1 DUCKBILL STYLE CHECK VALVE, SIZED TO PIPE, TYP OF 2
- 2 LINK-SEAL, SEE DET 1, SHT M-7 (TYP ALL PENETRATIONS EXCEPT SEWER AND DRAIN PIPE CONNECTIONS, SEE NOTE 9)
- 3 316 SST LIFTING CHAIN, CHAIN SLING, GRIP EYE, & SST GUIDE CABLE, ONE PER PUMP, FLYGT PUMP LIFT SYSTEM OR APPVD EQUAL, SEE DET 2, SHT M-7
- 4 DISCHARGE PIPE SUPPORT, SEE DET 6, SHT M-7, INSTALL 17" ABOVE BOTTOM SLAB
- 5 316 SST UPPER GUIDE RAIL BRACKET
- 6 CABLES FROM PANELS, SEE DET 4, SHT M-6, ROTATED FOR CLARITY
- 7 CONSTRUCT HOPPER BOTTOM USING LOW SLUMP FIBER REINF CONC, SMOOTH TROWEL FINISH, VERIFY DIMENSIONS W/ ENGINEER
- 8 NON-SHRINK GROUT UNDER PUMP DISCHARGE ELBOX, INSTALL PER MFR'S RECOMMENDATIONS, MIN 13 3/8" THCK
- 9 8" PUMP DISCHARGE ELBOW, ANCHOR W/ (4) 3/4" DIA 316 SST THRD ROD W/ DOUBLE-NUT, EMBED INTO CONC 8" MIN USING HILTI HIT-RE 500 V3 EPOXY (TYP OF 3)
- 10 8"x10" ECC RDCR, FLG (TYP OF 3)
- 11 10" DI SPL, FLGXFLG, LENGTH AS REQ'D (TYP OF 6)
- 12 10"x12" REDUCING 90° BEND, FLG (TYP OF 3)
- 13 2" 316 SST NIPPLE (TYP OF 4)
- 14 2" 316 SST BALL VALVE (TYP OF 2)
- 15 2" THREADED SERVICE SADDLE W/ STRAP
- 16 PIPE SUPPORT (TYP OF 2 PER ARV DISCHARGE LINE), SEE DET 2, SHT M-6
- 17 SST UNI-STRUT SUPPORT FOR CARV VALVE BODY
- 18 2" APCO ASU SINGLE BODY CARV OR APPVD EQ, SEE SPECS
- 19 SST STANDON PIPE SUPPORT MODELS S89 & S92 OR APPVD EQ, PROVIDE (2) STANDS ALONG EACH DISCHARGE PIPING LINE
- 20 FLOAT FOR OF ALARM, ELEV=170.00
- 21 CABLE HANGER, 316 SST (TYP OF 3), SEE DET 3, SHT M-7
- 22 316 SST HEAVY DUTY CABLE & CHAIN HOLDER W/ 4 HOOKS PER BRACKET (TYP OF 3), MFD BY PUMP SUPPLIER
- 23 INTERMEDIATE GUIDE RAIL BRACKET, INSTALL PER PUMP MFRS REQUIREMENTS (TYP OF 3)
- 24 SST BAFFLE PLATE, SEE DET 3 ON SHT M-6
- 25 STILLING WELL PIPE SUPPORT, SEE DET 4 ON SHT M-7 (TYP OF 3), EVENLY SPACED
- 26 SUBMERSIBLE LEVEL TRANSDUCER ASSY, MOUNT AT EL=141.0'
- 27 STILLING WELL 4" SCHED 40 PVC PIPE, DRILL 1/2" HOLES ON EA SIDE OF STILLING WELL AT 6" OC FROM TOP TO BOTTOM OF STILLING WELL, BOTTOM OF STILLING WELL AT EL=141.0'
- 28 MULTITRODE FOR BACKUP CONTROL, INSTALL PER MFRS REQUIREMENTS, SEE SPECS
- 29 BASE MOUNTED JIB CRANE AND HOIST, SEE SPECS
- 30 JIB CRANE BASE, SEE S SHTS
- 31 8" FLOOR DRAIN W/ SEDIMENT BUCKET
- 32 6" PVC 90° BEND
- 33 CRUSHED ROCK BACKFILL, SEE NOTE 2 (TYP)
- 34 10" RFCA, FLG
- 35 1 1/2"x2" RDCR

**SHEET NOTES**

1. GROUT VAULT JOINTS INSIDE AND OUTSIDE WITH NON-SHRINK GROUT AFTER STRUCTURE HAS BEEN SET, PRIOR TO BACKFILLING. GROUT WET WELL AND MANHOLE JOINTS ON OUTSIDE WITH NON-SHRINK AND INSTALL BENTONITE STRIP AT ALL JOINTS IN ADDITION TO STANDARD MANHOLE MASTIC SEAL.
2. ALL BASE AND BACKFILL MATERIAL SHALL BE COMPACTED 3/4" MINUS CRUSHED ROCK, UNLESS OTHERWISE NOTED.
3. CONTRACTOR TO COORDINATE ALL PUMP SPECIFIC REQUIREMENTS AND DIMENSIONS WITH PUMP MANUFACTURER. WET WELL ACCESS HATCH LOCATION SHALL BE COORDINATED WITH PUMP MANUFACTURER AND PRECAST CONCRETE MANUFACTURER.
4. SEE SHEET M-2 FOR PLAN VIEW AND LOCATION.
5. ALL POURED-IN-PLACE CONCRETE SHALL BE STRUCTURAL CONCRETE, SEE S SHEETS.
6. INSTALL DUCK BILL CHECK VALVES ON ALL INFLUENT PIPES TO WET WELL, EXCEPT 30" SEWER PIPE OR OTHERWISE SHOWN.
7. CORE DRILL OR PREFORM WET WELL AND VAULT PENETRATIONS FOR ALL PIPING. VERIFY ELEVATIONS WITH ENGINEER PRIOR TO CORE DRILL, ALIGN WITH VAULT PIPE PENETRATIONS. PROVIDE LINK SEAL PER DET 1 ON SHT M-7 EXCEPT FOR PENETRATIONS PER NOTE 9.
8. ALL FASTENERS, ANCHORS, PIPE SUPPORTS, AND FABRICATED STEEL WITHIN WET WELL AND VAULTS SHALL BE 316 STAINLESS STEEL. STAINLESS STEEL CONNECTIONS TO DISSIMILAR METALS, INCLUDING FLANGE CONNECTIONS, REQUIRE ISOLATION KITS, SEE SPEC SECTION 05500-METAL FABRICATION.
9. GRAVITY SEWER AND DRAIN SEWER PIPE CONNECTIONS TO STRUCTURES SHALL BE PROVIDED WITH PIPE TO STRUCTURE FLEXIBLE CONNECTOR AS SPECIFIED IN SECTION 40 05 13.
10. PICK HOLES FOR PRECAST MANHOLES AND VAULT STRUCTURES SHALL BE FILLED WITH HYDRAULIC CEMENT, SEE SPECIFICATIONS.
11. WET WELL CAN BE INSTALLED VIA CAISSON METHOD OR OPEN EXCAVATION METHOD USING TIGHT SHEET SHORING. BOTH INSTALLATION OPTIONS WILL REQUIRE DEWATERING. CONTRACTOR SHALL BID THE PROJECT BASED ON THEIR PREFERRED INSTALLATION METHOD AND MEETING SPECIFICATION REQUIREMENTS.

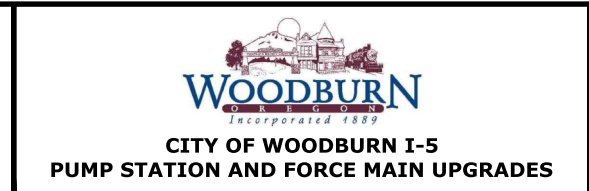
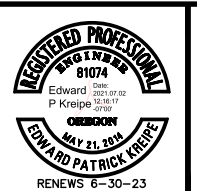
PRIMARY LEVEL CONTROL (PRESSURE TRANSDUCER)	
CONTROL LOGIC	ELEVATION
HIGH WATER ALARM	151.0
LAG PUMP ON	149.0
LEAD PUMP ON	148.0
PUMPS OFF	144.0
LOW WATER ALARM	143.0

BACKUP LEVEL CONTROL (MULTITRODE)	
CONTROL LOGIC	ELEVATION
VFD #2 ON	153.0
VFD #1 ON	152.0
VFD #2 OFF	150.0
VFD #1 OFF	149.0

NO.	DATE	BY	REVISION

NOTICE  
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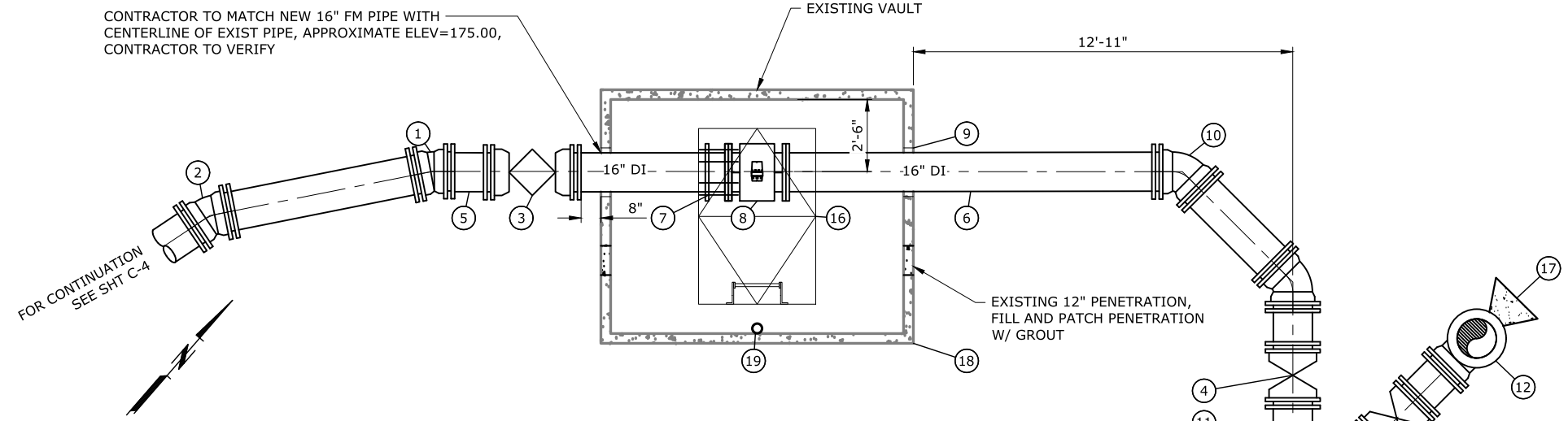
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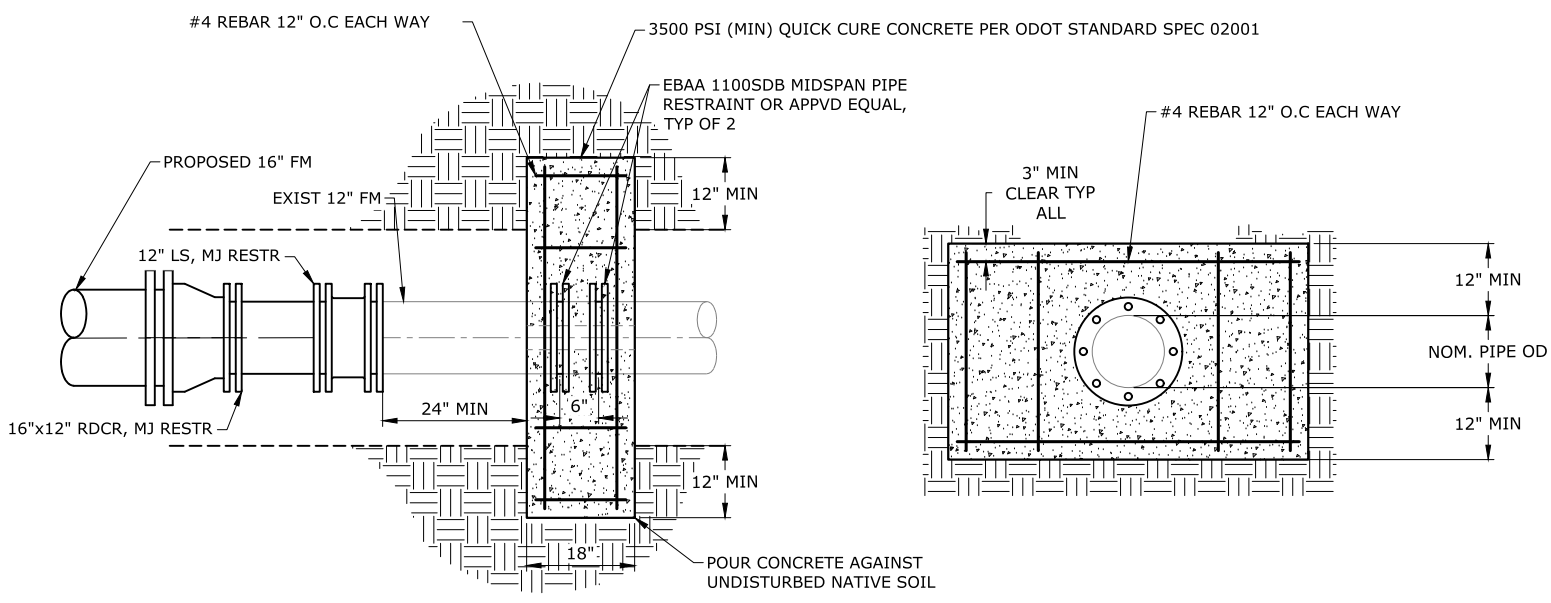
MECHANICAL SECTION

PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: JUNE 2021

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**PLAN**  
SCALE: 3/8"=1'-0"

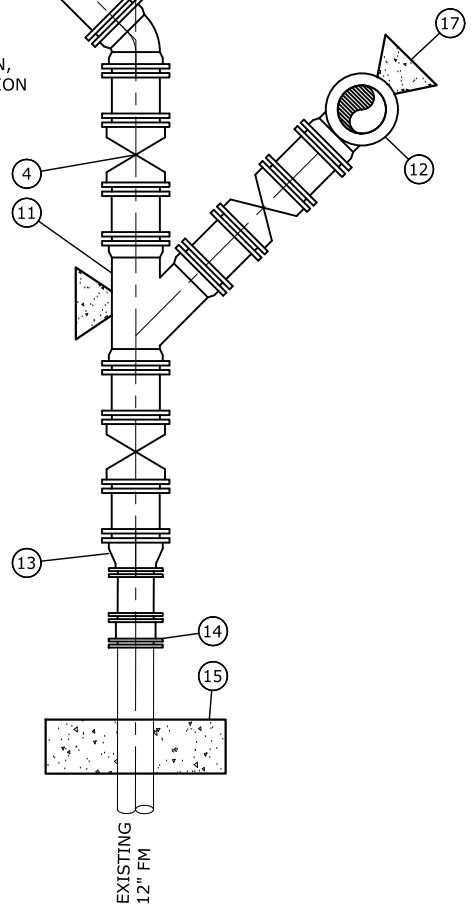


**PLAN**

**SECTION**

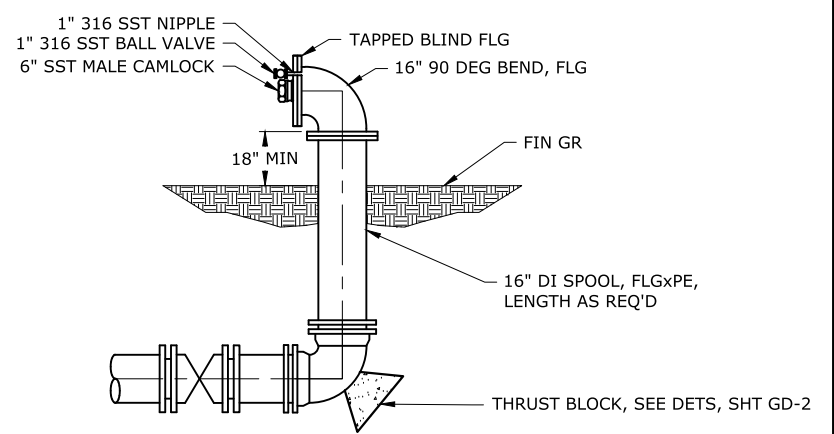
- NOTES:**
1. INSTALL MIDSPAN PIPE RESTRAINTS PER MANUFACTURER'S RECOMMENDATIONS WITH A MIN OF 2" DISTANCE BETWEEN FACE OF EACH RESTRAINT.
  2. NO JOINTS BETWEEN END OF LS AND STRADDLE BLOCK.

**STRADDLE BLOCK**  
SCALE: 3/4"=1'-0"



**KEY NOTES**

- 1 16" 11.25° BEND, MJ
- 2 16" 22.5° BEND, MJ
- 3 16" PV, MJ, W/ VALVE CAN SEE DET 5, SHT M-7
- 4 16" GV, MJ, TYP OF 3, W/ VALVE CAN SEE DET 5, SHT M-7
- 5 16" DI SPL, PEXPE, LENGTH AS REQ'D, TYP OF 10
- 6 16" DI SPL, FLGXPE, LENGTH AS REQ'D, TYP OF 2
- 7 16" RFCA
- 8 16" MAGNETIC FLOW METER, FLG, SEE SPECS
- 9 LINK-SEAL, SEE DET 1, SHT M-7, TYP ALL PENETRATIONS
- 10 16" 45° BEND, MJ, TYP OF 2
- 11 16" WYE, MJ
- 12 16" 90° BEND, MJ, UP TO BYPASS PORT, SEE DET 2 THIS SHT
- 13 12"x16" RDCR, MJ
- 14 12" LS, MJ
- 15 STRADDLE BLOCK, SEE DET 1 THIS SHT
- 16 4'-0"x6'-0" CLR OPENING DOUBLE LEAF ACCESS HATCH W/ OSHA APPVD AL HATCH MOUNT LADDER W/ 36" EXTENSION
- 17 THRUST BLOCK, SEE DETS SHT GD-2, TYP OF 2
- 18 REMOVE AND REPLACE EXISTING VAULT TOP SLAB W/ H-20 RATED TOP SLAB AND ACCESS HATCH PER KEY NOTE 16
- 19 DAVIT CRANE SOCKET, SEE SPECS



**BYPASS ASSEMBLY**  
SCALE: 3/8"=1'-0"

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EPK CHECKED

REGISTERED PROFESSIONAL ENGINEER  
81074  
Edward P. Kreipe  
MAY 21, 2014  
EDWARD PATRICK KREIPE  
RENEWS 6-30-23

**murraysmith**

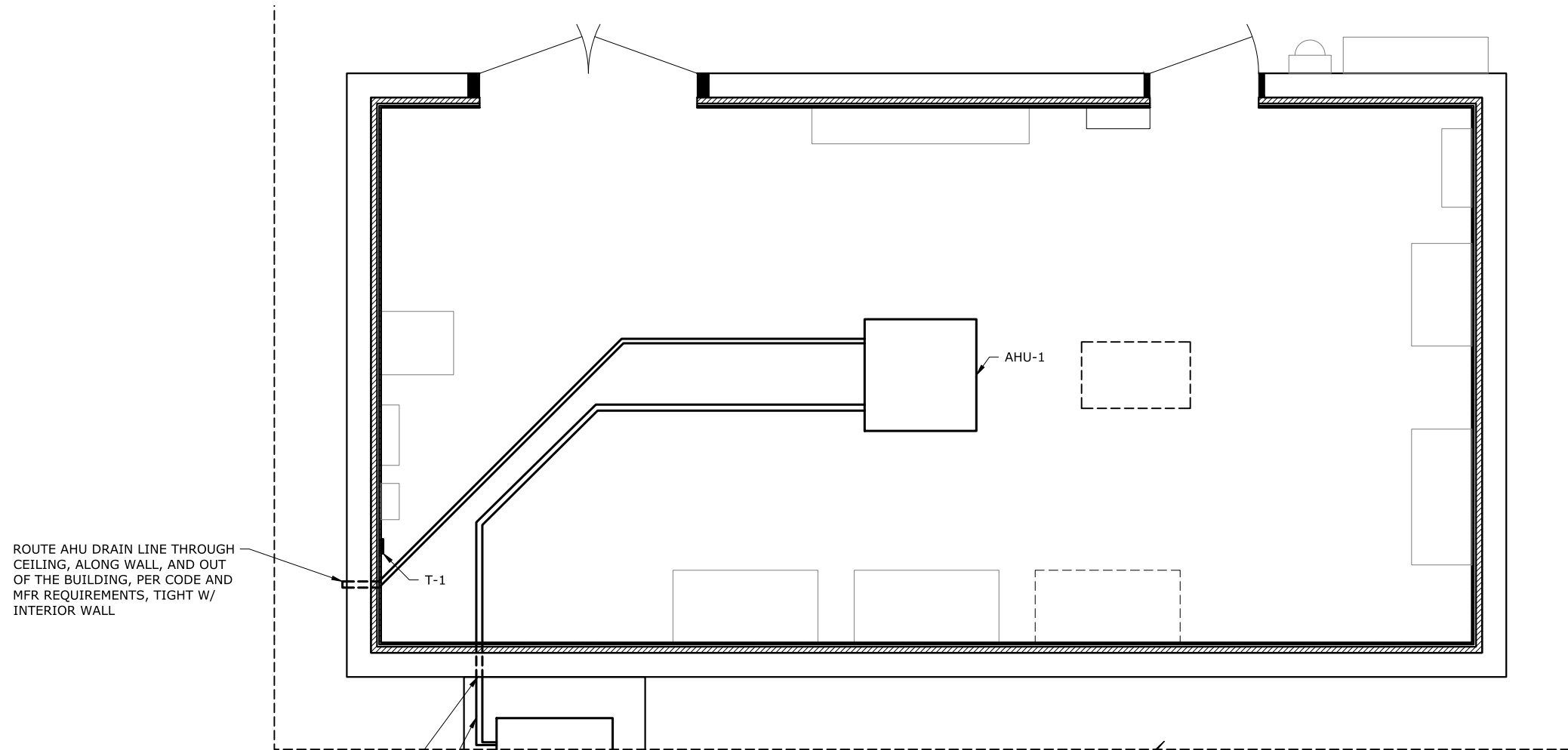
**WOODBURN**  
Incorporated 1889  
CITY OF WOODBURN I-5  
PUMP STATION AND FORCE MAIN UPGRADES

**METER VAULT/BYPASS ASSEMBLY PLAN**

PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: JUNE 2021

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ROUTE AHU DRAIN LINE THROUGH CEILING, ALONG WALL, AND OUT OF THE BUILDING, PER CODE AND MFR REQUIREMENTS, TIGHT W/ INTERIOR WALL

SEAL HEAT PUMP WALL PENETRATIONS WITH PERMAGUM, VIRGINIA KMP PP-22 OR EQ

COAT EXPOSED REFRIGERANT PIPING FOR UV PROTECTION PER MECHANICAL CODE WITH ARMAFLEX WB OR EQ

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

**SHEET NOTES:**

1. AIR HANDLERS SHALL BE SUSPENDED OR MOUNTED ON VIBRATION ISOLATED HANGERS PER MANUFACTURER'S REQUIREMENTS.
2. NO ANCHORAGE FASTENERS ALLOWING IN THE RAFTERS BELOW THE NEUTRAL AXIS OR CENTER LINE.
3. SHOWN SIZES OF EQUIPMENT MOUNTING PLATFORMS, CEILING AND WALL PENETRATIONS SHALL BE VERIFIED PRIOR TO FABRICATION OR ORDERING OF EQUIPMENT.
4. LOCATE ALL CONTROLS, PANELS, AND DISCONNECT SWITCHES APPROXIMATELY 4 FEET ABOVE FINISHED FLOOR. COORDINATE LOCATIONS WITH ELECTRICAL.
5. EQUIPMENT MANUFACTURERS AND MODEL NUMBERS ARE PROVIDED FOR REFERENCE ONLY AND SHALL BE USED TO ESTABLISH EQUIPMENT SIZES AND REQUIRED PERFORMANCE. APPROVED EQUAL MANUFACTURERS WILL BE ACCEPTED.

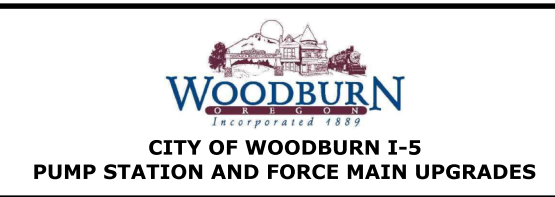
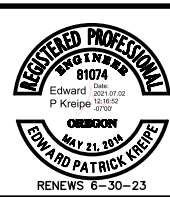
THERMOSTATS			
NO.	LOCATION	CONTROLS	COMMENTS
T-1	INSIDE (AS SHOWN)	AHU-1	HEATING & COOLING SET POINTS

SPLIT SYSTEM HEAT PUMP							
NO.	LOCATION	SUPPLY FAN (CFM)	COOLING UNIT	HEATING UNIT	CONTROL	VOLTS/PHASE	MANUFACTURER & MODEL
			TOTAL CAPACITY (kW)	TOTAL CAPACITY (kW)			
AHU-1	INSIDE CENTER MOUNT ON CEILING	1100			T-1	208-230V/1	FUJITSU AUU36RGLX W/ GREENHECK FAN MODEL SP-A290
ACU-1	OUTSIDE	2200	4.22	3.70			FUJITSU AOU36RGLX

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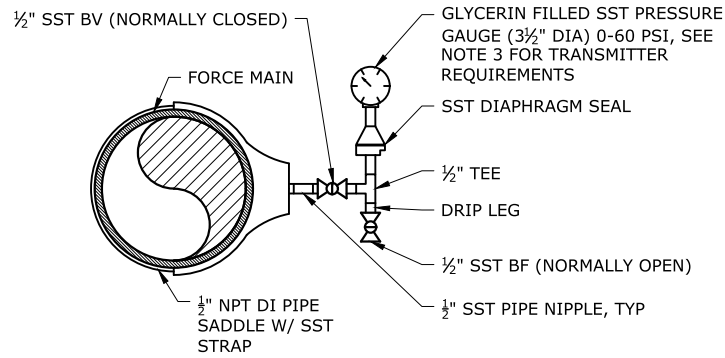


<b>HVAC PLAN &amp; SCHEDULE</b>			
PROJECT NO.:	19-2469.303	SCALE:	AS SHOWN
DATE:	JUNE 2021		

SHEET  
**M-5**  
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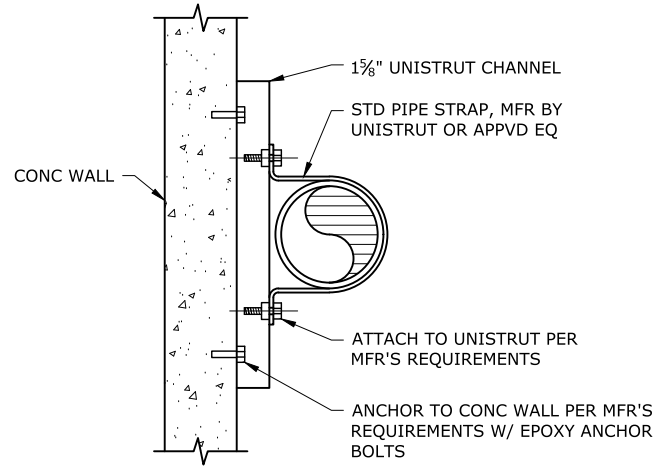
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**NOTES:**

1. ALL PIPE AND FITTINGS SHALL BE SCHEDULE 80 STAINLESS STEEL WITH THREADED ENDS.
2. INSTALL PRESSURE GAUGE AND DIAPHRAGM SEAL PER MANUFACTURERS' REQUIREMENTS.
3. PRESSURE MONITORING DOWNSTREAM OF CHECK VALVE FOR PUMP 2 SHALL REPLACE PRESSURE GAUGE WITH PRESSURE TRANSMITTER.

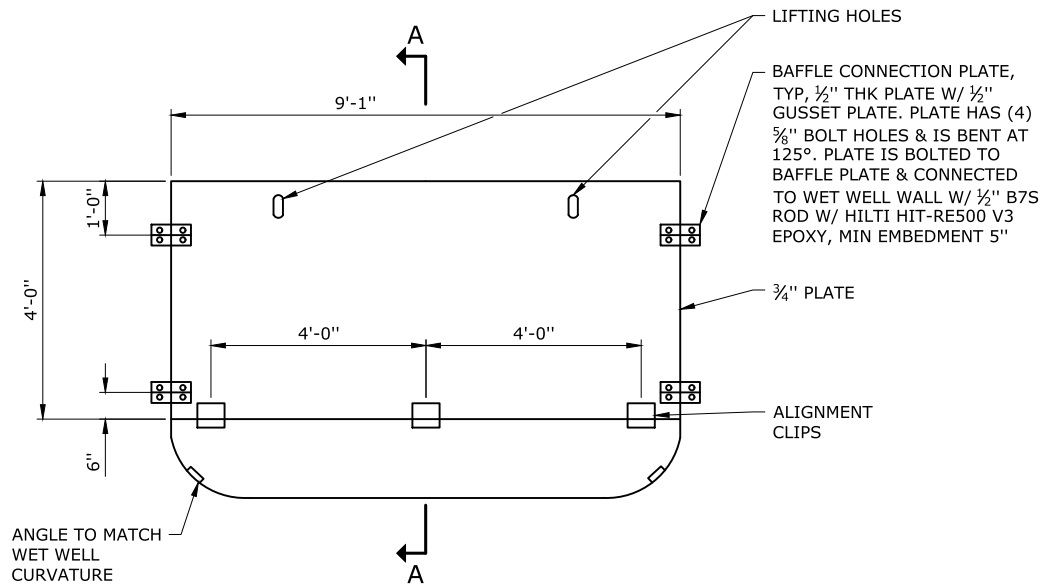
**PRESSURE GAUGE DETAIL**  
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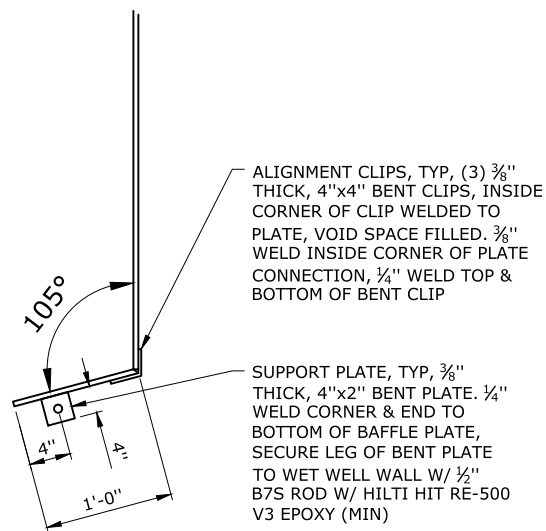
**NOTE:**

1. ORIENT UNISTRUT CHANNEL VERTICALLY OR HORIZONTALLY DEPENDING ON APPLICATION.

**PIPE SUPPORT**  
SCALE: NTS



**ELEVATION**



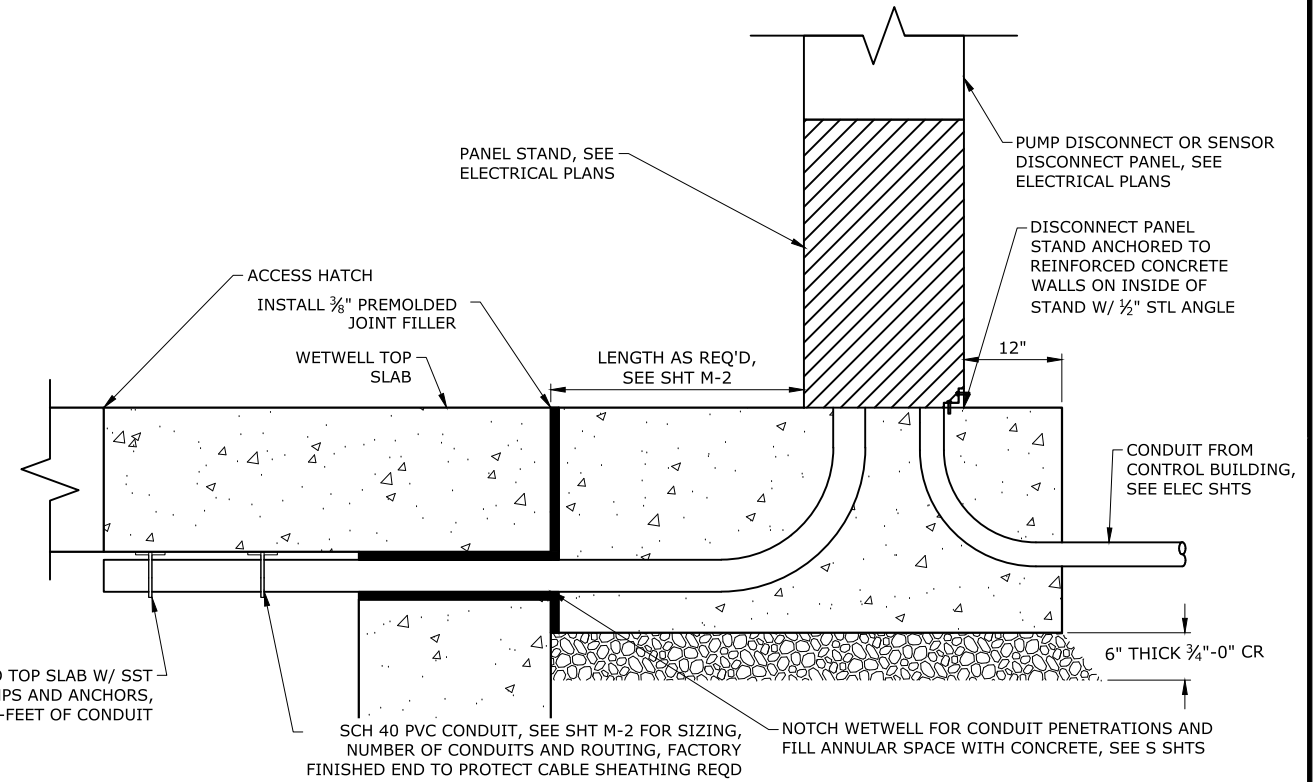
**SECTION A**

**NOTE:**

1. ALL PLATE, BRACKETS, CLIPS, FASTENERS AND APPURTENANCES SHALL BE TYPE 316 STAINLESS STEEL.

**STAINLESS STEEL BAFFLE PLATE DETAIL**

SCALE: NTS



**PANEL TO WET WELL TRANSITION DETAIL**

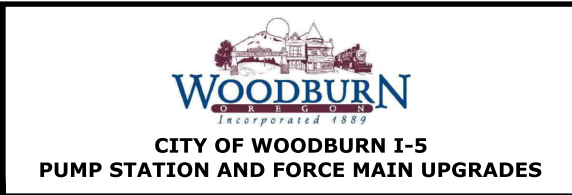
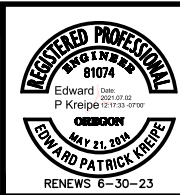
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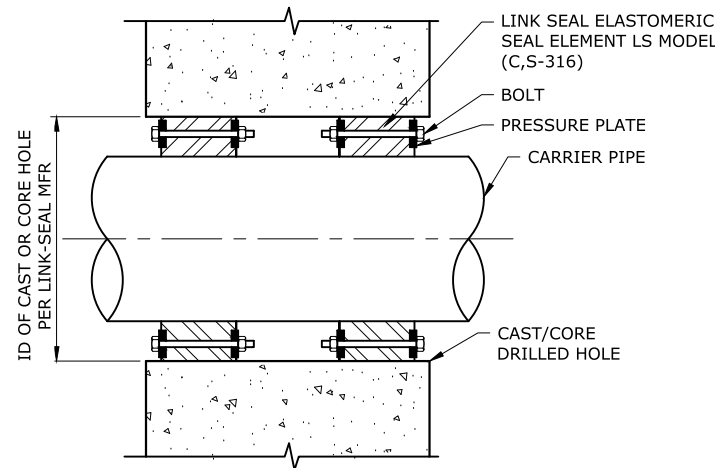
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**MECHANICAL DETAILS-1**  
PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: JUNE 2021

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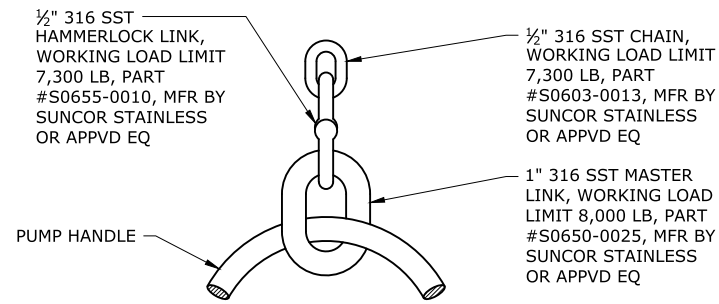


**CAST/CORE DRILLED WALL OPENING**

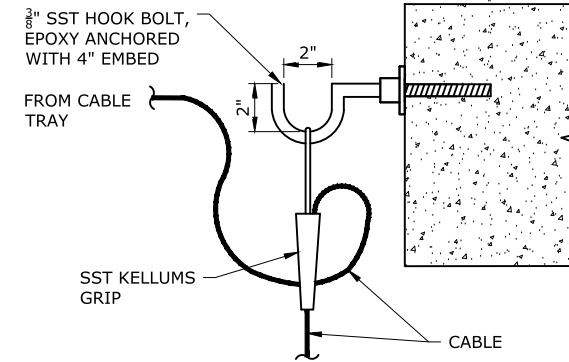
**NOTES:**

1. PROVIDE TWO LINK SEALS AT EACH PENETRATION.
2. EXTERIOR SEAL TO BE INSTALLED SO IT CAN BE TIGHTENED FROM THE INSIDE OF THE STRUCTURE.

**LINK-SEAL DETAIL** (1) SCALE: NTS

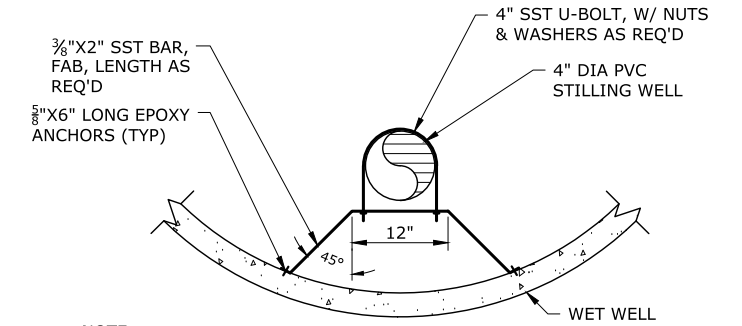


**LIFTING CHAIN CONNECTION DETAIL** (2) SCALE: NTS



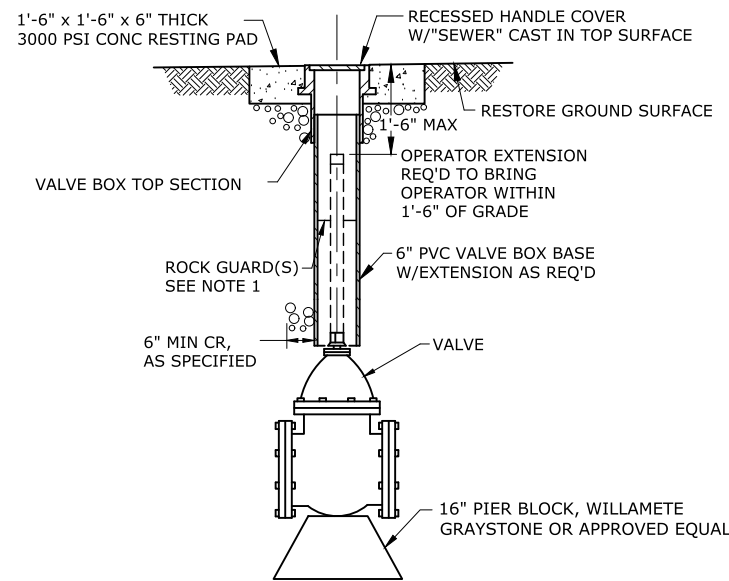
- NOTES:**
1. ALL HARDWARE GRADE 316 STAINLESS STEEL.
  2. CABLE HANGER SHALL BE PROVIDED FOR FLOATS AND LEVEL SENSORS. PROVIDE A TOTAL OF 6 HANGERS.
  3. INSTALL CABLE HANGER AS HIGH AS POSSIBLE WITHOUT CONFLICTING WITH ACCESS HATCH.

**CABLE HANGER** (3) SCALE: NTS



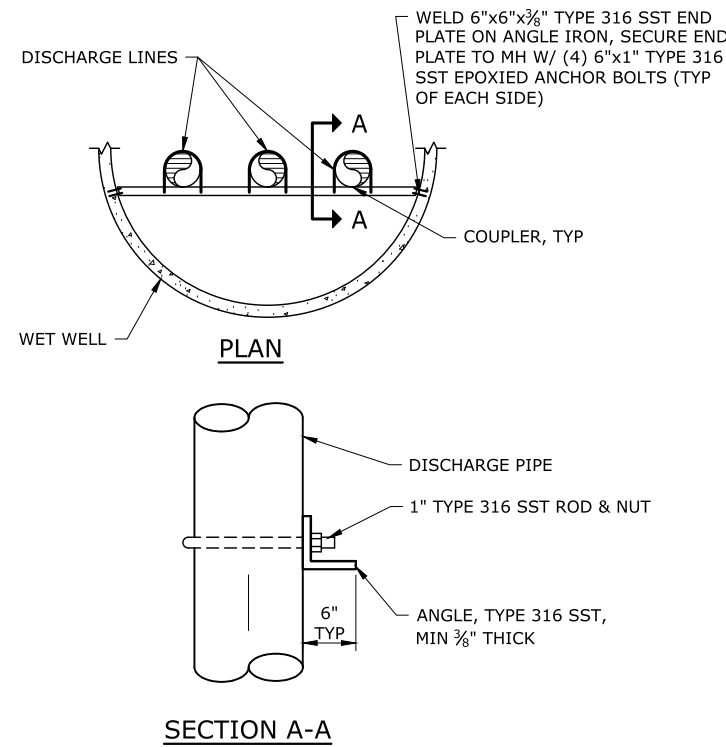
- NOTE:**
1. ALL FASTENERS, FITTINGS, ANCHORS AND SUPPORTS SHALL BE TYPE 316 STAINLESS STEEL.

**STILLING WELL PIPE SUPPORT** (4) SCALE: NTS



- NOTE:**
1. NO ROCK GUARD REQUIRED IF OPERATOR NUT WITHIN 36" OF FINISH GRADE. WHERE DEPTH FROM ROCK GUARD TO OPERATOR NUT IS GREATER THAN 6'-0", INSTALL SECOND ROCK GUARD.

**VALVE BOX DETAIL** (5) SCALE: NTS



**DISCHARGE PIPE SUPPORT** (6) SCALE: NTS

NO.	DATE	BY	REVISION

**NOTICE**

0 1/2 1

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

CAS DESIGNED  
BAW DRAWN  
EPK CHECKED

**REGISTERED PROFESSIONAL ENGINEER**

81074

Edward P. Kreipe

**REGISTERED PROFESSIONAL ENGINEER**

MAY 21, 2014

EDWARD PATRICK KREIPE

RENEWS 6-30-23

**murraysmith**

**WOODBURN**

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**CITY OF WOODBURN I-5 PUMP STATION AND FORCE MAIN UPGRADES**

**MECHANICAL DETAILS-2**

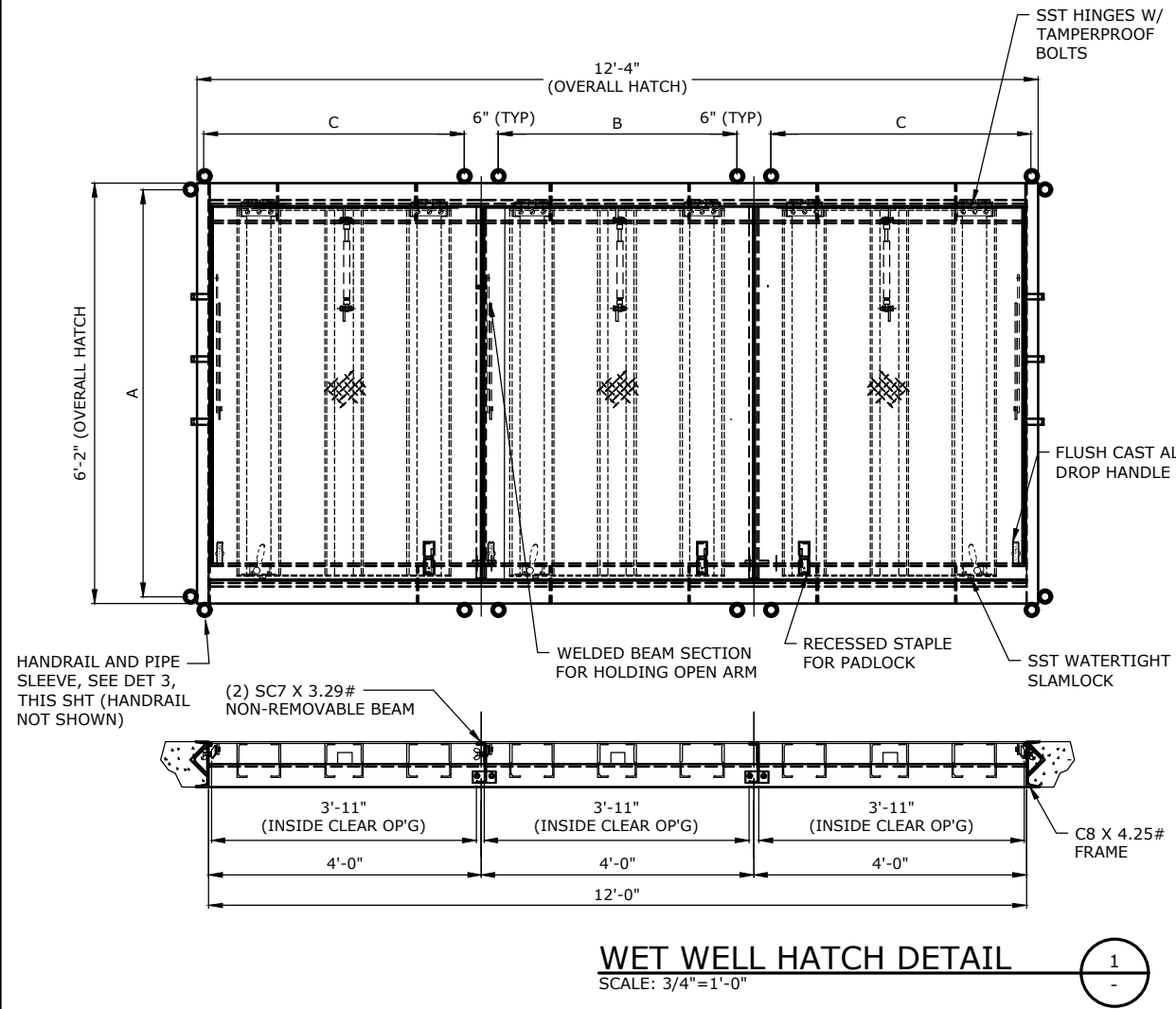
PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: JUNE 2021

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M-7

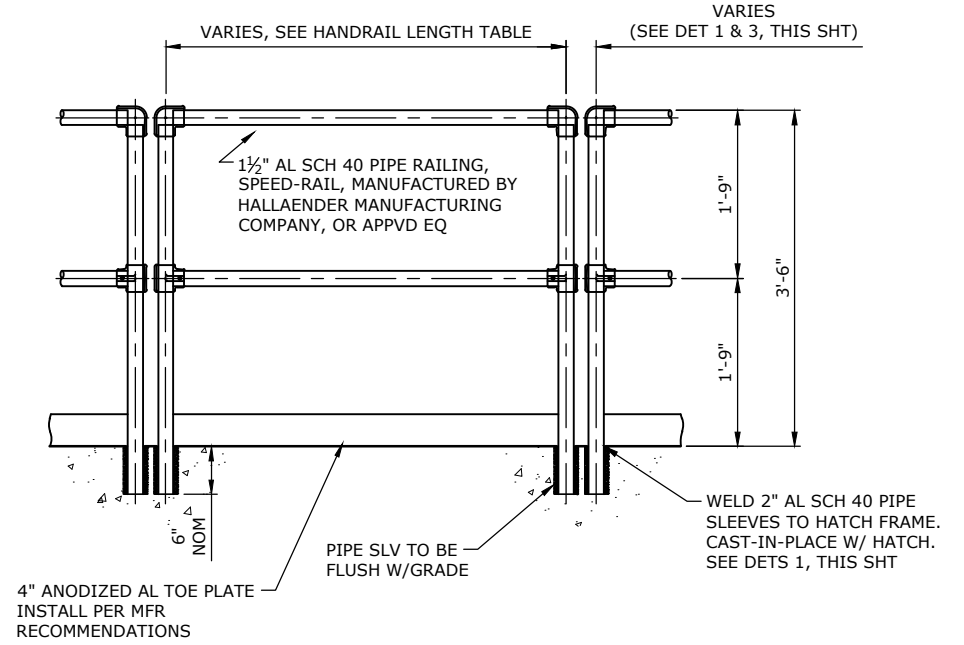
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**NOTES:**

1. 60"x144" ACCESS HATCH MANUFACTURED BY USF FABRICATION INC, OR APPROVED EQUAL.
2. MATERIAL: ALUMINUM.
3. LOADING: DESIGNED FOR H-20 WHEEL LOADS.
4. 316 STAINLESS STEEL NUTS & BOLTS.
5. AREA OF FRAME IN CONTACT WITH CONCRETE TO BE PAINTED WITH BITUMINOUS COATING.
6. HINGES OF HATCH SHALL BE LOCATED ON OPPOSITE SIDE AS PUMP GUIDE RAILS.



**NOTE:**

1. RIVETS SHALL NOT BE USED FOR PIPE CONNECTIONS TO FITTINGS.

**HANDRAIL ASSEMBLY LENGTH TABLE**

HANDRAIL	QTY	LENGTH BETWEEN POSTS
A	2	5'-11 5/8"
B	2	3'-6"
C	4	3'-9 13/16"

NO.	DATE	BY	REVISION

**NOTICE**  
0 1/2 1  
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CAS  
DESIGNED  
BAW  
DRAWN  
EPK  
CHECKED

**REGISTERED PROFESSIONAL ENGINEER**  
81074  
Edward P. Kreipe  
ORREGCORP  
MAY 21, 2014  
EDWARD PATRICK KREIPE  
RENEWS 6-30-23

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**WOODBURN**  
CITY OF WOODBURN I-5  
PUMP STATION AND FORCE MAIN UPGRADES

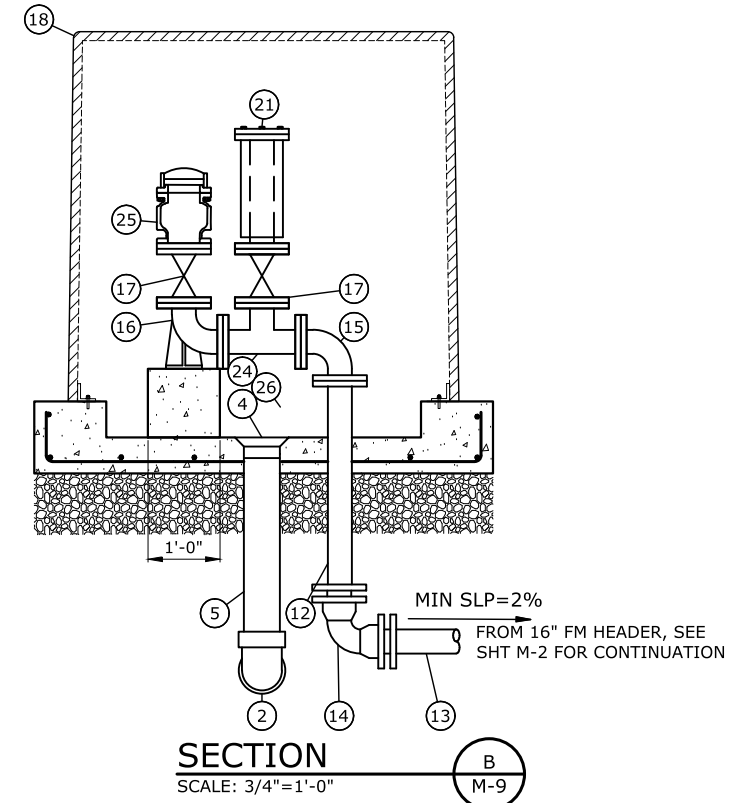
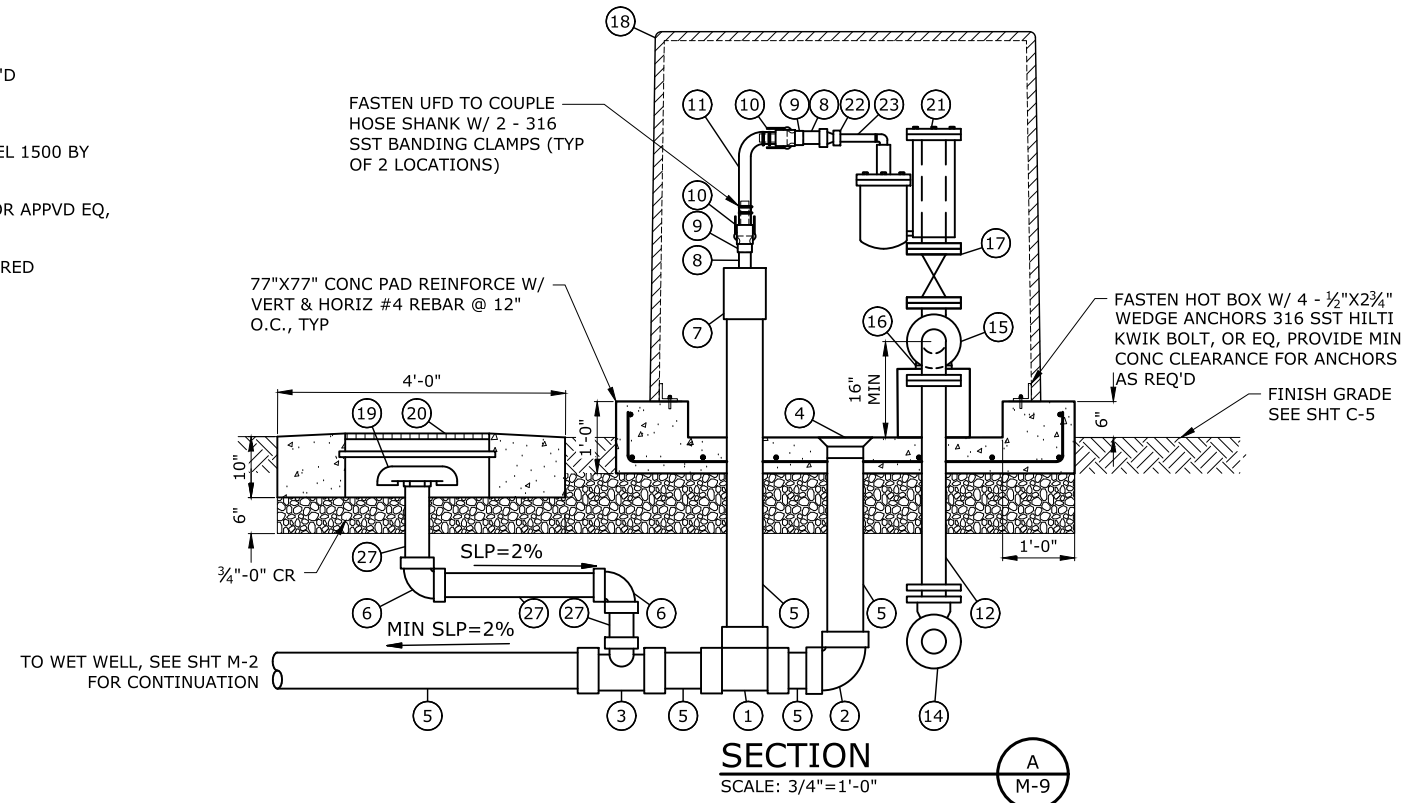
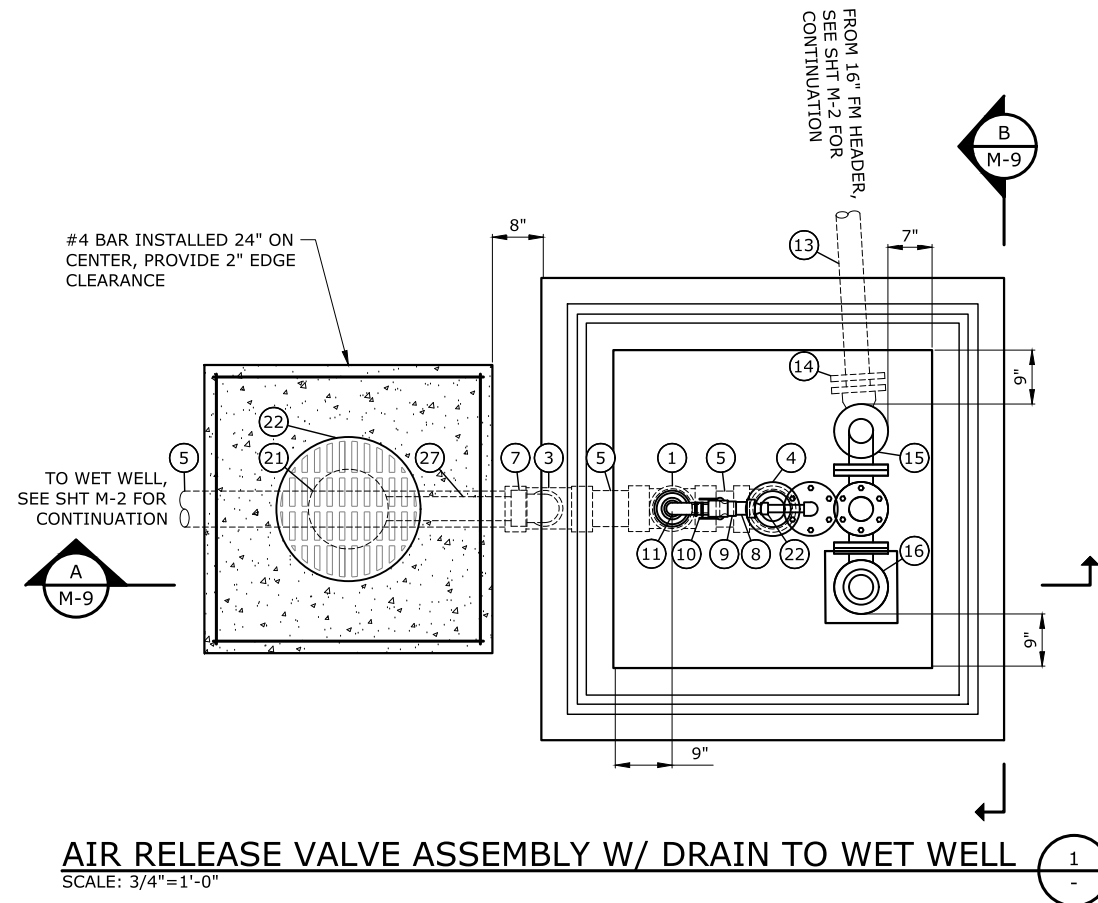
**MECHANICAL DETAILS-3**

PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: JUNE 2021

SHEET  
M-8  
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**KEY NOTES**

- ① 6" SCH 40 PVC TEE, IE=175.00
- ② 6" SCH 40 PVC 90° BEND
- ③ 6"X4" SCH 40 PVC TEE
- ④ 6" PVC FLOOR DRAIN CAST INTO FLOOR W/ 6" SST MECHANICAL PLUG
- ⑤ 6" SCH 40 PVC SPL, LENGTH AS REQUIRED
- ⑥ 4" SCH 40 PVC 90° BEND
- ⑦ 2"X6" SCH 40 PVC RDCR BUSHING
- ⑧ 2" SCH 40 PVC SPL, LENGTH AS REQUIRED
- ⑨ 2" CAM-LOCK FITTING, FIPT
- ⑩ 2" POLYPROPYLENE CAM-LOCK FEMALE COUPLER
- ⑪ 2" FLEXIBLE HIGH TECH DURAVENT, UFD-AP URETHANE HOSE, OR APPROVED EQUAL
- ⑫ 4" DI SPL, FLGXPE, LENGTH AS REQUIRED
- ⑬ 4" DI SPL, PEXPE, LENGTH AS REQUIRED
- ⑭ 4" DI 90° BEND, MJ RESTR, IE=175.60
- ⑮ 4" DI 90° BEND, FLG
- ⑯ 4" DI BASE BEND W/ 12" SQUARE GROUT PAD, ANCHOR W/ (4) 3/8" DIA 316 SST THRD ROD W/ DOUBLE-NUTE, EMBED INTO CONC 8" MIN USING HILTI HIT-RE 500 V3 EPOXY
- ⑰ 4" GV, FLG, TYP OF 2
- ⑱ ARV ENCLOSURE, HOT BOX LBF6000, COLOR PER SPEC, ORIENT DOOR AND LID OPENING LOCATION ON ENCLOSURE PER OWNER DIRECTIONS
- ⑲ MUSHROOM-STYLE VENT COVER, MORRISON FIG.155
- ⑳ 24"X10" DEEP STD MANHOLE FRAME W/ CI INLET GRATE
- ㉑ COMBINATION ARV, VS-4 HF BY ODOUR TECHNOLOGIES, SEE SPECS
- ㉒ 1 1/2"x2" SCH 40 PVC RDR
- ㉓ 1 1/2" SCH 40 PVC SPL, LENGTH AS REQ'D
- ㉔ 4" DI TEE, FLG
- ㉕ 4" EMERGENCY AIR INLET VALVE MODEL 1500 BY APCO, SEE SPECS
- ㉖ PIPE SUPPORT STANDON MODEL S89 OR APPVD EQ, SEE SPECS
- ㉗ 4" SCH 40 PVC SPL, LENGTH AS REQUIRED



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NO.	DATE	BY	REVISION

**NOTICE**  
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CAS DESIGNED  
BAW DRAWN  
EPK CHECKED

**REGISTERED PROFESSIONAL ENGINEER**  
81074  
Edward P. Kreipe  
MAY 21, 2014  
EDWARD PATRICK KREIPE  
RENEWS 6-30-23

**murraysmith**

**WOODBURN**  
CITY OF WOODBURN I-5  
PUMP STATION AND FORCE MAIN UPGRADES

**MECHANICAL DETAILS-4**

PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: JUNE 2021

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### ONE-LINE DIAGRAM SYMBOLS

	LIGHTNING ARRESTOR
	CURRENT TRANSFORMER X = NO. OF PHASES
	POTENTIAL/VOLTAGE TRANSFORMER X = NO. OF PHASES
	DRAW OUT OR STAB-IN CONNECTION
	LOW VOLTAGE CIRCUIT BREAKER TRIP AMPERAGE/POLES/FRAME SIZE 1200AF 1200AT 3P
	FUSED SWITCH, FUSE RATING/POLES/SWITCH RATING NF = NON FUSED 30A 60A 3P
	LOW VOLTAGE DRAW OUT CIRCUIT BREAKER
	MEDIUM VOLTAGE DRAW OUT BREAKER
	TRANSFORMER WITH PRIMARY VOLTAGE, SECONDARY VOLTAGE, AND KVA RATING SHOWN 480 120/240V 7.5 KVA
	TRANSFER SWITCH ATS = AUTOMATIC MTS = MANUAL
	MAGNETIC STARTER WITH THERMAL OVERLOADS
	GENERATOR
	MOTOR
<b>INSTRUMENT SWITCH SUBSCRIPT:</b>	
	AS = AMMETER SWITCH
	VS = VOLTMETER SWITCH
	SWITCHBOARD INSTRUMENT TYPE AS INDICATED
	METERING TYPE AS INDICATED
	NON-MOTOR LOAD WITH KW OR AMPERES RATING
	AUXILIARY OR CONTROL DEVICE (CONTROL STATION SHOWN).
	VARIABLE FREQUENCY DRIVE
	DISCONNECT OR SAFETY SWITCH, NON-FUSED UNLESS OTHERWISE INDICATED
	CONTROL PANEL SUPPLIED WITH OTHER EQUIPMENT
	SEPARATELY MOUNTED COMBINATION MOTOR STARTER OR CONTROLLER, SEE ELECTRICAL ONE LINE DIAGRAM OR SCHEDULE FOR DESCRIPTION
	MOTOR CONTROLLER TERMINAL
	FIELD DEVICE TERMINAL

### CONTROL SCHEMATIC SYMBOLS

	FIELD WIRING EXTERNAL TO CONTROL PANEL
	TERMINAL BLOCK, FEED THRU STYLE
	TERMINAL BLOCK, DISCONNECT STYLE
	SELECTOR SWITCH OFF HAND AUTO XOO
	ON - OFF SWITCH XO
	FLOAT SWITCH, CLOSE ON RISING LEVEL
	FLOAT SWITCH, CLOSE ON FALLING LEVEL
	PRESSURE SWITCH, CLOSE ON INCREASING PRESSURE
	PRESSURE SWITCH, CLOSE ON DECREASING PRESSURE
	LIMIT SWITCH, CLOSE WHEN POSITION REACHED
	LIMIT SWITCH, OPEN WHEN POSITION REACHED
	TEMPERATURE SWITCH, CLOSE ON RISING TEMPERATURE
	TEMPERATURE SWITCH, OPEN ON RISING TEMPERATURE
	FLOW SWITCH, CLOSE ON INCREASING FLOW
	FLOW SWITCH, OPEN ON INCREASING FLOW
	TOGGLE SWITCH (OPEN & CLOSED)
	CONTACTOR COIL, CONTROL RELAY COIL, MOTOR STARTER COIL, OR SOLENOID VALVE COIL
	CONTACTS, CONTACTOR, CONTROL RELAY OR MOTOR STARTER, CONTACTS, NORMALLY OPEN & NORMALLY CLOSED
	THERMAL OVERLOAD RELAY AUXILIARY CONTACT
	THERMAL OVERLOAD ELEMENT
	PUSH TO TEST INDICATING LIGHT X INDICATES LENS COLOR
<b>LENS COLORS:</b>	
R	RED
Y	YELLOW
G	GREEN
W	WHITE
B	BLUE
A	AMBER
	SINGLE CIRCUIT PUSHBUTTONS, NORMALLY OPEN & NORMALLY CLOSED

	TIME DELAY RELAY, TRX, TIMING RANGE AS NOTED: TDAE = TIME DELAY PICK UP AFTER ENERGIZATION TDAD = TIME DELAY DROP OUT AFTER DE-ENERGIZATION
	TIME DELAY RELAY CONTACT, NORMALLY OPEN, CLOSE AFTER TIME DELAY ON ENERGIZATION
	TIME DELAY RELAY CONTACT, NORMALLY CLOSED, OPEN AFTER TIME DELAY ON ENERGIZATION
	TIME DELAY RELAY CONTACT, NORMALLY OPEN, CLOSE ON ENERGIZATION, OPEN AFTER TIME DELAY ON DE-ENERGIZATION
	TIME DELAY RELAY CONTACT, NORMALLY CLOSED, OPEN ON ENERGIZATION, CLOSE AFTER TIME DELAY ON DE-ENERGIZATION
	HORN
	RUNNING TIME METER; MAY BE TAGGED RTM, ETM OR KC
	BATTERY
	MOTOR, (3 PHASE MOTOR SHOWN)
	CONTROL POWER TRANSFORMER, PRIMARY AND SECONDARY VOLTAGES AS NOTED, SIZE AS REQUIRED UNLESS NOTED CPT 480V-120V
	BROAD BAND FILTER FOR HARMONIC MITIGATION
	POWER REACTOR X = IMPEDANCE %
	METAL OXIDE VARISTER
	FUSE, FUSEBLOCK AND BLOWN FUSE INDICATOR
	SEAL-OFF
	HEATING ELEMENT
	INTERNAL CONNECTION

### GENERAL NOTES

- THIS IS A STANDARD ELECTRICAL SYMBOLS SHEET. ILLUSTRATION OF SYMBOL DOES NOT IMPLY ALL SYMBOLS HAVE BEEN USED ON THIS PROJECT.
- EMPTY CONDUITS SHALL BE PROVIDED WITH PULL ROPE AND BE CAPPED OR PLUGGED, TO PREVENT WATER ENTRY.
- LIGHTING & RECEPTACLE CIRCUIT CONDUITS & CONDUCTORS ARE NOT SHOWN ON DRAWINGS. CONTRACTOR TO PROVIDE AND INSTALL LIGHTING & RECEPTACLE CONDUITS AND CONDUCTORS REQUIRED TO OPERATE CIRCUITS.

### ELECTRICAL PLAN SYMBOLS

	GROUND
	ELECTRICAL CONNECTION
	CONDUIT SEAL
	CONDUIT TURNED DOWN
	CONDUIT TURNED UP
	HOME RUN EXPOSED
	HOME RUN CONCEALED
	EXPOSED WIRING RUN, 3/4" C, (2) #12 W/ #12 'G', UNLESS OTHERWISE NOTED
	UNDERGROUND ELECTRICAL DUCT BANK CONCRETE-ENCASED UNLESS OTHERWISE NOTED
	GROUND GRID OR CABLE
	GROUND ROD
	EXISTING UNDERGROUND ELECTRICAL DUCT BANK
	UNDERGROUND TELEPHONE CONDUIT (CONCRETE ENCASCED UNLESS OTHERWISE NOTED)
	OVERHEAD ELECTRICAL
	ANTENNA
	TRANSFORMER
	POWER OR LIGHTING PANEL BOARD
	CONTROL PANEL SUPPLIED WITH OTHER EQUIPMENT
	DISCONNECT OR SAFETY SWITCH, NON-FUSED UNLESS OTHERWISE INDICATED 20/3/30
	JUNCTION BOX P = PULLBOX TB = TERMINAL BOX
	THERMOSTAT
	CONDUIT TAG OR CIRCUIT NUMBER
	AUXILIARY OR CONTROL DEVICE (CONTROL STATION SHOWN).
	SOLENOID VALVE
	INSTRUMENTATION

AFG-	ABOVE FINISHED GRADE	SC -	SPEED CONTROL DEVICE
FL -	FLOW SWITCH	SI -	SPEED INDICATOR
H -	HEATER	SS -	SPEED SWITCH
IL -	INDICATION LIGHT	SL -	SEAL LEAK
LE -	LEVEL ELEMENT	SW -	SWITCH
LS -	LEVEL SWITCH	TE -	TEMPERATURE ELEMENT
PB -	PUSHBUTTON STATION	TG -	TACHOMETER GENERATOR
PE -	PNEUMATIC ELECTRIC STATION	TS -	TEMPERATURE SWITCH
PEM-	PUMP ELECTRONIC MODULE	XS,ZS -	LIMIT SWITCH
PS -	PRESSURE SWITCH	XT -	POSITION TRANSMITTER

### LIGHTING PLAN SYMBOLS

	LUMINAIRE (HID OR INC)
	EXIT SIGN, SHADED AREAS INDICATE FACE(S)
	LED LUMINAIRE
	SELF CONTAINED EMERGENCY LIGHT
	EMERGENCY LIGHT, REMOTE MOUNTED HEAD
	POLE MOUNTED LUMINAIRE
	SWITCH
	EMERGENCY LIGHT, 2 ATTACHED HEADS SHOWN

**LUMINAIRE SUBSCRIPTS:**

X = LUMINAIRE TYPE, SEE LUMINAIRE SCHEDULE  
Y = CIRCUIT NUMBER FROM PANELBOARD  
Z = CONTROLLING SWITCH

**SWITCH SUBSCRIPTS:**

NONE = SINGLE-POLE SWITCH  
3 = THREE-WAY SWITCH  
4 = FOUR-WAY SWITCH  
M = MANUAL MOTOR STARTER WITH THERMAL ELEMENT FOR SMALL HORSEPOWER MOTOR  
PE = PHOTOELECTRIC  
T = SPRING WOUND TIMER  
WP = WEATHERPROOF SWITCH  
XP = EXPLOSIONPROOF SWITCH

### RECEPTACLE SYMBOLS

	DUPLEX TELEPHONE JACK (UNLESS OTHERWISE SHOWN ON DRAWINGS)
	TELEPHONE JACK (UNLESS OTHERWISE SHOWN ON DRAWINGS)
	125V, 20A DUPLEX RECEPTACLE
	125V, 20A QUADRUPLEX RECEPTACLE
	SPECIAL PURPOSE RECEPTACLE (AS DEFINED ON DRAWINGS)
	PLUG-IN RECEPTACLE STRIP
	HEAVY DUTY RECEPTACLE
	HEAVY DUTY DUPLEX

**RECEPTACLE SUBSCRIPTS:**

GFCI = GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLE  
WP = WEATHERPROOF RECEPTACLE  
XP = EXPLOSION-PROOF RECEPTACLE

NO.	DATE	BY	REVISION

NOTICE

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CITY OF WOODBURN I-5  
PUMP STATION AND FORCE MAIN PROJECT

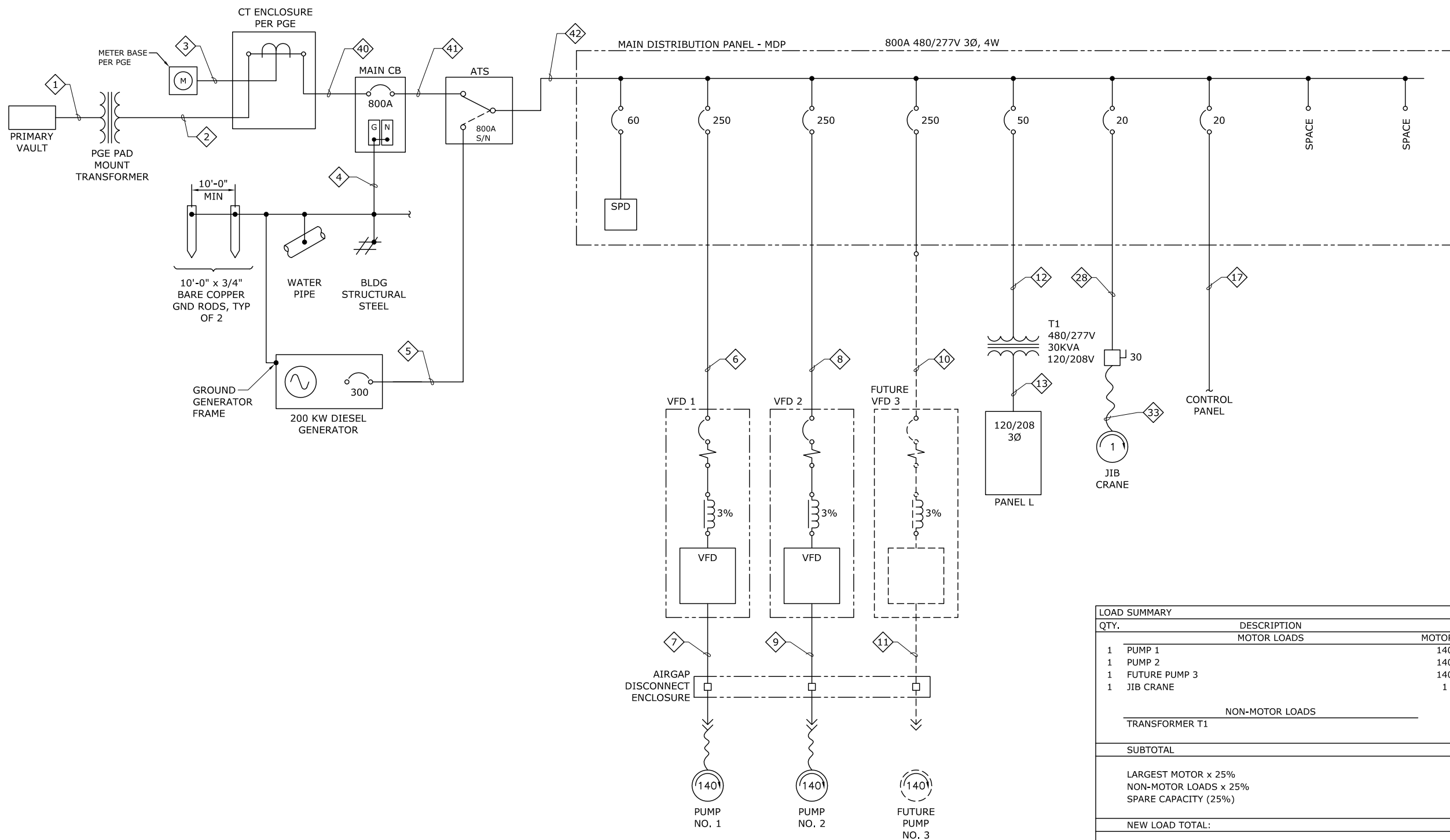
**ELECTRICAL  
LEGEND AND ABBREVIATIONS**

PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: MAY 2021

SHEET  
**E-1**  
61 of 83

9815 S.W. Allen Boulevard  
Suite 107  
Beaverton, Oregon 97005  
Phone: (503) 726-3300  
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E-mail: rweg@rweg.com  
Project No.: 483.139.001 Contact: GREGG SCHOLZ

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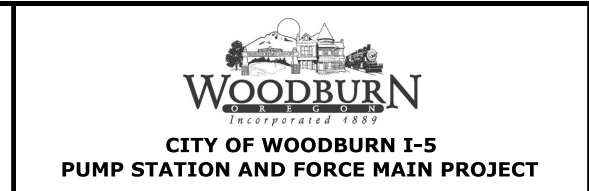
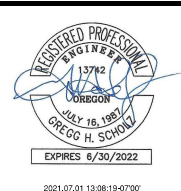
**ELECTRICAL ONE-LINE DIAGRAM**  
NOT TO SCALE

LOAD SUMMARY			DATE: 01/06/21
QTY.	DESCRIPTION	LOAD	
<b>MOTOR LOADS</b>			
		<b>MOTOR SIZE</b>	
1	PUMP 1	140 HP	149.6 kVA
1	PUMP 2	140 HP	149.6 kVA
1	FUTURE PUMP 3	140 HP	149.6 kVA
1	JIB CRANE	1 HP	1.7 kVA
<b>NON-MOTOR LOADS</b>			
	TRANSFORMER T1		30.0 kVA
<b>SUBTOTAL</b>			<b>480.7 kVA</b>
LARGEST MOTOR x 25%			37.4 kVA
NON-MOTOR LOADS x 25%			7.5 kVA
SPARE CAPACITY (25%)			131.4 kVA
<b>NEW LOAD TOTAL:</b>			<b>657.0 kVA    790.3 AMPS</b>
<b>TOTAL:</b>			<b>657.0 kVA    790.3 AMPS</b>
<b>SERVICE SIZE @ 480V, 3-PH:</b>			<b>800 AMPS</b>

NO.	DATE	BY	REVISION

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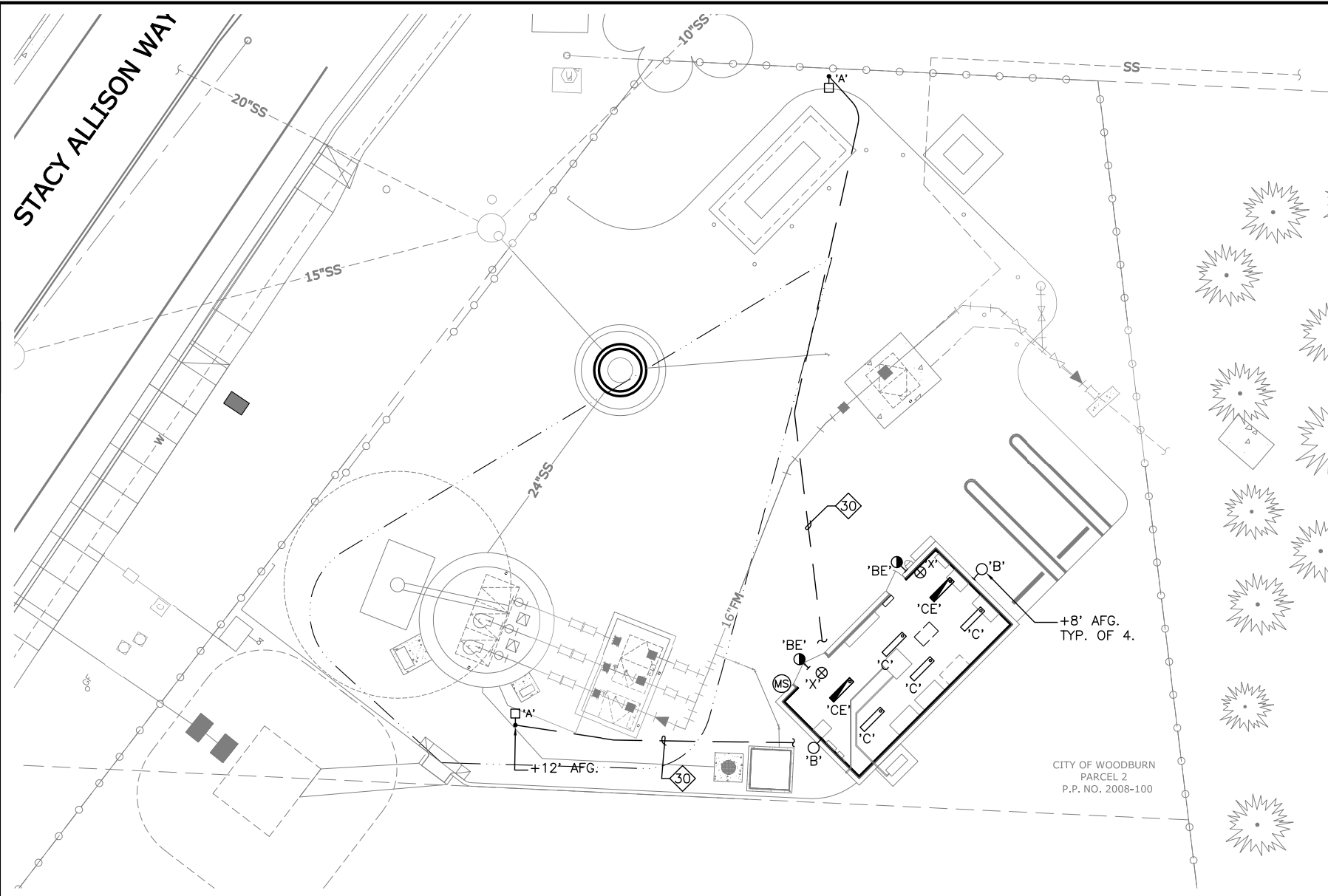
**ELECTRICAL ONE-LINE DIAGRAM**

PROJECT NO.: 19-2469.303    SCALE: AS SHOWN    DATE: MAY 2021

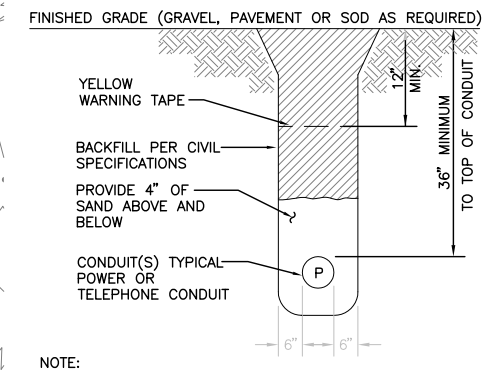
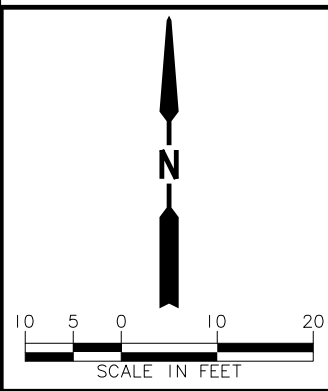
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62 of 83



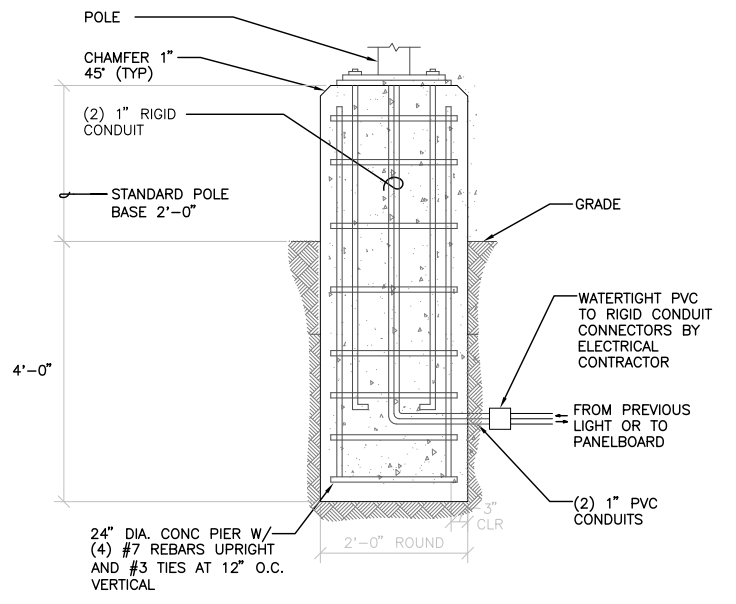
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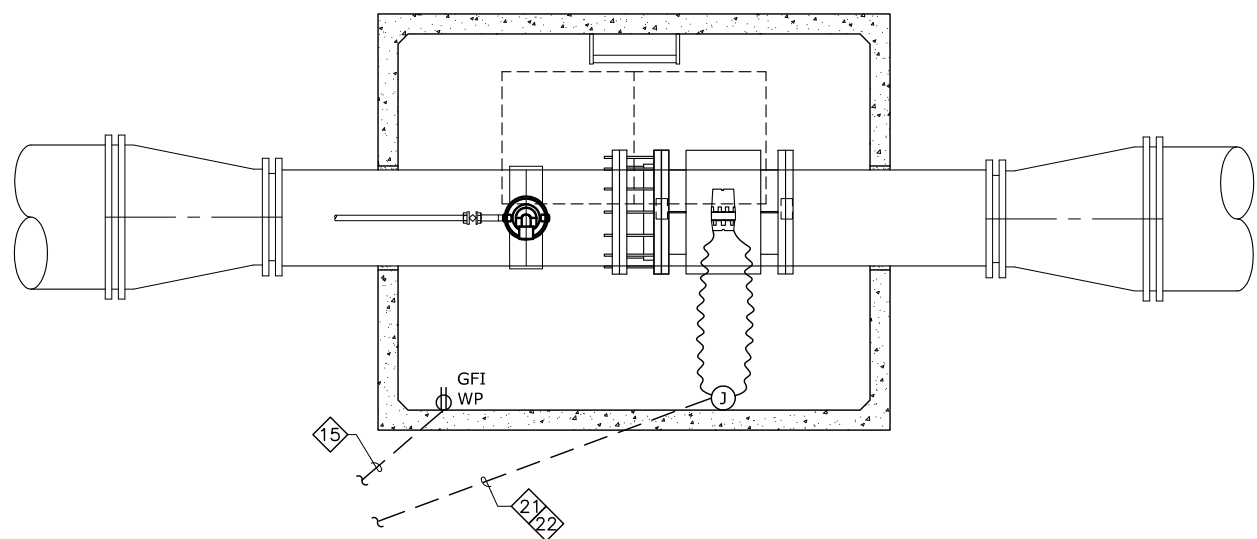
**ELECTRICAL SITE PLAN - LIGHTING**  
SCALE: 1" = 10'-0"



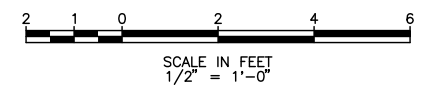
**3 CONDUIT TRENCH DETAIL**  
E-3 NO SCALE



**2 LIGHT POLE BASE DETAIL**  
E-3 NO SCALE



**FLOW METER VAULT**  
1/2" = 1'-0"

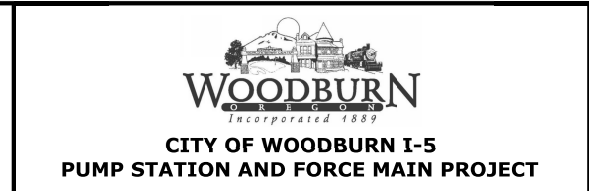
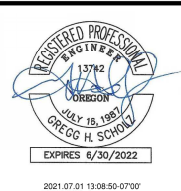


**R&W ENGINEERING, INC.**  
9815 S.W. Atkin Boulevard  
Suite 107  
Beaverton, Oregon 97005  
Phone: (503) 726-3300  
Fax: (503) 726-3326  
E-mail: rweg@rweg.com  
Project No.: 483.139.001 Contact: GREGG SCHOLZ

NO.	DATE	BY	REVISION

**NOTICE**  
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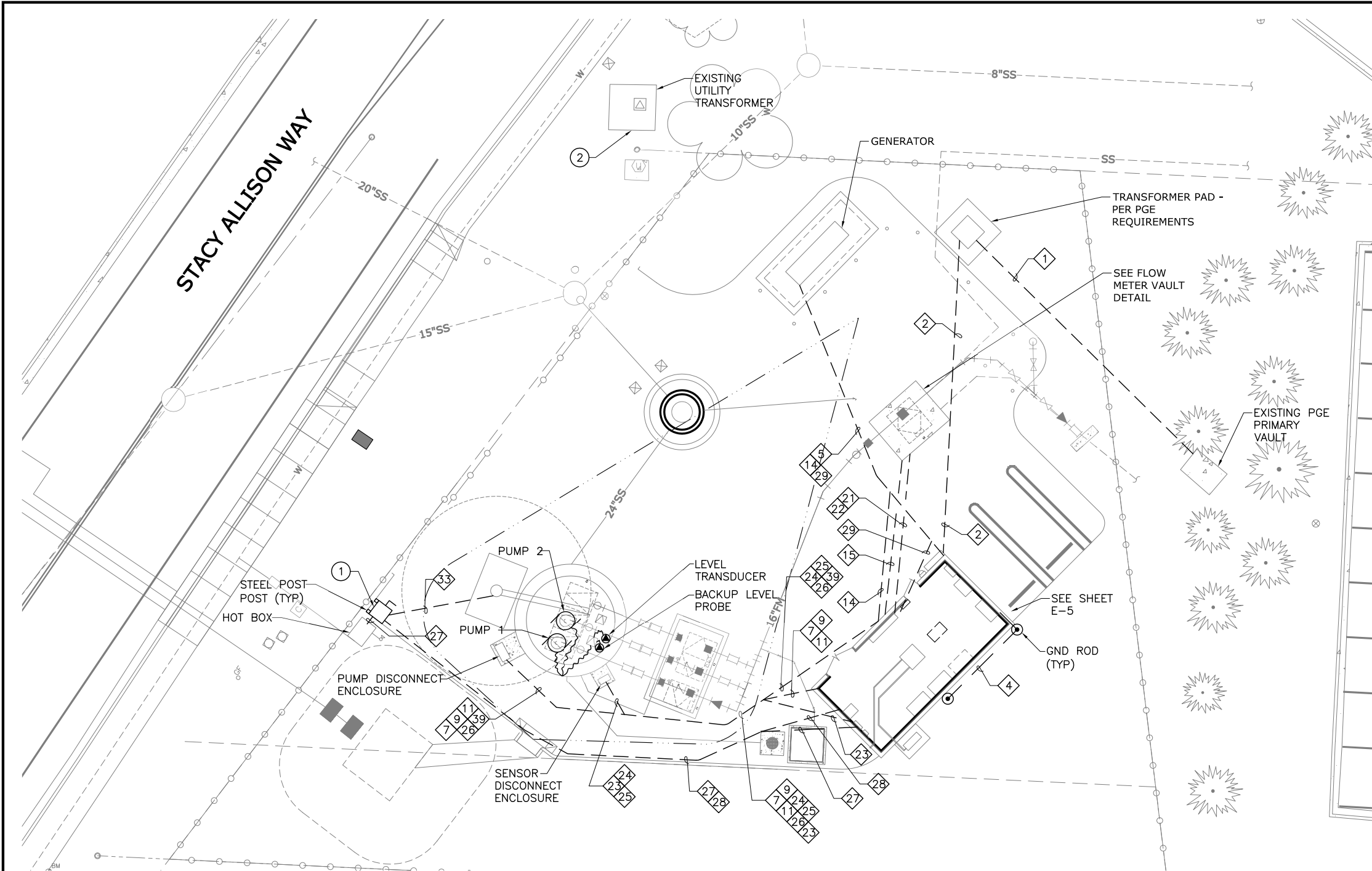


**ELECTRICAL SITE PLAN - LIGHTING**

PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: MAY 2021

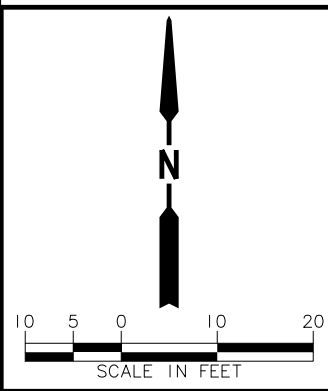
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- KEY NOTES:**
- ① PROVIDE SECURE MOUNTING FRAME FOR CRANE DISCONNECT SWITCH. MOUNT SWITCH WITH HANDLE AT 48" AFG. PROVIDE PULL BOX BELOW SWITCH.
  - ② PGE TO REMOVE EXISTING TRANSFORMER AFTER NEW SERVICE IS ENERGIZED. REMOVE ALL EXISTING CONDUIT, METERS, PADS, AND CONDUCTORS.

**ELECTRICAL SITE PLAN - POWER**  
SCALE: 1" = 10'-0"



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"Engineering Integrated Solutions"  
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Phone: (503) 726-3300  
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E-mail: rweg@rweg.com  
Project No.: 483.139.001 Contact: GREGG SCHOLZ

NO.	DATE	BY	REVISION

**NOTICE**  
0 1/2 1  
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GHS DESIGNED  
CAD DRAWN  
GHS CHECKED

REGISTERED PROFESSIONAL ENGINEER  
13742  
OREGON  
MAY 15, 1987  
GREGG H. SCHOLZ  
EXPIRES 6/30/2022  
2021.07.01 13:09:18-0700

**murraysmith**

**WOODBURN**  
CITY OF WOODBURN I-5  
PUMP STATION AND FORCE MAIN PROJECT

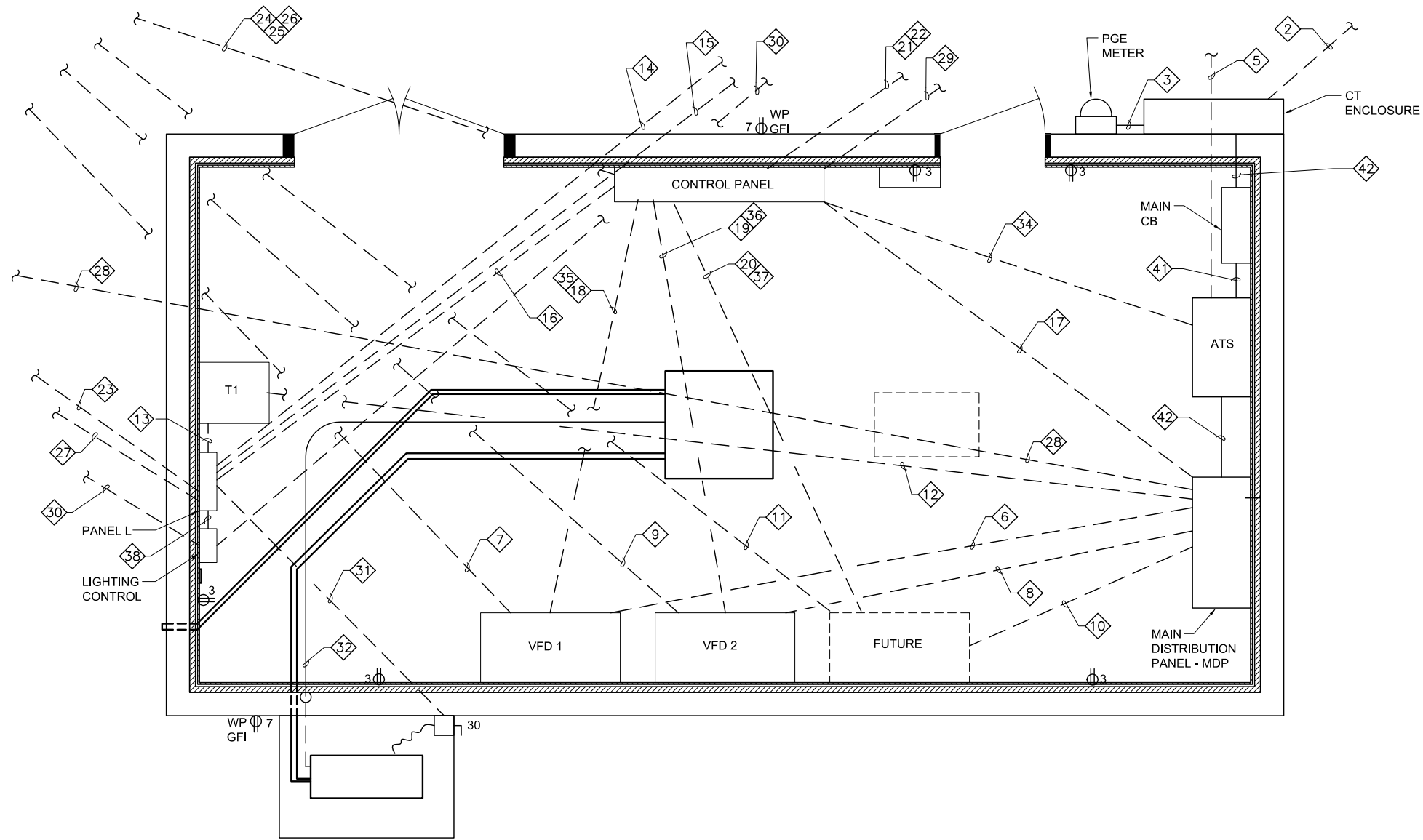
**ELECTRICAL SITE PLAN - POWER**

PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: MAY 2021

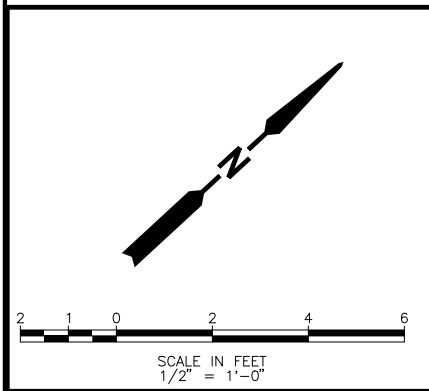
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**ELECTRICAL BUILDING PLAN - POWER/SIGNAL**  
SCALE: 1/2" = 1'-0"



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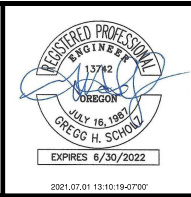
9815 S.W. Atkin Boulevard  
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Phone: (503) 726-3300  
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Project No.: 483.139.001 Contact: GREGG SCHOLZ

NO.	DATE	BY	REVISION

NOTICE  
0 1/2 1  
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GHS  
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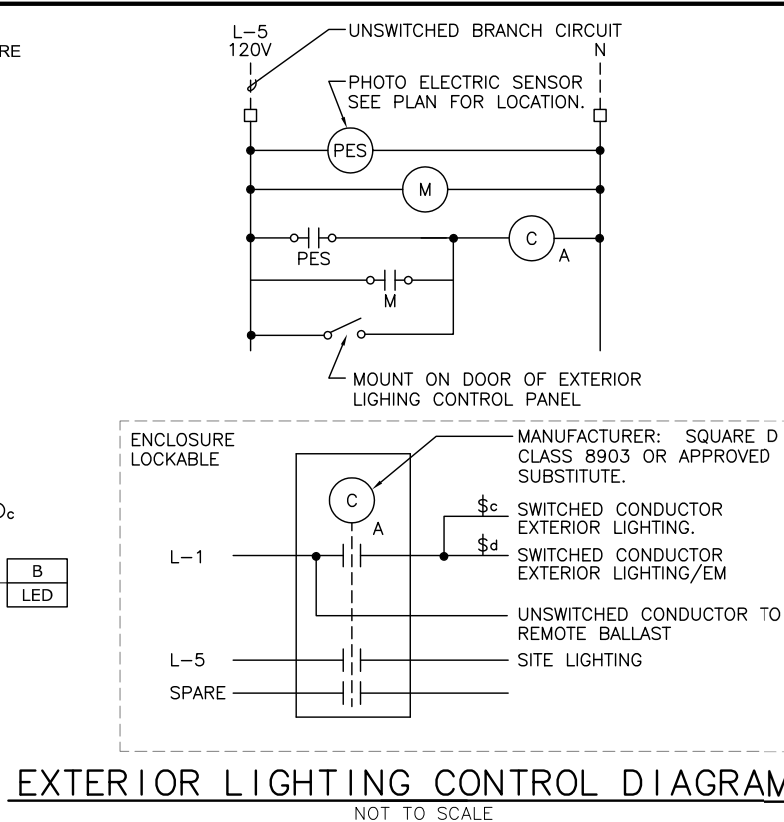
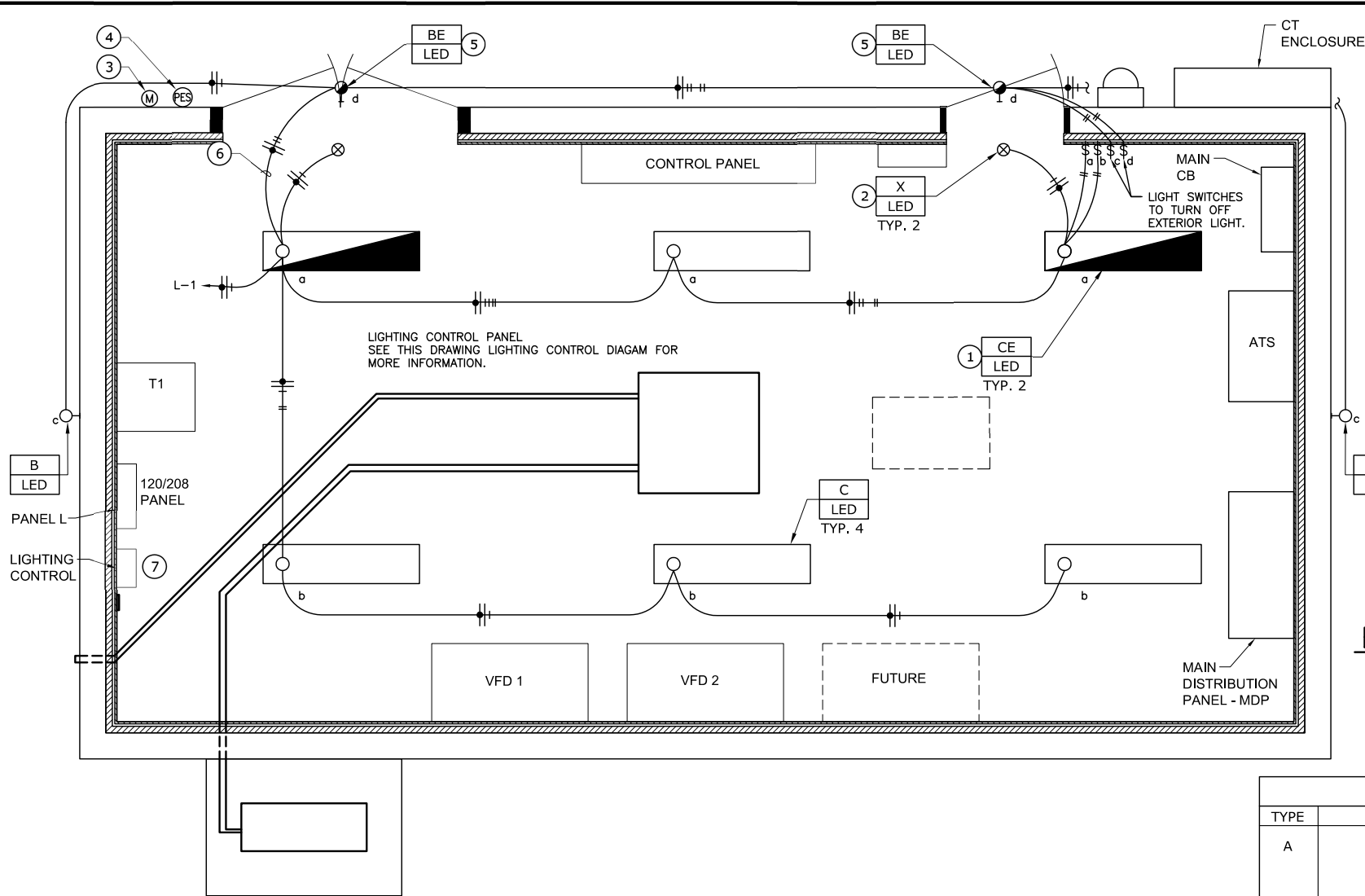
**WOODBURN**  
CITY OF WOODBURN I-5  
PUMP STATION AND FORCE MAIN PROJECT

**ELECTRICAL BUILDING PLAN - POWER**

PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: MAY 2021

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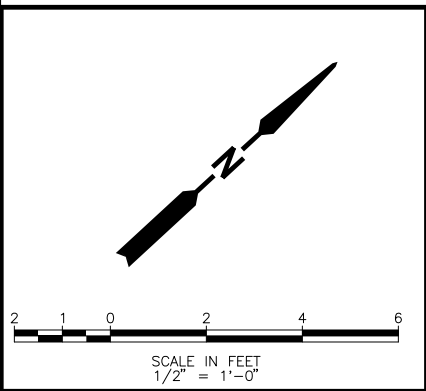
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- GENERAL NOTES:**
- A. SEE DRAWINGS E01
  - B. LOWER CASE LETTER ADJACENT TO LUMINAIRE INDICATES SWITCH DESIGNATION.
- KEY NOTES:**
- ① PROVIDE UN-SWITCHED LIGHTING BRANCH CIRCUIT TO EMERGENCY EGRESS LUMINAIRE. LUMINAIRE TO OPERATE IN LOSS OF BUILDING POWER.
  - ② PROVIDED UN-SWITCHED LIGHTING BRANCH CIRCUIT TO EXIT SIGN. EXIT SIGN TO OPERATE AT ALL TIMES.
  - ③ PROVIDE OUTDOOR MOTION SENSOR ON WEATHER-PROOF J-BOX ON SIDE OF BUILDING AT +10'-0" ABOVE FINISHED GRADE. MANUFACTURER: SENSOR SWITCH, SBOR SERIES OR APPROVED.
  - ④ PROVIDE PHOTO ELECTRIC SENSOR (PES). INSTALL SO "EYE" FACES NORTH 30 DEGREES ABOVE HORIZON. SENSOR NEVER TO BE IN DIRECT LIGHT.
  - ⑤ EXTERIOR EGRESS LUMINAIRE TO OPERATE DURING LOSS OF BUILDING POWER. PROVIDE LUMINAIRE WITH EMERGENCY BACKUP BALLAST. PROVIDE UNSWITCHED BRANCH CIRCUIT FOR CONTINUOUS BATTERY CHARGING. SEE LUMINAIRE SCHEDULE FOR MORE INFORMATION.
  - ⑥ ROUTE BRANCH CIRCUIT FOR EXTERIOR LIGHTING THROUGH AUTOMATIC LIGHTING CONTROL.
  - ⑦ AUTOMATIC LIGHTING CONTROL PANEL. SEE THIS DRAWING FOR LIGHTING CONTROL DIAGRAM FOR MORE INFORMATION.

**ELECTRICAL BUILDING PLAN - LIGHTING**  
SCALE: 1/2" = 1'-0"

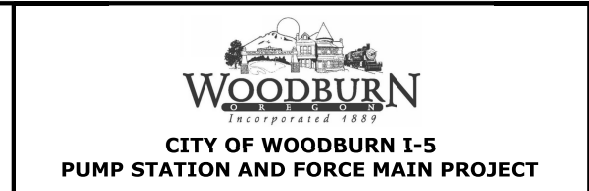
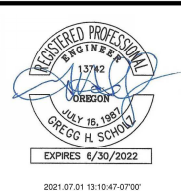
LUMINAIRE SCHEDULE			
TYPE	MANUFACTURER	WATTS	DESCRIPTION
A	LITHONIA KAD LED 20C 700 50K R4 MVOLT HS OR APPROVED.	45	20 LED, HIGH EFFICIENCY POLE MOUNT LUMINAIRE 100,000 HOUR SERVICE LIFE. 5000K COLOR TEMPERATURE, 5679 LUMENS. WEATHER RESISTANT ALUMINUM HOUSING W/BRONZE FINISH, TYPE 4 DISTRIBUTION WITH HOUSE SIDE SHIELD. MOUNT ON POLE WITH 4" ARM.
POLE 10"	LITHONIA SSS OR APPROVED.	--	4" STRAIGH SQUARE STEEL POLE, 7 GAUGE STEEL(.1796"), FINISH DARK BRONZE, (CONTRACTOR TO COORDINATE J-BOLTS WITH BASE PLATE.)
B	LITHONIA WDGE1 LED P1 50K 80CRI VF OR APPROVED.	10	LED HIGH PERFORMANCE, HIGH EFFICIENCY SURFACE MOUNT LUMINAIRE 100,000 HOUR SERVICE LIFE. 5000K COLOR TEMPERATURE, 1200 LUMENS. WEATHER RESISTANT ALUMINUM HOUSING W/BRONZE FINISH AND CLEAR POLYCARB LENS.
BE	LITHONIA WDGE1 LED P1 50K 80CRI VF OR APPROVED. EM OPTION E4WH OR APPROVED.	10	LED HIGH PERFORMANCE, HIGH EFFICIENCY SURFACE MOUNT LUMINAIRE 100,000 HOUR SERVICE LIFE. 5000K COLOR TEMPERATURE, 1200 LUMENS. WEATHER RESISTANT ALUMINUM HOUSING W/BRONZE FINISH AND CLEAR POLYCARB LENS. REMOTE 90-MINUTE EMERGENCY BATTERY BACK-UP WITH LED/TEST SWITCH.
C	LITHONIA LBL4 LP850 OR APPROVED	41	LED 4-FOOT SURFACE MOUNT WRAP LUMINAIRE, CURVED PRISMATIC DIFFUSER, 5000K COLOR TEMPERATURE, 4000 LUMENS, WIDE DISTRIBUTION W/ FROSTED POLYCARB LENS.
CE	LITHONIA LBL4 LP850 OR APPROVED. EM OPTION EL14L OR APPROVED.	41	SAME AS ABOVE WITH 90-MINUTE EMERGENCY BATTERY BACKUP.
X	LITHONIA LQM-S-3-R-ELN-SD	0.5	EXIT SIGN LED, THERMOPLASTIC, IMPACT & SCRATCH RESISTANT, CORROSION PROOF, RUGGED UNI-BODY HOUSING WITH NICKEL-CADMIUM BATTERY



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**ELECTRICAL BUILDING PLAN - LIGHTING**

PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: MAY 2021

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Woodburn I-5 PS  
ELECTRICAL CIRCUIT SCHEDULE

ALL CIRCUITS ARE IDENTIFIED ON THE PLANS WITH THE DIAMOND SYMBOL. CONDUCTOR SIZES ARE BASED ON COPPER CONDUCTORS. CONDUIT SIZES ARE SHOWN FOR CASES WHEN CIRCUIT CONDUCTORS ARE RUN WITHOUT OTHER CIRCUITS. MULTIPLE CIRCUITS RUN IN COMMON CONDUITS ARE SHOWN ON PLANS AND SUPERSEDE THE BASIC CONDUIT SIZE SHOWN.

RACEWAY SIZES ARE IN INCHES WITH QUANTITIES IN EXCESS OF (1) SHOWN IN ADJACENT PARENTHESIS. CONDUCTOR CONFIGURATIONS ARE CODED AS FOLLOWS: P - FOR POWER CONDUCTORS, G - FOR GROUND CONDUCTORS, N - FOR NEUTRAL CONDUCTORS, C - FOR CONTROL CONDUCTORS, AND SP - FOR SPARE CONDUCTORS.

CIRCUITS REVISED SINCE LAST ISSUE ARE INDICATED BY AN ASTERISK(\*).

CIRCUIT NUMBER	FROM	TO	CONDUCTORS	RACEWAY	NOTES	CIRCUIT NUMBER	FROM	TO	CONDUCTORS	RACEWAY	NOTES
1	PGE PRIMARY VAULT	TRANSFORMER PAD	----	4	INSTALL PGE APPROVED PULL TAPE	31	PANEL L	OUTDOOR HVAC UNIT	2 #10 AWG, P 1 #10 AWG, G	1	
2	PGE TRANSFORMER	CT SECTION	----	(3) 3	INSTALL PGE APPROVED PULL TAPE	32	OUTDOOR HVAC	INDOOR HVAC	3 #10 AWG, P 1 #10 AWG, G	1	
3	CT SECTION	METER BASE	----	1.25	INSTALL PGE APPROVED PULL TAPE	33	CRANE DISCONNECT	HOIST ASSEMBLY	MFR CABLE	1	
4	SERVICE ENTRANCE	GROUNDING ELECTRODE	1 #2/0 AWG, G	1	SLEEVE WHERE REQUIRED FOR PROTECTION	34	ATS	CONTROL PANEL	2 #14 AWG, C 2 #14 AWG, C 1 #14 AWG, G	1	GENERATOR START TO CIRCUIT 29 ATS IN GENERATOR SIGNAL TO CP
5	TRANSFER SWITCH	GENERATOR	4 #350 KCMIL, P 1 #4 AWG, G	3 (3) 3	SPARE FOR FUTURE	35	CONTROL PANEL	VFD 1	CAT 6	1	
6	MDP	VFD 1	3 #250 KCMIL, P 1 #6 AWG, G	2.5		36	CONTROL PANEL	VFD 2	CAT 6	1	
7	VFD 1	PUMP DISCONNECT ENCLOSURE	3 #250 KCMIL, P 3 #8 AWG, G	2.5	SHIELDED VFD RATED CABLE	37	CONTROL PANEL	VFD 3	----	1	PULL CORD
8	MDP	VFD 2	3 #250 KCMIL, P 1 #6 AWG, G	2.5		38	PANEL L	LIGHTING CONTROL	2 #12 AWG, P 1 #12 AWG, G	1	
9	VFD 2	PUMP DISCONNECT ENCLOSURE	3 #250 KCMIL, P 3 #8 AWG, G	2.5	SHIELDED VFD RATED CABLE	39	PUMP DISCONNECT ENCLOSURE	CONTROL PANEL	3 #16 TSP 1 #14 AWG, G	1	PEM SIGNALS
10	MDP	FUTURE VFD 3	----	2.5	PULL CORD	40	CT ENCLOSURE	MAIN CB	8 #600 KCMIL, P 1 #3 AWG, G	(2) 4	
11	FUTURE VFD 3	PUMP DISCONNECT ENCLOSURE	----	2.5	PULL CORD	41	MAIN CB	ATS	8 #600 KCMIL, P 1 #3 AWG, G	(2) 4	
12	MDP	TRANSFORMER	3 #8 AWG, P 1 #10 AWG, G	1		42	ATS	MDP	8 #600 KCMIL, P 1 #3 AWG, G	(2) 4	
13	TRANSFORMER	PANEL L	4 #1 AWG, P 1 #6 AWG	2							
14	PANEL L	GENERATOR	4 #12 AWG, P 1 #12 AWG, G	1							
15	PANEL L	FLOW METER VAULT	2 #12 AWG, P 1 #12 AWG, G	1							
16	PANEL L	CONTROL PANEL	2 #12 AWG, P 1 #12 AWG, G	1							
17	MDP	CONTROL PANEL	3 #12 AWG, P 1 #12 AWG, G	1							
18	CONTROL PANEL	VFD 1	15 #14 AWG, C 1 #14 AWG, G	1	6 #14 ARE SPARE						
19	CONTROL PANEL	VFD 2	15 #14 AWG, C 1 #14 AWG, G	1	6 #14 ARE SPARE						
20	CONTROL PANEL	VFD 3	----	1	PULL CORD						
21	CONTROL PANEL	FLOW METER POWER	MFR CABLE	1							
22	CONTROL PANEL	FLOW METER SIGNAL	MFR CABLE	1							
23	PANEL L	SENSOR DISC ENCLOSURE	2 #12 AWG, P 1 #12 AWG, G	1							
24	CONTROL PANEL	SENSOR DISC ENCLOSURE	1 #16 TSP, C 1 #14 AWG, G	1	LEVEL SIGNALS						
25	CONTROL PANEL	SENSOR DISC ENCLOSURE	12 #14 AWG, C 1 #14 AWG, G	1	FLOAT SW AND MULTITRODE						
26	CONTROL PANEL	PUMP DISCONNECT ENCLOSURE	6 #14 AWG, C 1 #14 AWG, G	1	THERMAL SWITCHES						
27	PANEL L	HOT BOX RECEIPT	2 #12 AWG, P 1 #12 AWG, G	1							
28	MDP	JIB CRANE DISCONNECT	3 #12 AWG, P 1 #12 AWG, G	1							
29	CONTROL PANEL	GENERATOR	10 #14 AWG, C 1 #14 AWG, G	1	4 #14 ARE SPARE						
30	OUTDOOR LIGHTING CONTROL	AREA LIGHTS	2 #12 AWG, P 1 #12 AWG, G	1							

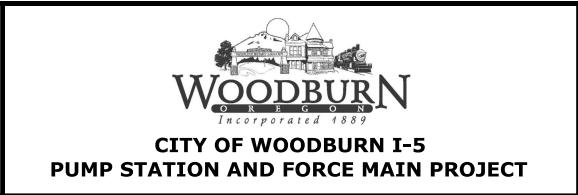
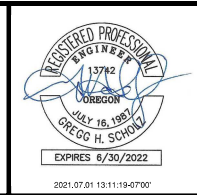
NO.	DATE	BY	REVISION

NOTICE

0 1/2 1

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DESIGNED  
CAD  
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GHS  
CHECKED



**ELECTRICAL CIRCUIT SCHEDULE**

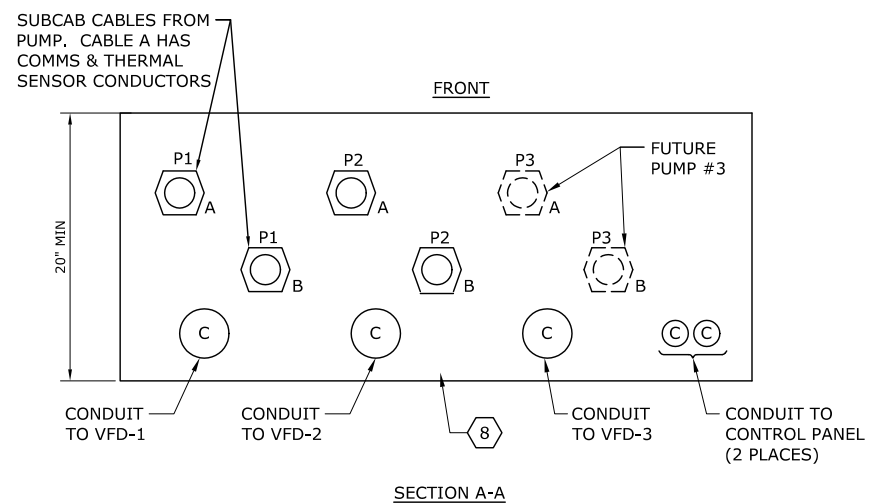
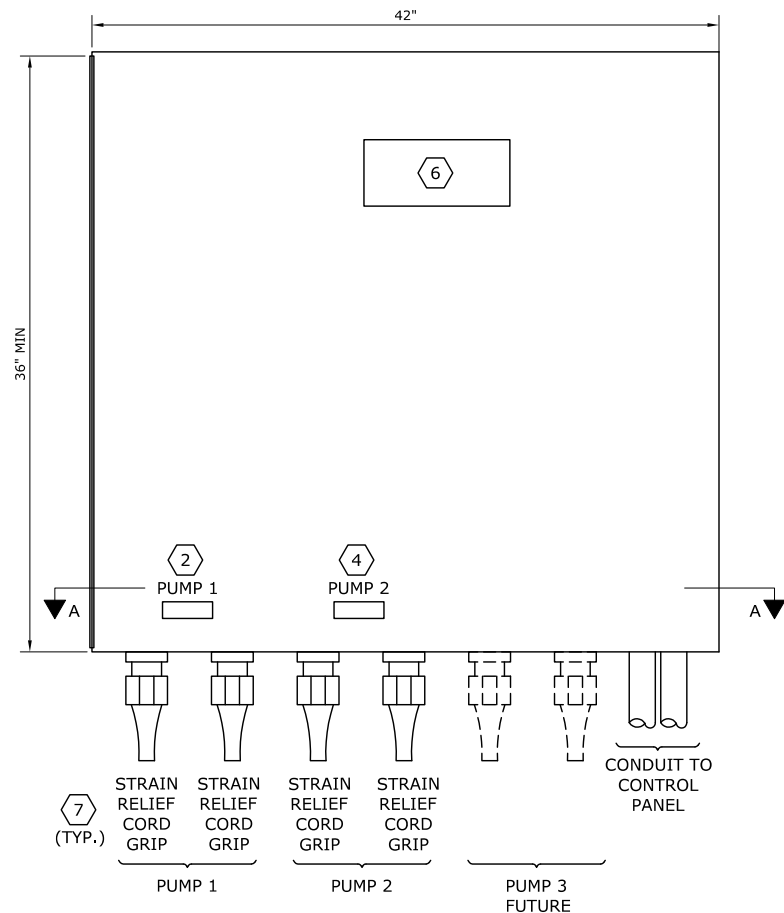
PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: MAY 2021

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**E-7**  
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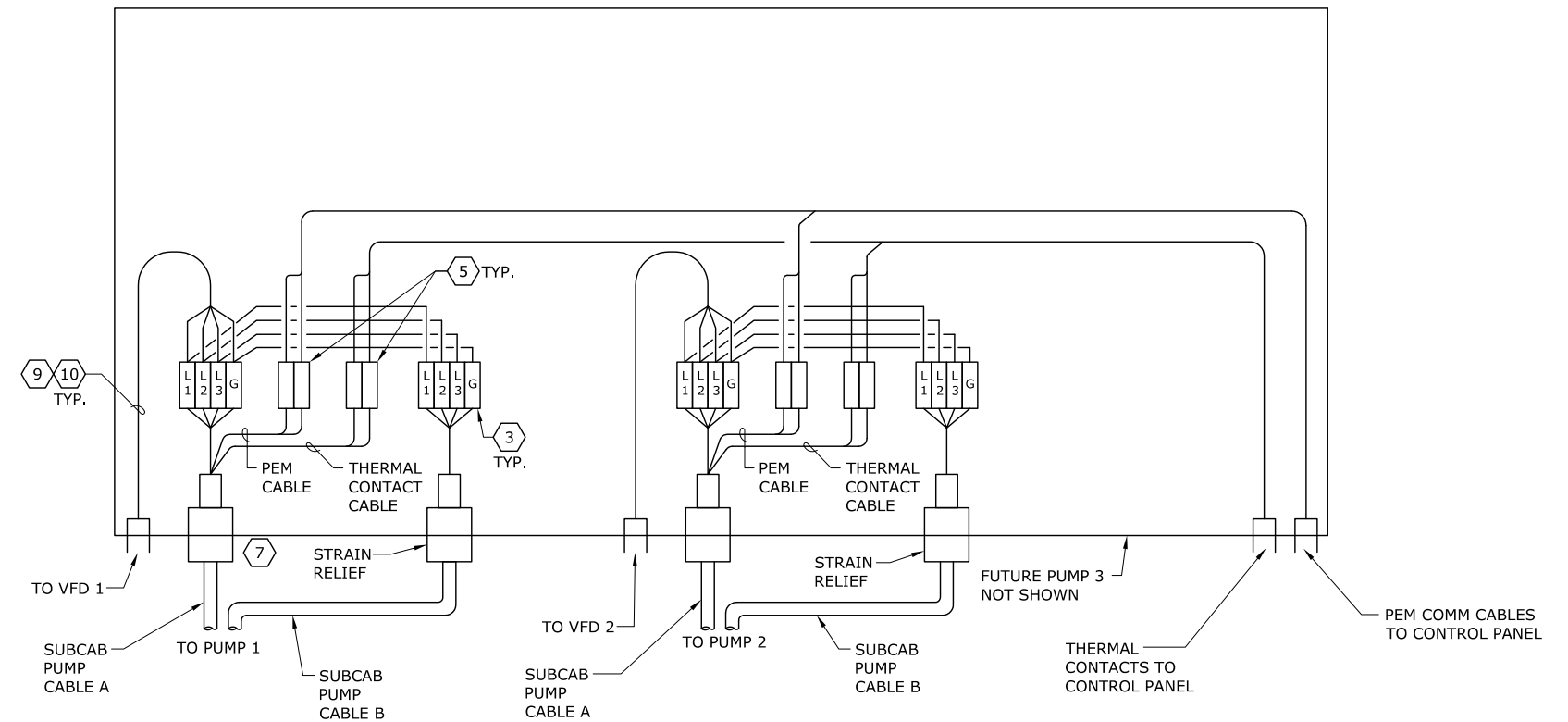




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**PUMP DISCONNECT PANEL** 1  
NOT TO SCALE E-9



**PUMP DISCONNECT PANEL WIRING DETAIL** 2  
NOT TO SCALE E-9

**KEY NOTES**

- 1 NEMA 4X ENCLOSURE WITH LOCKABLE BLANK FRONT AND CONTINUOUS HINGE.
- 2 PUMP 1.
- 3 POWER TERMINAL BLOCKS. 250A, 4-POLE. 250 KCMIL CABLE.
- 4 PUMP 2.
- 5 CONTROL TERMINAL BLOCKS. QTY AS REQUIRED.
- 6 LABEL: "WARNING: PANEL FED FROM MULTIPLE SOURCES".
- 7 STRAIN RELIEF CORD GRIP FOR PUMP SUBCAB CABLE.
- 8 AREA FOR CONDUITS & CORD GRIPS. MINIMUM DISTANCE OF 2" FROM ALL SIDES.
- 9 VFD CABLE.
- 10 GROUND WIRE.
- 11 SEE DRAWING E-10 FOR DISCONNECT STAND BASE DETAIL.



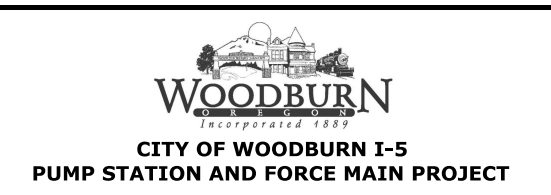
NO.	DATE	BY	REVISION

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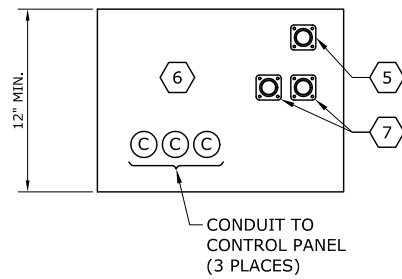
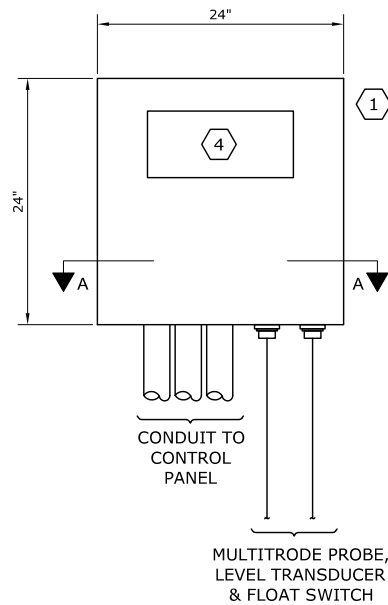
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GHS CHECKED



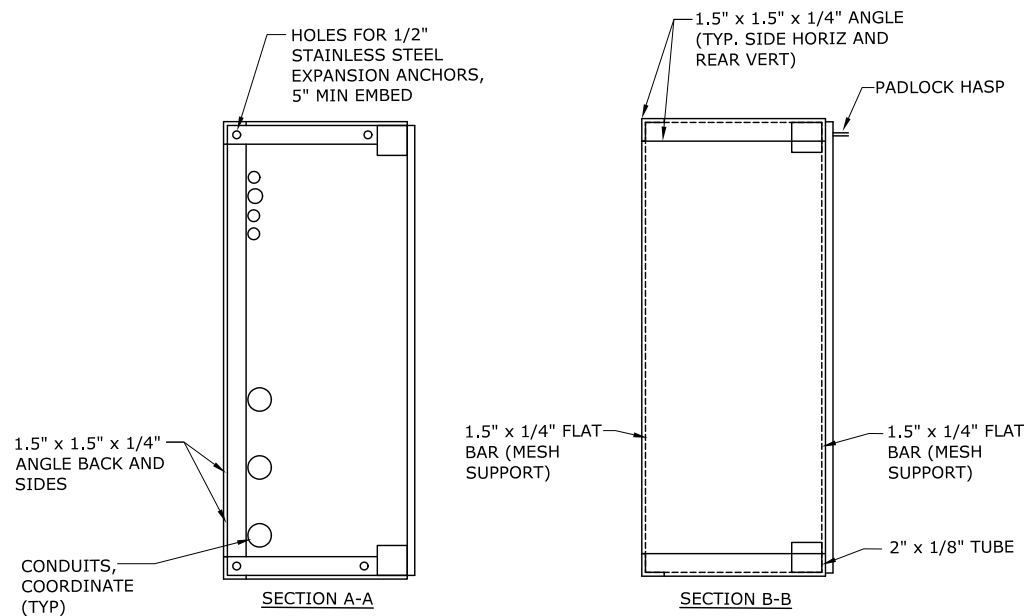
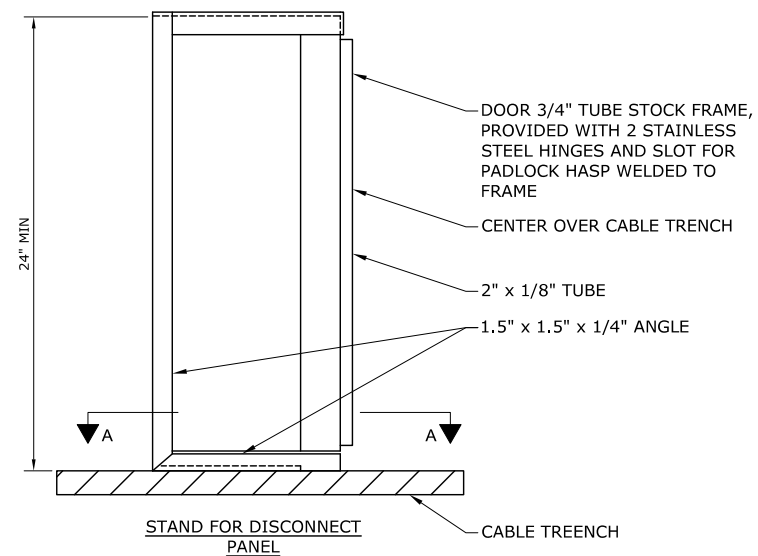
**ELECTRICAL PUMP DISCONNECT PANEL**

PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: MAY 2021

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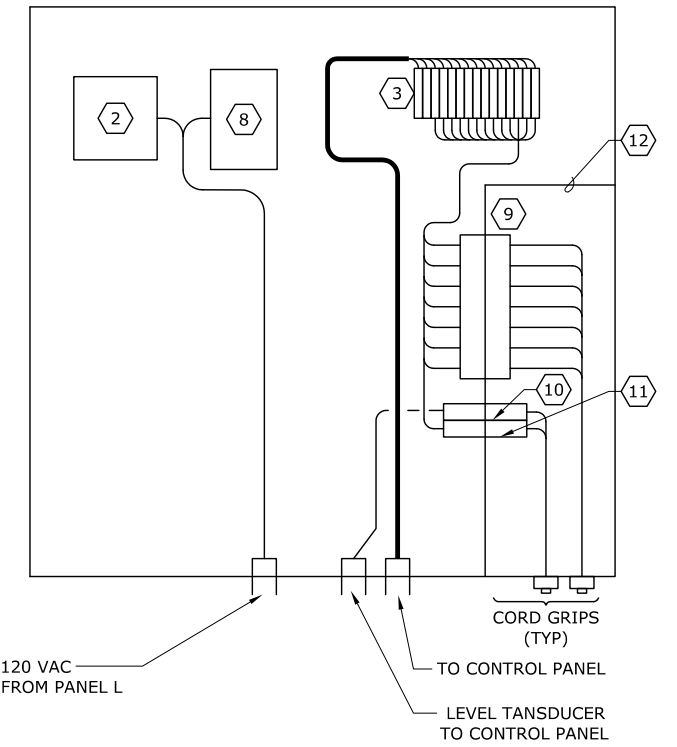
**SENSOR DISCONNECT PANEL** 1  
NOT TO SCALE E-10



**DISCONNECT STAND BASE DETAIL** 2  
NOT TO SCALE E-10

**DETAIL 2 NOTES**

- A. ALL MATERIAL TO BE STAINLESS STEEL.
- B. BACK AND SIDES OF STAND TO BE ENCASED WITH EXPANDED METAL MESH, WELDED TO STAND FRAME. (1/2" x 13mm).
- C. DISCONNECT STAND DOOR WITH SAME MESH AS STAND. DOOR TO BE PAD LOCKABLE.
- D. CONTRACTOR TO VERIFY ALL DIMENSIONS AND CLEARANCES WITH ACTUAL DISCONNECT PANEL PROVIDED AND CONDUIT LAYOUT USED PRIOR TO FABRICATION AND INSTALLATION.



**SENSOR DISCONNECT PANEL WIRING DETAIL** 3  
NOT TO SCALE E-10

**KEY NOTES**

- 1 NEMA 4X ENCLOSURE WITH LOCKABLE BLANK FRONT AND CONTINUOUS HINGE.
- 2 PANEL HEATER WITH INTEGRAL THERMOSTAT.
- 3 CONTROL TERMINAL BLOCKS. QTY AS REQUIRED.
- 4 LABEL: "WARNING: PANEL FED FROM MULTIPLE SOURCES".
- 5 WET WELL SENSOR DEVICE. PROVIDE STRAIN RELIEF FOR CABLE PROTECTION.
- 6 AREA FOR CONDUITS & CORD GRIPS. MINIMUM DISTANCE OF 2" FROM ALL SIDES.
- 7 STRAIN RELIEFS FOR FLOAT SWITCH, LEVEL TRANSDUCER.
- 8 GFCI RECEPTACLE.
- 9 DISCRETE SIGNAL INTRINSICALLY SAFE BARRIER. MULTITRODE MTISB-10.
- 10 ANALOG SIGNAL INTRINSICALLY SAFE BARRIER.
- 11 DISCRETE SIGNAL INTRINSICALLY SAFE BARRIER. QTY AS REQUIRED.
- 12 METAL BARRIER - SEPARATE INTRINSICALLY SAFE WIRING FROM PANEL WIRING.

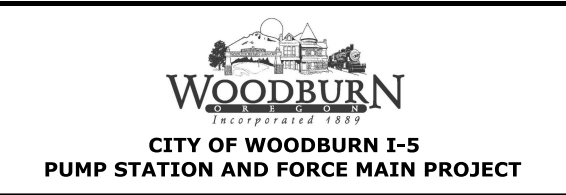
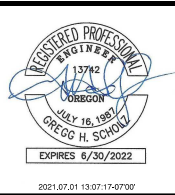


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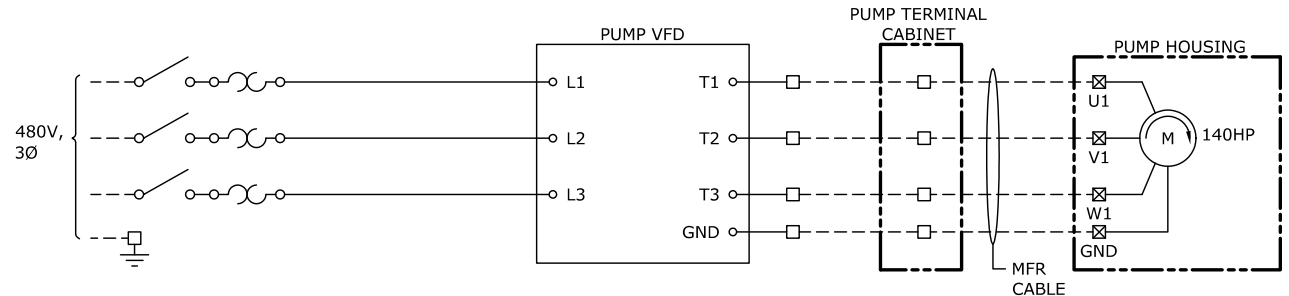
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**ELECTRICAL**  
**SENSOR DISCONNECT PANEL**

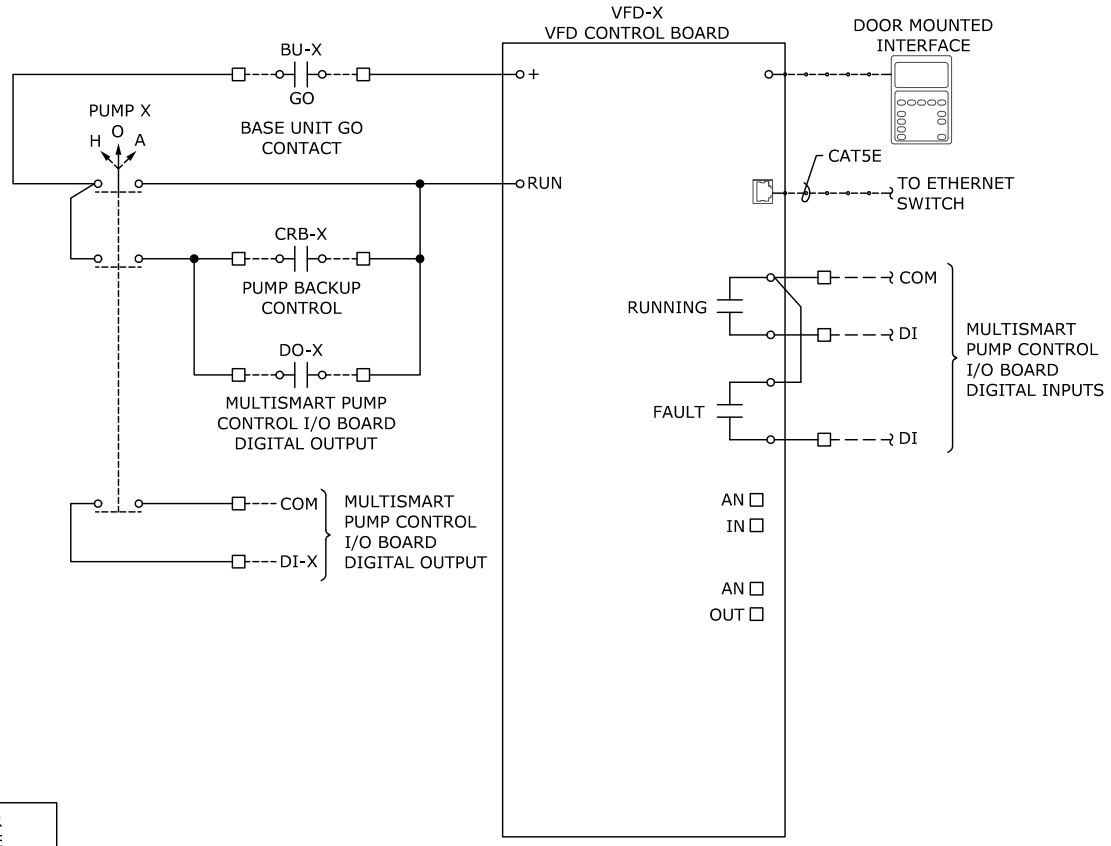
PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: MAY 2021



NOTE: PEM (PUMP ELECTRONIC MODULE) AND THERMAL CONTACT CONNECT TO BASE UNIT AND ARE NOT SHOWN ON THIS DRAWING.

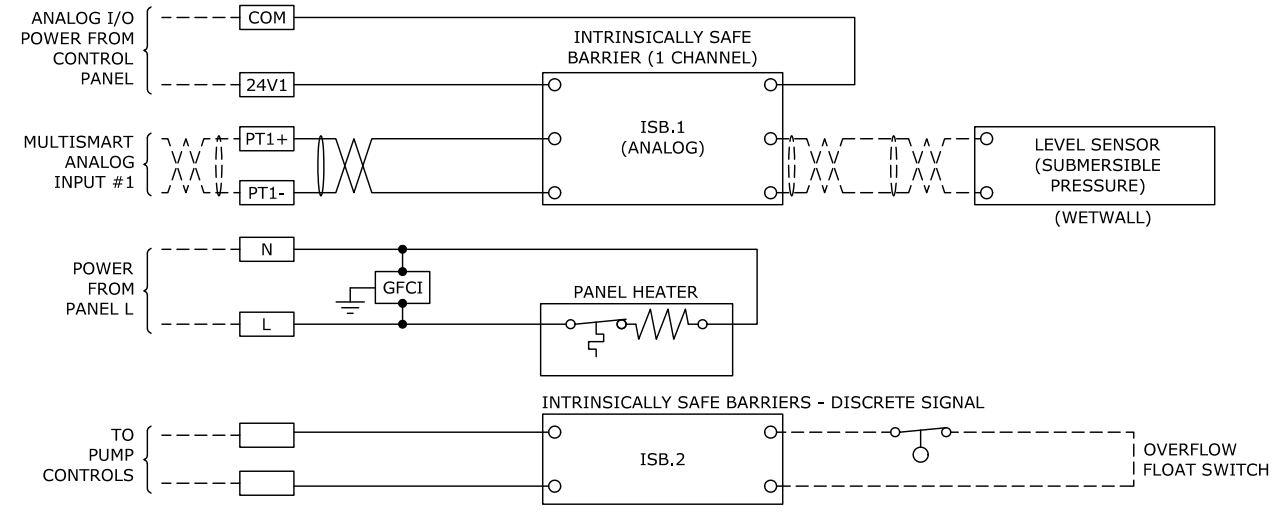
**VFD POWER DIAGRAM (TYP)**  
NOT TO SCALE

1  
E-11



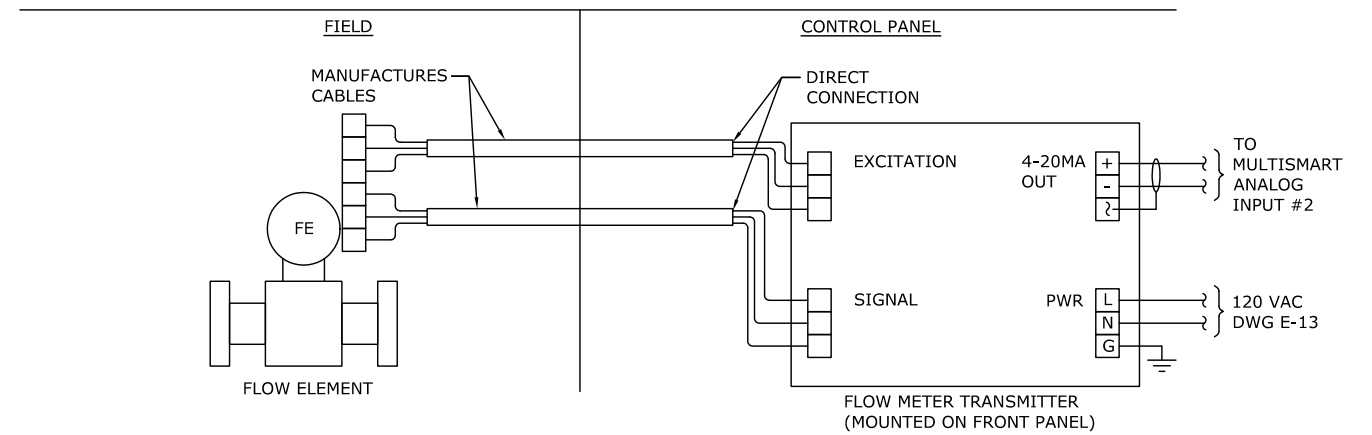
**VFD WIRING DIAGRAM (TYP)**  
NOT TO SCALE

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E-11



**SENSOR DISCONNECT PANEL**  
NOT TO SCALE

3  
E-11



**FLOW METER**  
NOT TO SCALE

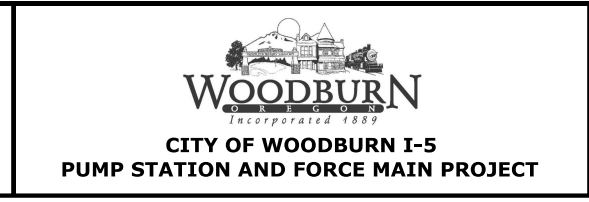
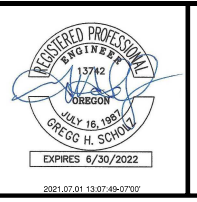
4  
E-11

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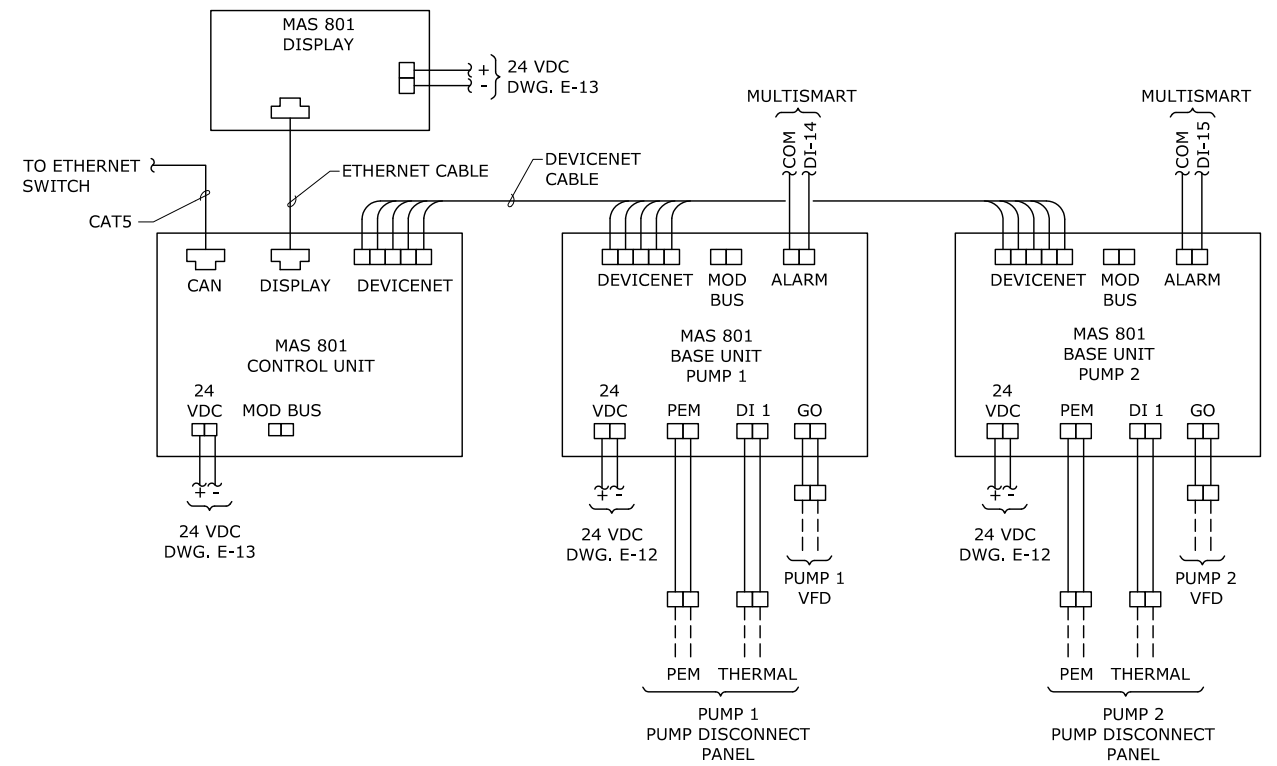
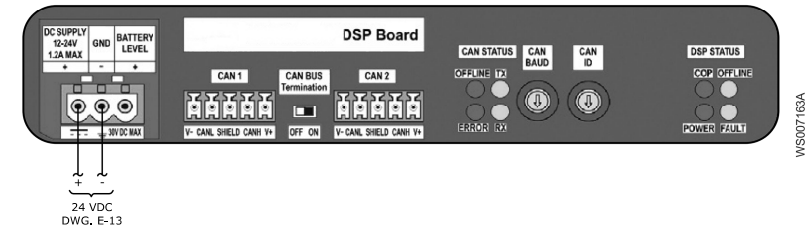
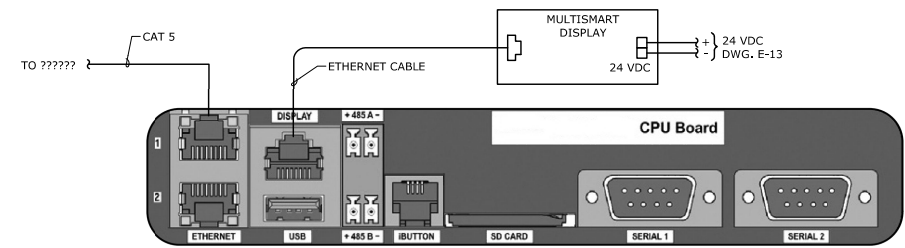
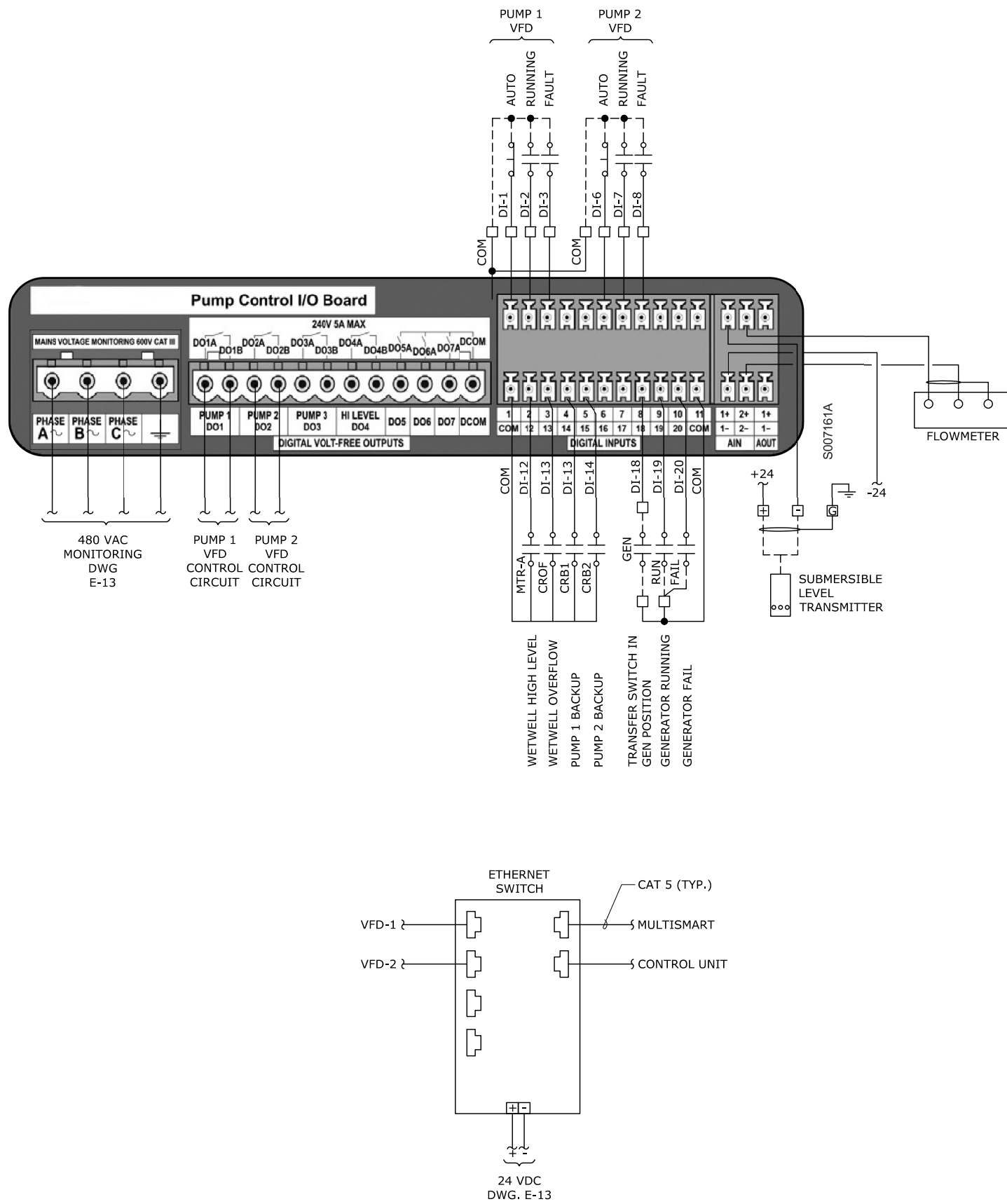
**ELECTRICAL SCHEMATIC DIAGRAMS**

PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: MAY 2021

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**E-11**  
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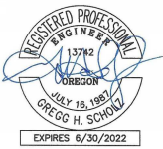


**R&W**  
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E-mail: rwen@rwen.com  
Project No.: 483.139.001 Contact: GREGG SCHOLZ

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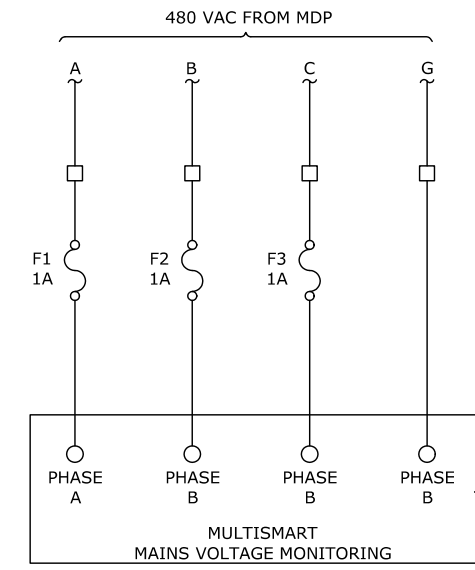
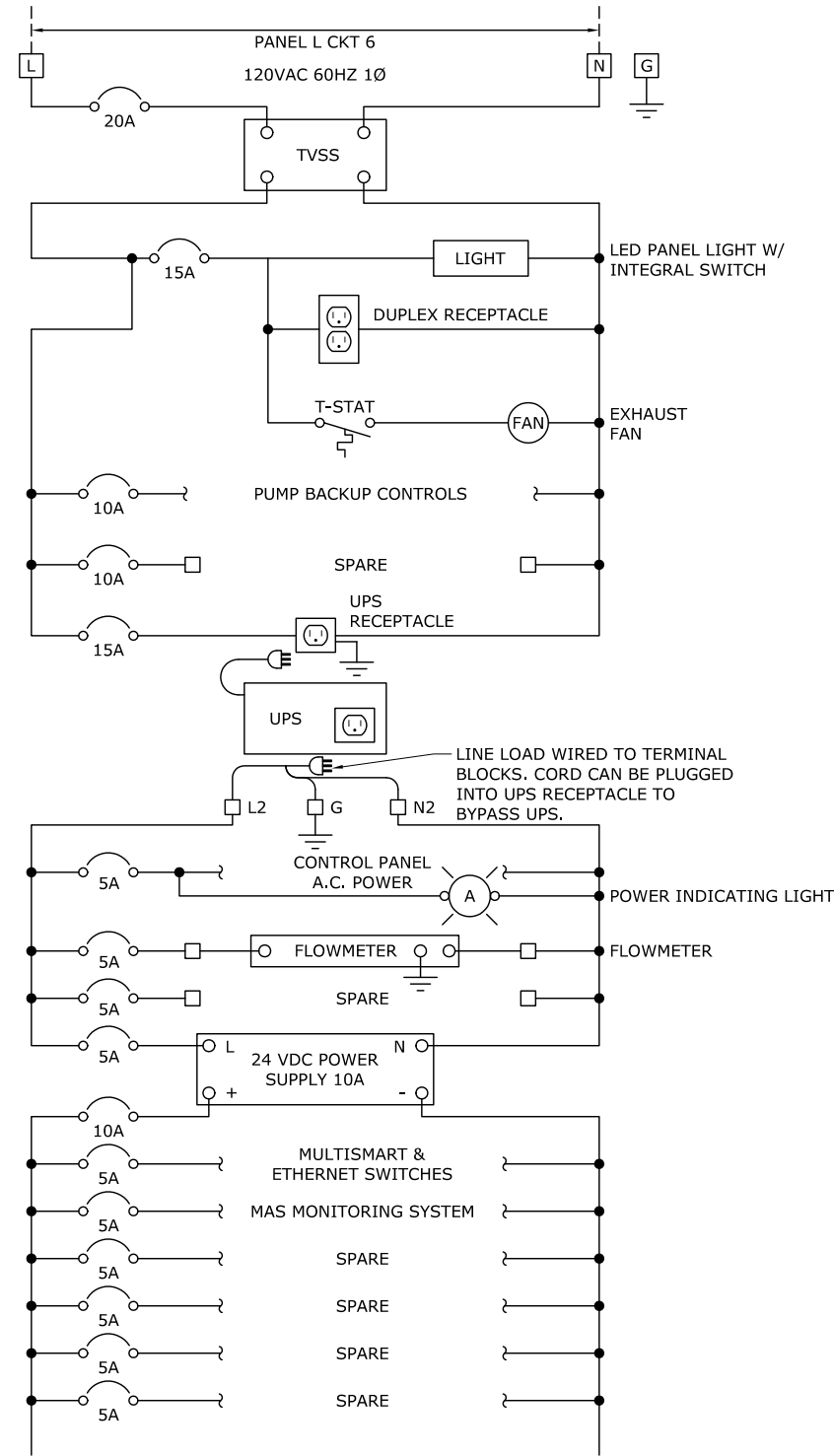
**ELECTRICAL  
PUMP CONTROLLER I/O DIAGRAM**

PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: MAY 2021

SHEET  
**E-12**  
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# CONTROL PANEL



W:\WF\483\_Murray Smith Assoc\139\_Woodburn Sewage PS\001\_Prelim Dsn\DWG\E-13.dwg E-9 5/27/2021 2:25 PM MARKP 19.1s (LMS Tech)

**R&W**  
ENGINEERING, INC.  
"Engineering Integrated Solutions"

9815 S.W. Alton Boulevard  
Suite 107  
Beaverton, Oregon 97005  
Phone: (503) 726-3300  
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E-mail: rweg@rweg.com

Project No.: 483.139.001 Contact: GREGG SCHOLZ

NO.	DATE	BY	REVISION

NOTICE

0 1/2 1

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

GHS  
DESIGNED  
CAD  
DRAWN  
GHS  
CHECKED

REGISTERED PROFESSIONAL  
ENGINEER  
13742  
OREGON  
JULY 16, 1989  
GREGG H. SCHOLZ  
EXPIRES 6/30/2022

2021.07.01 13:14:11-0700

**murraysmith**

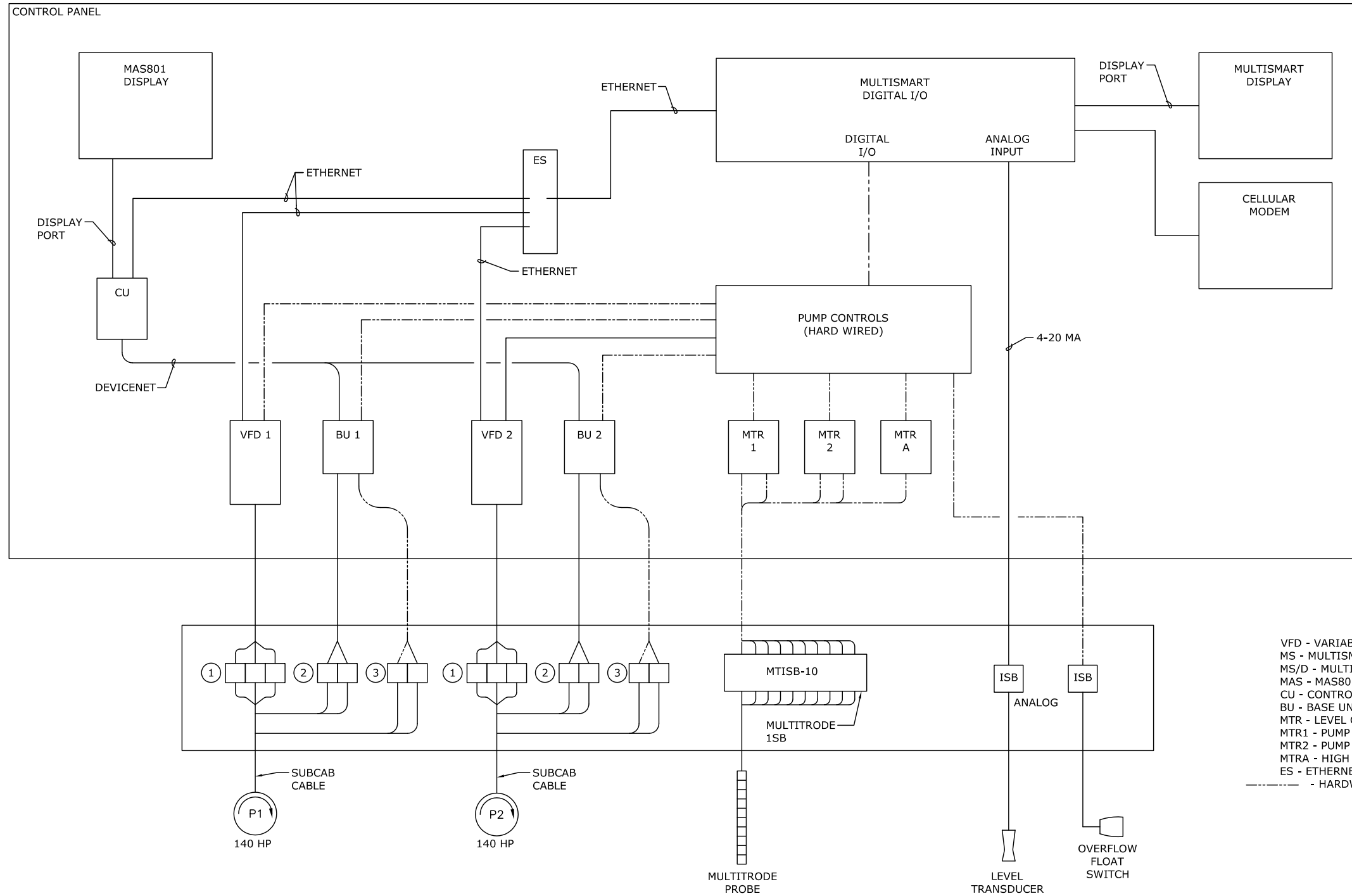
**WOODBURN**  
CITY OF WOODBURN I-5  
PUMP STATION AND FORCE MAIN PROJECT

**ELECTRICAL  
PUMP CONTROLLER I/O DIAGRAM**

PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: MAY 2021

SHEET  
**E-13**  
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W:\WF\483\_Murray Smith Assoc\139\_Woodburn Sewage PS\001\_Prelim Dsn\DWG\E-14.dwg E-9 5/27/2021 2:25 PM MARKP 19.1s (LMS Tech)



- KEY NOTES:**
- ① PUMP MOTOR LEADS.
  - ② PEM - PUMP ELECTRONIC MODULE.
  - ③ THERMAL CONTACT.

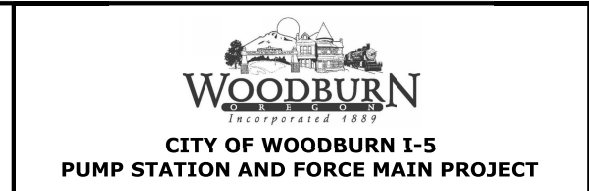
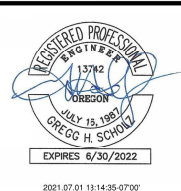
VFD - VARIABLE FREQUENCY DRIVE  
 MS - MULTISMART  
 MS/D - MULTISMART DISPLAY  
 MAS - MAS801 PUMP MONITOR  
 CU - CONTROL UNIT  
 BU - BASE UNIT  
 MTR - LEVEL CONTROL RELAY  
 MTR1 - PUMP 1  
 MTR2 - PUMP 2  
 MTRA - HIGH LEVEL ALARM  
 ES - ETHERNET SWITCH  
 ----- - HARDWIRED CONTROL CIRCUITS

**MULTISMART BLOCK DIAGRAM**  
 NOT TO SCALE

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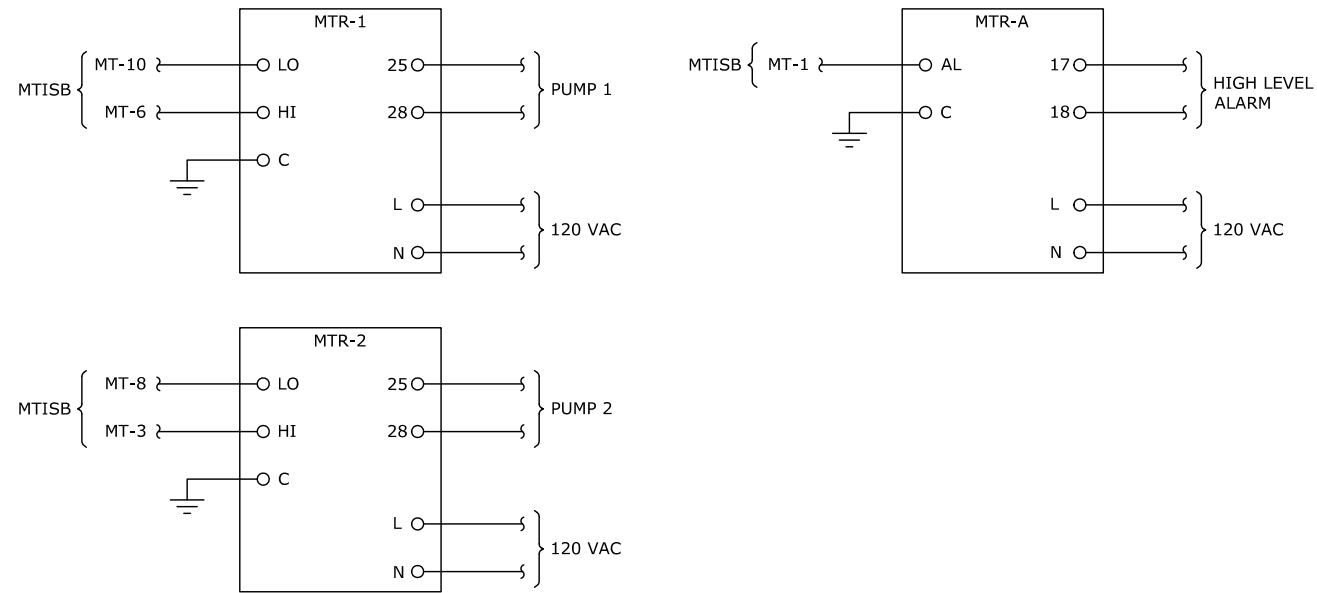


**ELECTRICAL**  
**PUMP CONTROL BLOCK DIAGRAM**  
 PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: MAY 2021

SHEET  
**E-14**  
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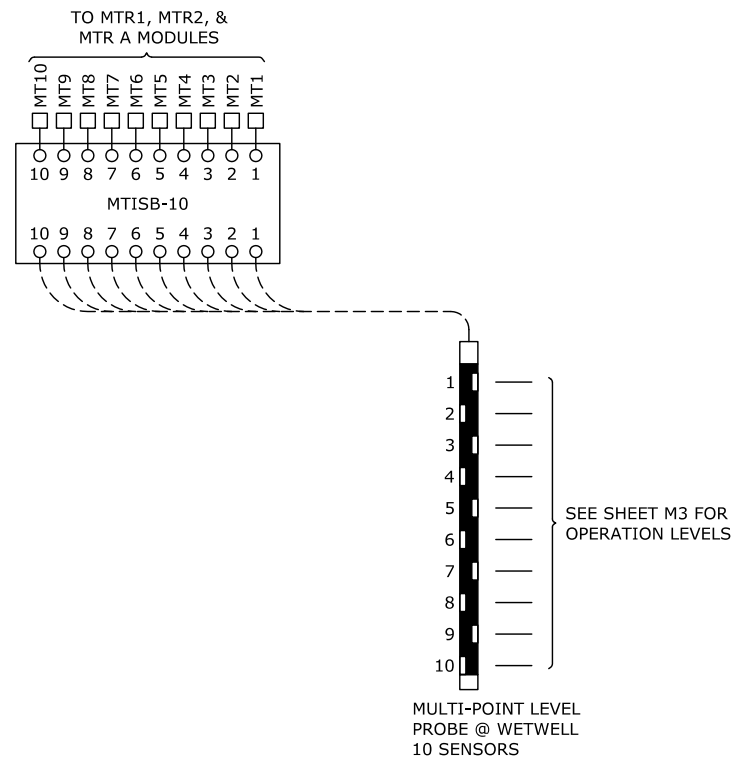


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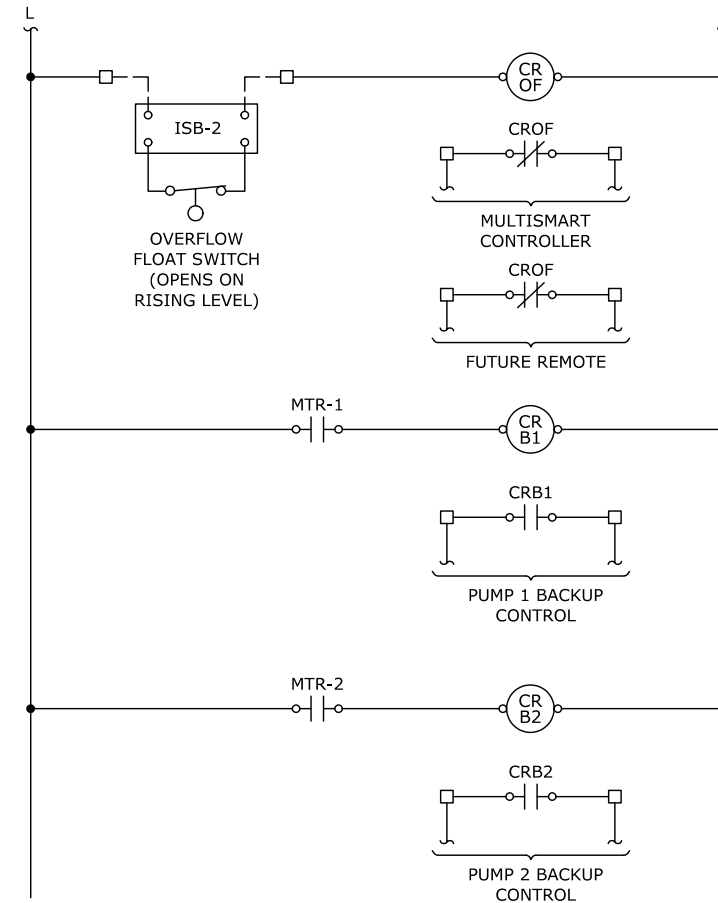
**MULTITRODE BACKUP RELAY WIRING**

NOT TO SCALE



**MULTITRODE ISB WIRING**

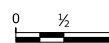
NOT TO SCALE



**PUMP BACKUP CONTROLS**

NOT TO SCALE

NOTICE

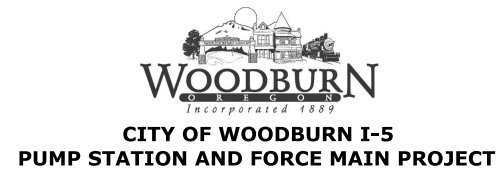


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**ELECTRICAL  
PUMP BACKUP CONTROL DIAGRAM**

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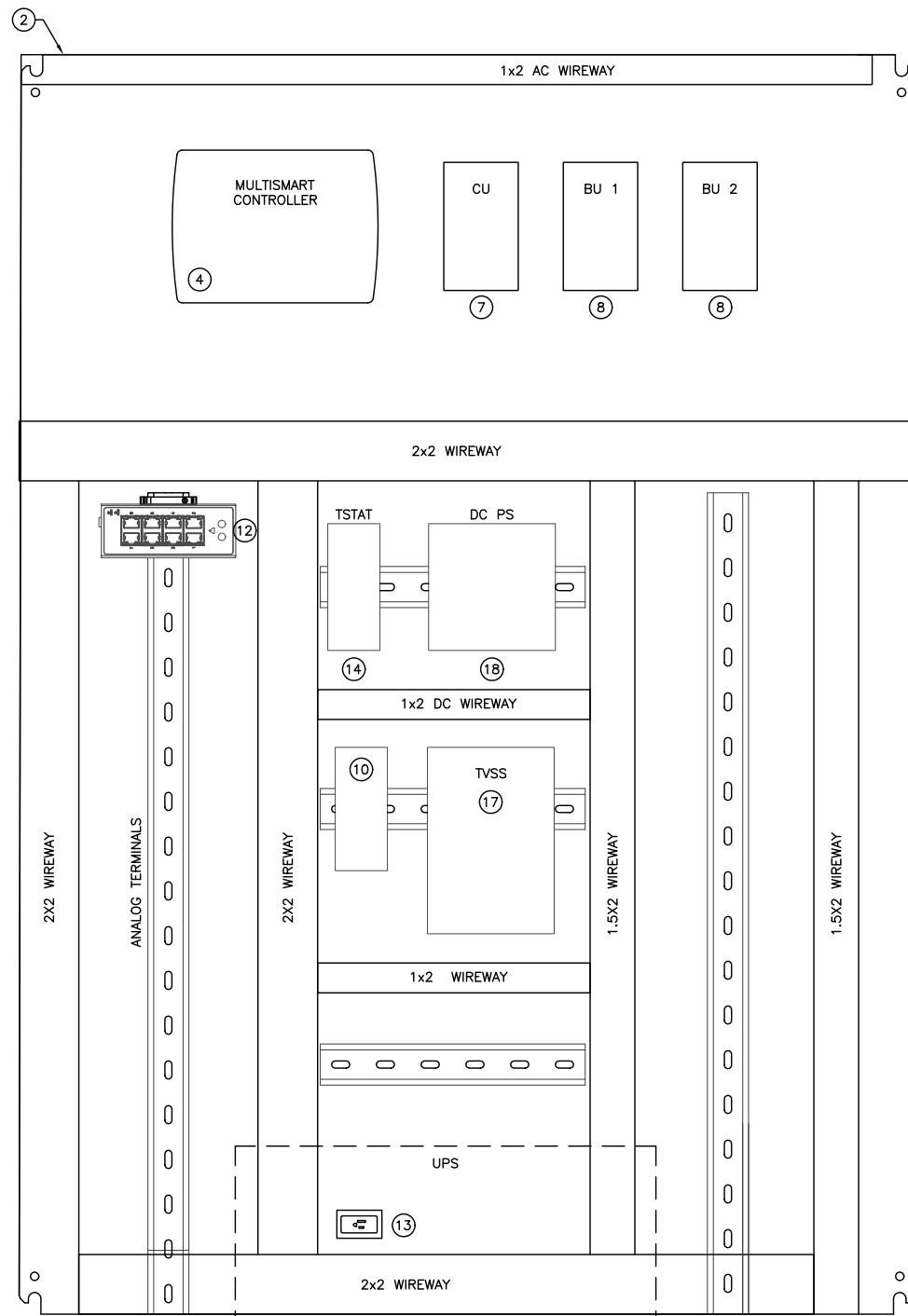
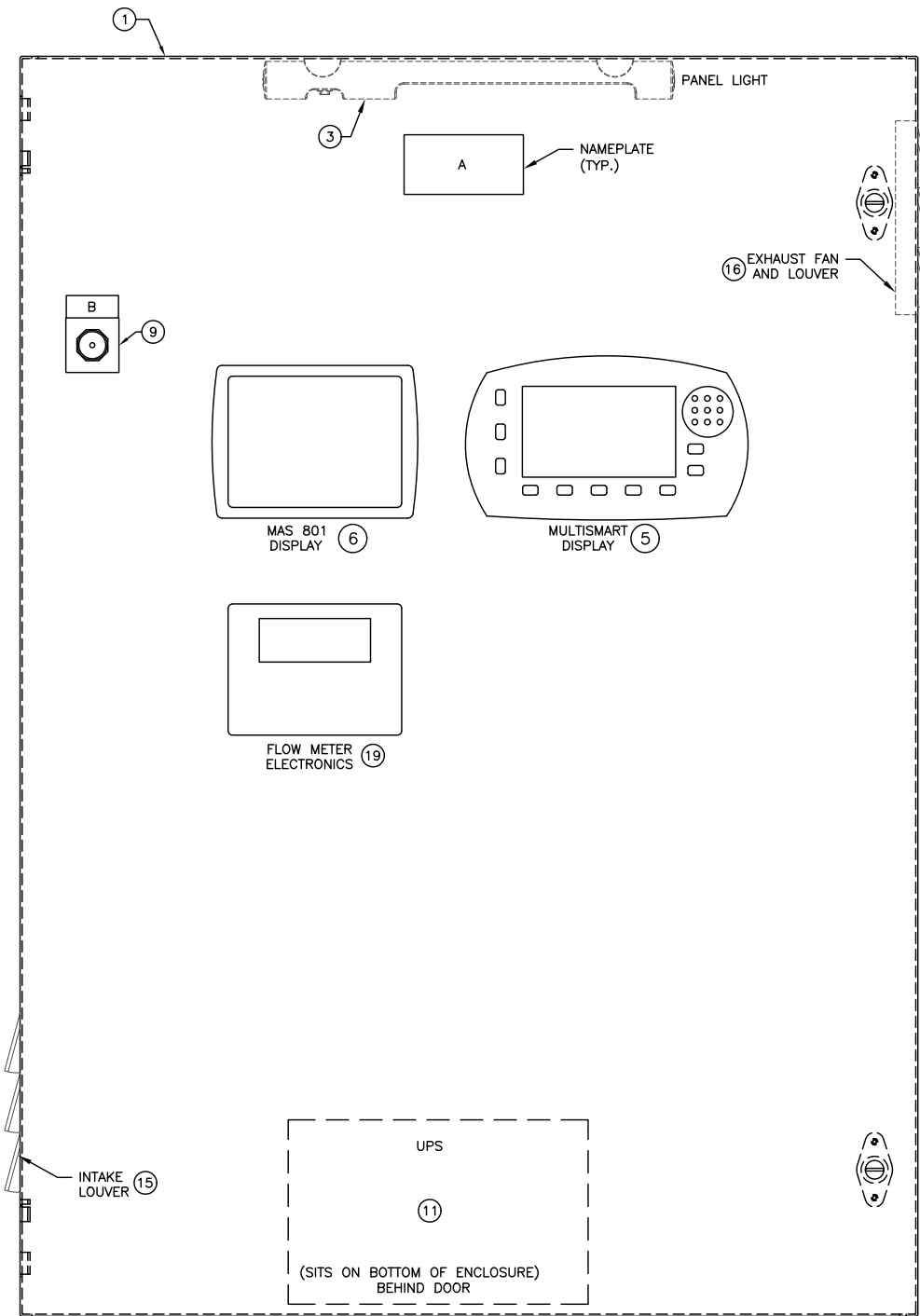
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E-15

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NAMEPLATE LEGEND	
ITEM	ENGRAVING
A	CONTROL PANEL
B	POWER AVAILABLE

BILL OF MATERIALS	
ITEM	DESCRIPTION
1	NEMA 12 ENCLOSURE, 42Hx30Wx10D
2	INNER PANEL
3	LED PANEL LIGHT
4	MULTISMART CONTROLLER
5	MULTISMART DISPLAY
6	MAS 801 DISPLAY
7	CONTROL UNIT
8	BASE UNIT
9	AMBER PUSH-TO-TEST PILOT LIGHT
10	DUPLEX RECEPTACLE
11	750 VA UPS
12	8 PORT UNMANAGED ETHERNET SWITCH W/ FIBER PORT
13	DIN-RAIL MTD SIMPLEX RECEPTACLE FOR UPS
14	THERMOSTAT
15	INTAKE LOUVER
16	EXHAUST FAN AND LOUVER
17	TRANSIENT VOLTAGE SURGE SUPPRESSOR (TVSS)
18	D.C. POWER SUPPLY
19	FLOW METER ELECTRONICS

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 CHECKED

REGISTERED PROFESSIONAL ENGINEER  
 13742  
 OREGON  
 MAY 16, 1987  
 GREGG H. SCHOLZ  
 EXPIRES 6/30/2022  
 2021.07.01 13:15:35-6700

**murraysmith**

**WOODBURN**  
 CITY OF WOODBURN I-5  
 PUMP STATION AND FORCE MAIN PROJECT

**ELECTRICAL CONTROL PANEL DETAILS**

PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: MAY 2021

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**E-16**  
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INSTRUMENTATION SYMBOLS

LETTER SYMBOLS					
LETTER	FIRST LETTER(S)		SUCCEEDING LETTERS		
	PROCESS OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS (*)		ALARM		
B	BURNER, COMBUSTION		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
C	USER'S CHOICE			CONTROL	
D	USER'S CHOICE (DETECTOR)	DIFFERENTIAL			
E	VOLTAGE		SENSOR, (PRIMARY ELEMEN)		
F	FLOW RATE	RATIO (FRACTION)			
G	USER'S CHOICE		GLASS, VIEWING DEVICE		
H	HAND				HIGH
I	CURRENT (ELECTRICAL)		INDICATE		
J	POWER	SCAN			
K	TIME, TIME SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	
L	LEVEL		LIGHT		LOW
M	USER'S CHOICE (HUMIDITY)	MOMENTARY			MIDDLE
N	USER'S CHOICE (CL2)		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
O	USER'S CHOICE (WATER PH)		ORIFICE, RESTRICTION		OPEN
P	PRESSURE, VACUUM		POINT (TEST) CONNECTION		
Q	QUANTITY	INTEGRATE, TOTALIZE			
R	RADIATION		RECORD		
S	SPEED, FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE (*)		MULTIFUNCTION (*)	MULTIFUNCTION (*)	MULTIFUNCTION (*)
V	VIBRATION, MECHANICAL ANALYSIS			VALVE, DAMPER, LOUVER	
W	WEIGHT, FORCE		WELL		
X	UNCLASSIFIED	X AXIS	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED
Y	EVENT, STATE, OR PRESENCE	Y AXIS		RELAY, COMPUTE CONVERT (*)	
Z	POSITION, DIMENSION	Z AXIS		DRIVER, ACTUATOR, UNCLASSIFIED FINAL CONTROL ELEMENT	

(\*) WHEN USED, EXPLANATION IS SHOWN ADJACENT TO INSTRUMENT SYMBOL

PRIMARY ELEMENT SYMBOLS

AVERAGING PITOT	
CAPTIVE AIR	
DENSITY METER	
FLOWMETER - FLUME	
FLOWMETER - MAGNETIC	
FLOWMETER - ORIFICE PLATE	
FLOWMETER - PITOT TUBE OR ANNUBAR	
FLOWMETER - ROTOMETER	
FLOWMETER - THERMAL MASS	
FLOWMETER - TURBINE OR PROPELLER	
FLOWMETER - ULTRASONIC	
FLOWMETER - VENTURI TUBE	
GENERIC	
LEVEL PROBE	
LEVEL (BUBBLER TUBE)	
LEVEL (BALL FLOAT)	
LEVEL (ULTRASONIC)	
PRESSURE TRANSDUCER	
SEGMENT WEDGE	
VORTEX METER	
WEIR	

LINE SYMBOLS

	INSTRUMENT SUPPLY * OR CONNECTION TO PROCESS
	UNDEFINED SIGNAL
	DATA COMMUNICATION
	ELECTRIC SIGNAL - DIGITAL
	ELECTRIC SIGNAL - ANALOG
	HYDRAULIC SIGNAL
	CAPILLARY TUBE
	ELECTROMAGNETIC OR SONIC SIGNAL ** (GUIDED)
	ELECTROMAGNETIC OR SONIC SIGNAL ** (NOT GUIDED)
	INTERNAL SYSTEM LINK (SOFTWARE OR DATA LINK)
	MECHANICAL LINK
	CONNECTING LINES
	NON-CONNECTING LINES

OPTIONAL BINARY (ON/OFF) SYMBOLS

	PNEUMATIC BINARY SIGNAL
	ELECTRIC BINARY SIGNAL

\* THE FOLLOWING ABBREVIATIONS ARE SUGGESTED TO DENOTE THE TYPES OF POWER SUPPLY. THESE DESIGNATIONS MAY ALSO BE APPLIED TO PURGE FLUID SUPPLIES.

AS - AIR SUPPLY	HS - HYDROGEN SUPPLY
IA - INSTRUMENT AIR	NS - NITROGEN SUPPLY
PA - PLANT AIR	SS - STEAM SUPPLY
ES - ELECTRIC SUPPLY	WS - WATER SUPPLY
GS - GAS SUPPLY	

\*\* ELECTROMAGNETIC PHENOMENA INCLUDE HEAT, RADIO WAVES, NUCLEAR RADIATION, AND LIGHT.

INSTRUMENT IDENTIFICATION

	FIRST LETTER(S)
	SUCCEEDING LETTERS
	LOOP NUMBER

PLC/CONTROLLER SIGNALS

	ANALOG INPUT		DIGITAL INPUT
	PULSE INPUT		ANALOG MODULATION OUTPUT
	PULSE MODULATING OUTPUT X BLANK		TIME DURATION (PULSE WIDTH)
	PULSE TRAIN		TRIAC
	CONTROL OUTPUT X BLANK		MAINTAINED (ELECTRICALLY HELD)
	LATCHED (MAGNETICALLY OR MECHANICALLY HELD)		

GENERAL INSTRUMENT OR FUNCTION SYMBOLS

	DISCRETE INSTRUMENTS
	SHARED DISPLAY, SHARED CONTROL
	COMPUTER/DCS FUNCTION
	VFD/SST FUNCTION
	PROGRAMMABLE LOGIC CONTROL

\* SYMBOL SIZE MAY VARY ACCORDING TO THE USER'S NEEDS AND THE TYPE OF DOCUMENT. A SUGGESTED SQUARE AND CIRCLE SIZE FOR LARGE DIAGRAMS IS SHOWN ABOVE. CONSISTENCY IS RECOMMENDED.

\*\* ABBREVIATIONS OF THE USER'S CHOICE SUCH AS IP1 (INSTRUMENT PANEL #1), IC2 (INSTRUMENT CONSOLE #2), ETC., MAY BE USED WHEN IT IS NECESSARY TO SPECIFY INSTRUMENT OR FUNCTION LOCATION.

\*\*\* NORMALLY INACCESSIBLE OR BEHIND-THE-PANEL DEVICES OR FUNCTIONS MAY BE DEPICTED BY USING THE SAME SYMBOLS BUT WITH DASHED HORIZONTAL BARS, ie:

	INSTRUMENT WITH LONG TAG NUMBER
	INSTRUMENTS SHARING COMMON HOUSING †
	PILOT LIGHT
	PANEL MOUNTED PATCHBOARD POINT 12
	PURGE OR FLUSHING DEVICE
	RESET FOR LATCH-TYPE ACTUATOR
	DIAPHRAGM SEAL
	UNDEFINED INTERLOCK LOGIC ††

† IT IS NOT MANDATORY TO SHOW A COMMON HOUSING.  
 †† THESE DIAMONDS ARE APPROXIMATELY HALF THE SIZE OF THE LARGER ONES.  
 ††† FOR SPECIFIC LOGIC SYMBOLS, SEE ANSI/ISA STANDARD 55.2.

ACTUATOR SYMBOLS

	PNEUMATIC DIAPHRAGM SPRING-OPPOSED
	PNEUMATIC CYLINDER SINGLE OR DOUBLE ACTING ACTUATED BY ONE INPUT
	ELECTRIC MOTOR
	SOLENOID
	ELECTROHYDRAULIC
	HYDRAULIC
	DIGITAL
	MANUAL
	SPRING

NOTE:  
 ON LOSS OF PRIMARY POWER (PNEUMATIC, ELECTRICAL OR HYDRAULIC)  
 XX: FO = FAIL OPEN  
 FC = FAIL CLOSED  
 FL = FAIL TO LAST POSITION  
 FI = FAIL INDETERMINATE

LIGHT/SWITCH FUNCTION DESIGNATION

A	AUTO
BP	BYPASS
C	CLOSE
EN	ENABLE
E-STOP	EMERGENCY STOP
EOT	END OF TRAVEL
FOR	FORWARD-OFF-REVERSE
HHV	HIGH-HIGH VIBRATION
HOA	HAND-OFF-AUTO
HSL	HIGH SELECT
HWT	HIGH WINDING TEMPERATURE
L	LOCAL
LLS	LEAD-LAG-STANDBY
LOR	LOCAL-OFF-REMOTE
LOS	LOCK OUT STOP
LWCO	LOW WETWELL CUT-OUT
M/A	MANUAL/AUTO
MME	MOISTURE IN MOTOR ELEMENT
MMS	MOISTURE IN MOTOR SWITCH
MOS	MOISTURE IN OIL SWITCH
O	OPEN
OC	OPEN-CLOSE
OL	OVERLOAD
ON-OFF	ON-OFF
OOC	OPEN-STOP-CLOSE
R	REMOTE
RSL	RAISE-STOP-LOWER
RST	RESET
S	SPEED
SS	START-STOP
VMA	VALVE-MCC-AUTO

MISC. ABBREVIATIONS

ACC	AREA CONTROL CENTER
ATMOS	ATMOSPHERE
BRG	BEARING
CCB	CENTRAL COMMUNICATION BUILDING
D	DURATION TIMER
DCS	DISTRIBUTED CONTROL SYSTEM
DCU	DISTRIBUTED CONTROL UNIT INTERVAL TIMER
FVS	FULL VOLTAGE STARTER
HCT	HIGH COOLANT TEMP
HMI	OPERATOR INTERFACE
HPOR	HIGH PRESS. OIL RETURN
HPOS	HIGH PRESS. OIL SUPPLY
I/O	INPUT/OUTPUT
LCP	LOCAL CONTROL PANEL
LCT	LOW COOLANT TEMP
LHA	LOW-HIGH-AUTO
MCC	MOTOR CONTROL CENTER
MSC	MANUFACTURER SUPPLIED CABLE
ORP	OXIDATION REDUCTION
PLC	PROGRAMMABLE LOGIC CONTROLLER
PFR	PHASE FAILURE RELAY
PH	PH
RTD	RESISTANCE TEMP. DEVICE
SDCR	SMOKE DETECTOR CONTROL RELAY
SST	SOFT STARTER
SW	SEAL WATER
VFD	VARIABLE FREQUENCY DRIVE
WDG	MOTOR WINDING

HAND SWITCH/INDICATOR LIGHTS FUNCTION DESIGNATION

	STATUS OR EVENT LIGHT
	ALARM LIGHT
	SELECTOR OR PUSHBUTTON SWITCH (MOMENTARY OR MAINTAINED CONTACTS)

PROCESS CONTROL/CONVERTER FUNCTION DESIGNATION

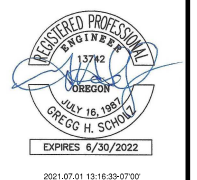
A	ANALOG	PF	PULSE FREQUENCY
D	DIGITAL	Δ	DIFFERENCE
E	VOLTAGE	÷	DIVIDE
F	FREQUENCY	x	MULTIPLY
H	HYDRAULIC	Σ	HIGH SIGNAL SELECT
I	CURRENT	√	LOW SIGNAL SELECT
P	PRESSURE	√	SQUARE ROOT
PD	PULSE DURATION	Σ	SUM
SP	SET POINT	∫	INTEGRATE
R/I	RESISTANCE TO CURRENT CONVERTER		
I/I	CURRENT TO CURRENT CONVERTER OR OR SIGNAL SPLITTER		

EXAMPLE:  
 I/P CURRENT TO PNEUMATIC TRANSDUCER (BACK OF PANEL, IN A FLOW LOOP)

NOTICE

0 1/2 1  
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CAD	DRAWN
GHS	CHECKED



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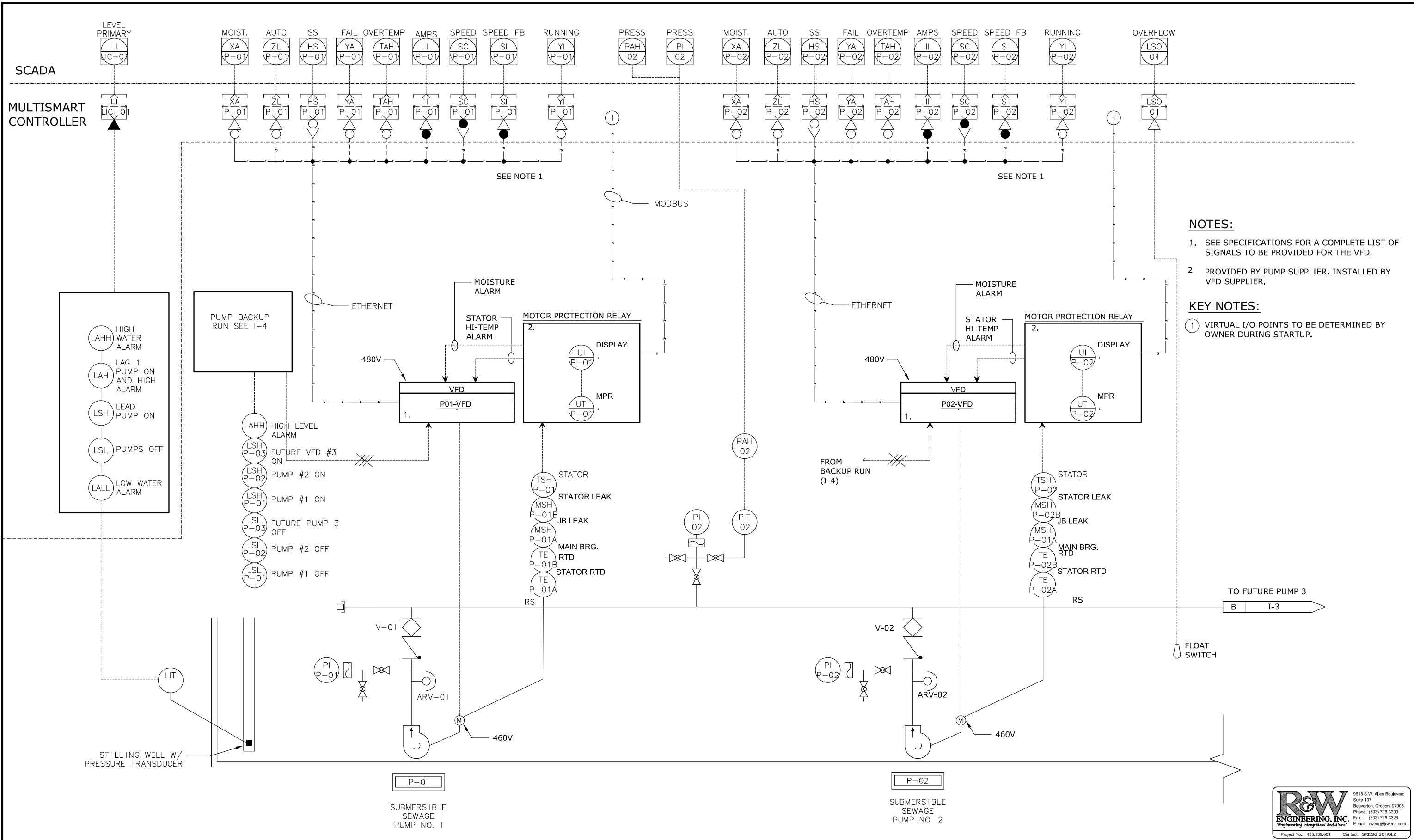
INSTRUMENTATION P&ID LEGEND AND ABBREVIATIONS

PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: MAY 2021



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- NOTES:**
- SEE SPECIFICATIONS FOR A COMPLETE LIST OF SIGNALS TO BE PROVIDED FOR THE VFD.
  - PROVIDED BY PUMP SUPPLIER. INSTALLED BY VFD SUPPLIER.
- KEY NOTES:**
- VIRTUAL I/O POINTS TO BE DETERMINED BY OWNER DURING STARTUP.

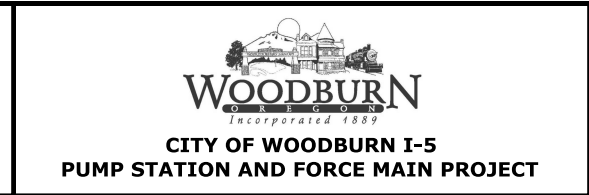
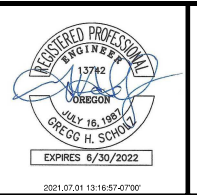
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**INSTRUMENTATION PUMPING SYSTEM P&ID-1**

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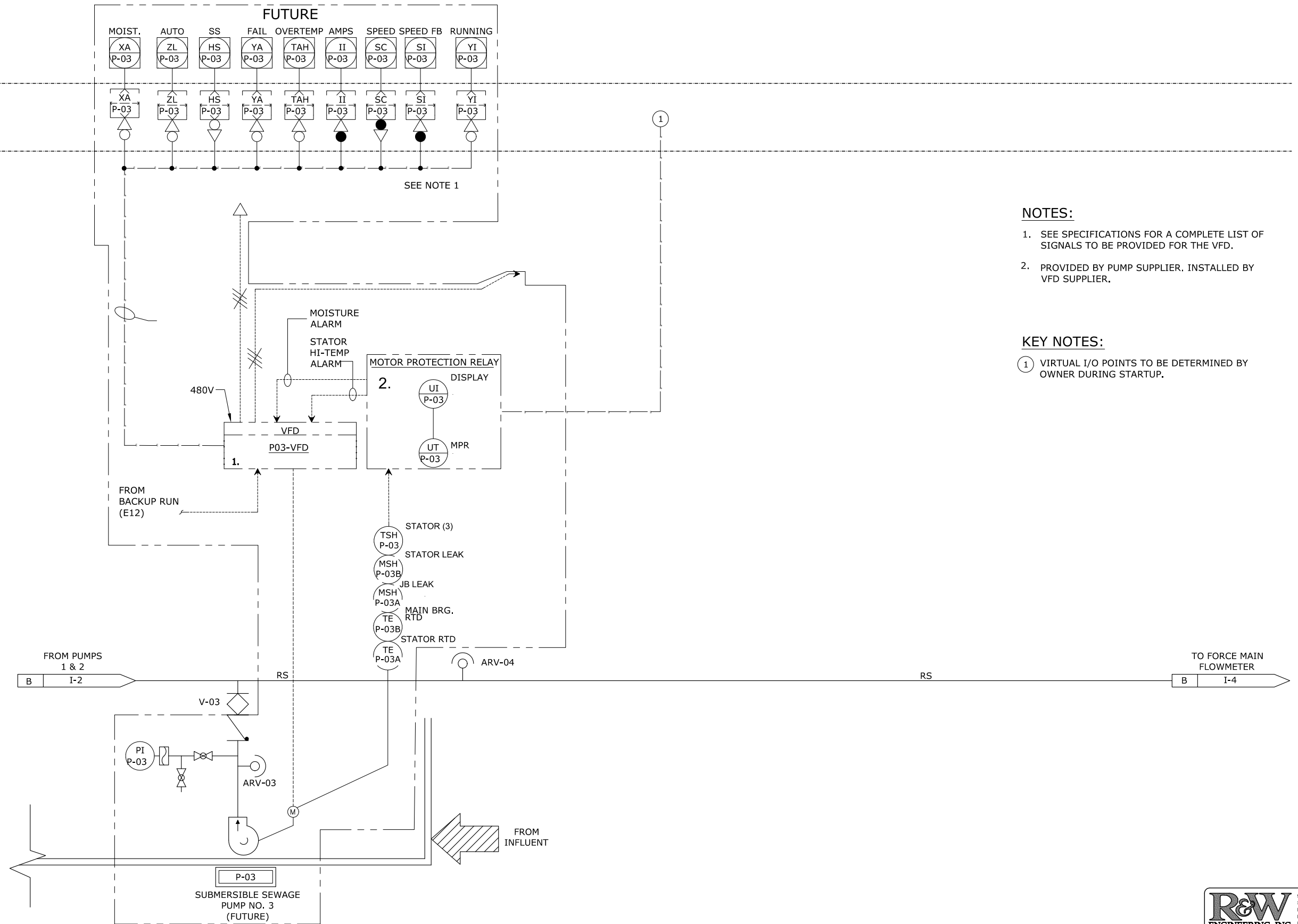
SHEET I-2 78 of 83



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SCADA

MULTISMART  
CONTROLLER



**NOTES:**

1. SEE SPECIFICATIONS FOR A COMPLETE LIST OF SIGNALS TO BE PROVIDED FOR THE VFD.
2. PROVIDED BY PUMP SUPPLIER, INSTALLED BY VFD SUPPLIER.

**KEY NOTES:**

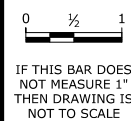
- ① VIRTUAL I/O POINTS TO BE DETERMINED BY OWNER DURING STARTUP.

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"Engineering Integrated Solutions"

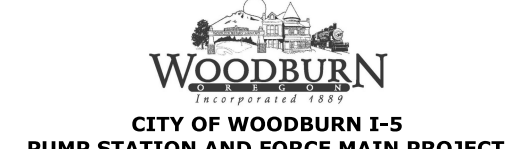
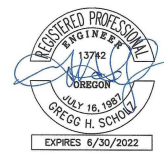
9815 S.W. Atkin Boulevard  
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E-mail: rweg@rweg.com

Project No.: 483.139.001 Contact: GREGG SCHOLZ

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GHS  
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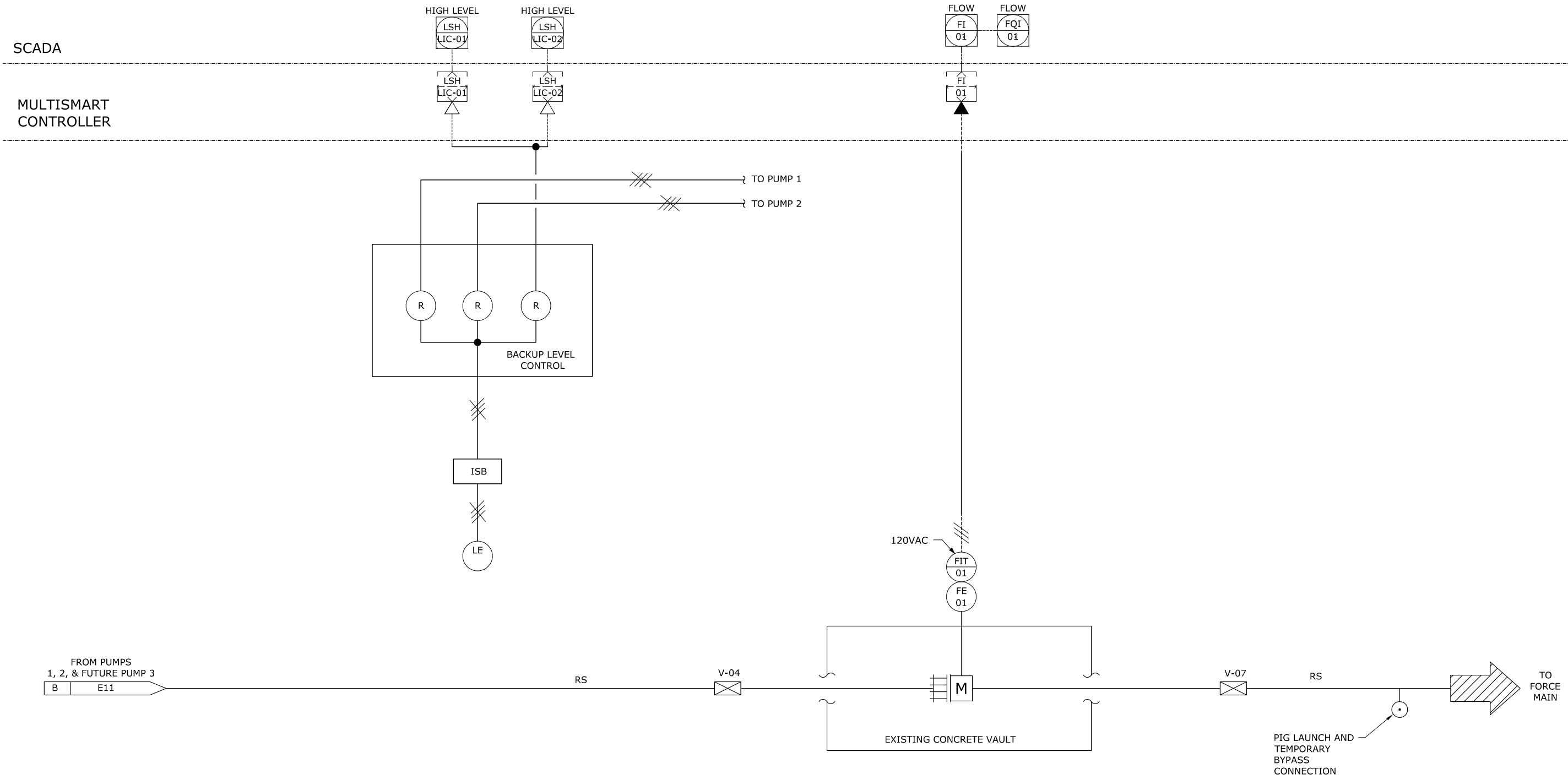
**INSTRUMENTATION  
PUMPING SYSTEM P&ID-2**

PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: MAY 2021

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**I-3**  
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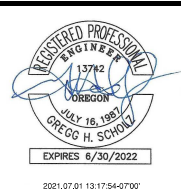
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**WOODBURN**  
 Incorporated 1889  
**CITY OF WOODBURN I-5  
 PUMP STATION AND FORCE MAIN PROJECT**

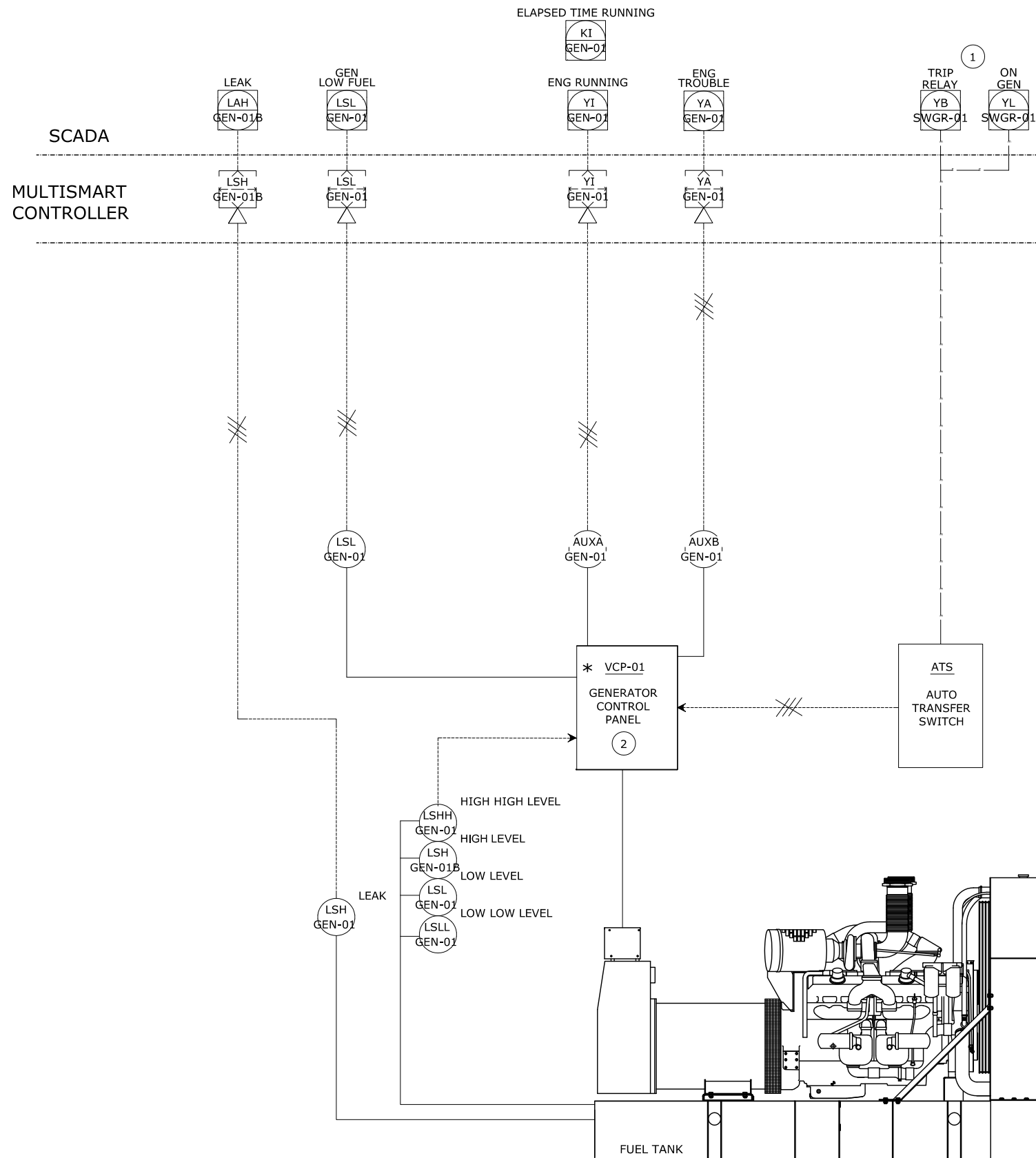
**INSTRUMENTATION  
 PUMPING SYSTEM P&ID-3**

PROJECT NO.: 19-2469.303    SCALE: AS SHOWN    DATE: MAY 2021

SHEET  
**I-4**  
 80 of 83



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- KEY NOTES:**
- ① PROVIDE ADDITIONAL SCADA I/O AS REQUIRED.
  - ② SUPPLIED BY EQUIPMENT MANUFACTURER.

**R&W**  
**ENGINEERING, INC.**  
*"Engineering Integrated Solutions"*

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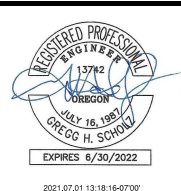
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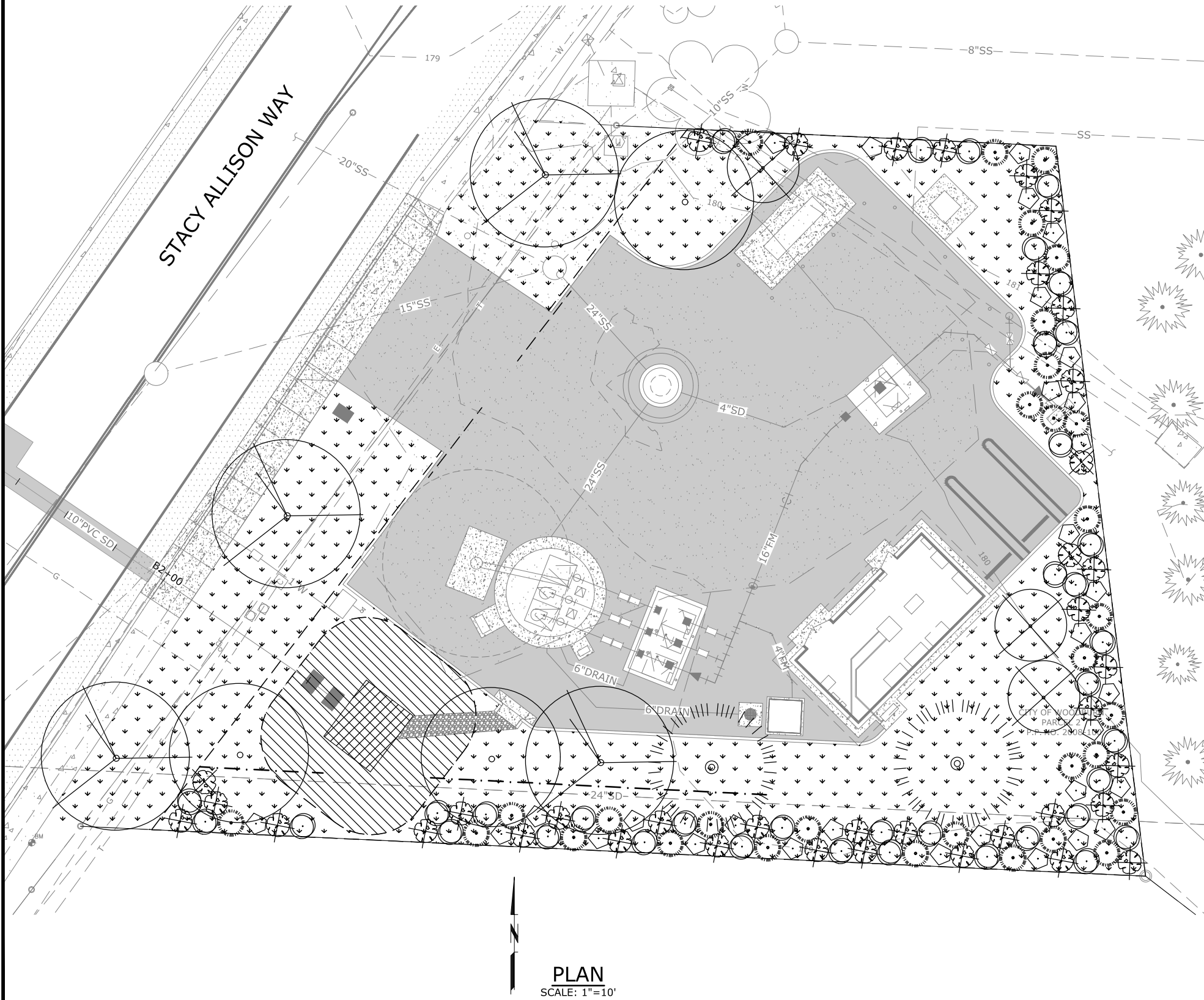


**WOODBURN**  
 CITY OF WOODBURN I-5  
 PUMP STATION AND FORCE MAIN PROJECT

**INSTRUMENTATION  
 STANDBY GENERATOR  
 P&ID**

PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: MAY 2021

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PLAN  
SCALE: 1"=10'

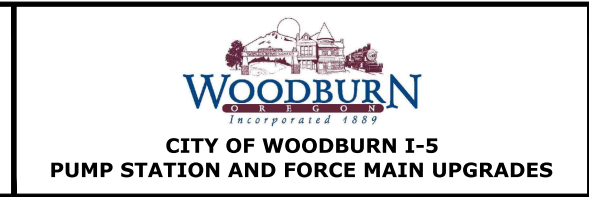
PLANTING SCHEDULE

SYMBOL	QUANTITY	COMMON NAME BOTANICAL NAME	TYPE	SIZE	LOCATION
	4	RED ALDER ALNUS RUBRA	TREE	2" CAL B&B	AS SHOWN
	2	WESTERN HEMLOCK TSUGA HETEROPHYLLE	TREE	5 GAL	AS SHOWN
	3	BIGLEAF MAPLE ACER MACROPHYLLUM	TREE	5 GAL	AS SHOWN
	3	VINE MAPLE ACER CIRCINATUM	TREE	5 GAL	AS SHOWN
	80'	ROOT BARRIER	DEEPROOT 24", 30MIL		AS SHOWN
	30	REDOSIER DOGWOOD CORNUS SERICEA	SHRUB	1 GAL	AS SHOWN
	30	OCEANSPRAY HOLODISCUS DISCOLOR	SHRUB	1 GAL	AS SHOWN
	30	INDIAN PLUM OEMLARIA CERASIFORMIS	SHRUB	1 GAL	AS SHOWN
	30	SALMONBERRY RUBUS SPECTABILIS	SHRUB	1 GAL	AS SHOWN
	8.0 LB	SEEDSMIX A - 7721 SF	(SEE SHEET L-2)		
<b>STORMWATER PLANTS MIX - LOWER AREA</b>					
	30	SLOUGH SEDGE CAREX OBNUPTA	HERBACEOUS	PLUG	12" OC
	30	BLUE WILD RYE ELMUS GLAUCUS	HERBACEOUS	PLUG	12" OC
	30	SMALL FRUITED BULRUSH SCIRPUS MKICROCARPUS	HERBACEOUS	PLUG	12" OC
	0.5 LB	SEEDSMIX B - 120SF	(SEE SHEET L-2)		
<b>STORMWATER PLANTS MIX - SLOPE AREA</b>					
	35	OREGON GRAPE MAHONIA AQUIFOLIUM	SHURB	1 GAL	3' OC
	35	PACIFIC NINEBARK PHYSCARPUS CAPITATUS	SHURB	1 GAL	3' OC
	35	SNOWBERRY SYMPHORICARPUS ALBA	SHURB	1 GAL	3' OC
	1.0 LB	SEEDMIX B - 773 SF	(SEE SHEET L-2)		
		EXISTING TREES			

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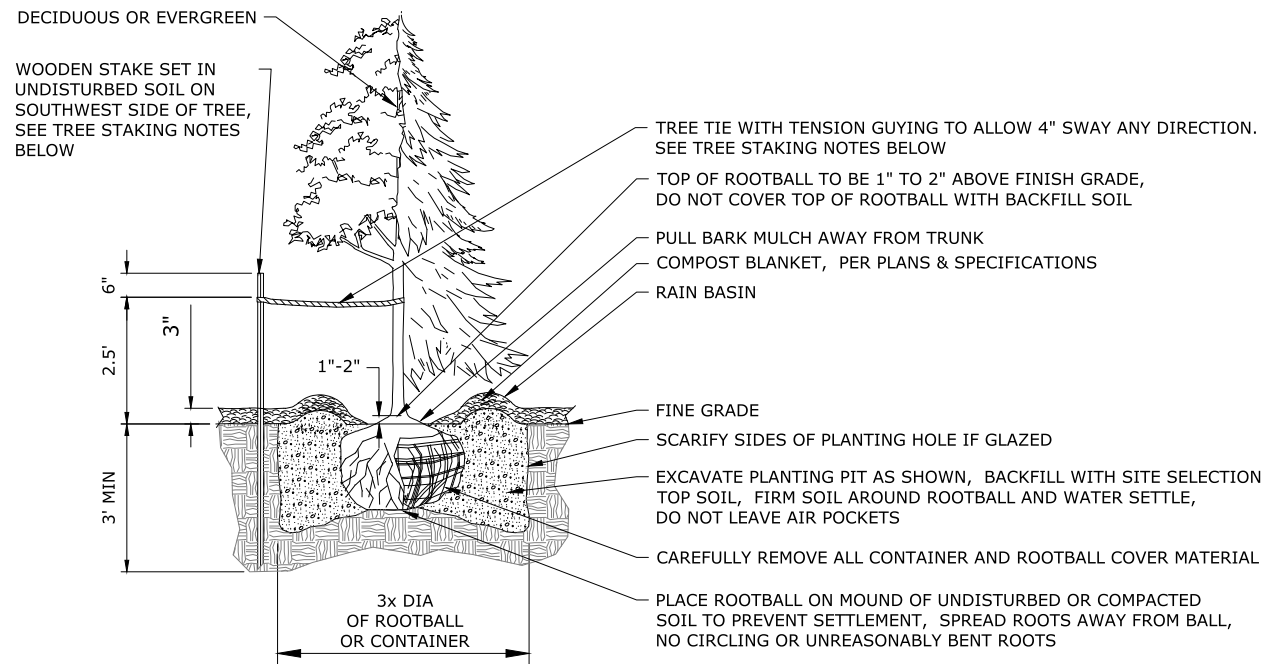


LANDSCAPING PLAN

PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: JUNE 2021

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**NOTES:**

**1. TREE TIES TO BE EITHER:**

RIGID GUY SYSTEM WITH GALVANIZED WIRE TO BE APPROXIMATELY 1/8" THICKNESS AND 24" LENGTH. THERE IS A PLASTIC SLEEVE OVER PORTION THAT GOES AROUND TREE. THE WIRE TIE IS TO GO THRU THE WOOD STAKE AND BE SECURELY FASTENED.

PLASTIC CHAIN TYPE, APPROXIMATELY 1" WIDTH BY 1/8" DEPTH WHERE TWO STAKES ARE REQUIRED. CROSS TIES BETWEEN STAKES AND WRAP TIE AROUND TREE. FASTEN SECURELY TO STAKE.

**2. EXCAVATE ALL PLANT WELLS PER DETAIL AT 3X DIAMETER OF ROOTBALL OR CONTAINER AND BACKFILL WITH SITE SELECT TOPSOIL FREE OF NOXIOUS WEEDS PLANT MATERIAL INCLUDING ROOTS AND SPRIGS.**

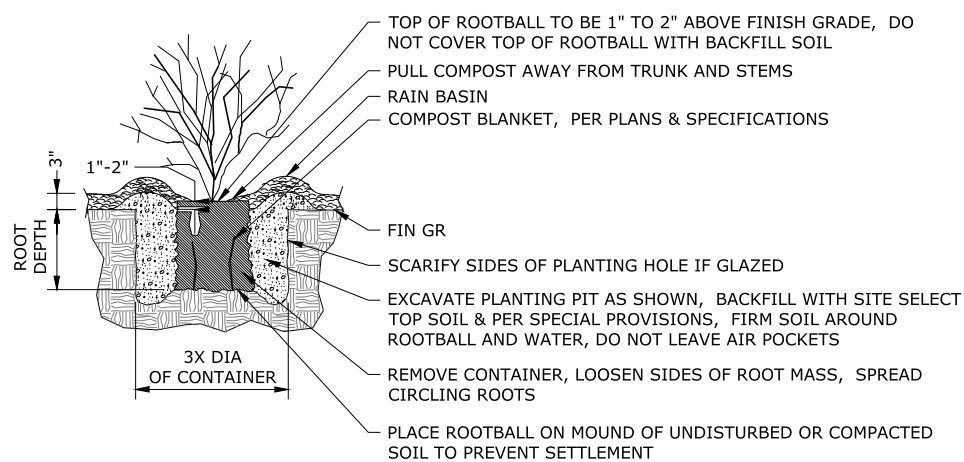
**3. FURNISH TREE STAKES ON ALL TREE PLANTINGS. STAKES TO BE CONSTRUCTION GRADE, ROUGH SAWN OR FINISHED DOUGLAS FIR OR PINE. STAIN WITH APPROVED GREEN PENETRATING OIL. STAKE SIZE IS TO BE 1 1/2"x1-1/2" BY FOLLOWING LENGTHS:**

TREES 36" AND SHORTER - USE ONE - 6' (APPROXIMATELY) STAKE

TREES TALLER THAN 36" - USE ONE - 8' (APPROXIMATELY) STAKE

DRIVE STAKES VERTICALLY AND AT LEAST 24" INTO UNDISTURBED SOIL. DO NOT DRIVE STAKES THRU ROOT BALL. LOCATE STAKES TO BEST RESIST PREVAILING WINDS.

**TREE PLANTING DETAIL 1**  
SCALE: NTS



**SHRUB PLANTING DETAIL 2**  
SCALE: NTS

**PLANTING METHODS:**

1. SOIL PREPARATION: TILL THE SUB-GRADE IN THESE AREAS TO A DEPTH OF AT LEAST FOUR INCHES AND ADD AT LEAST 12 INCHES OF CLEAN COMPOST-AMENDED TOPSOIL. THE COMPOST-AMENDED TOPSOIL SHALL HAVE A GOOD GROWING MEDIUM WITH TEXTURE MATERIAL THAT PASSES THROUGH ONE-INCH AND 35% ORGANIC MATTER FERTILITY.

2. PLANTING TIME: CONTAINERIZED STOCK SHALL BE INSTALLED ONLY FROM FEBRUARY 1 THROUGH MAY 1 AND OCTOBER 1 THROUGH NOVEMBER 15. PLANTINGS OUTSIDE THESE TIMES MAY REQUIRE ADDITIONAL MEASURES TO ENSURE SURVIVAL WHICH SHALL BE SPECIFIED ON THE PLANS.

3. INSTALLED PLANTS SHALL TAGGED FOR DORMANT SEASON IDENTIFICATION AND SHALL REMAIN ON PLANT MATERIALS AFTER PLANTING FOR MONITORING PURPOSES.

4. EROSION CONTROL: GRADING, SOIL PREPARATION, AND SEEDING SHALL BE PERFORMED DURING OPTIMAL WEATHER CONDITIONS AND AT LOW FLOW LEVELS TO MINIMIZE SEDIMENT IMPACTS.

5. MULCHING: TREES, SHRUBS, AND GROUNDCOVERS PLANTED IN UPLAND AREAS SHALL BE MULCHED A MINIMUM OF THREE INCHES IN DEPTH AND 18 INCHES IN DIAMETER, TO RETAIN MOISTURE AND DISCOURAGE WEED GROWTH AROUND NEWLY INSTALLED PLANT MATERIAL. APPROPRIATE MULCHES ARE MADE FROM COMPOSTED BARK OR LEAVES THAT HAVE NOT BEEN CHEMICALLY TREATED.

6. ACCESS: MAINTENANCE ACCESS FOR PLANT MAINTENANCE SHALL BE PROVIDED FOR SENSITIVE AREAS AND VEGETATED CORRIDORS VIA A FIVE-FOOT EASEMENT OR SHARED BOUNDARY WITH STORMWATER FACILITIES. STORMWATER FACILITIES ACCESS REQUIREMENTS ARE PROVIDED IN CHAPTER 4.

7. WEED CONTROL: THE REMOVAL OF NON-NATIVE, INVASIVE WEEDS SHALL BE NECESSARY THROUGHOUT THE MAINTENANCE PERIOD, OR UNTIL A HEALTHY STAND OF DESIRABLE VEGETATION IS ESTABLISHED.

8. PLANT REPLACEMENT AND PRESERVATION: INSTALLED PLANTS THAT ARE UNHEALTHY OR DAMAGED SHALL BE REPLACED DURING THE MAINTENANCE PERIOD. PRIOR TO REPLACEMENT, THE CAUSE OF LOSS (WILDLIFE DAMAGE, POOR PLANT STOCK, ETC.) SHALL BE DOCUMENTED WITH A DESCRIPTION OF THE CORRECTIVE ACTIONS TAKEN.

9. IF PLANTING OCCURRED OUT OF PLANTING PERIODS INDICATED AT NOTE 2 ABOVE, THE FOLLOWING MEASURES SHOULD BE APPLIED:

- A. HAVE PLANTS INSPECTED FOR EARLY SYMPTOMS OF POOR HEALTH. TREES AFFECTED BY EARLY STAGES OF STRESS COULD DISPLAY PREMATURE FALL COLOR IN LATE SUMMER, PARTIAL DEFOLIATION AND SYMPTOMS OF MOISTURE STRESS.
- B. PROVIDE SUPPLEMENTAL IRRIGATION EACH WEEK OR MORE OFTEN ON NEWLY PLANTED TREES, SHRUBS AND OLDER PLANTS STRESSED WITH INSECT OR DISEASE PROBLEMS WHEN RAINFALL IS LACKING IN SUMMER.
- C. PRUNE FLOWERING TREES AND SHRUBS SUCH AS DOGWOOD, AZALEAS, RHODODENDRON AND FORSYTHIA. ONCE FLOWER BUDS BEGIN TO FORM IN LATE SUMMER, JUDICIOUS PRUNING REDUCES THE BLOOM SOMEWHAT BUT SHOULD NOT IMPACT THE DISPLAY SIGNIFICANTLY.
- D. INSPECT FOR PESTS THAT COMMONLY ARRIVE DURING HOT, DRY WEATHER AND APPLY TREATMENTS AS NEEDED.
- E. ASSESS CANOPIES FOR DEAD BRANCHES AND STRUCTURAL WEAKNESSES THAT CAN BE PRUNED LATER IN WINTER.

**PLANTS MAINTENANCE NOTES:**

1. WATER-EFFICIENT IRRIGATION SHOULD BE APPLIED AFTER CONSTRUCTION OF THE FACILITY, PARTICULARLY DURING THE DRY SUMMER MONTHS, WHILE PLANTINGS BECOME ESTABLISHED.

2. CONTRACTOR SHALL PROVIDE 3 YEARS PLANT ESTABLISHMENT PERIOD TO MAINTAIN PLANTS IN A VIGOROUS GROWING CONDITION THROUGH PERIODIC INSPECTIONS. DURING PLANT ESTABLISHMENT PERIOD, THE CONTRACTOR SHALL ENSURE PLANTING AREAS ARE FREE OF INVASIVE WEEDS AND PLANTS SHALL BE FREE OF INSECTS AND DISEASES WHILE SHOWING SIGNS OF CONTINUING HEALTH. THE CONTRACTOR SHALL REPLACE ALL PLANTS THAT SHOW UNHEALTHY SIGNS OR ARE DEAD.

3. THE MAINTENANCE PERIOD BEGINS IMMEDIATELY AFTER THE COMPLETION OF ALL PLANTING OPERATION AND WRITTEN NOTIFICATION TO THE ENGINEER.

4. OTHER MAINTENANCE OPERATIONS DURING THE THREE-YEAR GUARANTEE PERIOD:

- RESET PLANTS TO FINISH GRADE AND RESTORATION OF PLANT SAUCERS, AS NECESSARY
- REPAIR DAMAGED OR WASHED OUT EROSION CONTROL SEEDING.
- PRUNING, INCLUDING REMOVAL OF DEAD OR BROKEN BRANCHES.
- DISEASE CONTROL.
- MAINTAINING WRAPPING, GUYS, [TURNBUCKLES,] AND STAKES. [ADJUST TURNBUCKLES TO KEEP GUY WIRES TIGHT.] REPAIR OR REPLACE ACCESSORIES WHEN REQUIRED.
- REPORT ANY PROBLEMS THAT MAY BE A HINDRANCE TO COMPLETING AND FULFILLING THE CONDITIONS OF THE PLANT GUARANTEE WITHIN 7 DAYS TO THE OWNER.

5. STREET TREES WOULD REQUIRE PERMANENT IRRIGATION SYSTEM TO BE DESIGNED AND BUILT ACCORDING TO PLANTS REQUIREMENTS BY CERTIFIED IRRIGATION CONTRACTOR.

**SEED MIX A:**

BOTANICAL NAME	COMMON NAME	PLS LBS. PER ACRE
ELYMUS GLAUCUS	BLUE WILD RYE	21.74
FESTUCA RUBRA RUBRA	NATIVE RED FESCUE	6.52
HORDEUM BRACHYANTHERUM	MEADOW BARLEY	4.35
GLYCERIA OCCIDENTALLIS	WESTERN MANNAGRASS	4.35
BECKMANIA SYZIGACHNE	AMERICAN SLOUGHGRASS	4.35
DESCHAMPSIA CAESPITOSA	TUFTED HAIRGRASS	2.17
<b>TOTAL</b>		<b>43.38</b>

**SEED MIX B:**

BOTANICAL NAME	COMMON NAME	PLS LBS. PER ACRE
ELYMUS GLAUCUS	BLUE WILD RYE	20
FESTUCA RUBRA RUBRA	NATIVE RED FESCUE	16.5
DESCHAMPSIA CAESPITOSA	TUFTED HAIRGRASS	5.2
GLYCERIA OCCIDENTALLIS	WESTERN MANNAGRASS	0.9
BECKMANIA SYZIGACHNE	AMERICAN SLOUGHGRASS	0.9
<b>TOTAL</b>		<b>43.38</b>

NO.	DATE	BY	REVISION

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OREGON  
LANDSCAPE ARCHITECT  
RENEWS 5-31-22

**murraysmith**

**WOODBURN**  
CITY OF WOODBURN I-5  
PUMP STATION AND FORCE MAIN UPGRADES

**LANDSCAPING DETAILS**

PROJECT NO.: 19-2469.303 SCALE: AS SHOWN DATE: JUNE 2021

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