PROPERTY INFORMATION:
OTTER RIVER WTP
9625 LEESVILLE RD,
EVINGTON, VA 24550

BEFORE YOU DIG CALL
"MISS UTILITY"
OF VIRGINIA
811

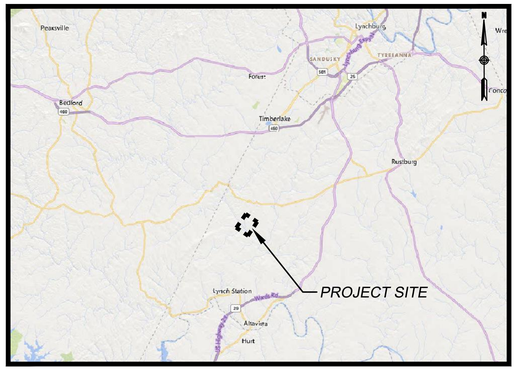
BID DOCUMENTS

OTTER RIVER WATER TREATMENT PLANT FINISHED WATER PUMP UPGRADES

CAMPBELL COUNTY UTILITIES AND SERVICE AUTHORITY

DECEMBER 2025

BID DRAWINGS
PROJECT NO. 81-2426



VICINITY MAP
SCALE: 1" = 5 MILES

1"=5 MILES 5 MI 2.5 MI 0 5 MI 10 MI

LOCATION MAP
SCALE: 1" = 2000'

1"=2,000' 2,000' 1,000' 0 2,000' 4,000'

UNDERGROUND UTILITIES

EXISTING UNDERGROUND UTILITY LOCATIONS ARE SHOWN APPROXIMATE. ALL KNOWN UTILITY LOCATIONS HAVE BEEN PROVIDED, BUT MAY NOT BE ALL INCLUSIVE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE UTILITIES MARKED AND TO PHYSICALLY EXPOSE ALL UTILITIES PRIOR TO CONSTRUCTION.

SHEET LIST

RK&K
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310 FIRST STREET SUITE 400 • ROANOKE, VIRGINIA 24011 540.682.7570

COMMONWEALTH OF VIRGINIA
Stephen Troy Walker
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1-20-2026

CAMPBELL COUNTY, VIRGINIA
OTTER RIVER WATER TREATMENT PLANT FINISHED WATER PUMP UPGRADES

COVER SHEET
CCUSA PROJECT NO. 81-2426

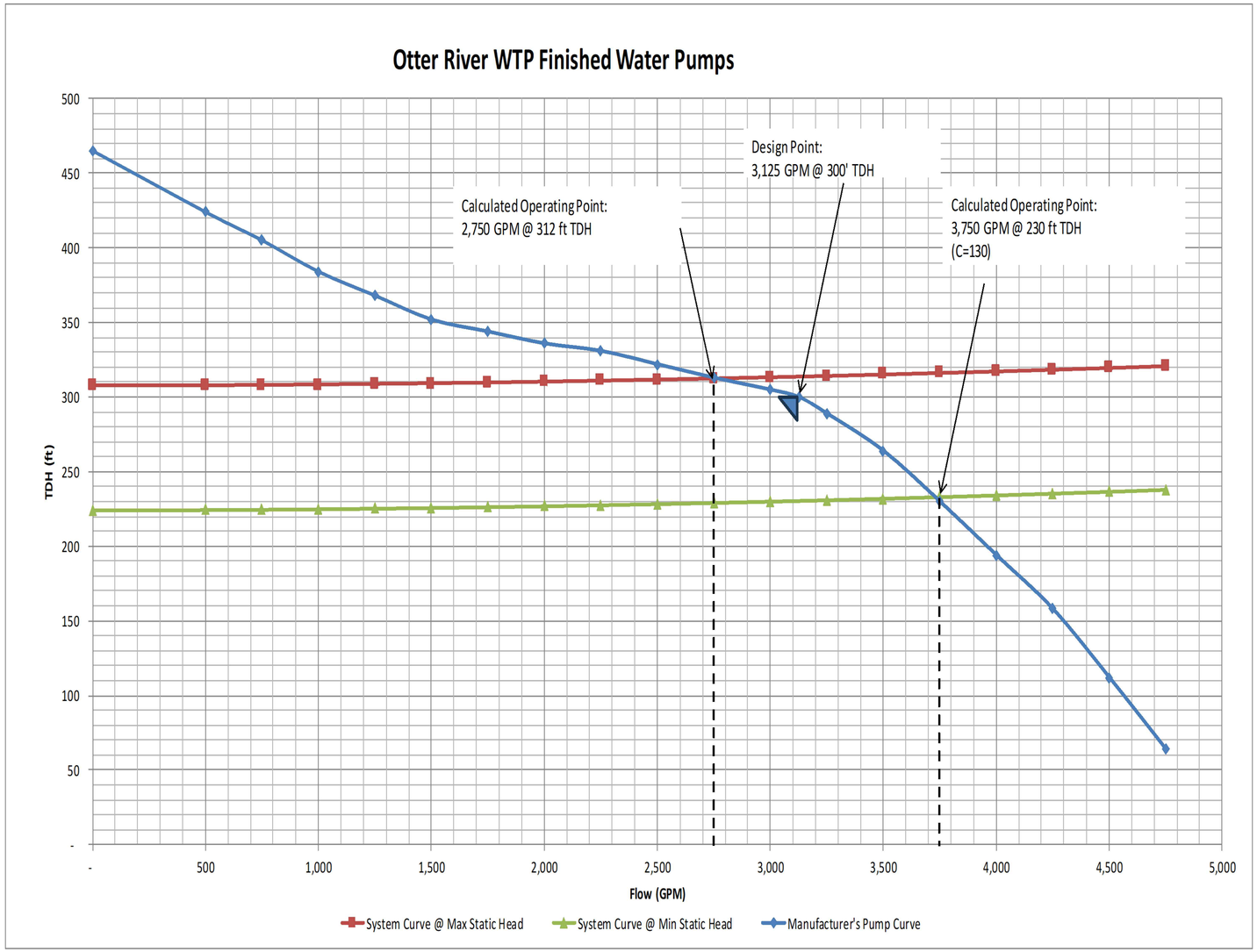
ENGINEER	CHECKED
AAD	STW
DRAWN BY	DATE
DSP	DEC, 2025
PROJECT NUMBER	
23364 - TO1	

DRAWING NUMBER
G-1
SHEET NO. 1 OF 17

D:\RCE\VOL - \\rkkdcnas\VOL\Projects\23000\23364_CCUSA\TO#1 - WTP Finish Water Pump Upgrades\02 CAD\23364_TO1_G-1.dwg
Dec 16, 2025 - 8:38am Plot By: dpmoss Layout: G-1

GENERAL NOTES

1. DRAWINGS HAVE BEEN ADAPTED FROM THE "BIG OTTER RIVER WATER SUPPLY PROJECT, 3 MGD WATER TREATMENT PLANT" PROJECT NUMBER 89-50 RECORD DRAWINGS, DATED 3/6/89.
2. ANY UTILITY, WHETHER SHOWN OR NOT, THAT IS DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED IMMEDIATELY AT NO EXPENSE TO THE OWNER. SHOULD THE CONTRACTOR DISCOVER DISCREPANCIES BETWEEN THE PLANS AND FIELD CONDITIONS, THE OWNER IS TO BE NOTIFIED IMMEDIATELY. SHOULD THE CONTRACTOR MAKE FIELD CORRECTIONS OR ADJUSTMENTS WITHOUT THE AUTHORIZATION OF THE OWNER, THEN THE CONTRACTOR ASSUMES THE RESPONSIBILITY FOR SAID CORRECTIONS AND ADJUSTMENTS.
3. EXISTING FACILITIES AND PIPING SHOWN LIGHT. NEW FACILITIES AND PIPING SHOWN DARK.
4. IT SHALL BE DISTINCTLY UNDERSTOOD THAT FAILURE TO MENTION SPECIFICALLY ANY WORK WHICH WOULD NORMALLY BE REQUIRED TO COMPLETE THE PROJECT SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO PERFORM SUCH WORK. ALL ITEMS SHOWN SHALL BE CONSTRUCTED UNDER THIS CONTRACT, UNLESS OTHERWISE SHOWN AS EXISTING OR FUTURE.
5. THE CONTRACTOR SHALL NOTE THAT INCASE OF DISCREPANCY BETWEEN THE SCALED AND THE FIGURED DIMENSIONS SHOWN ON THESE PLANS, FIGURED DIMENSIONS SHALL GOVERN.
6. CONTRACTOR SHALL REPLACE ALL ASPHALT PAVEMENT AND/OR CONCRETE THAT IS 1) SHOWN AS RESTORED ON THE CONTRACT DRAWINGS, 2) DAMAGED BY NEW CONSTRUCTION, AND 3) DAMAGED BY CONTRACTOR'S OPERATIONS.
7. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO EXISTING ROADWAYS, CULVERTS DRAINAGE DITCHES, DRAIN FIELDS, UTILITIES, PIPING, STRUCTURES, AND EQUIPMENT WHICH OCCURS AS A RESULT OF HIS/HER WORK ON THIS PROJECT, AND SHALL REPAIR TO CURRENT CONDITION OR REPLACE ANY DAMAGED ITEMS.
8. CONTRACTOR IS STRICTLY PROHIBITED FROM OPERATING EXISTING VALVES, HYDRANTS, PUMPS OR ANY EQUIPMENT WHICH MAY ALTER OR IMPACT PLANT OPERATIONS. ALL EXISTING VALVES, HYDRANTS, PUMPS AND EQUIPMENT SHALL ONLY BE OPERATED BY WATER TREATMENT PLANT OPERATIONS PERSONNEL. CONTRACTOR SHALL NOTIFY WATER TREATMENT WATER PLANT OPERATIONS PERSONNEL AT LEAST SEVEN (7) DAYS IN ADVANCE OF ANY NECESSARY VALVE OPERATIONS OR PLANT MODIFICATIONS OR OUTAGES.
9. CONTRACTOR ENTRANCE INTO ANY OF THE PLANT BUILDINGS IS STRICTLY FORBIDDEN EXCEPT AS INDICATED TO PERFORM THE WORK THEREIN.
10. ELEVATIONS GIVEN ON MECHANICAL AND STRUCTURAL DRAWINGS ARE BASED ON AVAILABLE AS BUILT DATA. ALL ELEVATIONS ARE CONSIDERED TO BE RELATIVE TO EACH OTHER. CONTRACTOR SHALL TAKE ACCURATE FIELD MEASUREMENTS AND PROVIDE LAYOUT DRAWINGS FOR THE ENGINEER'S APPROVAL PRIOR TO ORDERING MATERIALS.
11. ALL CONSTRUCTION VEHICLE TRAFFIC SHALL BE CONFINED TO PLANT ROADS WITHIN THE DELINEATED LIMIT OF WORK AREA.
12. CONTRACTORS EMPLOYEES SHALL PARK WITHIN DESIGNATED LIMIT OF WORK AREA AND IN ACCORDANCE WITH THE PLANT SUPERVISORS DIRECTION.
13. CONTRACTOR SHALL RESTORE ALL AREAS OF VEGETATION TO THEIR ORIGINAL CONDITION TO THE SATISFACTION OF THE OWNER AT THE COMPLETION OF CONSTRUCTION. PRE-CONSTRUCTION PHOTOS DOCUMENTING ORIGINAL CONDITION SHALL BE PROVIDED TO THE OWNER PRIOR TO MOBILIZATION.
14. ALL EQUIPMENT LAYOUTS SHOWN IN THE CONTRACT DRAWINGS, WERE BASED ON THE NAMED MANUFACTURER IN THE SPECIFICATIONS. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING AND COORDINATING ACTUAL DIMENSIONS AND LAYOUTS OF ALL APPROVED EQUIPMENT.
15. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A COMPLETE PIPING SUPPORT SYSTEM COMPLYING WITH MSS-SP-58, ANSI/MSS SP-69, FEDERAL SPECIFICATION WW-H171, AND SPECIFICATION SECTION 15094. NO ATTEMPT HAS BEEN MADE TO SHOW ALL REQUIRED PIPE SUPPORTS ON THE DRAWINGS.
16. CONTRACTOR SHALL CLEAN AND PAINT ALL MISCELLANEOUS METALWORK, INTERIOR PIPING VALVES AND APPURTENANCES, AND MECHANICAL EQUIPMENT IN ACCORDANCE WITH SPECIFICATION SECTION 09900, INCLUDING ALL EXISTING AND NEW WORK.
17. CONTRACTOR SHALL COORDINATE CONSTRUCTION, STARTUP AND TESTING OF THE NEW FACILITIES WITH WATER TREATMENT PLANT OPERATIONS PERSONNEL. A DETAILED SEQUENCE OF CONSTRUCTION SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL.



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OTTER RIVER WATER TREATMENT PLANT FINISHED WATER PUMP UPGRADES

GENERAL NOTES

CCUSA PROJECT NO. 81-2426

ENGINEER	CHECKED
AAD	STW
DRAWN BY	DATE
DSP	DEC. 2025
PROJECT NUMBER	
23364 - TO1	

DRAWING NUMBER
G-2
SHEET NO. 2 OF 17

ABBREVIATIONS

ABAN	ABANDONED
ABV	ABOVE
ACI	AMERICAN CONCRETE INSTITUTE
ADD'L	ADDITIONAL
ADJ	ADJUSTABLE, ADJACENT
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
ALT	ALTERNATE, ALTERNATIVE
ALUM	ALUMINUM
AMI/R	ADVANCED METER INFRASTRUCTURE/ AUTOMATIC METER READING
APPROX	APPROXIMATE
ARB	AUTOMATIC READING AND BILLING
ARCH	ARCHITECTURAL
ASPH	ASPHALT
ASTM	AMERICAN SOCIETY OF TEST MATERIALS
AUTO	AUTOMATIC
AUX	AUXILIARY
AWG	AMERICAN WIRE GAUGE
AWS	AMERICAN WELDING SOCIETY
AVE.	AVENUE
B	BEND
BC	BOLT CIRCLE, BOTTOM OF CURB
BGE	BALTIMORE GAS AND ELECTRIC
BIT	BITUMINOUS
BLDG	BUILDING
BLK	BLOCK
BLKG	BLOCKING
BLT(S)	BOLT(S)
BM	BENCHMARK
BOD	BOTTOM OF DUCT
BOF	BOTTOM OF FOOTING
BOP	BOTTOM OF PIPE
BOT	BOTTOM
BRG	BEARING
BTWN	BETWEEN
CBCA	CHESAPEAKE BAY CRITICAL AREA
CC	CORROSION CONTROL
C/C	CENTER TO CENTER
CFM	CUBIC FEET PER MINUTE
CFS	CUBIC FEET PER SECOND
C&G	CURB AND GUTTER; OR CAM & GROOVE
CHB	CHORD BEARING
CHL	CHORD LENGTH
CI	CAST IRON
CIP	CAST IRON PIPE
CJ	CONTRACTION JOINT
CJT	CONTROL JOINT, CONSTRUCTION JOINT
CL	CLASS, CLEARANCE, CENTER LINE
CL/2	CHLORINE SOLUTION
CLG	CHLORINE GAS
CLR	CLEAR, CLEARANCE
CMU	CONCRETE MASONRY UNIT
CO	CLEAN OUT
COL	COLUMN
COMB	COMBINATION
CONC	CONCRETE
COND	CONDUIT
CONN	CONNECTION
CONSTR	CONSTRUCTION
CONT	CONTINUOUS, CONTINUATION, CONTROL
COR	CORNER
COV	COVER
CP	CATHODIC PROTECTION
CPLG	COUPLING
CTV	CABLE TELEVISION
CU YD	CUBIC YARD
D	DRAIN
DBL	DOUBLE
DEG	DEGREE
DEPT	DEPARTMENT
DET	DETAIL
DI	DROP INLET, DUCTILE IRON
DIA	DIAMETER
DIM	DIMENSION
DIP	DUCTILE IRON PIPE
DISCH	DISCHARGE
DIV	DIVISION
DN	DOWN
DOT	DEPARTMENT OF TRANSPORTATION
DR	DRAIN
DS	DOWN SPOUT
DTL	DETAIL
DV	DIVISION VALVE
DWG(S)	DRAWING(S)
E	EAST
EA	EACH
EBOX	ELECTRICAL BOX
ECC	ECCENTRIC
EF	EACH FACE, EXHAUST FAN
EL	ELEVATION
ELEC	ELECTRIC
ELEV	ELEVATION
EOP	EDGE OF PAVEMENT
EQ	EQUAL
EQUIP	EQUIPMENT
EW	EACH WAY
EWEF	EACH WAY EACH FACE
EX	EXISTING
EXP	EXPANSION
EXT	EXTENSION, EXTERIOR, EXTERNAL
FB	FACE BRICK
FF	FINISHED FLOOR
FH	FIRE HYDRANT
FLEX	FLEXIBLE
FLG	FLANGE
FM	FORCE MAIN, FLOW METER
FND	FOUNDATION
FO	FIBER OPTIC
FOM	FACE OF MASONRY
FP	FLOOD PLAIN
FT	FEET, FOOT
FTG	FOOTING
G	GAS
GA	GAUGE
GAB	GRADED AGGREGATE BASE
GAL	GALLON
GALV	GALVANIZED
GND	GROUND
GPM	GALLONS PER MINUTE
GR	GRADE
GV	GATE VALVE, GRAVITY VENTILATOR

ABBREVIATIONS (CONTINUED)

HB	HORIZONTAL BEND
HMA	HOT MIX ASPHALT
HORIZ	HORIZONTAL
HP	HIGH POINT, HORSEPOWER
HR	HOUR
HW	HOT WATER
HWY	HIGHWAY
ID	INSIDE DIAMETER
IF	INSIDE FACE
IN	INCH, INCHES
INC	INCORPORATED
INCL	INCLUDING
INL	INLET
INSUL	INSULATE, INSULATION, INSULATING
INV	INVERT
J	JOINT
K	KIPS
KV	KILOVOLT
KVA	KILOVOLT-AMPERES
KW	KILOWATT
L	LENGTH
LB(S)	POUND(S)
LF	LINEAR FEET
LG	LENGTH, LONG
LH	LAMP HOLE
LOC	LIMIT OF CONTRACT
LOD	LIMIT OF DISTURBANCE
LP	LOW POINT, LIGHT POLE
LT	LEFT
MAX	MAXIMUM
MECH	MECHANICAL
MED	MEDIUM
MFR(S)	MANUFACTURER(S)
MG	MILLION GALLONS
MGD	MILLION GALLONS PER DAY
MH	MANHOLE
MIN	MINIMUM, MINUTE
MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT
MO	MASONRY OPENING
MOD	MOTOR OPERATED DAMPER
MOT	MOTOR, MAINTENANCE OF TRAFFIC
MTL	MATERIAL
N	NORTH
NA	NOT APPLICABLE
NBL	NORTHBOUND LANE
NE	NORTHEAST
N.I.C	NOT IN CONTRACT
NO(S)	NORMALLY OPEN, NUMBER(S)
NOM	NOMINAL
NPT	NATIONAL PIPE THREAD
NPW	NON-POTABLE WATER
NS	NEARSIDE
NTS	NOT TO SCALE
NW	NORTHWEST
OC	ON CENTER
OD	OUTSIDE DIAMETER
OF	OUTSIDE FACE
OH	OVERHEAD
OPNG	OPENING
OPP	OPPOSITE, OPPOSING
PAV	PAVEMENT
PC	POINT OF CURVATURE
PCCP	PRESTRESSED CONCRETE CYLINDER PIPE
PCF	POUNDS PER CUBIC FOOT
PE	PLAIN END
PGL	PROFILE GRADE LINE
PI	POINT OF INTERSECTION
PK	PK NAIL
PL	PLATE
PLF	POUNDS PER LINEAR FOOT
PLYWD	PLYWOOD
POC	POINT OF CURVATURE
PP	POLYPROPYLENE
PREFAB	PREFABRICATED
PROP	PROPOSED
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
PT	POINT, POINT OF TANGENCY
PVC	POLYVINYL CHLORIDE
P.V.C	POINT OF VERTICAL CURVE
P.V.I	POINT OF VERTICAL INTERSECTION
P.V.T	POINT OF VERTICAL TANGENT
QTR	QUARTER
R	RADIUS, RISER, RIM ELEVATION
RAD	RADIUS
RCP	REINFORCED CONCRETE PIPE
RCCP	REINFORCED CONCRETE CYLINDER PIPE
RD	ROAD
REF	REFERENCE
REINF	REINFORCING, REINFORCEMENT
REQD	REQUIRED
REV	REVISION, REVISED
ROW	RIGHT-OF-WAY
R/W	RIGHT-OF-WAY
RT	RIGHT
S	SOUTH
SAN	SANITARY
SB	SOIL BORING
SCE	STABILIZED CONSTRUCTION ENTRANCE
SCH	SCHEDULE
SD	STORM DRAIN
SE	SOUTHEAST
SEC	SECOND
SECT	SECTION
SF	SQUARE FOOT
SHC	SANITARY SEWER HOUSE CONNECTION
SHT	SHEET
SIM	SIMILAR
SPEC(S)	SPECIFICATION(S)
SQ	SQUARE

ABBREVIATIONS (CONTINUED)

SS	STAINLESS STEEL, SANITARY SEWER
STA	STATION
STD	STANDARD
STL	STEEL
STOR	STORAGE
STRUCT	STRUCTURAL
SW	SOUTHWEST
SYM	SYMBOL
SYS	SYSTEM
T	TOP
TBA	TO BE ABANDONED
TBD	TO BE DETERMINED
TC	TERRA COTTA, TOP OF CURB
TEL	TELEPHONE
TEMP	TEMPERATURE, TEMPORARY
TH	TEST HOLE
TOC	TOP OF CONCRETE
TOM	TOP OF MASONRY
TOS	TOP OF SLAB
TOP	TOP (OF PIPE) ELEVATION
TP	TEST PIT
TRAV	TRAVERSE
TYP	TYPICAL
UG	UNDERGROUND
UNO	UNLESS NOTED OTHERWISE
USGS	UNITED STATES GEOLOGICAL SURVEY
UW	UTILITY WATER
V	VALVE, VERTICAL
VB	VERTICAL BEND
VC	VERTICAL CURVE
VCP	VITRIFIED CLAY PIPE
VERT	VERTICAL
VIF	VERIFY IN FIELD
VT	VITRIFIED TERRA COTTA
W	WEST, WIDTH, WATER
W/	WITH
WHC	WATER HOUSE CONNECTION
WM	WATER METER
W/O	WITHOUT
WP	WORKING POINT
WS	WATER SERVICE
WSE	WATER SERVICE ELEVATION
WSS	WATER SUPPLY SERVICE
WT	WEIGHT
WV	WATER VALVE
WWF	WELDED WIRE FABRIC
X	BY, TIMES
XFMR	TRANSFORMER
YD	YARD
YR	YEAR
&	AND
@	AT
"	CENTERLINE
'	BASELINE
±	PLUS OR MINUS
ƒ	PROPERTY LINE
#	NUMBER
%	PERCENT

LEGEND - EXISTING

- FIRE HYDRANT
- YARD HYDRANT
- GAS VALVE
- WATER METER
- SEWER MANHOLE
- STORM DRAIN MANHOLE
- MANHOLE
- STORM DRAIN INLET (YARD)
- CLEANOUT
- EXISTING PIPING VALVE
- LIGHT POLE
- GUY POLE
- UTILITY POLE
- BENCH MARK
- TRAVERSE
- STANDARD PENETRATION TEST BORING
- TREES
- MACADAM ROAD
- MINOR CONTOUR
- MAJOR CONTOUR
- WATER SERVICE
- NON-POTABLE/RAW WATER
- OVERHEAD ELECTRIC
- UNDERGROUND ELECTRIC
- 100-FOOT STREAM BUFFER
- CENTERLINE
- CHAIN-LINK FENCE
- PROPERTY LINE
- FORCE MAIN
- GRAVITY SEWER
- STORM DRAIN
- CHEMICAL
- FINISHED WATER PIPING
- RAW WATER PIPING
- PLANT WASTE PIPING
- STORM SEWERS
- VALVE
- CHEMICAL DUCT BANK
- SANITARY SEWER OR DRAIN
- ITEMS TO BE DEMOLISHED
- BITUMINOUS PAVEMENT
- GRAVEL
- BUILDING STRUCTURES

LEGEND - PROPOSED

- AIR RELEASE VALVE
- BALL VALVE
- BUTTERFLY VALVE
- CHECK VALVE
- GATE VALVE
- PINCH VALVE
- PLUG VALVE
- PRESSURE REDUCING VALVE
- SOLENOID VALVE
- RUPTURE DISC
- PRESSURE GAUGE
- FLOW METER
- OPENING
- BITUMINOUS PAVEMENT
- STABILIZED CONSTRUCTION ENTRANCE
- CONCRETE/CONCRETE FILL
- STONE
- GRATING
- GROUND/GRADE
- LIMIT OF WORK
- ELECTRICAL DUCTBANK
- CAP OR PLUG
- MINOR CONTOUR
- MAJOR CONTOUR
- TEMPORARY EASEMENT
- GATE VALVE
- CHECK VALVE
- REDUCER
- ELBOW UP
- ELBOW DOWN
- TEE
- WYE
- FENCE
- FORCE MAIN
- GAS
- STORM DRAIN
- LIMIT OF DISTURBANCE
- SILT FENCE
- SUPER SILT FENCE
- WATER
- NON-POTABLE/RAW WATER
- CHEMICAL
- DRAIN
- EXISTING UTILITY TO BE ABANDONED BY CONTRACTOR
- EXISTING UTILITY TO BE REMOVED BY CONTRACTOR
- PERMANENT SEEDING
- LAND DISTURBANCE AREA
- SOIL
- TREE PROTECTION
- TREE & STUMP REMOVAL
- TREE CUT FLUSH W/GROUND
- FINISHED WATER PUMP ROOM LOCATION
- CONTRACTOR STORAGE AND STAGING AREA

NOTE:

1. NOT ALL ABBREVIATIONS AND SYMBOLS ARE USED.

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OTTER RIVER WATER TREATMENT PLANT FINISHED WATER PUMP UPGRADES
CCUSA PROJECT NO. 81-2426

ABBREVIATIONS AND LEGEND

ENGINEER	CHECKED
AAD	STW
DRAWN BY	DATE
DSP	DEC. 2025
PROJECT NUMBER	
23364 - TO1	

DRAWING NUMBER
G-3
SHEET NO. 3 OF 17

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Dec 19, 2025 - 8:36am

KEYNOTES

1. FINISHED WATER VENTURI VAULT
2. 5' STUB-OUT, M.J. PLUG & B.F. VALVE RESTRAINED TO TEE.
3. CHEMICAL DUCT BANK
4. 24" x 16" TEE, 10' LONG STUB-OUT & M.J. PLUG, ALL RESTRAINED.
5. FIRE-HYDRANT.
6. CHEMICAL APPLICATION VAULT.
7. SEPTIC TANK.
8. SEWAGE PUMP STATION.
9. RAW WATER VENTURI VAULT.
10. SANITARY SEWER PROFILE.
11. CONCRETE BLOCK WALL.
12. 12"ø RESILIENT SEAT GATE VALVE W/ABOVE GROUND OPERATOR.

RESERVOIR OVERFLOW
RESERVOIR DRAIN
TERMINAL RESERVOIR
EFFLUENT SCREEN
TERMINAL RESERVOIR INFLUENT
20' x 20' CLASS 1 RIP-RAP PAD
18" CORR. STEEL PIPE OVERFLOW
INV. = 617.5
INV. = 616.0
30' x 10' CONC. PAD
SLUDGE LAGOON NO.1
FLOW SPLITTER BOX
20"ø RAW WATER MAIN
INV. = 617.9
EFFLUENT PUMP STATION
20" TERMINAL RESERVOIR EFFLUENT
CHEMICAL STORAGE BUILDING
30" PLANT WASTE DRAIN
20" RAW WATER MAIN
2 ½" S.S. FORCE MAIN
INV. = 614.0
18" CORR. STEEL PIPE OVERFLOW
SETTLING BASINS
FILTER BUILDING
FILTERS
FUTURE BASIN
SLUDGE LAGOON NO.2
MH-3
INV. = 613.0
24" FINISHED WATER MAIN
ROUTE 682
2" COPPER
FINISHED WATER PUMP ROOM
6" DUCTILE IRON FORCE MAIN
YARD INLET
MH-4
2 ½"ø FORCE MAIN
6" FORCE MAIN
24" FINISHED WATER FILL LINE
ACCESS GATES
24" FINISHED WATER RETURN LINE
CONTRACTOR STORAGE AND STAGING AREA
ACCESS ROAD TO RAW WATER PUMP STATION
20' x 20' CLASS 1 RIP-RAP PAD
30' x 10' CONC. PAD
FUTURE RESERVOIR
FINISHED WATER RESERVOIR
DUCTILE IRON RESERVOIR DRAIN & OVERFLOW

SYMBOL LEGEND

- FINISHED WATER PIPING
- RAW WATER PIPING
- PLANT WASTE PIPING
- STORM SEWERS
- VALVE
- CHEMICAL DUCT BANK
- SANITARY SEWER OR DRAIN
- FINISHED WATER PUMP ROOM LOCATION
- CONTRACTOR STORAGE AND STAGING AREA

EXISTING AND PROPOSED SITE PLAN

SCALE: 1" = 40'

NOTE:

1. CONTRACTOR SHALL KEEP THE ACCESS ROAD TO THE RAW WATER PUMP STATION OPEN FOR CCUSA OPERATIONS AT ALL TIMES.

1"=40' 40' 20' 0 40' 80'

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EXISTING AND PROPOSED SITE PLAN

CCUSA PROJECT NO. 81-2426

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DRAWING NUMBER
C-1
SHEET NO. 4 OF 17

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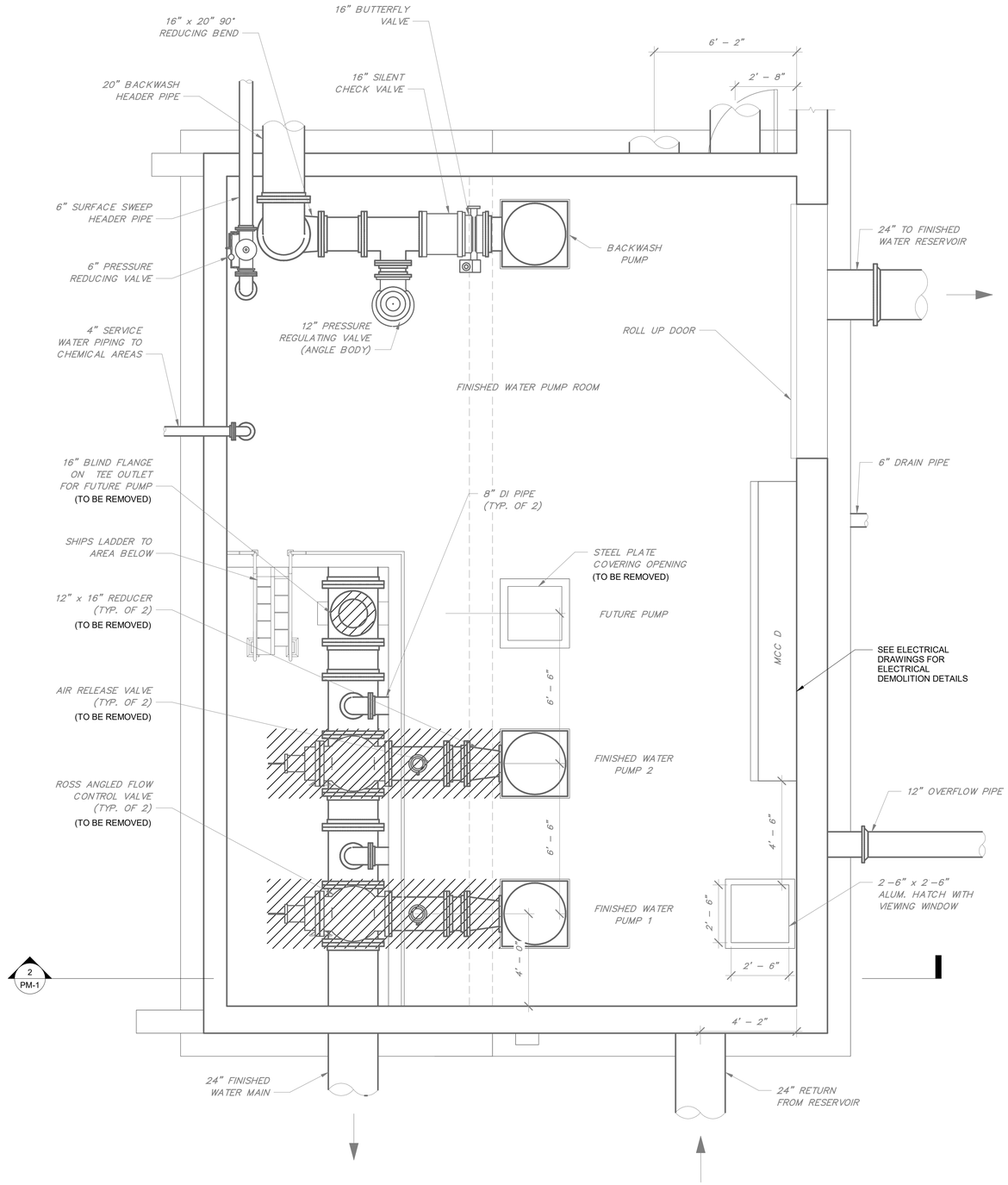
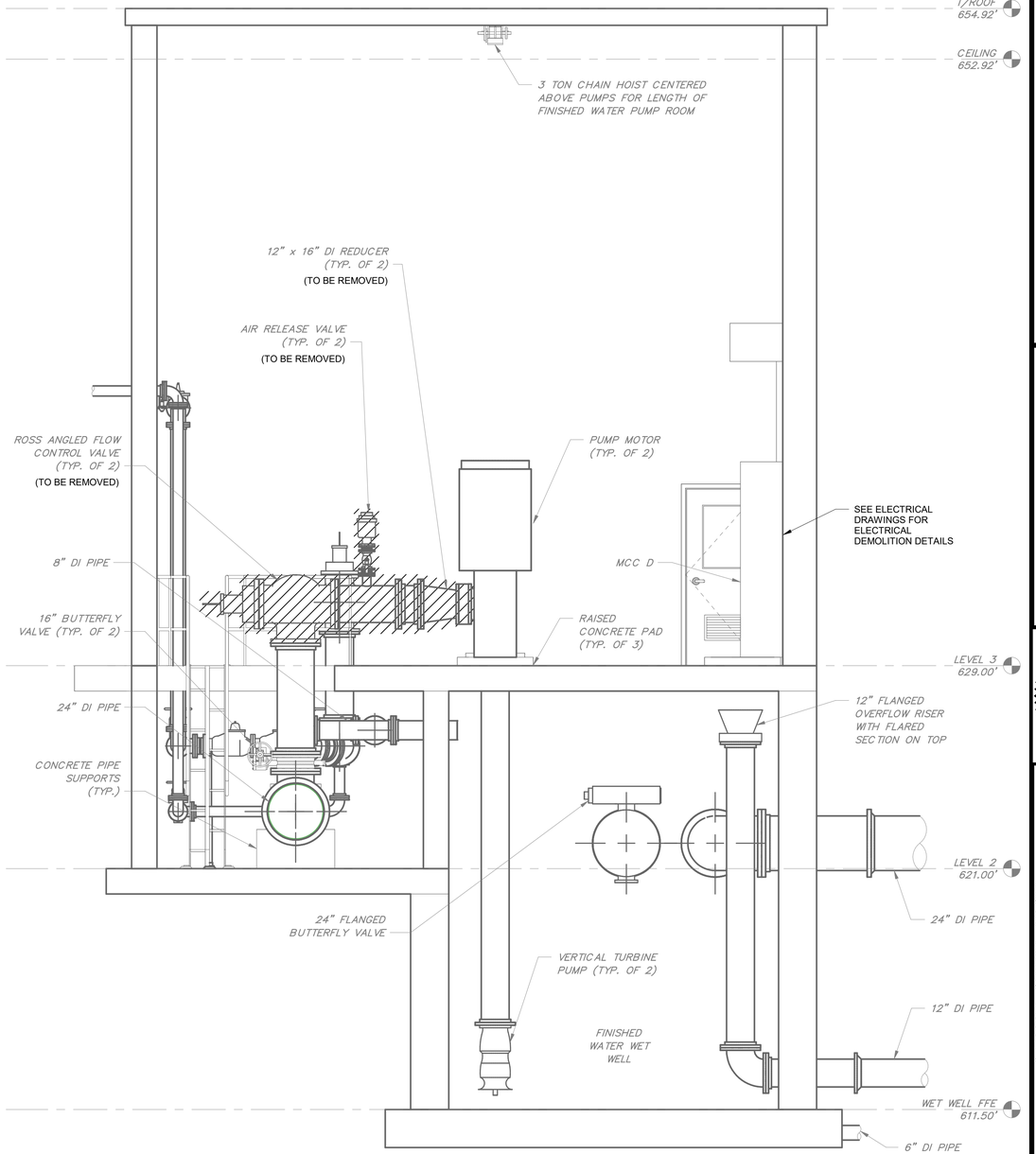
Dec 19, 2025 - 8:40am
DWG TO PDF.pc3
Plot Scale: 1=1
Plot By: Dominick Lopresti



1 EXISTING AND DEMOLITION PUMP STATION PLAN

PM-1 SCALE: 3/8" = 1'-0"



2 EXISTING AND DEMOLITION PUMP STATION SECTION

PM-1 SCALE: 3/8" = 1'-0"

GRAPHICS SCALE:

SCALE: 3/8" = 1'-0" 0 1' 2' 4' 6'

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CAMPBELL COUNTY, VIRGINIA
OTTER RIVER WATER TREATMENT PLANT FINISHED WATER PUMP UPGRADES

EXISTING AND DEMOLITION PUMP STATION PLAN AND SECTION

CCUSA PROJECT NO. 81-2426

ENGINEER	CHECKED
AAD	STW
DRAWN BY	DATE
DSP	NOV. 2024
PROJECT NUMBER	
23364 - TO1	

DRAWING NUMBER
PM-1
SHEET NO. 5 OF 17

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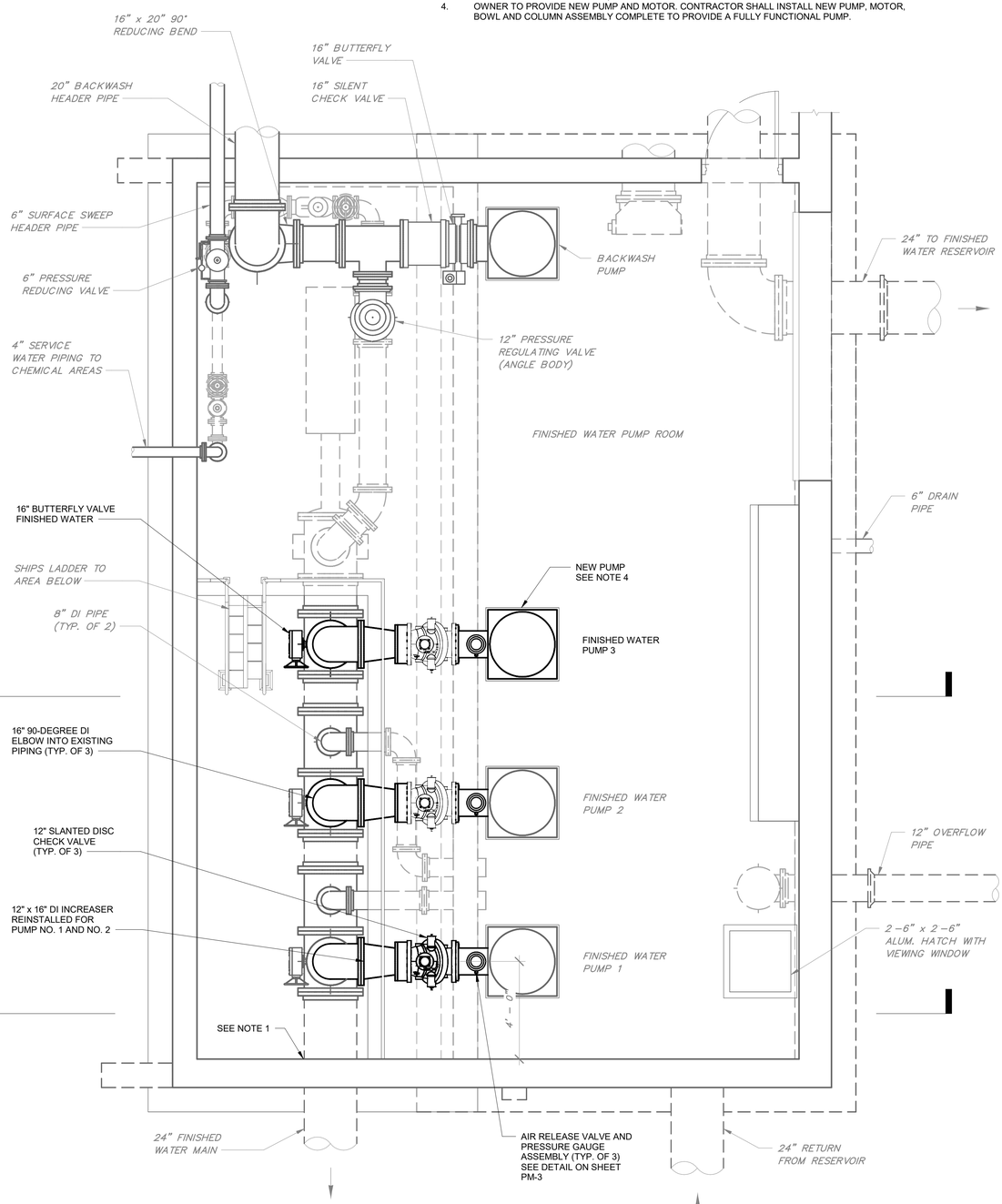
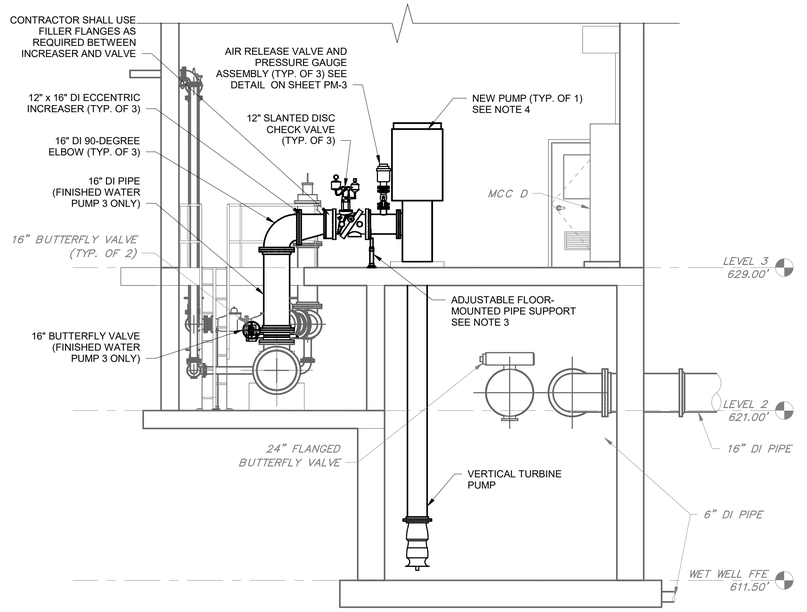
AM

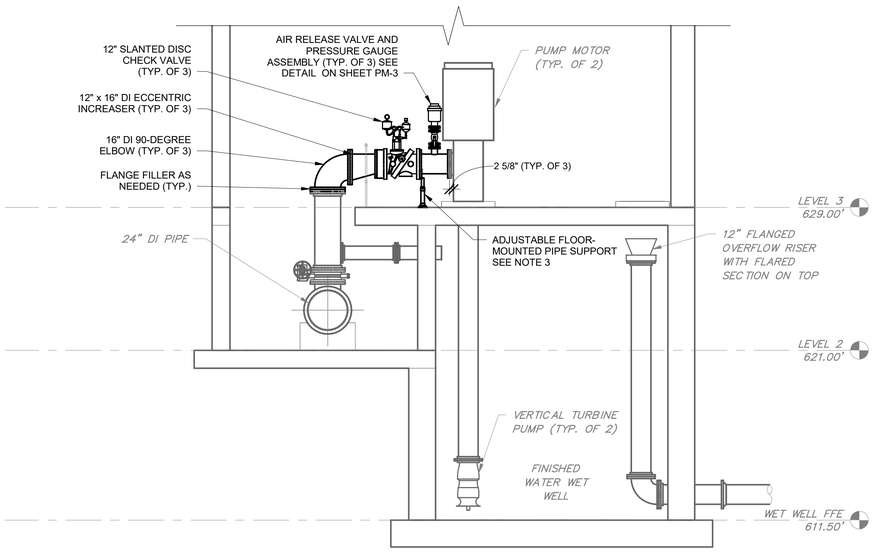
NOTES:
1. SEE SPECIFICATIONS FOR PAINTING OF EXISTING AND PROPOSED PIPING AND VALVES.
2. CONTRACTOR SHALL FIELD VERIFY ALL PIPING DIMENSIONS.
3. SUPPORT ALL HORIZONTALLY INSTALLED VALVES WITH AN ADJUSTABLE FLOOR MOUNTED PIPE SUPPORT INSTALLED SO AS NOT TO INTERFERE WITH THE OPERATION OF THE VALVE. FOR FLANGE SUPPORT, FLOOR-MOUNTED PIPE SUPPORT SHALL BE STANDON MODEL S89 WITH GALVANIZED EXTENSION PIPE, OR APPROVED EQUAL.
4. OWNER TO PROVIDE NEW PUMP AND MOTOR. CONTRACTOR SHALL INSTALL NEW PUMP, MOTOR, BOWL AND COLUMN ASSEMBLY COMPLETE TO PROVIDE A FULLY FUNCTIONAL PUMP.



4 PROPOSED PUMP STATION PLAN
PM-1 SCALE: 3/8" = 1'-0"



2 FINISHED WATER PUMP NO. 3 PROPOSED SECTION
PM-2 SCALE: 1/4" = 1'-0"



3 FINISHED WATER PUMP NO. 1 AND NO. 2
PM-2 SCALE: 1/4" = 1'-0"

GRAPHICS SCALE:
SCALE: 1/4" = 1'-0" 0 1' 2' 4' 8'

GRAPHICS SCALE:
SCALE: 3/8" = 1'-0" 0 1' 2' 4' 6'

BID DOCUMENTS

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OTTER RIVER WATER TREATMENT PLANT FINISHED WATER PUMP UPGRADES

PUMP STATION IMPROVEMENTS PLAN

CCUSA PROJECT NO. 81-2426

ENGINEER	CHECKED
AAD	STW
DRAWN BY	DATE
DSP	NOV. 2024
PROJECT NUMBER	
23364 - TO1	

DRAWING NUMBER
PM-2
SHEET NO. 6 OF 17

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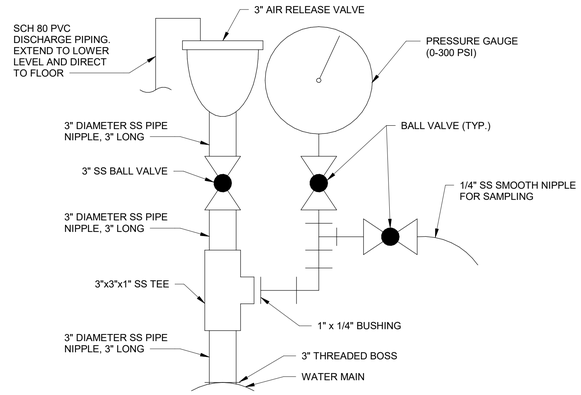
AM



AIR RELEASE VALVE AND PRESSURE GAUGE ASSEMBLY

NOT TO SCALE

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PLANT FINISHED WATER PUMP
UPGRADES

PUMP STATION IMPROVEMENTS DETAILS

CCUSA PROJECT NO. 81-2426

ENGINEER	CHECKED
AAD	STW
DRAWN BY	DATE
DSP	NOV. 2024
PROJECT NUMBER	
23364 - TO1	

DRAWING NUMBER
PM-3
SHEET NO. 7 OF 17

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AM

LIGHTING

SYMBOL		DESCRIPTION
	-	LED LIGHT FIXTURE
	-	EMERGENCY LIGHT FIXTURE
	-	EMERGENCY LIGHT FIXTURE REMOTE HEAD
	-	COMBINATION EMERGENCY LIGHT AND EXIT FIXTURE
	-	EXITING FIXTURE

ONE-LINE DRAWINGS

SYMBOL		DESCRIPTION
	-	CIRCUIT BREAKER
	-	MOTOR STARTER
	-	THERMAL OVERLOAD

GENERAL POWER

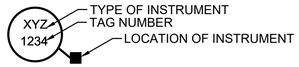
SYMBOL		DESCRIPTION
	-	20A-120V DUPLEX RECEPTACLE
	-	20A-120V SINGLE RECEPTACLE
	-	TELEPHONE OUTLET
CA	-	CABLE OUTLET
XX	-	MOTOR (NUMBER INDICATES HP)
	-	DISCONNECT SWITCH
P	-	PRESSURE SWITCH
J	-	JUNCTION BOX
T	-	THERMOSTAT
T	-	TRANSFORMER
S	-	SINGLE POLE SWITCH
S_3	-	THREE WAY SWITCH
S_{WP}	-	WEATHERPROOF SWITCH
S_T	-	MOTOR THERMAL SWITCH WITH H/O/A
S A	-	ALARM HORN AND STROBE
	-	PUSHBUTTON
	-	PANELBOARD

CONDUIT FEEDERS & BRANCH CIRCUITS

SYMBOL		DESCRIPTION
	-	ELECTRICAL DUCT BANK
	-	CONDUIT TURNED UP
	-	CONDUIT TURNED DOWN
	-	CIRCUIT HOME RUN
	-	CONDUIT CONCEALED OR DIRECT BURIED

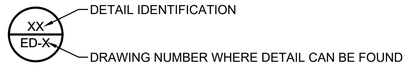
THIS DRAWING REPRESENTS GENERAL ELECTRICAL SYMBOLS ABBREVIATIONS AND NOTES. SOME SYMBOLS AND ABBREVIATIONS MAY NOT BE USED.

INSTRUMENTS AND ALYZERS

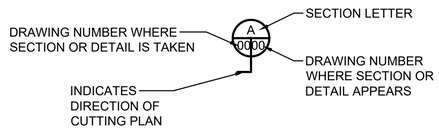


MISCELLANEOUS SYMBOLS

DETAIL IDENTIFICATION SYMBOL



SECTION



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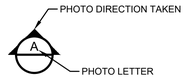


GENERAL ELECTRICAL NOTES

1. EXISTING EQUIPMENT IS SHOWN IN A LIGHT WEIGHT AND IDENTIFIED WITH SLANTED TEXT. NEW EQUIPMENT AND WIRING IS SHOWN BOLD.
2. ALL FASTENERS AND MOUNTING HARDWARE USED FOR THE INSTALLATION OF ALL ELECTRICAL ITEMS SHALL BE 316 STAINLESS STEEL.
3. ALL ALUMINUM BACKBOARDS SHALL BE 3/16 INCH THICK, AND SIZED AS REQUIRED TO ACCOMMODATE EQUIPMENT. EDGES OF BACKBOARDS SHALL BE BEVELED SO THEY ARE SMOOTH.
4. ALL ALUMINUM IN CONTACT WITH CONCRETE SHALL BE COATED WITH TWO COATS OF ZINC CHROMATE PRIMER OR BITUMINOUS PAINT TO PREVENT A REACTION BETWEEN THE ALUMINUM AND CONCRETE.
5. WHERE ELECTRICAL EQUIPMENT IS SHOWN MOUNTED ON A CONCRETE PAD, THE PAD SHALL BE 3" HIGH WITH CHAMFERED EDGES. THE PAD SHALL EXTEND 2" BEYOND THE EDGES OF THE EQUIPMENT.
6. CONTRACTOR SHALL FURNISH AND INSTALL A SEPARATE INSULATED GROUND CONDUCTOR IN ALL CONDUITS. ALL GROUND CONDUCTORS SHALL BE #12 UNLESS NOTED OTHERWISE ON DRAWINGS.
7. CONTRACTOR SHALL COORDINATE THE EXACT LOCATION OF ALL UNDERGROUND CONDUITS AND DUCT BANKS TO AVOID INTERFERENCES WITH UNDERGROUND PIPING.
8. ALL DUCT BANKS THAT PENETRATE BUILDING WALLS SHALL BE DOWELED INTO THE WALL USING #4 REBAR.
9. ALL DUCT BANKS AND CONDUITS SHALL BE SLOPED AWAY FROM BUILDINGS AND STRUCTURES.
10. WHERE A WIRING LEGEND IS SHOWN ON A DRAWING, IT ONLY PERTAINS TO THAT DRAWING.
11. WIRING SHOWN TO MOTOR DISCONNECT SWITCHES SHALL CONTINUE TO THE MOTOR.
12. ALL CONDUITS SHALL BE LABELED INDICATING THE VOLTAGE OF THE WIRING IN THE CONDUIT.
13. PROVIDE AN ENGRAVED YELLOW NAMEPLATE ON ALL NEW PANELS INDICATING WHERE THE PANEL IS FED FROM.
14. PROVIDE AN ENGRAVED NAMEPLATE ON ALL NEW ELECTRICAL EQUIPMENT INDICATING THE AIC RATING OF THE EQUIPMENT IN ACCORDANCE WITH ARTICLE 110.16 AND 110.24 OF THE NATIONAL ELECTRICAL CODE.

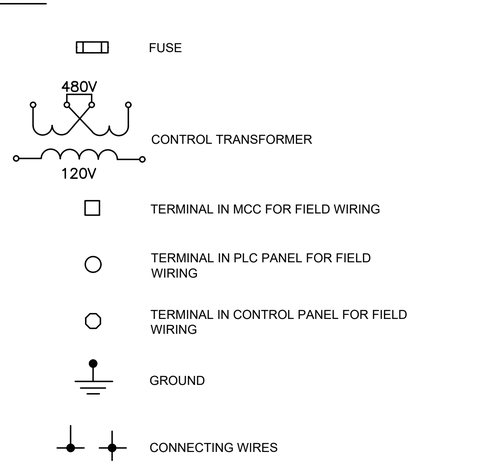
ABBREVIATIONS

A	AMPERE
AC	ALTERNATING CURRENT
A.F.F.	ABOVE FINISHED FLOOR
A.F.G.	ABOVE FINISHED GRADE
ALUM.	ALUMINIUM
ATS	AUTOMATIC TRANSFER SWITCH
C	CONDUIT
CT	CURRENT TRANSFORMER
CKT	CIRCUIT
CB	CIRCUIT BREAKER
D	DEEP
DC	DIRECT CURRENT
DISC.	DISCONNECT
DN	DOWN
DWG	DRAWING
EF	EXHAUST FAN
FVNR	FULL VOLTAGE NON-REVERSING
GFI	GROUND FAULT INTERRUPTER
GRD,G	GROUND
GRS	GALVANIZED RIGID STEEL
H	HIGH
HOA	HAND-OFF-AUTOMATIC
HOA	HAND-OFF-AUTOMATIC
KW	KILOWATT
KVA	KILO-VOLT-AMPERES
LO	LOCKOUT
LOR	LOCKOUT RELAY
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTOR
MFGR	MANUFACTURER
MH	MOUNTING HEIGHT
MOD	MOTOR OPERATED DAMPER
NEC	NATIONAL ELECTRICAL CODE
NO.	NUMBER
P	POLE
PCP	PUMP CONTROL PANEL
PCS	PROCESS CONTROL SYSTEM
PLC	PROGRAMMABLE LOGIC CONTROLLER
PH	PHASE
PVC	POLYVINYL CHLORIDE
SBR	SEQUENCE BATCH REACTOR
SHLD	SHIELDED
SN	SOLID NEUTRAL
SPD	SURGE PROTECTIVE DEVICE
S.S	STAINLESS STEEL
T-M	THERMAL MAGNETIC
TYP	TYPICAL
UV	ULTRAVIOLET
V	VOLTS
VFD	VARIABLE FREQUENCY DRIVE
W	WIRE, WATT, WIDE
WP	WEATHERPROOF
XFMR	TRANSFORMER

ELECTRICAL DEMOLITION NOTES

1. ALL EXISTING ELECTRICAL EQUIPMENT, CONDUIT AND WIRE BEING REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE AND DISPOSED OF BY THE CONTRACTOR, UNLESS NOTED OTHERWISE.
2. WHERE EXISTING EQUIPMENT IS INDICATED TO BE REMOVED, ALL CONDUITS AND WIRING TO THIS EQUIPMENT SHALL BE REMOVED BACK TO THEIR SOURCE.
3. CONDUITS BEING REMOVED THAT PENETRATE EXISTING FLOORS OR WALLS SHALL BE CUT OFF FLUSH WITH EXISTING SURFACE AND SEALED WITH NON-SHRINK GROUT.
4. INSTALL A STAINLESS STEEL COVER PLATE OVER ALL RECESSED OUTLET BOXES WHERE WIRING DEVICE HAS BEEN REMOVED.
5. PATCH HOLES IN WALLS REMAINING FROM REMOVAL OF EQUIPMENT WITH NON-SHRINK GROUT.

SYMBOLS



BID DOCUMENTS

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OTTER RIVER WATER TREATMENT PLANT FINISHED WATER PUMP UPGRADES

SYMBOLS AND ABBREVIATIONS
CCUSA PROJECT NO. 81-2426

ENGINEER	CHECKED
DLCF	CB
DRAWN BY	DATE
KRG	DEC. 2025
PROJECT NUMBER	
23364 - TO1	

DRAWING NUMBER
E-01
SHEET NO. 8 OF 17

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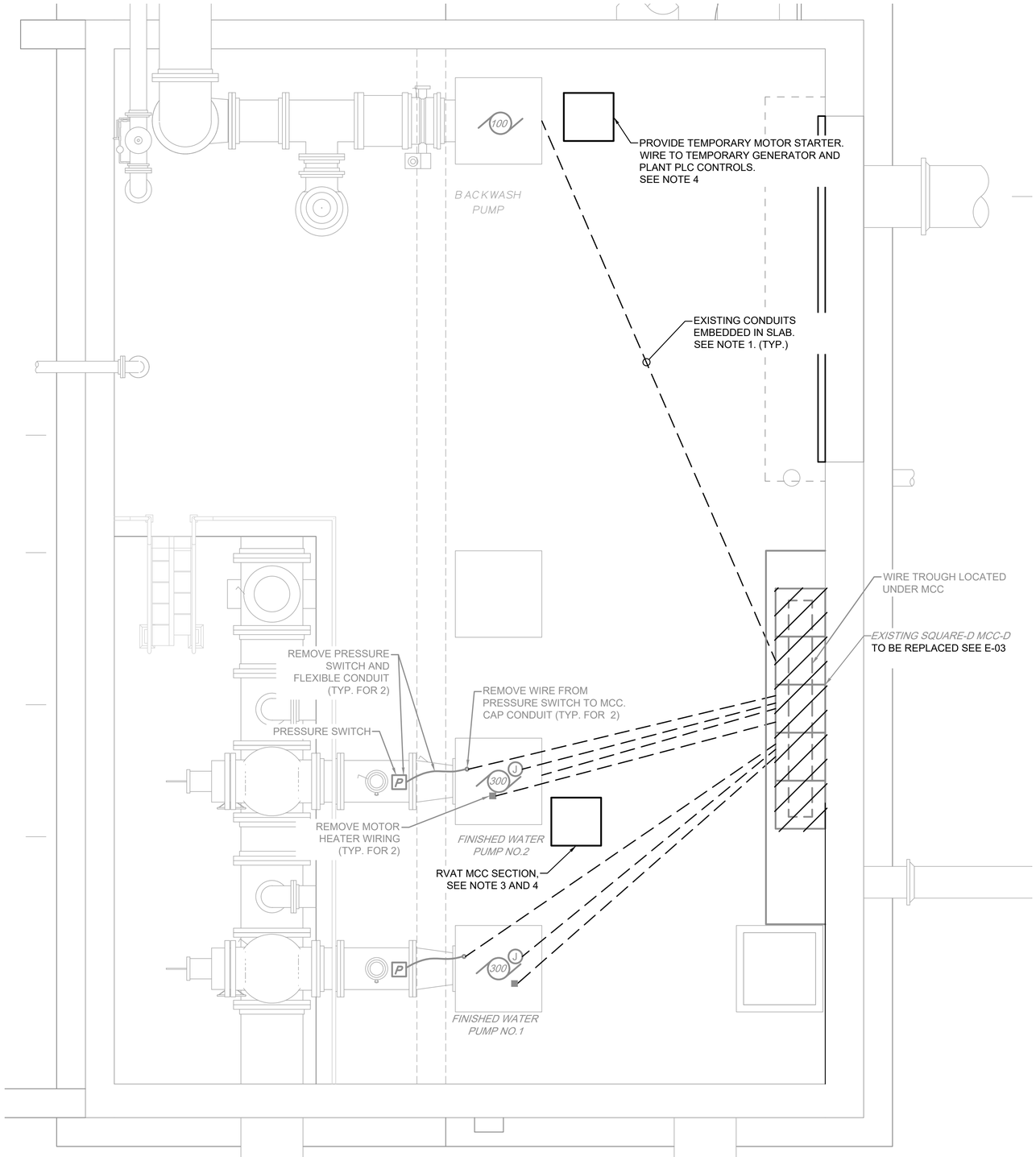
Plot By: rgallagher
Layout: E-01



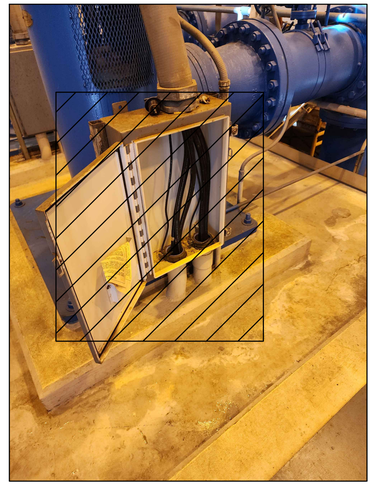
EXISTING PUMP ROOM DEMOLITION PLAN

1/2"=1'-0"

12" 0 1' 2' 3' 4' 5'

NOTES

1. REMOVE POWER AND CONTROL CONDUCTORS FROM PUMPS BACK TO MCC.
2. REMOVE WIRING FROM PRESSURE TRANSMITTER AND VALVE BACK TO MCC.
3. TEMPORARILY RELOCATE ONE OF THE FINISHED WATER RVAT MCC STARTER SECTIONS NEXT TO THE PUMP . BOLT SECTION TO FLOOR AND WIRE TO PUMP ALONG WITH PLC CONTROLS.
4. PROVIDE GENERATOR TO POWER ONE FINISHED WATER PUMP RELOCATED MCC SECTION AND TEMPORARY BACKWASH PUMP STARTER WHILE THE OLD MCC SECTION IS BEING REPLACED.



FINISHED WATER PUMP JUNCTION BOX

FINISHED WATER PUMP PRESSURE SWITCHES

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OTTER RIVER WATER TREATMENT PLANT FINISHED WATER PUMP UPGRADES

DEMOLITION PLAN
CCUSA PROJECT NO. 81-2426

ENGINEER	CHECKED
DLCF	CB
DRAWN BY	DATE
KRG	DEC. 2025

PROJECT NUMBER
23364 - TO1

DRAWING NUMBER
E-02

SHEET NO. 9 OF 17

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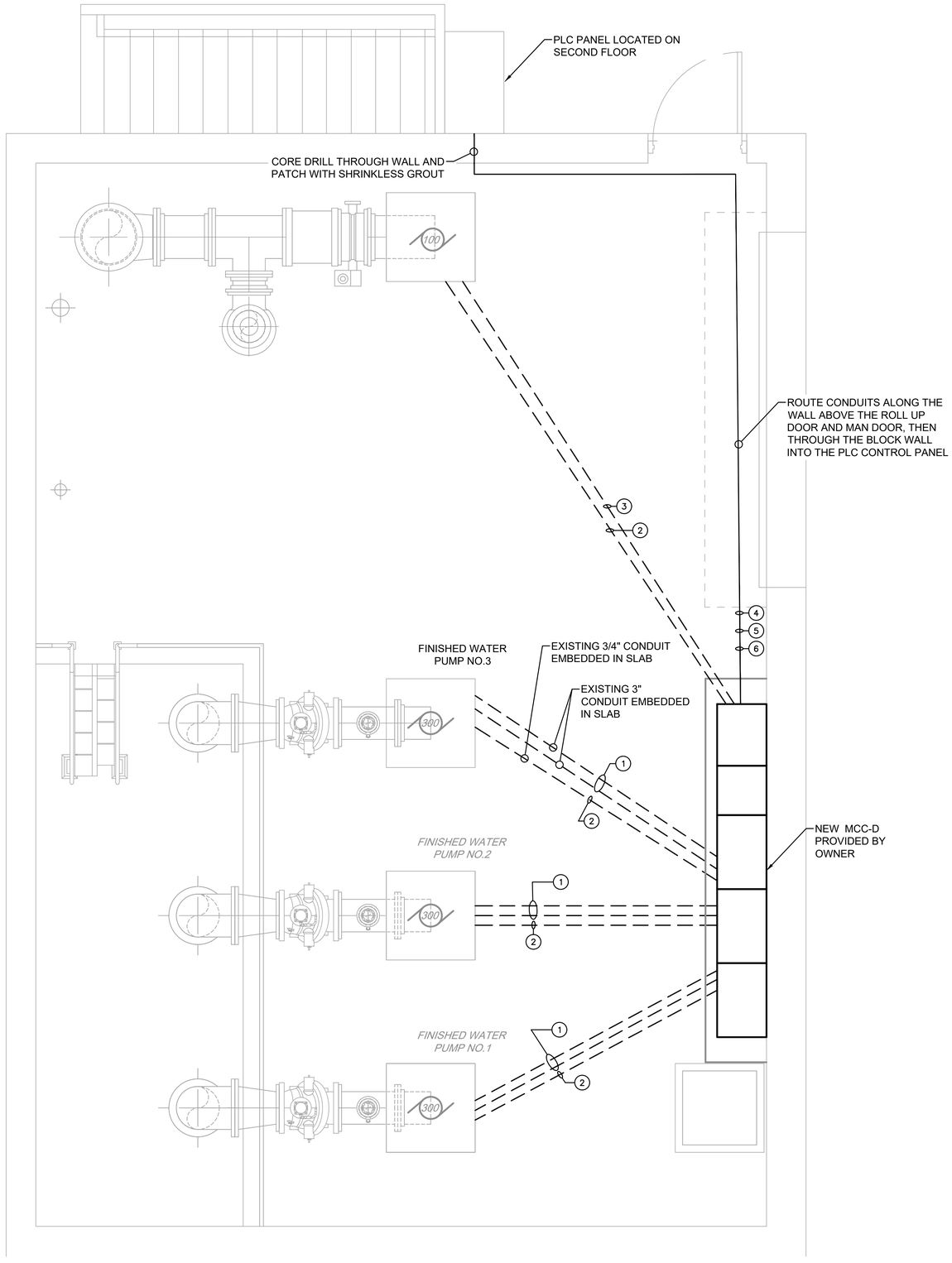
Jan 19, 2026 - 8:53pm
DWG ID: Plot Scale: 1=1 Plot By: rgallagher Layout: E-02



EXISTING PUMP ROOM POWER PLAN

1/2"=1'-0"

12" 0 1' 2' 3' 4' 5'

WIRING LEGEND

1. 2 SETS 3#350MCM, #4 GRD.-3"C TO MCC
2. 2#12, #12 GRD.-3/4"C TO MCC
3. 3#4/0, #6 GRD.-2"C TO MCC
4. 60#14- 2"C TO PLC PANEL ON SECOND FLOOR
5. (2) PR. #18 SHLD.-3/4"C TO PLC PANEL ON SECOND FLOOR
6. CAT 6E ETHERNET CABLE-3/4"C TO PLC PANEL ON SECOND FLOOR

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OTTER RIVER WATER TREATMENT PLANT FINISHED WATER PUMP UPGRADES

POWER PLAN

CCUSA PROJECT NO. 81-2426

ENGINEER	CHECKED
DLCF	CB
DRAWN BY	DATE
KRG	DEC. 2025
PROJECT NUMBER	
23364 - TO1	

DRAWING NUMBER
E-03
SHEET NO. 10 OF 17

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Dec 16, 2025 - 8:27pm DWG TO PDF.pc3 Plot By rgmcgrail Layout: E-03

EXISTING MCC-D LAYOUT
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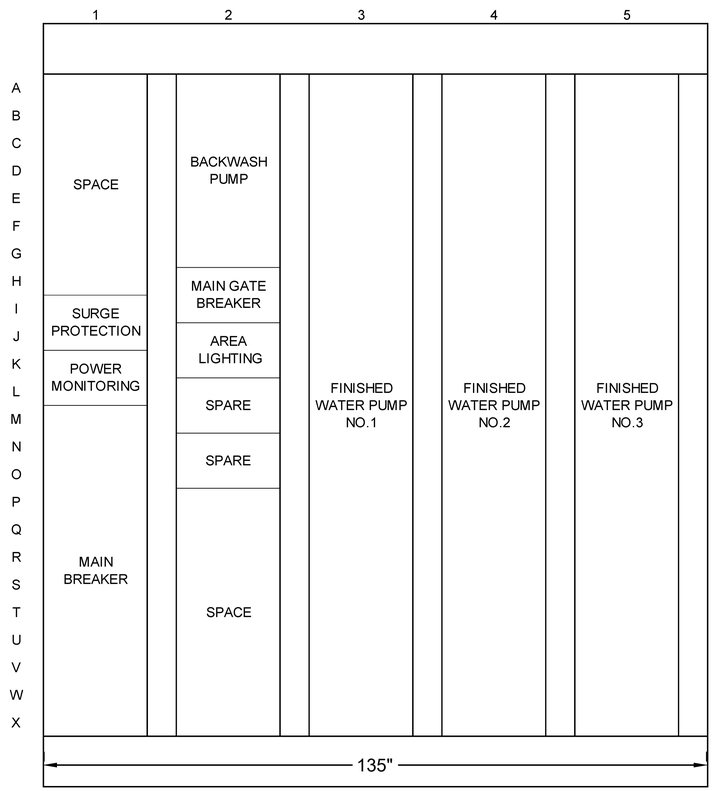

NEW MCC-D LAYOUT
NO SCALE

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MCC LAYOUT

CCUSA PROJECT NO. 81-2426

ENGINEER	CHECKED
DLCF	CB
DRAWN BY	DATE
KRG	DEC. 2025
PROJECT NUMBER	
23364 - TO1	

DRAWING NUMBER
E-04
SHEET NO. 11 OF 17

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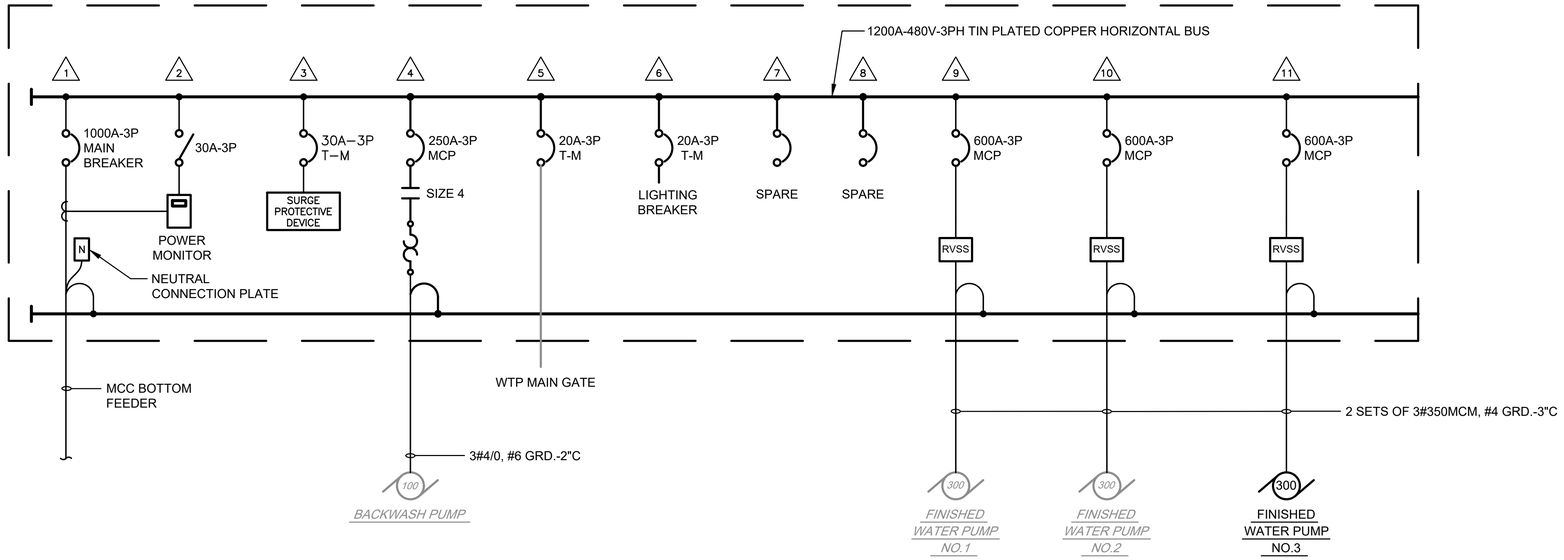
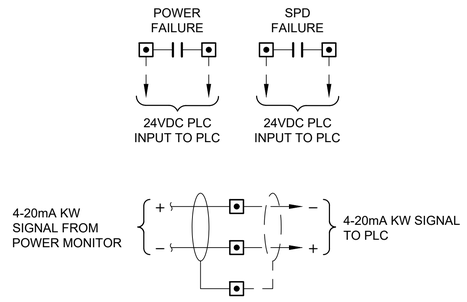


PROPOSED ONE-LINE LAYOUT



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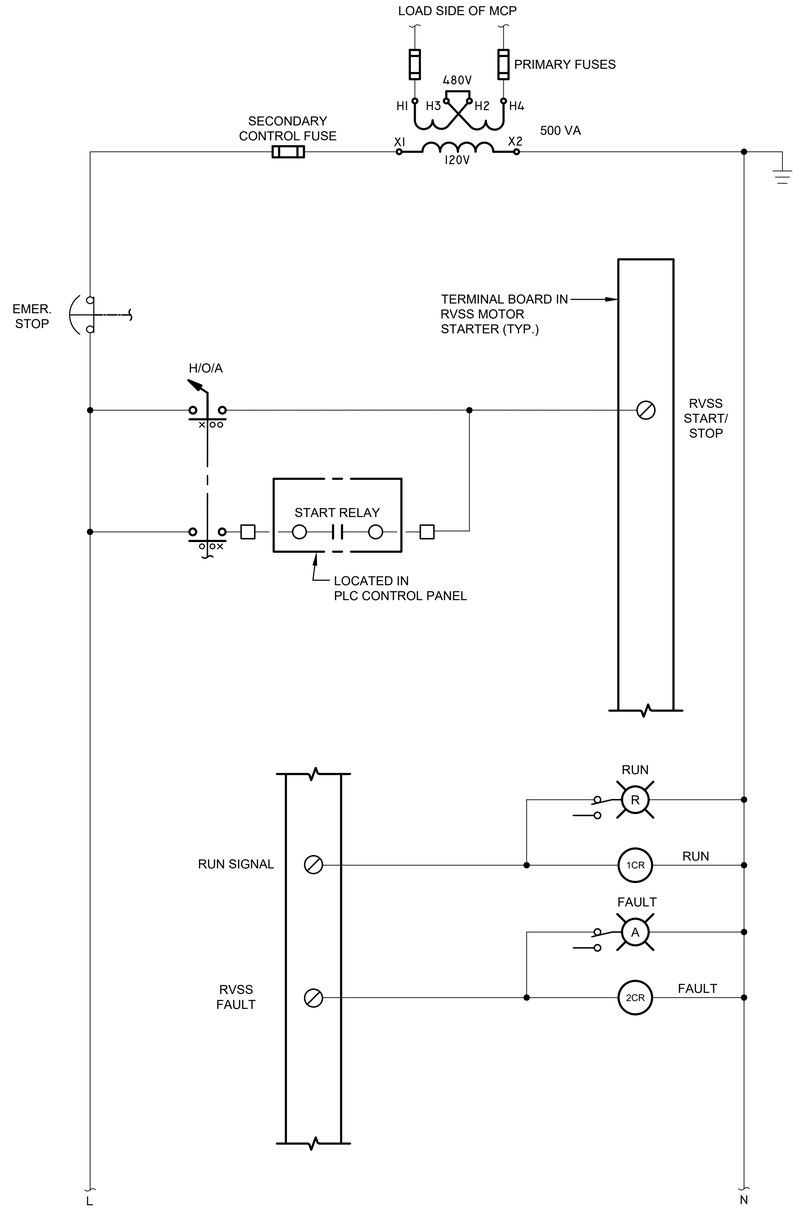
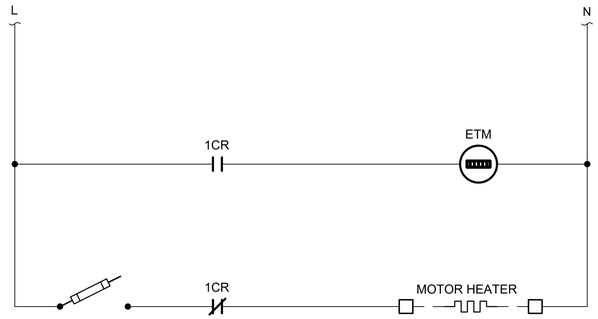
OTTER RIVER WATER TREATMENT PLANT FINISHED WATER PUMP UPGRADES

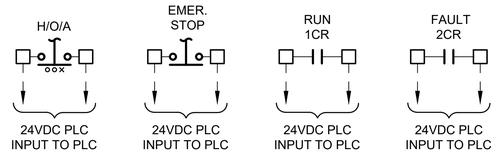
ONE-LINE DIAGRAM
CCUSA PROJECT NO. 81–2426

ENGINEER	CHECKED
DLCF	CB
DRAWN BY	DATE
KRG	DEC. 2025
PROJECT NUMBER	
23364 - TO1	

DRAWING NUMBER
E-05
SHEET NO. 12 OF 17







FINISHED WATER PUMPS NO. 1, NO. 2 AND NO. 3
RVSS CONTROL WIRING DIAGRAM

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OTTER RIVER WATER TREATMENT PLANT FINISHED WATER PUMP UPGRADES

RVSS WIRING DIAGRAM

CCUSA PROJECT NO. 81-2426

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DLCF	CB
DRAWN BY	DATE
KRG	DEC. 2025
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23364 - TO1	

DRAWING NUMBER
E-06
SHEET NO. 13 OF 17

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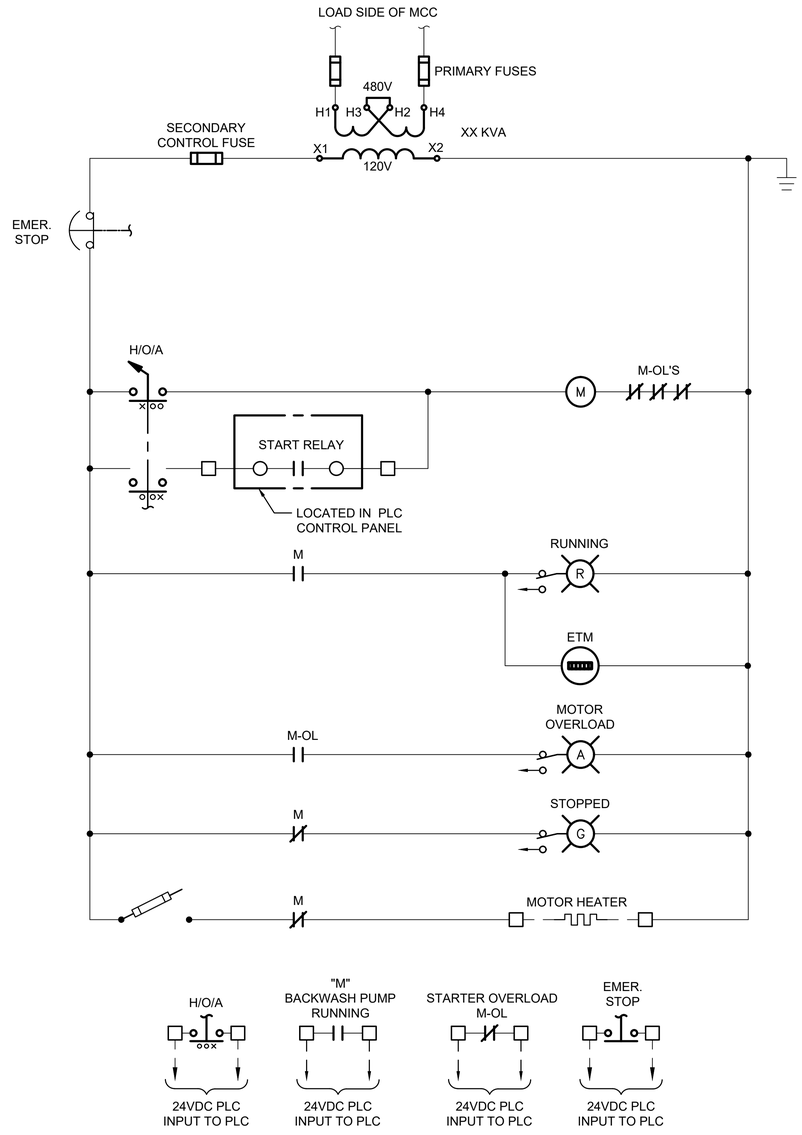

BACKWASH PUMP STARTER CONTROL WIRING DIAGRAM

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01/20/2026

CAMPBELL COUNTY, VIRGINIA
OTTER RIVER WATER TREATMENT
PLANT FINISHED WATER PUMP
UPGRADES

BACKWASH PUMP WIRING DIAGRAM

COUSA PROJECT NO. 81-2426

ENGINEER	CHECKED
DLCF	CB
DRAWN BY	DATE
KRG	DEC. 2025
PROJECT NUMBER	
23364 - TO1	

DRAWING NUMBER
E-07
SHEET NO. 14 OF 17

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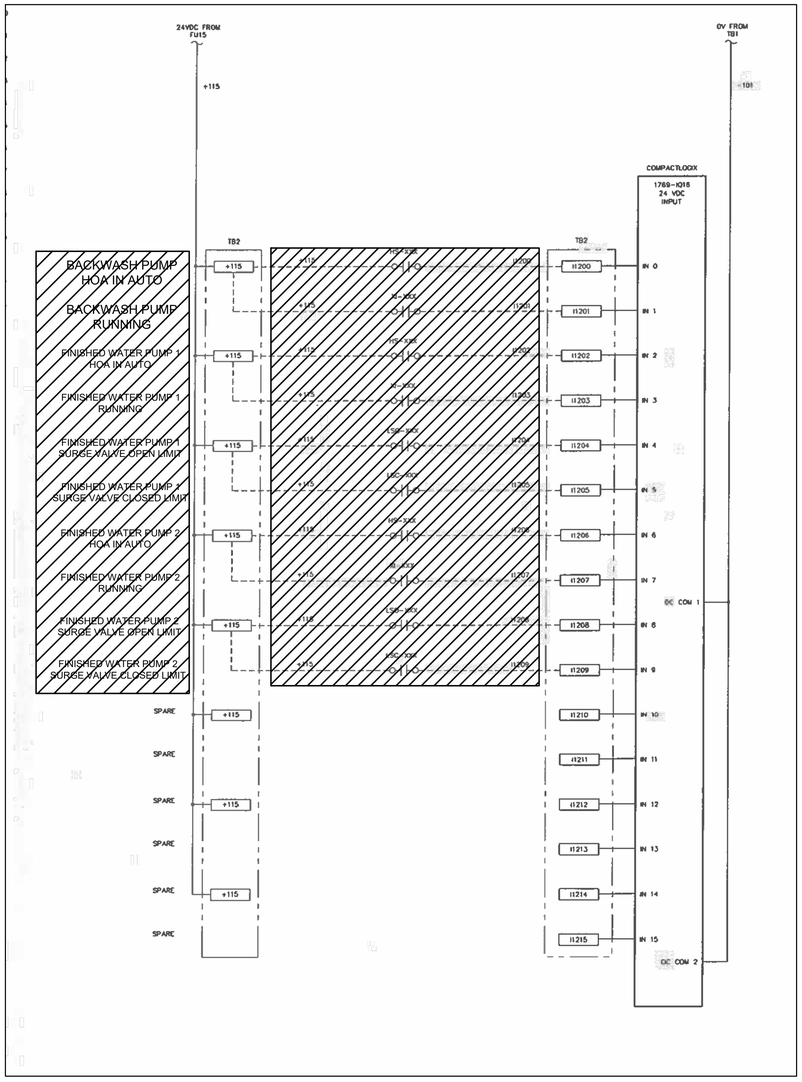
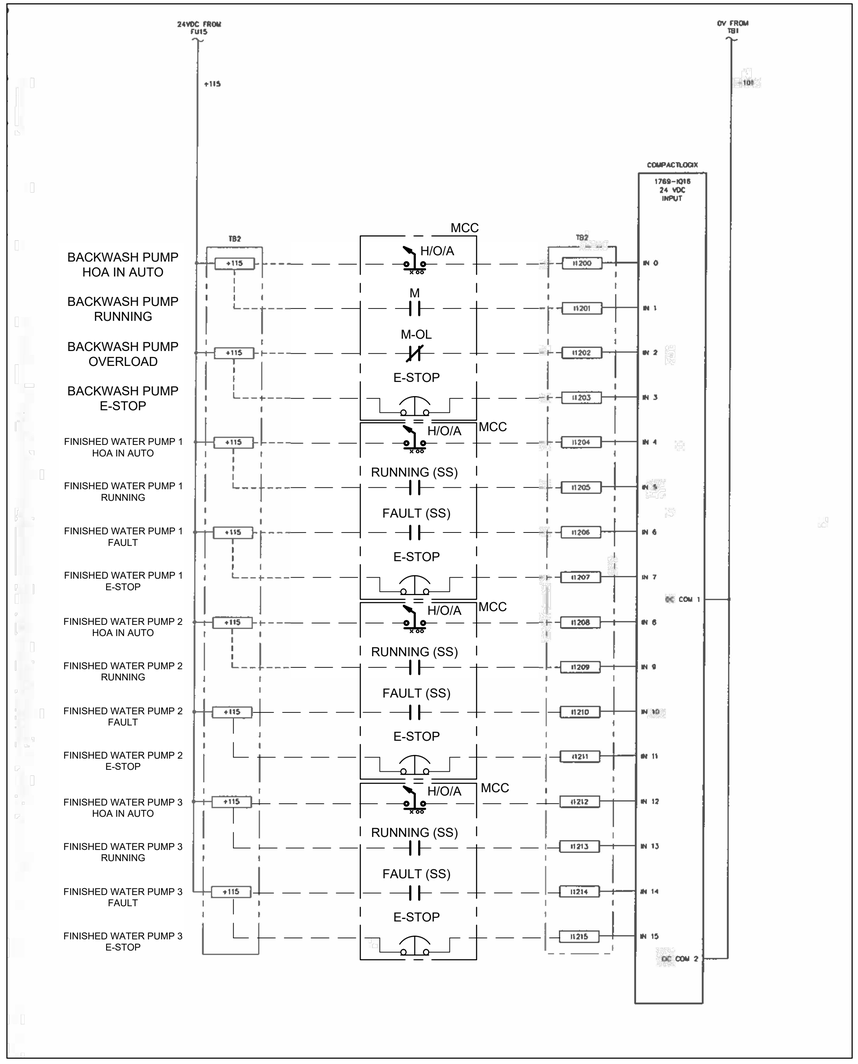
Dec 16, 2025 - 8:24pm DFC/CB Plot Scale 1=1 Plot By: tpadgett



EXISTING PLC PANEL DIAGRAM



MODIFICATION TO PLC PANEL WIRING DIAGRAM

NOTES

1. PROVIDE ADDITIONAL CARDS FOR MCC SIGNALS ("POWER FAILURE" & "SPD FAILURE"). REFER TO DWG E-05.

BID DOCUMENTS

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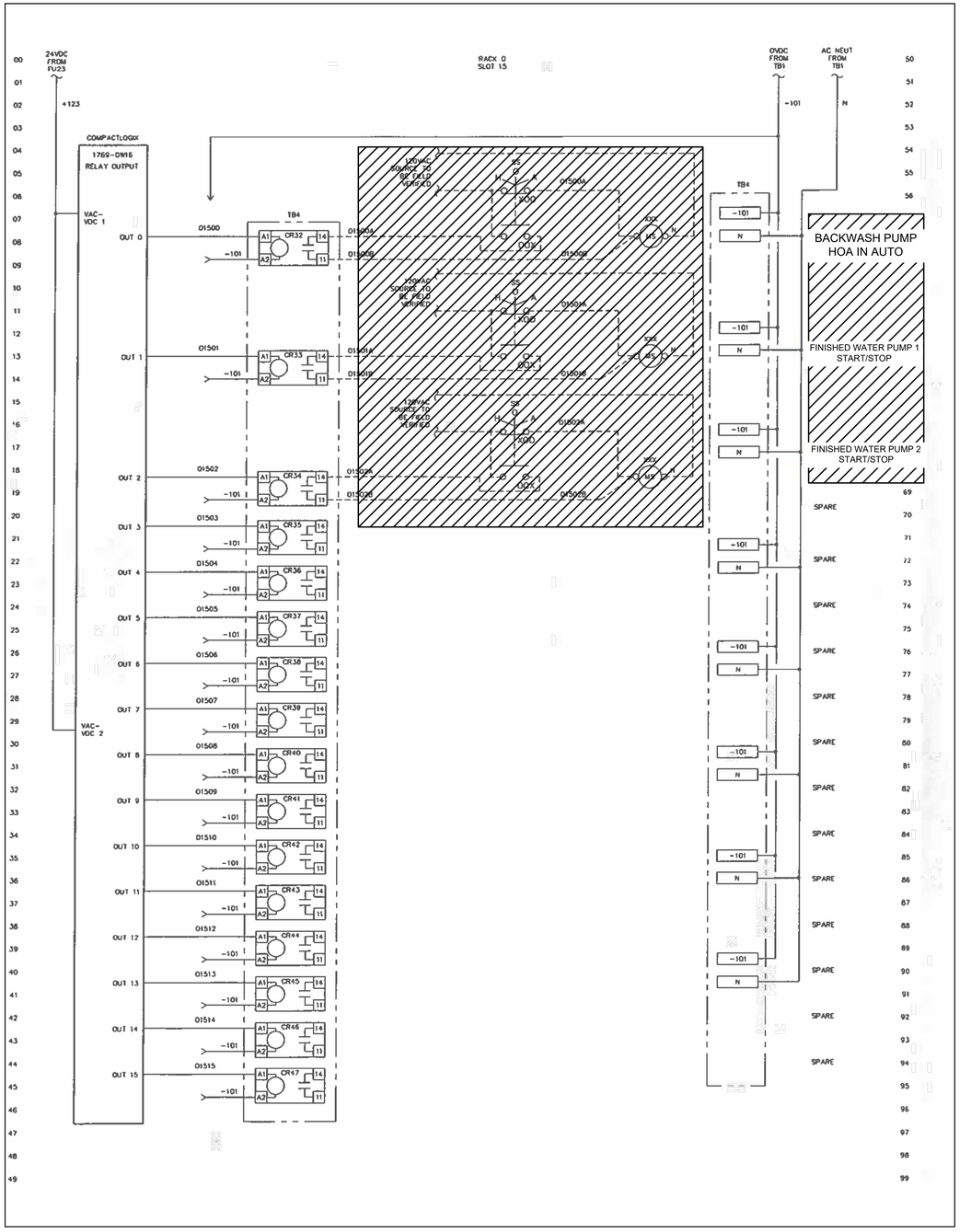
CAMPBELL COUNTY, VIRGINIA
OTTER RIVER WATER TREATMENT PLANT FINISHED WATER PUMP UPGRADES

PLC PANEL WIRING MODIFICATIONS
CCUSA PROJECT NO. 81-2426

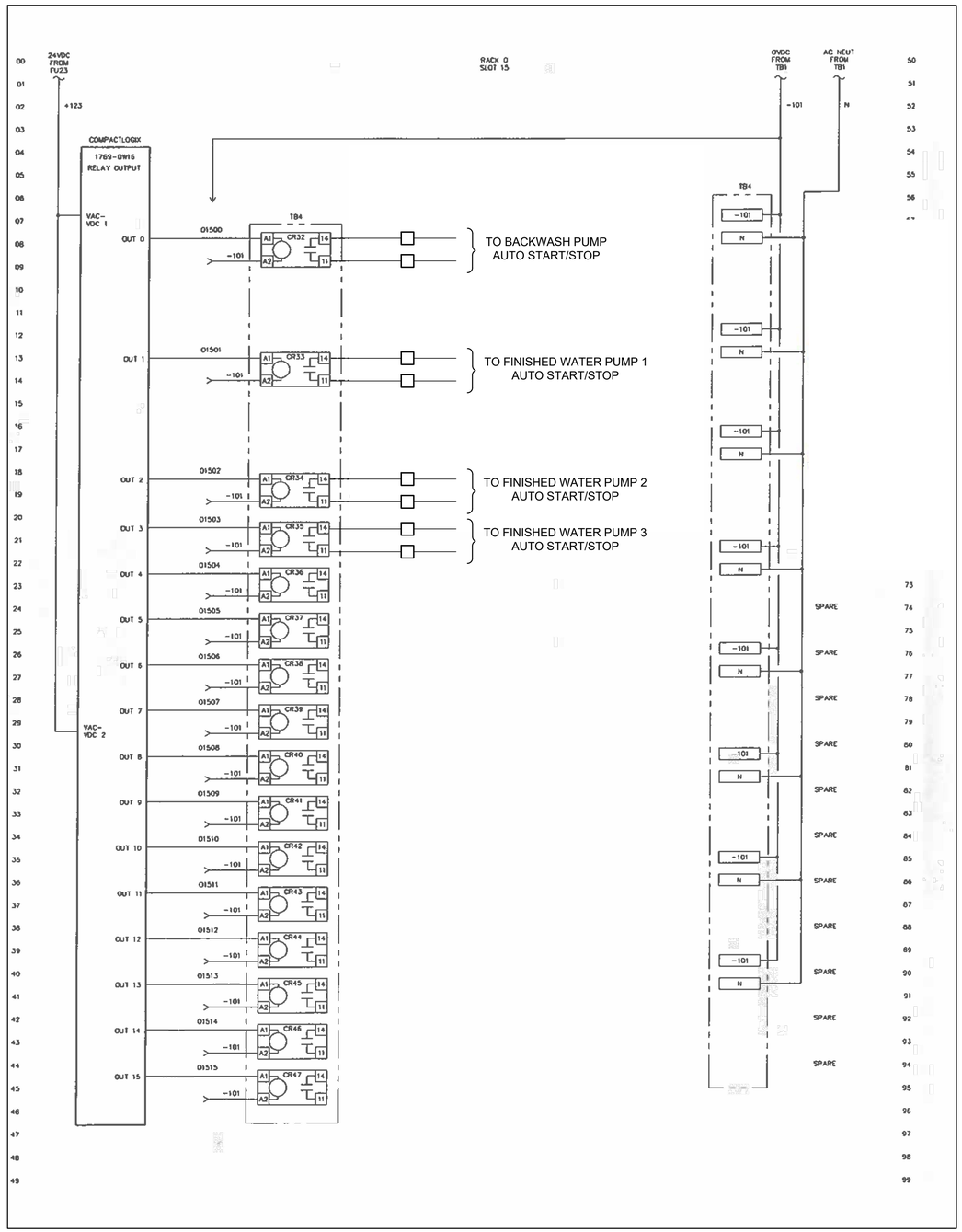
ENGINEER	CHECKED
DLCF	CB
DRAWN BY	DATE
KRG	DEC-2025
PROJECT NUMBER	
23364 - TO1	

DRAWING NUMBER
E-08
SHEET NO. 15 OF 17

R:\23364\VOL - 1\Vol 4\Layout\Vol 4 Cloud Projects\23364_CCUSA\TOA - WTP Finish Water Pump Upgrades\Vol 4 Electrical\Cloud\E-08.dwg
Dec 18, 2025 - 12:24pm DLCF/CB Plot Scale: 1=1 Plot By: rgallagher Layout: E-08



EXISTING PLC PANEL DIAGRAM



MODIFICATION TO PLC PANEL WIRING DIAGRAM

NOTES

1. CONTRACTOR SHALL TERMINATE REQUIRED SIGNALS AT THE PLC. OWNER'S SYSTEMS INTEGRATOR WILL MAKE ANY MODIFICATIONS REQUIRED TO THE PLC CONTROL PANEL AND WILL ALSO STARTUP/COMMISSION THE CONTROL SYSTEM.

BID DOCUMENTS

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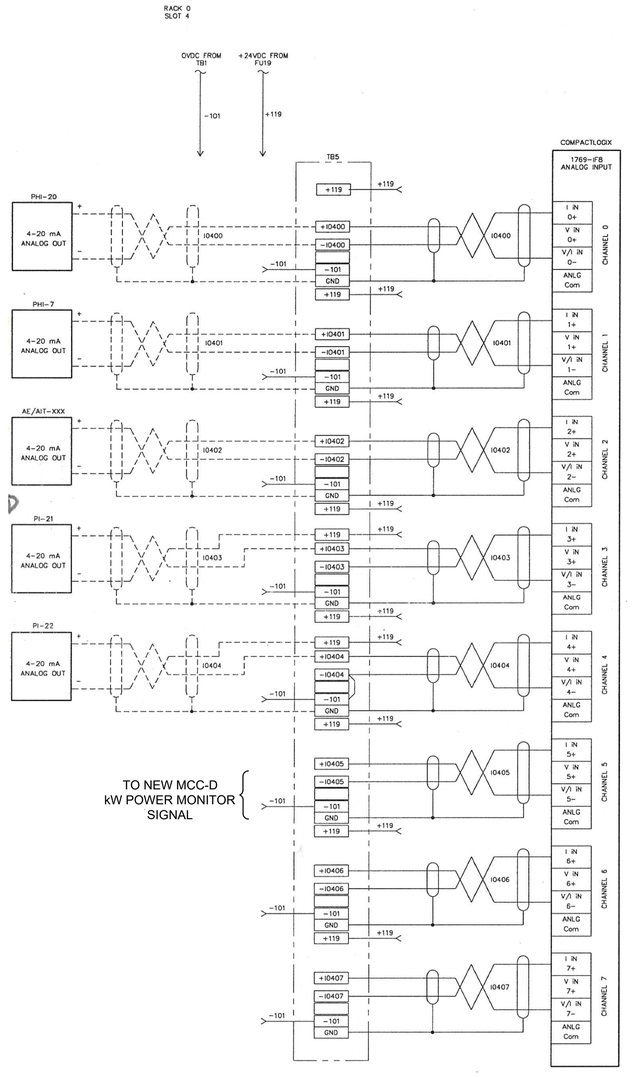
CAMPBELL COUNTY, VIRGINIA
OTTER RIVER WATER TREATMENT
PLANT FINISHED WATER PUMP
UPGRADES

PLC PANEL WIRING MODIFICATIONS
CCUSA PROJECT NO. 81-2426

ENGINEER	CHECKED
DLCF	CB
DRAWN BY	DATE
KRG	DEC. 2025
PROJECT NUMBER	
23364 - TO1	

DRAWING NUMBER
E-09
SHEET NO. 16 OF 17



MODIFICATION TO PLC PANEL WIRING DIAGRAM

NOTES

1. USE ONE OF THE SPARES AVAILABLE IN SLOT 4 TO CONNECT THE POWER MONITOR SIGNAL. REFER TO DWG E-05.

2. CONTRACTOR SHALL TERMINATE REQUIRED SIGNALS AT THE PLC. OWNER'S SYSTEMS INTEGRATOR WILL MAKE ANY MODIFICATIONS REQUIRED TO THE PLC CONTROL PANEL AND WILL ALSO STARTUP/COMMISSION THE CONTROL SYSTEM.

BID DOCUMENTS

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PLC PANEL WIRING MODIFICATIONS
CCUSA PROJECT NO. 81-2426

ENGINEER	CHECKED
DLCF	CB
DRAWN BY	DATE
KRG	DEC. 2025
PROJECT NUMBER	
23364 - TO1	

DRAWING NUMBER
E-10
SHEET NO. 17 OF 17

R:\23364_CCUSA\Design\Drawings\Electrical\Project Drawings\E-10 - PLC Panel Wiring Modifications.dwg
Dec 16, 2025 - 12:24pm
Plot By: Kathleen Gaylord
Plot Scale: 1=1
Layout: E-10