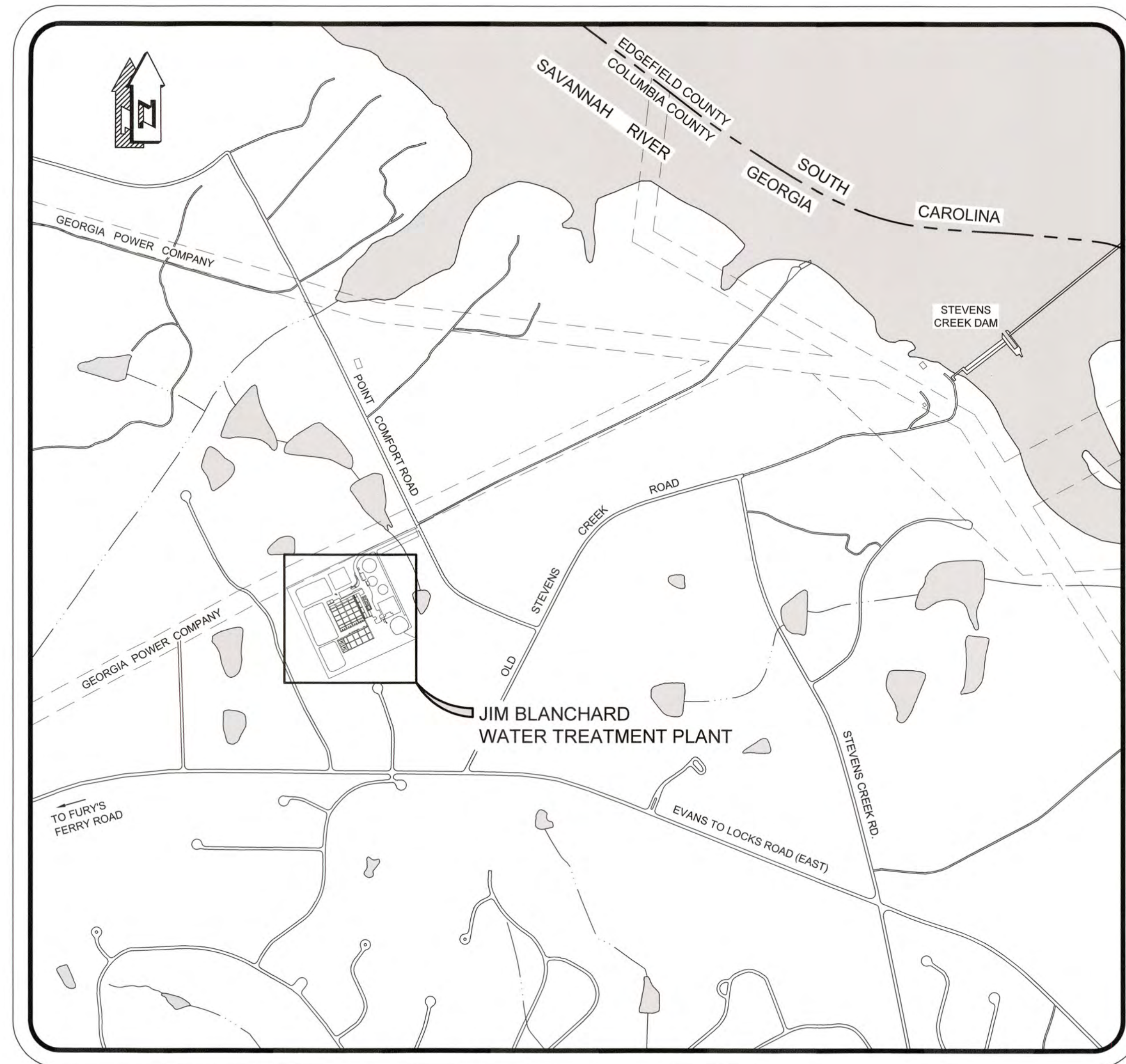


COLUMBIA COUNTY, GEORGIA

UV / ADVANCED OXIDATION TREATMENT

JIM BLANCHARD W.T.P. & CLARKS HILL W.T.P.



JIM BLANCHARD W.T.P. LOCATION MAP

UV BUILDING SIDE A
 N.T.S.
 LATITUDE: 33.55784N
 LONGITUDE: 82.06692W
 DISTURBED ACREAGE= 0.28 AC

UV BUILDING SIDE B
 LATITUDE: 33.55728N
 LONGITUDE: 82.06654W
 DISTURBED ACREAGE= 0.46 AC

SITE INFORMATION:
 832 POINT COMFORT ROAD
 MARTINEZ, GA 30907
 PARCEL 082 018

COUNTY MANAGER

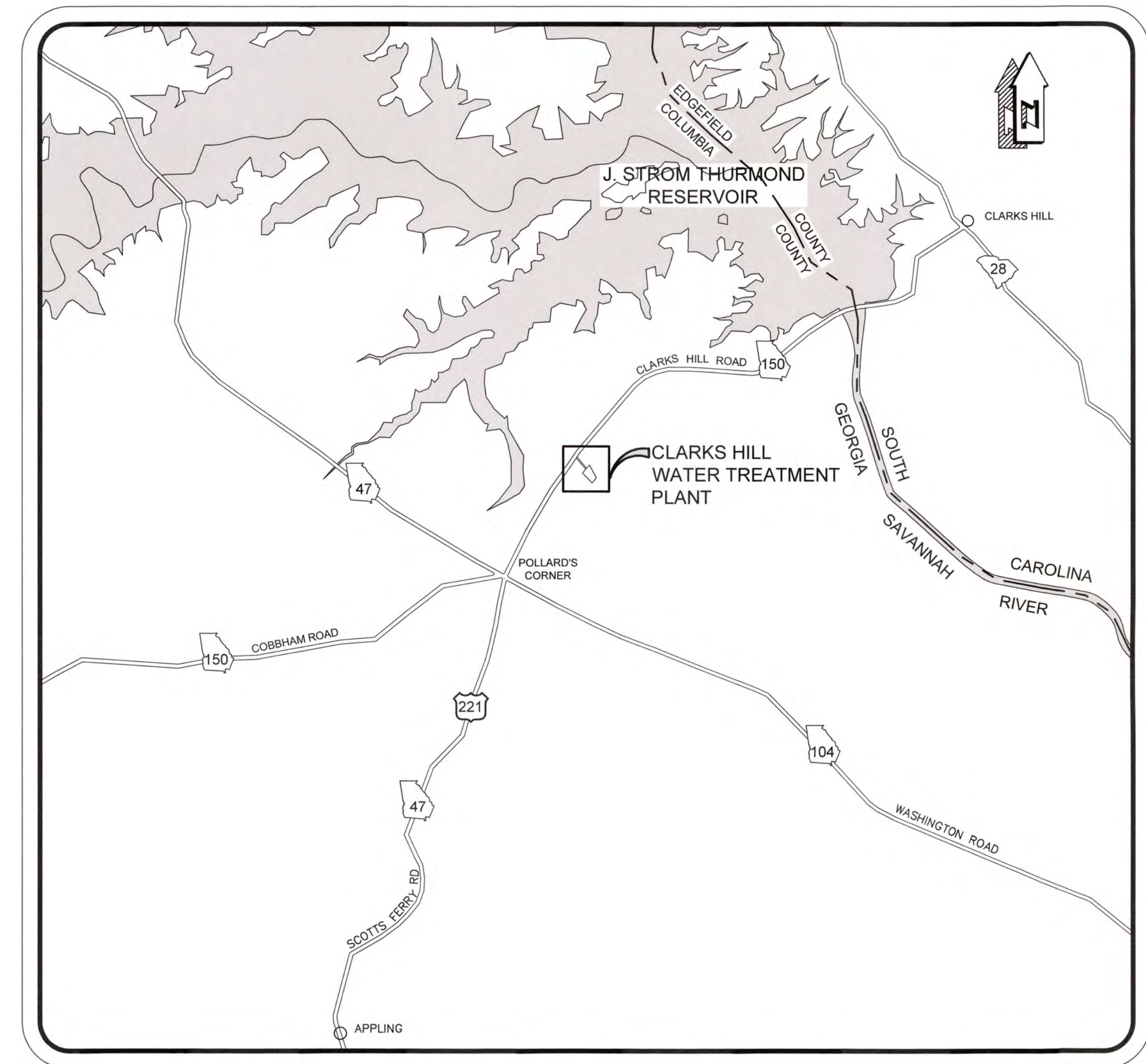
SCOTT D. JOHNSON

DEPUTY COUNTY MANAGER

MATT SCHLACHTER, P.E.

WATER UTILITY DIRECTOR

WILLIAM C. CLAYTON



CLARKS HILL W.T.P. LOCATION MAP

UV BUILDING CLARKS HILL
 N.T.S.
 LATITUDE: 33.63804N
 LONGITUDE: 82.25708W
 DISTURBED ACREAGE= 0.19 AC

SITE INFORMATION:
 5776 CLARKS HILL ROAD
 APPLING, GA 30802
 PARCEL 047 033A

BOARD OF COMMISSIONERS

DOUG DUNCAN - CHAIRMAN

CONNIE MELEAR - DISTRICT 1

DON SKINNER - DISTRICT 2

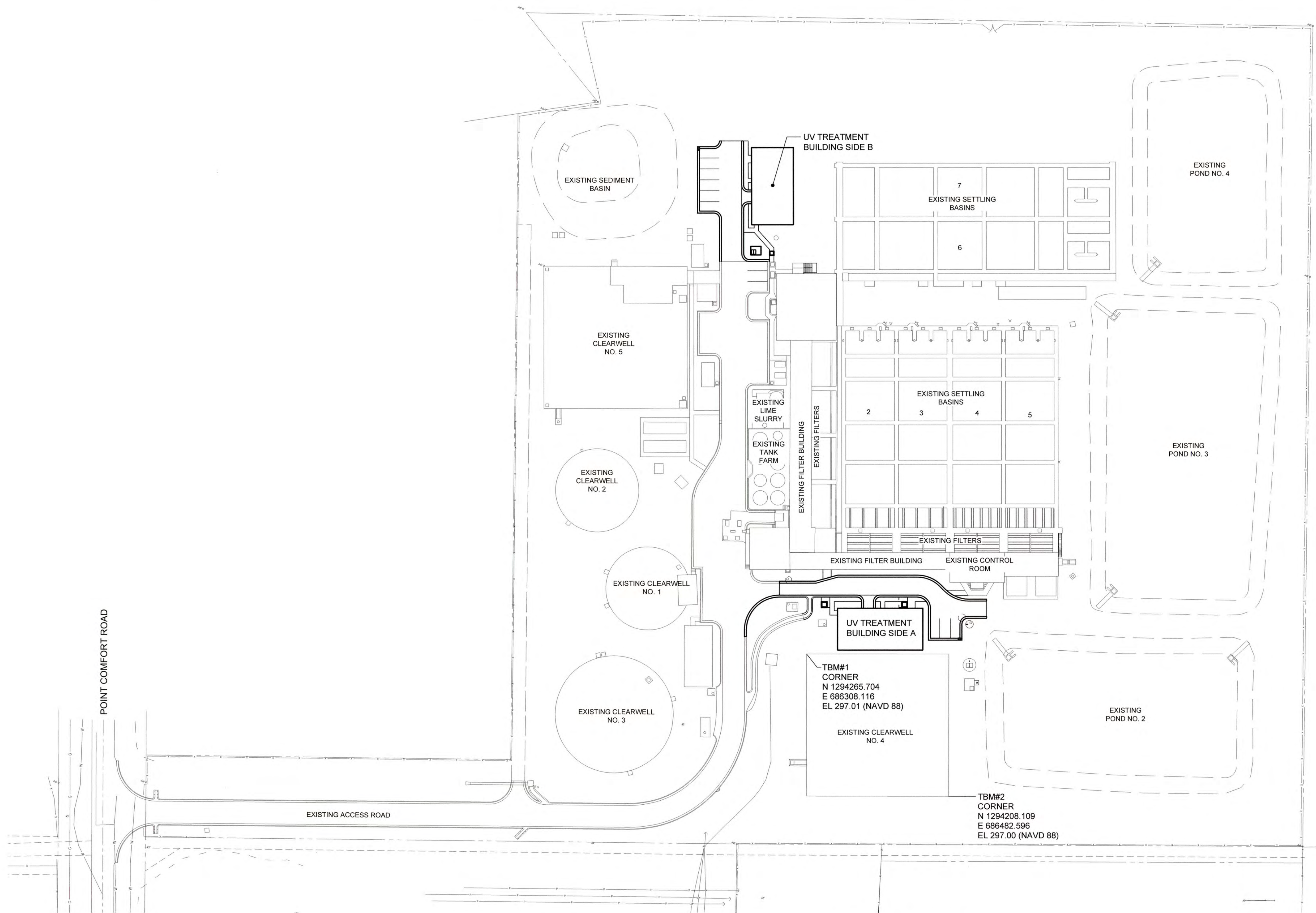
GARY L. RICHARDSON - DISTRICT 3

DEWEY GALEAS - DISTRICT 4



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 435 Telfair Street, Augusta, Georgia 30901
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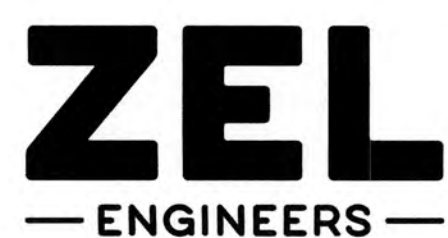


SITE ARRANGEMENT
SCALE: 1" = 50'

J:\2016\161 Columbia County Water Utility\161-00 Blanchard and Clerks Hill WTP UV Periodic Design\Drawings\161-00 1G1.dwg, 1/19/2021 11:26:05 AM, KChaller, AutoCAD PDF (General Documentation).pc3, 1:1



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COLUMBIA COUNTY, GEORGIA

UV / ADVANCED OXIDATION TREATMENT

GENERAL SITE ARRANGEMENT - JIM BLANCHARD WTP

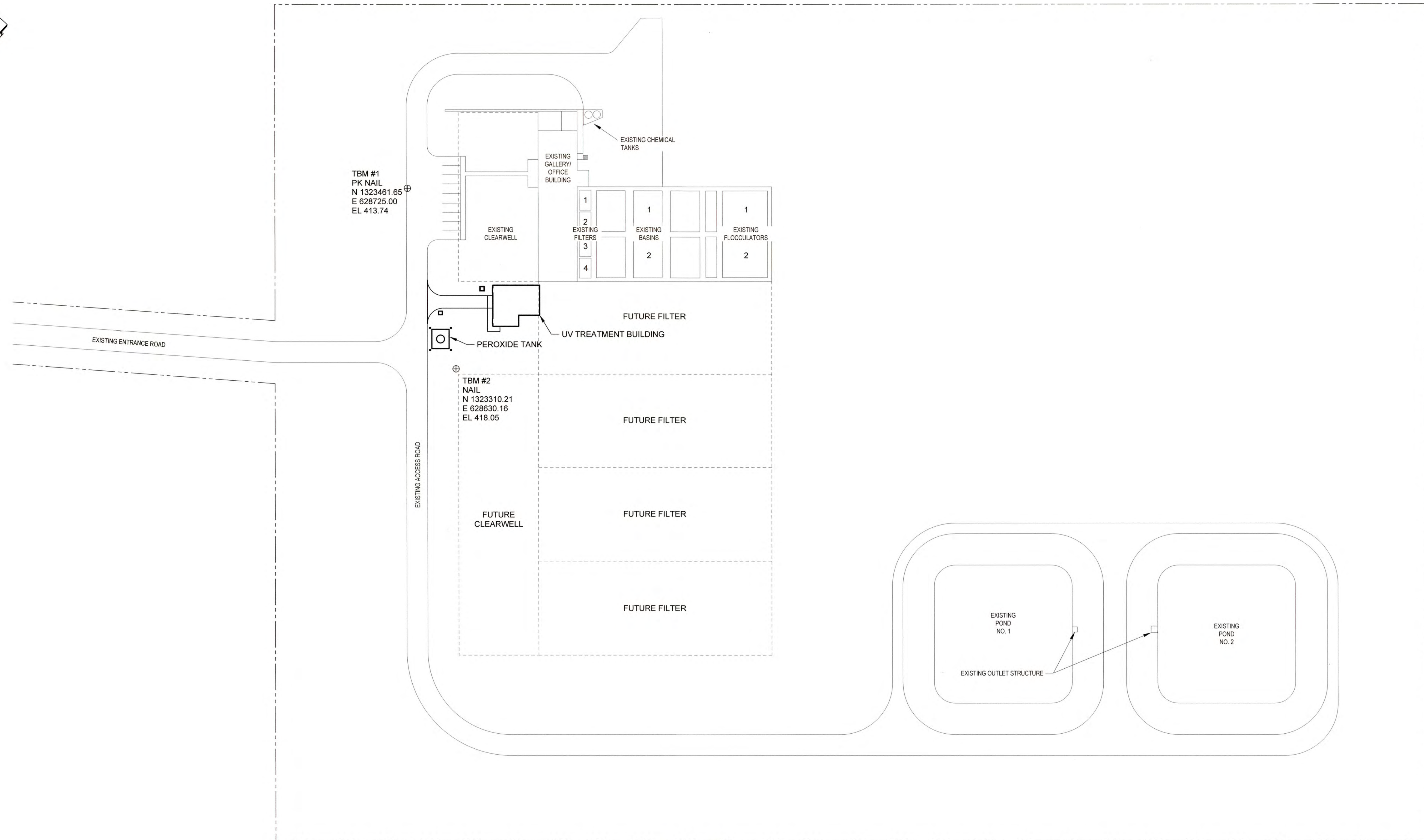


IF THIS BAR DOES NOT MEASURE 1" DRAWING IS NOT TO LABELED SCALE

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DRAWN	KDC	DATE	DEC 2020
QC		SCALE	1" = 50'

DWG NO.

1G1

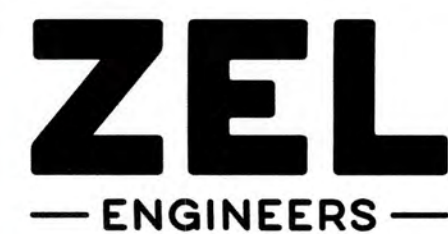


SITE ARRANGEMENT
SCALE: 1" = 50'

J:\2018\1631 Columbia County Water Utility\1631-00 Blanchard and Clarks Hill WTP UV-Peroxide Design\Drawings\1631-00 1G2.dwg, 1/19/2021 11:25:40 AM, K.Chalier, AutoCAD PDF (General Documentation).pc3, 1:1



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COLUMBIA COUNTY, GEORGIA

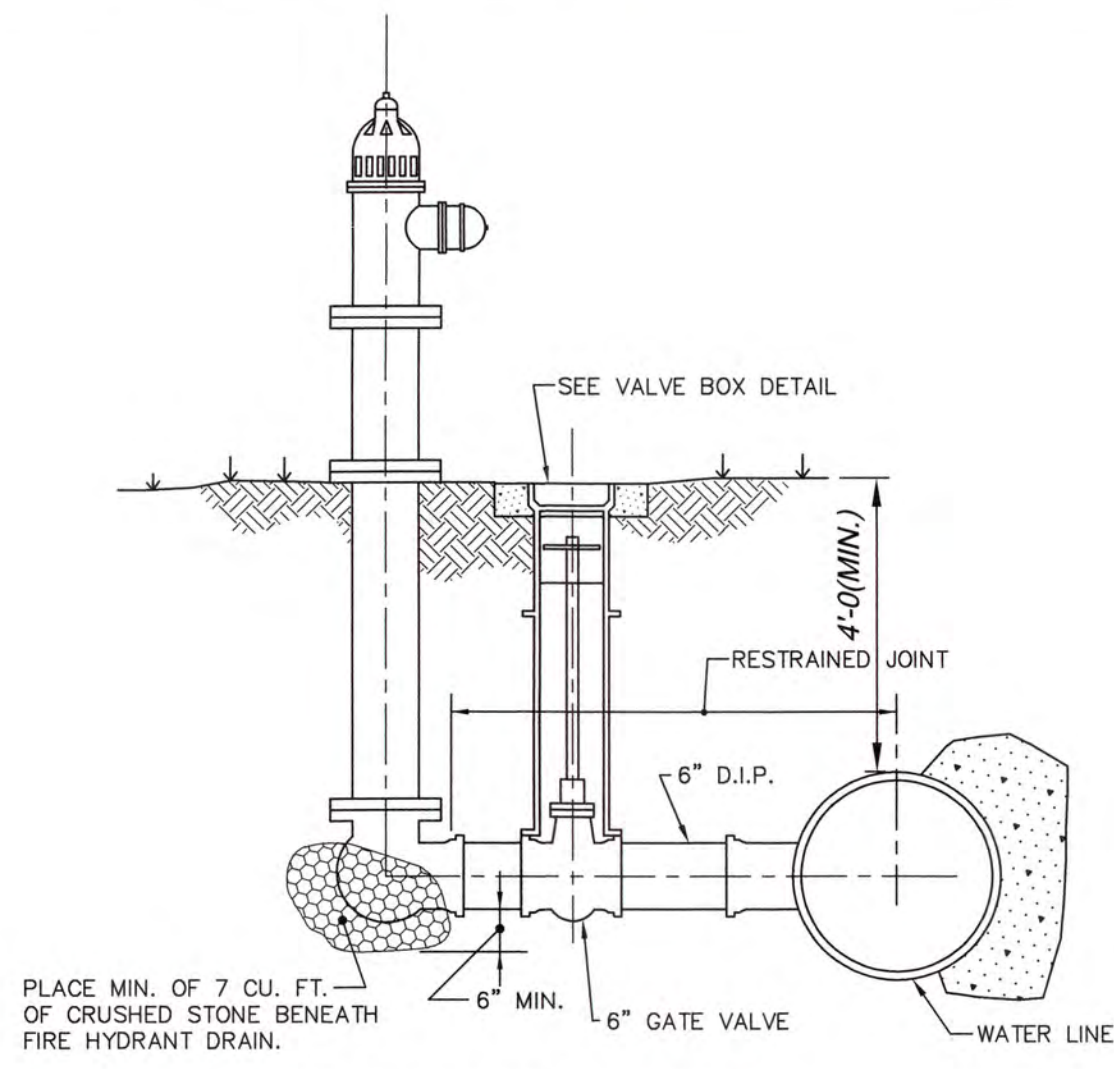
UV / ADVANCED OXIDATION TREATMENT

GENERAL SITE ARRANGEMENT - CLARKS HILL WTP

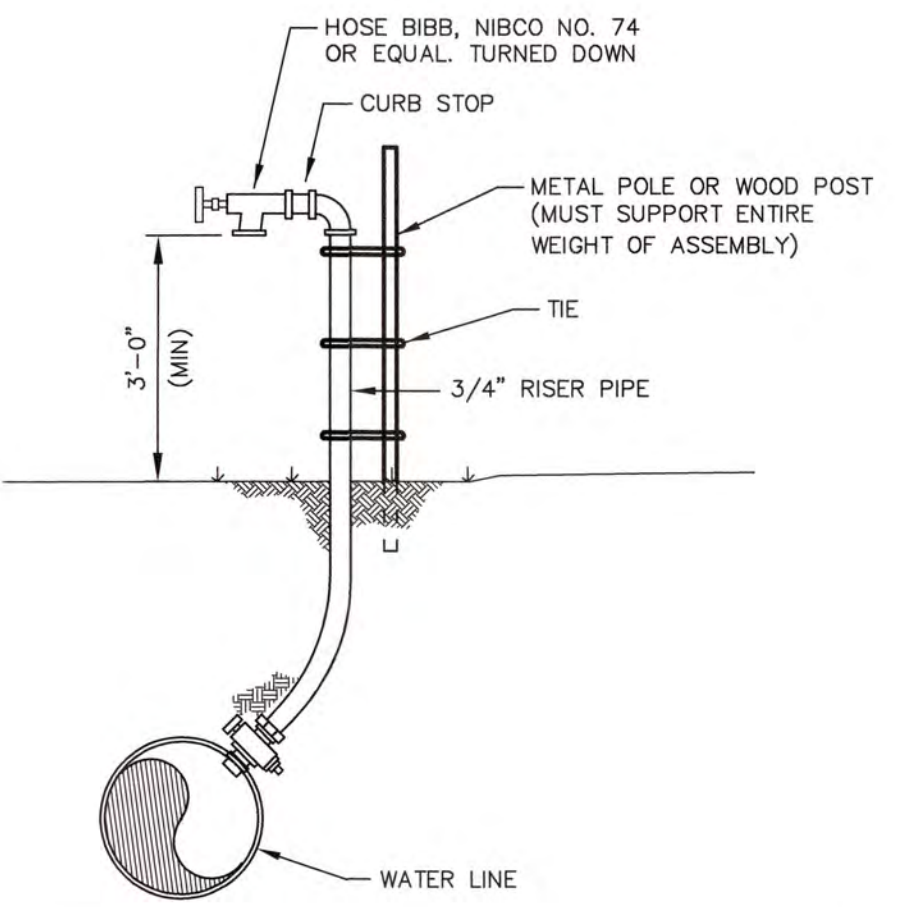


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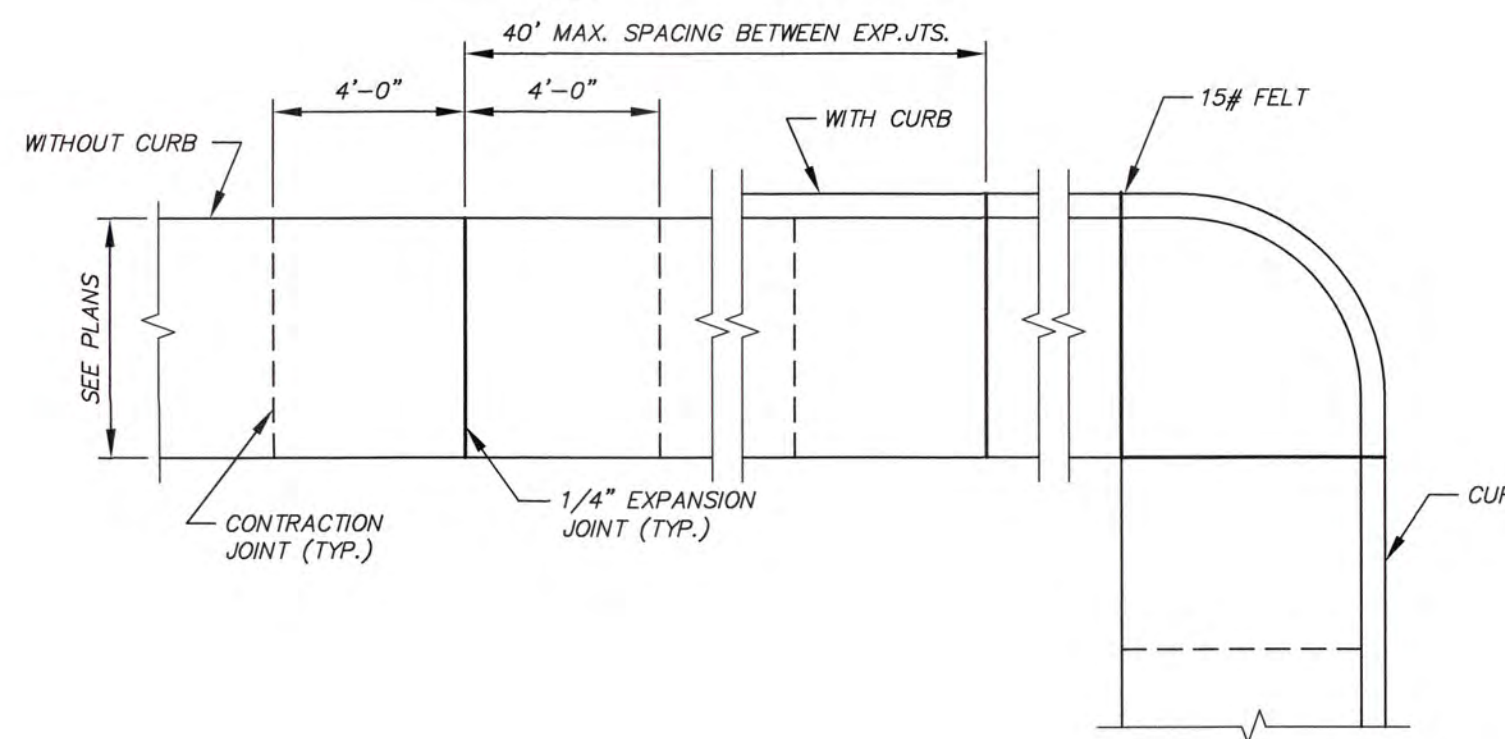
DESIGNED	SWG	REF.	1631-00	DWG NO.
DRAWN	KDC	DATE	DEC 2020	1G2
QC		SCALE	1" = 50'	



FIRE HYDRANT DETAIL
N.T.S.

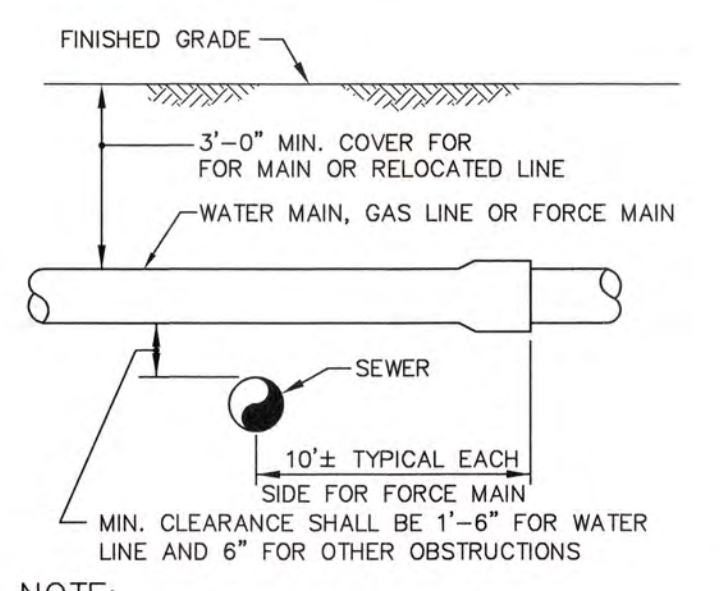


SAMPLE TAP
N.T.S.

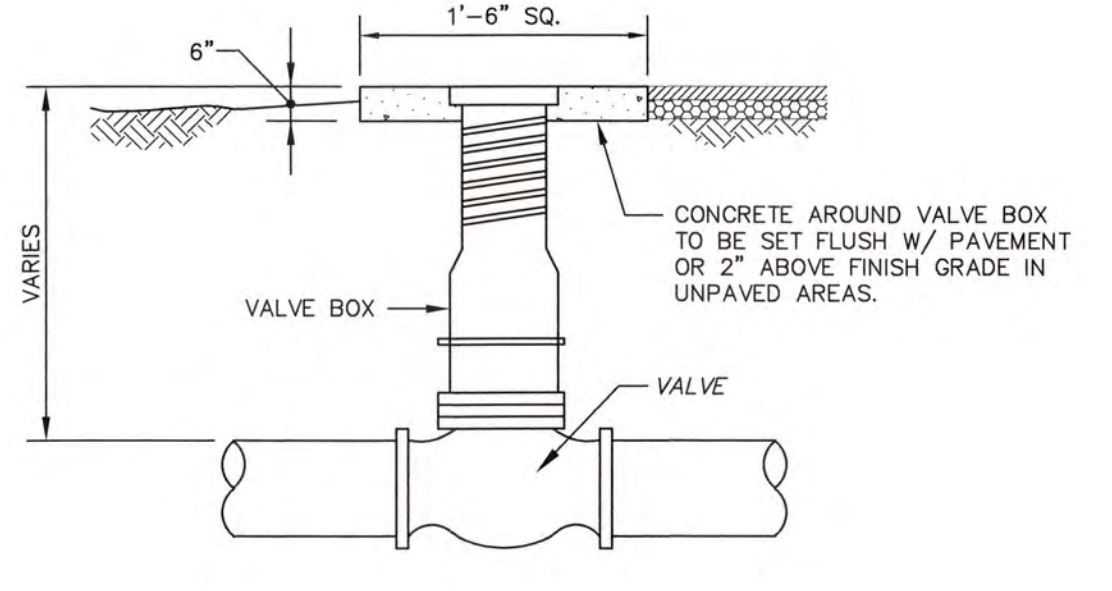


SIDEWALK PLAN
N.T.S.

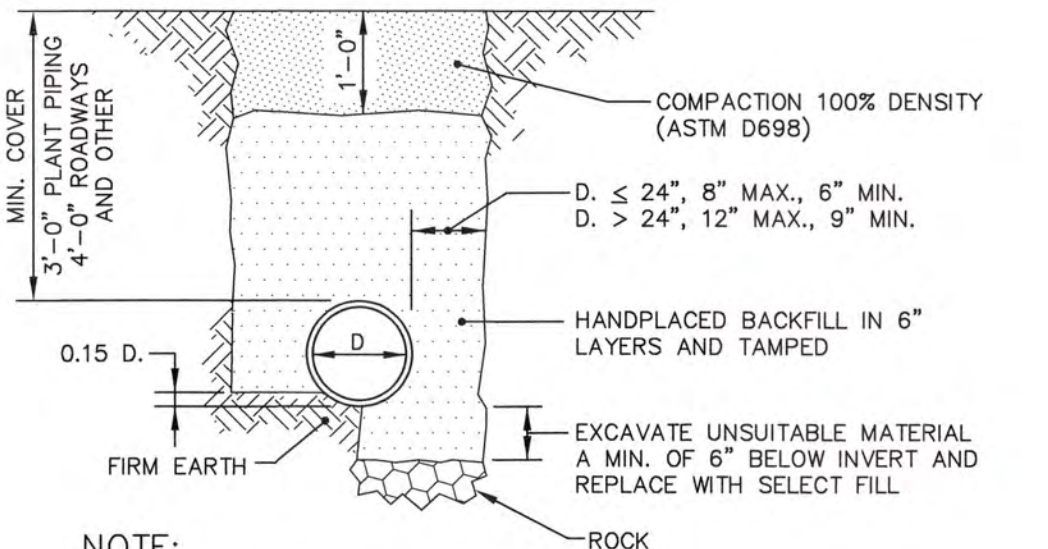
- NOTES:
1. ALL SIDEWALKS SHALL BE 4" THICK.
 2. CONTRACTION JOINTS SHALL BE 1" DEEP AND EDGED WITH 1/8" RADIUS.
 3. CONTRACTOR SHALL MATCH NEW CONTRACTION JOINTS ON NEW SIDEWALK WITH ANY EXISTING CONTRACTION JOINTS.
 4. 1/4" EXP MATERIAL REQUIRED WHERE CONC. SIDEWALK BUTTS STRUCTURES.
 5. A LAYER OF 15 # FELT IS REQUIRED BETWEEN WALK AND ADJACENT PARALLELING CURB.



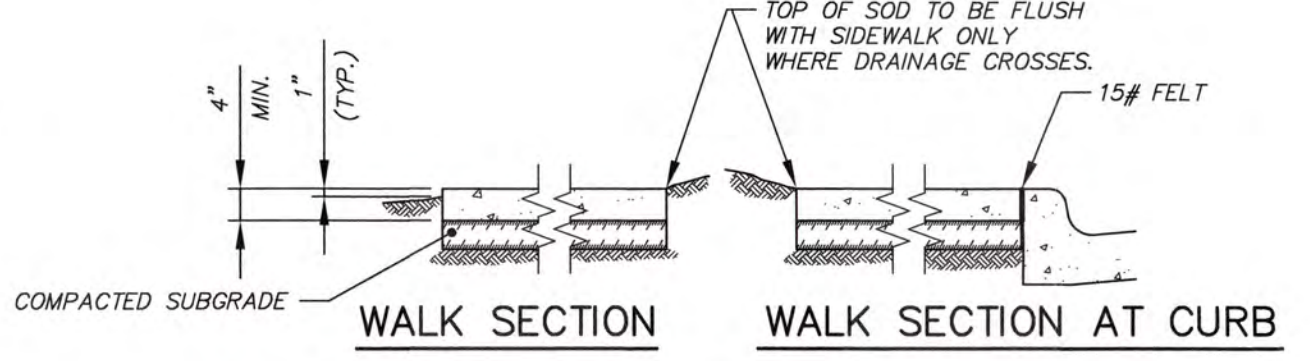
UNDERGROUND OBSTRUCTION DETAIL
N.T.S.



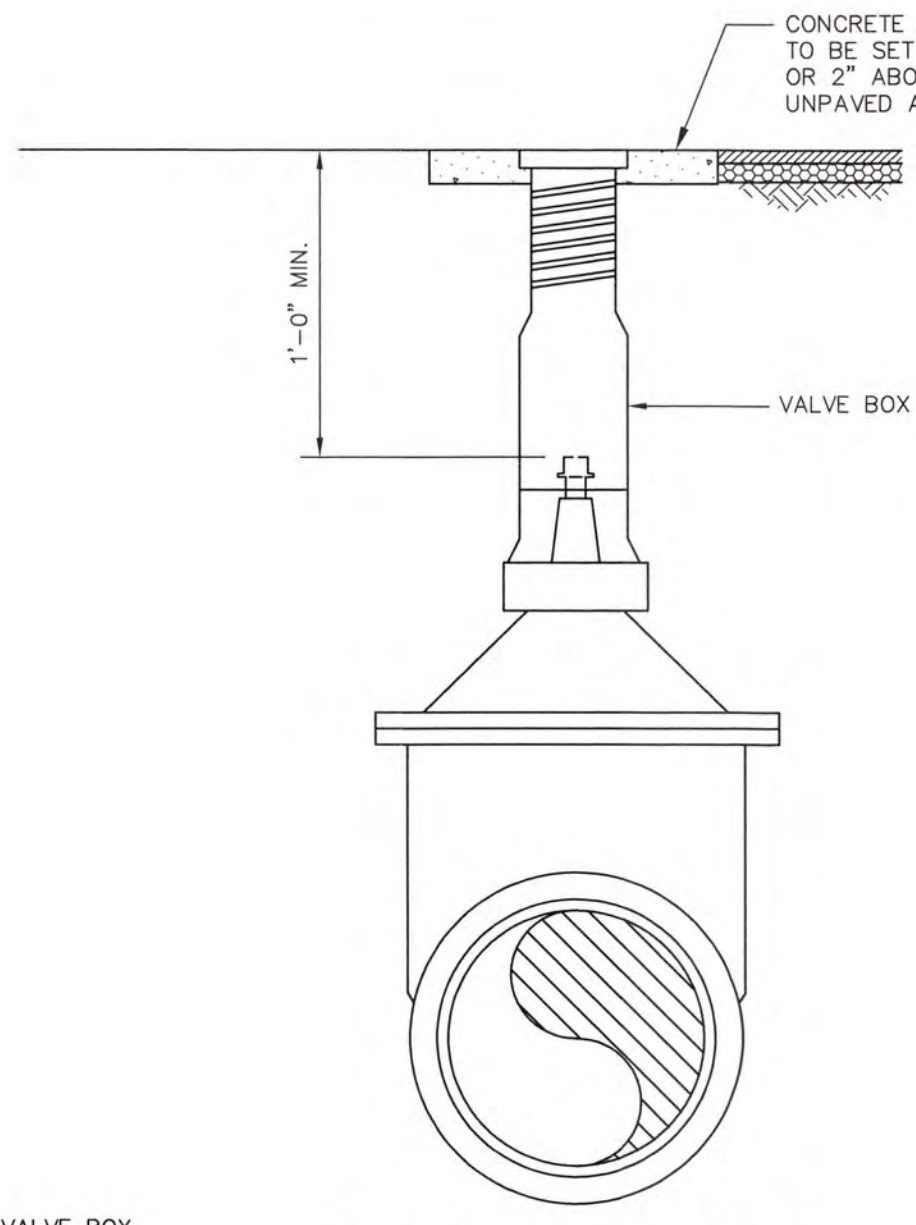
VALVE AND VALVE BOX DETAIL
N.T.S.



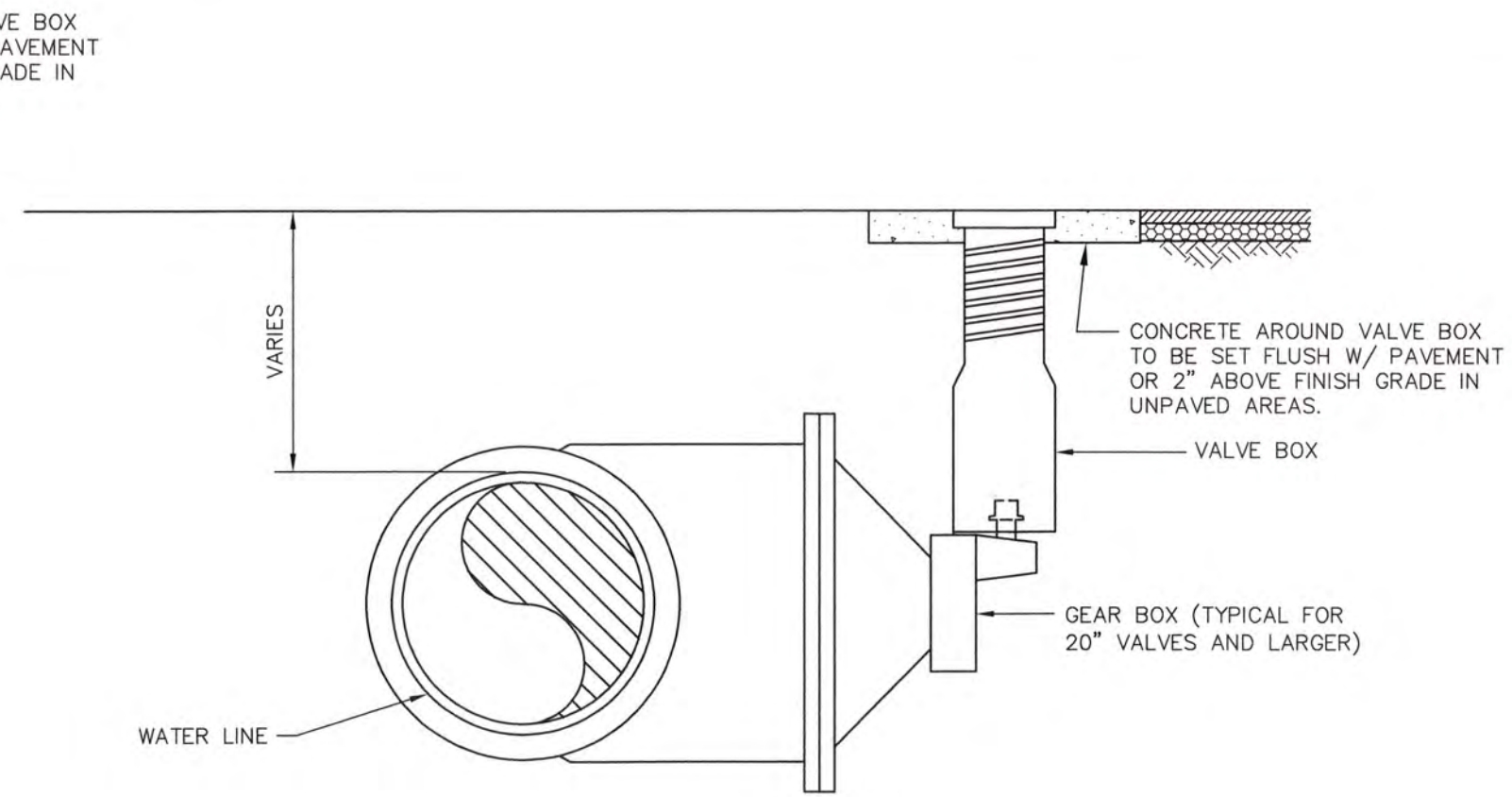
PIPE BEDDING DETAIL FOR DIP WATER LINES
N.T.S.



WALK SECTION **WALK SECTION AT CURB**



VERTICAL POSITION



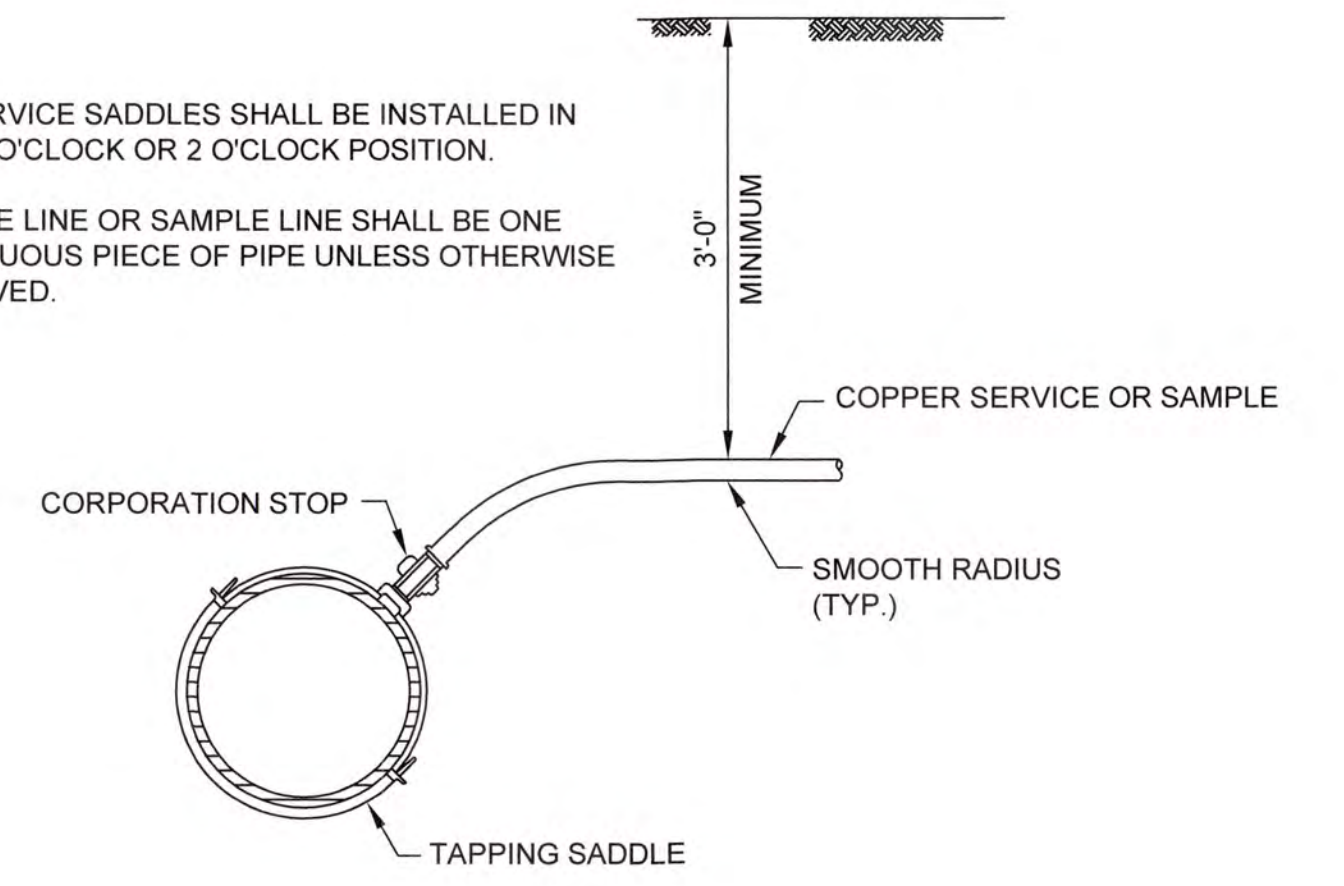
HORIZONTAL POSITION

NOTES: SEE VALVE SCHEDULE FOR POSITION

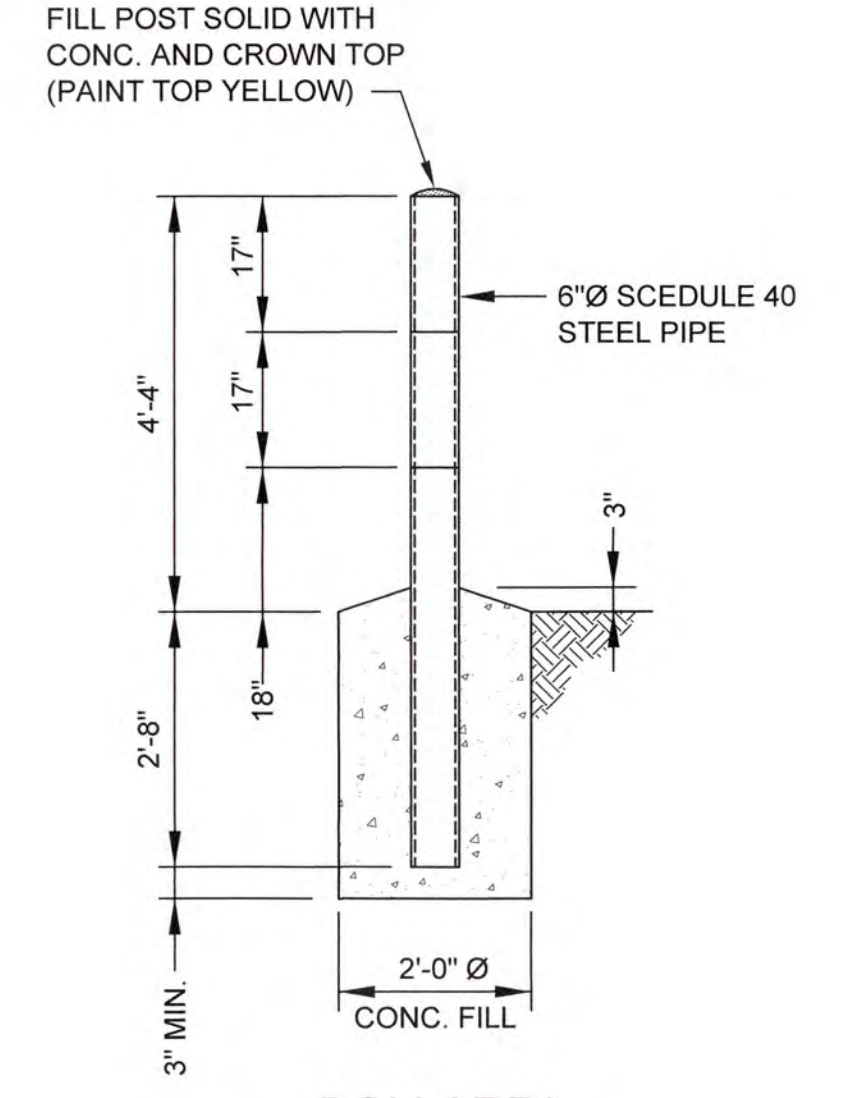
VALVE AND VALVE BOX DETAIL > 20"
N.T.S.

NOTES:

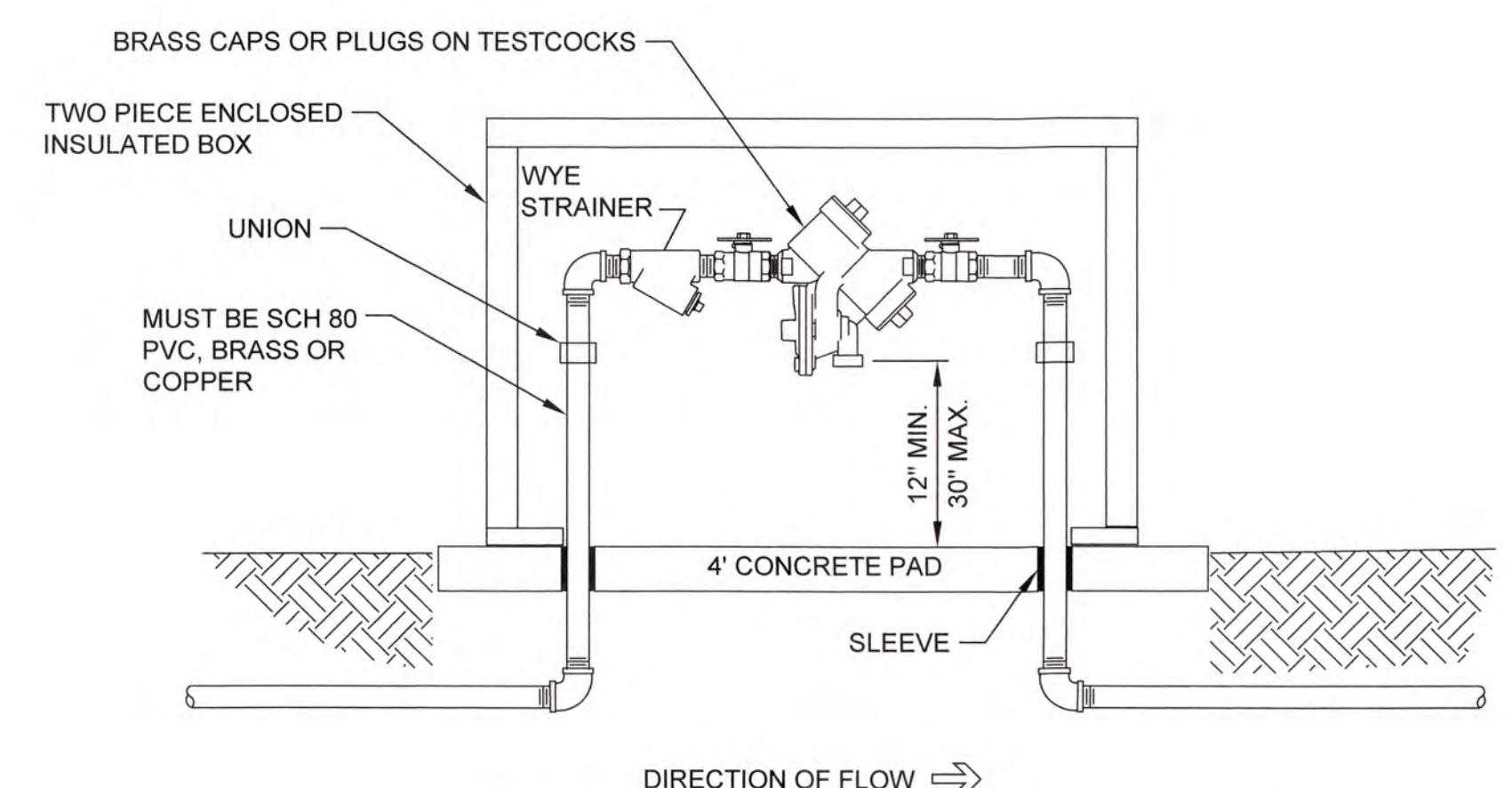
1. ALL SERVICE SADDLES SHALL BE INSTALLED IN THE 10 O'CLOCK OR 2 O'CLOCK POSITION.
2. SERVICE LINE OR SAMPLE LINE SHALL BE ONE CONTINUOUS PIECE OF PIPE UNLESS OTHERWISE APPROVED.



WATER SERVICE / SAMPLE LINE
N.T.S.



BOLLARD/ GUARD POST DETAIL
SCALE: 1/2" = 1'-0"



REDUCED PRESSURE PRINCIPLE ASSEMBLY OUTDOOR HORIZONTAL INSTALLATION 2.5" AND SMALLER
N.T.S.



NO.	DATE	REVISION	BY	APVD

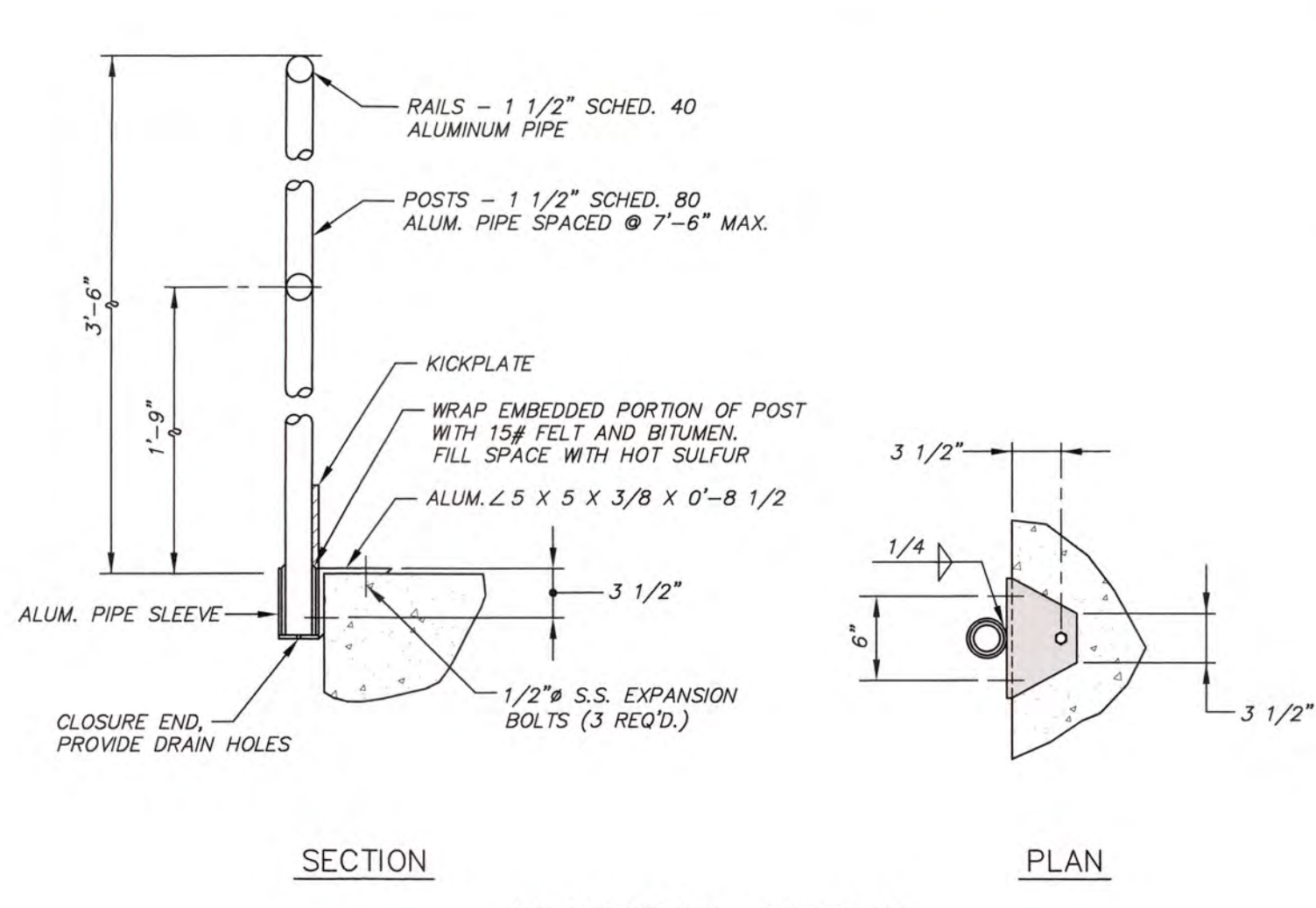


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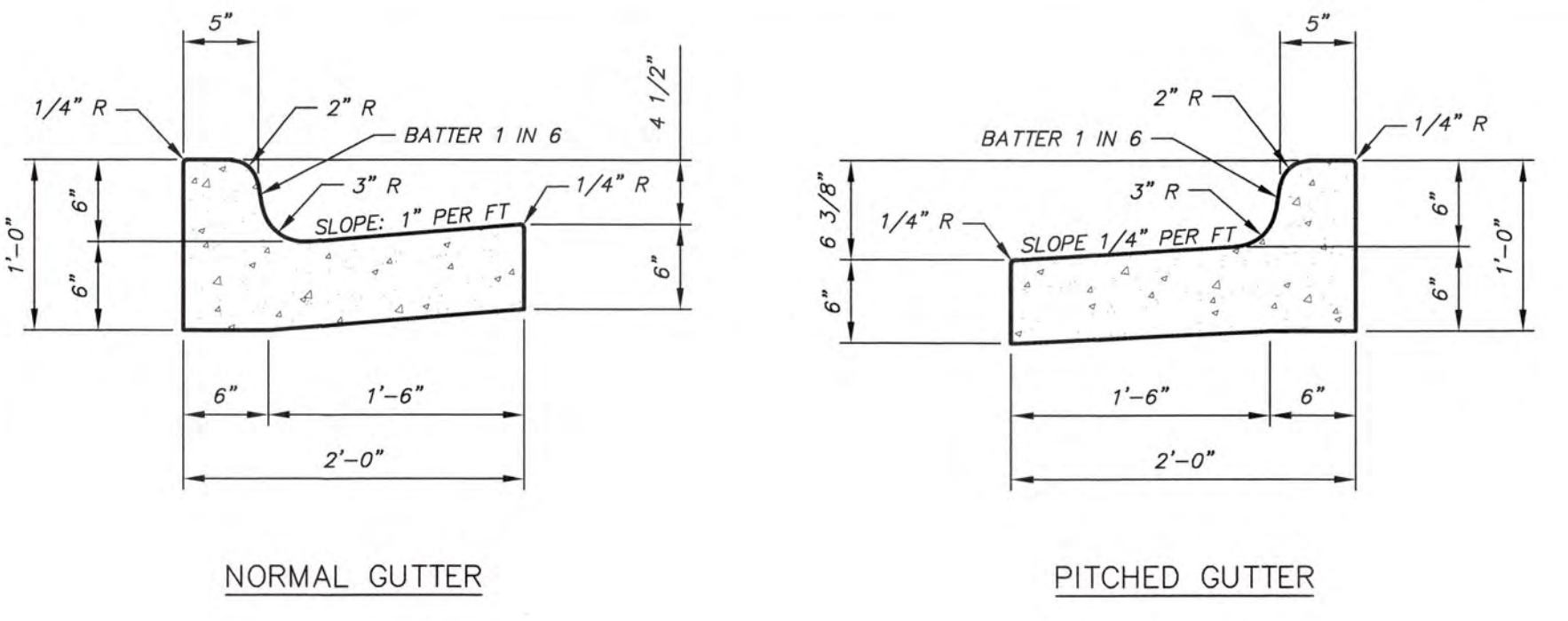
COLUMBIA COUNTY, GEORGIA				
UV / ADVANCED OXIDATION TREATMENT				
STANDARD DETAILS - 1				

DESIGNED		SWG	REF.	1631-00	DWG NO.
DRAWN		KDC	DATE	DEC 2020	1G3
QC			SCALE	N/A	

J:\2016\1631 Columbia County Water Utility\1631-00 Blanchard and Clarke Hill WTP UV-Peroxide Design\Drawings\1631-00 1G3.dwg, 12/10/2020 10:41:34 AM, K. Rickbaugh, HP Design\172501 Rev. 2.dwg, 1:1



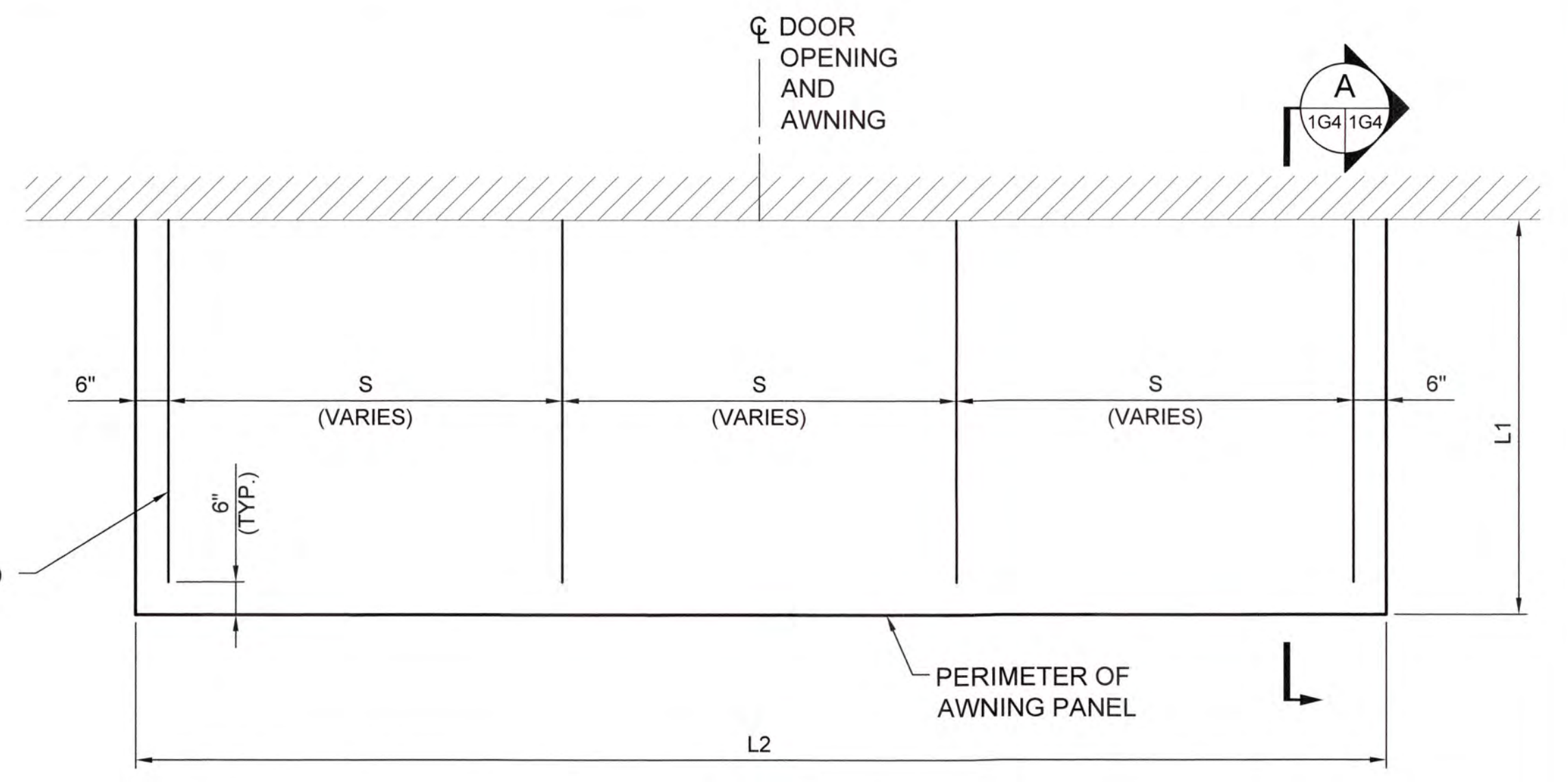
HANDRAIL DETAIL



NOTES:

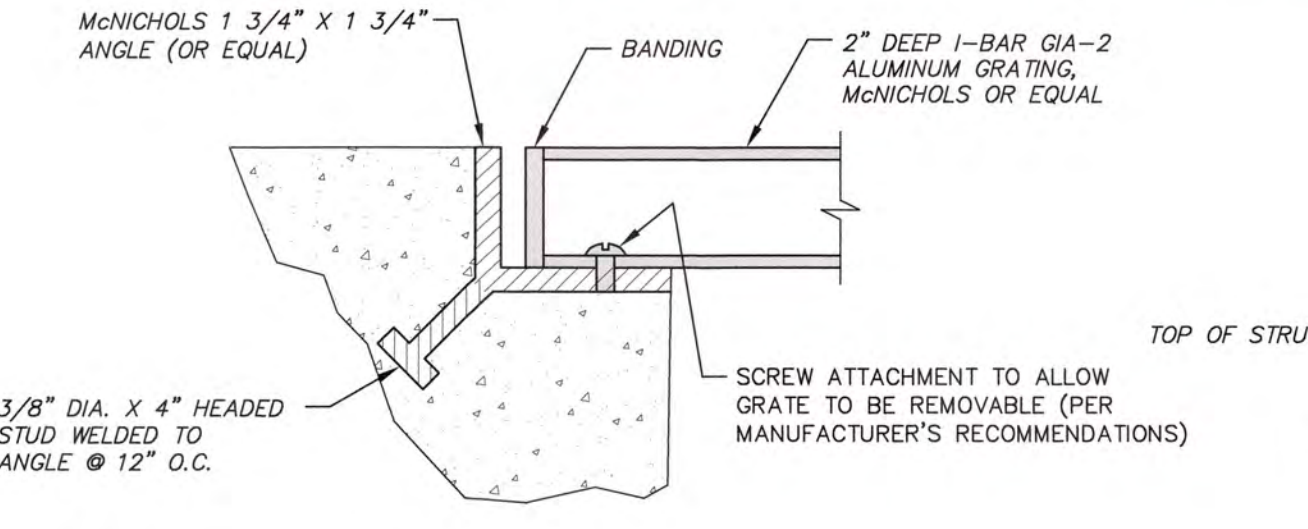
- CURB AND GUTTER TO BE CONSTRUCTED IN 10' LENGTHS
- 1/2" EXPANSION JOINTS SHALL BE PROVIDED AT INTERVALS NOT TO EXCEED 40', AT THE ENDS AND MID-POINT OF RETURNS, AND AT ANY POINT WHERE THE NEW CURB AND GUTTER ABUTS OTHER CONCRETE STRUCTURES.

CURB AND GUTTER DETAIL

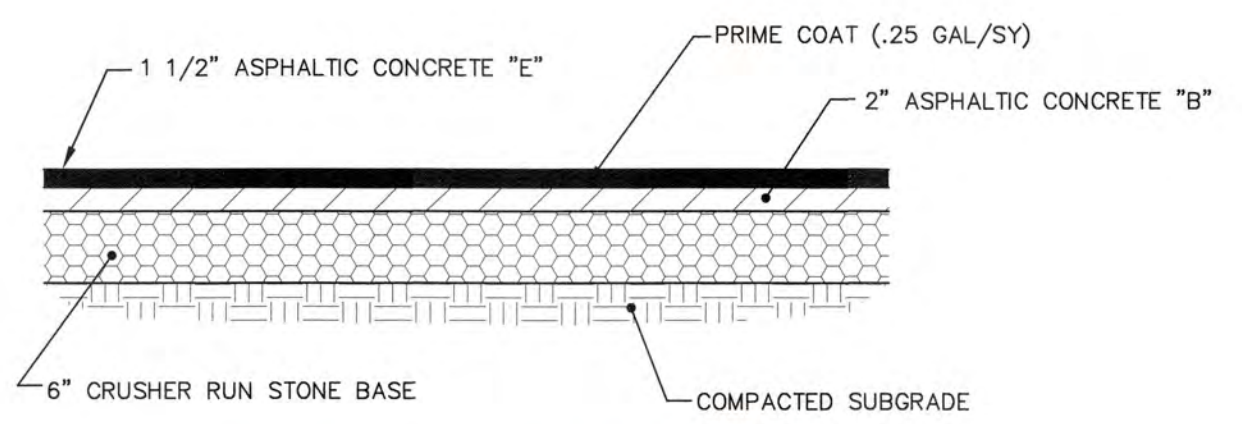


TYPICAL AWNING FRAMING PLAN
SCALE: N.T.S.

AWNING DATA TABLE					
TYPE	L1	L2	H	S	REQUIRED SUPPORTS
X	4'-0"	5'-0"	4'-0"	4'-0"	2
Y	4'-0"	10'-0"	4'-0"	3'-0"	4
Z	4'-0"	16'-0"	4'-0"	3'-9"	5

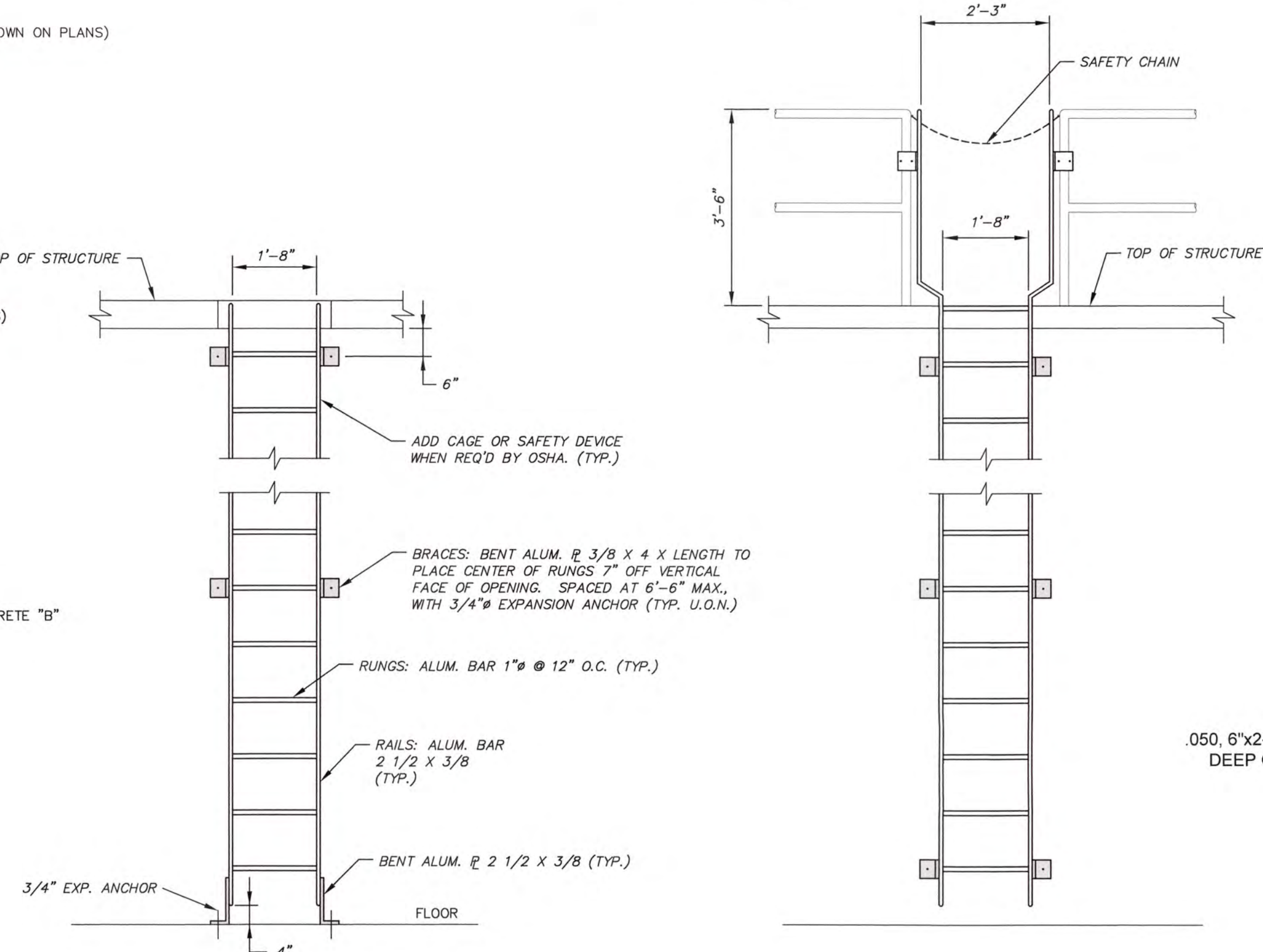


ALUMINUM FRAME AND GRATING DETAIL

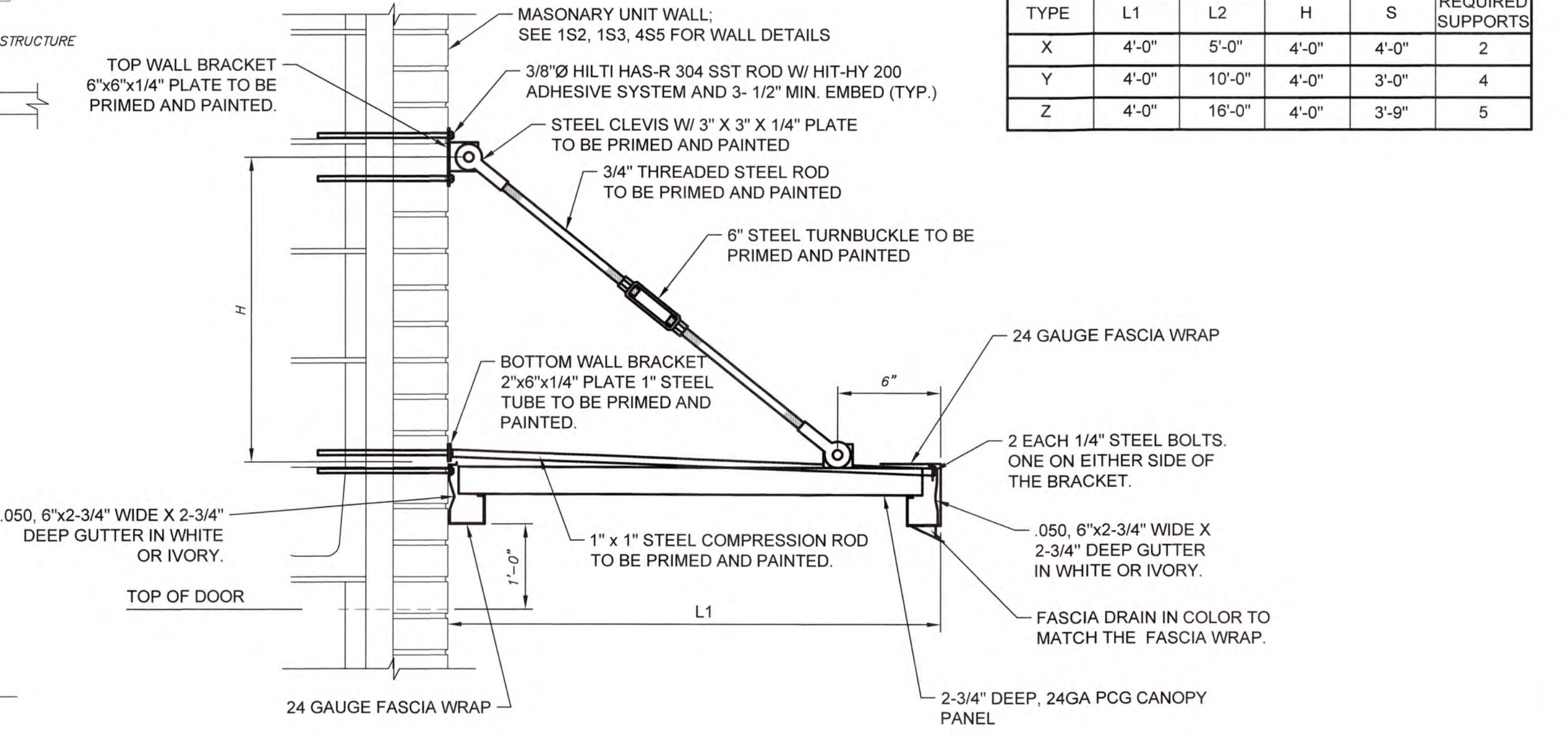


NOTE: SUBGRADE AND STONE BASE SHALL BE COMPACTED TO 100% MAX. DRY DENSITY AND THE CONTRACTOR SHALL PROVIDE COMPACTION TEST RESULTS. A PROOF ROLL (3 TRIPS WITH FULLY LOADED TANDEM AXLE) SHALL BE PERFORMED FOR SUBGRADE AND STONE BASE.

TYPICAL ASPHALT PAVEMENT SECTION



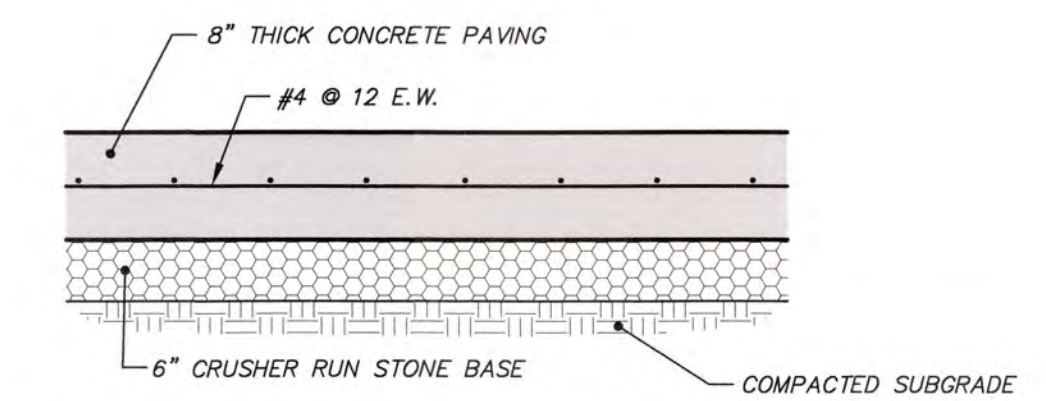
ALUMINUM LADDER DETAILS



TYPICAL AWNING SECTION

GENERAL NOTES

- CONTRACTOR SHALL ENSURE THAT ALL CONSTRUCTION CONFORMS TO THE STANDARDS AND SPECIFICATIONS OF COLUMBIA COUNTY AND THE INTERNATIONAL BUILDING CODE, LATEST EDITION.
- FABRICATION OF MISCELLANEOUS METAL SHALL NOT COMMENCE PRIOR TO APPROVAL OF SHOP DRAWINGS BY THE ENGINEER.
- SHOP DRAWING SUBMITTAL SHALL INCLUDE STRUCTURAL CALCULATIONS FOR THE AWNING SUPPORT SYSTEM, INCLUDING THE ANCHOR CONNECTIONS TO THE EXISTING WALL. THE STRUCTURAL CALCULATIONS SHALL BE PREPARED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF GEORGIA.
- FIVE SETS OF SHOP DRAWINGS THAT HAVE BEEN CHECKED BY THE CONTRACTOR FOR DIMENSIONS AND CONFORMANCE WITH THE APPROVED CONSTRUCTION DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.
- SHOP DRAWINGS SUBMITTED SHALL INCLUDE: MANUFACTURER'S TECHNICAL PRODUCT DATA, DIMENSIONS, COLORS AND CONSTRUCTION GUIDELINES.

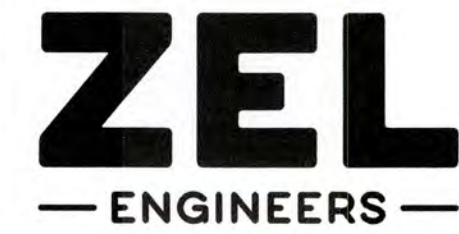


NOTE: SUBGRADE AND STONE BASE SHALL BE COMPACTED TO 100% MAX. DRY DENSITY AND THE CONTRACTOR SHALL PROVIDE COMPACTION TEST RESULTS. A PROOF ROLL (3 TRIPS WITH FULLY LOADED TANDEM AXLE) SHALL BE PERFORMED FOR SUBGRADE AND STONE BASE.

CONCRETE APRON DETAIL



NO.	DATE	REVISION	BY	APVD



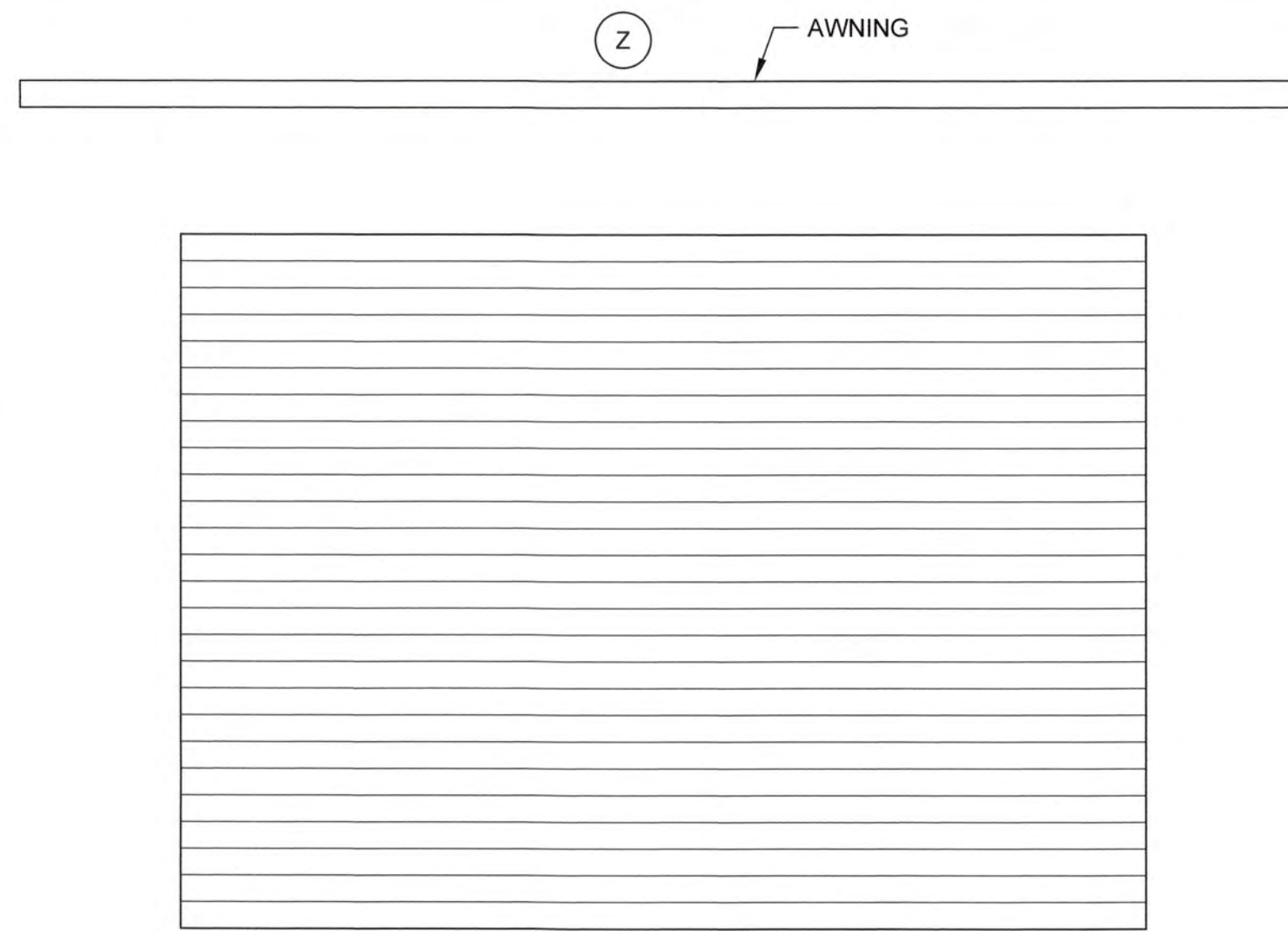
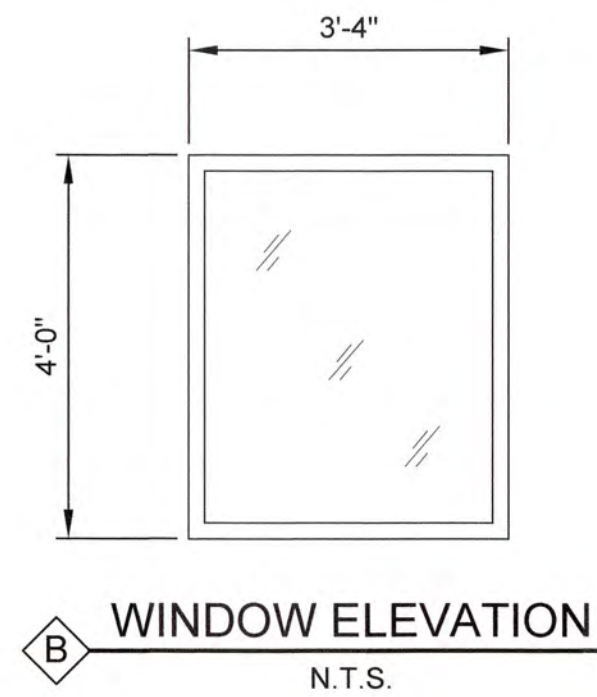
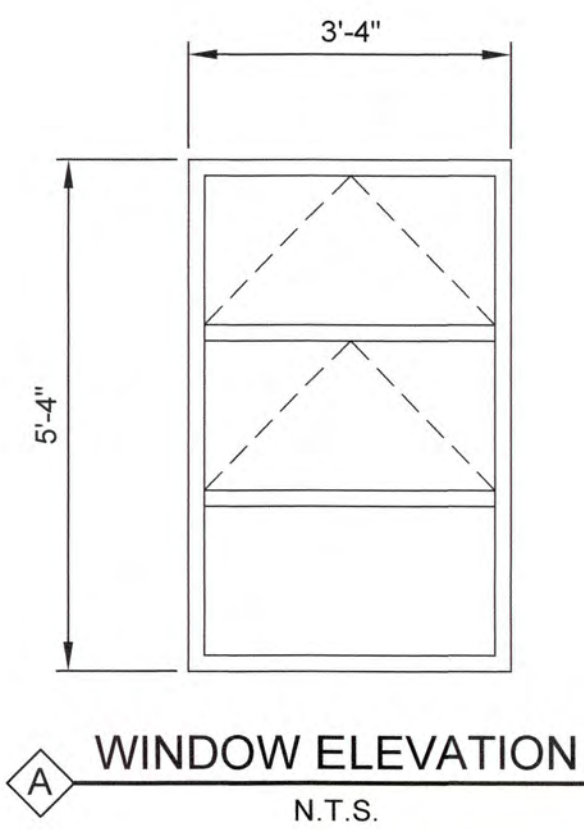
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435 Telfair Street, Augusta, Georgia 30901
Office - 706-724-5627 Fax - 706-724-5789
www.zelengineers.com

COLUMBIA COUNTY, GEORGIA		0 1		IF THIS BAR DOES NOT MEASURE 1" DRAWING IS NOT TO LABELED SCALE	
UV / ADVANCED OXIDATION TREATMENT		DESIGNED	SWG	REF.	1631-00
STANDARD DETAILS - 2		DRAWN	KDC	DATE	DEC 2020
		QC		SCALE	N/A
					DWG NO. 1G4

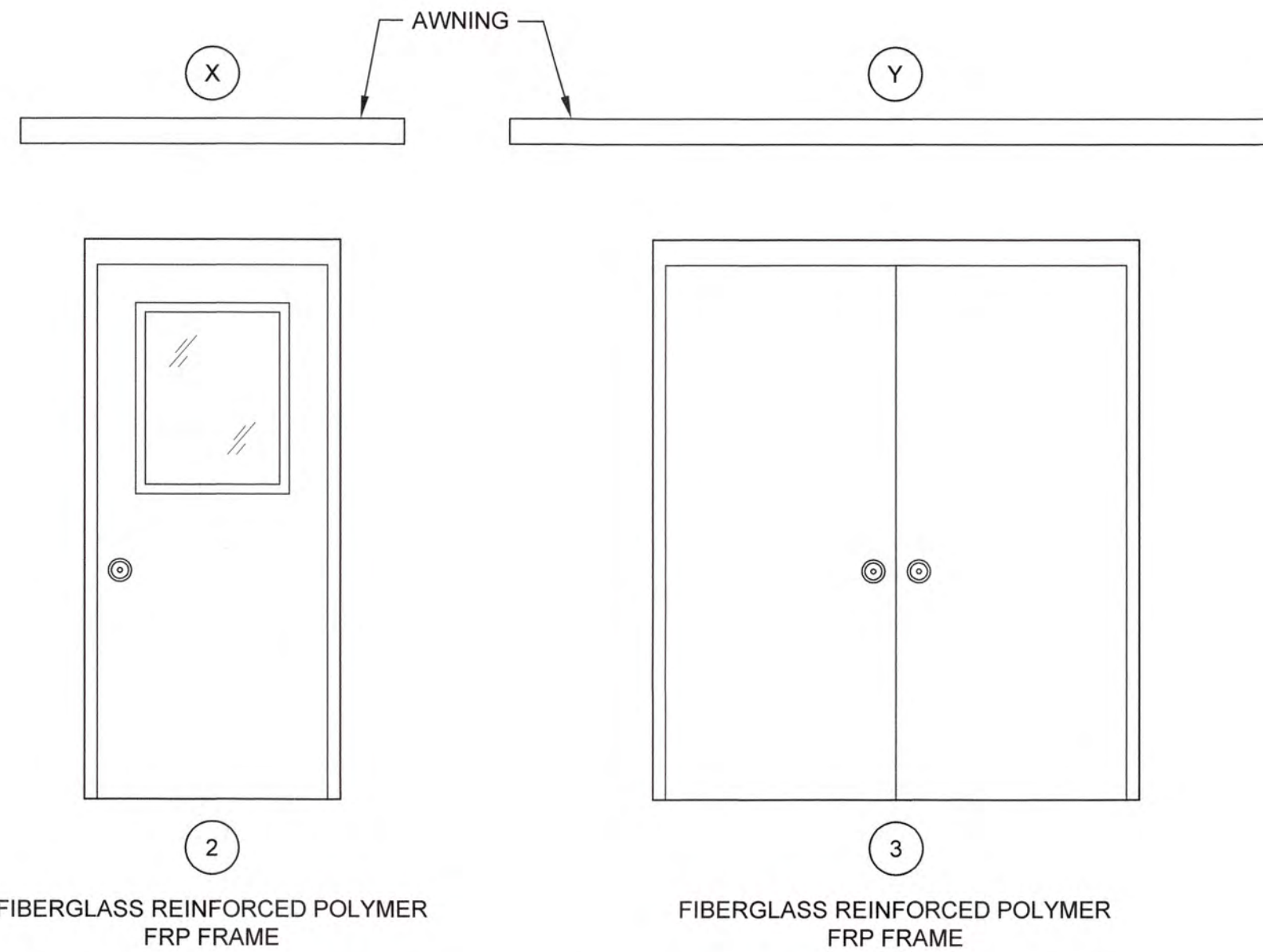
2/20/16/161 Columbia County Water Utility/161-05-D/Blandford and Clarke Hill WTP/04-Percebo Design/Drawings/161-05-D/1G4.dwg, 12/15/2020 11:46:54 AM, Kcollins, HP Design/172500 Rev. 1/20, 1:1

ROOM FINISH SCHEDULE						
ROOM NO.	ROOM	FLOOR	WALLS	BASE	CEILING	REMARKS
101	UV TREATMENT	CONCRETE	PAINTED	N/A	CONCRETE	
102	UV ELECTRICAL	CONCRETE	PAINTED	N/A	CONCRETE	
201	UV TREATMENT	CONCRETE	PAINTED	N/A	CONCRETE	
202	UV ELECTRICAL	CONCRETE	PAINTED	N/A </td <td>CONCRETE</td> <td></td>	CONCRETE	
301	UV ELECTRICAL	CONCRETE	PAINTED	N/A	CONCRETE	
302	STAIRWELL	CONCRETE	PAINTED	N/A	CONCRETE	
303	UV TREATMENT	CONCRETE	PAINTED	N/A	CONCRETE	

WINDOW SCHEDULE								
MARK	WIDTH	HEIGHT	GLAZING	HEAD	JAMB	SILL	LINTEL	TYPE
A	3'-4"	5'-4"	1" INSULATED	10	11	12	L-1	ALUMINUM PROJECTED / REFLECTIVE GLASS
B	3'-4"	4'-0"	1" INSULATED	22	23	24	L-1	ALUMINUM PROJECTED / REFLECTIVE GLASS



1
COILING STEEL DOOR
HARDWARE PER MANUFACTURER'S STANDARD.
SEE SPECS FOR FINISH HARDWARE



DOOR TYPES
N.T.S.

DOOR/FRAME AND AWNING SCHEDULE											
DOOR NO.	DOOR		FRAME			HARDWARE SET #	LINTEL	AWNING		REMARKS	
	SIZE	TYPE	HEAD	JAMB	SILL			SIZE			TYPE
								L1	L2		
1	12'-0" X 8'-8"	1	1	2	3	-	L-3	4'-0" X 16'-0"	Z	-	
2	3'-0" X 7'-0"	2	4	5	6	1	L-1	4'-0" X 5'-0"	X	-	
3	6'-0" X 7'-0"	3	4	5	6	2	L-2	4'-0" X 10'-0"	Y	-	
4	3'-0" X 7'-0"	2	7	8	9	1A	L-1	4'-0" X 5'-0"	X	-	
5	3'-0" X 7'-0"	2	4	5	6	1	L-1	4'-0" X 5'-0"	X	-	
6	12'-0" X 8'-8"	1	1	2	3	-	L-3	4'-0" X 16'-0"	Z	-	
7	3'-0" X 7'-0"	2	4	5	6	1	L-1	4'-0" X 5'-0"	X	-	
8	6'-0" X 7'-0"	3	4	5	6	2	L-2	4'-0" X 10'-0"	Y	-	
9	3'-0" X 7'-0"	2	7	8	9	1A	L-1	4'-0" X 5'-0"	X	-	
10	3'-0" X 7'-0"	2	4	5	6	1	L-1	4'-0" X 5'-0"	X	-	
11	3'-0" X 7'-0"	2	16	17,17A	18	1	L-1	4'-0" X 5'-0"	X	-	
12	3'-0" X 7'-0"	2	7	8	9A	1A	L-1	4'-0" X 5'-0"	X	-	
13	12'-0" X 8'-8"	1	13	14,14A	15	-	L-3	4'-0" X 16'-0"	Z	-	
14	3'-0" X 7'-0"	2	19	20	21	1A	N/A	4'-0" X 5'-0"	X	-	

- NOTES:
- SEE DWG. 1S2 AND 1S3 FOR HEAD, JAMB AND SILL DETAILS.
 - SEE DOOR TYPES FOR APPLICABLE FRAMES.
 - SEE DWG. 1G4 FOR AWNING DETAILS.

LINTEL SCHEDULE		
LINTEL NO.	∠ FOR BRICK VENEER	REINFORCING FOR CMU BLOCK
L-1	∠ 4 X 3 1/2 X 5/16	1 #5 BOTTOM
L-2	∠ 5 X 3 1/2 X 3/8	2 #5 BOTTOM
L-3	∠ 6 X 3 1/2 X 3/8	SEE HEAD DETAIL *

(* SEE NOTE 1 THIS SHEET)

J:\2016\1631 Columbia County Water Utility\1631-00\Blandford and Clarke Hill VTP\01-Perovide Design\Drawings\1631-00\1G5.dwg, 12/29/2020 4:27:08 PM, KChakrabarti, HP Designer, T2000, Plot 2, pcd, 1:1



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COLUMBIA COUNTY, GEORGIA

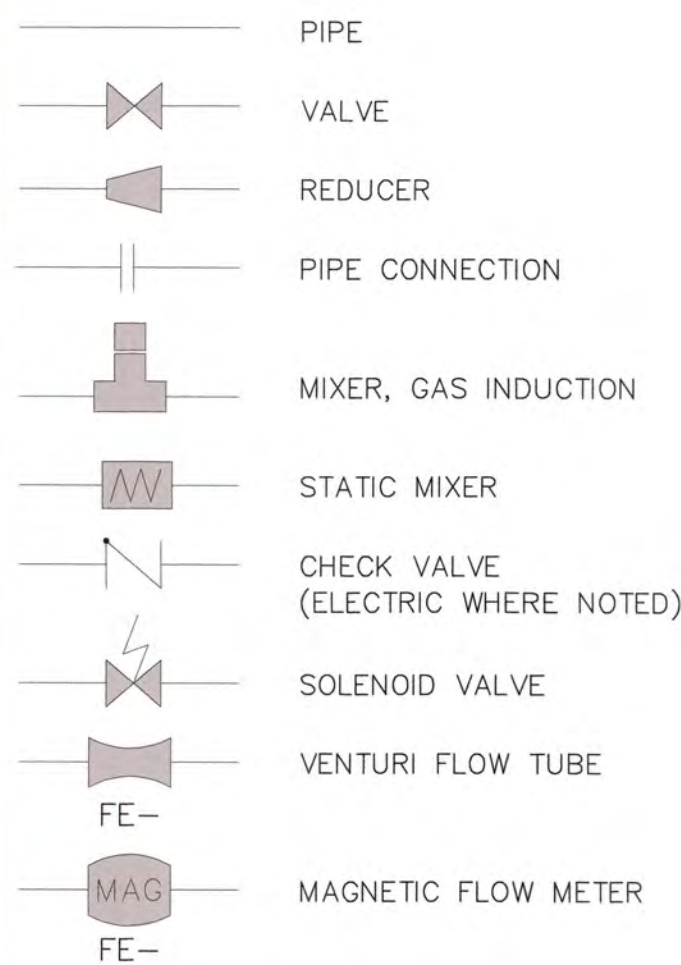
UV / ADVANCED OXIDATION TREATMENT

DOOR, WINDOW, AWNING AND FINISH SCHEDULES

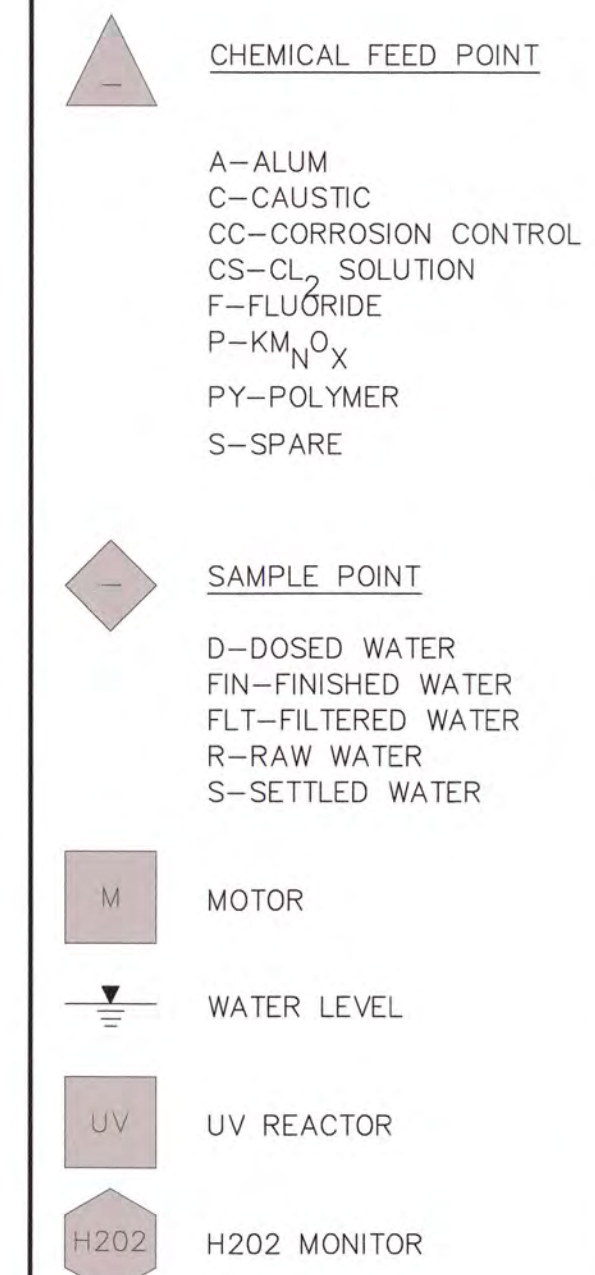
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DRAWN	SWH	DATE	DEC 2020	1G5
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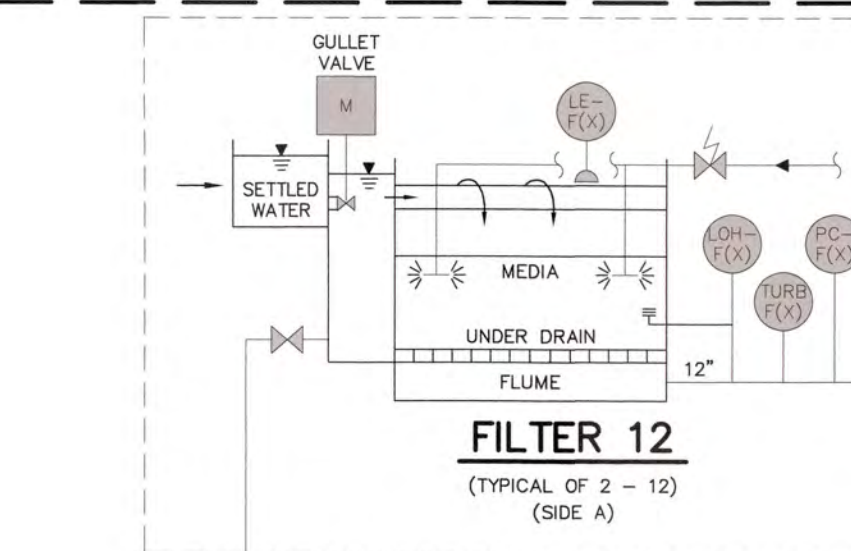
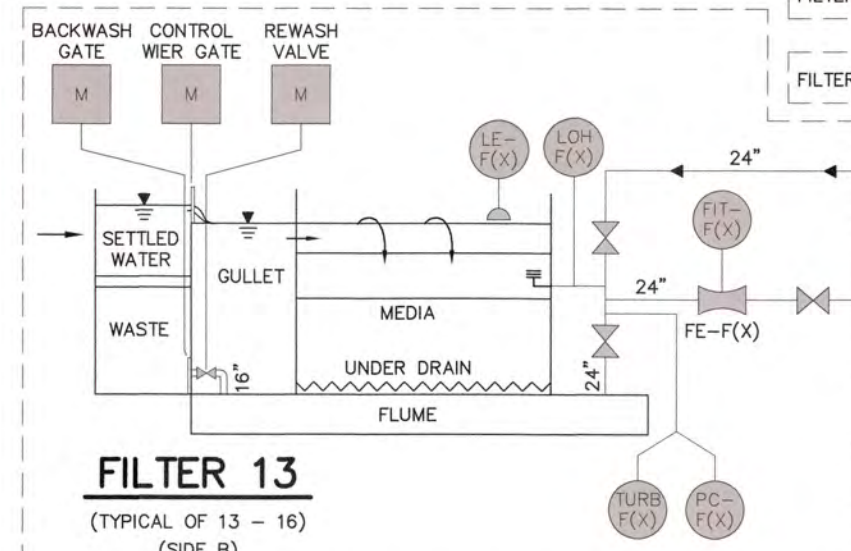
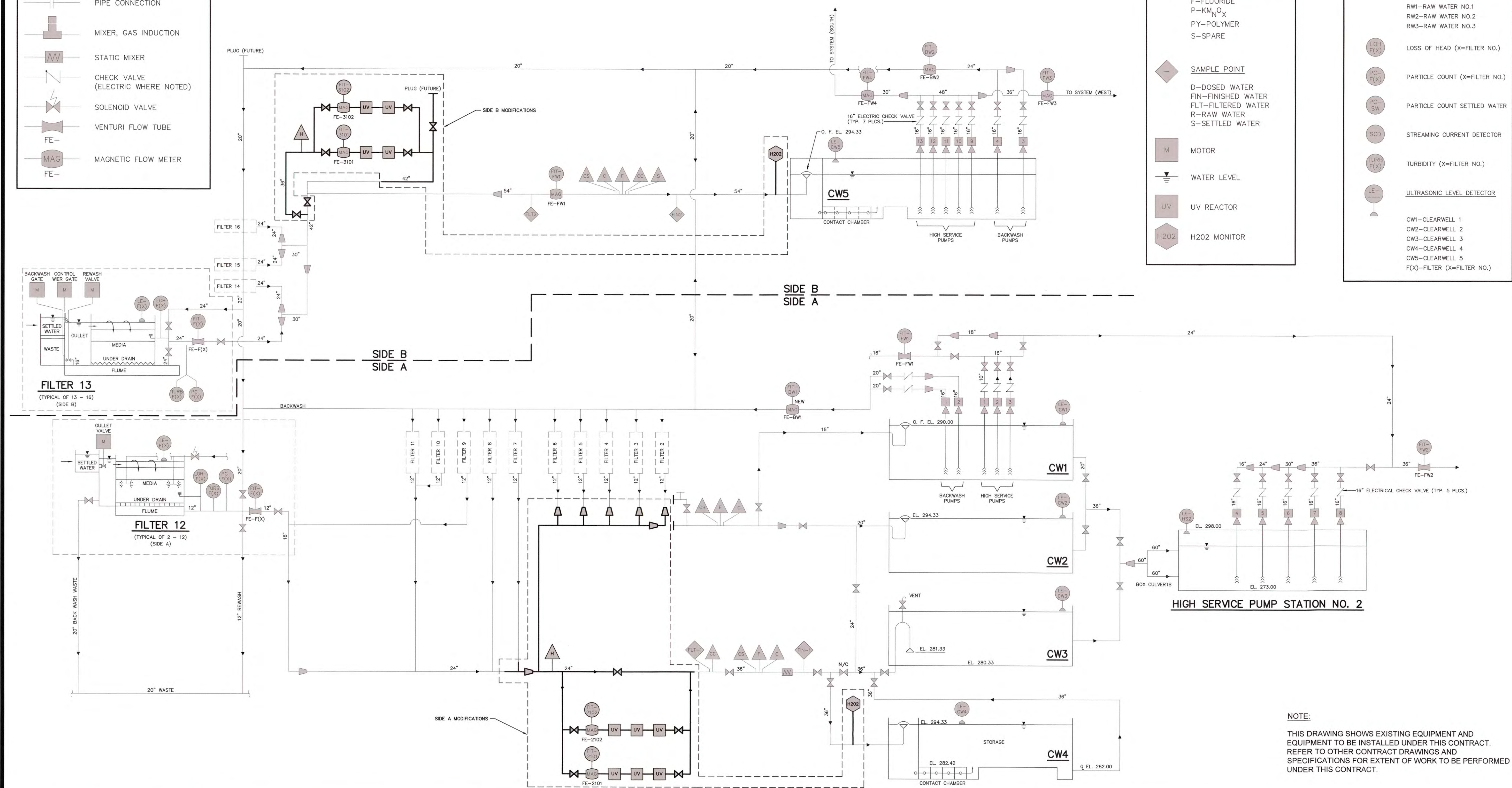
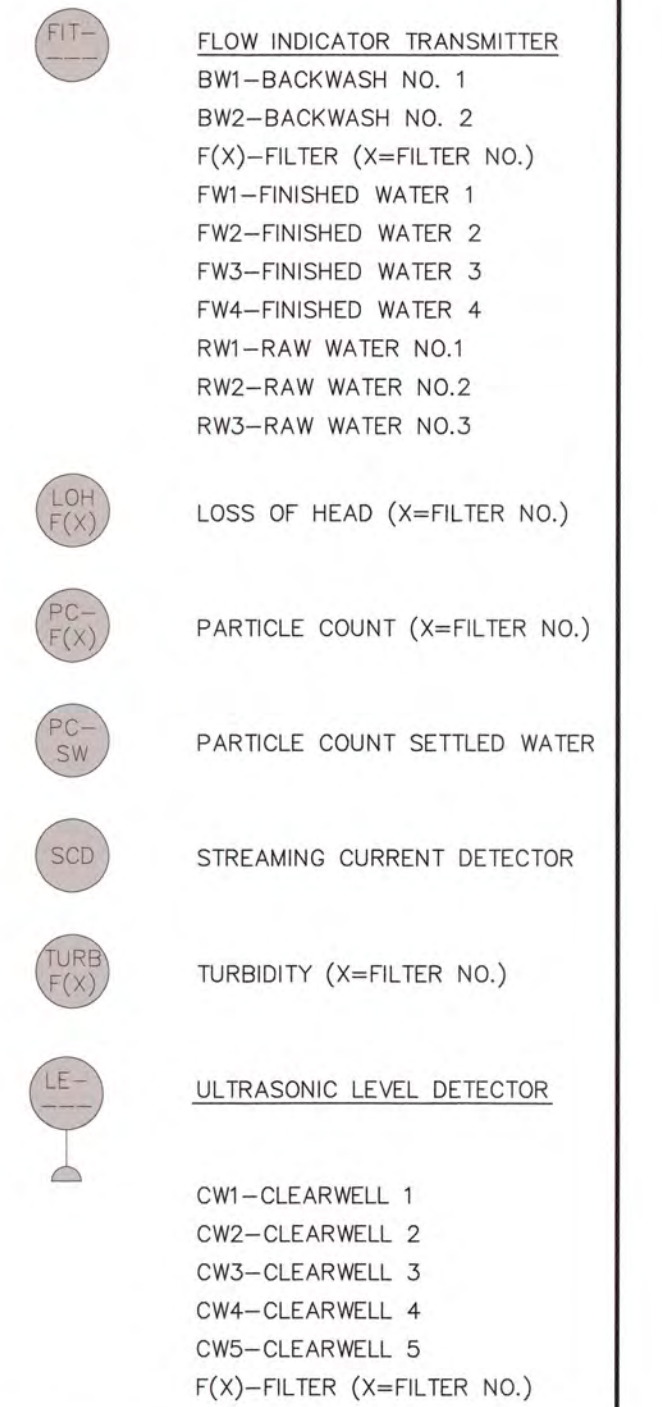
PIPING LEGEND



GENERAL LEGEND



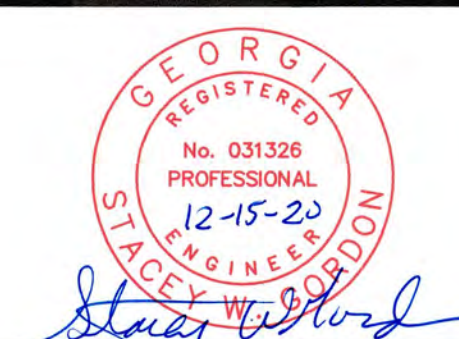
INSTRUMENT LEGEND



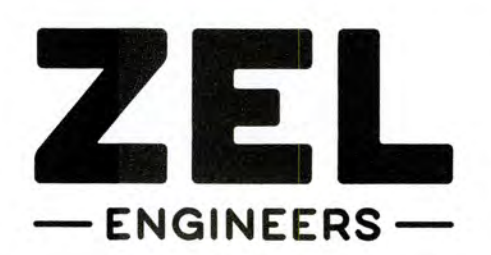
HIGH SERVICE PUMP STATION NO. 2

NOTE:
THIS DRAWING SHOWS EXISTING EQUIPMENT AND EQUIPMENT TO BE INSTALLED UNDER THIS CONTRACT. REFER TO OTHER CONTRACT DRAWINGS AND SPECIFICATIONS FOR EXTENT OF WORK TO BE PERFORMED UNDER THIS CONTRACT.

1/23/2015 1531 Columbia County Water Utility 1531-00 Blanksheet and Checks Hill WTP UV Preoxidation Design/Drawings/1531-00 105.dwg, 12/20/2014 4:25:25 PM, KChalkner, HP Designer/T2500 Rev.2.dwg, 11



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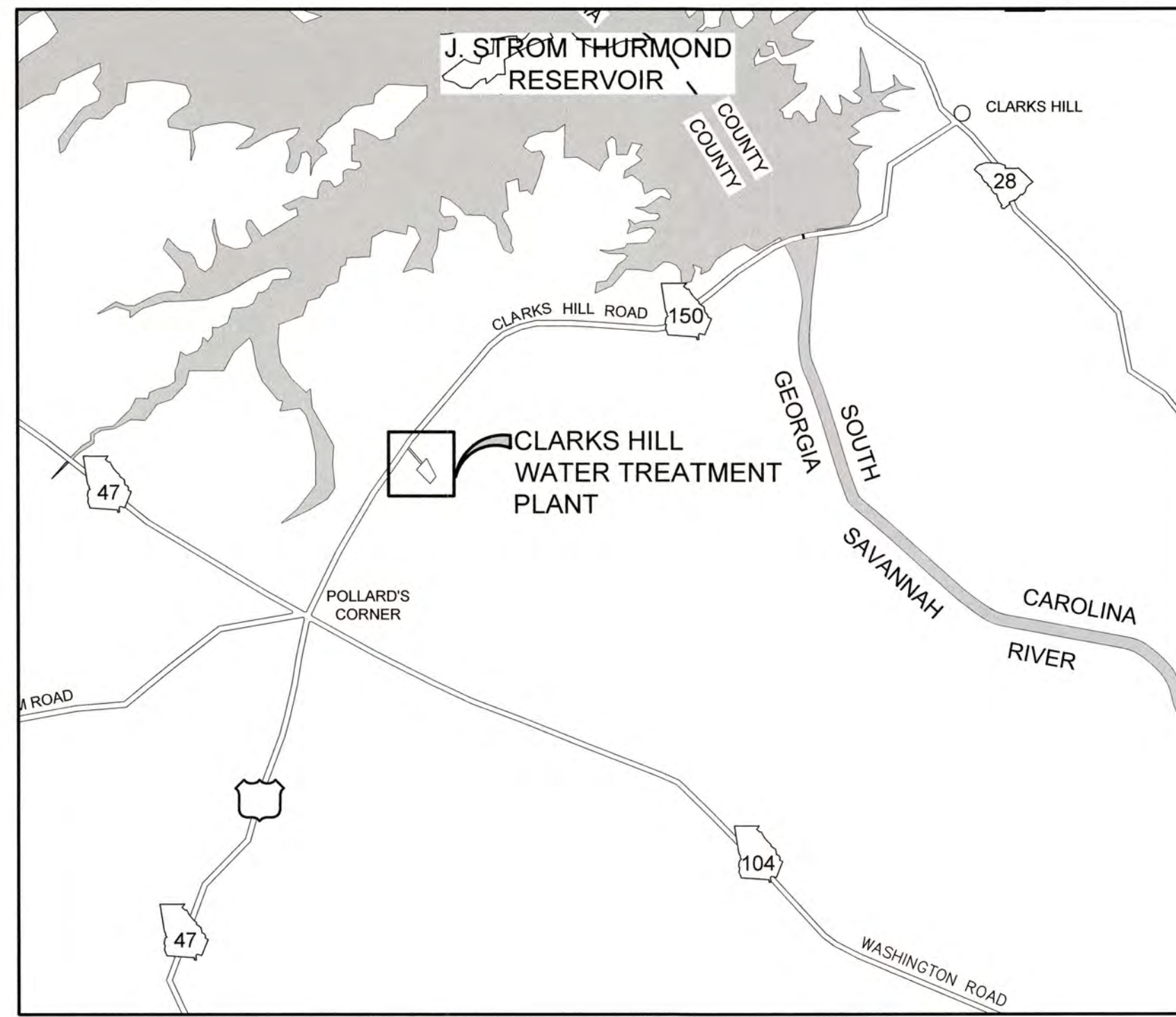
COLUMBIA COUNTY, GEORGIA
UV / ADVANCED OXIDATION TREATMENT
JIM BLANCHARD WTP
SYSTEM DIAGRAM

DESIGNED		SWG	REF.	1631-00	DWG NO.
DRAWN		SWH	DATE	DEC 2020	1G6
QC			SCALE	N.T.S.	



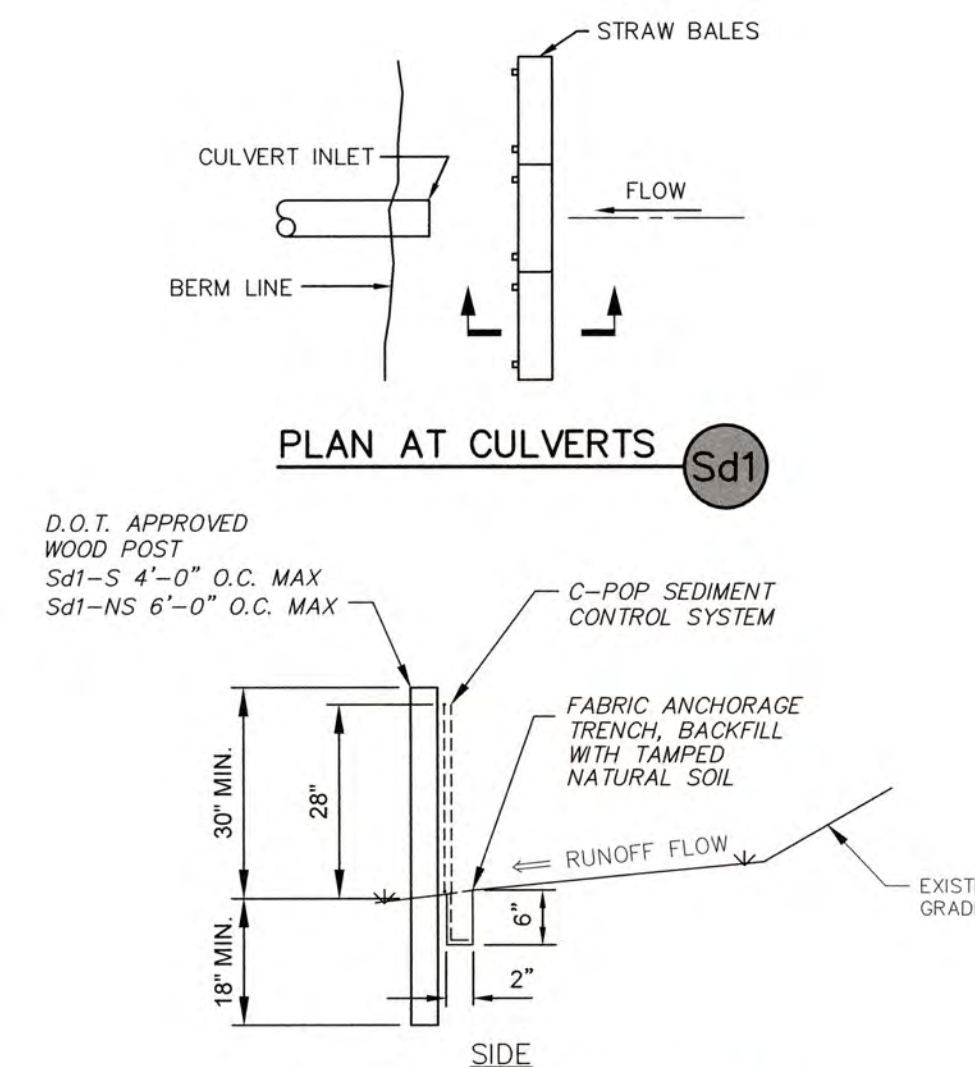
JIM BLANCHARD VICINITY MAP

N.T.S.



CLARKS HILL VICINITY MAP

N.T.S.



TEMPORARY EROSION AND SILT CONTROL DETAILS TYPICAL

N.T.S.

SINGLE PHASE BMP CONTROLS AND MEASURES

1. SILT FENCE
2. TEMPORARY AND PERMANENT GRASSING
3. REMOVE TEMPORARY BMPs

NOTES:

1. ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING.
2. 67 CY/ACRE X .93 ACRE = 62 CY SEDIMENT STORAGE IS REQUIRED.
3. SINGLE ROW SILT FENCE TO BE INSTALLED IN LIEU OF SEDIMENT BASINS FOR SEDIMENT STORAGE. SILT FENCING PROVIDES SEDIMENT STORAGE AS FOLLOWS: 720 LF X .483 CY/LF = 348 CY STORAGE.
4. CONTRACTOR TO MAINTAIN BMP'S TO END OF PROJECT.
5. **ALL EROSION CONTROL IS SHOWN AS MINIMAL PROTECTION. THE CONTRACTOR MUST PROTECT SITE AT ALL TIMES. COST SHALL BE BY CONTRACTOR.**
6. THE CONTRACTOR MUST INSTALL ANY ADDITIONAL EROSION CONTROL DIRECTED BY THE ENGINEER AND/OR COUNTY.
7. **REMOVE SILT FENCE WITHIN 30 DAYS AFTER FINAL STABILIZATION IS ACHIEVED OR AFTER BEST MANAGEMENT PRACTICES (BMP'S) ARE NO LONGER NEEDED.**
8. THERE ARE NO BUFFER ENCROACHMENTS.
9. NONEXEMPT ACTIVITIES SHALL NOT BE CONDUCTED WITHIN THE 25 FOOT UNDISTURBED STREAM BUFFER AS MEASURED FROM THE POINT OF WRESTED VEGETATION WITHOUT FIRST ACQUIRING THE NECESSARY VARIANCES & PERMITS.

VEGETATIVE MEASURES				
CODE	PRACTICE	DETAIL	MAP SYMBOL	DESCRIPTION
Ds1	DISTURBED AREA STABILIZATION (WITH MULCHING ONLY)		Ds1	Establishing temporary protection for disturbed areas where seedlings may not have a suitable growing season to produce an erosion retarding cover.
Ds2	DISTURBED AREA STABILIZATION (WITH TEMP SEEDING)		Ds2	Establishing a temporary vegetative cover with fast growing seedlings on disturbed areas.
Ds3	DISTURBED AREA STABILIZATION (WITH PERM SEEDING)		Ds3	Establishing a permanent vegetative cover such as trees, shrubs, vines, grasses, or legumes on disturbed areas.

SOUTHERN PIEDMONT VEGETATIVE PLAN

PERMANENT COVER:
 FERTILIZER: 6-12-12; 800 LBS. PER ACRE
 AGRICULTURAL LIME: 2 TONS PER ACRE
 MULCH: 2-1/2 TONS MULCH HAY PER ACRE

ON SLOPES 3:1 OR LESS:
 UNHULLED BERMUDA 10 LB/AC 10/1 - 2/28
 HULLED COMMON BERMUDA 10 LB/AC 4/1 - 5/31 OR,
 BROWNTOP MULLET 40 LB/AC 4/15 - 6/30
 ANNUAL RYEGRASS 40 LB/AC 9/1 - 12-15

ON SLOPES GREATER THAN 3:1: IN ADDITION TO THE ABOVE, ADD:
 INTERSTATE LESPEDEZA (SCARIFIED) 60 LB/AC 3/15 - 5/31 OR,
 INTERSTATE LESPEDEZA (UNSCARIFIED) 75 LB/AC 9/1 - 2/28

TEMPORARY COVER:
 FERTILIZER: 6-12-12; 1500 LBS. PER ACRE
 AGRICULTURAL LIME: 1000 LBS. PER ACRE
 MULCH: AS NEEDED

STRUCTURAL PRACTICES				
CODE	PRACTICE	DETAIL	MAP SYMBOL	DESCRIPTION
Sd1	SEDIMENT BARRIER		(INDICATE TYPE)	A barrier to prevent sediment from leaving the construction site. It may be sandbags, bales of straw or hay, brush, logs and poles, gravel, or a silt fence.
Ss	SLOPE STABILIZATION		Ss	A protective covering used to prevent erosion and establish temporary or permanent vegetation on steep slopes, shore lines, or channels.
St	STORM DRAIN OUTLET PROTECTION			Paved and/or rip-rapped channel sections, placed below storm drain outlets.

MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
INSTALL SILT FENCES																					
MAINTAIN EROSION CONTROL																					
INSTALL PIPING / VALVES																					
TEMP./PERM. GRASSING																					
CLEAN-UP DEBRIS																					
REMOVE SILT FENCE																					

GENERAL NOTES

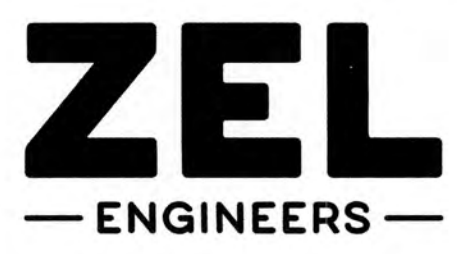
1. DESCRIPTION:
THIS PROJECT INVOLVES THE CONSTRUCTION OF TWO UV TREATMENT BUILDINGS AT THE BLANCHARD WTP SITE AND ONE UV TREATMENT BUILDING AT THE CLARKS HILL WTP SITE INCLUDING PAVING AND ASSOCIATED APPURTENANCES FOR A COMPLETE INSTALLATION.
2. OWNER:
COLUMBIA COUNTY WATER UTILITY
2140 WILLIAM FEW PARKWAY
GROVETOWN, GA 30813
706-860-2587
EMAIL: J.MALDONADO@COLUMBIACOUNTYGA.GOV
3. PROJECT SIZE
TOTAL ACREAGE = 10 ACRES.
TOTAL DISTURBED AREA = 0.93 ACRES.
4. ZONING
RESIDENTIAL / COMMERCIAL
5. DATE OF CONSTRUCTION
BEGIN DATE: MARCH 2021
END DATE: FEBRUARY 2023
6. SOILS, TOPOGRAPHIC AND DRAINAGE INFORMATION
ALL TOP SOIL SHALL BE REMOVED FROM THE DISTURBED AREA OF THE SITE. Ds2 TO BE PLACED IN ALL DISTURBED UNPAVED AREAS. SEE VEGETATION PLAN AND SOIL EROSION CONTROL PLAN, THIS DRAWING. Ds3 FOR THIS CONTRACT SHALL BE INSTALLED IN THE DESIGNATED AREAS.
7. BEST MANAGEMENT PRACTICES
EROSION CONTROL PROGRAM
VEGETATION AND MULCH SHALL BE APPLIED TO APPLICABLE AREAS IMMEDIATELY AFTER GRADING IS COMPLETED. GRAVEL SHALL BE APPLIED TO PARKING AREAS AND ROADWAYS AS SOON AS GRADING IS COMPLETED. LAND DISTURBING SHALL BE SCHEDULED TO LIMIT EXPOSURE OF BARE SOILS TO EROSION ELEMENTS. STORM WATER MANAGEMENT STRUCTURES SHALL BE EMPLOYED TO PREVENT EROSION IN AREAS OF CONCENTRATED WATER FLOWS. EROSION AT THE EXITS OF ALL STORM WATER STRUCTURES SHALL BE PREVENTED BY THE INSTALLATION OF STORM DRAIN OUTLET PROTECTION DEVICES.
SEDIMENT CONTROL PLAN
THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION CONTROL MEASURES AND PRACTICES PRIOR TO ANY LAND DISTURBING ACTIVITIES. EROSION CONTROL MEASURES IS SHOWN MINIMAL PROTECTION WILL BE MAINTAINED AT ALL TIMES.
IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL MEASURES WILL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE.
NON-EXEMPT ACTIVITIES SHALL NOT BE CONDUCTED WITHIN THE 25 OR 50-FOOT UNDISTURBED STREAM BUFFERS AS MEASURED FROM THE POINT OF WRESTED VEGETATION OR WITHIN 25-FEET OF THE COASTAL MARSHLAND BUFFER AS MEASURED FROM THE JURISDICTIONAL DETERMINATION LINE WITHOUT FIRST ACQUIRING THE NECESSARY VARIANCES AND PERMITS.
MAINTENANCE PROGRAM
CONTRACTOR SHALL PROVIDE APPROVED CONFINED AREAS FOR THE STORAGE AND USE OF PETROLEUM. ALL SPILLS AND LEAKS OF PETROLEUM PRODUCTS WILL BE IMMEDIATELY REMOVED FROM SITE. SPILLS ON ROADWAYS WILL BE ABSORBED INTO AN APPROPRIATE MATERIAL AND THEN REMOVED FROM SITE. NO PETROLEUM PRODUCT WILL BE ALLOWED TO BE DUMPED ONTO THE CONSTRUCTION SITE IN ANY FORM.
8. STANDARDS AND SPECIFICATIONS
ALL DESIGNS SHALL CONFORM TO AND ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE PUBLICATION ENTITLED "MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA".
9. SAFETY PROTECTION
CONSTRUCTION ACTIVITIES SHALL BE PERFORMED IN COMPLIANCE WITH ALL APPLICABLE LAWS, RULES AND REGULATIONS.
10. ADJACENT AREAS
EVERY EFFORT SHALL BE MADE TO MINIMIZE THE IMPACT ON PRIVATE PROPERTY ADJACENT TO THIS SITE.
11. 24 HOUR CONTACT PERSON
JOHN MALDONADO,
TREATMENT MANAGER
706-860-2587
12. CONSTRUCTION STANDARDS:
ALL MATERIALS AND WORKMANSHIP WITHIN COLUMBIA COUNTY RIGHT OF WAY SHALL CONFORM TO COLUMBIA COUNTY STANDARDS AND SPECIFICATIONS. CONTRACTOR SHALL CONTACT THE INSPECTION DIVISION OF THE ENGINEERING DEPARTMENT AT LEAST 48 HOURS PRIOR TO STARTING
13. WETLANDS/ FLOOD PLAIN:
THERE ARE NO WETLANDS ON THIS PROJECT. AS PER FEMA, THE PROJECT IS LOCATED ON FIRM MAP 13073C00162E AND 13073C0045E DATED JUNE 07, 2019
14. RECEIVING WATERS:
UNNAMED DITCH TO FINAL RECEIVING SAVANNAH RIVER
15. OFF-SITE DRAINAGE:
NO OFF-SITE DRAINAGE ON PROJECT.
16. STATE WATERS/ BUFFERS:
STATE WATERS ARE NOT ON THIS PROJECT

I CERTIFY UNDER PENALTY OF LAW THAT THIS PLAN WAS PREPARED AFTER A SITE VISIT TO THE LOCATIONS DESCRIBED HEREIN BY MYSELF OR MY AUTHORIZED AGENT, UNDER MY DIRECT SUPERVISION.

[Signature]
 GSWCC LEVEL II CERTIFICATION NO. 000004066



NO.	DATE	REVISION	BY	APVD

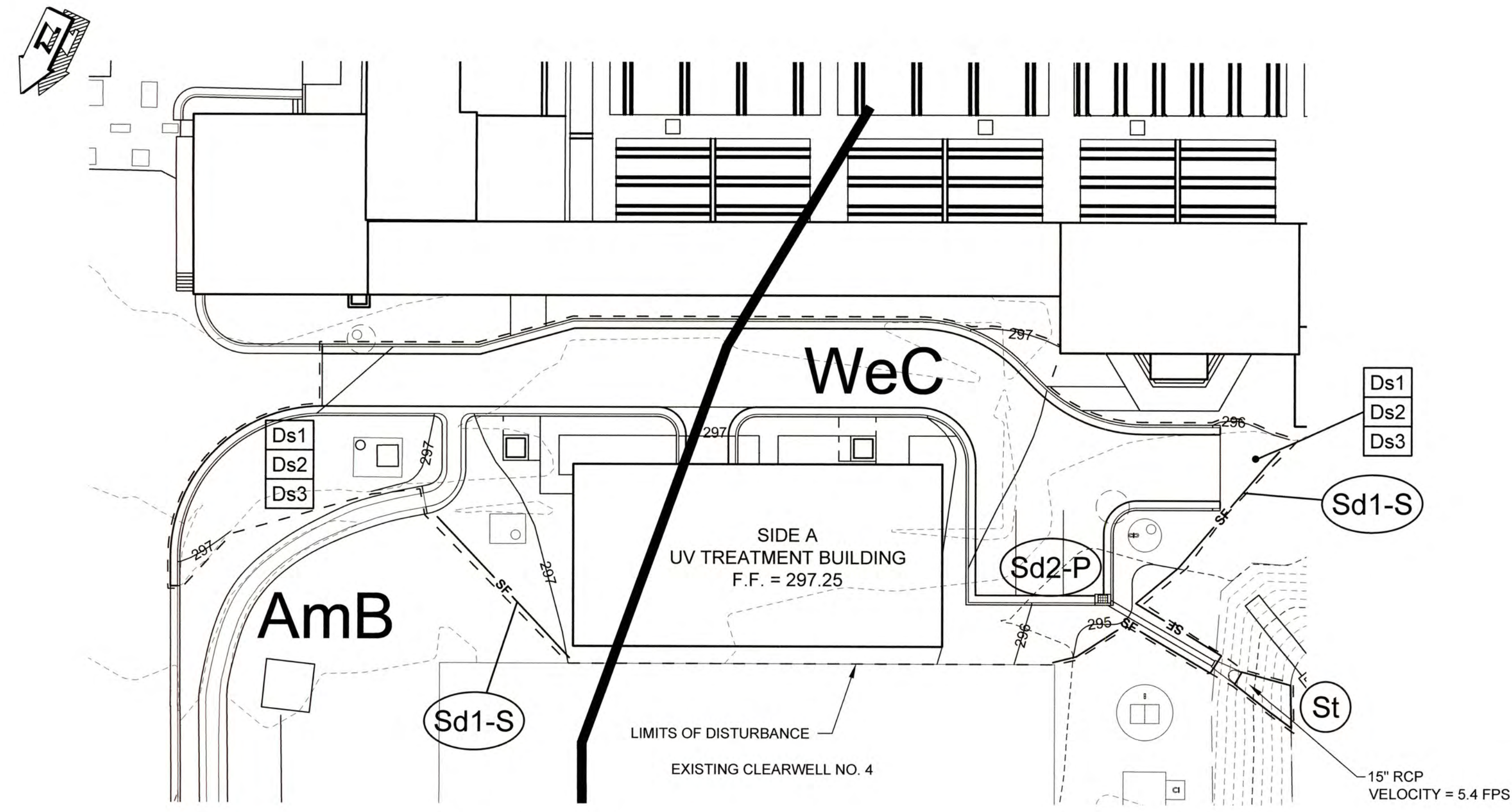


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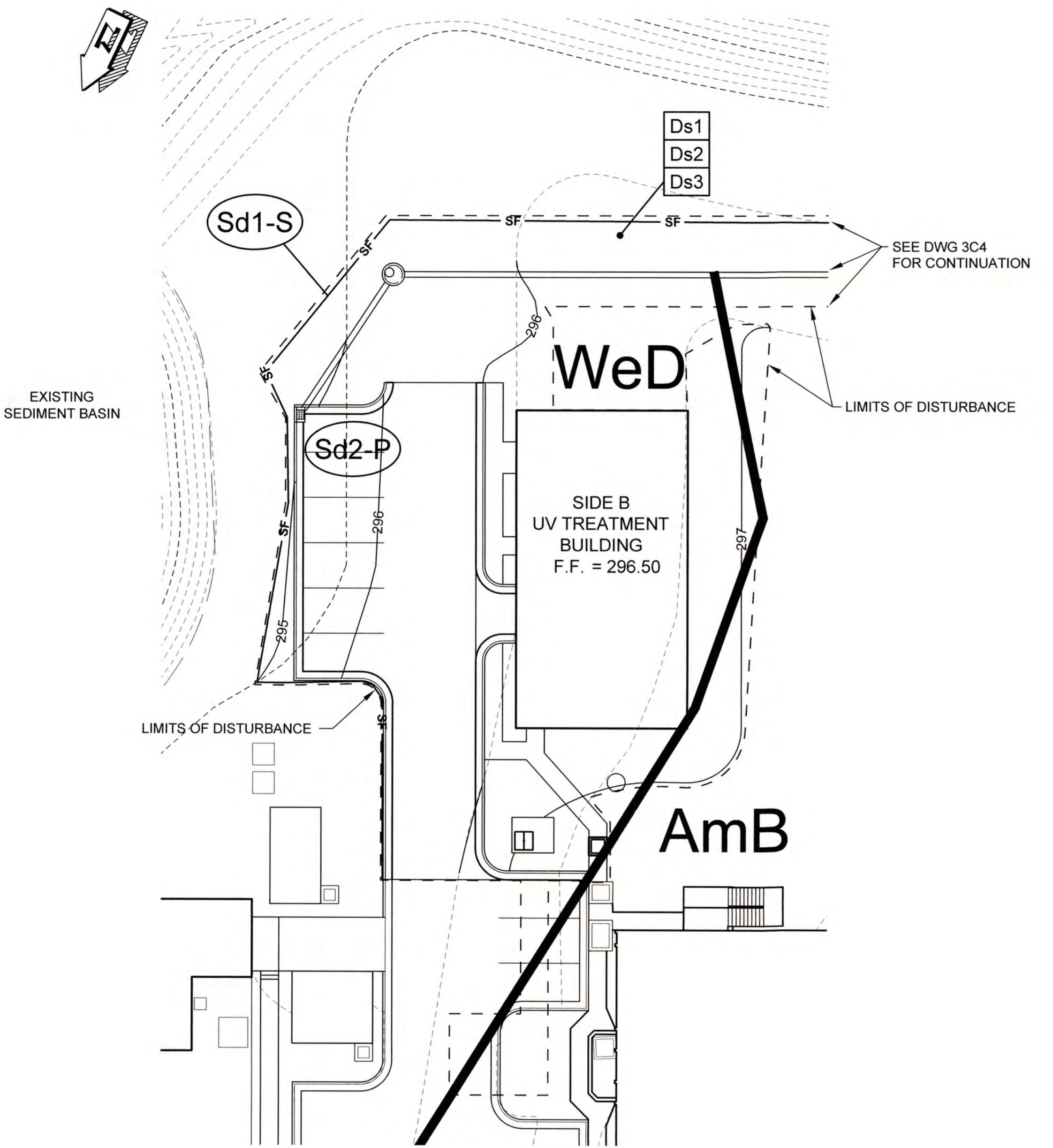
COLUMBIA COUNTY, GEORGIA
 UV / ADVANCED OXIDATION TREATMENT
 SOIL EROSION AND SEDIMENT CONTROL
 SCHEDULE, NOTES AND DETAIL

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DRAWN	KDC	DATE	DEC 2020	101
QC		SCALE	N/A	

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JIM BLANCHARD PLANT SIDE A SITE PLAN
SCALE: 1" = 20'



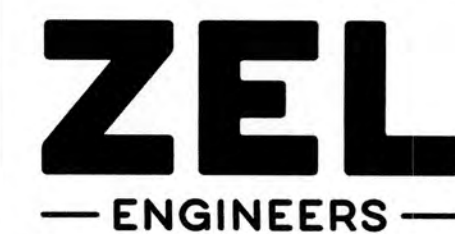
JIM BLANCHARD PLANT SIDE B SITE PLAN
SCALE: 1" = 20'

SOILS LEGEND		
SYMBOL	NAME	
AmB	APPLING SANDY LOAM	2 TO 6 PERCENT SLOPES
WeC	WEDOWEE LOAMY SAND	6 TO 10 PERCENT SLOPES
WeD	WEDOWEE LOAMY SAND	10 TO 15 PERCENT SLOPES

D.K.P.
GSWCC LEVEL II CERTIFICATION NO. 000004066



NO.	DATE	REVISION	BY	APVD

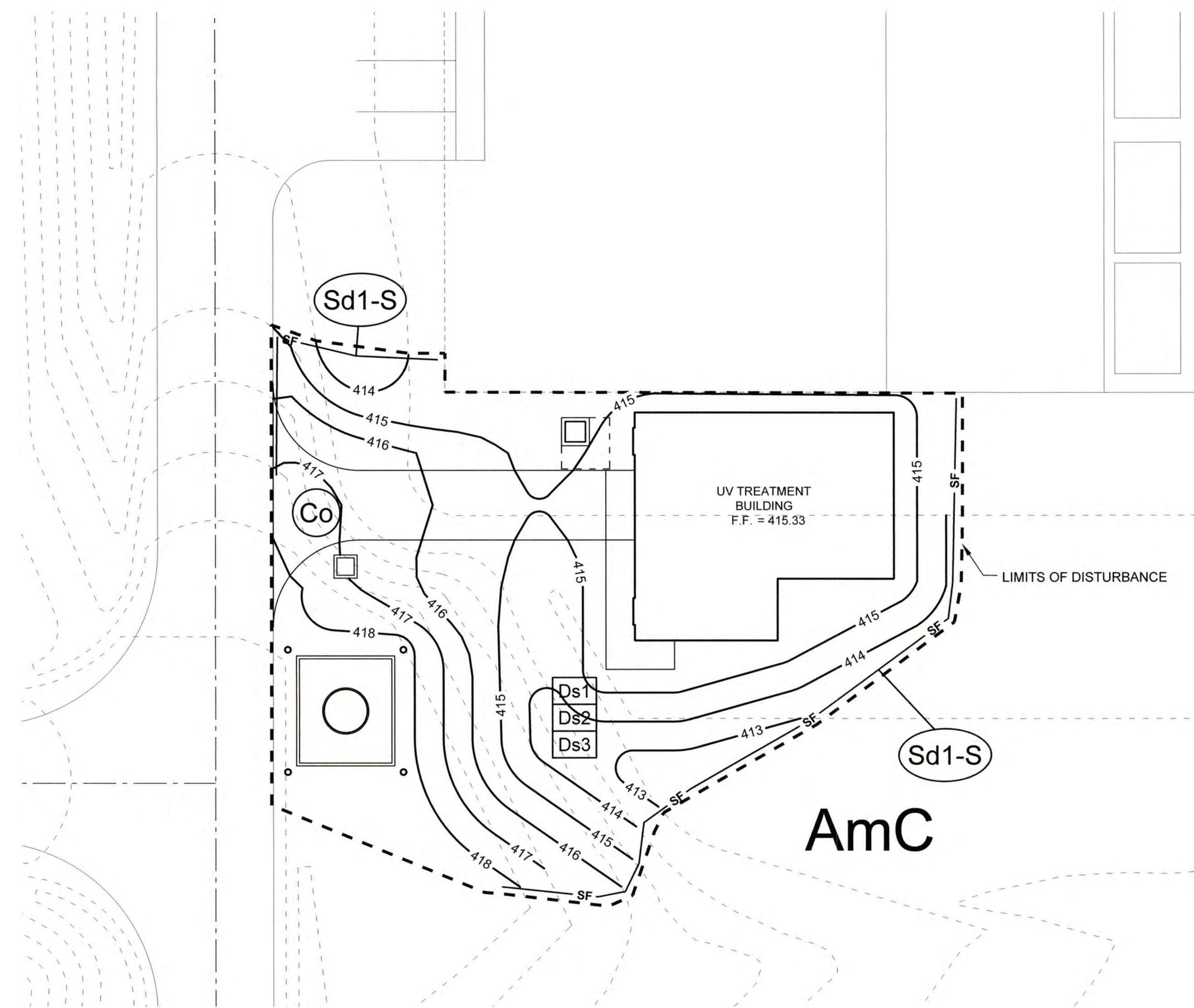


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COLUMBIA COUNTY, GEORGIA
UV / ADVANCED OXIDATION TREATMENT
SOIL EROSION AND SEDIMENT CONTROL PLAN
JIM BLANCHARD PLANT

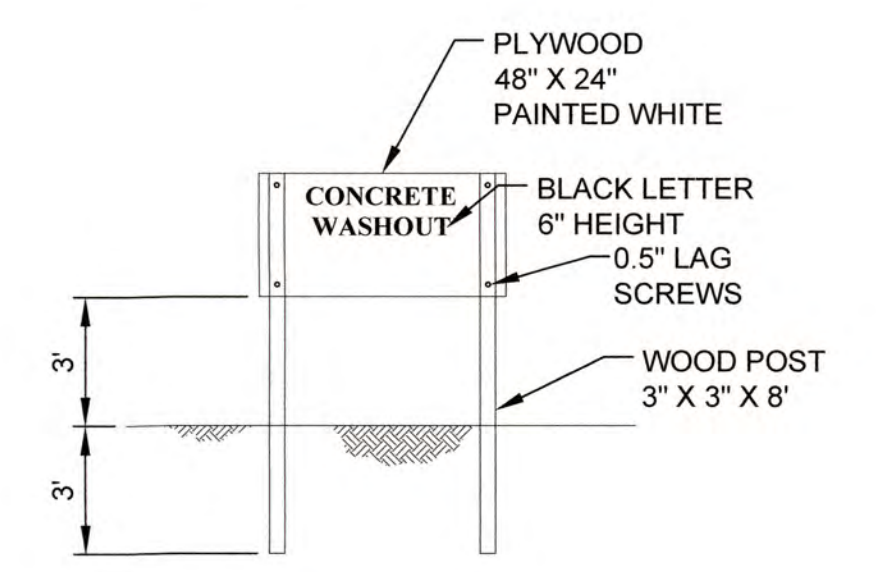
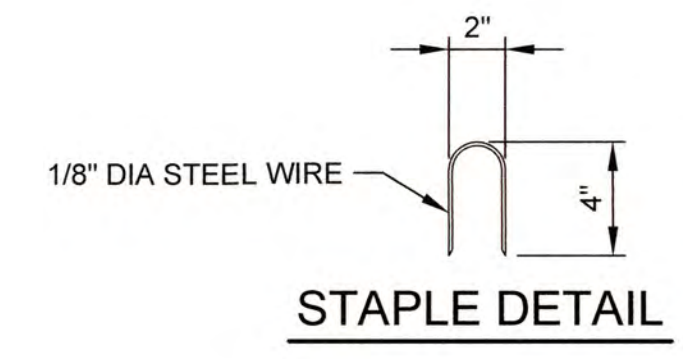
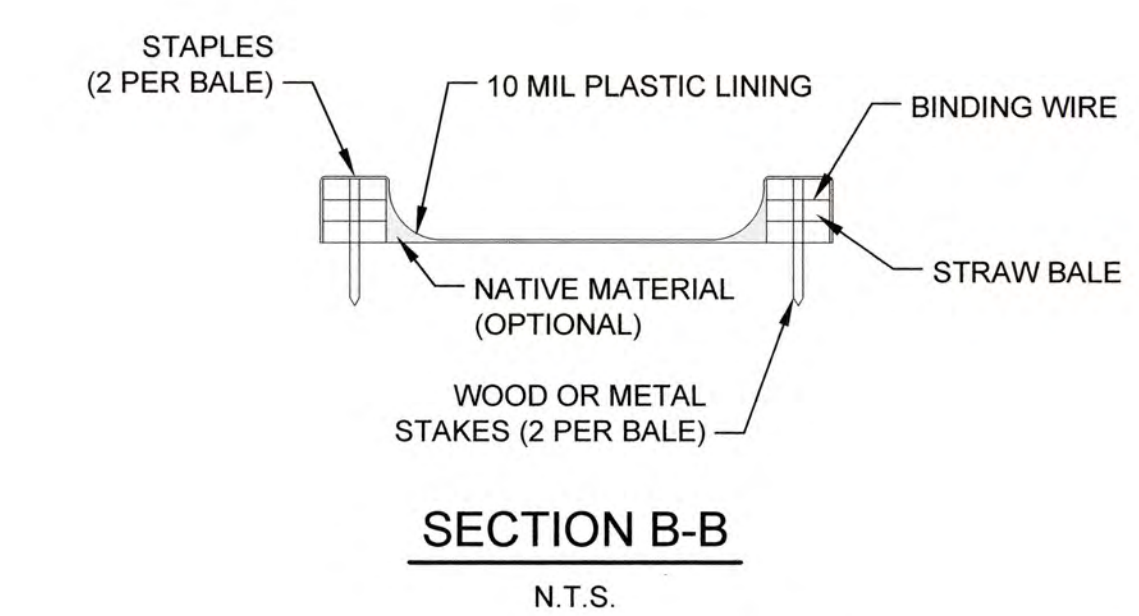
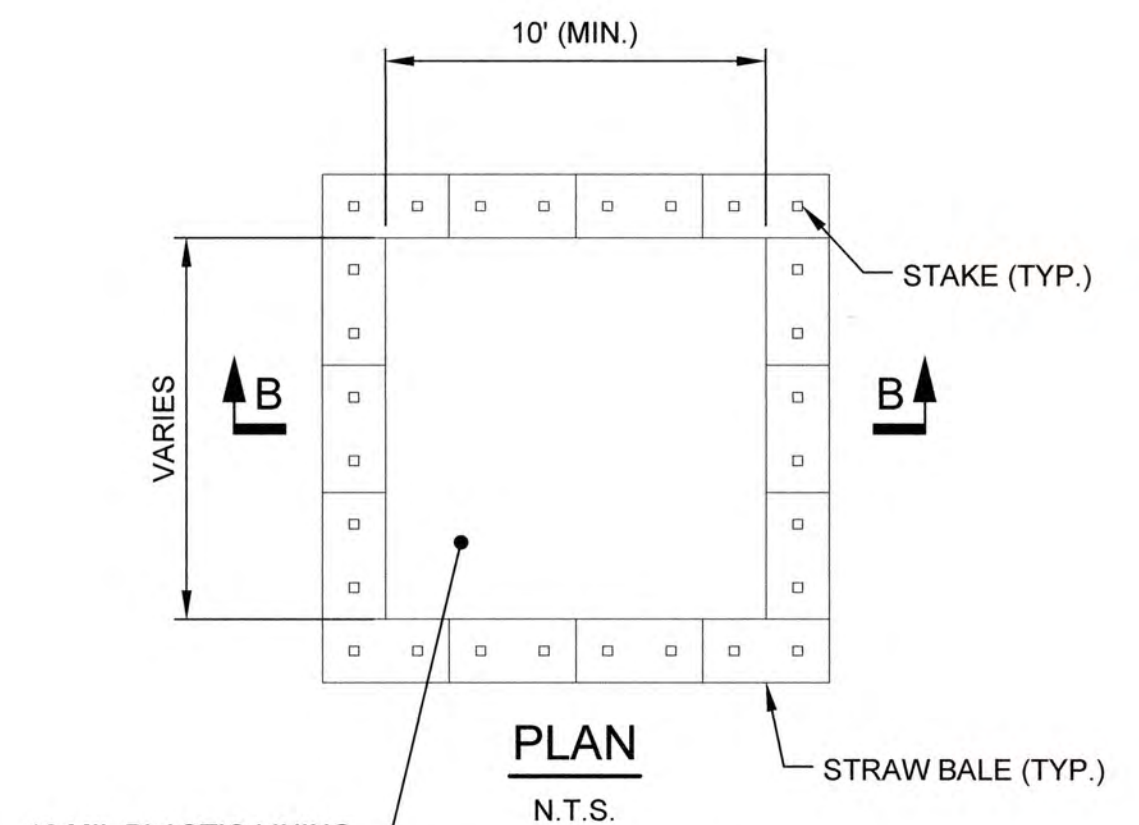
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QC		SCALE	1" = 20'	

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CLARKS HILL PLAN
SCALE: 1" = 15'

SOILS LEGEND		
SYMBOL	NAME	
AmC	APPLING SANDY LOAM	6 TO 10 PERCENT SLOPES



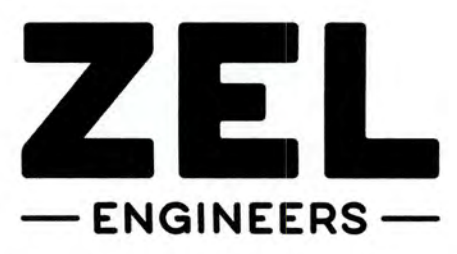
- NOTE:**
1. ACTUAL LAYOUT DETERMINED IN FIELD.
 2. THE CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30 FT. OF THE TEMPORARY CONCRETE WASHOUT FACILITY.
 3. PROVIDE AT BOTH SITES.

CONCRETE WASHOUT DETAIL
N.T.S.

[Signature]
GSWCC LEVEL II CERTIFICATION NO. 000004066



NO.	DATE	REVISION	BY	APVD

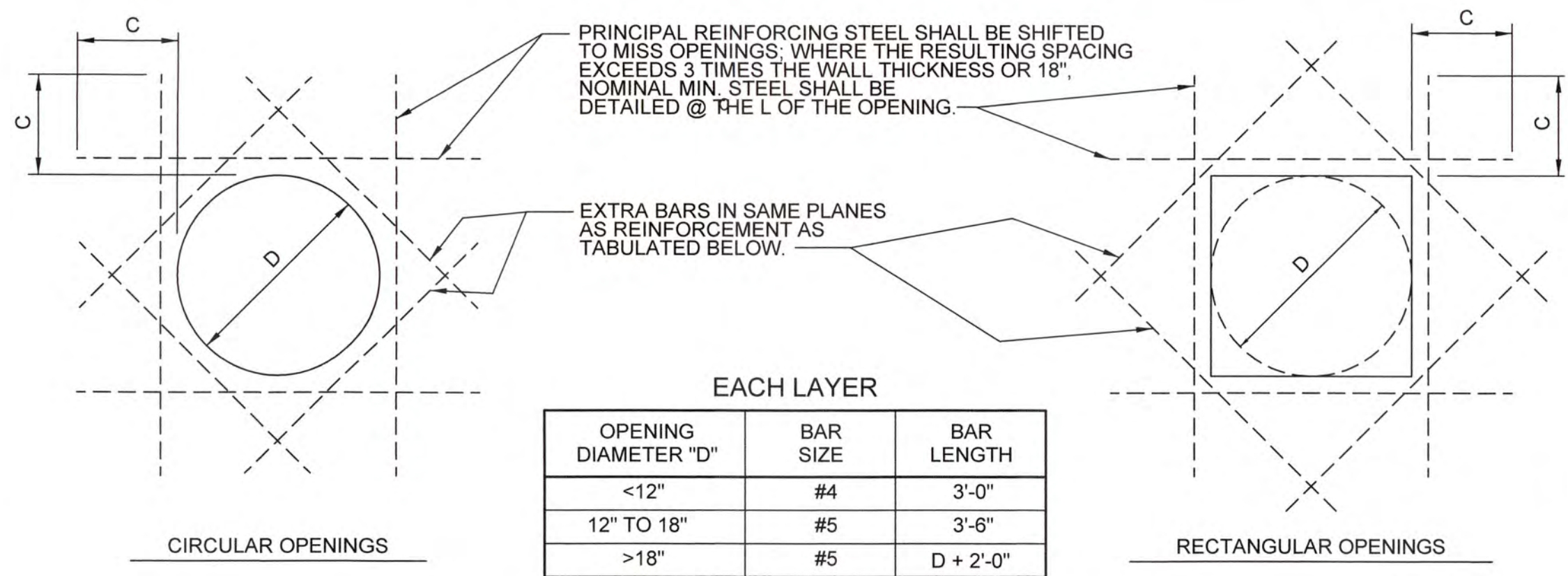


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COLUMBIA COUNTY, GEORGIA
UV / ADVANCED OXIDATION TREATMENT
SOIL EROSION AND SEDIMENT CONTROL PLAN
CLARKS HILL PLANT

DESIGNED		JMD	REF.	1631-00	DWG NO.
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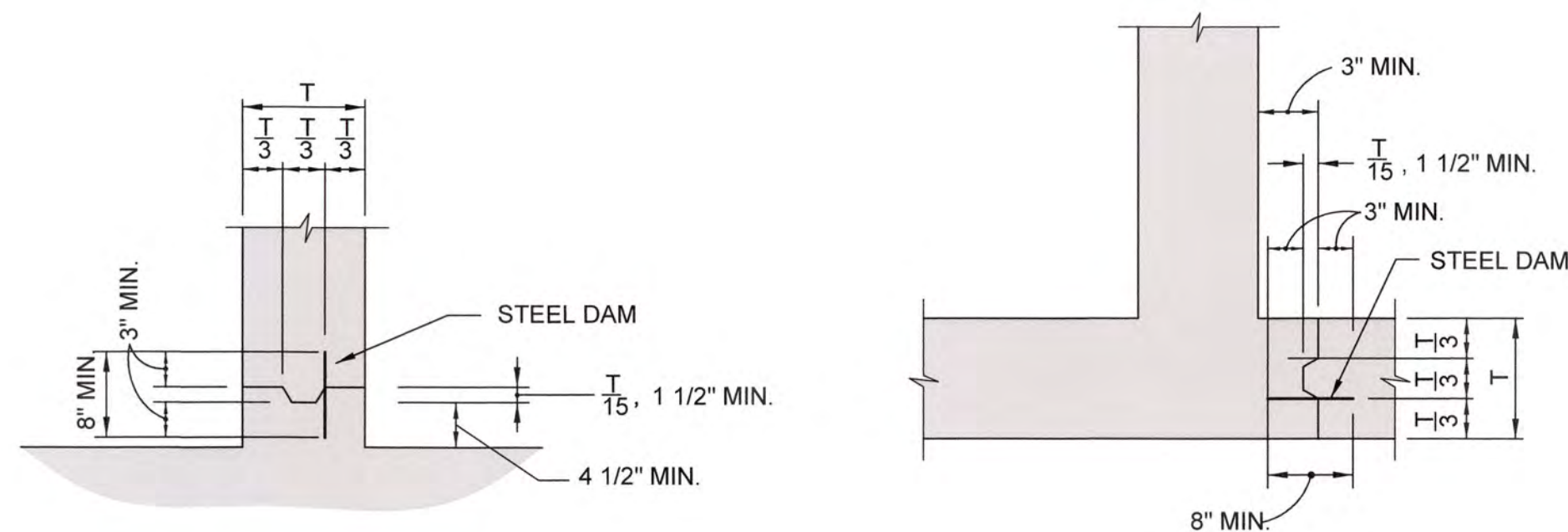
EACH LAYER

OPENING DIAMETER "D"	BAR SIZE	BAR LENGTH
<12"	#4	3'-0"
12" TO 18"	#5	3'-6"
>18"	#5	D + 2'-0"

C = LENGTH OF LAPPED SPLICE FOR TOP BARS.

EXTRA REINFORCEMENT AT OPENINGS

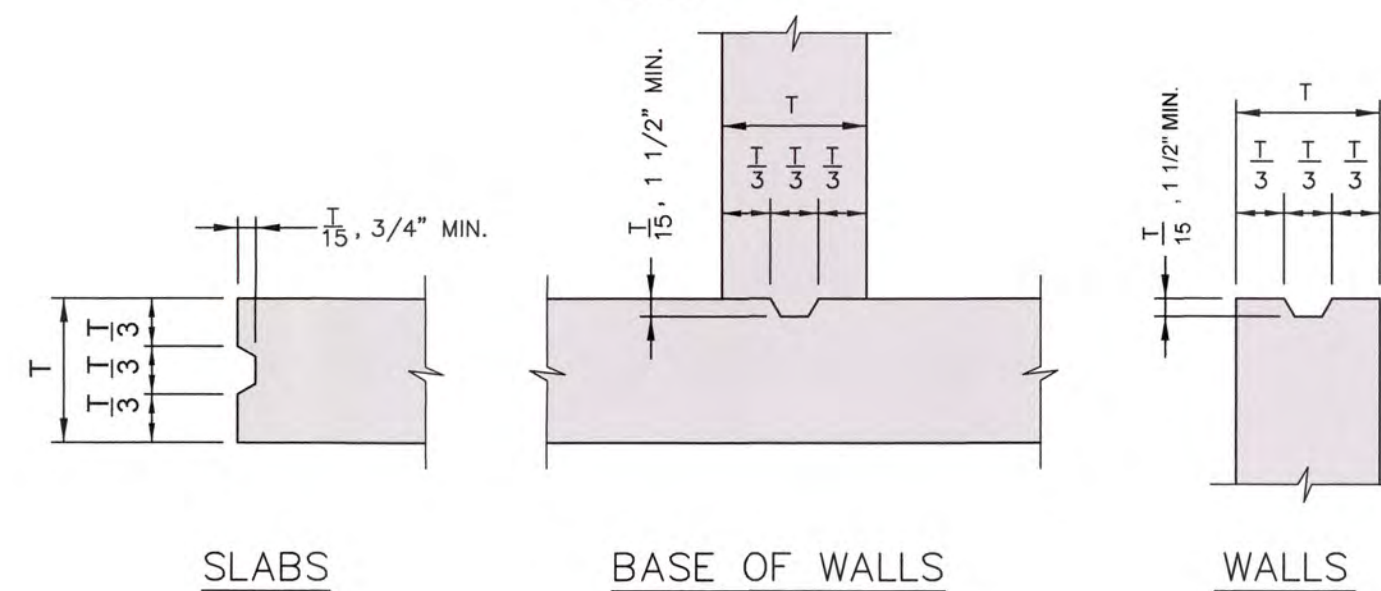
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- A. NOT LESS THAN STANDARD HOOK.
- B. SUFFICIENT LENGTH TO PERMIT BARS TO EXTEND THROUGH THE WALL TO THE OPPOSITE FACE AND TERMINATE WITH A STANDARD HOOK BUT NOT LESS THAN THE EMBEDMENT LENGTH FOR TOP BARS WITH STANDARD HOOKS.
- C. THE LESSER OF 0.2 TIMES THE LONGER HORIZONTAL CLEAR SPAN OR 0.4 TIMES THE VERTICAL CLEAR SPAN BUT NOT LESS THAN THE LENGTH OF LAPPED SPLICES FOR TOP BARS.
- D. NOT LESS THAN THE LENGTH OF LAPPED SPLICE FOR TOP BARS.

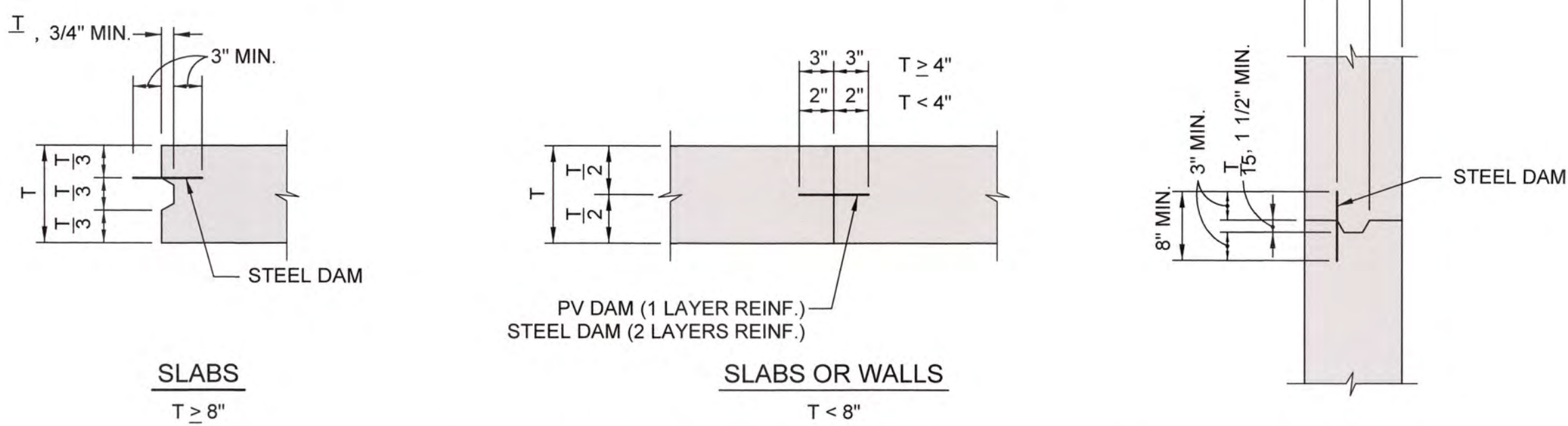
WALL CORNER REINFORCEMENT DETAILS

N.T.S.



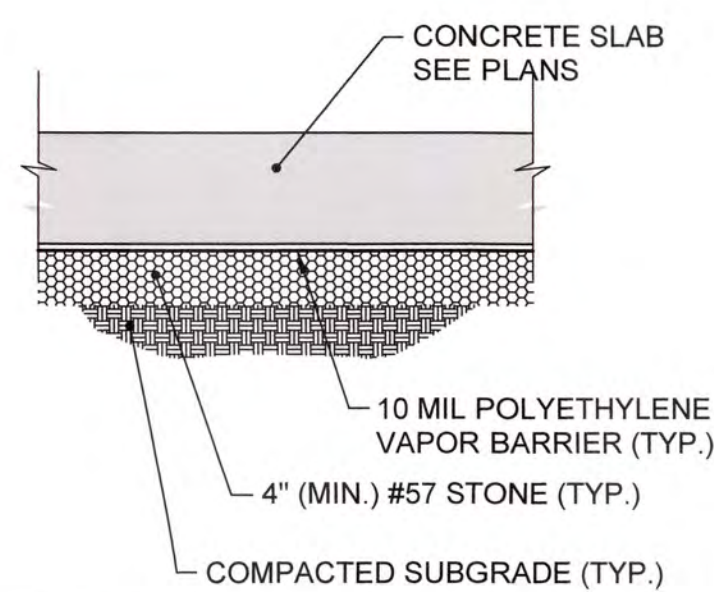
TYPICAL CONSTRUCTION JOINTS

N.T.S.



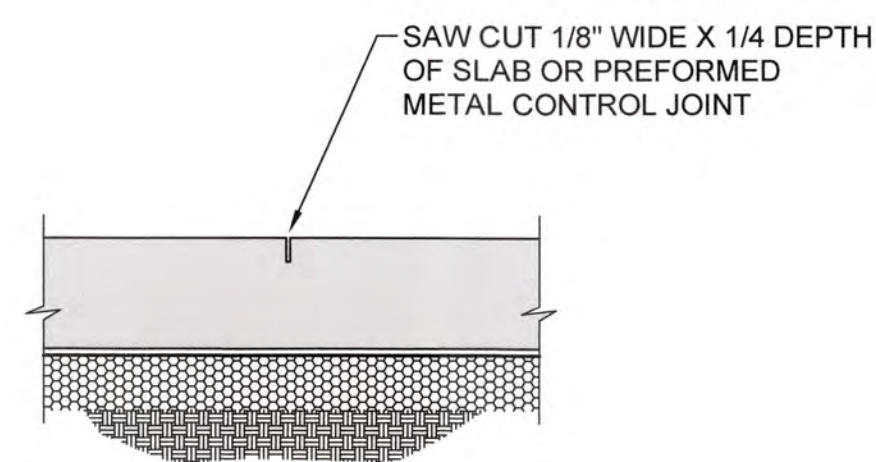
TYPICAL HYDRAULIC CONSTRUCTION JOINT

N.T.S.



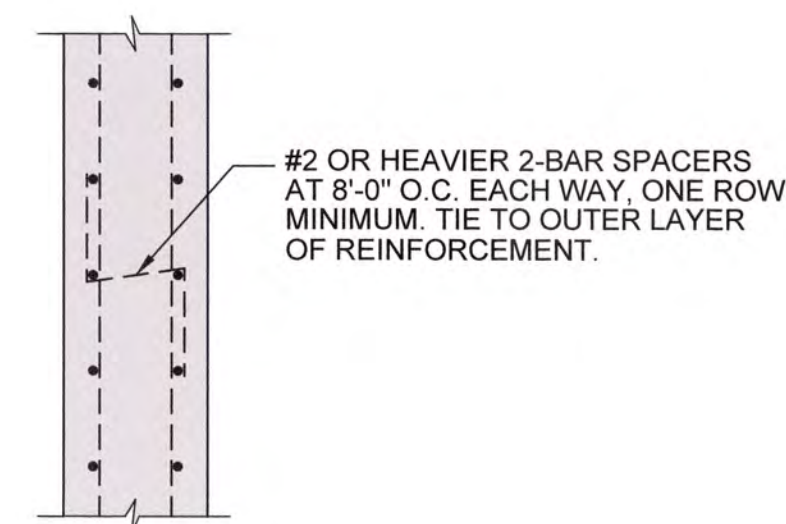
TYPICAL SLAB DETAIL

N.T.S.



TYPICAL CONTROL JOINT DETAIL

N.T.S.



WALL REINFORCEMENT SPACERS

N.T.S.

SPLICE LENGTHS FOR REINFORCING STEEL

4,000 PSI CLASS B

(FULL TENSION SPLICE WITH 75% OR MORE SPLICED IN LAP LENGTH)

BAR SIZE	LENGTH OF LAPPED SPLICES FOR REINFORCING IN INCHES		LENGTH OF EMBEDMENT FOR END ANCHORAGE OF REINFORCING WITH STANDARD HOOKS IN INCHES
	*TOP BARS	OTHERS	ALL BARS
3	18	16	8
4	24	19	10
5	30	23	12
6	36	28	15
7	42	33	17
8	48	37	19
9	55	42	22
10	65	50	24
11	80	62	27

*TOP BARS ARE HORIZONTAL BARS SO PLACED THAT MORE THAN 12" OF CONCRETE IS CAST IN THE MEMBER BELOW THE BAR. HORIZONTAL BARS IN WALLS ARE TO BE PROVIDED WITH LAPS AS REQUIRED FOR TOP BARS.

EXCEPT AS OTHERWISE INDICATED ON THE PLANS, EMBEDMENT LENGTHS FOR ENTIRE ANCHORAGE AND FULL TENSION LAPPED SPLICES SHALL NOT BE LESS THAN CLASS C.

LAPPED SPLICES SHALL NOT BE MADE AT POINTS OF MAXIMUM STRESS AS DETERMINED BY THE ENGINEER, AND SHALL NOT BE SPACED CLOSER THAN 6 INCHES ON CENTER. IF SPLICES ARE STAGGERED SO THAT NO MORE THAN 1/2 ARE SPLICED IN A LAP SPLICE LENGTH, THE SPLICE LENGTH CAN BE REDUCED TO 75% OF THE LENGTHS TABULATED ABOVE.

CONCRETE COVER FOR REINFORCEMENT

LOCATION	MINIMUM COVER, INCHES
SURFACES EXPOSED TO EARTH, WEATHER OR ENVIRONMENT.	3 INCHES
SURFACES CAST AGAINST & PERMANENTLY EXPOSED TO EARTH	
FORMED OR TOP SURFACES EXPOSED TO EARTH, WATER, WEATHER OR SATURATED AIR	2 INCHES, #6 & LARGER 1 1/2 INCHES, #5 & SMALLER
SURFACES NOT EXPOSED TO EARTH, WEATHER OR ENVIRONMENT.	1 1/2 INCHES
BEAMS, COLUMNS: PRIMARY REINFORCEMENT, TIES, STIRRUPS & SPIRALS	
SLABS, WALLS & JOISTS: #11 BARS AND SMALLER	
	3/4 INCHES

COVER FOR REINFORCING STEEL SHALL BE NOT LESS THAN THE MINIMUM SHOWN AND SHALL NOT EXCEED THE MINIMUM BY MORE THAN 1/4 INCH WHERE THE CONCRETE THICKNESS IS 24 INCHES OR LESS.

CONCRETE CONSTRUCTION NOTES:

- CONCRETE CONSTRUCTION SHALL CONFORM TO ACI 318 AND ACI 301.
- EXPOSED CORNERS OF FORMED CONCRETE SHALL HAVE A 3/4 INCH CHAMFER UNLESS NOTED OTHERWISE.

CONCRETE MATERIALS:

- CONCRETE STRENGTHS:
NOT OTHERWISE DESIGNATED: 4,000 PSI
SIDEWALKS, CURBS, GUTTERS, DITCH PAVING: 3,000 PSI
THRUST BLOCKING, PIPE ENCASEMENT: 2,000 PSI
- REINFORCING STEEL: A615, GRADE 60.
- MISCELLANEOUS STEEL: A36.
- FOUNDATION ANCHOR BOLTS: A36 (UNO)
- STEEL DAMS: 8" X 3/16", ASTM A36.

DOWELING INTO CONCRETE

- REBAR DOWELED INTO CONCRETE SHALL HAVE A MINIMUM EMBEDMENT OF 4 1/2" AND UTILIZE THE HILTI ADHESIVE HIT-HY 200 OR APPROVED EQUAL.

DRILLED ANCHORING INTO MASONRY UNITS

- ATTACHMENT INTO MASONRY UNITS WHETHER BRICK OR BLOCK SHALL UTILIZE A MINIMUM OF 3/8" HILTI HAS THREADED RODS WITH THE HIT-HY 270 ADHESIVE SYSTEM OR APPROVED EQUAL. A MINIMUM EMBEDMENT OF 2 1/2" INTO BRICK OR CONCRETE BLOCK SHALL BE PROVIDED.

J:\2016\151 Columbia County Water Utility\151-00 Branch and Curb\Hill WTP\04-Perovols Design\Drawings\151-00-151.dwg, 12/29/2020, 10:45:50 AM, V:\chalker, HP Designer, T:\2016\Rev 2.pcl, 1:1



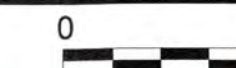
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COLUMBIA COUNTY, GEORGIA

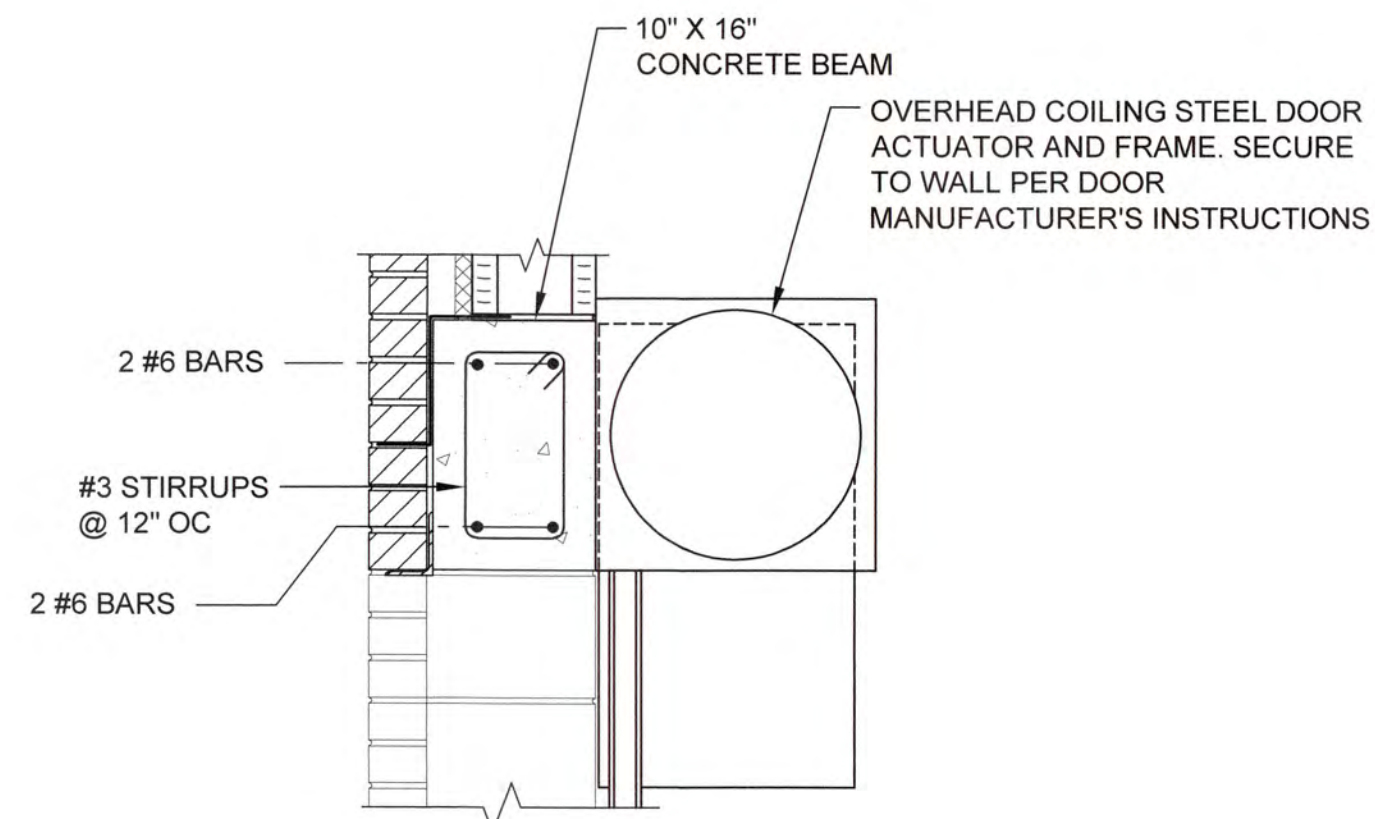
UV / ADVANCED OXIDATION TREATMENT
STANDARD STRUCTURAL DETAILS



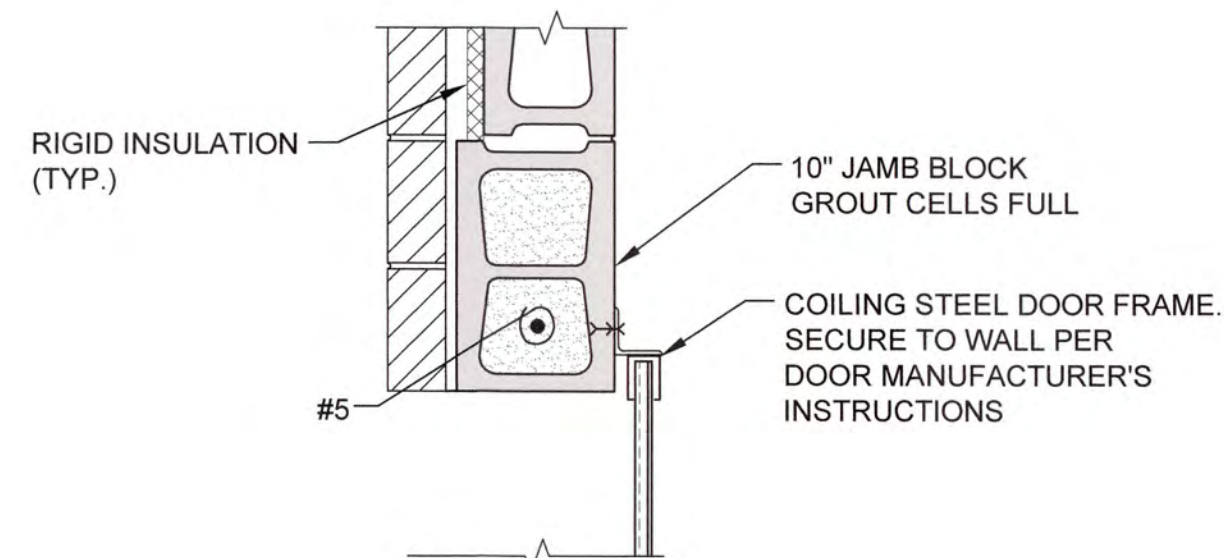
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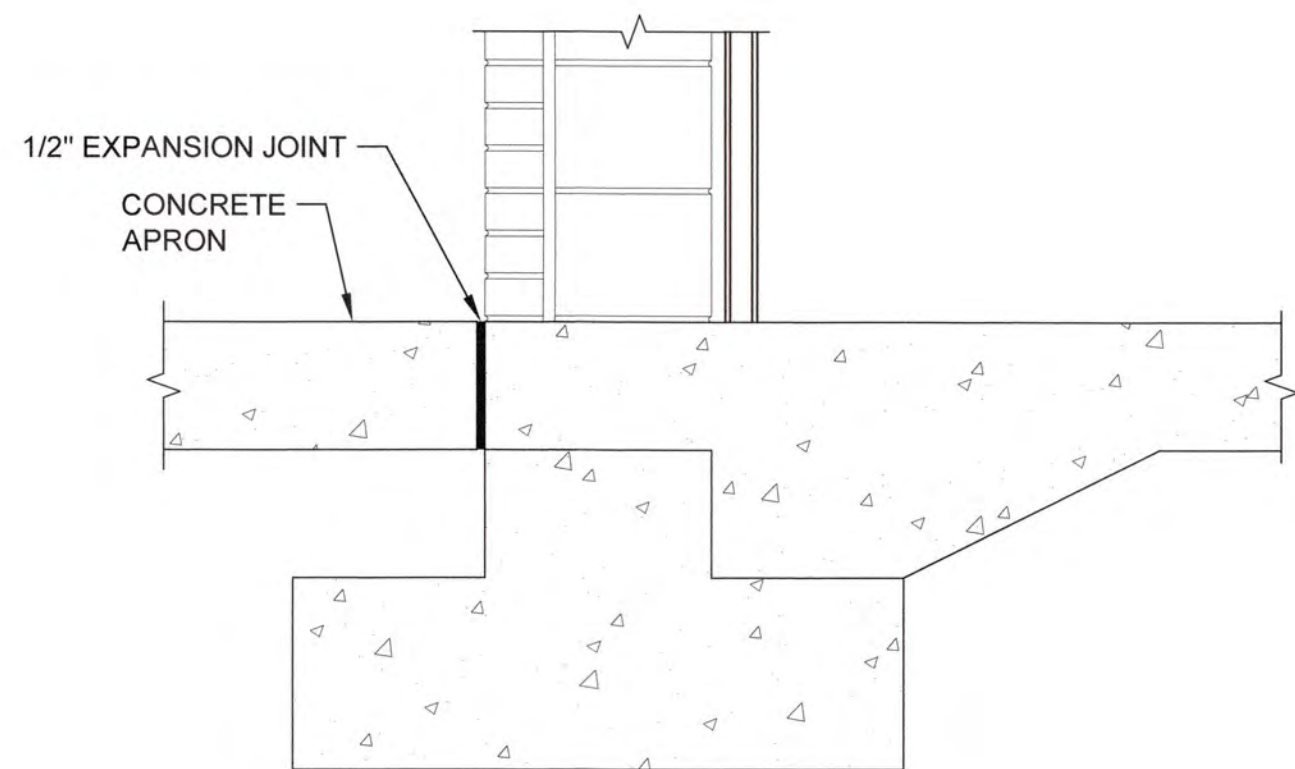
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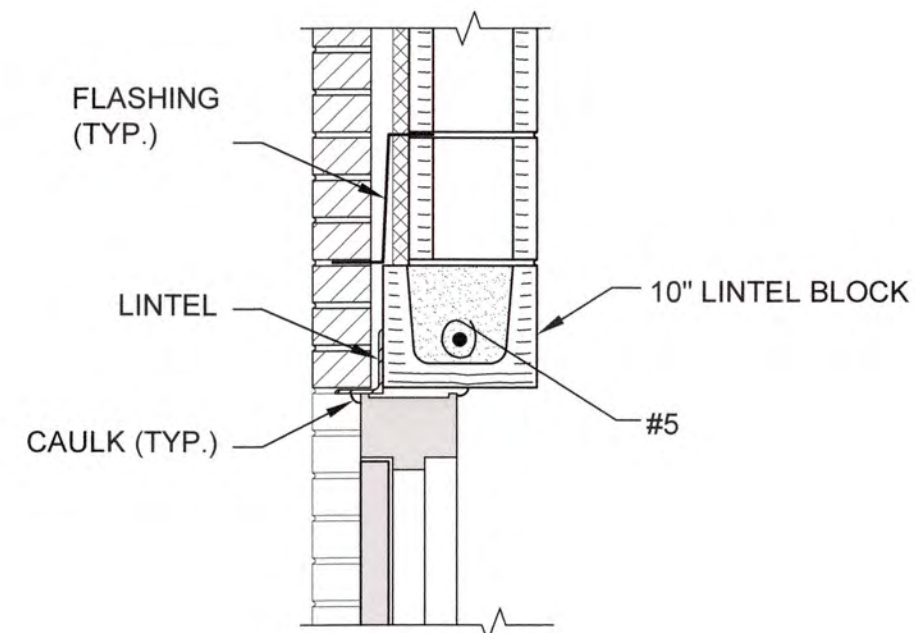
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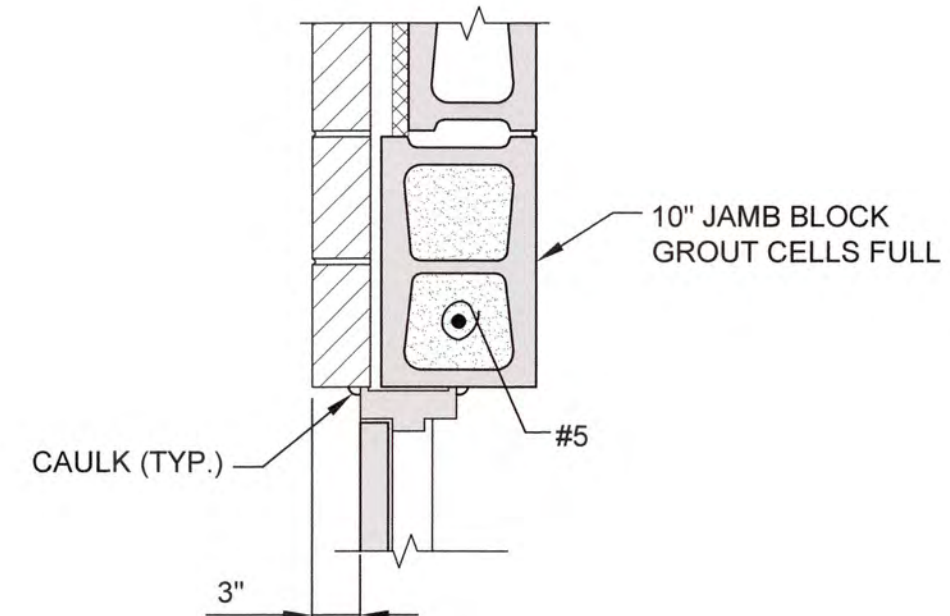
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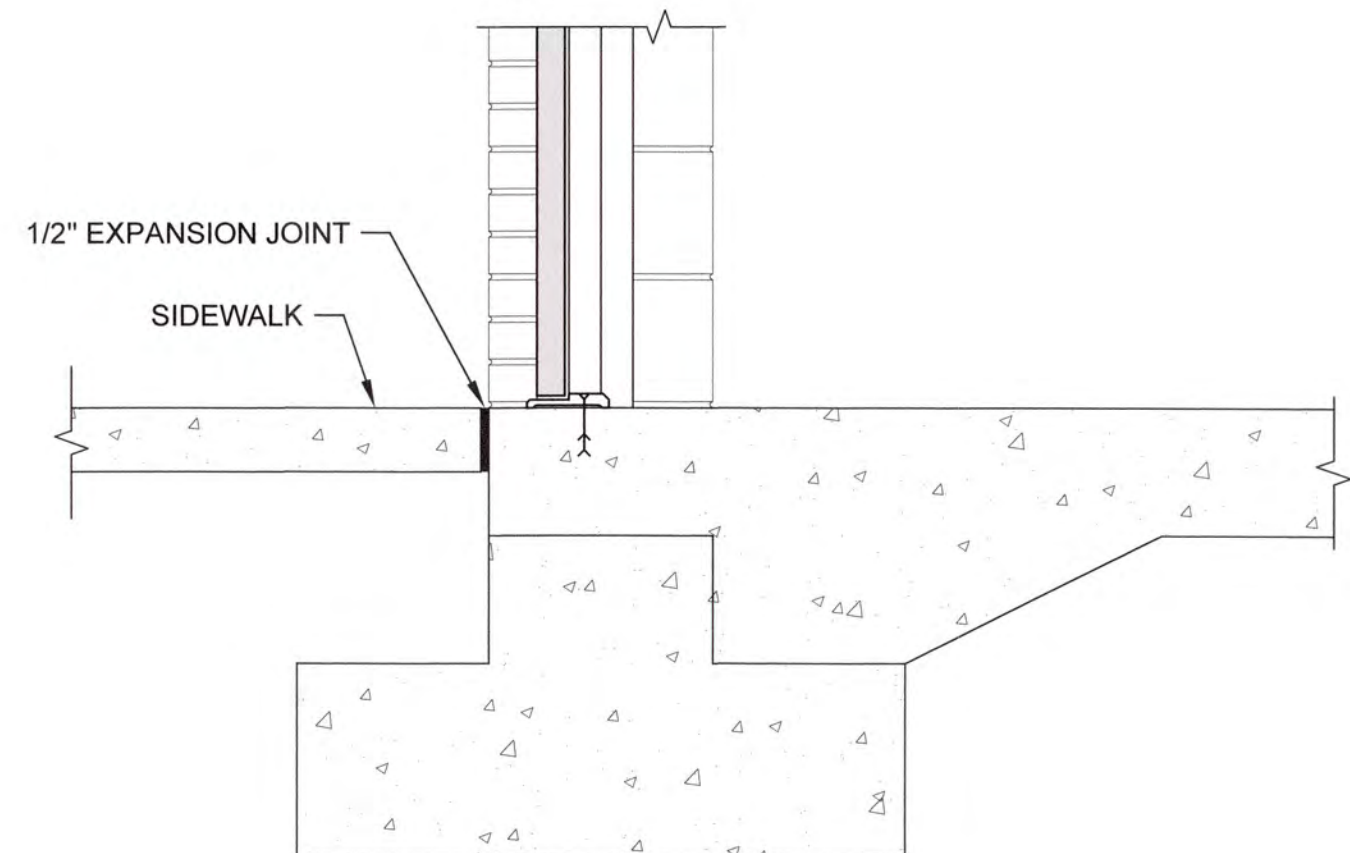
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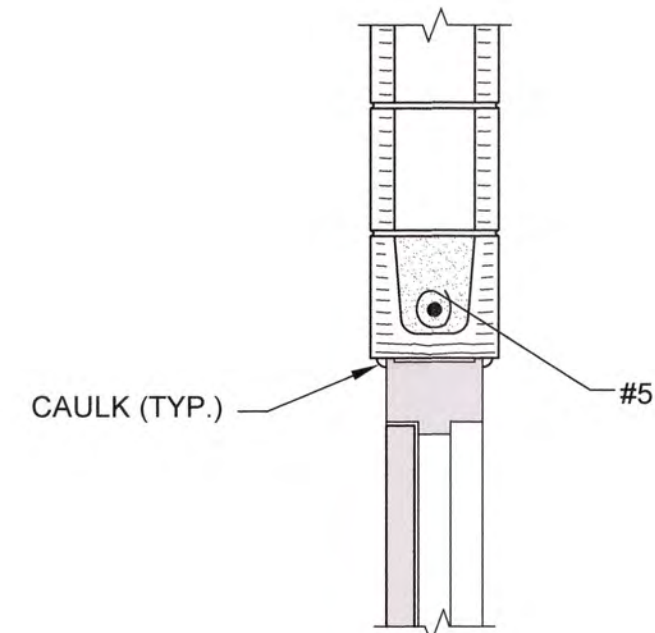
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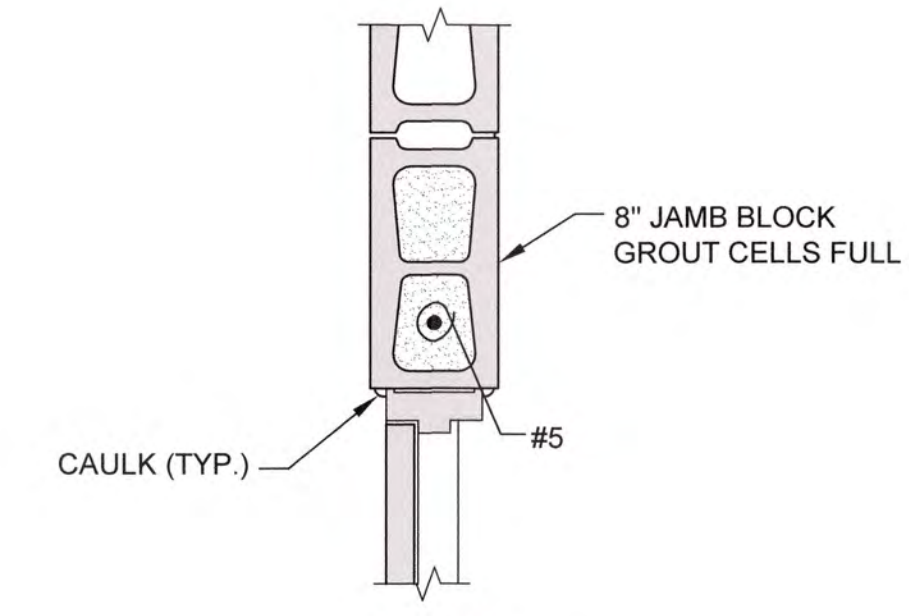
5 JAMB



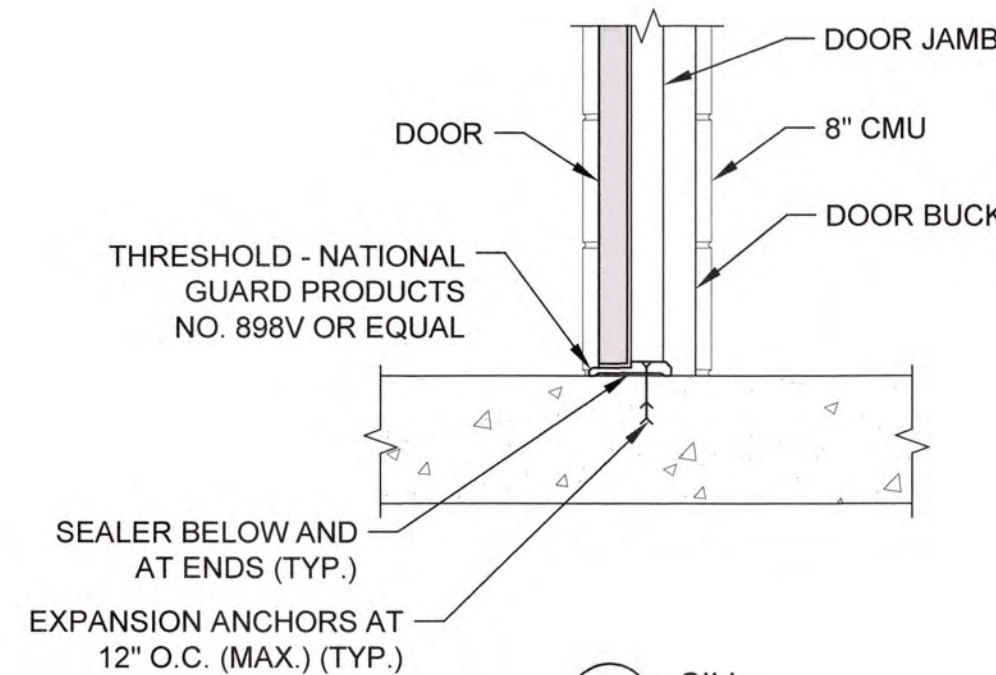
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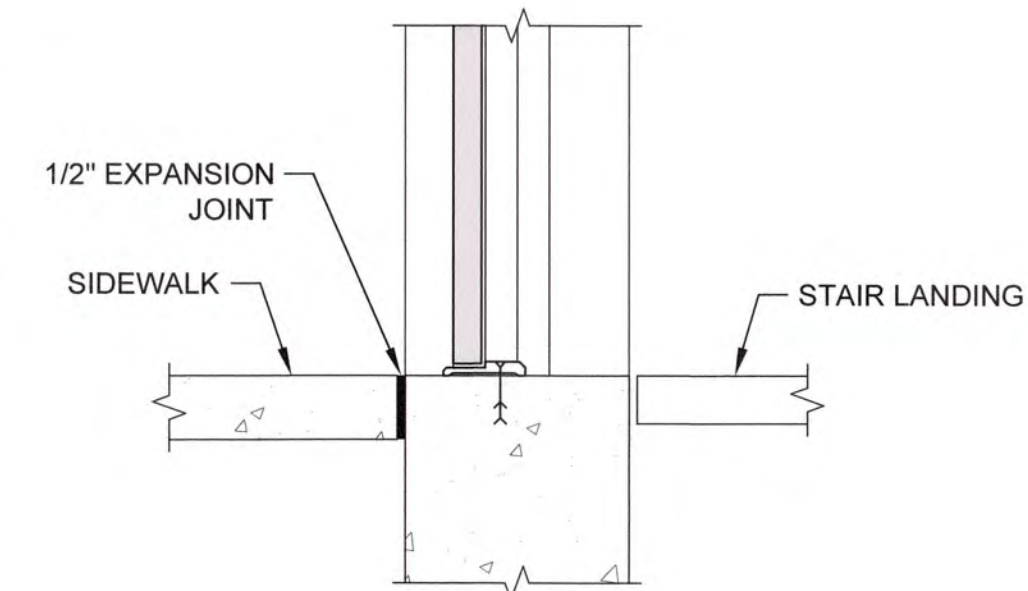
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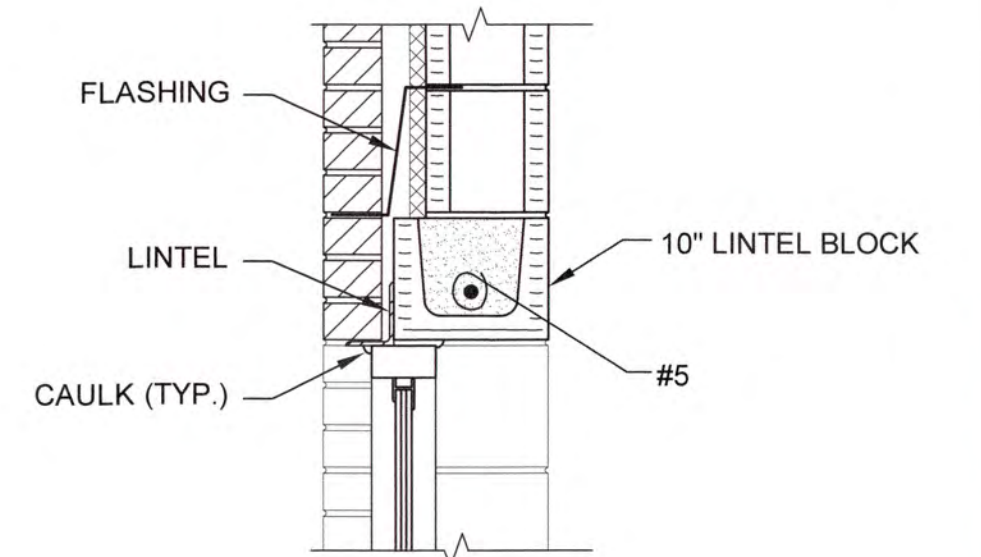
8 JAMB



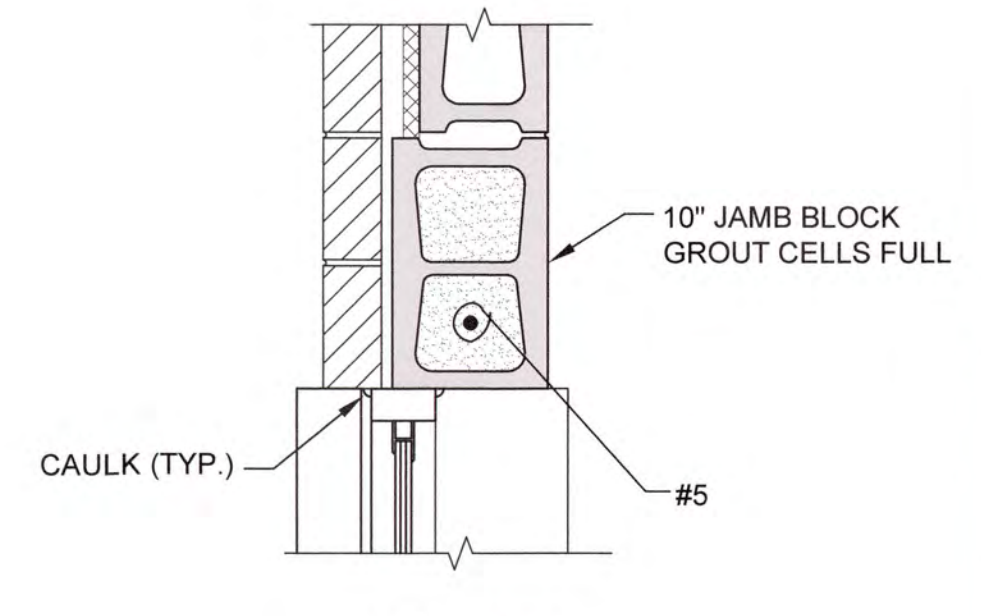
9 SILL



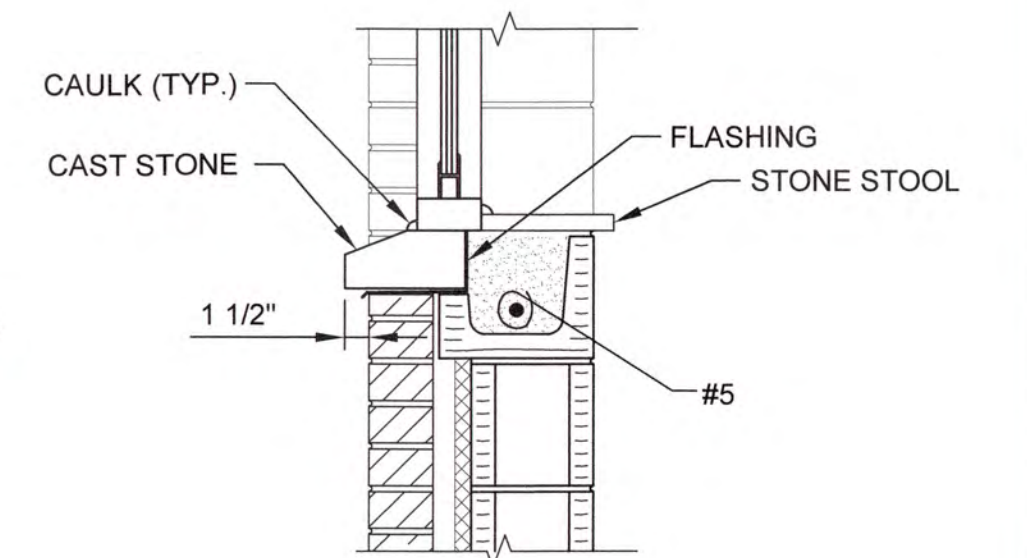
9A SILL



10 HEAD



11 JAMB



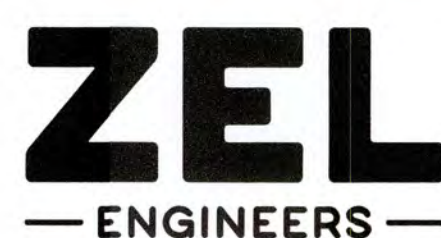
12 SILL

HEAD/JAMB/SILL DETAILS

SCALE: 1"=1'-0"



NO.	DATE	REVISION	BY	APVD

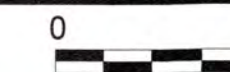


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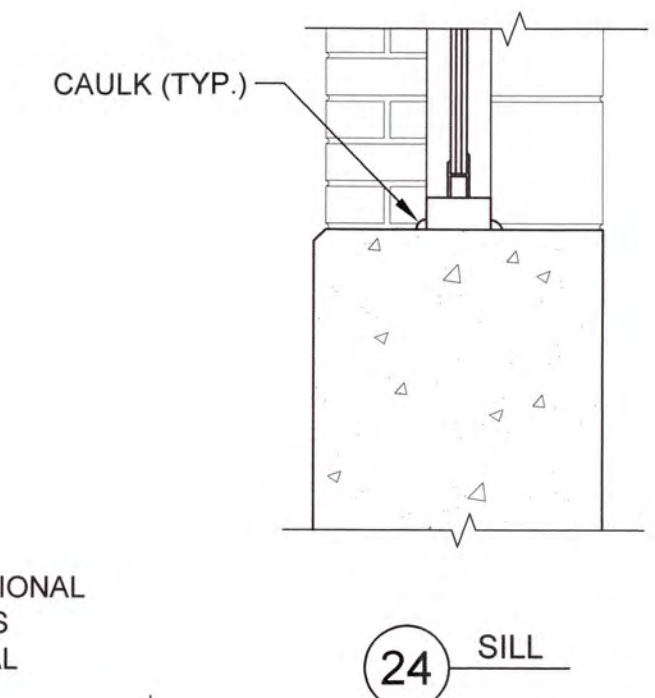
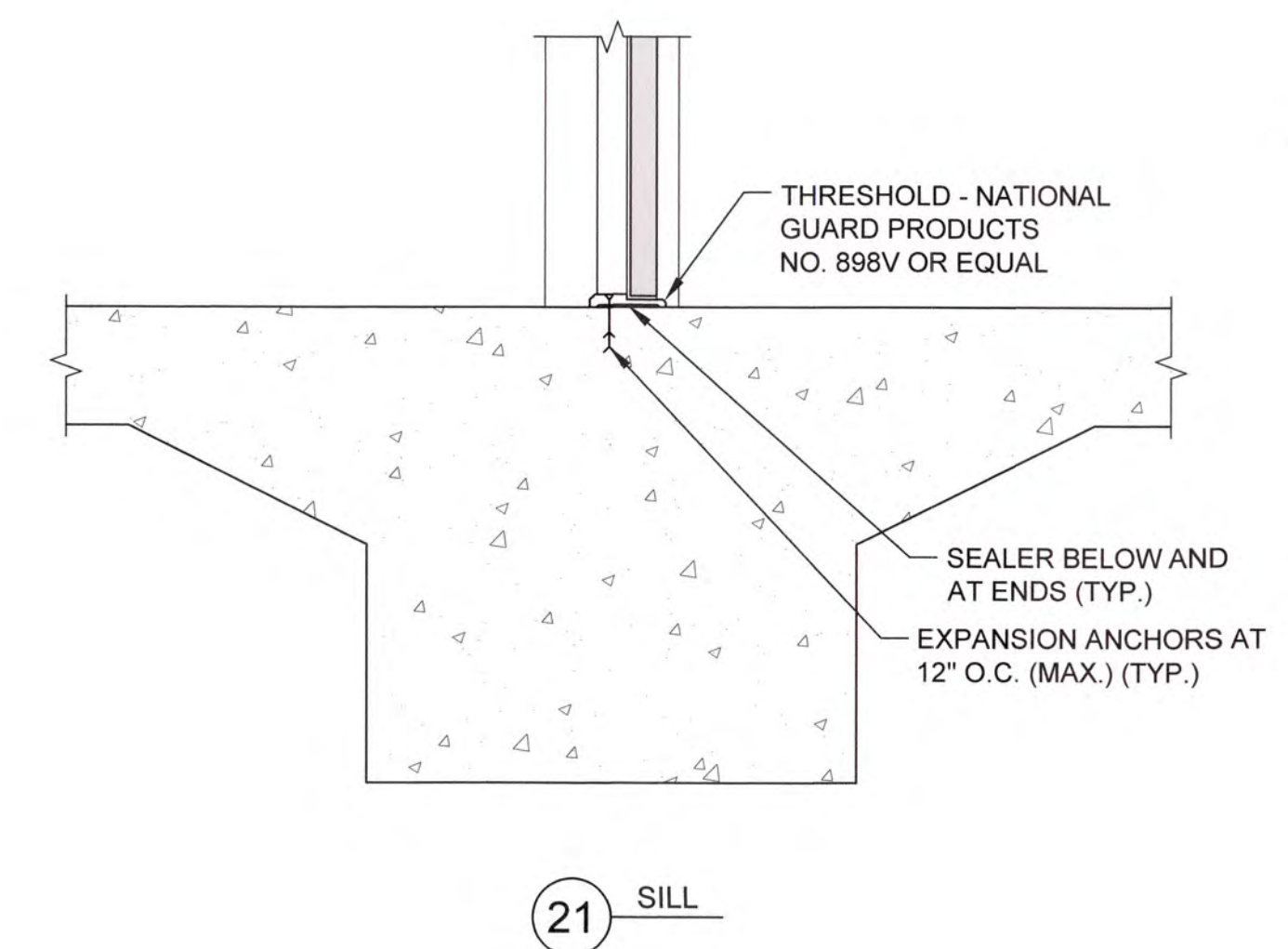
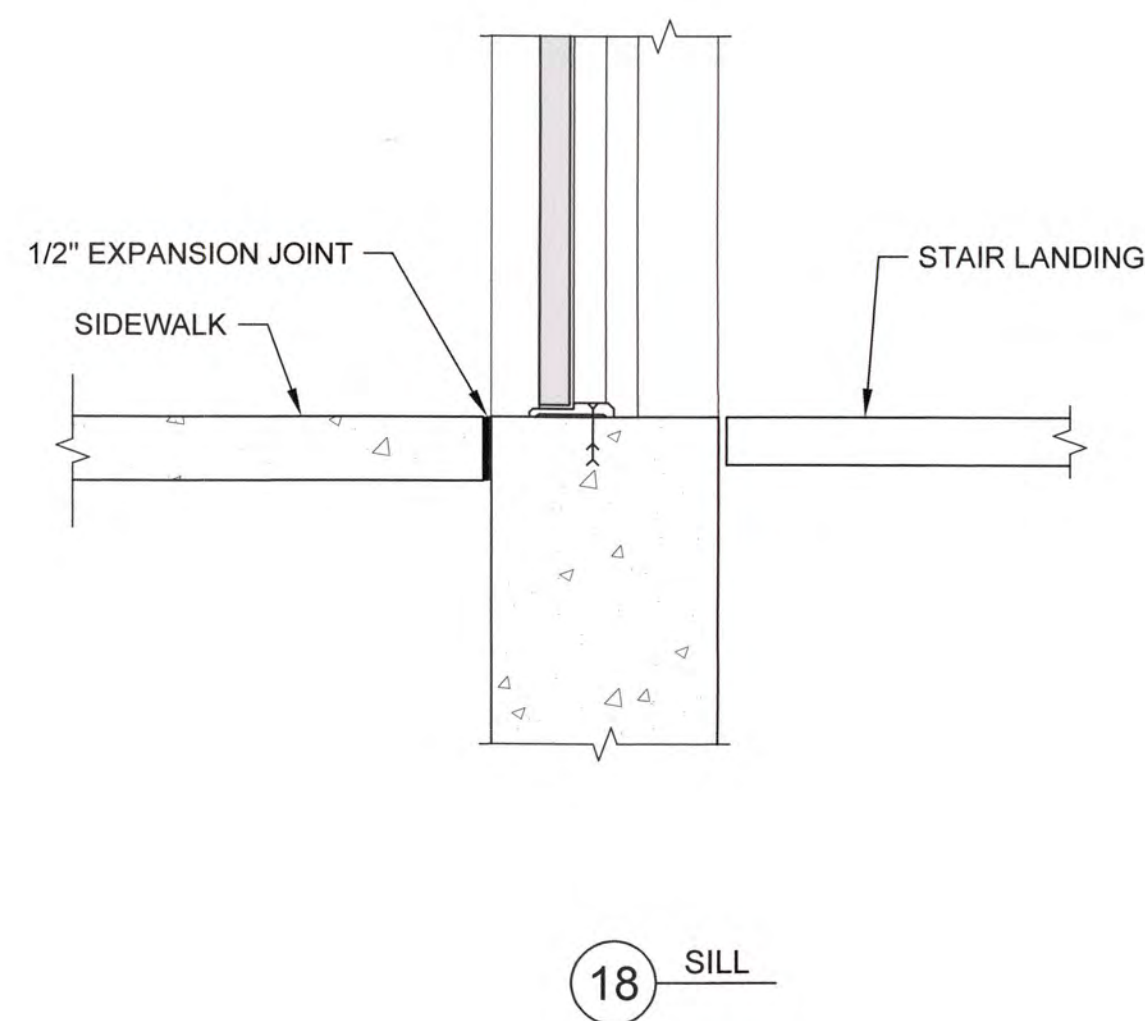
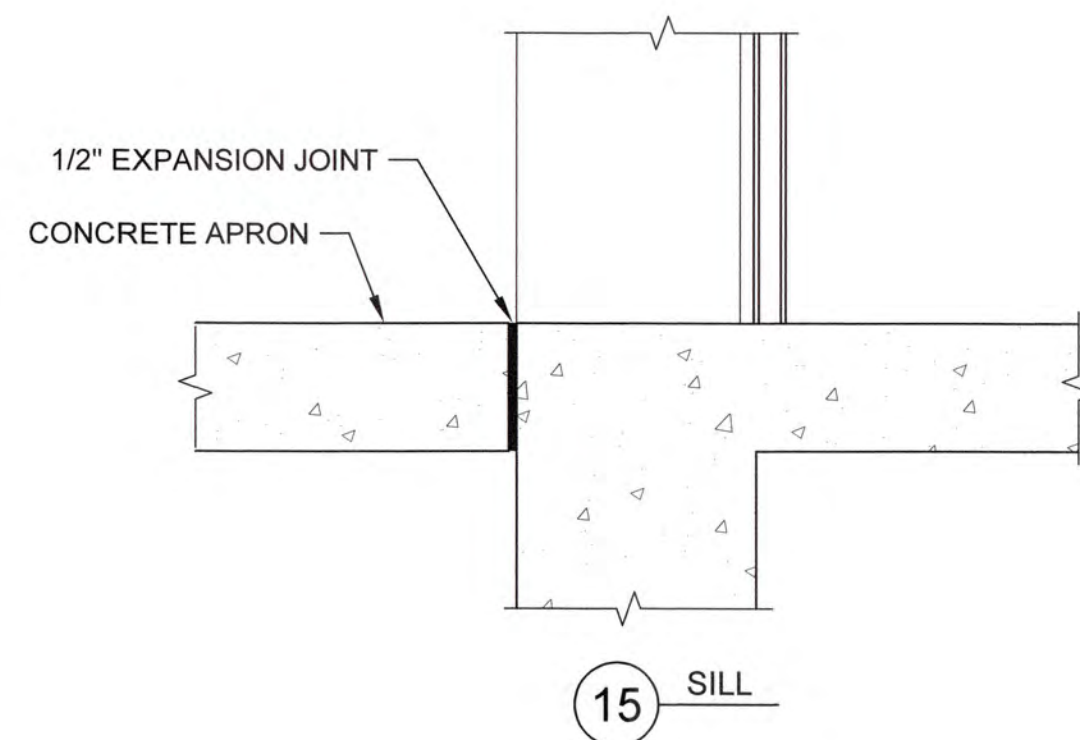
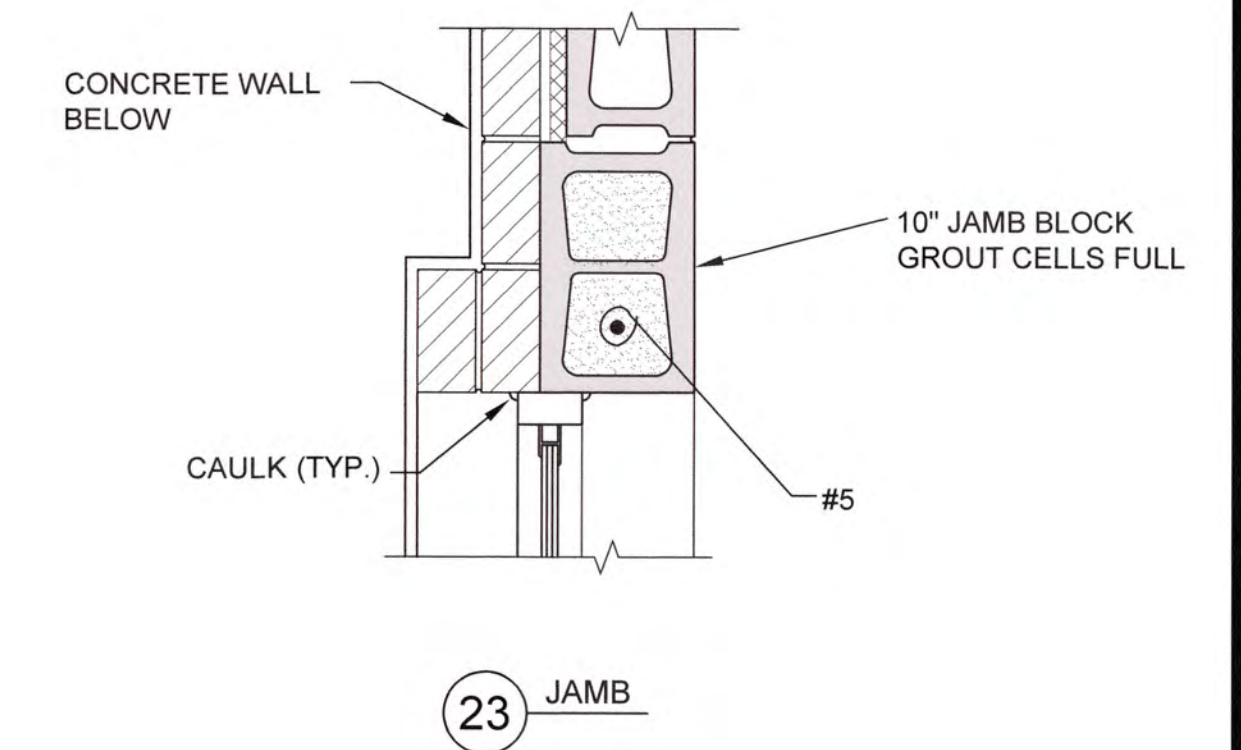
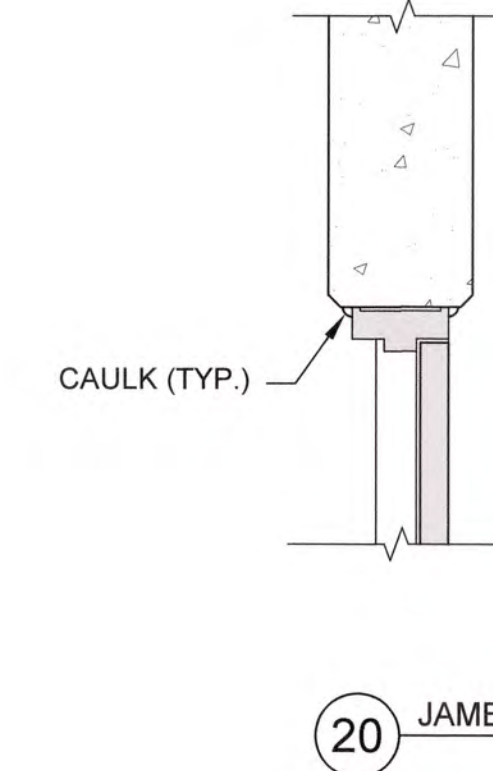
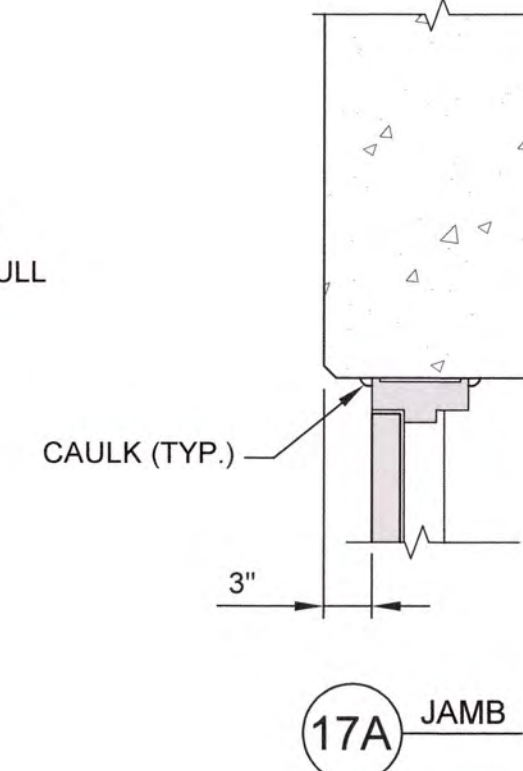
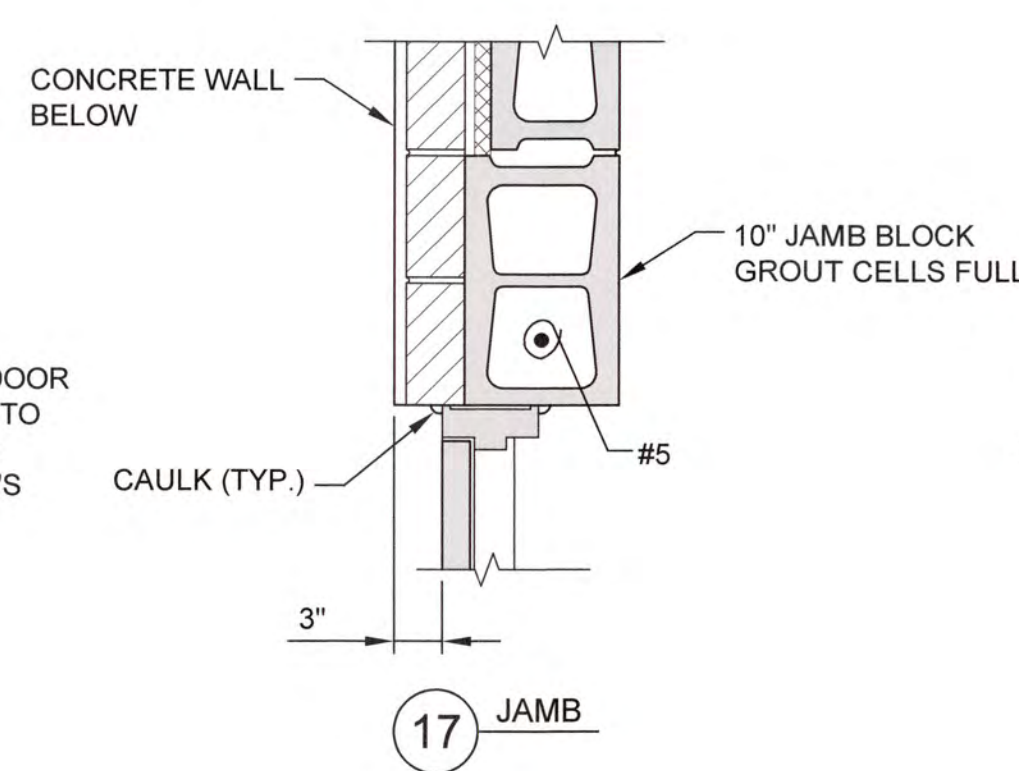
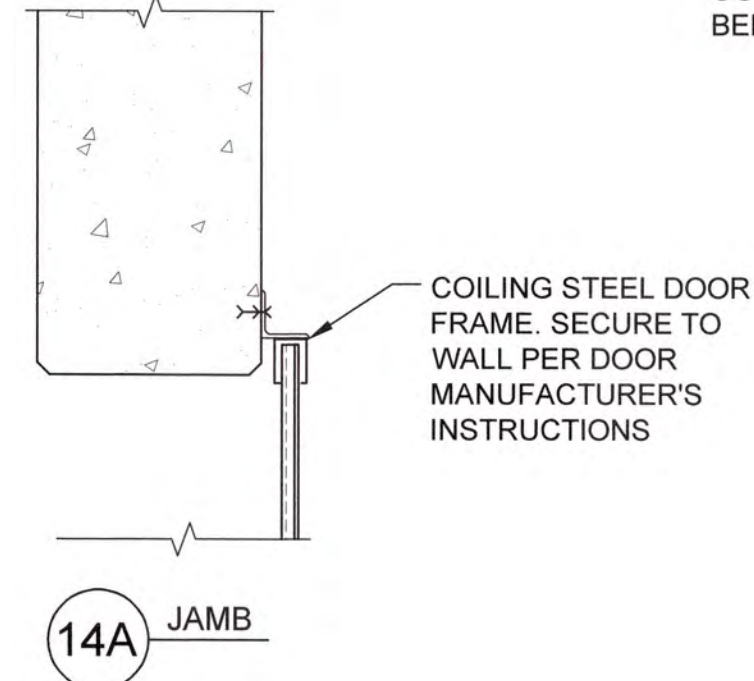
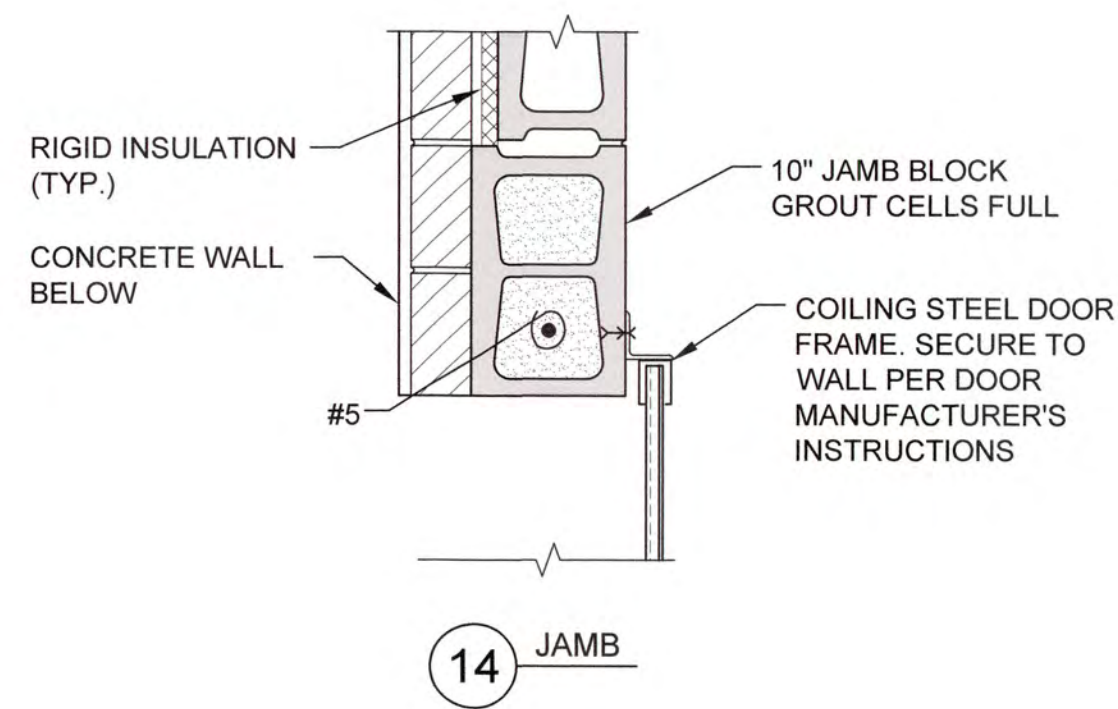
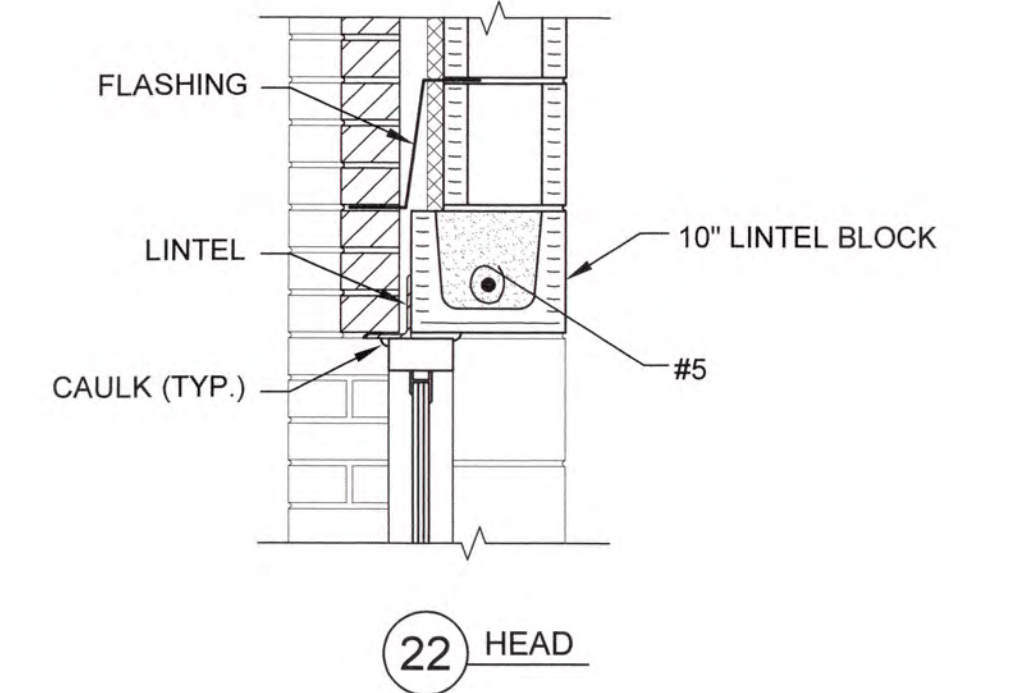
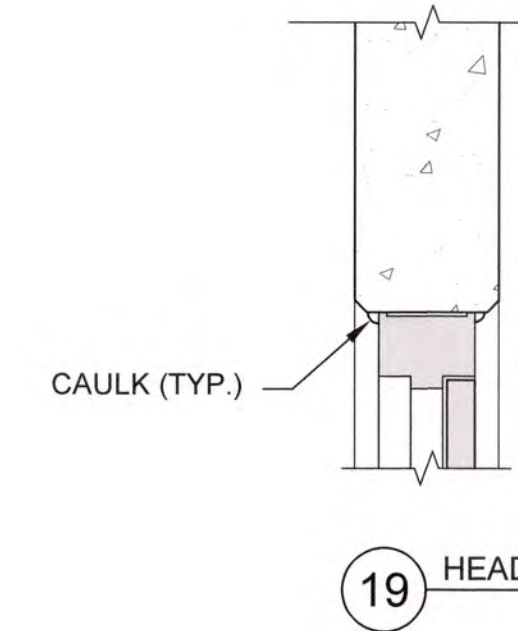
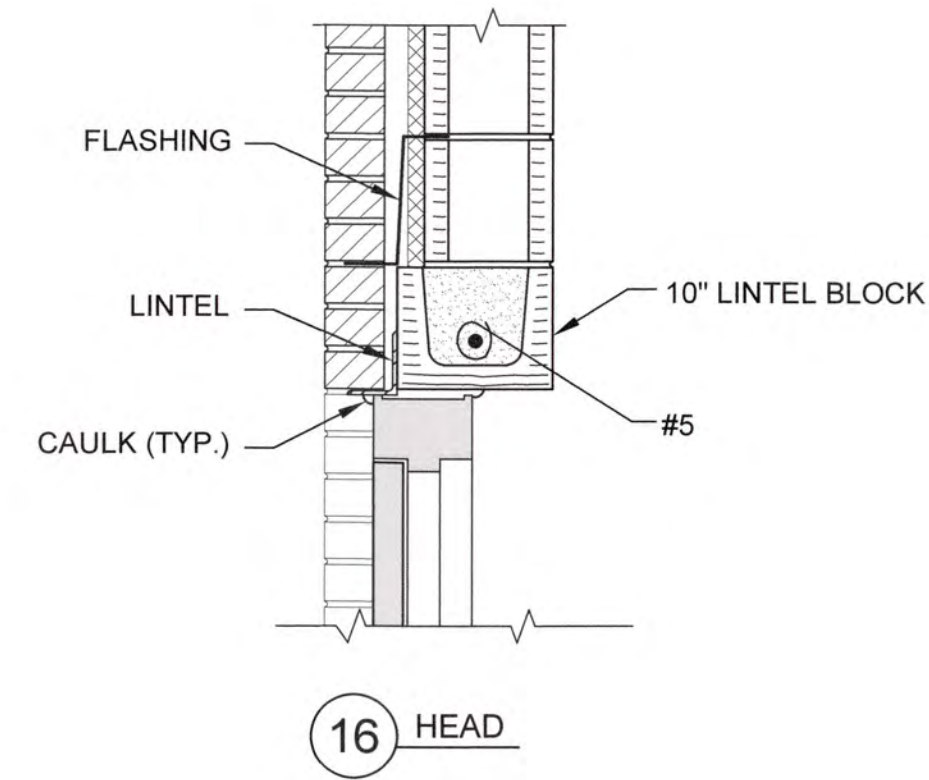
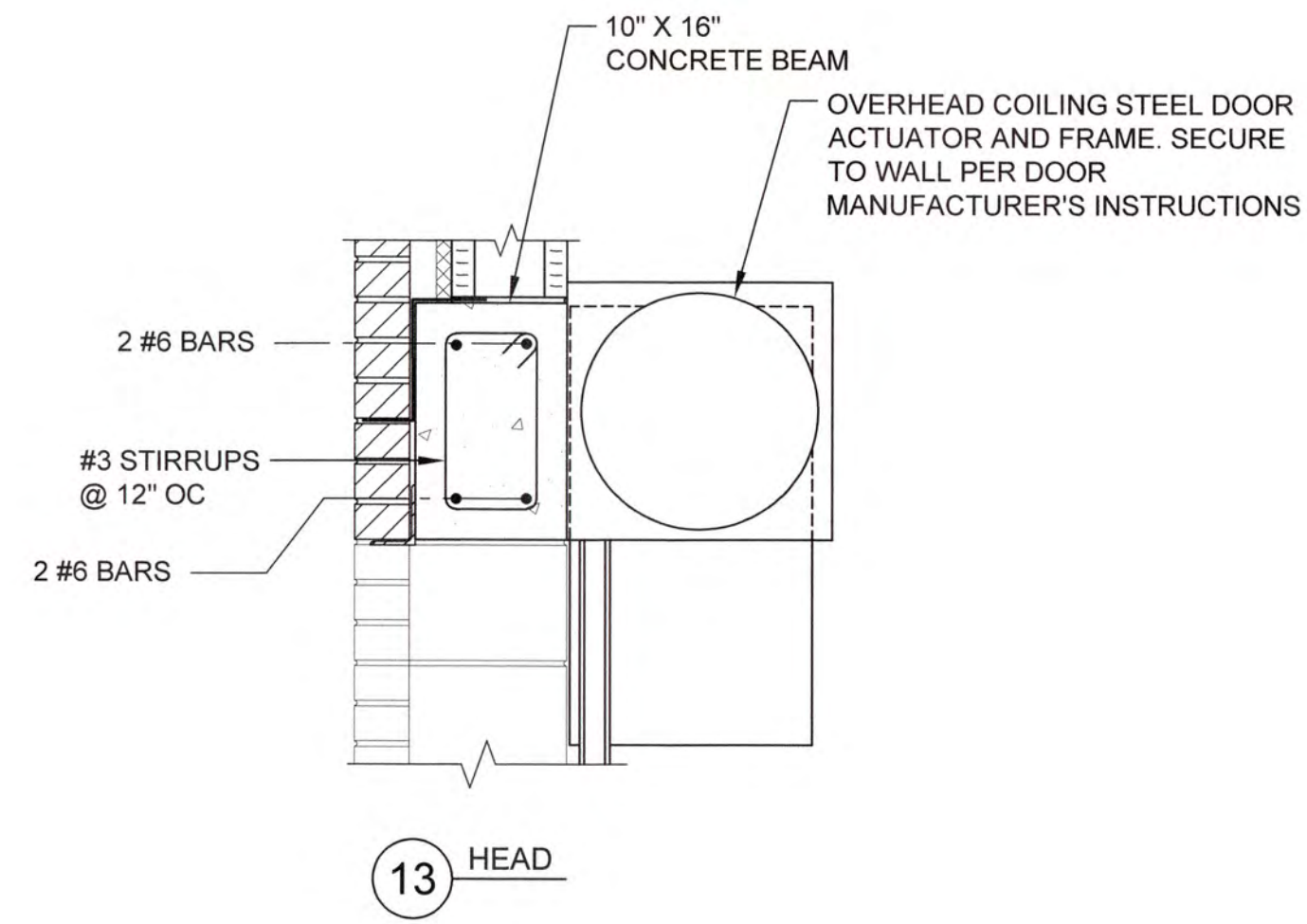
UV / ADVANCED OXIDATION TREATMENT

HEAD, JAM AND SILL DETAILS - 1



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

DESIGNED	DKR	REF.	1631-00	DWG NO.
DRAWN	SWH	DATE	DEC 2020	1S2
QC		SCALE	1"=1'-0"	



HEAD/JAMB/SILL DETAILS
SCALE: 1"=1'-0"

I:\2016\153 Columbia County Water Utility\1531-00\Records Design\Drawings\1531-00_153.dwg, 12/29/2020 10:44:19 AM, KChauhan, HP Designjet T2500 Rev.2, p.11



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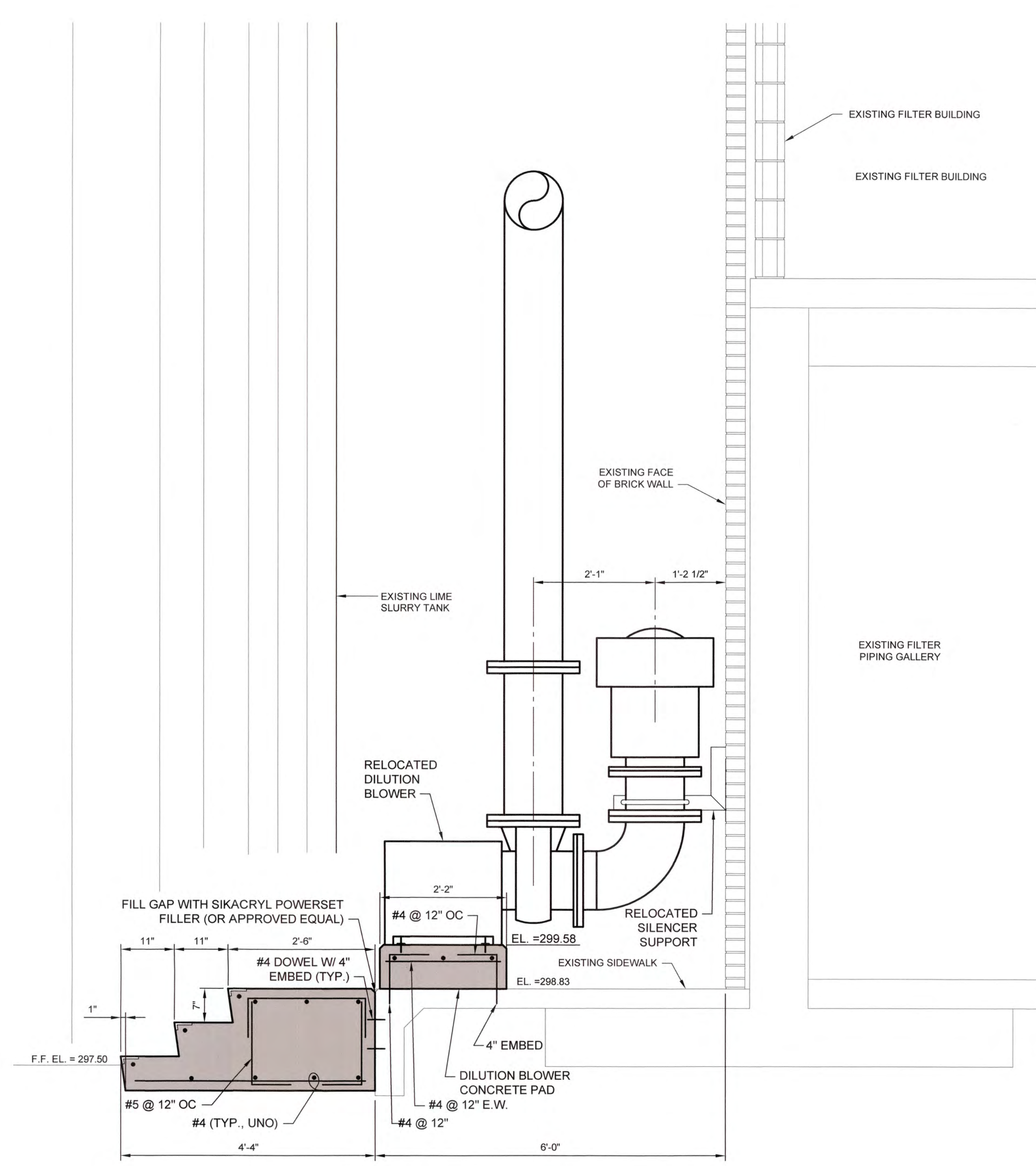
UV / ADVANCED OXIDATION TREATMENT

HEAD, JAM AND SILL DETAILS - 2

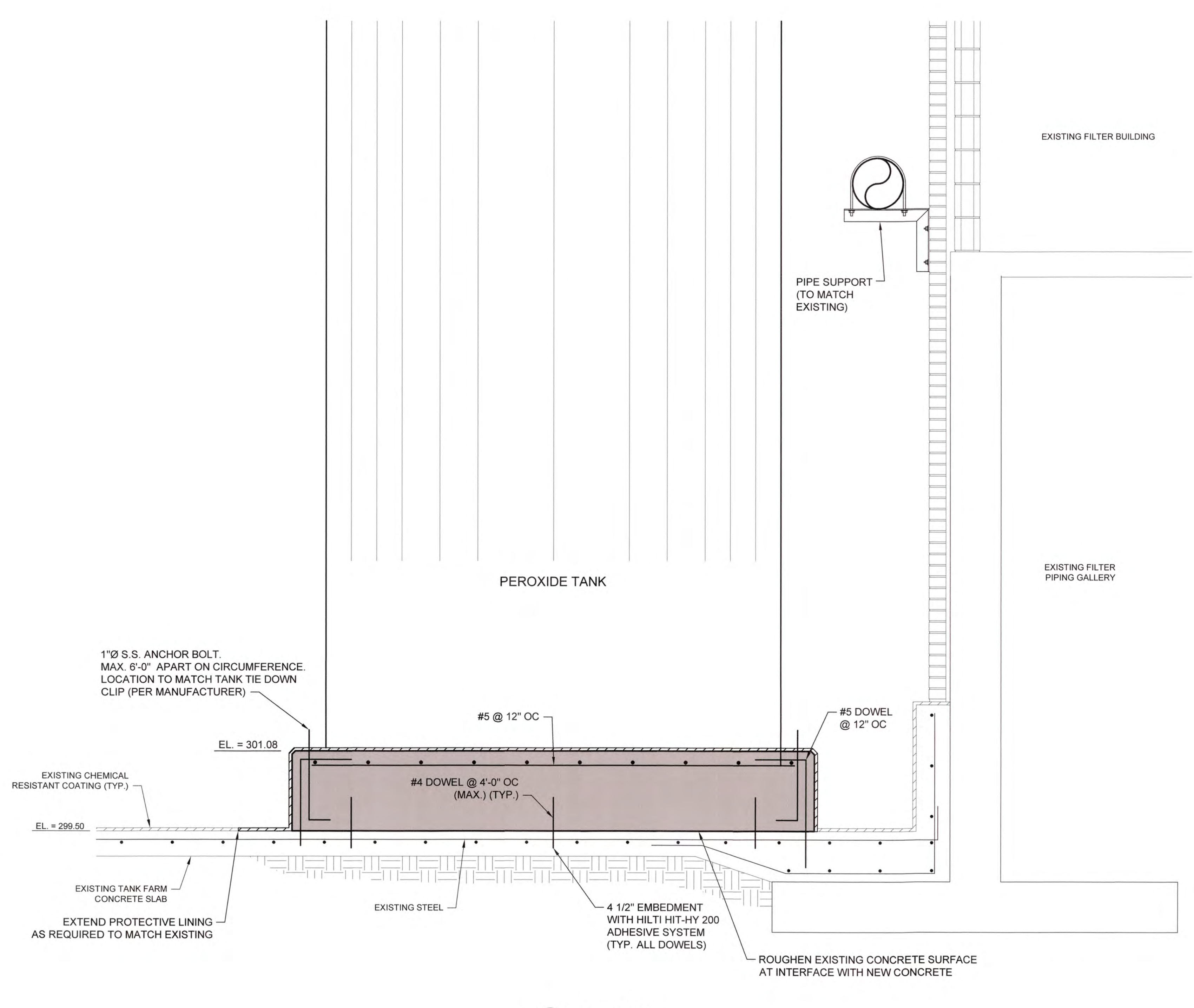
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DESIGNED	DKR	REF.	1631-00	DWG NO.
DRAWN	SWH	DATE	DEC 2020	153
QC		SCALE	1"=1'-0"	

1/20/16/161 Columbia County Water Utility/161/161-00 Blanchard and Carter Hill YTP UV Peroxide Design/161/161-00 161.dwg 12/15/2020 9:59:40 AM KChandler, HP Designer T2500 Rev 2.pcd 1:1



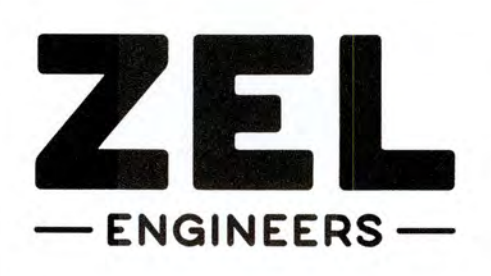
A SECTION
SCALE: 3/4"=1'-0"



B SECTION
SCALE: 3/4"=1'-0"



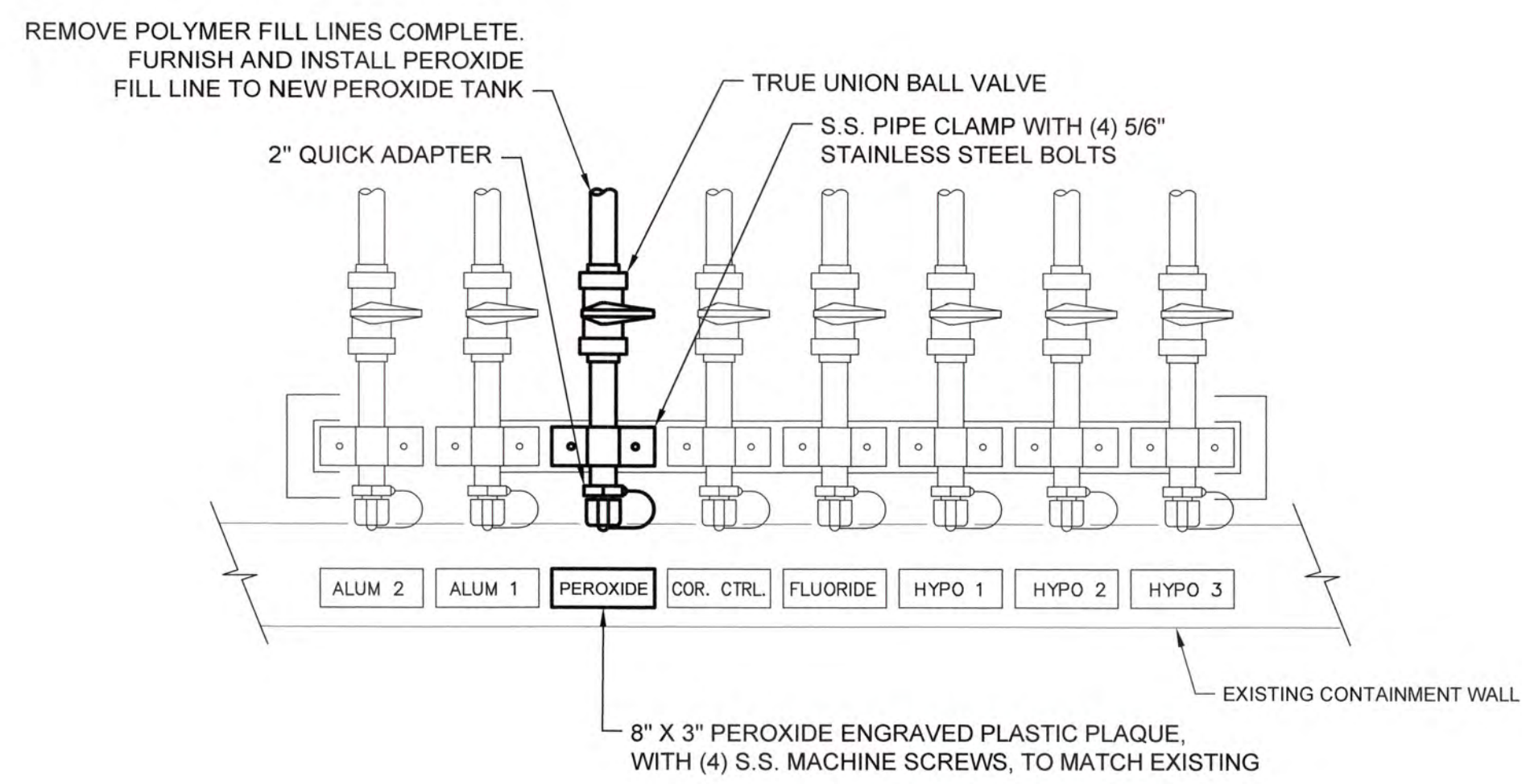
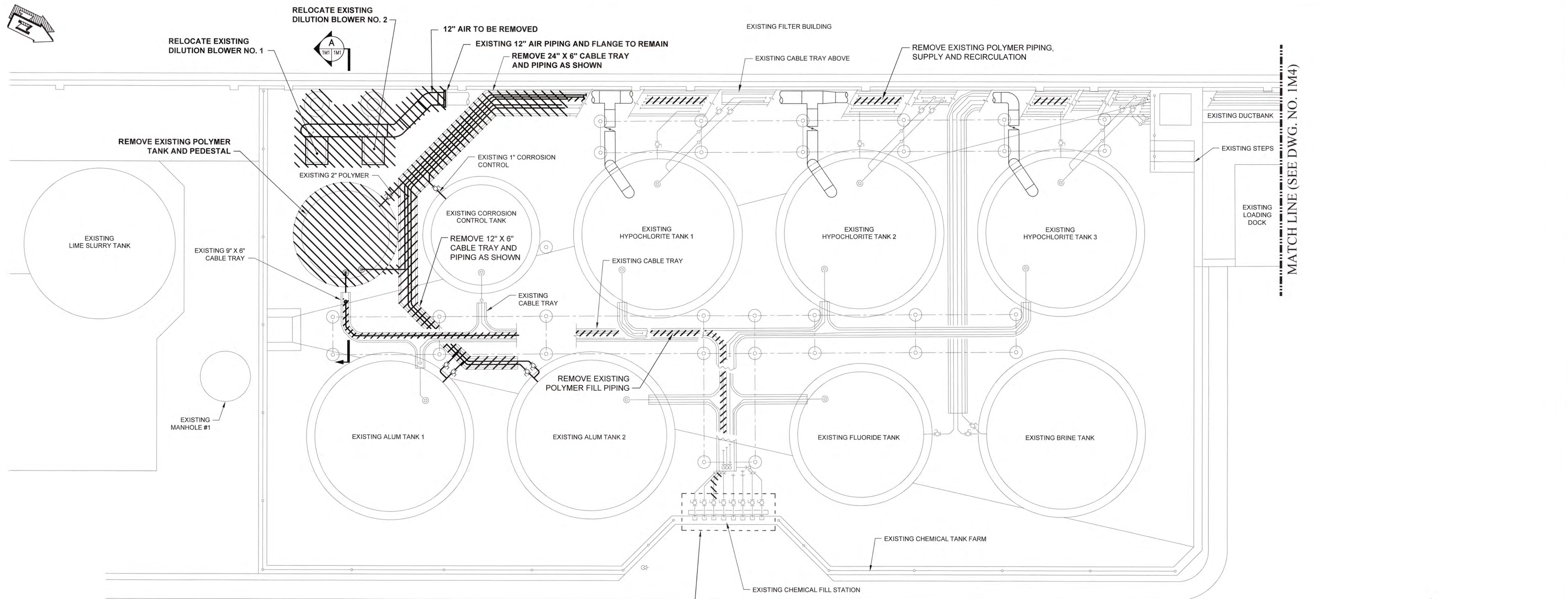
NO.	DATE	REVISION	BY	APVD



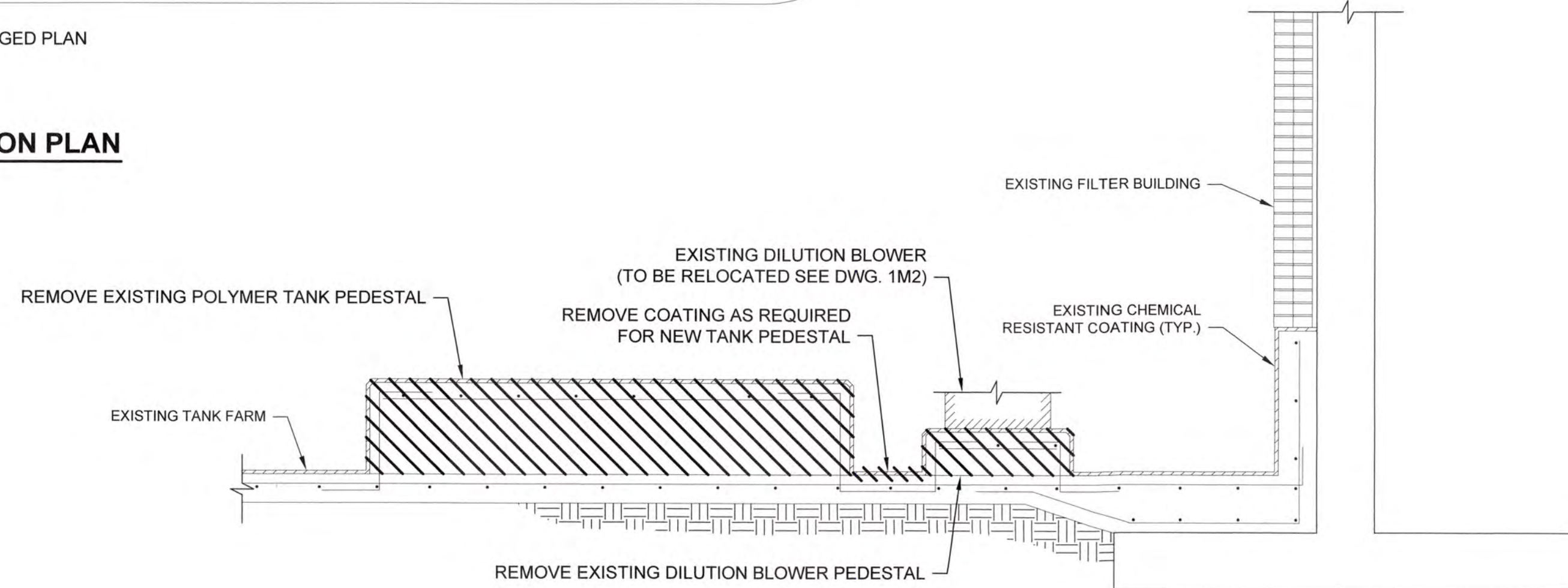
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COLUMBIA COUNTY, GEORGIA
 UV / ADVANCED OXIDATION TREATMENT
BLANCHARD PLANT DILUTION BLOWER AND TANK FARM STRUCTURAL SECTIONS

DESIGNED		DKR	REF.	1631-00	DWG NO.
DRAWN		SWH	DATE	DEC 2020	1S4
QC			SCALE	3/4"=1'-0"	



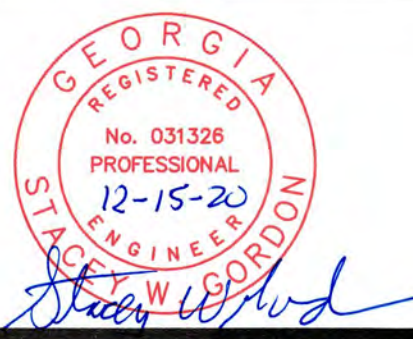
DILUTION BLOWER AND TANK FARM DEMOLITION PLAN
 SCALE: 1/4"=1'-0"



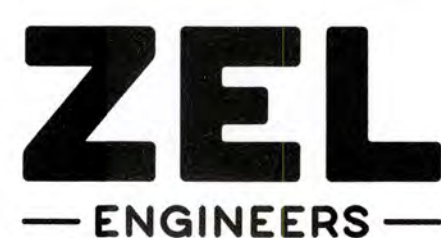
A SECTION
 SCALE: 1/2"=1'-0"

CHEMICAL FILL STATION ENLARGED PLAN
 SCALE: 1"=1'-0"

1/20/16151 Columbia County Water Utility/1531-00 Blanchard and Carter Hill WTP/1/1/Peroxide Design/1531-00-1M1.dwg, 12/29/2020, 4:19:11 PM, VChalko, HP Designer/1531-00-1M1.dwg, 12/29/2020, 4:19:11 PM, VChalko, HP Designer/1531-00-1M1.dwg, 12/29/2020, 4:19:11 PM, VChalko, HP Designer/1531-00-1M1.dwg, 12/29/2020, 4:19:11 PM, VChalko, HP Designer/1531-00-1M1.dwg



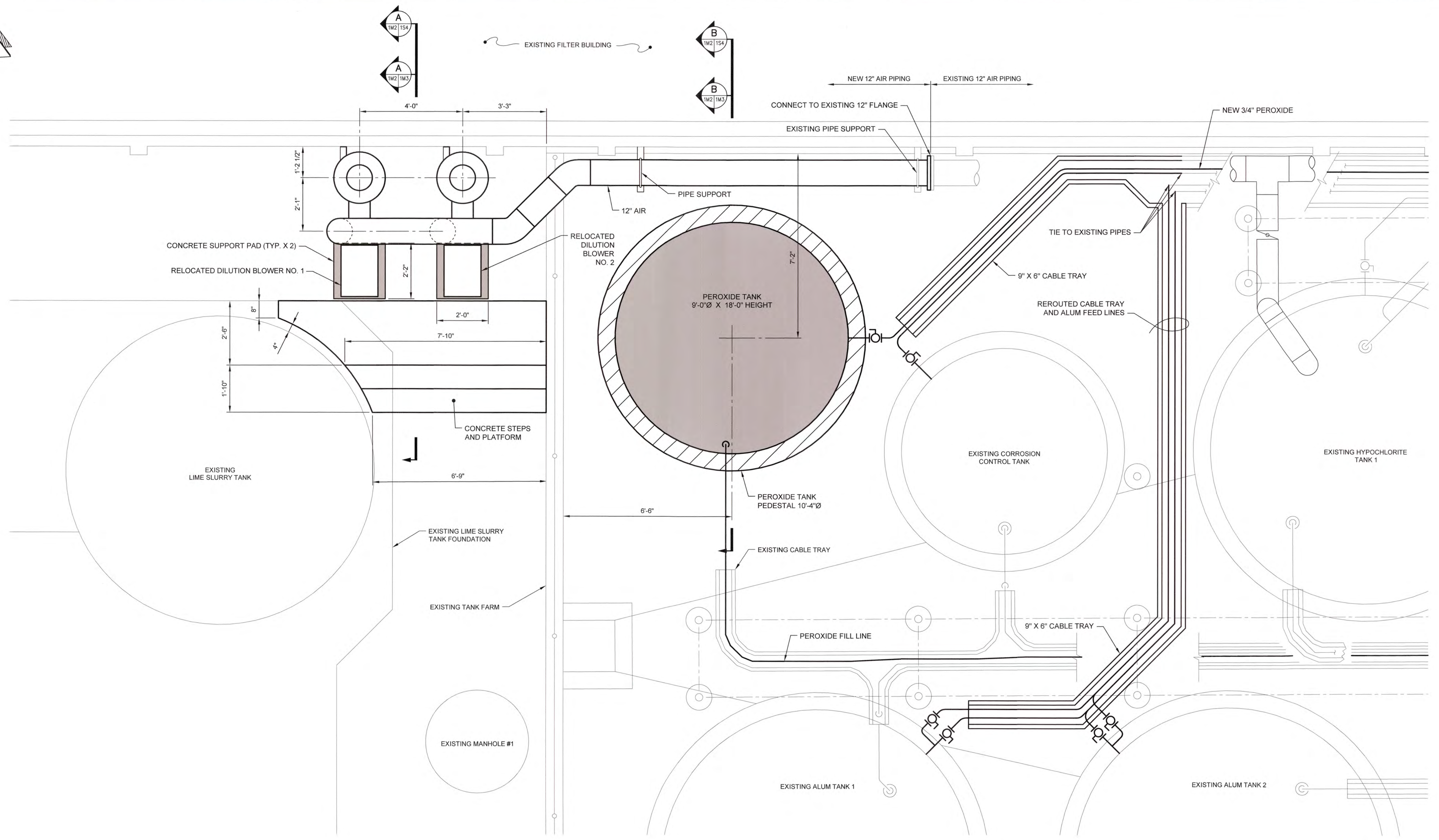
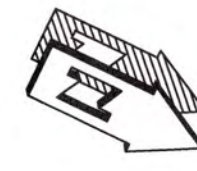
NO.	DATE	REVISION	BY	APVD



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COLUMBIA COUNTY, GEORGIA	
UV / ADVANCED OXIDATION TREATMENT	
BLANCHARD PLANT DILUTION BLOWER AND TANK FARM DEMOLITION PLAN	

DESIGNED SWG		REF. 1631-00		DWG NO.	
DRAWN SWH		DATE DEC 2020		1M1	
QC		SCALE AS SHOWN			



**BLOWER RELOCATION AND
PEROXIDE TANK LOCATION PLAN**

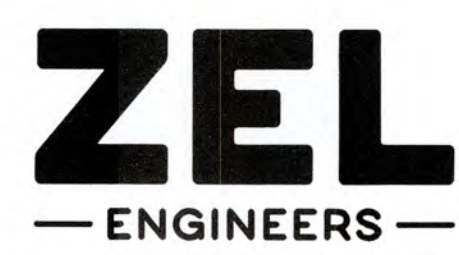
SCALE: 1/2"=1'-0"

- NOTES:**
- DRAWING IS SCHEMATIC ONLY. CONTRACTOR IS RESPONSIBLE FOR FINAL DESIGN LAYOUT AND ALL NECESSARY SUPPORTS.
 - ALL EXPOSED PIPING IS HEAT TRACED AND INSULATED WITH 1" ARMORFLEX OR APPROVED EQUAL AND HAS STAINLESS STEEL JACKETING.
 - CABLE TRAY IS FIBERGLASS WITH RUNGS AT 12" ON CENTER. TRAYS ARE ROBROY TYPE "BE" OR APPROVED EQUAL.

J:\2016\1637 Columbia County Water Utility\1631-00 Blanchard and Cokes Hill WTP\16\Peroxide Design\Drawings\1631-00 1M2.dwg, 12/29/2020 4:15:21 PM, KChalker, HP Designer, T2509 Plot 2.pcl, 1:1



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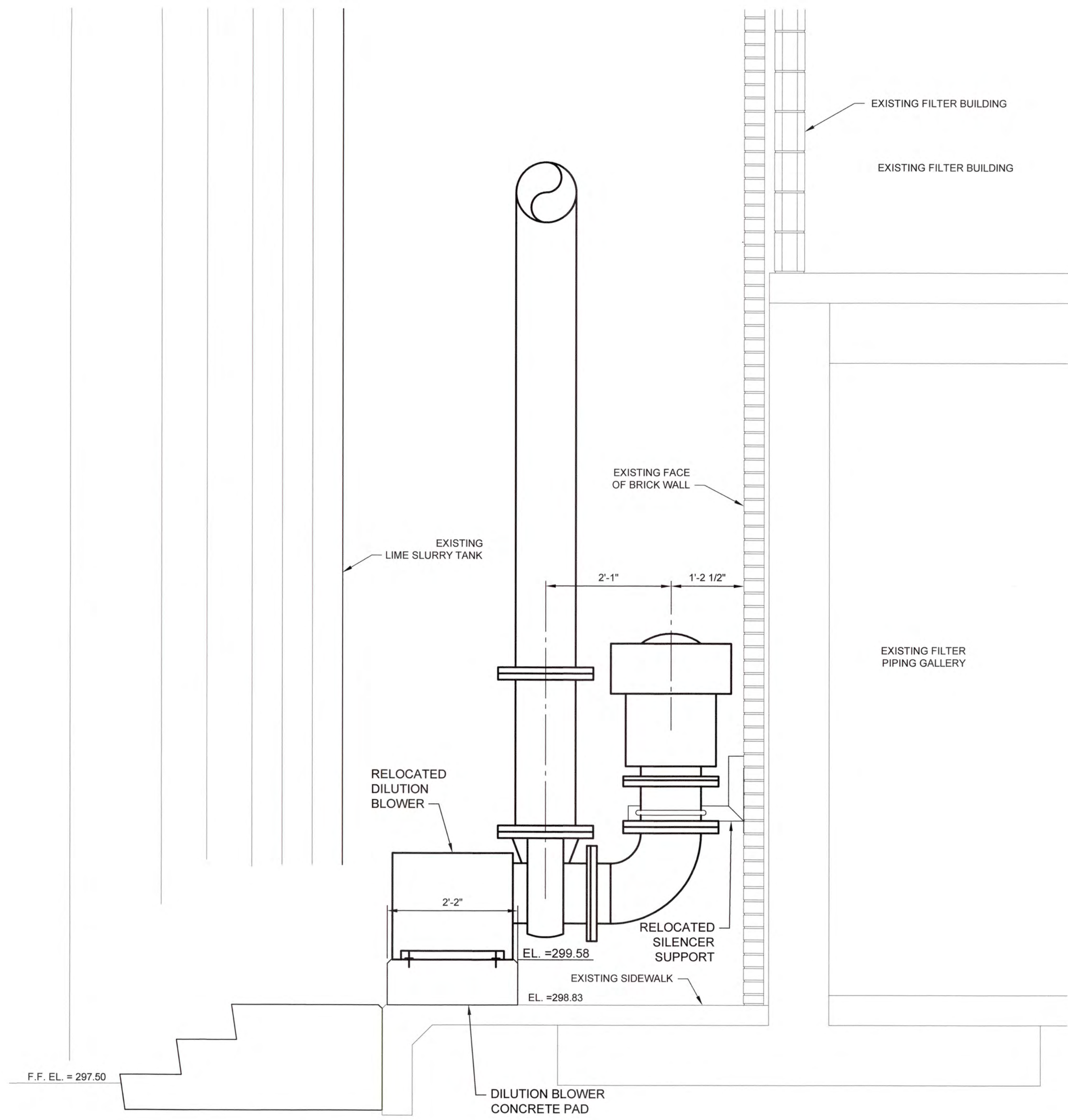
COLUMBIA COUNTY, GEORGIA

UV / ADVANCED OXIDATION TREATMENT

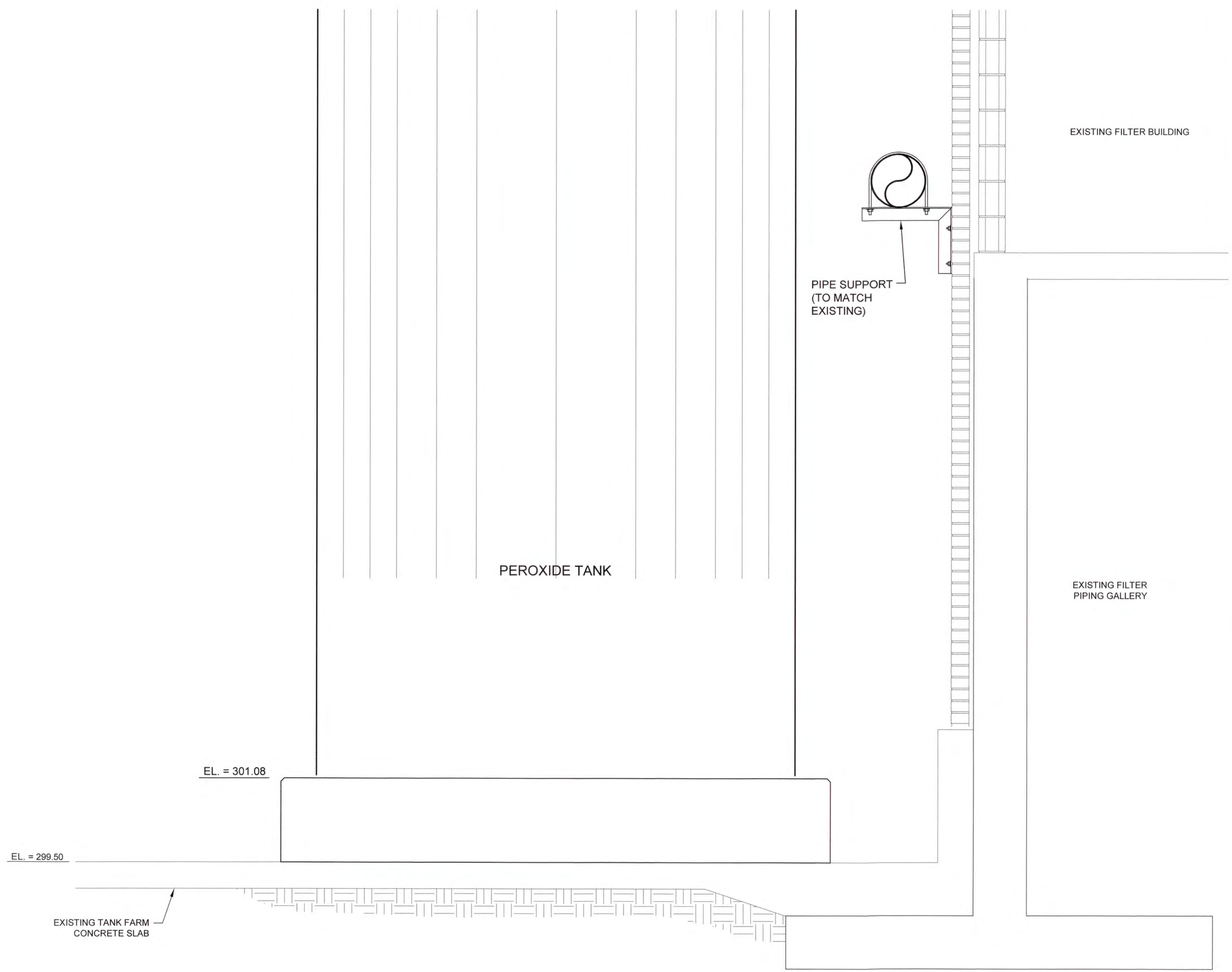
**BLANCHARD PLANT DILUTION BLOWER RELOCATION
AND PEROXIDE TANK LOCATION PLAN**

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DESIGNED	SWG	REF.	1631-00	DWG NO.
DRAWN	SWH	DATE	DEC 2020	1M2
QC		SCALE	1/2"=1'-0"	

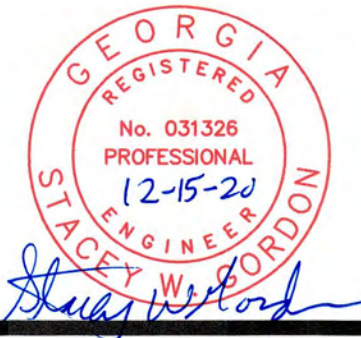
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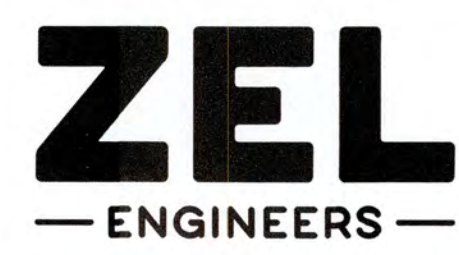
A SECTION
SCALE: 3/4"=1'-0"



B SECTION
SCALE: 3/4"=1'-0"



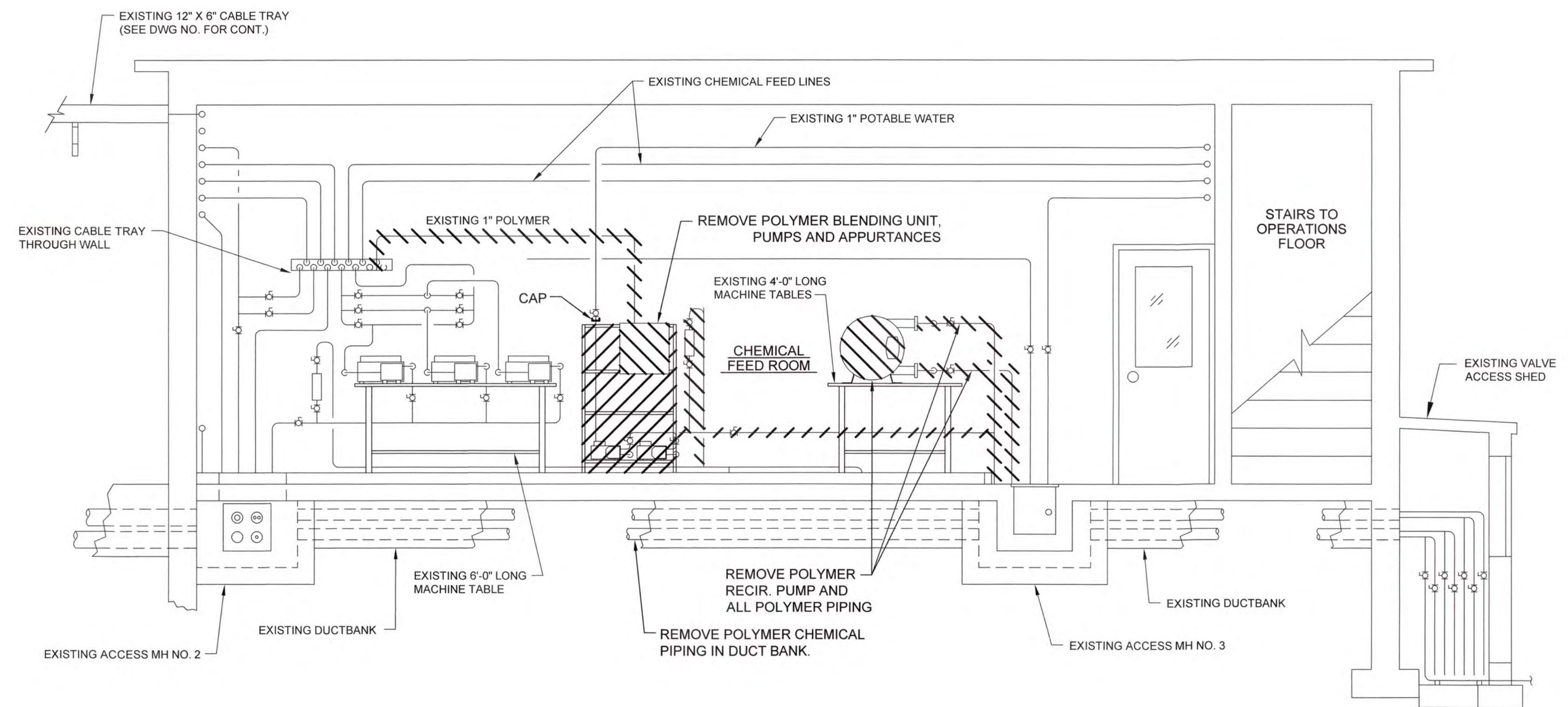
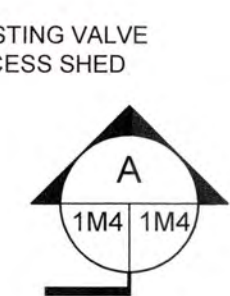
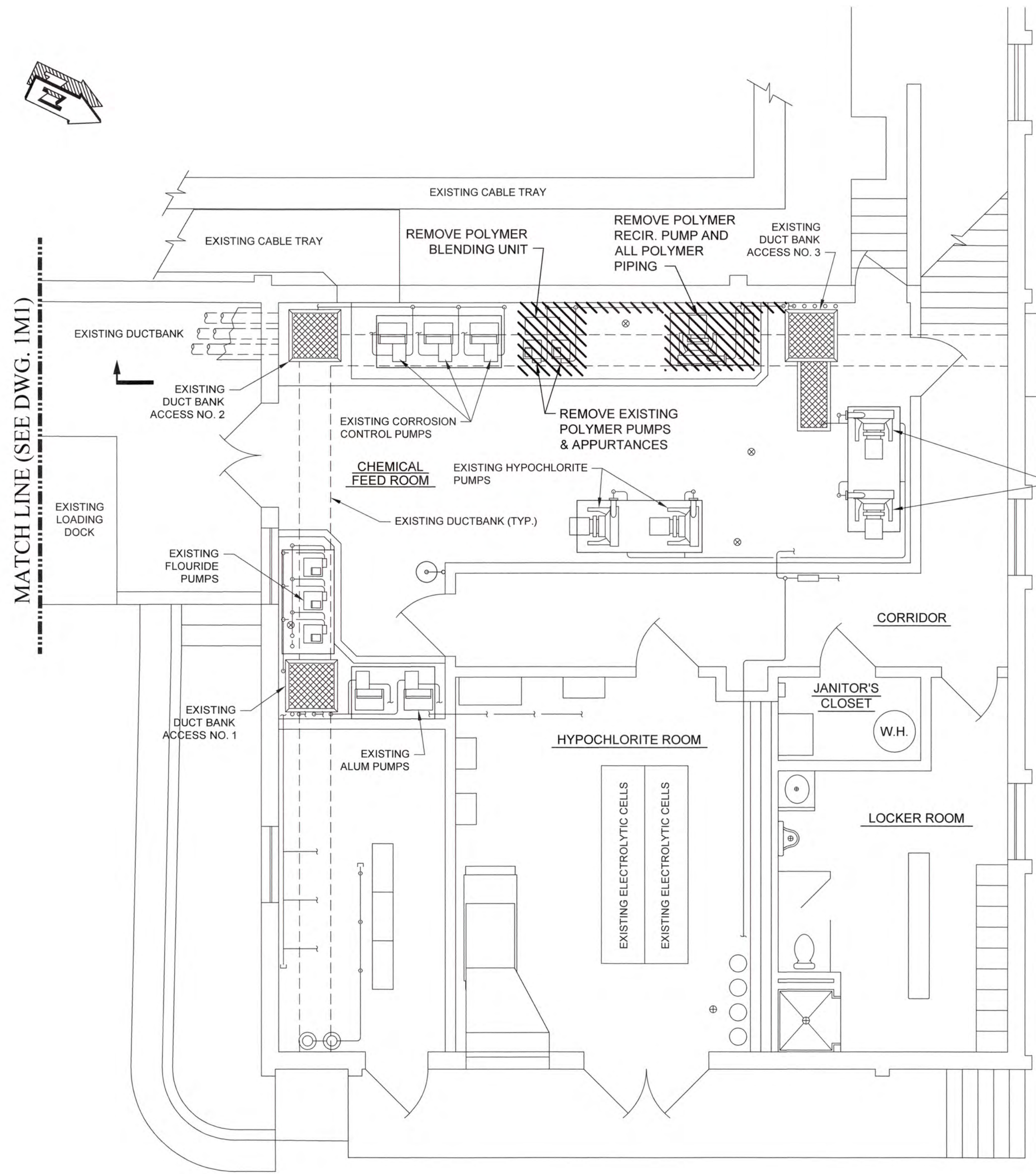
NO.	DATE	REVISION	BY	APVD



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COLUMBIA COUNTY, GEORGIA	
UV / ADVANCED OXIDATION TREATMENT	
DILUTION BLOWER RELOCATION SECTIONS	

DESIGNED		SWG		REF.		1631-00		DWG NO.	
DRAWN		SWH		DATE		DEC 2020		1M3	
QC				SCALE		3/4"=1'-0"			



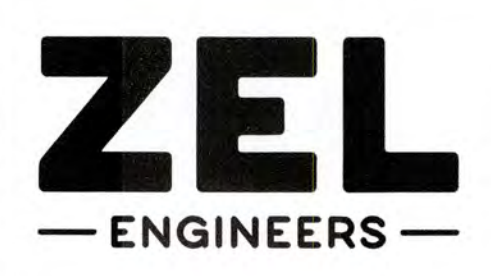
A SECTION
SCALE: 3/8"=1'-0"

CHEMICAL FEED ROOM POLYMER DEMOLITION PLAN
SCALE: 1/4"=1'-0"

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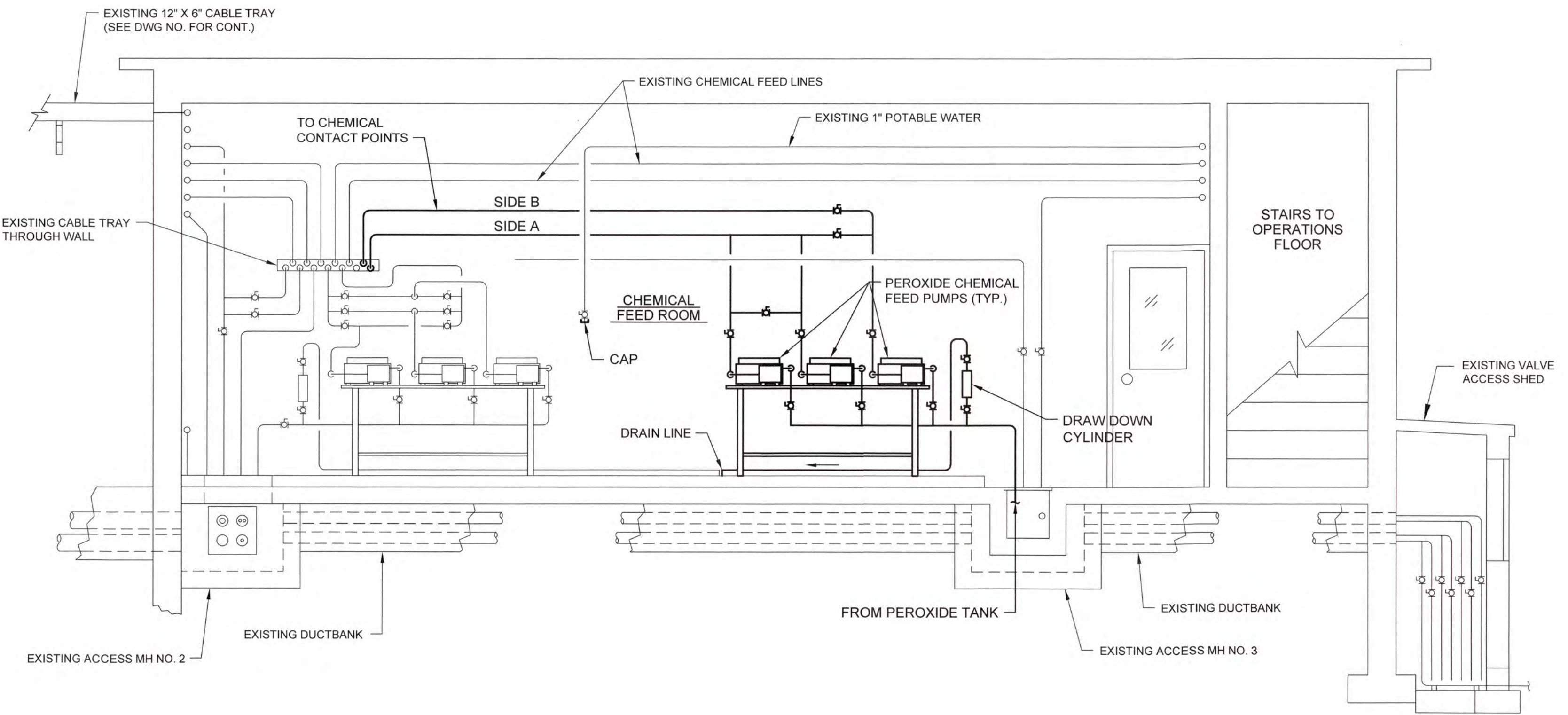
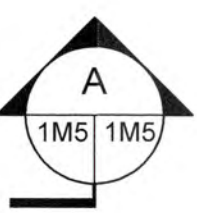
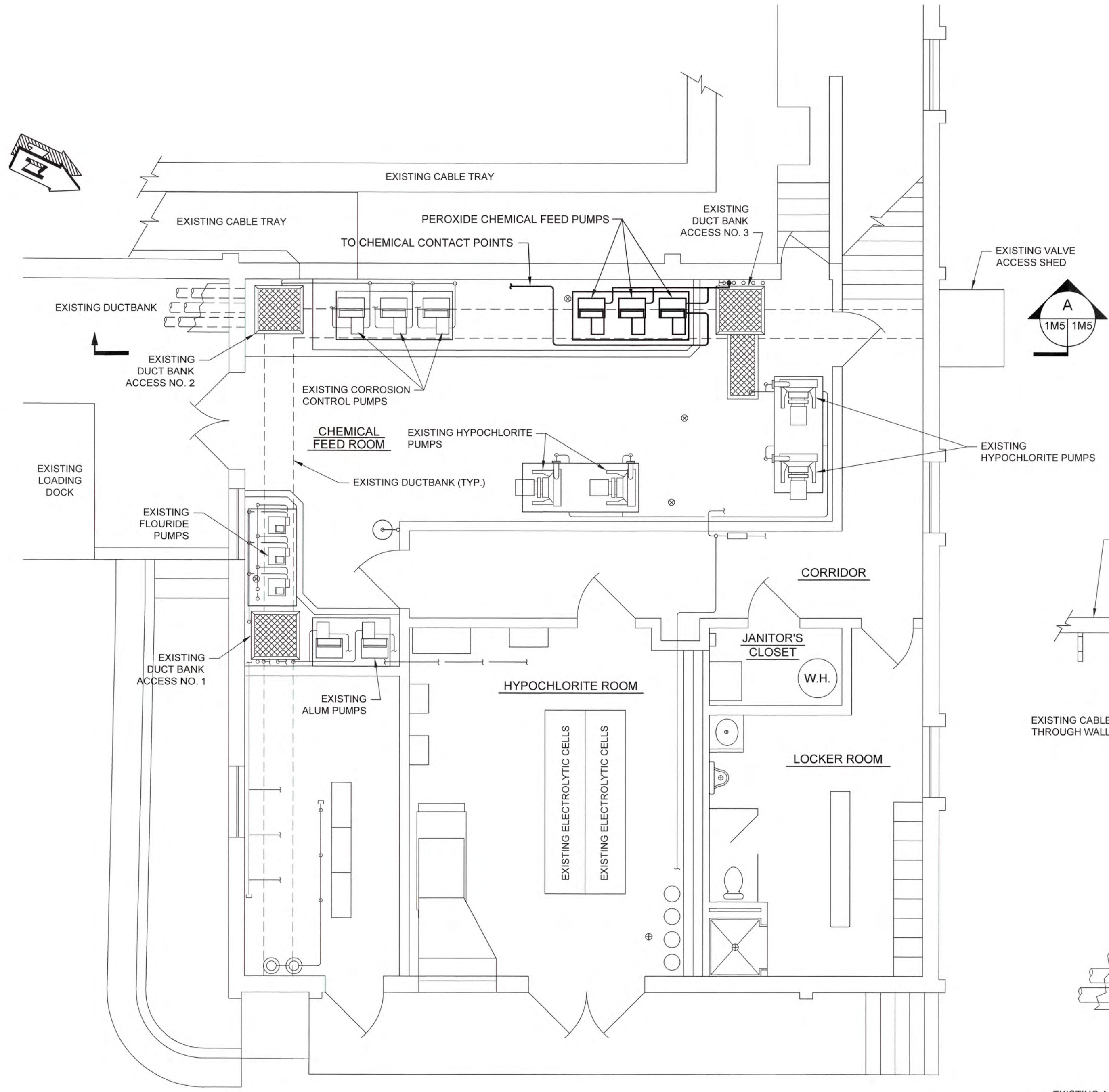
NO.	DATE	REVISION	BY	APVD



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COLUMBIA COUNTY, GEORGIA
UV / ADVANCED OXIDATION TREATMENT
BLANCHARD PLANT CHEMICAL FEED ROOM
POLYMER DEMOLITION PLAN AND SECTION

0 1		IF THIS BAR DOES NOT MEASURE 1" DRAWING IS NOT TO LABELED SCALE	
DESIGNED	REF.	1631-00	DWG NO.
DRAWN	DATE	DEC 2020	1M4
QC	SCALE	AS SHOWN	



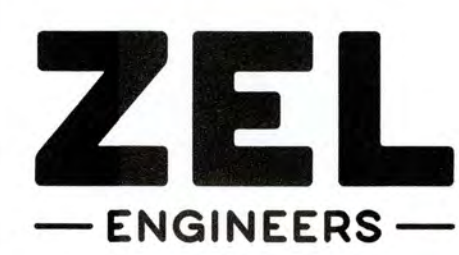
**CHEMICAL FEED ROOM
PEROXIDE PUMPS PLAN**
SCALE: 1/4"=1'-0"

A SECTION
SCALE: 3/8"=1'-0"

J:\2016\1631 Columbia County Water Utility\1631-00 Blanchard and Carter Hill WTP UV Peroxide Design\Drawings\1631-00 1M5.dwg, 13/02/2020 4:05:11 PM, KChalker, HP Designer, T250 Plot 2.pcl, 11



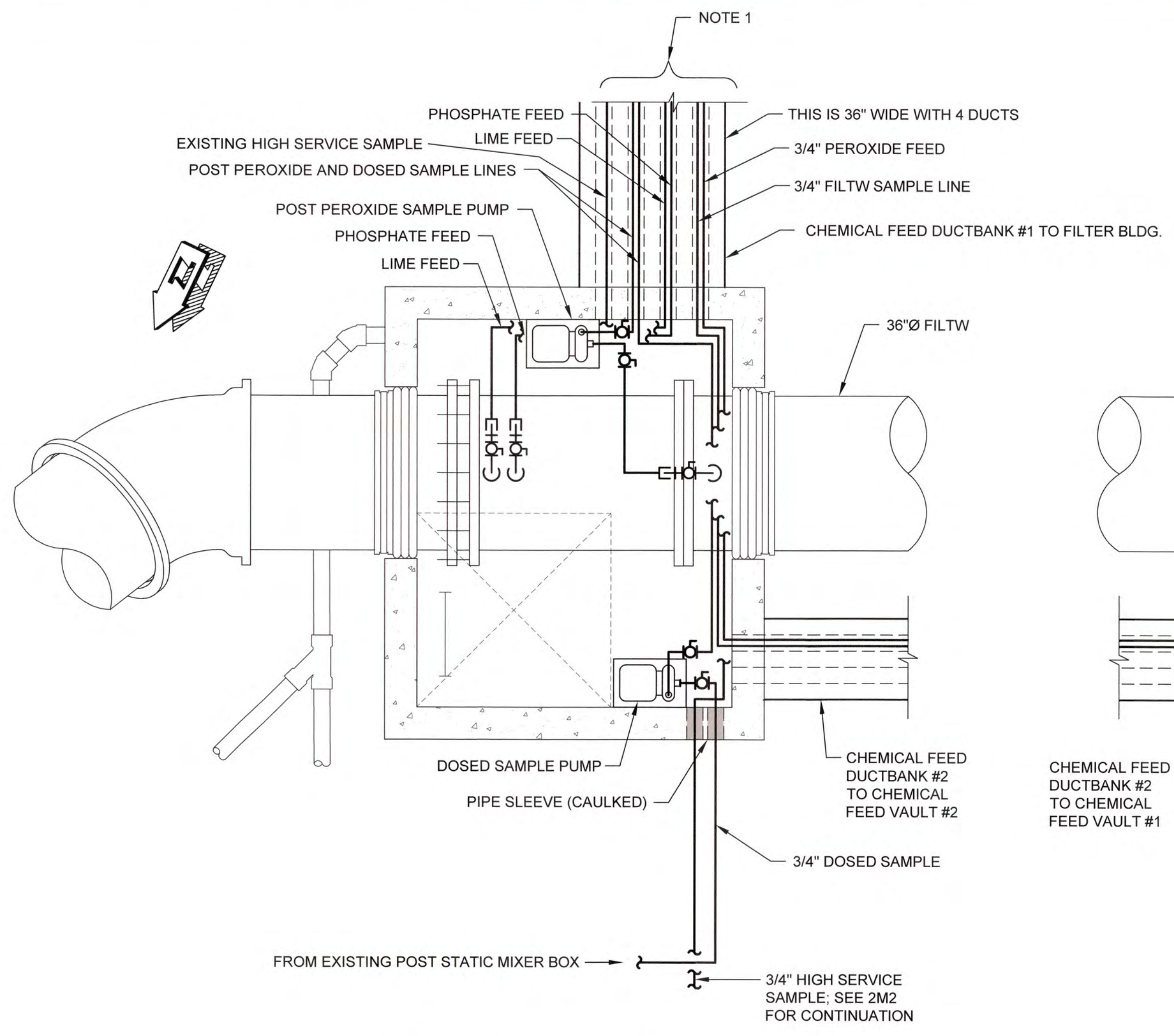
NO.	DATE	REVISION	BY	APVD



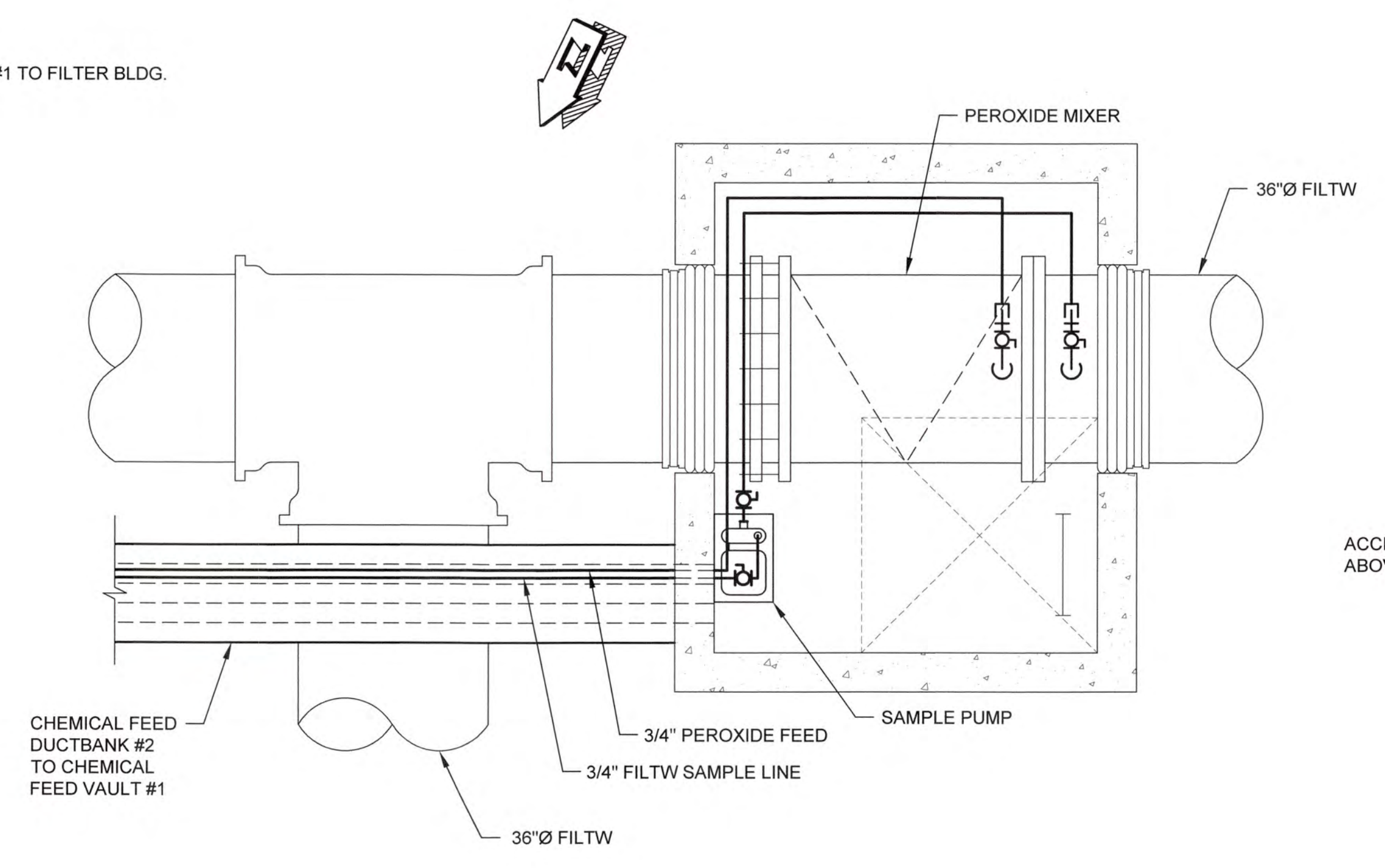
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COLUMBIA COUNTY, GEORGIA
UV / ADVANCED OXIDATION TREATMENT
**BLANCHARD PLANT CHEMICAL FEED ROOM
PEROXIDE PUMPS PLAN AND SECTION**

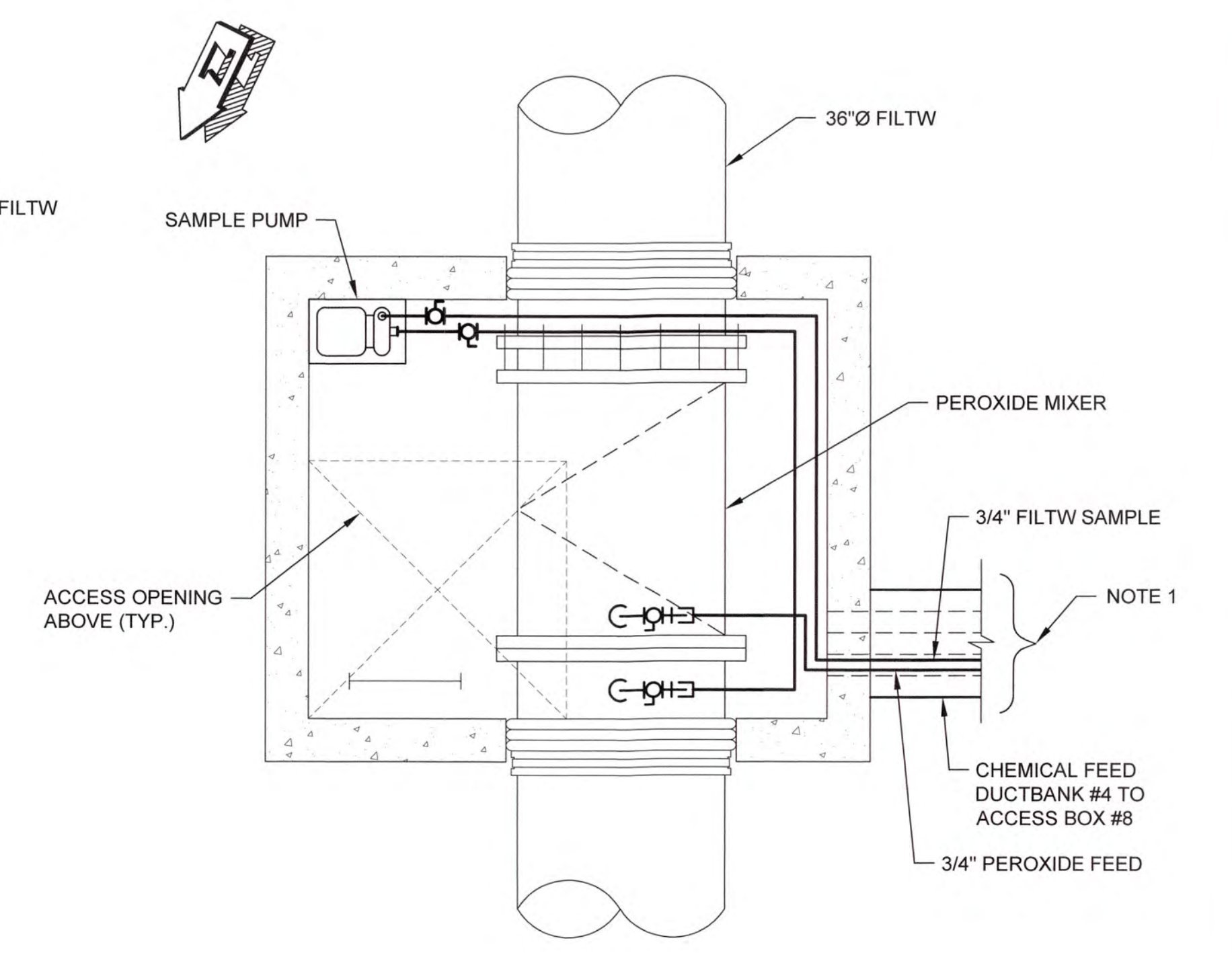
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DESIGNED	SWG	REF.	1631-00	DWG NO.
DRAWN	SWH	DATE	DEC 2020	1M5
QC		SCALE	AS SHOWN	



CHEMICAL FEED VAULT #1 PLAN
SCALE: 1/2"=1'-0"



CHEMICAL FEED VAULT #2 PLAN
SCALE: 1/2"=1'-0"



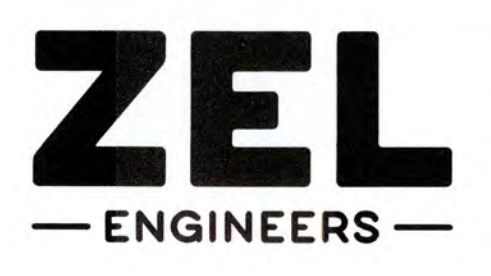
CHEMICAL FEED VAULT #3 PLAN
SCALE: 1/2"=1'-0"

NOTE:
1. FIELD ROUTE CHEMICAL FEED AND SAMPLE LINES THROUGH EXISTING DUCTBANKS AND CABLE TRAYS TO CORRESPONDING CHEMICAL FEED PUMP AND SAMPLE FAUCET IN LAB.

I:\2016\1631 Columbia County Water Utility\1631-00 Blanchard and Choke Hill WTP\16 Peroxide Design\Drawings\1631-00 1M6.dwg, 12/01/2020 4:04:32 PM, KChalker, HP Designer\12500 Rev.2.dwg, 11



NO.	DATE	REVISION	BY	APVD

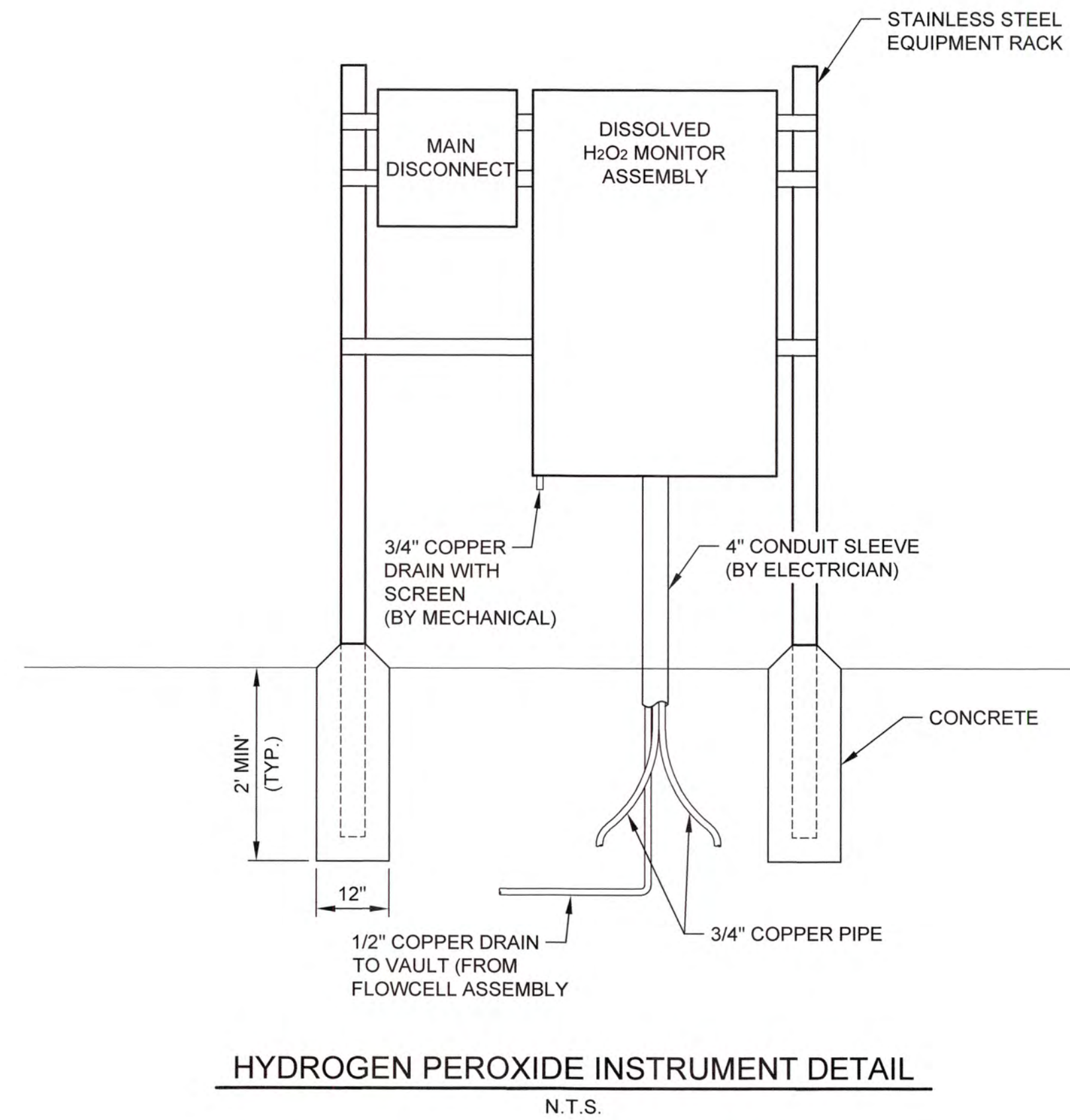
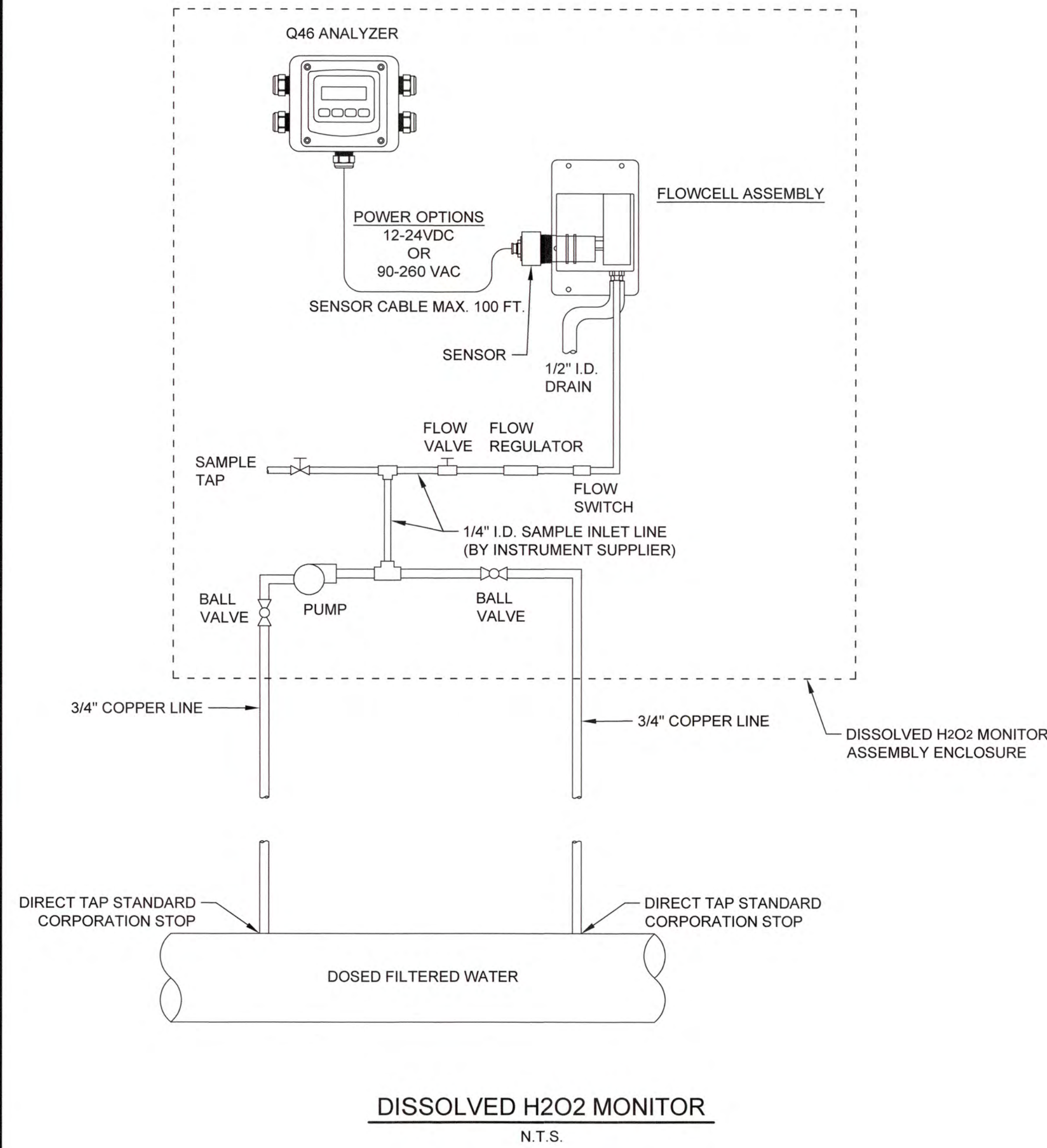


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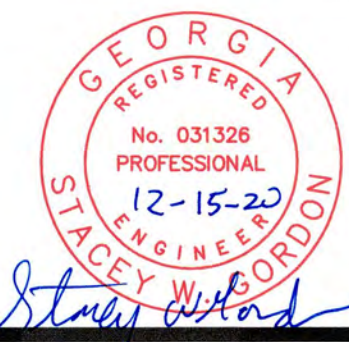
COLUMBIA COUNTY, GEORGIA
UV / ADVANCED OXIDATION TREATMENT
BLANCHARD PLANT
CHEMICAL PIPING AND CONTACT POINTS

DESIGNED		KMW	REF.	1631-00	DWG NO.
DRAWN		SWH	DATE	DEC 2020	1M6
QC			SCALE	1/2"=1'-0"	

- NOTES:
- MECHANICAL CONTRACTOR TO TAP DOSED FILTERED WATER LINE AND PROVIDE ALL 3/4" COPPER TUBING AND VALVES TO PUMP. MAKE CONNECTIONS TO 1/4" SAMPLE INLET LINE.
 - EQUIPMENT RACK TO BE INSTALLED BY ELECTRICIAN.
 - DISSOLVED H2O2 MONITOR ASSEMBLY TO BE PROVIDED BY SYSTEM INTEGRATOR AND INSTALLED BY ELECTRICIAN.



J:\2016\1631 Columbia County Water Utility\1631-00\Peroxide Design\Drawing\1631-00-1M7.dwg, 12/20/20, 4:01:03 PM, VChalko, HP Designer, TSS01 Rev 2.pcd, 1:1



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COLUMBIA COUNTY, GEORGIA

UV / ADVANCED OXIDATION TREATMENT
HYDROGEN PEROXIDE MONITOR DETAILS

0 1 IF THIS BAR DOES NOT MEASURE 1" DRAWING IS NOT TO LABELED SCALE

DESIGNED	SWG	REF.	1631-00	DWG NO.
DRAWN	KDC	DATE	DEC 2020	1M7
QC		SCALE	N.T.S.	

-- ELECTRIC UNIT HEATER SCHEDULE --			
ITEM	LOCATION	WATTS	Q-MARK MODEL NO.
EUH-1A	SEE PLAN	30,000	MUH 30 (1)
EUH-2A	SEE PLAN	30,000	MUH 30 (1)
EUH-1B	SEE PLAN	30,000	MUH 30 (1)
EUH-2B	SEE PLAN	30,000	MUH 30 (1)
EUH-1C	SEE PLAN	30,000	MUH 30 (1)

(1) FURNISH WITH INTEGRAL THERMOSTAT. ELECTRICAL DISCONNECT AND WALL HANGING BRACKET.

-- PACKAGE AIR CONDITIONER UNIT SCHEDULE --							
ITEM	SUPPLY C.F.M.	EXT. S.P. (IN.) W.C.	COOLING CAP. MBH	E.E.R MIN.	AUX. HEAT		TRANE MODEL NO.
					K.W.	STGS.	
RTU-1A	8000	0.5	255.72	10.0	54	2	TSD240 (1)
RTU-2A	8000	0.5	255.72	10.0	54	2	TSD240 (1)
RTU-1B	6000	0.5	183.63	11.0	36	2	TSD180 (1)
RTU-2B	6000	0.5	183.63	11.0	36	2	TSD180 (1)
RTU-1C	5000	0.5	148.06	11.0	36	2	TSD150 (1)

(1) FURNISH UNIT WITH BAROMETRIC RELIEF, ECONOMIZER, ELECTRICAL DISCONNECT MEANS, AND SOFT START ON FAN USING COMPARATIVE TEMPERATURE CONTROL SET AT 55° F.

-- AIR DISTRIBUTION SCHEDULE --						
MARK	TYPE	NECK CONNECTION	FINISH	OBD	PRICE NO. UNLESS NOTED	REMARKS
LOUVER	DRAINABLE COMBINATION LOUVER	SEE PLANS	(1)	NO	GREENHECK EACA-601	FLANGE FRAME (2)

- (1) BAKED ENAMEL FINISH, CUSTOM COLOR. COLOR AS SELECTED BY ARCHITECT.
 (2) FURNISH 120 V MOTORIZED DAMPER, 120 V DAMPER END SWITCH, AND INSECT SCREEN. INTERLOCK WITH ASSOCIATED FAN TO ENERGIZE FAN AFTER DAMPER OPENS.

-- FAN SCHEDULE --								
ITEM	LOCATION	C.F.M.	S.P.	HP.	R.P.M.	MAX SONES	GREENHECK MODEL NO.	REMARKS
F-1A	SEE PLAN	11,000	0.125	3/4	453	13.9	RBU-1136	(1)(2)
F-1B	SEE PLAN	10,000	0.125	3/4	453	13.9	RBU-1136	(1)(2)
F-1C	SEE PLAN	3,520	0.3	1/2	560	9.4	GB-220	(1)(3)

- (1) COMPLETE WITH BACKDRAFT DAMPER, ROOF CURB, BIRDSCREEN AND DISCONNECT MEANS. POWER/INTERLOCK BY ELECTRICAL.
 (2) CONTROL WITH THERMOSTAT SET AT 85° (ADJ.).
 (3) CONTROL WITH WALL MOUNT TIMER.

HVAC SPECIFICATION

GENERAL: Entire system shall be installed to meet applicable Local, State and National Codes, current requirements of NFPA, State Heating and Air Conditioning Code and National Electric Code.

All equipment shall be installed in accordance with the manufacturer's instructions. Installing contractor shall furnish fully functioning systems.

EXISTING CONDITIONS: Not all existing work is shown on the plans. The Contractor is responsible for verifying actual job site conditions prior to ordering equipment and fabricating duct. Any discrepancies discovered shall be reported to the Owner.

ELECTRICAL: All line and low voltage control wiring shall be provided by the HVAC Contractor. Provide and submit complete wiring diagrams and all switches, starters, controls, relays, etc. necessary for a complete system. Run all wiring in EMT raceways.

Voltage and phase of mechanical equipment requiring power is designated under the Electrical division. Model numbers listed in mechanical equipment schedule shall not be construed to indicate electrical characteristics. Furnish written documentation that all electrical characteristics of mechanical equipment have been coordinated with and confirmed by the electrical subcontractor.

Power wiring and disconnects shall be provided under another Division.

SHOP DRAWINGS: Submit 5 sets of Shop Drawings for approval before ordering equipment.

MOTOR STARTERS: Combination starters shall be furnished for all three phase motors, (unless specifically noted otherwise) and single phase motors which are automatically started. Starters shall be NEMA type and shall provide protection on all three phases. Starters shall be magnetic across the line F/N/R with "H-O-A" selector switch, red run pilot and fused disconnect. Each starter shall have an individual control circuit transformer, line voltage primary, 120 volt secondary, with one fuse in the ungrounded side of the secondary. The transformer shall have 100% space capacity. Where electrical interlocking is involved, a separate contact on the circuit breaker disconnect shall open the interlock circuit. All sources of power to each combination starter shall be deenergized when the lockable circuit breaker disconnect is opened. Starters for single phase motors not automatically started shall be manual type with thermal protection.

DUCTWORK:

- All rectangular medium pressure duct shall be manufactured to SMACNA Standards for 10-inch positive and 2-inch negative pressure. All joints shall be Duct-Mate flange systems. All seams shall be sealed with high pressure duct sealer.
- Duct sealant shall be water-based joint and seam sealant: Flexible, adhesive sealant, resistant to UV light when cured, UL 723 listed, and complying with NFPA requirements for class 1 ducts. Duct tape shall not be used.

FABRIC AIR DISPERSION SYSTEM (FABRIC DUCT):

- A. Air diffusers shall be constructed of a woven fire-retardant fabric complying with the following physical characteristics:
- Fabric Construction: 100% Flame Retardant - tested and rated in accordance with UL723.
 - Weight: Min. 6.75 oz./yd² per ASTM D3776
 - Color: Standard color selected by Design Professional.
 - Air Permeability: 2 (+2-1) cfm/ft² per ASTM D737, Frazier
 - Temperature Range: 0 degrees F to 140 degrees F
 - Fire Retardancy: Classified by Underwriters Laboratories in accordance with the flame spread/smoke developed requirements of NFPA 90-A.
- B. Systems Fabrication Requirements:
- Air dispersion accomplished by linear vent and permeable fabric, linear vent to consist of many open orifices rather than a mesh style vent to reduce maintenance requirements (common to mesh style).
 - Size of and location of linear vents to be specified and approved by manufacturer.

- Inlet connection to metal duct via fabric draw band with anchor patches as supplied by manufacturer. Anchor patches to be secured to metal duct via zip screw fastener supplied by contractor.
- Inlet connection includes zipper for easy removal / maintenance.
- Lengths to include required zippers as specified by manufacturer.
- System to include Adjustable Flow Devices to balance turbulence, airflow and distribution as needed. Flow restriction device shall include ability to adjust the airflow resistance from 0.06 - 0.60 in w.g. static pressure.
- End cap includes zipper for easy maintenance.
- Fabric system shall include connectors to accommodate suspension system listed below.
- Any deviation from a straight run shall be made using a gored elbow or an efficiency tee. Normal 90 degree elbows are 5 gores and the radius of the elbow is 1.5 times the diameter of the fabric duct.

C. Design Parameters:

- Fabric air diffusers shall be designed from 0.25" water gage minimum to 3.0" maximum, with 0.5" as the standard.
- Fabric air diffusers shall be limited to design temperatures between 0 degrees F and 140 degrees F.
- Design CFM, static pressure and diffuser length shall be designed or approved by the manufacturer.

D. Suspension Hardware:

- 3 x 1 Aluminum Hanger, H-Track Suspension Systems: System shall include aluminum H-Track system located 1.5" above top-dead-center of fabric duct system. Hardware to include 10 sections of track, Snap Tabs, splice connections, vertical cable support kits, and end caps as required. Snap Tabs must promote easy sliding movement through aluminum track and must be detachable from the fabric. Vertical cable support kits must consist of a length of cable with a stud end to provide a stationary locking position on aluminum track and include Gripple Hangfast quick cable connection system. System attachment shall be made using Snap Tab connector to webbing spaced every 24 inches.

Optional for all aluminum track: Radius aluminum track for support of the elbows through the corners using either Snap Tabs or Cord-In.

INSULATION:

- Ductwork: Insulate lined and unlined supply and return ductwork with 3/4 lb. 2" thick rigid fiberglass blanket insulation with FSK jacket. Lap all vapor barrier joints 2" minimum, staple 4" o.c. and seal with vapor barrier mastic reinforced with fiber glass mesh ("glas-fab and mastic"). Use Stik-clips 24" o.c. on bottom of 30" wide and larger ducts. Cover insulation with canvas wrap and paint.
- Refrigerant and Condensate Drainage Pipe: Insulate with flexible elastomeric insulation (Armaflex or equivalent). Thickness: 3/4" for refrigerant suction and hot gas piping, 3/8" for condensate drainage piping. Seal all joints with compatible adhesive. Slip whole sections of insulation on piping before pipe joints are made. Miter all elbows in insulation. Paint outdoor insulation two brush coats of exterior latex enamel in color selected by the Owner.

PIPING:

- Refrigerant piping shall be ACR nitrogen charged tubing with joints made with high temperature (1200 degrees F.) brazing compound. Bleed dry nitrogen through piping during brazing process. After satisfactory leak test, piping and system shall be evacuated and charged in accordance with the manufacturer's printed instructions.
- Condensate drain piping shall be type "U" hard temper tubing with soldered fittings.

TESTS:

- Heat and Cooling Units: Record all motor and heater nameplate amps and running amps during Heating and Cooling cycle (below 60 degrees F. cooling). Record all fan motor amps for motors 1/2 HP and larger.
- Air Side Systems: Record air quantities at supply outlets, return grille and outside air duct. All airflow quantities shall be balanced to be within + or - 10% of design air quantity.

H.V.A.C. LEGEND	
SYMBOL	DESCRIPTION
(T)	THERMOSTAT 4'-6" A.F. UNLESS NOTED OTHERWISE
1 M-1	DETAIL NO. 1 / SHEET NO. M-1
⌘ or C.F.M.	CUBIC FEET PER MINUTE
A.F.	ABOVE FLOOR
(M)	DAMPER ACTUATOR
— SL —	REFRIGERANT SUCTION / LIQUID
--- D ---	CONDENSATE DRAIN
(Hatched Box)	FABRIC DUCT WITH MESH DIFFUSERS
RET.	RETURN (AIR - DUCT)
∅	DIAMETER
TYP.	TYPICAL

quantity.

ROOFTOP UNITS: Unit shall be of size, type and capacity as indicated on the Drawings and shall be manufactured by Trane. Equal units by Johnson Controls, Daikin or Carrier will be acceptable.

The following accessories shall be provided:

- Condenser Coil Guard
- 5-minute Anti-Recycle Timer
- Hard Start Kit for Single Phase Units
- Crankcase Heater
- Defrost Thermostat for Indoor Coil

Auxiliary electric heaters shall be of size and capacity as indicated on the Drawings and meet the requirements of the National Electric Code and Underwriters Laboratories.

EXHAUST FANS: Exhaust fans shall be of size, type and capacity as shown on the drawings and shall be manufactured by Greenheck. Equal products by Cook, Penn, Acme, and Hartzell are acceptable.

- Rooftop fans shall be provided with backdraft damper, birdscreen, factory disconnect switch, speed control and prefabricated roof curb compatible with roof type and pitch.

LOUVERS: Louver model as scheduled on the drawings, manufactured by Greenheck, or equivalent product by Vent Products.

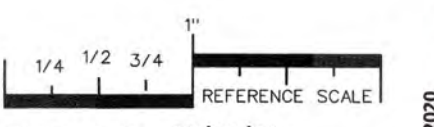
ELECTRIC UNIT HEATERS: Heaters shall be of size, type, and capacity as shown on the drawings and shall be manufactured by Q'Mark. Equal products by Redd-I, Markel, Inceco, and Raywall are acceptable.

OPERATING AND MAINTENANCE MANUALS: Provide Owner 3 bound copies of Operating and Maintenance Instructions on each piece of HVAC equipment.

INSTRUCTION TO OWNER: Provide formal instruction period to familiarize the Owner in the operation and maintenance of the HVAC System. Document attendance and material covered for each instruction session.

CONTROLS: Control system consists of sensors, indicators, actuators, microprocessors, final control elements, interface equipment, other apparatus, and accessories connected to controllers to operate mechanical systems according to sequences of operation indicated or specified. Installation shall be in accordance with HVAC equipment manufacturer's wiring diagrams. Control components shall form a fully functional system.

- Thermostats:
 - Heaters and air conditioning units: provided by unit manufacturer.
- Upon actuation, louver damper shall open. When damper is open, fan shall energize.
- Wiring and other devices are furnished under another division.

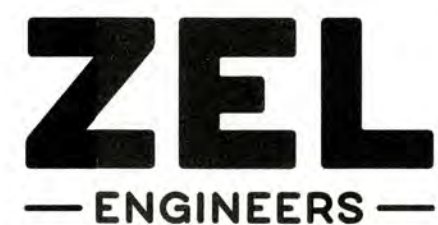


PLOT DATE: 11/06/20
 FILENAME: 20018M1
 PLOT SCALE: 1 = 48
 JLS

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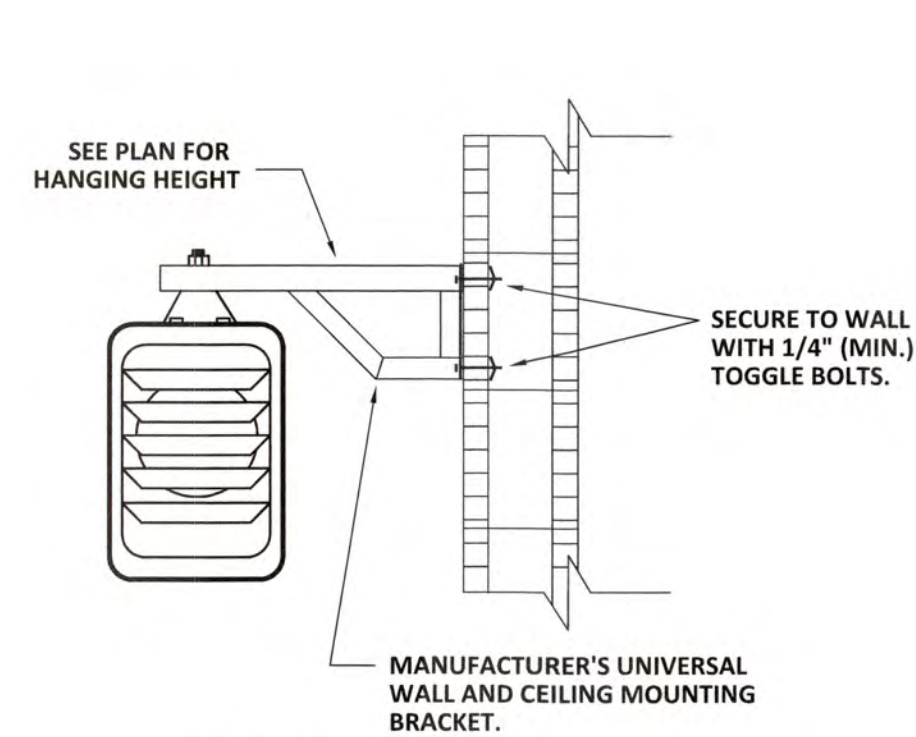
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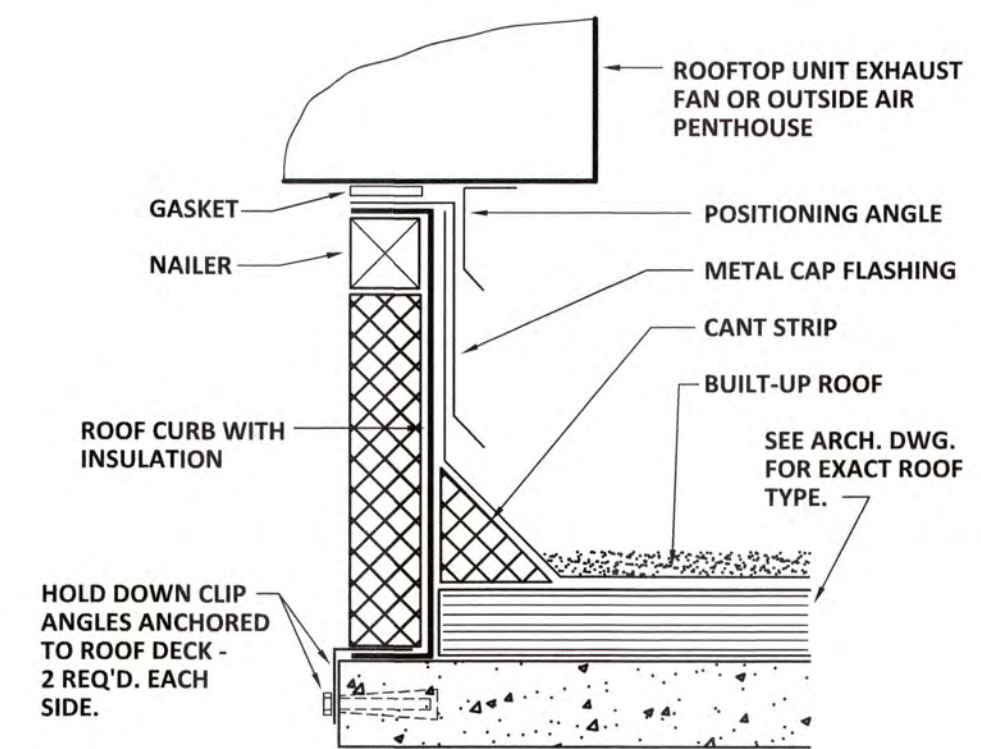
UV / ADVANCED OXIDATION TREATMENT

GENERAL NOTES,
 LEGEND AND SCHEDULES

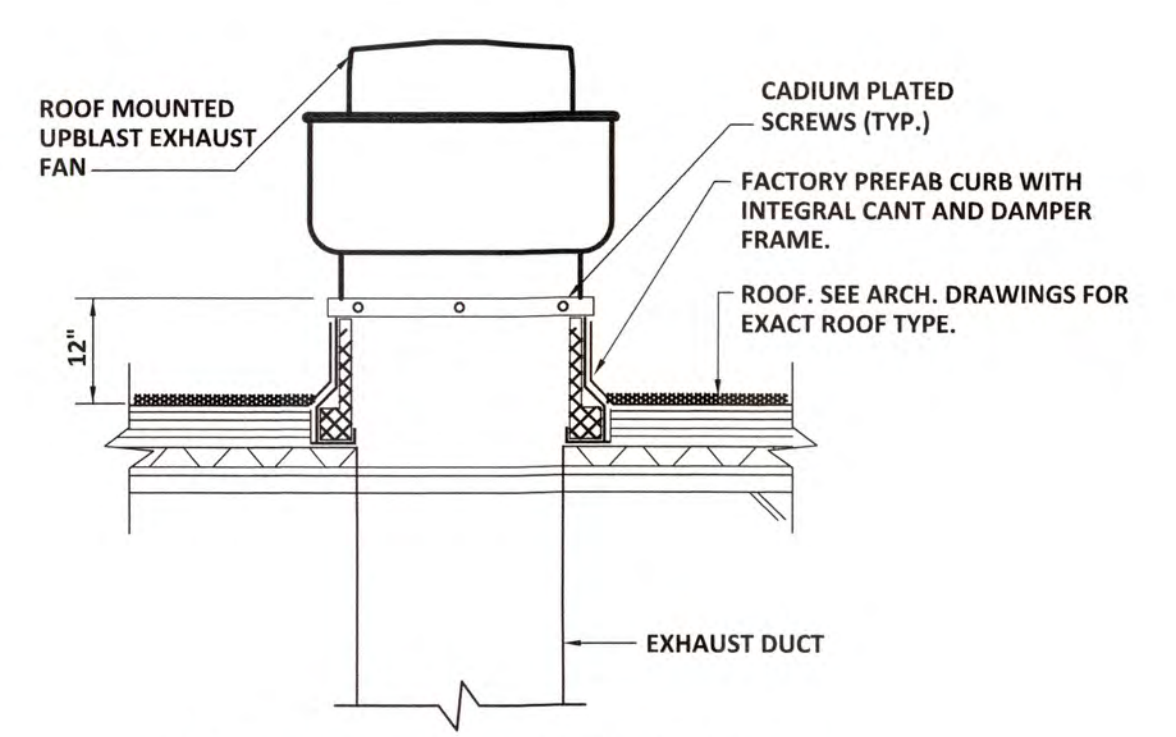
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DESIGNED	JLS	REF.	1631-00
DRAWN	JLS	DATE	NOV 2020
QC		SCALE	1/4"=1'-0"
			DWG NO.
			1H1



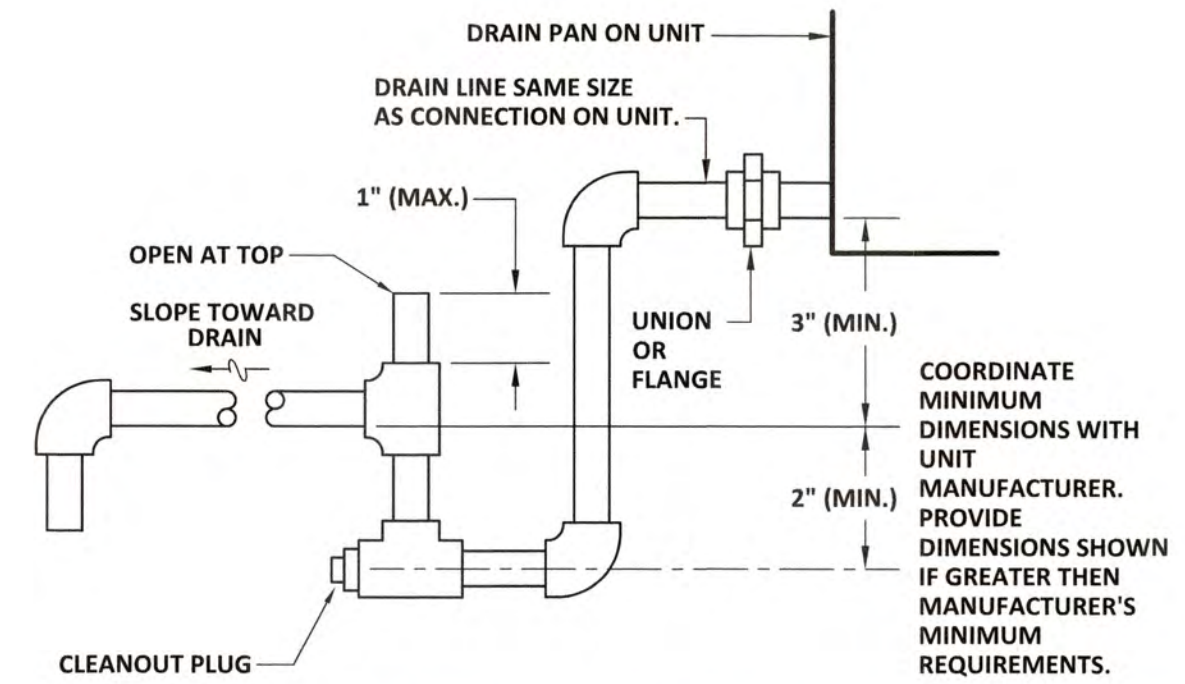
1
1H2
ELECTRIC UNIT HEATER MOUNTING DETAIL
NOT TO SCALE



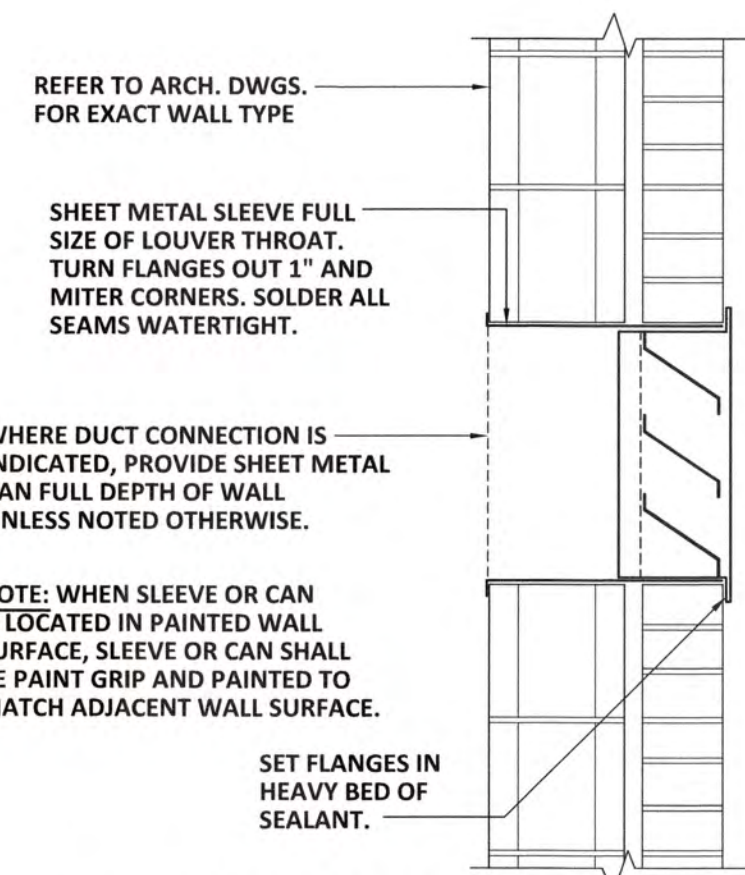
2
1H2
ROOF CURB DETAIL
NOT TO SCALE



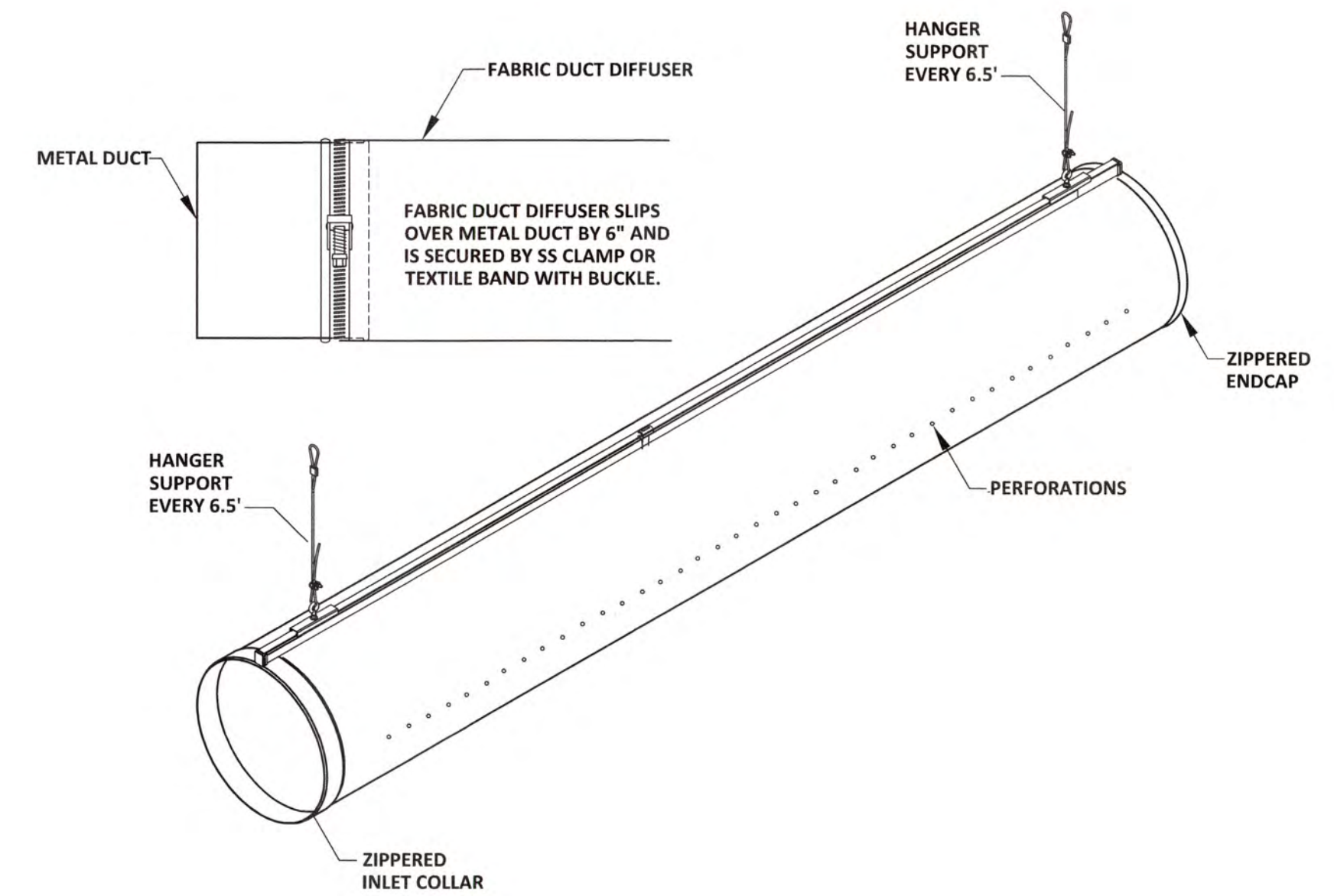
3
1H2
ROOF MOUNTED UPBLAST EXHAUST FAN DETAIL
NOT TO SCALE



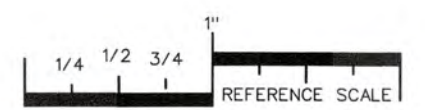
4
1H2
CONDENSATE DRAIN TRAP DETAIL
NOT TO SCALE



5
1H2
LOUVER DETAIL
NOT TO SCALE



6
1H2
FABRIC DUCT INSTALLATION DETAIL SINGLE TRACK PROFILE
NOT TO SCALE



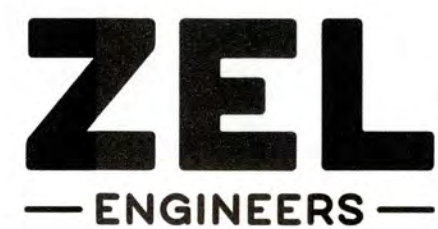
IF THIS BAR DOES NOT MEASURE 1" DRAWING IS NOT TO LABELED SCALE

PLOT DATE: 11/06/20
 FILENAME: 20018M1
 PLOT SCALE: 1 = 48
 JLS

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UV / ADVANCED OXIDATION TREATMENT

DETAILS

DESIGNED	JLS	REF.	1631-00	DWG NO.
DRAWN	JLS	DATE	NOV 2020	1H2
QC		SCALE	1/4"=1'-0"	

ELECTRICAL LEGEND

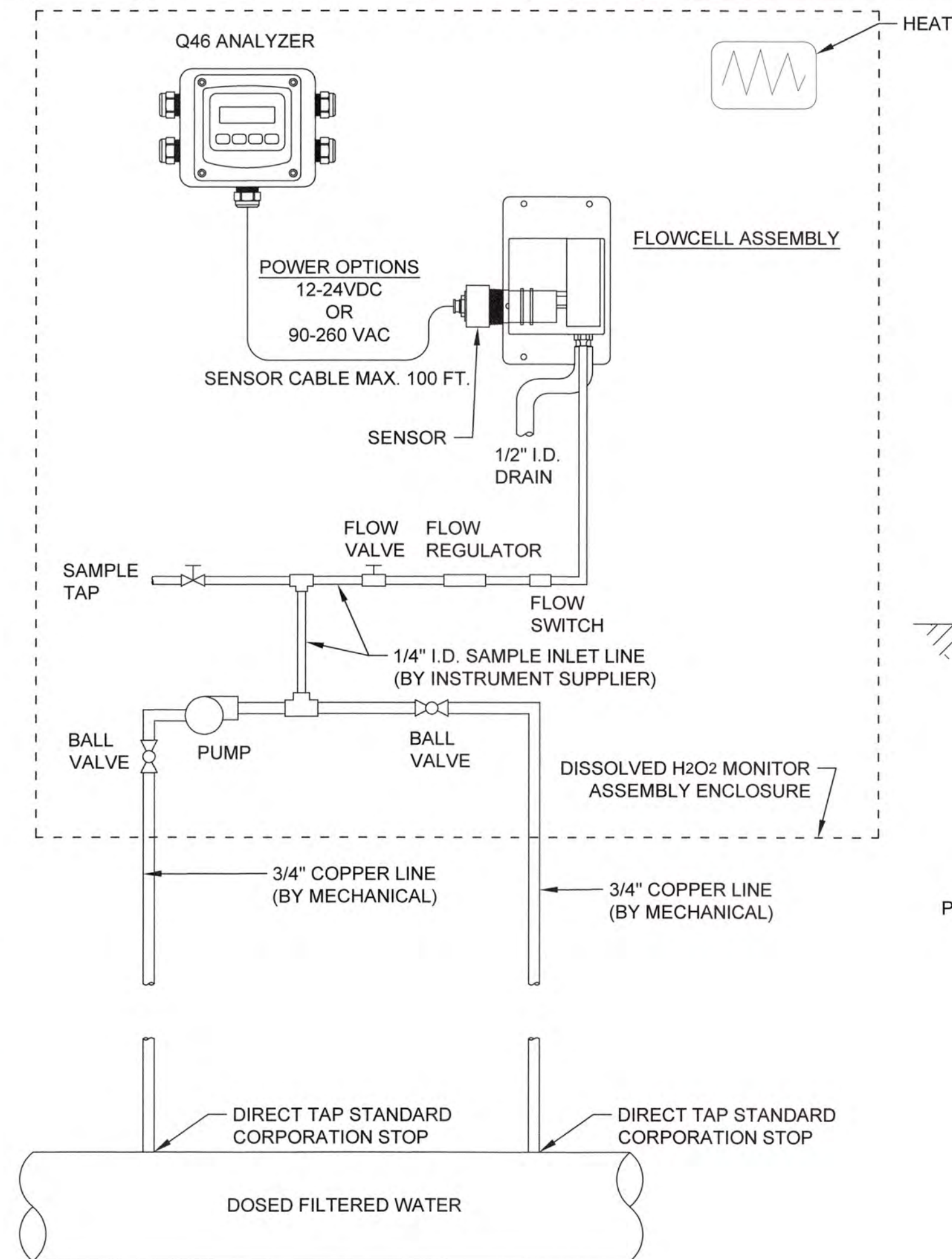
	EXPOSED CONDUIT RUN. HASH MARKS INDICATE QUANTITY OF NUMBER 12 CONDUCTORS (3 WIRES UNLESS SHOWN).
	CONDUIT RUN CONCEALED IN SLAB, BELOW FLOOR SLAB, OR UNDERGROUND.
	HOMERUN TO PANELBOARD, LETTER OR LETTERS INDICATE PANELBOARD. NUMBER INDICATES CIRCUIT NUMBERS.
	CONDUIT RUN CONCEALED ABOVE CEILING OR IN A WALL.
	2'x2' FLUORESCENT FIXTURE, RECESSED GRID TYPE.
	1'x4' FLUORESCENT FIXTURE, RECESSED GRID TYPE.
	FLUORESCENT FIXTURE, SURFACE OR STEM MOUNTED.
	2'x4' FLUORESCENT FIXTURE, RECESSED GRID TYPE.
	DIRECTIONAL SPOT OR FLOOD. SEE DRAWINGS FOR MOUNTING.
	LIGHTING FIXTURE, SEE FIXTURE SCHEDULE.
	LIGHTING FIXTURE, WALL BRACKET MOUNTED. (MOUNTING HEIGHT AS NOTED ON PLANS)
	POLE MOUNT AREA LIGHT.
	EXIT LIGHT, CEILING MOUNT, ARROWS, WHERE SHOWN, INDICATE DIRECTION OF EGRESS.
	EXIT LIGHT, WALL MOUNT, ARROWS, WHERE SHOWN, INDICATE DIRECTION OF EGRESS.
	EMERGENCY LIGHT, DUAL HEAD
	JUNCTION BOX OR PULL BOX
	JUNCTION BOX WITH FLEXIBLE METAL CONDUIT.
	DUPLEX CONVENIENCE OUTLET. +18" TO CENTERLINE OF OUTLET. (UNLESS OTHERWISE NOTED)
	DUPLEX CONVENIENCE OUTLET MOUNTED ABOVE COUNTER AT +48" TO CENTERLINE OF OUTLET. (UNLESS OTHERWISE NOTED)
	QUADRUPLEX CONVENIENCE OUTLET. +18" TO CENTERLINE OF OUTLET. (UNLESS OTHERWISE NOTED)
	DUPLEX CONVENIENCE OUTLET. GFCI TYPE. +18" TO CENTERLINE OF OUTLET. (UNLESS OTHERWISE NOTED) "WP" WHERE SHOWN INDICATES WEATHERPROOF.
	DUPLEX CONVENIENCE OUTLET. GFCI TYPE. MOUNTED ABOVE COUNTER AT 48" ABOVE FINISH FLOOR.
	SIMPLEX CONVENIENCE OUTLET. MOUNTED AT 48" ABOVE FINISHED FLOOR.
	SPECIAL RECEPTACLE TO SUIT EQUIPMENT FURNISHED. SEE SPECIFICATIONS FOR LOCKING RECEPTACLE REQUIRED AT THRU-WALL UNITS.
	SPECIAL OUTLET IN FLUSH FLOOR BOX.
	QUADRUPLEX RECEPTACLE IN FLUSH FLOOR BOX, PROVIDE FOR TWO DATA OUTLETS. SEE SPECIFICATIONS AND/OR DRAWINGS FOR TYPE OF BOX.
	SINGLE POLE TOGGLE SWITCH. +3'-6" TO CENTERLINE OF SWITCH (UNLESS OTHERWISE NOTED)
	TWO POLE TOGGLE SWITCH. +3'-6" TO CENTERLINE OF SWITCH (UNLESS OTHERWISE NOTED)
	THREE OR FOUR WAY SWITCH AS INDICATED. +3'-6" TO CENTERLINE OF SWITCH. (UNLESS OTHERWISE NOTED)
	MANUAL MOTOR STARTER. +3'-6" TO CENTERLINE OF SWITCH. (UNLESS OTHERWISE NOTED)
	FLUSH WALL MOUNTED JUNCTION BOX.
	TRANSFORMER. SEE RISER DIAGRAM FOR SIZE AND VOLTAGE.
	DISCONNECT SWITCH. SIZE AS NOTED ON PLANS.
	COMBINATION MOTOR STARTER.
	MOTOR
	FAN MOTOR
	DOOR CONTACT
	TIME CLOCK

FIXTURE SCHEDULE

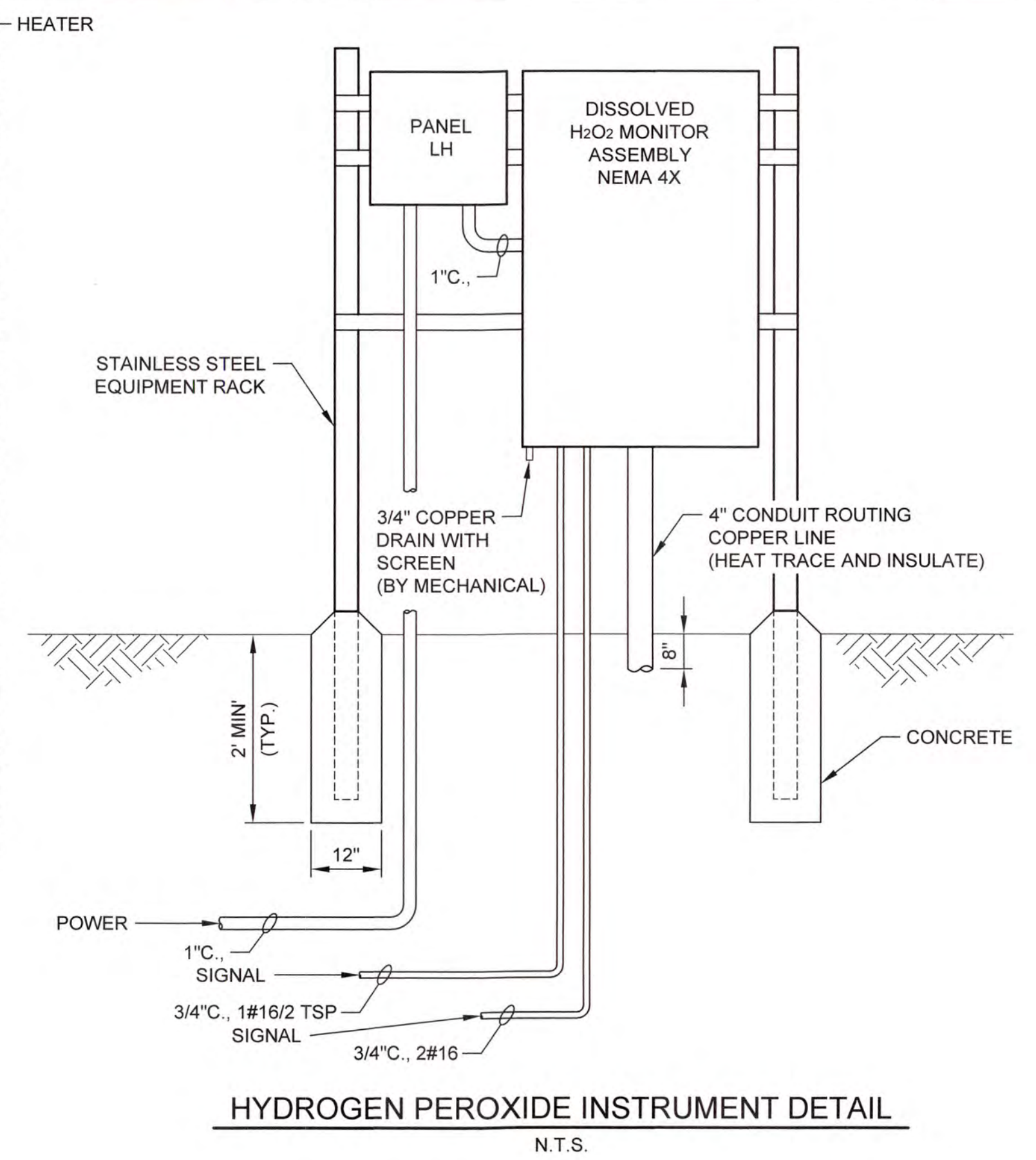
A	LED FIXTURE, SOLID ALUMINUM CHANNEL, SEMI - DIFFUSED ACRYLIC LENS, CABLE SUSPEND FROM CEILING AT 6" ABOVE BOTTOM OF BEAM. LAMPS: LED MANUFACTURER: LITHONIA "IBE-L24-12,000LM-SD080-MD-MVOLT-GZ10-40K-80CRI-DWH" OR APPROVED EQUAL.
B	LED FIXTURE, COLD ROLLED STEEL, WHITE FINISH, ACRYLIC LENS, CABLE SUSPEND 6" HIGHER THAN BOTTOM OF CONCRETE BEAM. LAMPS: LED MANUFACTURER: LITHONIA "CLX-L48-10,000LM-HEF-WDL-MVOLT-GZ10-40K-80CRI-WH" OR APPROVED EQUAL.
B1	SAME AS TYPE "B" EXCEPT 7000 LUMENS MANUFACTURER: LITHONIA "CLX-L48-7000LM-HEF-WDL-MVOLT-GZ10-40K-80CRI-WH"
C	LED FIXTURE, DIE-CAST ALUMINUM HOUSING, IP 65 RATED, DARK BRONZE FINISH, ACRYLIC LENS, MOUNT AT 10'-0". LAMPS: LED MANUFACTURER: LITHONIA "KAXW LED-P1-40K-R3-MVOLT-DDBXD" OR APPROVED EQUAL.
D	LED 4' WALL MOUNT FIXTURE, ALUMINUM CONSTRUCTION, POLYCARBONATE LENSE, WHITE FINISH, BACK UP BATTERY. LAMPS: LED 4000K MANUFACTURER: LITHONIA "BLWP4-60LHE-PDSM-GZ1-LP840-EL7L"
E	LED EMERGENCY LIGHT, DUAL AIMABLE HEADS, WALL MOUNT, THERMOPLASTIC HOUSING, NICKEL CADMIUM BATTERY, UL LISTING MANUFACTURER: LITHONIA "ELM2L"
X	EXIT LIGHT; LONG LIFE LEDs; PRECISION MOLDED DIE-CAST ALUMINUM CONSTRUCTION; SURFACE MOUNT. MANUFACTURER: LITHONIA "LE-S-1-R-ELN" OR ENGINEERING APPROVED EQUAL. TEST SWITCH; UL

GENERAL NOTES:

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH THE NATIONAL ELECTRIC CODE AND ALL OTHER APPLICABLE CODES.
- VERIFY ALL MECHANICAL AND CONTROL EQUIPMENT CONNECTIONS WITH MANUFACTURERS DRAWINGS.
- EQUIPMENT LOCATIONS SHOWN ARE APPROXIMATED AND CONDUIT RUNS SHOWN ARE DIAGRAMMATIC. CONTRACTOR SHOULD VERIFY ALL CONNECTIONS, OFFSETS, LOCATIONS, DISTANCES, ETC. IN THE FIELD AND INSTALL THE ELECTRICAL SYSTEM COMPLETE, AS SHOWN AND SPECIFIED.
- MINIMUM CONDUIT SIZE IS 3/4". MINIMUM WIRE SIZE IS #12 FOR POWER CONDUCTORS AND #16 FOR CONTROL WIRING. ALL WIRING TO BE COPPER. ALL STRANDED WIRE SHALL BE TERMINATED WITH CRIMP ON INSULATION SPADE LUGS FOR ALL RECEPTACLES.
- ALL RECEPTACLES AND SWITCHES SHALL BE HEAVY DUTY TYPE W/20 AMP RATING UNLESS OTHERWISE NOTED.
- ALL EQUIPMENT SHALL BE CONNECTED WITH A SECTION OF SEALTITE FLEXIBLE CONDUIT AND FITTINGS AS NECESSARY.
- ALL FLOOR MOUNTED ELECTRICAL EQUIPMENT SHALL BE MOUNTED ON A 4" CONCRETE HOUSEKEEPING PAD.
- ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ALL COST ASSOCIATED WITH PROVIDING ANY REQUIRED TEMPORARY POWER DURING CONSTRUCTION.
- ALL DISCONNECTS SHALL BE FUSED PER MANUFACTURERS RECOMMENDATIONS UNLESS NOTED OTHERWISE. ALL NON-FUSED DISCONNECTS WILL BE NOTED AS SUCH.
- ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH SYSTEMS INTEGRATOR ALL EQUIPMENT PROVIDED BY INTEGRATOR AND INSTALLED AND WIRED BY ELECTRICAL CONTRACTOR.
- DISSOLVED H₂O₂ MONITOR TO BE PROVIDED BY INTEGRATOR AND INSTALLED BY ELECTRICIAN.
- PANEL LH SHALL BE A NEMA 3R 30 AMP MAIN 120/208 VOLT SINGLE PHASE SPA PANEL EATON TYPE CH OR EQUAL. PROVIDE WITH TWO 20 AMP 120V SINGLE PHASE BREAKERS. ONE(1) BREAKER FEEDS HEATER AND HEAT TAPE. ONE(1) BREAKER FEEDS ANALYZER AND PUMP.

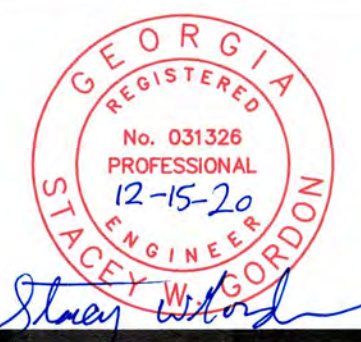


DISSOLVED H₂O₂ MONITOR
N.T.S.



HYDROGEN PEROXIDE INSTRUMENT DETAIL
N.T.S.

1/20/16/161 Columbia County Water Utility/161-01-Branched and Clarke Hill WTP/01-Permittion Design/Drawings/161-01-1E1.dwg, 12/29/2016 2:22:52 PM, KChiller-HP Design/17500 Rev 2.dwg, 1/1



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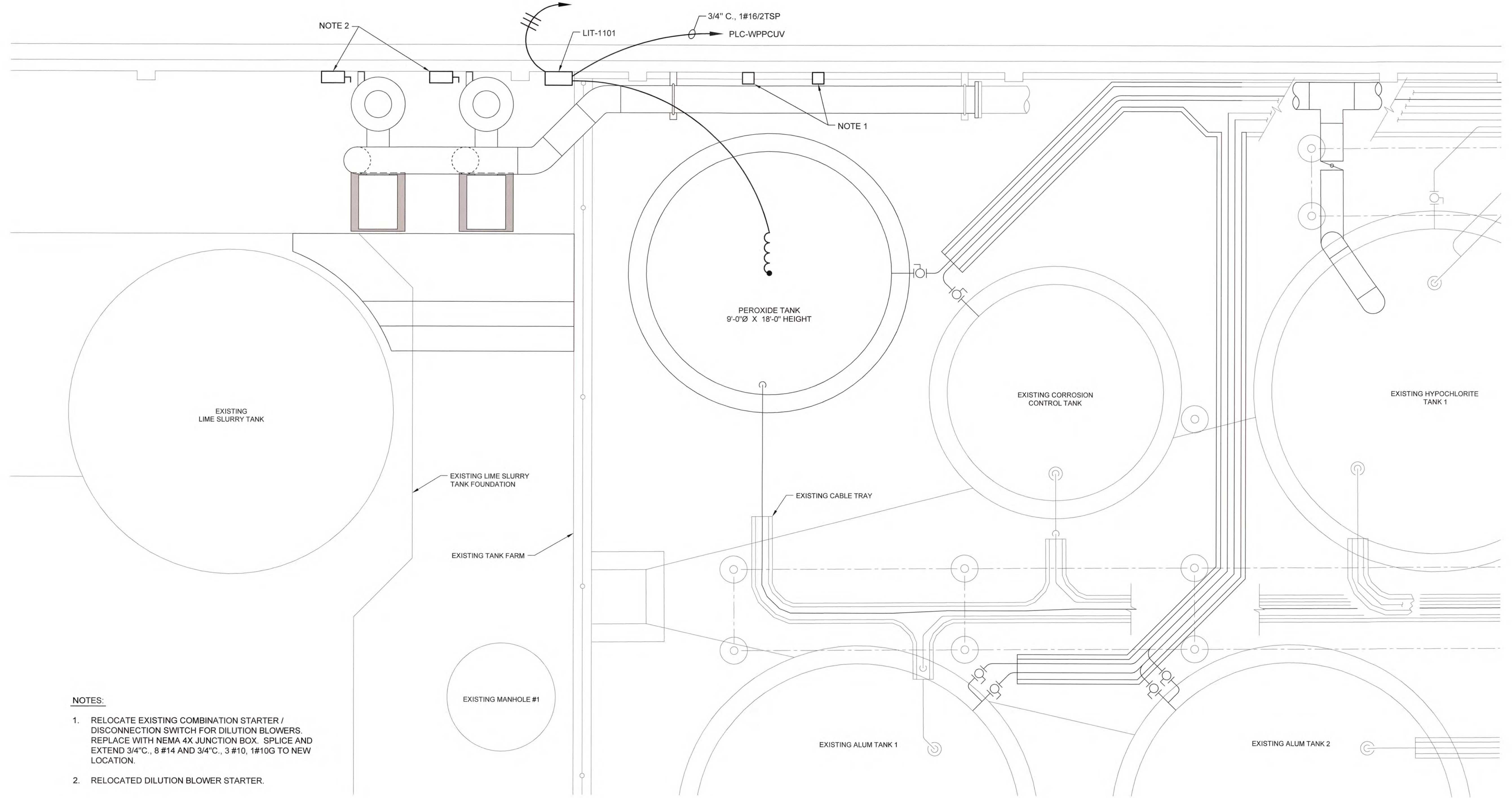
ELECTRICAL LEGEND, SCHEDULES AND NOTES

0 1 IF THIS BAR DOES NOT MEASURE 1" DRAWING IS NOT TO LABELED SCALE

DESIGNED	SWG	REF.	1631-00	DWG NO.
DRAWN	KDC	DATE	DEC 2020	1E1
QC	SCALE	N/A	N/A	



EXISTING FILTER BUILDING



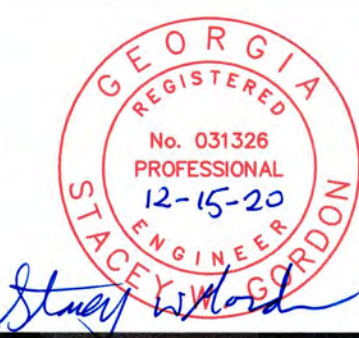
NOTES:

1. RELOCATE EXISTING COMBINATION STARTER / DISCONNECTION SWITCH FOR DILUTION BLOWERS. REPLACE WITH NEMA 4X JUNCTION BOX. SPLICE AND EXTEND 3/4"C., 8 #14 AND 3/4"C., 3 #10, 1#10G TO NEW LOCATION.
2. RELOCATED DILUTION BLOWER STARTER.

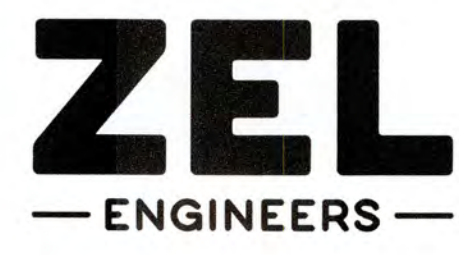
**BLOWER RELOCATION AND
PEROXIDE TANK LOCATION PLAN**

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

J:\2016\1631 Columbia County Water Utility\1631-00 Blanchard and Clarke Hill WTP UV Peroxide Design\Drawings\1631-00 1E2.dwg, 12/28/2020 3:21:21 PM, KChalder, HP Designer, T2500 Plot 2.pcl, 1:1



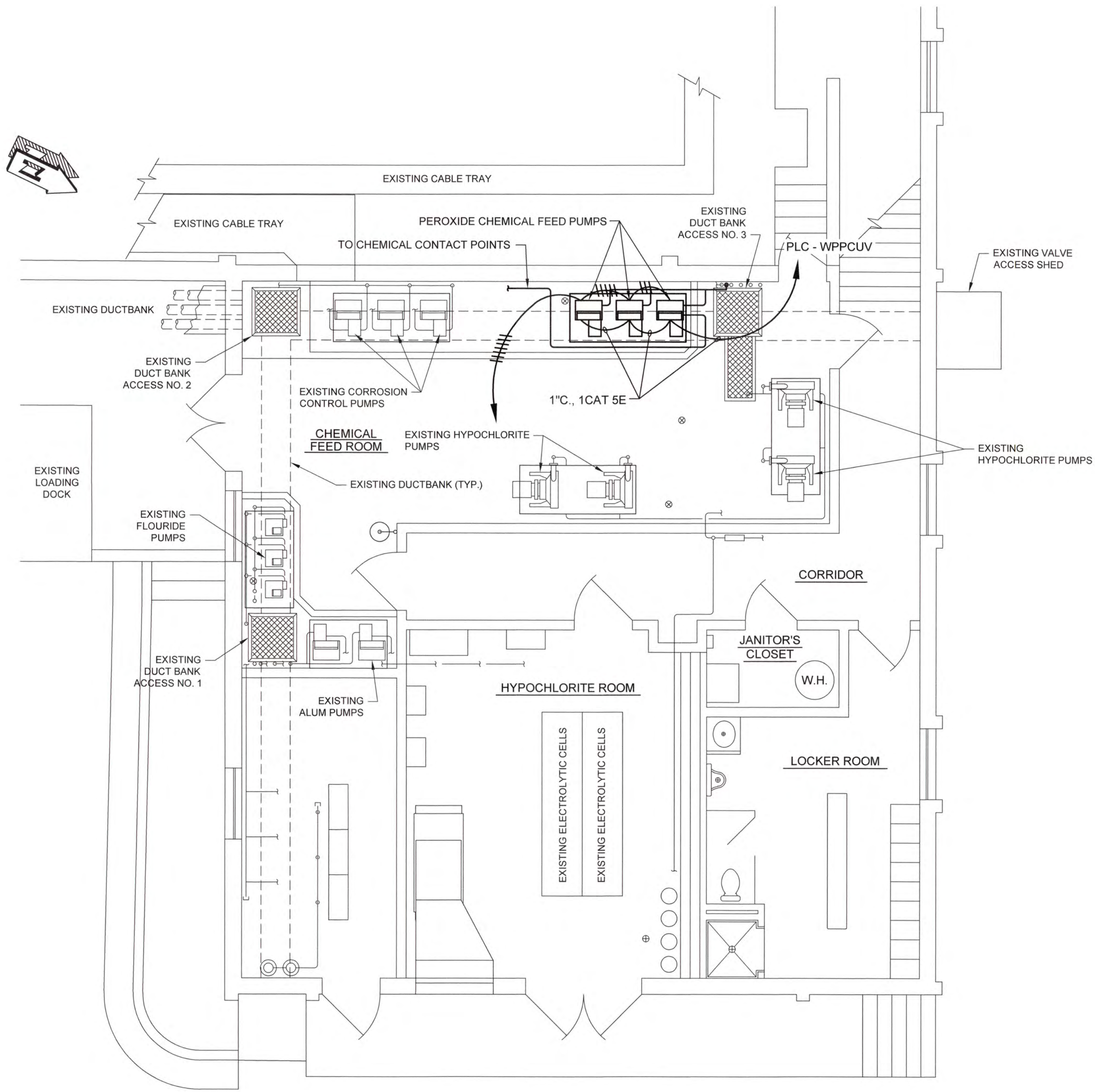
NO.	DATE	REVISION	BY	APVD



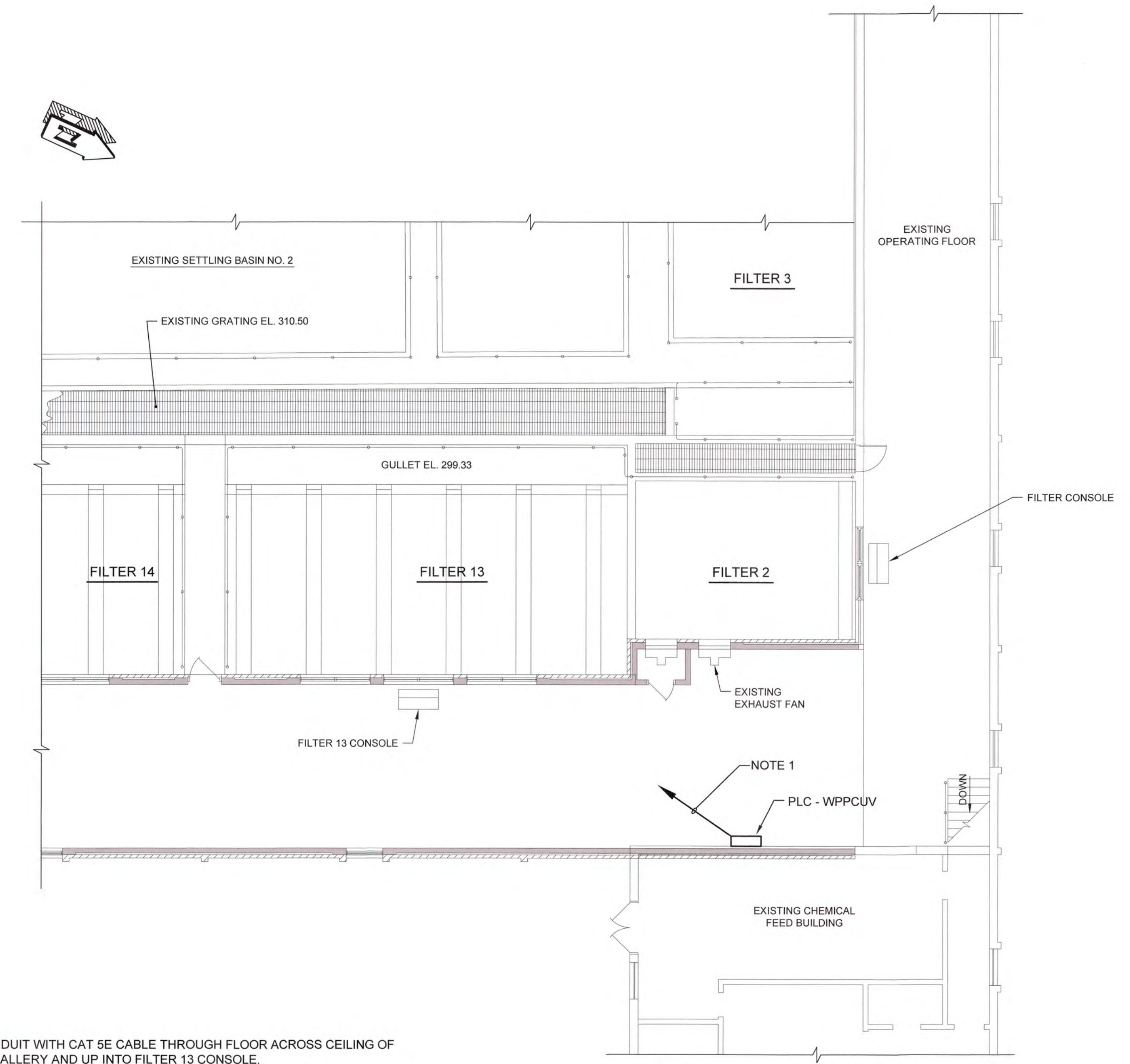
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COLUMBIA COUNTY, GEORGIA
 UV / ADVANCED OXIDATION TREATMENT
**BLANCHARD PLANT DILUTION BLOWER RELOCATION
 AND PEROXIDE TANK LOCATION PLAN**

0 1		IF THIS BAR DOES NOT MEASURE 1" DRAWING IS NOT TO LABELED SCALE		
DESIGNED	SWG	REF.	1631-00	DWG NO.
DRAWN	SWH	DATE	DEC 2020	1E2
QC		SCALE	1/2"=1'-0"	



**CHEMICAL FEED ROOM
PEROXIDE PUMPS PLAN**
SCALE: 1/4"=1'-0"



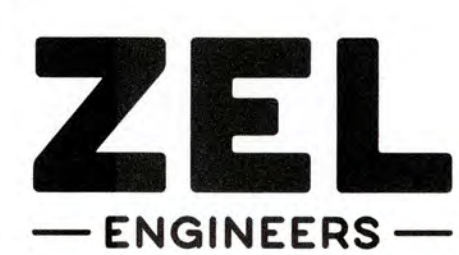
NOTES:
1. 1" CONDUIT WITH CAT 5E CABLE THROUGH FLOOR ACROSS CEILING OF PIPE GALLERY AND UP INTO FILTER 13 CONSOLE.

PIPING GALLERY PLAN
SCALE: 1/8"=1'-0"

1:20/16/181 Columbia County Water Utility 1531-00 Blanchard and Clarke Hill WTP UV Peroxide Design/Drawings 1531-00 1E3.dwg, 12/8/2020 3:20:20 PM, MChalker, HP Designer, T2500, Roll 2, doc, 11



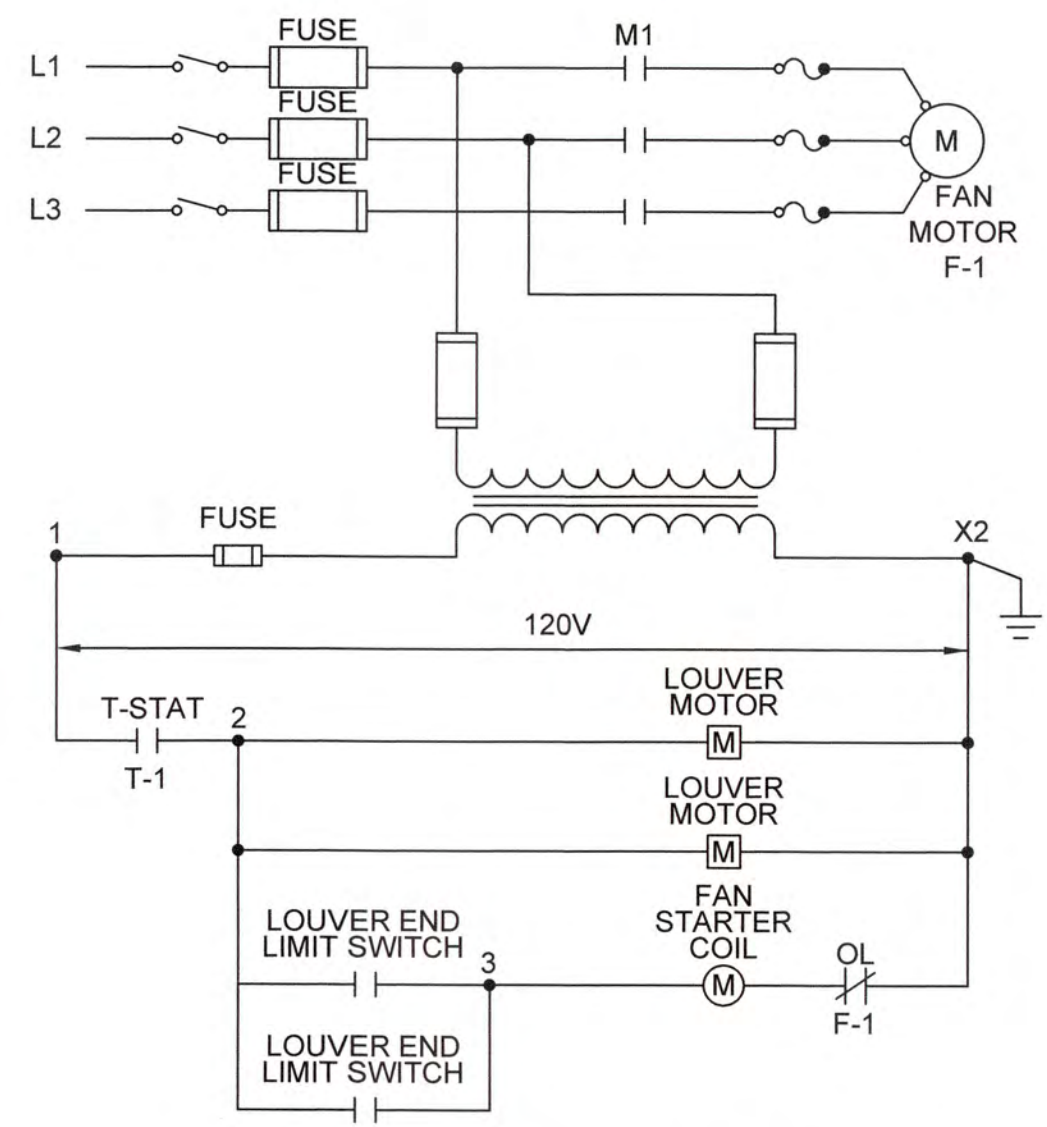
NO.	DATE	REVISION	BY	APVD



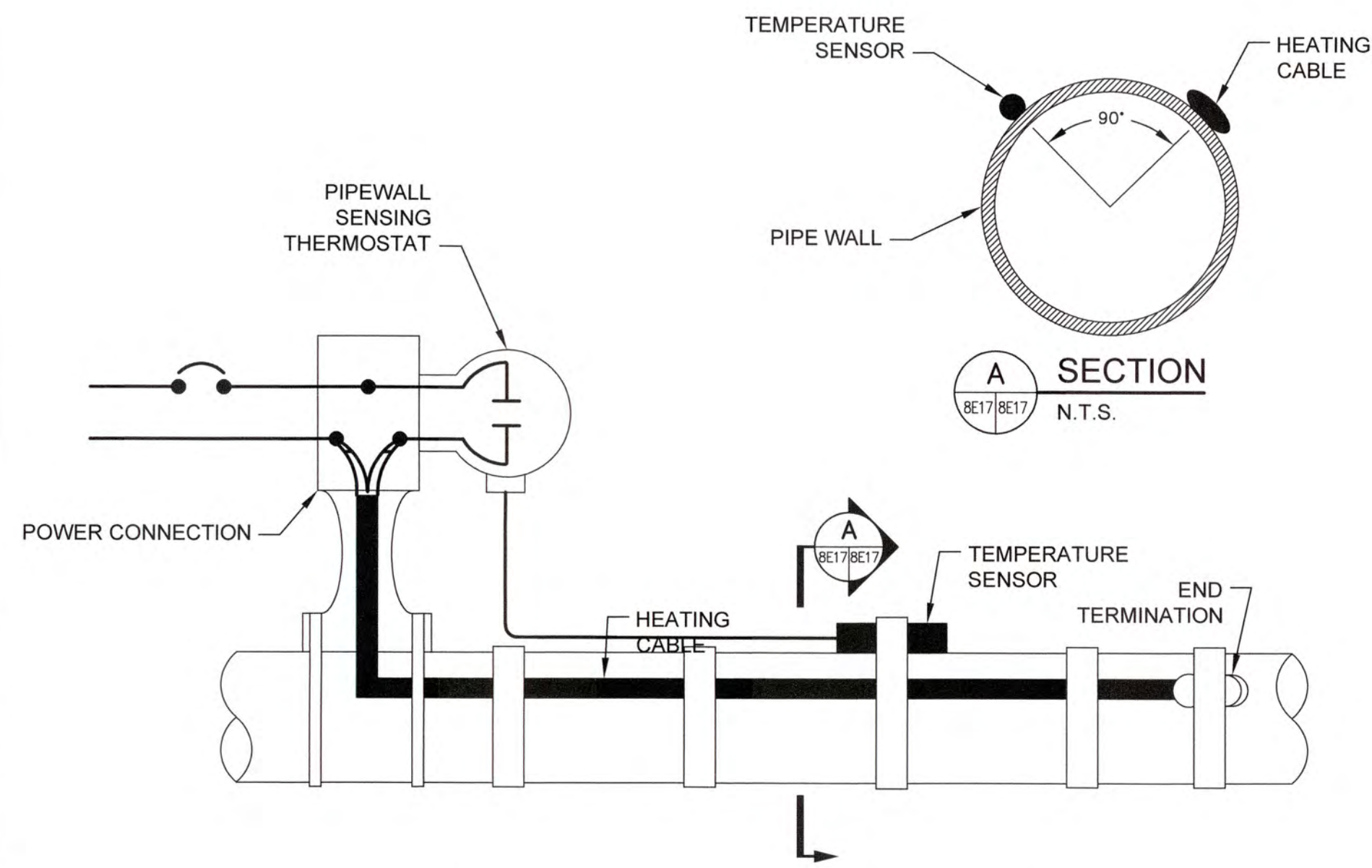
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COLUMBIA COUNTY, GEORGIA
UV / ADVANCED OXIDATION TREATMENT
BLANCHARD PLANT CHEMICAL FEED ROOM
PEROXIDE PUMPS PLAN AND PIPING GALLERY PLAN

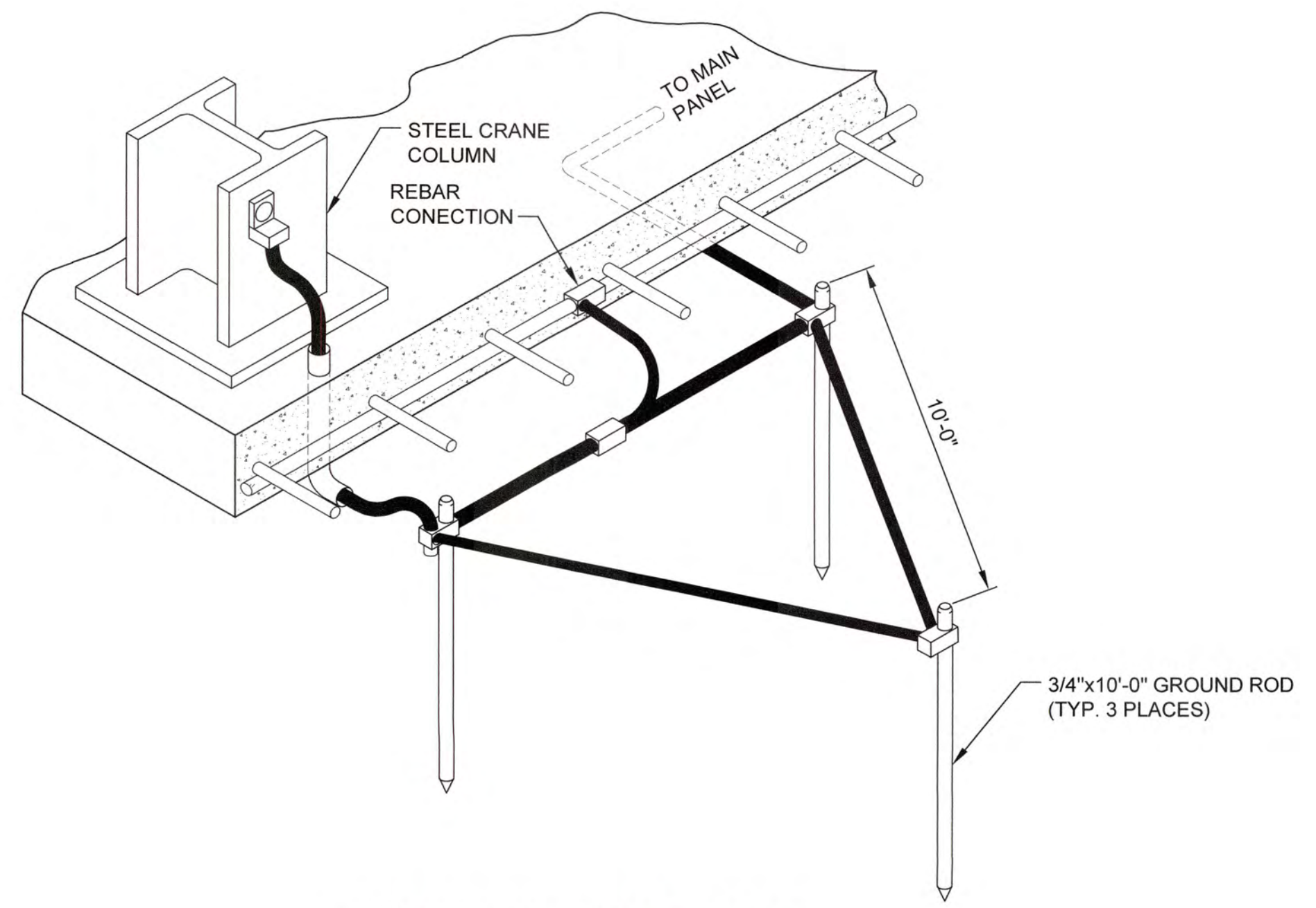
0 1		IF THIS BAR DOES NOT MEASURE 1" DRAWING IS NOT TO LABELED SCALE		
DESIGNED	SWG	REF.	1631-00	DWG NO.
DRAWN	SWH	DATE	DEC 2020	1E3
QC		SCALE	AS SHOWN	



TYPICAL FAN WIRING DIAGRAM
N.T.S.



PIPEWALL HEATING CABLE CONNECTION
N.T.S.

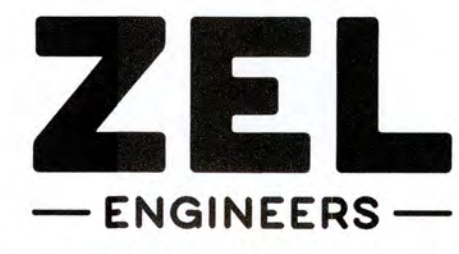


TYPICAL GROUNDING DETAIL
N.T.S.

1/20/16/1631 Columbia County Water Utility/1631-00 Branch and Clark Hill VTP UV Peroxide Design/1631-00 1E4.dwg, 12/20/20 3:19:45 PM, KChalker, HP Designer/7530 Rev 2.dwg, 1:1



NO.	DATE	REVISION	BY	APVD

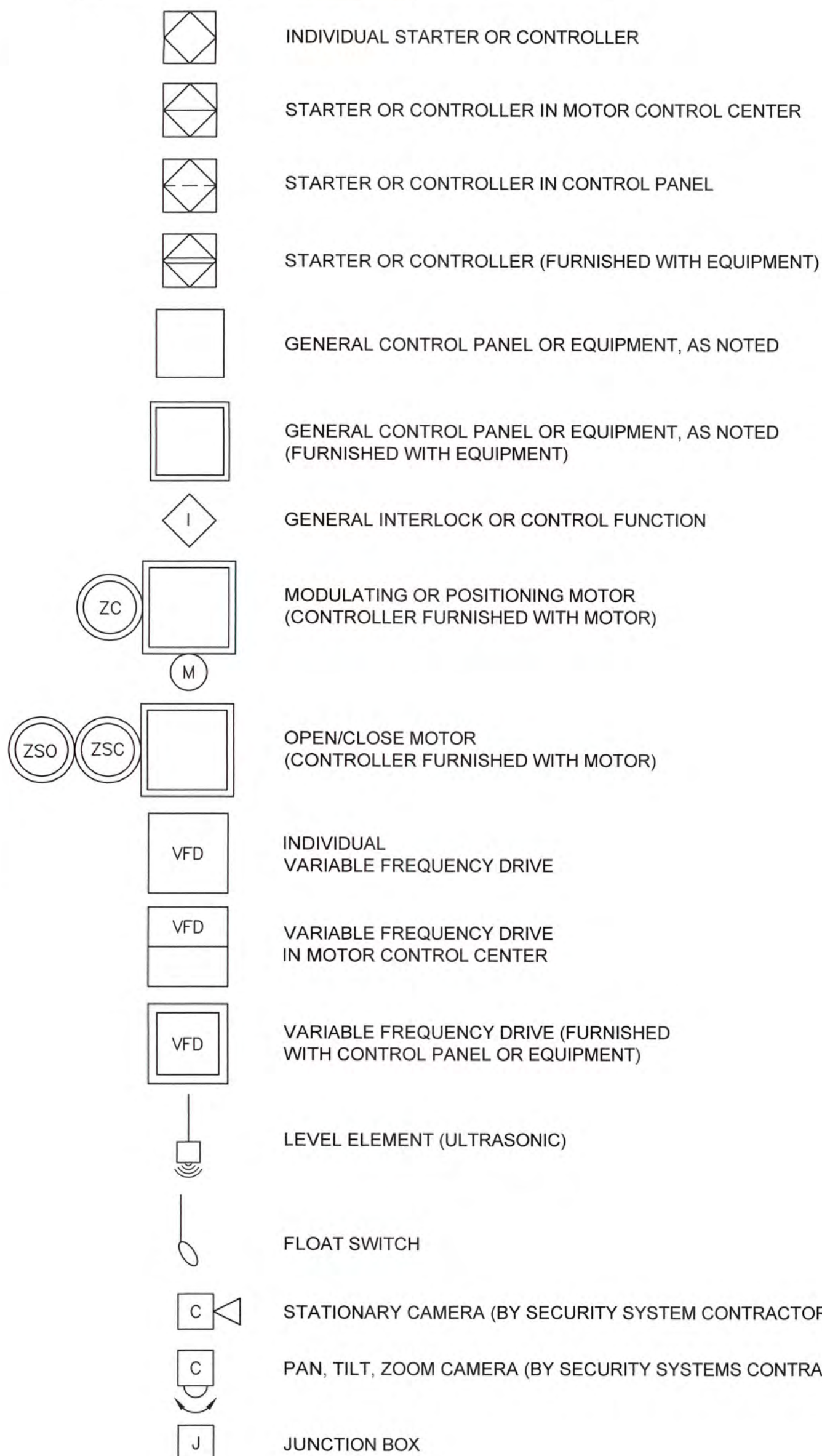


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COLUMBIA COUNTY, GEORGIA	
UV / ADVANCED OXIDATION TREATMENT	
ELECTRICAL DETAILS	

0 1		IF THIS BAR DOES NOT MEASURE 1" DRAWING IS NOT TO LABELED SCALE		
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DRAWN	KDC	DATE	DEC 2020	1E4
QC		SCALE	N/A	

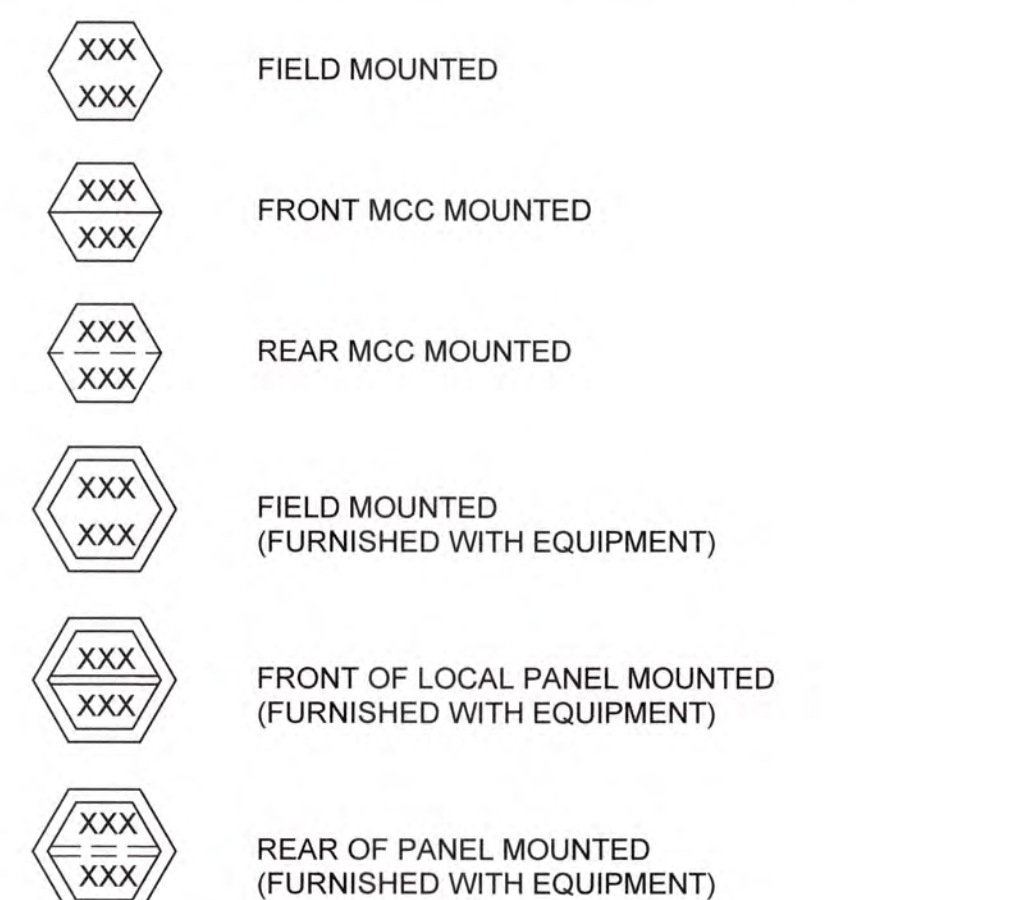
ELECTRICAL AND CONTROL SYMBOLS



ABBREVIATIONS

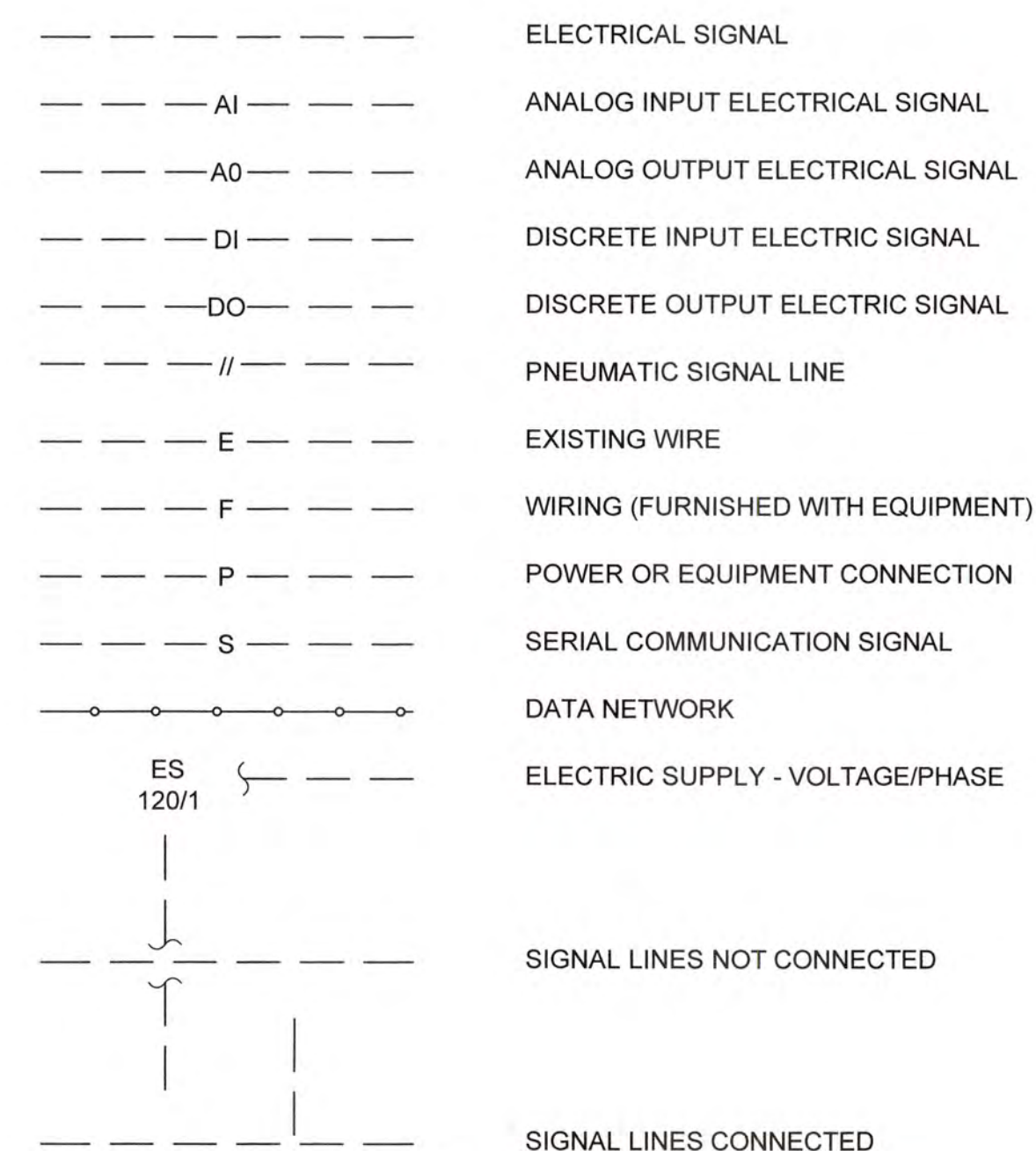
- COND CONDUCTIVITY
- CP CONTROL PANEL
- DIP DUCTILE IRON PIPE
- DO DISSOLVED OXYGEN
- FCP FACTORY CONTROL PANEL (FURNISHED BY EQUIPMENT MANUFACTURER)
- FWE FURNISHED WITH EQUIPMENT
- HMI HUMAN MACHINE INTERFACE
- LCP LOCAL CONTROL PANEL (FURNISHED BY SYSTEMS INTEGRATOR)
- MCC MOTOR CONTROL CENTER
- MCP MAIN CONTROL PANEL
- ORP OXIDATION REDUCTION POTENTIAL
- PC PARTICLE COUNT
- pH HYDROGEN ION CONCENTRATION
- RW RAW WATER
- SC STREAMING CURRENT
- SLBL SLUDGE BLANKET LEVEL
- TOR TORQUE
- TURB TURBIDITY
- VHC VOLATILE HYDROCARBONS
- VIB VIBRATION

HAND SWITCH SYMBOLS AND LEGEND

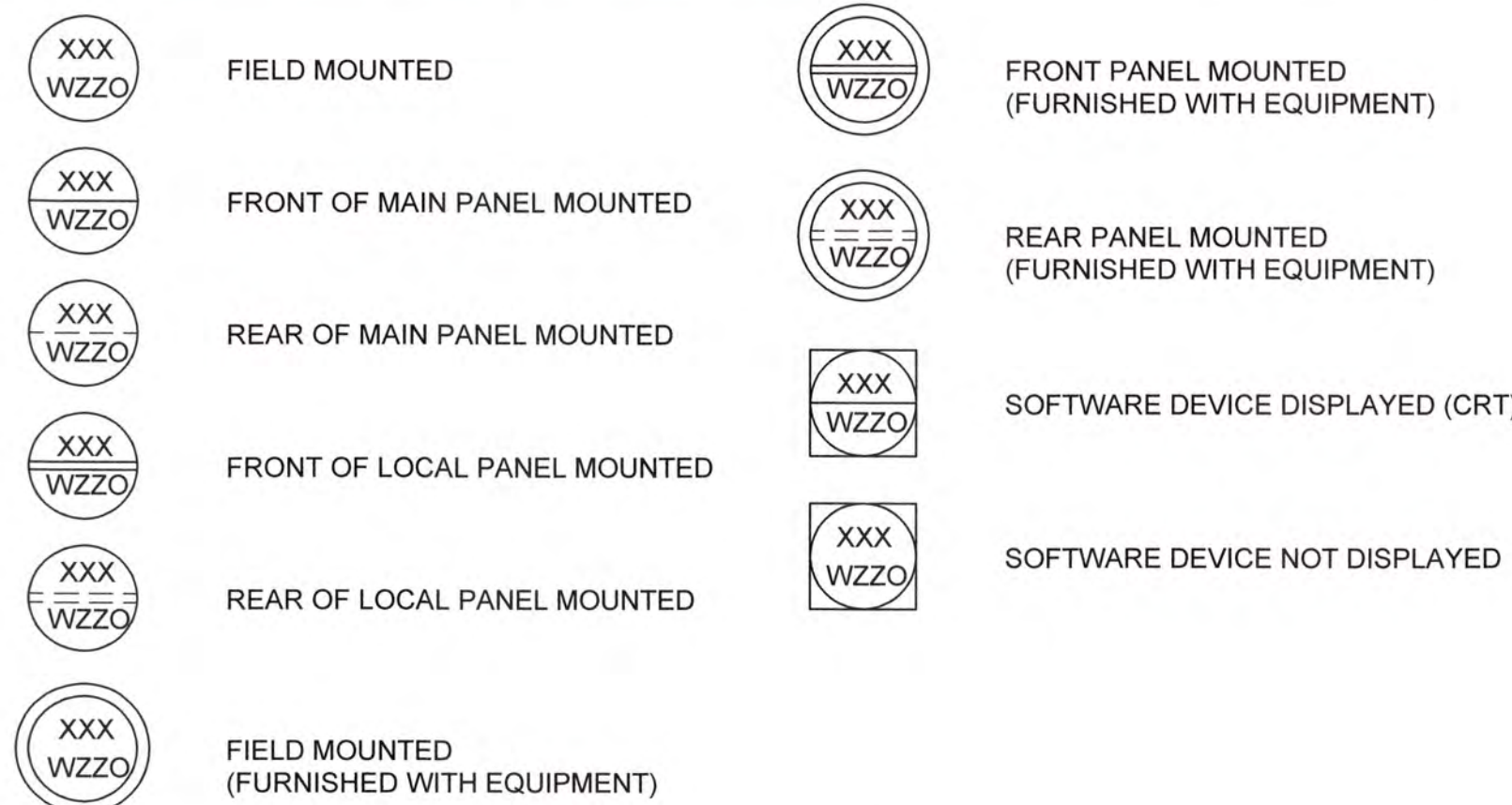


- AB FUNCTION SELECTOR
- EO EMERGENCY OFF
- ES EMERGENCY STOP
- FOR FORWARD/OFF/REVERSE (MAINTAINED)
- FSR FORWARD/STOP/REVERSE (MAINTAINED)
- HOA HAND/OFF/AUTO
- LOR LOCAL/OFF/REMOTE
- LR LOCAL/REMOTE
- MA MANUAL/AUTO
- OC OPEN/CLOSE
- OCA OPEN/CLOSE/AUTO
- OCR OPEN/CLOSE/REMOTE
- OO ON/OFF
- OS OPERATION SWITCH
- R RESET
- RS RUN/STOP (AUTO RESET/RUN @ POWER INTERRUPTION)
- RSJ RUN/STOP/JOG
- S SILENCE
- SR SAFE/RUN
- SS START/STOP (MANUAL RESET @ POWER INTERRUPTION)
- T TEST
- UD UP/DOWN

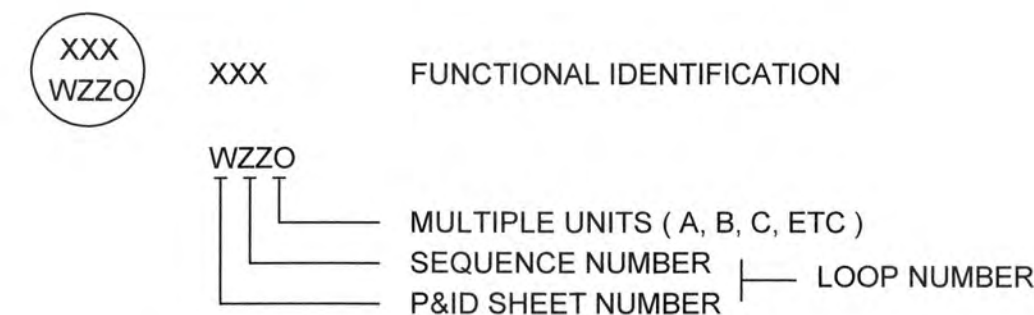
INSTRUMENTATION LINE SYMBOLS



HAND SWITCH SYMBOLS AND LEGEND

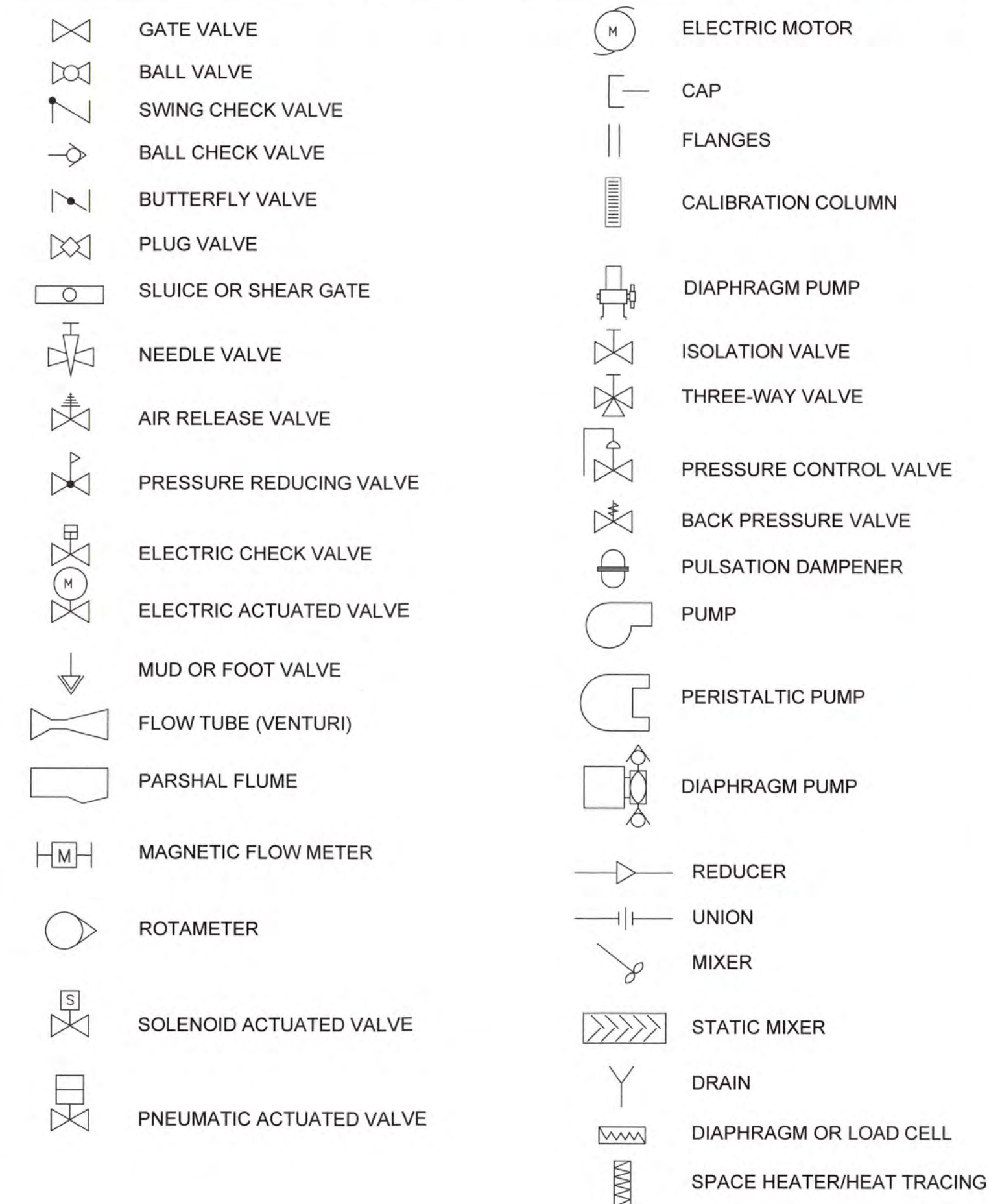


INSTRUMENT IDENTIFICATION

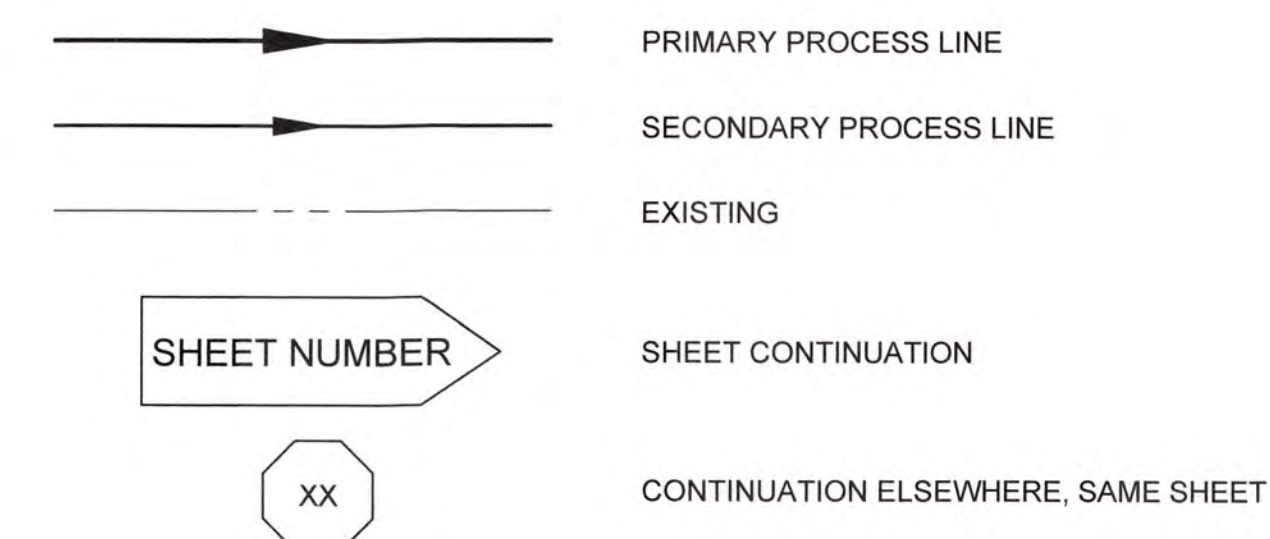


FIRST LETTER	SUCCEEDING LETTERS				
	MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS		ALARM		
B	BURNER FLAME				
C	CONDUCTIVITY (ELECTRICAL)			CONTROL	
D	DENSITY (MASS) OR SPECIFIC GRAVITY	DIFFERENTIAL	DELAY		
E	VOLTAGE (EMF)		PRIMARY ELEMENT		
F	FLOW RATE	RATIO (FRACTION)			
G	GAUGING		GLASS		
H	HAND (MANUALLY INITIATED)				HIGH
I	CURRENT (ELECTRICAL)		INDICATE		
J	POWER	SCAN			
K	TIME OR SCHEDULE			CONTROL STATION	
L	LEVEL		LIGHT (PILOT)		LOW MIDDLE OR INTERMEDIATE
M	MOISTURE OR HUMIDITY	MOMENTARY			
N	UNCLASSIFIED				
O	UNCLASSIFIED		ORIFICE (RESTRICTION)		
P	PRESSURE OR VACUUM		POINT (TEST CONNECTION)		
Q	QUANTITY OR EVENT	INTEGRATE OR TOTALIZE			
R	RADIOACTIVITY		RECORD OR PRINT		
S	SPEED OR FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT OR TRANSMITTER	
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION	MULTIFUNCTION
V	VIBRATION, MECHANICAL ANALYSIS			VALVE, DAMPER OR LOUVER	
W	WEIGHT OR FORCE		WELL		
X	UNCLASSIFIED			UNCLASSIFIED RELAY, COMPUTE OR CONVERT	
Y	UNCLASSIFIED			DRIVE, ACTUATE OR UNCLASSIFIED FINAL CONTROL ELEMENT	
Z	POSITION				

FLOW, PIPING AND VALVE SYMBOLS



PROCESS LINE SYMBOLS



NOTES:

1. ALL DETAIL WIRING AND ELECTRICAL COMPONENTS ARE NOT SHOWN ON THE PROCESS AND INSTRUMENTATION DIAGRAM DRAWINGS. THE ELECTRICAL DRAWINGS ARE TO BE USED IN CONJUNCTION WITH THE PROCESS AND INSTRUMENTATION DIAGRAMS. THE PROCESS AND INSTRUMENTATION DIAGRAMS ARE PRESENTED AS A COORDINATING TOOL THAT INDICATES THE MAIN CONTROL LOGIC FOR THE PROJECT PROCESS SYSTEMS AND COMPONENTS. ACTUAL DETAIL LOGIC AND CONTROL COMPONENTS MAY DIFFER DEPENDING ON THE MANUFACTURER THAT IS AWARDED THE CONTRACT.
2. SEE CIVIL AND PROCESS DRAWINGS FOR PIPING DETAILS.
3. SOME SYMBOLS AND INFORMATION ON THIS LEGEND MAY NOT BE USED ON THIS JOB.

J:\2016\161 Columbia County Water Utility\161-00\Benchmarked and Checked\HMI\VFP\HMI\Process\Doc\Design\Drawings\161-00_HMI.dwg, 12/02/2020, 3:17:07 PM, KChahar, HP Design\172500 Rev1.dwg, 11



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COLUMBIA COUNTY, GEORGIA

UV / ADVANCED OXIDATION TREATMENT

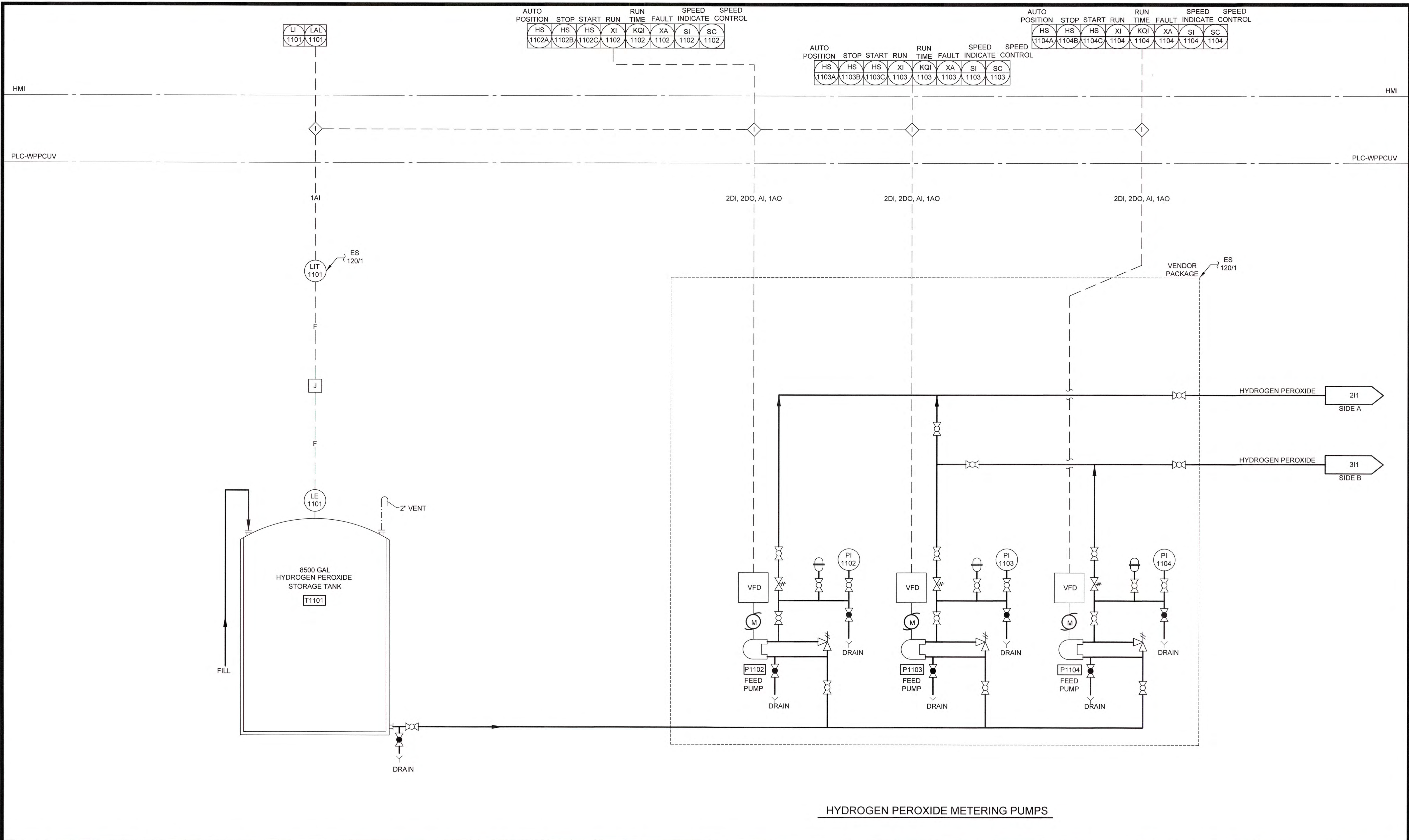
P & ID LEGEND



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

DESIGNED	SWG	REF.	1631-00	DWG NO.
DRAWN	KDC	DATE	DEC 2020	111
QC		SCALE	N/A	

1/20/16/1631 Columbia County Water Utility/1631-00 Branch and Clark HMI VFD UV-Process Design/1631-00 112.DWG, 12/28/2020 3:16:22 PM, KChandler, HP Designer/ TSSD, Rev 2, p. 11



HYDROGEN PEROXIDE METERING PUMPS

REGISTERED PROFESSIONAL ENGINEER
 No. 031326
 12-15-23
 STACEY W. WOOD

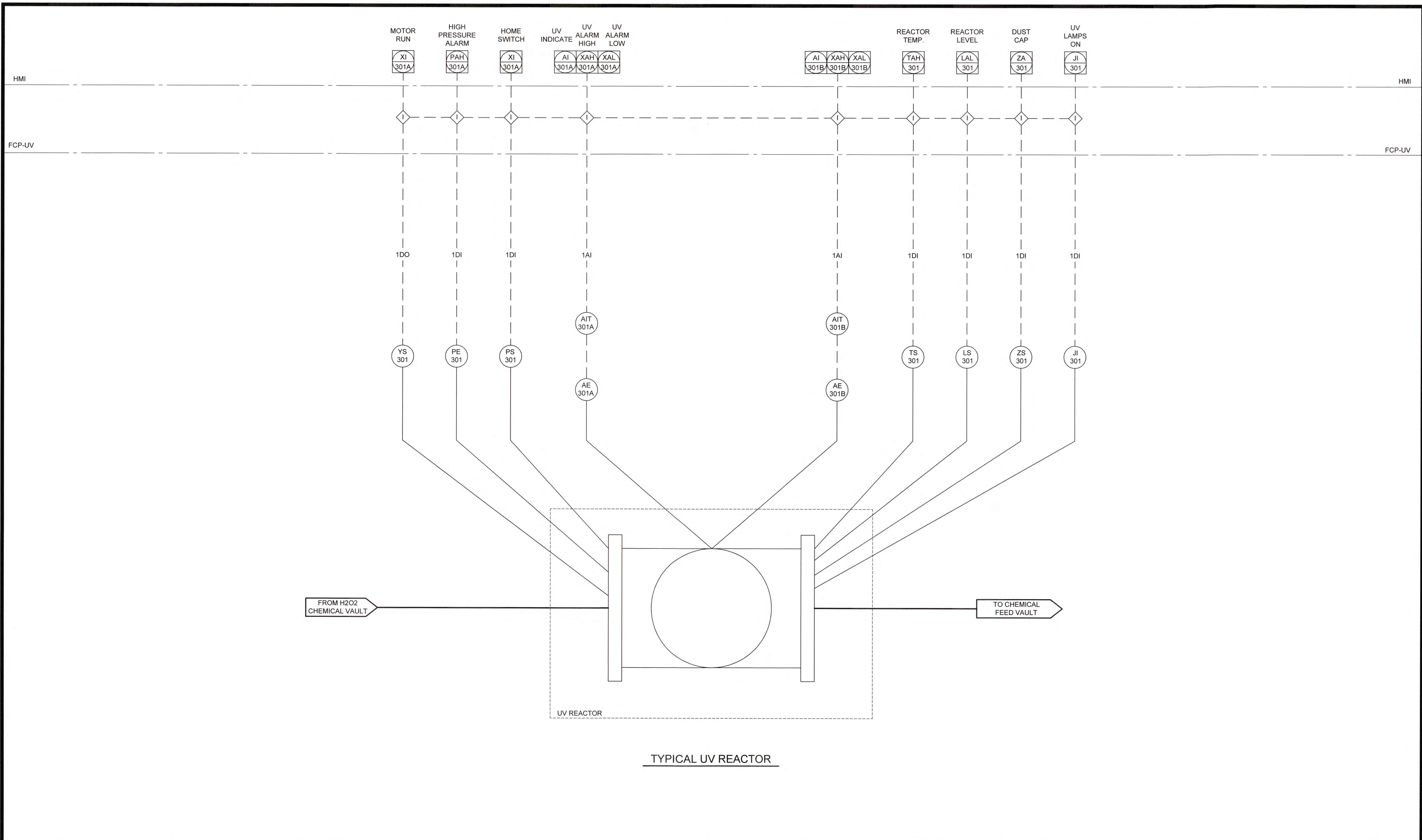
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COLUMBIA COUNTY, GEORGIA
 UV / ADVANCED OXIDATION TREATMENT
 P & ID
 CHEMICAL FEED SYSTEM

DESIGNED		SWG	REF.	1631-00	DWG NO.
DRAWN		KDC	DATE	DEC 2020	112
QC			SCALE	N/A	

J:\2016\161 Columbia County Water Utility\161-00 Branches and Cables Hill VTP UV Preoxidation Design\Drawings\161-00-10.DWG, 12/18/2020 3:15:54 PM, KChalker, HP Designer T250P Ref 2.pcd, 1:1



TYPICAL UV REACTOR



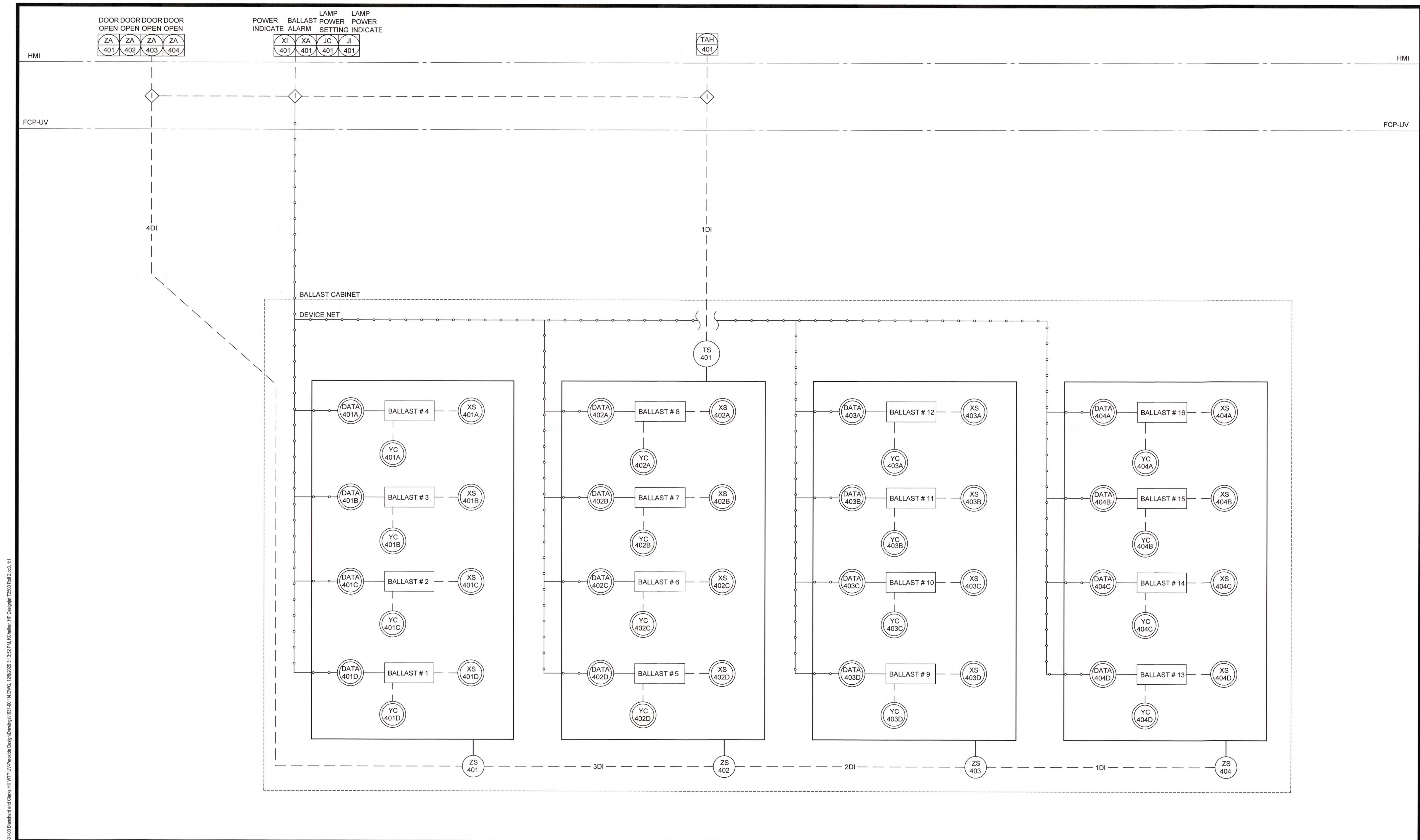
NO.	DATE	REVISION	BY	APVD



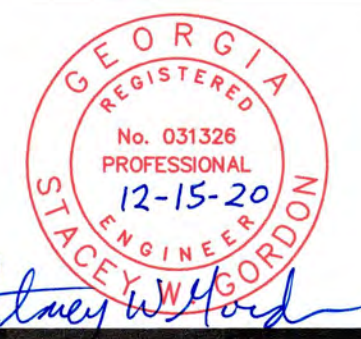
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COLUMBIA COUNTY, GEORGIA
 UV / ADVANCED OXIDATION TREATMENT
 P & ID
 TYPICAL UV REACTOR

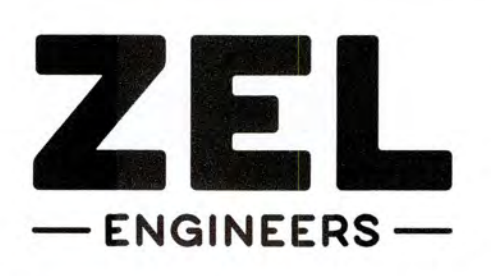
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DRAWN		KDC	DATE	DEC 2020	113
QC			SCALE	N/A	



I:\2016\1631 Columbia County Water Utility\1631-00\Blaichard and Clark Hill WTP UV\Facade Design\Drawings\1631-00_14_DWG_1382020_3_13_22_P&ID_Chalker_HP_Designer_T2501_R01_2.dwg, 11



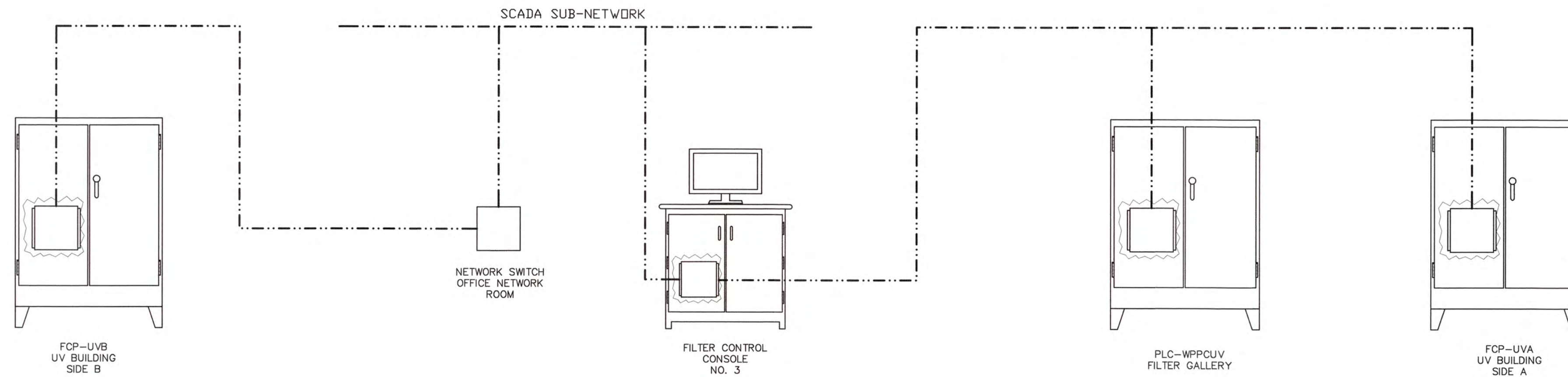
NO.	DATE	REVISION	BY	APVD



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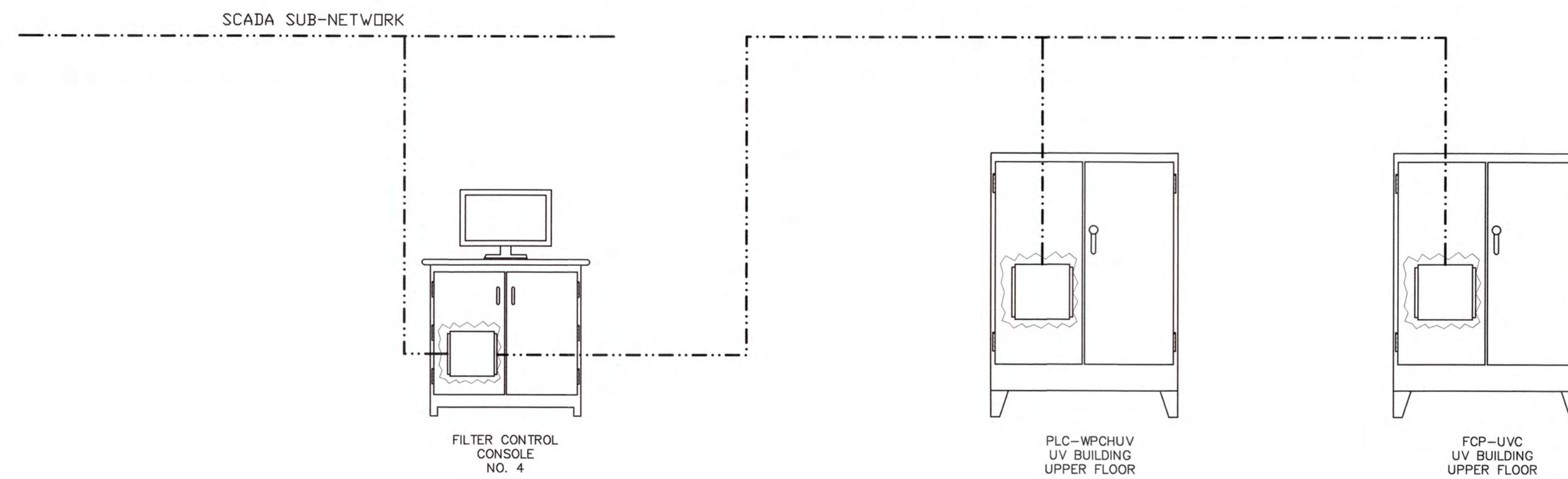
COLUMBIA COUNTY, GEORGIA
 UV / ADVANCED OXIDATION TREATMENT
 P & ID
 TYPICAL UV BALLAST CABINET

DESIGNED		SWG	REF.	1631-00	DWG NO.
DRAWN		KDC	DATE	DEC 2020	114
QC			SCALE	N/A	



JIM BLANCHARD SCADA SYSTEM BLOCK DIAGRAM

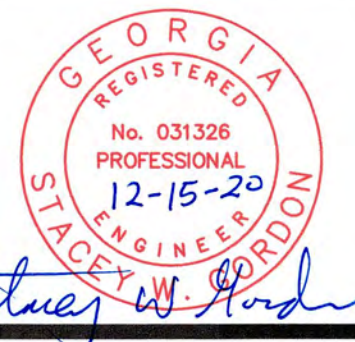
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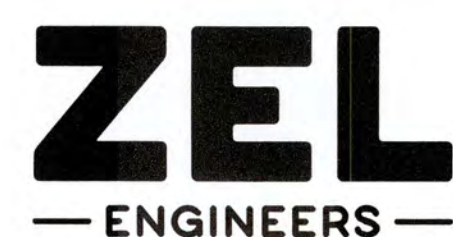
CLARKS HILL SCADA SYSTEM BLOCK DIAGRAM

SCALE: NOT TO SCALE

1/20/16/161 Columbia County Water Utility/1631-00 Blanchard and Clarke Hill WTP UV/Peroxide Design/1631-00 15.DWG, 12/15/20 3:12:18 PM, KChalker, HP Designer T2507.Rvt, 2, 11



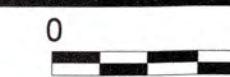
NO.	DATE	REVISION	BY	APVD



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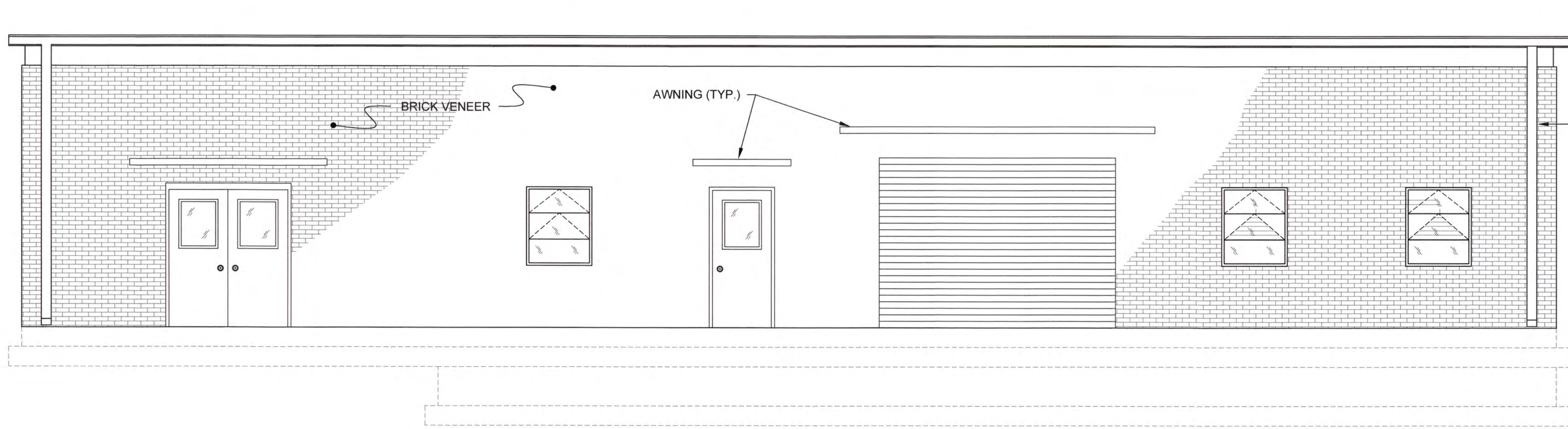
COLUMBIA COUNTY, GEORGIA

UV / ADVANCED OXIDATION TREATMENT
 P & ID
 SCADA SYSTEM BLOCK DIAGRAM

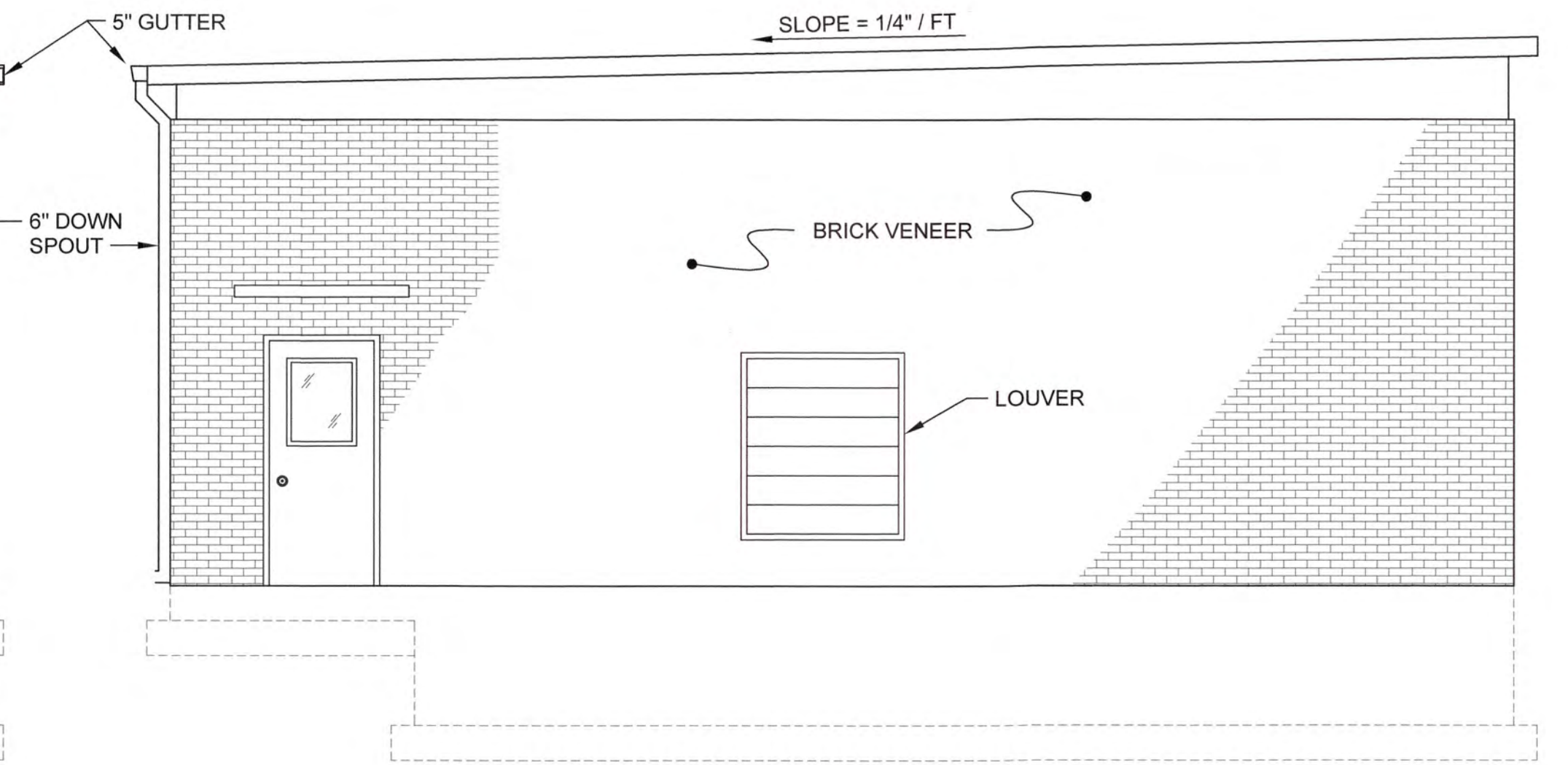


IF THIS BAR DOES NOT MEASURE 1"
 DRAWING IS NOT TO LABELED SCALE

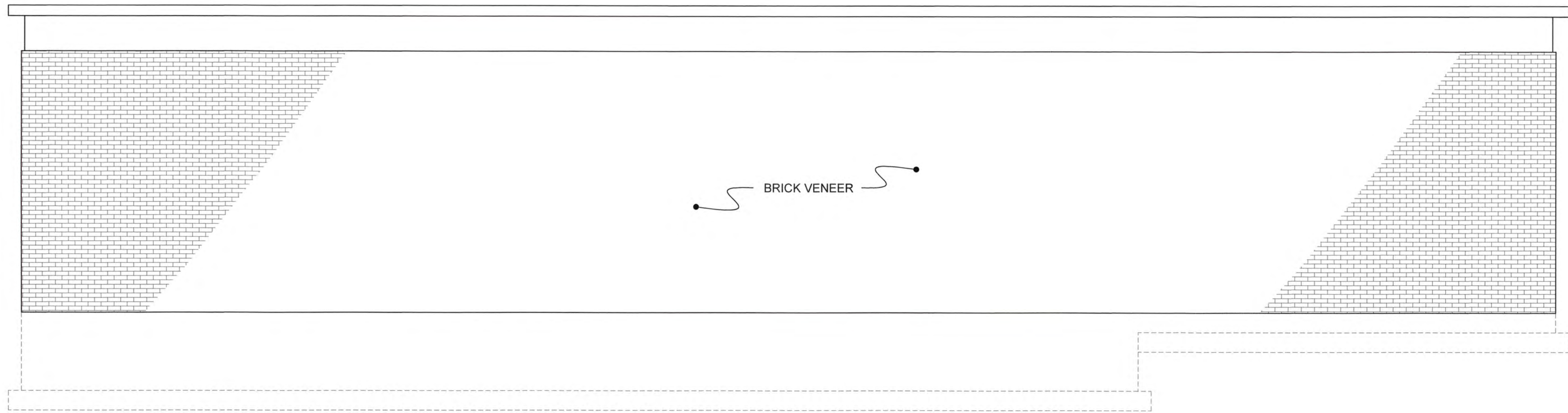
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DRAWN	KDC	DATE	DEC 2020	115
QC		SCALE	N/A	



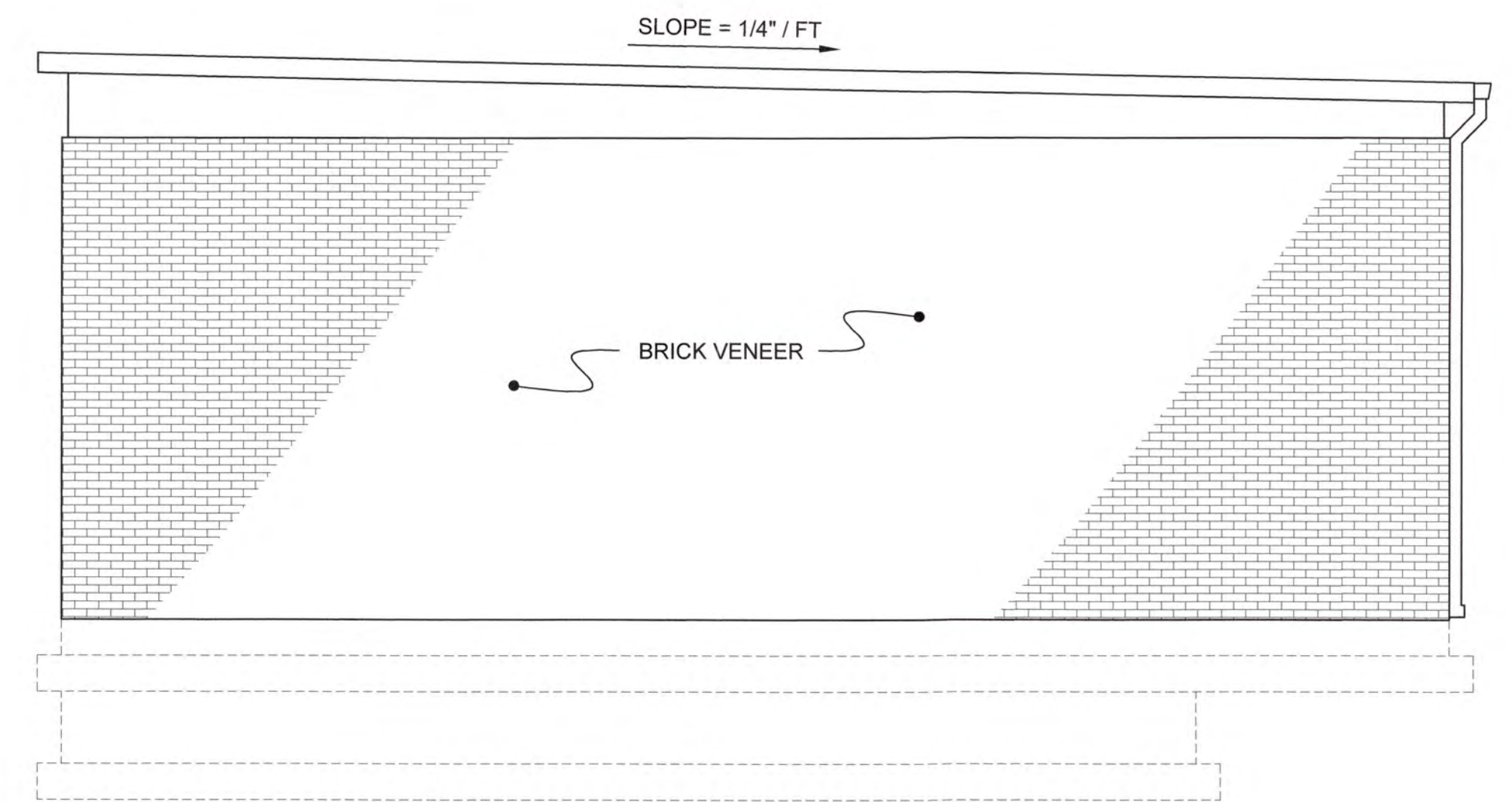
SOUTH ELEVATION
SCALE: 1/4"=1'-0"



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



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

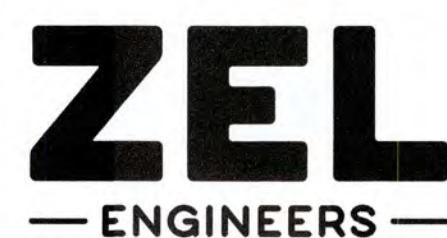


WEST ELEVATION
SCALE: 1/4"=1'-0"

J:\2016\1637 Columbia County Water Utility\1637-00 Blanchard and Cokes Hill WTP\16\Prepwork Design\Drawings\1637-00-203.dwg, 12/02/2020 9:46:27 PM, KChalker, HP Designer, T2500 Plot 2.pcl, 1:1



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COLUMBIA COUNTY, GEORGIA

UV / ADVANCED OXIDATION TREATMENT

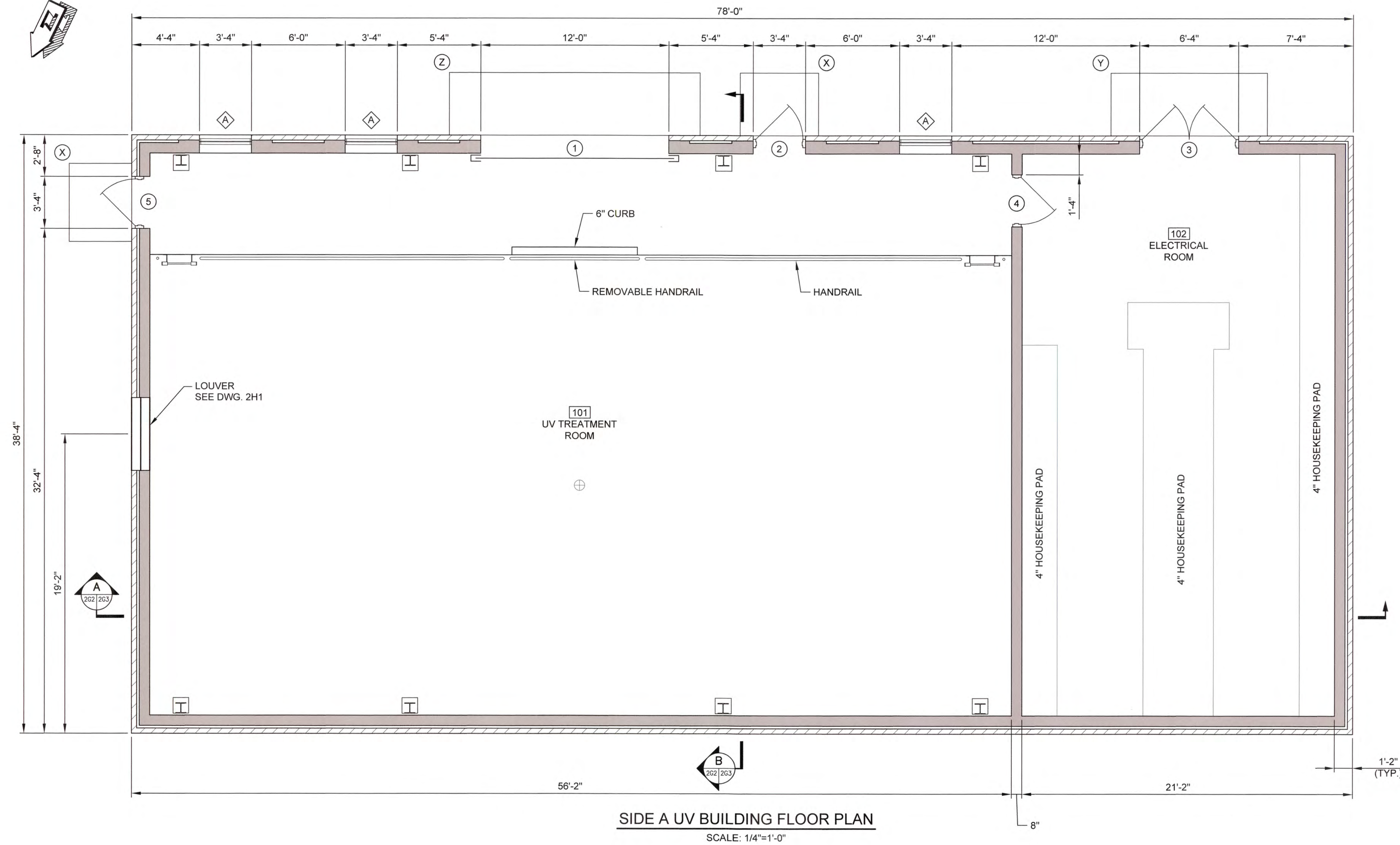
BLANCHARD PLANT SIDE A
UV BUILDING ELEVATIONS



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

DESIGNED	DKR	REF.	1631-00	DWG NO.
DRAWN	KDC	DATE	DEC 2020	2G1
QC		SCALE	1/4"=1'-0"	

NOTE:
SEE DWGS 1G5 FOR DOOR, WINDOW
AND AWNING SCHEDULES.

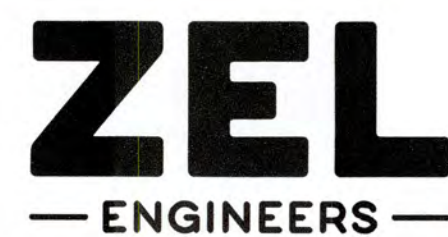


SIDE A UV BUILDING FLOOR PLAN
SCALE: 1/4"=1'-0"

J:\2016\1631 Columbia County Water Utility\1631-00 Blanchard and Cokes Hill WTP UV Process Design\Drawings\1631-00-262.dwg, 12/9/2020 3:45:44 PM, KChalko, HP Designer, T2607 Rev 2.dwg, 1:1



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COLUMBIA COUNTY, GEORGIA

UV / ADVANCED OXIDATION TREATMENT

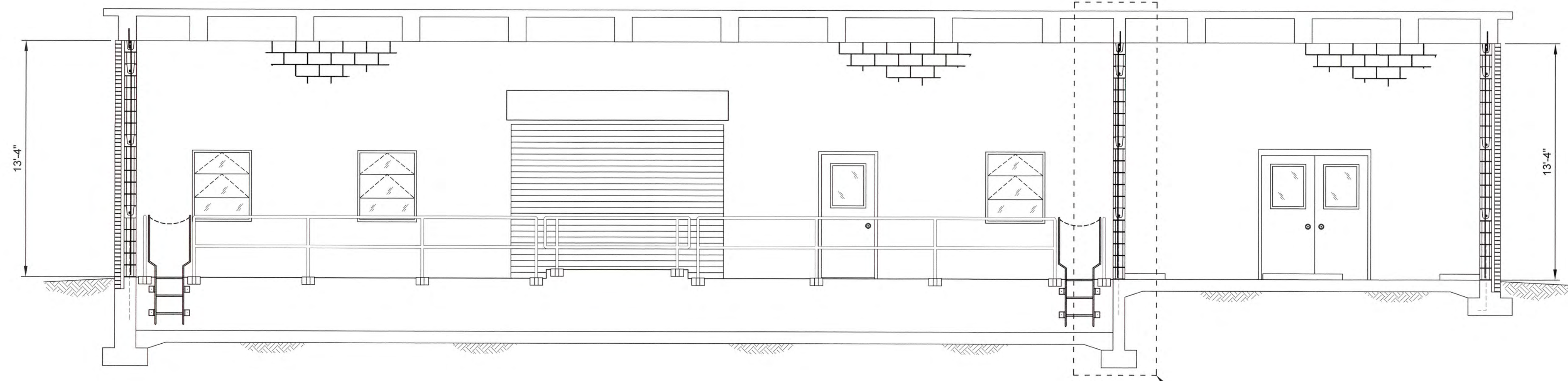
BLANCHARD PLANT SIDE A
UV BUILDING FLOOR PLAN



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

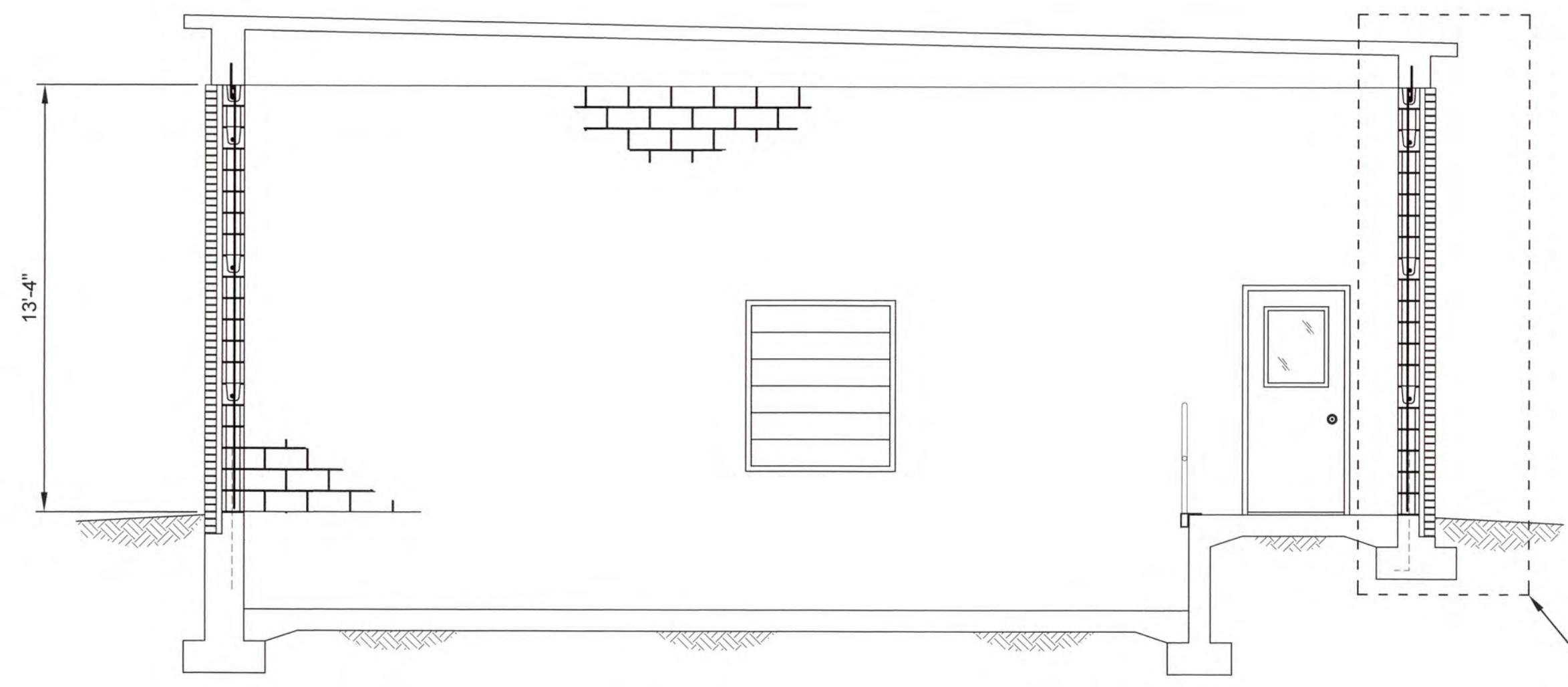
DESIGNED	DKR	REF.	1631-00	DWG NO.
DRAWN	KDC	DATE	DEC 2020	2G2
QC		SCALE	1/4"=1'-0"	

1:2018151 Columbia County Water Utility (SS1-00) Blanchard and Carter Hill WTP (U) Ferrocide DesignDrawing(1531-00) 203.dwg, 1/30/2020, 9:45:10 PM, IChalkler, HP Designer T2501 Rev 2.dwg, 1



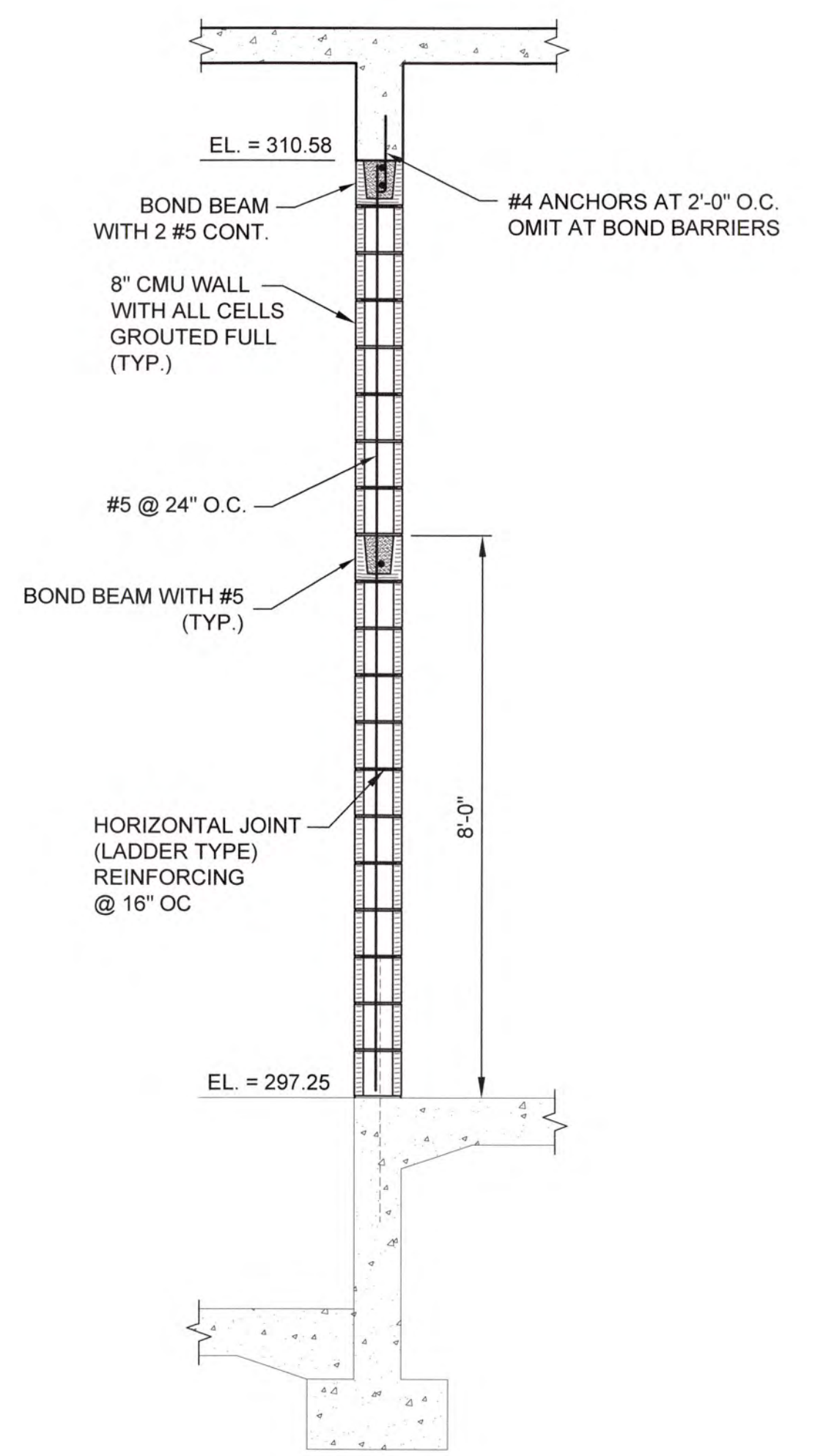
A SECTION
 2G32G3 SCALE: 1/4"=1'-0"

1
 2G32G3

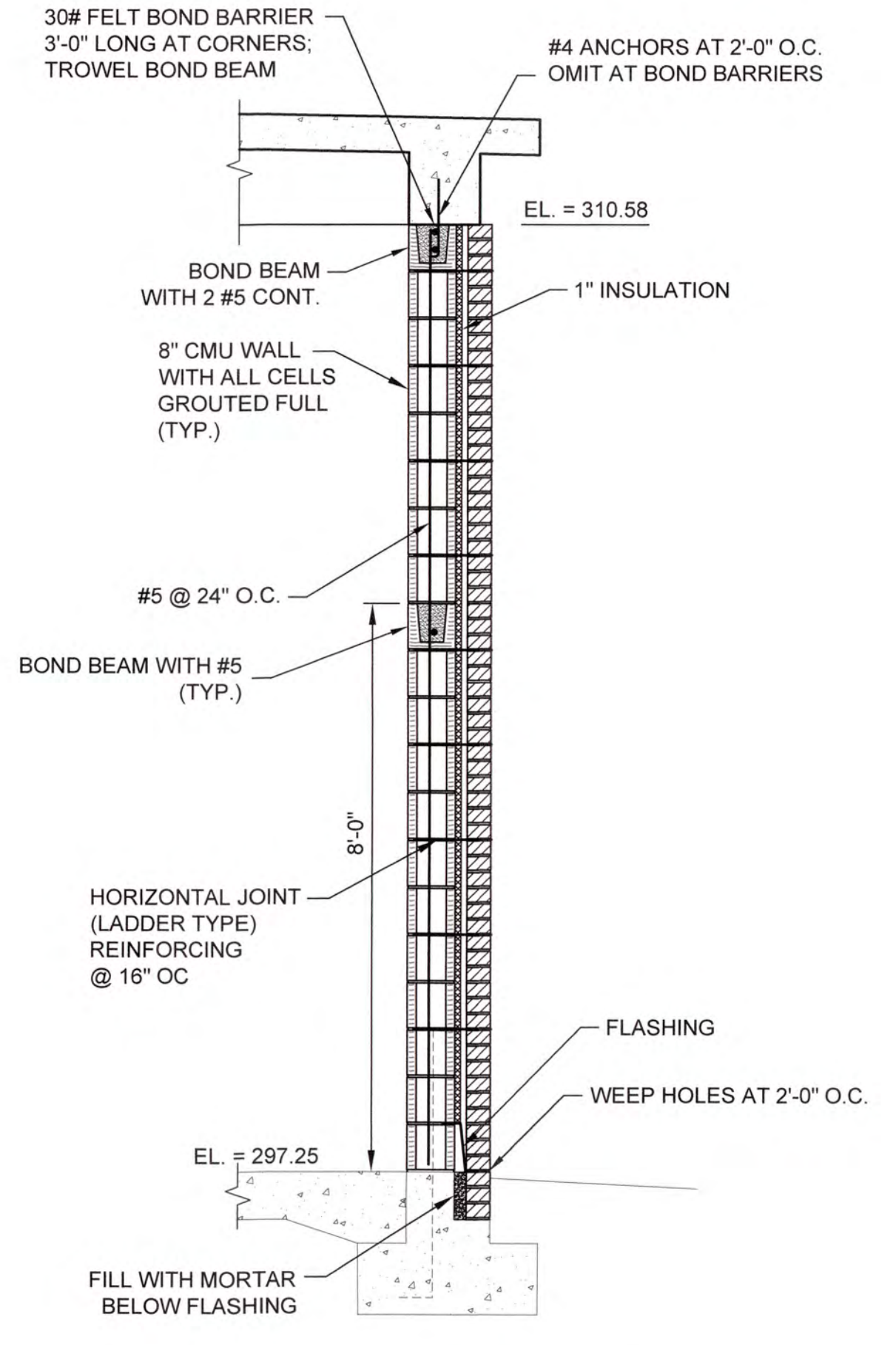


B SECTION
 2G32G3 SCALE: 1/4"=1'-0"

2
 2G32G3



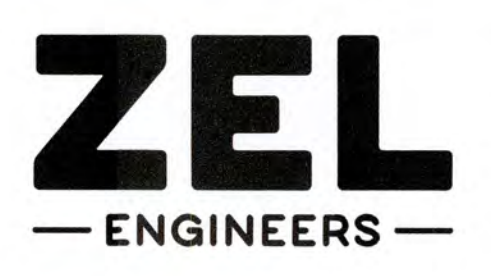
1 DETAIL
 2G32G3 SCALE: 1/2" = 1'-0"



2 DETAIL
 2G32G3 SCALE: 1/2" = 1'-0"



NO.	DATE	REVISION	BY	APVD

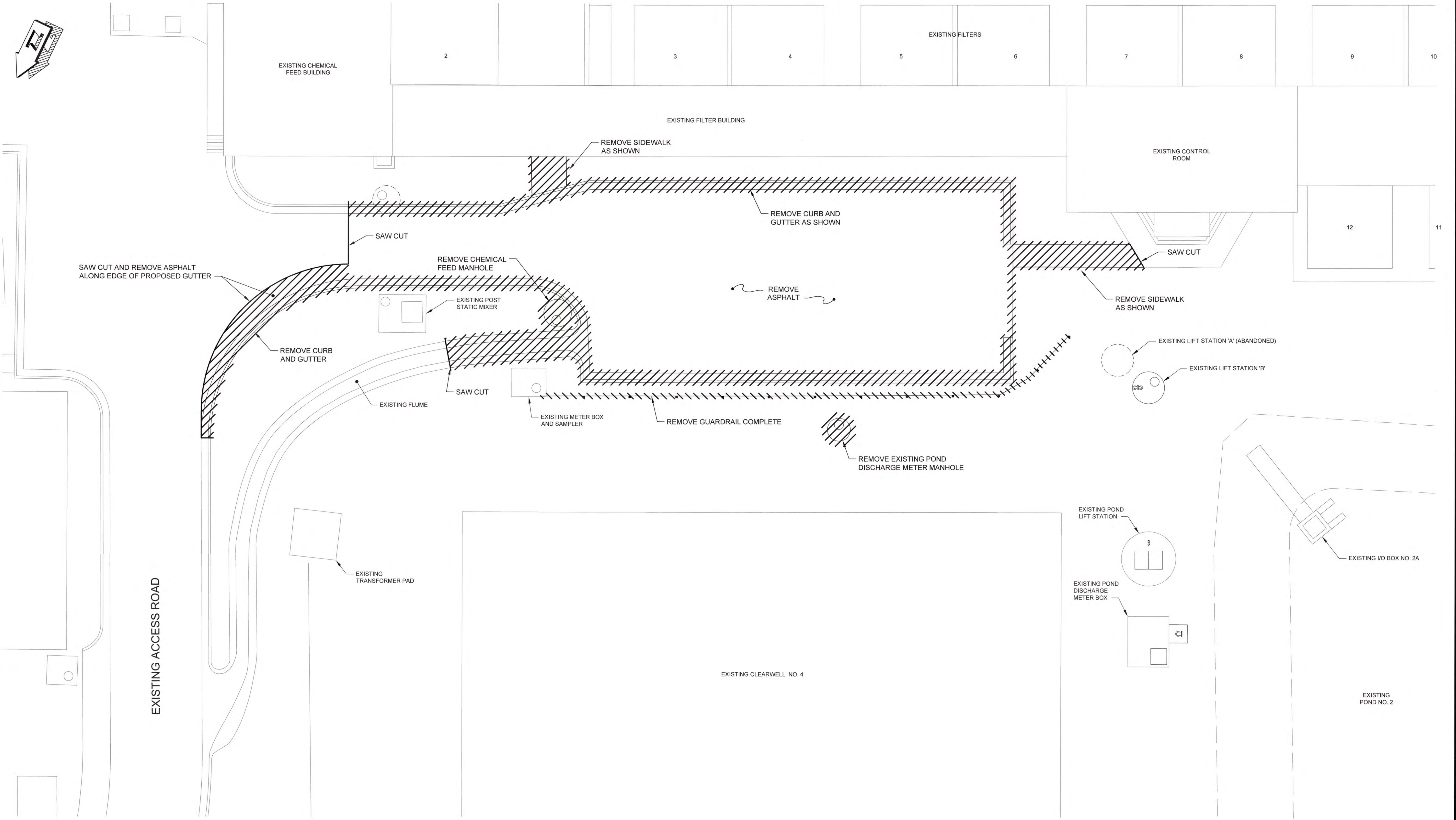


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COLUMBIA COUNTY, GEORGIA
 UV / ADVANCED OXIDATION TREATMENT
**BLANCHARD PLANT SIDE A
 UV BUILDING SECTIONS**

DESIGNED	DKR	REF.	1631-00	DWG NO.
DRAWN	KDC	DATE	DEC 2020	2G3
QC		SCALE	AS SHOWN	

0 1 IF THIS BAR DOES NOT MEASURE 1" DRAWING IS NOT TO LABELED SCALE



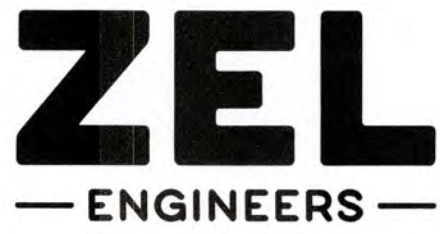
EXISTING CONDITIONS AND DEMOLITION PLAN

SCALE: 1" = 10'

J:\2016\1637 Columbia County Water Utility\1637-00\Blanchard and Cokes Hill WTP\14\Prepends Design\Drawings\1637-00-2C1.dwg, 12/29/2020 8:45:45 AM, KChalaker, HP Designer, T2501 Plot 2.pc3, 1:1



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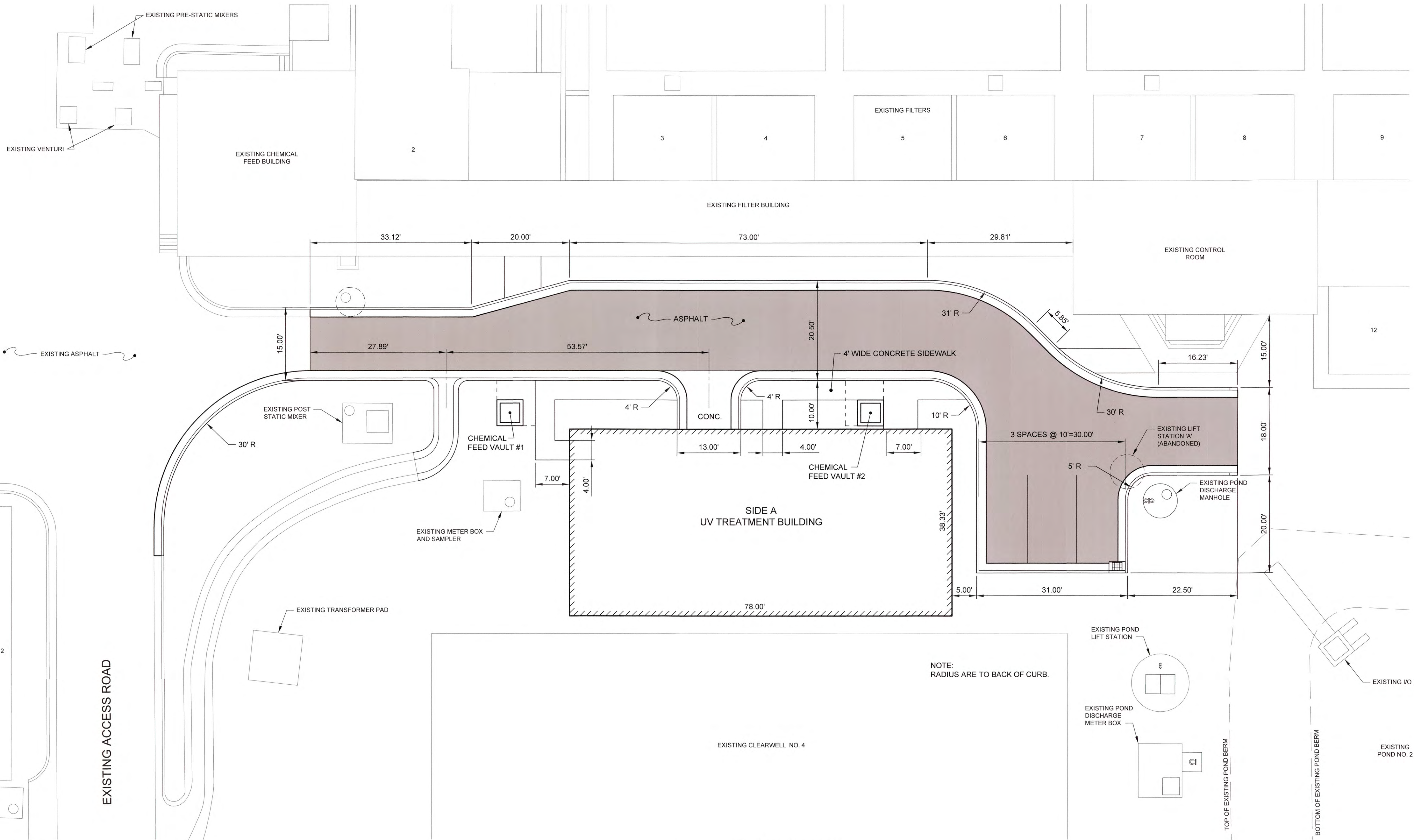
COLUMBIA COUNTY, GEORGIA

UV / ADVANCED OXIDATION TREATMENT

BLANCHARD PLANT SIDE A

EXISTING CONDITIONS AND DEMOLITION PLAN

		IF THIS BAR DOES NOT MEASURE 1" DRAWING IS NOT TO LABELED SCALE	
DESIGNED	SWG	REF.	1631-00
DRAWN	SWH	DATE	DEC 2020
QC		SCALE	1" = 10'
DWG NO.			2C1

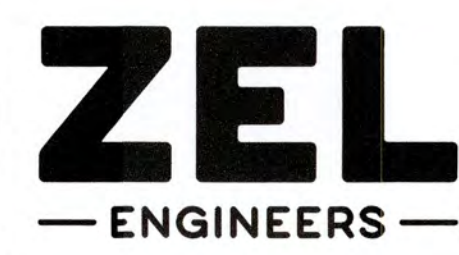


SIDE A SITE STAKING PLAN
SCALE: 1" = 10'

J:\2016\1631 Columbia County Water Utility\1631-00\202.dwg, 12/10/2020 2:08:55 PM, KChaiter, HP Design\17250 Rev 2.pcd, 1:1



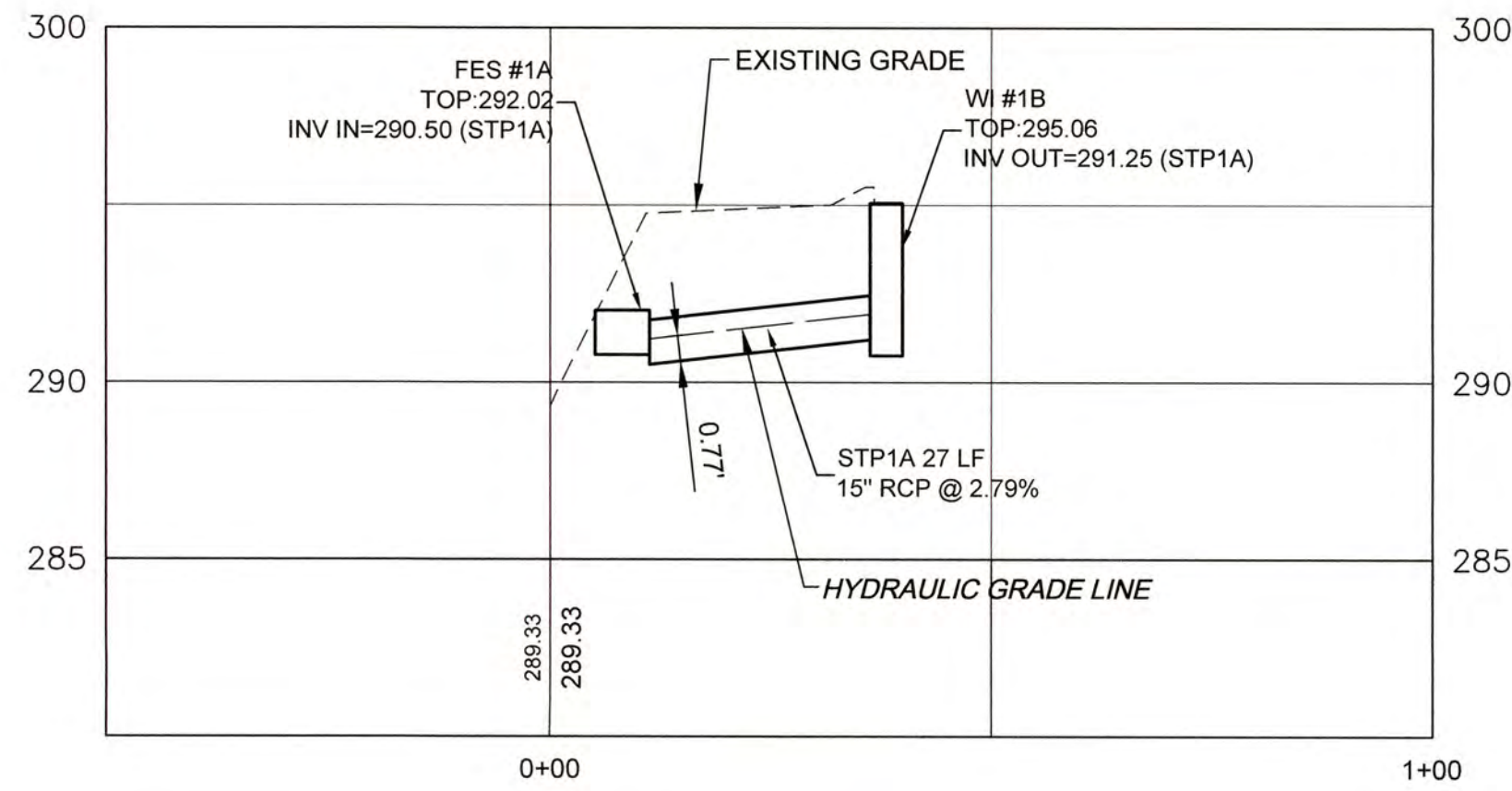
NO.	DATE	REVISION	BY	APVD



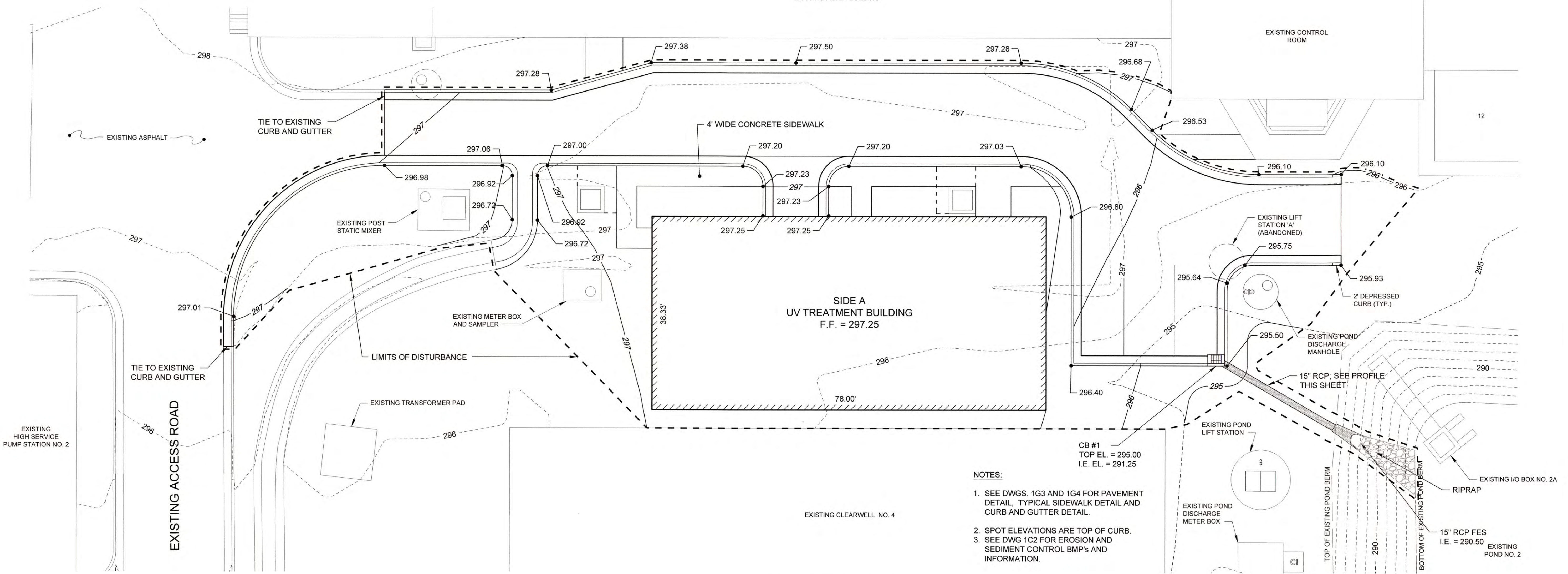
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COLUMBIA COUNTY, GEORGIA
UV / ADVANCED OXIDATION TREATMENT
BLANCHARD PLANT SIDE A
SITE STAKING PLAN

DESIGNED		SWG	REF.	1631-00	DWG NO.
DRAWN		SWH	DATE	DEC 2020	2C2
QC			SCALE	1" = 10'	



Storm Sewer Run '1'
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



NOTES:

- SEE DWGS. 1G3 AND 1G4 FOR PAVEMENT DETAIL, TYPICAL SIDEWALK DETAIL AND CURB AND GUTTER DETAIL.
- SPOT ELEVATIONS ARE TOP OF CURB.
- SEE DWG 1C2 FOR EROSION AND SEDIMENT CONTROL BMP'S AND INFORMATION.

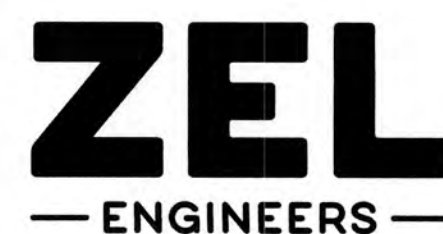
CB #1
TOP EL. = 295.00
I.E. EL. = 291.25

SIDE A SITE GRADING PLAN
SCALE: 1" = 10'

J:\2016\1631 Columbia County Water Utility\1631-00 Blanchard and Coker Hill WTP U-Pondside Design\Drawings\1631-00-2C3.dwg, 1/15/2021 11:06:13 AM, KChiller, AutoCAD PDF (General Documentation).pc3, 1:1



NO.	DATE	REVISION	BY	APVD



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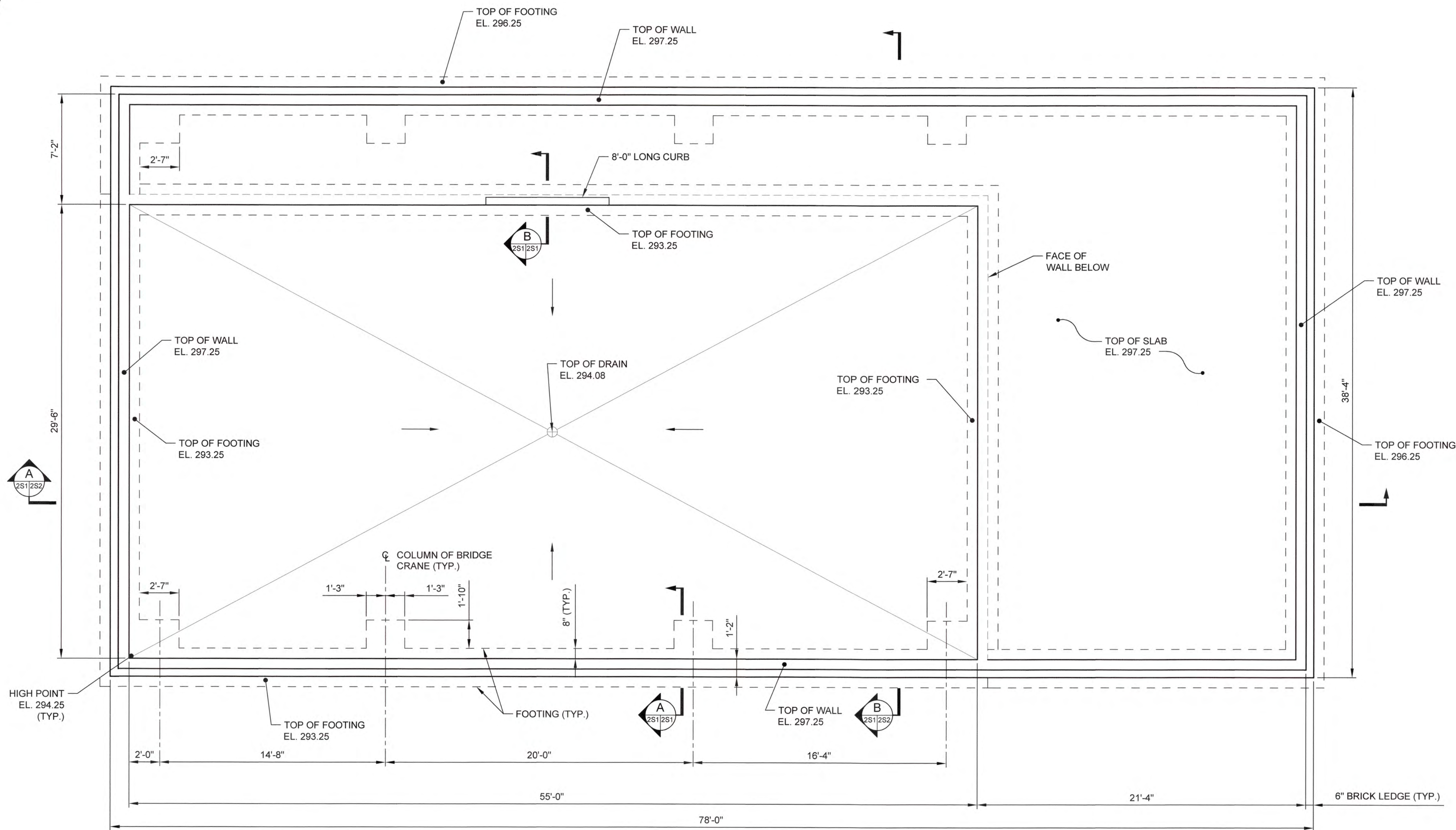
COLUMBIA COUNTY, GEORGIA

UV / ADVANCED OXIDATION TREATMENT
BLANCHARD PLANT SIDE A
SITE GRADING AND DRAINAGE PLAN

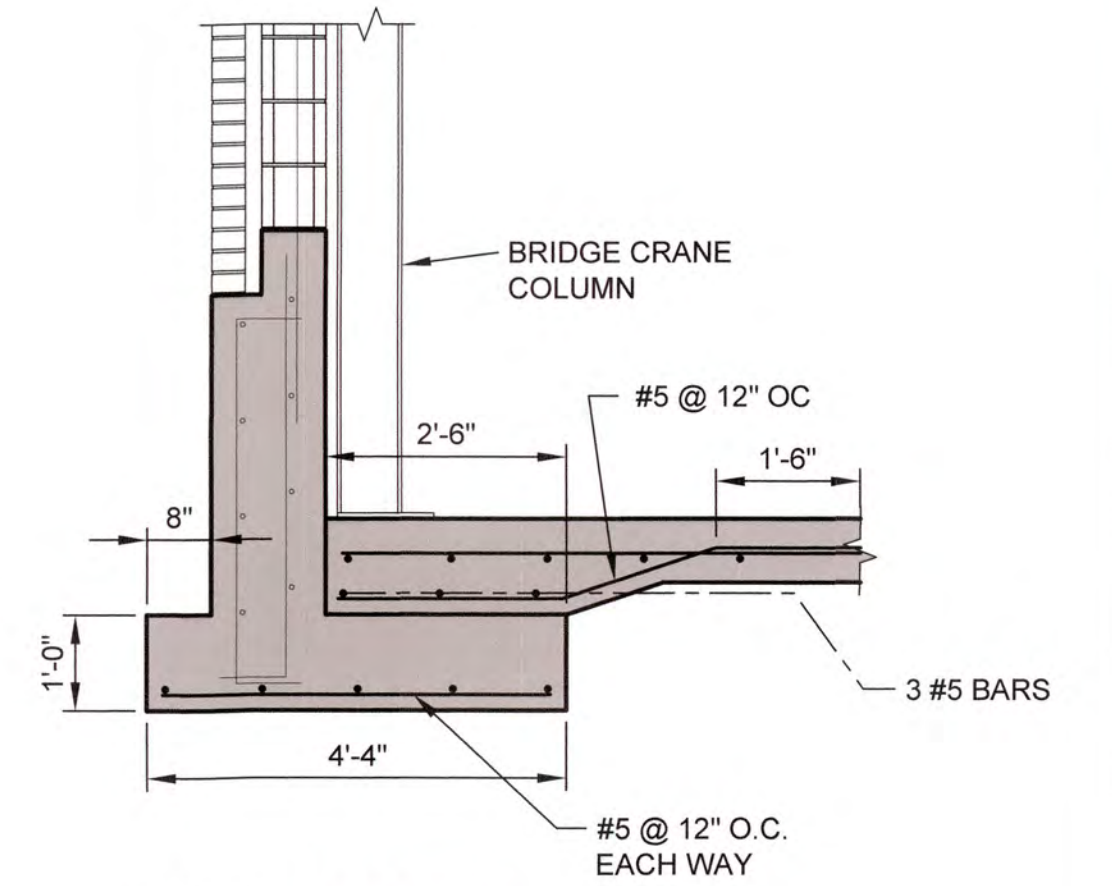


IF THIS BAR DOES NOT MEASURE 1"
DRAWING IS NOT TO LABELED SCALE

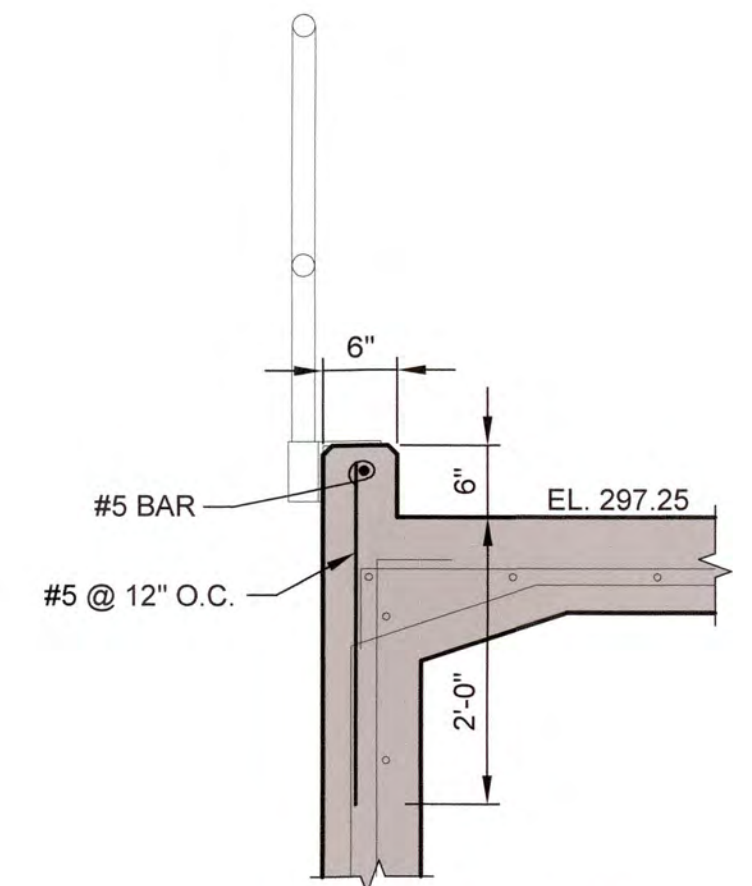
DESIGNED	SWG	REF.	1631-00	DWG NO.
DRAWN	SWH	DATE	DEC 2020	2C3
QC		SCALE	AS SHOWN	



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



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

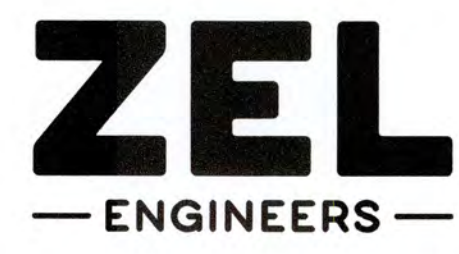


B SECTION
SCALE: 1/2" = 1'-0"

J:\2016\1631 Columbia County Water Utility\1631-00 Blanchard and Clarke Hill WTP\16-Permits\Design\Drawings\1631-00-2S1.dwg, 12/20/20 10:14 AM, KChalker, HP Designer, T2501 Rev. 2.pcd, 11



NO.	DATE	REVISION	BY	APVD



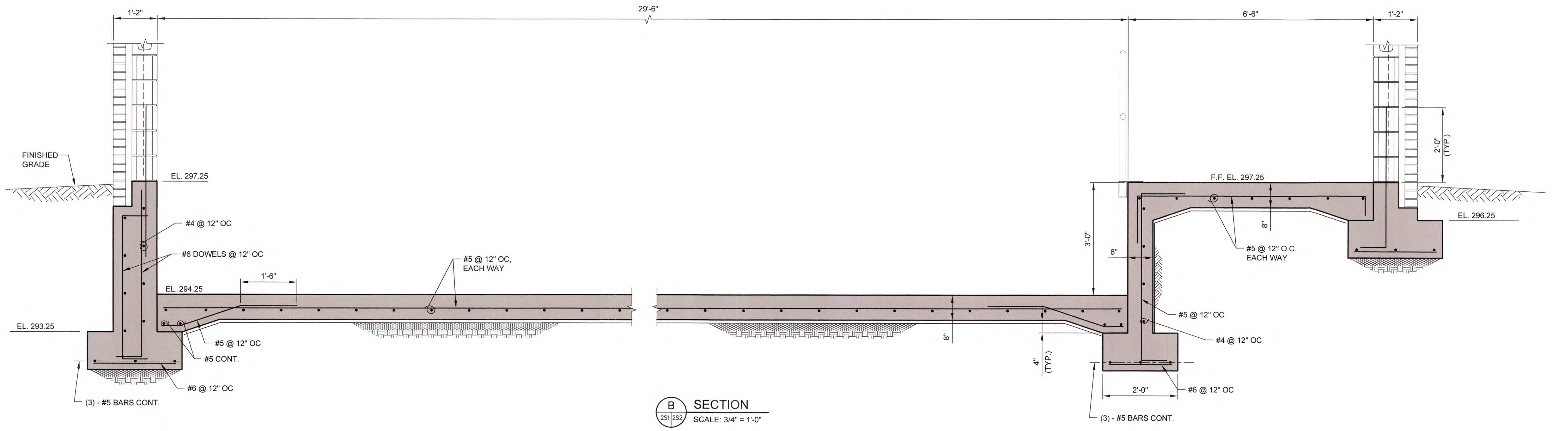
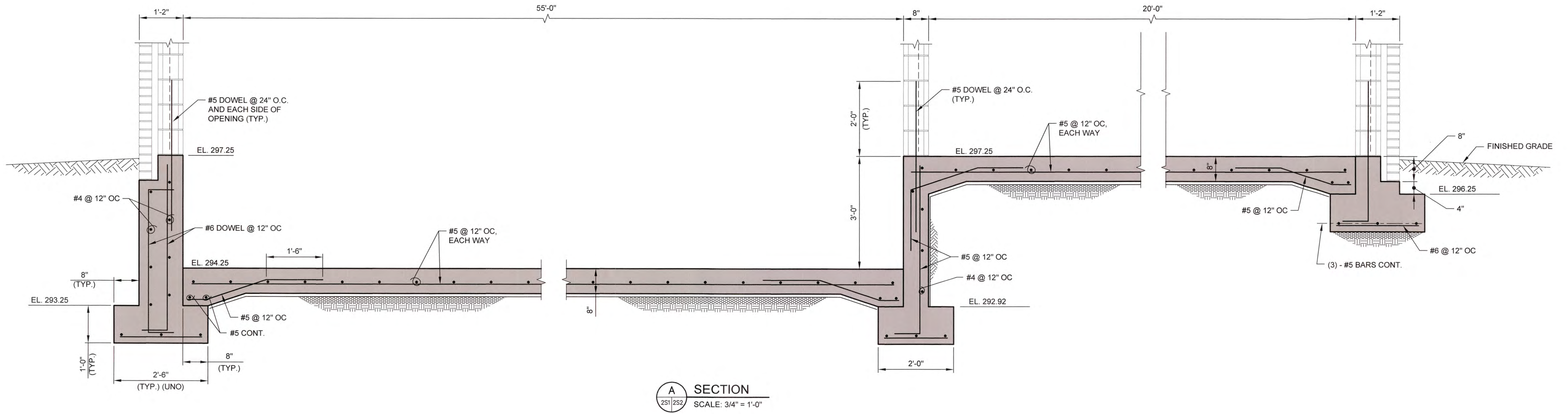
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COLUMBIA COUNTY, GEORGIA

UV / ADVANCED OXIDATION TREATMENT
BLANCHARD PLANT SIDE A
UV BUILDING FOUNDATION PLAN

0 1 IF THIS BAR DOES NOT MEASURE 1" DRAWING IS NOT TO LABELED SCALE

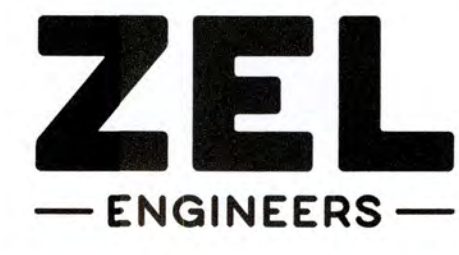
DESIGNED	DKR	REF.	1631-00	DWG NO.
DRAWN	KDC	DATE	DEC 2020	2S1
QC		SCALE	1/4"=1'-0"	



1/20/16/161 Columbia County Water Utility/1631-00 Blanchard and Clarke Hill WTP/UV-Peroxide Design/1631-00 2S2.dwg, 12/29/2020 10:40:27 AM, KChandler, HP Designer/12509 Rev 2.pcd, 1:1



NO.	DATE	REVISION	BY	APVD



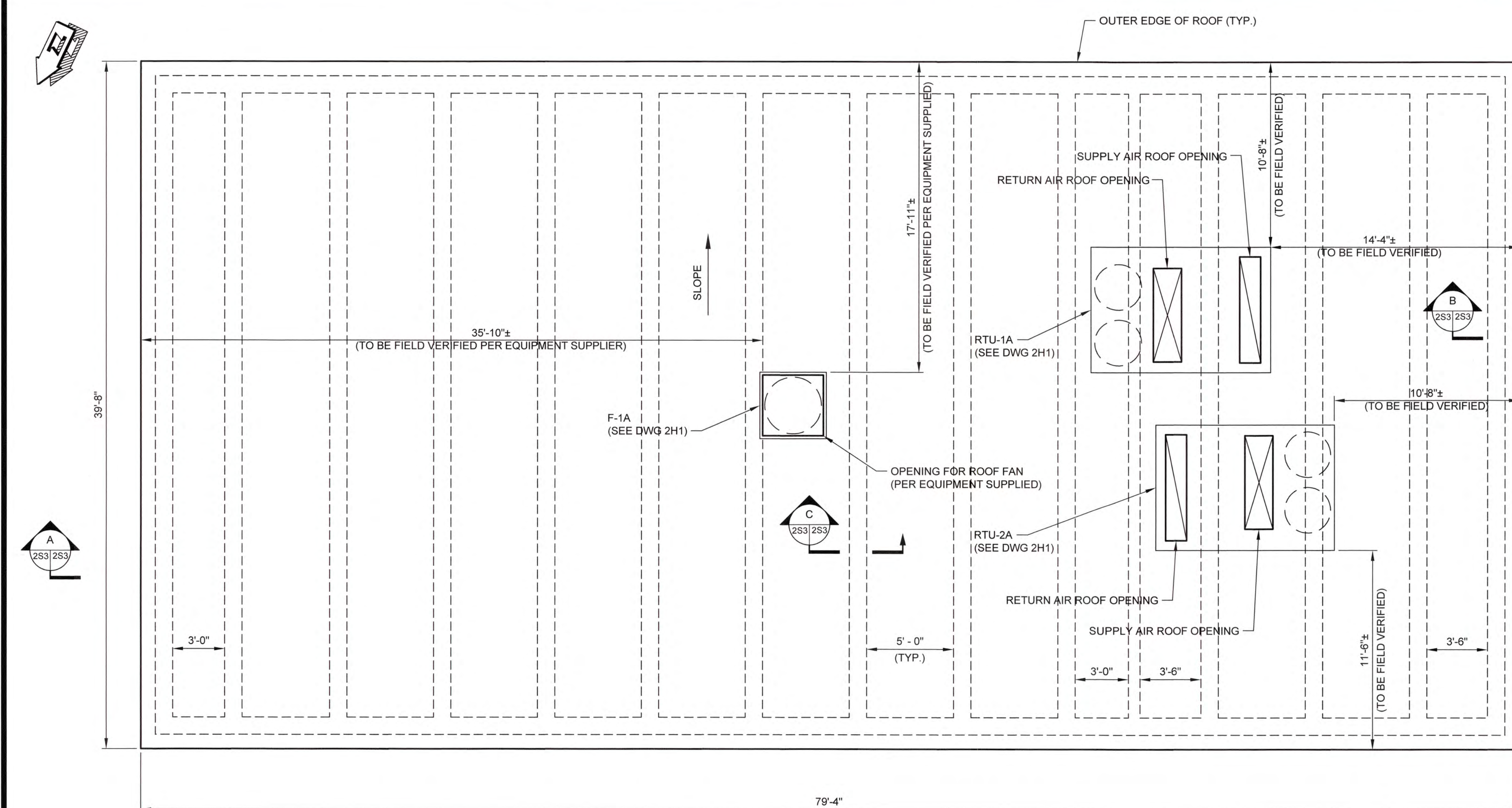
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COLUMBIA COUNTY, GEORGIA
UV / ADVANCED OXIDATION TREATMENT
BLANCHARD PLANT SIDE A
UV BUILDING FOUNDATION SECTIONS

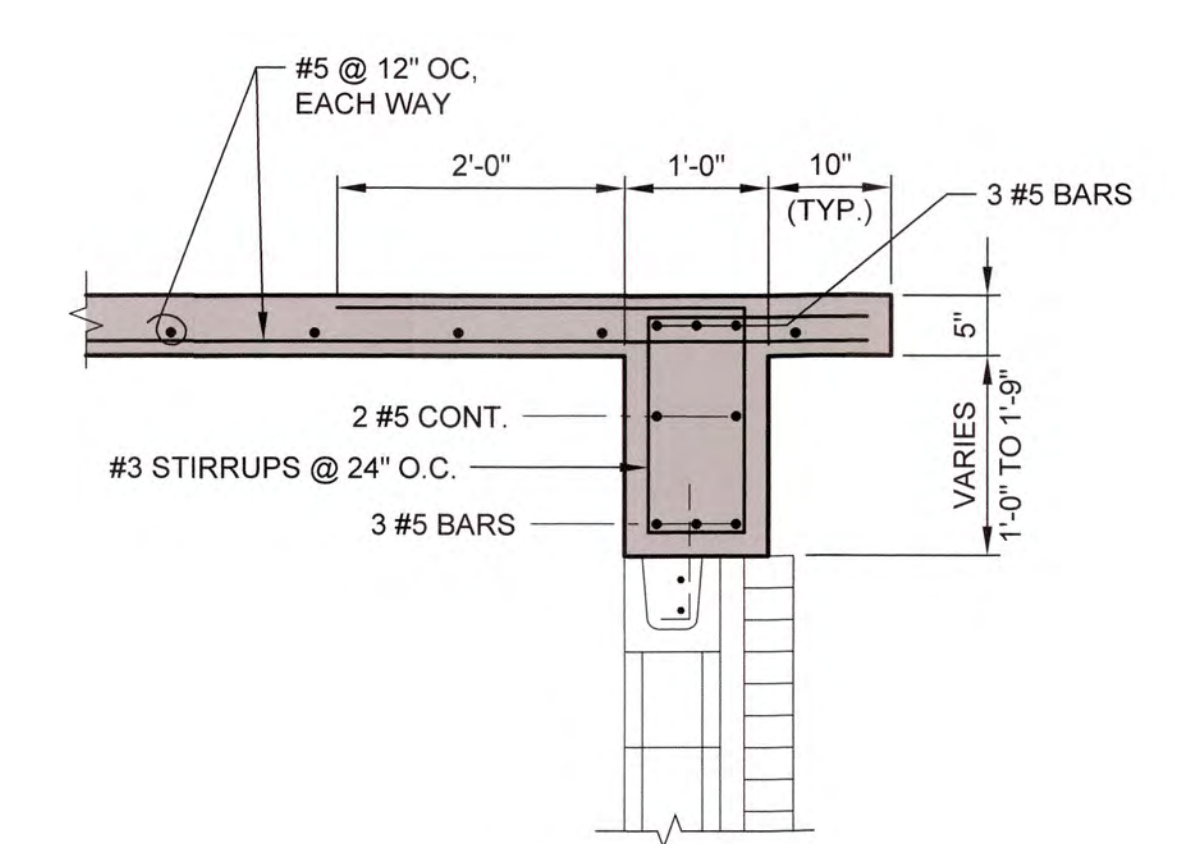
DESIGNED DKR		REF. 1631-00		DWG NO. 2S2	
DRAWN KDC		DATE DEC 2020			
QC		SCALE N/A			

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

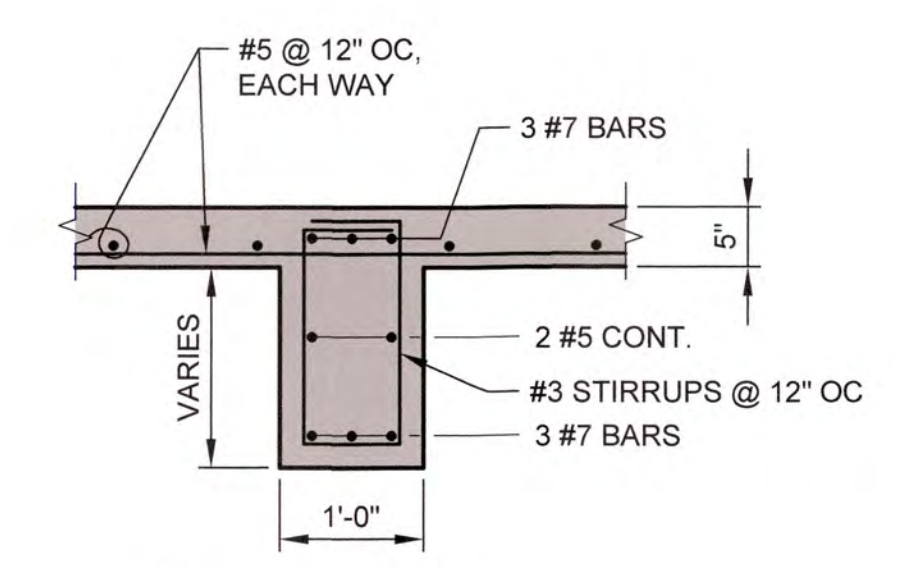
1/20/2020 2:18:19 PM, KChauhan, HP Design 17250 Rev. 2.pcd, 1:1
 1/20/2020 2:18:19 PM, KChauhan and Carter Hill VFP, UV-Peroxide Design 1837-00-2S3.dwg, 12/10/2020 2:18:19 PM, KChauhan, HP Design 17250 Rev. 2.pcd, 1:1



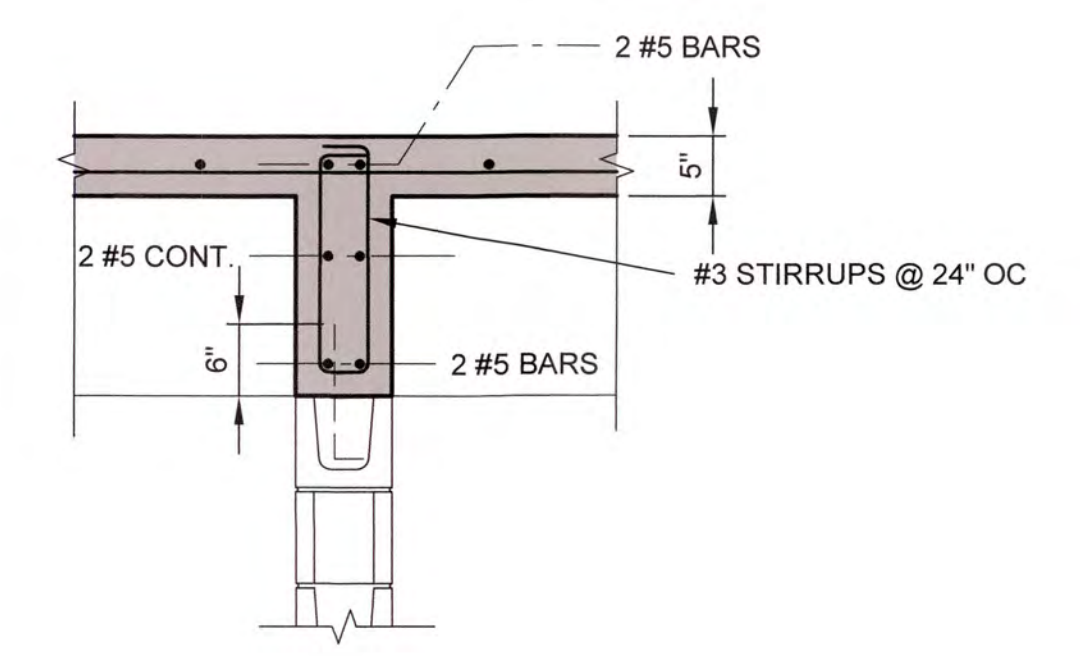
ROOF PLAN
SCALE: 1/4" = 1'-0"



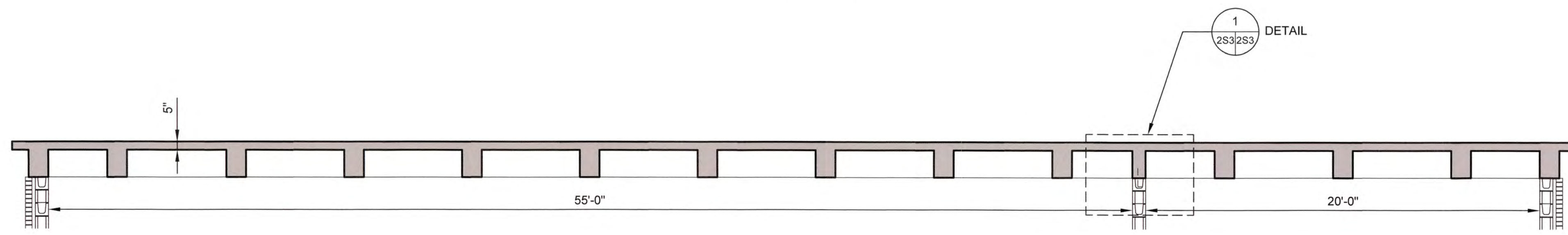
B SECTION
SCALE: 3/4" = 1'-0"



C SECTION
SCALE: 3/4" = 1'-0"



1 DETAIL
SCALE: 3/4" = 1'-0"



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

NOTE:
1. A/C UNIT OPENINGS AND OTHER SLAB PENETRATIONS SHALL BE COORDINATED PRIOR TO SHOP DRAWING SUBMITTAL.



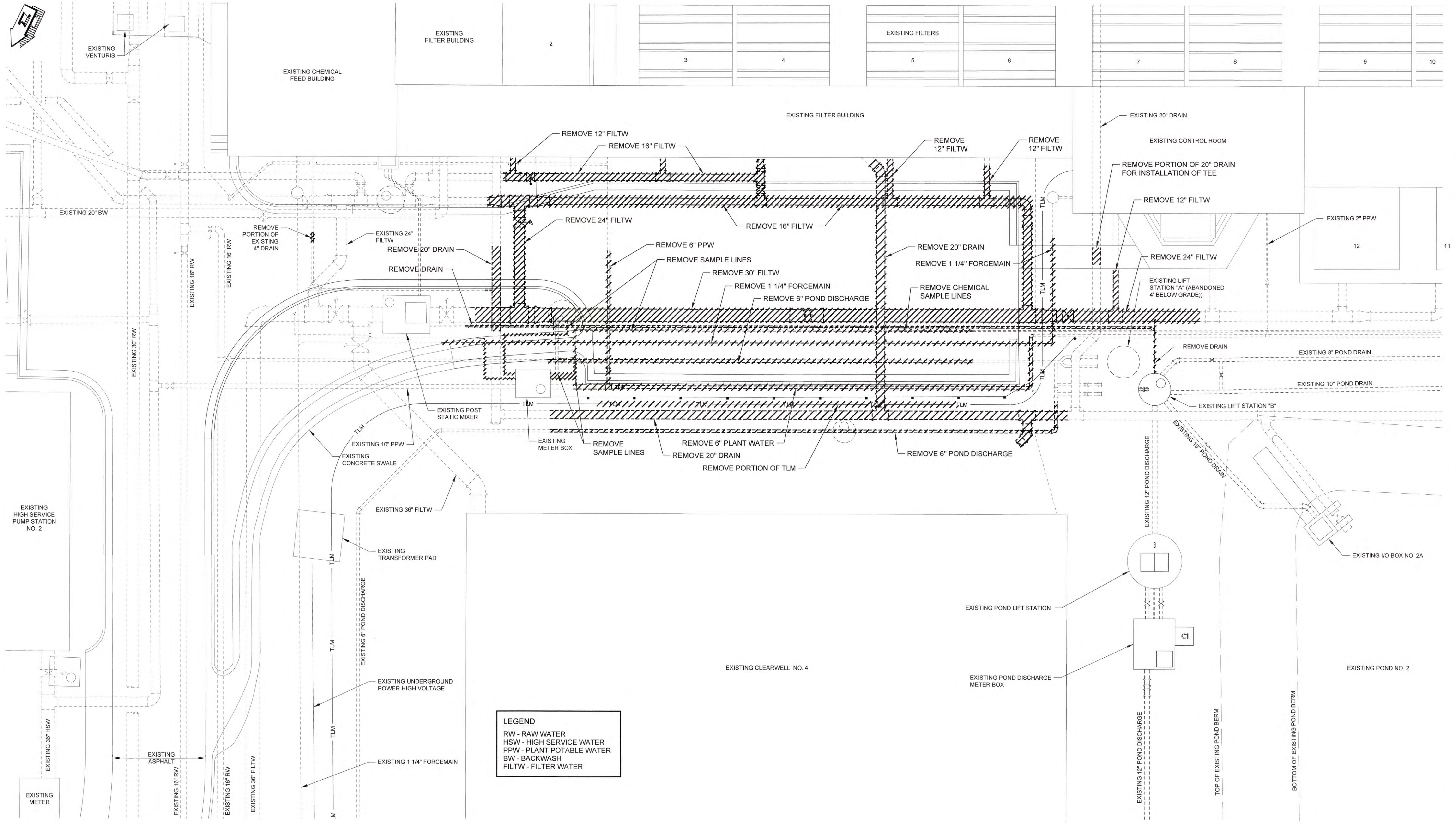
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COLUMBIA COUNTY, GEORGIA
 UV / ADVANCED OXIDATION TREATMENT
 BLANCHARD PLANT SIDE A
 UV BUILDING ROOF PLAN AND SECTIONS

DESIGNED		DKR	REF.	1631-00	DWG NO.
DRAWN		KDC	DATE	DEC 2020	2S3
QC			SCALE	AS SHOWN	



YARD PIPING PLAN
SCALE: 1" = 10'

LEGEND
 RW - RAW WATER
 HSW - HIGH SERVICE WATER
 PPW - PLANT POTABLE WATER
 BW - BACKWASH
 FILTW - FILTER WATER

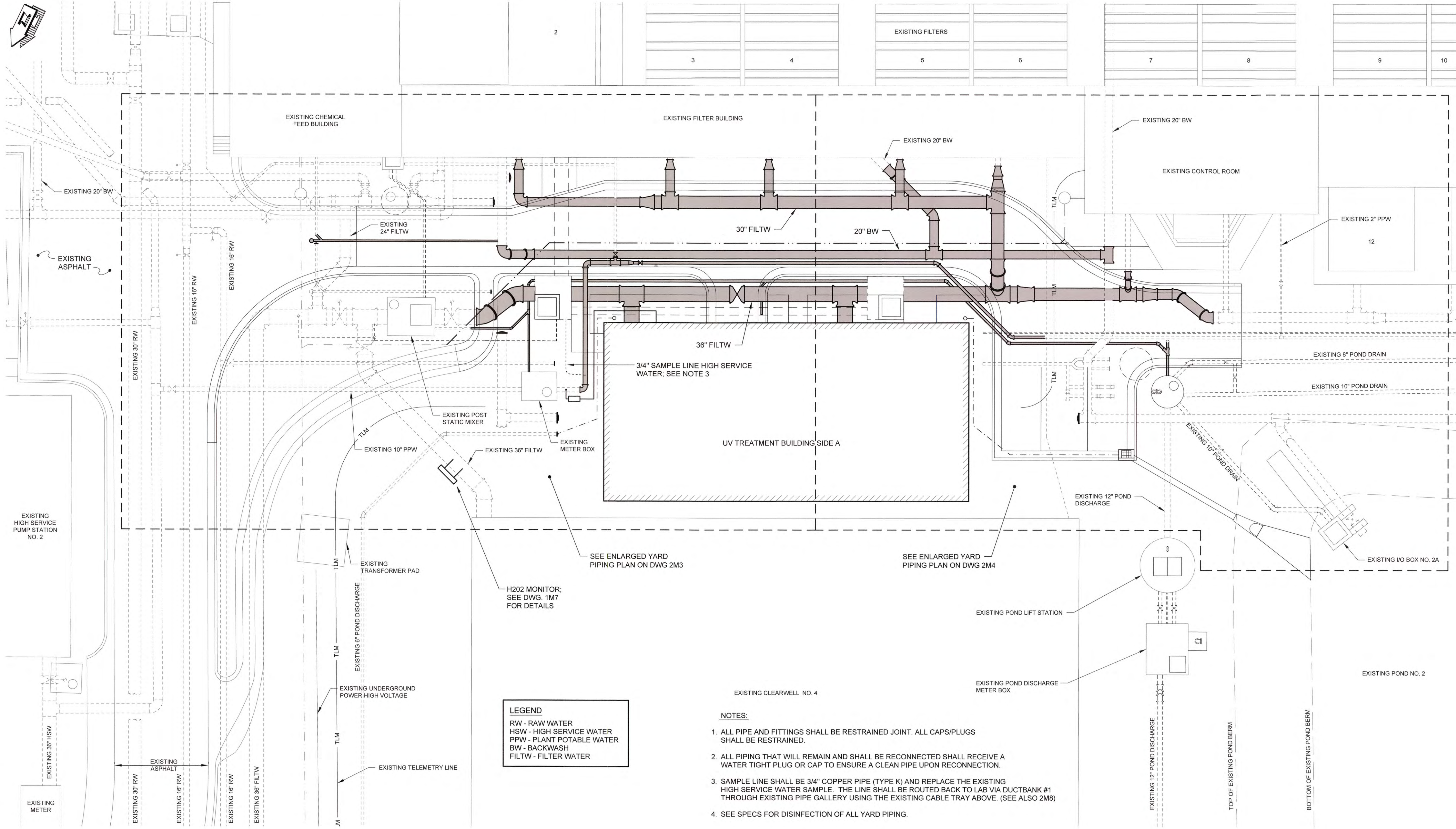
1/20/16/151 Columbia County Water Utility 1631-00 Blanchard and Chicks Hill WTP UV-Peroxide Design Drawings 1631-00-2M1.dwg, 12/20/2020 3:29:01 PM, KCoakley, HP Designplot 17500, Roll 2, pcd, 11

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COLUMBIA COUNTY, GEORGIA
 UV / ADVANCED OXIDATION TREATMENT
 BLANCHARD PLANT SIDE A
 YARD PIPING DEMOLITION PLAN

DESIGNED		SWG	REF.	1631-00	DWG NO.
DRAWN		KDC	DATE	DEC 2020	2M1
QC			SCALE	1" = 10'	



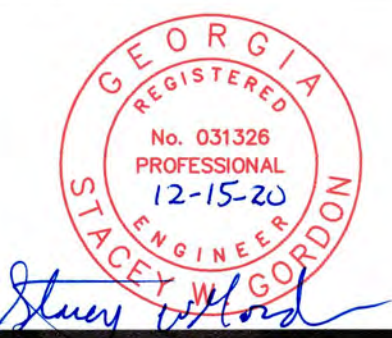
LEGEND
 RW - RAW WATER
 HSW - HIGH SERVICE WATER
 PPW - PLANT POTABLE WATER
 BW - BACKWASH
 FILTW - FILTER WATER

NOTES:

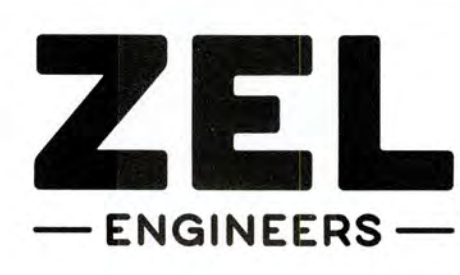
1. ALL PIPE AND FITTINGS SHALL BE RESTRAINED JOINT. ALL CAPS/PLUGS SHALL BE RESTRAINED.
2. ALL PIPING THAT WILL REMAIN AND SHALL BE RECONNECTED SHALL RECEIVE A WATER TIGHT PLUG OR CAP TO ENSURE A CLEAN PIPE UPON RECONNECTION.
3. SAMPLE LINE SHALL BE 3/4" COPPER PIPE (TYPE K) AND REPLACE THE EXISTING HIGH SERVICE WATER SAMPLE. THE LINE SHALL BE ROUTED BACK TO LAB VIA DUCTBANK #1 THROUGH EXISTING PIPE GALLERY USING THE EXISTING CABLE TRAY ABOVE. (SEE ALSO 2M8)
4. SEE SPECS FOR DISINFECTION OF ALL YARD PIPING.

YARD PIPING PLAN
 SCALE: 1" = 10'

2/20/16/161 Columbia County Water Utility/1651-05 Blanchard and Carter Hill WTP/1/1/Precede Design/1651-05 2M2 2M4.dwg, 12/20/20 3:28:20 PM, KChandler, HP Design/1651-05 Rev 2, pcd, 1:1



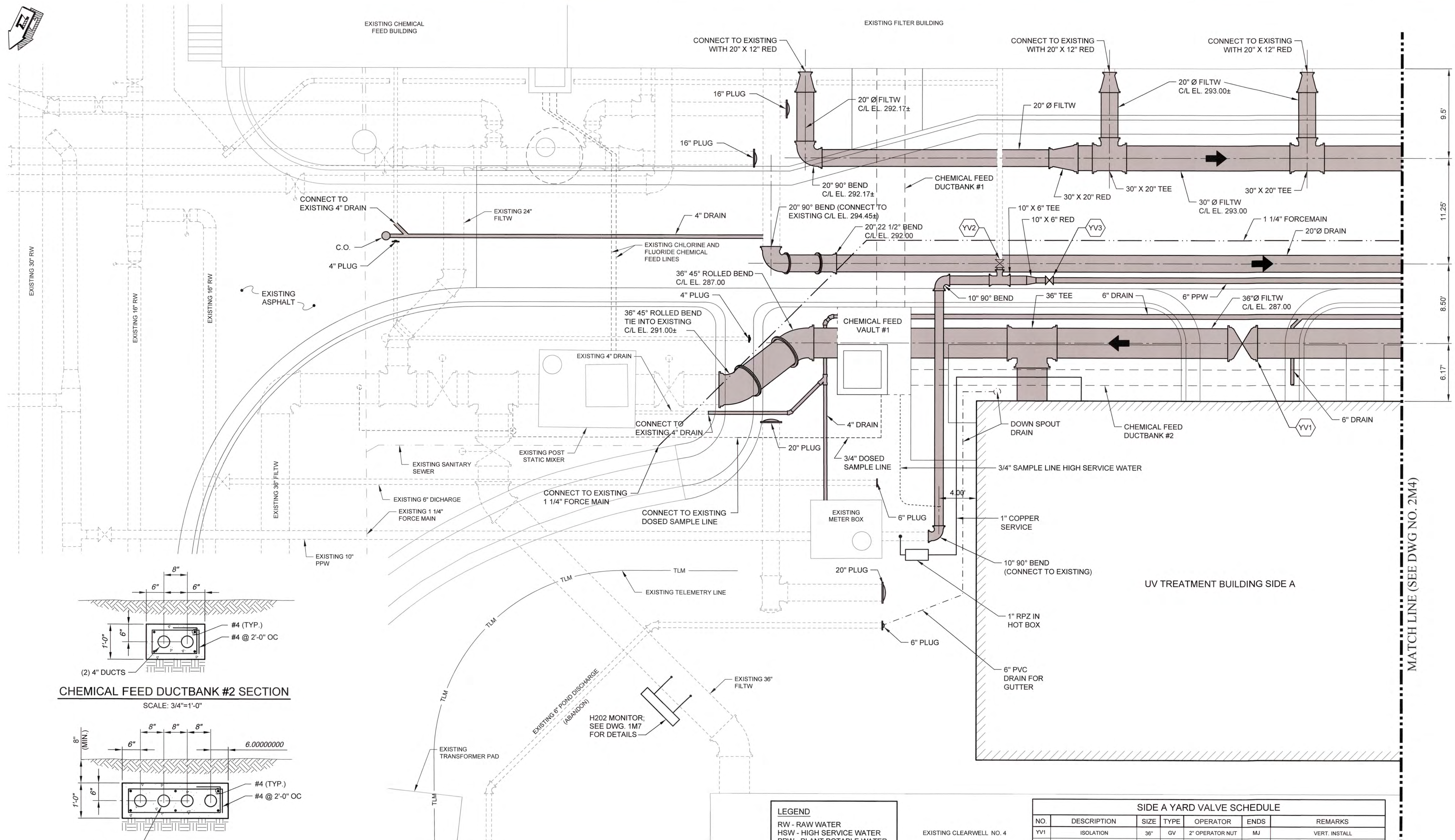
NO.	DATE	REVISION	BY	APVD



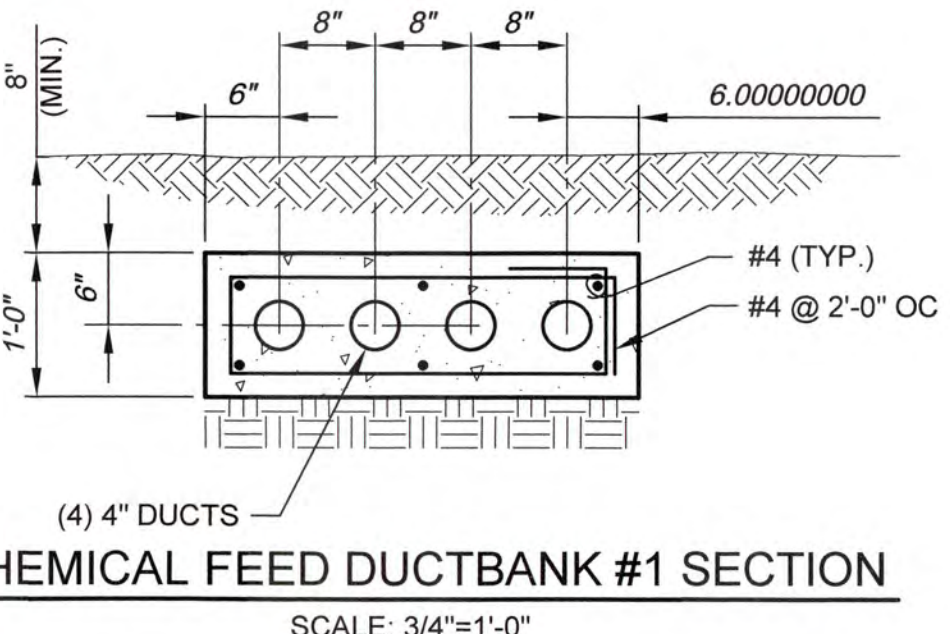
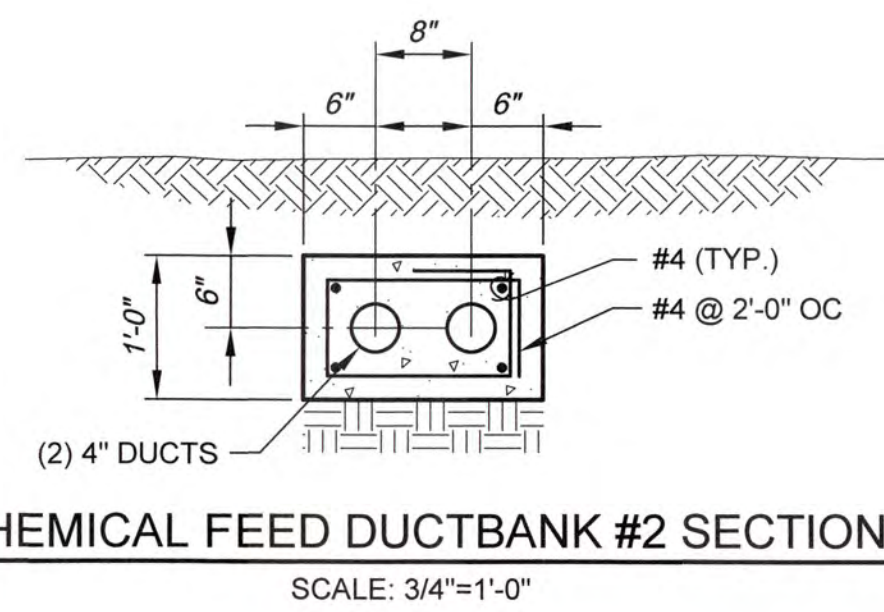
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COLUMBIA COUNTY, GEORGIA
 UV / ADVANCED OXIDATION TREATMENT
 BLANCHARD PLANT SIDE A
 YARD PIPING PLAN

DESIGNED KMW		REF. 1631-00		DWG NO.
DRAWN SWH		DATE DEC 2020		2M2
QC		SCALE 1" = 10'		



MATCH LINE (SEE DWG NO. 2M4)



ENLARGED YARD PIPING PLAN - 1
SCALE: 1" = 5'

LEGEND

- RW - RAW WATER
- HSW - HIGH SERVICE WATER
- PPW - PLANT POTABLE WATER
- BW - BACKWASH
- FILTW - FILTER WATER

SIDE A YARD VALVE SCHEDULE

NO.	DESCRIPTION	SIZE	TYPE	OPERATOR	ENDS	REMARKS
YV1	ISOLATION	36"	GV	2" OPERATOR NUT	MJ	VERT. INSTALL
YV2	ISOLATION	6"	GV	2" OPERATOR NUT	MJ	VERT. INSTALL
YV3	ISOLATION	6"	GV	2" OPERATOR NUT	MJ	VERT. INSTALL

J:\2016\161 Columbia County Water Utility\161-00 Blanchard and Clark Hill WTP\161-00 2M3-2M4.dwg, 12/29/2023 3:12:24 PM, I:\Chalkley, HP Designer\TSSD01 Rev 2.pcd, 11



NO.	DATE	REVISION	BY	APVD



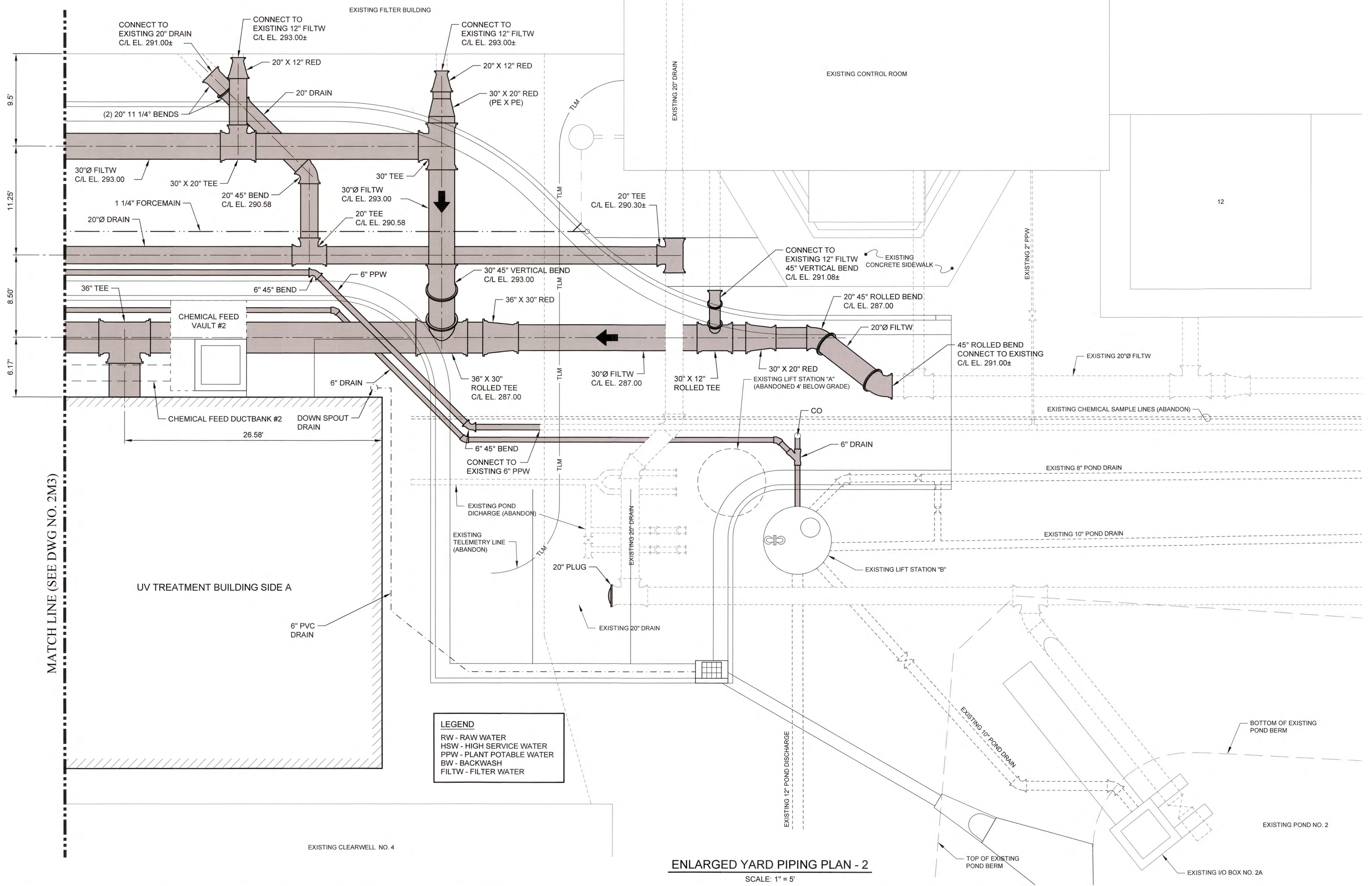
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COLUMBIA COUNTY, GEORGIA

UV / ADVANCED OXIDATION TREATMENT
BLANCHARD PLANT SIDE A
ENLARGED YARD PIPING PLAN - 1

0 1 IF THIS BAR DOES NOT MEASURE 1" DRAWING IS NOT TO LABELED SCALE

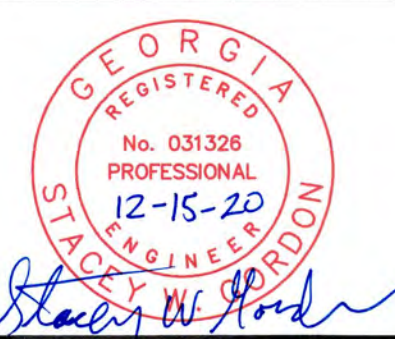
DESIGNED	KMW	REF.	1631-00	DWG NO.
DRAWN	SWH	DATE	DEC 2020	2M3
QC		SCALE	AS SHOWN	



LEGEND
 RW - RAW WATER
 HSW - HIGH SERVICE WATER
 PPW - PLANT POTABLE WATER
 BW - BACKWASH
 FILTW - FILTER WATER

ENLARGED YARD PIPING PLAN - 2
 SCALE: 1" = 5'

J:\2016\161 Columbia County Water Utility\161-01 Blanchard and Clarke Hill WTP UV Perovides Design\Drawings\161-01 2M4-2M4.dwg, 12/15/2020 3:27:52 PM, VChandler, HP Designer, T2505 Rev 2.dwg, 1:1



NO.	DATE	REVISION	BY	APVD



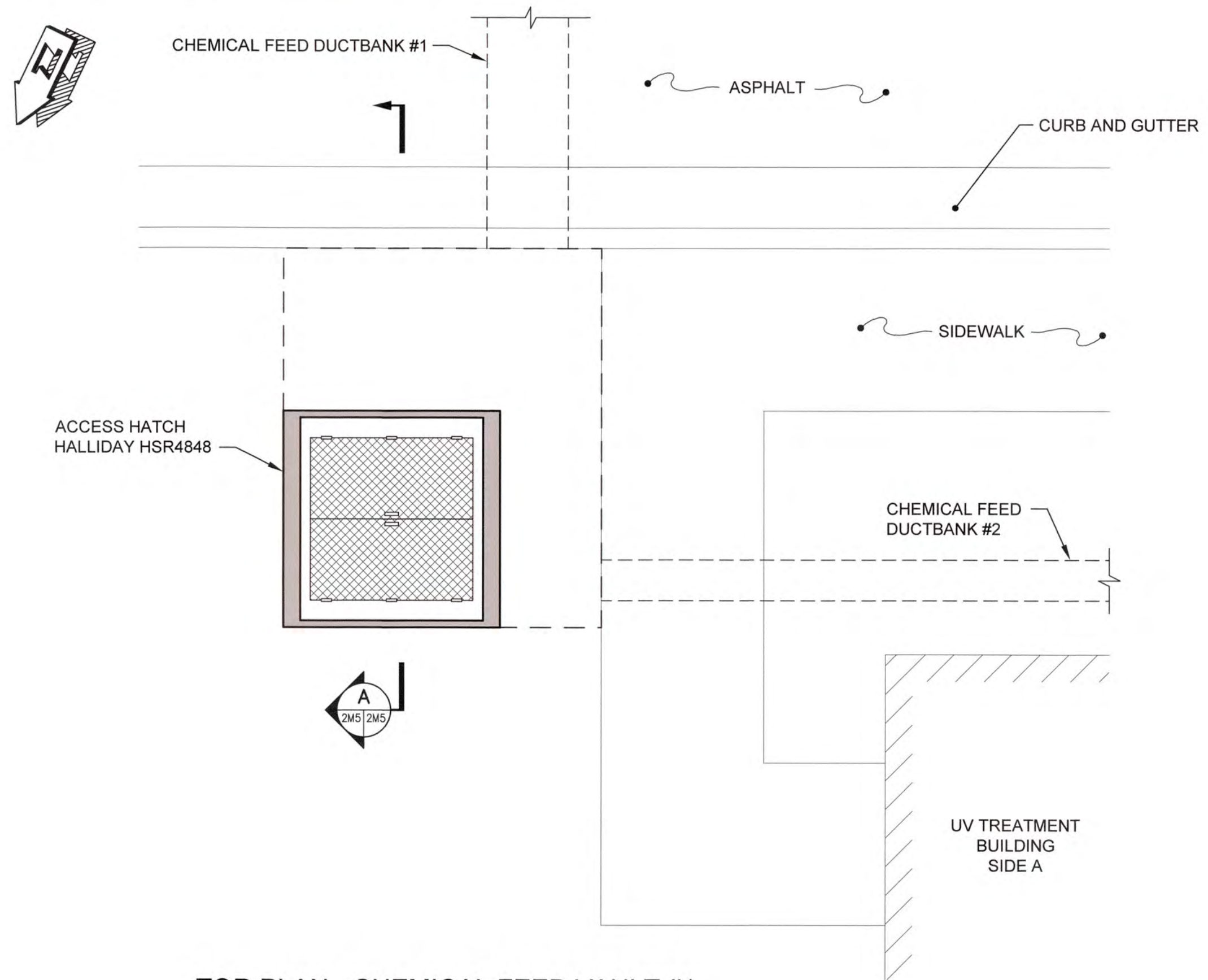
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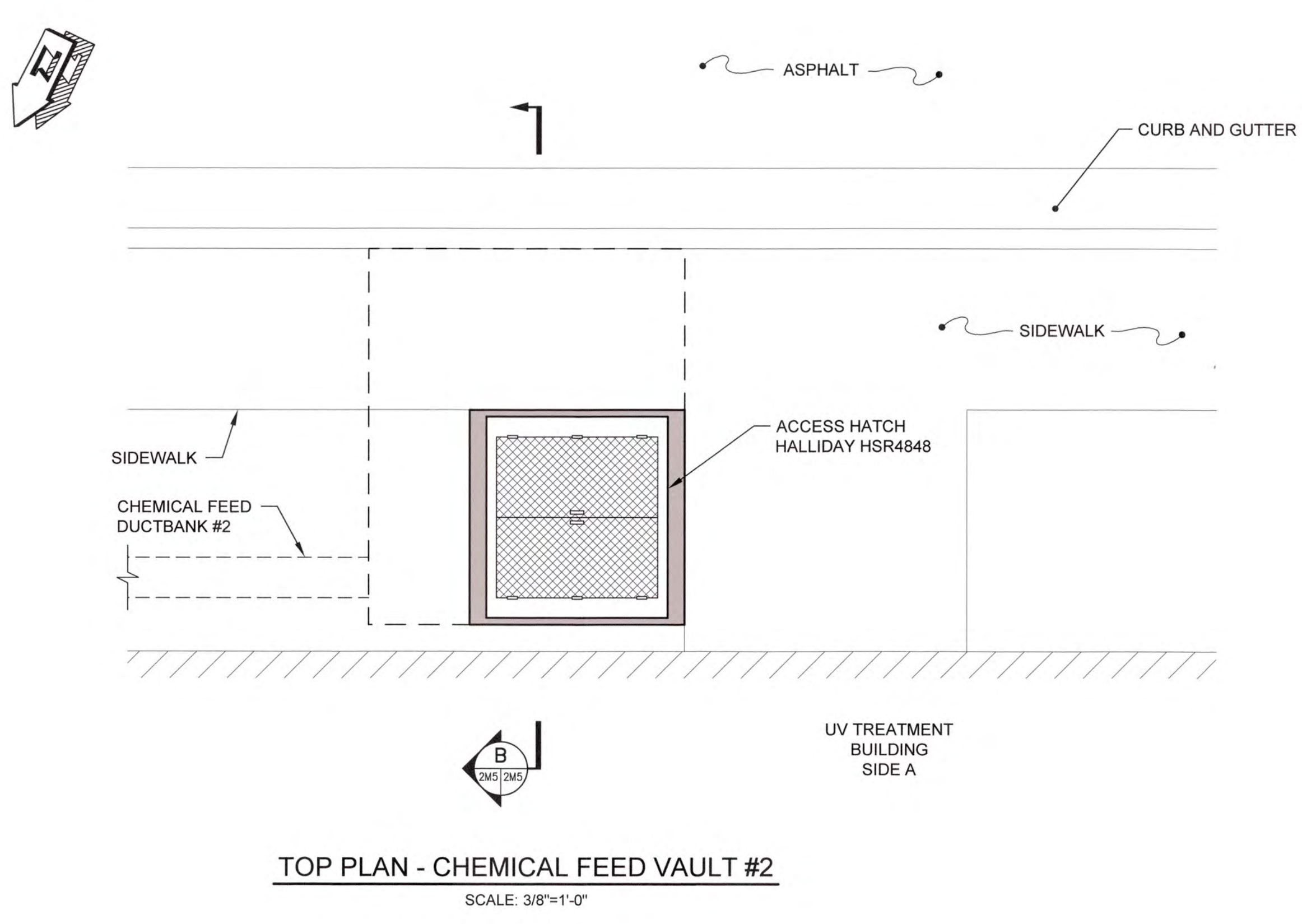
UV / ADVANCED OXIDATION TREATMENT
 BLANCHARD PLANT SIDE A
 ENLARGED YARD PIPING PLAN - 2

0 1 IF THIS BAR DOES NOT MEASURE 1" DRAWING IS NOT TO LABELED SCALE

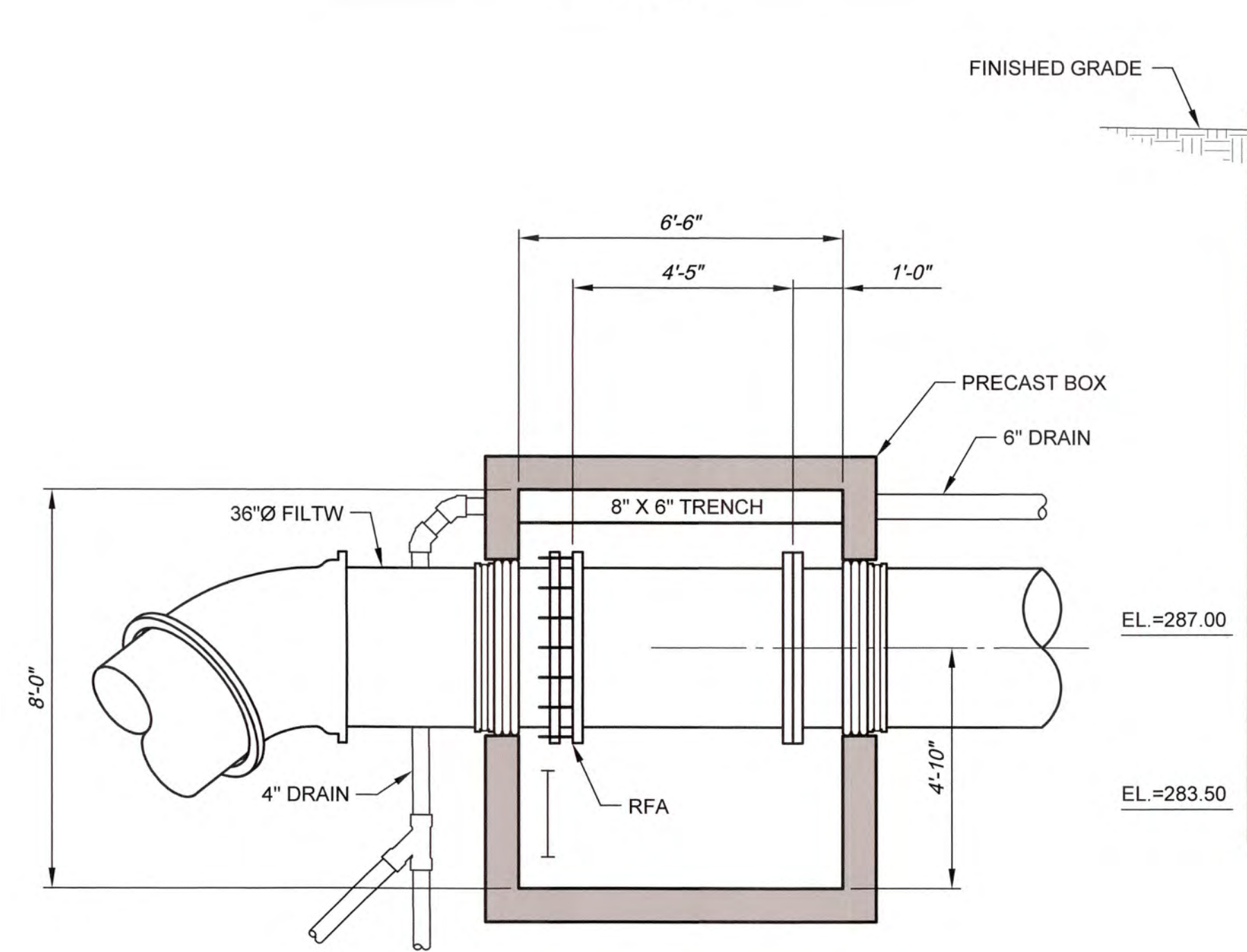
DESIGNED	KMW	REF.	1631-00	DWG NO.
DRAWN	SWH	DATE	DEC 2020	2M4
QC		SCALE	1" = 5'	



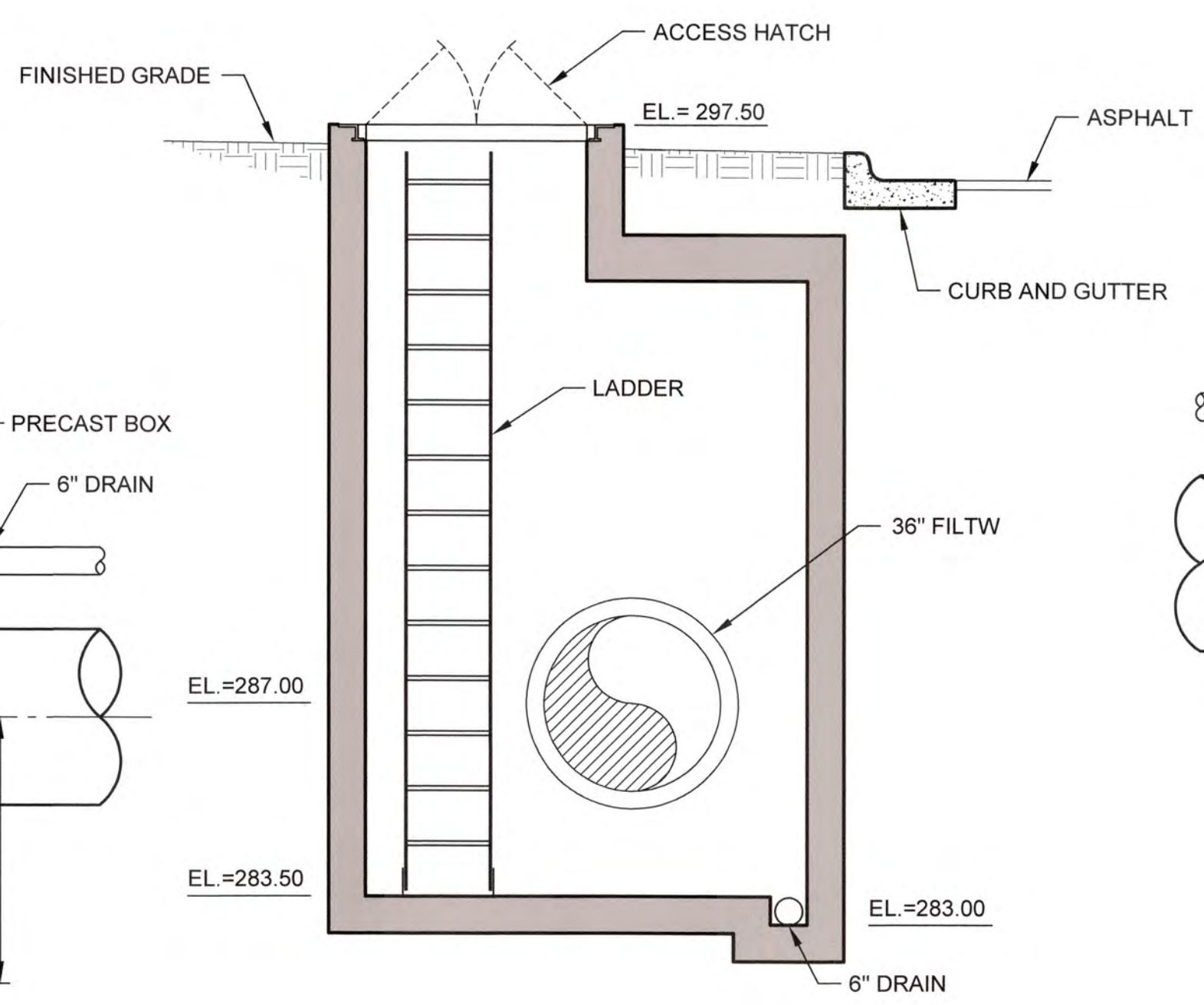
TOP PLAN - CHEMICAL FEED VAULT #1
SCALE: 3/8"=1'-0"



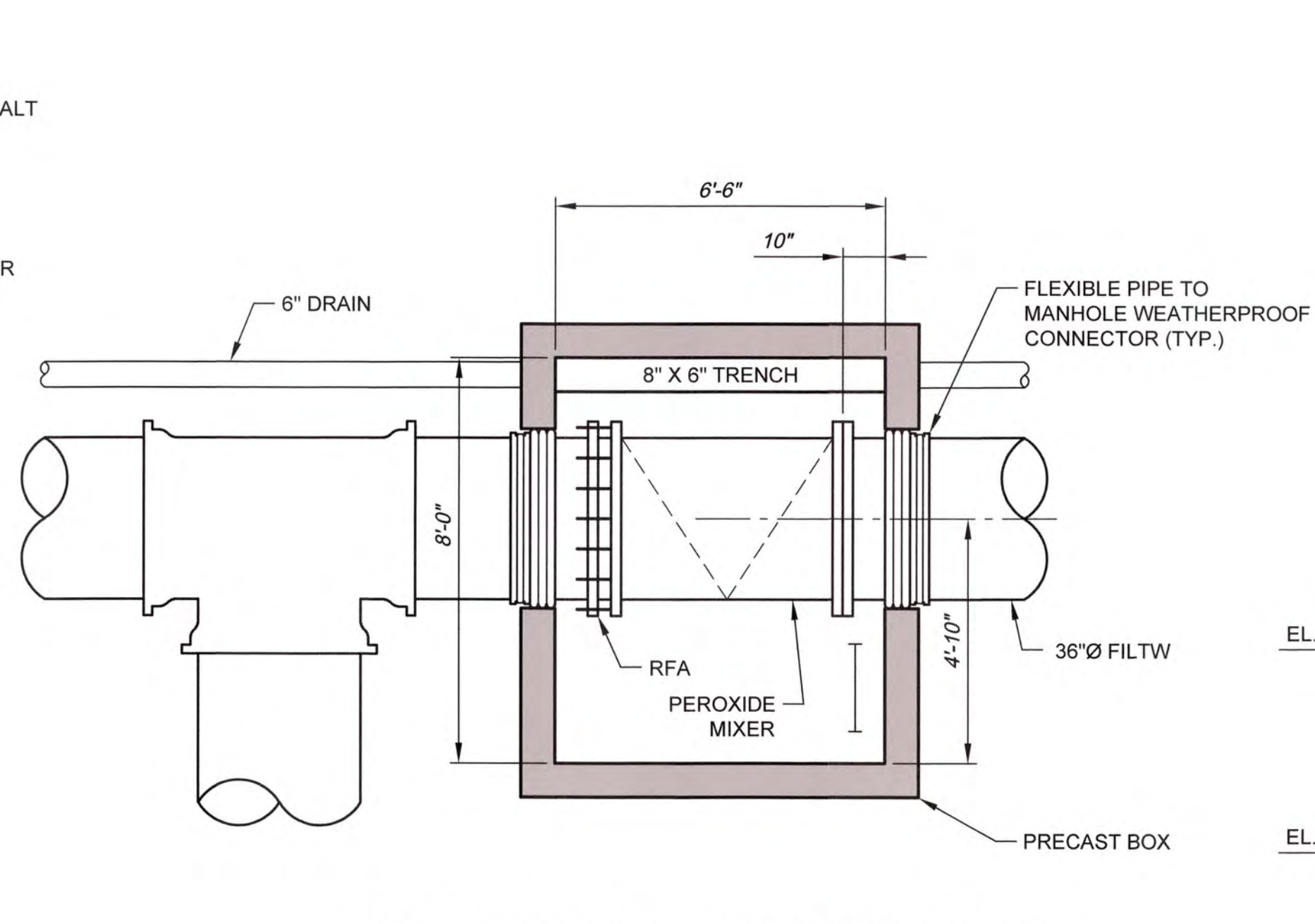
TOP PLAN - CHEMICAL FEED VAULT #2
SCALE: 3/8"=1'-0"



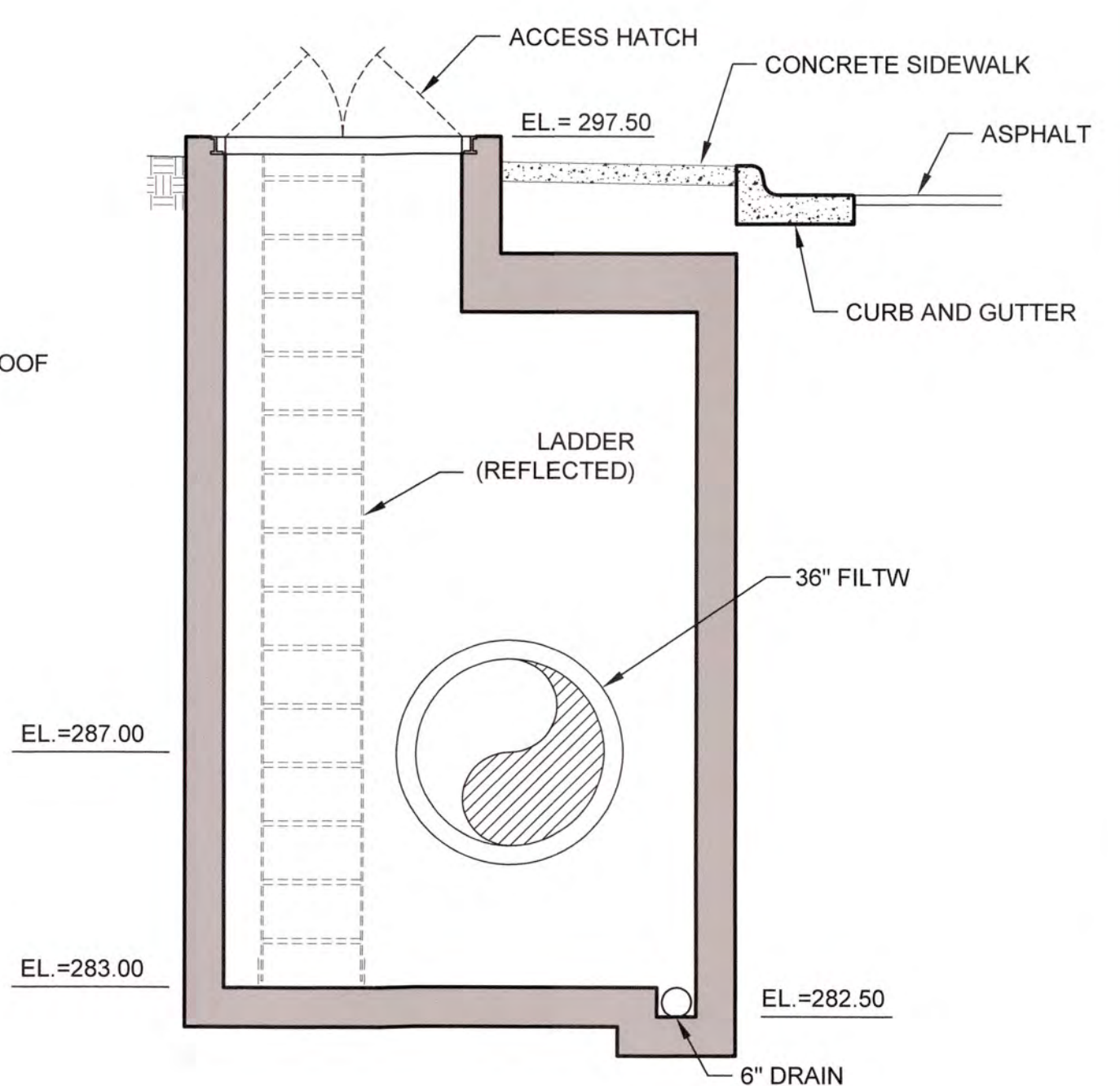
BOTTOM PLAN - CHEMICAL FEED VAULT #1
SCALE: 3/8"=1'-0"



A SECTION
SCALE: 3/8"=1'-0"

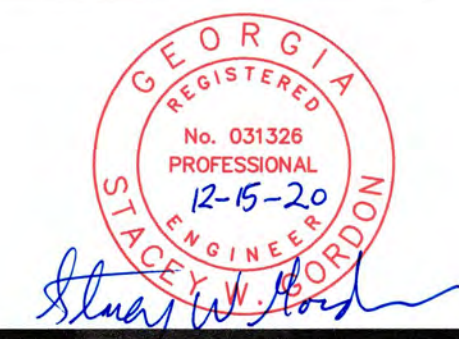


BOTTOM PLAN - CHEMICAL FEED VAULT #2
SCALE: 3/8"=1'-0"

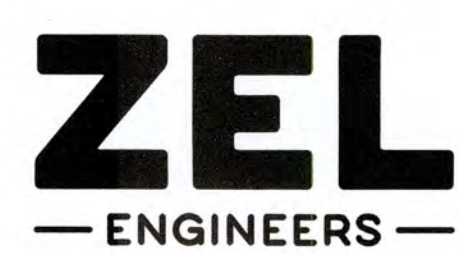


B SECTION
SCALE: 3/8"=1'-0"

J:\2016\161 Columbia County Water Utility\161-00 Blanchard and Carter Hill VTP UV Peroxide Design\Drawings\161-00 2M5.dwg, 12/20/2023, 10:16 PM, KChakrabarti, HP Designer, TSSD, Rev 2, pcd, 1:1



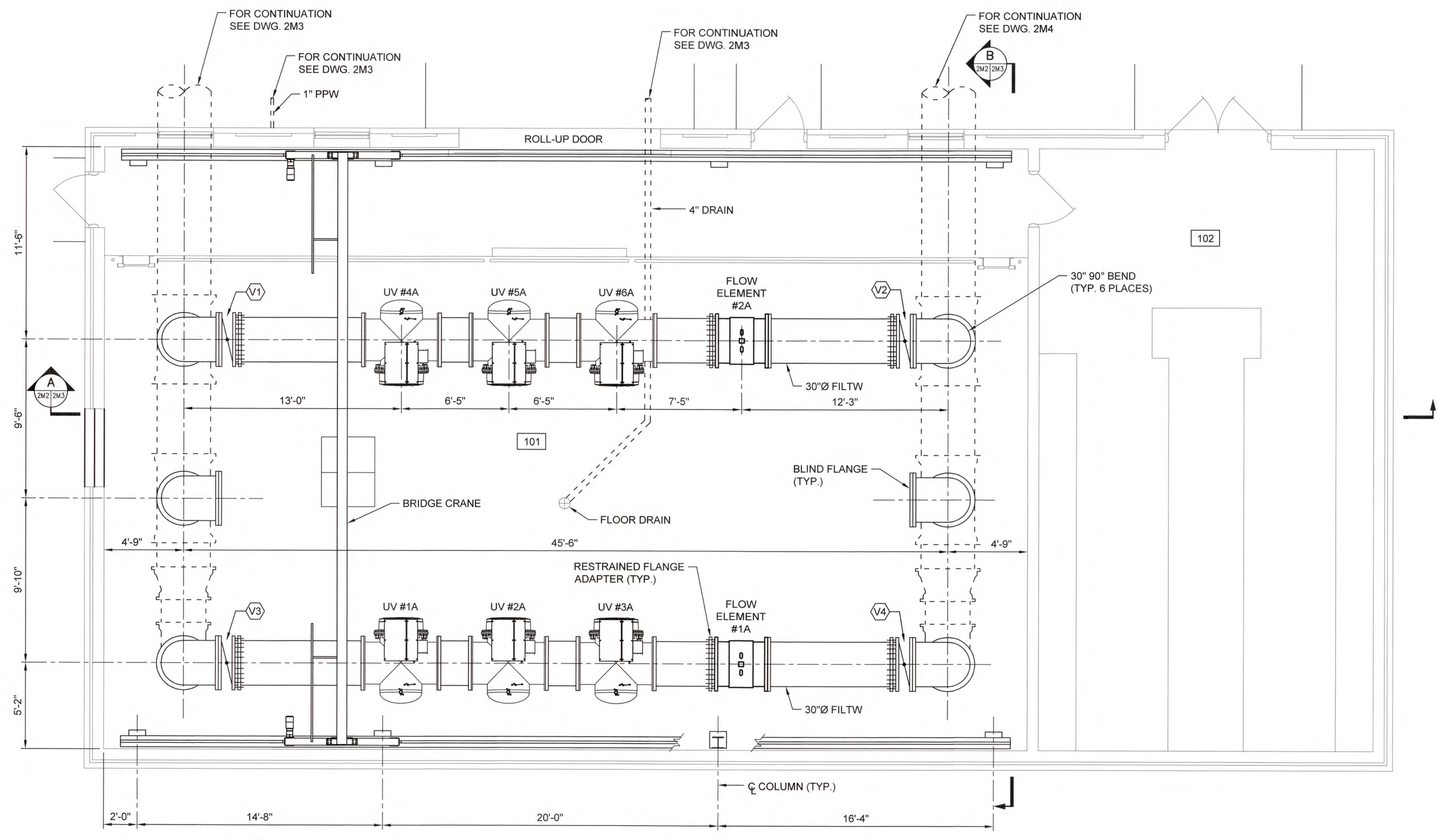
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COLUMBIA COUNTY, GEORGIA
UV / ADVANCED OXIDATION TREATMENT
BLANCHARD PLANT SIDE A
CHEMICAL FEED VAULTS NOS. 1 AND 2

DESIGNED		KMW	REF.	1631-00	DWG NO.
DRAWN		SWH	DATE	DEC 2020	2M5
QC			SCALE	3/8"=1'-0"	



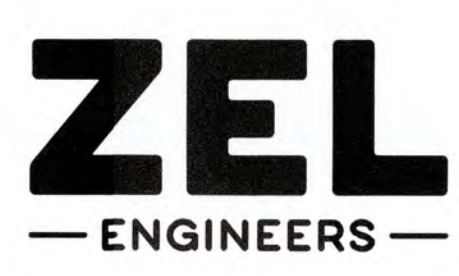
SIDE A UV BUILDING PIPING PLAN
SCALE: 1/4"=1'-0"

SIDE A UV BUILDING VALVE SCHEDULE						
NO	DESCRIPTION	SIZE	TYPE	OPERATOR	ENDS	REMARKS
V1	MAINTENANCE	30"	BV	HANDWHEEL	FLANGE	MODULATING
V2	MAINTENANCE	30"	BV	HANDWHEEL	FLANGE	
V3	MAINTENANCE	30"	BV	HANDWHEEL	FLANGE	MODULATING
V4	MAINTENANCE	30"	BV	HANDWHEEL	FLANGE	

J:\2016\EST\ Columbia County Water Utility\EST-00\Blanchard and Clarke Hill VTP UV Puraside Design\Drawings\EST-00\2M6.dwg, 12/8/2020 3:05:39 PM, KChalder, HP, DesignPlot T2500, Ref: 2 of 3, 11



NO.	DATE	REVISION	BY	APVD



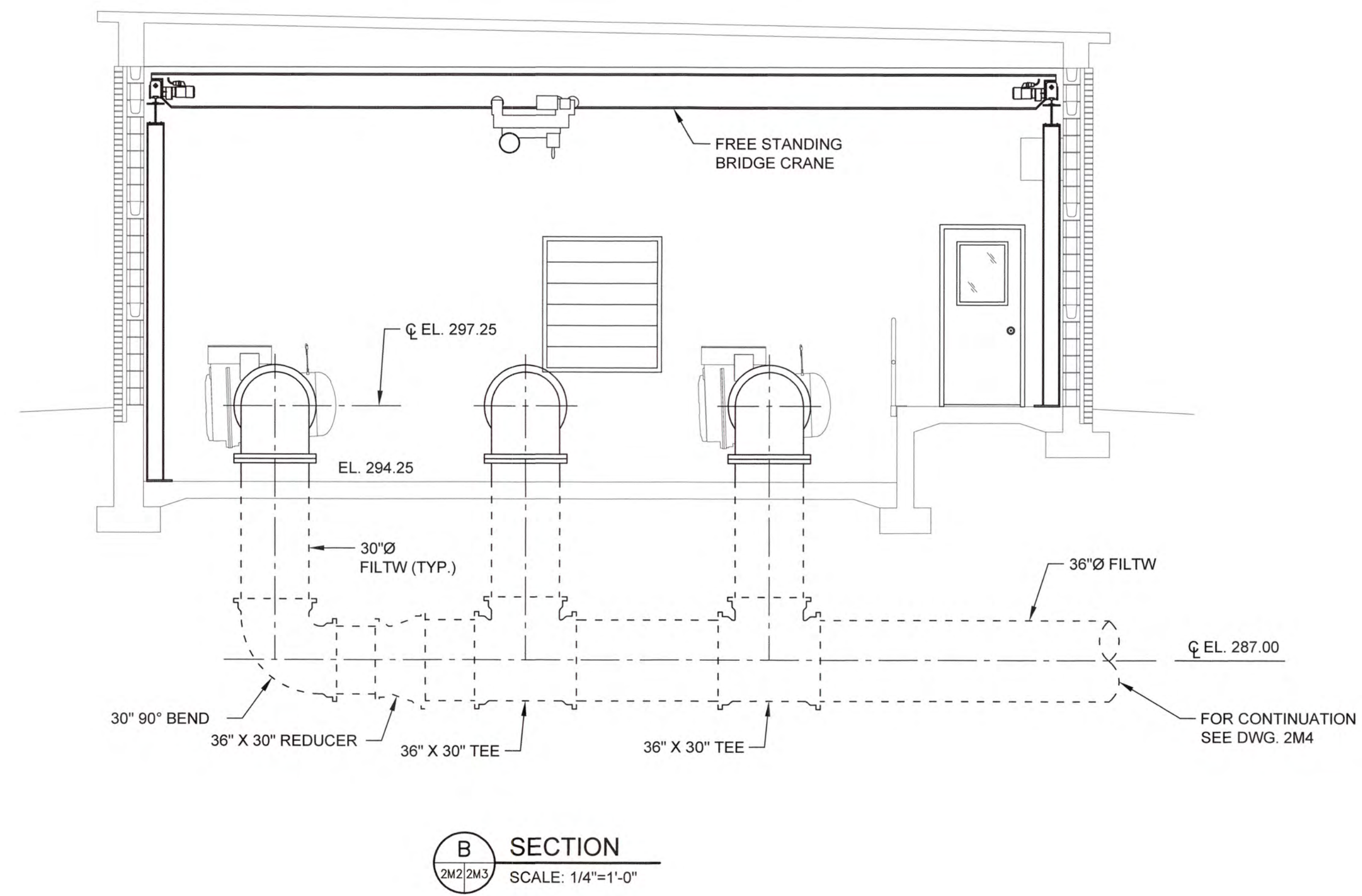
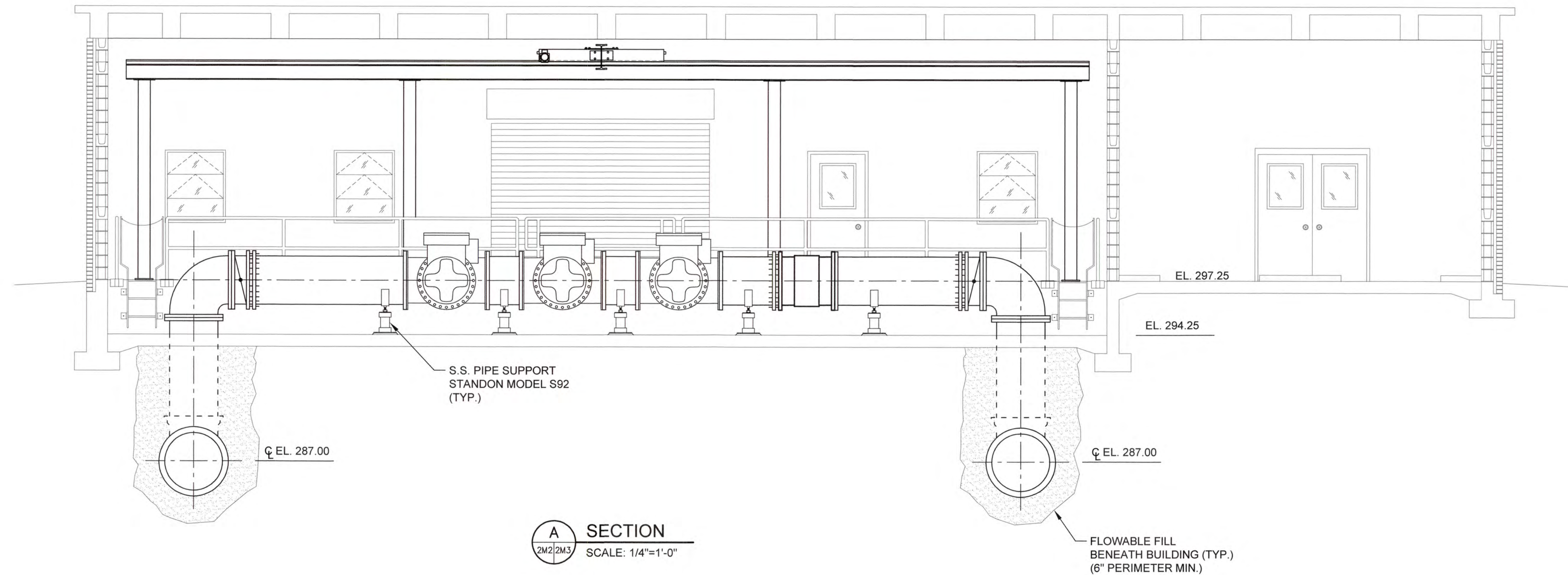
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COLUMBIA COUNTY, GEORGIA

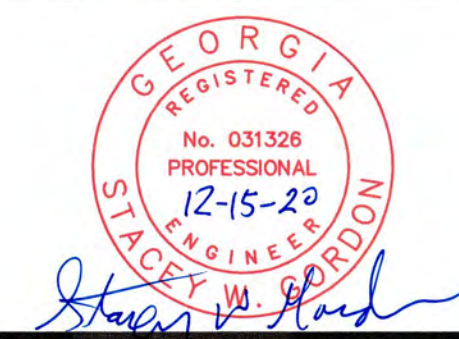
UV / ADVANCED OXIDATION TREATMENT
BLANCHARD PLANT SIDE A
UV BUILDING PIPING PLAN

0 1 IF THIS BAR DOES NOT MEASURE 1" DRAWING IS NOT TO LABELED SCALE

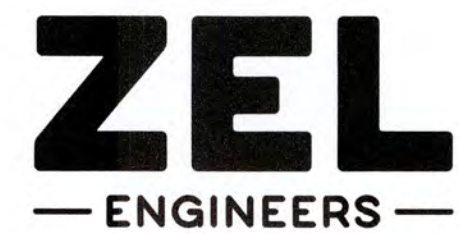
DESIGNED	SWG	REF.	1631-00	DWG NO.
DRAWN	KDC	DATE	DEC 2020	2M6
QC		SCALE	1/4"=1'-0"	



1/20/16/1631 Columbia County Water Utility/1631-00 Blanchard and Clarke Hill WTP/UV Process/Design/2020/1631-00 2M7.dwg, 12/29/2020 3:08:35 PM, KChalder, HP Designer/1631-00 Rev 2.pcd, 1:1



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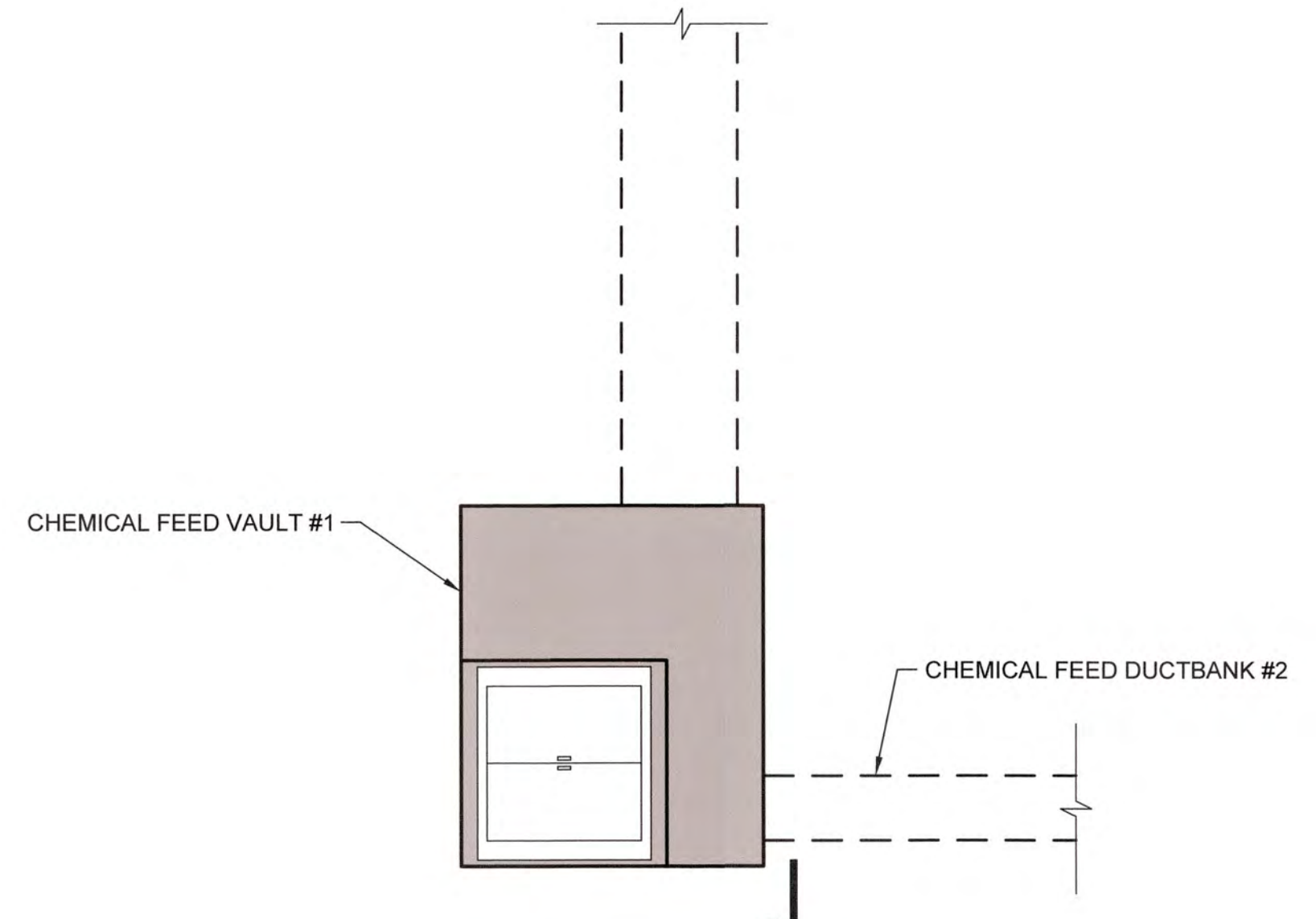
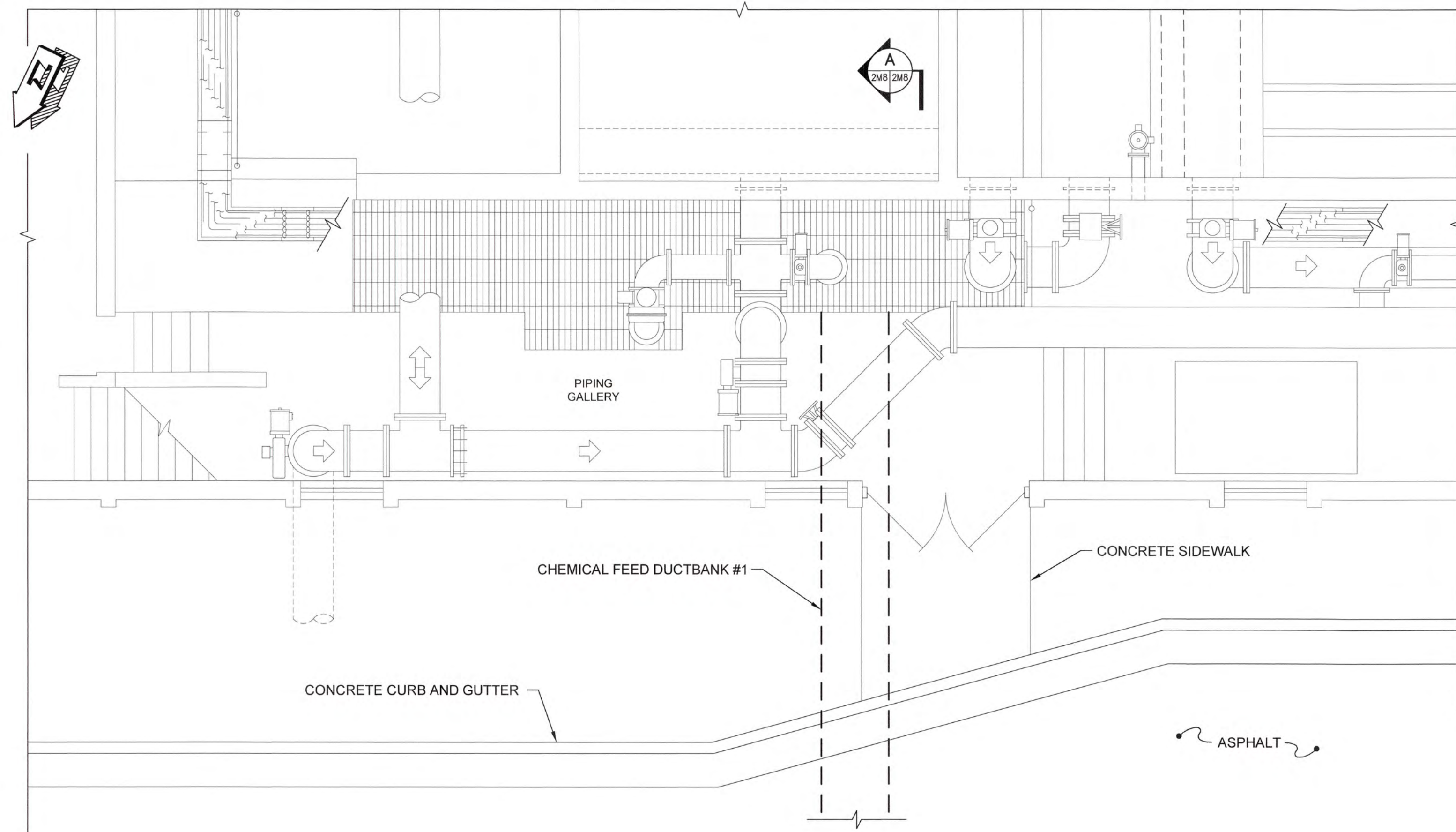
COLUMBIA COUNTY, GEORGIA

UV / ADVANCED OXIDATION TREATMENT

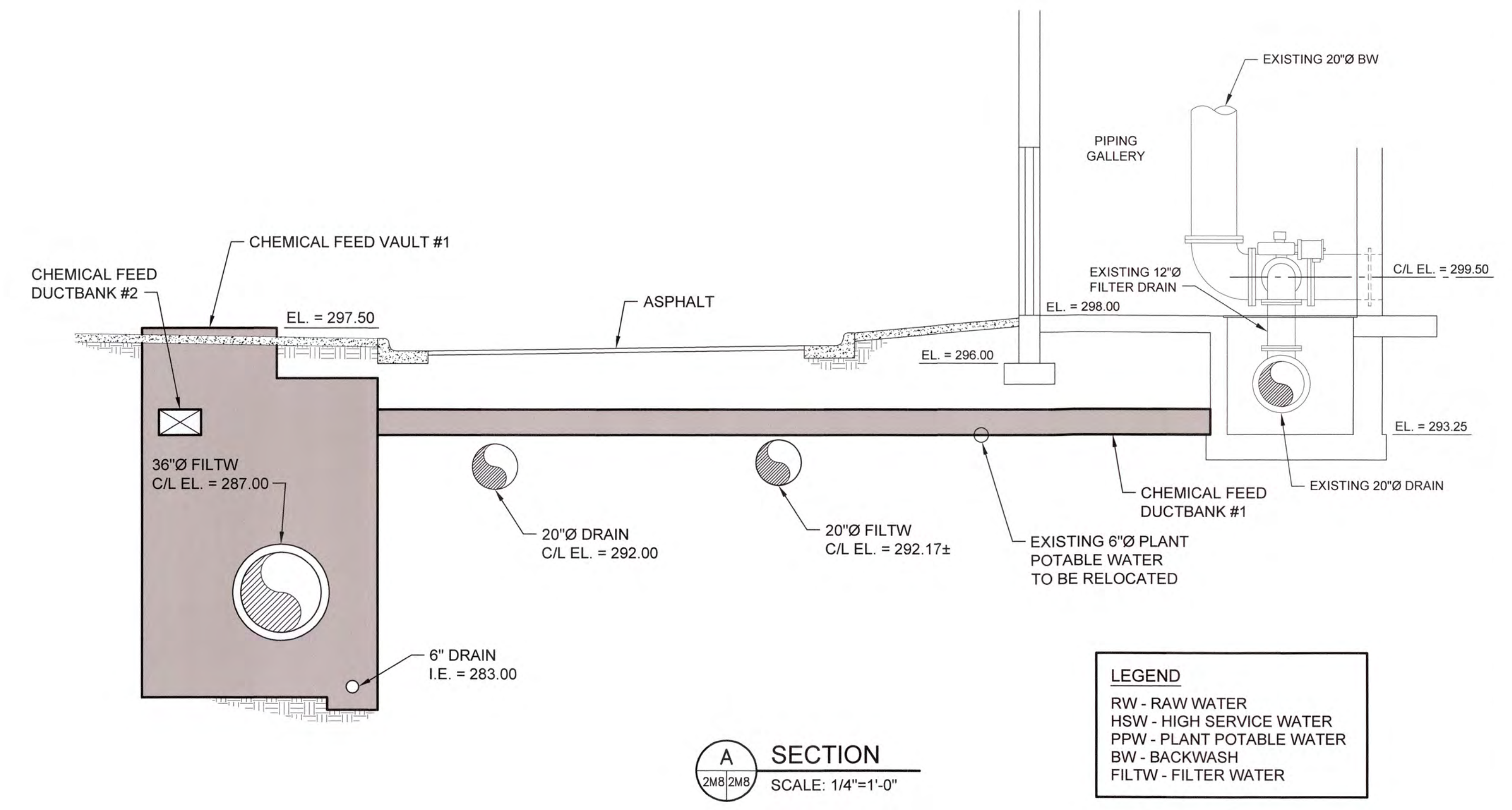
BLANCHARD PLANT SIDE A
UV BUILDING PIPING SECTIONS

DESIGNED		KMW	REF.	1631-00	DWG NO.
DRAWN		KDC	DATE	DEC 2020	2M7
QC			SCALE	1/4"=1'-0"	

0 1 IF THIS BAR DOES NOT MEASURE 1" DRAWING IS NOT TO LABELED SCALE



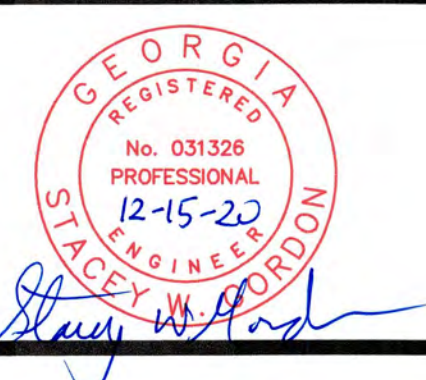
CHEMICAL FEED VAULT #1 PLAN
SCALE: 1/4" = 1'-0"



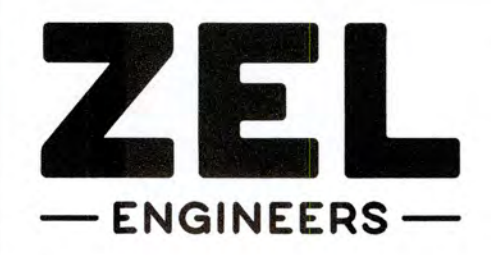
A SECTION
SCALE: 1/4"=1'-0"

LEGEND	
RW	RAW WATER
HSW	HIGH SERVICE WATER
PPW	PLANT POTABLE WATER
BW	BACKWASH
FILTW	FILTER WATER

J:\2016\1531 Columbia County Water Utility\1531-00 Blanchard and Cokes Hill WTP U-Peroxide Design\Drawings\1531-00 2M8.dwg, 12/15/20 10:06:56 PM, K.Chalker, HP Design\T2500 Roll 2.pcl, 1:1



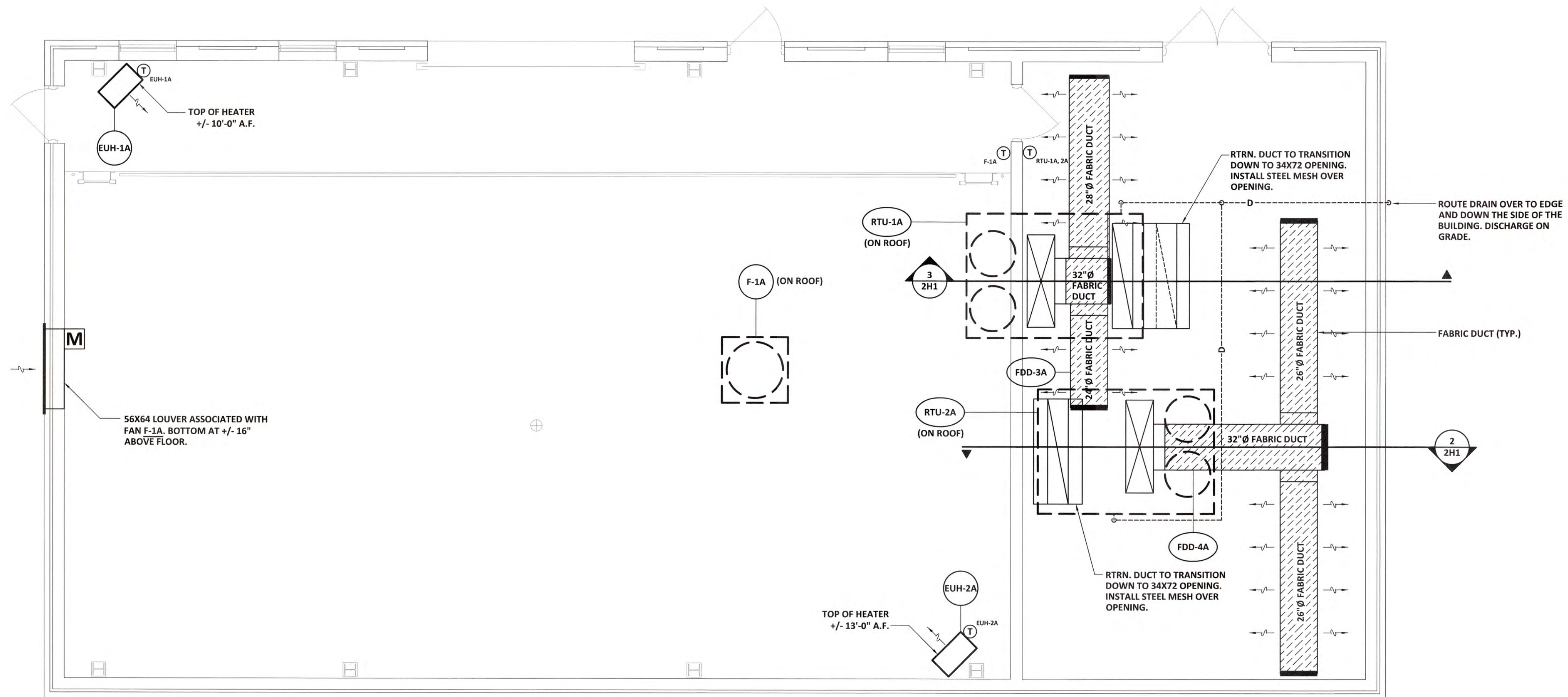
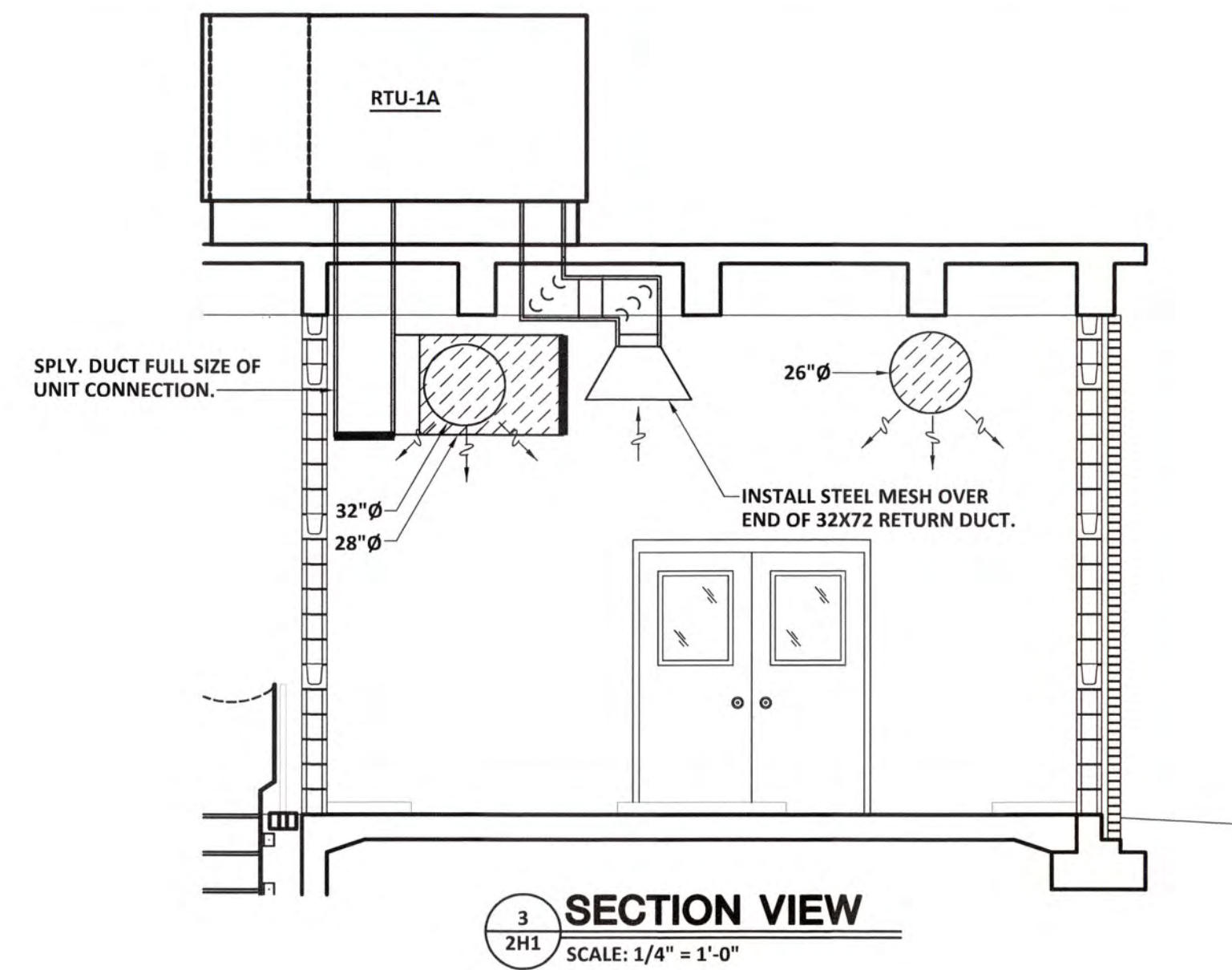
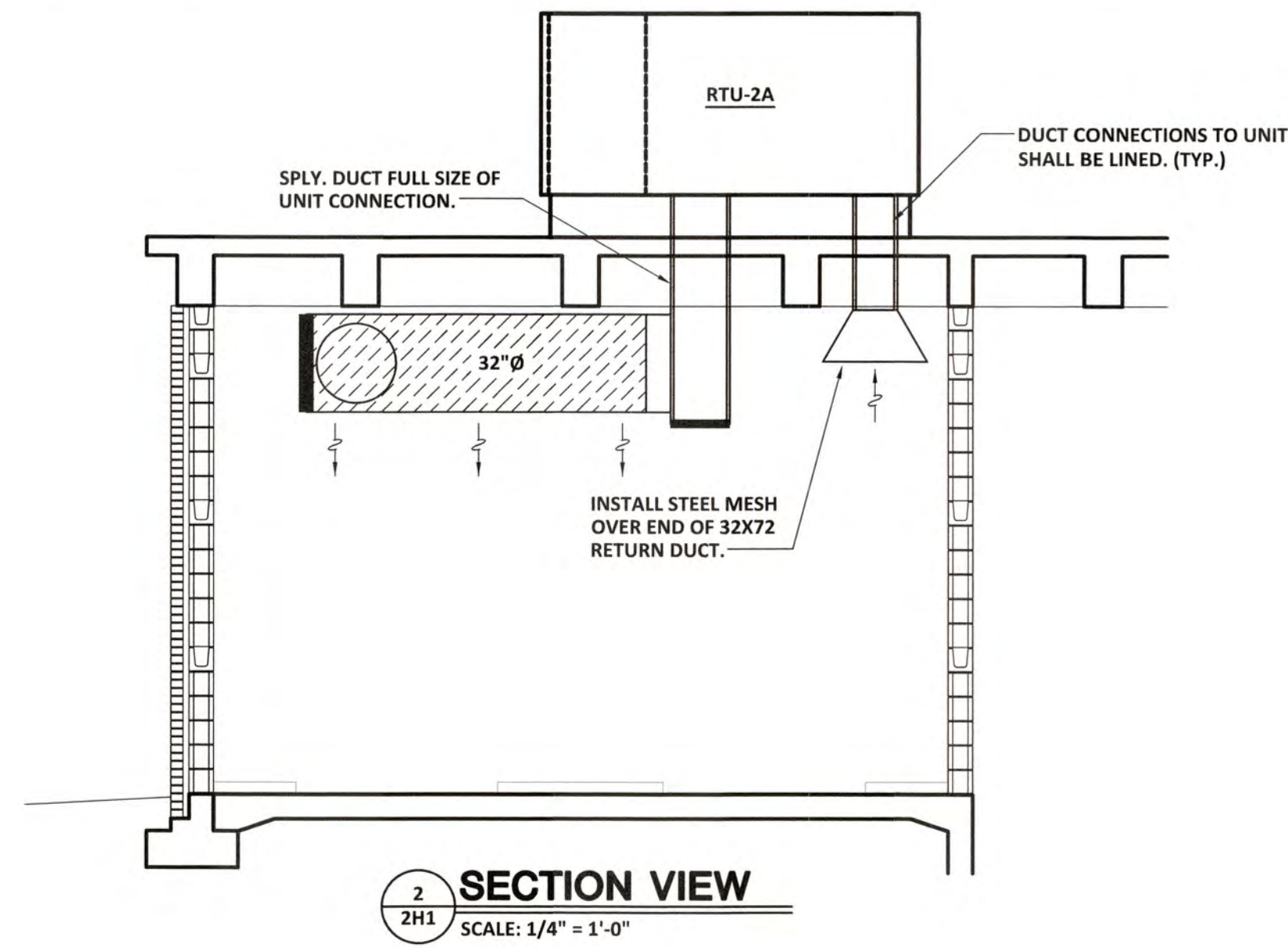
NO.	DATE	REVISION	BY	APVD



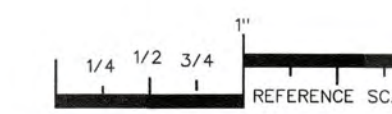
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COLUMBIA COUNTY, GEORGIA
UV / ADVANCED OXIDATION TREATMENT
BLANCHARD PLANT SIDE A
CHEMICAL FEED DUCT BANK #1 PLAN AND SECTION

DESIGNED		KMW	REF.	1631-00	DWG NO.
DRAWN		SWH	DATE	DEC 2020	2M8
QC			SCALE	1/4"=1'-0"	



1
2H1
HVAC NEW WORK PLAN - BLANCHARD BLDG, SIDE A
SCALE: 1/4" = 1'-0"



PLOT DATE: 11/06/20
 FILENAME: 20018M1
 PLOT SCALE: 1 = 48
 JLS

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 AUGUSTA, GA 30901 (706) 725-3959



NO.	DATE	REVISION	BY	APVD



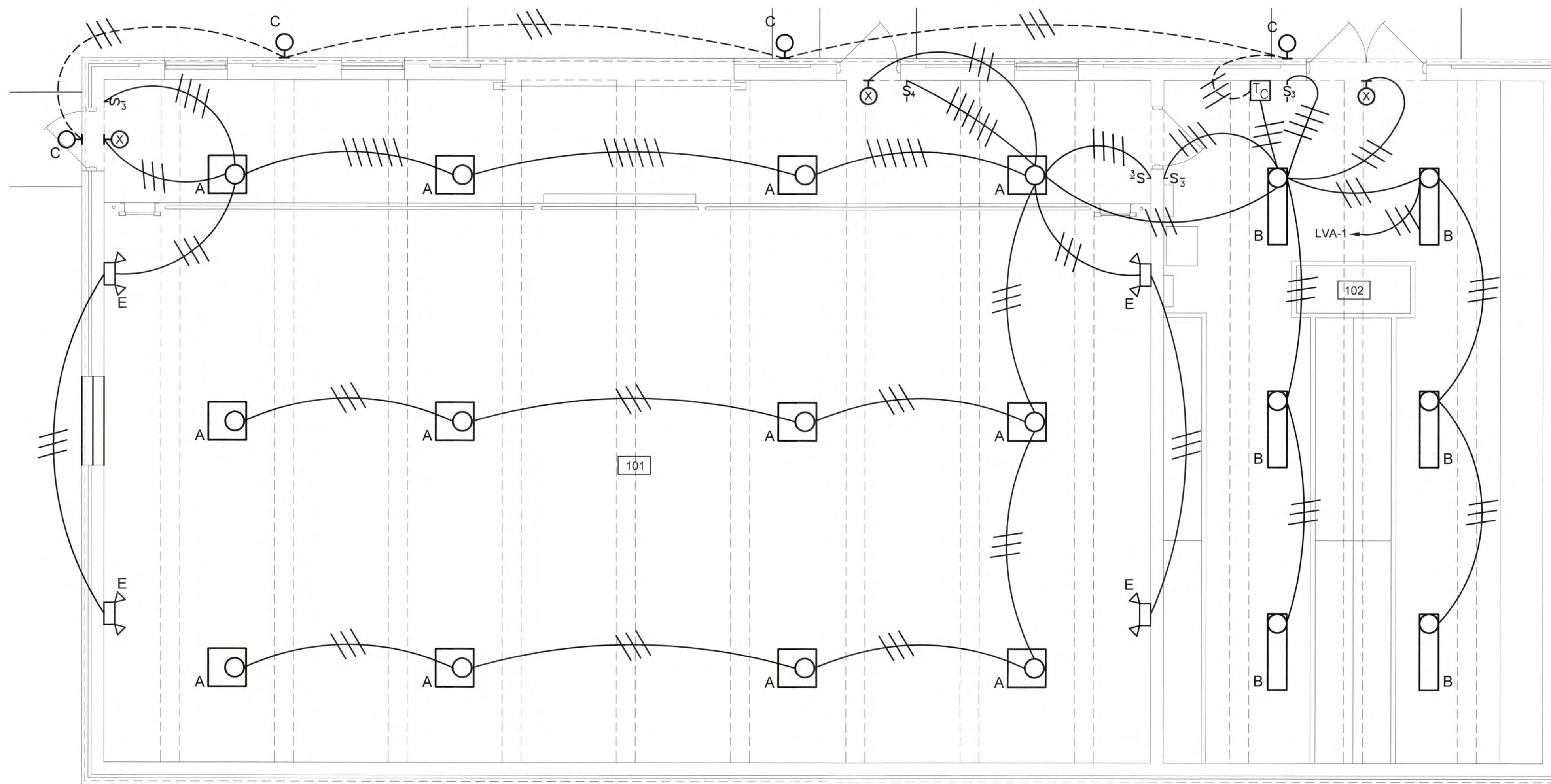
Zimmerman, Evans and Leopold, Inc.
 435 Telfair Street, Augusta, Georgia 30901
 Office - 706-724-5627 Fax - 706-724-5789
 www.zelengineers.com

COLUMBIA COUNTY, GEORGIA

UV / ADVANCED OXIDATION TREATMENT

**BLANCHARD PLANT
 SIDE A HVAC PLAN**

DESIGNED		REF.		DWG NO.	
JLS	JLS	1631-00	NOV 2020	2H1	
DRAWN		SCALE		1/4"=1'-0"	
JLS	JLS	1/4"=1'-0"			
QC					

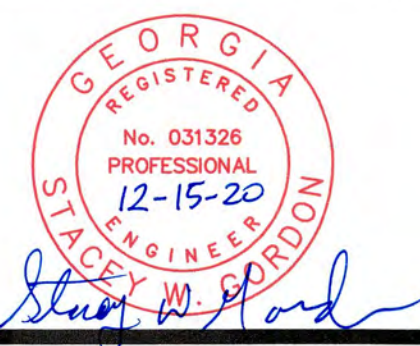


LIGHTING PLAN
SCALE: 1/4" = 1'-0"

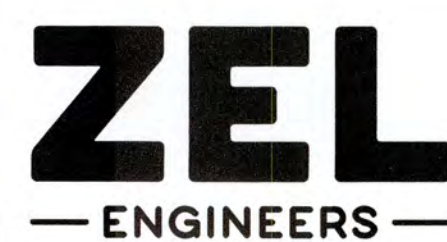
NOTES:

1. ALL SWITCHES SHALL BE FLUSH MOUNT WITH CONDUIT ROUTED CONCEALED UNTIL CHANGING TO EXPOSED AT CEILING FOR CONNECTING TO FLUSH MOUNT FIXTURES.
2. EXIT LIGHTS ARE SURFACE MOUNTS WITH BOX AND CONDUITS CONCEALED IN WALL.

J:\2016\161 Columbia County Water Utility\161-00 Blanchard and Clarke Hill WTP UV-Peroxidation Design\Drawings\161-00 ZEL.dwg, 12/29/2020 3:08:41 PM, KChiller, HP Designer, 72600 Roll 2.pcb, 1:1



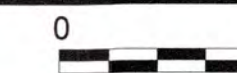
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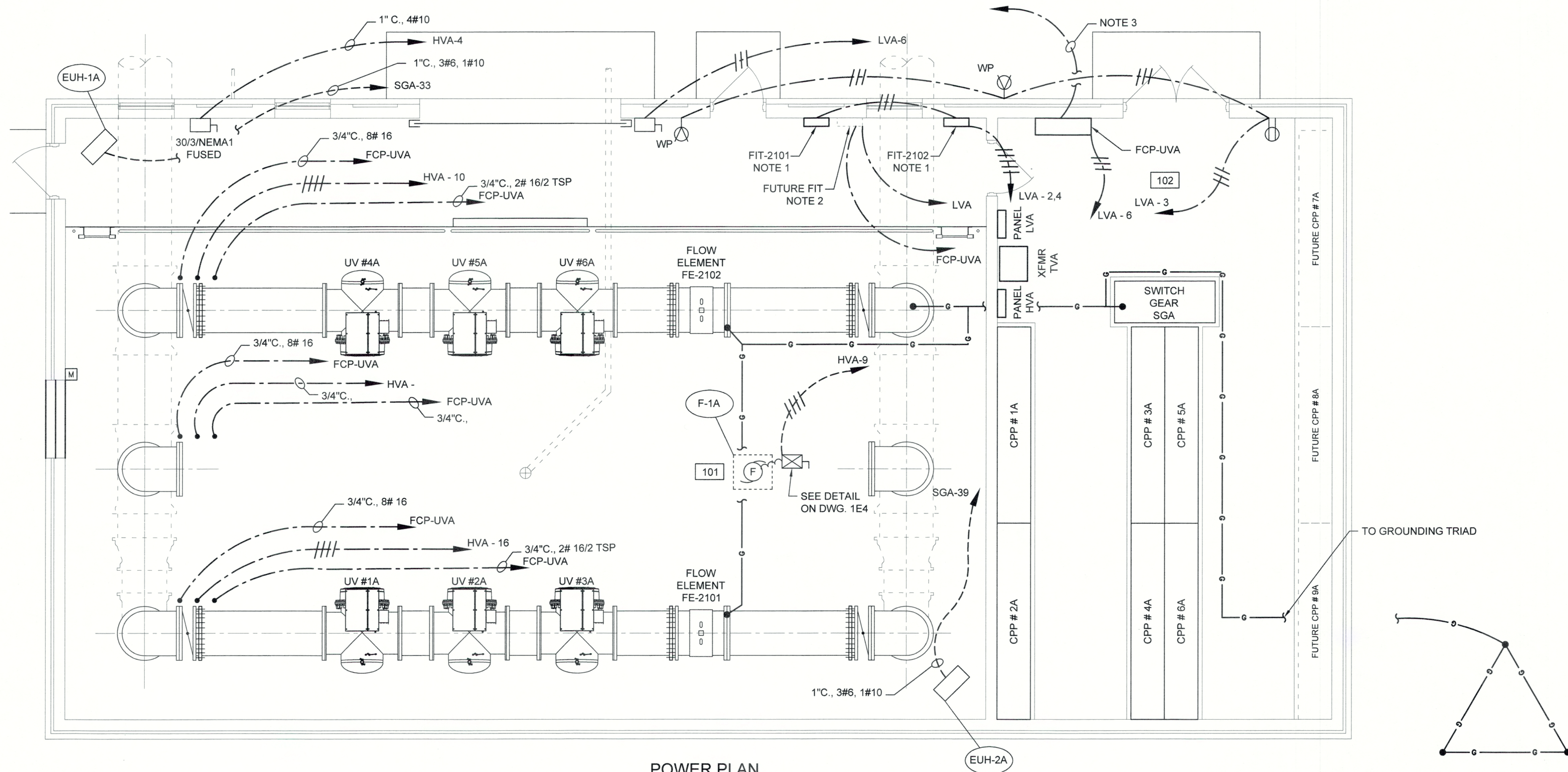
COLUMBIA COUNTY, GEORGIA

UV / ADVANCED OXIDATION TREATMENT
BLANCHARD PLANT SIDE A UV BUILDING
LIGHTING PLAN



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

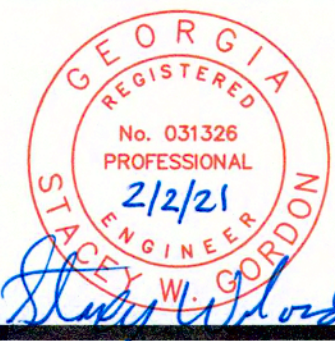
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DRAWN	KDC	DATE	DEC 2020	2E1
QC		SCALE	N/A	



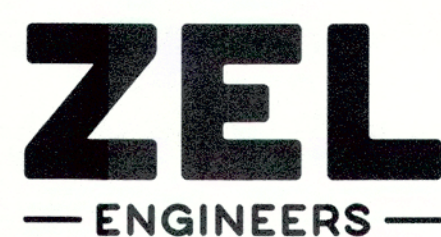
POWER PLAN
SCALE: 1/4" = 1'-0"

- NOTES:
- ROUTE BELOW SLAB 3/4" CONDUIT TO MAGNETIC FLOW ELEMENT. ROUTE BELOW SLAB 3/4", 2# 16/2 TSP TO FCP-UVA
 - ROUTE BELOW SLAB 3/4" CONDUIT TO FUTURE MAGNETIC FLOW ELEMENT. ROUTE BELOW SLAB 3/4", FCP-UVA
 - PROVIDE 2" CONDUIT WITH FIBER ROUTED TO PLC-WPPCUV. FIBER OPTIC CABLE SHALL BE PROVIDED AND INSTALLED BY ELECTRICIAN. TERMINATIONS SHALL BE BY SYSTEMS INTEGRATOR.
 - THERE ARE TWO(2) ROOF TOP UNITS ABOVE ROOM 102 (RTU-1A AND RTU-2A). ROUTE 1 1/2", 3#2, 1#8 FROM SWITCH GEAR SG-A TO EACH UNIT. UNIT INCLUDES INTEGRAL DISCONNECT.
 - SEE DETAIL ON 1E1 FOR TYPICAL GROUNDING REQUIREMENTS.
 - SEE 2E3 FOR WIRING AND CONDUIT SCHEDULE.

11/20/16/161 Columbia County Water Utility (161) 09 Blanchard and Carter Hill WTP UV Preoxidation Design (Drawing) 161-09-2E2.dwg, 2/2/2021 10:45:38 AM, KChalla, HP Designer, T200, Plot 2, pcd, 1:1



NO.	DATE	REVISION	BY	APVD



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COLUMBIA COUNTY, GEORGIA

UV / ADVANCED OXIDATION TREATMENT
BLANCHARD PLANT SIDE A UV BUILDING
POWER PLAN

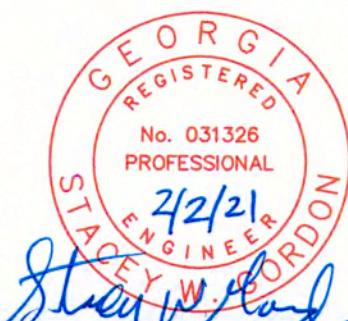
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DESIGNED	SWG	REF.	1631-00	DWG NO.
DRAWN	KDC	DATE	DEC 2020	2E2
QC		SCALE	N/A	

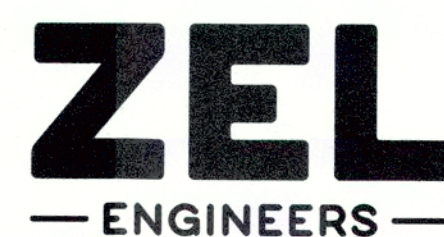
BLANCHARD SIDE A UV WIRING SCHEDULE									
ID NO.	DESCRIPTION	CONDUIT	CONDUCTORS	VOLTAGE/ PHASE	SERVICE FROM	SERVICE TO	COMMENTS	ID NO.	
201	CPP #1A POWER	2 1/2"	3#350 MCM, 1#4G	480/3	SWITCH GEAR "SGA"	CPP # 1A		201	
202	UV #1A CHAMBER POWER	2"	32#12 AWG(HV), 1#8G	10KV	CPP #1A	UV # 1A	WIRE PROVIDED BY EQUIPMENT MANUFACTURER	202	
203	UV #1A SENSOR CONTROLS	1"	10 # 22/2 SHIELDED MULTI-PAIR	24 VDC	CPP #1A	UV # 1A	ALPHA - WIRE P/N 86710 CY OR EQUAL	203	
204	ETHERNET/IP COMMUNICATION	3/4"	SHIELDED CAT 5E	-	CPP #1A	FCP-UVA	PROVIDE RJ45 CONNECTORS	204	
205	UV #1A CONTROL SIGNAL	3/4"	11 # 16 AWG, 1 # 16G	24 VDC	CPP #1A	UV # 1A		205	
206	UV SYSTEM STATUS INFORMATION	3/4"	12#16 AWG	-	CPP #1A	FCP-UVA		206	
207	UV INTENSITY & DOSE DELIVERED	3/4"	2 # 16/2 TSP	-	CPP #1A	FCP-UVA		207	
208	DISCRETE REACTOR CONTROLS	1"	20 # 16 AWG	-	UV # 1A	FCP-UVA	WIRE PROVIDED BY EQUIPMENT MANUFACTURER	208	
209	ANALOG REACTOR CONTROLS	3/4"	2 # 16/2 TSP	-	UV # 1A	FCP-UVA	WIRE PROVIDED BY EQUIPMENT MANUFACTURER	209	
210	SPARE	1"	-	-	UV # 1A	CPP # 1A		210	
211	CPP #2A POWER	2 1/2"	3#350 MCM, 1#4G	480/3	SWITCH GEAR "SGA"	CPP # 2A		211	
212	UV #2A CHAMBER POWER	2"	32#12 AWG(HV), 1#8G	10KV	CPP #2A	UV # 2A	WIRE PROVIDED BY EQUIPMENT MANUFACTURER	212	
213	UV #2A SENSOR CONTROLS	1"	10 # 22/2 SHIELDED MULTI-PAIR	24 VDC	CPP #2A	UV # 2A	ALPHA - WIRE P/N 86710 CY OR EQUAL	213	
214	ETHERNET/IP COMMUNICATION	3/4"	SHIELDED CAT 5E	-	CPP #2A	FCP-UVA	PROVIDE RJ45 CONNECTORS	214	
215	UV #2A CONTROL SIGNAL	3/4"	11 # 16 AWG, 1 # 16G	24 VDC	CPP #2A	UV # 2A		215	
216	UV SYSTEM STATUS INFORMATION	3/4"	12#16 AWG	-	CPP #2A	FCP-UVA		216	
217	UV INTENSITY & DOSE DELIVERED	3/4"	2 # 16/2 TSP	-	CPP #2A	FCP-UVA		217	
218	DISCRETE REACTOR CONTROLS	1"	20 # 16 AWG	-	UV # 2A	FCP-UVA	WIRE PROVIDED BY EQUIPMENT MANUFACTURER	218	
219	ANALOG REACTOR CONTROLS	3/4"	2 # 16/2 TSP	-	UV # 2A	FCP-UVA	WIRE PROVIDED BY EQUIPMENT MANUFACTURER	219	
220	SPARE	1"	-	-	UV # 2A	CPP # 2A		220	
221	CPP #3A POWER	2 1/2"	3#350 MCM, 1#4G	480/3	SWITCH GEAR "SGA"	CPP # 3A		221	
222	UV #3A CHAMBER POWER	2"	32#12 AWG(HV), 1#8G	10KV	CPP #3A	UV # 3A	WIRE PROVIDED BY EQUIPMENT MANUFACTURER	222	
223	UV #3A SENSOR CONTROLS	1"	10 # 22/2 SHIELDED MULTI-PAIR	24 VDC	CPP #3A	UV # 3A	ALPHA - WIRE P/N 86710 CY OR EQUAL	223	
224	ETHERNET/IP COMMUNICATION	3/4"	SHIELDED CAT 5E	-	CPP #3A	FCP-UVA	PROVIDE RJ45 CONNECTORS	224	
225	UV #3A CONTROL SIGNAL	3/4"	11 # 16 AWG, 1 # 16G	24 VDC	CPP #3A	UV # 3A		225	
226	UV SYSTEM STATUS INFORMATION	3/4"	12#16 AWG	-	CPP #3A	FCP-UVA		226	
227	UV INTENSITY & DOSE DELIVERED	3/4"	2 # 16/2 TSP	-	CPP #3A	FCP-UVA		227	
228	DISCRETE REACTOR CONTROLS	1"	20 # 16 AWG	-	UV # 3A	FCP-UVA	WIRE PROVIDED BY EQUIPMENT MANUFACTURER	228	
229	ANALOG REACTOR CONTROLS	3/4"	2 # 16/2 TSP	-	UV # 3A	FCP-UVA	WIRE PROVIDED BY EQUIPMENT MANUFACTURER	229	
230	SPARE	1"	-	-	UV # 3A	CPP # 3A		230	
231	CPP #4A POWER	2 1/2"	3#350 MCM, 1#4G	480/3	SWITCH GEAR "SGA"	CPP # 4A		231	
232	UV #4A CHAMBER POWER	2"	32#12 AWG(HV), 1#8G	10KV	CPP #4A	UV # 4A	WIRE PROVIDED BY EQUIPMENT MANUFACTURER	232	
233	UV #4A SENSOR CONTROLS	1"	10 # 22/2 SHIELDED MULTI-PAIR	24 VDC	CPP #4A	UV # 4A	ALPHA - WIRE P/N 86710 CY OR EQUAL	233	
234	ETHERNET/IP COMMUNICATION	3/4"	SHIELDED CAT 5E	-	CPP #4A	FCP-UVA	PROVIDE RJ45 CONNECTORS	234	
235	UV #4A CONTROL SIGNAL	3/4"	11 # 16 AWG, 1 # 16G	24 VDC	CPP #4A	UV # 4A		235	
236	UV SYSTEM STATUS INFORMATION	3/4"	12#16 AWG	-	CPP #4A	FCP-UVA		236	
237	UV INTENSITY & DOSE DELIVERED	3/4"	2 # 16/2 TSP	-	CPP #4A	FCP-UVA		237	
238	DISCRETE REACTOR CONTROLS	1"	20 # 16 AWG	-	UV # 4A	FCP-UVA	WIRE PROVIDED BY EQUIPMENT MANUFACTURER	238	
239	ANALOG REACTOR CONTROLS	3/4"	2 # 16/2 TSP	-	UV # 4A	FCP-UVA	WIRE PROVIDED BY EQUIPMENT MANUFACTURER	239	
240	SPARE	1"	-	-	UV # 4A	CPP # 4A		240	
241	CPP #5A POWER	2 1/2"	3#350 MCM, 1#4G	480/3	SWITCH GEAR "SGA"	CPP # 5A		241	
242	UV #5A CHAMBER POWER	2"	32#12 AWG(HV), 1#8G	10KV	CPP #5A	UV # 5A	WIRE PROVIDED BY EQUIPMENT MANUFACTURER	242	
243	UV #5A SENSOR CONTROLS	1"	10 # 22/2 SHIELDED MULTI-PAIR	24 VDC	CPP #5A	UV # 5A	ALPHA - WIRE P/N 86710 CY OR EQUAL	243	
244	ETHERNET/IP COMMUNICATION	3/4"	SHIELDED CAT 5E	-	CPP #5A	FCP-UVA	PROVIDE RJ45 CONNECTORS	244	
245	UV #5A CONTROL SIGNAL	3/4"	11 # 16 AWG, 1 # 16G	24 VDC	CPP #5A	UV # 5A		245	
246	UV SYSTEM STATUS INFORMATION	3/4"	12#16 AWG	-	CPP #5A	FCP-UVA		246	
247	UV INTENSITY & DOSE DELIVERED	3/4"	2 # 16/2 TSP	-	CPP #5A	FCP-UVA		247	
248	DISCRETE REACTOR CONTROLS	1"	20 # 16 AWG	-	UV # 5A	FCP-UVA	WIRE PROVIDED BY EQUIPMENT MANUFACTURER	248	
249	ANALOG REACTOR CONTROLS	3/4"	2 # 16/2 TSP	-	UV # 5A	FCP-UVA	WIRE PROVIDED BY EQUIPMENT MANUFACTURER	249	
250	SPARE	1"	-	-	UV # 5A	CPP # 5A		250	
251	CPP #6A POWER	2 1/2"	3#350 MCM, 1#4G	480/3	SWITCH GEAR "SGA"	CPP # 6A		251	
252	UV #6A CHAMBER POWER	2"	32#12 AWG(HV), 1#8G	10KV	CPP #6A	UV # 6A	WIRE PROVIDED BY EQUIPMENT MANUFACTURER	252	
253	UV #6A SENSOR CONTROLS	1"	10 # 22/2 SHIELDED MULTI-PAIR	24 VDC	CPP #6A	UV # 6A	ALPHA - WIRE P/N 86710 CY OR EQUAL	253	
254	ETHERNET/IP COMMUNICATION	3/4"	SHIELDED CAT 5E	-	CPP #6A	FCP-UVA	PROVIDE RJ45 CONNECTORS	254	
255	UV #6A CONTROL SIGNAL	3/4"	11 # 16 AWG, 1 # 16G	24 VDC	CPP #6A	UV # 6A		255	
256	UV SYSTEM STATUS INFORMATION	3/4"	12#16 AWG	-	CPP #6A	FCP-UVA		256	
257	UV INTENSITY & DOSE DELIVERED	3/4"	2 # 16/2 TSP	-	CPP #6A	FCP-UVA		257	
258	DISCRETE REACTOR CONTROLS	1"	20 # 16 AWG	-	UV # 6A	FCP-UVA	WIRE PROVIDED BY EQUIPMENT MANUFACTURER	258	
259	ANALOG REACTOR CONTROLS	3/4"	2 # 16/2 TSP	-	UV # 6A	FCP-UVA	WIRE PROVIDED BY EQUIPMENT MANUFACTURER	259	
260	SPARE	1"	-	-	UV # 6A	CPP # 6A		260	

BLANCHARD SIDE A UV WIRING SCHEDULE									
ID NO.	DESCRIPTION	CONDUIT	CONDUCTORS	VOLTAGE/ PHASE	SERVICE FROM	SERVICE TO	COMMENTS	ID NO.	
261	CPP #7A POWER	2 1/2"	-	480/3	SWITCH GEAR "SGA"	CPP # 7A	SPARE FOR FUTURE	261	
262	UV #7A CHAMBER POWER	2"	-	10KV	CPP #7A	UV # 7A	SPARE FOR FUTURE	262	
263	UV #7A SENSOR CONTROLS	1"	-	24 VDC	CPP #7A	UV # 7A	SPARE FOR FUTURE	263	
264	ETHERNET/IP COMMUNICATION	3/4"	-	-	CPP #7A	FCP-UVA	SPARE FOR FUTURE	264	
265	UV #7A CONTROL SIGNAL	3/4"	-	24 VDC	CPP #7A	UV # 7A	SPARE FOR FUTURE	265	
266	UV SYSTEM STATUS INFORMATION	3/4"	-	-	CPP #7A	FCP-UVA	SPARE FOR FUTURE	266	
267	UV INTENSITY & DOSE DELIVERED	3/4"	-	-	CPP #7A	FCP-UVA	SPARE FOR FUTURE	267	
268	DISCRETE REACTOR CONTROLS	1"	-	-	UV # 7A	FCP-UVA	SPARE FOR FUTURE	268	
269	ANALOG REACTOR CONTROLS	3/4"	-	-	UV # 7A	FCP-UVA	SPARE FOR FUTURE	269	
270	SPARE	1"	-	-	UV # 7A	CPP # 7A	SPARE FOR FUTURE	270	
271	CPP #8A POWER	2 1/2"	-	480/3	SWITCH GEAR "SGA"	CPP # 8A	SPARE FOR FUTURE	271	
272	UV #8A CHAMBER POWER	2"	-	10KV	CPP #8A	UV # 8A	SPARE FOR FUTURE	272	
273	UV #8A SENSOR CONTROLS	1"	-	24 VDC	CPP #8A	UV # 8A	SPARE FOR FUTURE	273	
274	ETHERNET/IP COMMUNICATION	3/4"	-	-	CPP #8A	FCP-UVA	SPARE FOR FUTURE	274	
275	UV #8A CONTROL SIGNAL	3/4"	-	24 VDC	CPP #8A	UV # 8A	SPARE FOR FUTURE	275	
276	UV SYSTEM STATUS INFORMATION	3/4"	-	-	CPP #8A	FCP-UVA	SPARE FOR FUTURE	276	
277	UV INTENSITY & DOSE DELIVERED	3/4"	-	-	CPP #8A	FCP-UVA	SPARE FOR FUTURE	277	
278	DISCRETE REACTOR CONTROLS	1"	-	-	UV # 8A	FCP-UVA	SPARE FOR FUTURE	278	
279	ANALOG REACTOR CONTROLS	3/4"	-	-	UV # 8A	FCP-UVA	SPARE FOR FUTURE	279	
280	SPARE	1"	-	-	UV # 8A	CPP # 8A	SPARE FOR FUTURE	280	
281	CPP #9A POWER	2 1/2"	-	480/3	SWITCH GEAR "SGA"	CPP # 9A	SPARE FOR FUTURE	281	
282	UV #9A CHAMBER POWER	2"	-	10KV	CPP #9A	UV # 9A	SPARE FOR FUTURE	282	
283	UV #9A SENSOR CONTROLS	1"	-	24 VDC	CPP #9A	UV # 9A	SPARE FOR FUTURE	283	
284	ETHERNET/IP COMMUNICATION	3/4"	-	-	CPP #9A	FCP-UVA	SPARE FOR FUTURE	284	
285	UV #9A CONTROL SIGNAL	3/4"	-	24 VDC	CPP #9A	UV # 9A	SPARE FOR FUTURE	285	
286	UV SYSTEM STATUS INFORMATION	3/4"	-	-	CPP #9A	FCP-UVA	SPARE FOR FUTURE	286	
287	UV INTENSITY & DOSE DELIVERED	3/4"	-	-	CPP #9A	FCP-UVA	SPARE FOR FUTURE	287	
288	DISCRETE REACTOR CONTROLS	1"	-	-	UV # 9A	FCP-UVA	SPARE FOR FUTURE	288	
289	ANALOG REACTOR CONTROLS	3/4"	-	-	UV # 9A	FCP-UVA	SPARE FOR FUTURE	289	
290	SPARE	1"	-	-	UV # 9A	CPP # 9A	SPARE FOR FUTURE	290	

J:\2016\1631 Columbia County Water Utility\1631-00-2E3.dwg, 2/2/21 2:07:03 PM, KChalker, HP Designjet T2500 Roll 2.pcl, 11



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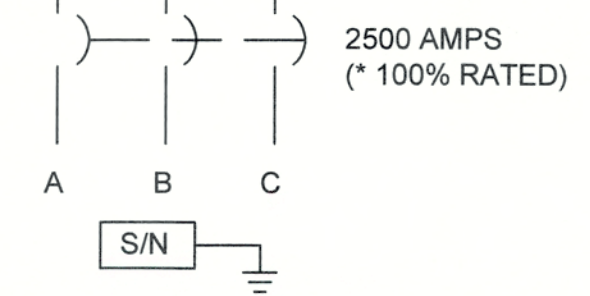
UV / ADVANCED OXIDATION TREATMENT
 BLANCHARD PLANT SIDE A UV BUILDING
 WIRING SCHEDULE



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

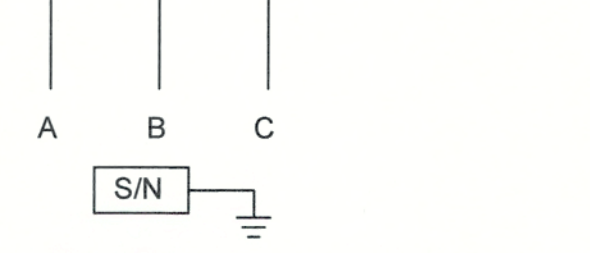
DESIGNED	SWG	REF.	1631-00	DWG NO.
DRAWN	KDC	DATE	DEC 2020	2E3
QC		SCALE	N/A	

LOAD VA	LOAD	NO.		NO.	LOAD	LOAD VA
		1		2		
202,000	CPP # 1A (NOTE 1)	3	300	4	CPP # 4A (NOTE 1)	202,000
		5		6		
		7		8		
202,000	CPP # 2A (NOTE 1)	9	300	10	CPP # 5A (NOTE 1)	202,000
		11		12		
		13		14		
202,000	CPP # 3A (NOTE 1)	15	300	16	CPP # 6A (NOTE 1)	202,000
		17		18		
		19		20		
	SPARE (NOTE 1)	21	300	22	SPARE (NOTE 1)	
		23		24		
		25		26		
	SPARE (NOTE 1)	27	300	28	RTU - 1A*	63000
		29		30		
		31		32		
30,000	EUH - 1A	33	50	34	RTU - 2A*	63,000
		35		36		
		37		38		
30,000	EUH - 2A	39	50	40	PANEL HVA	30,000
		41		42		



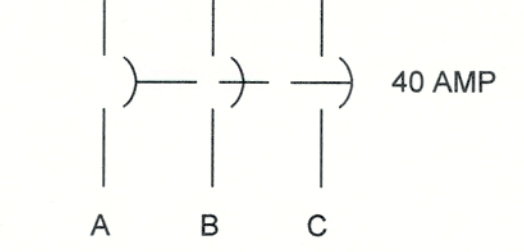
SWITCH GEAR SGA
480 VOLT, 3Ø, 4 WIRE, SURFACE MOUNT
 (ALL CIRCUIT BREAKERS RATED 20 AMPERES UNLESS NOTED)
 * HVAC UNIT

LOAD VA	LOAD	NO.		NO.	LOAD	LOAD VA
		1		2		
15,000	XFMR TVA	3		4	BRIDGE CRANE	10,000
		5		6		
		7		8		
1,750	F - 1A	9		10	VALVE V1	700
		11		12		
		13		14		
		15		16	VALVE V3	700
		17		18		
		19		20		
		21		22		
		23		24		
		25		26		
		27		28		
		29		30		

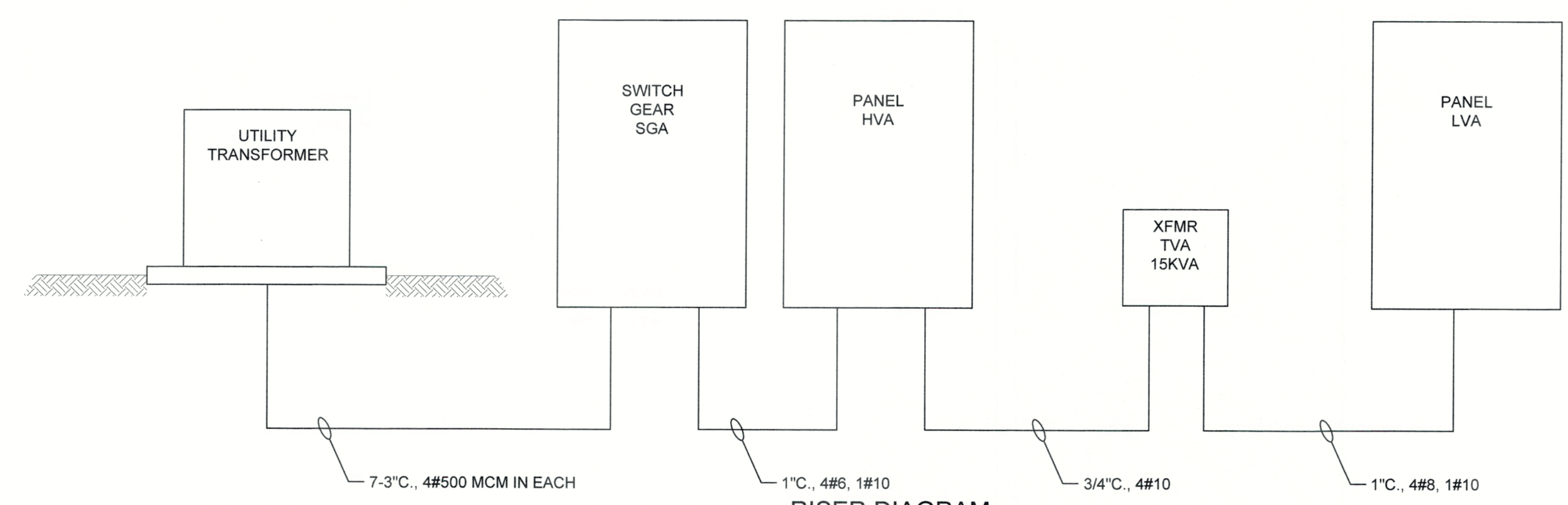


PANEL HVA
480 VOLT, 3Ø, 4 WIRE, SURFACE MOUNT
 (ALL CIRCUIT BREAKERS RATED 20 AMPERES UNLESS NOTED)

LOAD VA	LOAD	NO.		NO.	LOAD	LOAD VA
1600	LIGHTS	1		2	FIT - 2101	500
540	RECEPTACLES	3		4	FIT - 2101	500
1500	FCP - UVA	5		6	ROLL UP DOOR	1600
		7		8	SPARE	
1000	H2O2 PANEL	9	30	10	SPARE	
		11		12		
		13		14		
		15		16		
		17		18		
		19		20		
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		23		24		
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		29		30		



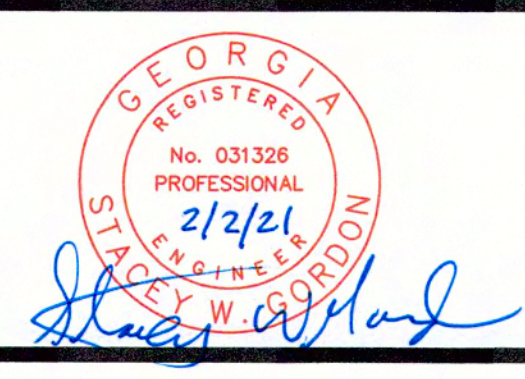
PANEL LVA
208 VOLT, 3Ø, 4 WIRE, SURFACE MOUNT
 (ALL CIRCUIT BREAKERS RATED 20 AMPERES UNLESS NOTED)



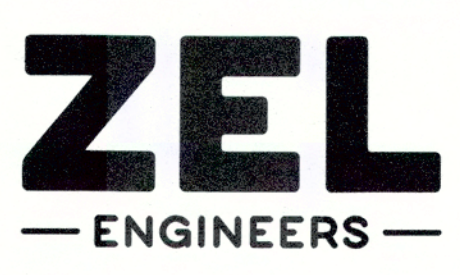
RISER DIAGRAM
 N.T.S.

NOTES:
 1. IN SWITCH GEAR SGA ALL CONTROL POWER PANEL (CPP) BREAKERS SHALL BE ELECTRONIC TRIP UNITS WITH 300 AT/ 400 AF.

J:\2016\1831 Columbia County Water Utility\1831-00 Blanchard and Clarks Hill WTP UV-Ferrosulfate Design\Drawings\1831-00-2E4.dwg, 2/2/2021, 10:44:36 AM, KChalker, HP Design\17250 Rev 2.pcd, 11



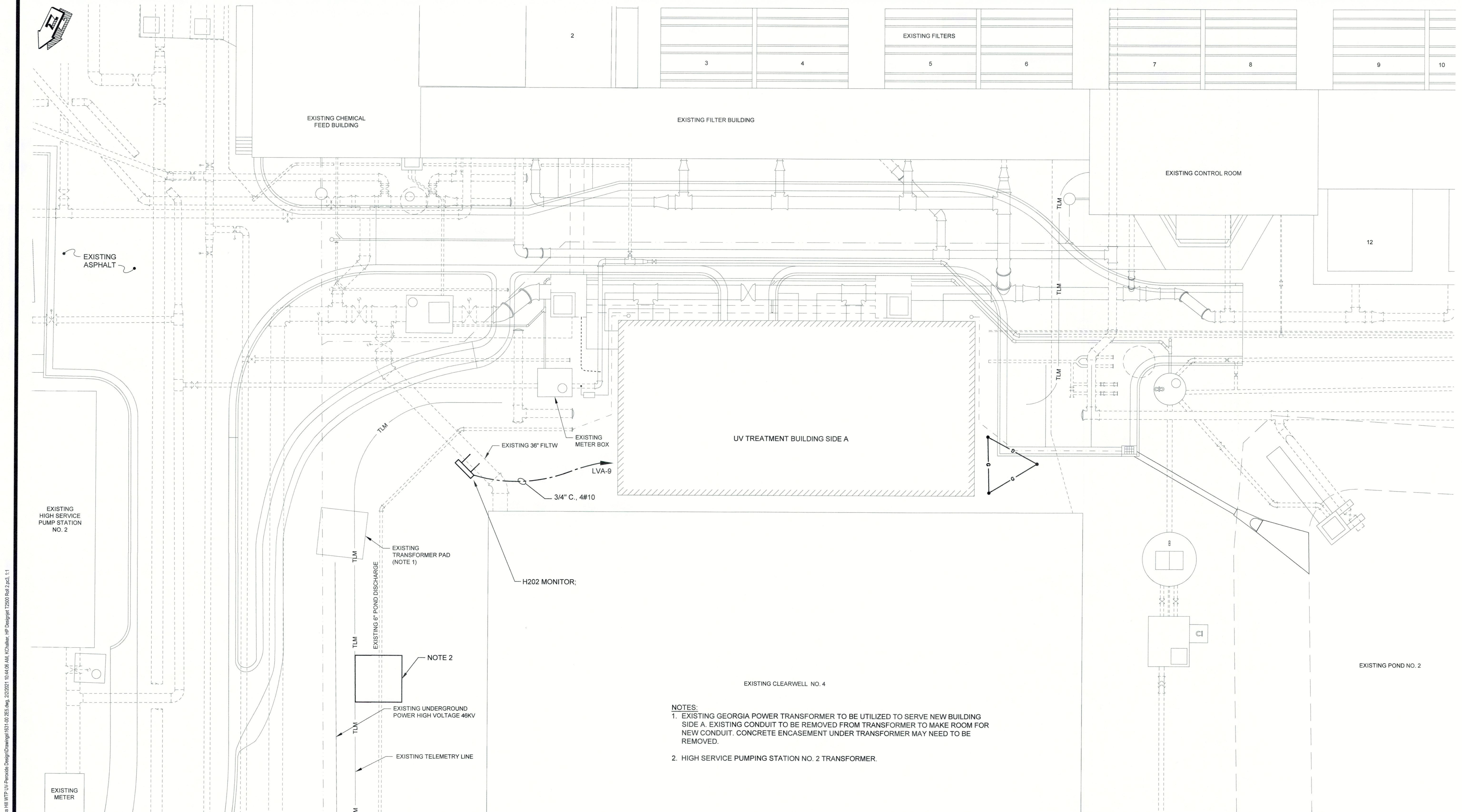
NO.	DATE	REVISION	BY	APVD



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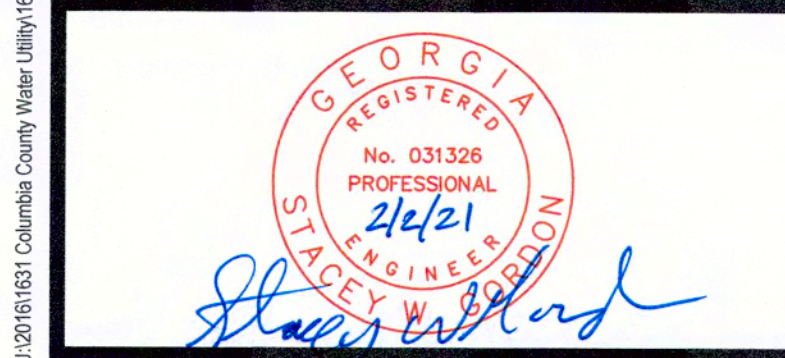
COLUMBIA COUNTY, GEORGIA
 UV / ADVANCED OXIDATION TREATMENT
 BLANCHARD PLANT SIDE A
 PANEL SCHEDULE AND RISER DIAGRAM

DESIGNED		SWG	REF.	1631-00	DWG NO.
DRAWN		KDC	DATE	DEC 2020	2E4
QC		SCALE	N/A		



NOTES:
 1. EXISTING GEORGIA POWER TRANSFORMER TO BE UTILIZED TO SERVE NEW BUILDING SIDE A. EXISTING CONDUIT TO BE REMOVED FROM TRANSFORMER TO MAKE ROOM FOR NEW CONDUIT. CONCRETE ENCASEMENT UNDER TRANSFORMER MAY NEED TO BE REMOVED.
 2. HIGH SERVICE PUMPING STATION NO. 2 TRANSFORMER.

ELECTRICAL SITE PLAN
 SCALE: 1" = 10'



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COLUMBIA COUNTY, GEORGIA

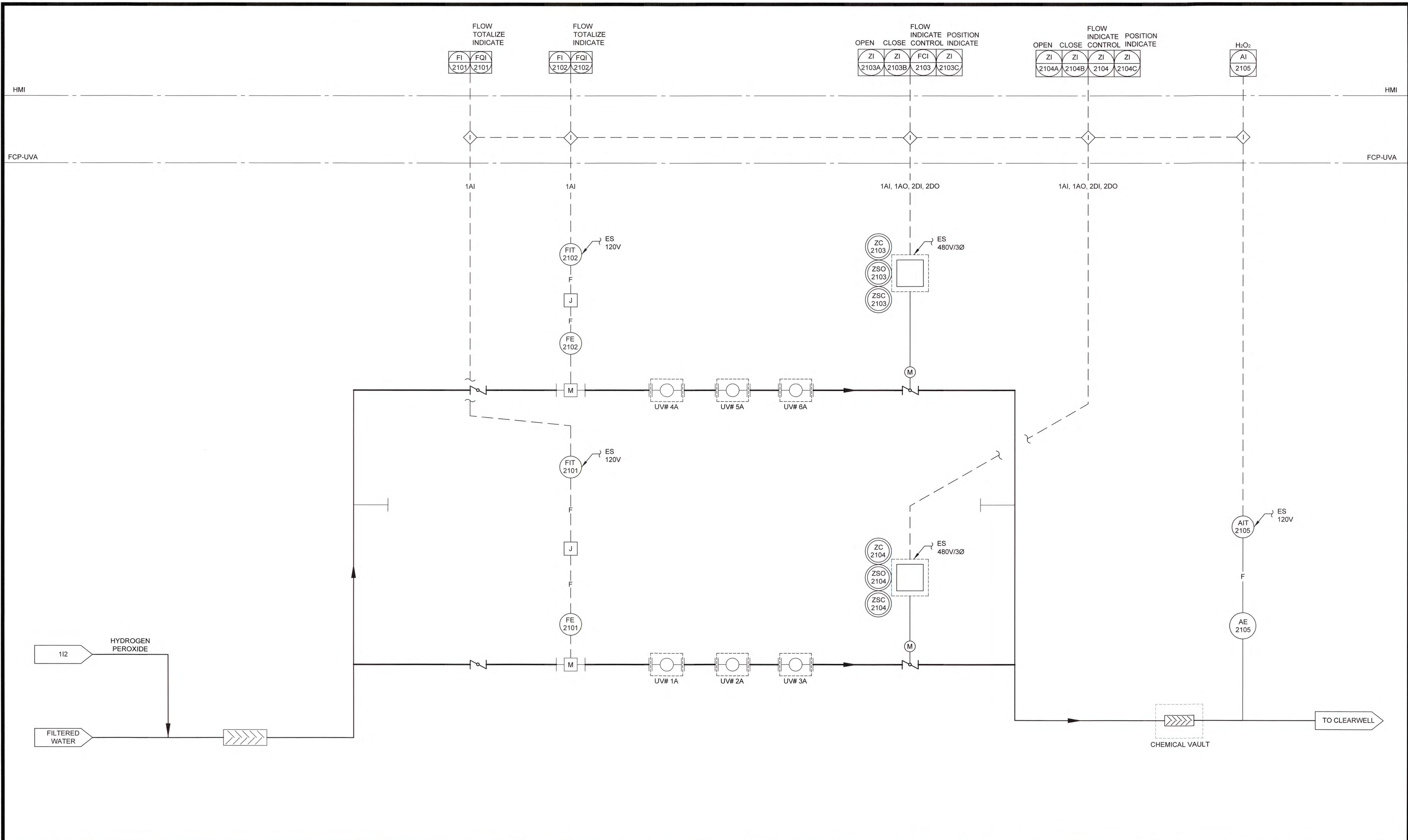
UV / ADVANCED OXIDATION TREATMENT

BLANCHARD PLANT SIDE A
 ELECTRICAL SITE PLAN

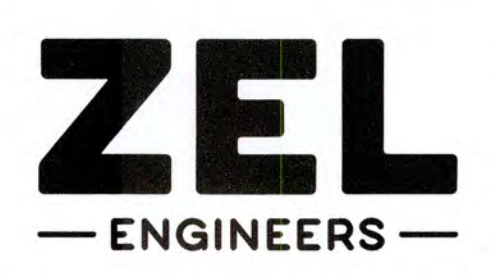
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DRAWN		SWH	DATE	DEC 2020	2E5
QC			SCALE	1" = 10'	

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J:\2016\161 Columbia County Water Utility\161-00\Blanchard and Clarke Hill WTP UV-Peroxides Design\Drawings\161-00-21.dwg, 12/22/20 3:02:01 PM, KChalmer, HP Design\17200 Ref 2.pcb, 1:1



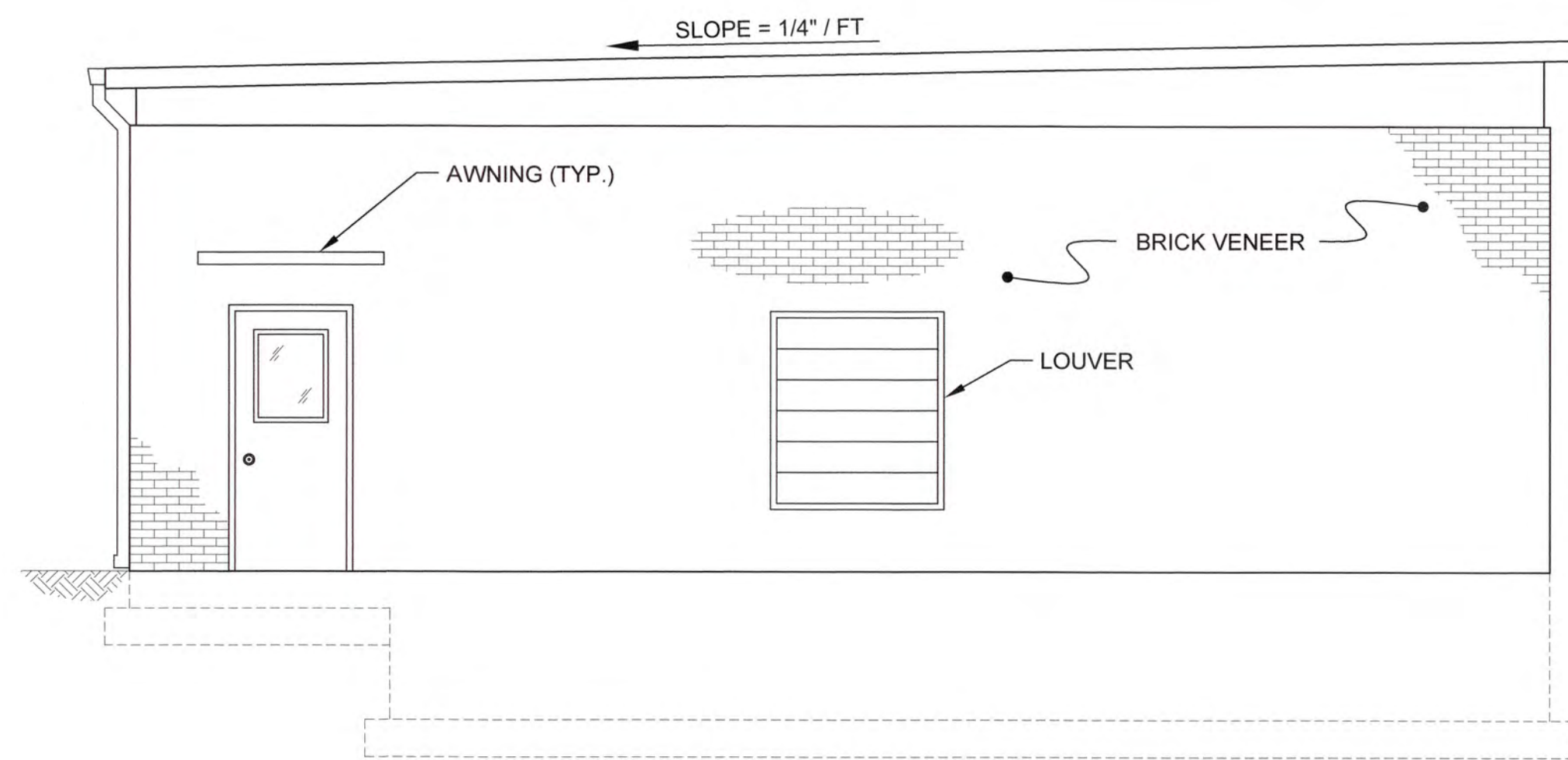
NO.	DATE	REVISION	BY	APVD



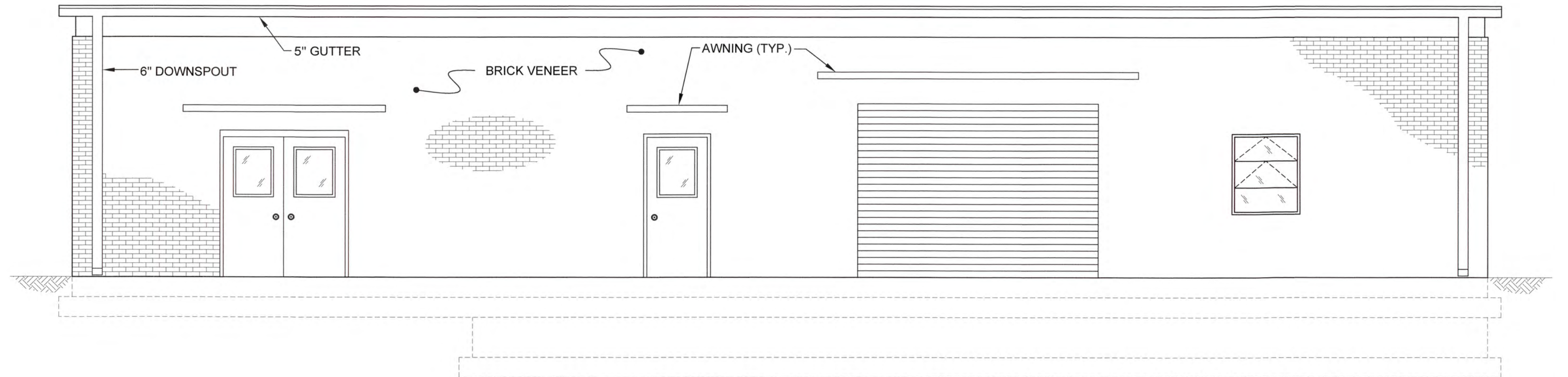
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COLUMBIA COUNTY, GEORGIA
 UV / ADVANCED OXIDATION TREATMENT
 BLANCHARD PLANT SIDE A
 P & ID - UV TREATMENT TRAIN

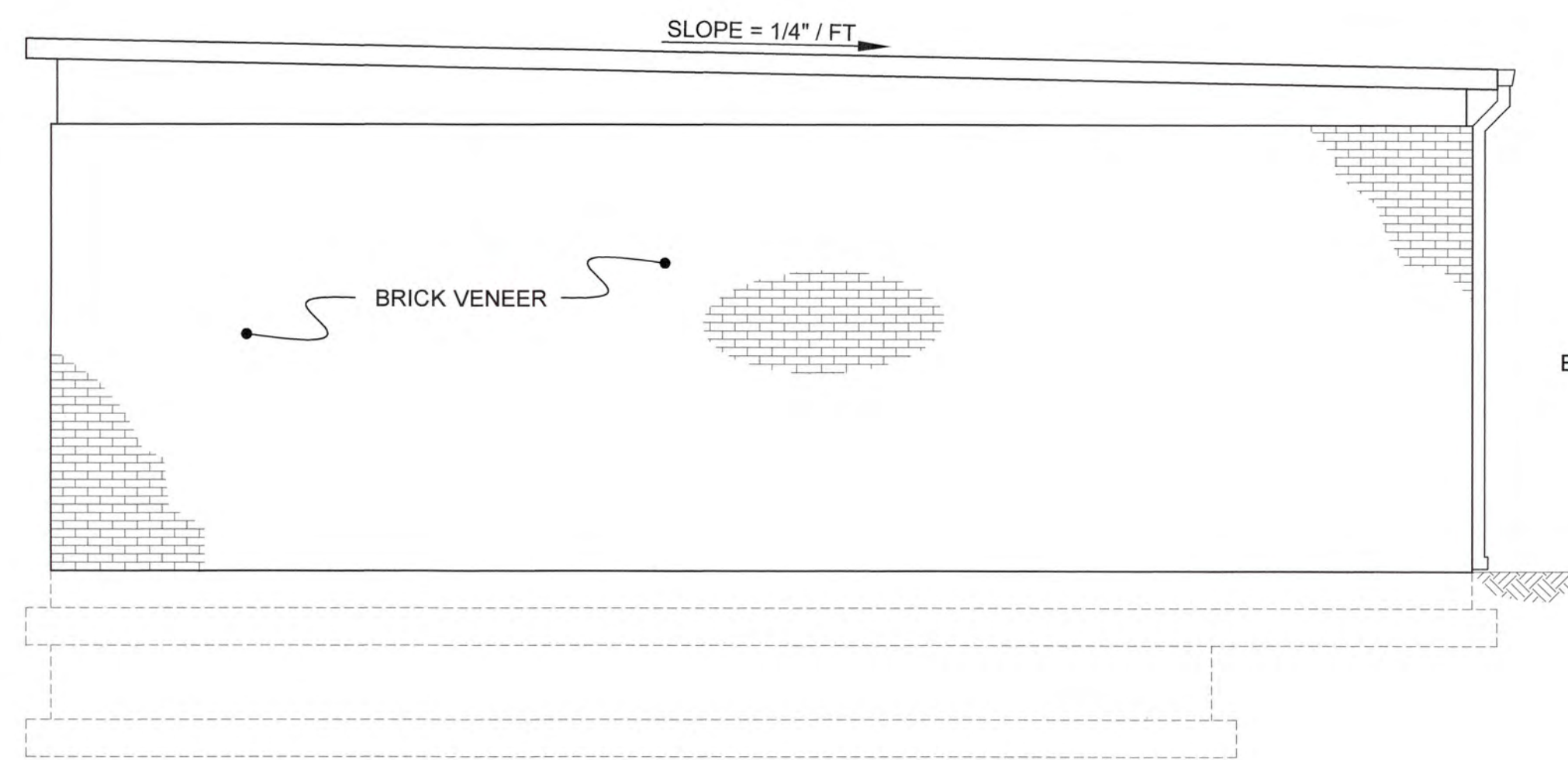
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DRAWN		KDC	DATE	DEC 2020	211
QC			SCALE	N/A	



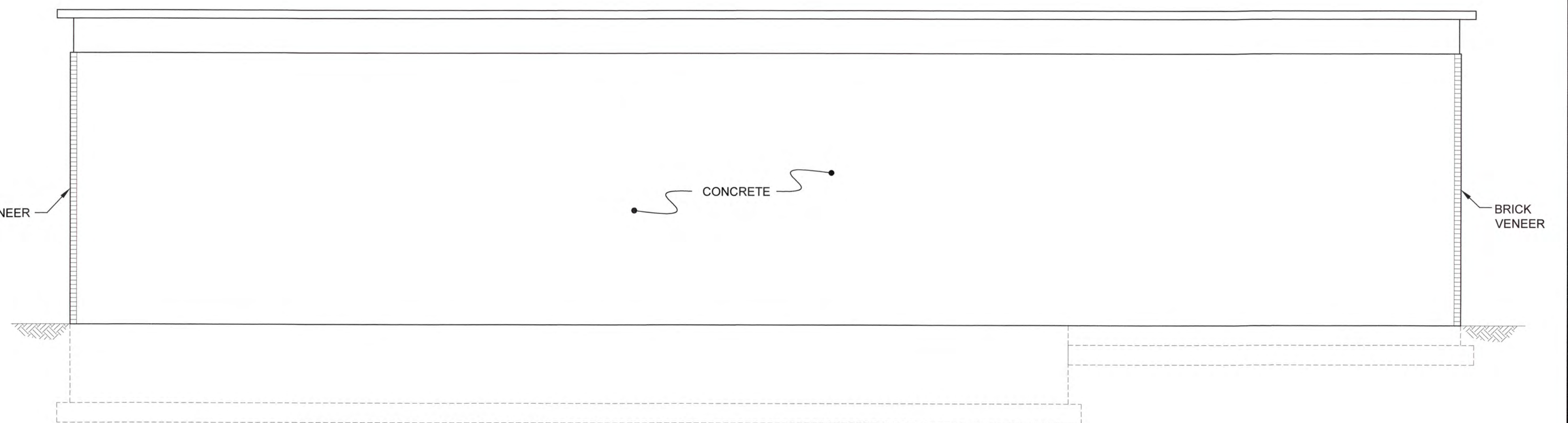
NORTH ELEVATION
SCALE: 1/4"=1'-0"



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



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

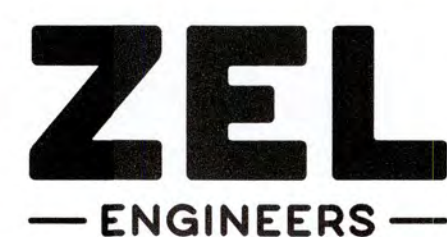


WEST ELEVATION
SCALE: 1/4"=1'-0"

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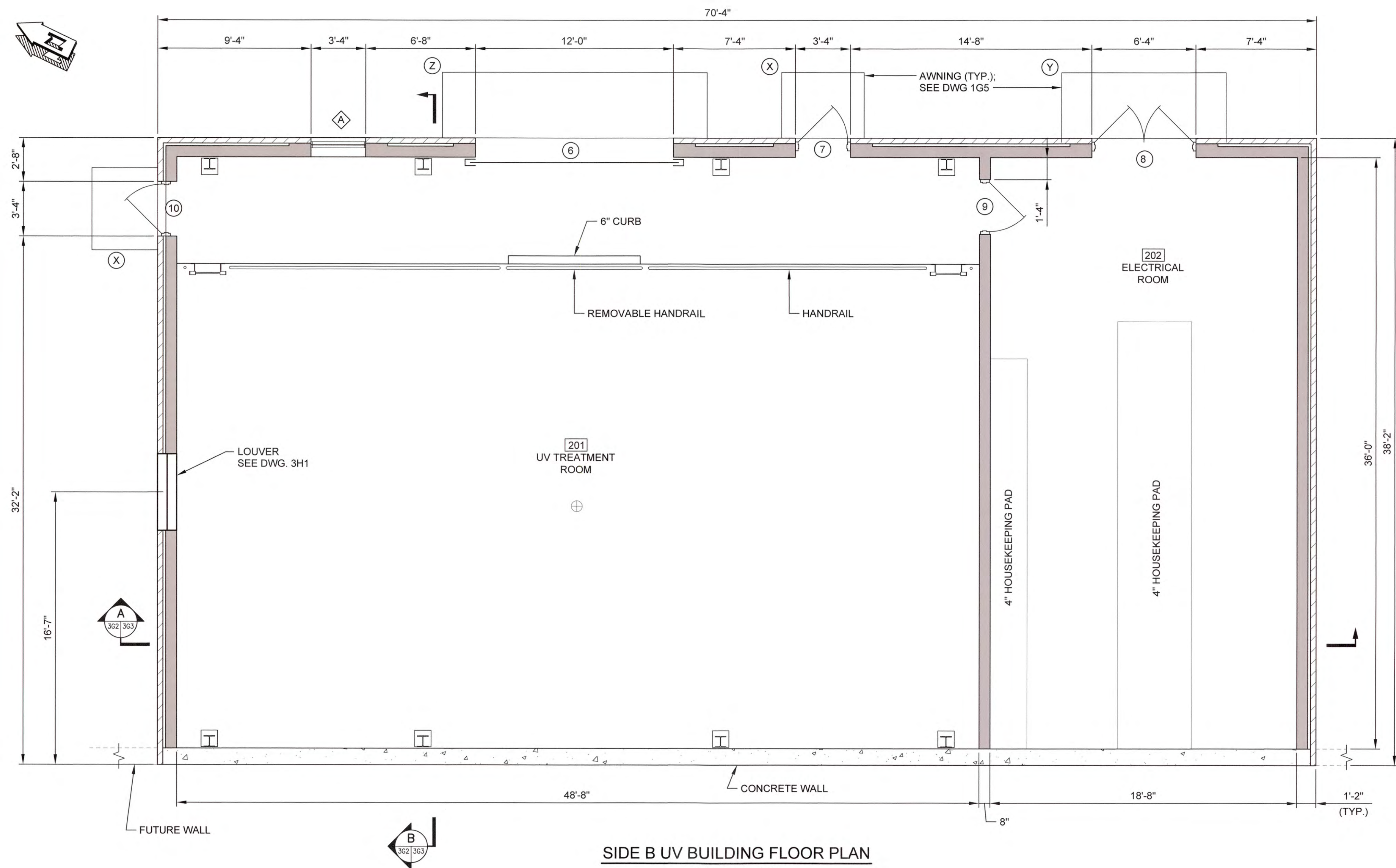
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COLUMBIA COUNTY, GEORGIA

UV / ADVANCED OXIDATION TREATMENT
BLANCHARD PLANT SIDE B
UV BUILDING ELEVATIONS

0 1 IF THIS BAR DOES NOT MEASURE 1" DRAWING IS NOT TO LABELED SCALE

DESIGNED	DKR	REF.	1631-00	DWG NO.
DRAWN	KDC	DATE	DEC 2020	3G1
QC		SCALE	1/4"=1'-0"	

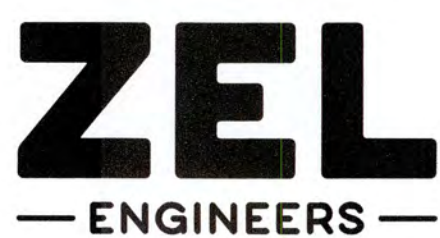


SIDE B UV BUILDING FLOOR PLAN
SCALE: 1/4"=1'-0"

J:\2016\1631 Columbia County Water Utility\1631-00 Blanchard and Clarke Hill WTP UV-Peroxide Design\Drawings\1631-00-362.dwg, 12/20/20 2:56:10 PM, KChiller, HP Design\17500 Plot 2.dwg, 11



NO.	DATE	REVISION	BY	APVD



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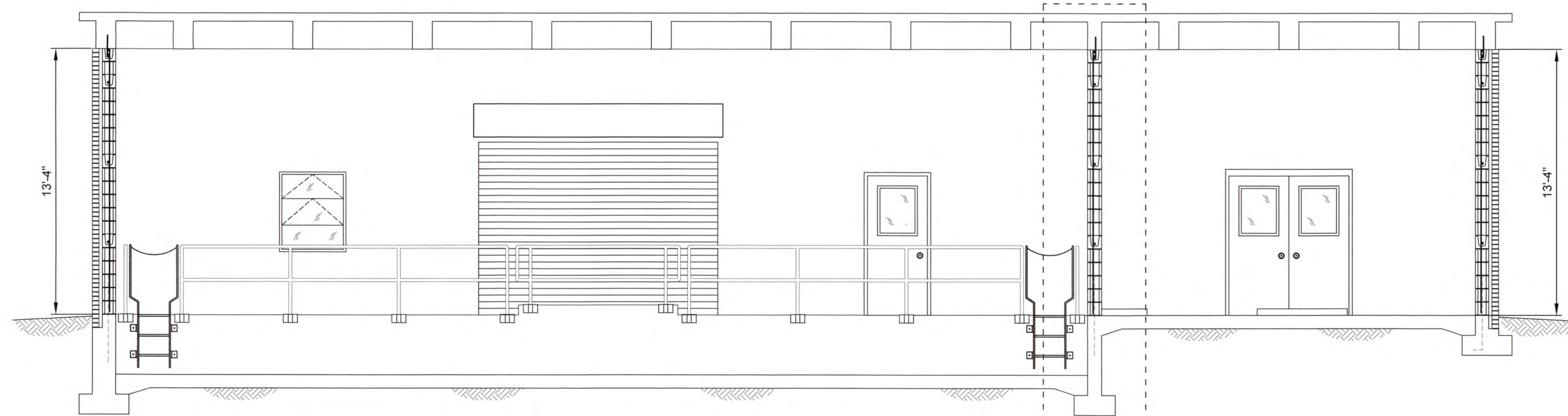
COLUMBIA COUNTY, GEORGIA

UV / ADVANCED OXIDATION TREATMENT
BLANCHARD PLANT SIDE B
UV BUILDING FLOOR PLAN



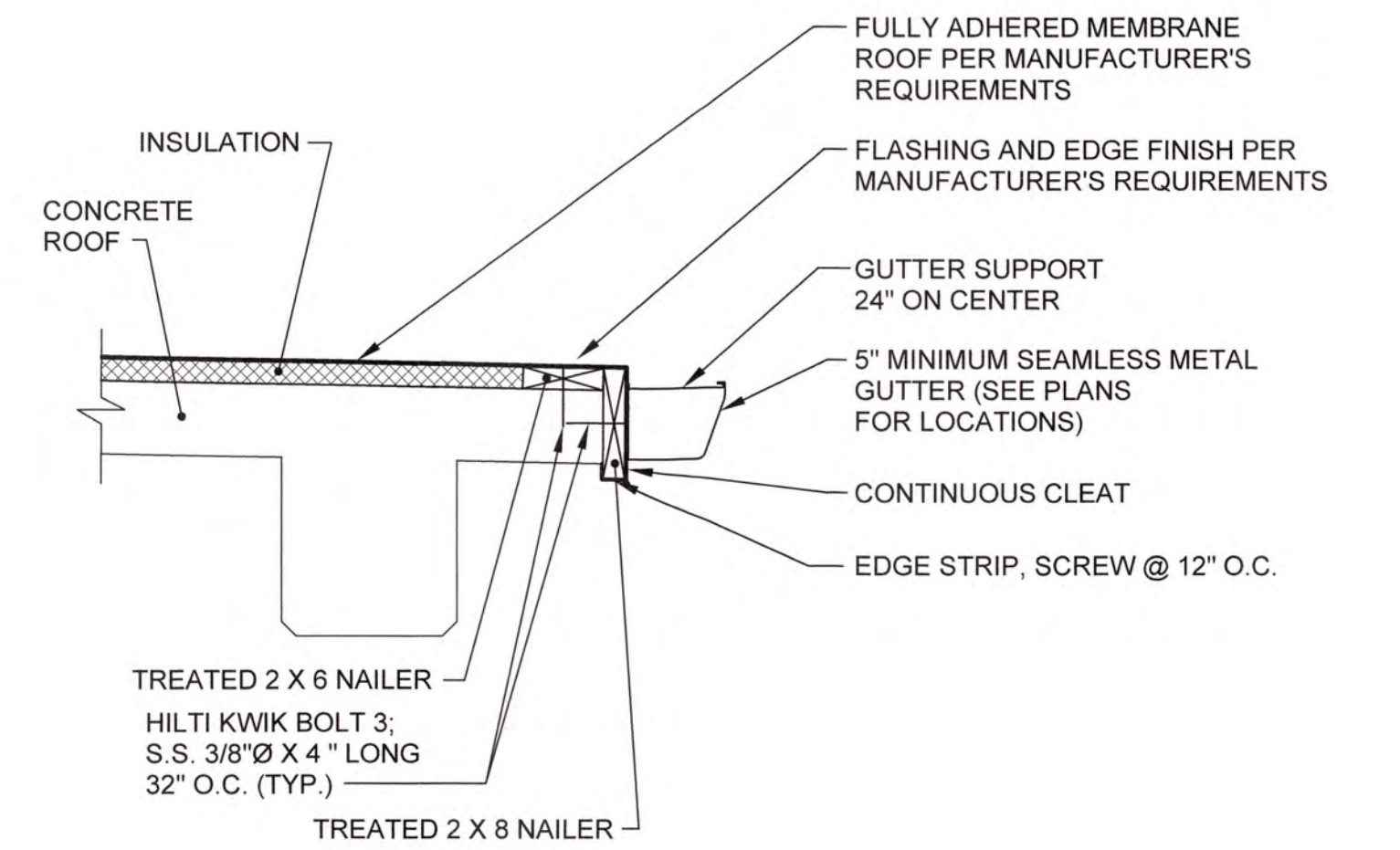
IF THIS BAR DOES NOT MEASURE 1" DRAWING IS NOT TO LABELED SCALE

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DRAWN	KDC	DATE	DEC 2020	3G2
QC		SCALE	1/4"=1'-0"	

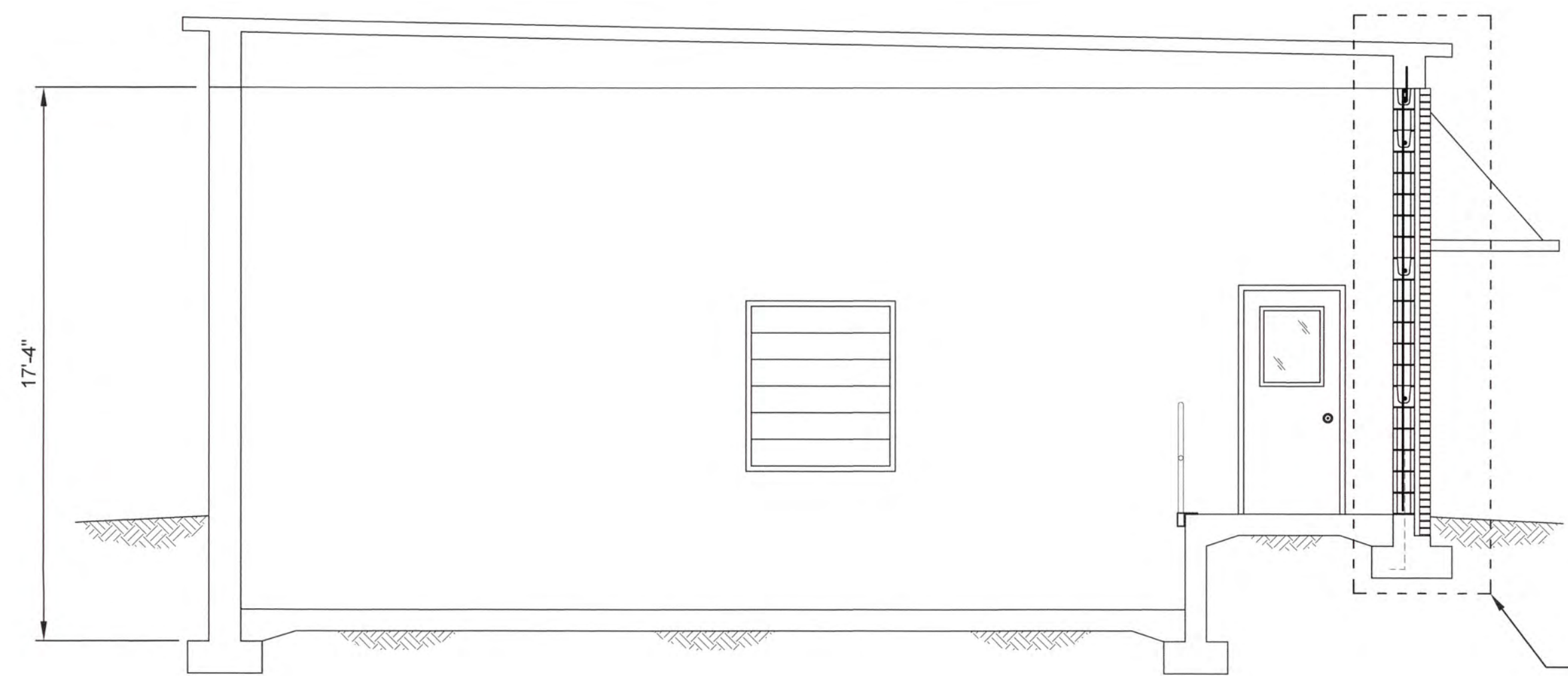


A SECTION
3G33G3 SCALE: 1/4"=1'-0"

1
3G33G3

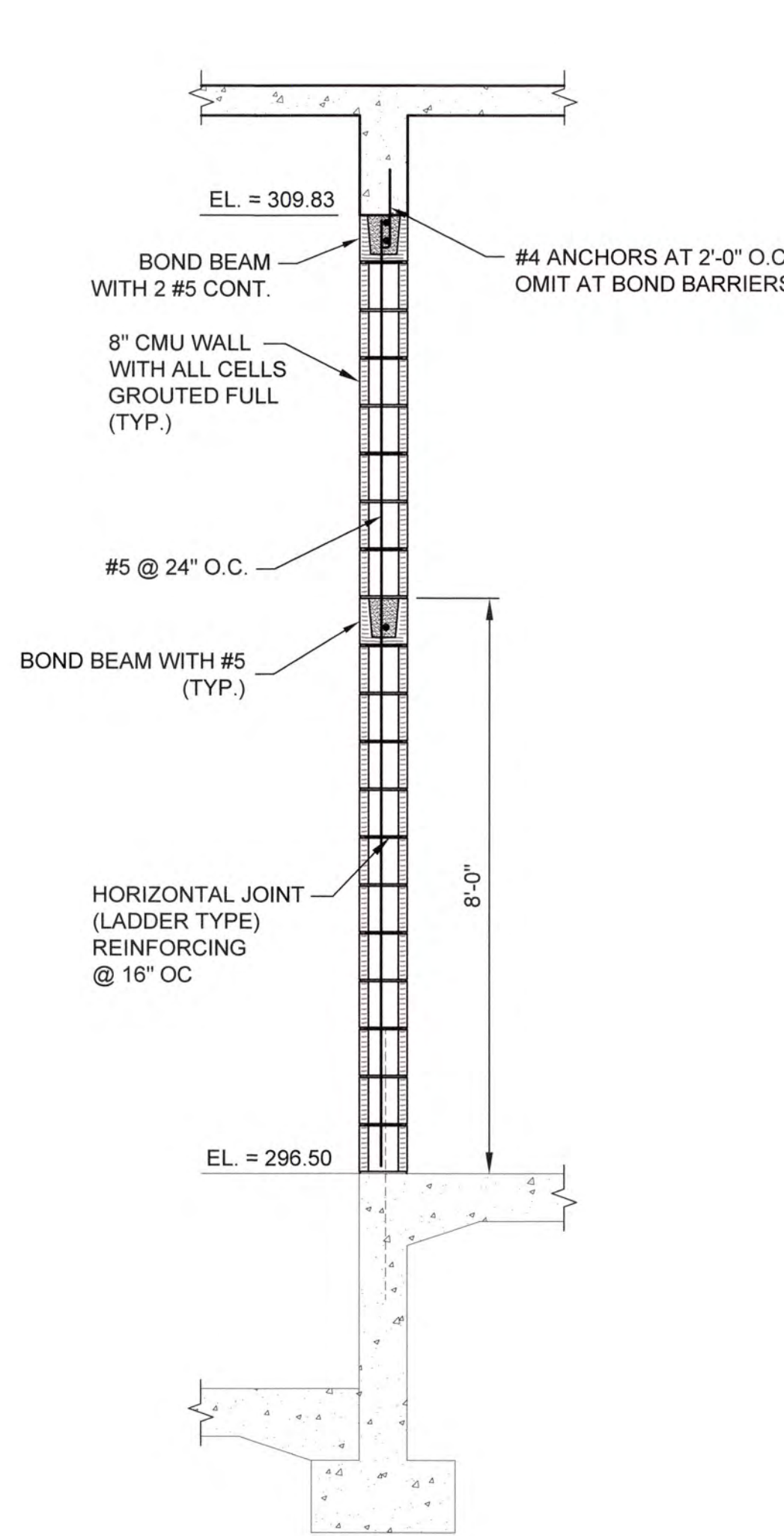


TYPICAL MEMBRANE ROOF DETAIL
SCALE: NTS

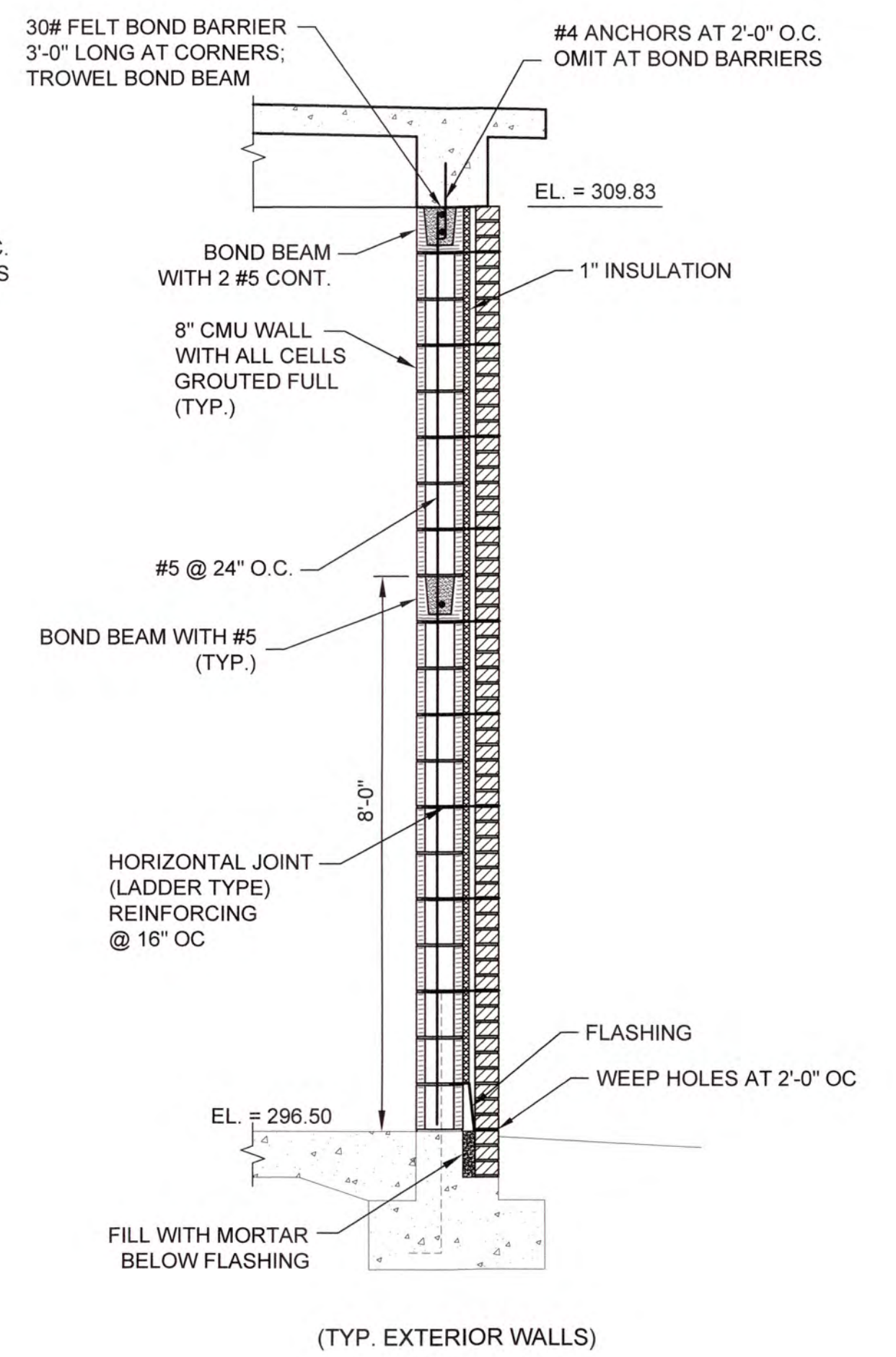


B SECTION
3G33G3 SCALE: 1/4"=1'-0"

2
3G33G3



1 DETAIL
3G33G3 SCALE: 1/2" = 1'-0"

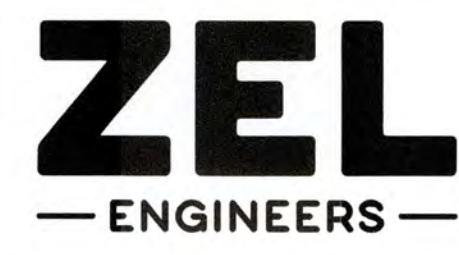


2 DETAIL
3G33G3 SCALE: 1/2" = 1'-0"

J:\2016\151 Columbia County Water Utility\151-00 Blanchard and Clarke Hill WTP\14\Permit\Design\Drawings\151-00 3G3.dwg, 12/20/2016 2:56:41 PM, KChiller, HP Design\17200 Plot 2.dwg, 11



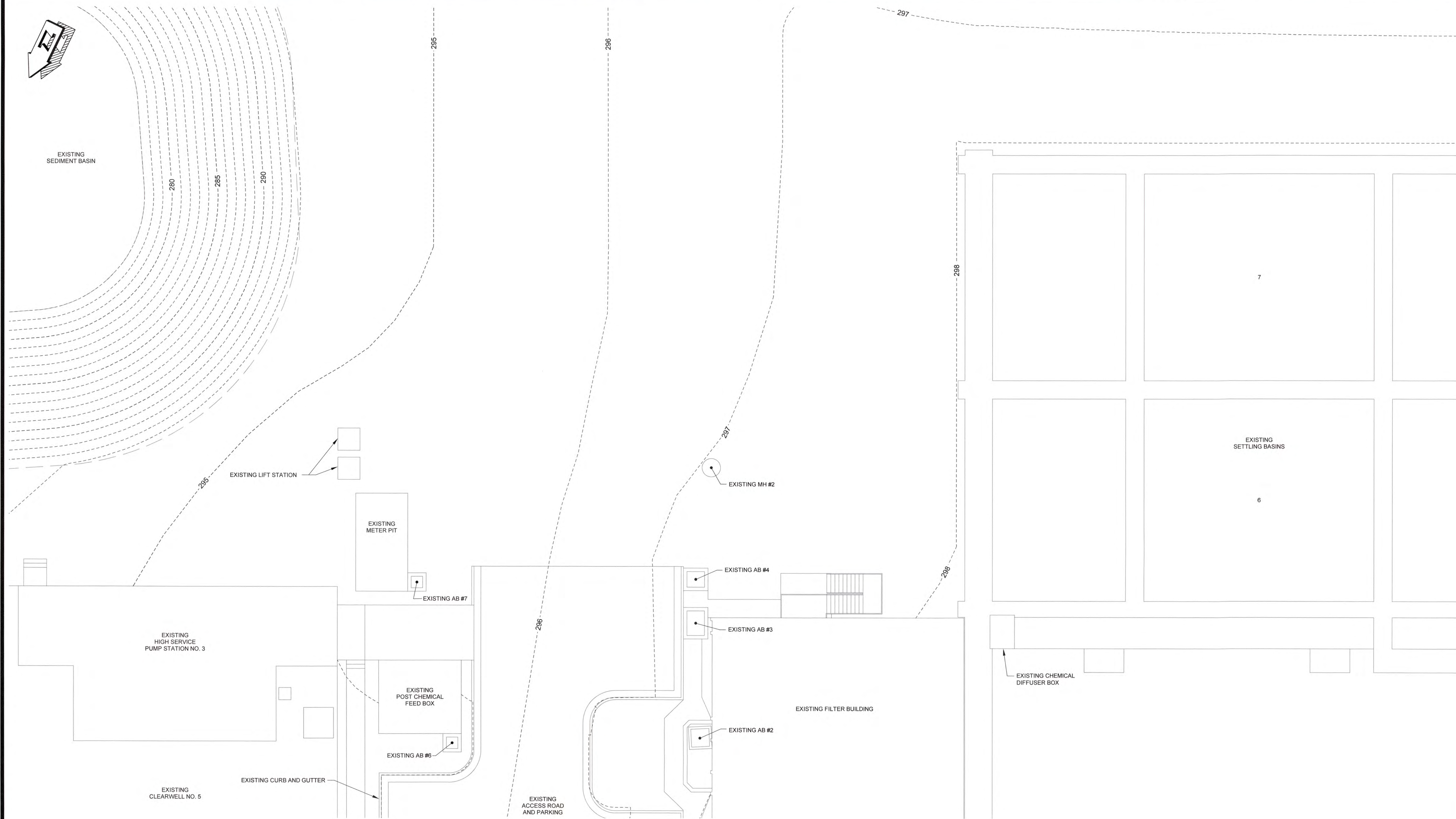
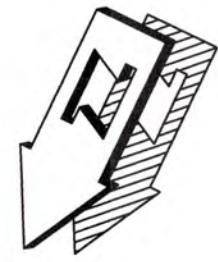
NO.	DATE	REVISION	BY	APVD



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COLUMBIA COUNTY, GEORGIA
UV / ADVANCED OXIDATION TREATMENT
BLANCHARD PLANT SIDE B
UV BUILDING SECTIONS

DESIGNED		DKR	REF.	1631-00	DWG NO.
DRAWN		KDC	DATE	DEC 2020	3G3
QC			SCALE	AS SHOWN	

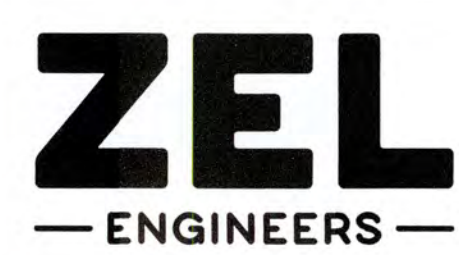


EXISTING CONDITIONS PLAN
SCALE: 1" = 10'

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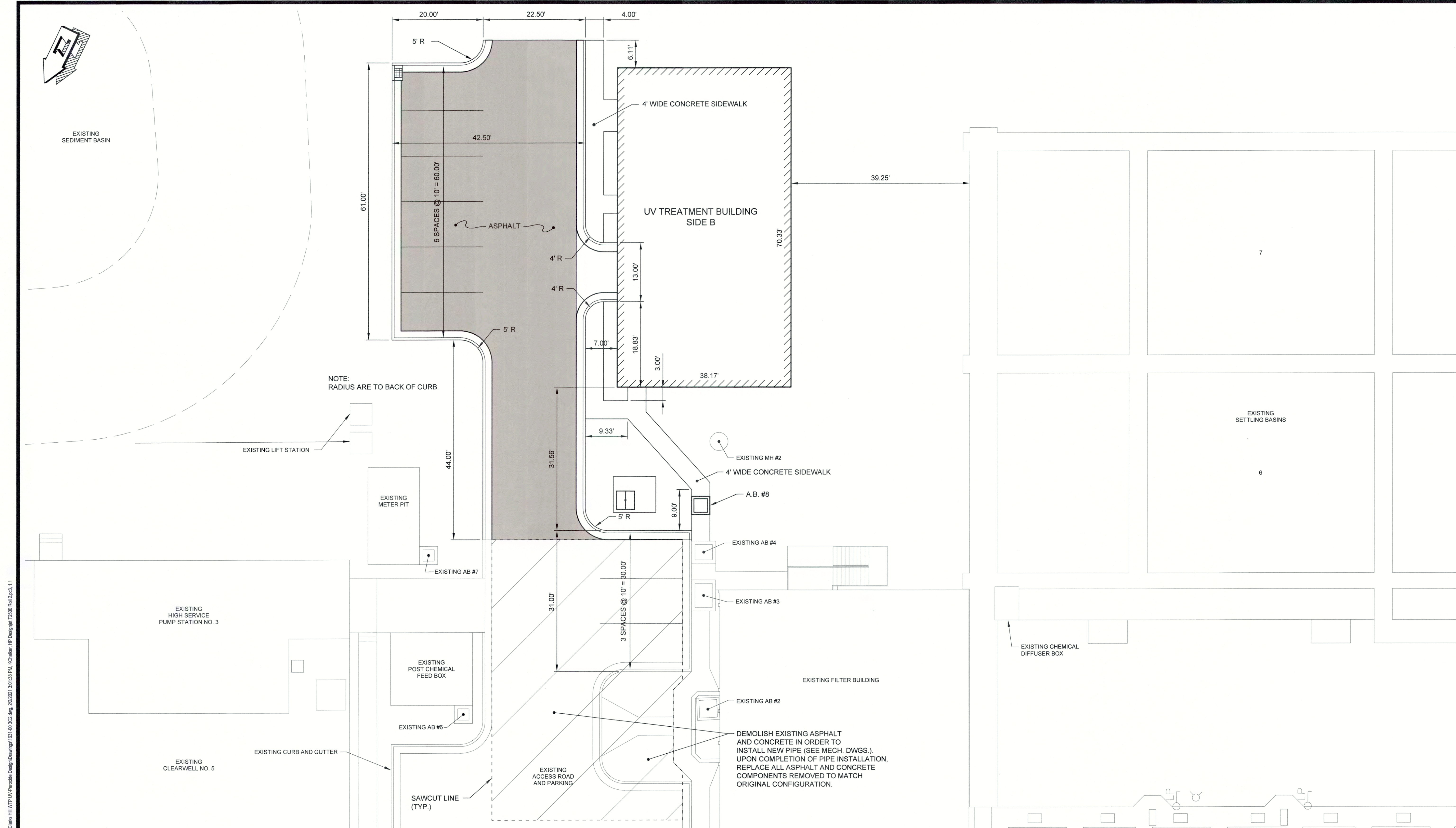
NO.	DATE	REVISION	BY	APVD



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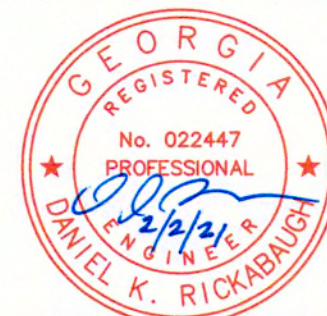
COLUMBIA COUNTY, GEORGIA
UV / ADVANCED OXIDATION TREATMENT
BLANCHARD PLANT SIDE B
EXISTING CONDITIONS PLAN

0 1		IF THIS BAR DOES NOT MEASURE 1" DRAWING IS NOT TO LABELED SCALE		
DESIGNED	SWG	REF.	1631-00	DWG NO.
DRAWN	KDC	DATE	DEC 2020	3C1
QC		SCALE	1" = 10'	

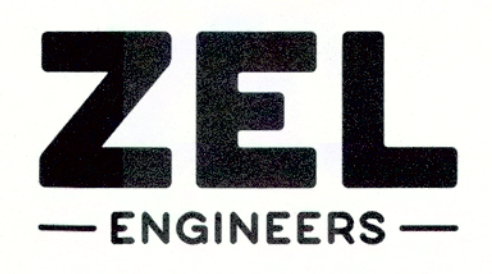


SIDE B SITE STAKING PLAN
SCALE: 1" = 10'

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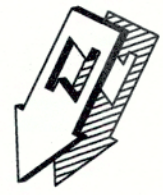
NO.	DATE	REVISION	BY	APVD



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COLUMBIA COUNTY, GEORGIA
 UV / ADVANCED OXIDATION TREATMENT
 BLANCHARD PLANT SIDE B
 SITE STAKING PLAN

0 1		IF THIS BAR DOES NOT MEASURE 1" DRAWING IS NOT TO LABELED SCALE		
DESIGNED	SWG	REF.	1631-00	DWG NO.
DRAWN	KDC	DATE	DEC 2020	3C2
QC		SCALE	1" = 10'	



EXISTING
SEDIMENT BASIN

SEE DWG 3C4 FOR CONTINUATION

LIMITS OF DISTURBANCE

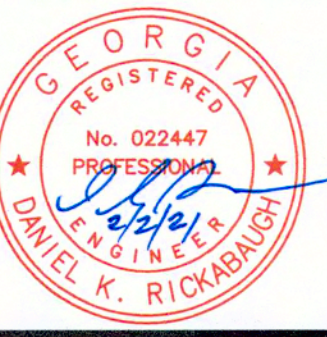
SIDE B
UV TREATMENT BUILDING
F.F. = 296.50

EXISTING
SETTLING BASINS

SITE GRADING PLAN

SCALE: 1" = 10'

J:\2016\1631 Columbia County Water Utility\1631-03\3C3.dwg, 2/2/2021 11:20:38 AM, E:\Info, HP DesignJet 7500 Plot, P, ps, 11



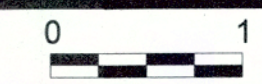
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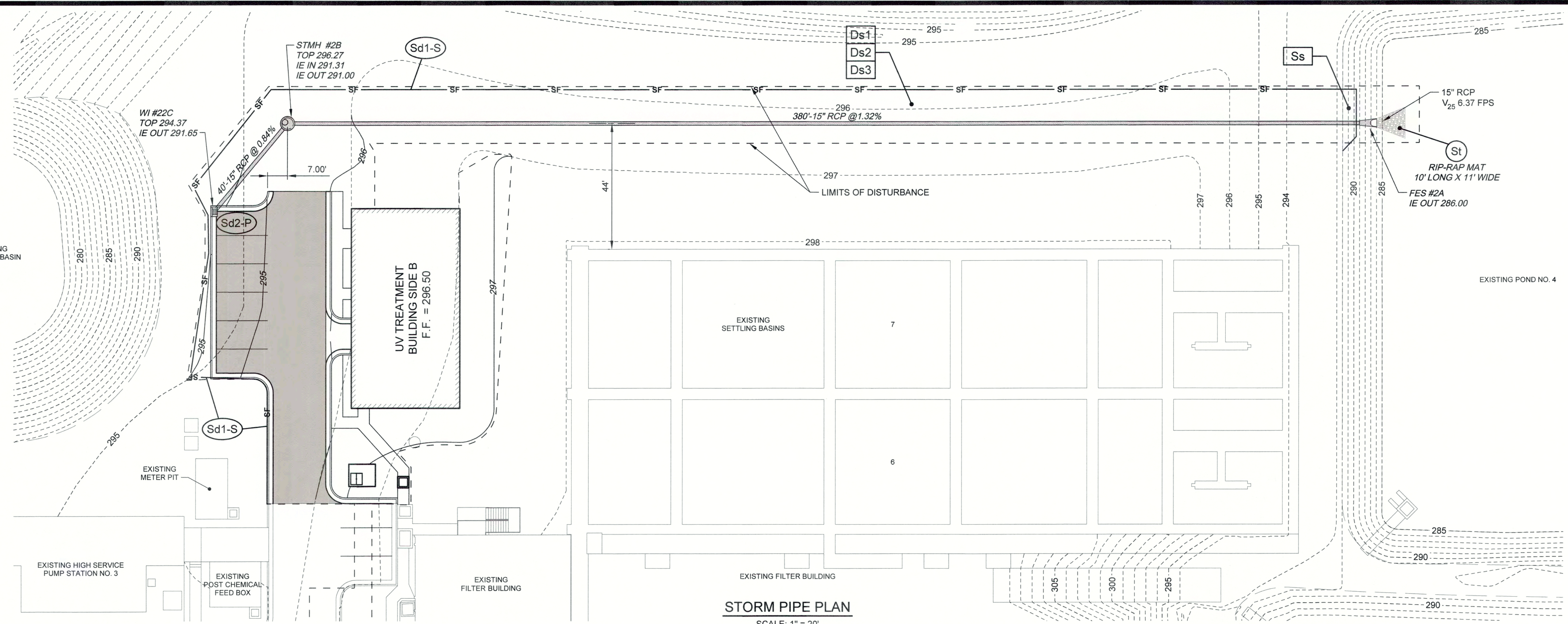
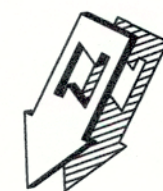
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COLUMBIA COUNTY, GEORGIA
 UV / ADVANCED OXIDATION TREATMENT
 BLANCHARD PLANT SIDE B
 SITE GRADING PLAN

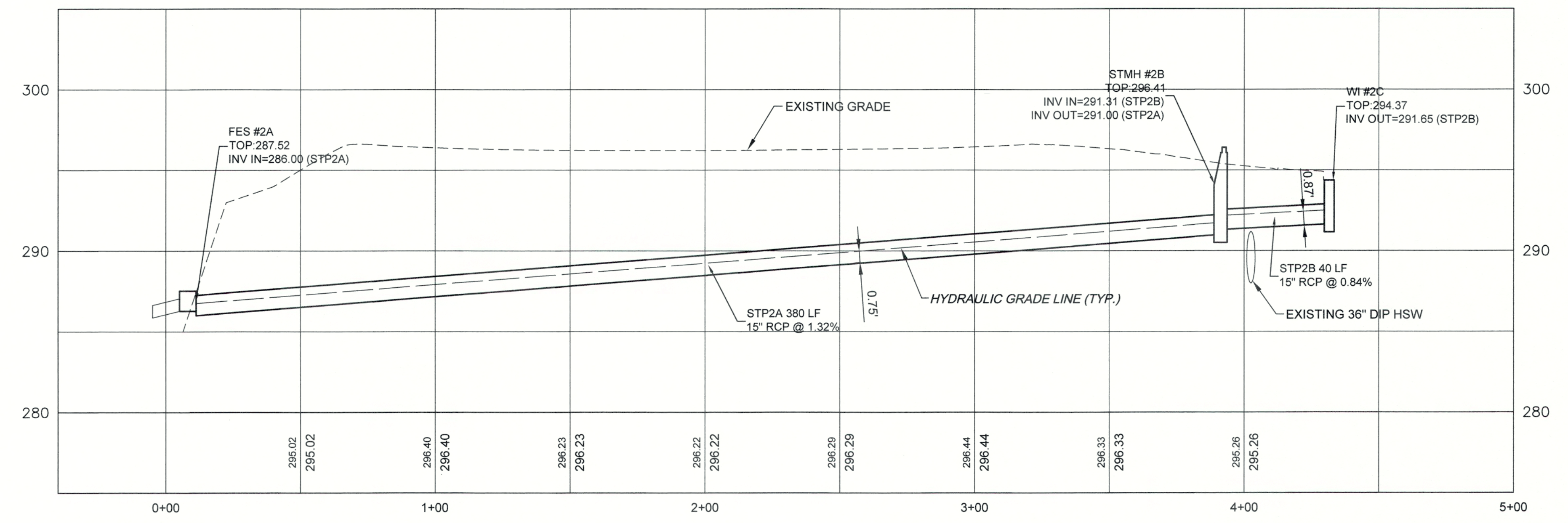
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DRAWN		KDC	DATE	DEC 2020	
QC			SCALE	1" = 10'	



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

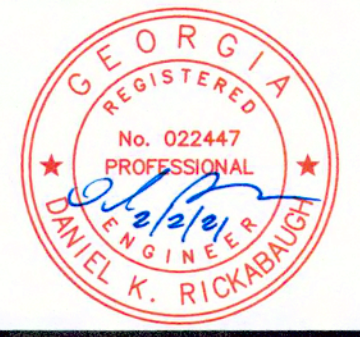


STORM PIPE PLAN
SCALE: 1" = 20'

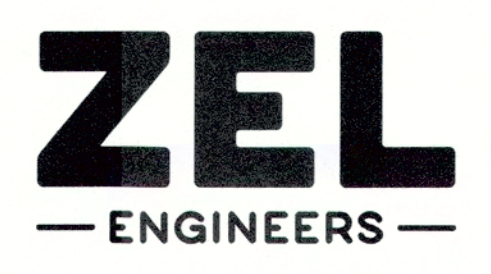


Storm Sewer Run '2'
HORIZONTAL SCALE: 1"=30'
VERTICAL SCALE: 1"=5'

J:\2016\1631 Columbia County Water Utility\1631-00 Blanchard and Clarke Hill WTP UV Pretrode Design\Drawings\1631-00 3C.dwg, 2/2/2021 11:49:31 AM, E:\rds, HP Design\172500\1631-00 3C.dwg, 1/1



NO.	DATE	REVISION	BY	APVD



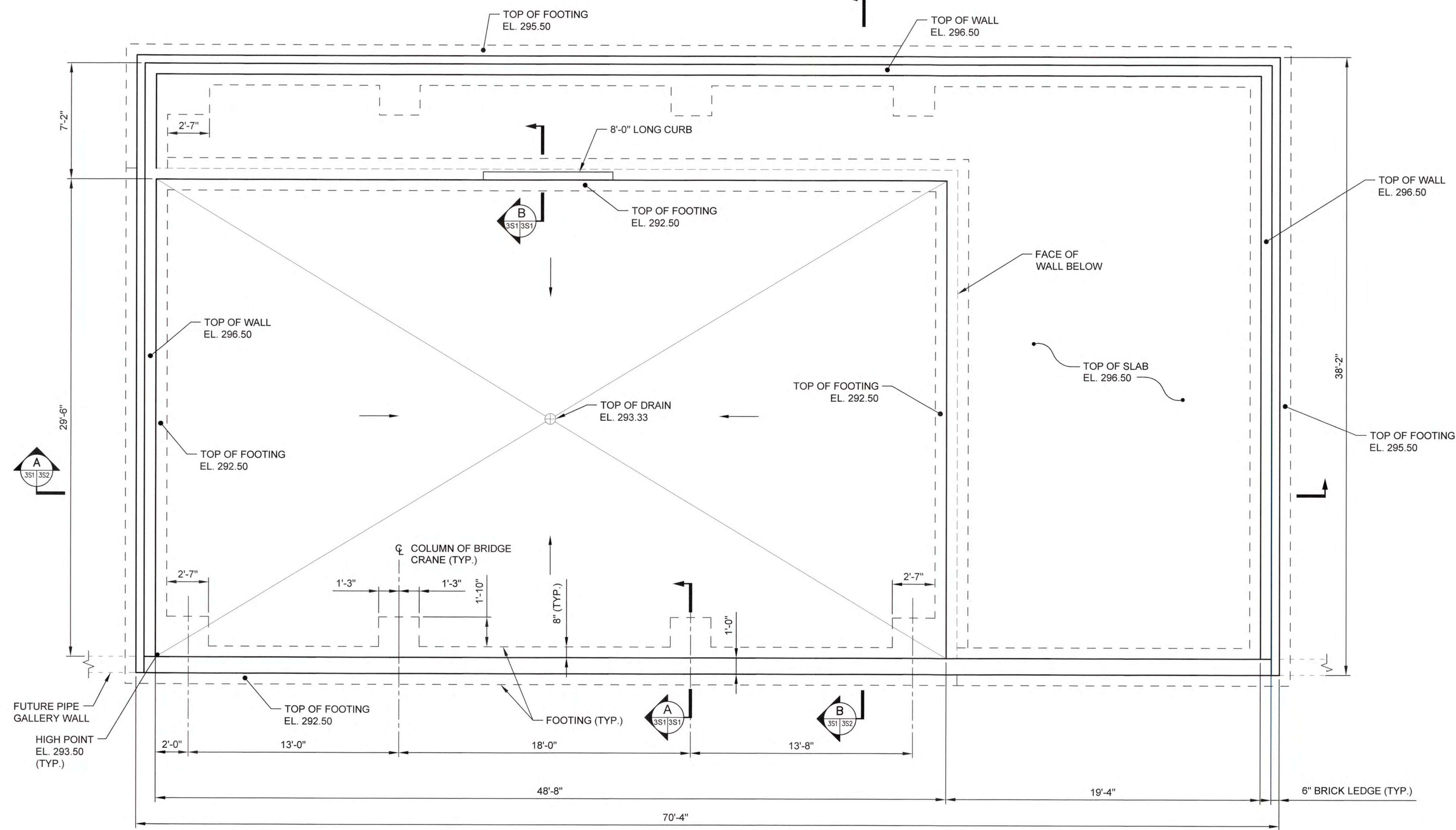
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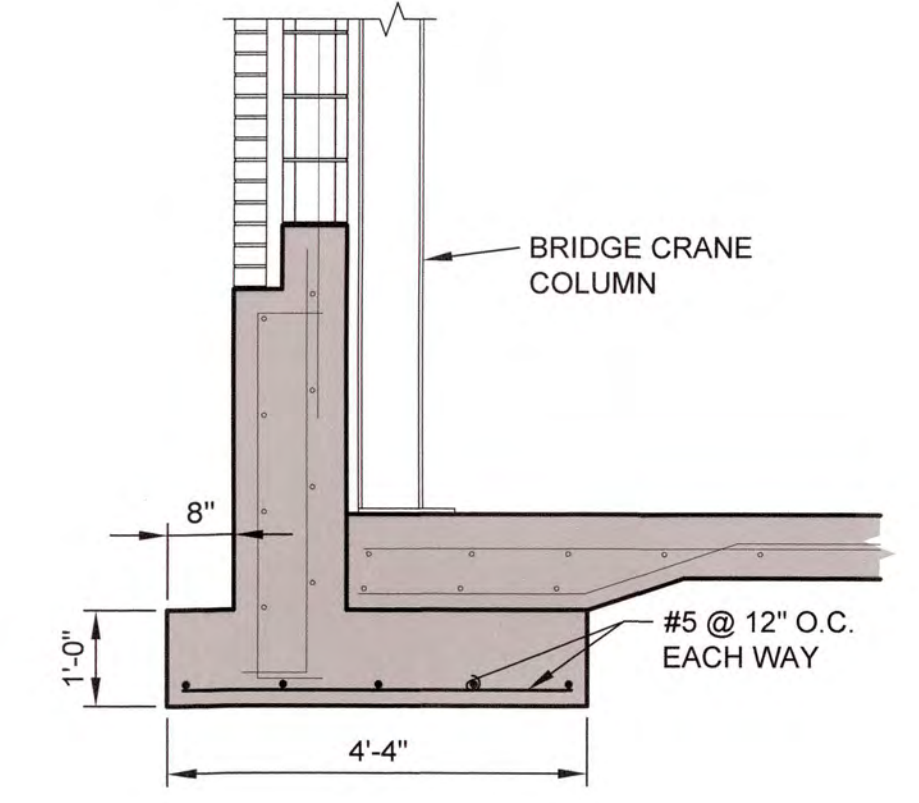
UV / ADVANCED OXIDATION TREATMENT
BLANCHARD PLANT SIDE B
STORM PIPE PLAN AND PROFILE

0 1 IF THIS BAR DOES NOT MEASURE 1" DRAWING IS NOT TO LABELED SCALE

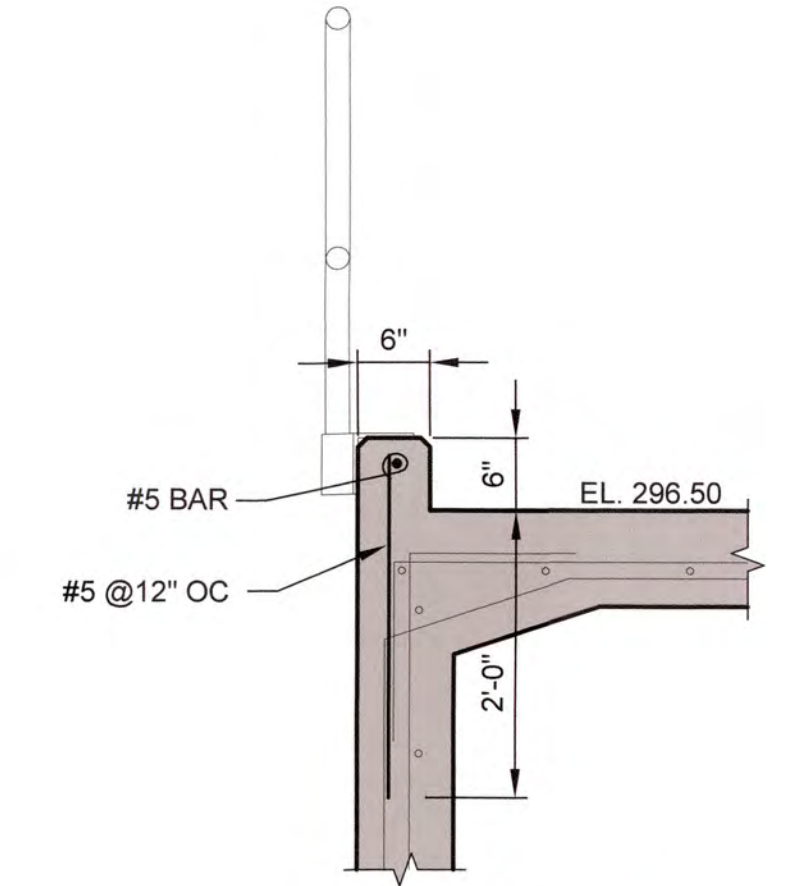
DESIGNED	SWG	REF.	1631-00	DWG NO.
DRAWN	KDC	DATE	DEC 2020	3C4
QC		SCALE	AS SHOWN	



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



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

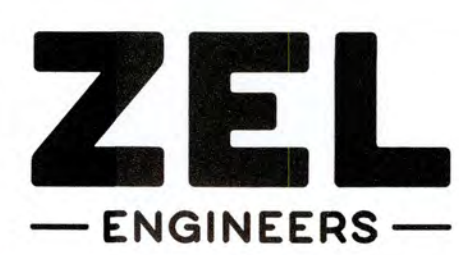


B SECTION
SCALE: 1/2" = 1'-0"

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NO.	DATE	REVISION	BY	APVD



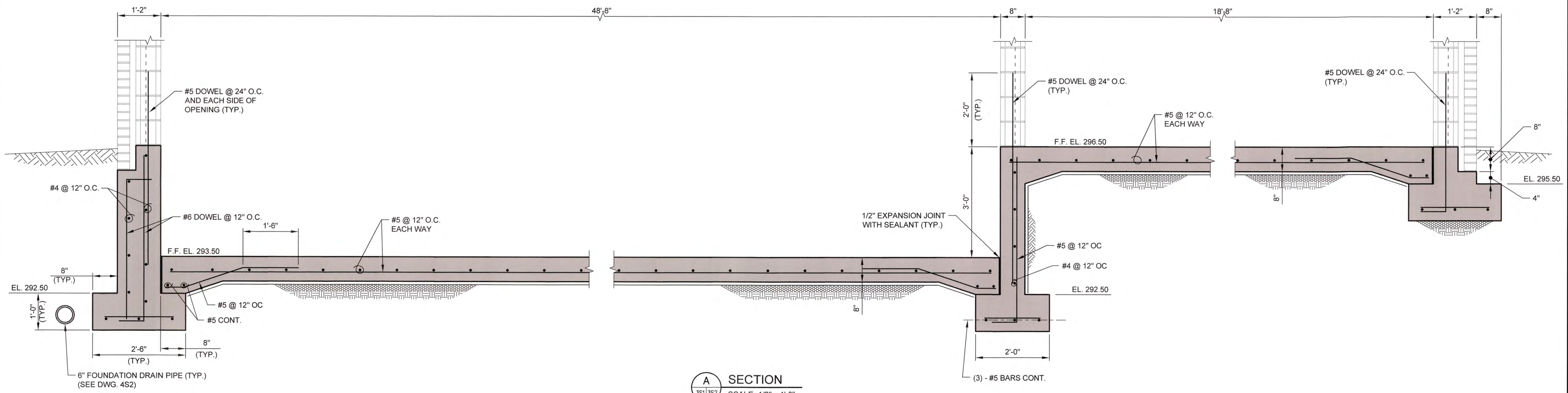
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COLUMBIA COUNTY, GEORGIA

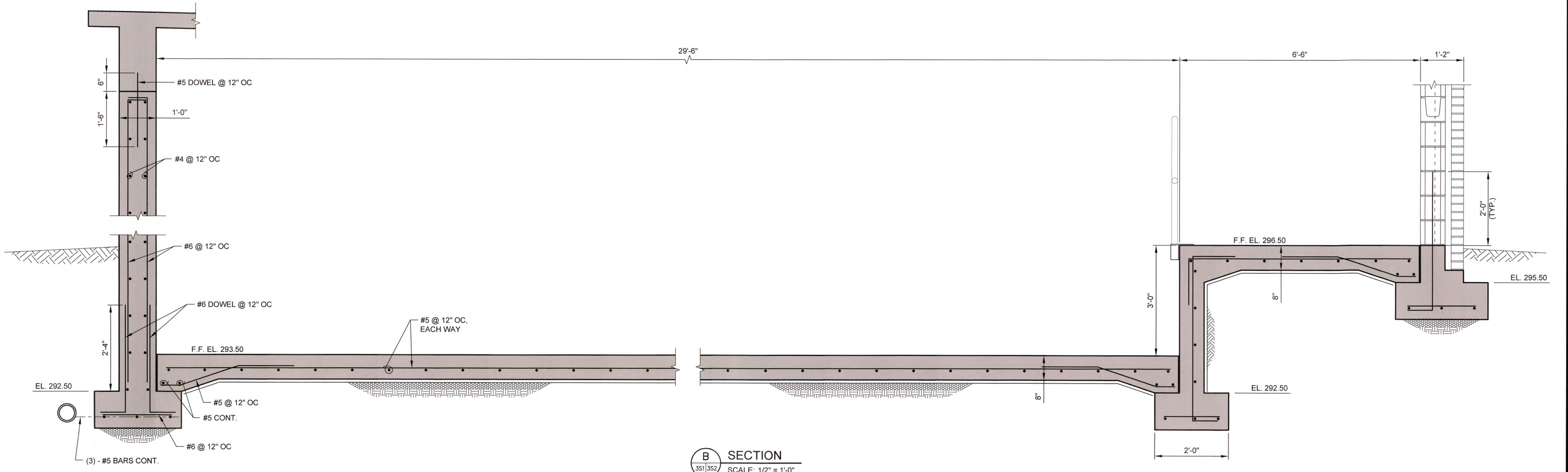
UV / ADVANCED OXIDATION TREATMENT
BLANCHARD PLANT SIDE B
UV BUILDING FOUNDATION PLAN

0 1 IF THIS BAR DOES NOT MEASURE 1" DRAWING IS NOT TO LABELED SCALE

DESIGNED	DKR	REF.	1631-00	DWG NO.
DRAWN	KDC	DATE	DEC 2020	3S1
QC		SCALE	1/4" = 1'-0"	



A SECTION
 3S1 3S2 SCALE: 1/2" = 1'-0"

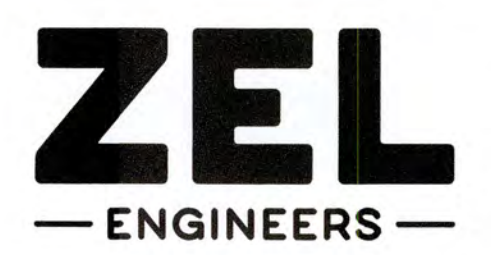


B SECTION
 3S1 3S2 SCALE: 1/2" = 1'-0"

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NO.	DATE	REVISION	BY	APVD



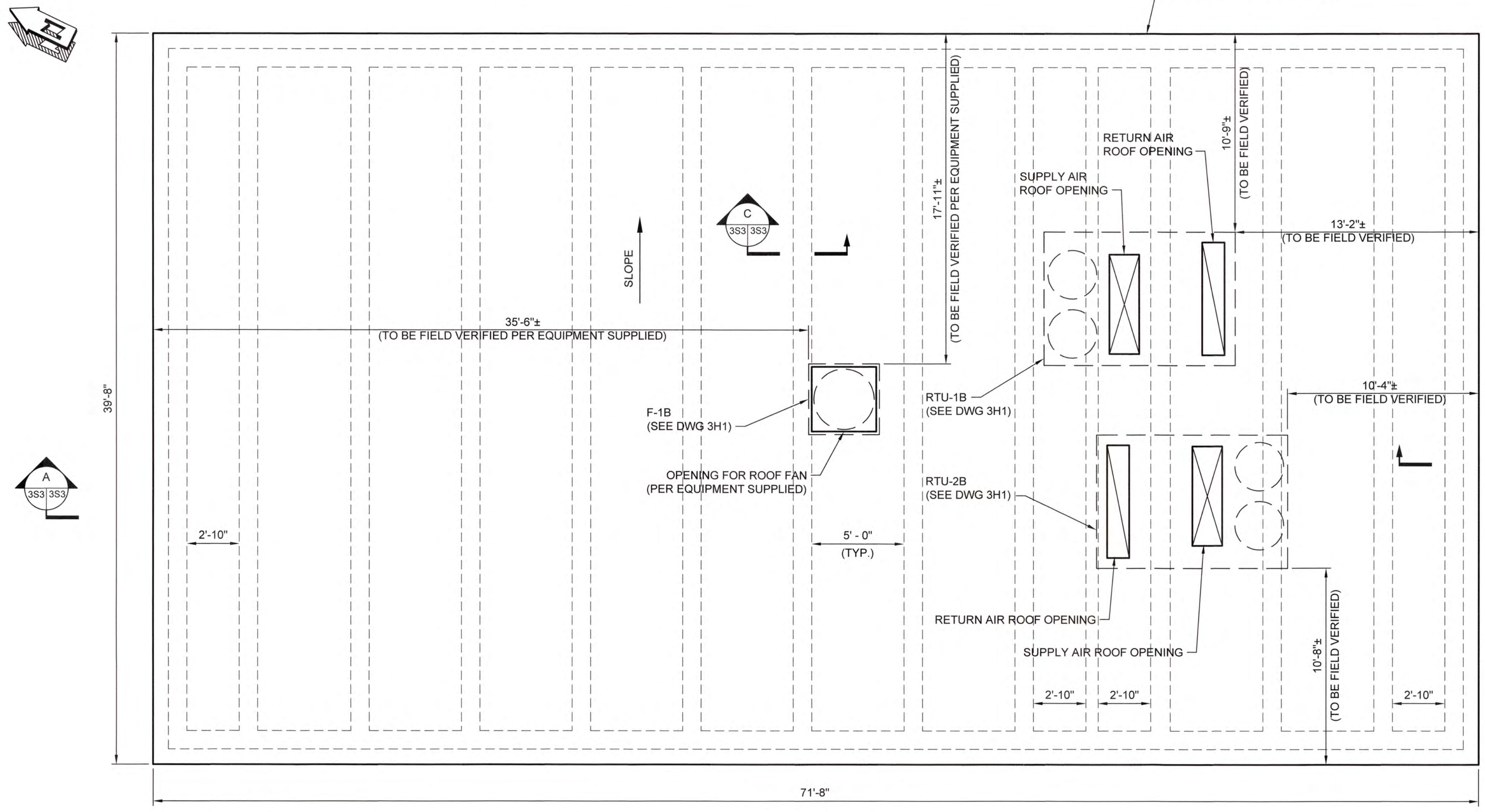
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COLUMBIA COUNTY, GEORGIA

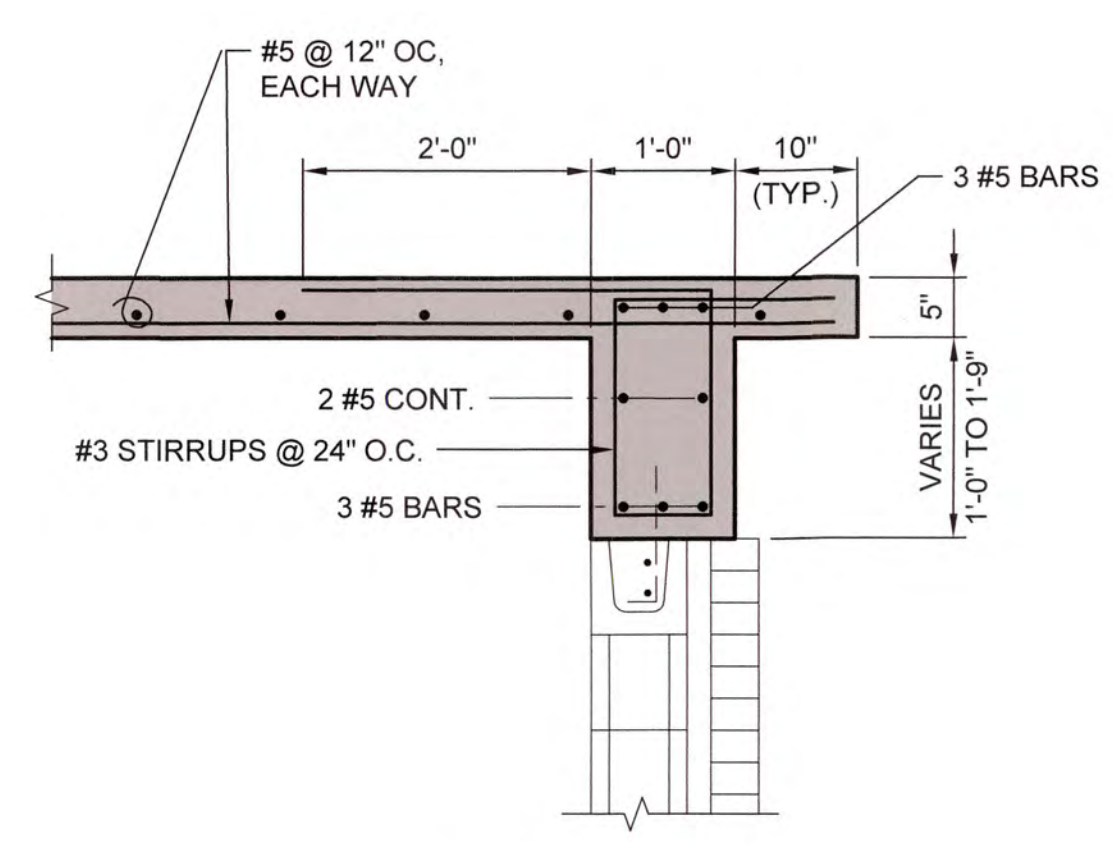
UV / ADVANCED OXIDATION TREATMENT
 BLANCHARD PLANT SIDE B
 UV BUILDING FOUNDATION SECTIONS

0 1
 IF THIS BAR DOES NOT MEASURE 1" DRAWING IS NOT TO LABELED SCALE

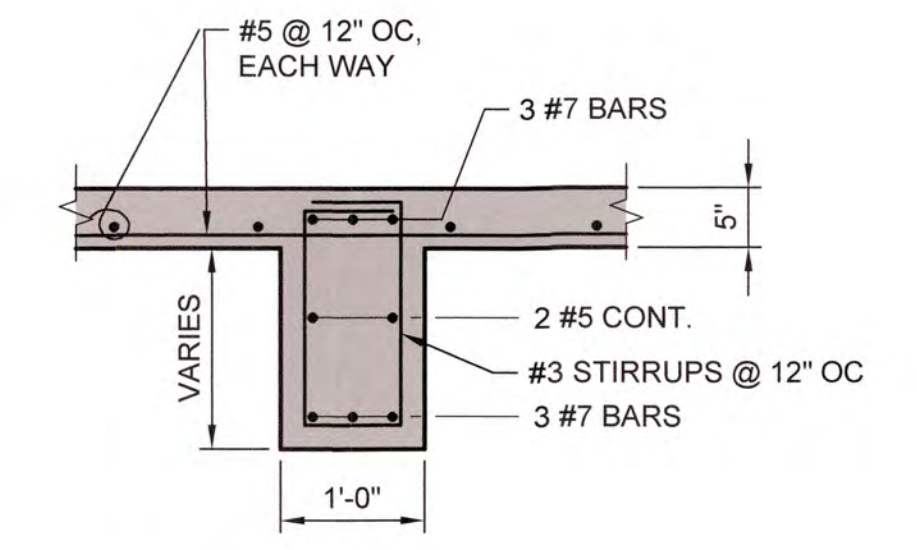
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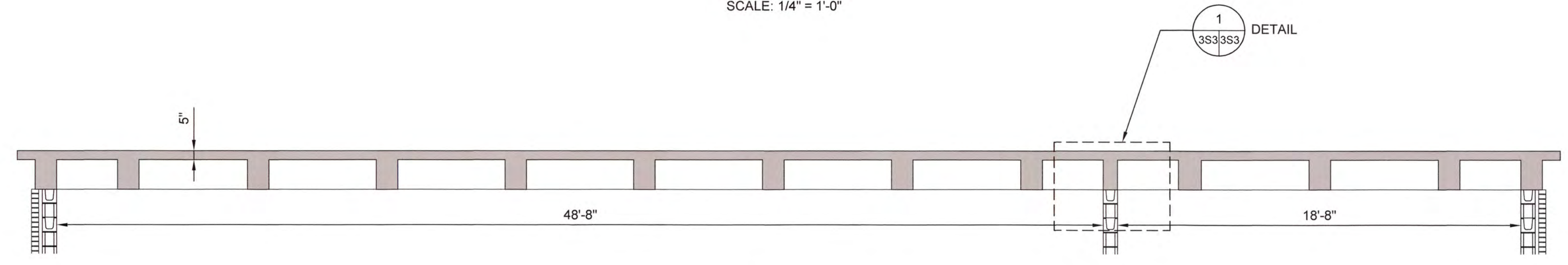
ROOF PLAN
SCALE: 1/4" = 1'-0"



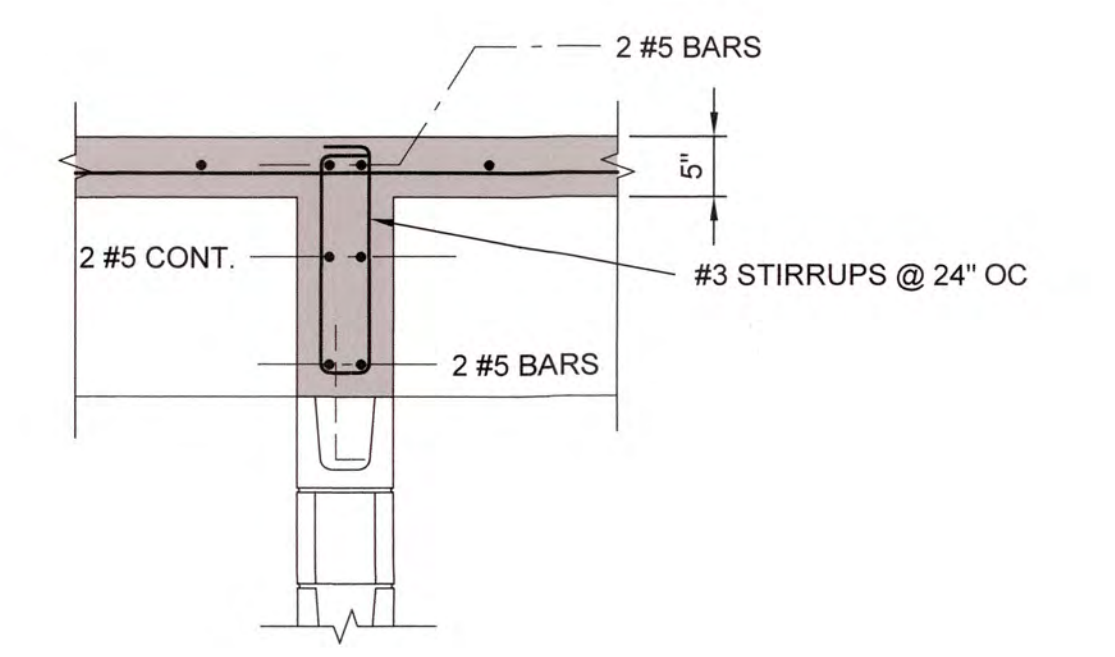
B SECTION
SCALE: 3/4" = 1'-0"



C SECTION
SCALE: 3/4" = 1'-0"



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



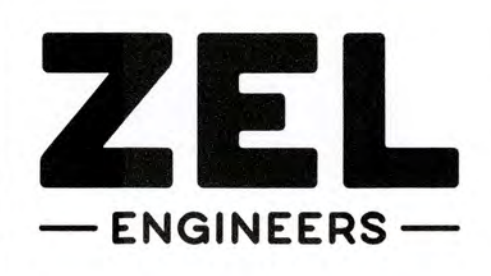
1 DETAIL
SCALE: 3/4" = 1'-0"

NOTE:
1. A/C UNIT OPENINGS AND OTHER SLAB PENETRATIONS SHALL BE COORDINATED PRIOR TO SHOP DRAWING SUBMITTALS.

J:\2016\1631 Columbia County Water Utility\1631-00\3S3.dwg, 12/10/2020, 1:19:40 PM, KChalkier, HP Designer, 72500 Rev 2.pcl, 1:1



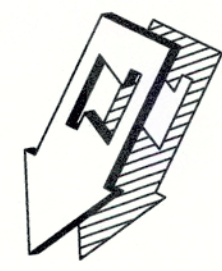
NO.	DATE	REVISION	BY	APVD



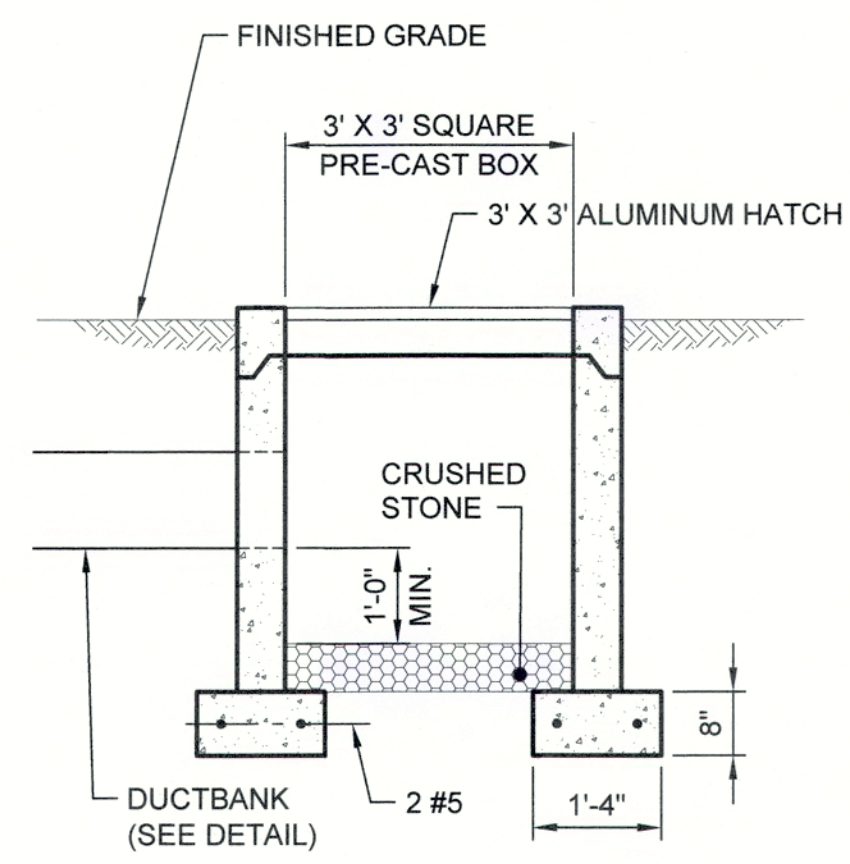
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COLUMBIA COUNTY, GEORGIA
 UV / ADVANCED OXIDATION TREATMENT
BLANCHARD PLANT SIDE B
 UV BUILDING ROOF PLAN AND SECTIONS

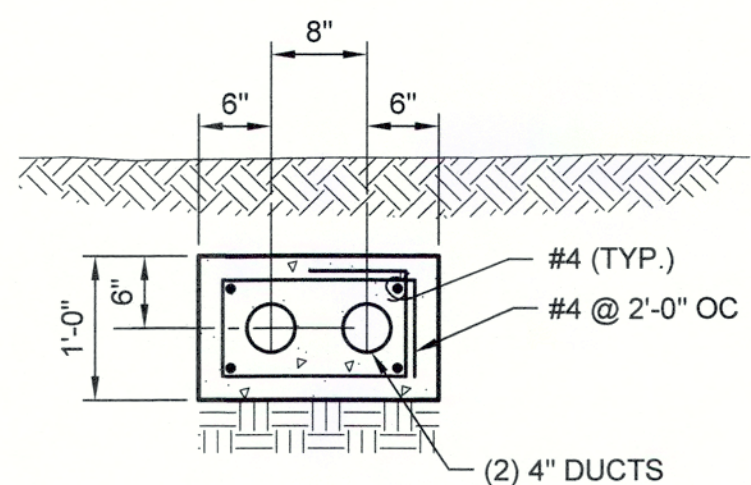
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DRAWN		KDC	DATE	DEC 2020	3S3
QC			SCALE	AS SHOWN	



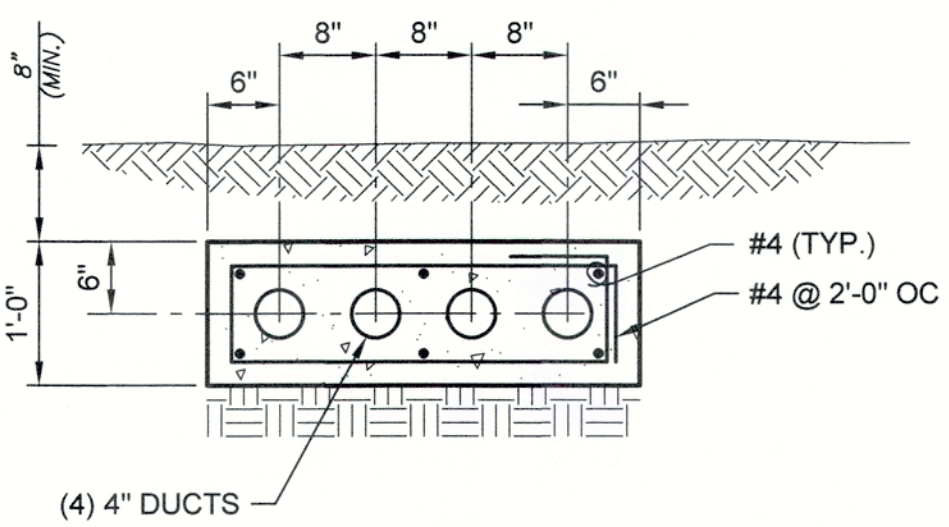
SIDE B YARD VALVE SCHEDULE						
NO.	DESCRIPTION	SIZE	TYPE	OPERATOR	ENDS	REMARKS
YV4	ISOLATION	36"	GV	2" OPERATOR NUT	MJ	HORZ. INSTALL
YV5	ISOLATION	42"	GV	2" OPERATOR NUT	MJ	NORMALLY CLOSED, HORZ. INSTALL
YV6	ISOLATION	36"	GV	2" OPERATOR NUT	MJ	NORMALLY CLOSED, HORZ. INSTALL
YV7	ISOLATION	8"	GV	2" OPERATOR NUT	MJ	VERT. INSTALL
YV8	ISOLATION	8"	GV	2" OPERATOR NUT	MJ	VERT. INSTALL



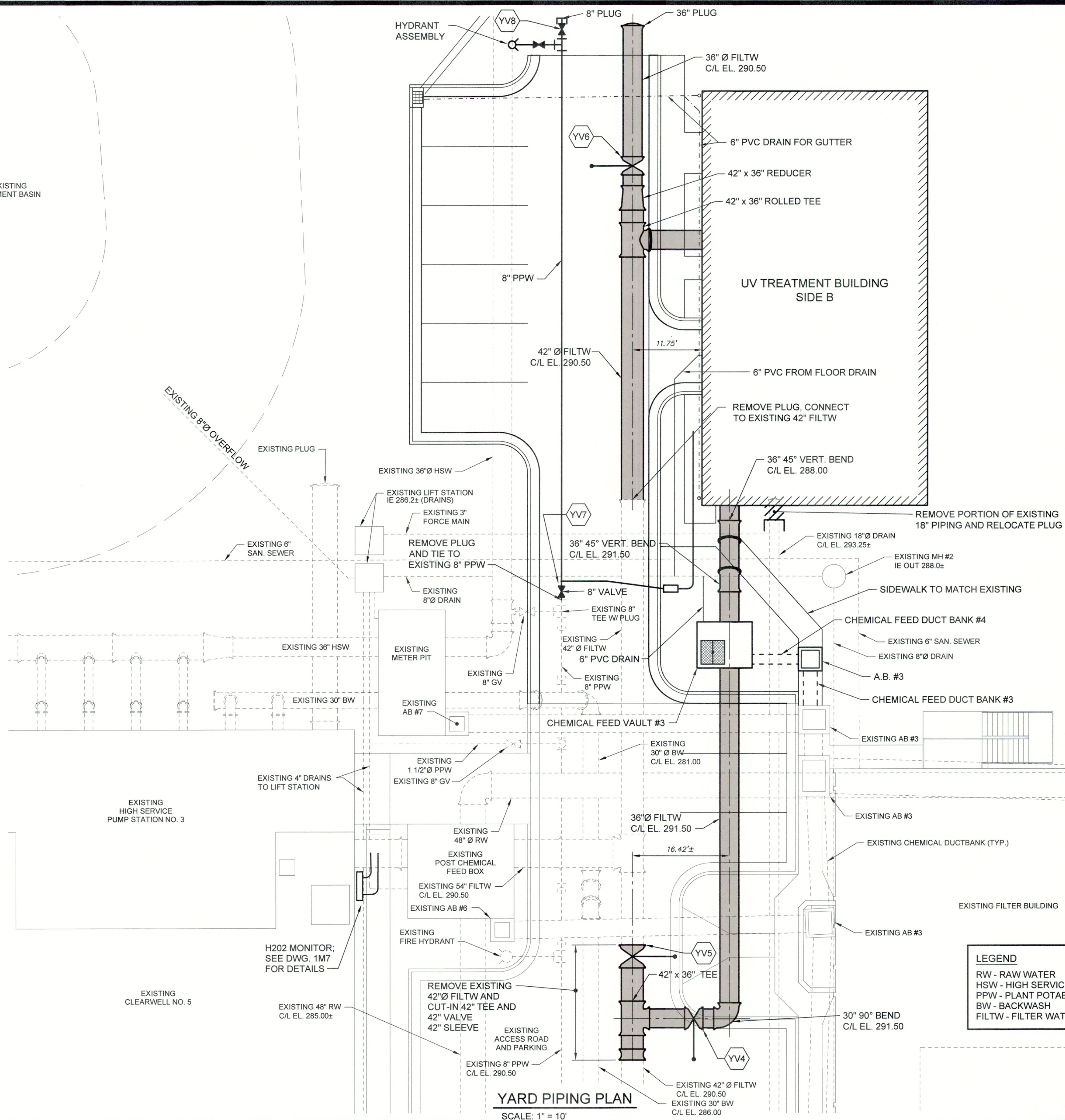
CHEMICAL FEED ACCESS BOX #8
SCALE: 1/2" = 1'-0"



CHEMICAL FEED DUCTBANK #4 SECTION
SCALE: 3/4" = 1'-0"

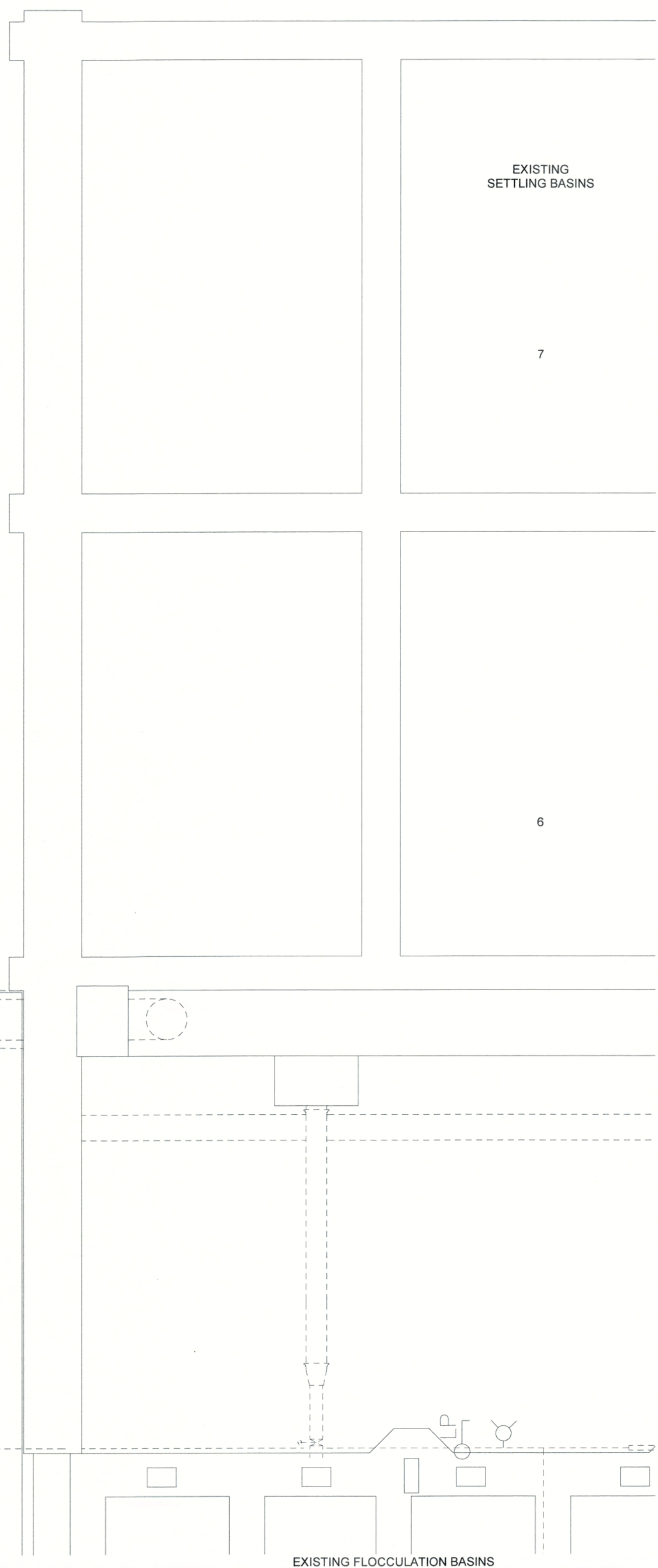


CHEMICAL FEED DUCTBANK #3 SECTION
SCALE: 3/4" = 1'-0"

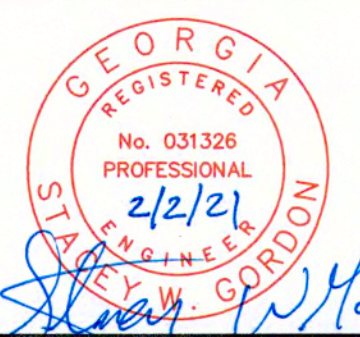


YARD PIPING PLAN
SCALE: 1" = 10'

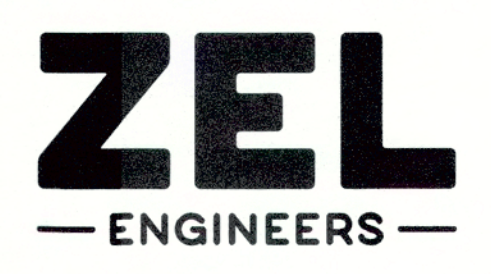
LEGEND	
RW	- RAW WATER
HSW	- HIGH SERVICE WATER
PPW	- PLANT POTABLE WATER
BW	- BACKWASH
FILTW	- FILTER WATER



1:20161631 Columbia County Water Utility 1631-00 Blanchard and Clarke Hill WTP WTP Process Design/Drawings 1631-00 3M1.dwg, 2/2/2021 1:58:03 PM, KChakraborty, HP Design/Drawings 7500 Rpt 2.ppt, 11



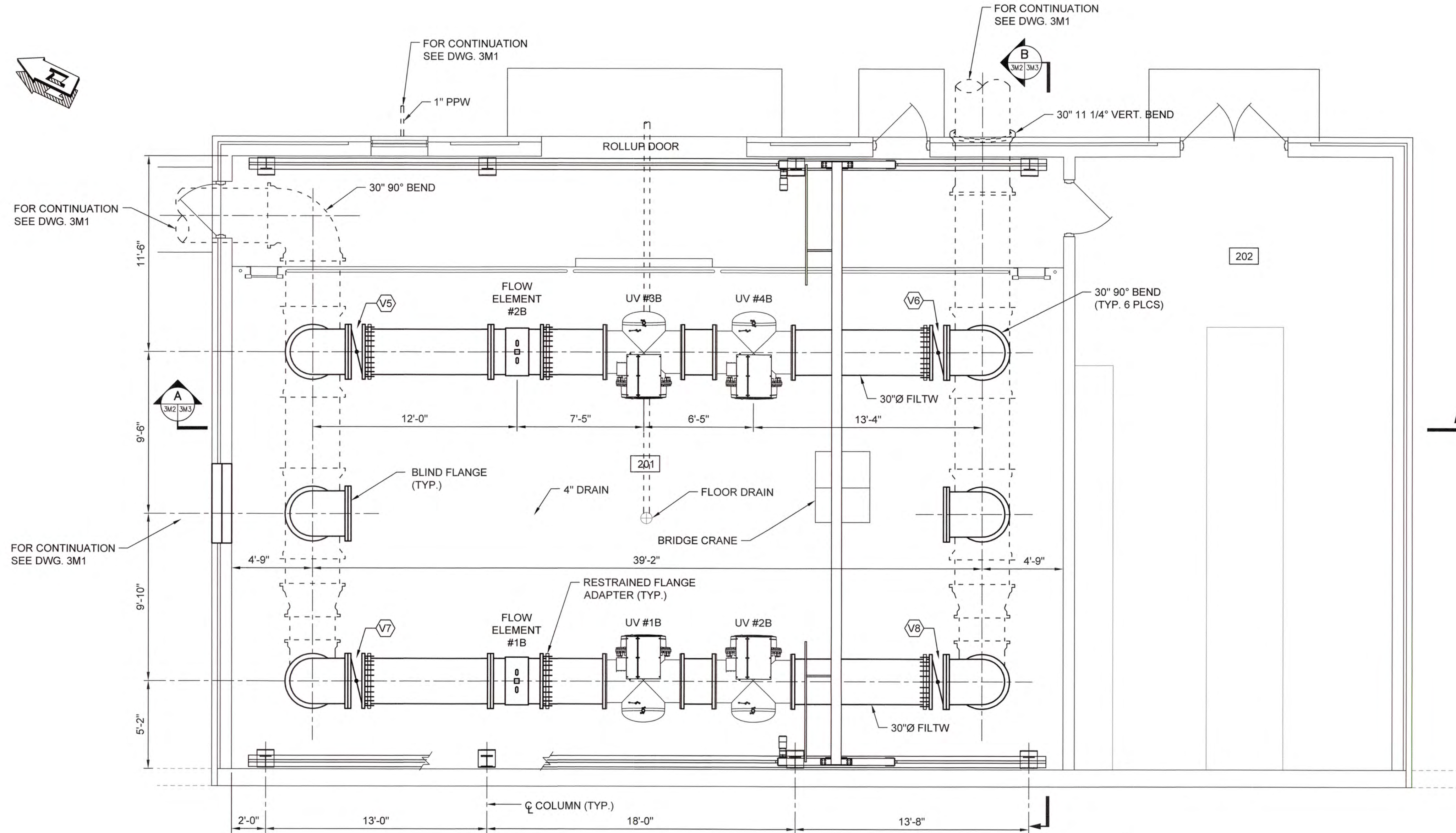
NO.	DATE	REVISION	BY	APVD



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COLUMBIA COUNTY, GEORGIA
UV / ADVANCED OXIDATION TREATMENT
BLANCHARD PLANT SIDE B
YARD PIPING PLAN

DESIGNED		SWG	REF.	1631-00	DWG NO.
DRAWN		KDC	DATE	DEC 2020	3M1
QC		SCALE	AS SHOWN		



SIDE B UV BUILDING PIPING PLAN

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

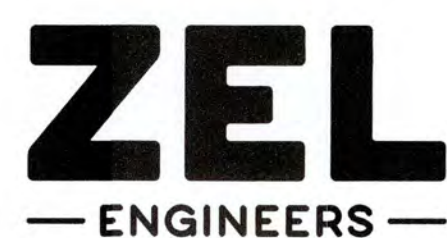
SIDE B UV BUILDING VALVE SCHEDULE

NO.	DESCRIPTION	SIZE	TYPE	OPERATOR	ENDS	REMARKS
V5	MAINTENANCE	30"	BV	HANDWHEEL	FLANGE	
V6	MAINTENANCE	30"	BV	HANDWHEEL	FLANGE	
V7	MAINTENANCE	30"	BV	HANDWHEEL	FLANGE	
V8	MAINTENANCE	30"	BV	HANDWHEEL	FLANGE	

11/20/16/1631 Columbia County Water Utility/1531-00 Blanchard and Clarke Hill WTP UV Purvise Design/Drawings/1631-00 3M2.dwg, 12/2/2020 2:50:25 PM, VChalkley, HP Designer/ TSSD, Roll 2, pos. 11



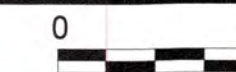
NO.	DATE	REVISION	BY	APVD



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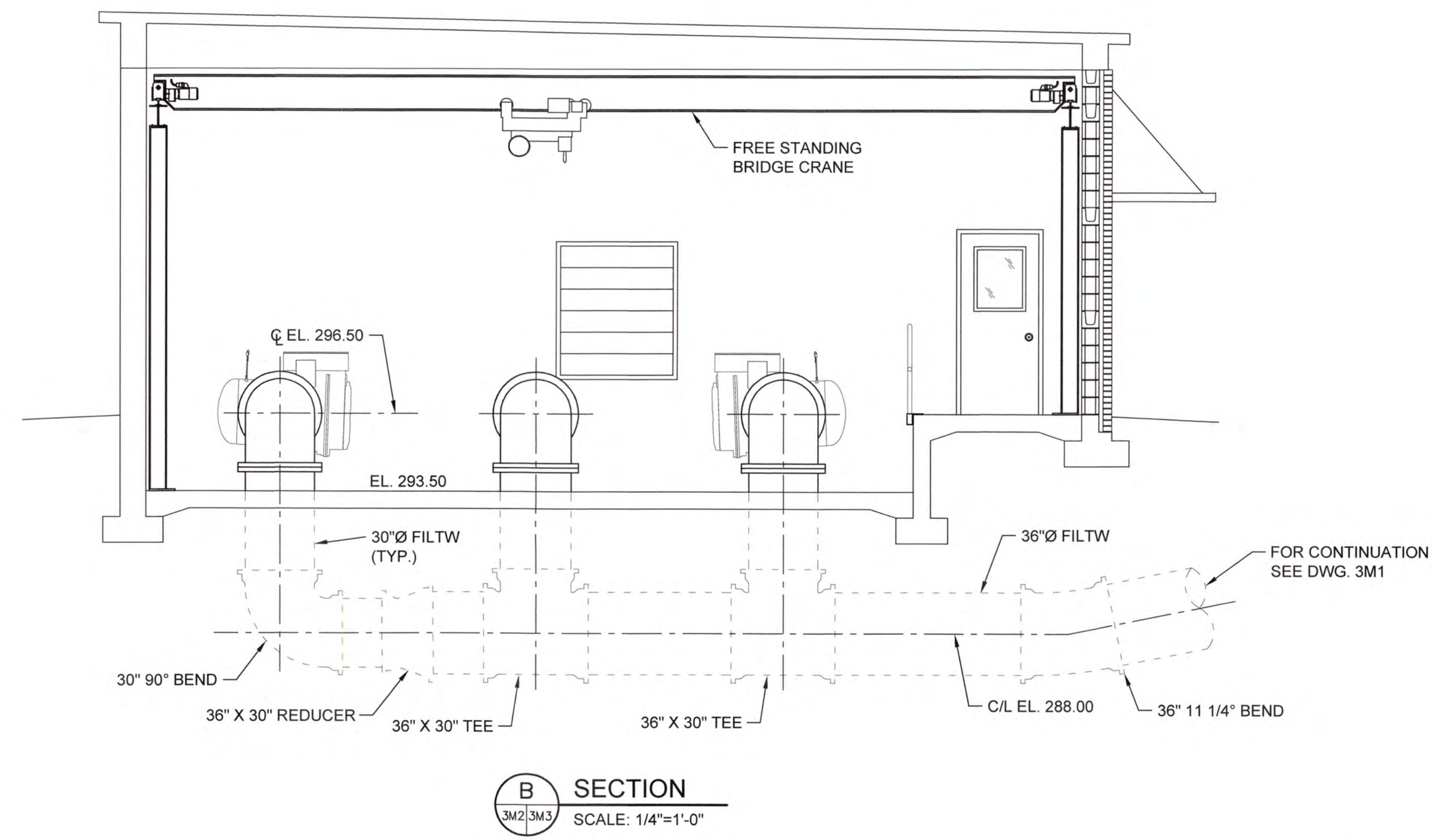
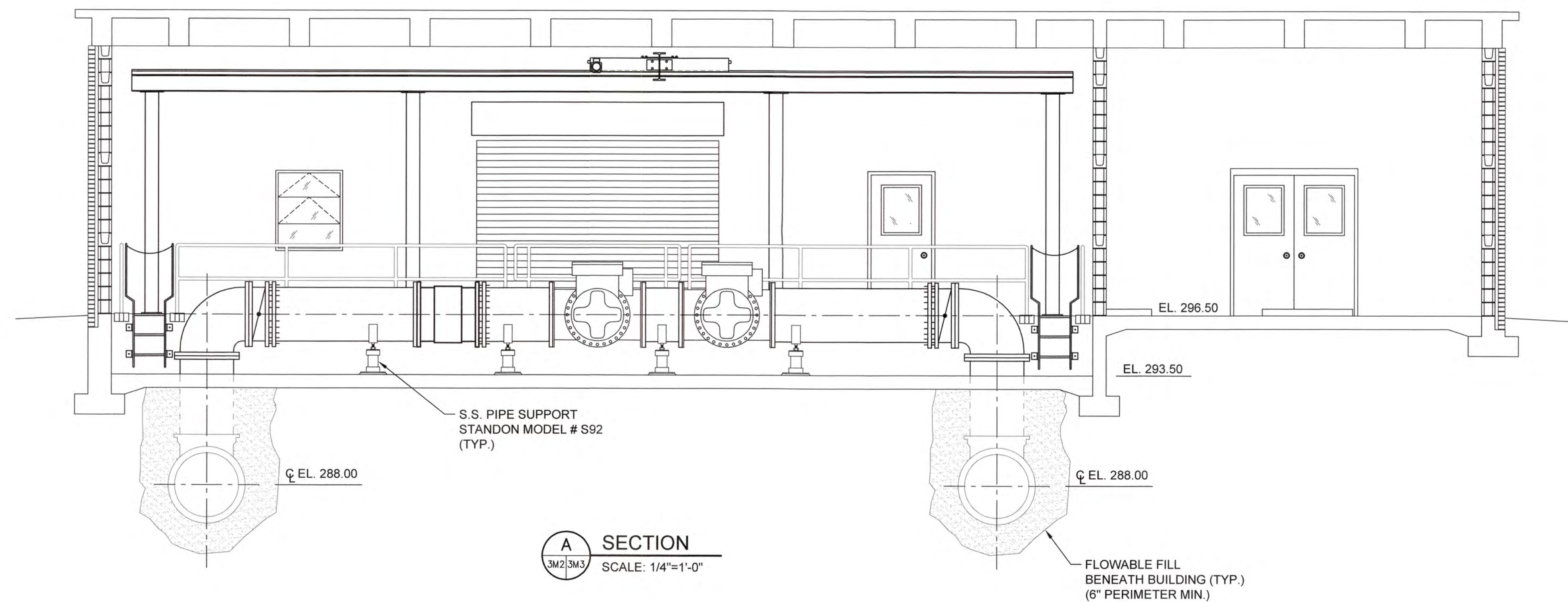
UV / ADVANCED OXIDATION TREATMENT
 BLANCHARD PLANT SIDE B
 UV BUILDING PIPING PLAN



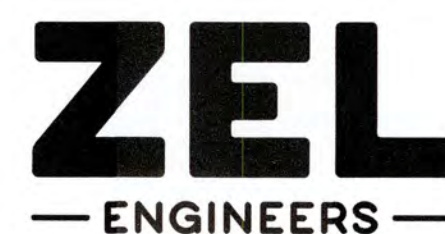
IF THIS BAR DOES NOT MEASURE 1"
 DRAWING IS NOT TO LABELED SCALE

DESIGNED	SWG	REF.	1631-00	DWG NO.
DRAWN	KDC	DATE	DEC 2020	3M2
QC		SCALE	1/4"=1'-0"	

I:\2016\151 Columbia County Water Utility\151-00 Blanchard and Clark Hill VTP\1\Process Design\Drawings\3M3.dwg, 12/29/2020 2:49:54 PM, KChaker, HP Designer, TSS01 Ref 2.pcd, 11



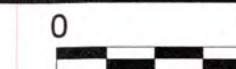
NO.	DATE	REVISION	BY	APVD



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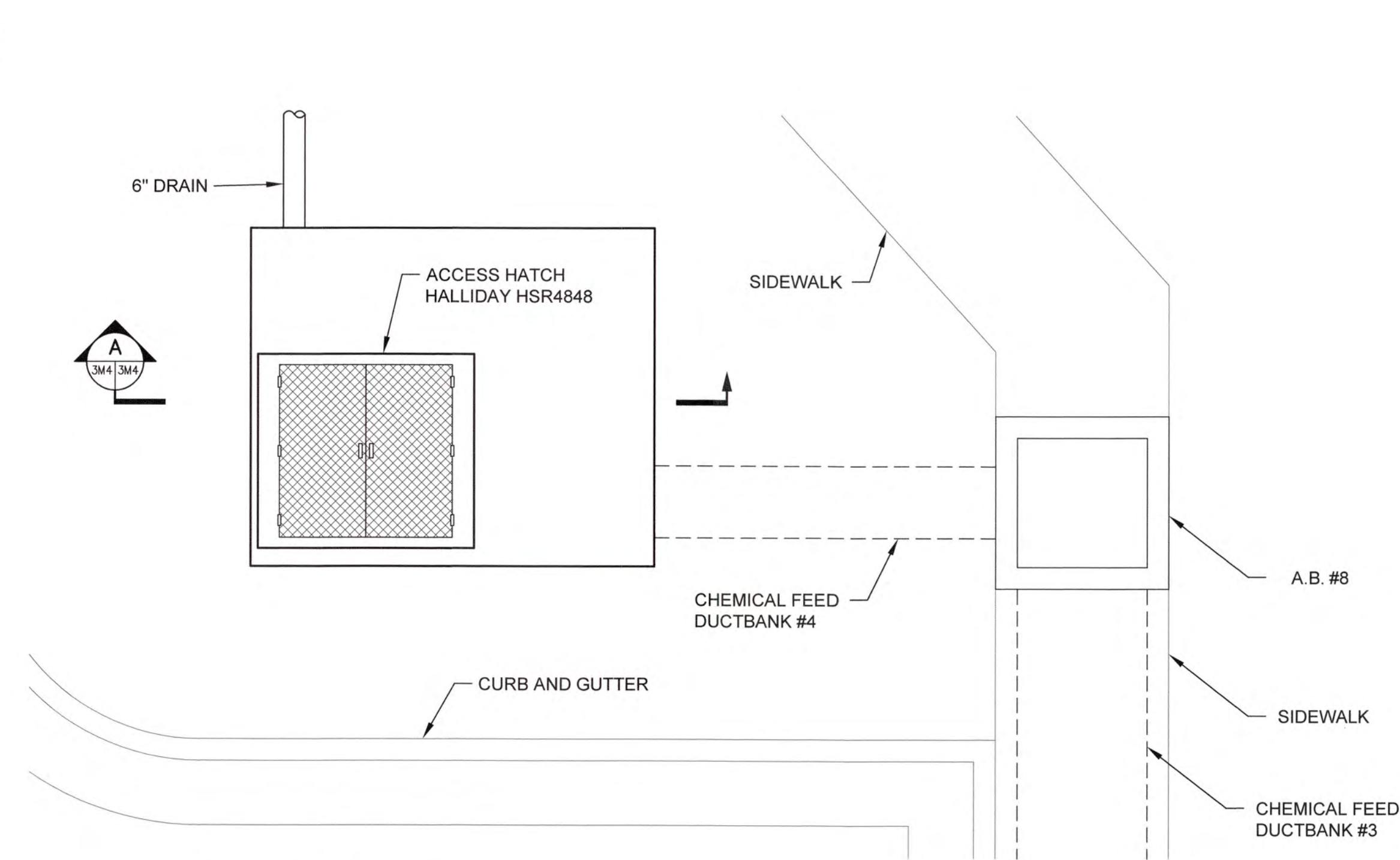
COLUMBIA COUNTY, GEORGIA

UV / ADVANCED OXIDATION TREATMENT
BLANCHARD PLANT SIDE B
UV BUILDING PIPING SECTIONS



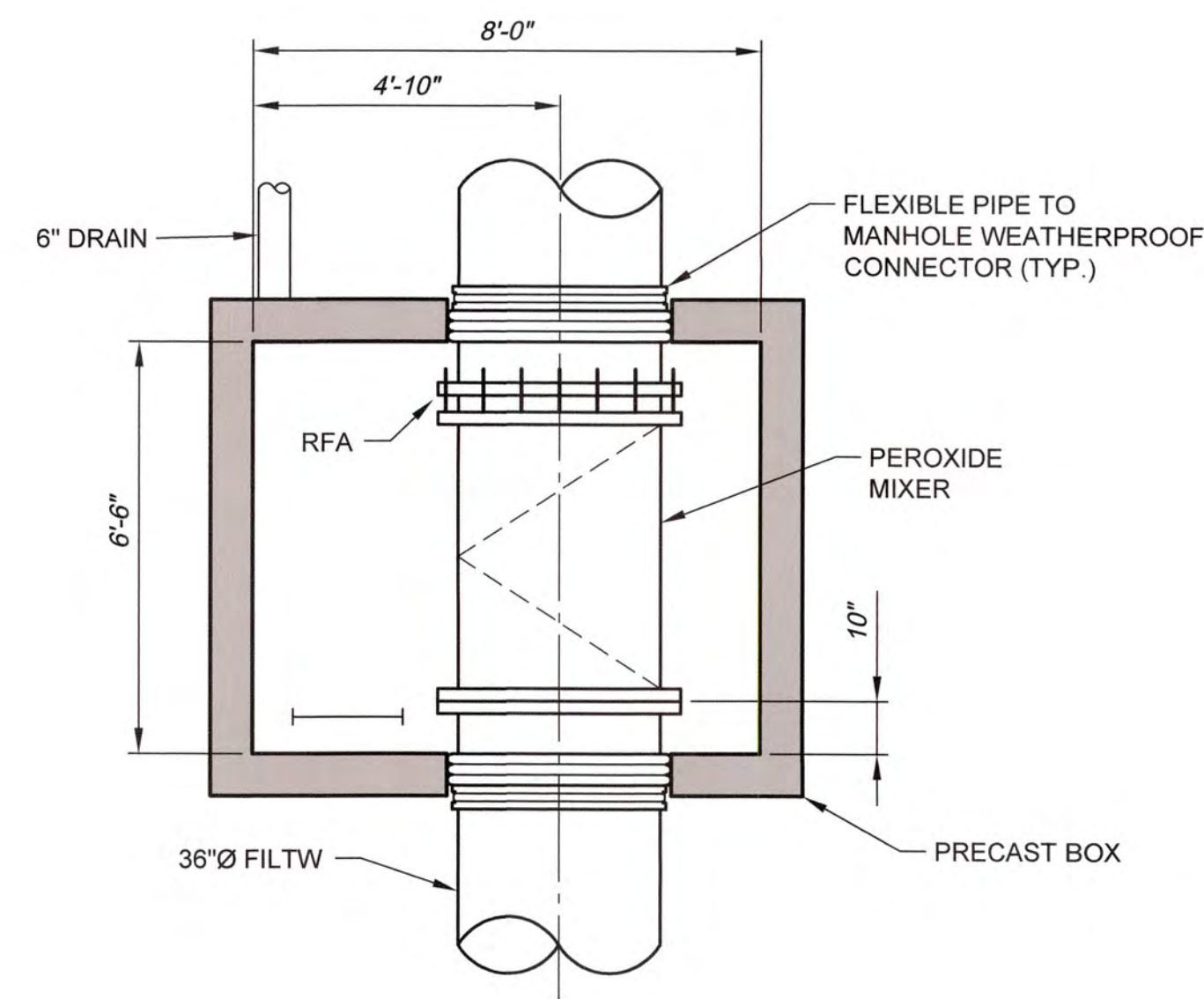
IF THIS BAR DOES NOT MEASURE 1"
DRAWING IS NOT TO LABELED SCALE

DESIGNED	KMW	REF.	1631-00	DWG NO.
DRAWN	KDC	DATE	DEC 2020	3M3
QC		SCALE	1/4"=1'-0"	



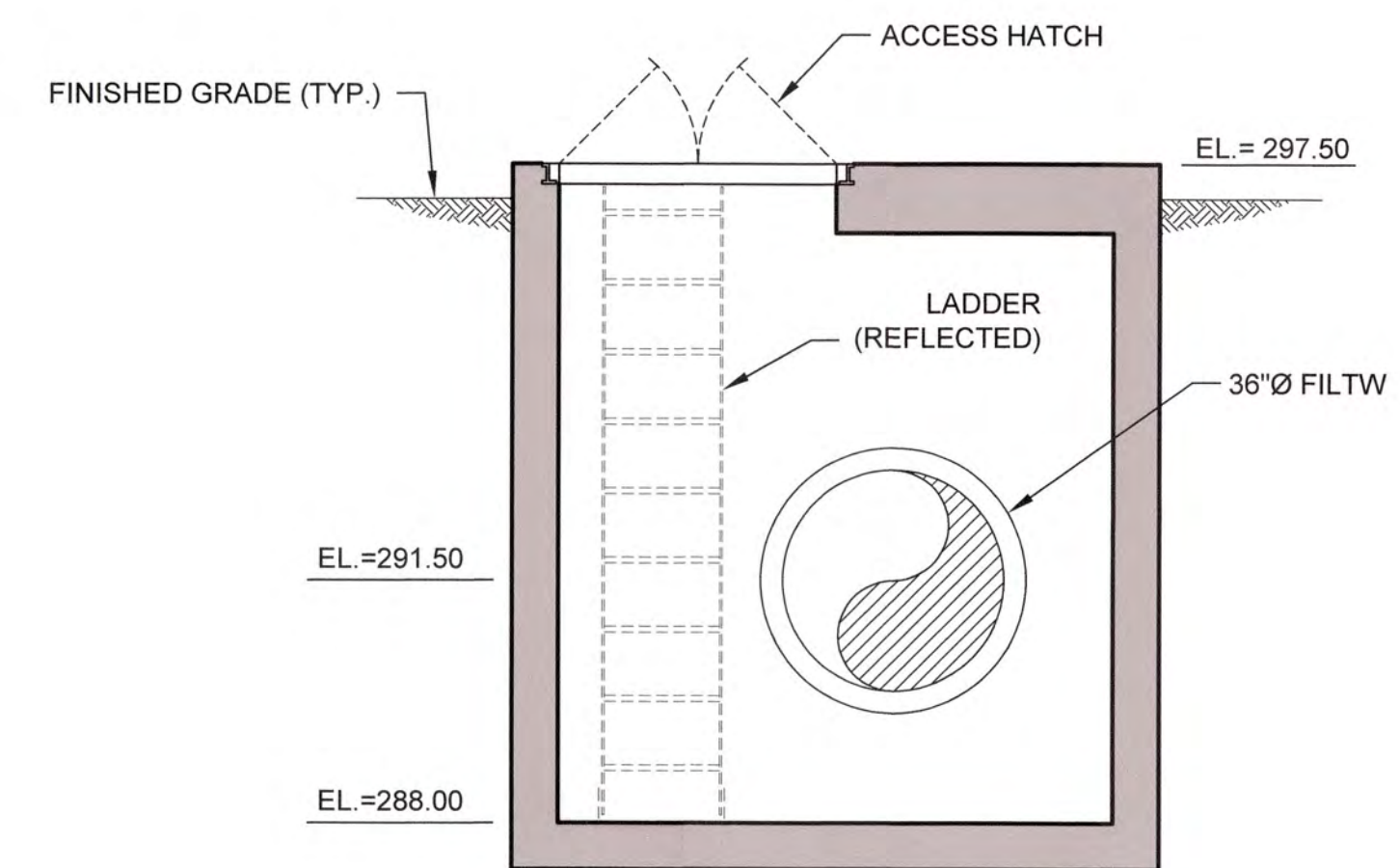
TOP PLAN - CHEMICAL FEED VAULT #3

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



BOTTOM PLAN - CHEMICAL FEED VAULT #3

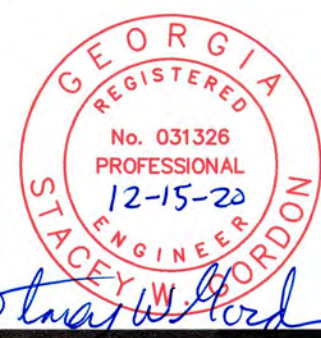
SCALE: 3/8"=1'-0"



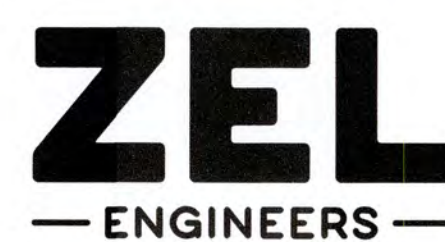
A SECTION
SCALE: 3/8"=1'-0"

NOTE:
1. SEE ALSO 1M6 AND 3M1 FOR ADDITIONAL INFO.

J:\2016\EST Columbia County Water Utility\1631-00 Blanchard and Clarke Hill VTP\U:\Projects\Design\Drawings\1631-00 3M4.dwg, 12/28/2020 2:49:24 PM, V:\Chalkley, HP Designer\17550 1631-00 3M4.dwg



NO.	DATE	REVISION	BY	APVD

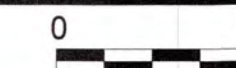


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COLUMBIA COUNTY, GEORGIA

UV / ADVANCED OXIDATION TREATMENT

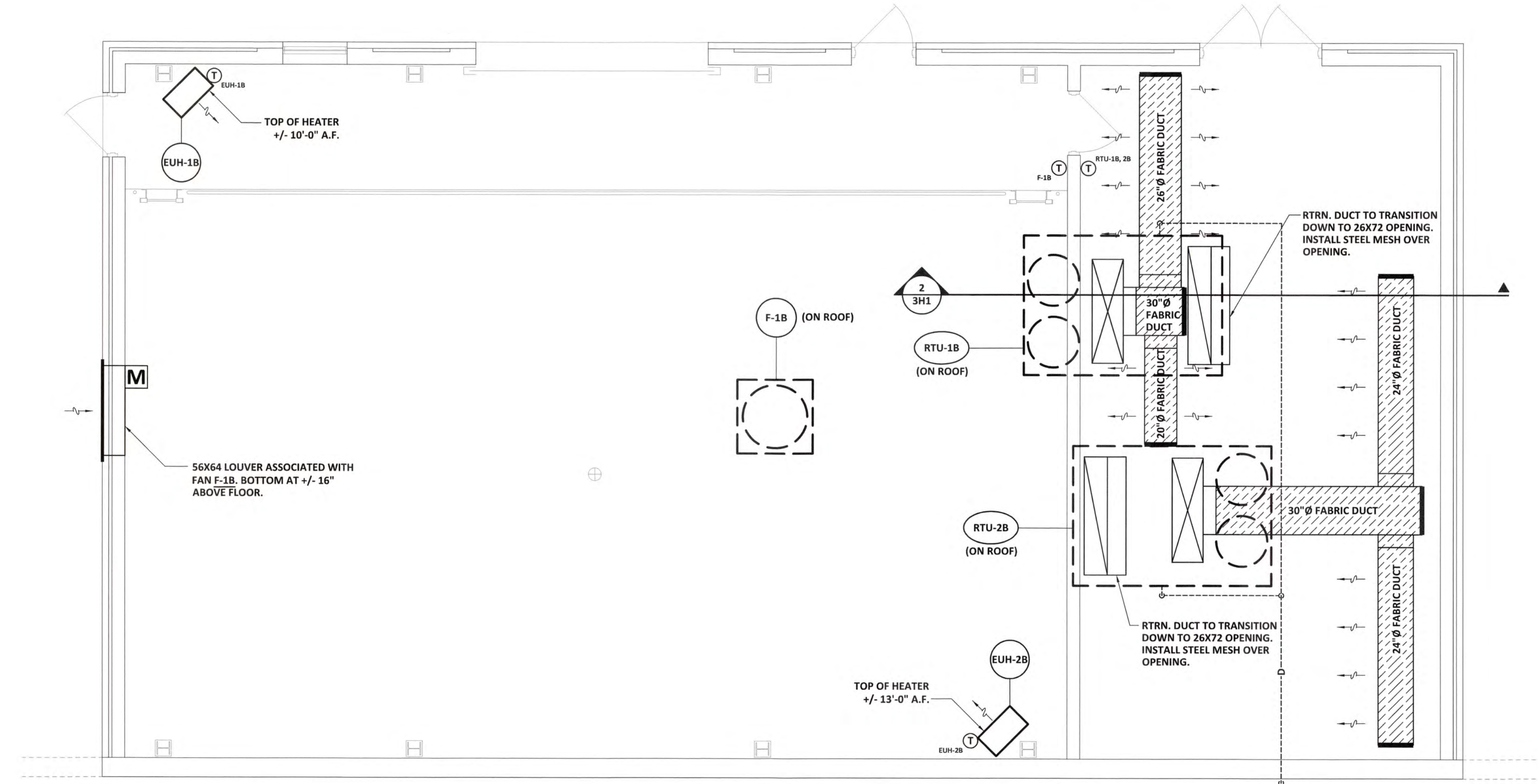
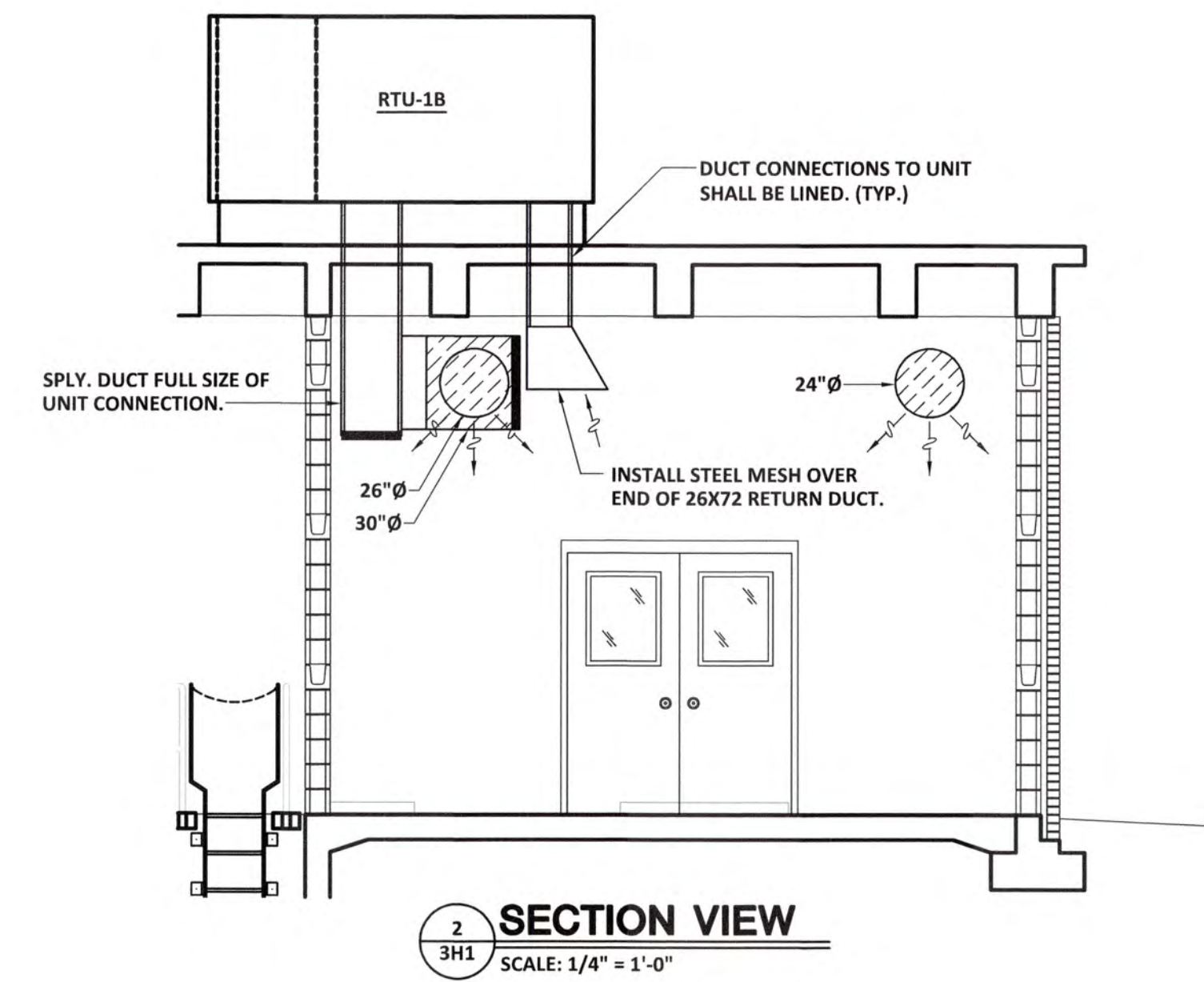
BLANCHARD PLANT SIDE B
 CHEMICAL FEED VAULT NO. 3



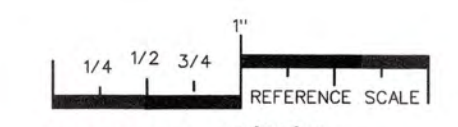
IF THIS BAR DOES NOT MEASURE 1"
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DESIGNED	KMW	REF.	1631-00
DRAWN	SWH	DATE	DEC 2020
QC		SCALE	3/8"=1'-0"

DWG NO.
3M4



1
3H1 HVAC NEW WORK PLAN - BLANCHARD BLDG, SIDE B
SCALE: 1/4" = 1'-0"

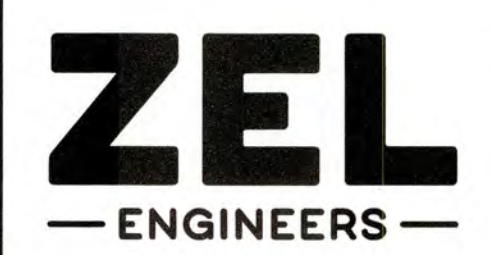


PLOT DATE: 11/06/20
 FILENAME: 20018M1
 PLOT SCALE: 1 = 48
 JLS

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 AUGUSTA, GA 30901 (706) 722-3859



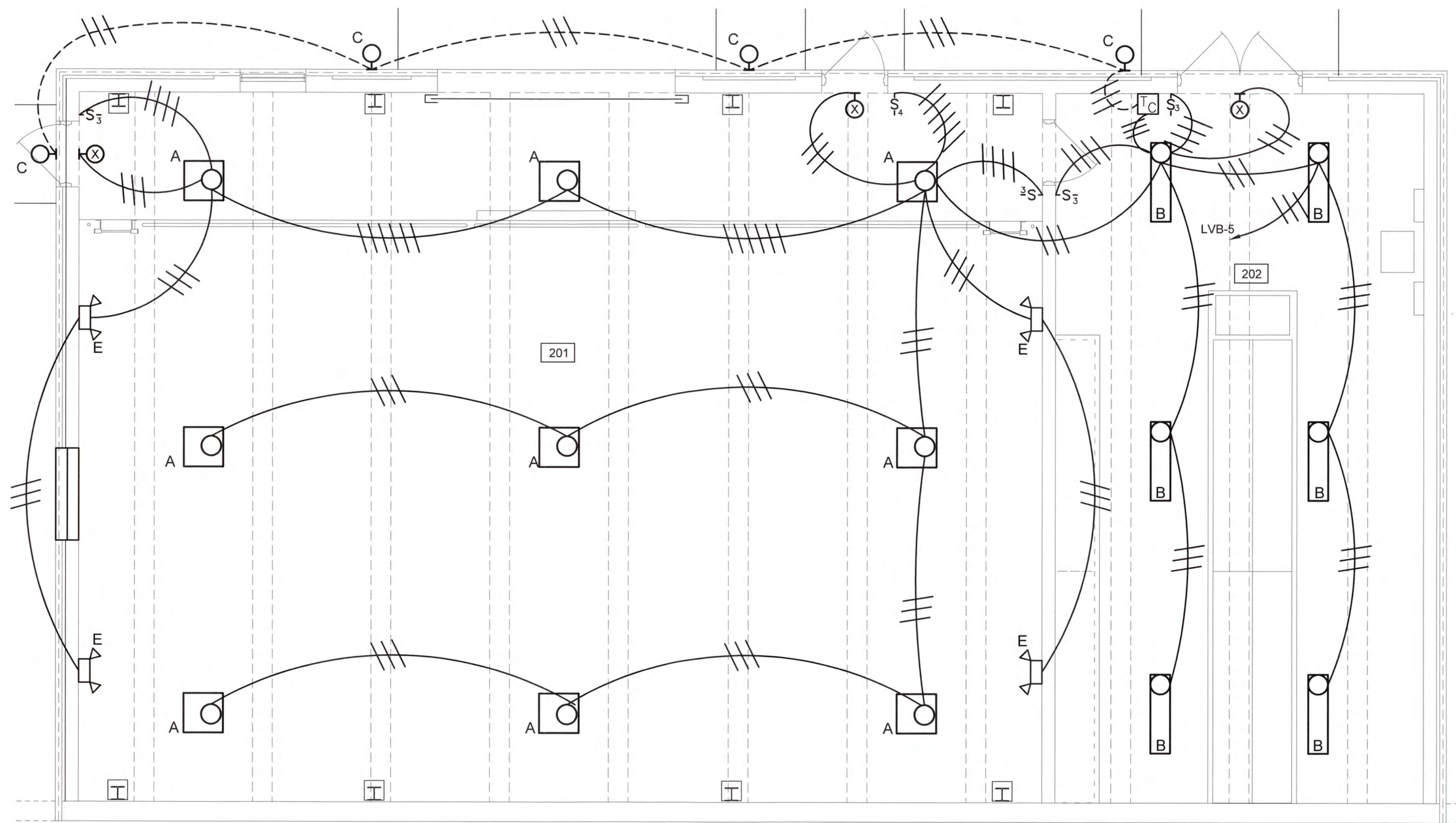
NO.	DATE	REVISION	BY	APVD



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COLUMBIA COUNTY, GEORGIA	
UV / ADVANCED OXIDATION TREATMENT	
BLANCHARD PLANT SIDE B HVAC PLAN	

DESIGNED JLS		REF. 1631-00		DWG NO.	
DRAWN JLS		DATE NOV 2020		3H1	
QC		SCALE 1/4"=1'-0"			



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

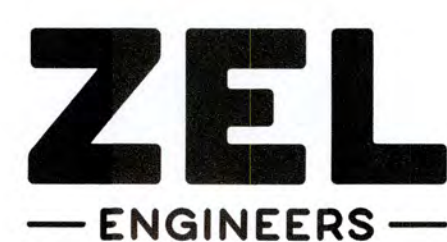
NOTES:

1. ALL SWITCHES SHALL BE FLUSH MOUNT WITH CONDUIT ROUTED CONCEALED UNTIL CHANGING TO EXPOSED AT CEILING FOR CONNECTING TO FLUSH MOUNT FIXTURES.
2. EXIT LIGHTS ARE SURFACE MOUNTS WITH BOX AND CONDUITS CONCEALED IN WALL.

1/20/2020 Columbia County Water Utility 1631-00 Blanchard and Clarke Hill WTP (U-Process) Design/Construction 1631-00 BE (Log, 12/20/2020 3:03:58 PM, KChalke, HP Designer) T2500, Rev 2, 03, 11



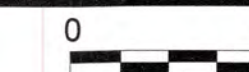
NO.	DATE	REVISION	BY	APVD



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COLUMBIA COUNTY, GEORGIA

UV / ADVANCED OXIDATION TREATMENT
BLANCHARD PLANT SIDE B UV BUILDING
LIGHTING PLAN

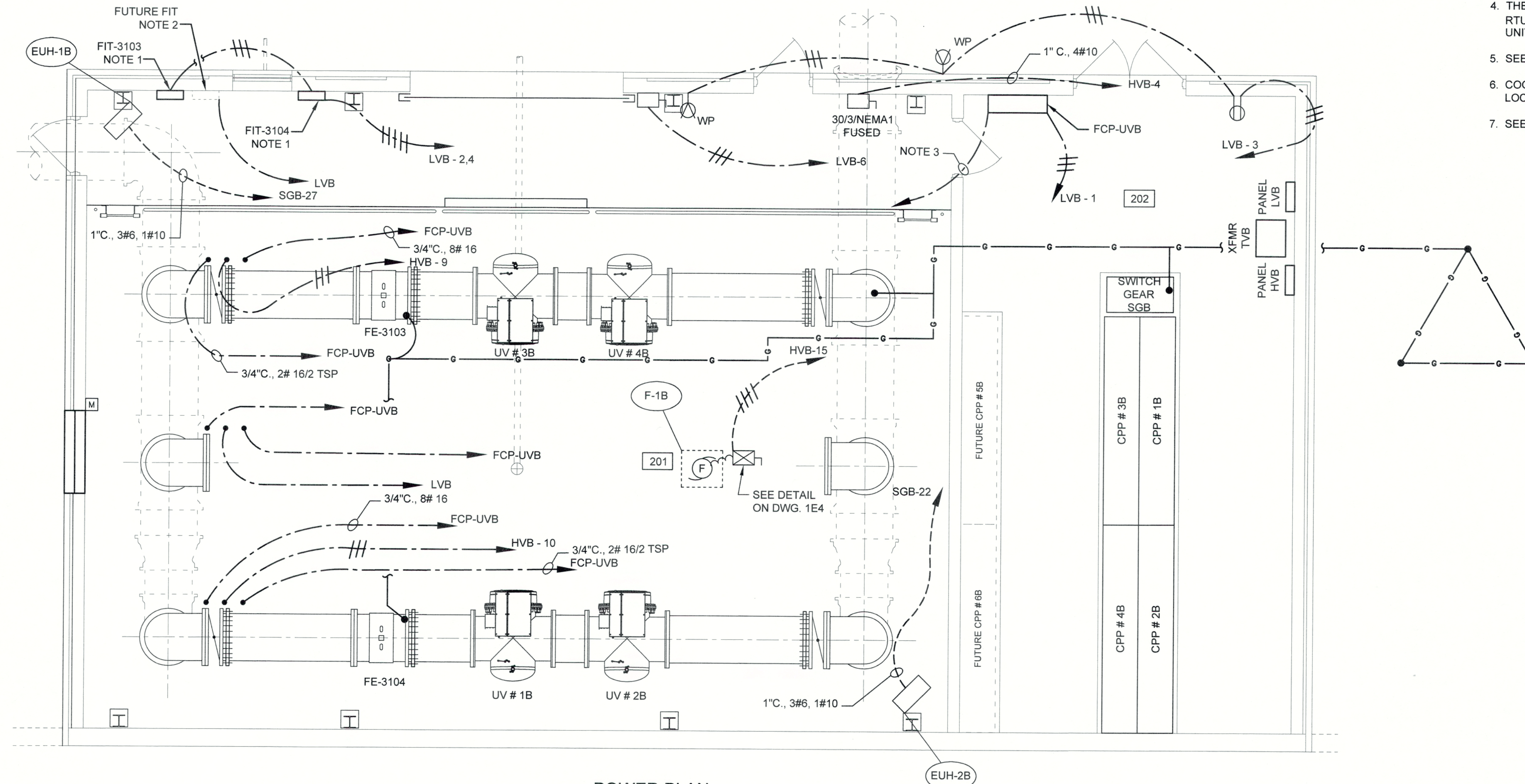


IF THIS BAR DOES NOT MEASURE 1"
DRAWING IS NOT TO LABELED SCALE

DESIGNED	SWG	REF.	1631-00	DWG NO.
DRAWN	KDC	DATE	DEC 2020	3E1
QC		SCALE	N/A	

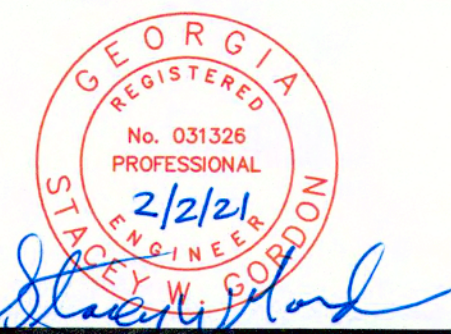
NOTES:

- ROUTE BELOW SLAB 3/4" CONDUIT TO MAGNETIC FLOW ELEMENT. ROUTE BELOW SLAB 3/4" C., 1# 16/2 TSP TO FCP-UVB
- ROUTE BELOW SLAB 3/4" CONDUIT TO FUTURE MAGNETIC FLOW ELEMENT. ROUTE BELOW SLAB 3/4" C., FCP-UVB
- PROVIDE 1" CONDUIT WITH FIBER ROUTED TO OFFICE CLOSET ETHERNET SWITCH. FIBER OPTIC CABLE SHALL BE PROVIDED AND INSTALLED BY ELECTRICIAN. TERMINATIONS SHALL BE BY SYSTEMS INTEGRATOR.
- THERE ARE TWO(2) ROOF TOP UNITS ABOVE ROOM 202 (RTU-1B AND RTU-2B). ROUTE 1 1/2" C., 3#4, 1#8 FROM SWITCH GEAR SGB-B TO EACH UNIT. UNIT INCLUDES INTEGRAL DISCONNECT.
- SEE DETAIL ON 1E1 FOR TYPICAL GROUNDING REQUIREMENTS.
- COORDINATE CRANE DISCONNECT LOCATION WITH EQUIPMENT LOCATION.
- SEE 3E3 FOR WIRING AND CONDUIT SCHEDULE.

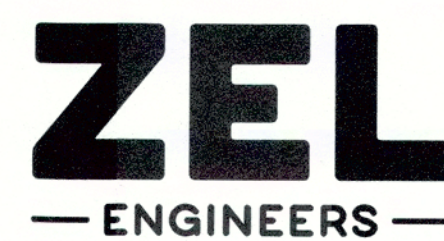


POWER PLAN
SCALE: 1/4" = 1'-0"

J:\016151 Columbia County Water Utility\1631-00 Blanchard and Chis Hill WTP UV-Peroxide Design\Drawings\1631-00-3E2.dwg, 2/2/2021 10:37:59 AM, KChalker, HP Designjet T2500 Roll 2.pcl, 11



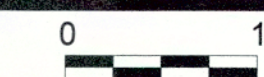
NO.	DATE	REVISION	BY	APVD



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COLUMBIA COUNTY, GEORGIA

UV / ADVANCED OXIDATION TREATMENT
BLANCHARD PLANT SIDE B UV BUILDING
POWER PLAN

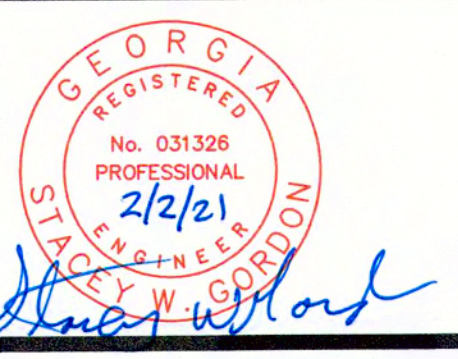


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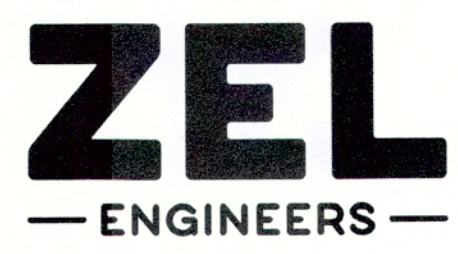
DESIGNED	SWG	REF.	1631-00	DWG NO.
DRAWN	KDC	DATE	DEC 2020	3E2
QC		SCALE	N/A	

BLANCHARD SIDE B UV WIRING SCHEDULE									
ID NO.	DESCRIPTION	CONDUIT	CONDUCTORS	VOLTAGE/ PHASE	SERVICE FROM	SERVICE TO	COMMENTS	ID NO.	
301	CPP #1B POWER	2 1/2"	3#350 MCM, 1#4G	480/3	SWITCH GEAR "SGB"	CPP # 1B		301	
302	UV #1B CHAMBER POWER	2"	32#12 AWG(HV), 1#8G	10KV	CPP #1B	UV # 1B	WIRE PROVIDED BY EQUIPMENT MANUFACTURER	302	
303	UV #1B SENSOR CONTROLS	1"	10 # 22/2 SHIELDED MULTI-PAIR	24 VDC	CPP #1B	UV # 1B	ALPHA - WIRE P/N 86710 CY OR EQUAL	303	
304	ETHERNET/IP COMMUNICATION	3/4"	SHIELDED CAT 5E	-	CPP #1B	FCP-UVB	PROVIDE RJ45 CONNECTORS	304	
305	UV #1B CONTROL SIGNAL	3/4"	11 # 16 AWG, 1 # 16G	24 VDC	CPP #1B	UV # 1B		305	
306	UV SYSTEM STATUS INFORMATION	3/4"	12#16 AWG	-	CPP #1B	FCP-UVB		306	
307	UV INTENSITY & DOSE DELIVERED	3/4"	2 # 16/2 TSP	-	CPP #1B	FCP-UVB		307	
308	DISCRETE REACTOR CONTROLS	1"	20 # 16 AWG	-	UV # 1B	FCP-UVB	WIRE PROVIDED BY EQUIPMENT MANUFACTURER	308	
309	ANALOG REACTOR CONTROLS	3/4"	2 # 16/2 TSP	-	UV # 1B	FCP-UVB	WIRE PROVIDED BY EQUIPMENT MANUFACTURER	309	
310	SPARE	1"	-	-	UV # 1B	CPP # 1B		310	
311	CPP #2B POWER	2 1/2"	3#350 MCM, 1#4G	480/3	SWITCH GEAR "SGB"	CPP # 2B		311	
312	UV #2B CHAMBER POWER	2"	32#12 AWG(HV), 1#8G	10KV	CPP #2B	UV # 2B	WIRE PROVIDED BY EQUIPMENT MANUFACTURER	312	
313	UV #2B SENSOR CONTROLS	1"	10 # 22/2 SHIELDED MULTI-PAIR	24 VDC	CPP #2B	UV # 2B	ALPHA - WIRE P/N 86710 CY OR EQUAL	313	
314	ETHERNET/IP COMMUNICATION	3/4"	SHIELDED CAT 5E	-	CPP #2B	FCP-UVB	PROVIDE RJ45 CONNECTORS	314	
315	UV #2B CONTROL SIGNAL	3/4"	11 # 16 AWG, 1 # 16G	24 VDC	CPP #2B	UV # 2B		315	
316	UV SYSTEM STATUS INFORMATION	3/4"	12#16 AWG	-	CPP #2B	FCP-UVB		316	
317	UV INTENSITY & DOSE DELIVERED	3/4"	2 # 16/2 TSP	-	CPP #2B	FCP-UVB		317	
318	DISCRETE REACTOR CONTROLS	1"	20 # 16 AWG	-	UV # 2B	FCP-UVB	WIRE PROVIDED BY EQUIPMENT MANUFACTURER	318	
319	ANALOG REACTOR CONTROLS	3/4"	2 # 16/2 TSP	-	UV # 2B	FCP-UVB	WIRE PROVIDED BY EQUIPMENT MANUFACTURER	319	
320	SPARE	1"	-	-	UV # 2B	CPP # 2B		320	
321	CPP #3B POWER	2 1/2"	3#350 MCM, 1#4G	480/3	SWITCH GEAR "SGB"	CPP # 3B		321	
322	UV #3B CHAMBER POWER	2"	32#12 AWG(HV), 1#8G	10KV	CPP #3B	UV # 3B	WIRE PROVIDED BY EQUIPMENT MANUFACTURER	322	
323	UV #3B SENSOR CONTROLS	1"	10 # 22/2 SHIELDED MULTI-PAIR	24 VDC	CPP #3B	UV # 3B	ALPHA - WIRE P/N 86710 CY OR EQUAL	323	
324	ETHERNET/IP COMMUNICATION	3/4"	SHIELDED CAT 5E	-	CPP #3B	FCP-UVB	PROVIDE RJ45 CONNECTORS	324	
325	UV #3B CONTROL SIGNAL	3/4"	11 # 16 AWG, 1 # 16G	24 VDC	CPP #3B	UV # 3B		325	
326	UV SYSTEM STATUS INFORMATION	3/4"	12#16 AWG	-	CPP #3B	FCP-UVB		326	
327	UV INTENSITY & DOSE DELIVERED	3/4"	2 # 16/2 TSP	-	CPP #3B	FCP-UVB		327	
328	DISCRETE REACTOR CONTROLS	1"	20 # 16 AWG	-	UV # 3B	FCP-UVB	WIRE PROVIDED BY EQUIPMENT MANUFACTURER	328	
329	ANALOG REACTOR CONTROLS	3/4"	2 # 16/2 TSP	-	UV # 3B	FCP-UVB	WIRE PROVIDED BY EQUIPMENT MANUFACTURER	329	
330	SPARE	1"	-	-	UV # 3B	CPP # 3B		330	
331	CPP #4B POWER	2 1/2"	3#350 MCM, 1#4G	480/3	SWITCH GEAR "SGB"	CPP # 4B		331	
332	UV #4B CHAMBER POWER	2"	32#12 AWG(HV), 1#8G	10KV	CPP #4B	UV # 4B	WIRE PROVIDED BY EQUIPMENT MANUFACTURER	332	
333	UV #4B SENSOR CONTROLS	1"	10 # 22/2 SHIELDED MULTI-PAIR	24 VDC	CPP #4B	UV # 4B	ALPHA - WIRE P/N 86710 CY OR EQUAL	333	
334	ETHERNET/IP COMMUNICATION	3/4"	SHIELDED CAT 5E	-	CPP #4B	FCP-UVB	PROVIDE RJ45 CONNECTORS	334	
335	UV #4B CONTROL SIGNAL	3/4"	11 # 16 AWG, 1 # 16G	24 VDC	CPP #4B	UV # 4B		335	
336	UV SYSTEM STATUS INFORMATION	3/4"	12#16 AWG	-	CPP #4B	FCP-UVB		336	
337	UV INTENSITY & DOSE DELIVERED	3/4"	2 # 16/2 TSP	-	CPP #4B	FCP-UVB		337	
338	DISCRETE REACTOR CONTROLS	1"	20 # 16 AWG	-	UV # 4B	FCP-UVB	WIRE PROVIDED BY EQUIPMENT MANUFACTURER	338	
339	ANALOG REACTOR CONTROLS	3/4"	2 # 16/2 TSP	-	UV # 4B	FCP-UVB	WIRE PROVIDED BY EQUIPMENT MANUFACTURER	339	
340	SPARE	1"	-	-	UV # 4B	CPP # 4B		340	
341	CPP #5B POWER	2 1/2"	-	480/3	SWITCH GEAR "SGB"	CPP # 5B	SPARE FOR FUTURE	341	
342	UV #5B CHAMBER POWER	2"	-	10KV	CPP #5B	UV # 5B	SPARE FOR FUTURE	342	
343	UV #5B SENSOR CONTROLS	1"	-	24 VDC	CPP #5B	UV # 5B	SPARE FOR FUTURE	343	
344	ETHERNET/IP COMMUNICATION	3/4"	-	-	CPP #5B	FCP-UVB	SPARE FOR FUTURE	344	
345	UV #5B CONTROL SIGNAL	3/4"	-	24 VDC	CPP #5B	UV # 5B	SPARE FOR FUTURE	345	
346	UV SYSTEM STATUS INFORMATION	3/4"	-	-	CPP #5B	FCP-UVB	SPARE FOR FUTURE	346	
347	UV INTENSITY & DOSE DELIVERED	3/4"	-	-	CPP #5B	FCP-UVB	SPARE FOR FUTURE	347	
348	DISCRETE REACTOR CONTROLS	1"	-	-	UV # 5B	FCP-UVB	SPARE FOR FUTURE	348	
349	ANALOG REACTOR CONTROLS	3/4"	-	-	UV # 5B	FCP-UVB	SPARE FOR FUTURE	349	
350	SPARE	1"	-	-	UV # 5B	CPP # 5B	SPARE FOR FUTURE	350	
351	CPP #6B POWER	2 1/2"	-	480/3	SWITCH GEAR "SGB"	CPP # 6B	SPARE FOR FUTURE	351	
352	UV #6B CHAMBER POWER	2"	-	10KV	CPP #6B	UV # 6B	SPARE FOR FUTURE	352	
353	UV #6B SENSOR CONTROLS	1"	-	24 VDC	CPP #6B	UV # 6B	SPARE FOR FUTURE	353	
354	ETHERNET/IP COMMUNICATION	3/4"	-	-	CPP #6B	FCP-UVB	SPARE FOR FUTURE	354	
355	UV #6B CONTROL SIGNAL	3/4"	-	24 VDC	CPP #6B	UV # 6B	SPARE FOR FUTURE	355	
356	UV SYSTEM STATUS INFORMATION	3/4"	-	-	CPP #6B	FCP-UVB	SPARE FOR FUTURE	356	
357	UV INTENSITY & DOSE DELIVERED	3/4"	-	-	CPP #6B	FCP-UVB	SPARE FOR FUTURE	357	
358	DISCRETE REACTOR CONTROLS	1"	-	-	UV # 6B	FCP-UVB	SPARE FOR FUTURE	358	
359	ANALOG REACTOR CONTROLS	3/4"	-	-	UV # 6B	FCP-UVB	SPARE FOR FUTURE	359	
360	SPARE	1"	-	-	UV # 6B	CPP # 6B	SPARE FOR FUTURE	360	

J:\2016\1631 Columbia County Water Utility\1631-00 Blanchard and Clarks Hill WTP UV Peroxide Design\Drawings\1631-00-3E3.dwg, 2/2/2021, 10:37:32 AM, KChalker, HP Design\T2500 Rev 2.pcl, 11



NO.	DATE	REVISION	BY	APVD

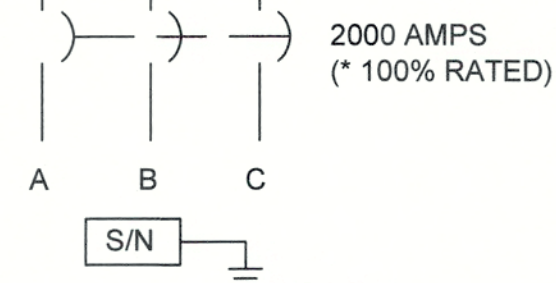


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COLUMBIA COUNTY, GEORGIA
 UV / ADVANCED OXIDATION TREATMENT
 BLANCHARD PLANT SIDE B UV BUILDING
 WIRING SCHEDULE

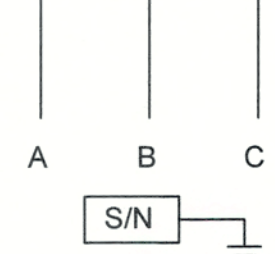
0		1		IF THIS BAR DOES NOT MEASURE 1" DRAWING IS NOT TO LABELED SCALE	
DESIGNED	SWG	REF.	1631-00	DWG NO.	
DRAWN	KDC	DATE	DEC 2020	3E3	
QC		SCALE	N/A		

LOAD VA	LOAD	NO.		NO.	LOAD	LOAD VA
		1		2		
202,000	CPP # 1B (NOTE 1)	3	300	4	CPP # 4B (NOTE 1)	202,000
		5		6		
202,000	CPP # 2B (NOTE 1)	7	300	8	CPP # 5B (NOTE 1)	202,000
		11		12		
	SPARE (NOTE 1)	13		14		
		15	300	16	SPARE (NOTE 1)	
		17		18		
		19		20		
51,500	RTU - 1B	21	70	22	RTU - 1B	51,500
		23		24		
		25		26		
30,000	EUH - 1B	27	50	28	EUH - 1B	30,000
		29		30		
		31		32		
30,000	PANEL HVA	33	60	34		
		35		36		
		37		38		
		39		40		
		41		42		



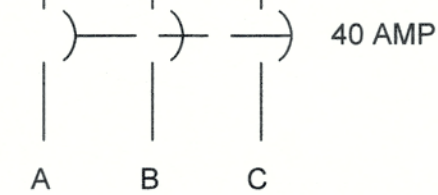
SWITCH GEAR SGB
480 VOLT, 3Ø, 4 WIRE, SURFACE MOUNT
 (ALL CIRCUIT BREAKERS RATED 20 AMPERES UNLESS NOTED)

LOAD VA	LOAD	NO.		NO.	LOAD	LOAD VA
		1		2		
15,000	XFMR TVB	3	30	4	BRIDGE CRANE	10,000
		5		6		
		7		8		
700	VALVE V5	9		10	VALVE V7	700
		11		12		
		13		14		
1750	F - 1B	15		16		
		17		18		
		19		20		
		21		22		
		23		24		
		25		26		
		27		28		
		29		30		

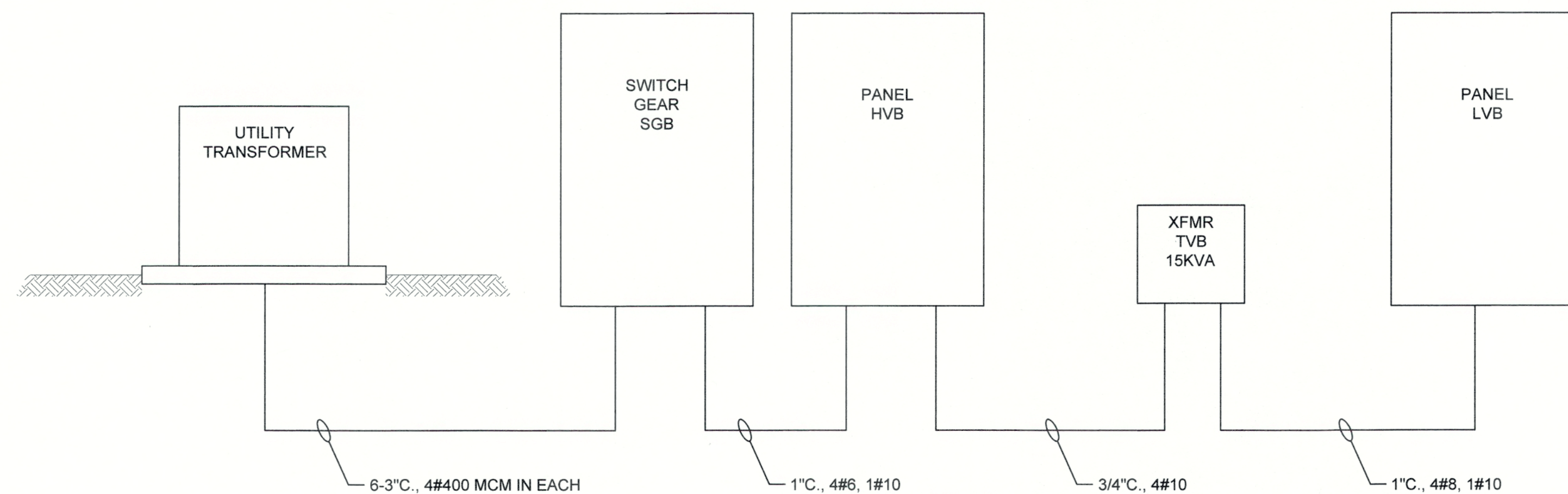


PANEL HVB
480 VOLT, 3Ø, 4 WIRE, SURFACE MOUNT
 (ALL CIRCUIT BREAKERS RATED 20 AMPERES UNLESS NOTED)

LOAD VA	LOAD	NO.		NO.	LOAD	LOAD VA
1500	FCP - UVB	1		2	FIT - 3103	500
540	RECEPTACLES	3		4	FIT - 3104	500
1200	LIGHTS	5		6	ROLL UP DOOR	1600
		7		8	SPARE	
		9		10	SPARE	
		11		12		
		13		14		
		15		16		
		17		18		
		19		20		
		21		22		
		23		24		
		25		26		
		27		28		
		29		30		



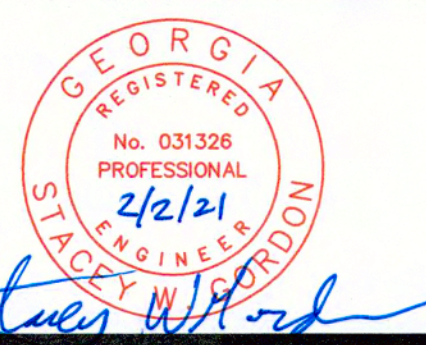
PANEL LVB
208 VOLT, 3Ø, 4 WIRE, SURFACE MOUNT
 (ALL CIRCUIT BREAKERS RATED 20 AMPERES UNLESS NOTED)



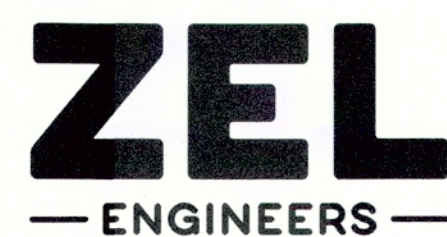
RISER DIAGRAM
 N.T.S.

NOTES:
 1. IN SWITCH GEAR SGB ALL CONTROL POWER PANEL (CPP) BREAKERS SHALL BE ELECTRONIC TRIP UNITS WITH 300 AT/ 400 AF.

J:\2016\1631 Columbia County Water Utility\1631-00 Blanchard and Clarke Hill WTP\16-Perceps Design\Drawings\1631-00-3E-AUG-2020\2021-10-26-24 M. K. Schuler, PE Design\17200-Rev1.dwg, 11



NO.	DATE	REVISION	BY	APVD



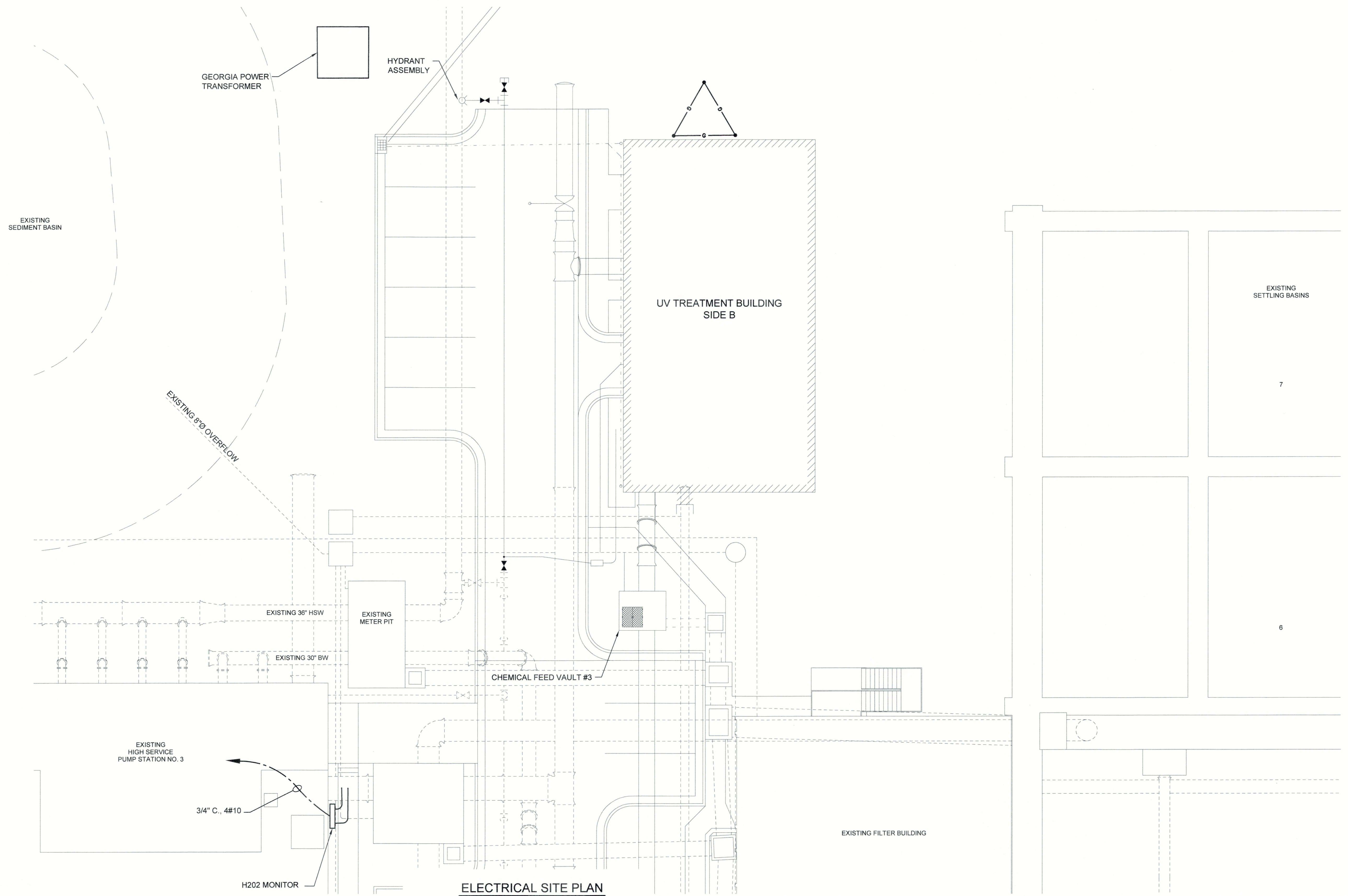
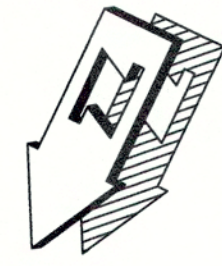
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COLUMBIA COUNTY, GEORGIA

UV / ADVANCED OXIDATION TREATMENT
 BLANCHARD PLANT SIDE B
 PANEL SCHEDULE AND RISER DIAGRAM

0 1 IF THIS BAR DOES NOT MEASURE 1" DRAWING IS NOT TO LABELED SCALE

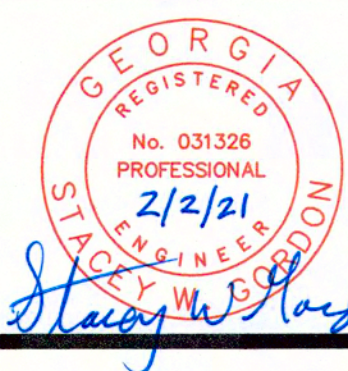
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DRAWN	KDC	DATE	DEC 2020	3E4
QC		SCALE	N/A	



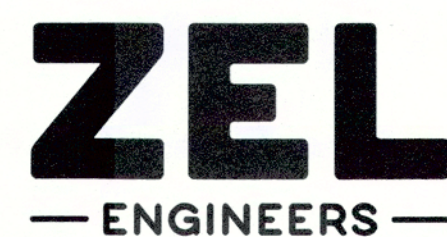
ELECTRICAL SITE PLAN

SCALE: 1" = 10'

J:\2016\1631 Columbia County Water Utility\1631-00 Blanchard and Clarkes Hill WTP UV Process Design\Drawings\1631-00_BEA.dwg, 2/2/21 10:36:22 AM, KChaller, HP Design\17200 Plot 2.dwg, 1:1



NO.	DATE	REVISION	BY	APVD



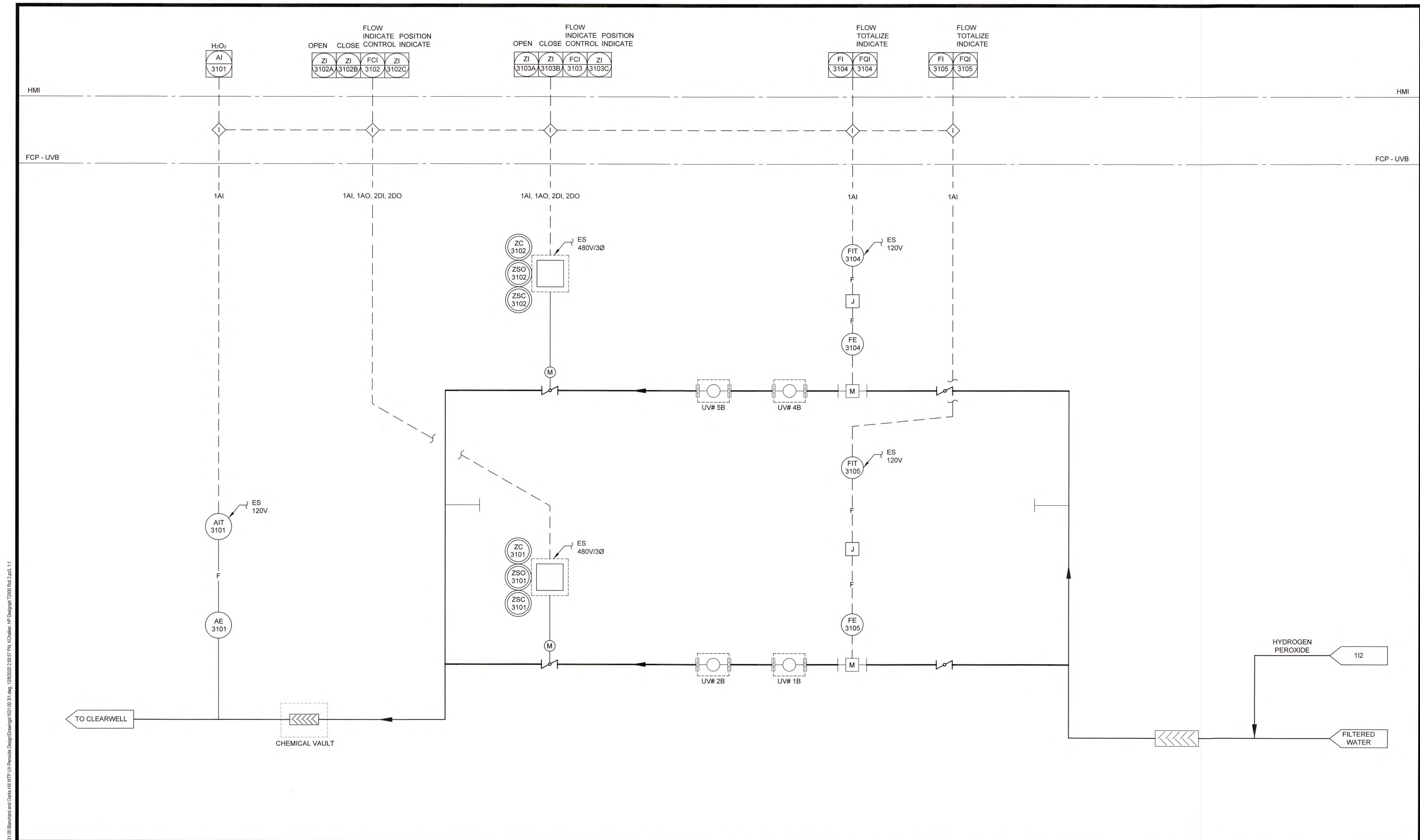
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COLUMBIA COUNTY, GEORGIA

UV / ADVANCED OXIDATION TREATMENT
 BLANCHARD PLANT SIDE B
 ELECTRICAL SITE PLAN

0 1 IF THIS BAR DOES NOT MEASURE 1" DRAWING IS NOT TO LABELED SCALE

DESIGNED	KMW	REF.	1631-00	DWG NO.
DRAWN	KDC	DATE	DEC 2020	3E5
QC		SCALE	AS SHOWN	



1:20161631 Columbia County Water Utility 1631-00 31 Aug. 12/2020 2:56:57 PM, KChaker, HP Delight 7250 Rev 2.ppt, 11

Stanley W. Gordon

NO.	DATE	REVISION	BY	APVD

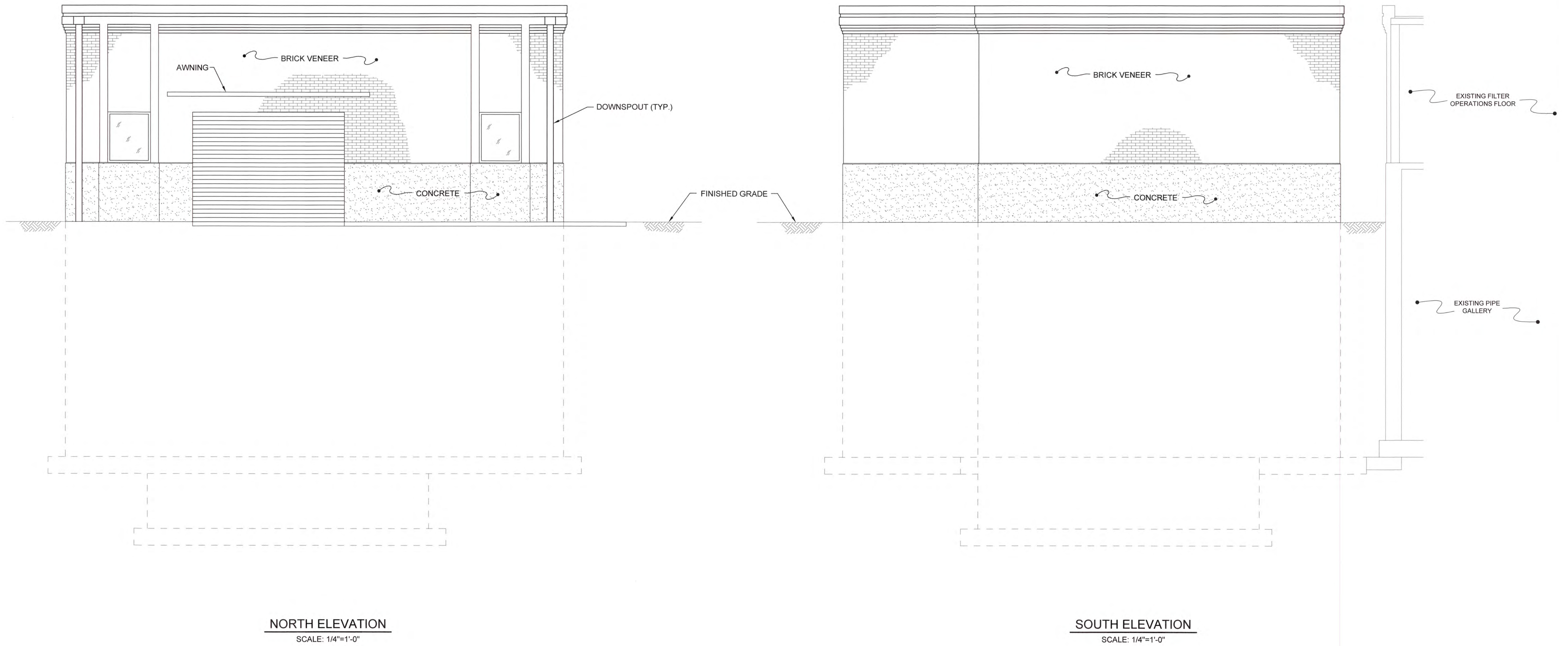
ZEL ENGINEERS

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COLUMBIA COUNTY, GEORGIA
 UV / ADVANCED OXIDATION TREATMENT
 BLANCHARD PLANT SIDE B
 P & ID - UV TREATMENT TRAIN

DESIGNED		SWG	REF.	1631-00	DWG NO.
DRAWN		KDC	DATE	DEC 2020	311
QC			SCALE	N/A	

J:\2016\1631 Columbia County Water Utility\1631-00 Branch and Clark Hill WTP UV Perovials Design\Drawings\1631-00-461.dwg, 12/29/2020 2:36:54 PM, KChiller-HP Design\17500 Plot 2.pct, 1:1

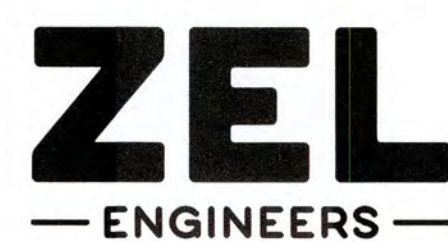


NORTH ELEVATION
SCALE: 1/4"=1'-0"

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



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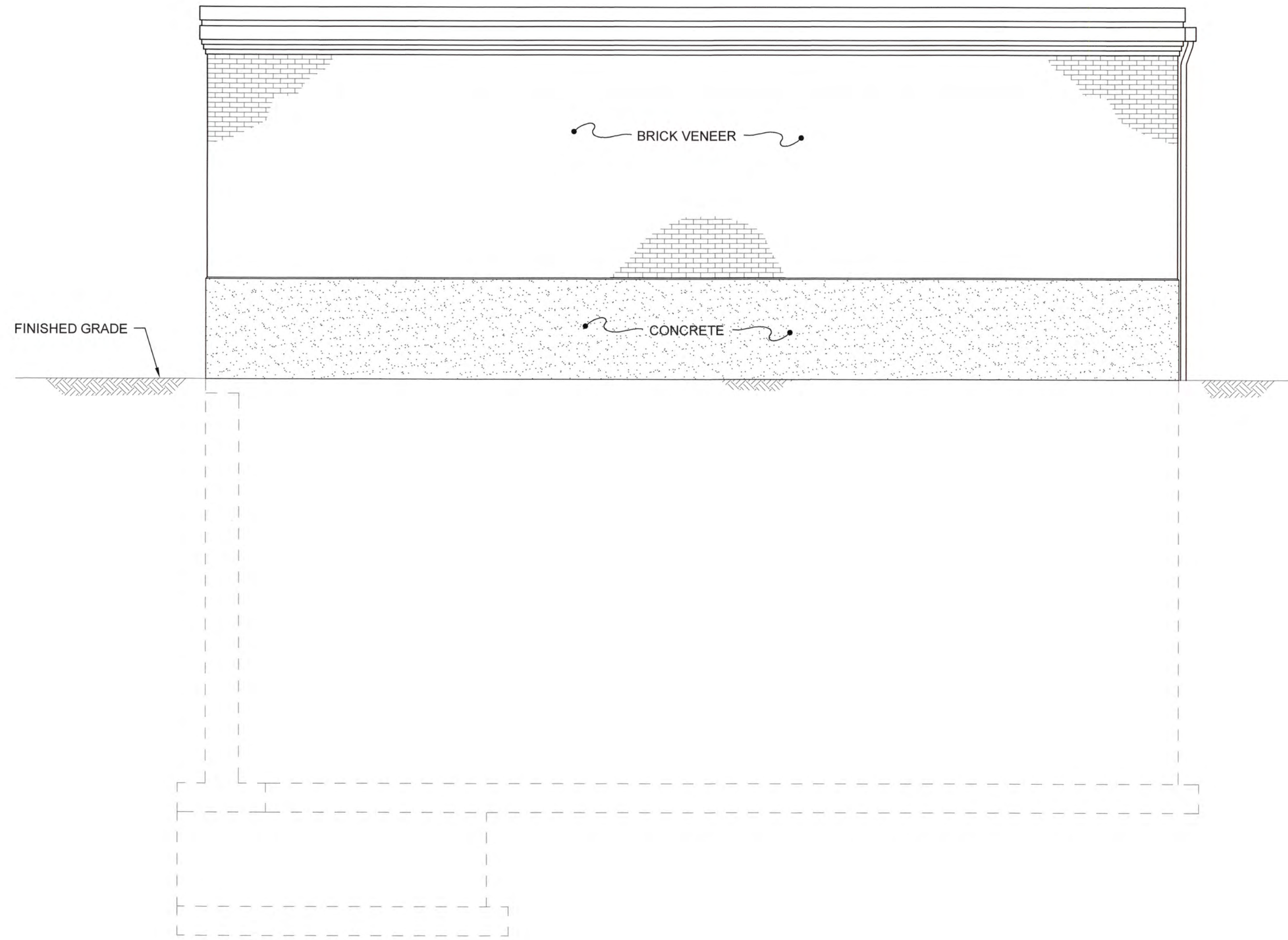
UV / ADVANCED OXIDATION TREATMENT
CLARKS HILL
UV BUILDING ELEVATIONS - 1



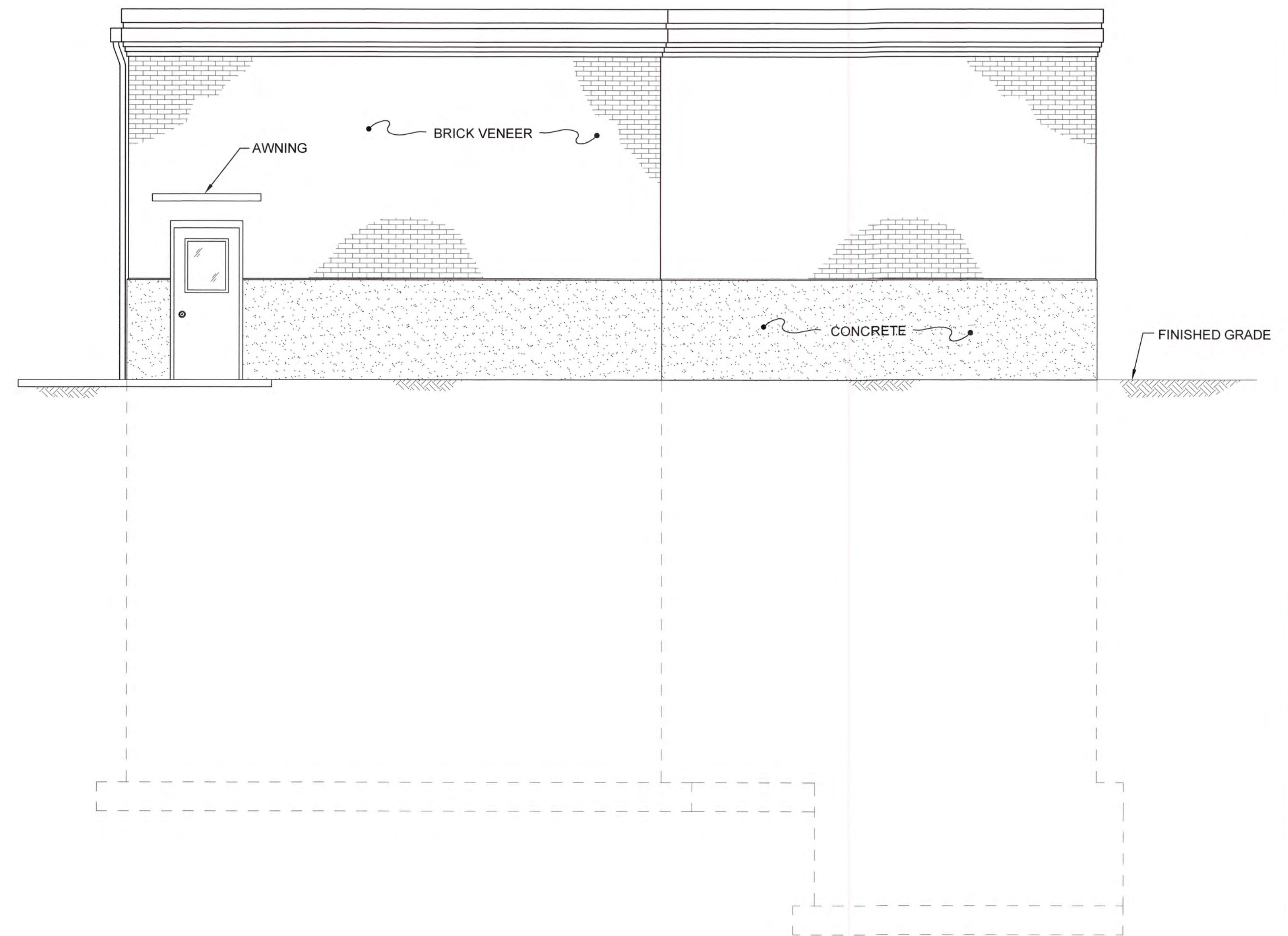
IF THIS BAR DOES NOT MEASURE 1"
DRAWING IS NOT TO LABELED SCALE

DESIGNED	DKR	REF.	1631-00	DWG NO.
DRAWN	KDC	DATE	DEC 2020	4G1
QC		SCALE	1/4"=1'-0"	

1/20/2021 Columbia County Water Utility 1631-00 Brainerd and Clarke Hill WTP UV Process Design/Drawings 1631-00 1631.dwg, 12/22/2020 2:38:27 PM, KChalker, HP Designer, T3500 R04.2.dwg, 1:1



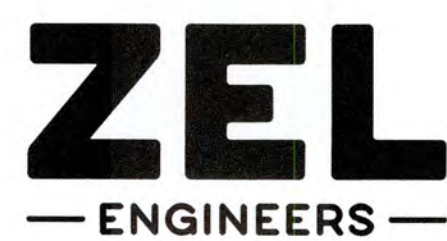
EAST ELEVATION
SCALE: 1/4"=1'-0"



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



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COLUMBIA COUNTY, GEORGIA

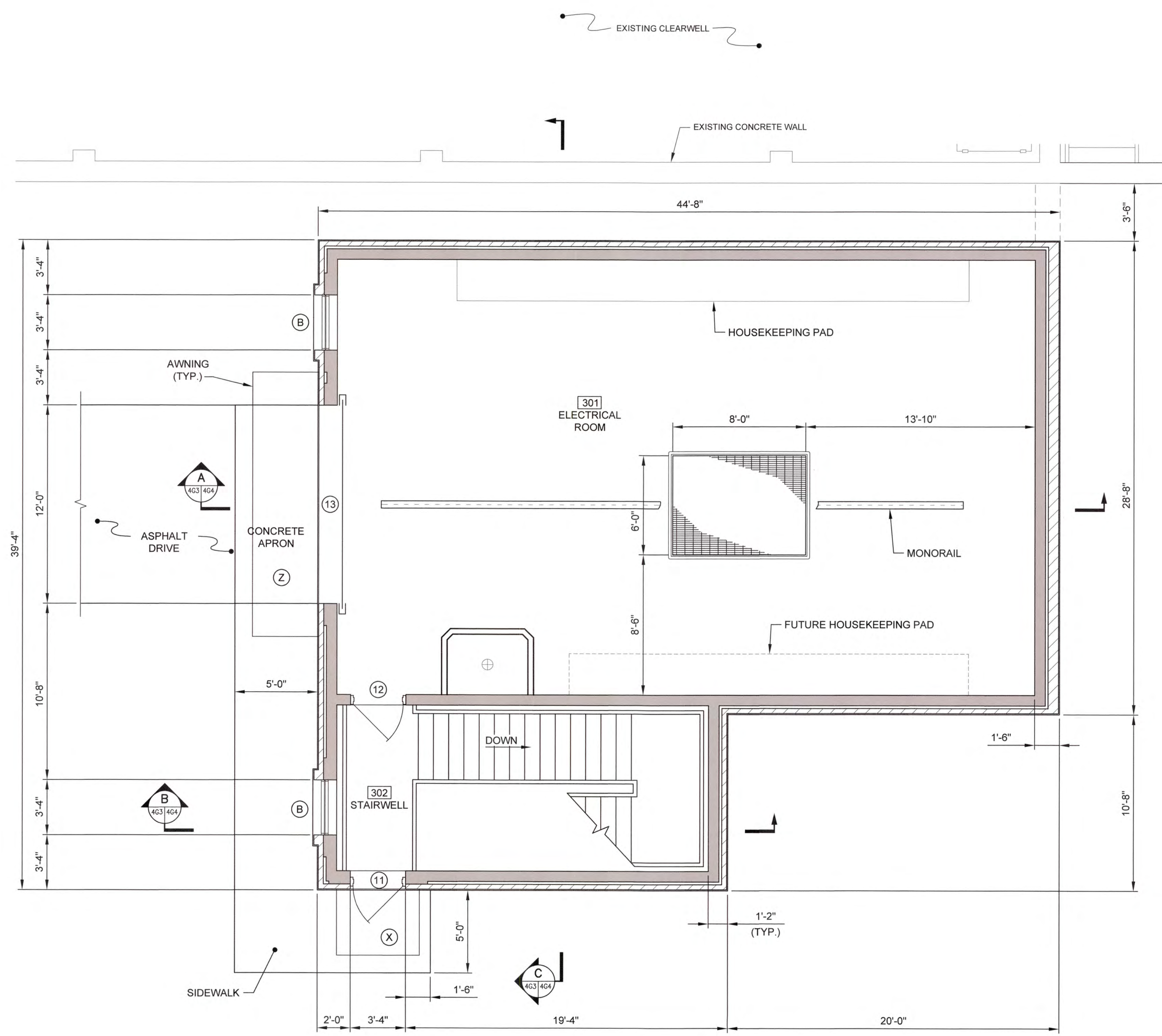
UV / ADVANCED OXIDATION TREATMENT
CLARKS HILL
UV BUILDING ELEVATIONS - 2



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

DESIGNED	DKR	REF.	1631-00	DWG NO.
DRAWN	KDC	DATE	DEC 2020	4G2
QC		SCALE	1/4"=1'-0"	

NOTE:
SEE DWGS 1G5 FOR DOOR, WINDOW
AND AWNING SCHEDULES.

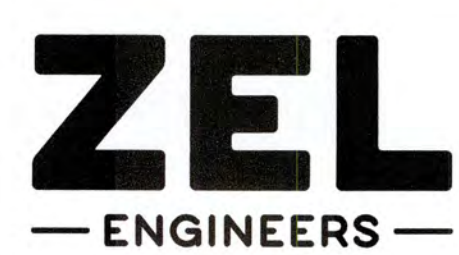


CLARKS HILL UV BUILDING UPPER FLOOR PLAN
SCALE: 1/4"=1'-0"

I:\2016\1631 Columbia County Water Utility\1631-00\Bleached and Chlorine Hill VTP UV Process Design\Drawings\1631-00_463.dwg, 12/8/2020 2:36:00 PM, KChalaker, HP Designer, TSS00, Ref: 2.rvt, 1:1



NO.	DATE	REVISION	BY	APVD

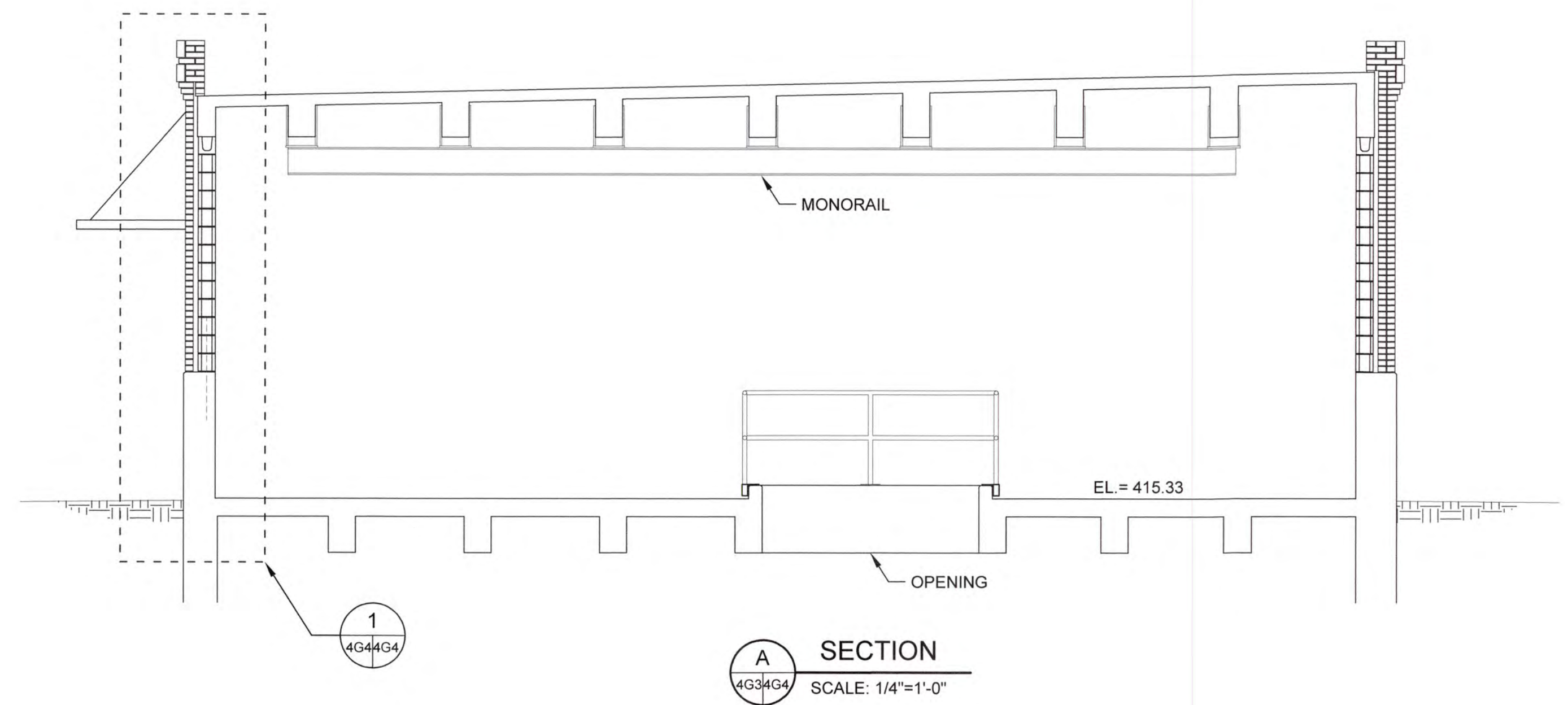


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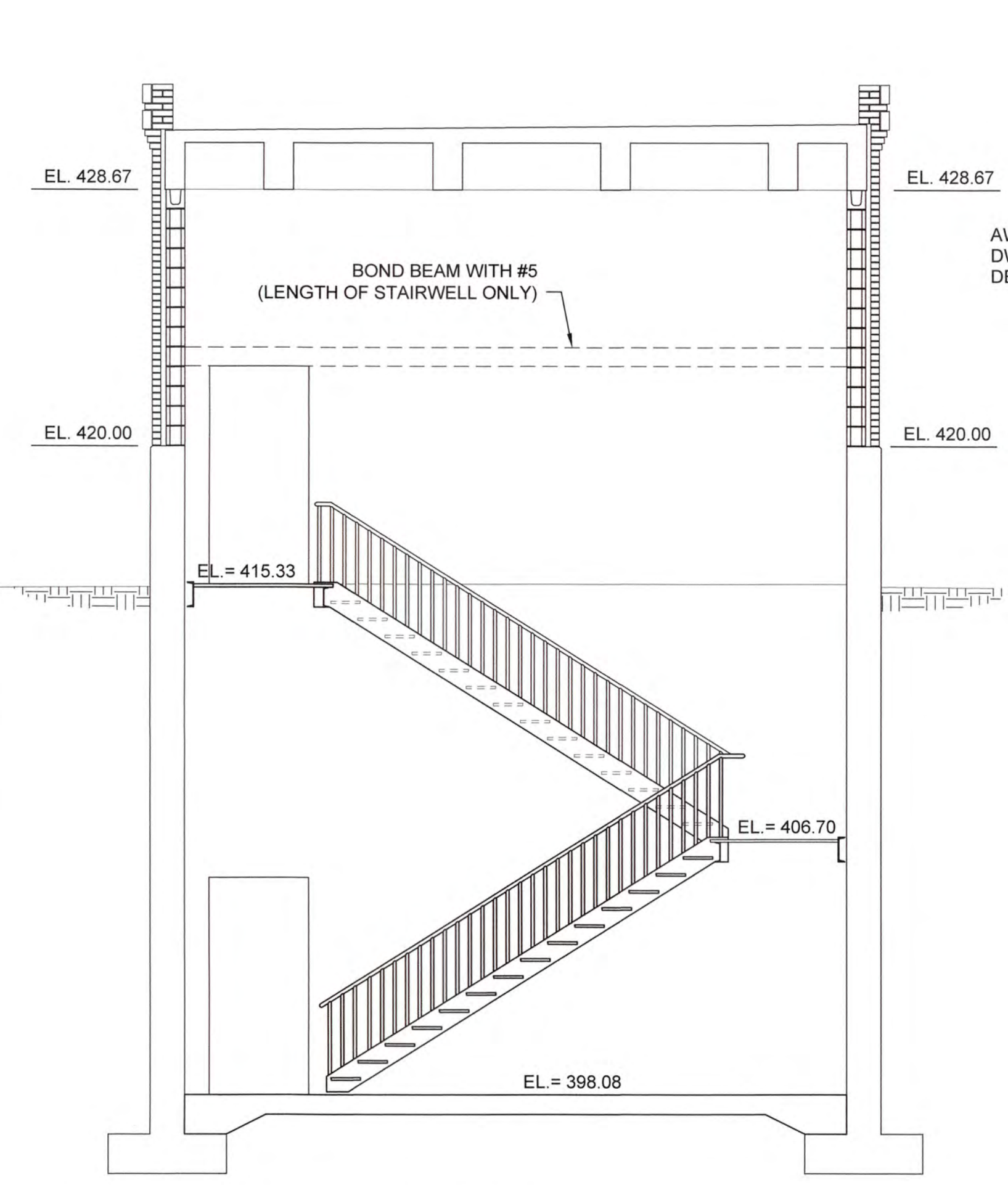
COLUMBIA COUNTY, GEORGIA	
UV / ADVANCED OXIDATION TREATMENT	
CLARKS HILL UV BUILDING UPPER FLOOR PLAN	

0 1		IF THIS BAR DOES NOT MEASURE 1" DRAWING IS NOT TO LABELED SCALE	
DESIGNED	DKR	REF.	1631-00
DRAWN	KDC	DATE	DEC 2020
QC		SCALE	1/4"=1'-0"
			DWG NO. 4G3

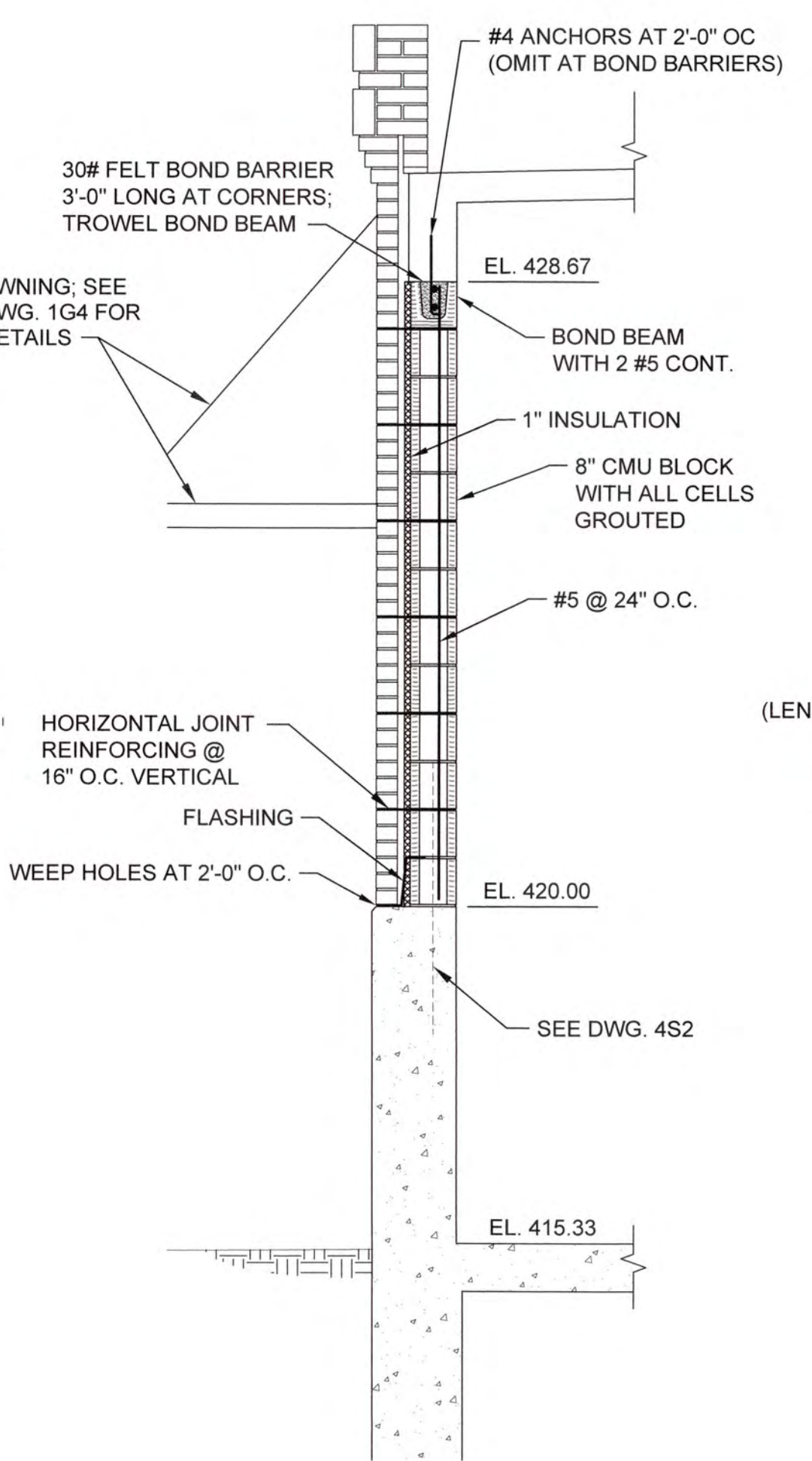
1:20161831 Columbia County Water Utility 1631-00 Blockhead and Clarks Hill WTP UV Purvade Design Drawing 1631-00 4G4.dwg, 12/20/2020 2:35:33 PM, MChalder, HP Designer, T2500 Rev. 2, p. 11



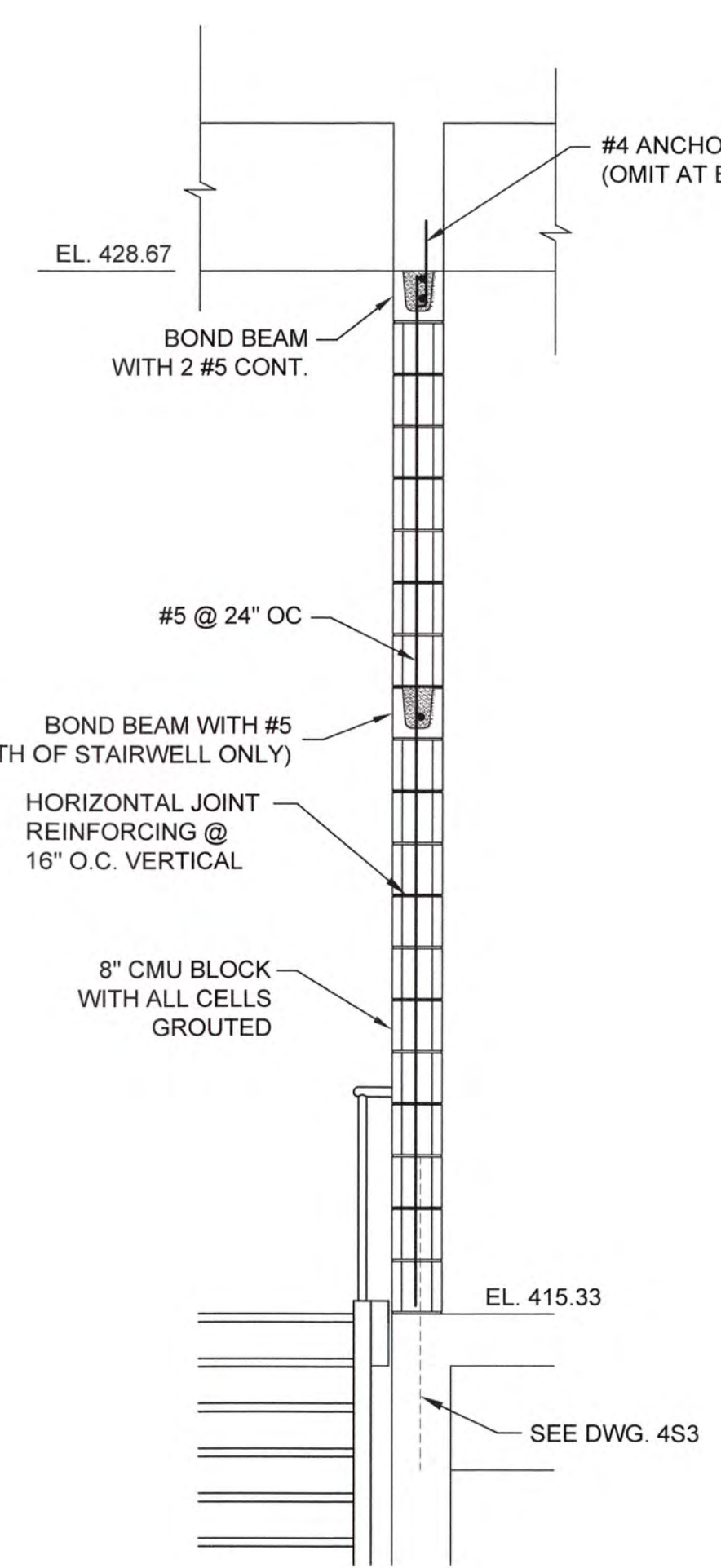
A SECTION
4G34G4 SCALE: 1/4"=1'-0"



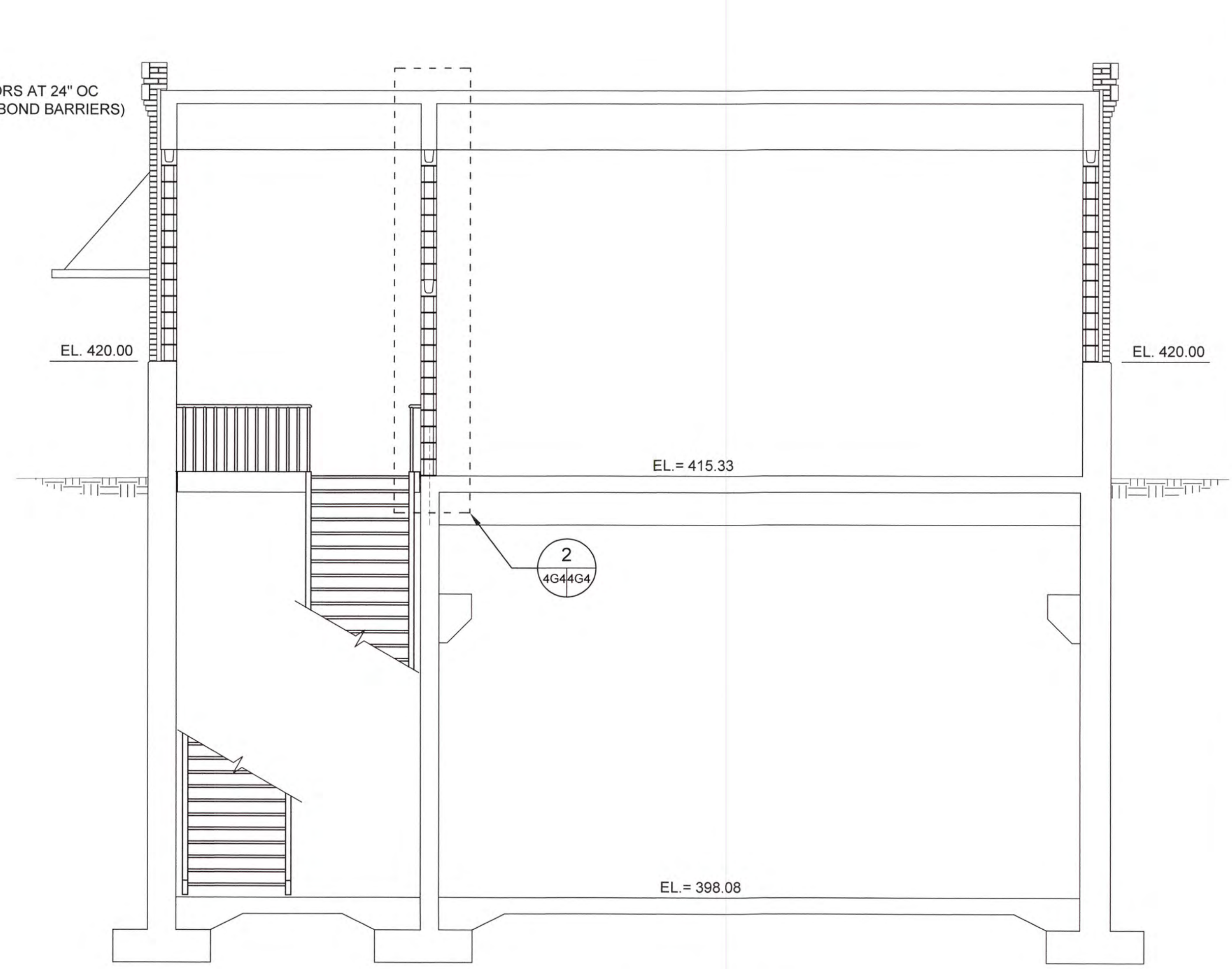
B SECTION
4G34G4 SCALE: 1/4"=1'-0"



1 DETAIL
4G44G4 SCALE: 1/2"=1'-0"
(TYP. EXTERIOR WALLS)



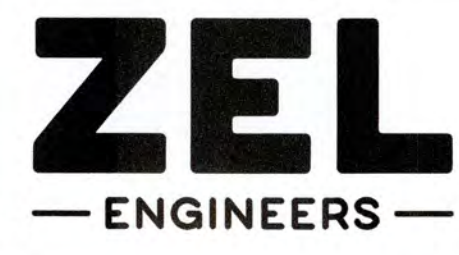
2 DETAIL
4G44G4 SCALE: 1/2"=1'-0"



C SECTION
4G34G4 SCALE: 1/4"=1'-0"



NO.	DATE	REVISION	BY	APVD

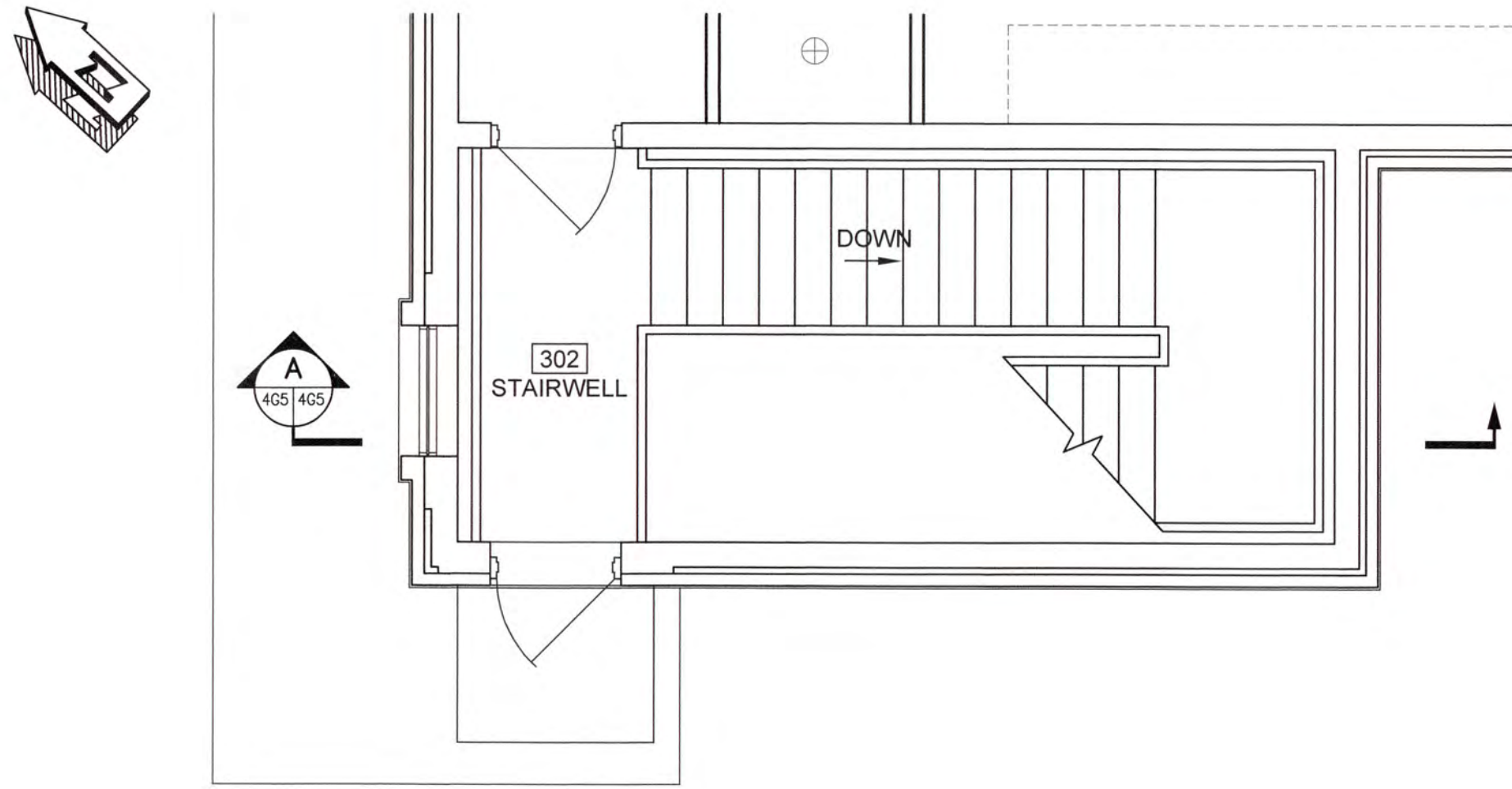


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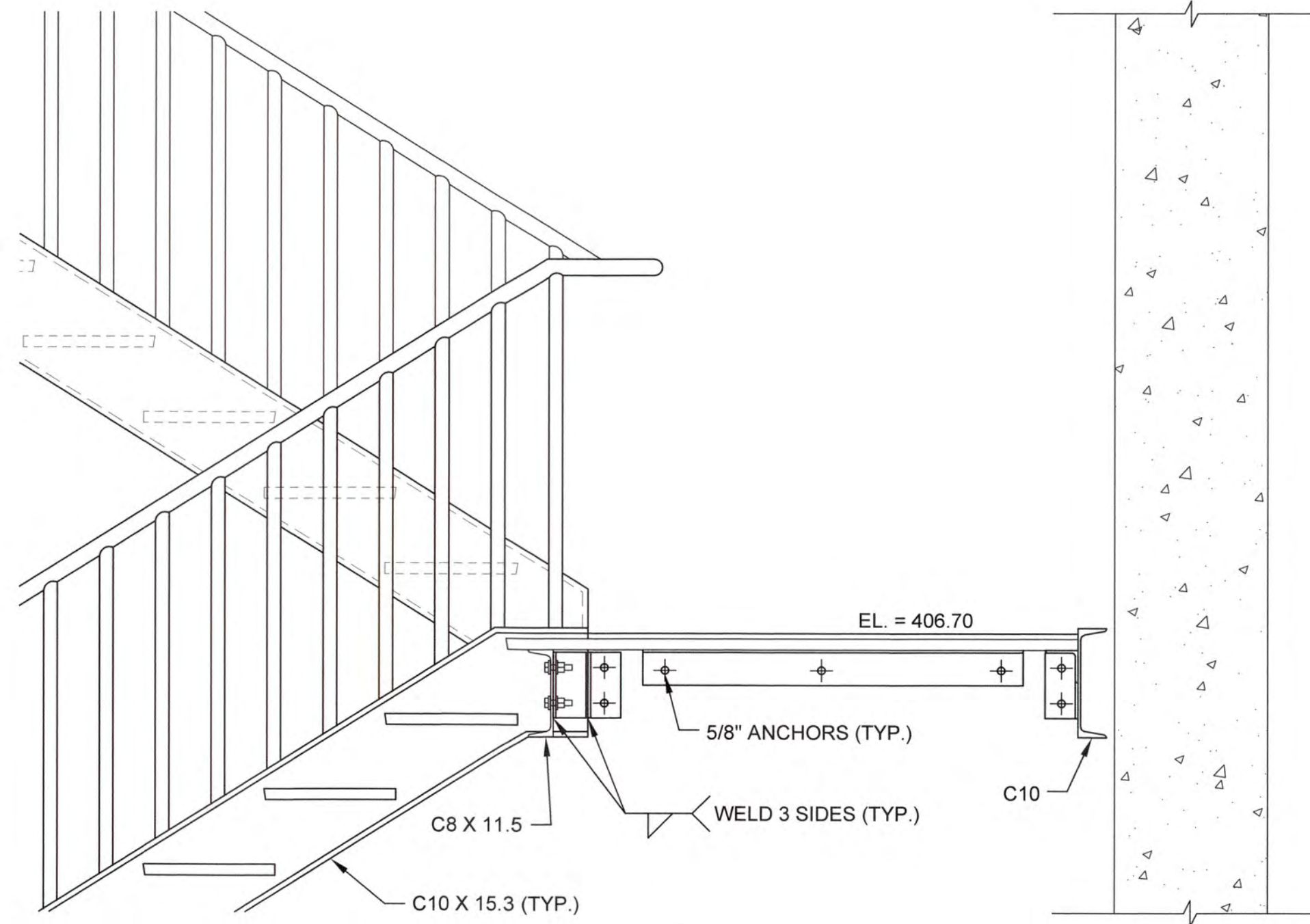
COLUMBIA COUNTY, GEORGIA
UV / ADVANCED OXIDATION TREATMENT
CLARKS HILL
UV BUILDING SECTIONS

DESIGNED DKR		REF. 1631-00		DWG NO.
DRAWN KDC		DATE DEC 2020		4G4
QC		SCALE AS SHOWN		

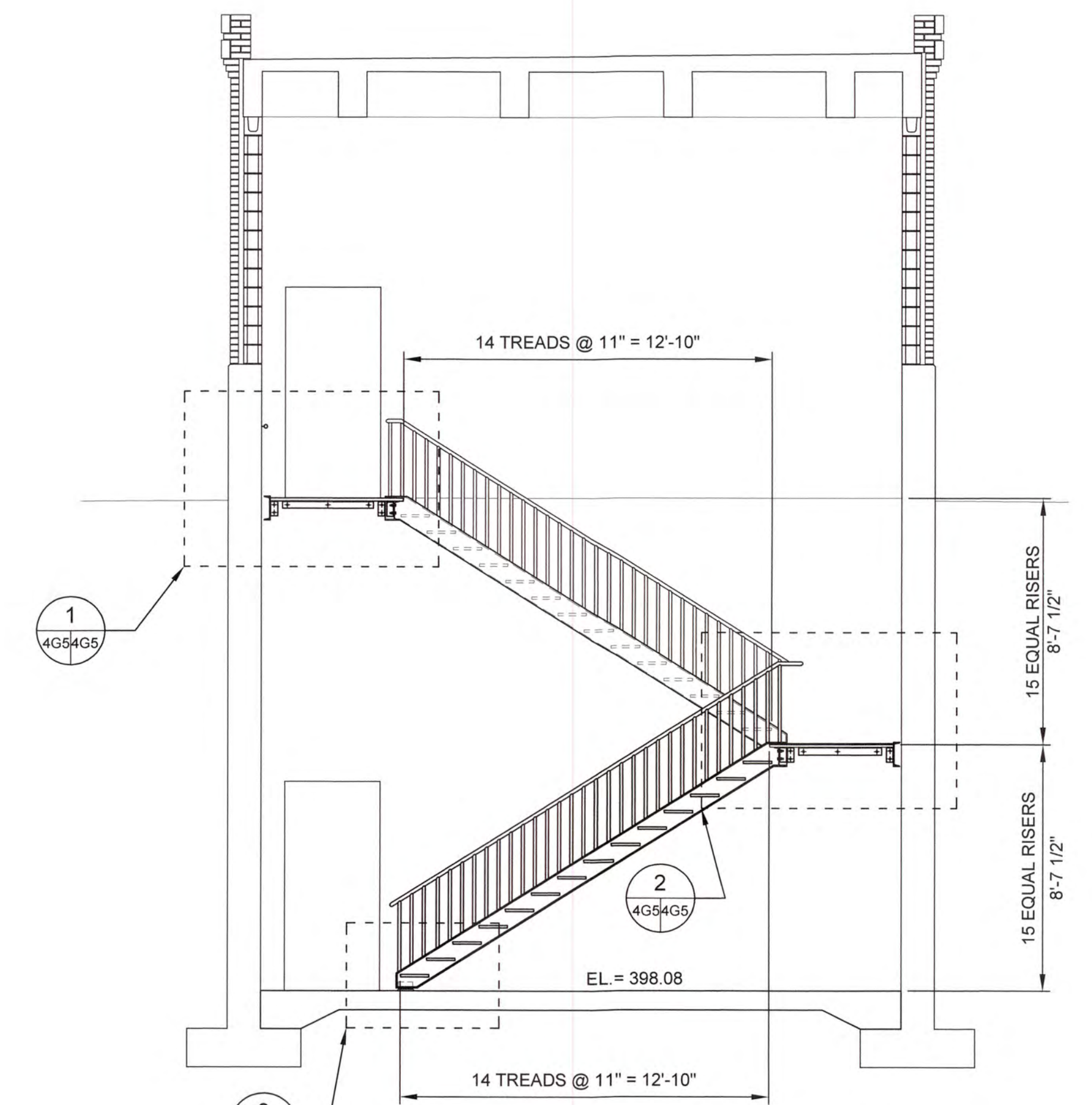
0 1 IF THIS BAR DOES NOT MEASURE 1" DRAWING IS NOT TO LABELED SCALE



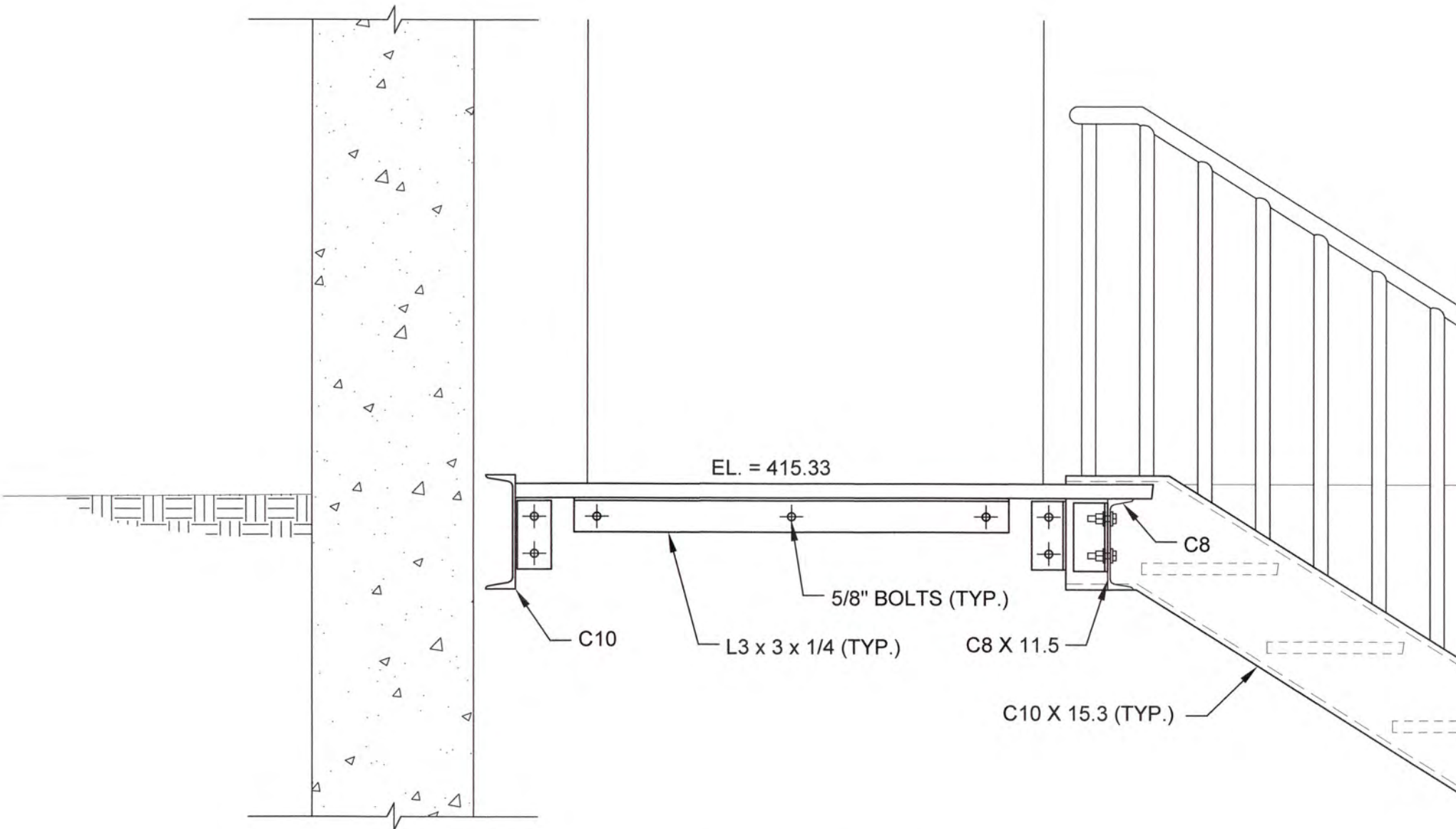
CLARKS HILL UV BUILDING STAIR PLAN
SCALE: 1/4"=1'-0"



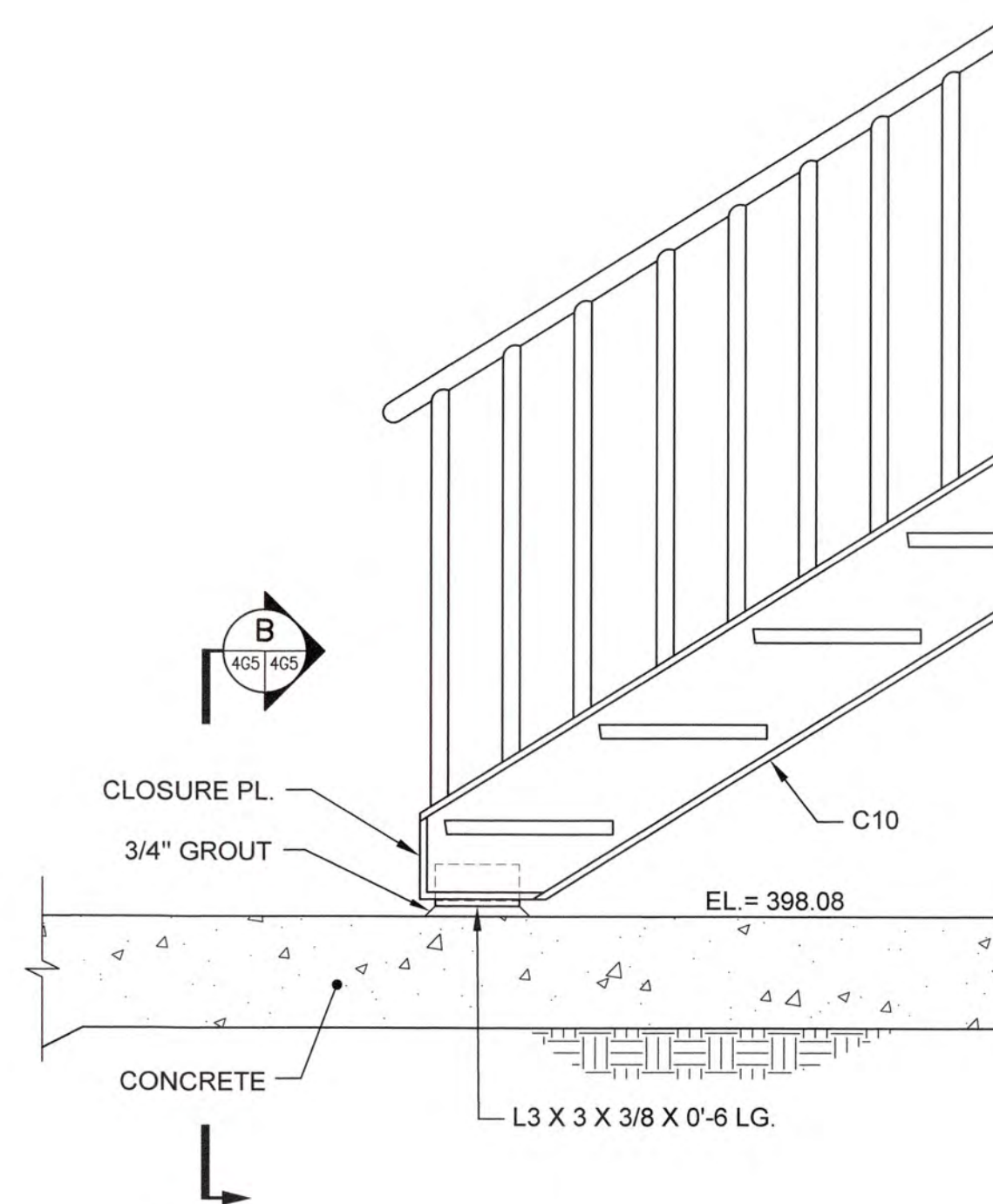
2 DETAIL
SCALE: 1"=1'-0"



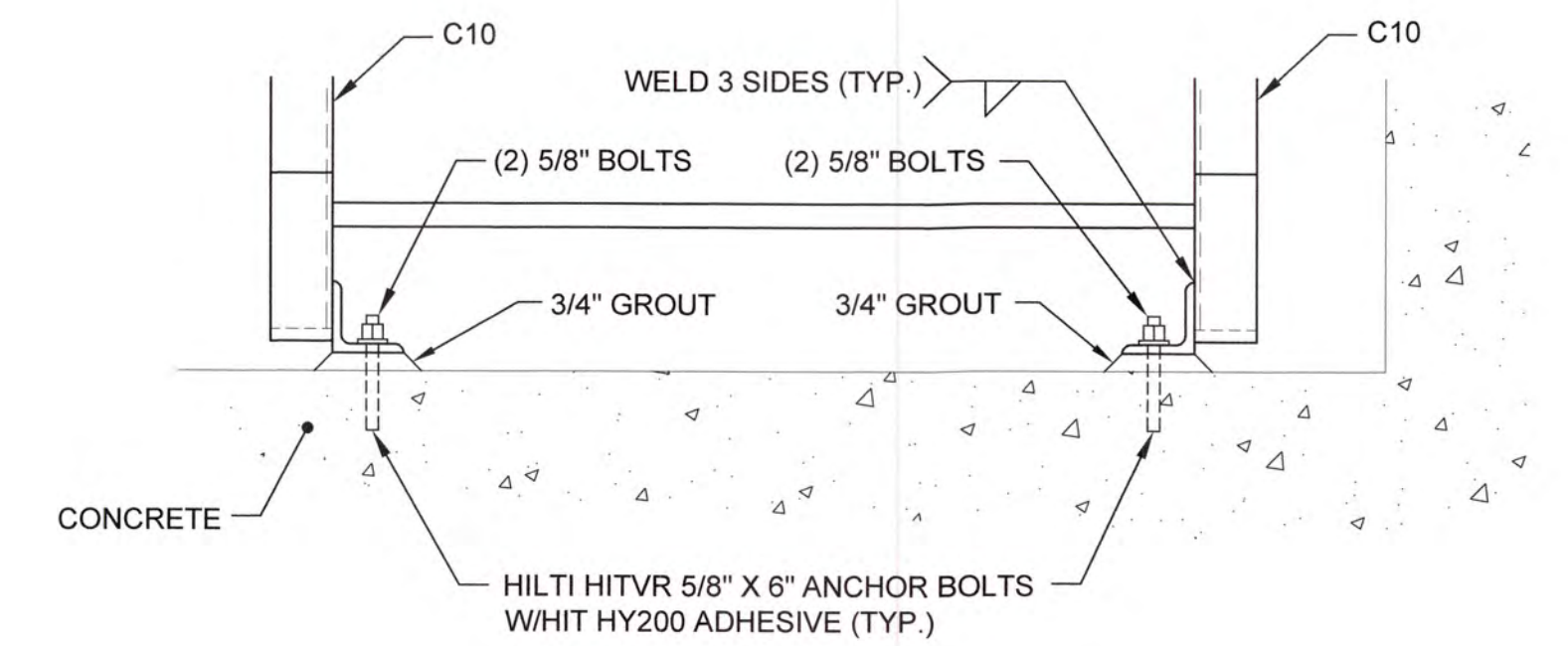
A SECTION
SCALE: 1/4"=1'-0"



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



3 DETAIL
SCALE: 1"=1'-0"



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

1/20/16/1631 Columbia County Water Utility/1531-00 Blanchard and Clarke Hill VTP UV Peroxide Design/Drawings/1531-00_4G5.dwg, 12/8/2020 2:35:08 PM, KChalack, HP Designer/ TSSO Ref 2.rvt, 1:1



NO.	DATE	REVISION	BY	APVD



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COLUMBIA COUNTY, GEORGIA

UV / ADVANCED OXIDATION TREATMENT

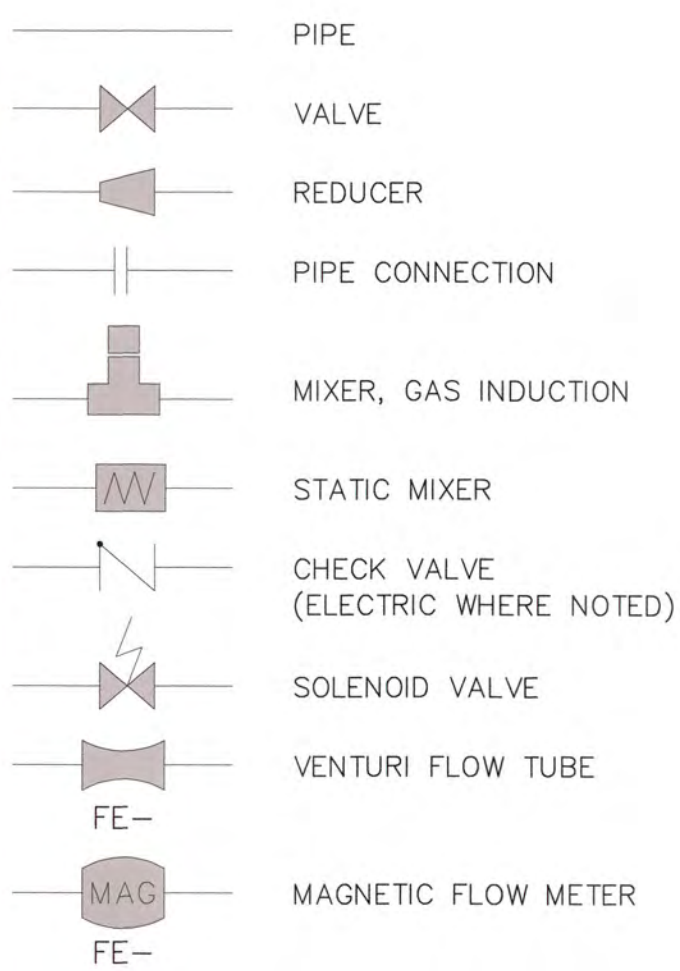
CLARKS HILL UV BUILDING
STAIR SECTIONS AND DETAILS

0 1

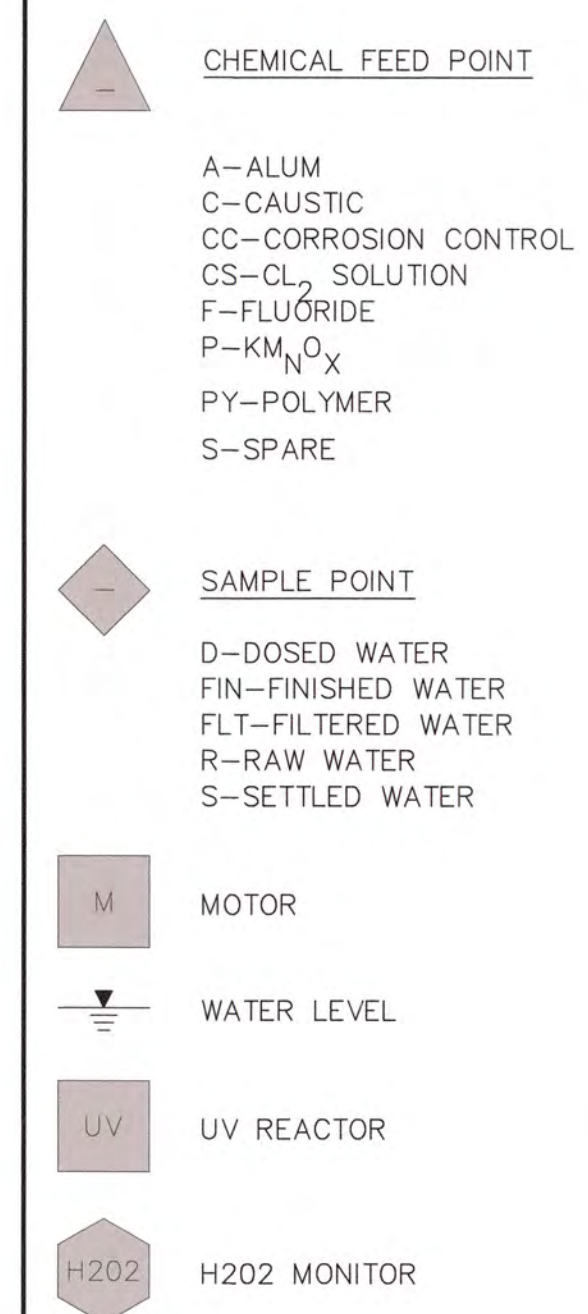
IF THIS BAR DOES NOT MEASURE 1" DRAWING IS NOT TO LABELED SCALE

DESIGNED	DKR	REF.	1631-00	DWG NO.
DRAWN	SWH	DATE	DEC 2020	4G5
QC		SCALE	AS SHOWN	

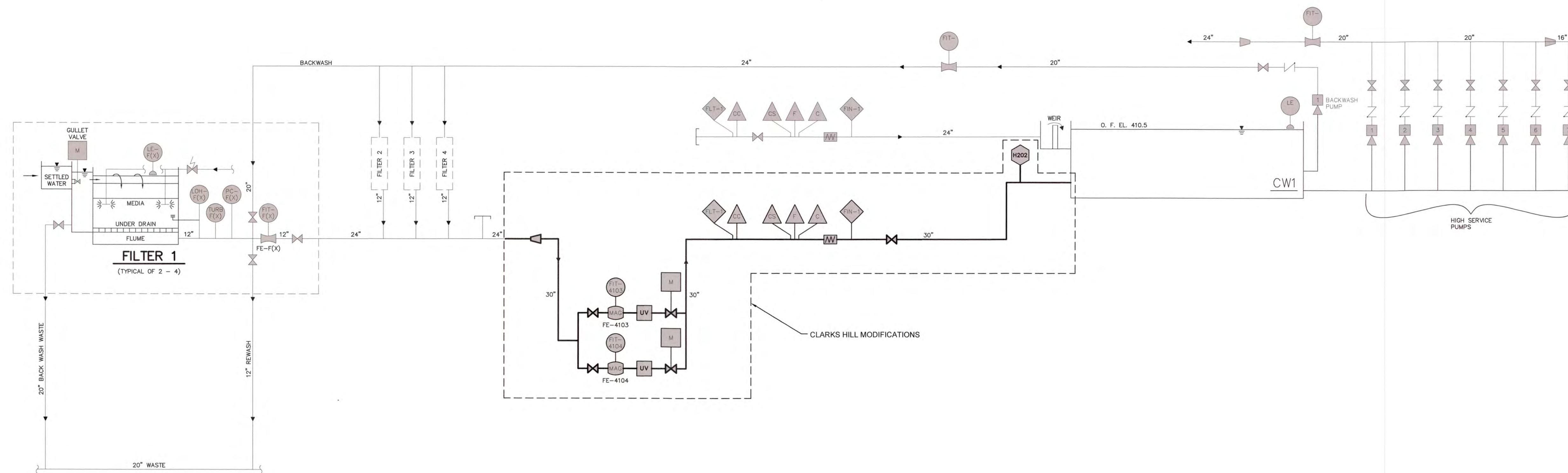
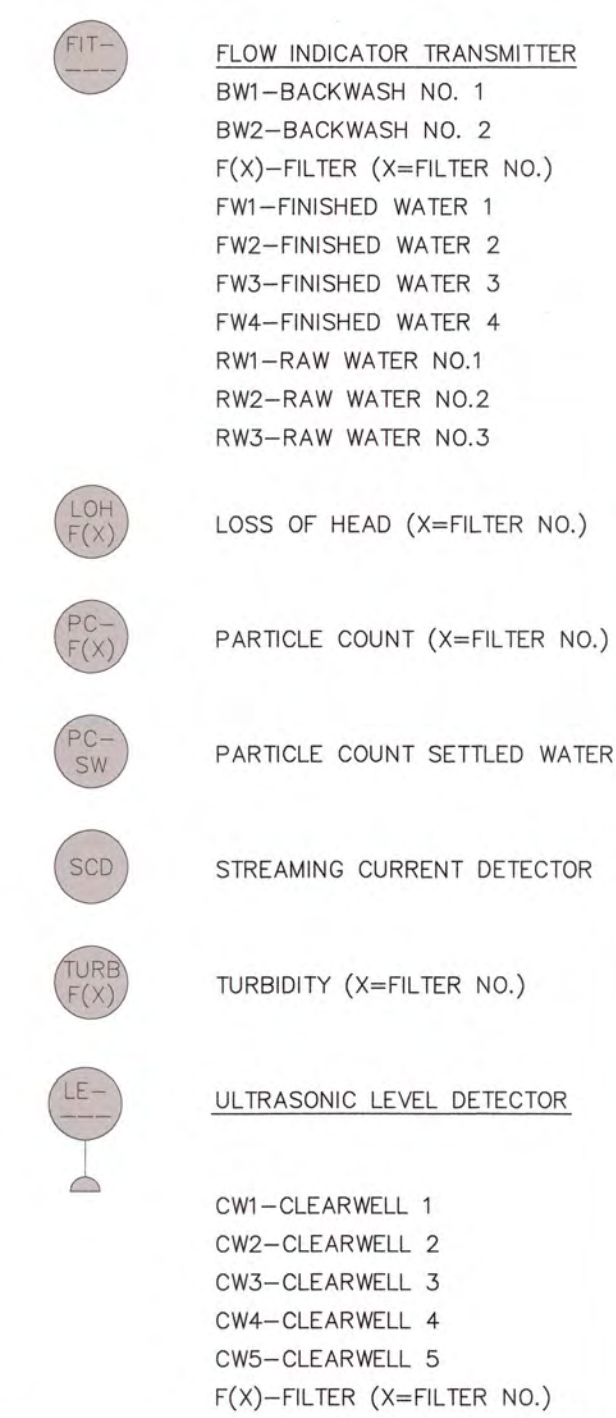
PIPING LEGEND



GENERAL LEGEND



INSTRUMENT LEGEND

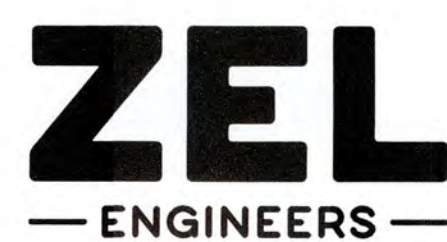


NOTE: THIS DRAWING SHOWS EXISTING EQUIPMENT AND EQUIPMENT TO BE INSTALLED UNDER THIS CONTRACT. REFER TO OTHER CONTRACT DRAWINGS AND SPECIFICATIONS FOR EXTENT OF WORK TO BE PERFORMED UNDER THIS CONTRACT.

1/20/16/1631 Columbia County Water Utility/1631-00 Branch and Clark Hill WTP UV-Peroxide Design/Drawings/1631-00-065 DWS, 1/20/2020 2:24:35 PM, KChalker, HP Designer/12500 Rev 2.dwg, 1:1



Table with columns: NO., DATE, REVISION, BY, APVD



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COLUMBIA COUNTY, GEORGIA

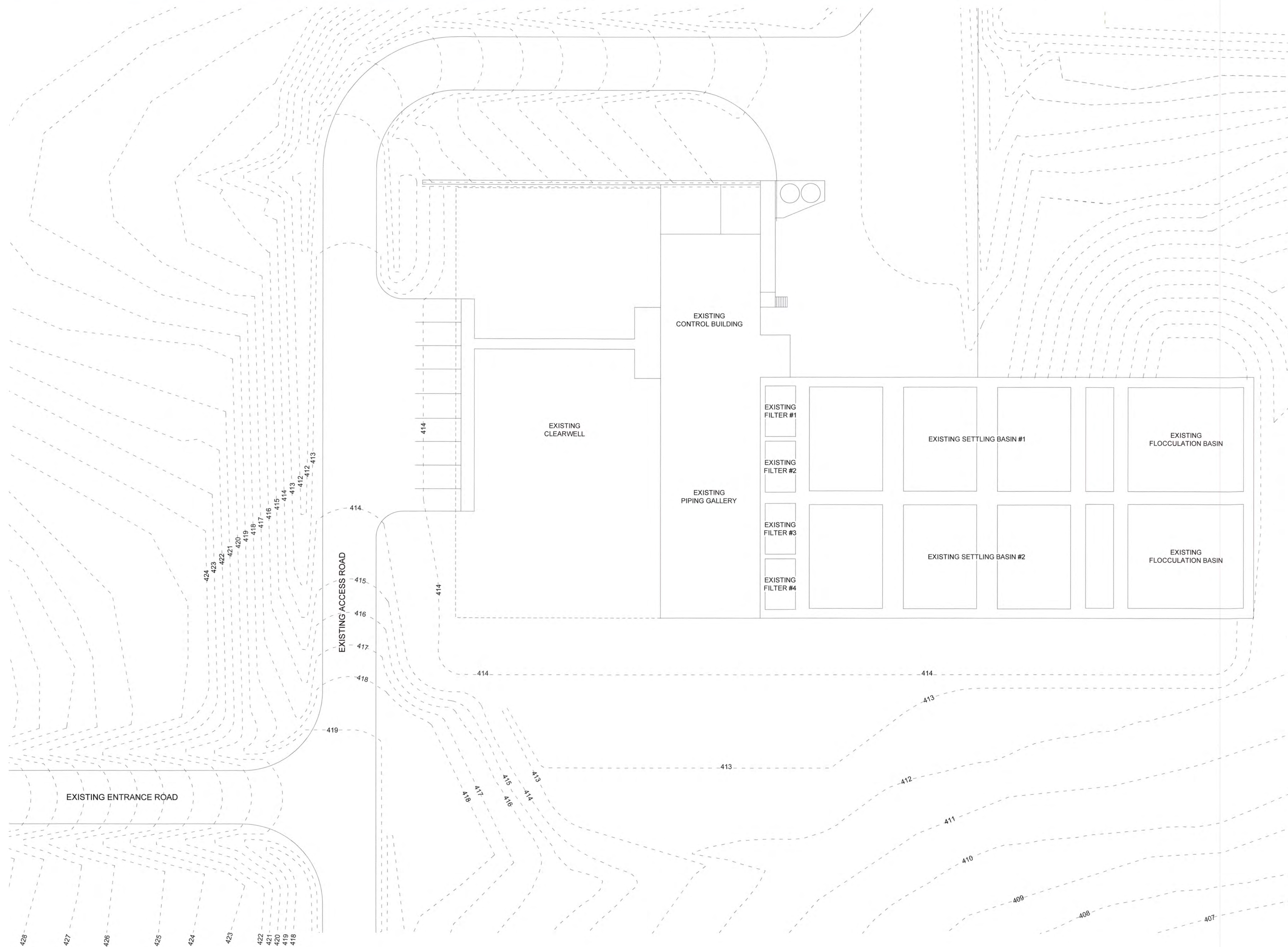
UV / ADVANCED OXIDATION TREATMENT

CLARKS HILL WTP SYSTEM DIAGRAM

Scale bar and note: IF THIS BAR DOES NOT MEASURE 1" DRAWING IS NOT TO LABELED SCALE

Table with columns: DESIGNED, SWG, REF., 1631-00, DATE, DEC 2020, SCALE, N.T.S.

DWG NO. 4G6



EXISTING CONDITIONS PLAN

SCALE: 1" = 20'

J:\2016\1631 Columbia County Water Utility\1631-00\Standard and Clarks Hill WTP\1631-00\Drawings\1631-00-4C.dwg, 12/10/2020 2:24:55 PM, KChatter, HP Designjet T7200, Roll 2, Overwrite.pso, 1:1



NO.	DATE	REVISION	BY	APVD

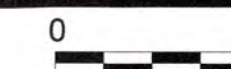


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COLUMBIA COUNTY, GEORGIA

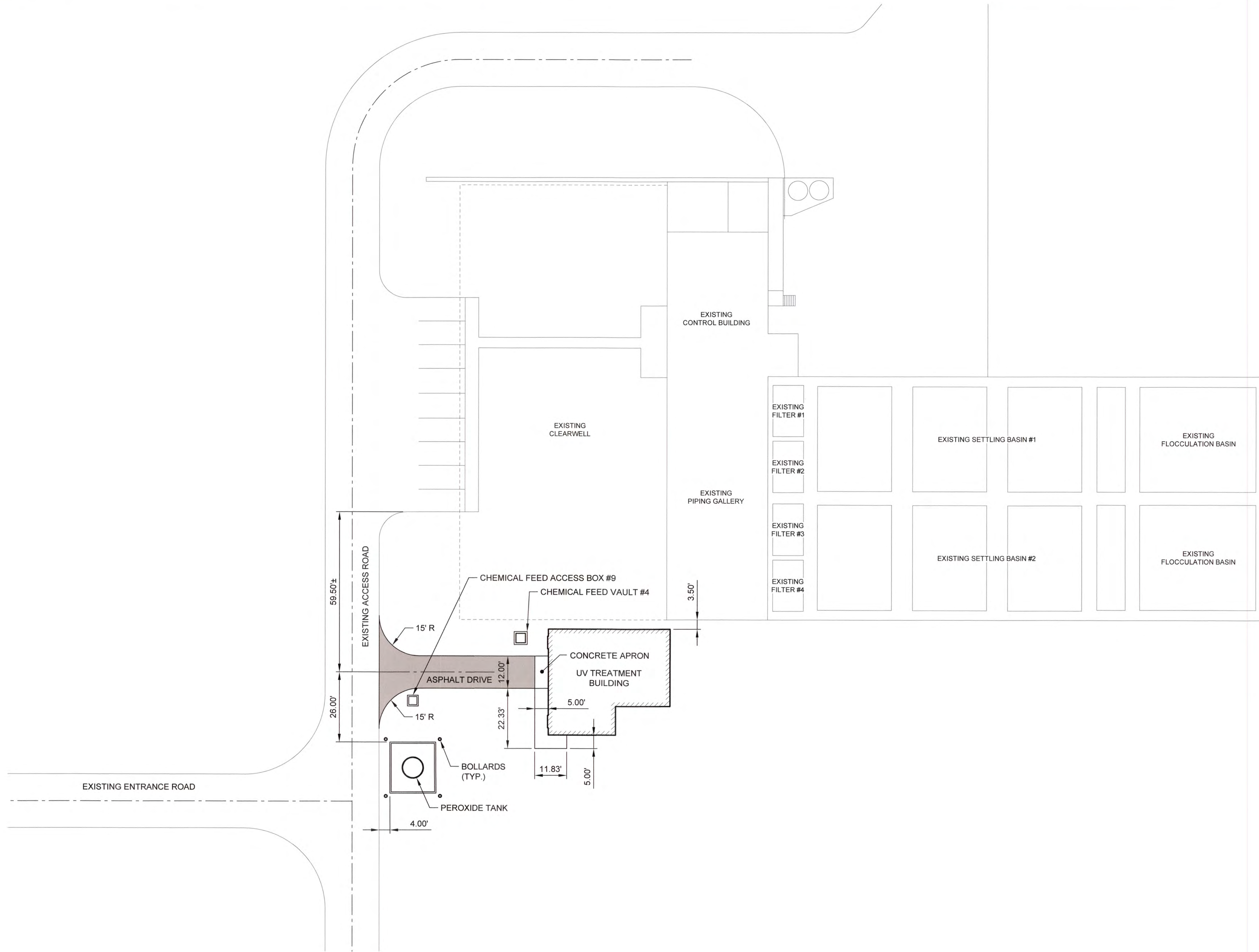
UV / ADVANCED OXIDATION TREATMENT

CLARKS HILL
 EXISTING CONDITIONS PLAN



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

DESIGNED	SWG	REF.	1631-00	DWG NO.
DRAWN	KDC	DATE	DEC 2020	4C1
QC		SCALE	1" = 20'	



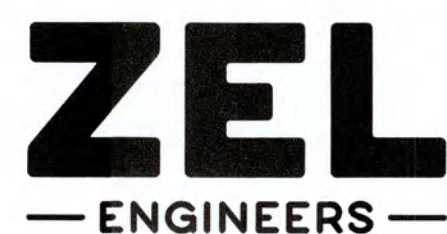
SITE STAKING PLAN

SCALE: 1" = 20'

J:\2016\1631 Columbia County Water Utility\1631-00 Blanchard and Clarks Hill WTP UV Peroxide Design\Drawings\1631-00-4C2.dwg, 12/14/2020 4:58:49 PM, KChalker, HP Designplot 12500, Ref: 2.pcd, 1:1



NO.	DATE	REVISION	BY	APVD



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COLUMBIA COUNTY, GEORGIA

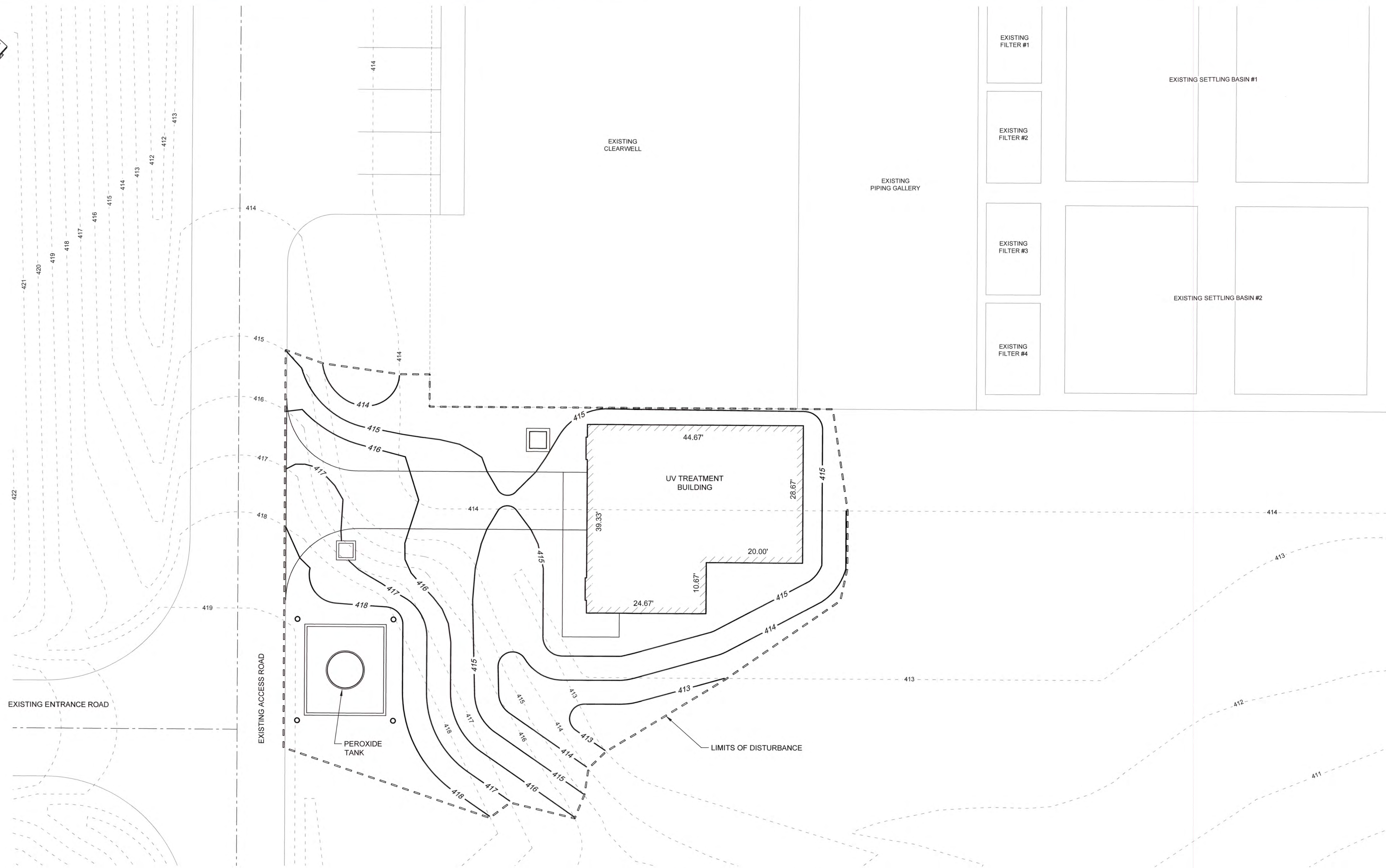
UV / ADVANCED OXIDATION TREATMENT

CLARKS HILL
 SITE STAKING PLAN



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

DESIGNED	SWG	REF.	1631-00	DWG NO.
DRAWN	KDC	DATE	DEC 2020	4C2
QC		SCALE	1" = 20'	

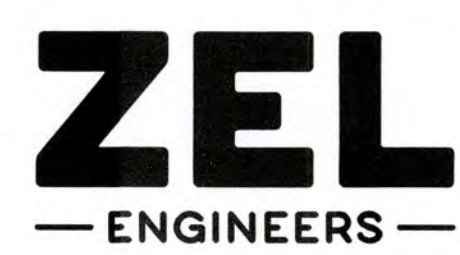


SITE GRADING AND DRAINAGE PLAN
SCALE: 1" = 10'

J:\2016\1631 Columbia County Water Utility\1631-00\1631-00-4C3.dwg, 12/10/2020 11:51:23 AM, KChalmer, HP Design\17260 Plot 2.p3, 11



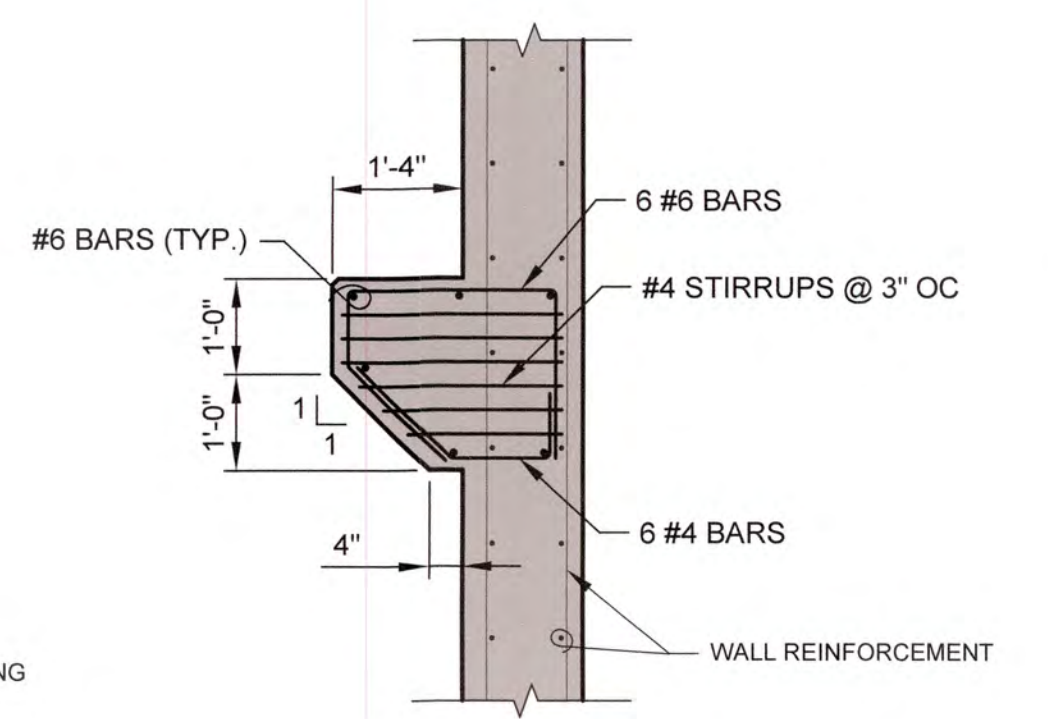
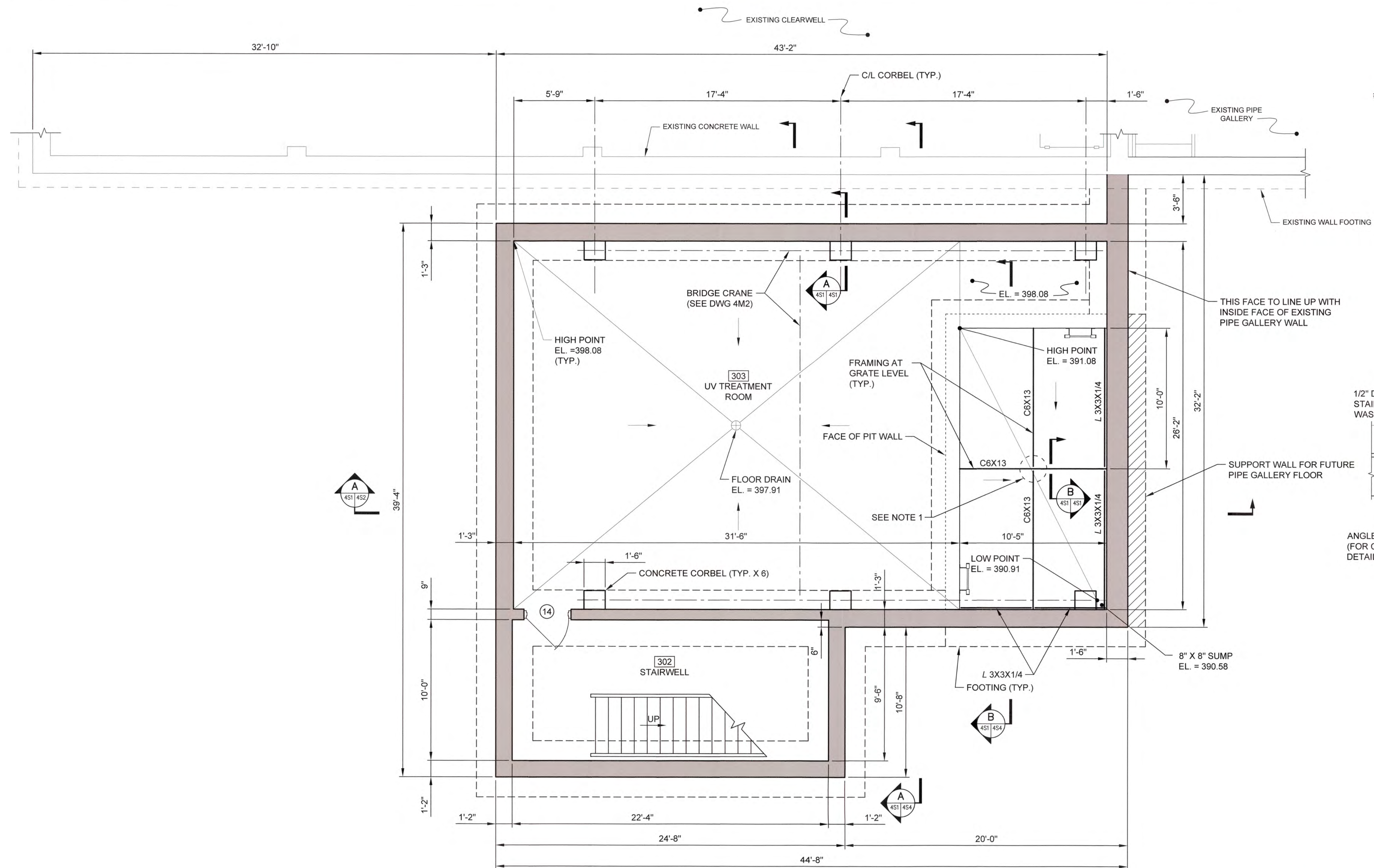
NO.	DATE	REVISION	BY	APVD



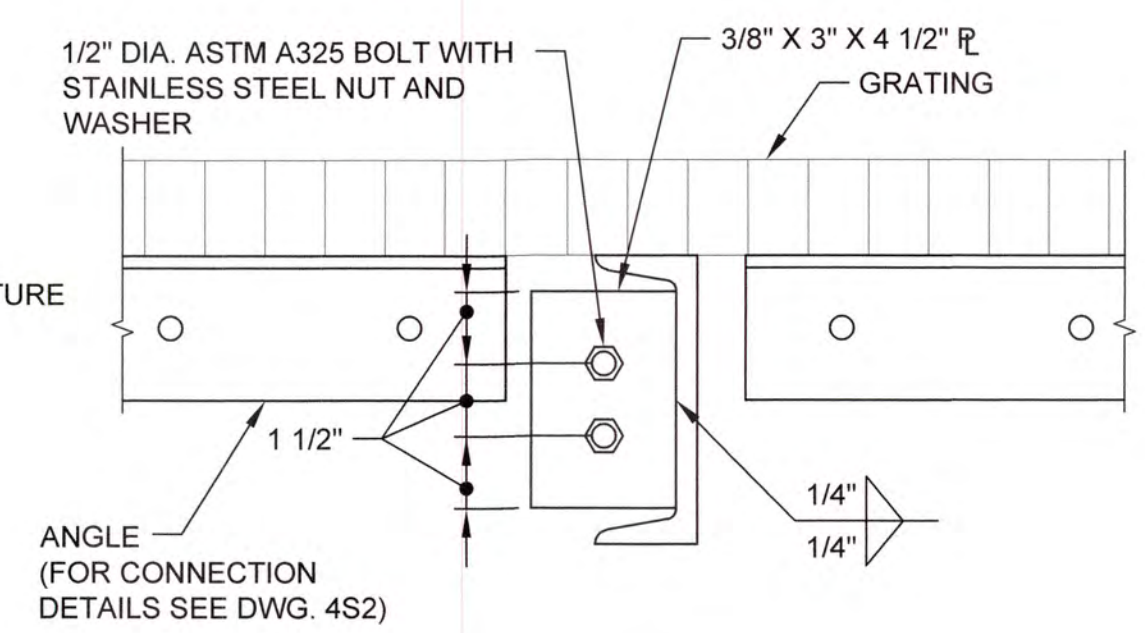
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COLUMBIA COUNTY, GEORGIA
UV / ADVANCED OXIDATION TREATMENT
CLARKS HILL
SITE GRADING AND DRAINAGE PLAN

0 1		IF THIS BAR DOES NOT MEASURE 1" DRAWING IS NOT TO LABELED SCALE		
DESIGNED	SWG	REF.	1631-00	DWG NO.
DRAWN	KDC	DATE	DEC 2020	4C3
QC		SCALE	1" = 10'	



A CORBEL SECTION
SCALE: 1/2" = 1'-0"



B SECTION
N.T.S.

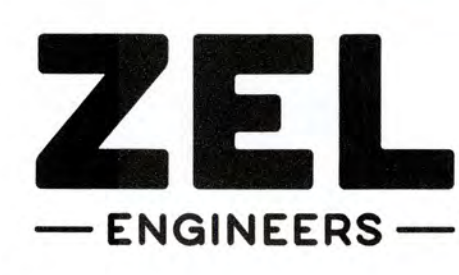
NOTE:
1. PROVIDE SHEAR TAB AND BOLTED CONNECTION. SHOP DRAWINGS SHALL BE SUBMITTED FOR ALL CONNECTIONS TO THE ENGINEER FOR APPROVAL.

UV BUILDING LOWER LEVEL PLAN
SCALE: 1/4" = 1'-0"

J:\2016\161 Columbia County Water Utility\451\451-00\Precede Design\Drawings\451-00-451.dwg, 12/14/2020 3:46:43 PM, KChandler, HP Design\17250 Rev.2, pcd, 1:1



NO.	DATE	REVISION	BY	APVD



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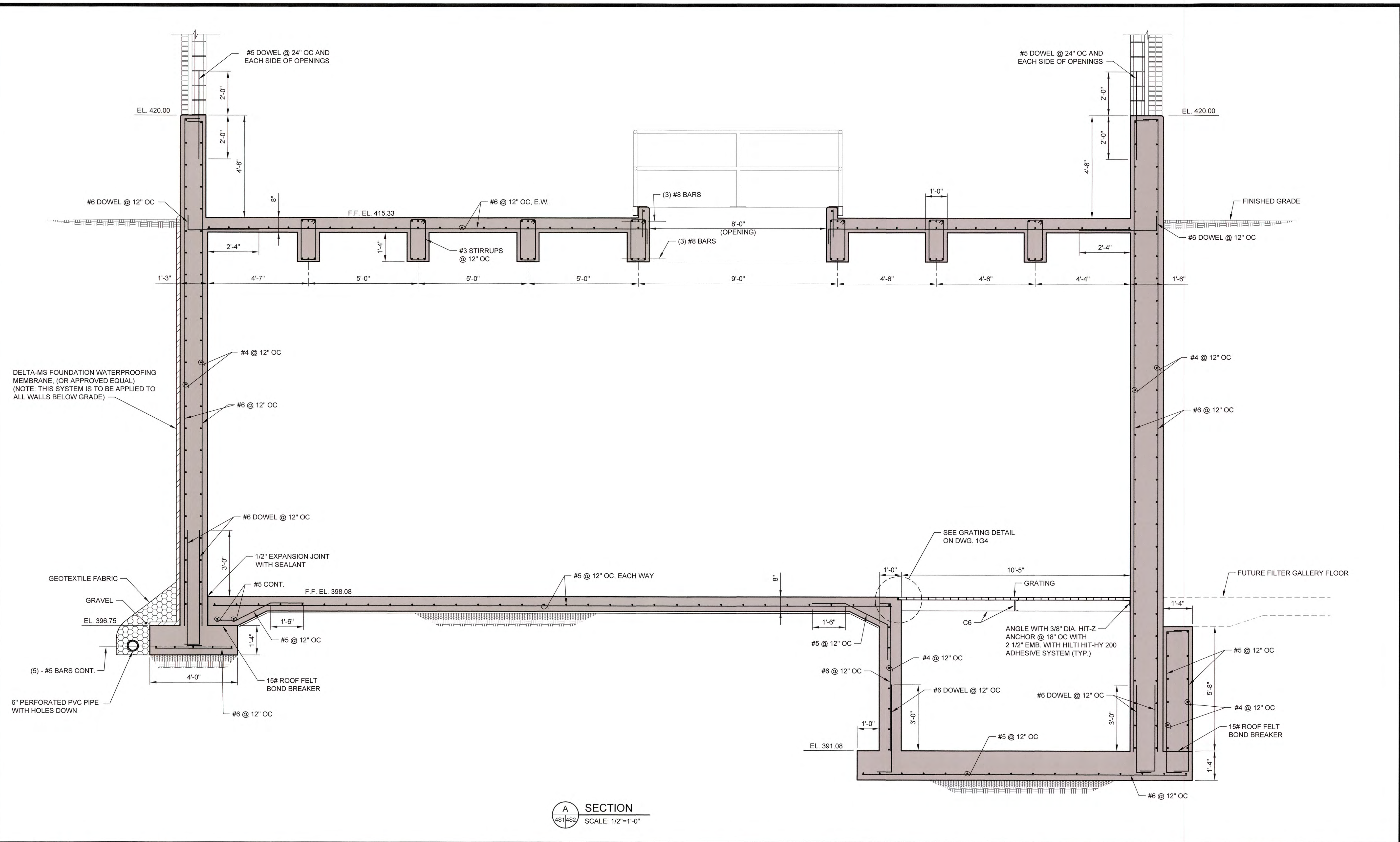
COLUMBIA COUNTY, GEORGIA

UV / ADVANCED OXIDATION TREATMENT
CLARKS HILL
UV BUILDING LOWER LEVEL PLAN

0 1 IF THIS BAR DOES NOT MEASURE 1" DRAWING IS NOT TO LABELED SCALE

DESIGNED	DKR	REF.	1631-00	DWG NO.
DRAWN	KDC	DATE	DEC 2020	4S1
QC		SCALE	AS SHOWN	

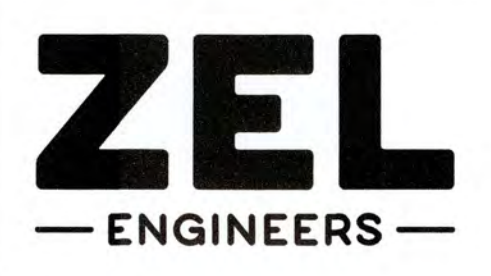
J:\2016\161 Columbia County Water Utility\161-00\452-452.dwg, 12/14/2020 3:46:46 PM, KCoaker, MP Design\172509 Rev 2.pcd, 1:1



A SECTION
 4S14S2 SCALE: 1/2"=1'-0"



NO.	DATE	REVISION	BY	APVD



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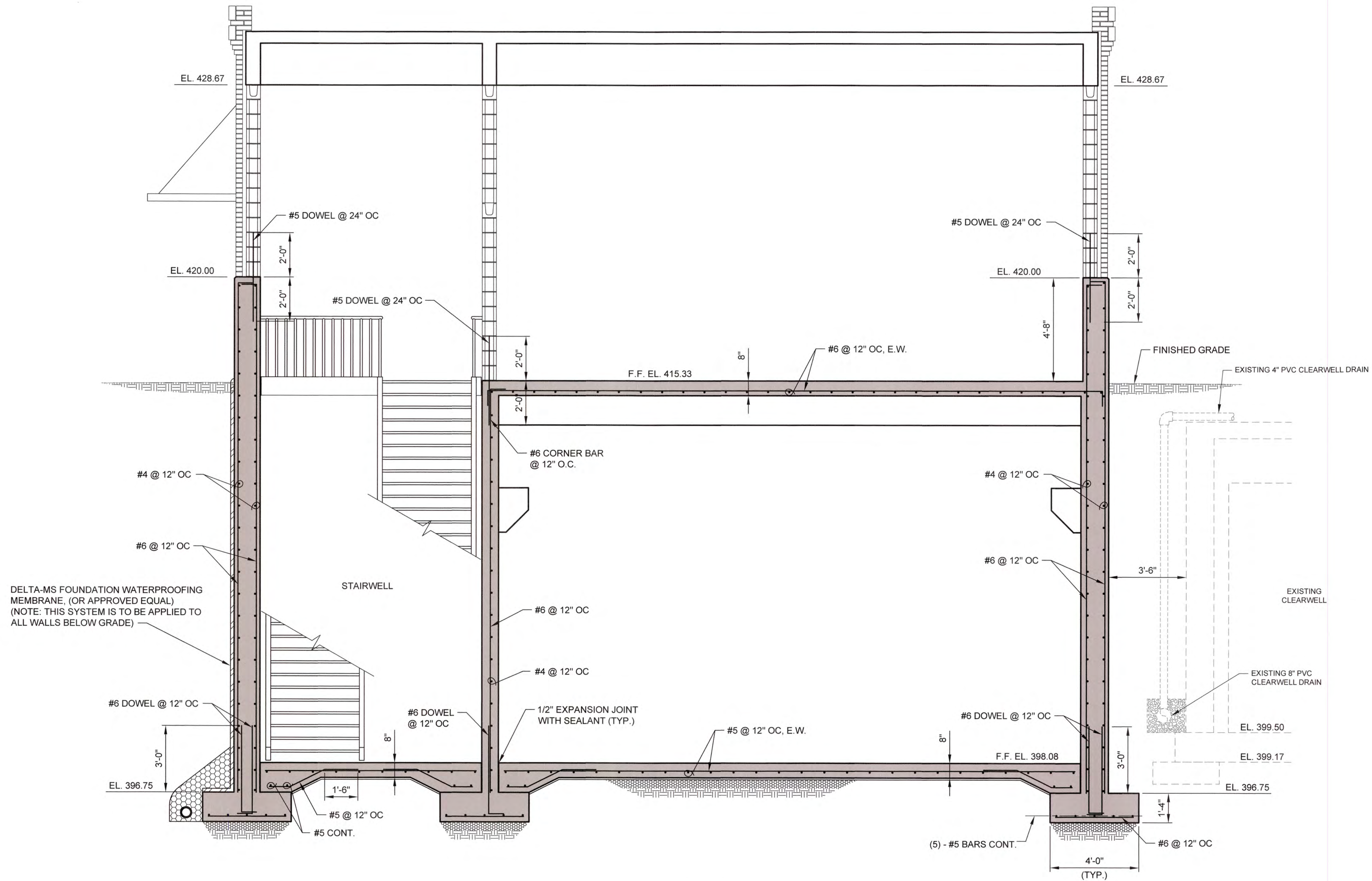
COLUMBIA COUNTY, GEORGIA

UV / ADVANCED OXIDATION TREATMENT
 CLARKS HILL
 UV BUILDING SECTIONS - 1

0 1 IF THIS BAR DOES NOT MEASURE 1" DRAWING IS NOT TO LABELED SCALE

DESIGNED	DKR	REF.	1631-00	DWG NO.
DRAWN	SWH	DATE	DEC 2020	4S2
QC		SCALE	1/2"=1'-0"	

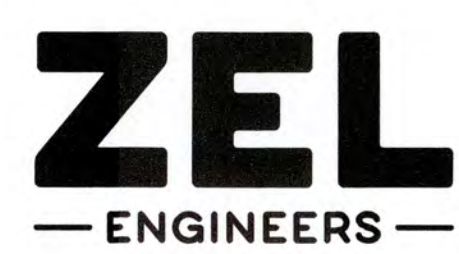
J:\2016\1631 Columbia County Water Utility\1631-00-Prep\Drawings\1631-00-453-453.dwg, 12/02/2020 3:18:31 PM, Kchalker, HP Design\17500 Rev.2.pcd, 11



A SECTION
451/453 SCALE: 3/8"=1'-0"



NO.	DATE	REVISION	BY	APVD

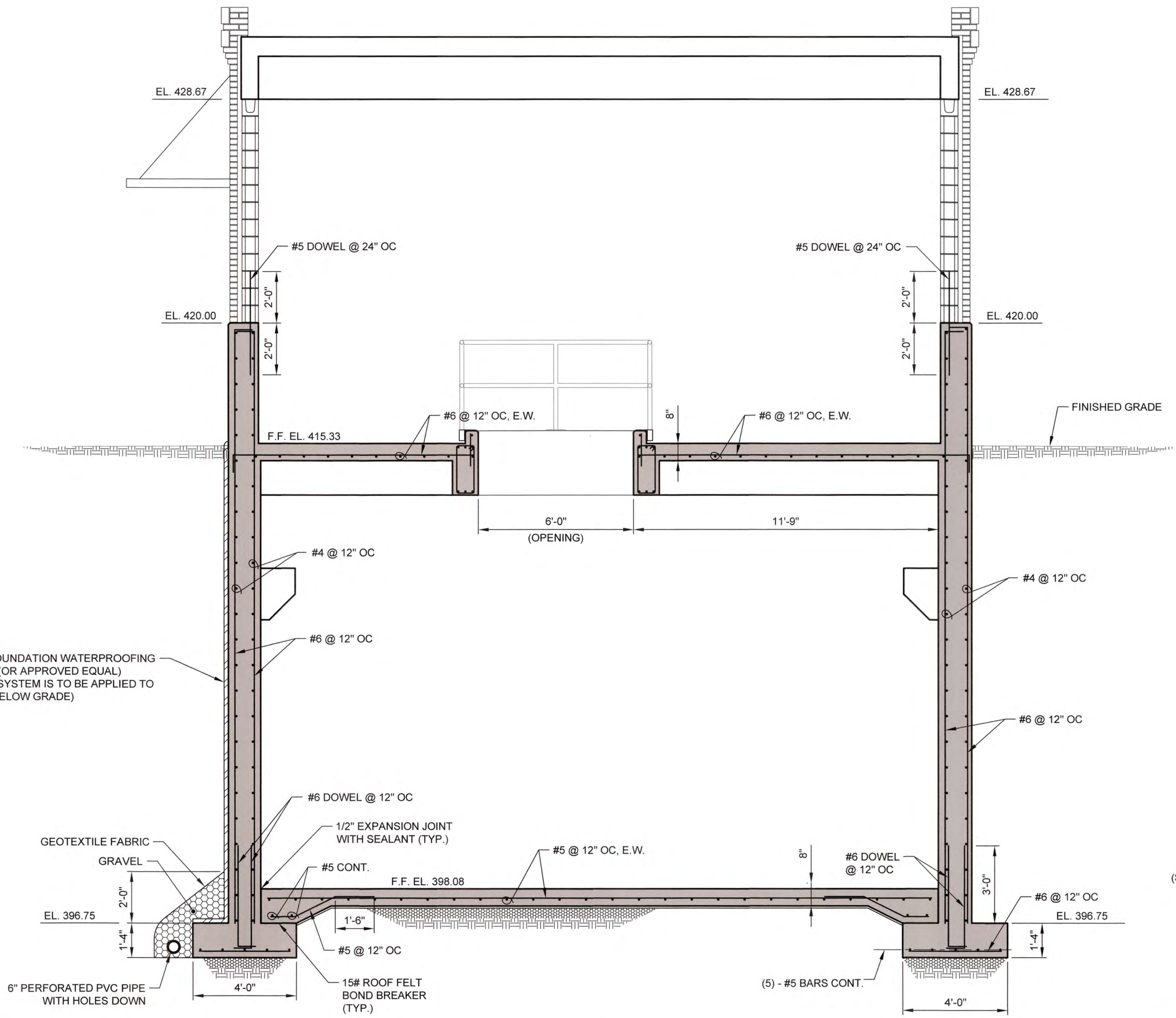


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COLUMBIA COUNTY, GEORGIA
UV / ADVANCED OXIDATION TREATMENT
CLARKS HILL
UV BUILDING SECTIONS - 2

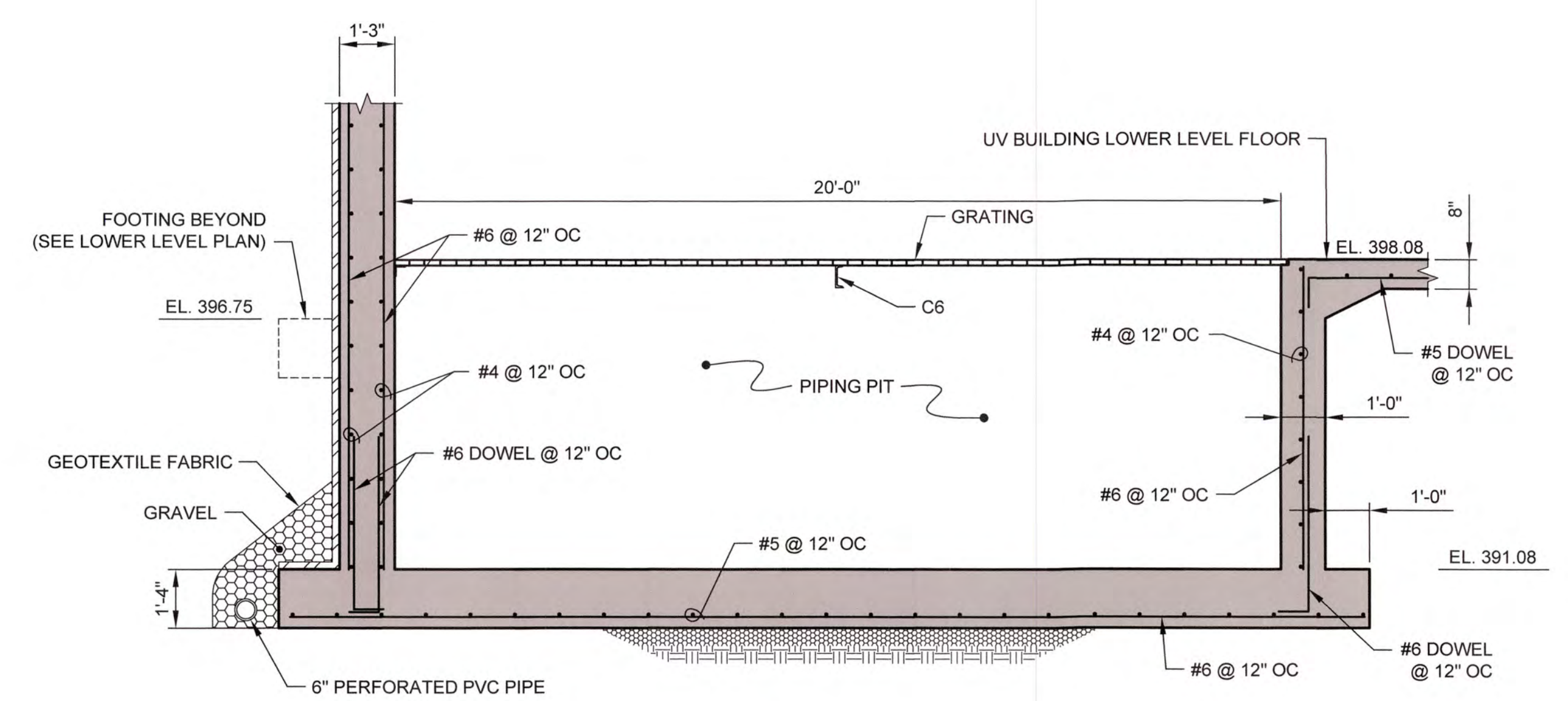
0 1		IF THIS BAR DOES NOT MEASURE 1" DRAWING IS NOT TO LABELED SCALE		
DESIGNED	DKR	REF.	1631-00	DWG NO.
DRAWN	SWH	DATE	DEC 2020	4S3
QC		SCALE	3/8"=1'-0"	

2/20/16/151 Columbia County Water Utility/151-00 Branch and Clark Hill VTP/0-Perovide Design/Drawings/151-00-452-454.dwg, 12/14/2020 3:45:14 PM, KChaitin, HP Design/17250 Rev. 2.pcd, 1:1



DELTA-MS FOUNDATION WATERPROOFING MEMBRANE, (OR APPROVED EQUAL)
 (NOTE: THIS SYSTEM IS TO BE APPLIED TO ALL WALLS BELOW GRADE)

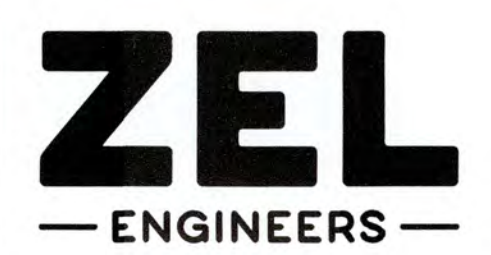
A SECTION
 4S14S4 SCALE: 3/8"=1'-0"



B SECTION
 4S14S4 SCALE: 3/8"=1'-0"



NO.	DATE	REVISION	BY	APVD



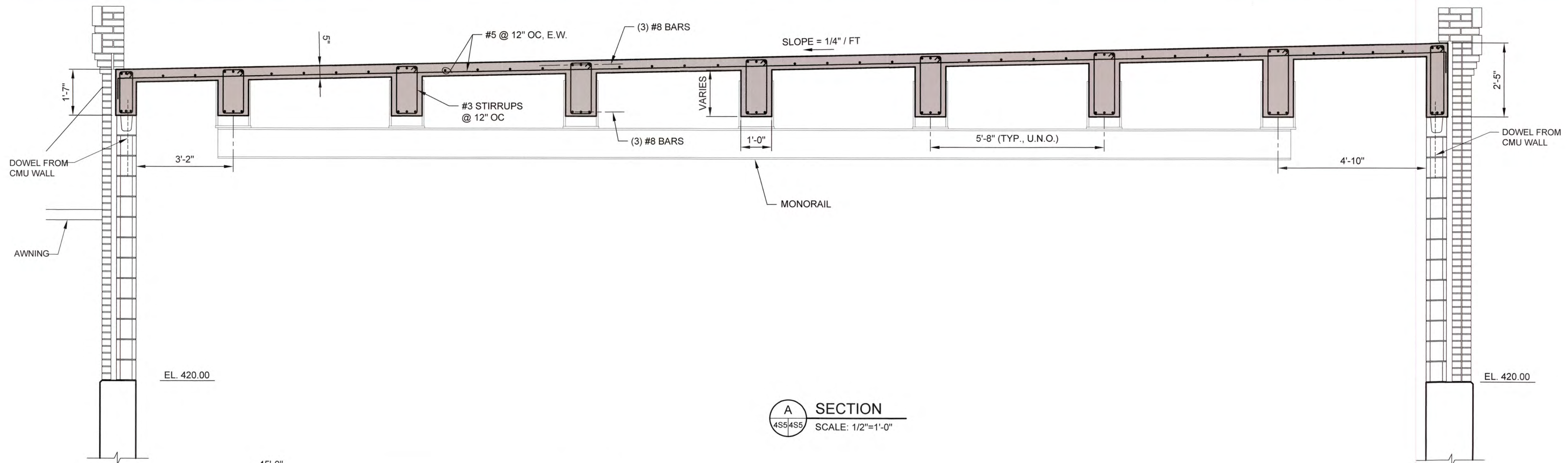
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COLUMBIA COUNTY, GEORGIA
 UV / ADVANCED OXIDATION TREATMENT
 CLARKS HILL
 UV BUILDING SECTIONS - 3

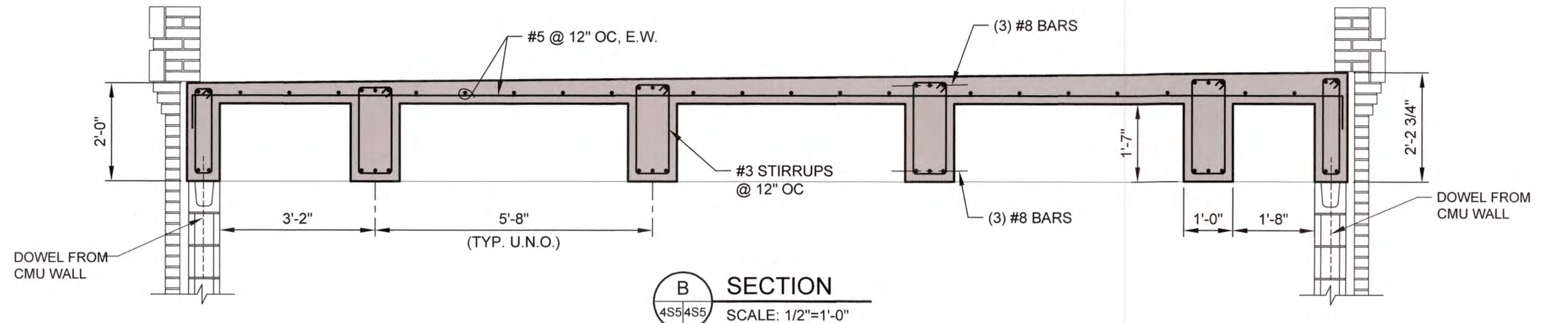
DESIGNED DKR		REF. 1631-00		DWG NO. 4S4
DRAWN SWH		DATE DEC 2020		
QC		SCALE 3/8"=1'-0"		



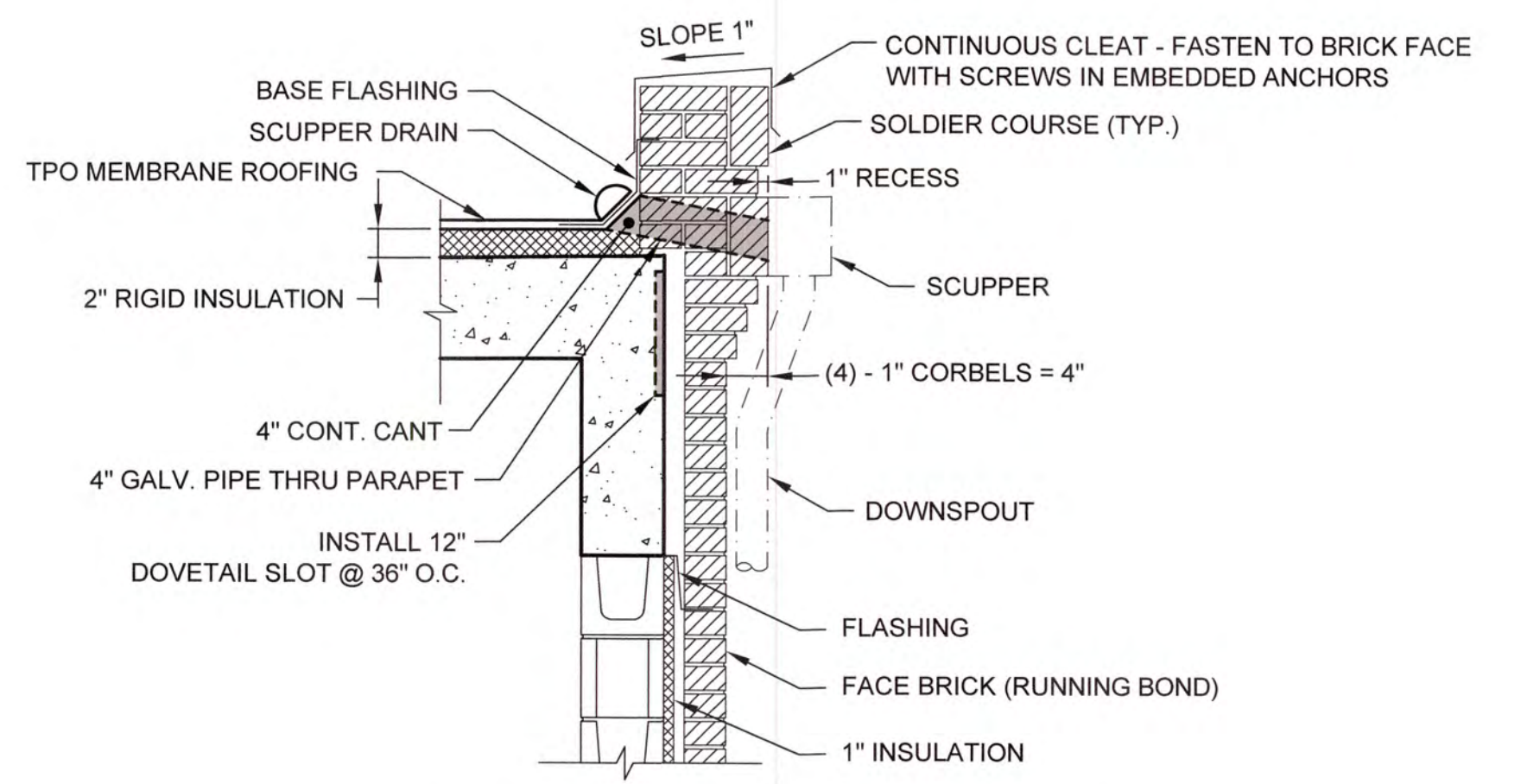
IF THIS BAR DOES NOT MEASURE 1" DRAWING IS NOT TO LABELED SCALE



A SECTION
4S5/4S5
SCALE: 1/2"=1'-0"

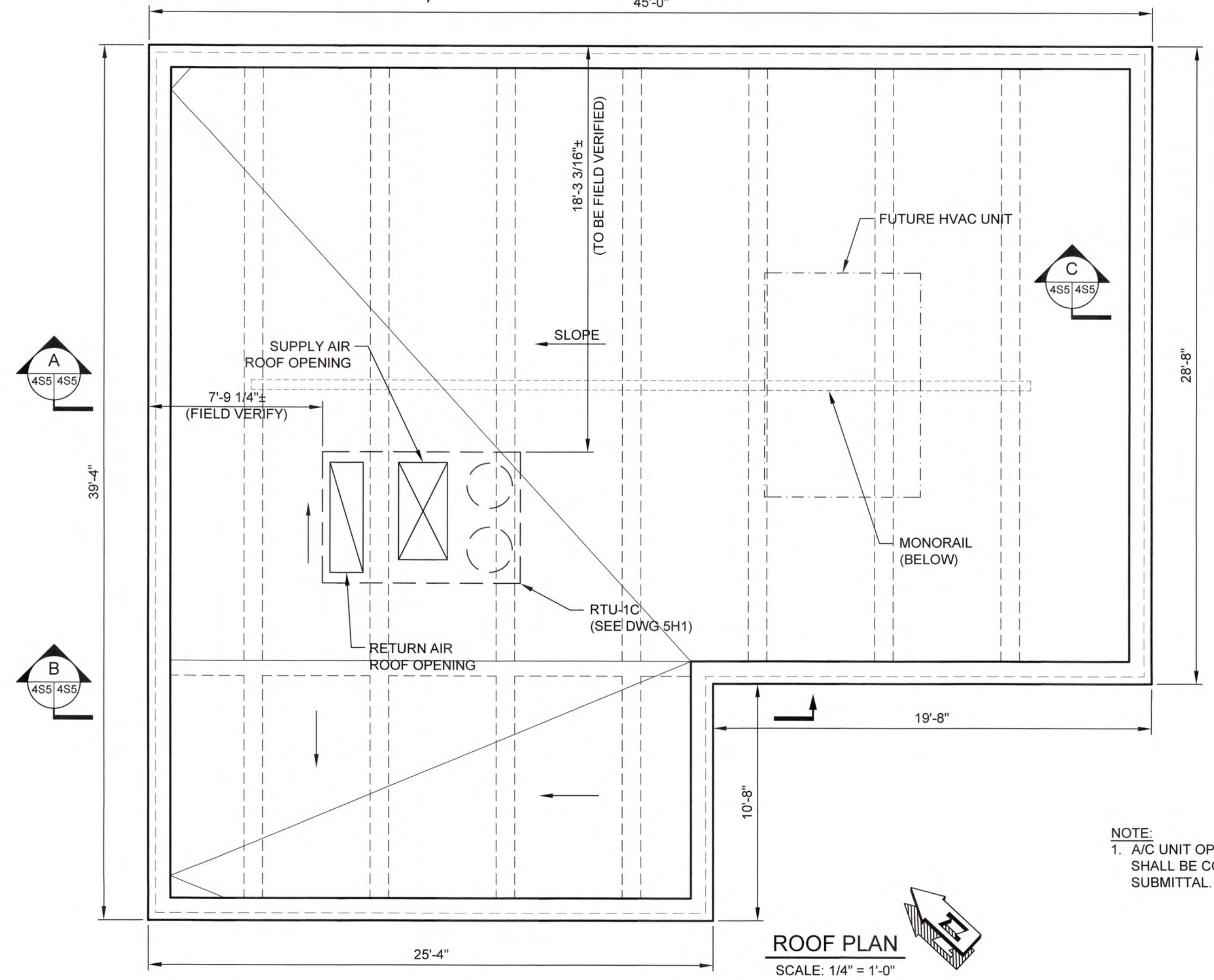


B SECTION
4S5/4S5
SCALE: 1/2"=1'-0"



NOTE:
FASTENING METHOD AND OVERLAP OF ROOF MEMBRANE SHALL BE AS RECOMMENDED BY ROOFING MANUFACTURER.

C SECTION
4S5/4S5
SCALE: 3/4"=1'-0"



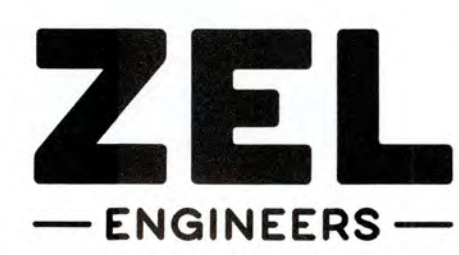
ROOF PLAN
SCALE: 1/4"=1'-0"

NOTE:
1. A/C UNIT OPENINGS AND SLAB PENETRATIONS SHALL BE COORDINATED PRE-SHOP DRAWING SUBMITTAL.

2/28/16/1517 Columbia County Water Utility/1517-00 Blanchard and Clarks Hill WTP/UV Purposive Design/Drawings/1517-00-4S2-4S5.dwg, 12/14/2020, 4:58:00 PM, KChalke, HP Designjet T2500 Plot, 1:1



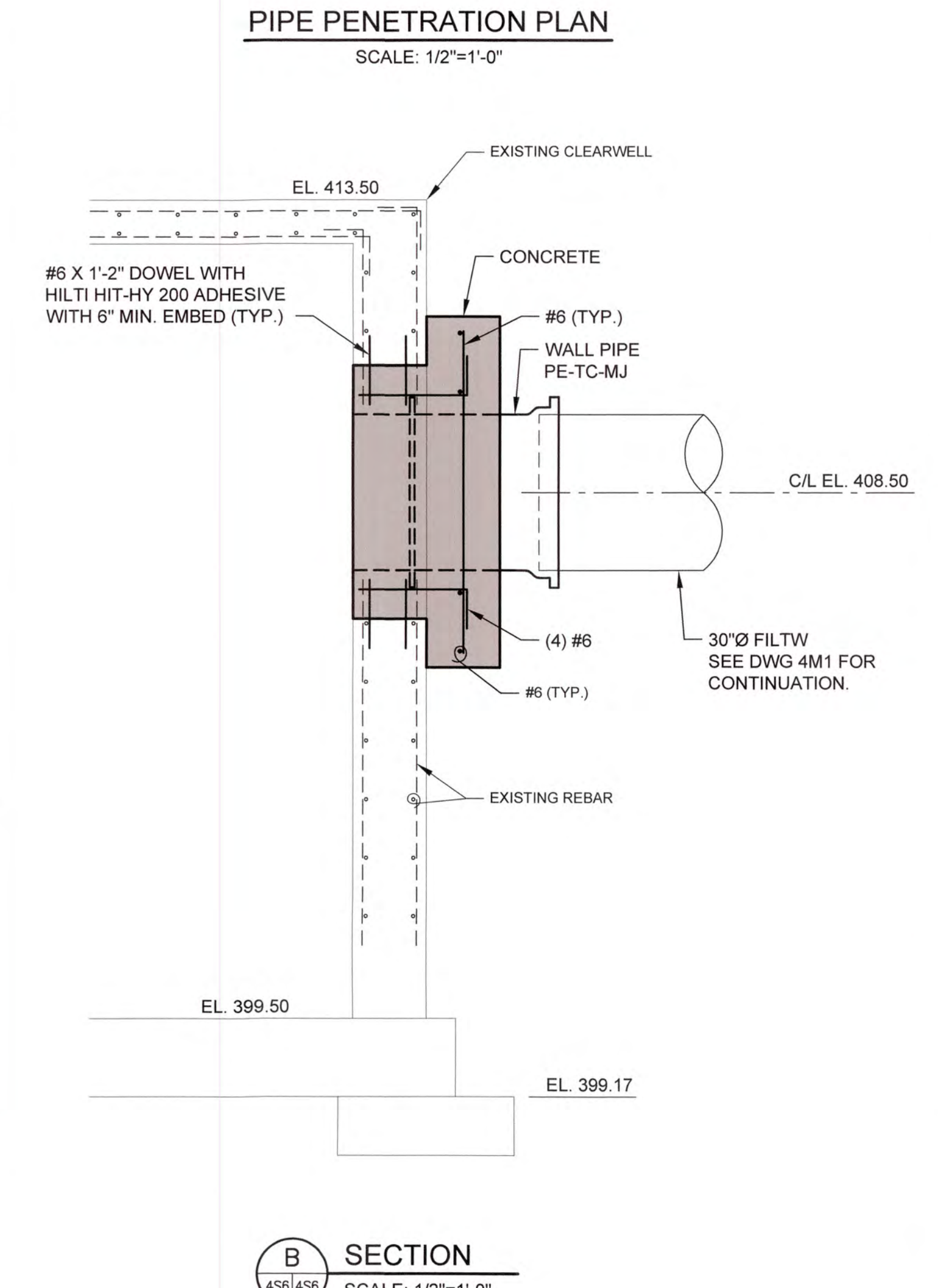
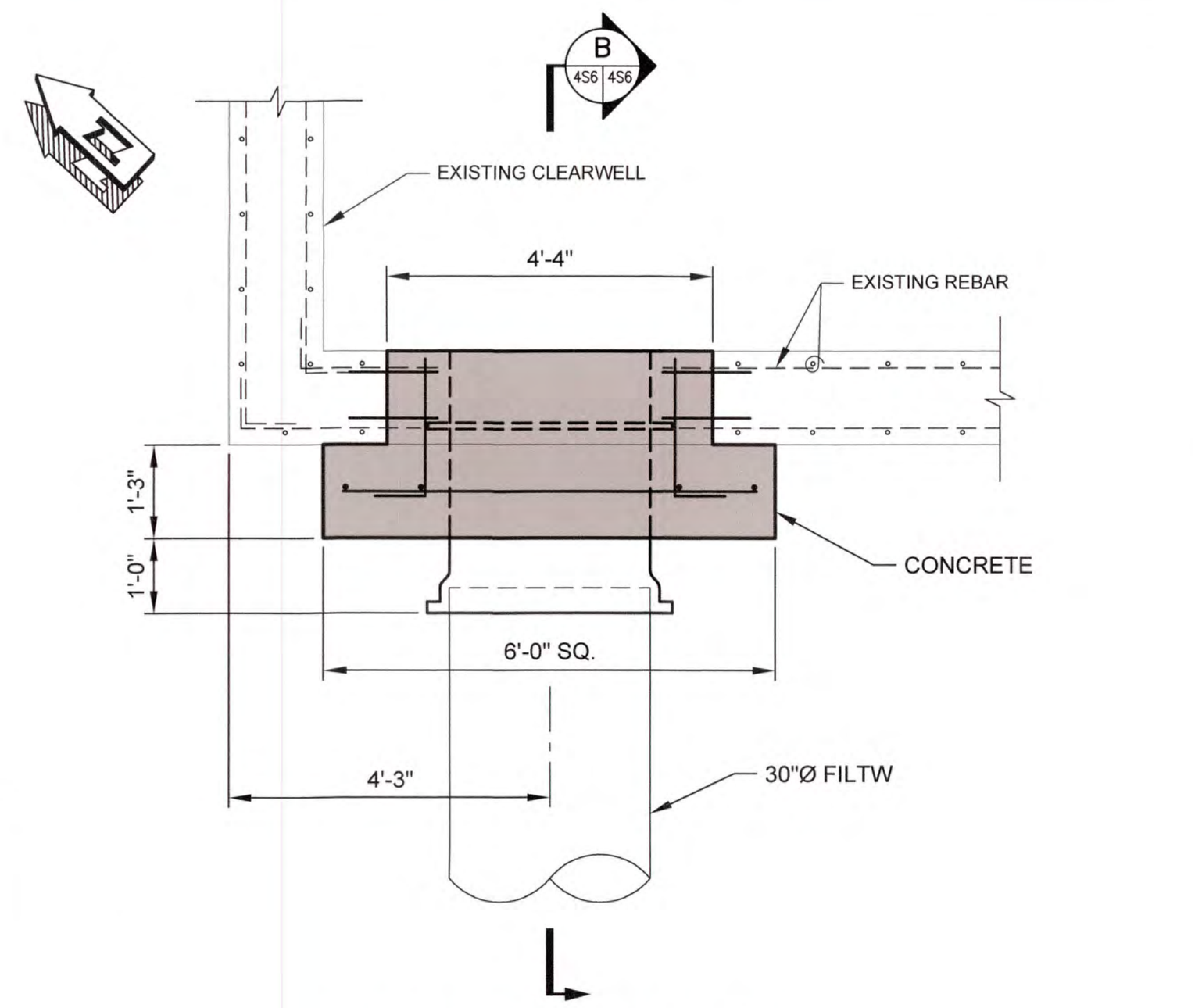
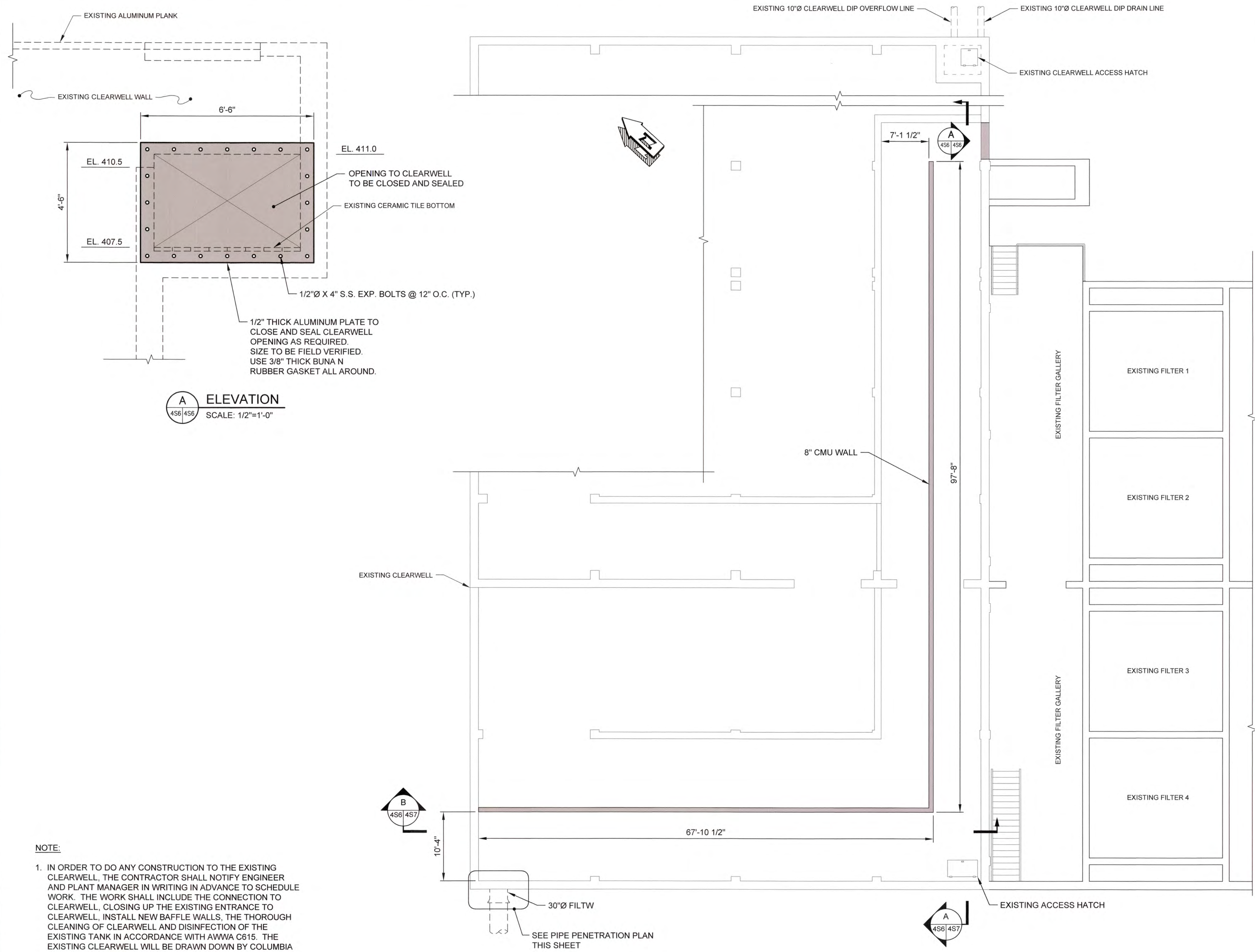
NO.	DATE	REVISION	BY	APVD



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COLUMBIA COUNTY, GEORGIA
UV / ADVANCED OXIDATION TREATMENT
CLARKS HILL
UV BUILDING ROOF PLAN AND SECTIONS

DESIGNED		DKR	REF.	1631-00	DWG NO.
DRAWN		SWH	DATE	DEC 2020	4S5
QC		SCALE	AS SHOWN		

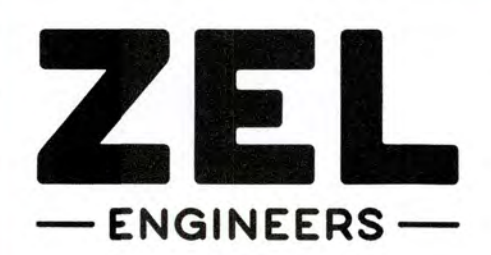


NOTE:
1. IN ORDER TO DO ANY CONSTRUCTION TO THE EXISTING CLEARWELL, THE CONTRACTOR SHALL NOTIFY ENGINEER AND PLANT MANAGER IN WRITING IN ADVANCE TO SCHEDULE WORK. THE WORK SHALL INCLUDE THE CONNECTION TO CLEARWELL, CLOSING UP THE EXISTING ENTRANCE TO CLEARWELL, INSTALL NEW BAFFLE WALLS, THE THOROUGH CLEANING OF CLEARWELL AND DISINFECTION OF THE EXISTING TANK IN ACCORDANCE WITH AWWA C615. THE EXISTING CLEARWELL WILL BE DRAWN DOWN BY COLUMBIA COUNTY TO APPROXIMATELY 5'-0" OF WATER LEFT IN TANK. THE REMAINING WATER MAY BE DRAINED VIA THE EXISTING 10" DRAIN LINE.

J:\2016\1637 Columbia County Water Utility\631-CO Branch and Cones Hill WTP\4-Permits Design\Drawings\631-CO-4S6.dwg, 12/14/2020 4:58:12 PM, KChalder, HP Design\T2580 Rev 2.pcd, 1:1



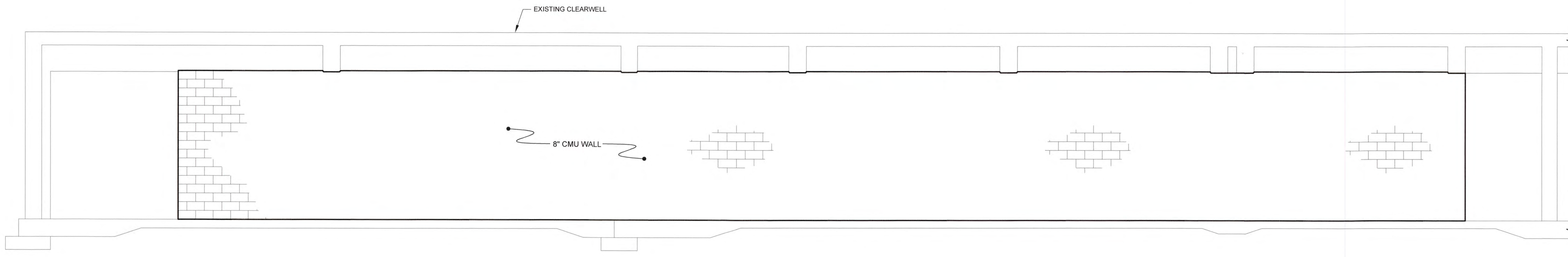
NO.	DATE	REVISION	BY	APVD



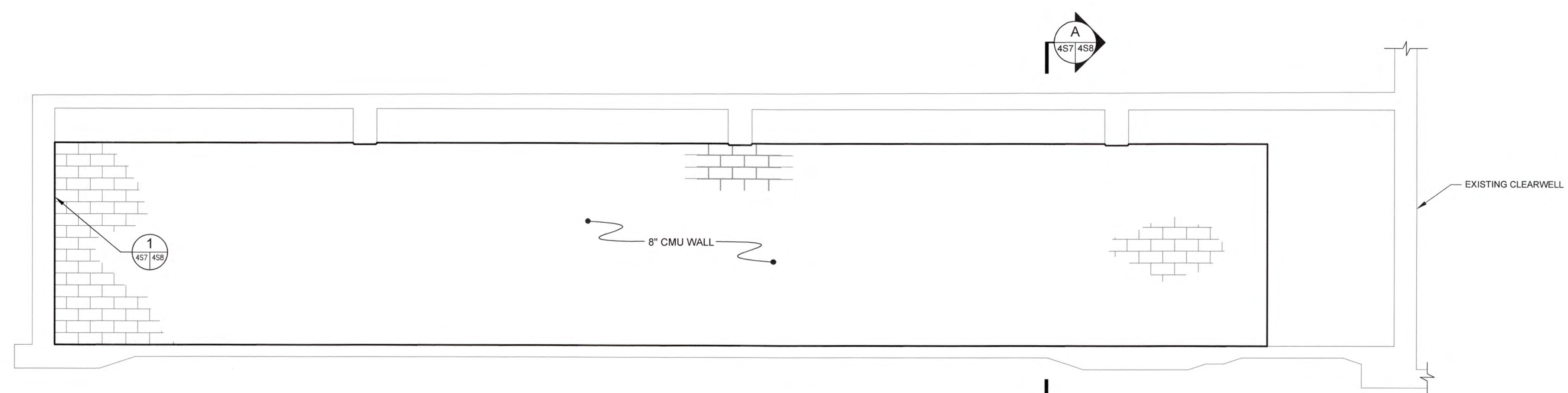
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COLUMBIA COUNTY, GEORGIA
UV / ADVANCED OXIDATION TREATMENT
CLARKS HILL CLEARWELL
DIVERSION WALL LAYOUT PLAN & MODIFICATIONS

DESIGNED DKR		REF. 1631-00		DWG NO. 4S6
DRAWN SES		DATE DEC 2020		
QC		SCALE AS SHOWN		



A SECTION
 458 | 457 SCALE: 1/4"=1'-0"

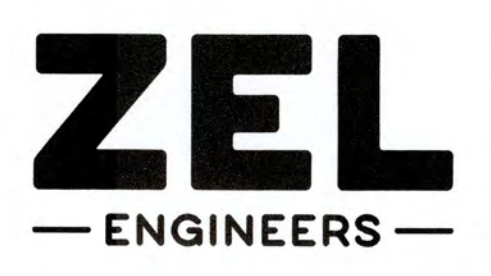


B SECTION
 458 | 457 SCALE: 1/4"=1'-0"

J:\2016\1631 Columbia County Water Utility\1631-00\1631-00\Bleached and Chlor-Hill WTP UV Preoxidation Design\Drawings\1631-00-457-458.dwg, 12/14/2020 4:57:27 PM, KChalker, HP Design\172588 Rev 2.pcd, 1:1



NO.	DATE	REVISION	BY	APVD

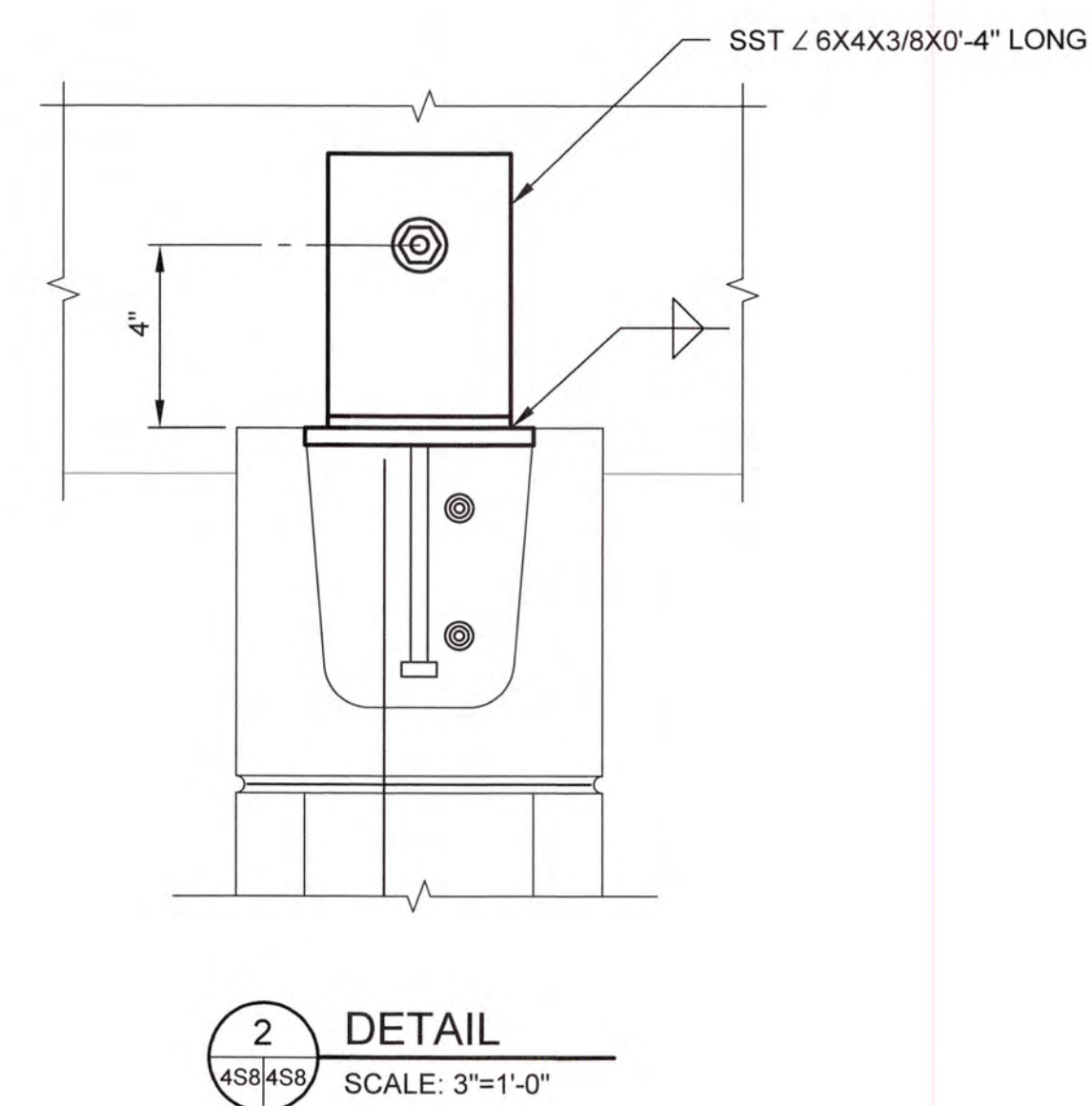
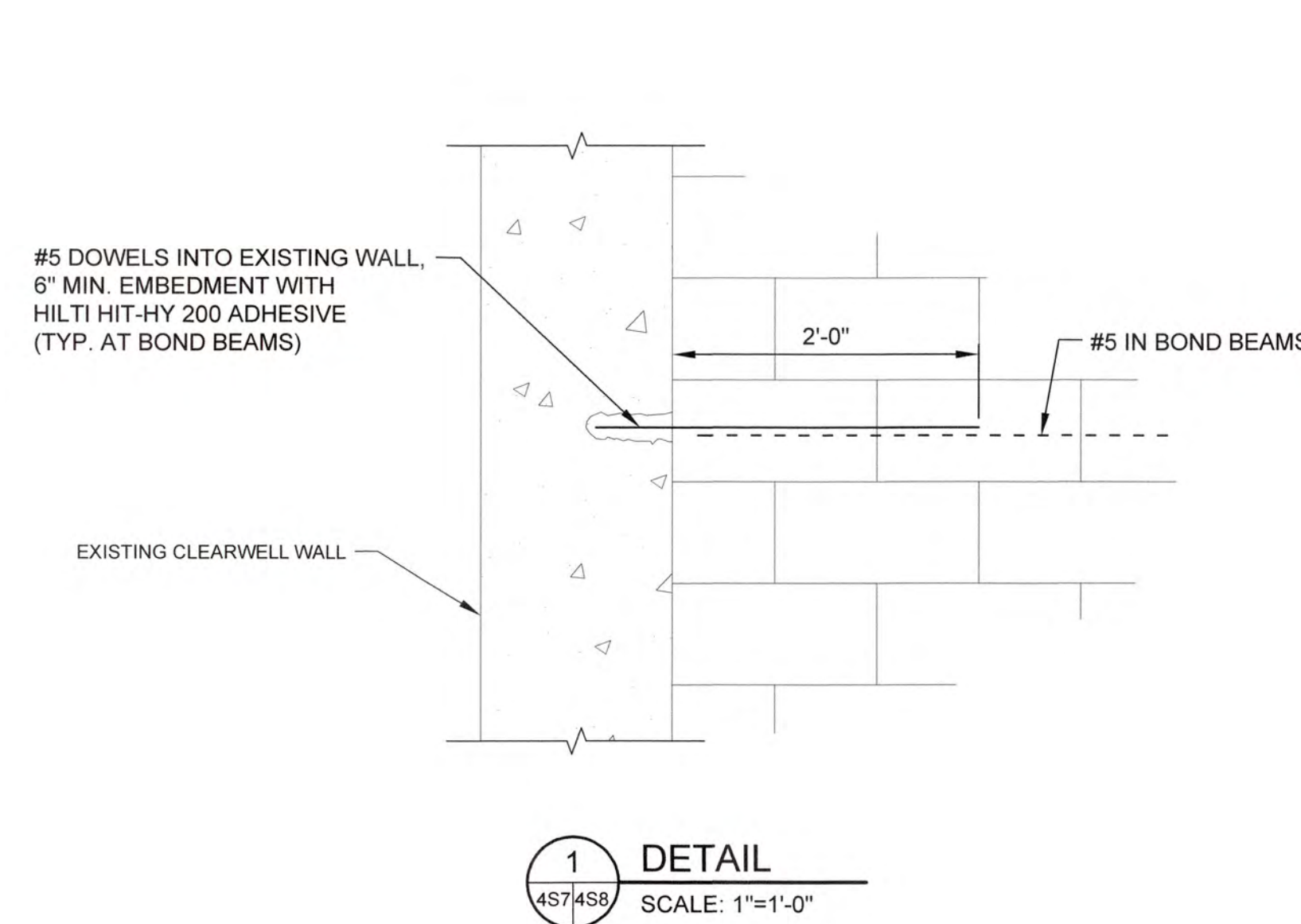
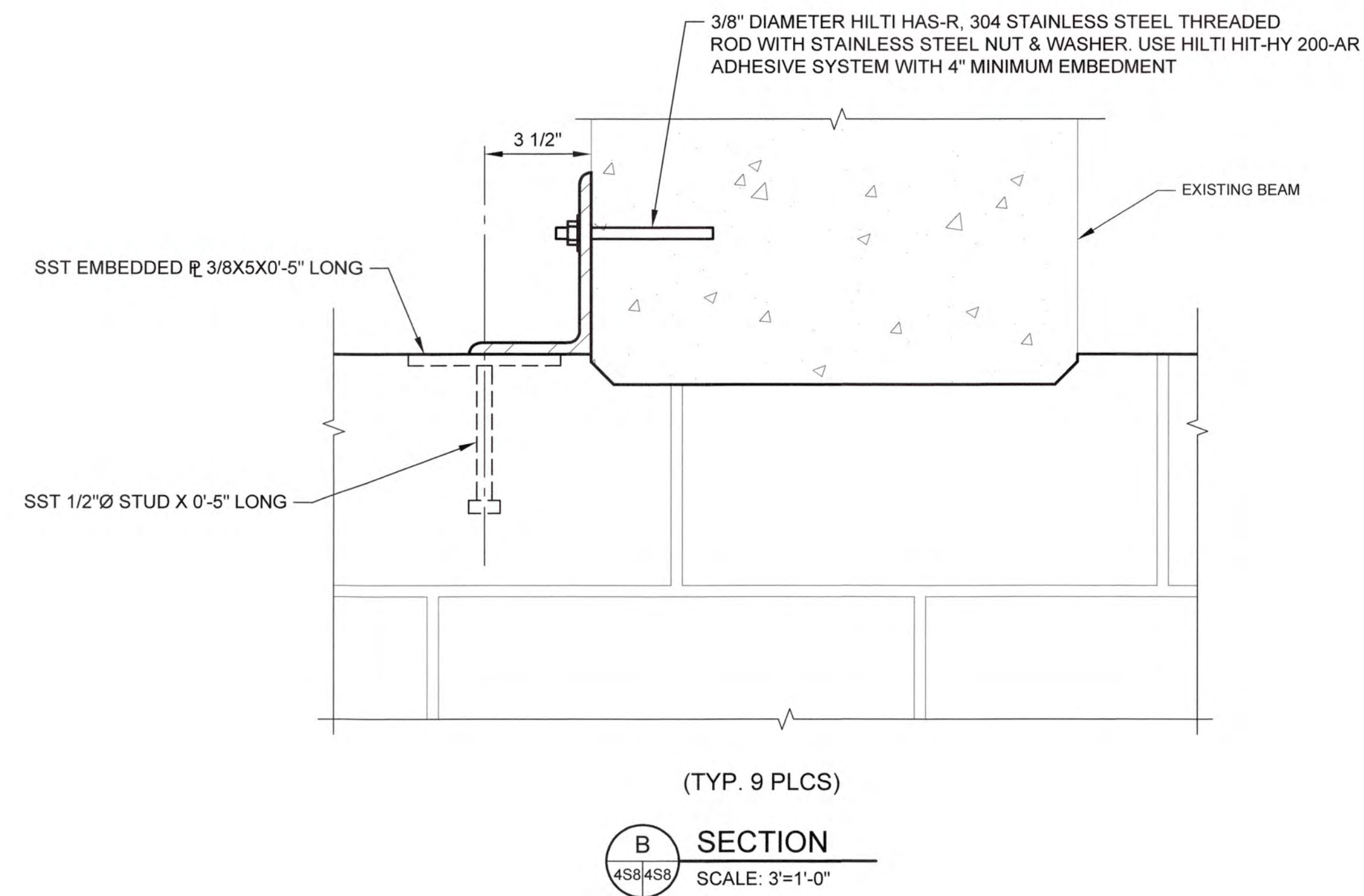
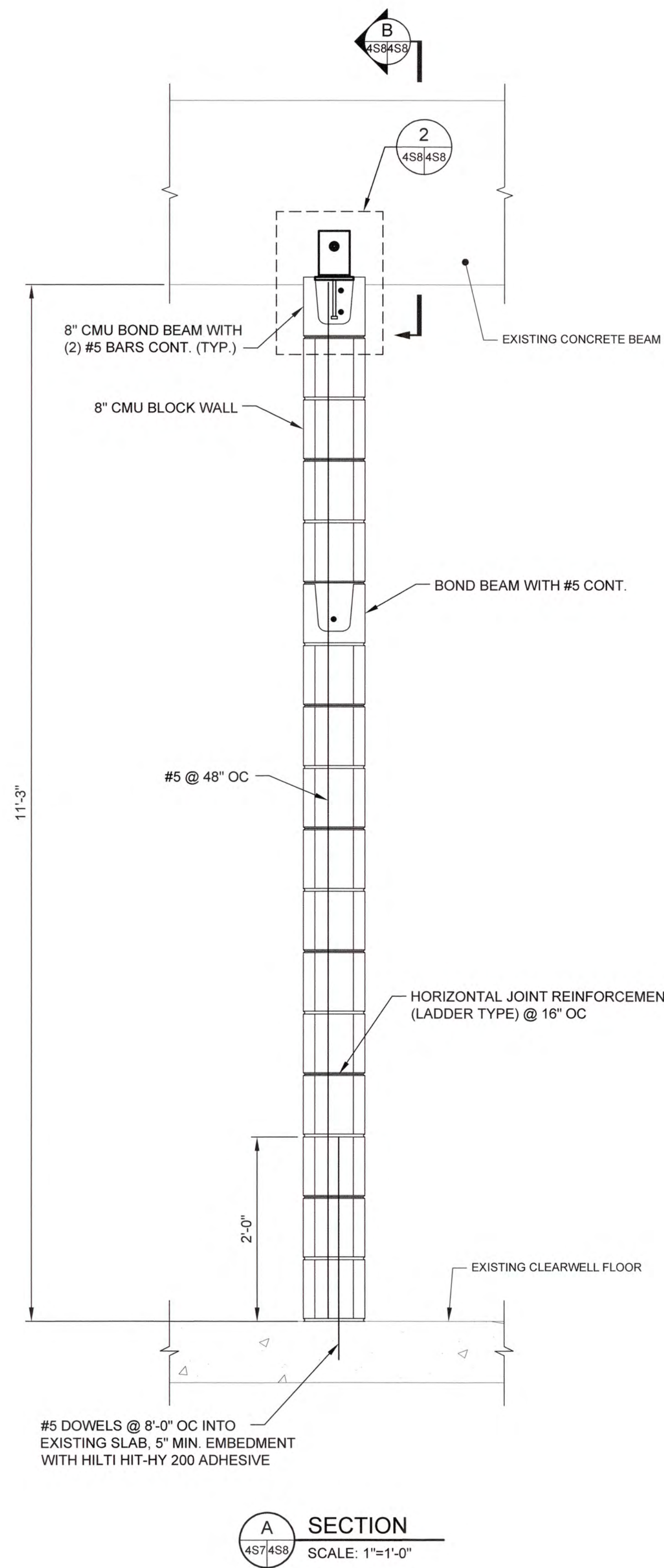


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COLUMBIA COUNTY, GEORGIA
 UV / ADVANCED OXIDATION TREATMENT
 CLARKS HILL CLEARWELL DIVERSION WALL
 SECTIONS AND DETAILS - 1

DESIGNED		DKR	REF.	1631-00	DWG NO.
DRAWN		SES	DATE	DEC 2020	4S7
QC			SCALE	AS SHOWN	

0 1 IF THIS BAR DOES NOT MEASURE 1" DRAWING IS NOT TO LABELED SCALE



J:\02616151 Columbia County Water Utility\051-02-Benchmark and Clarke Hill WTP\04-Proposed Design\Drawings\051-02-4S7-4S8.dwg, 12/15/2023 9:25:57 AM, KChandler, HP Design\T2200 Rev.2.pcd, 1:1



NO.	DATE	REVISION	BY	APVD

ZEL
— ENGINEERS —

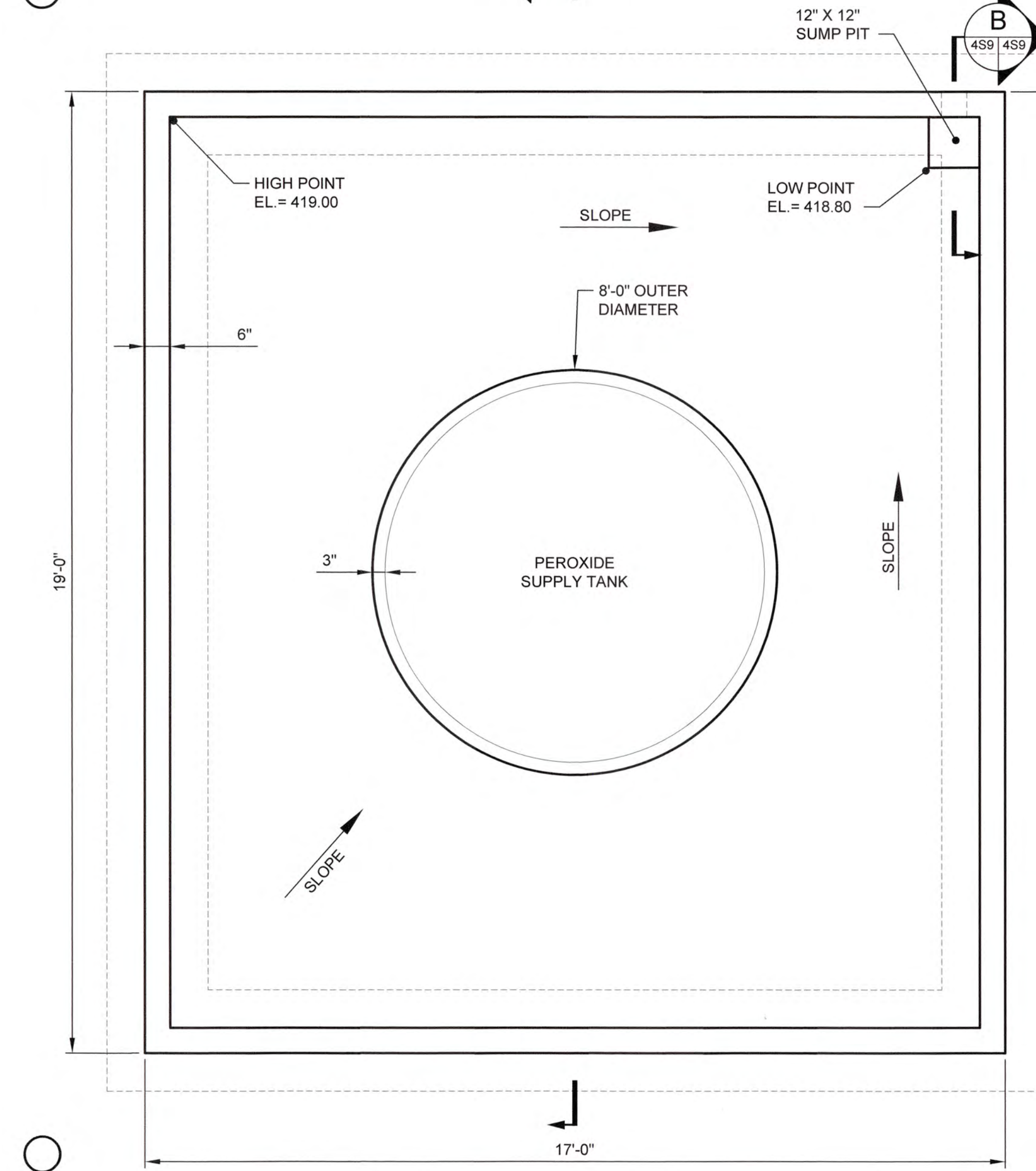
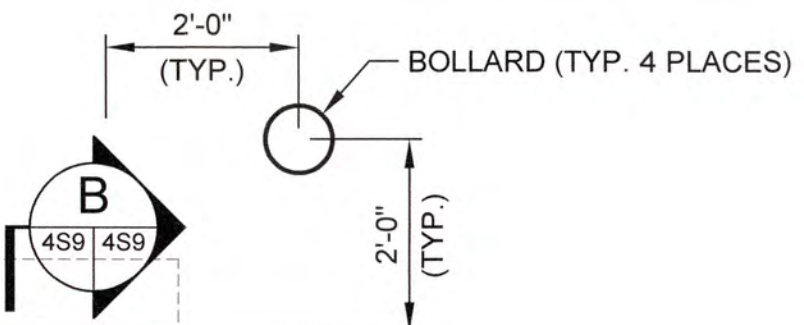
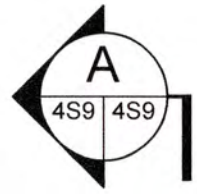
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COLUMBIA COUNTY, GEORGIA

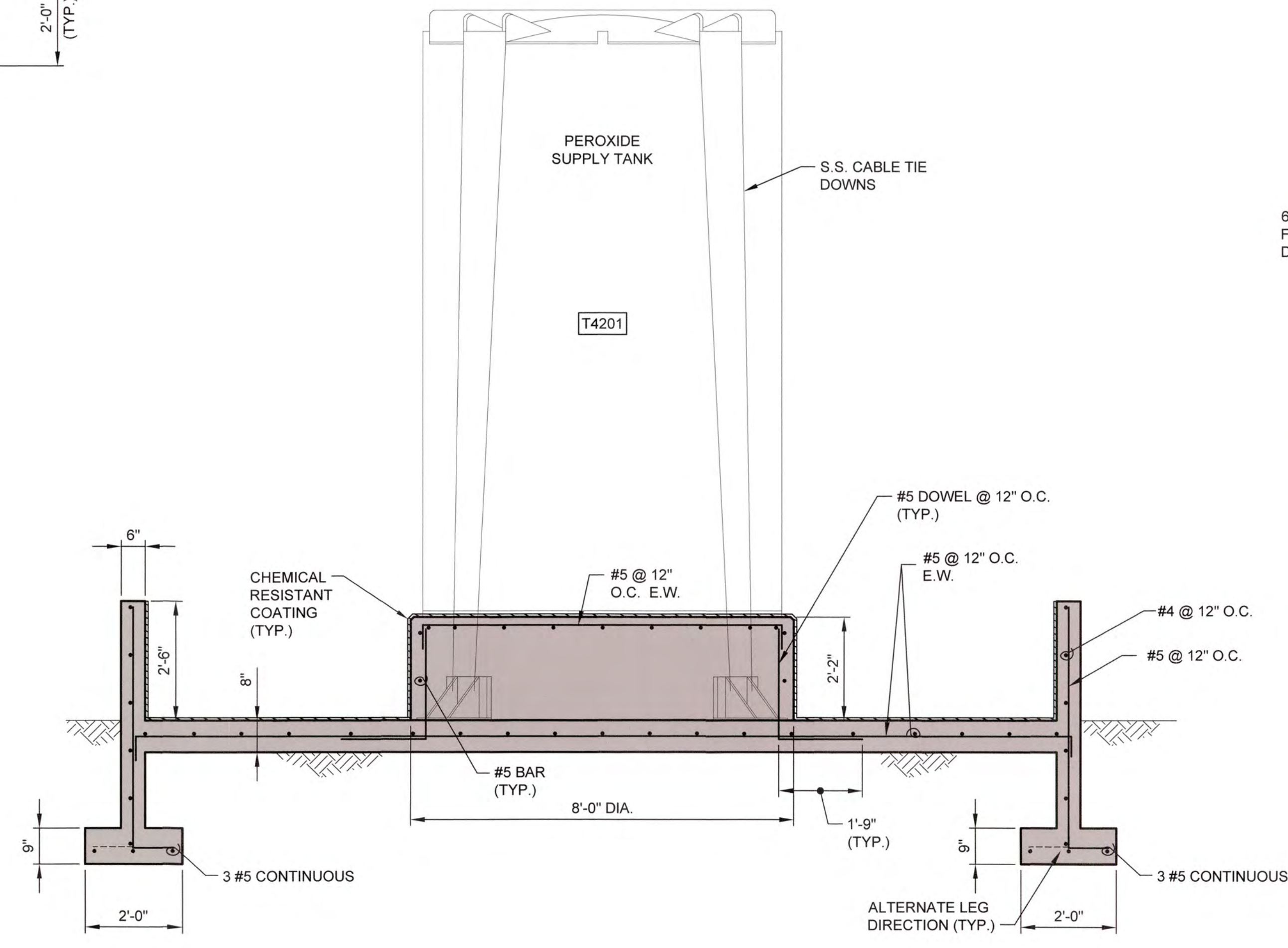
UV / ADVANCED OXIDATION TREATMENT

CLARKS HILL CLEARWELL DIVERSION WALL
SECTIONS AND DETAILS - 2

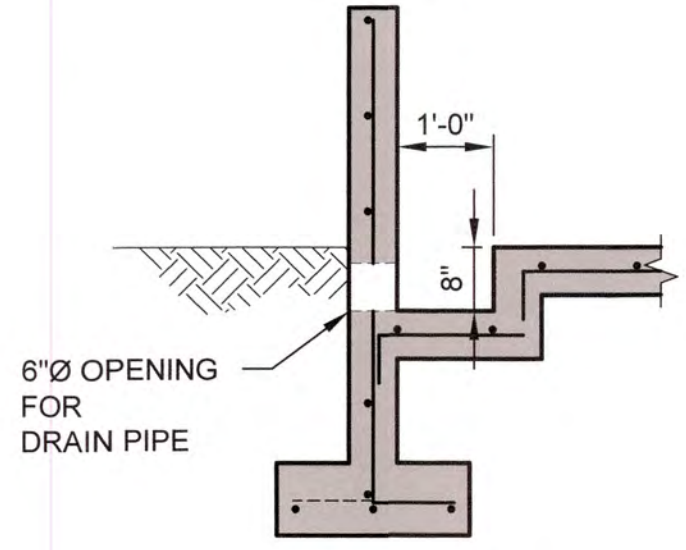
DESIGNED		DKR	REF.	1631-00	DWG NO.
DRAWN		SES	DATE	DEC 2020	4S8
QC			SCALE	AS SHOWN	



CHEMICAL CONTAINMENT PLAN
SCALE: 1/2" = 1'-0"



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

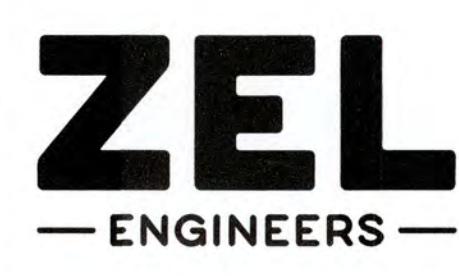


B SECTION
SCALE: 1/2" = 1'-0"

J:\2016\161 Columbia County Water Utility\161-00 Branch and Clark Hill VTP\161-00-Peroxide Design\Drawing\161-00-4S9.dwg, 12/15/2020 8:41:08 AM, KChalker, HP Designer, T2509 Rev. 2.pcd, 1:1



NO.	DATE	REVISION	BY	APVD



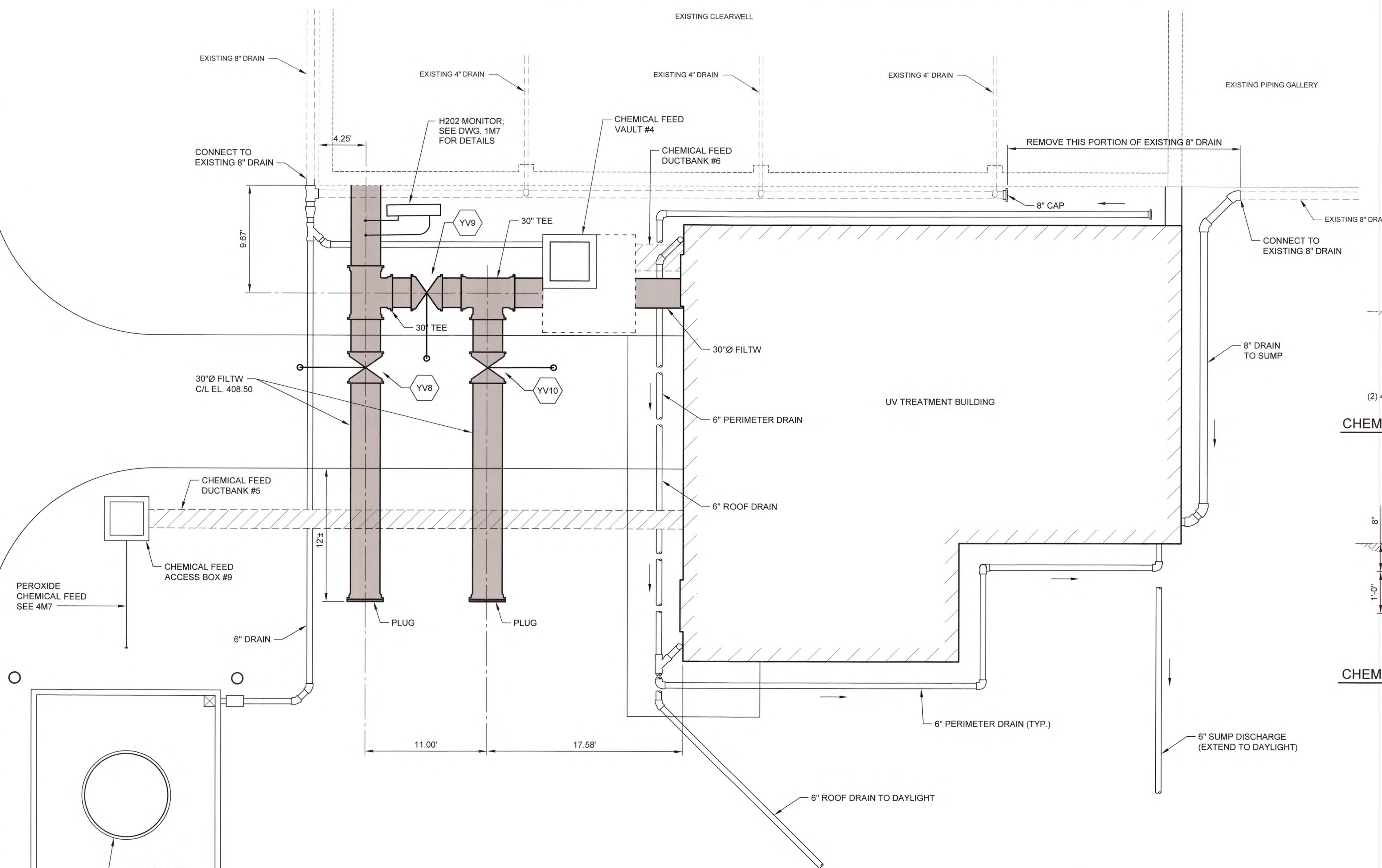
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COLUMBIA COUNTY, GEORGIA
UV / ADVANCED OXIDATION TREATMENT
CLARKS HILL
CHEMICAL CONTAINMENT PLAN AND SECTIONS

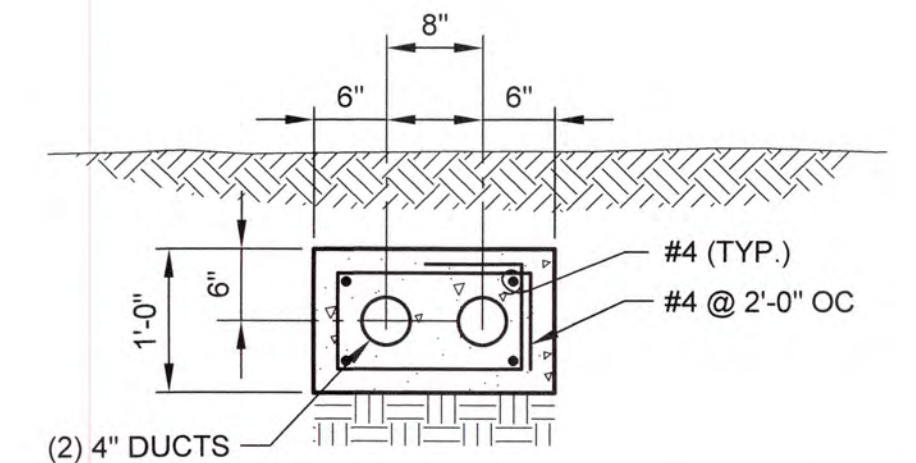
DESIGNED		DKR	REF.	1631-00	DWG NO.
DRAWN		KDC	DATE	DEC 2020	4S9
QC			SCALE	1/2"=1'-0"	



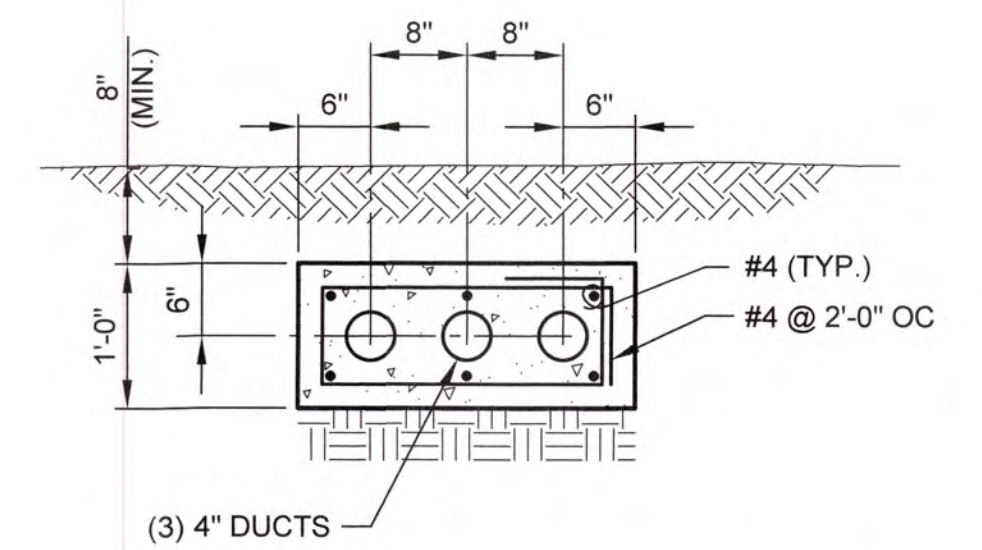
EXISTING ACCESS ROAD



YARD PIPING PLAN
SCALE: 1"=5'



CHEMICAL FEED DUCTBANK #5 SECTION
SCALE: 3/4"=1'-0"



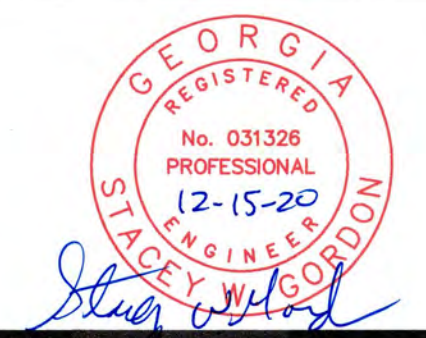
CHEMICAL FEED DUCTBANK #6 SECTION
SCALE: 3/4"=1'-0"

LEGEND

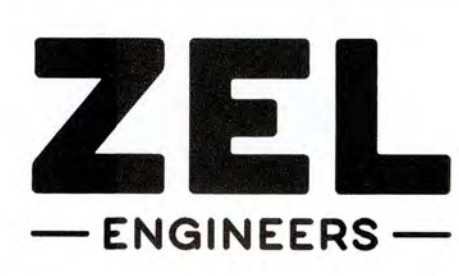
- RW - RAW WATER
- HSW - HIGH SERVICE WATER
- PPW - PLANT POTABLE WATER
- BW - BACKWASH
- FILTW - FILTER WATER

CLARKS HILL YARD VALVE SCHEDULE							
NO.	DESCRIPTION	SIZE	TYPE	OPERATOR	ENDS	REMARKS	POSITION
YV8	ISOLATION	30"	GV	2" OPERATOR NUT	MJ	HORZ. INSTALL	OPEN
YV9	ISOLATION	30"	GV	2" OPERATOR NUT	MJ	HORZ. INSTALL	NC
YV10	ISOLATION	30"	GV	2" OPERATOR NUT	MJ	HORZ. INSTALL	NC

11/20/16/1631 Columbia County Water Utility/1631-00 Blanchard and Clarke Hill WTP/UV Peroxide Design/Drawings/1631-00-AM1.dwg, 12/8/2020 2:29:39 PM, KChalkley, HP Designer/ TSS01 Rev 2.pcd, 11



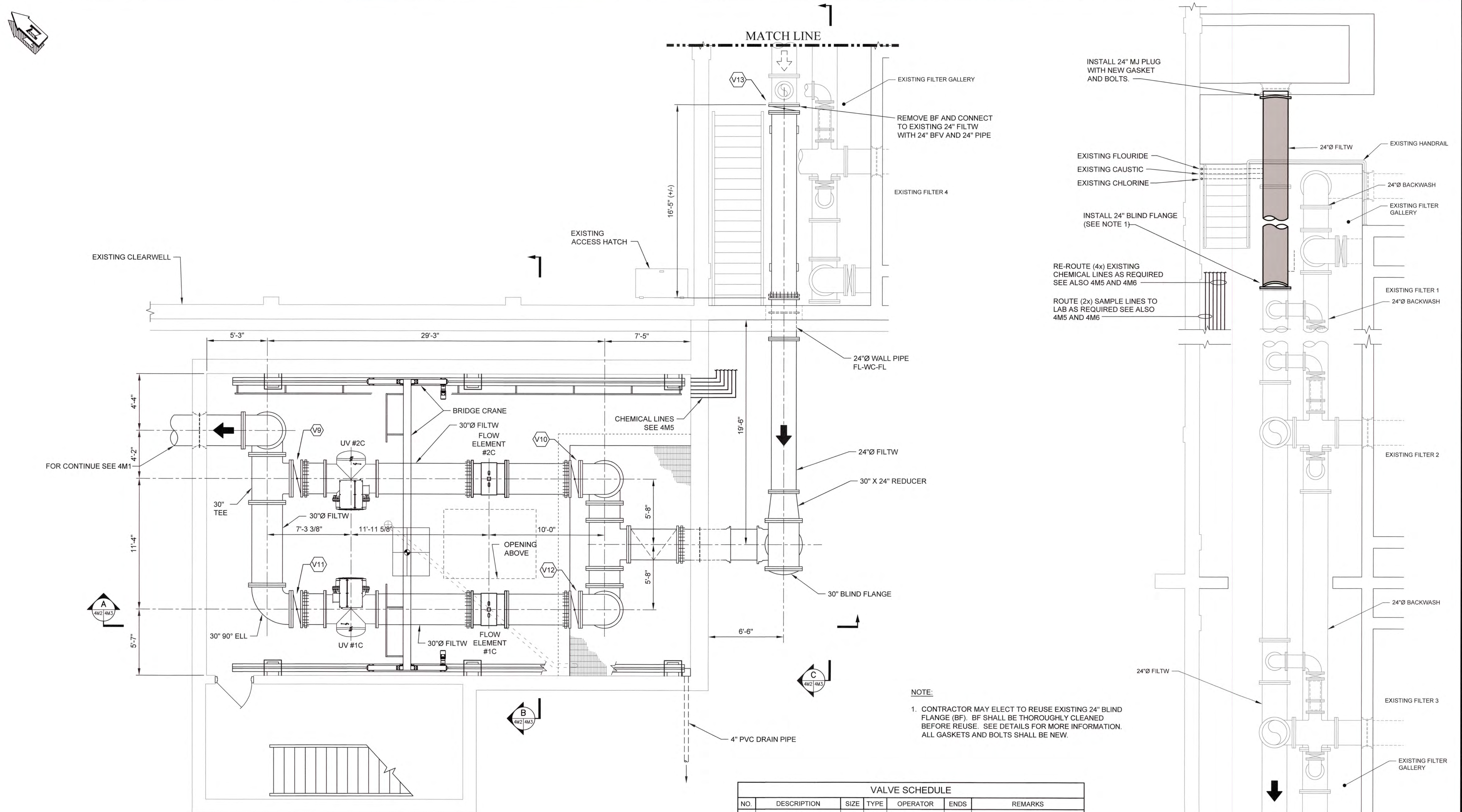
NO.	DATE	REVISION	BY	APVD



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COLUMBIA COUNTY, GEORGIA
UV / ADVANCED OXIDATION TREATMENT
**CLARKS HILL
YARD PIPING PLAN**

DESIGNED		SWG	REF.	1631-00	DWG NO.
DRAWN		KDC	DATE	DEC 2020	4M1
QC			SCALE	AS SHOWN	

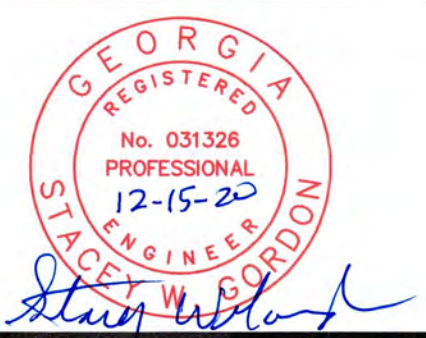


FOR CONTINUE SEE 4M1

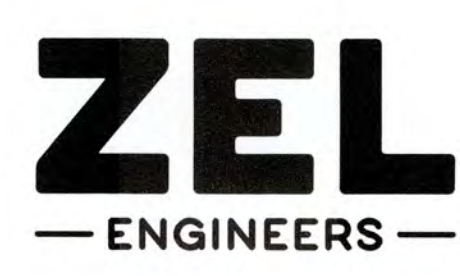
NOTE:
 1. CONTRACTOR MAY ELECT TO REUSE EXISTING 24" BLIND FLANGE (BF). BF SHALL BE THOROUGHLY CLEANED BEFORE REUSE. SEE DETAILS FOR MORE INFORMATION. ALL GASKETS AND BOLTS SHALL BE NEW.

VALVE SCHEDULE						
NO.	DESCRIPTION	SIZE	TYPE	OPERATOR	ENDS	REMARKS
V9	ISOLATION	30"	GV	HANDWHEEL	FL	MODULATING
V10	ISOLATION	30"	GV	HANDWHEEL	FL	
V11	ISOLATION	30"	GV	HANDWHEEL	FL	MODULATING
V12	ISOLATION	30"	GV	HANDWHEEL	FL	
V13	ISOLATION	24"	GV	HANDWHEEL	FL	

LOWER LEVEL PIPING PLAN
 SCALE: 1/4" = 1'-0"



NO.	DATE	REVISION	BY	APVD

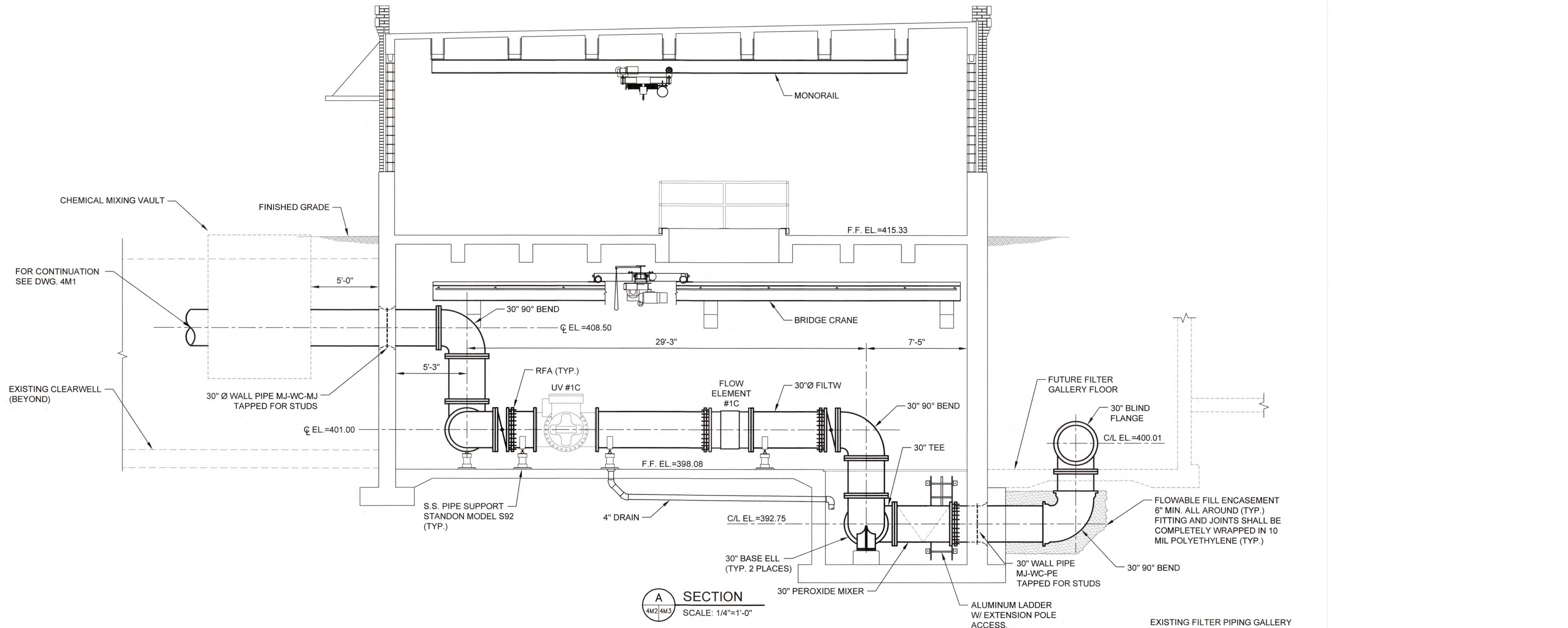


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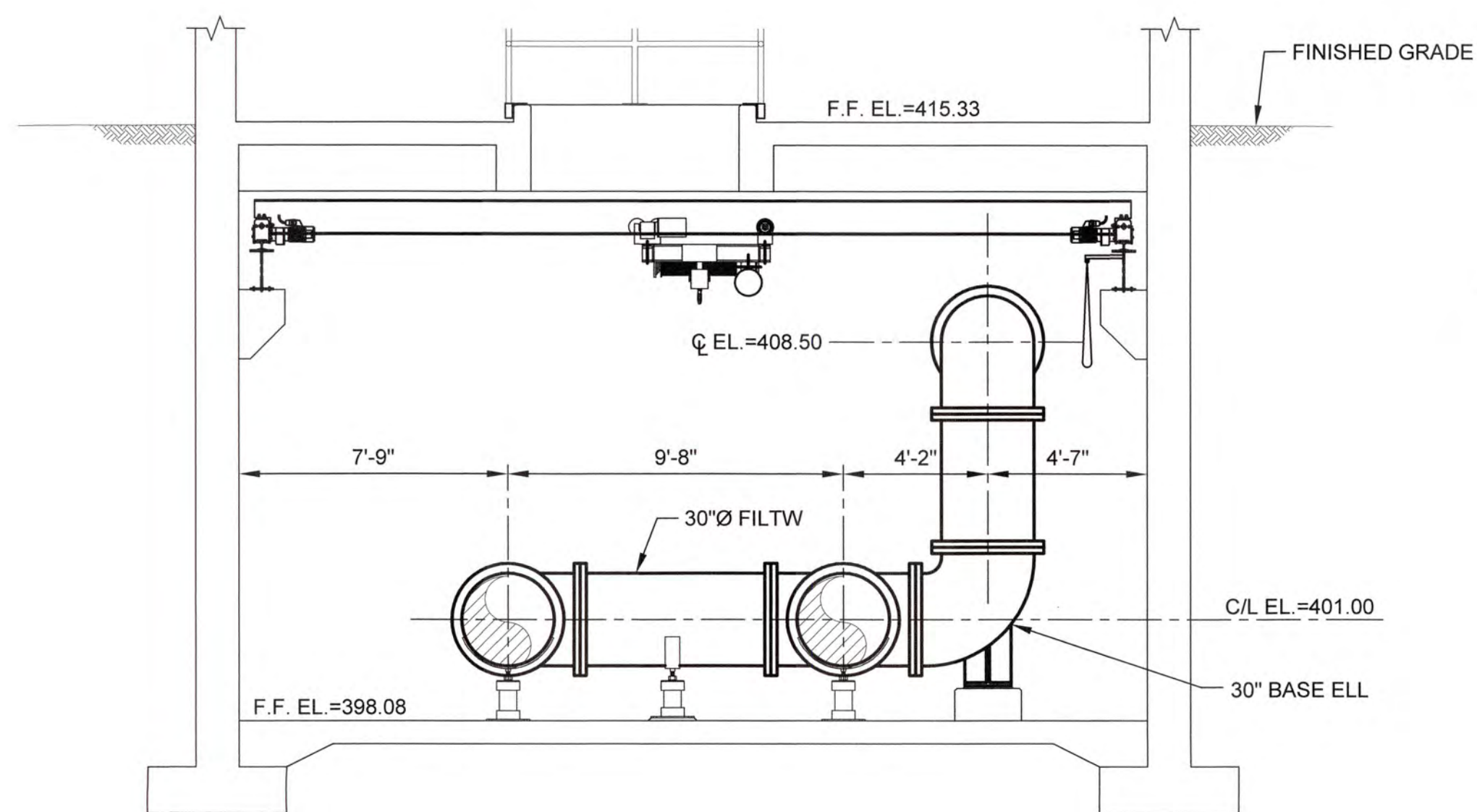
COLUMBIA COUNTY, GEORGIA

UV / ADVANCED OXIDATION TREATMENT
 CLARKS HILL
 LOWER LEVEL PIPING PLAN

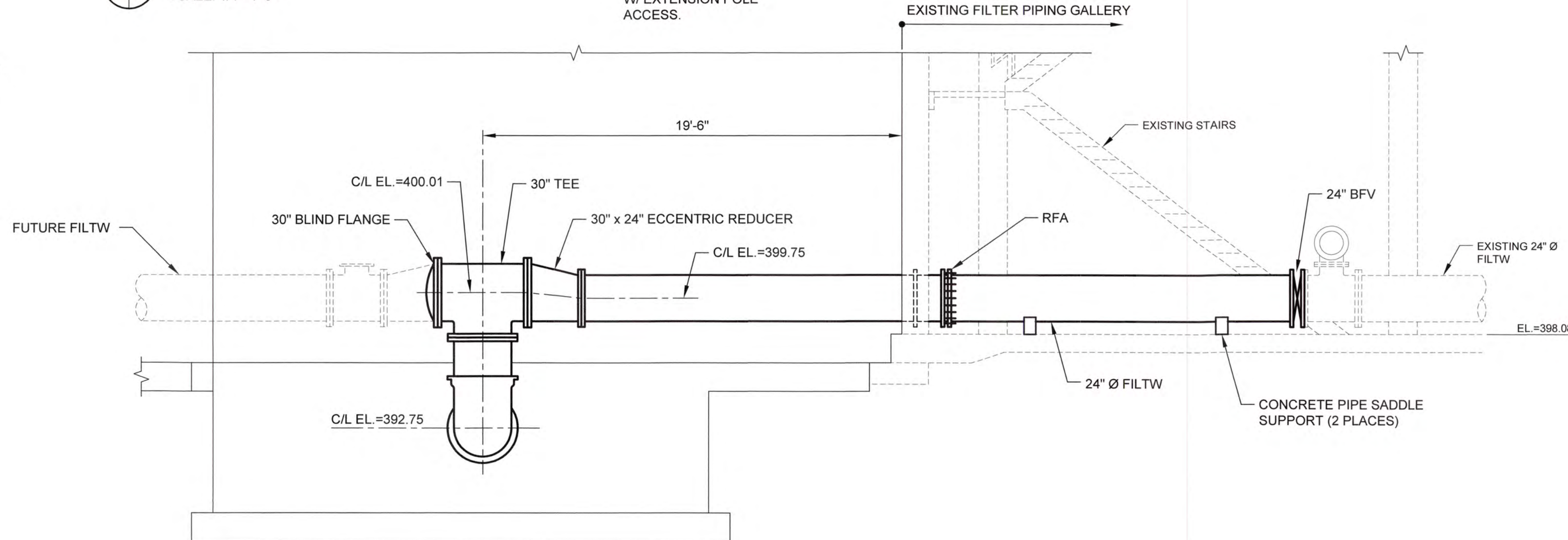
DESIGNED	SWG	REF.	1631-00	DWG NO.	4M2
DRAWN	KDC	DATE	DEC 2020		
QC		SCALE	1/4"=1'-0"		



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

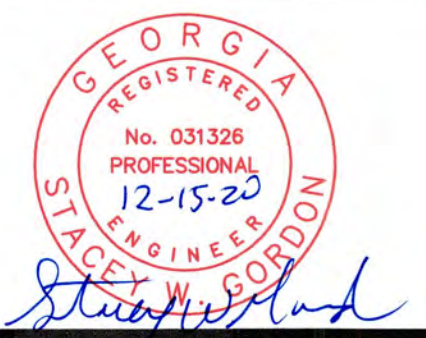


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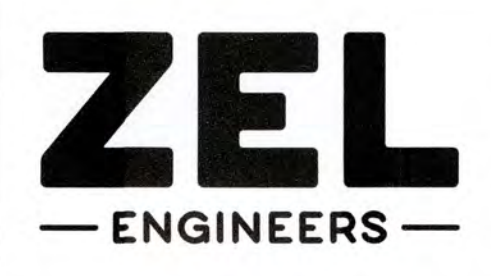


C SECTION
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J:\2016\151 Columbia County Water Utility\151-00 Branch and Chlorine Hill VTP-UV Peroxide Design\Drawings\151-00 AOC.dwg, 12/29/2020 2:28:30 PM, KChakrabarti, HP Designer, T2501 Rev 2.pcd, 1:1



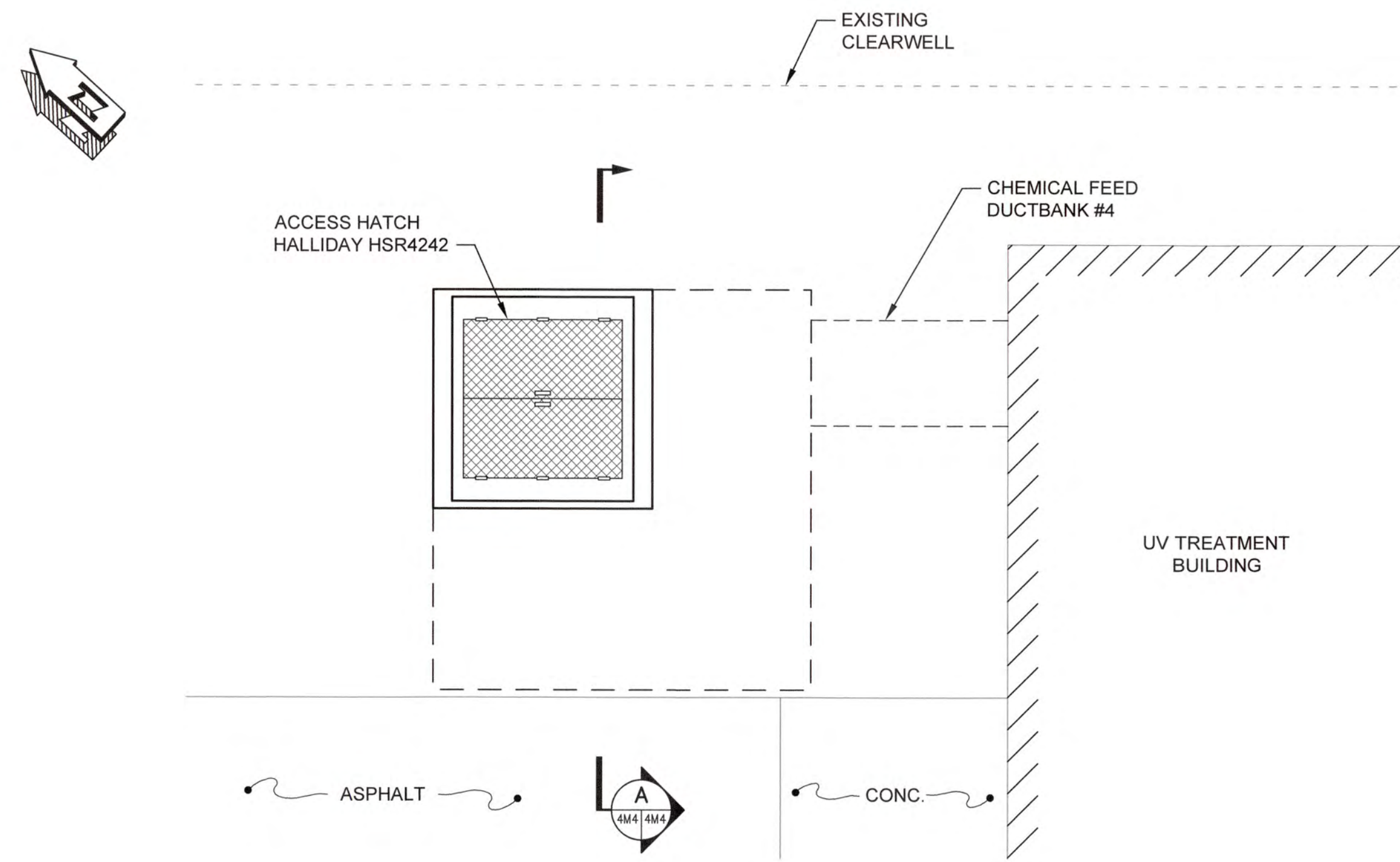
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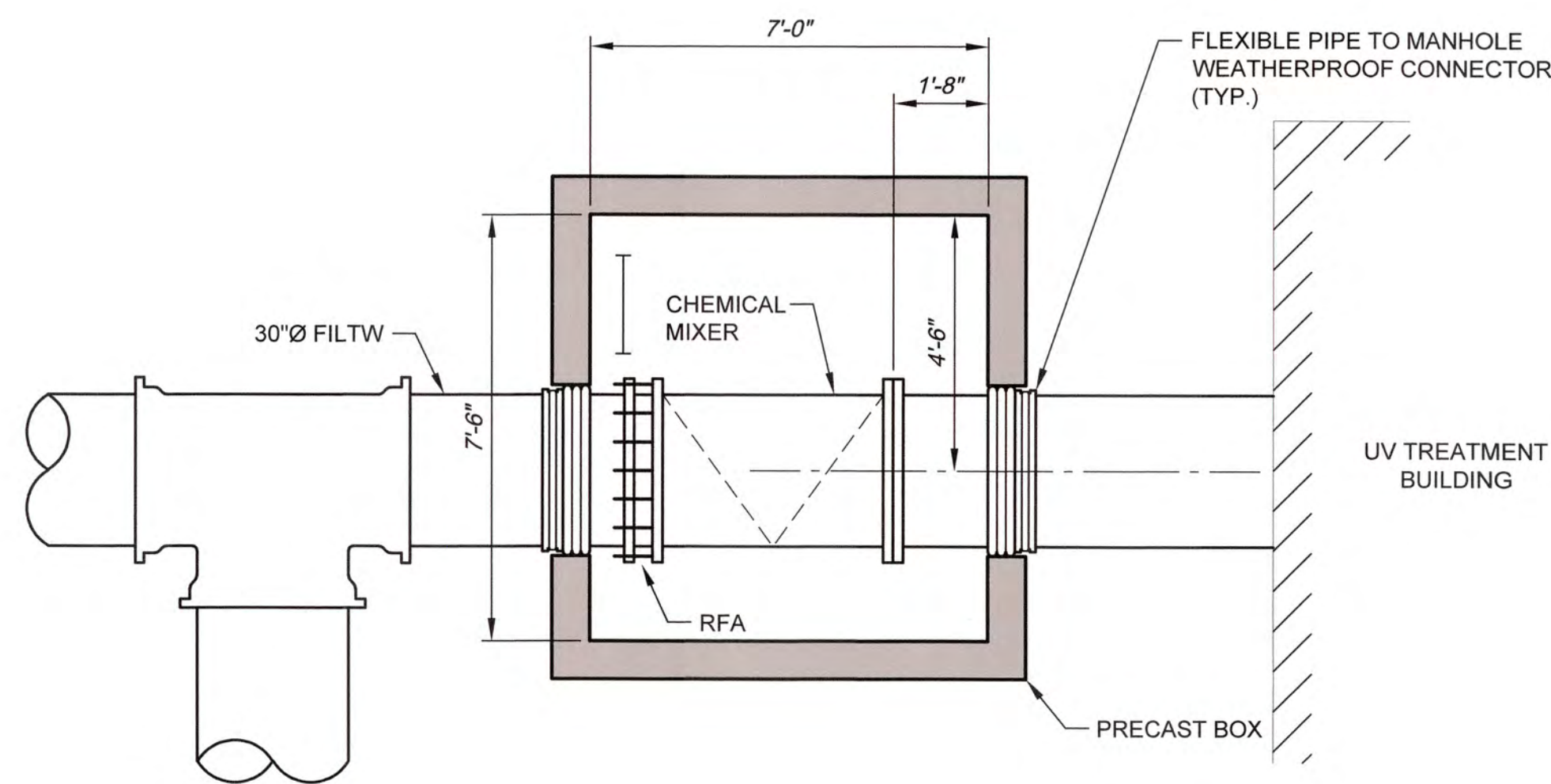
COLUMBIA COUNTY, GEORGIA
 UV / ADVANCED OXIDATION TREATMENT
 CLARKS HILL
 UV BUILDING PIPING SECTIONS

DESIGNED		SWG	REF.	1631-00	DWG NO. 4M3
DRAWN		SWH	DATE	DEC 2020	
QC			SCALE	1/4"=1'-0"	



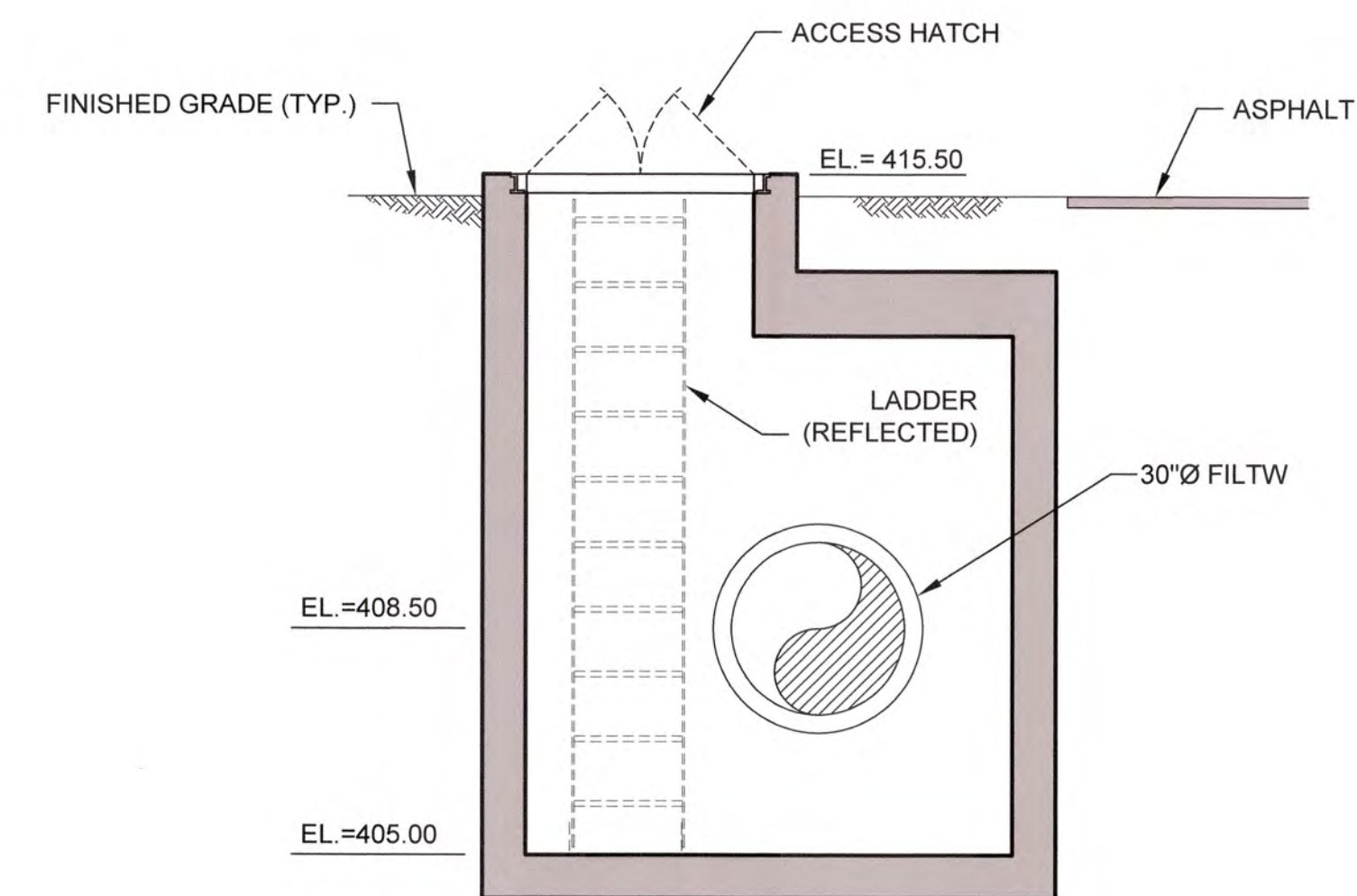
TOP PLAN - CHEMICAL FEED VAULT #4

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



BOTTOM PLAN - CHEMICAL FEED VAULT #4

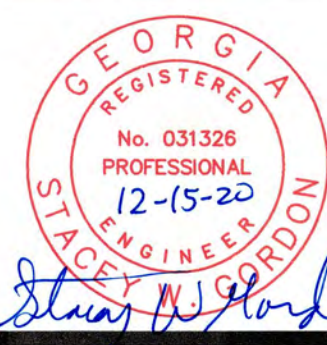
SCALE: 3/8"=1'-0"



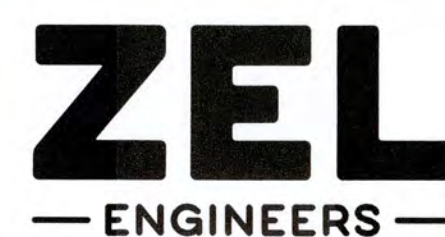
A SECTION

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

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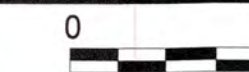
NO.	DATE	REVISION	BY	APVD



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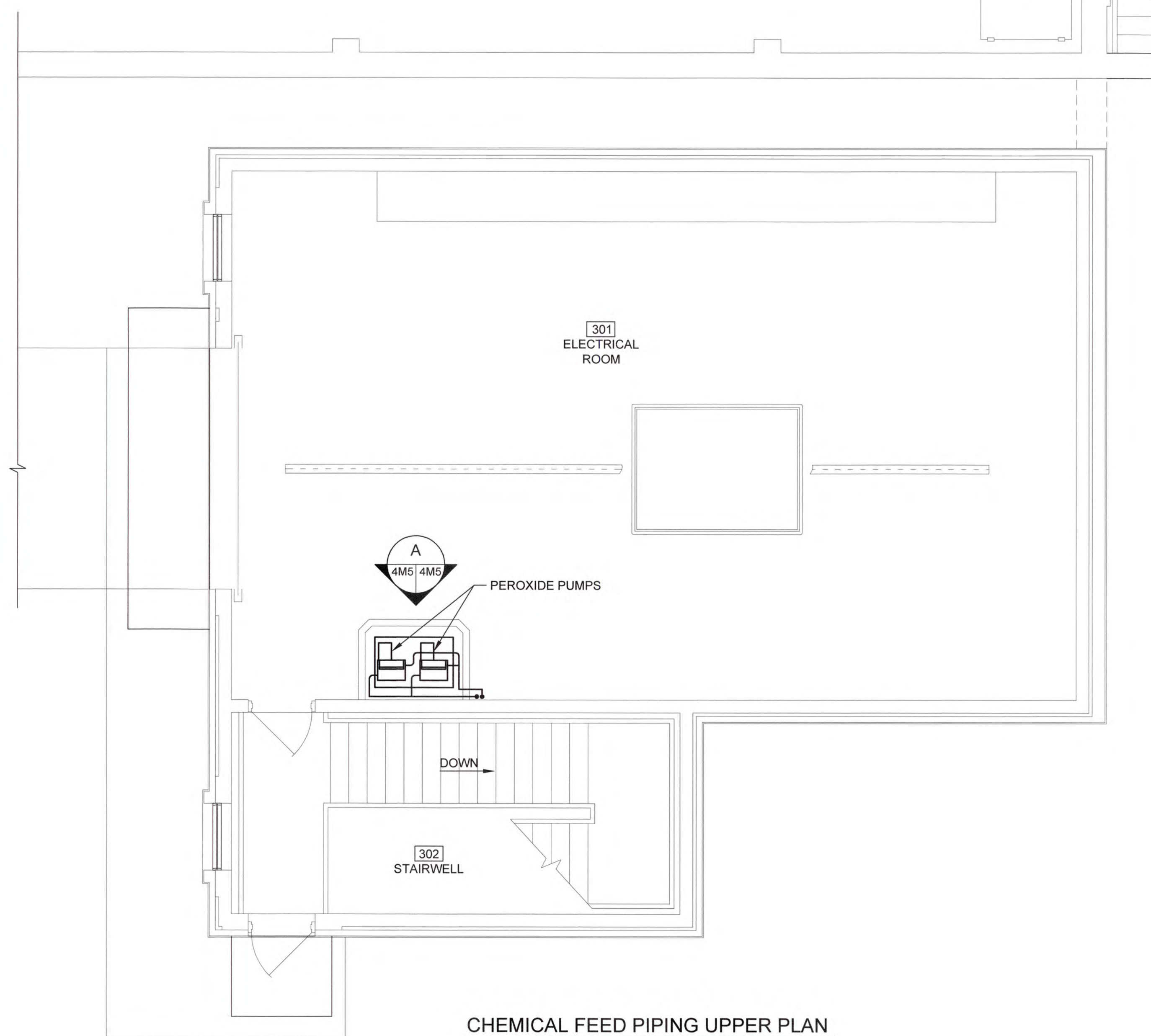
COLUMBIA COUNTY, GEORGIA

UV / ADVANCED OXIDATION TREATMENT
 CLARKS HILL
 CHEMICAL FEED VAULT NO. 4



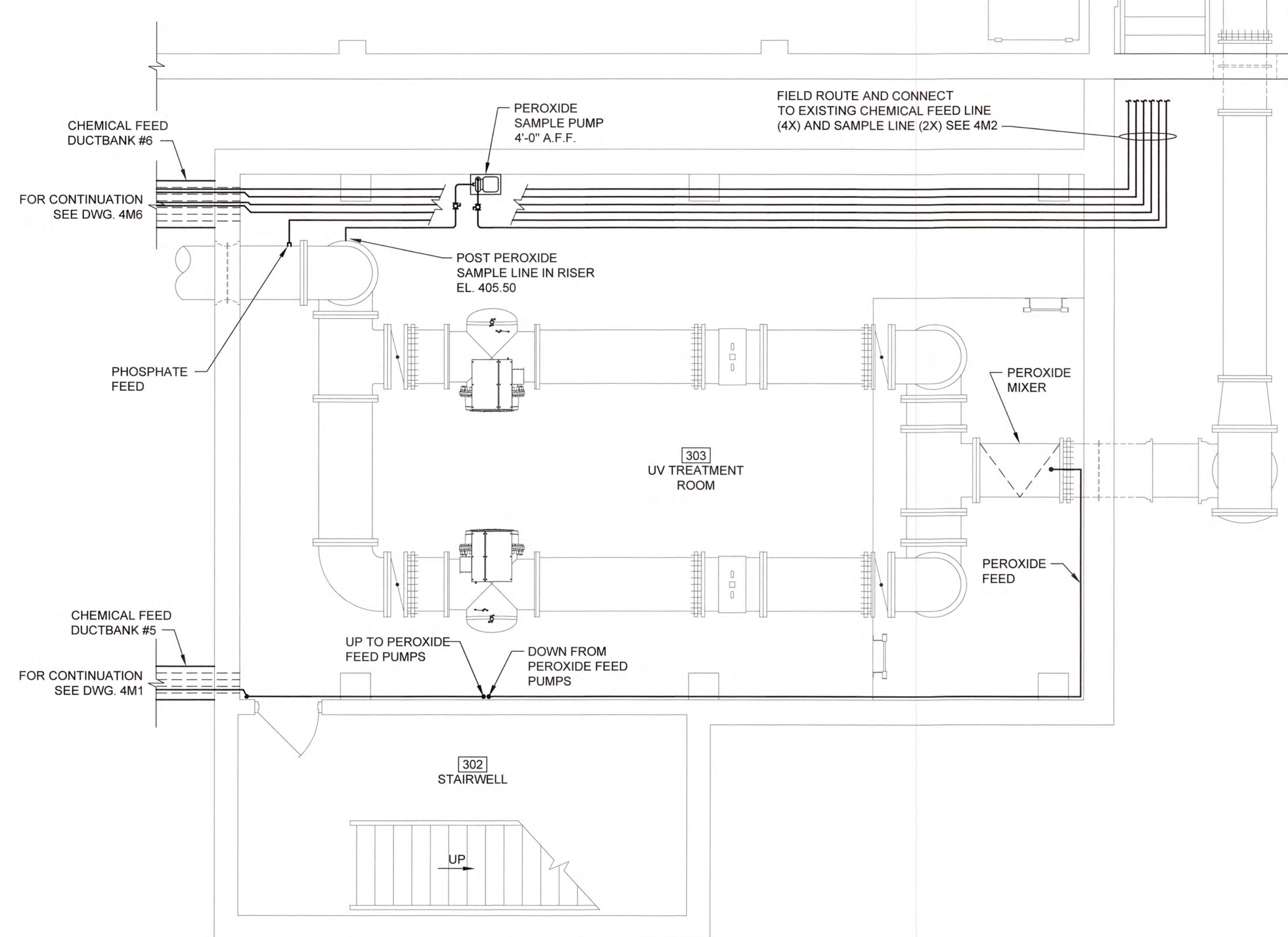
IF THIS BAR DOES NOT MEASURE 1"
 DRAWING IS NOT TO LABELED SCALE

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DRAWN	SWH	DATE	DEC 2020	4M4
QC		SCALE	3/8"=1'-0"	



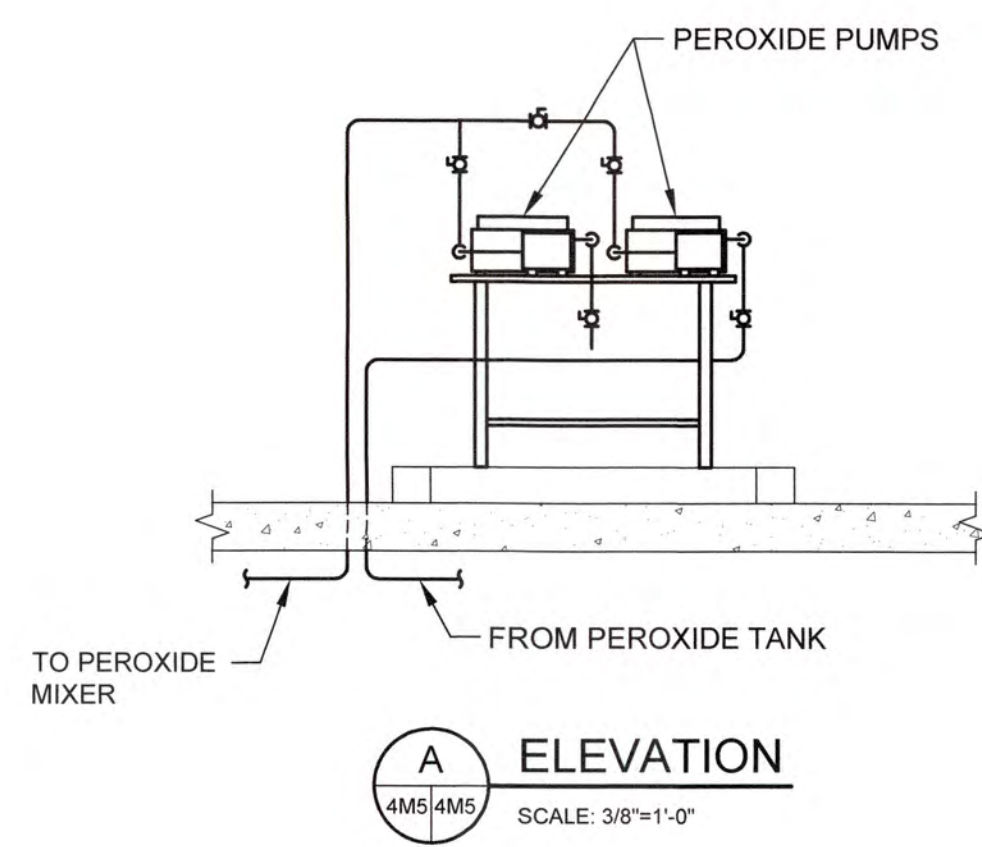
CHEMICAL FEED PIPING UPPER PLAN

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



CHEMICAL FEED PIPING LOWER PLAN

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

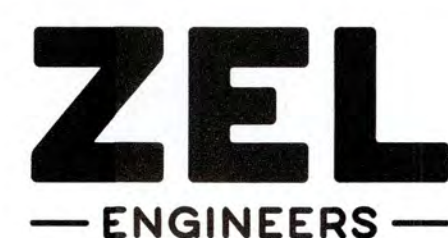


A ELEVATION
4M5 4M5 SCALE: 3/8"=1'-0"

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NO.	DATE	REVISION	BY	APVD

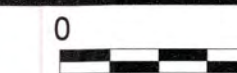


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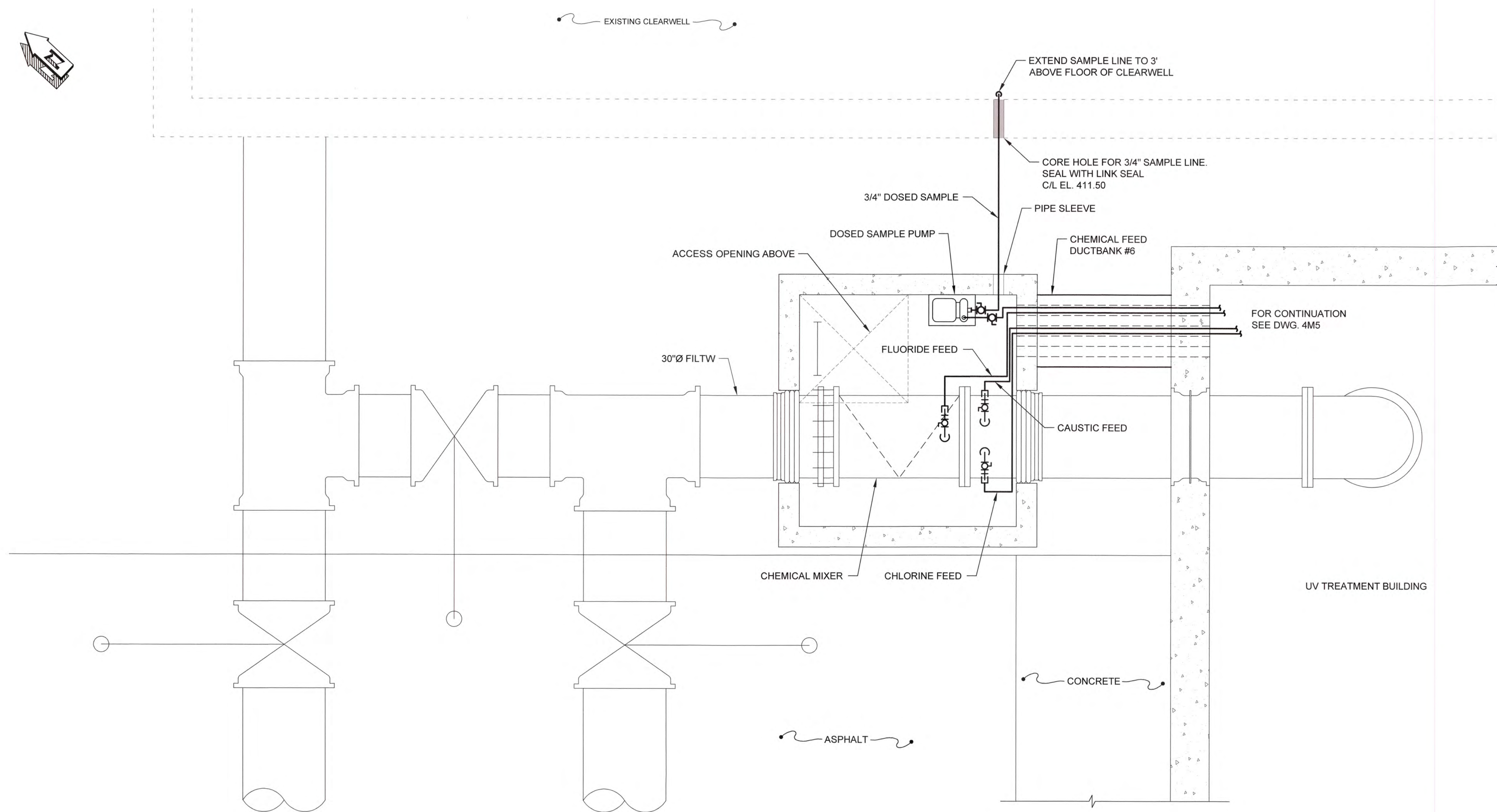
UV / ADVANCED OXIDATION TREATMENT

CLARKS HILL
CHEMICAL FEED PIPING PLANS



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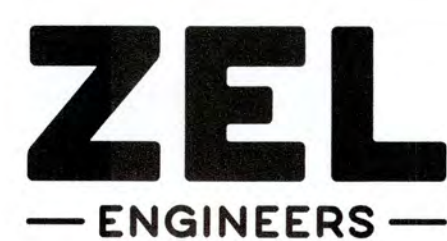


CHEMICAL FEED VAULT #4 PLAN
SCALE: 1/2"=1'-0"

J:\2016\1631 Columbia County Water Utility\1631-00 Bleached and Chlorine Hill WTP\1631-00 Process Design\Drawings\1631-00_M&E.dwg, 12/20/2020 2:25:13 PM, KChalker, HP Designer, T2550, Roll 2, pcd, 11



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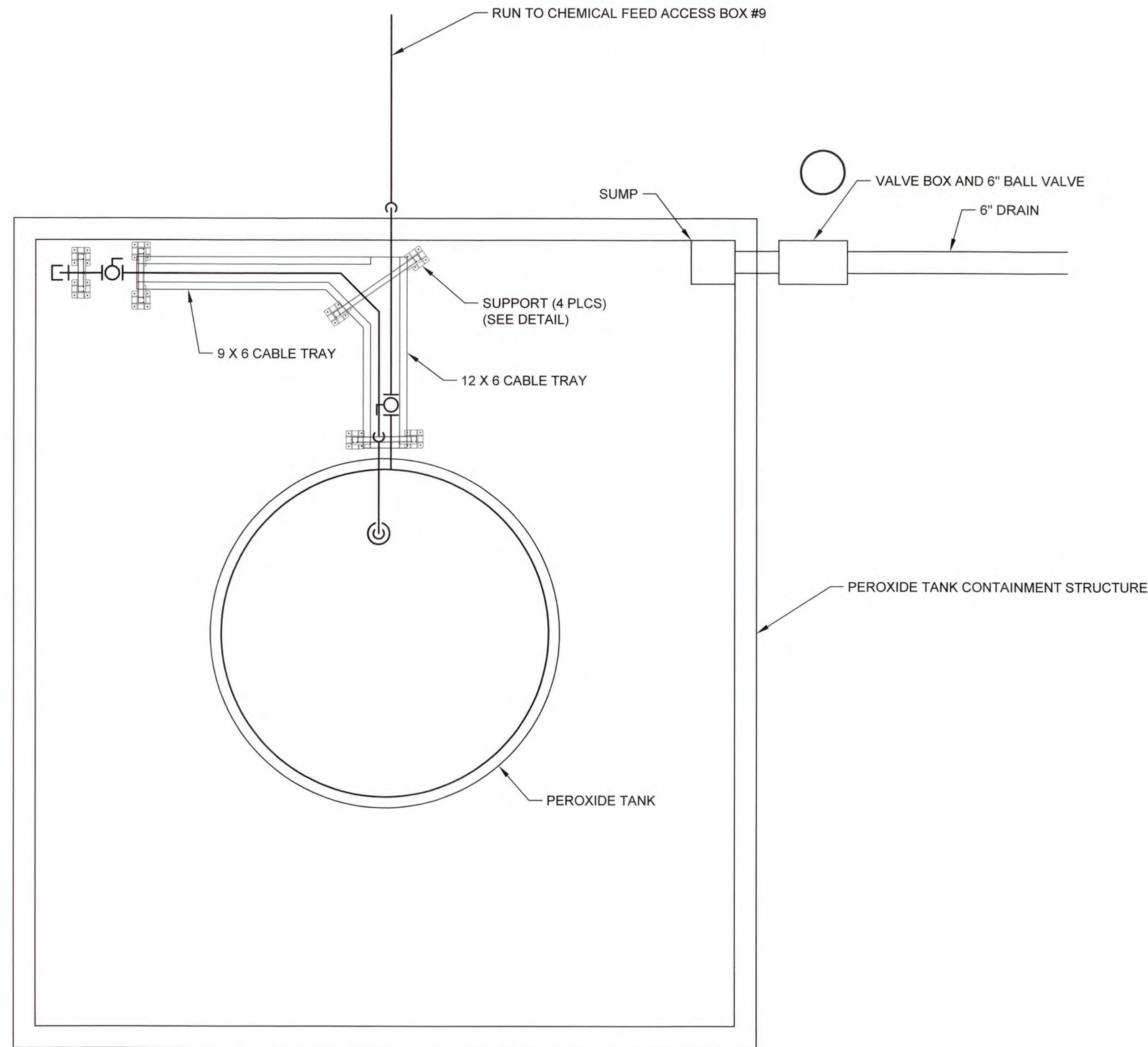
COLUMBIA COUNTY, GEORGIA

UV / ADVANCED OXIDATION TREATMENT
CLARKS HILL
CHEMICAL FEED PIPING AND CONTACT POINTS

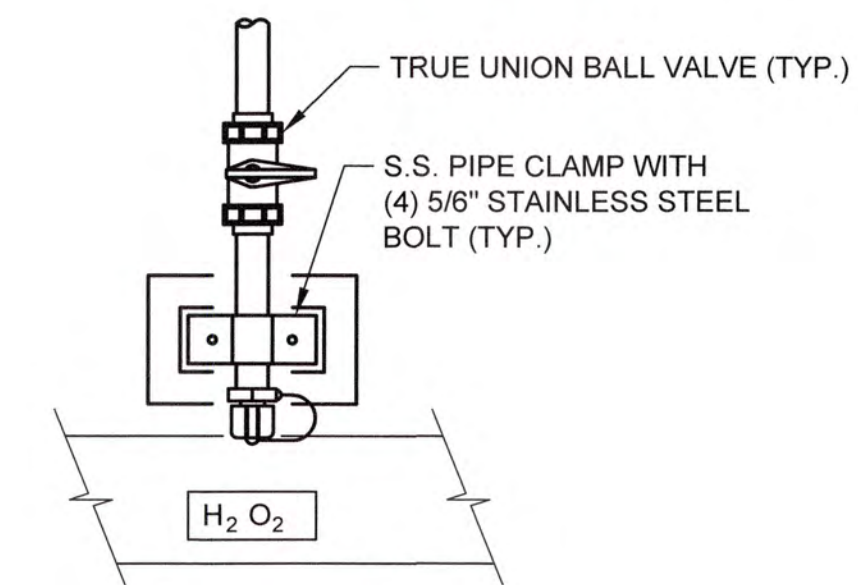


IF THIS BAR DOES NOT MEASURE 1"
DRAWING IS NOT TO LABELED SCALE

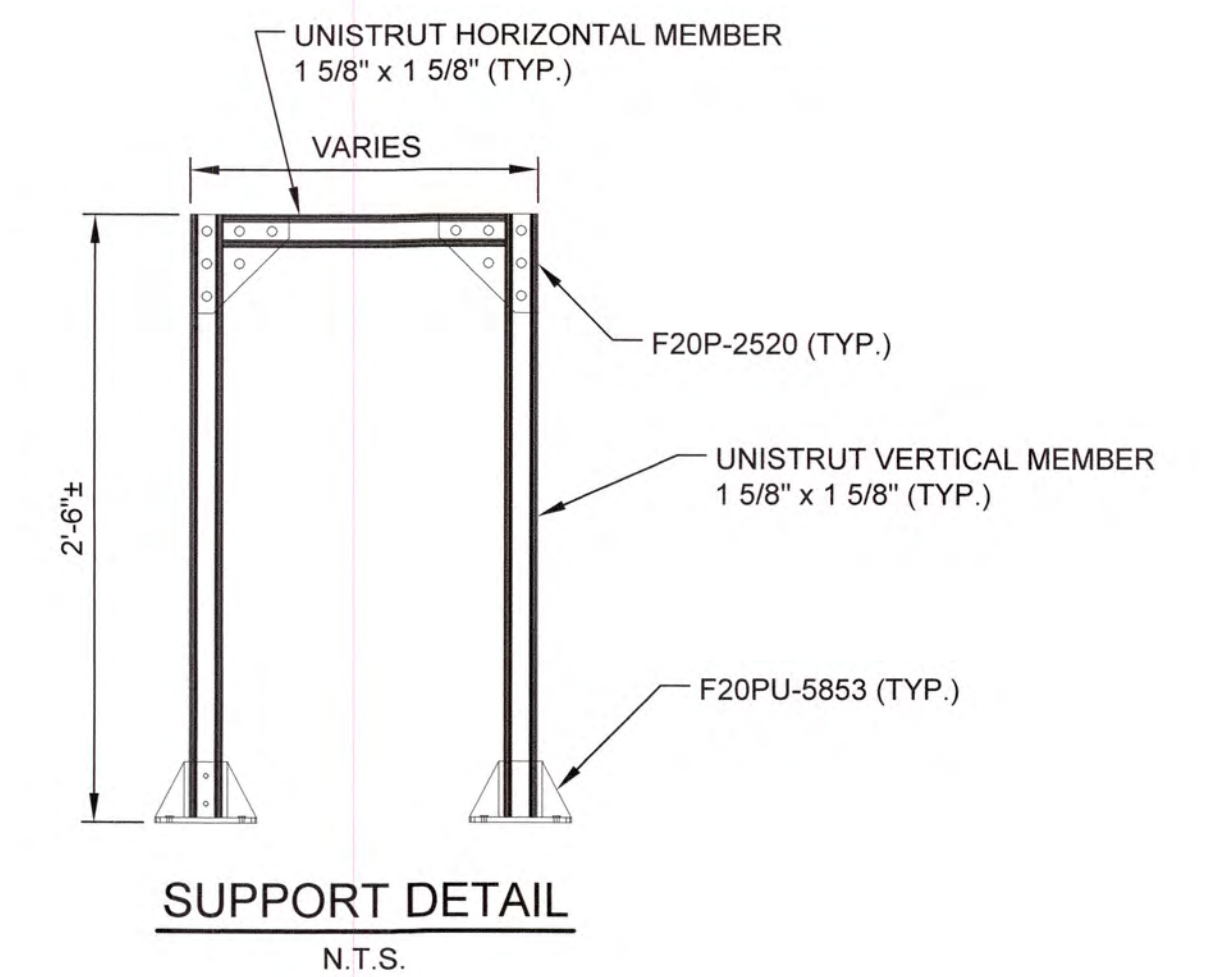
DESIGNED	KMW	REF.	1631-00	DWG NO.
DRAWN	SWH	DATE	DEC 2020	4M6
QC		SCALE	1/2"=1'-0"	



PEROXIDE TANK MECHANICAL PLAN
SCALE: 1"=2'



FILL STATION ENLARGED PLAN
SCALE: 1"=1'-0"



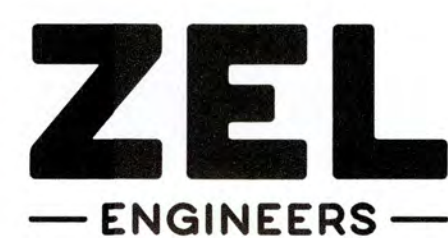
SUPPORT DETAIL
N.T.S.

NOTE:
CABLE TRAY TO BE FIBERGLASS WITH RUNGS AT 12" ON CENTER.
TRAYS TO BE ROBROY TYPE "BE" OR APPROVED EQUAL.

1/20/16/161 Columbia County Water Utility 1631-00-407.dwg, 12/8/2020 2:24:33 PM, KChandler, HP Designer, T2500 Rpt 2.cpl, 1:1



NO.	DATE	REVISION	BY	APVD

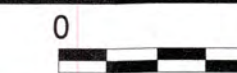


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COLUMBIA COUNTY, GEORGIA

UV / ADVANCED OXIDATION TREATMENT

CLARKS HILL PEROXIDE TANK
MECHANICAL PLAN, SECTIONS AND DETAILS

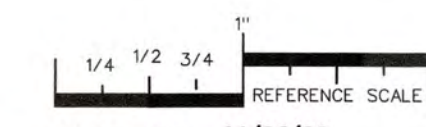
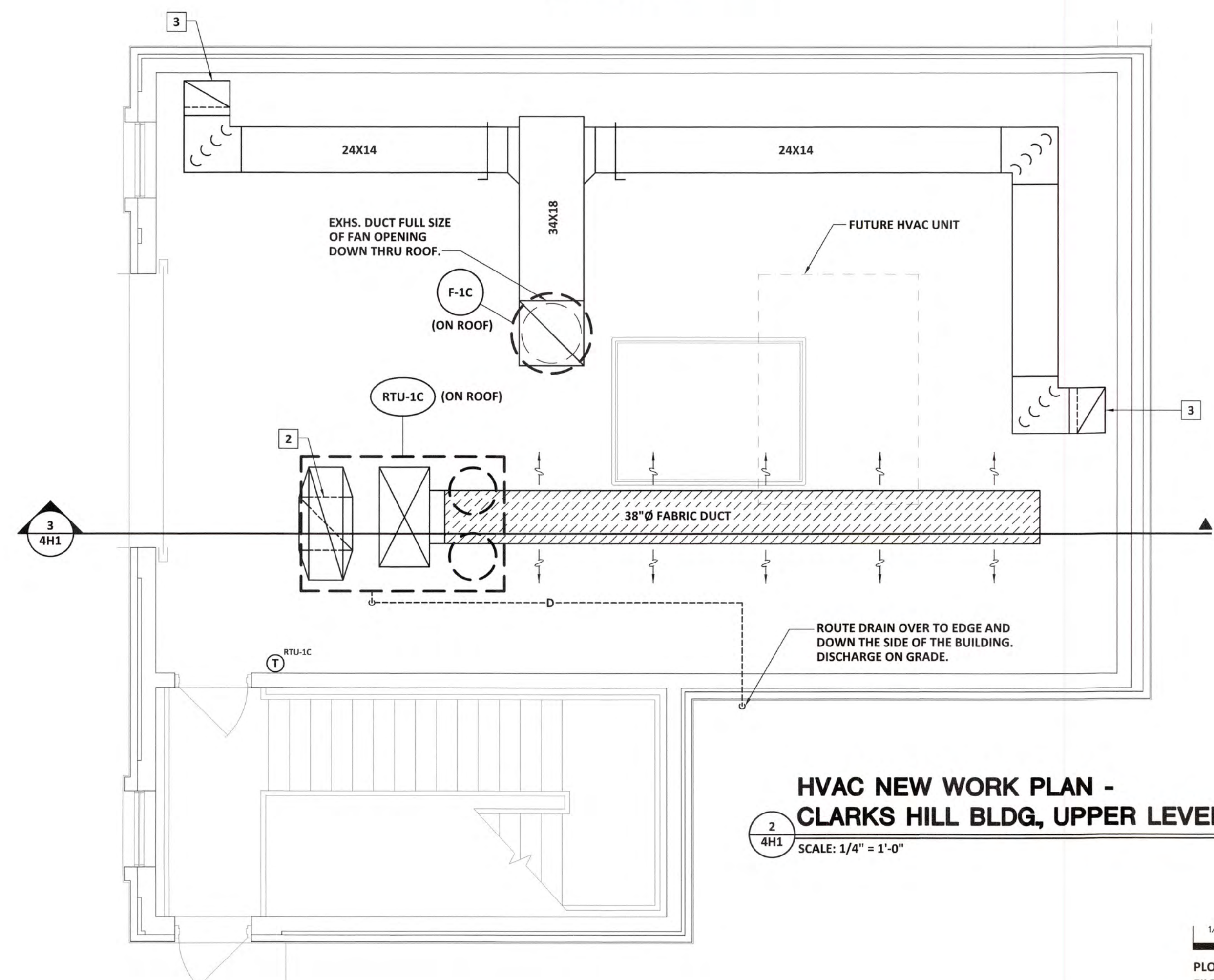
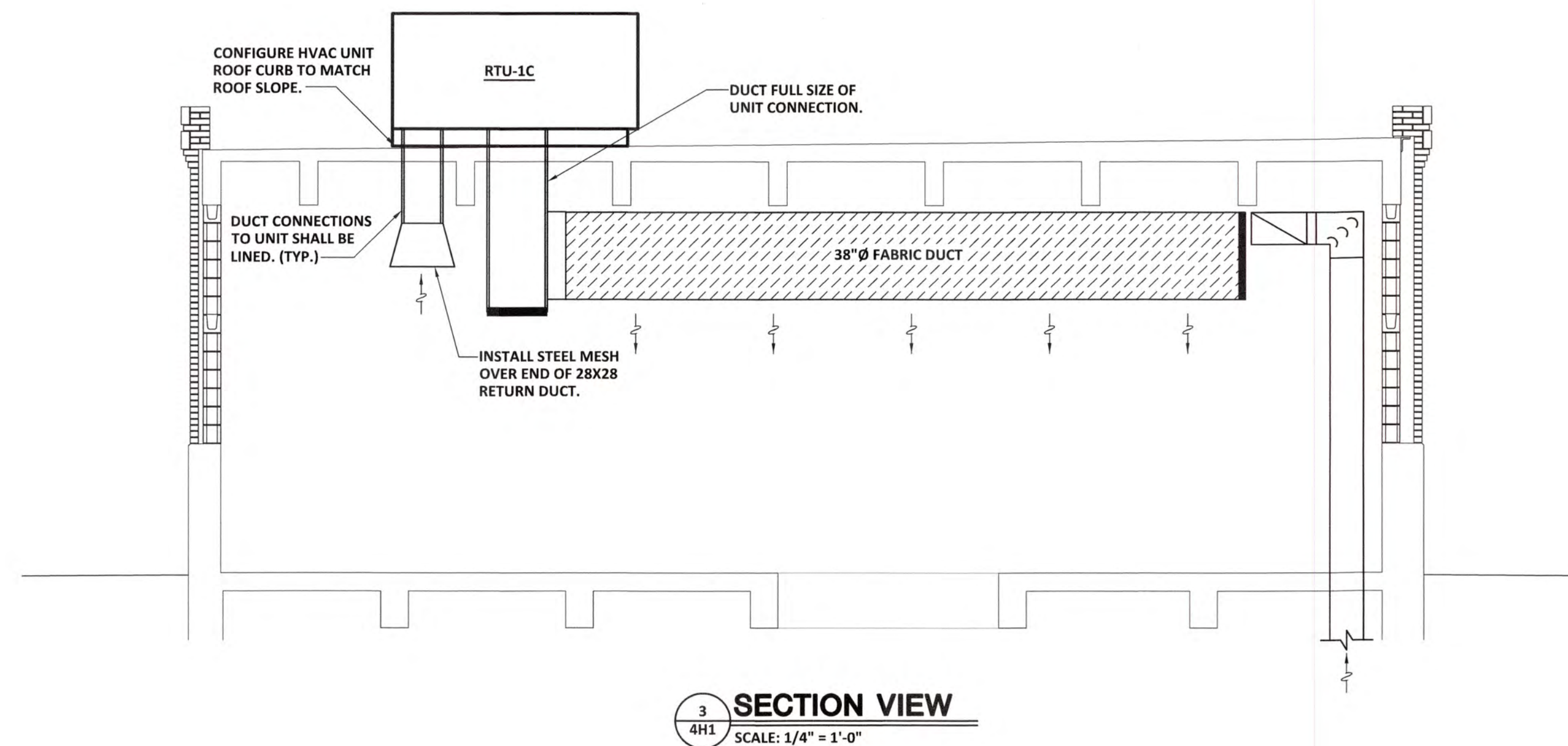
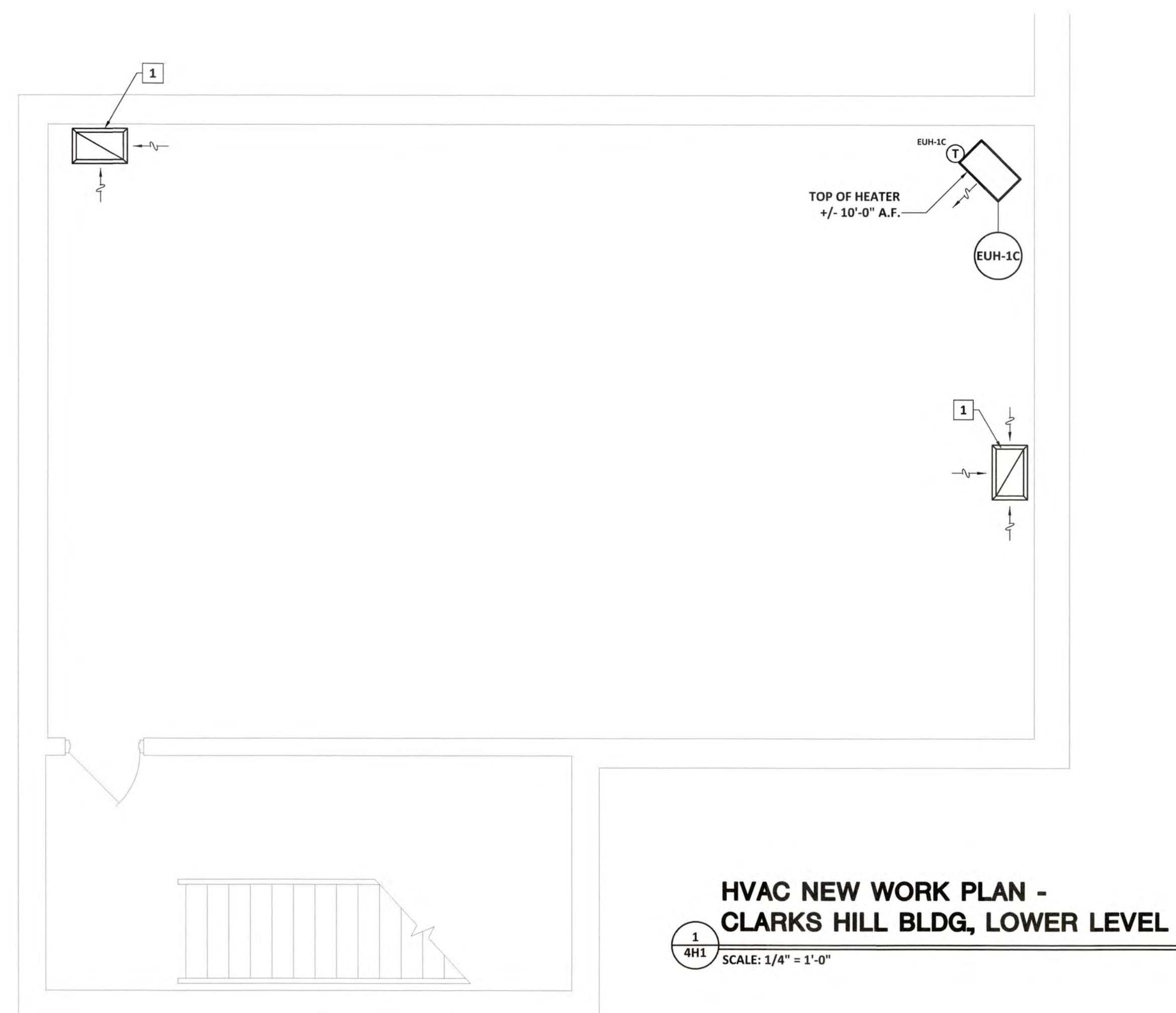


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DESIGNED	SWG	REF.	1631-00	DWG NO.
DRAWN	KDC	DATE	DEC 2020	4M7
QC		SCALE	AS SHOWN	

KEY NOTES (THIS SHEET ONLY):

- 1 EXHS. DUCT DOWN FROM ABOVE THRU FLOOR OPENING. INSTALL STEEL MESH OVER BELLMOUTH OPENING.
- 2 RTRN. DUCT TO TRANSITION DOWN TO 48X48 OPENING. INSTALL STEEL MESH OVER OPENING.
- 3 24X14 EXHS. DUCT DOWN THRU FLOOR TO LOWER LEVEL.



PLOT DATE: 11/06/20
 FILENAME: 20018M1
 PLOT SCALE: 1 = 48
 JLS

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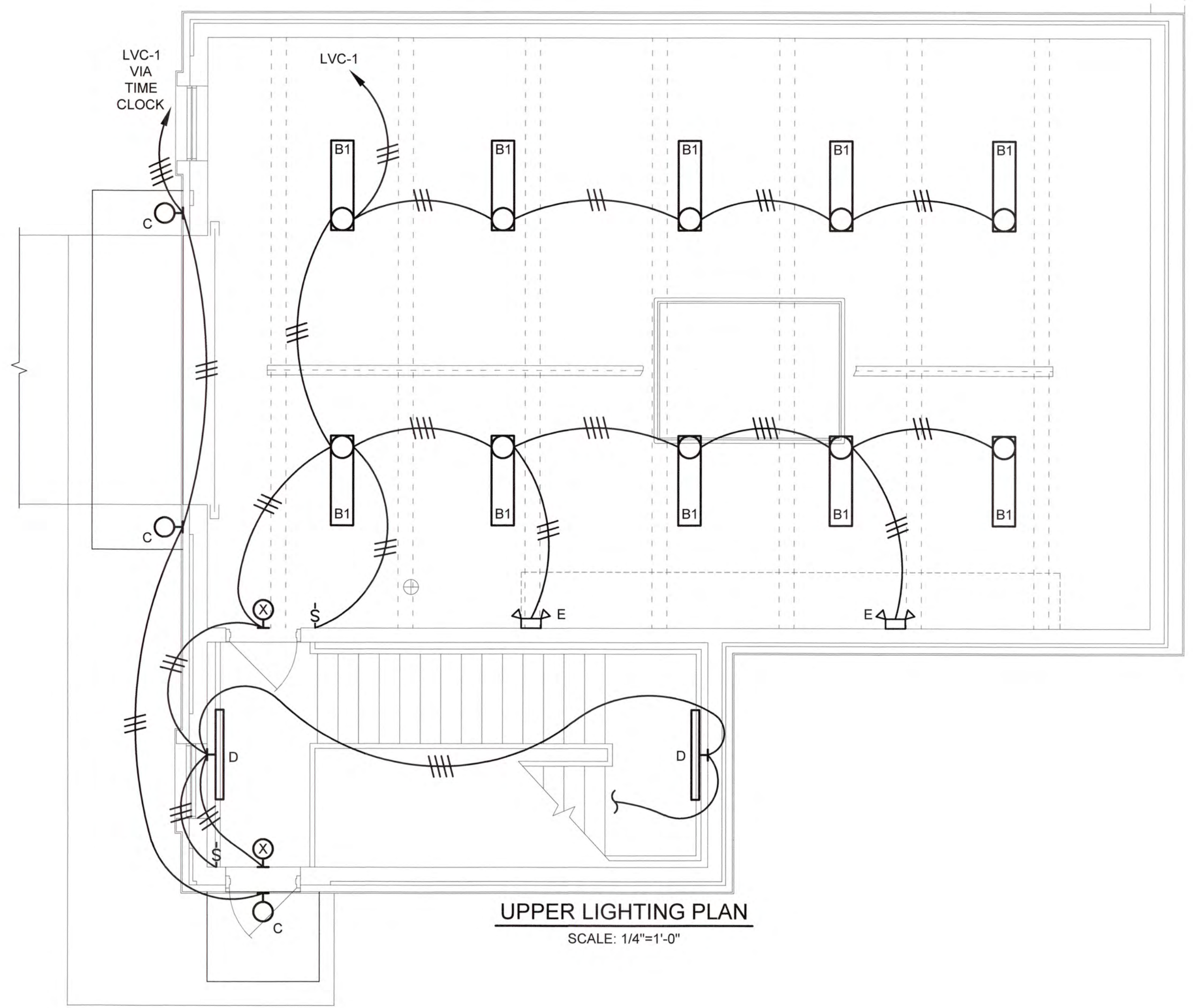
COLUMBIA COUNTY, GEORGIA

UV / ADVANCED OXIDATION TREATMENT

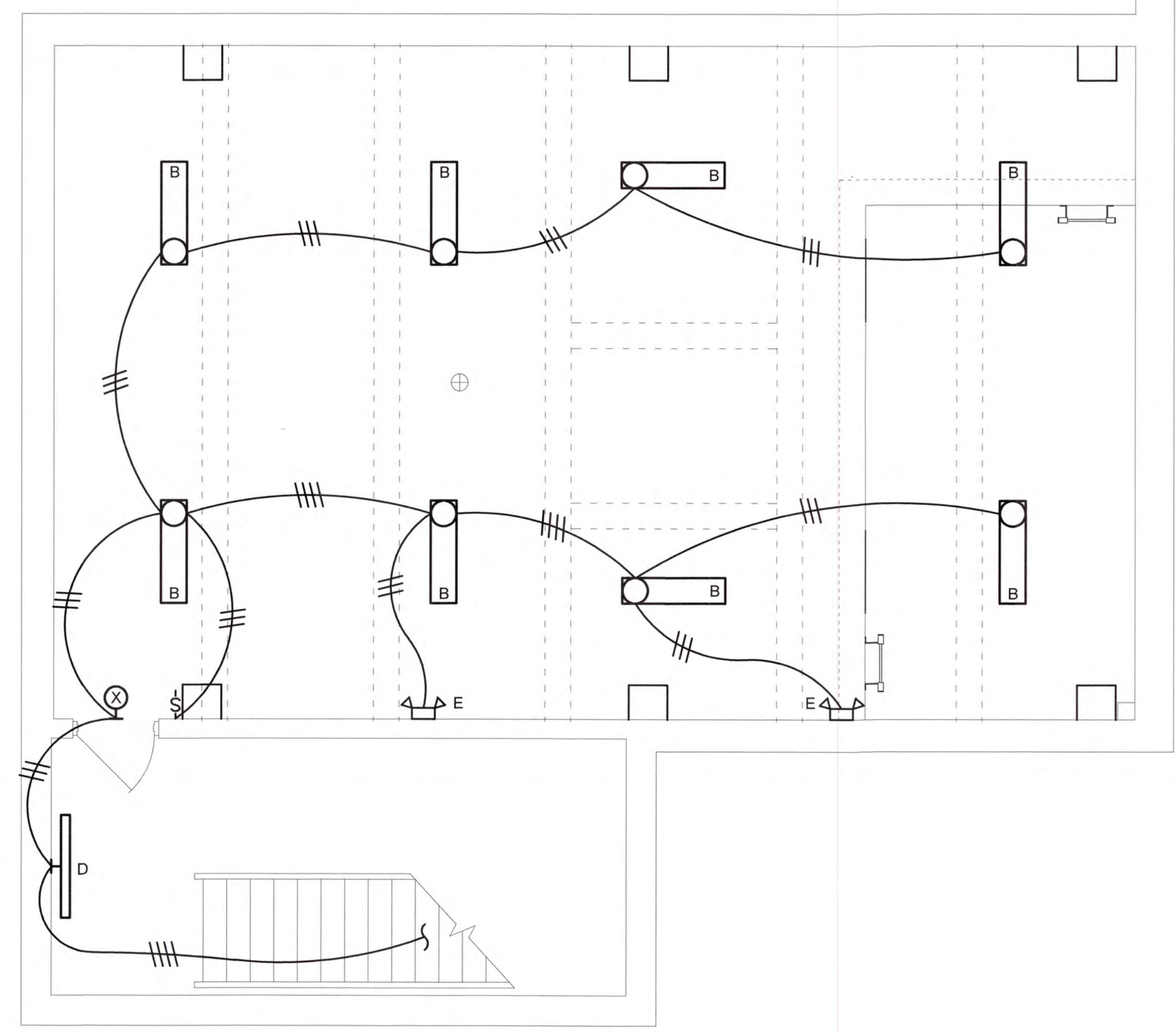
CLARKS HILL BLDG
 HVAC PLANS

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DESIGNED	JLS	REF.	1631-00	DWG NO.
DRAWN	JLS	DATE	NOV 2020	4H1
QC		SCALE	1/4"=1'-0"	



UPPER LIGHTING PLAN
SCALE: 1/4"=1'-0"

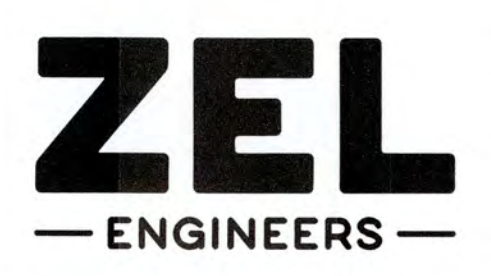


LOWER LIGHTING PLAN
SCALE: 1/4"=1'-0"

J:\2016\1631 Columbia County Water Utility\1631-00 Branch and Clark Hill VFP UV Peroxide Design\Drawings\1631-00-UE-1631.dwg, 12/29/2020 2:56:41 PM, KChalder, HP Designer, T2500 Plot 2.pcl, 1:1



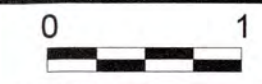
NO.	DATE	REVISION	BY	APVD



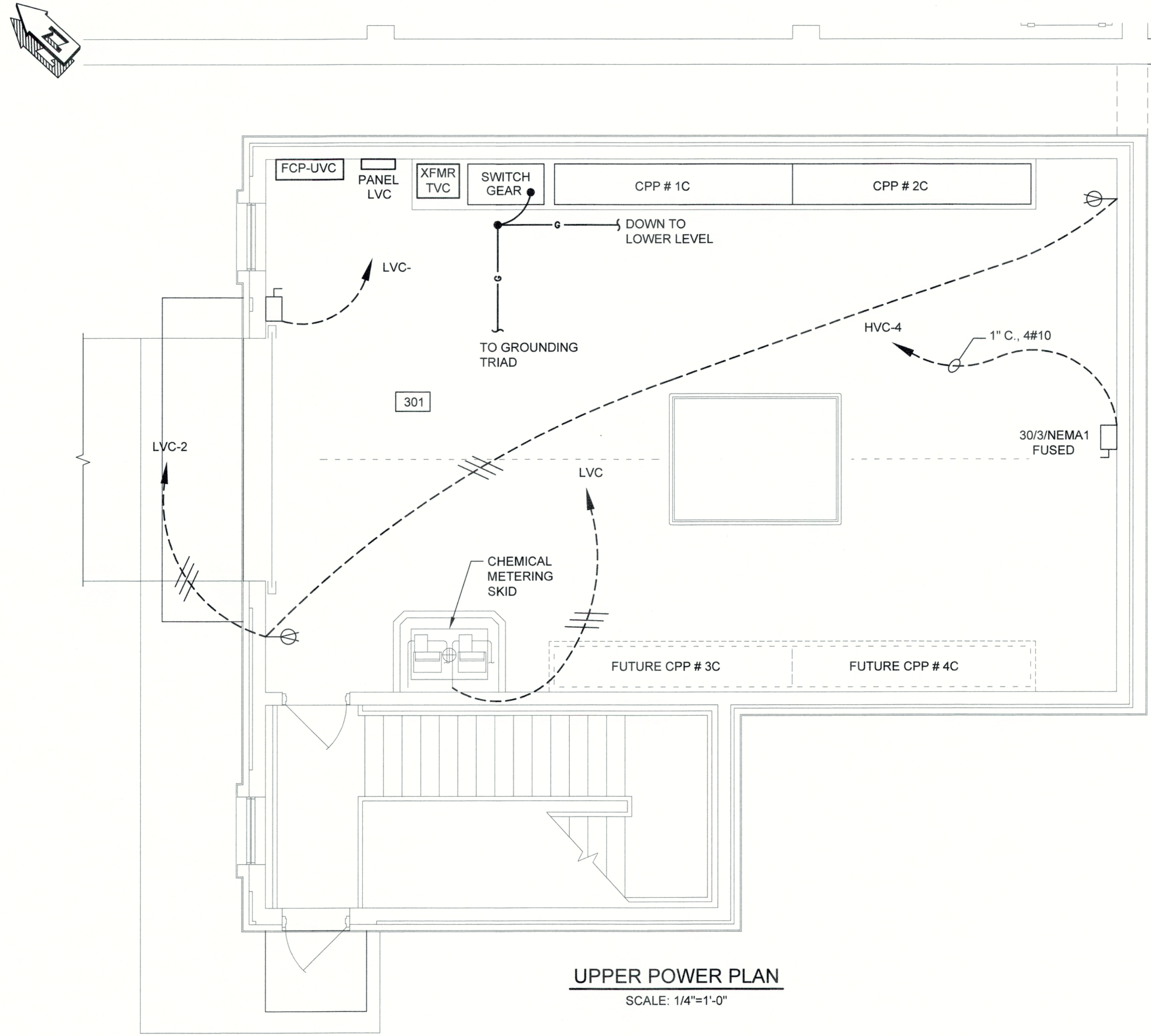
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COLUMBIA COUNTY, GEORGIA
UV / ADVANCED OXIDATION TREATMENT
CLARKS HILL UV BUILDING
LIGHTING PLAN

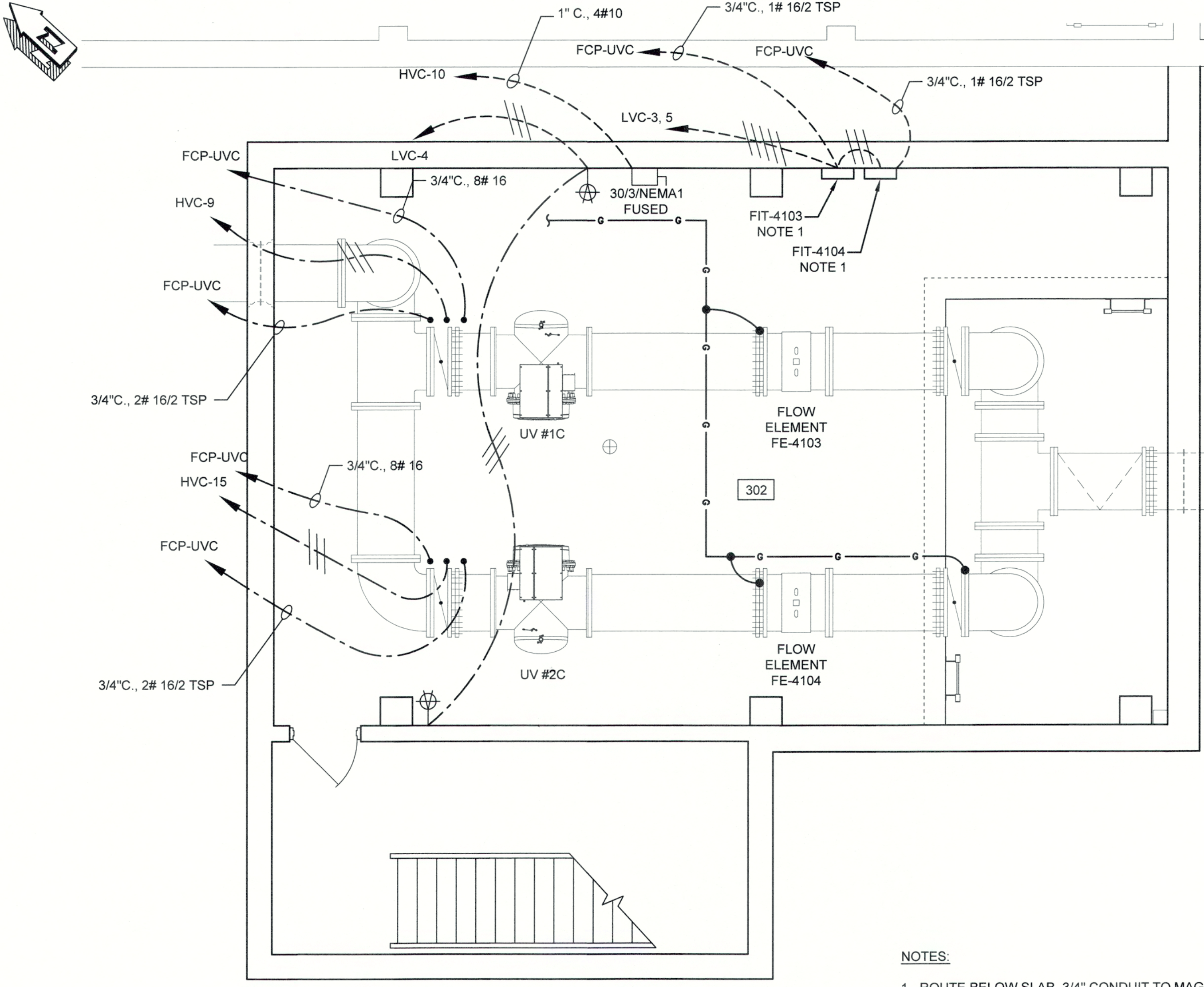
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DRAWN		KDC	DATE	DEC 2020	4E1
QC			SCALE	N/A	



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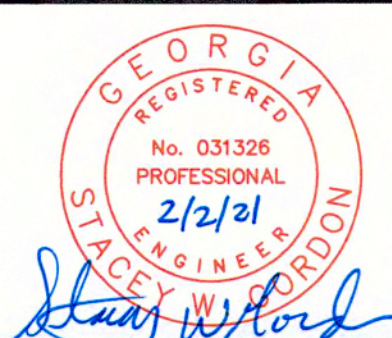
UPPER POWER PLAN
SCALE: 1/4"=1'-0"



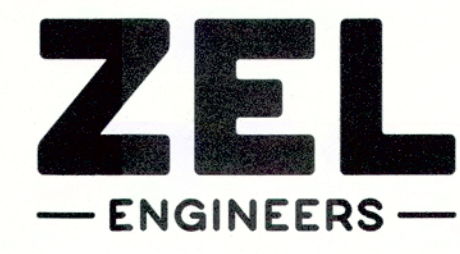
LOWER POWER PLAN
SCALE: 1/4"=1'-0"

- NOTES:**
- ROUTE BELOW SLAB 3/4" CONDUIT TO MAGNETIC FLOW ELEMENT.
 - ROUTE BELOW SLAB 3/4" CONDUIT TO FUTURE MAGNETIC FLOW ELEMENT.
 - THERE ARE ONE(1) ROOF TOP UNITS ABOVE ROOM 301 (RTU-1C). ROUTE 1 1/2" C., 3#4, 1#8 FROM HVAC UNIT TO SWITCH GEAR SG-C. UNIT INCLUDES INTEGRAL DISCONNECT.
 - SEE DETAIL ON 1E1 FOR TYPICAL GROUNDING REQUIREMENTS.
 - PROVIDE GROUNDING BONDING TO UPPER LEVEL HOIST BEAM.
 - COORDINATE LOCATION OF HOIST AND CRANE DISCONNECTS WITH EQUIPMENT MANUFACTURER.
 - SEE 4E3 FOR WIRING AND CONDUIT SCHEDULE.

J:\2016\1631 Columbia County Water Utility\1631-00_Benchmark and Clarke Hill WTP\16-Permit\Design\Drawings\1631-00_4E2.dwg, 2/2/21 10:31:05 AM, KChandler, HP Design\17500 Plot 2.dwg, 1:1



NO.	DATE	REVISION	BY	APVD



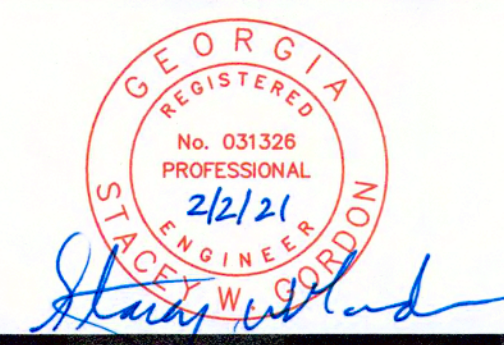
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COLUMBIA COUNTY, GEORGIA
UV / ADVANCED OXIDATION TREATMENT
CLARKS HILL UV BUILDING
POWER PLAN

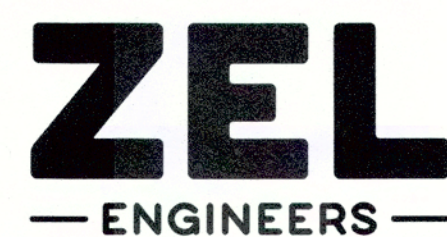
DESIGNED		SWG	REF.	1631-00	DWG NO.
DRAWN		KDC	DATE	DEC 2020	4E2
QC			SCALE	N/A	

CLARKS HILL UV WIRING SCHEDULE									
ID NO.	DESCRIPTION	CONDUIT	CONDUCTORS	VOLTAGE/ PHASE	SERVICE FROM	SERVICE TO	COMMENTS	ID NO.	
401	CPP #1A POWER	2 1/2"	3#350 MCM, 1#4G	480/3	SWITCH GEAR "SGC"	CPP # 1A		401	
402	UV #1A CHAMBER POWER	2"	32#12 AWG(HV), 1#8G	10KV	CPP #1A	UV # 1A	WIRE PROVIDED BY EQUIPMENT MANUFACTURER	402	
403	UV #1A SENSOR CONTROLS	1"	10 # 22/2 SHIELDED MULTI-PAIR	24 VDC	CPP #1A	UV # 1A	ALPHA - WIRE P/N 86710 CY OR EQUAL	403	
404	ETHERNET/IP COMMUNICATION	3/4"	SHIELDED CAT 5E	-	CPP #1A	FCP-UVC	PROVIDE RJ45 CONNECTORS	404	
405	UV #1A CONTROL SIGNAL	3/4"	11 # 16 AWG, 1 # 16G	24 VDC	CPP #1A	UV # 1A		405	
406	UV SYSTEM STATUS INFORMATION	3/4"	12#16 AWG	-	CPP #1A	FCP-UVC		406	
407	UV INTENSITY & DOSE DELIVERED	3/4"	2 # 16/2 TSP	-	CPP #1A	FCP-UVC		407	
408	DISCRETE REACTOR CONTROLS	1"	20 # 16 AWG	-	UV # 1A	FCP-UVC	WIRE PROVIDED BY EQUIPMENT MANUFACTURER	408	
409	ANALOG REACTOR CONTROLS	3/4"	2 # 16/2 TSP	-	UV # 1A	FCP-UVC	WIRE PROVIDED BY EQUIPMENT MANUFACTURER	409	
410	SPARE	1"	-	-	UV # 1A	CPP # 1A		410	
411	CPP #2A POWER	2 1/2"	3#350 MCM, 1#4G	480/3	SWITCH GEAR "SGC"	CPP # 2A		411	
412	UV #2A CHAMBER POWER	2"	32#12 AWG(HV), 1#8G	10KV	CPP #2A	UV # 2A	WIRE PROVIDED BY EQUIPMENT MANUFACTURER	412	
413	UV #2A SENSOR CONTROLS	1"	10 # 22/2 SHIELDED MULTI-PAIR	24 VDC	CPP #2A	UV # 2A	ALPHA - WIRE P/N 86710 CY OR EQUAL	413	
414	ETHERNET/IP COMMUNICATION	3/4"	SHIELDED CAT 5E	-	CPP #2A	FCP-UVC	PROVIDE RJ45 CONNECTORS	414	
415	UV #2A CONTROL SIGNAL	3/4"	11 # 16 AWG, 1 # 16G	24 VDC	CPP #2A	UV # 2A		415	
416	UV SYSTEM STATUS INFORMATION	3/4"	12#16 AWG	-	CPP #2A	FCP-UVC		416	
417	UV INTENSITY & DOSE DELIVERED	3/4"	2 # 16/2 TSP	-	CPP #2A	FCP-UVC		417	
418	DISCRETE REACTOR CONTROLS	1"	20 # 16 AWG	-	UV # 2A	FCP-UVC	WIRE PROVIDED BY EQUIPMENT MANUFACTURER	418	
419	ANALOG REACTOR CONTROLS	3/4"	2 # 16/2 TSP	-	UV # 2A	FCP-UVC	WIRE PROVIDED BY EQUIPMENT MANUFACTURER	419	
420	SPARE	1"	-	-	UV # 2A	CPP # 2A		420	
421	CPP #3A POWER	2 1/2"	-	480/3	SWITCH GEAR "SGC"	CPP # 3A	SPARE FOR FUTURE	421	
422	UV #3A CHAMBER POWER	2"	-	10KV	CPP #3A	UV # 3A	SPARE FOR FUTURE	422	
423	UV #3A SENSOR CONTROLS	1"	-	24 VDC	CPP #3A	UV # 3A	SPARE FOR FUTURE	423	
424	ETHERNET/IP COMMUNICATION	3/4"	-	-	CPP #3A	FCP-UVC	SPARE FOR FUTURE	424	
425	UV #3A CONTROL SIGNAL	3/4"	-	24 VDC	CPP #3A	UV # 3A	SPARE FOR FUTURE	425	
426	UV SYSTEM STATUS INFORMATION	3/4"	-	-	CPP #3A	FCP-UVC	SPARE FOR FUTURE	426	
427	UV INTENSITY & DOSE DELIVERED	3/4"	-	-	CPP #3A	FCP-UVC	SPARE FOR FUTURE	427	
428	DISCRETE REACTOR CONTROLS	1"	-	-	UV # 3A	FCP-UVC	SPARE FOR FUTURE	428	
429	ANALOG REACTOR CONTROLS	3/4"	-	-	UV # 3A	FCP-UVC	SPARE FOR FUTURE	429	
430	SPARE	1"	-	-	UV # 3A	CPP # 3A	SPARE FOR FUTURE	430	
431	CPP #4A POWER	2 1/2"	-	480/3	SWITCH GEAR "SGC"	CPP # 4A	SPARE FOR FUTURE	431	
432	UV #4A CHAMBER POWER	2"	-	10KV	CPP #4A	UV # 4A	SPARE FOR FUTURE	432	
433	UV #4A SENSOR CONTROLS	1"	-	24 VDC	CPP #4A	UV # 4A	SPARE FOR FUTURE	433	
434	ETHERNET/IP COMMUNICATION	3/4"	-	-	CPP #4A	FCP-UVC	SPARE FOR FUTURE	434	
435	UV #4A CONTROL SIGNAL	3/4"	-	24 VDC	CPP #4A	UV # 4A	SPARE FOR FUTURE	435	
436	UV SYSTEM STATUS INFORMATION	3/4"	-	-	CPP #4A	FCP-UVC	SPARE FOR FUTURE	436	
437	UV INTENSITY & DOSE DELIVERED	3/4"	-	-	CPP #4A	FCP-UVC	SPARE FOR FUTURE	437	
438	DISCRETE REACTOR CONTROLS	1"	-	-	UV # 4A	FCP-UVC	SPARE FOR FUTURE	438	
439	ANALOG REACTOR CONTROLS	3/4"	-	-	UV # 4A	FCP-UVC	SPARE FOR FUTURE	439	
440	SPARE	1"	-	-	UV # 4A	CPP # 4A	SPARE FOR FUTURE	440	

J:\2016\161 Columbia County Water Utility\161-00 Branch and Clarks Hill WTP UV Preoxidation Design\Drawings\161-00-EE-001.dwg, 2/2/21 10:30:02 AM, KChiller, HP, DesignJet T7300 Roll 2, ps, 11



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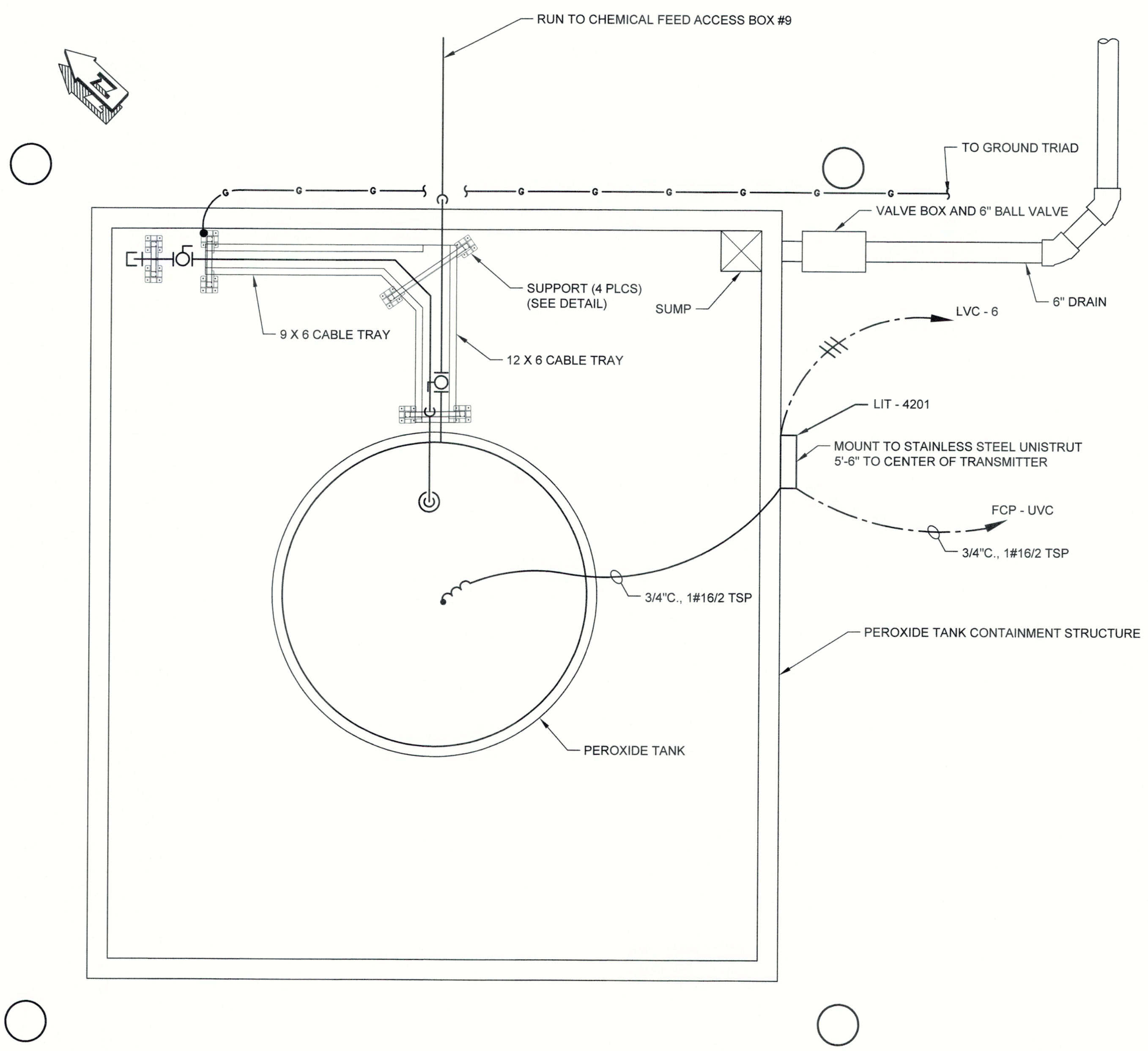
COLUMBIA COUNTY, GEORGIA

UV / ADVANCED OXIDATION TREATMENT

CLARKS HILL UV BUILDING
 WIRING SCHEDULE

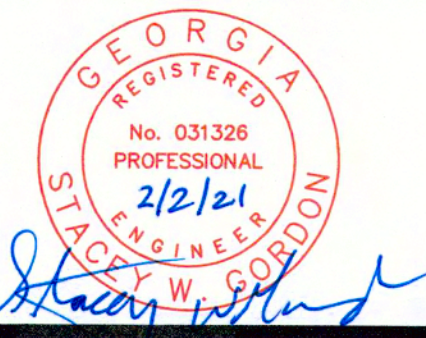
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DRAWN	KDC	DATE	DEC 2020	4E3
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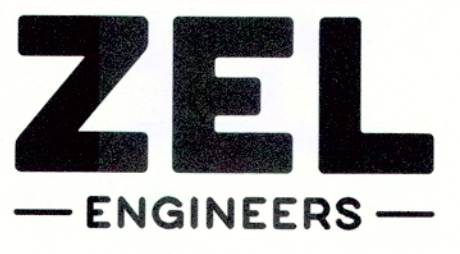


PEROXIDE TANK ELECTRICAL PLAN
SCALE: 1"=2'

J:\2016\1631 Columbia County Water Utility\1631-00 Blanchard and Clarks Hill WTP UV Peroxide Design\Drawings\1631-00-4E4.dwg, 2/2/2021 10:29:12 AM, KChalkier, HP Designjet T2500 Roll 2.pcl, 1:1



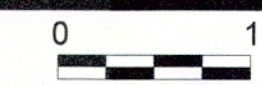
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COLUMBIA COUNTY, GEORGIA

UV / ADVANCED OXIDATION TREATMENT
CLARKS HILL PEROXIDE TANK
ELECTRICAL PLAN

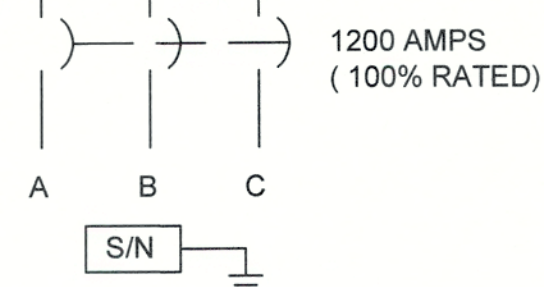


IF THIS BAR DOES NOT MEASURE 1" DRAWING IS NOT TO LABELED SCALE

DESIGNED	SWG	REF.	1631-00
DRAWN	KDC	DATE	DEC 2020
QC		SCALE	N/A

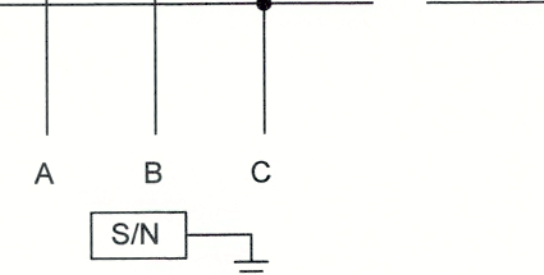
DWG NO.
4E4

LOAD VA	LOAD	NO.		NO.	LOAD	LOAD VA
		1		2		
202,000	CPP # 1C (NOTE 1)	3	300	4	CPP # 2C (NOTE 1)	202,000
		5		6		
		7		8		
	SPARE (NOTE 1)	9	300	10	SPARE (NOTE 1)	
		11		12		
		13		14		
51,500	RTU - 1C*	15	70	16	EUH - 1C	30,000
		17		18		
		19		20		
	SPARE*	21	70	22	PANEL HVC	37,000
		23		24		
		25		26		
		27		28		
		29		30		
		31		32		
		33		34		
		35		36		
		37		38		
		39		40		
		41		42		



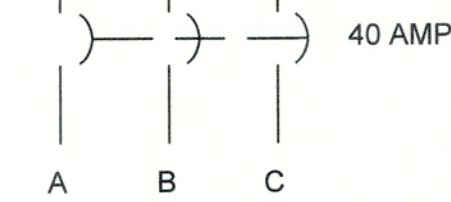
SWITCH GEAR SGC
480 VOLT, 3Ø, 4 WIRE, SURFACE MOUNT
 (ALL CIRCUIT BREAKERS RATED 20 AMPERES UNLESS NOTED)
 * HVAC UNIT

LOAD VA	LOAD	NO.		NO.	LOAD	LOAD VA
		1		2		
15,000	XFMR TVC	3		4	HOIST	8,500
		5		6		
		7		8		
700	VALVE 9	9		10	BRIDGE CRANE	10,000
		11		12		
		13		14		
700	VALVE 11	15		16	F - 1C	1750
		17		18		
		19		20		
		21		22		
		23		24		
		25		26		
		27		28		
		29		30		

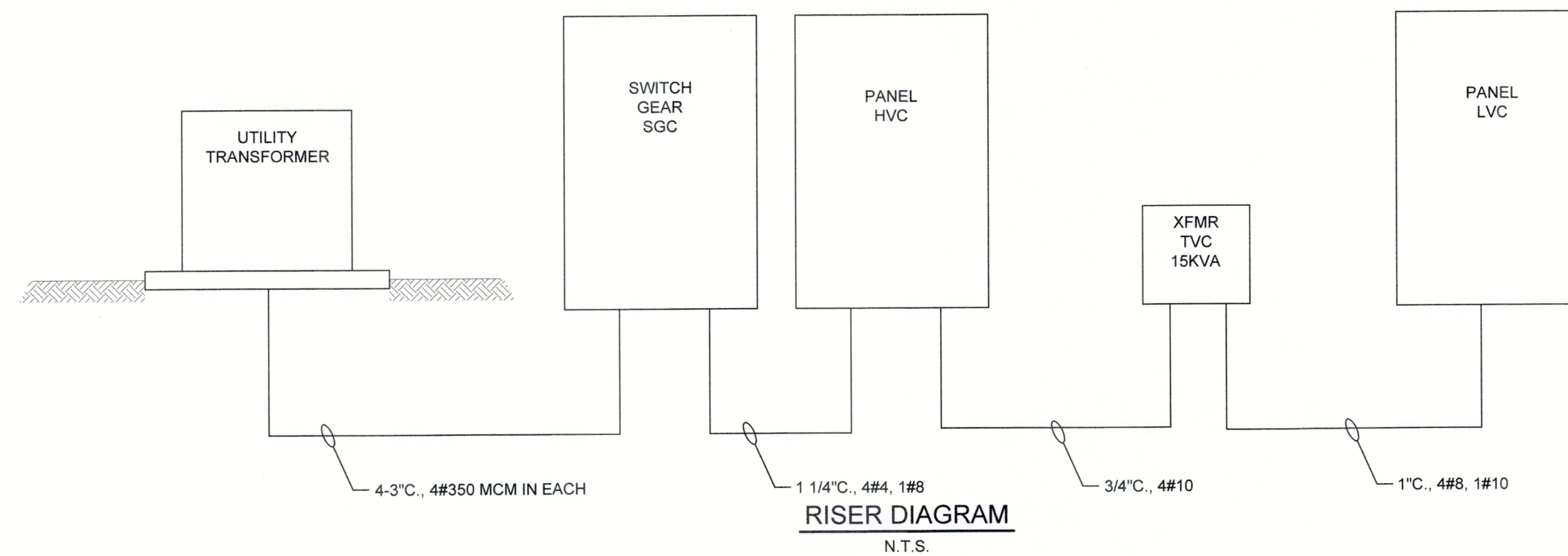


PANEL HVC M.L.O.
480 VOLT, 3Ø, 4 WIRE, SURFACE MOUNT
 (ALL CIRCUIT BREAKERS RATED 20 AMPERES UNLESS NOTED)

LOAD VA	LOAD	NO.		NO.	LOAD	LOAD VA
1200	LIGHTS	1		2	RECEPT	540
500	FIT - 4103	3		4	RECEPT	540
500	FIT - 4104	5		6	LIT - 4201	500
		7		8	ROLL UP DOOR	1600
1000	H2O2 PANEL	9	30	10	SPARE	
		11		12	SPARE	
		13		14		
		15		16		
		17		18		
		19		20		
		21		22		
		23		24		
		25		26		
		27		28		
		29		30		

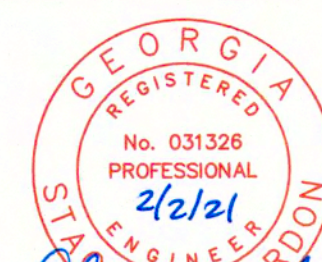


PANEL LVC
208 VOLT, 3Ø, 4 WIRE, SURFACE MOUNT
 (ALL CIRCUIT BREAKERS RATED 20 AMPERES UNLESS NOTED)

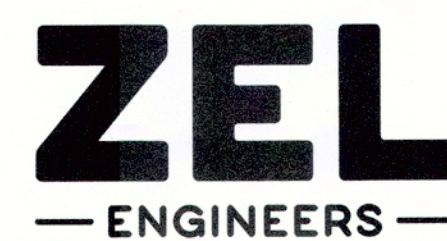


NOTES:
 1. IN SWITCH GEAR SGC ALL CONTROL POWER PANEL (CPP) BREAKERS SHALL BE ELECTRONIC TRIP UNITS WITH 300 AT/ 400 AF.

J:\2016\1631 Columbia County Water Utility\1631-00-4E5.dwg, 2/2/21 10:28:45 AM, KChalker, HP Designjet 7500 Roll 2.pcl, 11



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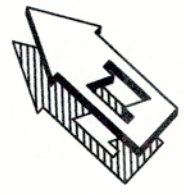
COLUMBIA COUNTY, GEORGIA

UV / ADVANCED OXIDATION TREATMENT

CLARKS HILL
 PANEL SCHEDULE AND RISER DIAGRAM

0 1 IF THIS BAR DOES NOT MEASURE 1" DRAWING IS NOT TO LABELED SCALE

DESIGNED	SWG	REF.	1631-00	DWG NO.
DRAWN	KDC	DATE	DEC 2020	4E5
QC		SCALE	N/A	



EXISTING ACCESS ROAD

EXISTING CLEARWELL

EXISTING PIPING GALLERY

H2O2 MONITOR

3/4" C., 4#10

LVC - 9

UV TREATMENT BUILDING

CHEMICAL FEED DUCTBANK #5

CHEMICAL FEED ACCESS BOX #9

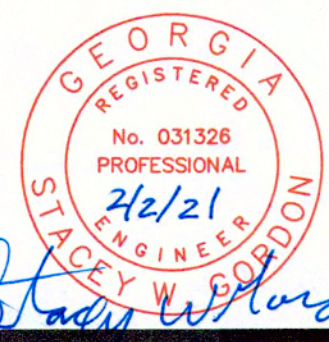
PEROXIDE TANK

GEORGIA POWER TRANSFORMER

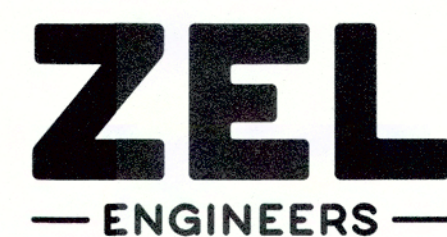
ELECTRICAL SITE PLAN

SCALE: 1"=5'

J:\2016\1631 Columbia County Water Utility\1631-00 Electrical and Controls Hill WTP\1631-00 Electrical Design\Drawings\1631-00_EE.dwg, 2/2/2021 10:28:16 AM, KChaker, HP Design\PT 12500 Rev 2.ppt, 11



NO.	DATE	REVISION	BY	APVD

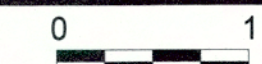


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COLUMBIA COUNTY, GEORGIA

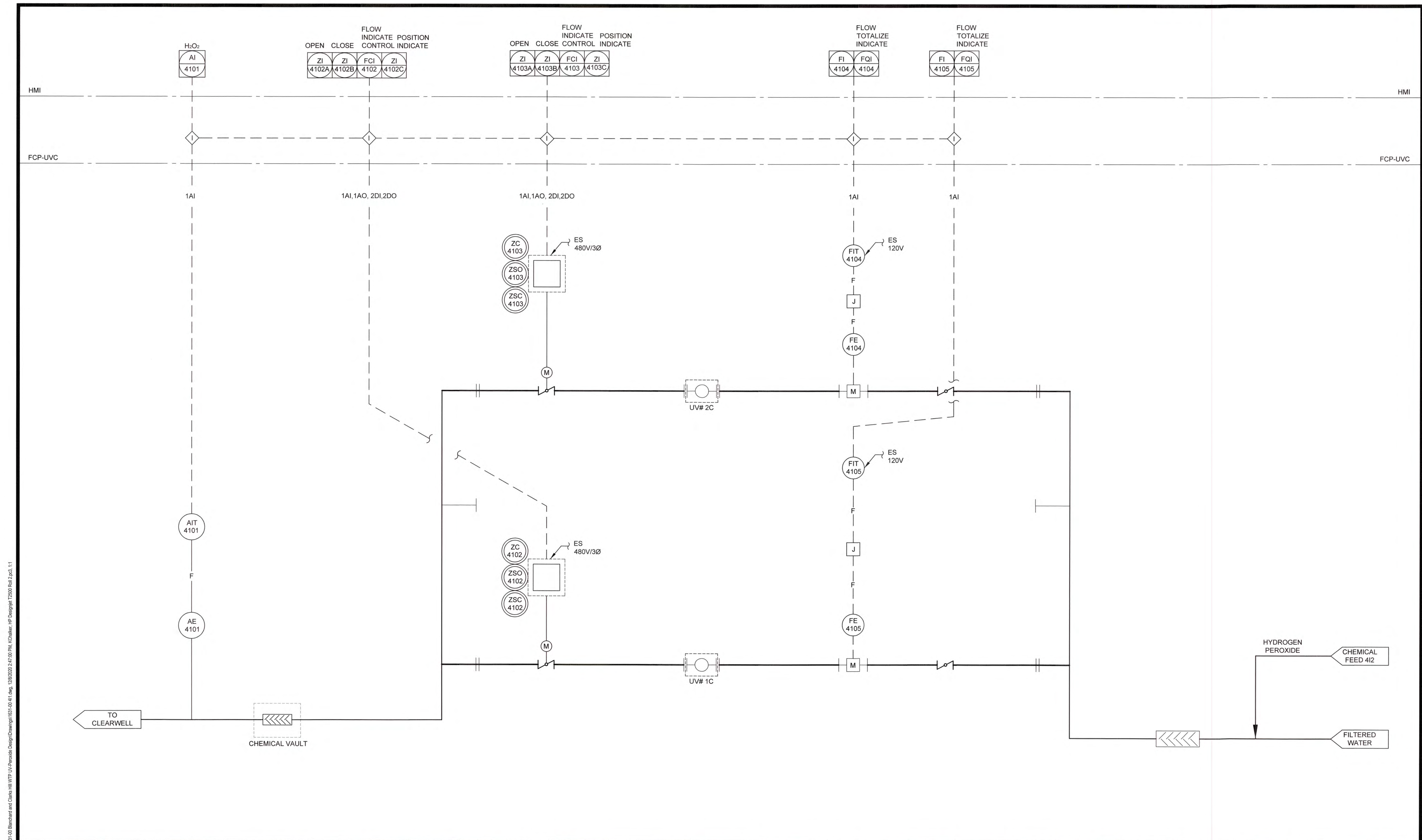
UV / ADVANCED OXIDATION TREATMENT

CLARKS HILL
ELECTRICAL SITE PLAN

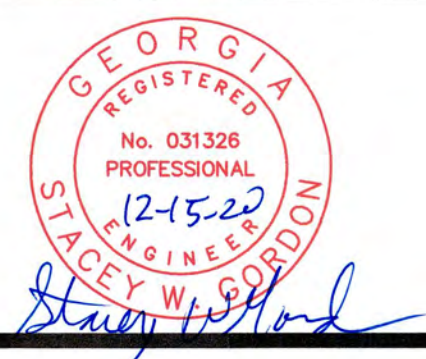


IF THIS BAR DOES NOT MEASURE 1" DRAWING IS NOT TO LABELED SCALE

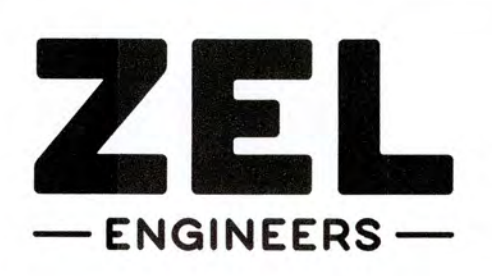
DESIGNED	SWG	REF.	1631-00	DWG NO.
DRAWN	KDC	DATE	DEC 2020	4E6
QC		SCALE	AS SHOWN	



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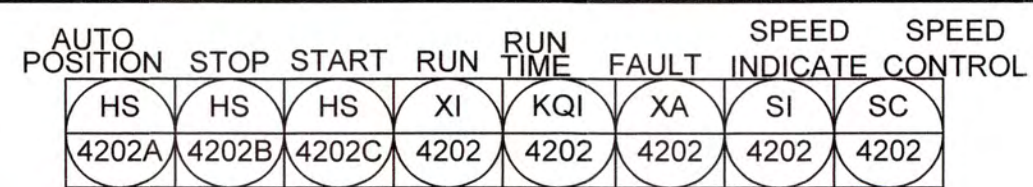
NO.	DATE	REVISION	BY	APVD



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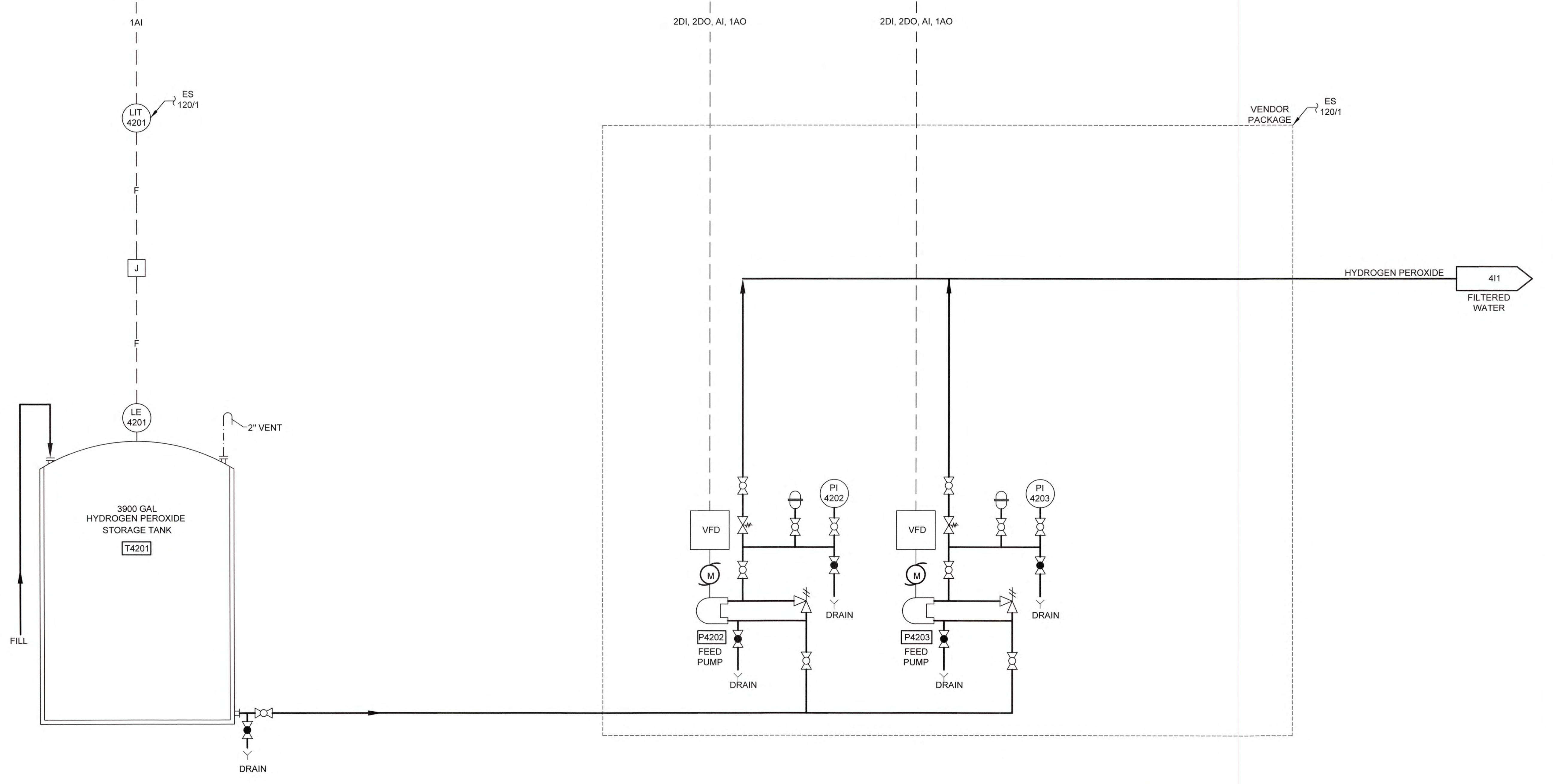
COLUMBIA COUNTY, GEORGIA
 UV / ADVANCED OXIDATION TREATMENT
 CLARKS HILL
 P & ID - UV TREATMENT TRAIN

DESIGNED		SWG	REF.	1631-00	DWG NO.
DRAWN		KDC	DATE	DEC 2020	411
QC			SCALE	N/A	



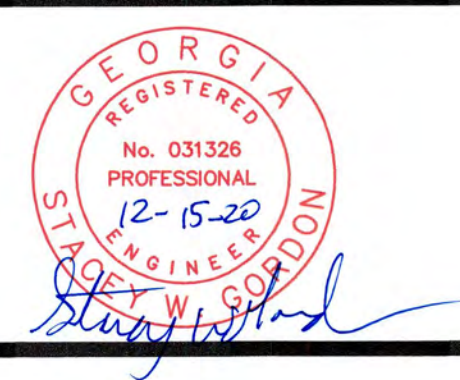
HMI

FCP - UVC

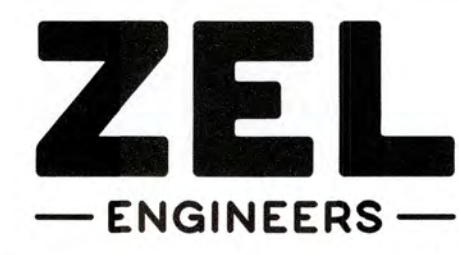


HYDROGEN PEROXIDE METERING PUMPS

J:\2016\151 Columbia County Water Utility\151-00\Benchmarks and Details Hill WTP\UVC\Process Design\Drawings\151-00-422.DWG, 12/22/20 2:46:08 PM, KChalke, HP Design\17250 Rev 1.pcd, 11



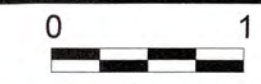
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COLUMBIA COUNTY, GEORGIA
 UV / ADVANCED OXIDATION TREATMENT
 CLARKS HILL
 P & ID - CHEMICAL FEED SYSTEM

DESIGNED		SWG	REF.	1631-00	DWG NO.
DRAWN		KDC	DATE	DEC 2020	412
QC			SCALE	N/A	



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