



PROJECT SITE

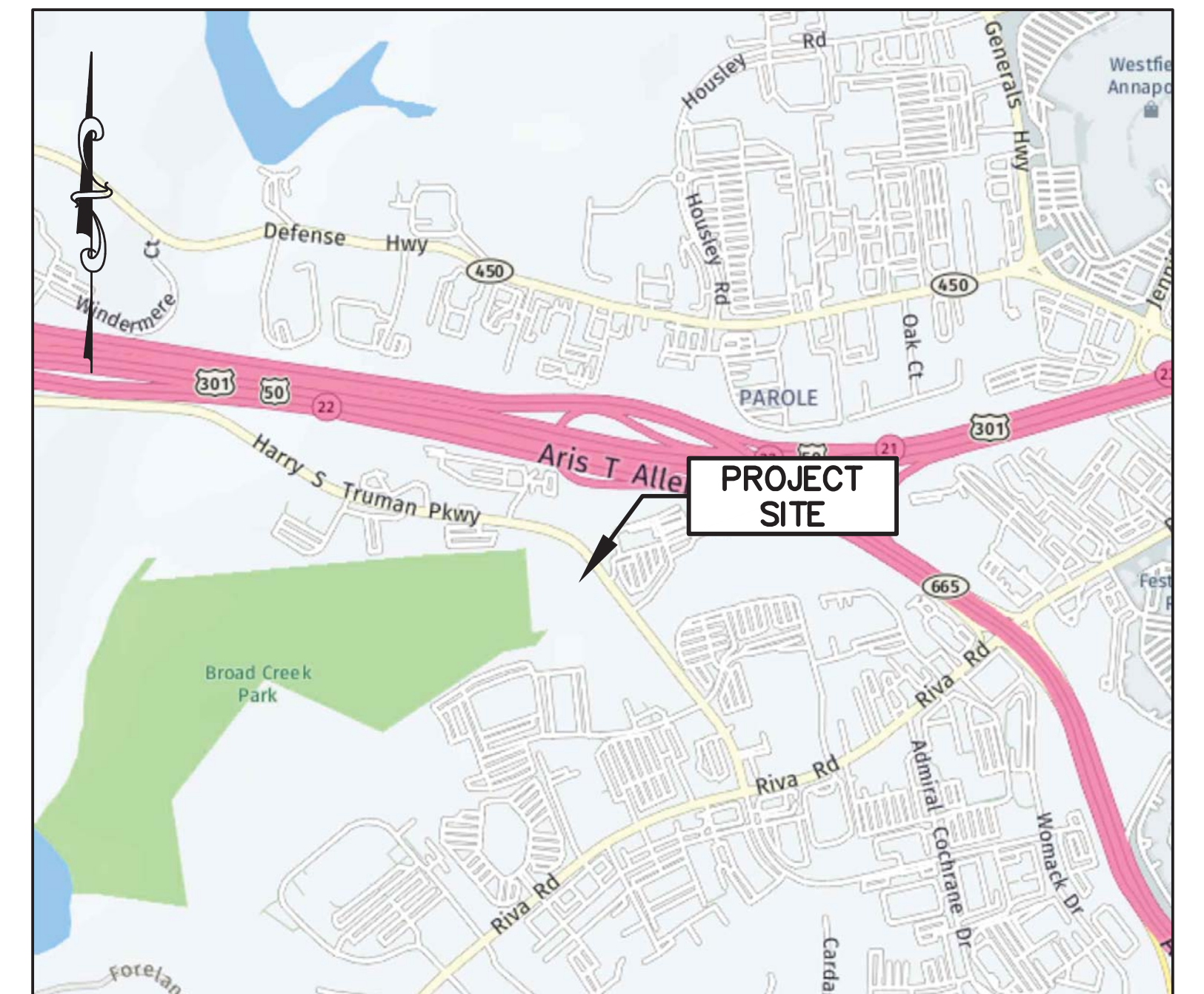
LOCATION MAP
SCALE: NOT TO SCALE

ANNE ARUNDEL COUNTY, MARYLAND DEPARTMENT OF PUBLIC WORKS BROAD CREEK II WTP NEW OPERATOR BUILDING

PROJECT NO.: W804000
CONTRACT NO.: W804010



Know what's below.
Call before you dig.




VICINITY MAP
SCALE: 1" = 1,000'
MAP DATA ©2022 NEARMAP
1"=1,000' 1,000' 500' 0 1,000' 2,000'

STANDARD RESPONSIBILITY NOTES

- I (WE) CERTIFY THAT:
 - ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE IN ACCORDANCE WITH THIS SEDIMENT AND EROSION CONTROL PLAN, AND FURTHER, AUTHORIZE THE RIGHT OF ENTRY FOR PERIODIC ON-SITE EVALUATION BY THE ANNE ARUNDEL SOIL CONSERVATION DISTRICT (AASCD) BOARD OF SUPERVISORS OR THEIR AUTHORIZED AGENTS.
 - ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE FROM THE MARYLAND DEPARTMENT OF THE ENVIRONMENT'S APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT.

RESPONSIBLE PERSONNEL ON SITE: _____
 - IF APPLICABLE, THE APPROPRIATE ENCLOSURE WILL BE CONSTRUCTED AND MAINTAINED ON SEDIMENT BASIN(S) INCLUDED IN THIS PLAN. SUCH STRUCTURE(S) WILL BE IN COMPLIANCE WITH THE ANNE ARUNDEL COUNTY CODE.
- THE OWNER IS RESPONSIBLE FOR THE ACQUISITION OF ALL EASEMENTS, RIGHTS AND/OR RIGHTS-OF-WAY THAT MAY BE REQUIRED FOR THE SEDIMENT AND EROSION CONTROL PRACTICES, STORMWATER MANAGEMENT PRACTICES AND THE DISCHARGE OF STORMWATER ONTO OR ACROSS ADJACENT OR DOWNSTREAM PROPERTIES INCLUDED IN THE PLAN.
- FOR INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT AND/OR TEMPORARY STABILIZATION PER THE AASCD VEGETATIVE ESTABLISHMENT SHALL BE COMPLETED WITHIN THREE CALENDAR DAYS FOR THE SURFACE OF ALL CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND SEVEN DAYS FOR ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- THE GRADING AND SEDIMENT CONTROL APPROVAL ON THIS PLAN EXTEND ONLY TO THOSE AREAS WITHIN THE LIMITS OF DISTURBANCE.
- THE APPROVAL OF THIS PLAN FOR SEDIMENT AND EROSION CONTROL DOES NOT RELIEVE THE OWNER/CONSULTANT FROM COMPLYING WITH FEDERAL, STATE OR COUNTY REQUIREMENTS PERTAINING TO ENVIRONMENTAL ISSUES.
- THE OWNER MUST REQUEST THAT THE SEDIMENT AND EROSION CONTROL INSPECTOR APPROVE WORK COMPLETED IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLAN, THE GRADING OR BUILDING PERMIT, AND THE ORDINANCE.
- ALL MATERIAL SHALL BE TAKEN TO A SITE WITH AN APPROVED SEDIMENT AND EROSION CONTROL PLAN.
- FIRST PHASE INSPECTION AND APPROVAL OF THE SEDIMENT AND EROSION CONTROL INSPECTOR SHALL BE REQUIRED UPON COMPLETION OF THE INSTALLATION OF EROSION AND SEDIMENT CONTROLS PRIOR TO PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THE INITIAL APPROVAL BY THE SEDIMENT AND EROSION CONTROL INSPECTOR IS GIVEN. INSPECTION AND PERMITS MAY ALSO REQUIRE THAT AN INSPECTION AND CERTIFICATION OF THE INSTALLATION OF SEDIMENT CONTROL ALSO BE PERFORMED BY A DESIGN PROFESSIONAL PRIOR TO CONSTRUCTION COMMENCING.
- APPROVAL FROM THE INSPECTOR MUST BE REQUESTED ON FINAL STABILIZATION OF ALL SITES BEFORE REMOVAL OF SEDIMENT AND EROSION CONTROLS.
- EXISTING TOPOGRAPHY MUST BE FIELD VERIFIED BY RESPONSIBLE PERSONNEL TO THE SATISFACTION OF THE SEDIMENT CONTROL INSPECTOR PRIOR TO COMMENCING WORK.

SIGNATURE(S) OF OWNER:  DATE: 5/17/2023

PRINT: NAME: CHRISTOPHER P. MURPHY, P.E.
TITLE: ENGINEER ADMINISTRATOR
AFFILIATION: ANNE ARUNDEL COUNTY DPW
ADDRESS: 445 MAXWELL FRYE ROAD, BUILDING A
MILLERSVILLE, MD 21108
TELEPHONE NUMBER: (410) 222-4417
EMAIL ADDRESS: pwmurp21@accounty.org

CONSULTANT'S CERTIFICATION

THE DEVELOPER'S PLAN TO CONTROL SILT AND EROSION IS ADEQUATE TO CONTAIN THE SILT AND EROSION ON THE PROPERTY COVERED BY THE PLAN. I CERTIFY THAT THIS PLAN OF EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THIS SITE, AND WAS PREPARED IN ACCORDANCE WITH REQUIREMENTS OF THE AASCD PLAN SUBMITTAL GUIDELINES AND THE CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. I HAVE REVIEWED THIS EROSION AND SEDIMENT CONTROL PLAN WITH THE OWNER/DEVELOPER.

MD P.E. License # 20566
MD Land Surveyor License # _____
MD Landscape Architect # _____
Name JOHN C. MOORE, PE
Firm Name RK&K
Address 700 EAST PRATT STREET, SUITE 500
City Baltimore State Maryland Zip Code 21202



SITE ANALYSIS:

- TOTAL AREA DISTURBED: 15,100± SF
- PROPOSED DISTURBANCE:
SITE GRADING: 13,378 SF
BUILDING: 1,600 SF
SIDEWALKS/IMPERVIOUS AREAS: 122 SF
- PROPOSED WORK: BUILDING CONSTRUCTION AND ASSOCIATED SITE WORK
- CUT: APPROXIMATELY 1,293 CUBIC YARDS FILL
- OFFSITE WASTE/BORROW AREA LOCATION: TO BE DETERMINED BY CONTRACTOR

STORMWATER ANALYSIS

LIMIT OF DISTURBANCE:	0.43 AC
HYDROLOGIC SOIL GROUP C AREA:	0.43 AC
EXISTING IMPERVIOUS AREA:	0.02 AC
PROPOSED IMPERVIOUS AREA:	0.04 AC
TOTAL IMPERVIOUS AREA:	0.06 AC
PROPOSED PERCENT IMPERVIOUS COVER:	12%
RCN WOODS IN GOOD CONDITION:	70
DRAINAGE AREA:	0.06 AC
DRAINAGE AREA IMPERVIOUS:	0.04 AC
RAINFALL TARGET, P _E :	1.00 IN
PROVIDED RAINFALL, P _E :	2.00 IN
RUNOFF DEPTH, Q _E :	0.158 IN
REQUIRED ESD _v :	249 CF
PROVIDED ESD _v :	260 CF

WATERSHED: SOUTH RIVER (MDE-8:02131003)
BROAD CREEK (DNR-12:021310030993)

OWNER

ANNE ARUNDEL COUNTY
DEPARTMENT OF PUBLIC WORKS
HERITAGE COMPLEX
2662 RIVA ROAD
ANNAPOLIS, MD 21401
(410) 222-7500

GENERAL NOTES:

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CURRENT ANNE ARUNDEL COUNTY STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION, PROJECT SPECIAL PROVISIONS AND AMENDMENTS THERETO.

(A) BASE TOPO DATED APRIL 27, 2022 WAS PROVIDED BY RK&K, HORIZONTAL CONTROL BASED ON NAVD-83/11. VERTICAL CONTROL BASED ON NAVD-88 AND BASED ON ANNE ARUNDEL COUNTY SURVEY CONTROL STATIONS.

(B) CONSTRUCTION SHALL CONFORM TO ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS, REGULATIONS, REQUIREMENTS, SPECIFICATIONS AND REQUIREMENTS.
- EXISTING WATER MAINS, SEWERS, AND OTHER UTILITIES ARE SHOWN FROM THE BEST AVAILABLE RECORDS. THE CONTRACTOR SHALL TEST PIT IN THE AREA OF KNOWN UTILITIES TO VERIFY SIZE, ELEVATION, LOCATION, AND TYPE PRIOR TO PERFORMING ANY WORK. ANY UTILITY, WHETHER SHOWN OR NOT, THAT IS DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED IMMEDIATELY AT NO EXPENSE TO THE OWNER. SHOULD THE CONTRACTOR DISCOVER DISCREPANCIES BETWEEN THE PLANS AND FIELD CONDITIONS, THE OWNER IS TO BE NOTIFIED IMMEDIATELY. SHOULD THE CONTRACTOR MAKE FIELD CORRECTIONS OR ADJUSTMENTS WITHOUT THE AUTHORIZATION OF THE OWNER, THEN THE CONTRACTOR ASSUMES THE RESPONSIBILITY FOR SAID CORRECTIONS AND ADJUSTMENTS.
- ANY NECESSARY ADJUSTMENTS TO EXISTING MANHOLES, ETC. ARE TO BE DONE SO BY THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING AND REPLACING ANY EXISTING FENCES, DRIVEWAYS, SIGNS, DRAINAGE PIPES, SHRUBS, ETC. DAMAGED OR REMOVED DURING CONSTRUCTION. ALL DISTURBED AREAS SHALL BE RETURNED TO THEIR ORIGINAL CONDITION, OR BETTER. COST OF COMPLETING THIS WORK IS TO BE INCLUDED IN THE CONTRACTOR'S BASE BID.
- IT SHALL BE DISTINCTLY UNDERSTOOD THAT FAILURE TO MENTION SPECIFICALLY ANY WORK WHICH WOULD NORMALLY BE REQUIRED TO COMPLETE THE PROJECT SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO PERFORM SUCH WORK. ALL ITEMS SHOWN SHALL BE CONSTRUCTED UNDER THIS CONTRACT, UNLESS OTHERWISE SHOWN AS EXISTING OR FUTURE.
- THE CONTRACTOR SHALL NOTE THAT IN CASE OF DISCREPANCY BETWEEN THE SCALED AND THE FIGURED DIMENSIONS SHOWN ON THESE PLANS, FIGURED DIMENSIONS SHALL GOVERN.
- EXISTING UTILITIES SHOWN ON THE DRAWINGS ARE BASED ON AS-BUILT CONTRACT DRAWINGS AND FIELD OBSERVATIONS. THE CONTRACTOR SHALL NOTIFY MISS UTILITY (1-800-257-7777) 72 HOURS PRIOR TO START OF CONSTRUCTION TO DETERMINE THE LOCATION OF EXISTING UTILITIES.
- CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO EXISTING ROADS, DRIVEWAYS, CULVERTS DRAINAGE DITCHES, DRAIN FIELDS, UTILITIES, PIPING, STRUCTURES, AND EQUIPMENT WHICH OCCURS AS A RESULT OF HIS WORK ON THIS PROJECT, AND SHALL REPAIR TO CURRENT CONDITION OR REPLACE ANY DAMAGED ITEMS.
- ALL WORK SHALL COMPLY WITH ALL APPLICABLE PROVISIONS OF THE MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL ISSUED BY THE WATER RESOURCES ADMINISTRATION, SOIL CONSERVATION SERVICE AND THE SOIL CONSERVATION COMMITTEE.
- THE MEASURES REQUIRED IN THE APPROVED SEDIMENT CONTROL PLAN SHALL APPLY AS SHOWN ON THESE PLANS AND SHALL BE COMPLETE AND IN SERVICE PRIOR TO CONSTRUCTION OF FACILITIES SHOWN ON THESE PLANS.

(CONT'D ON DWG. G-02)

Anne Arundel Soil Conservation District
Sediment and Erosion Control Approval

 Date _____

AASCD # _____
GPS _____
Pond # _____

DPW# 38863

JANUARY 2024 DWG. G-01



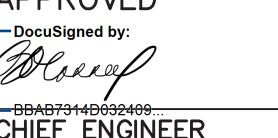


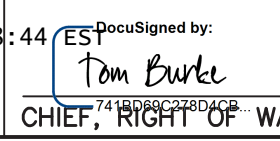
ENGINEERS | CONSTRUCTION MANAGERS | PLANNERS | SCIENTISTS
700 EAST PRATT STREET, SUITE 500 • BALTIMORE, MARYLAND 21202 • 410.728.2900

PROFESSIONAL CERTIFICATION.
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

LICENSE NO. 20566
EXPIRATION DATE: 09/06/2024



REVISIONS			
NO.	DESCRIPTION	BY	DATE

ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS			
APPROVED	DATE	APPROVED	DATE
	12/13/2023		12/12/2023
CHIEF ENGINEER		PROJECT MANAGER	
APPROVED	DATE	APPROVED	DATE
	12/13/2023		12/12/2023
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY SERVICES	

SCALE: AS SHOWN
DRAWN BY: RAD
CHECKED BY: JCM
SHEET NO.: 1 OF 36
PROJECT NO.: W804000
CONTRACT NO.: W804010

105766
BROAD CREEK II WTP
NEW OPERATOR BUILDING
TAX MAP: 050, GRID: 006, PARCEL: 315
TITLE SHEET AND NOTES
165 HARRY S TRUMAN PKWY, ANNAPOLIS, MD 21401
SECOND DISTRICT | ANNE ARUNDEL COUNTY | ZONED C2

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ABBREVIATIONS

ABAN. ABANDON, ABANDONED	MAX. MAXIMUM
ABV. ABOVE	M.H. MANHOLE
ADPT ADAPTER	MIN. MINIMUM
AFF ABOVE FINISHED FLOOR	M.J. MECHANICAL JOINT
& AND	N NORTH
APPROX. APPROXIMATELY	NaOCl SODIUM HYPOCHLORITE
ASPH. ASPHALT	NaOH SODIUM HYDROXIDE
AR., ARV AIR RELEASE VALVE	NC NORMALLY CLOSED
⊙ AT	N.E. NORTHEAST
B. BEND	N.I.C. NOT IN CONTRACT
BL. BASELINE	NO NORMALLY OPEN
BLDG. BUILDING	NO., # NUMBER
BF, B/F BLIND FLANGE	NPT NATIONAL PIPE THREAD
B.M. BENCH MARK	NPW NON-POTABLE WATER
BV BETWEEN	N.T.S. NOT TO SCALE
C. CONDUIT	N.W. NORTHWEST
C.C., C/C CENTER TO CENTER	O.C., O/C ON CENTER
CEN., C CENTER, CENTERLINE	OD. OUTSIDE DIAMETER
CFM CUBIC FEET PER MINUTE	OPNG. OPENING
CFS CUBIC FEET PER SECOND	PC POINT OF CURVATURE
C.I.P. CAST IRON PIPE	PCCP PRESTRESSED CONCRETE CYLINDER PIPE
CISP CAST IRON SOIL PIPE	PE PLAIN END
C.J. CONTROL JOINT, CONSTRUCTION JOINT	PROP. PROPOSED
CLR. CLEAR	PS PUMPING STATION
C.O. CLEANOUT	PSF POUNDS PER SQUARE FOOT
COMB. COMBINATION	PSI POUNDS PER SQUARE INCH
CONC. CONCRETE	PST PRIMARY SETTLING TANK
COND. CONDENSATION	P.T. POINT OF TANGENCY
CON. CONCENTRIC	PV PLUG VALVE
CONN. CONNECTION	PVC POLYVINYL CHLORIDE
COR. CORNER	PW POTABLE WATER
COR. CONTINUED	R. RISER, REDUCER, RADIUS
CONT. COUPLING	RCCP REINFORCED CONCRETE CULVERT PIPE
CPLG. CHECK VALVE	RCP REINFORCED CONCRETE PIPE
CV	RECIRC. RECIRCULATION
D DRAIN	RED REDUCER
DB DUCTBANK	REQD. REQUIRED
DIA., DIAMETER	REINF. REINFORCEMENT
DIM. DIMENSION	R.V.B. ROADWAY VALVE BOX
DN DOWN	R/W, R.O.W. RIGHT OF WAY
D.I.P. DUCTILE IRON PIPE	S SOUTH, SANITARY
DN. DOWN DOWNSPOUT, DRAWING	SCE STABILIZED CONSTRUCTION ENTRANCE
DWG., DRWG.	SCH. SCHEDULE
E EAST	SD STORM DRAIN
EA. EACH	SE SOUTHEAST
E.F. EACH FACE	SPEC. SPECIFICATIONS
EFF EFFLUENT	SQ. SQUARE
ELB. ELBOW	S.S. STAINLESS STEEL
EL., ELEV. ELEVATION	STA. STATION
ELEC. ELECTRIC	STL. STEEL
EQ. EQUAL	STRUCT., STR. STRUCTURAL
EXIST., EX. EXISTING	SYS. SYSTEM
EXP. EXPANSION	T. TEE
FIN. FL., F.F. FINISHED FLOOR	TC., T/C TOP OF CURB, TOP OF COVER
FH FIRE HYDRANT	TELE. TELEPHONE
FL., FLR. FLOOR	TEMP. TEMPORARY
FLG. FLANGE	T/G TOP OF GRATE
FM FORCE MAIN, FLOW METER	TH. THICK
FRP FIBERGLASS REINFORCED PLASTIC	THK. THICK
FT. FEET	T.P. TEST PIT
FW FLUSHING WATER	TRAV. TRAVERSE
G GAS	TYP. TYPICAL
GA. GAUGE	U.G. UNDERGROUND
GAL. GALLON	V. VALVE
GALV. GALVANIZED	VB VERTICAL BEND
GND. GROUND	V.C., VERTICAL CURVE,
GPM GALLONS PER MINUTE	VERT. VERTICAL
GTV GATE VALVE	VV VALVE VAULT
HB HORIZONTAL BEND, HOSE BIB	W WEST, WATER
HORIZ. HORIZONTAL	W/ WITH
HP HIGH POINT	WP WORKING POINT
INF INFLUENT	WV WATER VALVE
I INLET	XFMR. TRANSFORMER
IN. INCH	
INV. INVERT	
JT. JOINT	
L. LENGTH	
L.F. LINEAR FEET	
LP LOW POINT	
L.P. LIGHT POLE	
LT. LIGHT	
LOW LIMIT OF WORK	

GENERAL LEGEND

EXISTING		PROPOSED	
GAS MANHOLE		WATER - SERVICE	
STORM DRAIN MANHOLE		SANITARY SEWER - LATERAL	
SAN. SEWER MANHOLE		LIMIT OF CLEARING	
ELECTRIC MANHOLE		LIMIT OF DISTURBANCE	
UNKNOWN MANHOLE		TREELINE	
PETROLEUM MANHOLE			
GAS METER			
ELECTRIC METER			
WATER METER			
PETROLEUM VALVE			
WATER VALVE			
GAS VALVE			
FIRE HYDRANT			
GRATE			
LIGHT POLES			
ELECTRIC POLE			
GUY POLE & WIRE			
SIGN			
SURVEY TRAVERSE			
CLEANOUT			
BOLLARD			
BORING			
HANDBOX			
SIGNAL POLE			
COMMUNICATION MH			
MAILBOX			
SANITARY SEWER		CONTOURS (1' INTERVAL)	
SANITARY FORCEMAIN		CONTOURS (5' INTERVAL)	
WATER		TEMPORARY FENCING	
STORM DRAIN		PERMANENT FENCING	
NATURAL GAS			
UNDERGROUND ELECTRIC			
OVERHEAD ELECTRIC			
UNDERGROUND TELEPHONE			
OVERHEAD TELEPHONE			

GENERAL NOTES CONT'D:

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING SILT AND DEBRIS OUT OF THE STORM DRAINAGE SYSTEM, LAKES, STREAMS, RIVERS, ETC. FOR THE DURATION OF THE CONTRACT.
- THE CONTRACTOR SHALL PROVIDE ADEQUATE MEANS OF CLEANING TRUCKS AND/OR EQUIPMENT OF MUD PRIOR TO TRAVELING ON A PUBLIC RIGHT-OF-WAY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CLEAN STREETS AND TO CONTROL DUST AND TAKE WHATEVER MEASURES NECESSARY TO ENSURE THAT THE ROAD IS MAINTAINED IN A MUD AND DUST FREE CONDITION AT ALL TIMES.
- THE CONTRACTOR SHALL NOTIFY THE ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS, BUREAU OF ENGINEERING, 410-222-7558, FIVE (5) WORKING DAYS PRIOR TO STARTING WORK.
- THE CONTRACTOR SHALL NOTIFY THE ANNE ARUNDEL COUNTY DEPARTMENT OF INSPECTIONS AND PERMITTING, 410-222-7780, AT LEAST 48 HOURS PRIOR TO STARTING WORK.
- THE CONTRACTOR SHALL NOTIFY THE ANNE ARUNDEL COUNTY DEPARTMENT OF PLANNING AND ZONING, 410-222-7347, FIVE (5) WORKING DAYS PRIOR TO STARTING WORK.
- NO EXCAVATED MATERIAL SHALL BE STOCKPILED EXCEPT AT A SITE APPROVED BY ANNE ARUNDEL COUNTY SOIL CONSERVATION DISTRICT.
- ALL STORM DRAIN APPURTENANCES, DITCHES, ETC. SHALL REMAIN FUNCTIONAL DURING CONSTRUCTION. EXCAVATED MATERIAL MAY NOT BE PLACED IN DRAINAGE DITCHES, RIFRAP AND STORM DRAIN APPURTENANCES SHALL BE RESTORED TO ORIGINAL CONDITION IMMEDIATELY FOLLOWING CONSTRUCTION.
- ALL MANHOLES AND VAULTS ARE TO BE WRAPPED ON THE EXTERIOR. WATERTIGHT FRAMES AND COVERS SHALL BE USED AT ALL LOCATIONS AND SHALL BE IN ACCORDANCE WITH ANNE ARUNDEL COUNTY STANDARDS.
- CONTRACTOR ENTRANCE INTO ANY OF THE PLANT BUILDINGS IS STRICTLY FORBIDDEN EXCEPT AS INDICATED TO PERFORM THE WORK THEREIN.
- REFER TO THE PROJECT MANUAL FOR GEOTECHNICAL REPORT AND BORING DATA.
- ALL CONSTRUCTION VEHICLE TRAFFIC SHALL BE CONFINED TO PLANT ROADS WITHIN THE DELINEATED LIMIT OF WORK AREA.
- CONTRACTORS EMPLOYEES SHALL PARK WITHIN DESIGNATED LIMIT OF WORK AREA AND IN ACCORDANCE WITH THE PLANT SUPERVISORS.
- CONTRACTOR MUST REMOVE ALL UNSUITABLE EXCAVATED MATERIAL FROM THE CONSTRUCTION SITE.
- CONTRACTOR SHALL RESTORE ALL AREAS OF VEGETATION DAMAGED BY THE CONSTRUCTION.



ENGINEERS | CONSTRUCTION MANAGERS | PLANNERS | SCIENTISTS

RK&K, LLP
700 EAST PRATT STREET, SUITE 500 • BALTIMORE, MARYLAND 21202 • 410.728.2900

PROFESSIONAL CERTIFICATION.

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

LICENSE NO. 20566

EXPIRATION DATE: 09/06/2024



REVISIONS			
NO.	DESCRIPTION	BY	DATE

ANNE ARUNDEL COUNTY			
DEPARTMENT OF PUBLIC WORKS			
APPROVED		APPROVED	
DocuSigned by: <i>Manuel Moore</i>	12/13/2023 10:25 EST	DocuSigned by: <i>Manuel Moore</i>	12/12/2023 09:19 EST
CHIEF ENGINEER	PROJECT MANAGER	CHIEF ENGINEER	PROJECT MANAGER
APPROVED		APPROVED	
DocuSigned by: <i>Tom Burke</i>	12/13/2023 08:44 EST	DocuSigned by: <i>Tom Burke</i>	12/12/2023 09:23 EST
ASSISTANT CHIEF ENGINEER	CHIEF, RIGHT OF WAY SERVICES	ASSISTANT CHIEF ENGINEER	CHIEF, RIGHT OF WAY SERVICES
SCALE: AS SHOWN		DRAWN BY: RAD	
SHEET NO.: 2 OF 36		CHECKED BY: JCM	
PROJECT NO.: W804000		CONTRACT NO.: W804010	
JANUARY 2024		DWG. G-02	

105767

BROAD CREEK II WTP

NEW OPERATOR BUILDING
TAX MAP: 050, GRID: 006, PARCEL: 315

INDEX OF DRAWINGS, ABBREVIATIONS & LEGEND

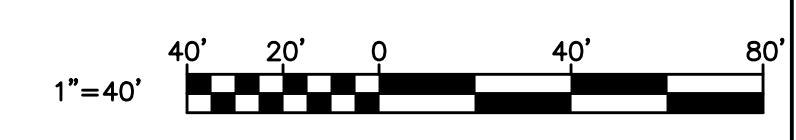
165 HARRY S. TRUMAN PKWY, ANNAPOLIS, MD 21401
SECOND DISTRICT | ANNE ARUNDEL COUNTY | ZONED C2



SUGGESTED SEQUENCE OF CONSTRUCTION (SSOC)	ESTIMATED DURATION (WORKING DAYS)
1. CONDUCT A PRECONSTRUCTION MEETING WHERE THE CONTRACTOR SHALL SUBMIT A PROPOSED SEQUENCE OF CONSTRUCTION AND ANY REQUIRED INTERRUPTIONS TO THE BROAD CREEK II WTP OPERATIONS.	1 DAY
2. NOTIFY THE DEPARTMENT OF INSPECTIONS AND PERMITS (410-222-7780) AT LEAST 48 HOURS BEFORE COMMENCING WORK. WORK MAY NOT COMMENCE UNTIL THE PERMITTEE OR THE RESPONSIBLE PERSONNEL HAVE MET ON SITE WITH THE SEDIMENT AND EROSION CONTROL INSPECTOR TO REVIEW THE APPROVED PLANS.	5 DAYS
3. CONTRACTOR SHALL NOTIFY THE OWNER ABOUT PROJECTED WORK A MINIMUM ONE (1) WEEK BEFORE ANY WORK IS PERFORMED. THE CONTRACTOR AND OWNER SHALL COORDINATE WHEN THE WORK MAY COMMENCE WITH MINIMUM AFFECT ON OPERATIONS.	7 DAYS
4. CLEAR AND GRUB THOSE AREAS FOR INSTALLATION OF TEMPORARY EROSION AND SEDIMENT PERIMETER CONTROLS. CONTRACTOR SHALL INSTALL SILT/DIVERSION FENCING AND DELINEATE LIMIT OF CLEARANCE.	5 DAYS
5. CONTACT INSPECTOR PRIOR TO COMMENCEMENT OF WORK. INSPECTIONS AND PERMITS MAY REQUIRE THAT AN INSPECTION AND CERTIFICATION OF THE INSTALLATION OF SEDIMENT CONTROLS ALSO BE PERFORMED BY A DESIGN PROFESSIONAL PRIOR TO CONSTRUCTION COMMENCING.	5 DAYS
6. CONTRACTOR SHALL REMOVE EXISTING TREES, EXISTING CHAINLINK FENCING, AND CLEAR AND GRUB WITHIN AREA DESIGNATED FOR NEW OPERATIONS BUILDING. CONTRACTOR SHALL INSTALL TEMPORARY CHAINLINK FENCING.	15 DAYS
7. CONTRACTOR SHALL LOCATE STAGING AND STOCKPILING AREA, WHICH SHALL BE APPROVED BY THE PROJECT INSPECTOR. CONTRACTOR SHALL INSTALL STABILIZED CONSTRUCTION ENTRANCES (SCE), SILT/DIVERSION FENCING AND INLET PROTECTION DEVICES.	2 DAYS
8. CONDUCT TEST PITS AS REQUIRED TO LOCATE EXISTING UTILITIES.	2 DAYS
9. GRADE AND EXCAVATE FOR INSTALLATION OF BUILDING SLAB, WATER AND SANITARY SERVICES, AND ELECTRICAL CONDUITS. FORM AND POUR CONCRETE FOR BUILDING SLAB.	90 DAYS
15. PAVED AREAS ARE TO BE SWEEP FREE OF DIRT AND DEBRIS DURING CONSTRUCTION AND DAILY AT THE CONCLUSION OF WORK.	AS REQUIRED
16. CONTRACTOR SHALL INSTALL AND ERECT NEW OPERATORS BUILDING, INCLUDING STRUCTURAL FRAMING, PLUMBING, HVAC, ELECTRICAL AND LIGHTING AS NECESSARY IN ACCORDANCE WITH ANNE ARUNDEL COUNTY CODE. CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING ALL TRADE PERMIT INSPECTORS AND FIRE MARSHALL'S OFFICE PRIOR TO FINAL BUILDING INSPECTION.	120 DAYS
17. CONTRACTOR SHALL GRADE AND INSTALL STORMWATER MANAGEMENT FEATURE, RAIN GARDEN, IN ACCORDANCE WITH THESE DRAWINGS AND ANNE ARUNDEL COUNTY COUNTY STORMWATER PRACTICES AND PROCEDURES.	15 DAYS
18. OBTAIN APPROVAL FROM ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS PRIOR TO MAKING FINAL UTILITY CONNECTION.	5 DAYS
19. REPAIR DISTURBED PAVED AREAS PER DESIGN DETAILS, AND ACCORDING TO COUNTY DETAILS.	10 DAYS
20. PLACE TOPSOIL, FINE GRADE, SEED, AND APPLY MULCH TO DISTURBED AREA. CONTRACTOR TO PLANT ALL LANDSCAPING TREES AND SHRUBS AND VEGETATION WITHIN RAIN GARDEN STORMWATER MANAGEMENT FEATURE.	10 DAYS
21. ONCE THE SITE IS 95% STABILIZED, REMOVE ANY REMAINING SEDIMENT CONTROLS AFTER PRIOR APPROVAL FROM ANNE ARUNDEL COUNTY INSPECTIONS AND PERMITS DIVISION. FINE GRADE AND STABILIZE AREA FORMERLY OCCUPIED BY PERIMETER CONTROLS AND INSTALL PERMANENT FENCING.	AS REQUIRED
(NOTE: SOME ACTIVITIES WILL RUN CONCURRENTLY, TOTAL DAYS MAY NOT COINCIDE WITH THE CONTRACT DURATION.)	
TOTAL	292 DAYS

- NOTES:**
- ALL EXISTING FEATURES DENOTED BY SLANTED TEXT.
 - HORIZONTAL CONTROL IS REFERENCED TO THE MARYLAND STATE PLANE COORDINATE SYSTEM, NORTH AMERICAN DATUM OF 1983 (NAD 83/2011) AND BASED ON ANNE ARUNDEL COUNTY SURVEY CONTROL STATIONS.

VERTICAL CONTROL IS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) AND BASED ON ANNE ARUNDEL COUNTY SURVEY CONTROL STATIONS.
 - THE LOCATIONS OF PROPERTY LINES SHOWN ARE APPROXIMATE AND ARE BASED ON PARCEL DATA FROM THE CURRENT ANNE ARUNDEL COUNTY GIS DATABASE. PARCEL NUMBER, OWNER NAME AND LIBER/FOLIO ARE BASED ON MARYLAND DEPARTMENT OF ASSESSMENTS AND TAXATION REAL PROPERTY DATA (SDAT) AS OF APRIL 2023.
 - TOPOGRAPHIC FEATURES AND ELEVATION GRADES FROM FIELD RUN SURVEY CONDUCTED APRIL 27, 2022 BY RK&K.
 - THE LOCATIONS OF UNDERGROUND UTILITIES ARE BASED ON ABOVEGROUND FIELD OBSERVATIONS AND RECORD DRAWINGS. ADDITIONAL BURIED UTILITIES OR STRUCTURES MAY BE ENCOUNTERED. NO EXCAVATIONS WERE MADE TO LOCATE BURIED UTILITIES/STRUCTURES. ALL SUBSURFACE UTILITIES/STRUCTURES SHOWN ARE TO BE CONSIDERED APPROXIMATE LOCATIONS ONLY. UNDERGROUND UTILITIES MUST BE VERIFIED BY TEST PITS.

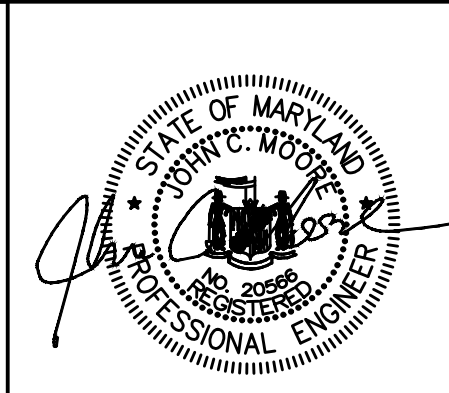


JANUARY 2024 DWG. G-03



RK&K, LLP
 700 EAST PRATT STREET, SUITE 500 • BALTIMORE, MARYLAND 21202 • 410.728.2900

PROFESSIONAL CERTIFICATION.
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
 LICENSE NO. 20566
 EXPIRATION DATE: 09/06/2024



REVISIONS			
NO.	DESCRIPTION	BY	DATE

APPROVED	DATE	APPROVED	DATE
Designed by: <i>[Signature]</i>	12/13/2023 10:25	Designed by: <i>[Signature]</i>	12/12/2023 09:19
CHIEF ENGINEER		PROJECT MANAGER	
APPROVED: <i>[Signature]</i>	12/13/2023 08:44	APPROVED: <i>[Signature]</i>	12/12/2023
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY SERVICES	

ANNE ARUNDEL COUNTY
 DEPARTMENT OF PUBLIC WORKS **105768**

SCALE: AS SHOWN
 DRAWN BY: WJG
 CHECKED BY: JCM
 SHEET NO.: 3 OF 36
 PROJECT NO.: W804000
 CONTRACT NO.: W804010

BROAD CREEK II WTP
 NEW OPERATOR BUILDING
 TAX MAP: 050, GRID: 006, PARCEL: 315
 PROPERTY PLAN & SEQUENCE OF CONSTRUCTION
 165 HARRY S TRUMAN PKWY, ANNAPOLIS, MD 21401
 SECOND DISTRICT | ANNE ARUNDEL COUNTY | ZONED C2

File: 11 - Operations Building Contract\CAD\Drawings\General\003-C-03-162861.rvt
 Dec 06, 2023 - 8:32am
 Plot Scale: 1:1

HORIZONTAL AND VERTICAL CONTROL

PT #	NORTHING	EASTING	DESCRIPTION
100	478,695.28	1,437,348.18	LOC/LOD
101	478,725.69	1,437,336.67	LOC/LOD
102	478,742.20	1,437,344.82	LOC/LOD
103	478,767.31	1,437,365.75	LOC/LOD
104	478,799.53	1,437,399.06	LOC/LOD
105	478,814.67	1,437,418.26	LOC/LOD
106	478,833.79	1,437,468.65	LOC/LOD
107	478,823.27	1,437,494.51	LOC/LOD
108	478,816.87	1,437,500.41	LOD
109	478,763.07	1,437,515.55	LOD/BOC
110	478,693.57	1,437,454.61	LOD/BOC
111	478,687.03	1,437,431.66	LOD/BOC
112	478,694.07	1,437,380.88	LOD/BOC
113	478,690.41	1,437,358.23	LOD

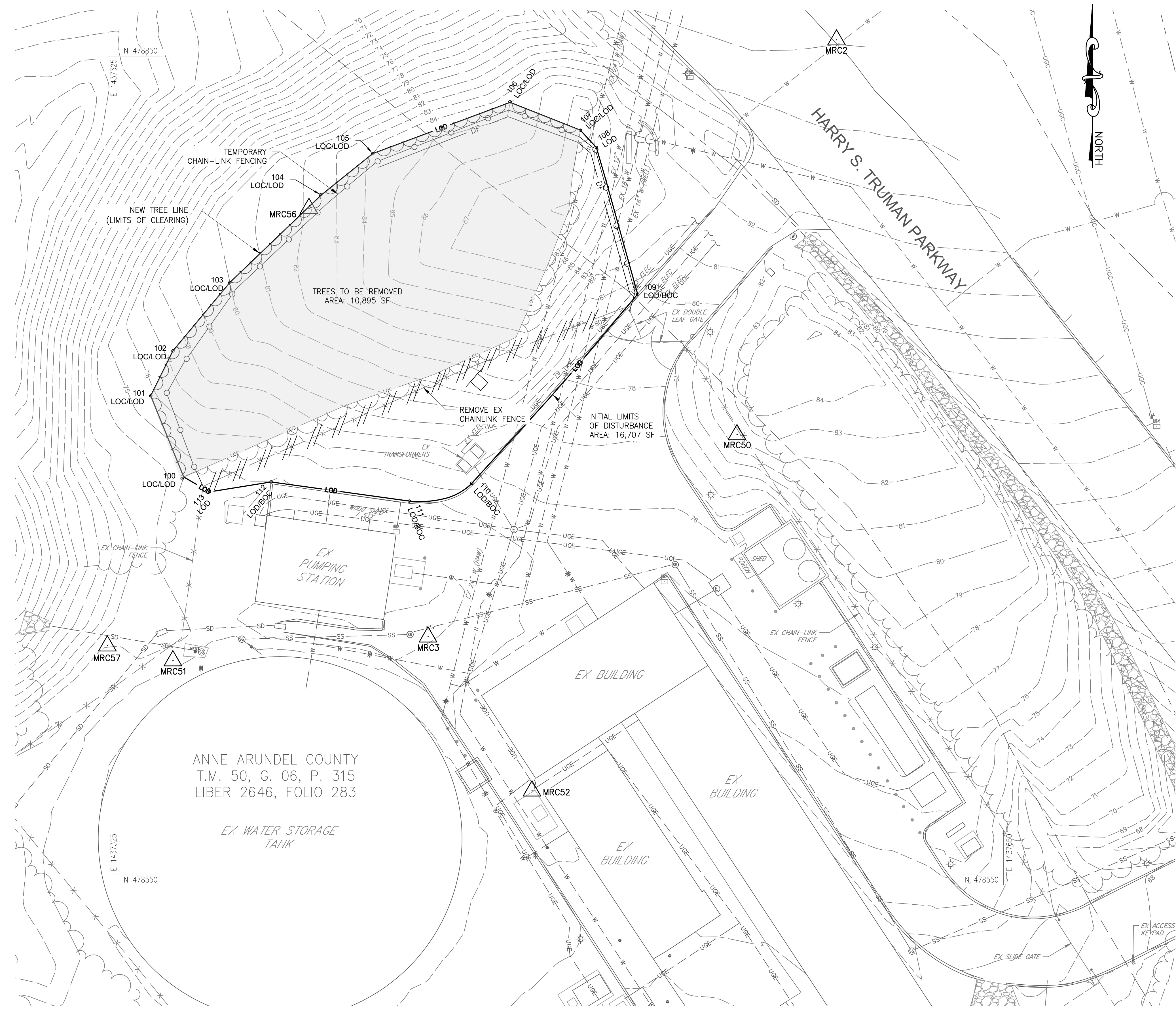
TRAVERSE COORDINATES

TRAV	NORTHING	EASTING	ELEVATION	DESCRIPTION
MRC2	478,856.47	1,437,588.62	85.03'	REBAR & CAP
MRC3	478,637.16	1,437,438.54	73.81'	MAG. NAIL
MRC50	478,711.45	1,437,552.05	82.10'	REBAR & CAP
MRC51	478,628.41	1,437,344.80	74.86'	REBAR & CAP
MRC52	478,580.59	1,437,476.73	75.26'	MAG. NAIL
MRC56	478,794.55	1,437,394.79	84.11'	REBAR & CAP
MRC57	478,633.88	1,437,320.73	73.68'	REBAR & CAP

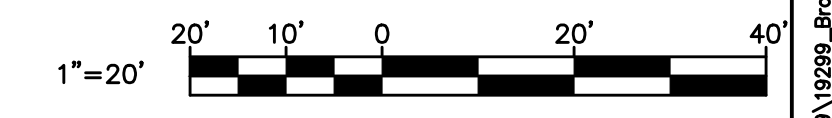
NOTES:

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- EXISTING IMPERVIOUS AREA:
 - TOTAL SITE = 55,325 SF (1.27 AC)
 - PROJECT SITE (BEHIND BACK-OF-CURB) = 57 SF
- CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL TEMPORARY SHORING AND BRACING REQUIRED TO MAINTAIN STABILITY OF EXISTING STRUCTURES AND UTILITIES.
- TEMPORARY CHAIN-LINK FENCING SHALL BE PLACED AT OR NEAR NEW/PROPOSED TREELINE TO SECURE THE WATER TREATMENT PLANT SITE DURING CONSTRUCTION. TEMPORARY FENCING SHALL BE PROTECTED FROM CONSTRUCTION ACTIVITIES. CONTRACTOR WILL BE RESPONSIBLE FOR REPAIRING/REPLACING DAMAGED SECTIONS OF FENCING, AT NO ADDITIONAL COST TO THE COUNTY.
- EXISTING TREE REMOVAL AND CLEARING AND GRUBBING SHALL BE DONE IN PREPARATION FOR NEW STRUCTURE AND FACILITIES. CONTRACTOR TO USE AREA DESIGNATED "TEMPORARY STAGING" WITH THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR. TOTAL AREA OF CLEARING = 10,895 SF (0.25 AC).



SITE PLAN
SCALE: 1"=20'



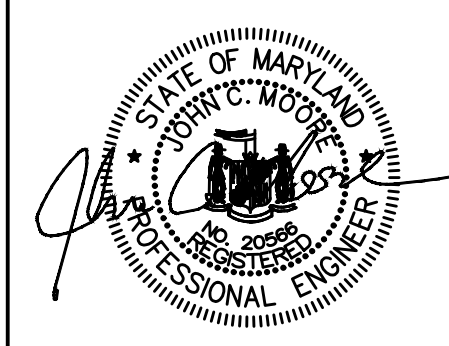
JANUARY 2024 DWG. C-01



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LICENSE NO. 20566
EXPIRATION DATE: 09/06/2024



REVISIONS			
NO.	DESCRIPTION	BY	DATE

ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS 105769			
APPROVED	DATE	APPROVED	DATE
<i>[Signature]</i>	12/13/2023	<i>[Signature]</i>	12/12/2023
CHIEF ENGINEER		PROJECT MANAGER	
APPROVED	DATE	APPROVED	DATE
<i>[Signature]</i>	12/13/2023	<i>[Signature]</i>	12/12/2023
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY SERVICES	

SCALE: AS SHOWN
DRAWN BY: RAD
CHECKED BY: JCM
SHEET NO.: 4 OF 36
PROJECT NO.: W804000
CONTRACT NO.: W804010

NEW OPERATOR BUILDING
TAX MAP: 050, GRID: 006, PARCEL: 315
OVERALL SITE PLAN & TREE REMOVAL PLAN
165 HARRY S. TRUMAN PKWY, ANNAPOLIS, MD 21401
SECOND DISTRICT | ANNE ARUNDEL COUNTY | ZONED C2



CONSTRUCTION NOTES:

- SEE DRAWING C-01 FOR EXISTING FEATURES TO BE REMOVED.
- ALL EXISTING FEATURES DENOTED BY SLANTED TEXT.
- HORIZONTAL CONTROL IS REFERENCED TO THE MARYLAND STATE PLANE COORDINATE SYSTEM, NORTH AMERICAN DATUM OF 1983 (NAD 83/91) AND BASED ON ANNE ARUNDEL COUNTY SURVEY CONTROL STATIONS.

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- NO EXCAVATED MATERIAL SHALL BE STOCKPILED ON-SITE. ALL EXCAVATED MATERIAL SHALL BE HAULED OFF-SITE FOR DISPOSAL OR STORAGE TO A SITE WITH AN OPEN GRADING PERMIT AND APPROVED SEDIMENT CONTROL PLAN.
- ALL PROPOSED SOIL DISTURBANCE WITHIN PROJECT SITE SHALL BE CONDUCTED IN ACCORDANCE WITH THE UTILITY, MAINTENANCE AND DAILY STABILIZATION NOTES.
- CONTRACTOR IS RESPONSIBLE FOR PROVIDING DIVERSION FENCING INSIDE THE TEMPORARY CHAINLINK FENCING UPHILL OF PROPOSED CONSTRUCTION ACTIVITIES.
- EXISTING IMPERVIOUS AREA:
 - TOTAL SITE = 55,325 SF (1.27 AC)
 - PROJECT SITE (BEHIND BACK-OF-CURB) = 57 SF
- TEMPORARY CHAIN-LINK FENCING SHALL BE PLACED AROUND THE EXISTING TRANSFORMERS. TEMPORARY FENCING SHALL BE PROTECTED FROM CONSTRUCTION ACTIVITIES. CONTRACTOR WILL BE RESPONSIBLE FOR REPAIRING/REPLACING DAMAGED SECTIONS OF FENCING, AT NO ADDITIONAL COST TO THE COUNTY.
- CONTRACTOR TO USE AREA DESIGNATED "TEMPORARY STAGING" WITH THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR. TOTAL AREA = 2,400 SF. AREA TO BE UNDERLAID WITH GEOTEXTILE FABRIC AND COVERED BY A MINIMUM 6-INCH LAYER OF WOOD CHIPS.

MAINTENANCE NOTE:

- CONTRACTOR SHALL INSPECT AND MAINTAIN ALL SEDIMENT CONTROL MEASURES AND DEVICES AFTER EVERY STORM EVENT. MAINTENANCE SHALL INCLUDE, BUT NOT BE LIMITED TO THE REMOVAL OF ALL ACCUMULATED SEDIMENT. GEOTEXTILE FABRIC SHALL BE REPLACED AS NEEDED TO ENSURE PROPER FUNCTION.

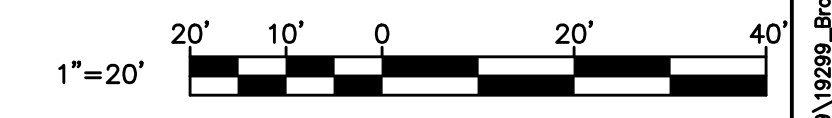
DAILY STABILIZATION NOTES:

CONTRACTOR SHALL ONLY DISTURB THAT AREA WHICH CAN BE COMPLETED AND STABILIZED BY THE END OF EACH WORKING DAY. STABILIZATION SHALL BE AS FOLLOWS:

- FOR AREAS TO BE PAVED, THE APPLICATION OF STONE BASE.
- FOR AREAS TO BE VEGETATIVELY STABILIZED:
 - A. PERMANENT SEED AND SOIL STABILIZATION MATTING OR SOD FOR ALL STEEP SLOPES, CHANNELS OR SWALES.
 - B. PERMANENT SEED AND MULCH FOR ALL OTHER AREAS.

ANY AREAS WHICH CAN NOT BE STABILIZED BY THE END OF EACH WORKING DAY MUST HAVE SILT FENCE INSTALLED ON THE DOWNSLOPE SIDE.

SITE PLAN
SCALE: 1"=20'



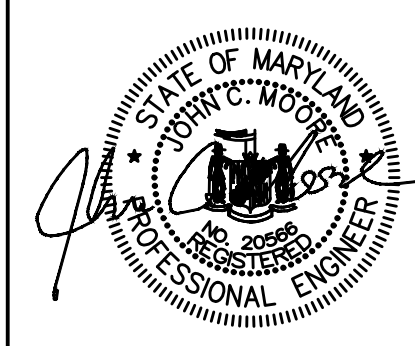
JANUARY 2024 DWG. C-02



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PROFESSIONAL CERTIFICATION.
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

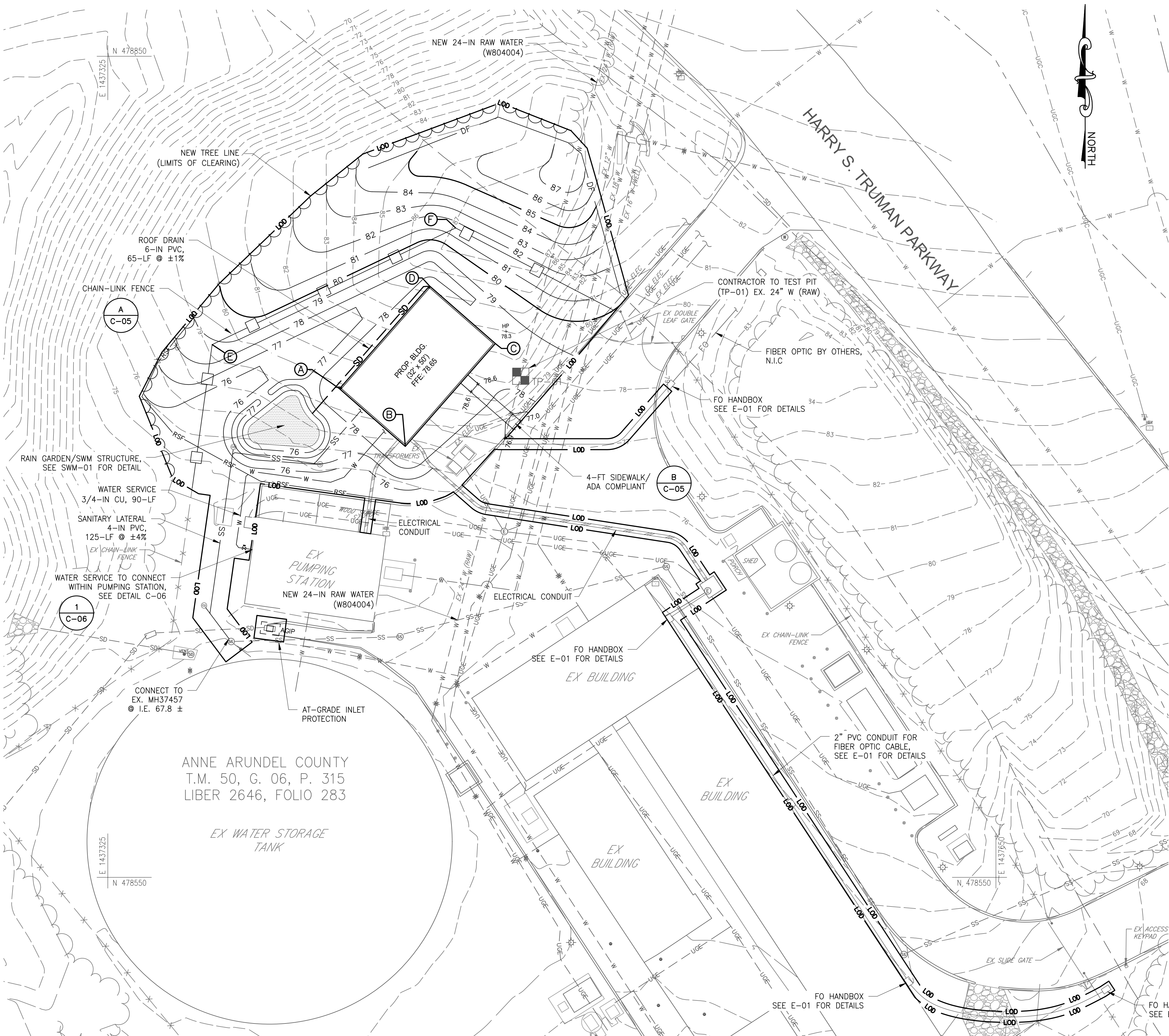
LICENSE NO. 20566
EXPIRATION DATE: 09/06/2024



REVISIONS			
NO.	DESCRIPTION	BY	DATE

ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS			
APPROVED		DATE	
<i>[Signature]</i>	12/13/2023	<i>[Signature]</i>	12/12/2023
CHIEF ENGINEER		PROJECT MANAGER	
APPROVED		DATE	
<i>[Signature]</i>	12/13/2023	<i>[Signature]</i>	12/12/2023
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY SERVICES	

105770
BROAD CREEK II WTP
NEW OPERATOR BUILDING
TAX MAP: 050, GRID: 006, PARCEL: 315
CONSTRUCTION STAGING AREA & TEMPORARY PERIMETER CONTROLS
SHEET NO.: 5 OF 36
PROJECT NO.: W804000
CONTRACT NO.: W804010



STAKE OUT DATA			
POINT #	DESCRIPTION	COORDINATES	
		NORTH	EAST
(A)	NW CORNER OF BUILDING	478,728.82	1,437,409.80
(B)	SW CORNER OF BUILDING	478,707.74	1,437,433.87
(C)	SE CORNER OF BUILDING	478,745.36	1,437,466.81
(D)	NE CORNER OF BUILDING	478,766.44	1,437,442.73
(E)	NEW FENCE CORNER	478,744.97	1,437,363.19
(F)	NEW FENCE CORNER	478,787.67	1,437,452.28

NOTES:

- SEE DRAWING C-01 FOR EXISTING FEATURES TO BE REMOVED.
- NO EXCAVATED MATERIAL SHALL BE STOCKPILED ON-SITE. ALL EXCAVATED MATERIAL SHALL BE HAULED OFF-SITE FOR DISPOSAL OR STORAGE TO A SITE WITH AN OPEN GRADING PERMIT AND APPROVED SEDIMENT CONTROL PLAN.
- ALL PROPOSED SOIL DISTURBANCE WITHIN PROJECT SITE AND THE PAVED DRIVE SHALL BE CONDUCTED IN ACCORDANCE WITH THE UTILITY, MAINTENANCE AND DAILY STABILIZATION NOTES.
- PROPOSED IMPERVIOUS AREA = 2,090 SF (0.048 AC.).
- CONTRACTOR SHALL MAINTAIN ACCESS TO WATER TREATMENT PLANT AND PUMP STATION AT ALL TIMES DURING CONSTRUCTION.
- THE LOCATIONS OF UNDERGROUND UTILITIES ARE BASED ON ABOVEGROUND FIELD OBSERVATIONS AND RECORD DRAWINGS. ADDITIONAL BURIED UTILITIES OR STRUCTURES MAY BE ENCOUNTERED. NO EXCAVATIONS WERE MADE TO LOCATE BURIED UTILITIES/STRUCTURES. ALL SUBSURFACE UTILITIES/STRUCTURES SHOWN ARE TO BE CONSIDERED APPROXIMATE LOCATIONS ONLY. UNDERGROUND UTILITIES MUST BE VERIFIED BY TEST PITS.
- CONTRACTOR TO TEST PIT (TP-01) AND LOCATE THE NEW 24" DIP/PVC RAW WATER TO VERIFY LOCATION AND DEPTH FROM PROPOSED BUILDING.

MAINTENANCE NOTE:

- CONTRACTOR SHALL INSPECT AND MAINTAIN ALL SEDIMENT CONTROL MEASURES AND DEVICES AFTER EVERY STORM EVENT. MAINTENANCE SHALL INCLUDE, BUT NOT BE LIMITED TO THE REMOVAL OF ALL ACCUMULATED SEDIMENT. GEOTEXTILE FABRIC SHALL BE REPLACED AS NEEDED TO ENSURE PROPER FUNCTION.

DAILY STABILIZATION NOTES:

CONTRACTOR SHALL ONLY DISTURB THAT AREA WHICH CAN BE COMPLETED AND STABILIZED BY THE END OF EACH WORKING DAY. STABILIZATION SHALL BE AS FOLLOWS:

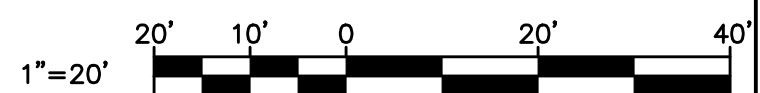
- FOR AREAS TO BE PAVED, THE APPLICATION OF STONE BASE.
- FOR AREAS TO BE VEGETATIVELY STABILIZED:
 - PERMANENT SEED AND SOIL STABILIZATION MATTING OR SOD FOR ALL STEEP SLOPES, CHANNELS OR SWALES.
 - PERMANENT SEED AND MULCH FOR ALL OTHER AREAS.

ANY AREAS WHICH CAN NOT BE STABILIZED BY THE END OF EACH WORKING DAY MUST HAVE SILT FENCE INSTALLED ON THE DOWNSLOPE SIDE.

UTILITY NOTES:

- CONTRACTOR SHOULD OPEN ONLY THAT SECTION OF TRENCH THAT CAN BE BACKFILLED AND STABILIZED EACH DAY. IF TRENCH MUST REMAIN OPEN LONGER THAN ONE DAY, SILT FENCE SHALL BE PLACED BELOW (DOWNSLOPE OF) THE TRENCH.
- PLACE ALL EXCAVATED MATERIAL ON UPHILL SIDE OF TRENCH.
- ANY SEDIMENT CONTROLS DISTURBED BY UTILITY CONSTRUCTION ARE TO BE REPAIRED IMMEDIATELY.

SITE PLAN
SCALE: 1"=20'

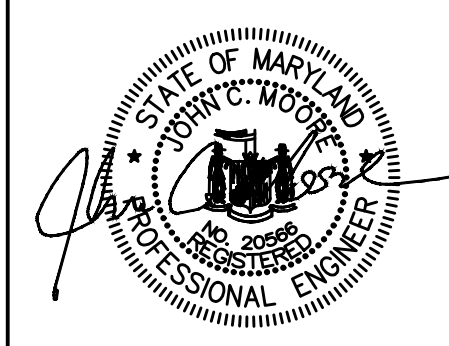


JANUARY 2024 DWG. C-03



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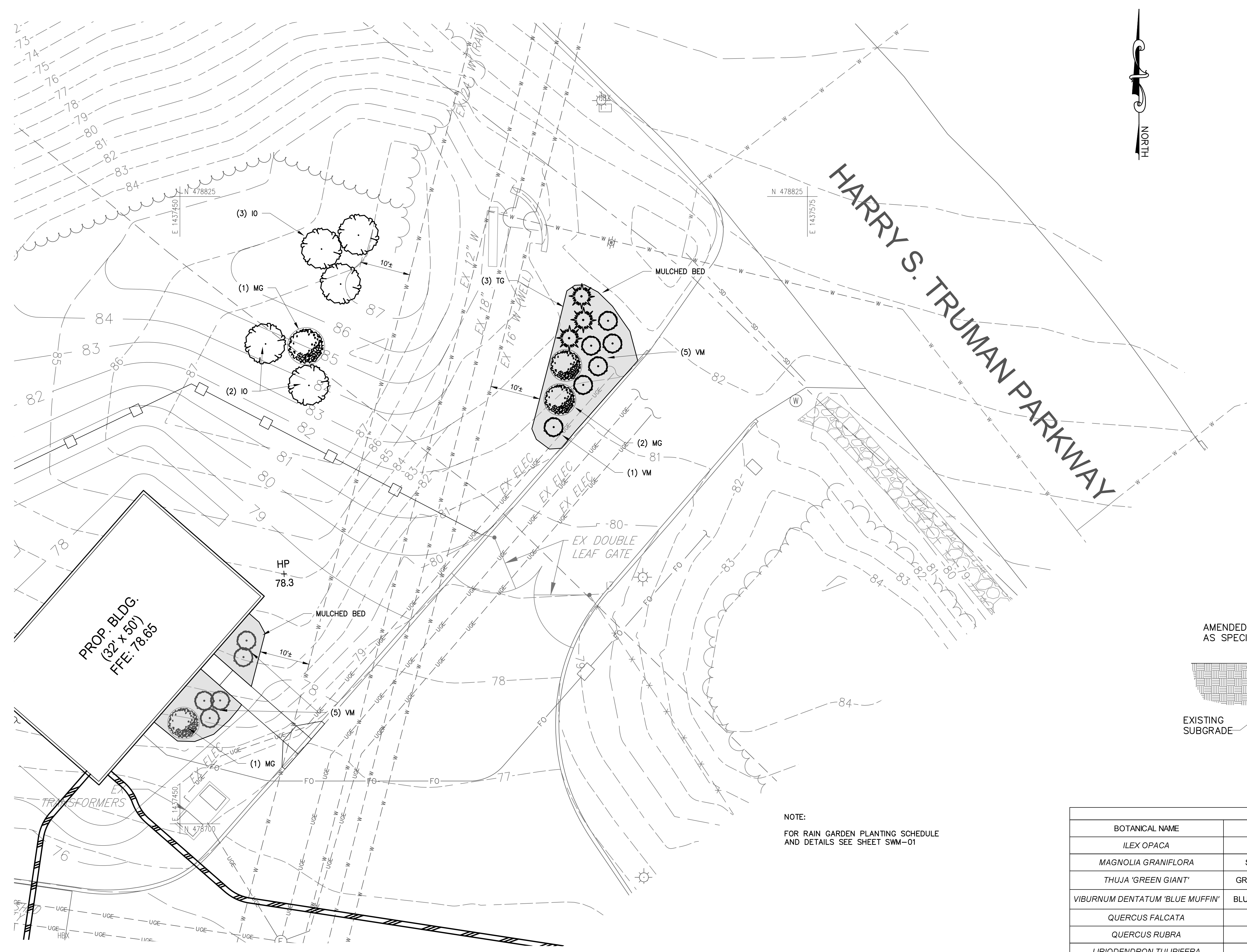
PROFESSIONAL CERTIFICATION.
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 20566
EXPIRATION DATE: 09/06/2024



REVISIONS			
NO.	DESCRIPTION	BY	DATE

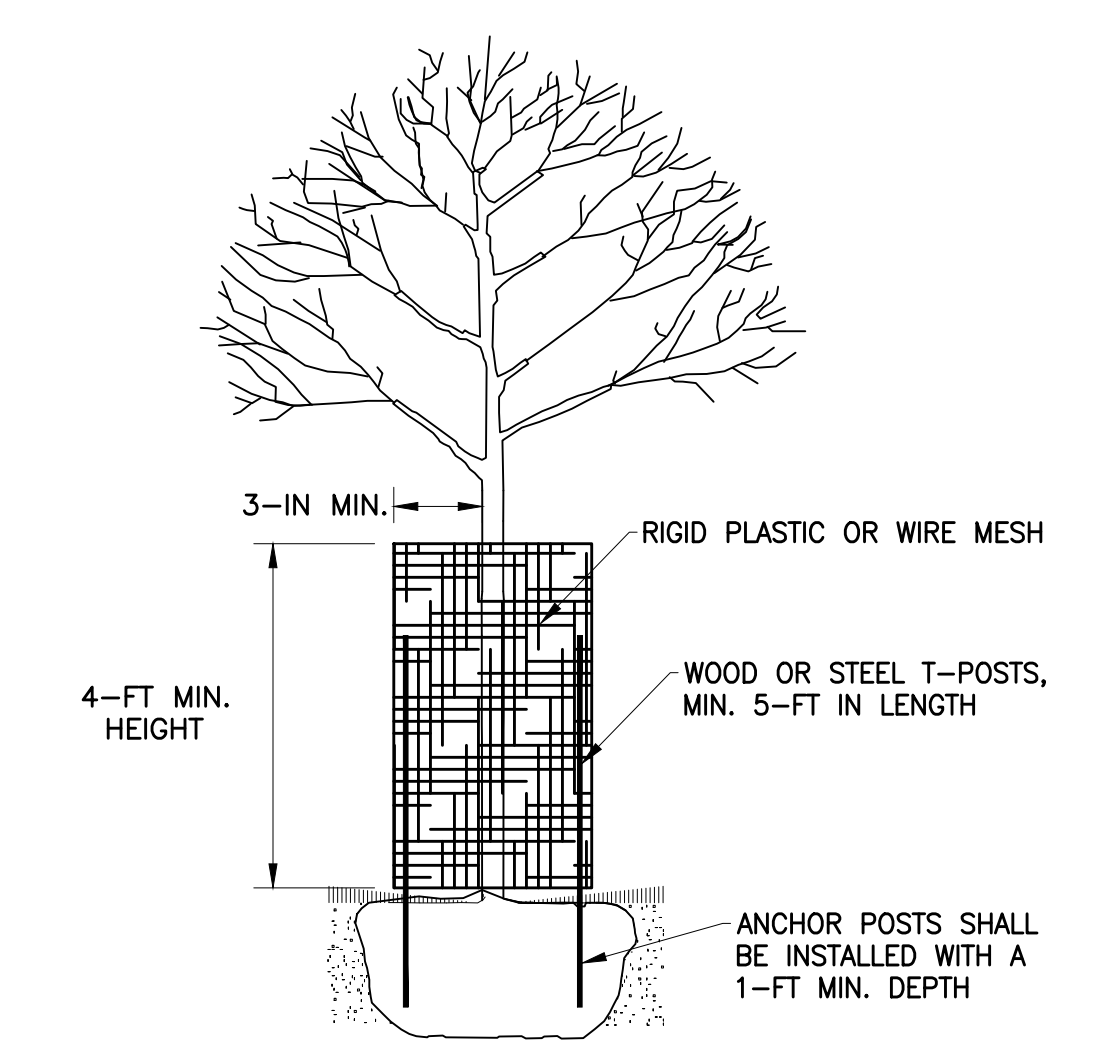
APPROVED <i>[Signature]</i> CHIEF ENGINEER	DATE 12/13/2023	APPROVED <i>[Signature]</i> PROJECT MANAGER	DATE 12/12/2023
APPROVED <i>[Signature]</i> ASSISTANT CHIEF ENGINEER	DATE 12/13/2023	APPROVED <i>[Signature]</i> CHIEF, RIGHT OF WAY SERVICES	DATE 12/12/2023

ANNE ARUNDEL COUNTY
DEPARTMENT OF PUBLIC WORKS **105771**
BROAD CREEK II WTP
NEW OPERATOR BUILDING
TAX MAP: 050, GRID: 006, PARCEL: 315
GRADING & UTILITY PLAN
SCALE: AS SHOWN
DRAWN BY: WJG
CHECKED BY: JCM
SHEET NO.: 6 OF 36
PROJECT NO.: W804000
CONTRACT NO.: W804010

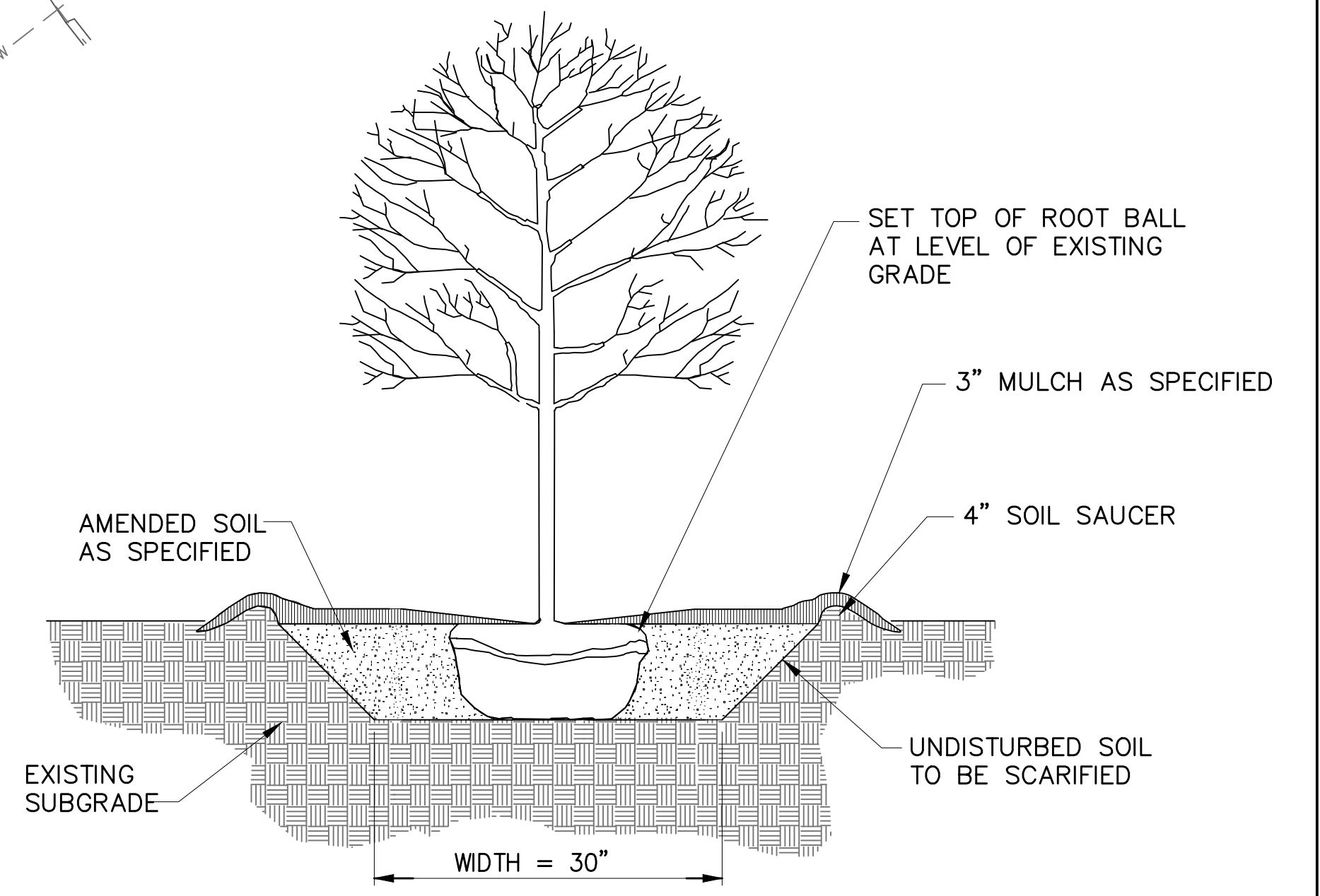


LANDSCAPE PLAN
SCALE: 1"=10'

NOTE:
FOR RAIN GARDEN PLANTING SCHEDULE
AND DETAILS SEE SHEET SWM-01

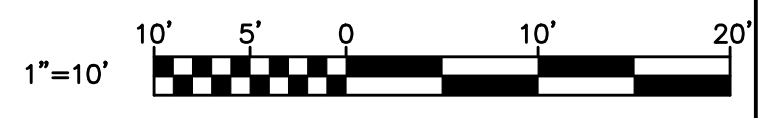


DEER PROTECTION FENCE DETAIL
N.T.S.



DETAIL: TREE - CONTAINER GROWN
N.T.S.

MASTER PLANT SCHEDULE						
BOTANICAL NAME	COMMON NAME	KEY	QUANTITY	HEIGHT	CONTAINER	SPACING
ILEX OPACA	AMERICAN HOLLY	IO	5	6FT	B&B	AS SHOWN
MAGNOLIA GRANIFLORA	SOUTHERN MAGNOLIA	MG	4	6FT	B&B	AS SHOWN
THUJA 'GREEN GIANT'	GREEN GIANT ARBORVITAE	TG	3	6FT	B&B	AS SHOWN
VIBURNUM DENTATUM 'BLUE MUFFIN'	BLUE MUFFIN ARROWWOOD	VM	11	2-3' HT.	#5	AS SHOWN
QUERCUS FALCATA	SOUTHERN RED OAK	QF	3	6FT	B&B	AS DIRECTED
QUERCUS RUBRA	NORTHERN RED OAK	QR	3	6FT	B&B	AS DIRECTED
LIRIODENDRON TULIPIFERA	TULIP POPLAR	LT	3	6FT	B&B	AS DIRECTED

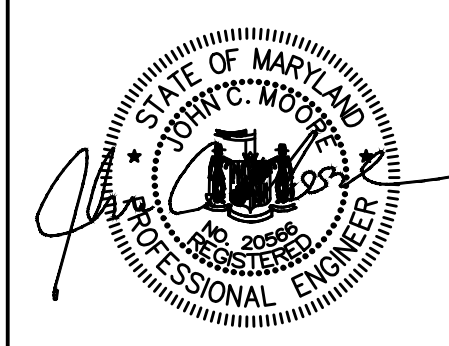


JANUARY 2024 DWG. C-04



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DULY LICENSED PROFESSIONAL ENGINEER UNDER THE
LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 20566
EXPIRATION DATE: 09/06/2024

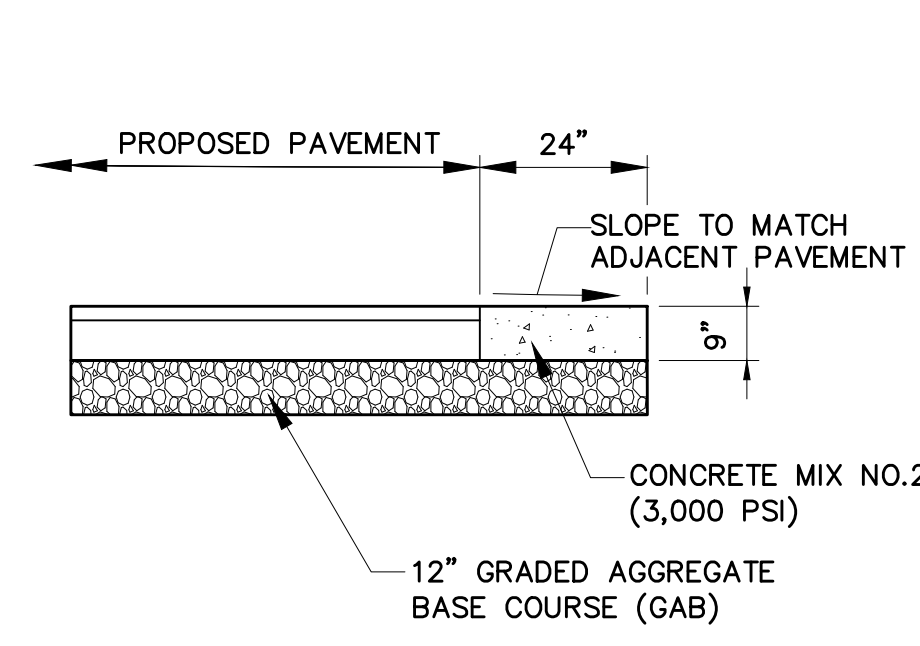


REVISIONS			
NO.	DESCRIPTION	BY	DATE

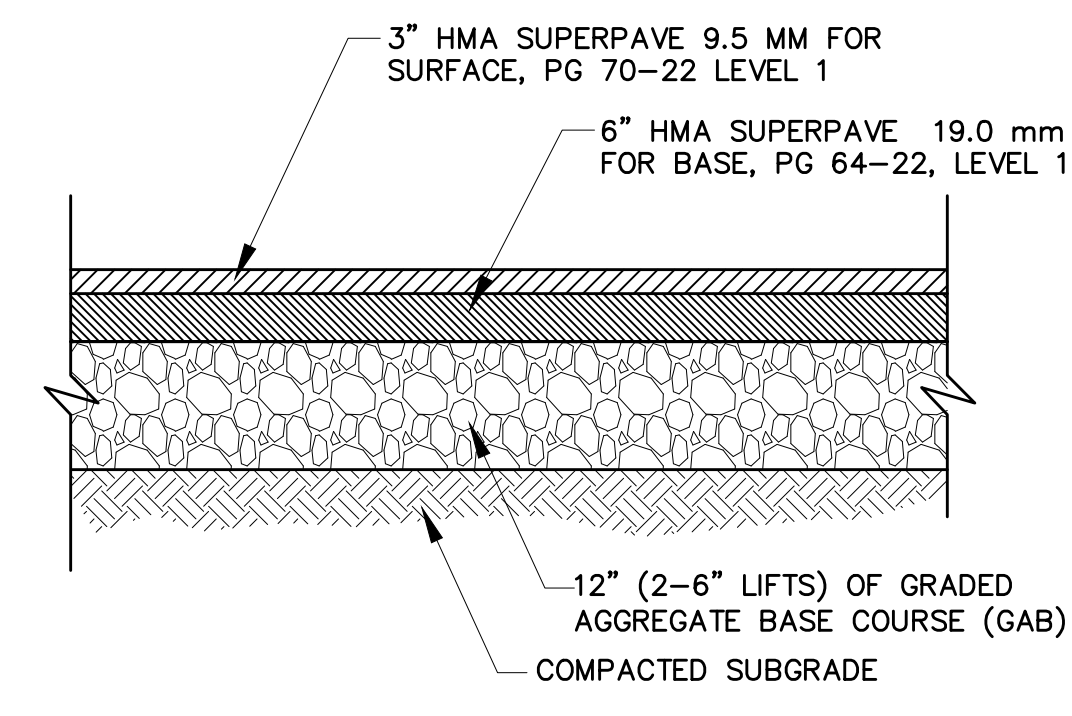
APPROVED 12/13/2023 DATE: 12/13/2023
 APPROVED 12/12/2023 DATE: 12/12/2023
 APPROVED 12/13/2023 DATE: 12/13/2023

ANNE ARUNDEL COUNTY
DEPARTMENT OF PUBLIC WORKS
SCALE: AS SHOWN
DRAWN BY: WJG
CHECKED BY: JCM
SHEET NO.: 7 OF 36
PROJECT NO.: W804000
CONTRACT NO.: W804010

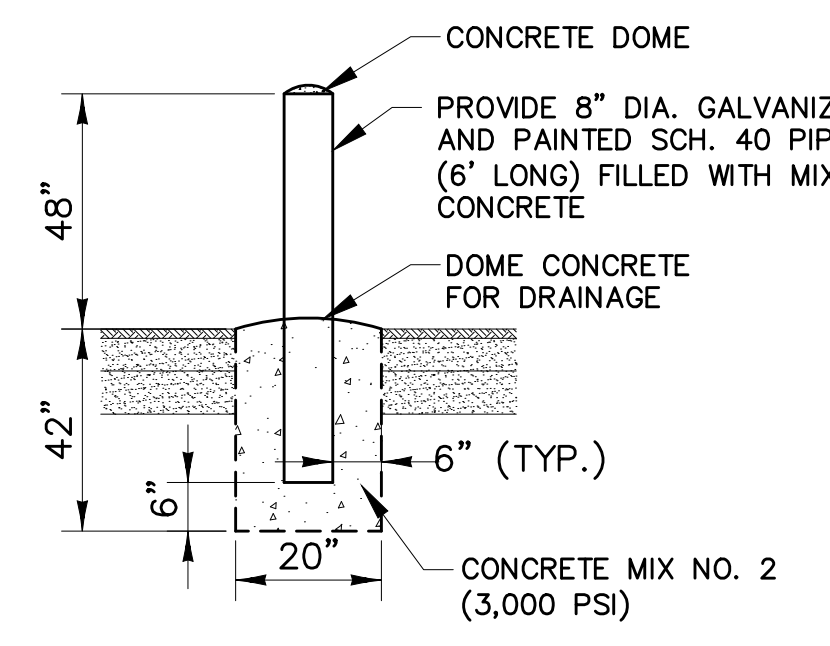
105772
BROAD CREEK II WTP
NEW OPERATOR BUILDING
TAX MAP: 050, GRID: 006, PARCEL: 315
LANDSCAPING PLAN
165 HARRY S TRUMAN PKWY, ANNAPOLIS, MD 21401
SECOND DISTRICT | ANNE ARUNDEL COUNTY | ZONED C2



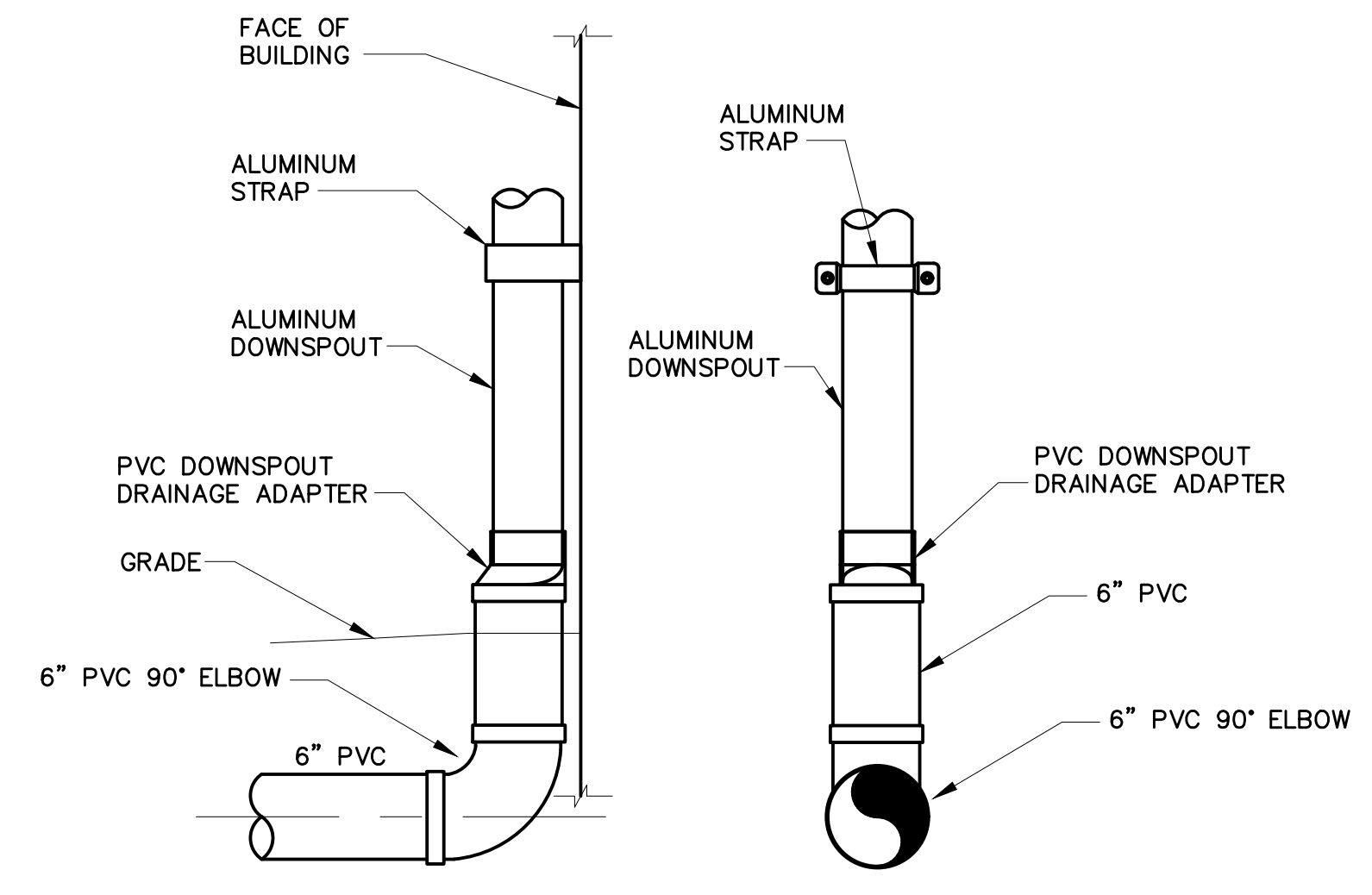
RIBBON CURB DETAIL
NTS



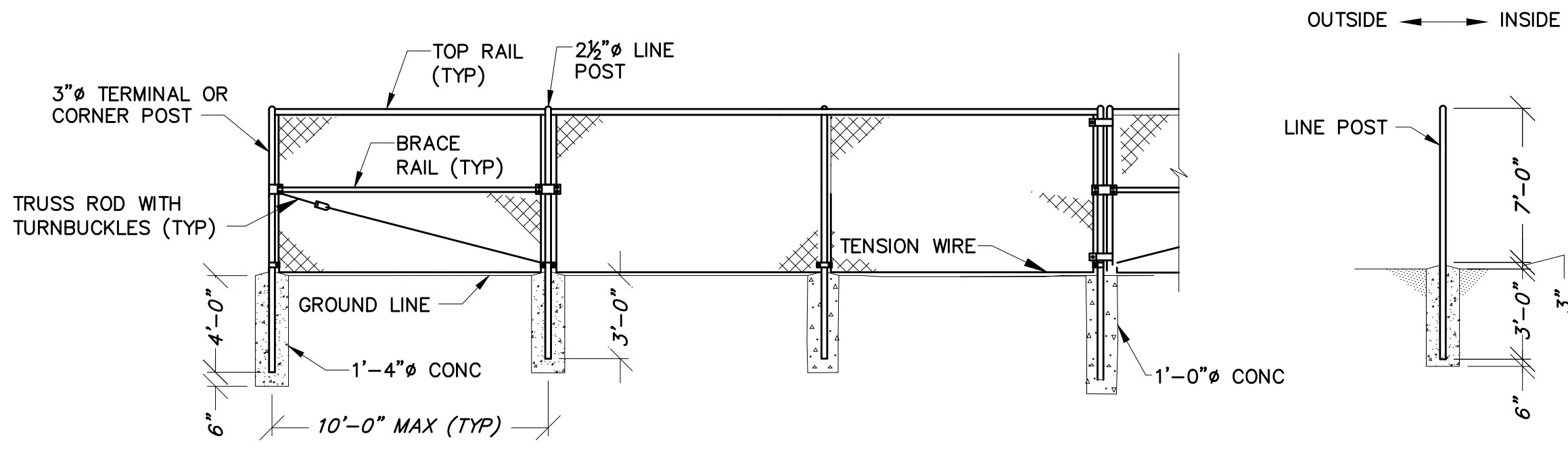
FULL DEPTH PAVEMENT DETAIL
NTS



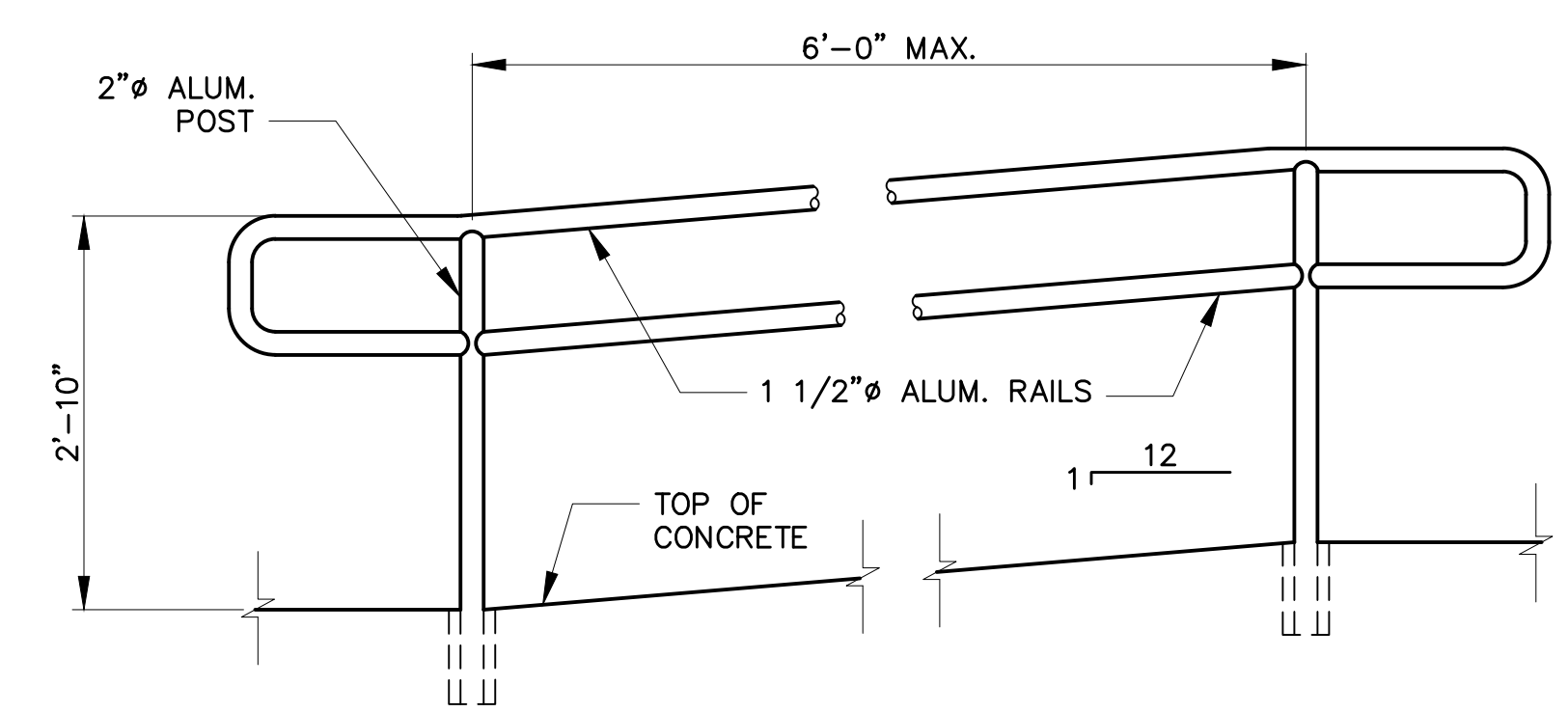
BOLLARD - DETAIL
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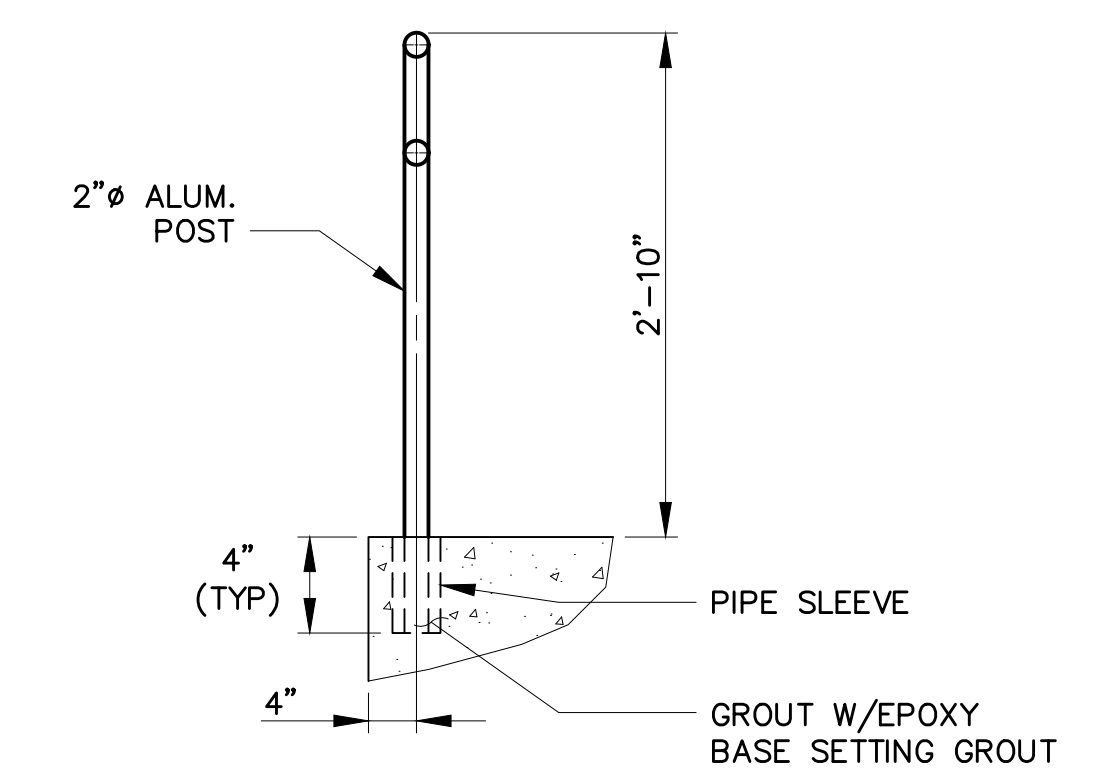
DOWNSPOUT - DETAIL
NTS



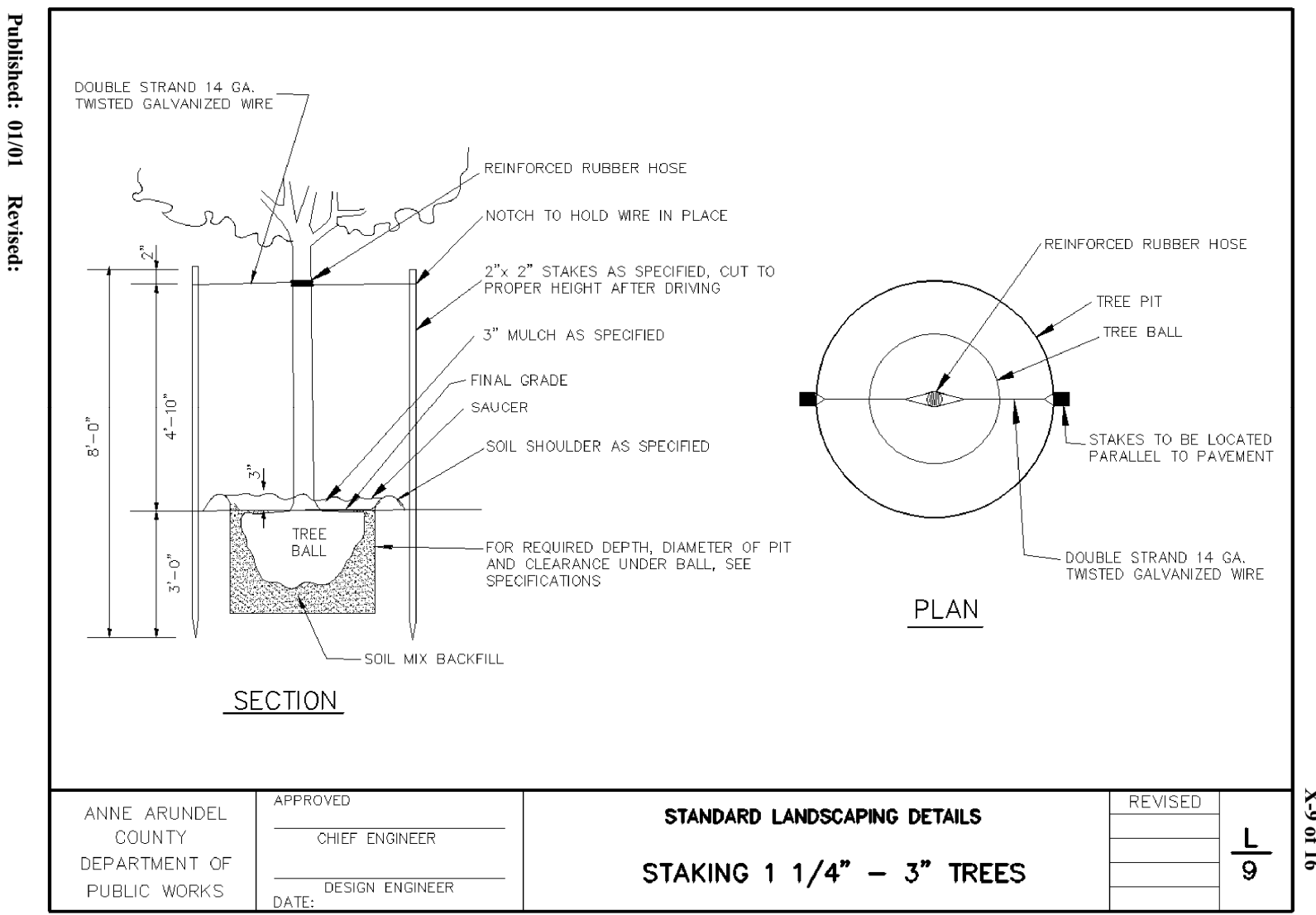
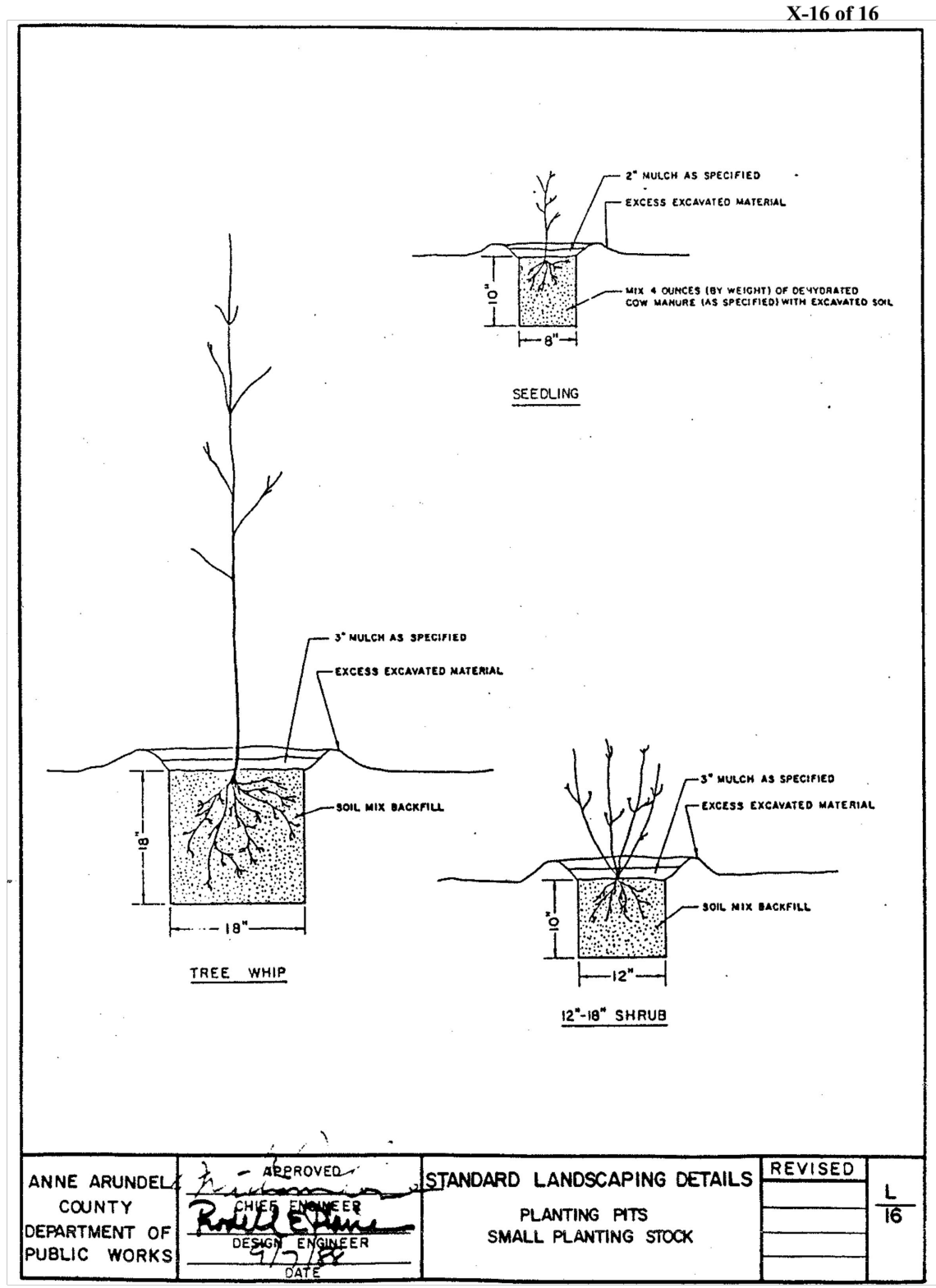
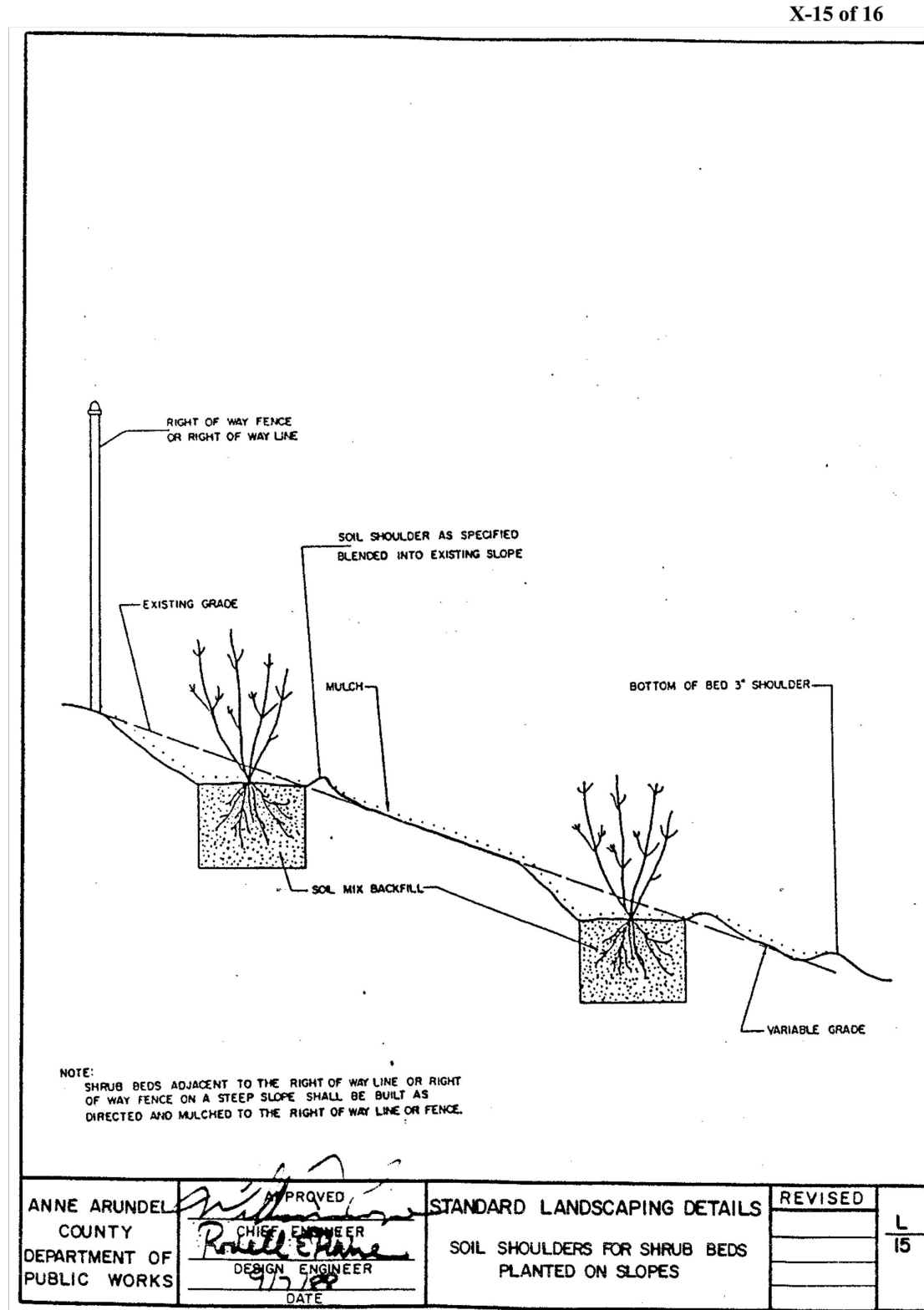
A CHAIN-LINK FENCE DETAIL
C-03 NTS



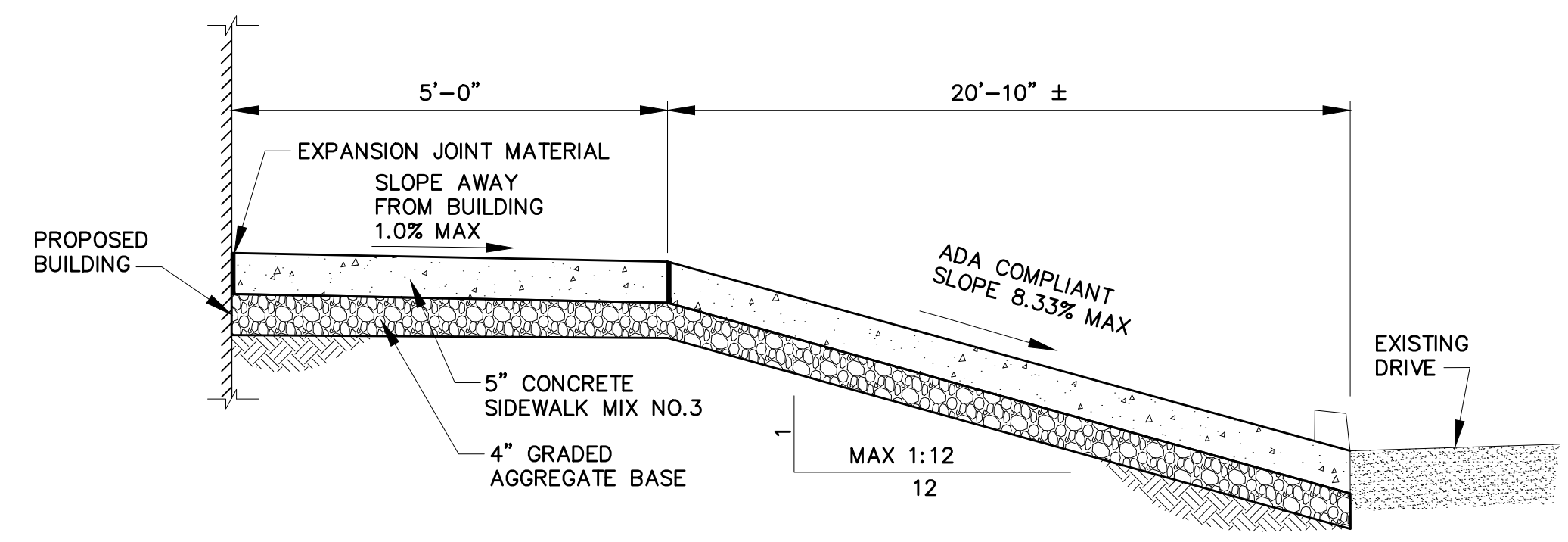
TYPICAL HANDRAIL ELEVATION



TYPICAL HANDRAIL SECTION



HAND RAIL DETAILS
NTS



B SIDEWALK/ADA COMPLAINT DETAIL
C-03 NTS

JANUARY 2024 DWG. C-05



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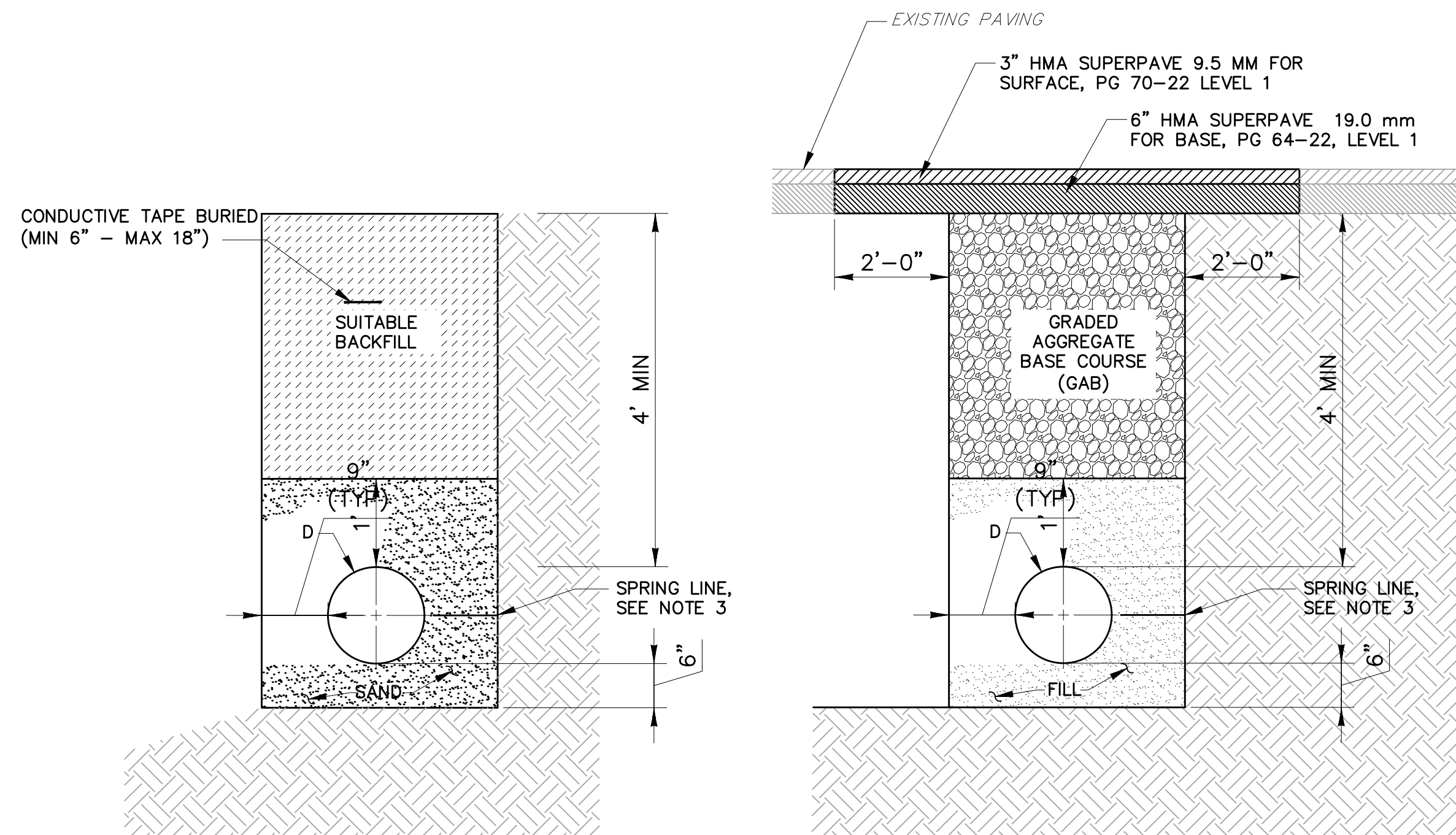
PROFESSIONAL CERTIFICATION.
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 20566
EXPIRATION DATE: 09/06/2024



REVISIONS			
NO.	DESCRIPTION	BY	DATE

APPROVED			
DATE	DATE	DATE	DATE
12/13/2023	10/25/2023	12/12/2023	12/12/2023
Chief Engineer	Project Manager	Chief Engineer	Chief, Right of Way Services

ANNE ARUNDEL COUNTY
DEPARTMENT OF PUBLIC WORKS 105773
BROAD CREEK II WTP
NEW OPERATOR BUILDING
TAX MAP: 050, GRID: 006, PARCEL: 315
CIVIL DETAILS (FENCING, ROADWAY, CURB & GUTTER, SIDEWALKS)
165 HARRY S. TRUMAN PKWY, ANNAPOLIS, MD 21401
SECOND DISTRICT | ANNE ARUNDEL COUNTY | ZONED C2

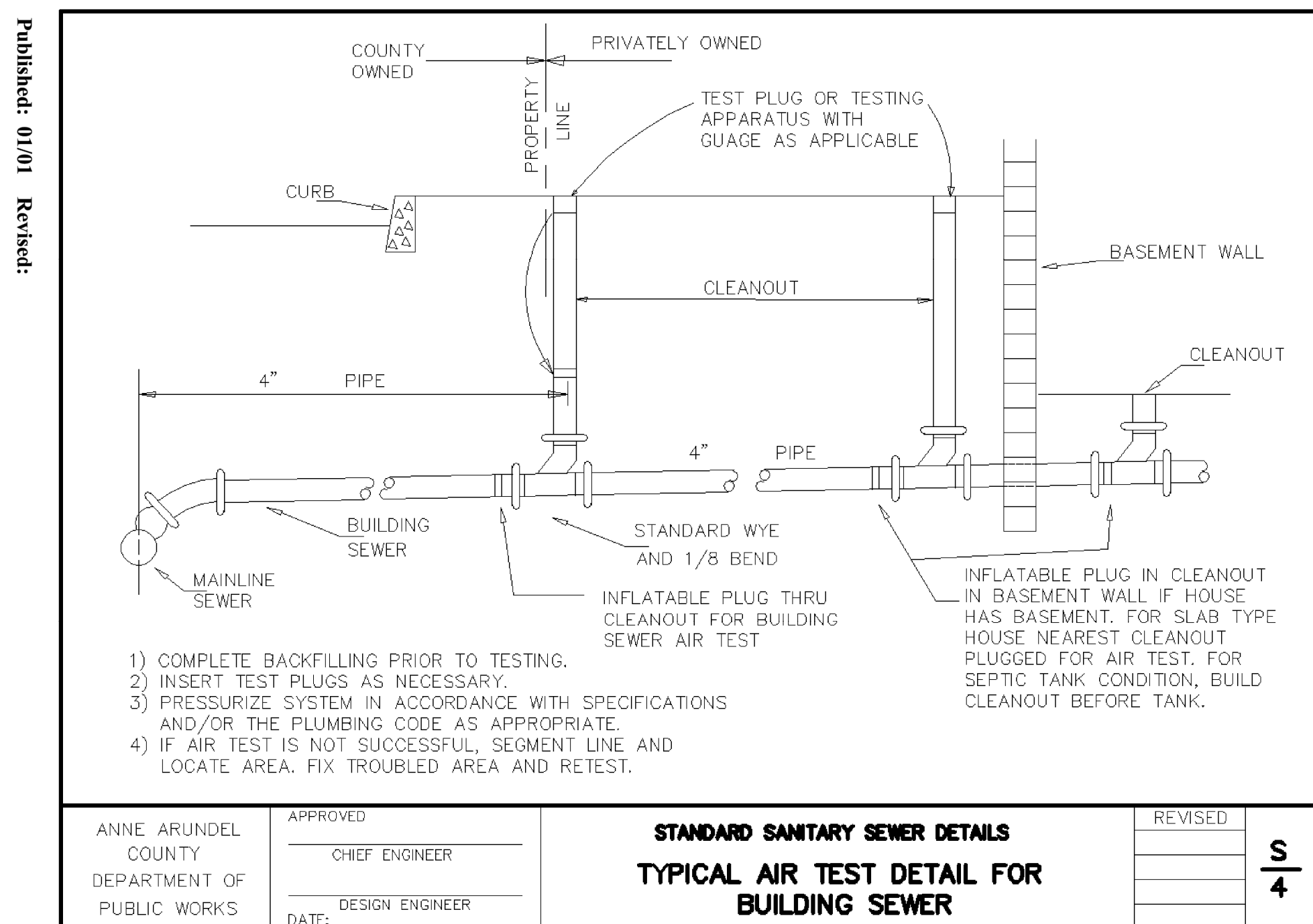


PIPE TRENCH DETAIL WITH PAVING
NTS

NOTES:

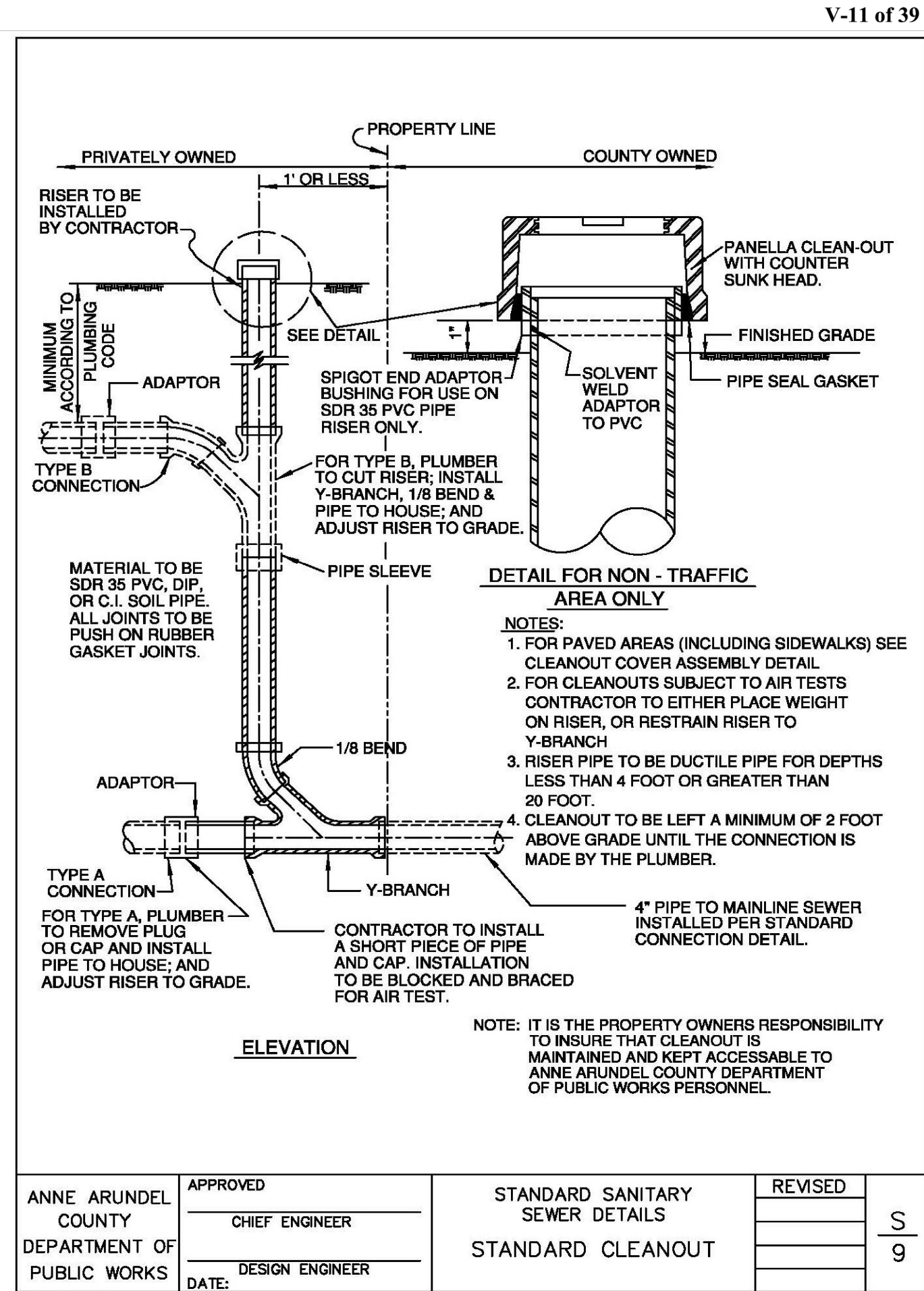
1. MINIMUM TRENCH WIDTH EQUALS 24", MAXIMUM TRENCH WIDTH EQUALS PIPE BARREL OD PLUS 18".
2. IN PAVED AREAS, 100% STONE BACKFILL SHALL BE USED IN PLACE OF SUITABLE BACKFILL.
3. CONTRACTOR SHALL PLACE FILL IN TWO LIFTS. LIFT ONE SHALL BE TO THE SPRING LINE OR CALCULATED LIFT HEIGHT THAT WILL NOT RESULT IN PIPE FLotation, WHICHEVER IS LESS. SECOND LIFT SHALL BE TO THE LIMITS SHOWN.

NON-METAL PIPE TRENCH DETAIL
NTS



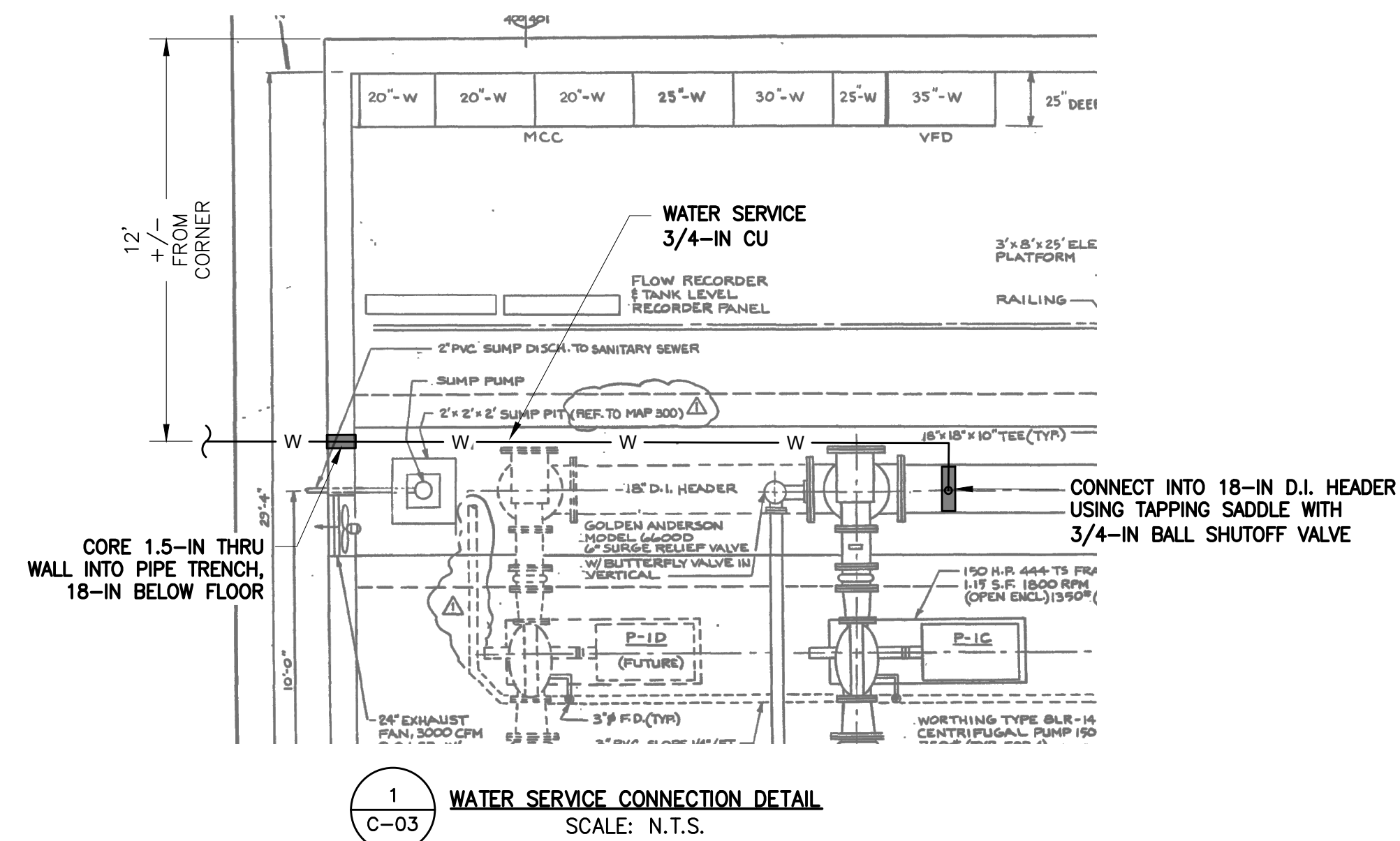
ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS	APPROVED	STANDARD SANITARY SEWER DETAILS	REVISED
	CHIEF ENGINEER		S
	DESIGN ENGINEER	TYPICAL AIR TEST DETAIL FOR BUILDING SEWER	4
	DATE:		

1/6/19



ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS	APPROVED	STANDARD SANITARY SEWER DETAILS	REVISED
	CHIEF ENGINEER		S
	DESIGN ENGINEER	STANDARD CLEANOUT	9
	DATE:		

6/2018 Published: 02/20 Revised:



1 WATER SERVICE CONNECTION DETAIL
C-03 SCALE: N.T.S.

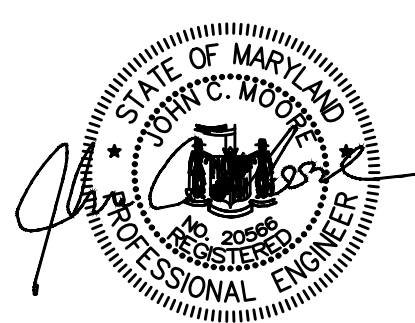
V-11 of 39

JANUARY 2024 DWG. C-06



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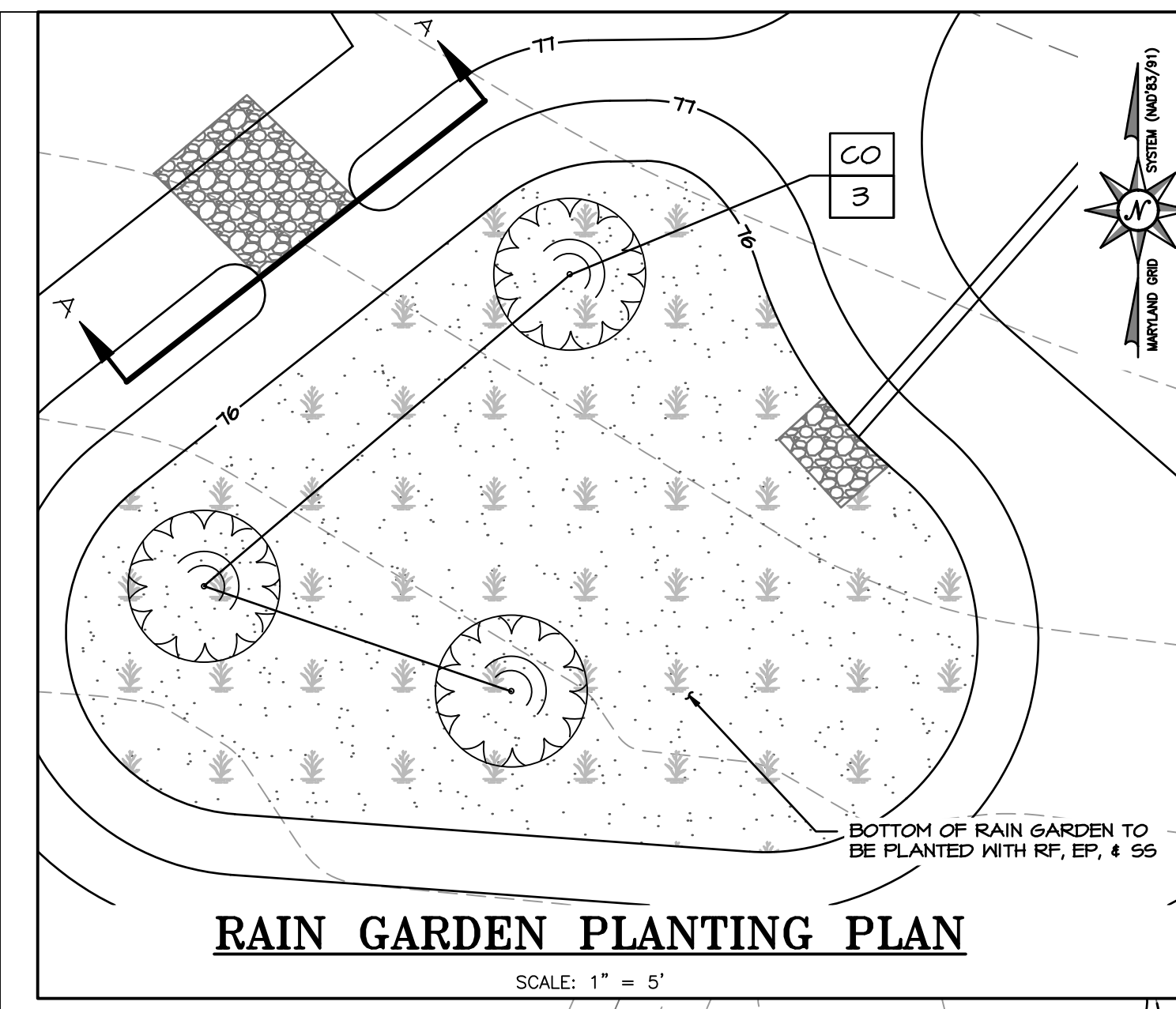
PROFESSIONAL CERTIFICATION.
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 20566
EXPIRATION DATE: 09/06/2024



REVISIONS			
NO.	DESCRIPTION	BY	DATE

APPROVED	DATE	APPROVED	DATE
<i>[Signature]</i>	12/13/2023	<i>[Signature]</i>	12/12/2023
CHIEF ENGINEER		PROJECT MANAGER	
APPROVED	DATE	APPROVED	DATE
<i>[Signature]</i>	12/13/2023	<i>[Signature]</i>	12/12/2023
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY SERVICES	

ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS **105774**
BROAD CREEK II WTP
NEW OPERATOR BUILDING
TAX MAP: 050, GRID: 006, PARCEL: 315
CIVIL DETAILS (WATER & SEWER SERVICE)
PROJECT NO.: W804000
CONTRACT NO.: W804010
165 HARRY S. TRUMAN PKWY, ANNAPOLIS, MD 21401
SECOND DISTRICT | ANNE ARUNDEL COUNTY | ZONED C2



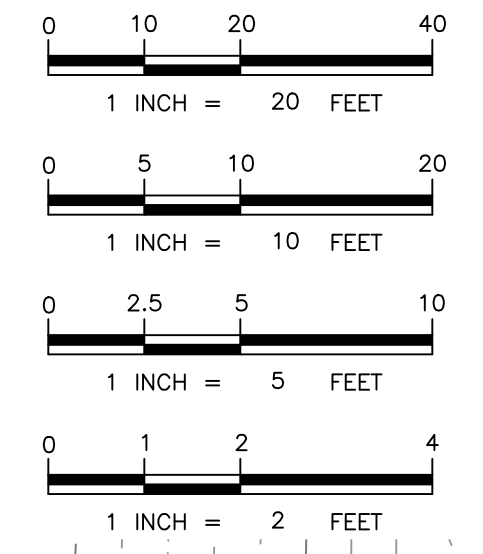
RAIN GARDEN PLANTING PLAN
SCALE: 1" = 5'

ABBR.	BOTANICAL NAME/ TECHNICAL DESCRIPTION	COMMON NAME	INDICATOR STATUS	SIZE	SPACING	QUANTITY
RF	RUDIBECKIA FULGIDA	ORANGE CONEFLOWER	FAC	QUART	RANDOM AT 24" O.C.	33
EP	ECHINACEA PURPUREA	PURPLE CONEFLOWER	N/A	QUART	RANDOM AT 24" O.C.	34
SS	SCHIZACHYRIUM SCOPARIUM	LITTLE BLUESTEM	FACU	QUART	RANDOM AT 24" O.C.	34
CO	CEPHALANTHUS OCCIDENTALIS	BUTTONBUSH	OBL	2'-3" HT.; CONTAINER	AS SHOWN	3

FACILITY ANALYSIS

LIMIT OF DISTURBANCE: 0.43 AC
 HYDROLOGIC SOIL GROUP C AREA: 0.43 AC
 EXISTING IMPERVIOUS AREA: 0.02 AC
 PROPOSED IMPERVIOUS AREA: 0.04 AC
 TOTAL IMPERVIOUS AREA: 0.06 AC
 PROPOSED PERCENT IMPERVIOUS COVER: 12%
 RCN WOODS IN GOOD CONDITION: 70
 DRAINAGE AREA: 0.06 AC
 DRAINAGE AREA IMPERVIOUS: 0.04 AC

RAINFALL TARGET, P_t: 1.00 IN
 PROVIDED RAINFALL, P_p: 2.00 IN
 RUNOFF DEPTH, Q_r: 0.158 IN
 REQUIRED ESD_r: 249 CF
 PROVIDED ESD_p: 260 CF



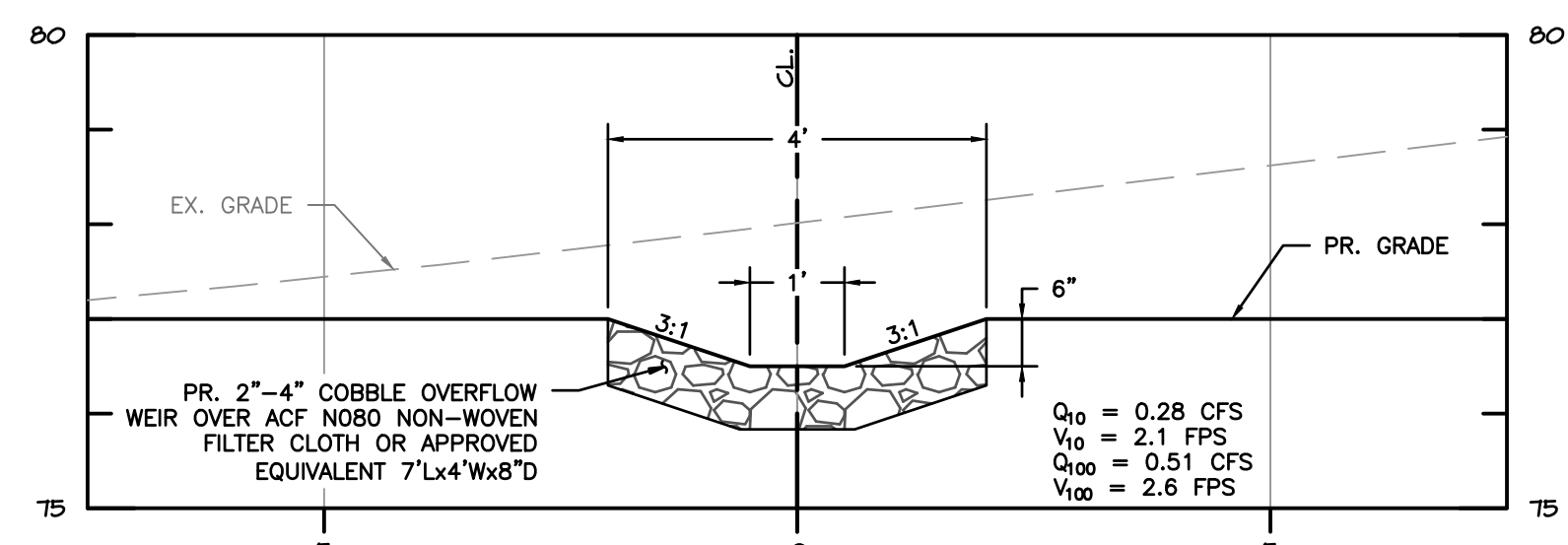
PR. 2'-4" COBBLE OVERFLOW WEIR OVER ACF NO80 NON-WOVEN FILTER CLOTH OR APPROVED EQUIVALENT 5'Lx4'Wx8"D SEE OVERFLOW WEIR SECTION THIS SHEET

PR. WATER LINE
 PR. SANITARY SEWER
 EX. 10' CHAIN LINK FENCE

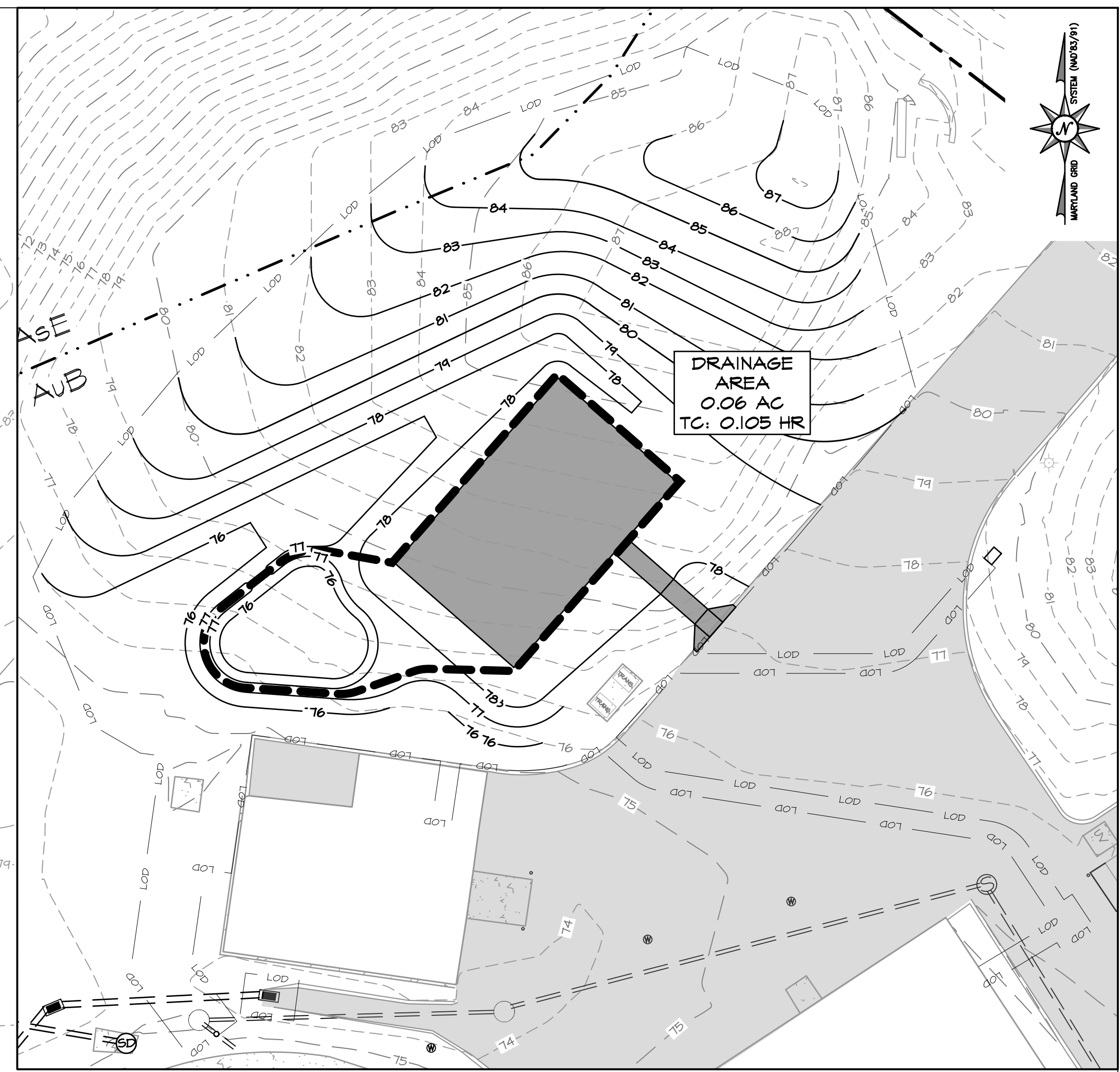
SOIL BORING LOG

DEPTH/ELEV.	BORING #1
0.0' / 77.4	77.4 GROUND SURFACE
2.0' / 75.4	DARK BROWN SILTY SAND (SM)
4.0' / 73.4	BROWN SANDY LEAN CLAY (CL)
5.5' / 71.9	BROWN/ORANGE CLAYEY SAND (SC)
6.0' / 71.4	TAN/ORANGE POORLY-GRADED SAND (SP)
BOTTOM EL. 71.4	
SCALE: NOT TO SCALE	
SAMPLE DATE: 05/2023	
INFILTRATION RATE EXCEEDS 0.52 IN/HR MIN.	

STORMWATER MANAGEMENT PLAN



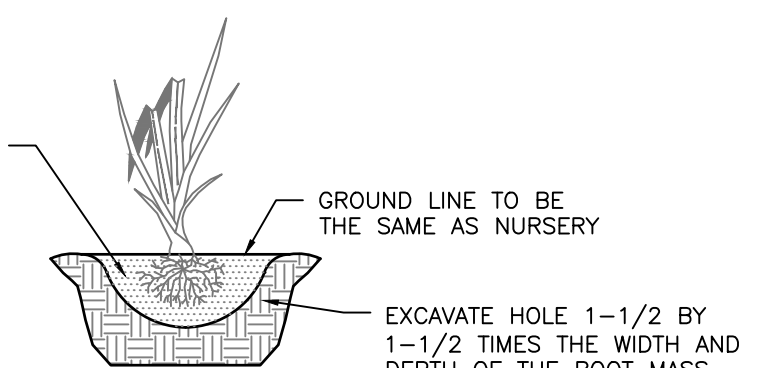
OVERFLOW WEIR SECTION A
SCALE: 1" = 5'



PR. DRAINAGE AREA
SCALE: 1" = 20'

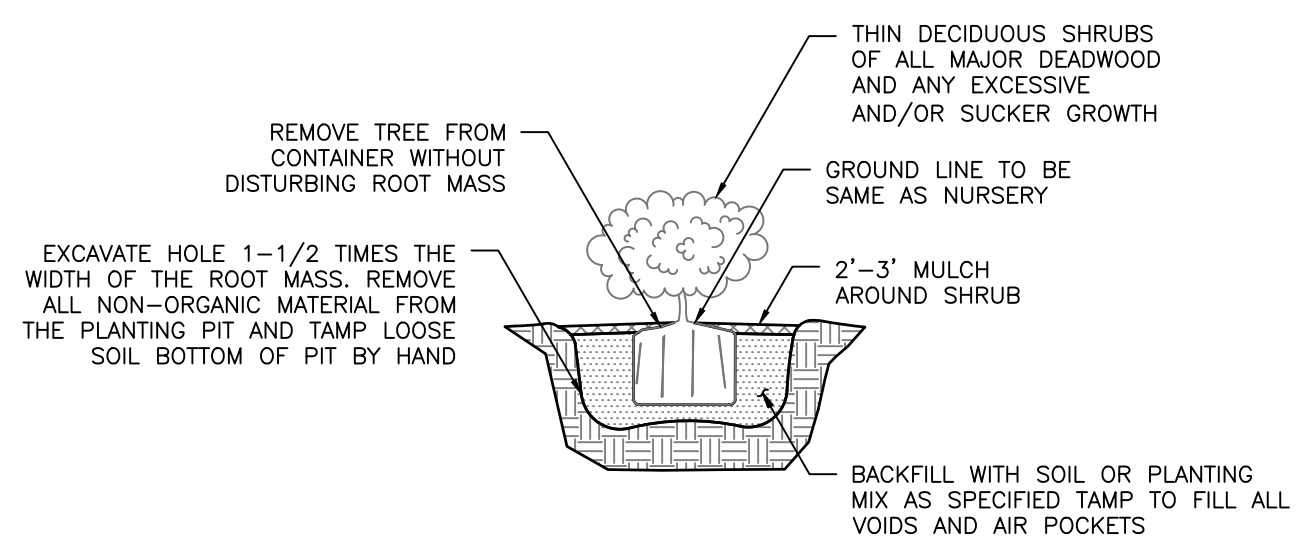
QUART PLANTING

NOT TO SCALE



SHRUB PLANTING - CONTAINER GROWN

NOT TO SCALE

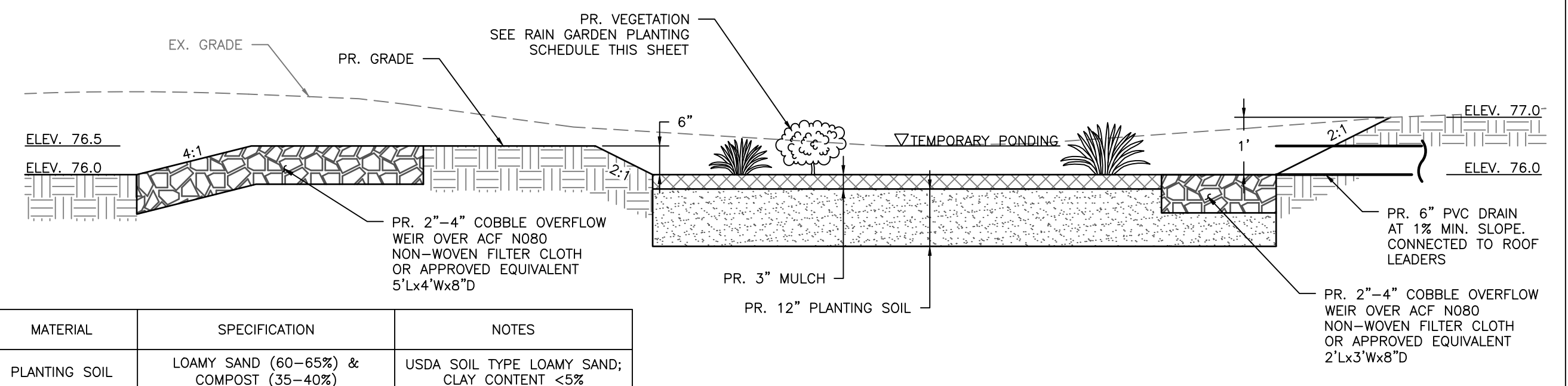


MATERIAL	SPECIFICATION	NOTES
PLANTING SOIL	LOAMY SAND (60-65%) & COMPOST (35-40%)	USDA SOIL TYPE LOAMY SAND; CLAY CONTENT <5%
MULCH	SHREDDED HARDWOOD	AGED 6 MONTHS, MINIMUM; NO PINE OR WOOD CHIPS

MATERIAL SPECIFICATIONS

RAIN GARDEN DETAIL

SCALE: NOT TO SCALE



BayLand Consultants & Designers, Inc.
 "Integrating Engineering and Environment"
 7455 New Ridge Road, Suite T Phone: (410) 694-9401
 Hanover, Maryland 21076 Fax: (410) 694-9405
 www.baylandinc.com

PROFESSIONAL CERTIFICATION.
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
 LICENSE NO. 33146
 EXPIRATION DATE: 01/14/2025



REVISIONS			
NO.	DESCRIPTION	BY	DATE

APPROVED 12/13/2023
 [Signature] CHIEF ENGINEER
 APPROVED 12/12/2023
 [Signature] PROJECT MANAGER
 APPROVED 12/13/2023
 [Signature] ASSISTANT CHIEF ENGINEER

ANNE ARUNDEL COUNTY
 DEPARTMENT OF PUBLIC WORKS
105775
 BROAD CREEK II WTP
 NEW OPERATOR BUILDING
 TAX MAP: 050, GRID: 006, PARCEL: 315
 STORMWATER MANAGEMENT PLAN
 SHEET NO.: 10 OF 36
 PROJECT NO.: W804000
 CONTRACT NO.: W804010

Z:\8-4101_BROAD_CK_II_WTP_ADMIN\BDC_DE\CAD_Files\Sheet Files\8-4101_S010.dwg

SOIL EROSION AND SEDIMENT CONTROL NOTES:

- 1. REFER TO "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" FOR STANDARD DETAILS AND DETAILED SPECIFICATIONS OF EACH PRACTICE SPECIFIED HEREIN.
2. WITH THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, MINOR FIELD ADJUSTMENTS CAN AND WILL BE MADE TO INSURE THE CONTROL OF ANY SEDIMENT. CHANGES IN SEDIMENT CONTROL PRACTICES REQUIRE PRIOR APPROVAL OF THE SEDIMENT CONTROL INSPECTOR AND THE ANNE ARUNDEL SOIL CONSERVATION DISTRICT.
3. AT THE END OF EACH WORKING DAY, ALL SEDIMENT CONTROL PRACTICES WILL BE INSPECTED AND LEFT IN OPERATIONAL CONDITION.
4. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN: A.) THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN THREE HORIZONTAL TO ONE VERTICAL (3:1), AND B.) SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.
5. ANY CHANGE TO THE GRADING PROPOSED ON THIS PLAN REQUIRES RE-SUBMISSION TO ANNE ARUNDEL SOIL CONSERVATION DISTRICT FOR APPROVAL.
6. DUST CONTROL WILL BE PROVIDED FOR ALL DISTURBED AREAS. REFER TO "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL", PG H.22, FOR ACCEPTABLE METHODS AND SPECIFICATIONS FOR DUST CONTROL.
7. ANY VARIATIONS FROM THE SEQUENCE OF OPERATIONS STATED ON THIS PLAN REQUIRES THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR AND THE ANNE ARUNDEL SOIL CONSERVATION DISTRICT PRIOR TO THE INITIATION OF THE CHANGE.
8. EXCESS CUT OR BORROW MATERIAL SHALL GO TO, OR COME FROM, RESPECTIVELY, A SITE WITH AN OPEN GRADING PERMIT AND APPROVED SEDIMENT AND CONTROL PLAN.
9. THE FOLLOWING ITEM MAY BE USED AS APPLICABLE: REFER TO "MARYLAND'S GUIDELINES TO WATERWAY CONSTRUCTION" BY THE WATER MANAGEMENT ADMINISTRATION OF THE MARYLAND DEPARTMENT OF THE ENVIRONMENT, REVISED NOVEMBER 2000, FOR STANDARD DETAILS AND DETAILED SPECIFICATIONS OF EACH PRACTICE SPECIFIED HEREIN FOR WATERWAY CONSTRUCTION.
10. PUMPING SEDIMENT-LADEN WATER INTO WATERS OF THE STATE IS STRICTLY PROHIBITED. ANY PORTABLE DEWATERING DEVICE MUST BE LOCATED WITHIN THE LIMIT OF DISTURBANCE.
11. NOTHING HEREIN RELIEVES THE CONTRACTOR FROM COMPLYING WITH ANY AND ALL OTHER FEDERAL, STATE OR MUNICIPAL REGULATIONS.
12. NO PUMPING FROM FOUNDATION EXCAVATIONS WILL BE ALLOWED DIRECTLY INTO THE COUNTY'S SYSTEM UNLESS IT IS FILTERED BY WAY OF SEDIMENT TRAPS OR DEWATERING DEVICE.
13. ALL EXCAVATION MATERIAL SHALL BE PLACED ON THE HIGH SIDE WHENEVER POSSIBLE AND CONFINED TO AN AREA WHERE IT WILL NOT OBSTRUCT THE NORMAL FLOW OF DRAINAGE COURSES.
14. CONTINUOUS INSPECTION AND MAINTENANCE OF ALL SEDIMENT CONTROL DEVICES WILL BE REQUIRED.
15. THE CONTRACTOR SHALL NOT DEVIATE FROM THE APPROVED SEDIMENT AND EROSION CONTROL PLANS WITHOUT PRIOR APPROVAL OF THE ANNE ARUNDEL SOIL CONSERVATION DISTRICT. VARIATIONS TO THE PLAN MUST BE SUBMITTED IN WRITING, ACCOMPANIED BY A COPY OF THE ORIGINALLY APPROVED PLAN MODIFIED TO SHOW THE REQUESTED CHANGES, FOR THIS APPROVAL. SUBSTANTIAL CHANGES WILL NECESSITATE AMENDING THE BUILDING AND/OR GRADING PERMIT IF APPLICABLE.

UTILITY NOTES:

- 1. CONTRACTOR SHOULD OPEN ONLY THAT SECTION OF TRENCH THAT CAN BE BACKFILLED AND STABILIZED EACH DAY. IF TRENCH MUST REMAIN OPEN LONGER THAN ONE DAY, SILT FENCE SHALL BE PLACED BELOW (DOWNSLOPE OF) THE TRENCH.
2. PLACE ALL EXCAVATED MATERIAL ON UPHILL SIDE OF TRENCH.
3. ANY SEDIMENT CONTROLS DISTURBED BY UTILITY CONSTRUCTION ARE TO BE REPAIRED IMMEDIATELY.

B-4-2 STANDARDS AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING AND SOIL AMENDMENTS

DEFINITION: THE PROCESS OF PREPARING THE SOILS TO SUSTAIN ADEQUATE VEGETATIVE STABILIZATION.
PURPOSE: TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH.
CONDITIONS WHERE PRACTICE APPLIES: WHERE VEGETATIVE STABILIZATION IS TO BE ESTABLISHED.
CRITERIA:
A. SOIL PREPARATION
1. TEMPORARY STABILIZATION
a. SEEDBED PREPARATION CONSISTS OF LOOSENING SOIL TO A DEPTH OF 3 TO 5 INCHES BY MEANS OF SUITABLE AGRICULTURAL OR CONSTRUCTION EQUIPMENT, SUCH AS DISC HARROWS OR CHISEL PLOWS OR RIPPERS MOUNTED ON CONSTRUCTION EQUIPMENT. AFTER THE SOIL IS LOOSENEED, IT MUST NOT BE ROLLED OR DRAGGED SMOOTH BUT LEFT IN THE ROUGHENED CONDITION. SLOPES 3:1 OR FLATTER ARE TO BE TRACKED WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE.
b. APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS.
c. INCORPORATE LIME AND FERTILIZER INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.
2. PERMANENT STABILIZATION
a. A SOIL TEST IS REQUIRED FOR ANY EARTH DISTURBANCE OF 5 ACRES OR MORE. THE MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT ARE:
I. SOIL PH BETWEEN 6.0 AND 7.0.
II. SOLUBLE SALTS LESS THAN 500 PARTS PER MILLION (PPM).
III. SOIL CONTAINS LESS THAN 40 PERCENT CLAY BUT ENOUGH FINE GRAINED MATERIAL (GREATER THAN 30 PERCENT SILT PLUS CLAY) TO PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE. AN EXCEPTION: IF LOVEGRASS WILL BE PLANTED, THEN A SANDY SOIL (LESS THAN 30 PERCENT SILT PLUS CLAY) WOULD BE ACCEPTABLE.
IV. SOIL CONTAINS 1.5 PERCENT MINIMUM ORGANIC MATTER BY WEIGHT.
V. SOIL CONTAINS SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION.
b. APPLICATION OF AMENDMENTS OR TOPSOIL IS REQUIRED IF ON-SITE SOILS DO NOT MEET THE ABOVE CONDITIONS.
c. GRADED AREAS MUST BE MAINTAINED IN A TRUE AND EVEN GRADE AS SPECIFIED ON THE APPROVED PLAN, THEN SCARIFIED OR OTHERWISE LOOSENEED TO A DEPTH OF 3 TO 5 INCHES.
d. APPLY SOIL AMENDMENTS AS SPECIFIED ON THE APPROVED PLAN OR AS INDICATED BY THE RESULTS OF A SOIL TEST.
e. MIX SOIL AMENDMENTS INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS. RAKE LAWN AREAS TO SMOOTH THE SURFACE. REMOVE LARGE OBJECTS LIKE STONES AND BRANCHES, AND READY THE AREA FOR SEED APPLICATION. LOOSEN SURFACE SOIL BY DRAGGING WITH A HEAVY CHAIN OR OTHER EQUIPMENT TO ROUGHEN THE SURFACE WHERE SITE CONDITIONS WILL NOT PERMIT NORMAL SEEDBED PREPARATION. TRACK SLOPES 3:1 OR FLATTER WITH TRACKED EQUIPMENT LEAVING THE SOIL IN AN IRREGULAR CONDITION WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE. LEAVE THE TOP 1 TO 3 INCHES OF SOIL LOOSE AND FRIABLE. SEEDBED LOOSENING MAY BE UNNECESSARY ON NEWLY DISTURBED AREAS.

B. TOPSOILING
1. TOPSOIL IS PLACED OVER PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION. THE PURPOSE IS TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. SOILS OF CONCERN HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION.
2. TOPSOIL SALVAGED FROM AN EXISTING SITE MAY BE USED PROVIDED IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS. TYPICALLY, THE DEPTH OF TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-NRCS.
3. TOPSOILING IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:
a. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.
b. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.
c. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.
d. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
4. AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.
5. TOPSOIL SPECIFICATIONS: SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA:
a. TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. TOPSOIL MUST NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF CINDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1 1/2 INCHES IN DIAMETER.
b. TOPSOIL MUST BE FREE OF NOXIOUS PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACK GRASS, JOHNSON GRASS, NUT SEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.
c. TOPSOIL SUBSTITUTES OR AMENDMENTS, AS RECOMMENDED BY A QUALIFIED AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY, MAY BE USED IN LIEU OF NATURAL TOPSOIL.

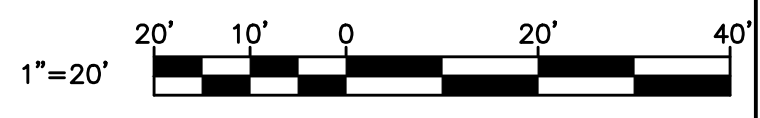
6. TOPSOIL APPLICATION
a. EROSION AND SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED WHEN APPLYING TOPSOIL.
b. UNIFORMLY DISTRIBUTE TOPSOIL IN A 5 TO 8 INCH LAYER AND LIGHTLY COMPACT TO A MINIMUM THICKNESS OF 4 INCHES. SPREADING IS TO BE PERFORMED IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS MUST BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.
c. TOPSOIL MUST NOT BE PLACED IF THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.

C. SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS)
1. SOIL TESTS MUST BE PERFORMED TO DETERMINE THE EXACT RATIOS AND APPLICATION RATES FOR BOTH LIME AND FERTILIZER ON SITES HAVING DISTURBED AREAS OF 5 ACRES OR MORE. SOIL ANALYSIS MAY BE PERFORMED BY A RECOGNIZED PRIVATE OR COMMERCIAL LABORATORY. SOIL SAMPLES TAKEN FOR ENGINEERING PURPOSES MAY ALSO BE USED FOR CHEMICAL ANALYSES.
2. FERTILIZERS MUST BE UNIFORM IN COMPOSITION, FREE FLOWING AND SUITABLE FOR ACCURATE APPLICATION BY APPROPRIATE EQUIPMENT. MANURE MAY BE SUBSTITUTED FOR FERTILIZER WITH PRIOR APPROVAL FROM THE APPROPRIATE APPROVAL AUTHORITY. FERTILIZERS MUST ALL BE DELIVERED TO THE SITE FULLY LABELED ACCORDING TO THE APPLICABLE LAWS AND MUST BEAR THE NAME, TRADE NAME OR TRADEMARK AND WARRANTY OF THE PRODUCER.
3. LIME MATERIALS MUST BE GROUND LIMESTONE (HYDRATED OR BURNT LIME MAY BE SUBSTITUTED EXCEPT WHEN HYDROSEEDING) WHICH CONTAINS AT LEAST 50 PERCENT TOTAL OXIDES (CALCIUM OXIDE PLUS MAGNESIUM OXIDE). LIMESTONE MUST BE GROUND TO SUCH FINENESS THAT AT LEAST 50 PERCENT WILL PASS THROUGH A #100 MESH SIEVE AND 98 TO 100 PERCENT WILL PASS THROUGH A #20 MESH SIEVE.
4. LIME AND FERTILIZER ARE TO BE EVENLY DISTRIBUTED AND INCORPORATED INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.
5. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, SPREAD GROUND LIMESTONE AT THE RATE OF 4 TO 8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL.

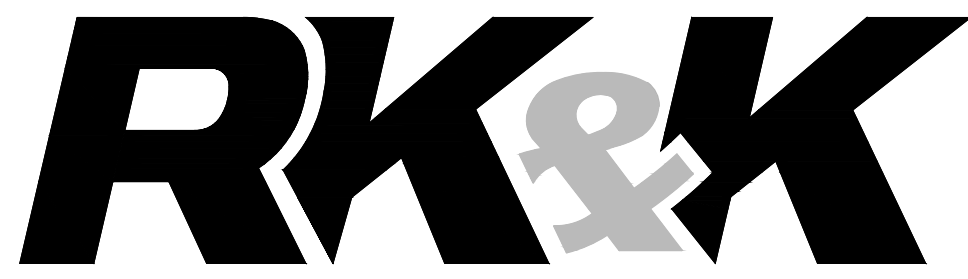
B-4-3 STANDARDS AND SPECIFICATIONS FOR SEEDING AND MULCHING

DEFINITION: THE APPLICATION OF SEED AND MULCH TO ESTABLISH VEGETATIVE COVER.
PURPOSE: TO PROTECT DISTURBED SOILS FROM EROSION DURING AND AT THE END OF CONSTRUCTION.
CONDITIONS WHERE PRACTICE APPLIES: TO THE SURFACE OF ALL PERIMETER CONTROLS, SLOPES, AND ANY DISTURBED AREA NOT UNDER ACTIVE GRADING.
CRITERIA:
A. SEEDING
1. SPECIFICATIONS
a. ALL SEED MUST MEET THE REQUIREMENTS OF THE MARYLAND STATE SEED LAW. ALL SEED MUST BE SUBJECT TO RE-TESTING BY A RECOGNIZED SEED LABORATORY. ALL SEED USED MUST HAVE BEEN TESTED WITHIN THE 6 MONTHS IMMEDIATELY PRECEDING THE DATE OF SOWING SUCH MATERIAL ON ANY PROJECT. REFER TO TABLE B.4 REGARDING THE QUALITY OF SEED. SEED TAGS MUST BE AVAILABLE UPON REQUEST TO THE INSPECTOR TO VERIFY TYPE OF SEED AND SEEDING RATE.
b. MULCH ALONE MAY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES ONLY IF THE GROUND IS FROZEN. THE APPROPRIATE SEEDING MIXTURE MUST BE APPLIED WHEN THE GROUND THAWS.
c. INOCULANTS: THE INOCULANT FOR TREATING LEGUME SEED IN THE SEED MIXTURES MUST BE A PURE CULTURE OF NITROGEN FIXING BACTERIA PREPARED SPECIFICALLY FOR THE SPECIES. INOCULANTS MUST NOT BE USED LATER THAN THE DATE INDICATED ON THE CONTAINER. ADD FRESH INOCULANTS AS DIRECTED ON THE PACKAGE. USE FOUR TIMES THE RECOMMENDED RATE WHEN HYDROSEEDING. NOTE: IT IS VERY IMPORTANT TO KEEP INOCULANT AS COOL AS POSSIBLE UNTIL USED. TEMPERATURES ABOVE 75 TO 80 DEGREES FAHRENHEIT CAN WEAKEN BACTERIA AND MAKE THE INOCULANT LESS EFFECTIVE.
d. SOD OR SEED MUST NOT BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS OR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN.) TO PERMIT DISSIPATION OF PHYTO-TOXIC MATERIALS.
2. APPLICATION
a. DRY SEEDING: THIS INCLUDES USE OF CONVENTIONAL DROP OR BROADCAST SPREADERS.
I. INCORPORATE SEED INTO THE SUBSOIL AT THE RATES PRESCRIBED ON TEMPORARY SEEDING TABLE B.1, PERMANENT SEEDING TABLE B.3, OR SITE-SPECIFIC SEEDING SUMMARIES.
II. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION. ROLL THE SEEDED AREA WITH A WEIGHTED ROLLER TO PROVIDE GOOD SEED TO SOIL CONTACT.
b. DRILL OR CULTIPACKER SEEDING: MECHANIZED SEEDERS THAT APPLY AND COVER SEED WITH SOIL.
I. CULTIPACKING SEEDERS ARE REQUIRED TO BURY THE SEED IN SUCH A FASHION AS TO PROVIDE AT LEAST 1/4 INCH OF SOIL COVERING. SEEDBED MUST BE FIRM AFTER PLANTING.
II. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION.
c. HYDROSEEDING: APPLY SEED UNIFORMLY WITH HYDROSEEDER (SLURRY INCLUDES SEED AND FERTILIZER).
I. IF FERTILIZER IS BEING APPLIED AT THE TIME OF SEEDING, THE APPLICATION RATES SHOULD NOT EXCEED THE FOLLOWING: NITROGEN, 100 POUNDS PER ACRE TOTAL OF SOLUBLE NITROGEN; P205 (PHOSPHOROUS), 200 POUNDS PER ACRE; K2O (POTASSIUM), 200 POUNDS PER ACRE.
II. LIME: USE ONLY GROUND AGRICULTURAL LIMESTONE (UP TO 3 TONS PER ACRE MAY BE APPLIED BY HYDROSEEDING). NORMALLY, NOT MORE THAN 2 TONS ARE APPLIED BY HYDROSEEDING AT ANY ONE TIME. DO NOT USE BURNT OR HYDRATED LIME WHEN HYDROSEEDING.
III. MIX SEED AND FERTILIZER ON SITE AND SEED IMMEDIATELY AND WITHOUT INTERRUPTION.
IV. WHEN HYDROSEEDING DO NOT INCORPORATE SEED INTO THE SOIL.

B. MULCHING
1. MULCH MATERIALS (IN ORDER OF PREFERENCE)
a. STRAW CONSISTING OF THOROUGHLY THRESHED WHEAT, RYE, OAT, OR BARLEY AND REASONABLY BRIGHT IN COLOR. STRAW IS TO BE FREE OF NOXIOUS WEED SEEDS AS SPECIFIED IN THE MARYLAND SEED LAW AND NOT MUSTY, MOLDY, CAKED, DECAYED, OR EXCESSIVELY DUSTY. NOTE: USE ONLY STERILE STRAW MULCH IN AREAS WHERE ONE SPECIES OF GRASS IS DESIRED.
b. WOOD CELLULOSE FIBER MULCH (WCFM) CONSISTING OF SPECIALLY PREPARED WOOD CELLULOSE PROCESSED INTO A UNIFORM FIBROUS PHYSICAL STATE.
I. WCFM IS TO BE DYED GREEN OR CONTAIN A GREEN DYE IN THE PACKAGE THAT WILL PROVIDE AN APPROPRIATE COLOR TO FACILITATE VISUAL INSPECTION OF THE UNIFORMLY SPREAD SLURRY.
II. WCFM, INCLUDING DYE, MUST CONTAIN NO GERMINATION OR GROWTH INHIBITING FACTORS.
III. WCFM MATERIALS ARE TO BE MANUFACTURED AND PROCESSED IN SUCH A MANNER THAT THE WOOD CELLULOSE FIBER MULCH WILL REMAIN IN UNIFORM SUSPENSION IN WATER UNDER AGITATION AND WILL BLEND WITH SEED, FERTILIZER AND OTHER ADDITIVES TO FORM A HOMOGENEOUS SLURRY. THE MULCH MATERIAL MUST FORM A BLOTTER-LIKE GROUND COVER, ON APPLICATION, HAVING MOISTURE ABSORPTION AND PERCOLATION PROPERTIES AND MUST COVER AND HOLD GRASS SEED IN CONTACT WITH THE SOIL WITHOUT INHIBITING THE GROWTH OF THE GRASS SEEDLINGS.
IV. WCFM MATERIAL MUST NOT CONTAIN ELEMENTS OR COMPOUNDS AT CONCENTRATION LEVELS THAT WILL BE PHYTO-TOXIC.
V. WCFM MUST CONFORM TO THE FOLLOWING PHYSICAL REQUIREMENTS: FIBER LENGTH OF APPROXIMATELY 10 MILLIMETERS, DIAMETER APPROXIMATELY 1 MILLIMETER, PH RANGE OF 4.0 TO 8.5, ASH CONTENT OF 1.6 PERCENT MAXIMUM AND WATER HOLDING CAPACITY OF 90 PERCENT MINIMUM.
2. APPLICATION
a. APPLY MULCH TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING.
b. WHEN STRAW MULCH IS USED, SPREAD IT OVER ALL SEEDED AREAS AT THE RATE OF 2 TONS PER ACRE TO A UNIFORM LOOSE DEPTH OF 1 TO 2 INCHES. APPLY MULCH TO ACHIEVE A UNIFORM DISTRIBUTION AND DEPTH SO THAT THE SOIL SURFACE IS NOT EXPOSED. WHEN USING A MULCH ANCHORING TOOL, INCREASE THE APPLICATION RATE TO 2.5 TONS PER ACRE.
c. WOOD CELLULOSE FIBER USED AS MULCH MUST BE APPLIED AT A NET DRY WEIGHT OF 1500 POUNDS PER ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER TO ATTAIN A MIXTURE WITH A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.
3. ANCHORING
a. PERFORM MULCH ANCHORING IMMEDIATELY FOLLOWING APPLICATION OF MULCH TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS (LISTED BY PREFERENCE), DEPENDING UPON THE SIZE OF THE AREA AND EROSION HAZARD:
I. A MULCH ANCHORING TOOL IS A TRACTOR DRAWN IMPLEMENT DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL SURFACE A MINIMUM OF 2 INCHES. THIS PRACTICE IS MOST EFFECTIVE ON LARGE AREAS, BUT IS LIMITED TO FLATTER SLOPES WHERE EQUIPMENT CAN OPERATE SAFELY. IF USED ON SLOPING LAND, THIS PRACTICE SHOULD FOLLOW THE CONTOUR.
II. WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW. APPLY THE FIBER BINDER AT A NET DRY WEIGHT OF 750 POUNDS PER ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER AT A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.
III. SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRO-TACK), DCA-70, PETROSET, TERRA TAX II, TERRA TACK OR OTHER APPROVED EQUAL MAY BE USED. FOLLOW APPLICATION RATES AS SPECIFIED BY THE MANUFACTURER. APPLICATION OF LIQUID BINDERS NEEDS TO BE HEAVIER AT THE EDGES WHERE WIND CATCHES MULCH, SUCH AS IN VALLEYS AND ON CRESTS OF BANKS. USE OF ASPHALT BINDERS IS STRICTLY PROHIBITED.
IV. LIGHTWEIGHT PLASTIC NETTING MAY BE STAPLED OVER THE MULCH ACCORDING TO MANUFACTURER RECOMMENDATIONS. NETTING IS USUALLY AVAILABLE IN ROLLS 4 TO 15 FEET WIDE AND 300 TO 3,000 FEET LONG.



JANUARY 2024 DWG. ESC-01



700 EAST PRATT STREET, SUITE 500 BALTIMORE, MARYLAND 21202 410.728.2900

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 20566 EXPIRATION DATE: 09/06/2024

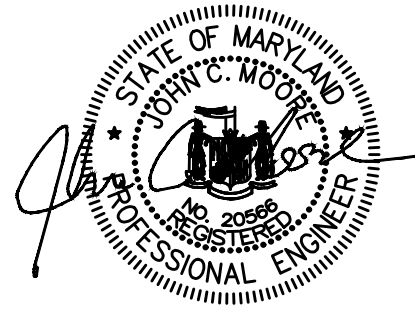


Table with 4 columns: NO., DESCRIPTION, BY, DATE. Contains revision entries for approved and approved by dates.

APPROVED DATE 12/13/2023 APPROVED DATE 12/12/2023
APPROVED DATE 12/13/2023 APPROVED DATE 12/12/2023

ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS 105776 BROAD CREEK II WTP NEW OPERATOR BUILDING EROSION & SEDIMENT CONTROL NOTES

B-4-4 STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION

DEFINITION

TO STABILIZE DISTURBED SOILS WITH VEGETATION FOR UP TO 6 MONTHS.

PURPOSE

TO USE FAST GROWING VEGETATION THAT PROVIDES COVER ON DISTURBED SOILS.

CONDITIONS WHERE PRACTICE APPLIES

EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR A PERIOD OF 6 MONTHS OR LESS. FOR LONGER DURATION OF TIME, PERMANENT STABILIZATION PRACTICES ARE REQUIRED.

CRITERIA

- 1. SELECT ONE OR MORE OF THE SPECIES OR SEED MIXTURES LISTED IN TABLE B.1 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE B.3), AND ENTER THEM IN THE TEMPORARY SEEDING SUMMARY BELOW ALONG WITH APPLICATION RATES, SEEDING DATES AND SEEDING DEPTHS. IF THIS SUMMARY IS NOT PUT ON THE PLAN AND COMPLETED, THEN TABLE B.1 PLUS FERTILIZER AND LIME RATES MUST BE PUT ON THE PLAN.
2. FOR SITES HAVING SOIL TESTS PERFORMED, USE AND SHOW THE RECOMMENDED RATES BY THE TESTING AGENCY. SOIL TESTS ARE NOT REQUIRED FOR TEMPORARY SEEDING.
3. WHEN STABILIZATION IS REQUIRED OUTSIDE OF A SEEDING SEASON, APPLY SEED AND MULCH OR STRAW MULCH ALONE AS PRESCRIBED IN SECTION B-4-3.A.1.B AND MAINTAIN UNTIL THE NEXT SEEDING SEASON.

TEMPORARY SEEDING SUMMARY table with columns: NO., SPECIES, APPLICATION RATE (LB/AC), SEEDING DATES, SEEDING DEPTHS, FERTILIZER RATE (10-20-20), LIME RATE. Includes rows for BARLEY (HORDEUM VULGARE), CEREAL RYE (SECALE CEREALE), and FOXTAIL MILLET (SETARIA ITALICA).

- NOTES:
1. SEEDING RATES FOR THE WARM-SEASON GRASSES ARE IN POUNDS OF PURE LIVE SEED (PLS). ACTUAL PLANTING RATES SHALL BE ADJUSTED TO REFLECT PERCENT SEED GERMINATION AND PURITY, AS TESTED. ADJUSTMENTS ARE USUALLY NOT NEEDED FOR THE COOL-SEASON GRASSES.
SEEDING RATES LISTED ABOVE ARE FOR TEMPORARY SEEDINGS, WHEN PLANTED ALONE. WHEN PLANTED AS A NURSE CROP WITH PERMANENT SEED MIXES, USE 1/3 OF THE SEEDING RATE LISTED ABOVE FOR BARLEY, OATS, AND WHEAT. FOR SMALLER-SEEDED GRASSES (ANNUAL RYEGRASS, PEARL MILLET, FOXTAIL MILLET), DO NOT EXCEED MORE THAN 5% (BY WEIGHT) OF THE OVERALL PERMANENT SEEDING MIX. CEREAL RYE GENERALLY SHOULD NOT BE USED AS A NURSE CROP, UNLESS PLANTING WILL OCCUR IN VERY LATE FALL BEYOND THE SEEDING DATES FOR OTHER TEMPORARY SEEDINGS. CEREAL RYE HAS ALLELOPATHIC PROPERTIES THAT INHIBIT THE GERMINATION AND GROWTH OF OTHER PLANTS. IF IT MUST BE USED AS A NURSE CROP, SEED AT 1/3 OF THE RATE LISTED ABOVE.
OATS ARE THE RECOMMENDED NURSE CROP FOR WARM-SEASON GRASSES.
2. FOR SANDY SOILS, PLANT SEEDS AT TWICE THE DEPTH LISTED ABOVE.
3. THE PLANTING DATES LISTED ARE AVERAGES FOR EACH ZONE AND MAY REQUIRE ADJUSTMENT TO REFLECT LOCAL CONDITIONS, ESPECIALLY NEAR THE BOUNDARIES OF THE ZONE.

B-4-5 STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION

DEFINITION

TO STABILIZE DISTURBED SOILS WITH PERMANENT VEGETATION.

PURPOSE

TO USE LONG-LIVED PERENNIAL GRASSES AND LEGUMES TO ESTABLISH PERMANENT GROUND COVER ON DISTURBED SOILS.

CONDITIONS WHERE PRACTICE APPLIES

EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR 6 MONTHS OR MORE.

CRITERIA

- A. SEED MIXTURES
1. GENERAL USE
a. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE B.3 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE B.3) AND BASED ON THE SITE CONDITION OR PURPOSE FOUND ON TABLE B.2. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN.
b. ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SITES SUCH AS SHORELINES, STREAM BANKS, OR DUNES OR FOR SPECIAL PURPOSES SUCH AS WILDLIFE OR AESTHETIC TREATMENT MAY BE FOUND IN USDA-NRCS TECHNICAL FIELD OFFICE GUIDE, SECTION 342 - CRITICAL AREA PLANTING.
c. FOR SITES HAVING DISTURBED AREA OVER 5 ACRES, USE AND SHOW THE RATES RECOMMENDED BY THE SOIL TESTING AGENCY.
d. FOR AREAS RECEIVING LOW MAINTENANCE, APPLY UREA FORM FERTILIZER (46-0-0) AT 3 1/2 POUNDS PER 1000 SQUARE FEET (150 POUNDS PER ACRE) AT THE TIME OF SEEDING IN ADDITION TO THE SOIL AMENDMENTS SHOWN IN THE PERMANENT SEEDING SUMMARY.
2. TURFGRASS MIXTURES
a. AREAS WHERE TURFGRASS MAY BE DESIRED INCLUDE LAWNS, PARKS, PLAYGROUNDS, AND COMMERCIAL SITES WHICH WILL RECEIVE A MEDIUM TO HIGH LEVEL OF MAINTENANCE.
b. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED BELOW BASED ON THE SITE CONDITIONS OR PURPOSE. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN.
I. KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN AREAS THAT RECEIVE INTENSIVE MANAGEMENT. IRRIGATION REQUIRED IN THE AREAS OF CENTRAL MARYLAND AND EASTERN SHORE. RECOMMENDED CERTIFIED KENTUCKY BLUEGRASS CULTIVARS SEEDING RATE: 1.5 TO 2.0 POUNDS PER 1000 SQUARE FEET. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.
II. KENTUCKY BLUEGRASS/PERENNIAL RYE: FULL SUN MIXTURE: FOR USE IN FULL SUN AREAS WHERE RAPID ESTABLISHMENT IS NECESSARY AND WHEN TURF WILL RECEIVE MEDIUM TO INTENSIVE MANAGEMENT. CERTIFIED PERENNIAL RYEGRASS CULTIVARS/CERTIFIED KENTUCKY BLUEGRASS SEEDING RATE: 2 POUNDS MIXTURE PER 1000 SQUARE FEET. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.
III. TALL FESCUE/KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN DROUGHT PRONE AREAS AND/OR FOR AREAS RECEIVING LOW TO MEDIUM MANAGEMENT IN FULL SUN TO MEDIUM SHADE. RECOMMENDED MIXTURE INCLUDES: CERTIFIED TALL FESCUE CULTIVARS 95 TO 100 PERCENT, CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 0 TO 5 PERCENT. SEEDING RATE: 5 TO 8 POUNDS PER 1000 SQUARE FEET. ONE OR MORE CULTIVARS MAY BE BLENDED.
IV. KENTUCKY BLUEGRASS/FINE FESCUE: SHADE MIXTURE: FOR USE IN AREAS WITH SHADE IN BLUEGRASS LAWNS. FOR ESTABLISHMENT IN HIGH QUALITY, INTENSIVELY MANAGED TURF AREA. MIXTURE INCLUDES: CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 30 TO 40 PERCENT AND CERTIFIED FINE FESCUE AND 60 TO 70 PERCENT. SEEDING RATE: 1 1/2 TO 3 POUNDS PER 1000 SQUARE FEET.

NOTES:

- SELECT TURFGRASS VARIETIES FROM THOSE LISTED IN THE MOST CURRENT UNIVERSITY OF MARYLAND PUBLICATION, AGRONOMY MEMO #77, "TURFGRASS CULTIVAR RECOMMENDATIONS FOR MARYLAND"
CHOOSE CERTIFIED MATERIAL. CERTIFIED MATERIAL IS THE BEST GUARANTEE OF CULTIVAR PURITY. THE CERTIFICATION PROGRAM OF THE MARYLAND DEPARTMENT OF AGRICULTURE, TURF AND SEED SECTION, PROVIDES A RELIABLE MEANS OF CONSUMER PROTECTION AND ASSURES A PURE GENETIC LINE
c. IDEAL TIMES OF SEEDING FOR TURF GRASS MIXTURES
WESTERN MD: MARCH 15 TO JUNE 1, AUGUST 1 TO OCTOBER 1 (HARDINESS ZONES: 5B, 6A)
CENTRAL MD: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONE: 6B)
SOUTHERN MD, EASTERN SHORE: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONES: 7A, 7B)
d. TILL AREAS TO RECEIVE SEED BY DISKING OR OTHER APPROVED METHODS TO A DEPTH OF 2 TO 4 INCHES, LEVEL AND RAKE THE AREAS TO PREPARE A PROPER SEEDBED. REMOVE STONES AND DEBRIS OVER 1 1/2 INCHES IN DIAMETER. THE RESULTING SEEDBED MUST BE IN SUCH CONDITION THAT FUTURE MOWING OF GRASSES WILL POSE NO DIFFICULTY.
e. IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER FOR PLANT GROWTH (1/2 TO 1 INCH EVERY 3 TO 4 DAYS DEPENDING ON SOIL TEXTURE) UNTIL THEY ARE FIRMLY ESTABLISHED. THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE LATE IN THE PLANTING SEASON, IN ABNORMALLY DRY OR HOT SEASONS, OR ON ADVERSE SITES.

PERMANENT SEEDING SUMMARY table with columns: NO., SPECIES, APPLICATION RATE (LB/AC), SEEDING DATES, SEEDING DEPTHS, FERTILIZER RATE (10-20-20), LIME RATE. Includes rows for TALL FESCUE (LOLIUM ARUNDINACEUM), KENTUCKY BLUEGRASS (POA PRATENSIS), and PERENNIAL RYEGRASS (LOLIUM PERENNE).

* FOR SEEDING DATES 5/1-8/14, PLEASE ADD 6.0 LBS PER ACRE OF FOXTAIL MILLET TO SEED MIXTURE NO. 9.

B: SOD: TO PROVIDE QUICK COVER ON DISTURBED AREAS (2:1 GRADE OR FLATTER).

1. GENERAL SPECIFICATIONS

- a. CLASS OF TURFGRASS SOD MUST BE MARYLAND STATE CERTIFIED. SOD LABELS MUST BE MADE AVAILABLE TO THE JOB FOREMAN AND INSPECTOR.
b. SOD MUST BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 3/4 INCH, PLUS OR MINUS 1/8 INCH, AT THE TIME OF CUTTING. MEASUREMENT FOR THICKNESS MUST EXCLUDE TOP GROWTH AND THATCH. BROKEN PADS AND TORN OR UNEVEN ENDS WILL NOT BE ACCEPTABLE.
c. STANDARD SIZE SECTIONS OF SOD MUST BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT AND RETAIN THEIR SIZE AND SHAPE WHEN SUSPENDED VERTICALLY WITH A FIRM GRASP ON THE UPPER 10 PERCENT OF THE SECTION.
d. SOD MUST NOT BE HARVESTED OR TRANSPLANTED WHEN MOISTURE CONTENT (EXCESSIVELY DRY OR WET) MAY ADVERSELY AFFECT ITS SURVIVAL.
e. SOD MUST BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS. SOD NOT TRANSPLANTED WITHIN THIS PERIOD MUST BE APPROVED BY AN AGRONOMIST OR SOIL SCIENTIST PRIOR TO ITS INSTALLATION.

2. SOD INSTALLATION

- a. DURING PERIODS OF EXCESSIVELY HIGH TEMPERATURE OR IN AREAS HAVING DRY SUBSOIL, LIGHTLY IRRIGATE THE SUBSOIL IMMEDIATELY PRIOR TO LAYING THE SOD.
b. LAY THE FIRST ROW OF SOD IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO IT AND TIGHTLY WEDGED AGAINST EACH OTHER. STAGGER LATERAL JOINTS TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH. ENSURE THAT SOD IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOIDS WHICH WOULD CAUSE AIR DRYING OF THE ROOTS.
c. WHEREVER POSSIBLE, LAY SOD WITH THE LONG EDGES PARALLEL TO THE CONTOUR AND WITH STAGGERING JOINTS. ROLL AND TAMP, REG OR OTHERWISE SECURE THE SOD TO PREVENT SLIPPAGE ON SLOPES. ENSURE SOLID CONTACT EXISTS BETWEEN SOD ROOTS AND THE UNDERLYING SOIL SURFACE.
d. WATER THE SOD IMMEDIATELY FOLLOWING ROLLING AND TAMPING UNTIL THE UNDERSIDE OF THE NEW SOD PAD AND SOIL SURFACE BELOW THE SOD ARE THOROUGHLY WET. COMPLETE THE OPERATIONS OF LAYING, TAMPING AND IRRIGATING FOR ANY PIECE OF SOD WITHIN EIGHT HOURS.

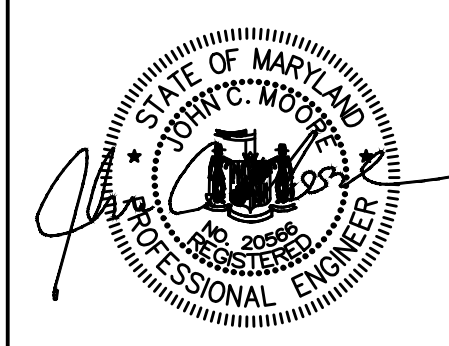
3. SOD MAINTENANCE

- a. IN THE ABSENCE OF ADEQUATE RAINFALL, WATER DAILY DURING THE FIRST WEEK OR AS OFTEN AND SUFFICIENTLY AS NECESSARY TO MAINTAIN MOIST SOIL TO A DEPTH OF 4 INCHES. WATER SOD DURING THE HEAT OF THE DAY TO PREVENT WILTING.
b. AFTER THE FIRST WEEK, SOD WATERING IS REQUIRED AS NECESSARY TO MAINTAIN ADEQUATE MOISTURE CONTENT.
c. DO NOT MOW UNTIL THE SOD IS FIRMLY ROOTED. NO MORE THAN 1/2 OF THE GRASS LEAF MUST BE REMOVED BY THE INITIAL CUTTING OR SUBSEQUENT CUTTINGS. MAINTAIN A GRASS HEIGHT OF AT LEAST 3 INCHES UNLESS OTHERWISE SPECIFIED.



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PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 20566 EXPIRATION DATE: 09/06/2024



REVISIONS table with columns: NO., DESCRIPTION, BY, DATE

APPROVED table with columns: DATE, APPROVED, SIGNED, TITLE. Includes signatures for Chief Engineer and Assistant Chief Engineer.

ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS 105777 BROAD CREEK II WTP NEW OPERATOR BUILDING EROSION & SEDIMENT CONTROL NOTES & DETAILS

SOIL EROSION AND SEDIMENT CONTROL NOTES:

2018 VEGETATIVE ESTABLISHMENT

FOLLOWING INITIAL SOIL DISTURBANCES OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN THREE CALENDAR DAYS FOR THE SURFACE OF ALL PERIMETER CONTROL DIKES, SLOTTED DITCHES, PERIMETER SLOPES, AND ALL SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1) AND SEVEN DAYS FOR ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.

1. PERMANENT SEEDING:

A. SOIL TESTS: LIME AND FERTILIZER WILL BE APPLIED PER SOIL TESTS RESULTS FOR SITES GREATER THAN 5 ACRES. SOIL TESTS WILL BE DONE AT COMPLETION OF INITIAL ROUGH GRADING OR AS RECOMMENDED BY THE SEDIMENT CONTROL INSPECTOR. RATES AND ANALYSES WILL BE PROVIDED TO THE GRADING INSPECTOR AS WELL AS THE CONTRACTOR.

OCURRENCE OF ACID SULFATE SOILS (GRAYISH BLACK COLOR) WILL REQUIRE COVERING WITH A MINIMUM OF 12 INCHES OF CLEAN SOIL WITH 6 INCHES MINIMUM CAPPING OF TOP SOIL. NO STOCKPILING OF MATERIAL IS ALLOWED. IF NEEDED, SOIL TESTS SHOULD BE DONE BEFORE AND AFTER A 6-WEEK INCUBATION PERIOD TO ALLOW OXIDATION OF SULFATES.

THE MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT ARE:

- a. SOIL PH SHALL BE BETWEEN 6.0 AND 7.0.
b. SOLUBLE SALTS SHALL BE LESS THAN 500 PARTS PER MILLION (PPM).
c. THE SOIL SHALL CONTAIN LESS THAN 40% CLAY BUT ENOUGH FINE GRAINED MATERIAL (> 30% SILT PLUS CLAY) TO PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE. AN EXCEPTION IS IF LOVEGRASS OR SEREGIA LESPEDEZA IS TO BE PLANTED, THEN A SANDY SOIL (< 30% SILT PLUS CLAY) WOULD BE ACCEPTABLE.
d. SOIL SHALL CONTAIN 1.5% MINIMUM ORGANIC MATTER BY WEIGHT.
e. SOIL MUST CONTAIN SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION. IF THESE CONDITIONS CANNOT BE MET BY SOILS ON SITE, ADDING TOPSOIL IS REQUIRED IN ACCORDANCE WITH THE STANDARD AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING AND SOIL AMENDMENTS FROM THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL OR AMENDMENTS MADE AS RECOMMENDED BY A CERTIFIED AGRONOMIST.

B. SEEDBED PREPARATION: AREA TO BE SEEDBED SHALL BE LOOSE AND FRIABLE TO A DEPTH OF AT LEAST 3-5 INCHES. THE TOP LAYER SHALL BE LOOSENEED BY RAKING, DISKING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING OPERATIONS. FOR SITES LESS THAN 5 ACRES, APPLY 100 POUNDS DOLOMITIC LIMESTONE AND 21 POUNDS OF 10-10-10 FERTILIZER PER 1,000 SQUARE FEET. HARROW OR DISK LIMB AND FERTILIZER INTO THE SOIL TO A DEPTH OF AT LEAST 3-5 INCHES ON SLOPES FLATTER THAN 3:1.

C. SEEDING: APPLY 5-6 POUNDS PER 1,000 SQUARE FEET OF TALL FESCUE BETWEEN FEBRUARY 1 AND APRIL 30 OR BETWEEN AUGUST 15 AND OCTOBER 31. APPLY SEED UNIFORMLY OR A MOIST FIRM SEEDBED WITH A CYCLONE SEEDER, CULTIPACKER SEEDER OR HYDROSEEDER (SLURRY INCLUDING SEEDS AND FERTILIZER, RECOMMENDED ON STEEP SLOPES ONLY). MAXIMUM SEED DEPTH SHOULD BE 1/4 INCH IN CLAYEY SOILS AND 1/2 INCH IN SANDY SOILS WHEN USING OTHER THAN THE HYDROSEEDER METHOD. IRRIGATE WHERE NECESSARY TO SUPPORT ADEQUATE GROWTH UNTIL VEGETATION IS FIRMLY ESTABLISHED. IF OTHER SEED MIXES ARE TO BE USED, SELECT FROM TABLE B3 AND B5 OF THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.

D. MULCHING: MULCH SHALL BE APPLIED TO ALL SEEDBED AREAS IMMEDIATELY AFTER SEEDING. DURING THE TIME PERIODS WHEN SEEDING IS NOT PERMITTED, MULCH SHALL BE APPLIED IMMEDIATELY AFTER GRADING. MULCH SHALL BE UNROTATED, UNCHOPPED, SMALL GRAIN STRAW APPLIED AT A RATE OF 2 TONS PER ACRE OR 90 POUNDS PER 1,000 SQUARE FEET (2 BALE). APPLY MULCH TO ACHIEVE A UNIFORM DISTRIBUTION AND DEPTH SO THAT THE SOIL SURFACE IS NOT EXPOSED. IF A MULCH-ANCHORING TOOL IS USED, APPLY 2.5 TONS PER ACRE. MULCH MATERIALS SHALL BE RELATIVELY FREE OF ALL KINDS OF WEEDS AND SHALL BE COMPLETELY FREE OF PROHIBITED NOXIOUS WEEDS. SPREAD MULCH UNIFORMLY, MECHANICALLY OR BY HAND, TO A DEPTH OF 1-2 INCHES.

E. SECURING STRAW MULCH: STRAW MULCH SHALL BE SECURED IMMEDIATELY FOLLOWING MULCH APPLICATION TO MINIMIZE MOVEMENT BY WIND OR WATER. THE FOLLOWING METHODS ARE PERMITTED:

- a. USE A MULCH-ANCHORING TOOL WHICH IS DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL SURFACE TO A MINIMUM DEPTH OF 2 INCHES. THIS IS THE MOST EFFECTIVE METHOD FOR SECURING MULCH, HOWEVER, IT IS LIMITED TO RELATIVELY FLAT AREAS WHERE EQUIPMENT CAN OPERATE SAFELY.
b. WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW. APPLY THE FIBER BINDER AT A NET DRY WEIGHT OF 750 POUNDS PER ACRE MIXED WITH WATER, USE 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.
c. LIQUID BINDERS MAY BE USED. APPLY AT HIGHER RATES AT THE EDGES WHERE WIND CATCHES MULCH, SUCH AS IN VALLEYS AND ON CRESTS OF SLOPES. THE REMAINDER OF THE AREA SHOULD APPEAR UNIFORM AFTER BINDER APPLICATION. BINDERS LISTED IN THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL OR APPROVED EQUAL SHALL BE APPLIED AT RATES RECOMMENDED BY THE MANUFACTURERS.
d. LIGHTWEIGHT PLASTIC NETTING MAY BE USED TO SECURE MULCH. THE NETTING WILL BE STAPLED TO THE GROUND ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

2. TEMPORARY SEEDING:

LIME: 100 POUNDS OF DOLOMITIC LIMESTONE PER 1,000 SQUARE FEET.
FERTILIZER: 15 POUNDS OF 10-10-10 PER 1,000 SQUARE FEET.
SEED: PERENNIAL RYE -0.92 POUNDS PER 1,000 SQUARE FEET (FEBRUARY 1 THROUGH APRIL 30 OR AUGUST 15 THROUGH OCTOBER 31); MILLET -0.92 POUNDS PER 1,000 SQUARE FEET (MAY 1 THROUGH AUGUST 15).
MULCH: SAME AS 1 D AND E ABOVE.

3. NO FILLS MAY BE PLACED ON FROZEN GROUND. ALL FILL IS TO BE PLACED IN APPROXIMATELY HORIZONTAL LAYERS. EACH LAYER HAVING A LOOSE THICKNESS OF NOT MORE THAN 8 INCHES. ALL COMPACTION REQUIREMENTS ARE IN ACCORDANCE TO ANNE ARUNDEL COUNTY STANDARD SPECIFICATIONS FOR CONSTRUCTION AS WELL AS THE AA COUNTY DESIGN MANUAL AND STANDARD DETAILS. FILLS FOR POND EMBANKMENTS SHALL BE COMPACTED AS PER MD-378 CONSTRUCTION SPECIFICATIONS. ALL OTHER FILLS SHALL BE COMPACTED SUFFICIENTLY SO AS TO BE STABLE AND PREVENT EROSION AND SLIPPAGE.

4. PERMANENT SOD:

INSTALLATION OF SOD SHOULD FOLLOW PERMANENT SEEDING DATES. SEEDBED PREPARATION FOR SOD SHALL BE AS NOTED IN SECTION (B) ABOVE. PERMANENT SOD IS TO BE TALL FESCUE, STATE APPROVED SOD; LIME AND FERTILIZER PER PERMANENT SEEDING SPECIFICATIONS AND ALL LIGHTLY IRRIGATE SOIL PRIOR TO LAYING SOD. SOD IS TO BE LAID ON THE CONTOUR WITH ALL EDGES TIGHTLY BUTTING. JOINTS ARE TO BESTAGGERED BETWEEN ROWS. WATER AND ROLL OR TAMP SOD TO INSURE POSITIVE ROOT CONTACT WITH THE SOIL. ALL SLOPES STEEPER THAN 3:1, AS SHOWN, ARE TO BE PERMANENTLY SODDED OR PROTECTED WITH AN APPROVED EROSION CONTROL NETTING. ADDITIONAL WATERING FOR ESTABLISHMENT MAY BE REQUIRED. SOD IS NOT TO BE INSTALLED ON FROZEN GROUND. SOD SHALL NOT BE TRANSPLANTED WHEN MOISTURE CONTENT (DRY OR WET) AND/OR EXTREME TEMPERATURE MAY ADVERSELY AFFECT ITS SURVIVAL. IN THE ABSENCE OF ADEQUATE RAINFALL, IRRIGATION SHOULD BE PERFORMED TO ENSURE ESTABLISHMENT OF SOD.

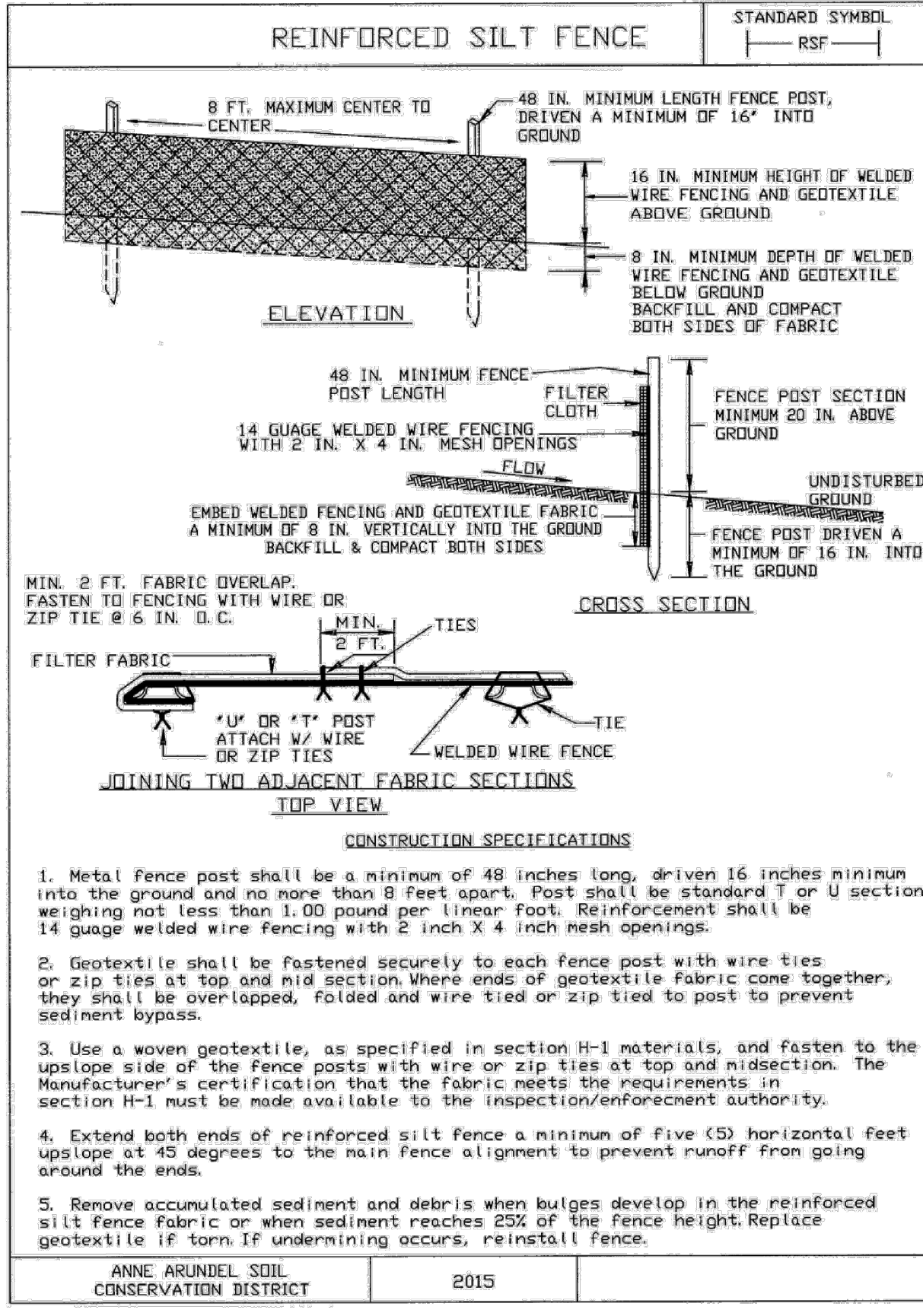
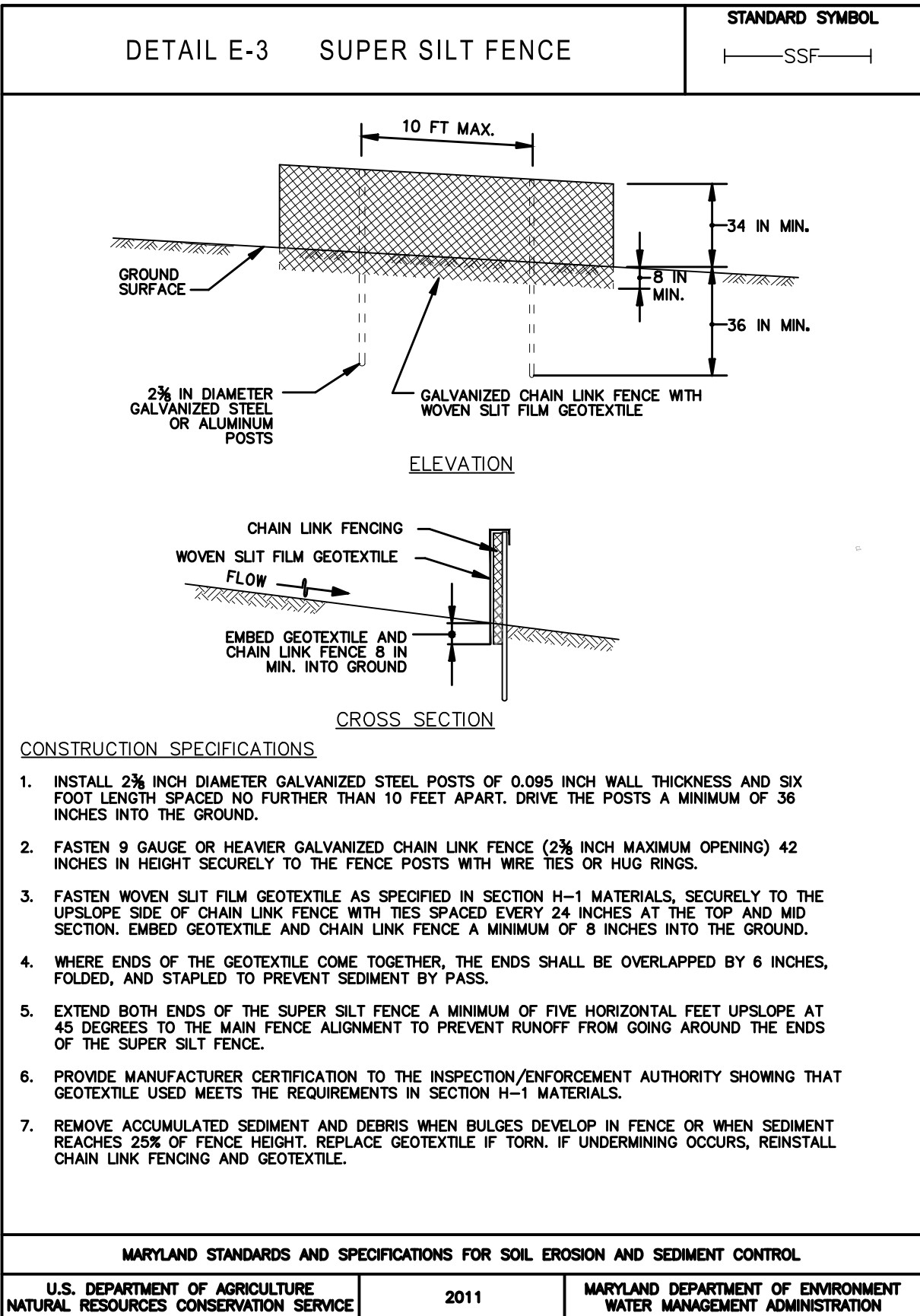
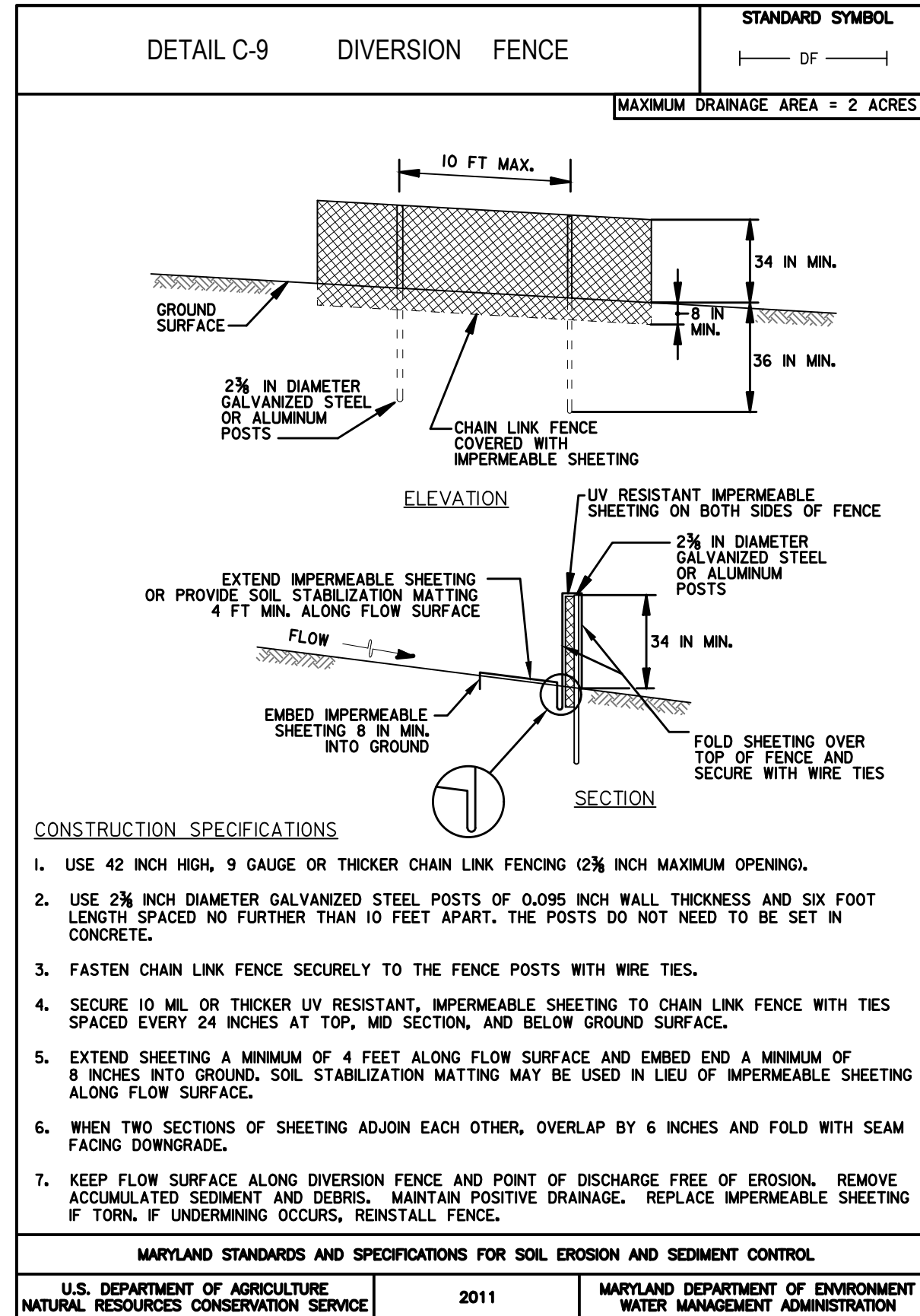
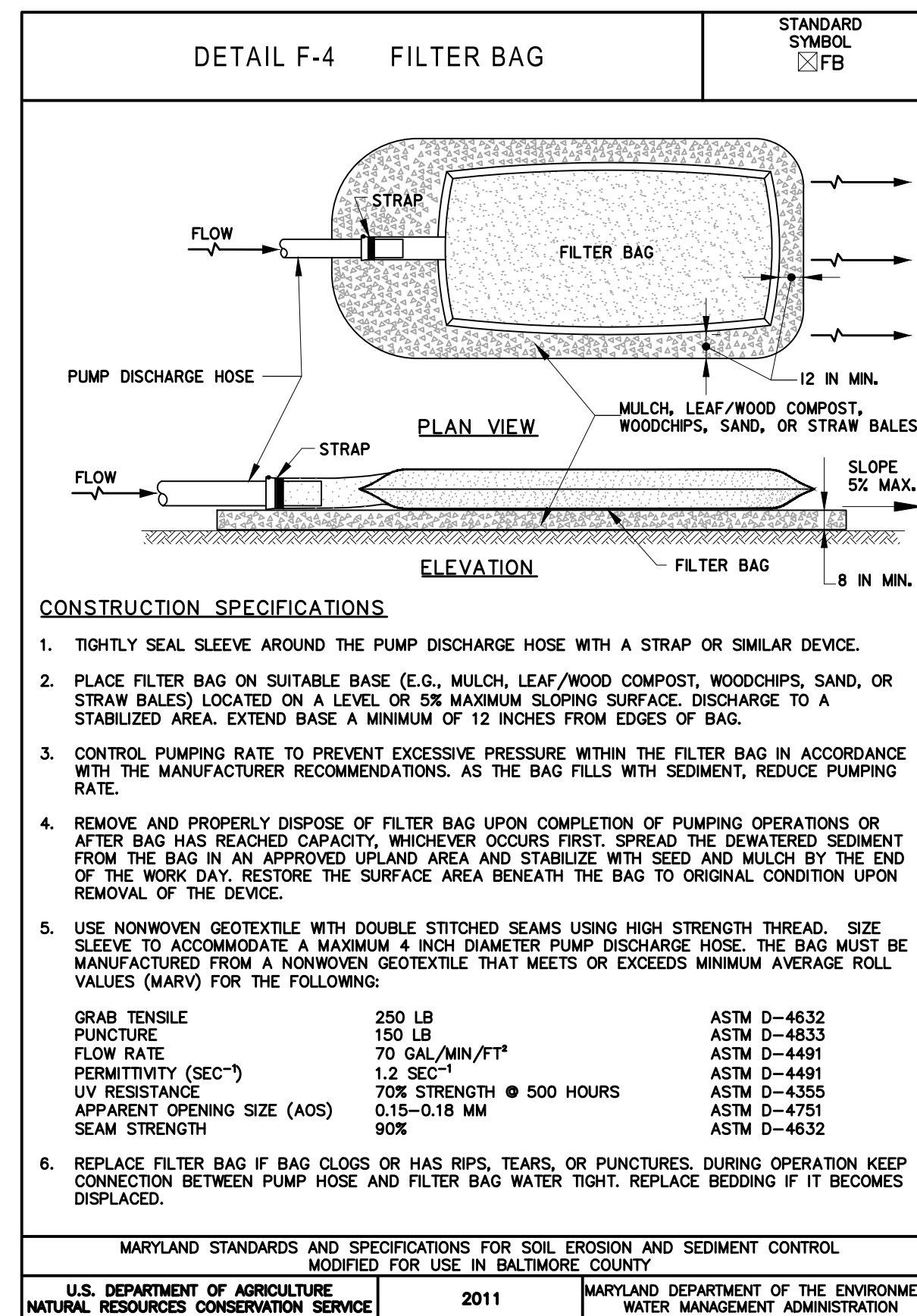
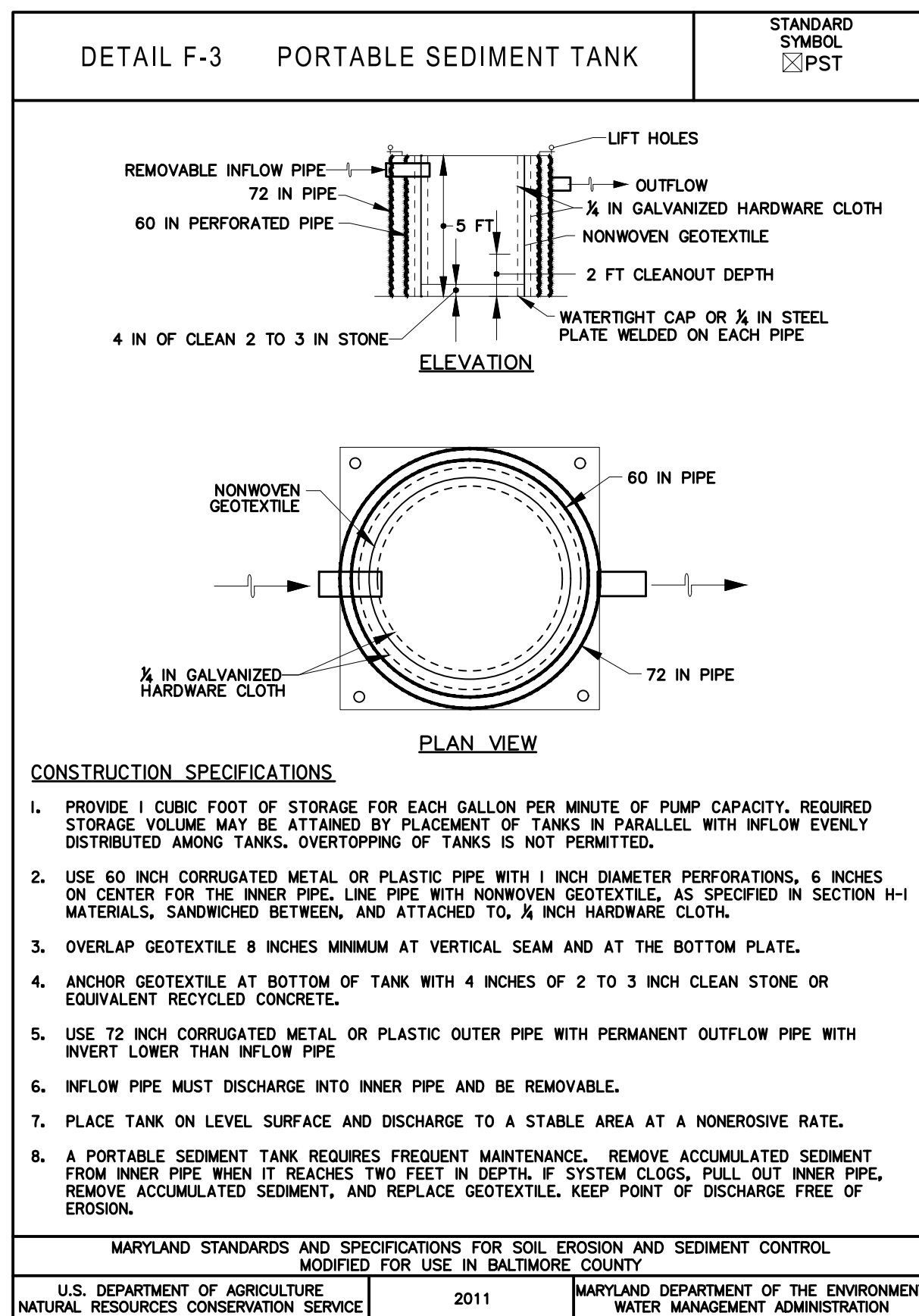
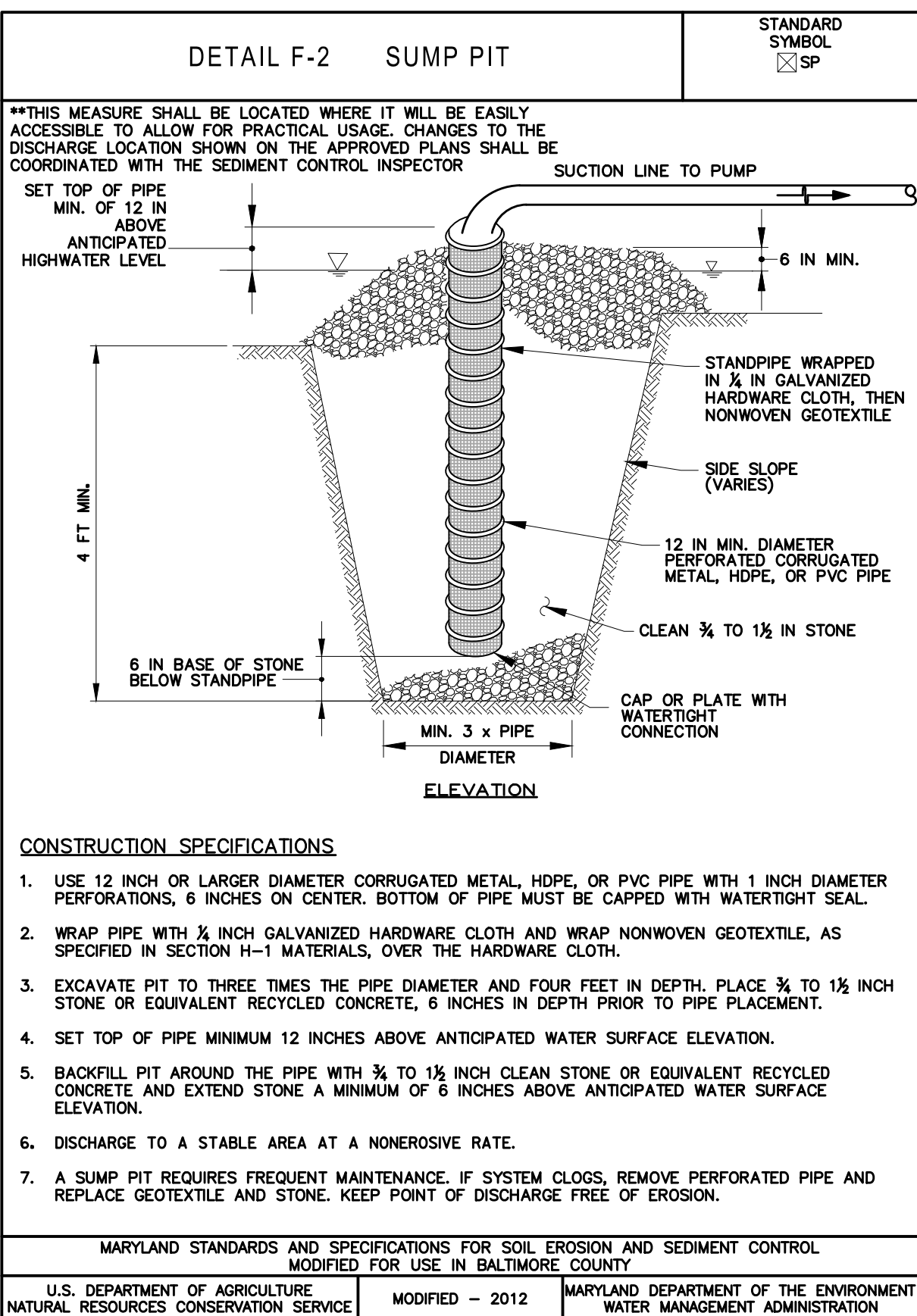
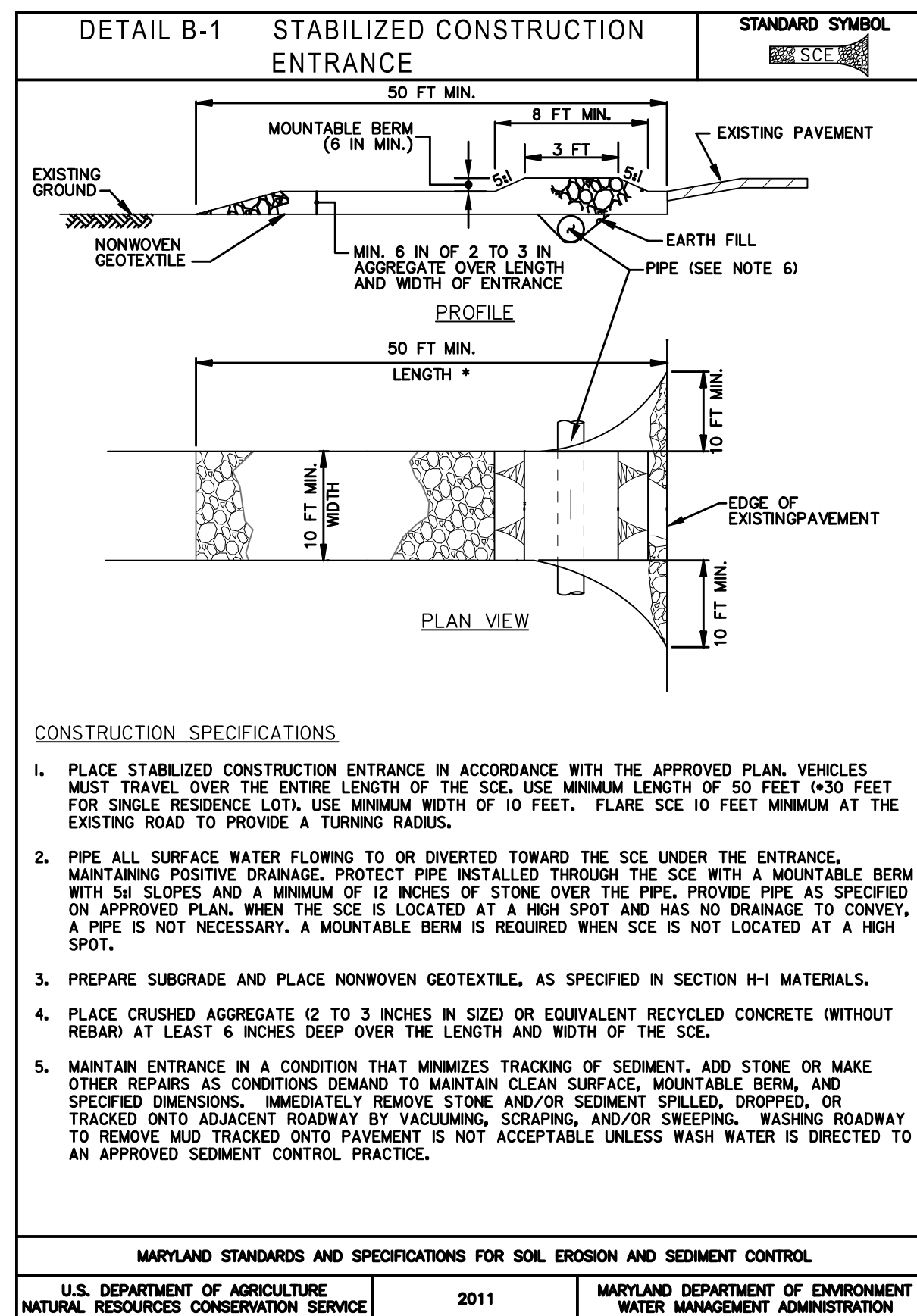
5. MINING OPERATIONS:

SEDIMENT CONTROL PLANS FOR MINING OPERATIONS MUST INCLUDE THE FOLLOWING SEEDING DATES AND MIXTURES:

FOR SEEDING DATES OF FEBRUARY 1 THROUGH APRIL 30 AND AUGUST 15 THROUGH OCTOBER 31, USE SEED MIXTURE OF TALL FESCUE AT THE RATE OF 2 POUNDS PER 1,000 SQUARE FEET AND SEREGIA LESPEDEZA AT THE MINIMUM RATE OF 0.5 POUNDS PER 1,000 SQUARE FEET.

6. TOPSOILING SHALL BE APPLIED AS PER THE STANDARD AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS FROM THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.

7. USE OF THESE VEGETATIVE ESTABLISHMENT SPECIFICATIONS DOES NOT PRECLUDE THE PERMITTEE OR CONTRACTOR FROM MEETING ALL OF THE REQUIREMENTS SET FORTH IN THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.



REINFORCED SILT FENCE Design Criteria table with columns for Average Slope Steepness, Maximum Slope Length, and Maximum Silt Fence Length. Includes design constraints and construction specifications.

Professional certification section for RK&K Engineers, Construction Managers, Planners, and Scientists. Includes license number 20566 and expiration date 09/06/2024.

Professional certification section for Anne Arundel County Department of Public Works. Includes a seal for a Professional Engineer and a signature.

REVISIONS table with columns for NO., DESCRIPTION, BY, and DATE. Includes a list of revisions and their dates.



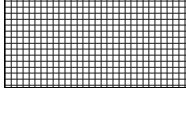
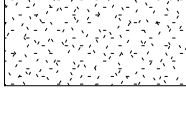
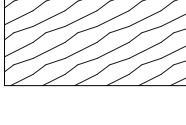
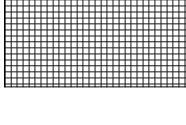
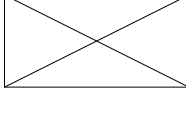
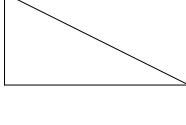

APPROVED section for Anne Arundel County Department of Public Works. Includes signatures and dates for the Chief Engineer and Assistant Chief Engineer.

Project information section for Anne Arundel County Department of Public Works. Includes project name 'BROAD CREEK II WTP', sheet number '13 OF 36', and contract number 'W804010'.

ARCHITECTURAL GENERAL NOTES

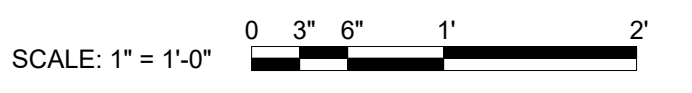
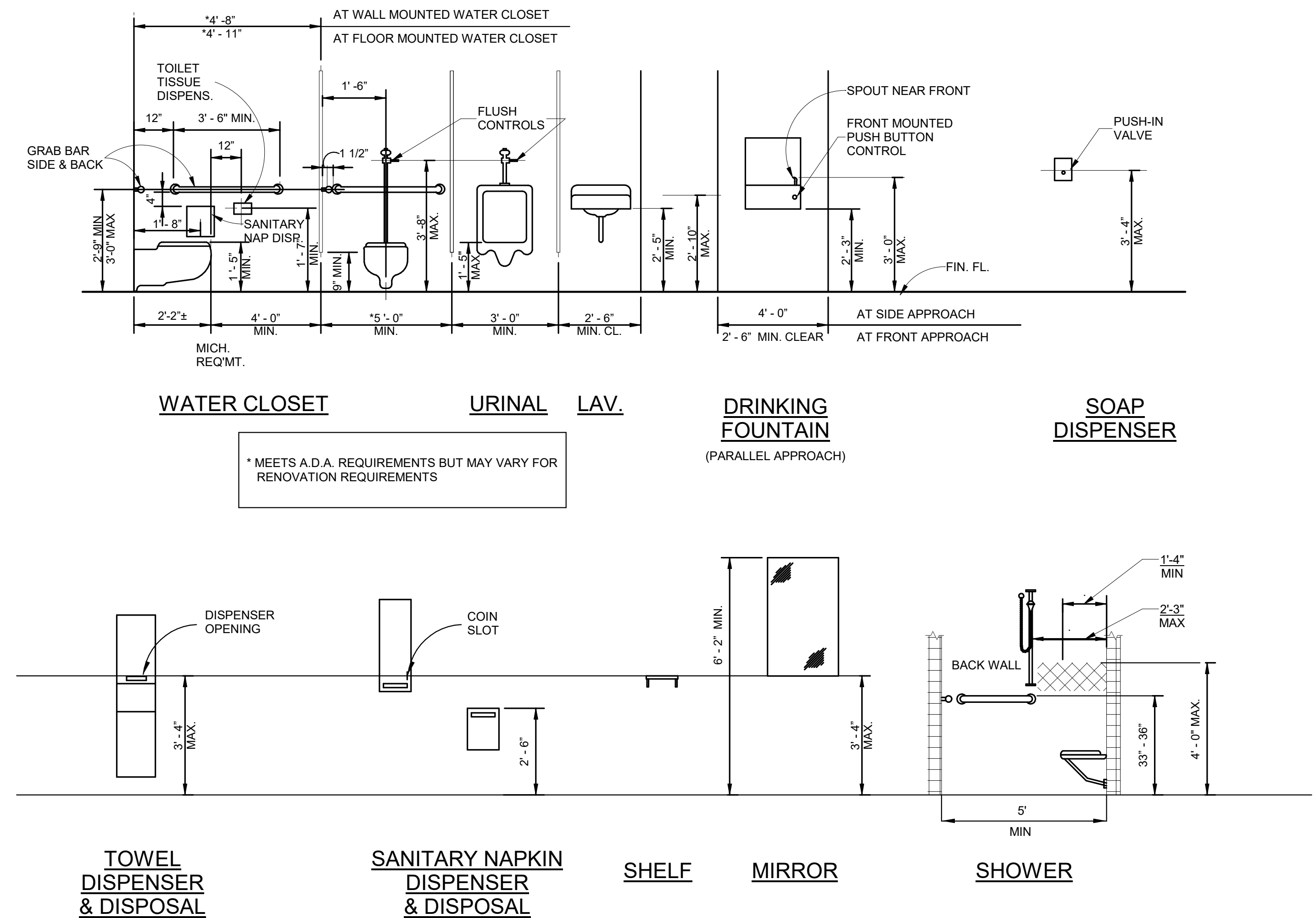
- DO NOT SCALE DRAWINGS TO DETERMINE DIMENSIONS. WRITTEN DIMENSIONS GOVERN. LARGE SCALE DRAWINGS GOVERN OVER SMALL SCALE DETAILS.
- ALL WORK SHALL COMPLY WITH APPLICABLE BUILDING CODES, ORDINANCES AND REGULATORY AGENCIES.
- THE CONTRACTOR SHALL VERIFY AND COORDINATE ALL NEW AND EXISTING CONDITIONS AND DIMENSIONS AT JOB SITE FOR COMPARISON WITH DRAWINGS AND SPECIFICATIONS. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT IN WRITING PRIOR TO PROCEEDING WITH WORK OF ANY INCONSISTENCIES DISCOVERED.
- THE CONTRACTOR SHALL PROTECT ALL FINISHED WORK AND SURFACES FROM DAMAGE DURING THE COURSE OF CONSTRUCTION AND SHALL REPLACE AND REPAIR ALL DAMAGE CAUSED BY NEW WORK TO EXISTING AREAS OF THE SITE. CONSTRUCTION WORK, FINISH CONSTRUCTION WORK, ELECTRICAL AND MECHANICAL SYSTEMS CAUSED BY THE CONTRACTOR OR SUBCONTRACTOR PERSONNEL TO THE SATISFACTION OF THE OWNER AND ARCHITECT TO MATCH EXISTING CONDITIONS OR AS FOUND PRIOR TO THE DAMAGE.
- ALL WORK INSTALLED IN CONFLICT WITH THE ARCHITECTURAL/ ENGINEERING DRAWINGS SHALL BE CORRECTED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE AND AT NO ADDITIONAL EXPENSE TO THE OWNER OR ARCHITECT.
- WHERE A SPECIFIC CONDITION IS DETAILED IT SHALL BE UNDERSTOOD THAT ALL LIKE OR SIMILAR CONDITIONS ARE THE SAME UNLESS SPECIFICALLY NOTED OR DETAILED OTHERWISE.
- CONTRACTOR SHALL PROVIDE AND INSTALL ACCESS PANELS SIZED AS REQUIRED AT ALL CONCEALED MECHANICAL AND PLUMBING ITEMS THAT REQUIRE SERVICE OR ACCESS (VALVES, FIRE DAMPERS, BALANCING DAMPERS, DUCT HEATERS, ETC.) ACCESS PANELS IN RATED CEILINGS AND PARTITIONS SHALL HAVE APPROPRIATE UL LABEL.
- CONTRACTOR TO VERIFY MOUNTING HEIGHT OF ALL ACCESSORIES, EQUIPMENT, DOOR HARDWARE, AND OUTLETS. WHERE MOUNTING HEIGHTS ARE NOT INDICATED MOUNT ITEMS IN ACCORDANCE WITH RECOGNIZED INDUSTRY STANDARDS. COORDINATE LOCATIONS WITH MANUFACTURER OR SUPPLIER AND REFER MOUNTING HEIGHT QUESTIONS TO ARCHITECT FOR CLARIFICATION.
- CONTRACTOR TO PROVIDE ALL MISCELLANEOUS FRAMING, SOLID BLOCKING, ETC. BEHIND ITEMS REQUIRING ANCHORING. PROVIDE FIRE RETARDANT TREATED (FRT) WOOD BLOCKING OR METAL STRAPS BETWEEN FRAMING MEMBERS AS REQUIRED TO SUPPORT WEIGHT AND USE OF ITEMS TO BE SUPPORTED AS RECOMMENDED BY MANUFACTURER.
- FOR FINAL GRADING AND BUILDING LOCATION, SEE CIVIL DRAWINGS.
- FOR CONCRETE AND STEEL SIZES AND CONFIGURATIONS SEE STRUCTURAL DRAWINGS.
- FOR LOCATION OF EQUIPMENT PADS SEE STRUCTURAL, MECHANICAL, HVAC, PLUMBING AND ELECTRICAL DRAWINGS
- FOR FLOOR DRAIN LOCATIONS SEE CIVIL, STRUCTURAL AND PLUMBING DRAWINGS.
- ALL DISSIMILAR MATERIALS SHALL BE ISOLATED FROM EACH OTHER TO AVOID GALVANIC CORROSION. WHERE TWO DISSIMILAR MATERIALS MEET, PAINT FACE OF ONE WITH BITUMINOUS PAINT. PROVIDE SEALANT BETWEEN DISSIMILAR MATERIALS SUCH AS GYPSUM BOARD AND MASONRY; MASONRY AND CONCRETE; COUNTERTOPS AND WALLS.
- ALL PENETRATIONS THROUGH RATED WALLS ARE TO BE SEALED TO MAINTAIN THE INTEGRITY OF WALL CONSTRUCTION AND RATING. PIPE DUCTS AND BUSS DUCTS THAT PENETRATE FLOOR SLABS OR WALL PARTITIONS SHALL BE INSTALLED IN A MANNER THAT WILL PRESERVE THE MOISTURE RESISTANCE, FIRE RATING, AIR AND/ OR VAPOR BARRIER AND THE STRUCTURAL INTEGRITY OF THE BUILDING.
- ALL WOOD IN CONTACT WITH MASONRY OR CONCRETE SHALL BE PRESSURE TREATED (PT) WOOD. AT COPINGS AND ROOFING TERMINATIONS ALL BLOCKING SHALL BE PRESSURE TREATED WOOD.
- ALL PENETRATIONS THROUGH GYPSUM BOARD AND MASONRY SURFACES, INCLUDING, BUT NOT LIMITED TO, WINDOWS, DOORS, LOUVERS, VENTS, EXHAUST FANS, PIPE PENETRATIONS, CONDUIT, DUCTWORK, GRILLES, REGISTERS, DEVICE BOXES, HANGER RODS, ETC. SHALL HAVE THEIR COMMON JOINTS WITH GYPSUM BOARD/ MASONRY SEALED AROUND THE ENTIRE PERIMETER WITH SEALANT (BOTH INTERIOR AND EXTERIOR SIDES).
- INTERIOR PARTITION MOVEMENT CONTROL: PROVIDE CONTROL JOINTS IN GYPSUM BOARD PARTITIONS AND GYPSUM BOARD CEILINGS SHALL BE SPACED AS FOLLOWS AND PER MANUFACTURER'S STANDARDS:
 - PARTITIONS: 30 FEET MAXIMUM IN EITHER DIRECTION
 - INTERIOR CEILINGS: 30 FEE MAXIMUM IN EITHER DIRECTION
 - EXTERIOR CEILINGS: 30 FEE MAXIMUM IN EITHER DIRECTION.
- UNLESS NOTED OTHERWISE ALL ROUGH OPENINGS (RO) FOR DOORS NOT LOCATED ON DRAWINGS OR DETAILS SHALL BE 6" AWAY FROM FRAMING OF THE PERPENDICULAR ADJACENT WALL, FACE OF STUD.
- PROVIDE SEALANT AROUND WINDOW AND DOOR FRAMES AND SURROUNDING CONSTRUCTION UNLESS NOTED OTHERWISE.
- WHERE THE TERM "ALIGN" IS SHOWN ON THE DRAWINGS, IT SHALL MEAN THAT FINISH MATERIALS ON WALLS SHALL ALIGN. WHERE FINISHES HAVE DIFFERENT SUBSTRATES - PROVIDE A CONTROL JOINT IN THE FINISH MATERIAL WHERE THE DIFFERENT MATERIALS ALIGN.
- SURFACES TO BE PAINTED ARE NOT COMPLETELY INDICATED ON DRAWINGS, SEE DETAILED SPECIFICATION AND FINISH SCHEDULE.
- ALL INTERIOR WALLS SHALL EXTEND TO UNDERSIDE OF THE ROOF OR FLOOR SLAB ABOVE UNLESS NOTED OTHERWISE.
- PROVIDE TOP OF WALL ANCHORS FROM THE TOP COURSE OF ALL INTERIOR MASONRY WALLS TO THE BEAM OR SLAB ABOVE, UNLESS NOTED OTHERWISE.

MATERIALS:

-  BRICK
-  CAST-IN SITU CONCRETE
-  ACOUSTICAL TILE
-  GYPSUM WALLBOARD
-  HARDWOOD
-  RIGID INSULATION
-  WOOD BLOCKING
-  SHIM
-  SOFT WOOD BLOCK

ARCHITECTURAL ABBREVIATIONS

- A.C.T. ACOUSTIC CEILING TILE
- BD BOARD
- HVAC HEATING VENTILATION & AIR CONDITIONING
- IT INFOTMATION TECHNOLOGY
- M.C. MICROWAVE
- M.O. MASONRY OPENING
- N.I.C. NOT IN CONTRACT
- O.C. ON CENTER
- PT PRESSURE TREATED
- RO ROUGH OPENING
- T.O. TOP OF
- TYP. TYPICAL
- U.N.O. UNLESS OTHERWISE NOTED



JANUARY 2024 DWG. A-01



RK&K, LLP
700 EAST PRATT STREET, SUITE 500 • BALTIMORE, MARYLAND 21202 • 410.728.2900

PROFESSIONAL CERTIFICATION.




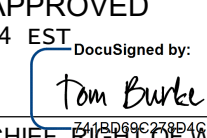
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

LICENSE NO. 9746

EXPIRATION DATE: 11/21/2023



REVISIONS			
NO.	DESCRIPTION	BY	DATE

APPROVED	DATE	APPROVED	DATE
	12/13/2023		12/12/2023
CHIEF ENGINEER		PROJECT MANAGER	
APPROVED	DATE	APPROVED	DATE
	12/13/2023		12/12/2023
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY SERVICES	

ANNE ARUNDEL COUNTY	
DEPARTMENT OF PUBLIC WORKS 105779	
SCALE: 1" = 1'-0"	As indicated
DRAWN BY: JL	
CHECKED BY: SS	
SHEET NO.: 14 OF 35	
PROJECT NO.: W804000	
CONTRACT NO.: W804010	

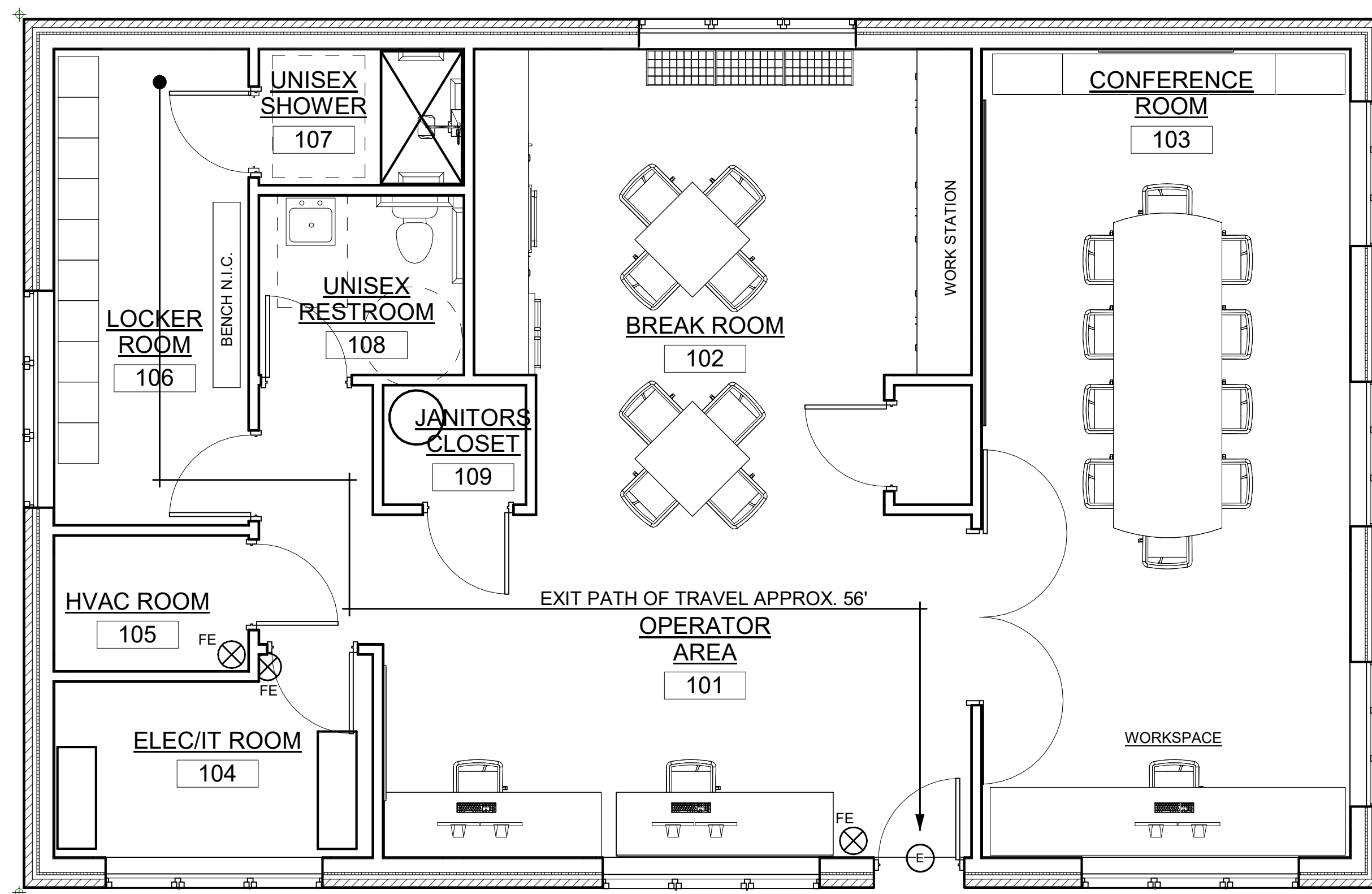
BROAD CREEK II WTP

NEW OPERATOR BUILDING

ARCHITECTUAL GENERAL NOTES

LIFE SAFETY CODE REVIEW

PROJECT NAME AND LOCATION:	ANNE ARUNDEL COUNTY BROAD CREEK II WTP OPERATOR BUILDING	
REFERENCED CODES:	BUILDING CODE:	2018 INTERNATIONAL BUILDING CODE
	ENERGY CODE:	2018 INTERNATIONAL ENERGY CODE; MARYLAND BUILDING PERFORMANCE STANDARDS
	MECHANICAL:	2018 INTERNATIONAL MECHANICAL CODE
	PLUMBING:	2018 INTERNATIONAL PLUMBING CODE
	ELECTRICAL:	2017 NATIONAL ELECTRICAL CODE
TYPE OF CONSTRUCTION:	TYPE II B	(BUILDING ELEMENTS = 0 HOUR RATED PER TABLE 601)
USE AND OCCUPANCY CLASSIFICATION:	BUSINESS GROUP B	NON-SPRINKLERED: AUTOMATIC SPRINKLER SYSTEM NOT REQUIRED PER 903.2.4)
ALLOWABLE BUILDING HEIGHT (FT. ABOVE GRADE):	ALLOWED: 55' MAX	ACTUAL: 17.5 FT
ALLOWABLE NUMBER OF STORIES (AV. GRADE PLANE):	ALLOWED: 3 STORIES	ACTUAL: 1 STORY
ALLOWABLE AREA FACTOR (SF):	ALLOWED: 23,000 SF	ACTUAL: 1,600 SF
MEANS OF EGRESS:		
MAX FLR AREA ALLOWANCE / OCCUPANT:	100 GROSS	16 OCCUPANTS
MINIMUM DOOR WIDTH:	32"	36" MIN PROVIDED
NUMBER OF EXITS REQD	1 ALLOWED (75'MAX)	1 PROVIDED
EXIT ACCESS TRAVEL DISTANCE	200 FT MAX	



LIFE SAFETY PLAN

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

LEGEND

- ⊕ EXIT
- MOST REMOTE POINT OF EGRESS
- ⊗ FE FIRE EXTINGUISHER

LIFE SAFETY CODE REVIEW

PROJECT NAME AND ADDRESS:	ANNE ARUNDEL COUNTY BROAD CREEK II WTP OPERATIONS BUILDING	
REFERENCED CODES:	BUILDING CODE: 2018 INTERNATIONAL BUILDING CODE	
ENERGY CODE:	2018 INTERNATIONAL ENERGY CODE; MARYLAND BUILDING PERFORMANCE STANDARDS	
MECHANICAL:	2018 INTERNATIONAL MECHANICAL CODE	
PLUMBING:	2018 INTERNATIONAL PLUMBING CODE	
ELECTRICAL:	2017 NATIONAL ELECTRICAL CODE	
LIFE SAFETY:	2018 NFPA 101	
FIRE PREVENTION CODE:	2018 NFPA 1	

USE AND OCCUPANCY CLASSIFICATION:	BUSINESS GROUP B NON-SPRINKLERED: AUTOMATIC SPRINKLER SYSTEM NOT REQUIRED PER 903.2.4)	
TYPE OF CONSTRUCTION:	TYPE II B (BUILDING ELEMENTS = 0 HOUR RATED PER TABLE 601)	
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ENGINEERS | CONSTRUCTION MANAGERS | PLANNERS | SCIENTISTS
 RK&K, LLP
 700 EAST PRATT STREET, SUITE 500 • BALTIMORE, MARYLAND 21202 • 410.728.2900

PROFESSIONAL CERTIFICATION.

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

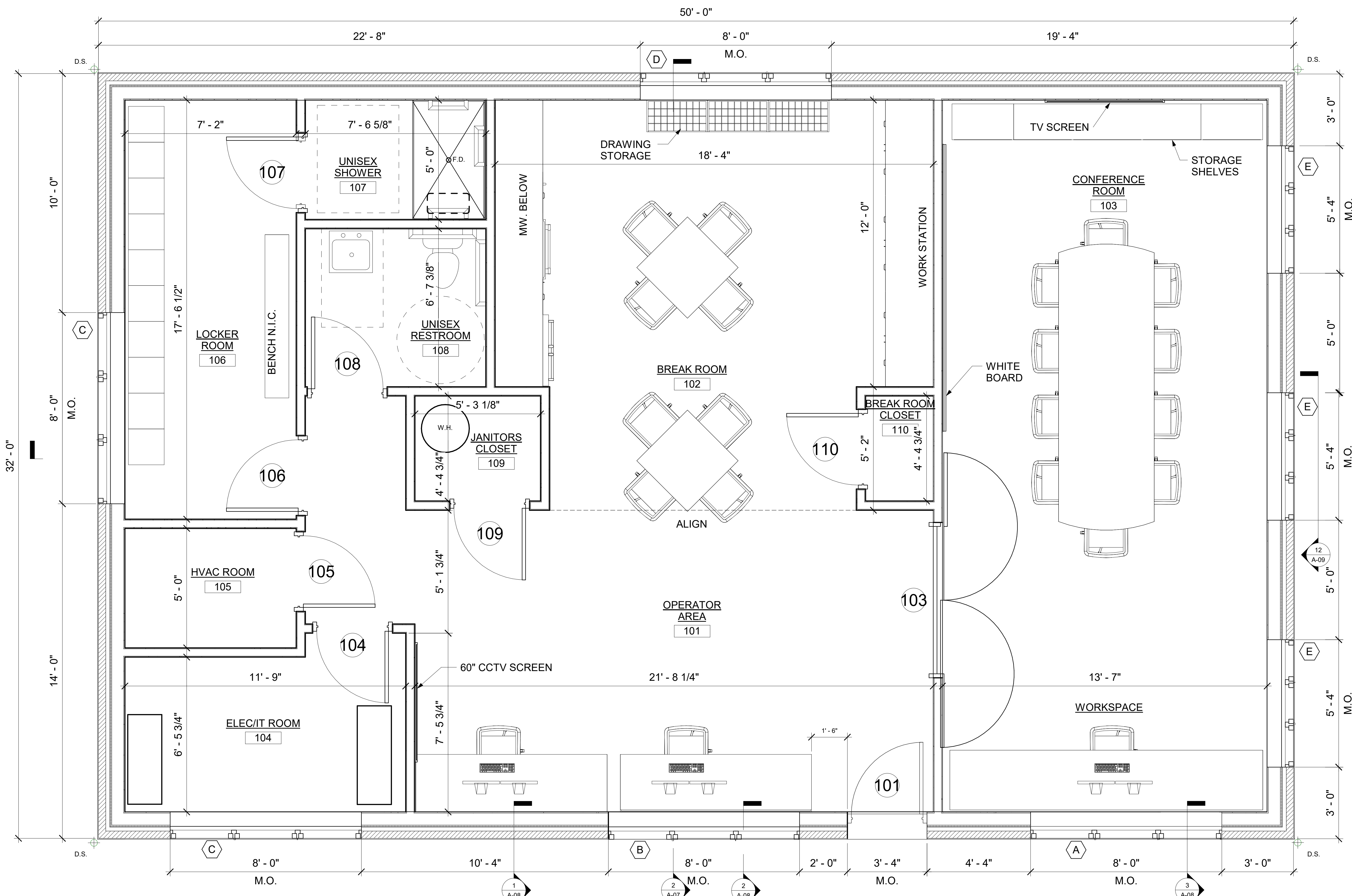
LICENSE NO. 9746
 EXPIRATION DATE: 11/21/2023



REVISIONS			
NO.	DESCRIPTION	BY	DATE

ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS			
APPROVED	DATE	APPROVED	DATE
<i>Blair</i>	12/13/2023	<i>Manuel Moore</i>	12/12/2023
CHIEF ENGINEER		PROJECT MANAGER	
<i>Tom Burke</i>	12/13/2023	<i>Tom Burke</i>	12/12/2023
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY SERVICES	

105780
BROAD CREEK II WTP
NEW OPERATOR BUILDING
LIFE SAFETY CODE REVIEW
DRAWN BY: JL
CHECKED BY: SS
SHEET NO.: 15 OF 35
PROJECT NO.: W804000
CONTRACT NO.: W804010



- FLOOR PLAN NOTES:**
1. ALL INTERIOR WALL TYPES ARE S-1A UNO.
 2. ALL EXTERIOR WALL TYPES ARE X UNO.
 3. ALL INTERIOR PARTITIONS SHALL BE TYPE X, UNLESS NOTED OTHERWISE.

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

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

JANUARY 2024 DWG. A-03



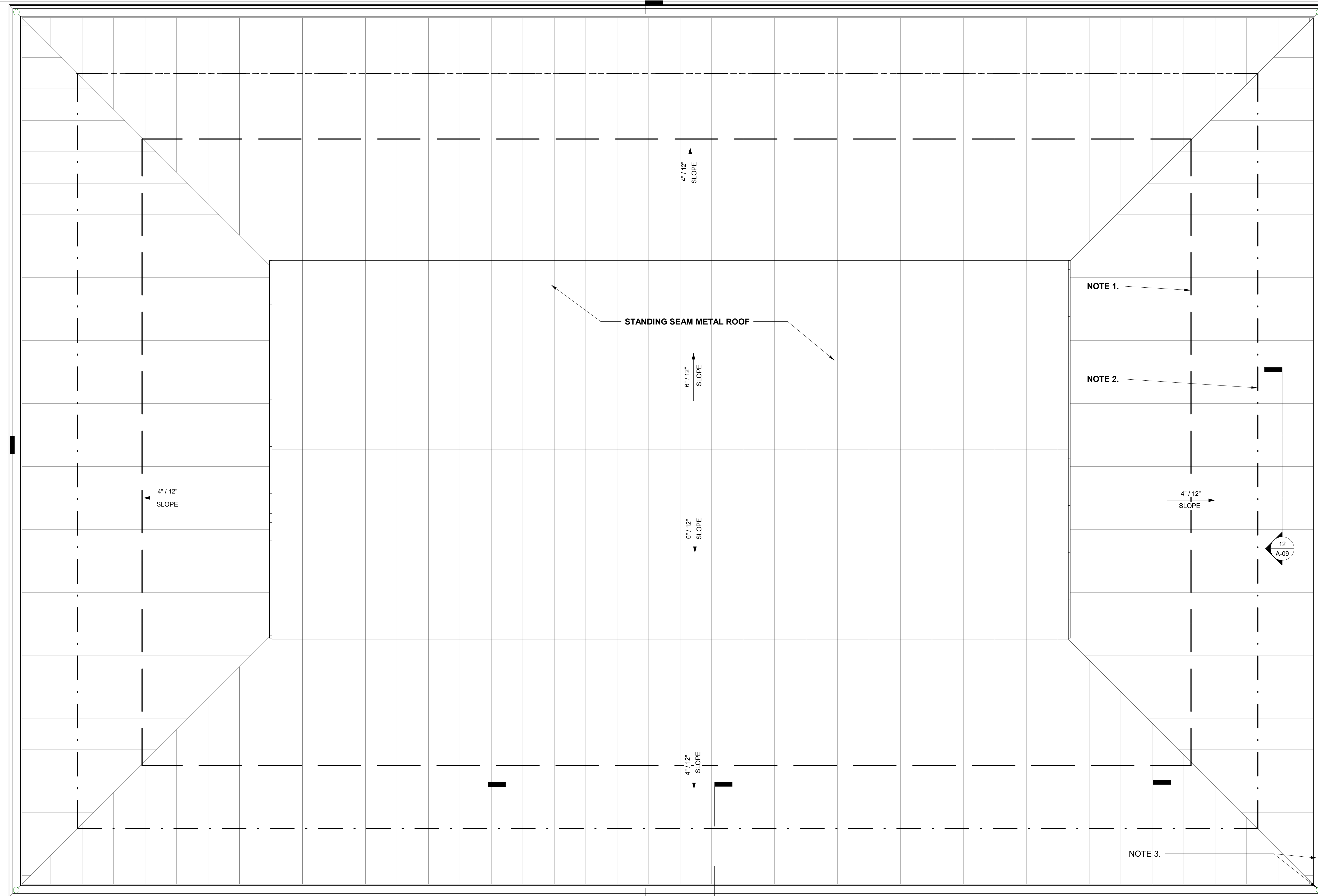
PROFESSIONAL CERTIFICATION.
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 9746
EXPIRATION DATE: 11/21/2023



REVISIONS			
NO.	DESCRIPTION	BY	DATE

APPROVED			
DATE	DATE	DATE	DATE
12/13/2023	12/12/2023	12/12/2023	12/12/2023
<i>Blair</i>	<i>Maribel Moon</i>	<i>Tom Burke</i>	<i>Tom Burke</i>
CHIEF ENGINEER	PROJECT MANAGER	CHIEF, RIGHT OF WAY SERVICES	CHIEF, RIGHT OF WAY SERVICES

ANNE ARUNDEL COUNTY
DEPARTMENT OF PUBLIC WORKS **105781**
BROAD CREEK II WTP
NEW OPERATOR BUILDING
FLOOR PLAN
SCALE: As indicated
DRAWN BY: JL
CHECKED BY: SS
SHEET NO.: 16 OF 35
PROJECT NO.: W804000
CONTRACT NO.: W804010



- ROOF PLAN NOTES:**
1. PROVIDE 36" EAVE PROTECTION MEMBRANE FROM EDGE OF ROOF. TYP.
 2. PROVIDE BAR TYPE SNOW GUARDS AT ROOF EDGE. TYP.
 3. PROVIDE ALUMINUM GUTTER AND DOWNSPOUTS. TYP.

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

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

JANUARY 2024 DWG. A-04



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LICENSE NO. 9746
EXPIRATION DATE: 11/21/2023

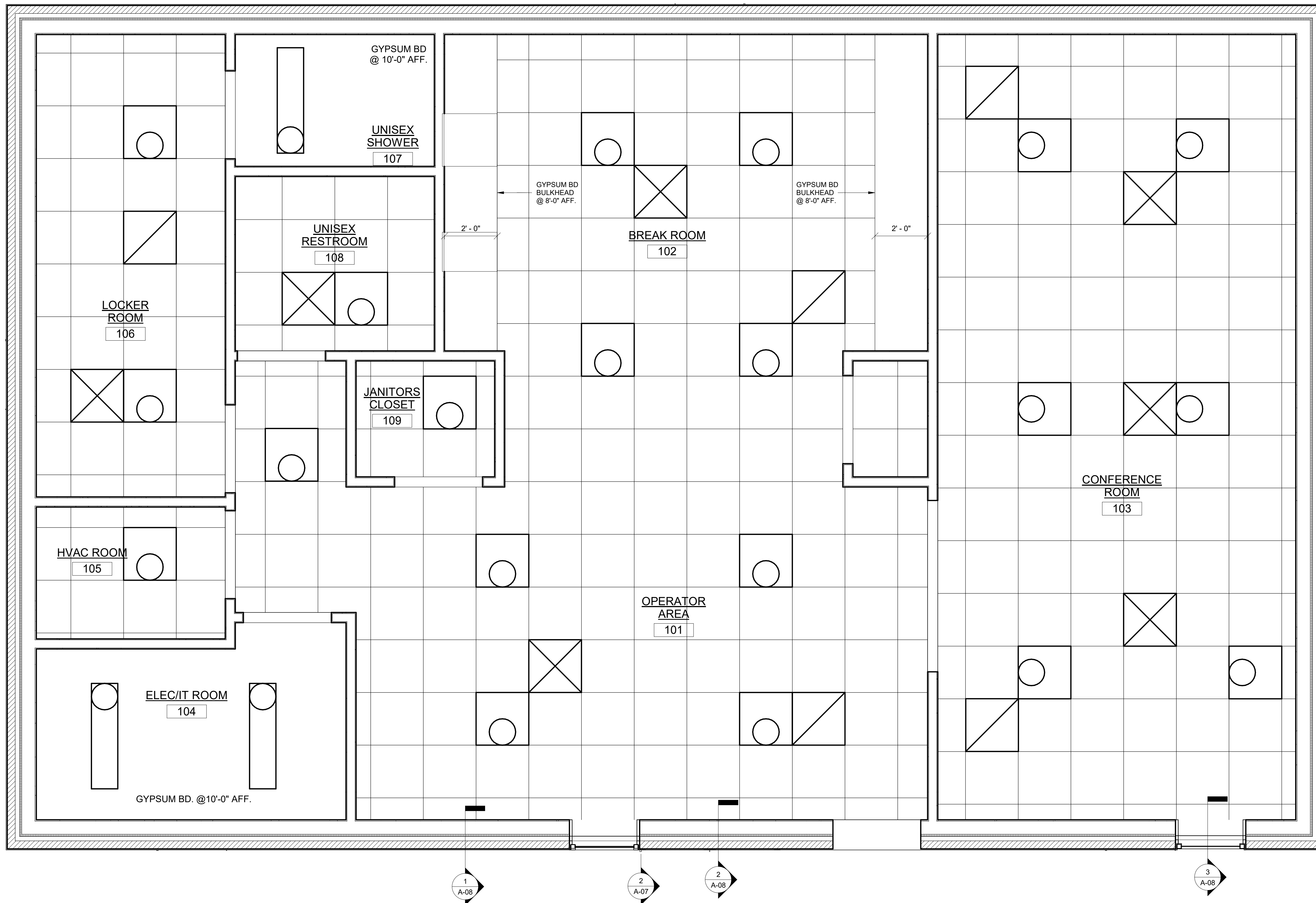


REVISIONS			
NO.	DESCRIPTION	BY	DATE

APPROVED			
DocuSigned by:	DATE	DocuSigned by:	DATE
<i>Blaise</i>	12/13/2023 10:25	<i>Markel Moon</i>	12/12/2023 6:04
CHIEF ENGINEER		PROJECT MANAGER	
<i>Blaise</i>	12/13/2023 08:44	<i>Tom Burke</i>	12/12/2023 09:23
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY SERVICES	

ANNE ARUNDEL COUNTY
DEPARTMENT OF PUBLIC WORKS **105782**
BROAD CREEK II WTP
NEW OPERATOR BUILDING
ROOF PLAN

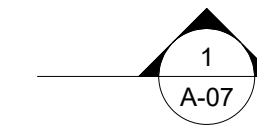
DRAWN BY: JL
CHECKED BY: SS
SHEET NO.: 17 OF 35
PROJECT NO.: W804000
CONTRACT NO.: W804010



- REFLECTED ROOF PLAN NOTES:**
- ALL CEILINGS ARE 2X2 ACT @10'-0" AFF U.N.O.
 - SEE ELECTRICAL AND MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.

LEGEND

- 1'x4' SURFACE MOUNTED LIGHT FIXTURE TYPE CA
- 2'x2' RECESSED LIGHT FIXTURE TYPE FA
- RETURN DIFFUSER
- SUPPLY DIFFUSER



1 REFLECTED CEILING PLAN
SCALE: 1/2" = 1'-0"

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

JANUARY 2024 DWG. A-05



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LICENSE NO. 9746
EXPIRATION DATE: 11/21/2023



REVISIONS

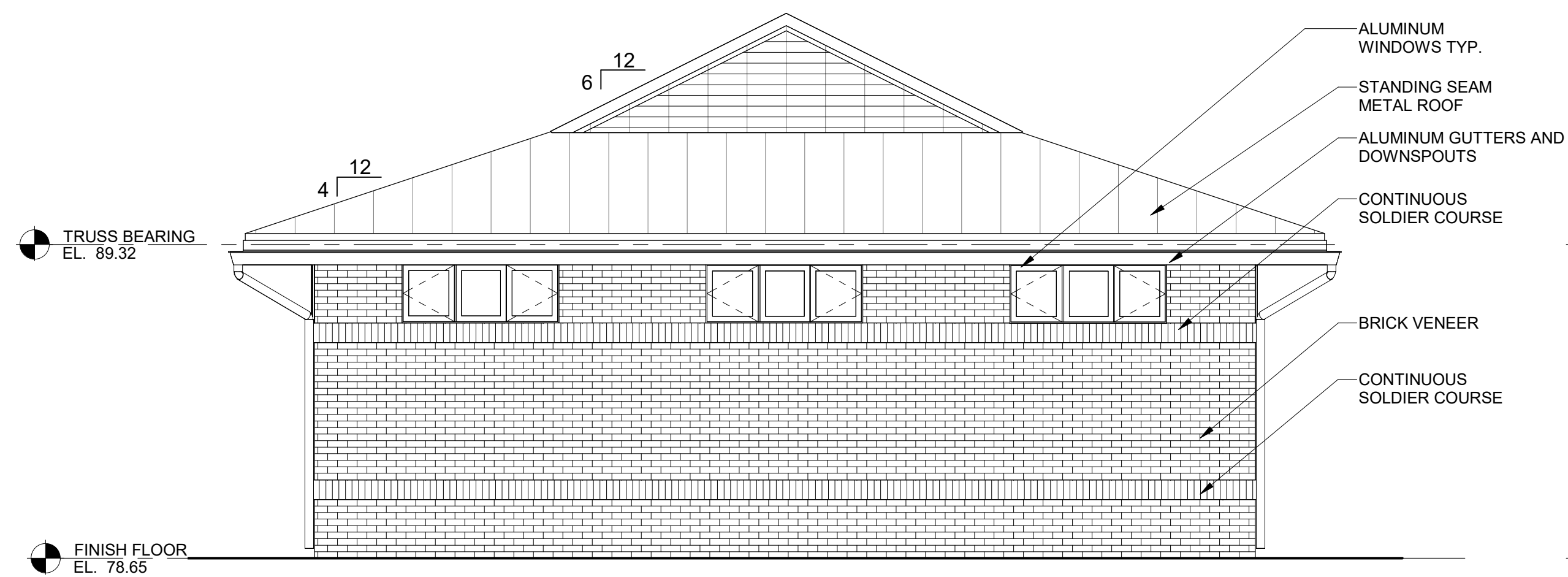
NO.	DESCRIPTION	BY	DATE

APPROVED	DATE	APPROVED	DATE
	12/13/2023		12/12/2023
CHIEF ENGINEER		PROJECT MANAGER	
	12/13/2023		12/12/2023
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY SERVICES	

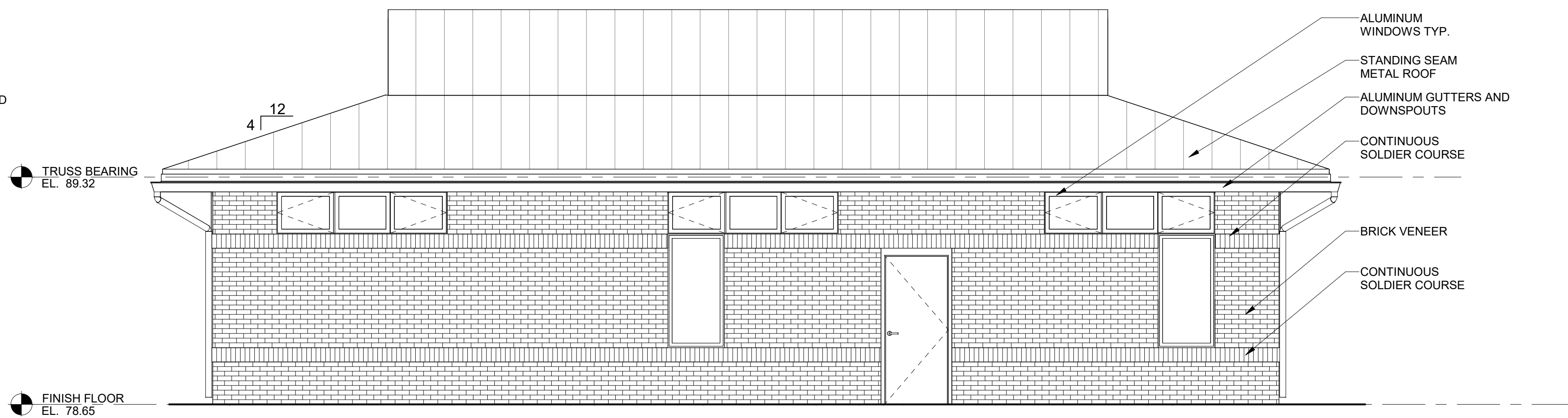
ANNE ARUNDEL COUNTY
DEPARTMENT OF PUBLIC WORKS **105783**

SCALE: As indicated
DRAWN BY: JL
CHECKED BY: SS
SHEET NO.: 18 OF 35
PROJECT NO.: W804000
CONTRACT NO.: W804010

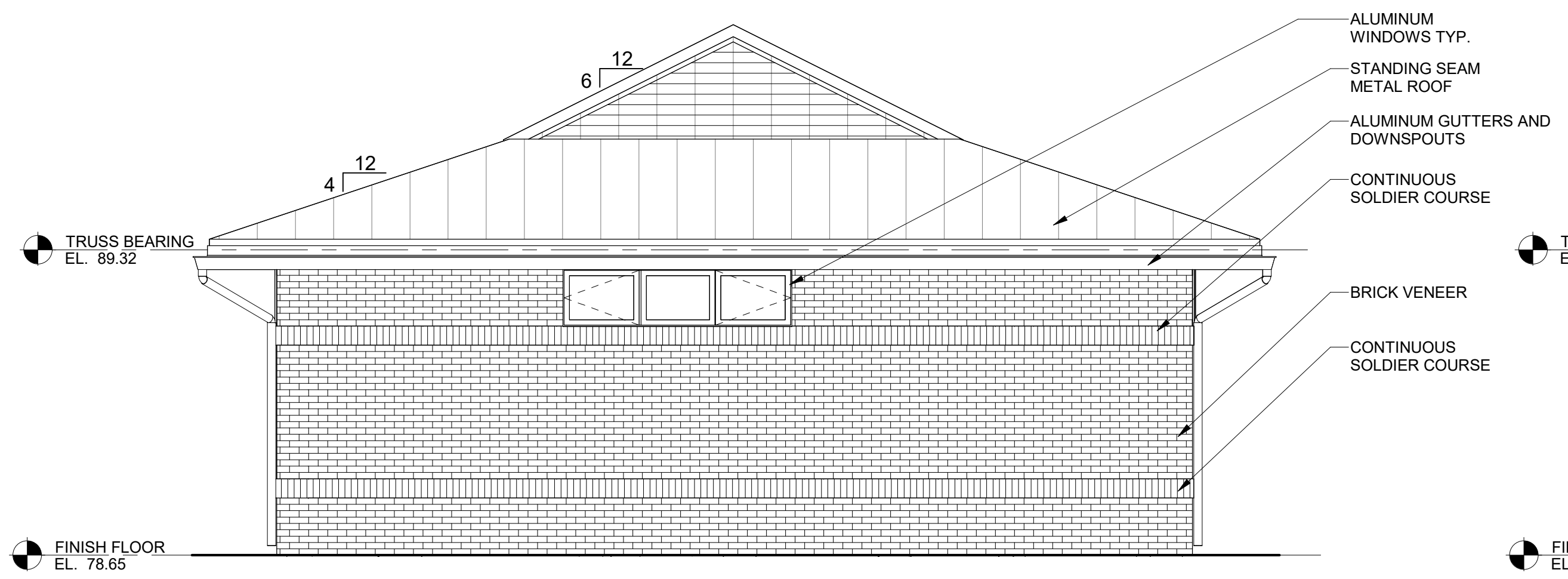
BROAD CREEK II WTP
NEW OPERATOR BUILDING
REFLECTED CEILING PLAN



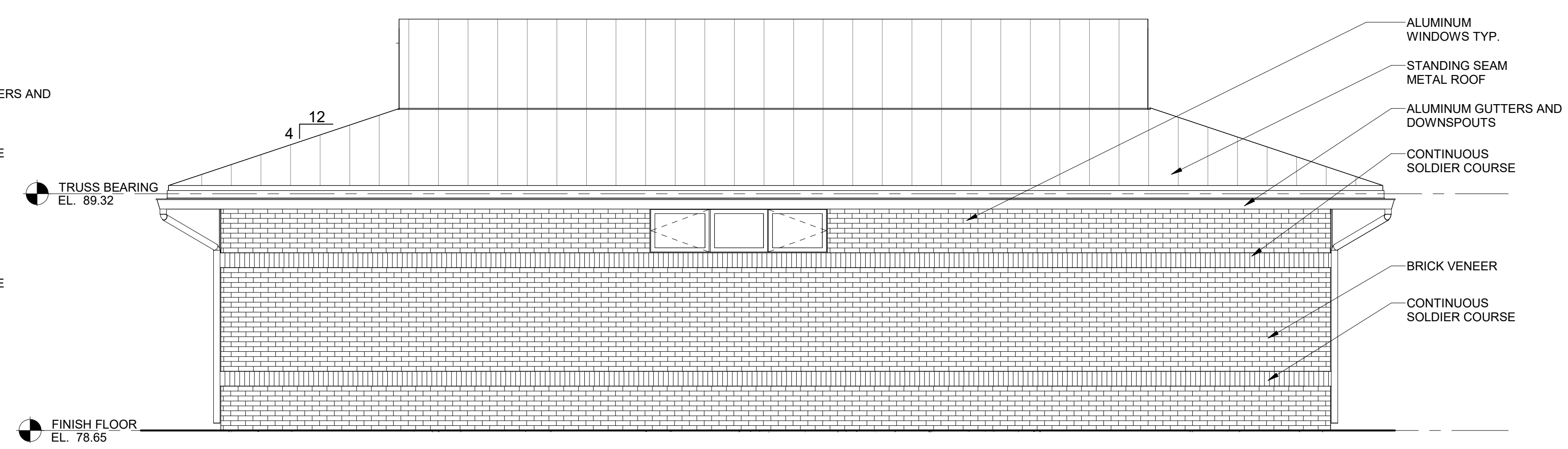
1 EAST ELEVATION
SCALE: 1/4" = 1'-0"



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



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



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

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



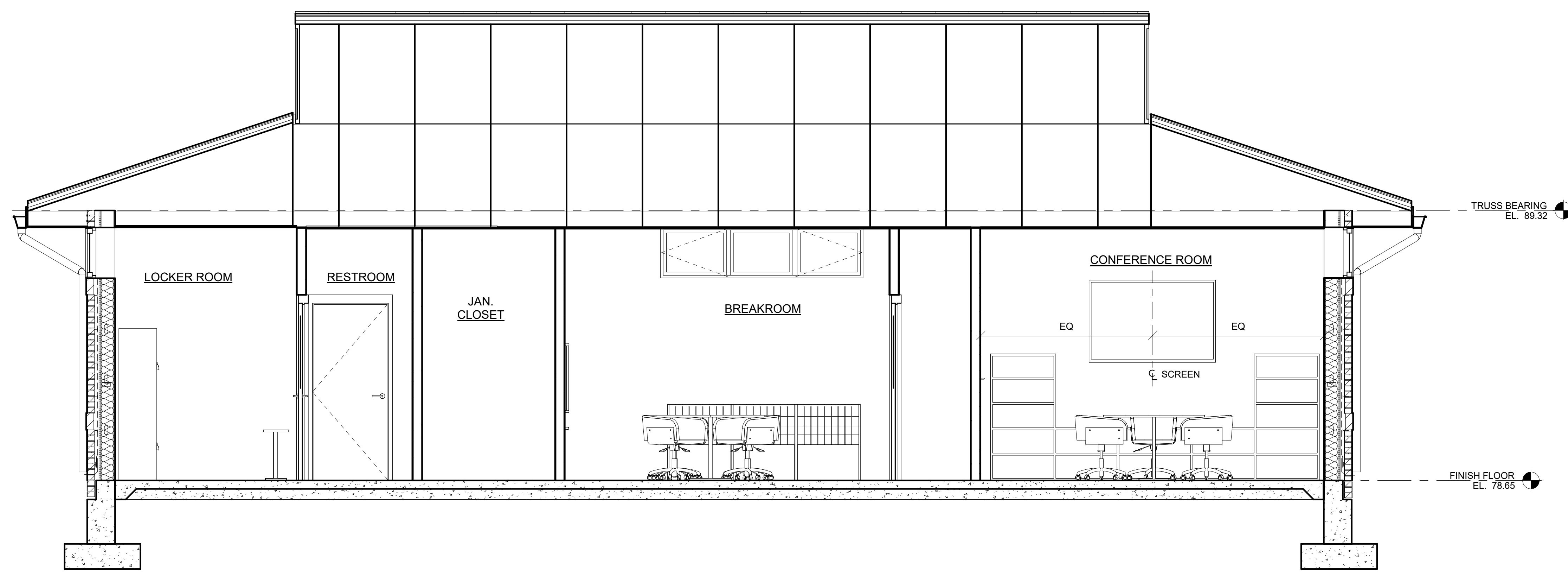
PROFESSIONAL CERTIFICATION.
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 9746
EXPIRATION DATE: 11/21/2023



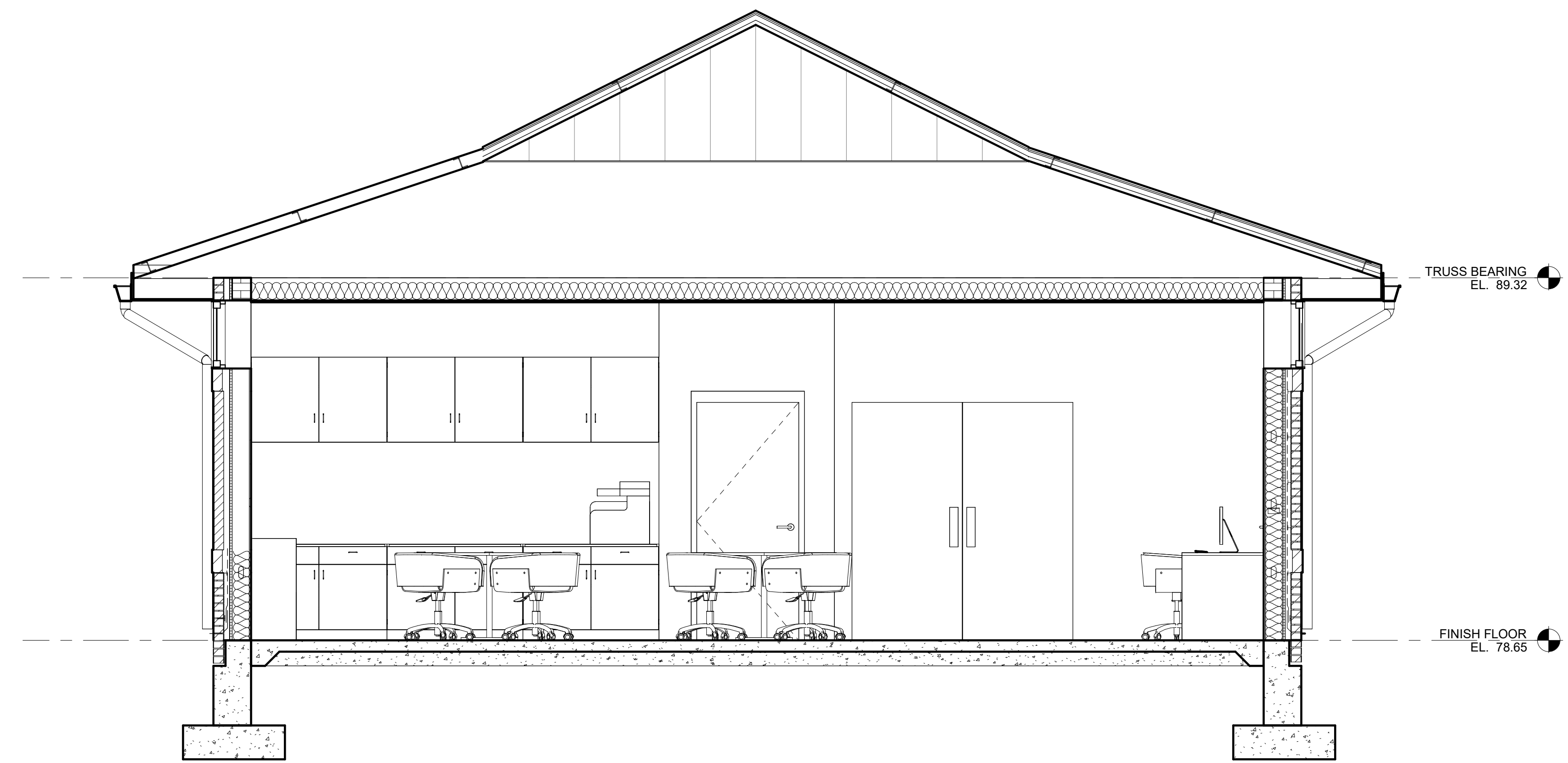
REVISIONS			
NO.	DESCRIPTION	BY	DATE

ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS			
APPROVED	DATE	APPROVED	DATE
	12/13/2023		12/12/2023
CHIEF ENGINEER		PROJECT MANAGER	
APPROVED	DATE	APPROVED	DATE
	12/13/2023		12/12/2023
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY SERVICES	

JANUARY 2024	DWG. A-06
105784	
BROAD CREEK II WTP	
NEW OPERATOR BUILDING	
BUILDING ELEVATIONS	
SHEET NO.: 19 OF 35	PROJECT NO.: W804000
CONTRACT NO.: W804010	



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



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

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



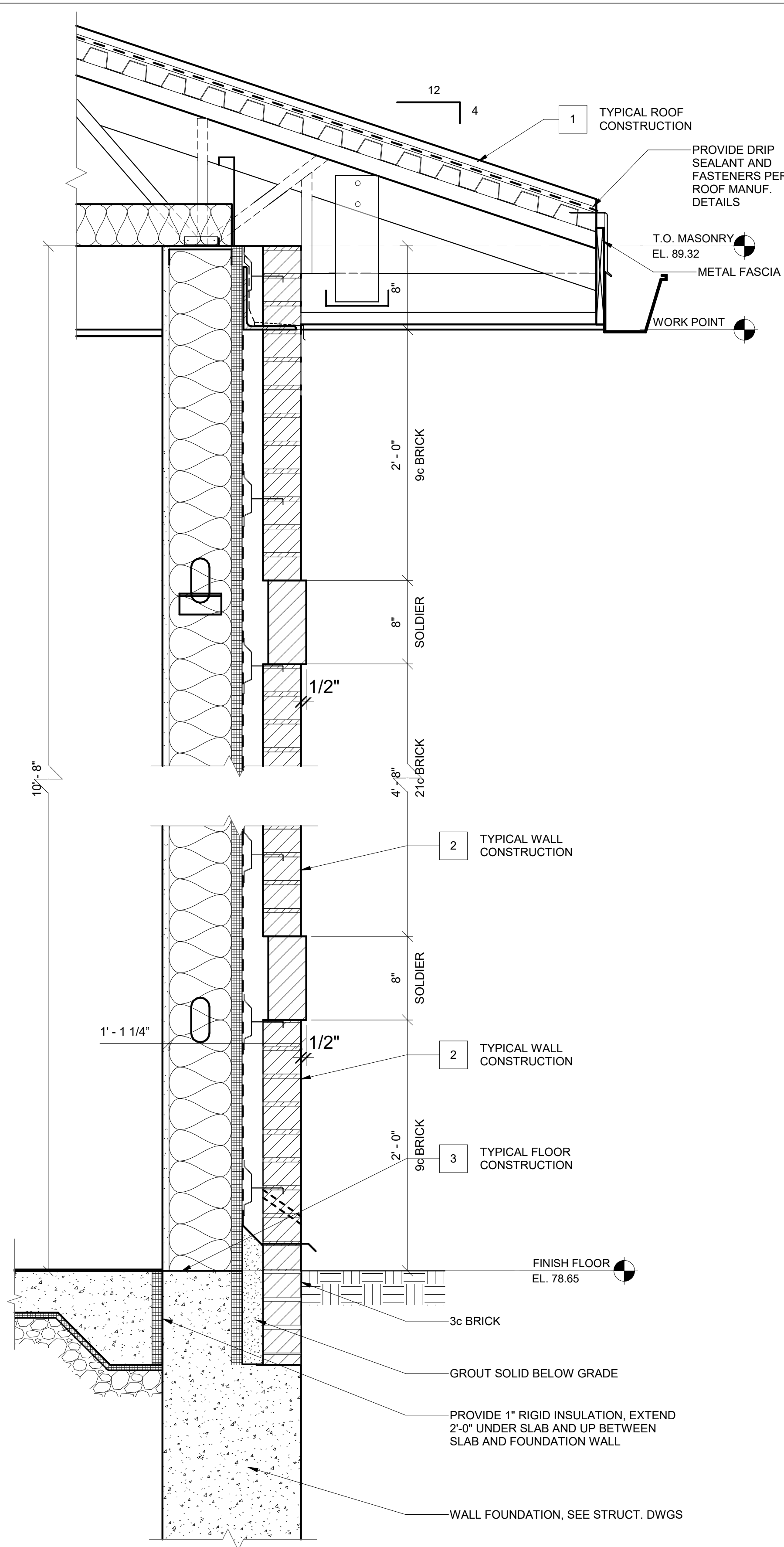
PROFESSIONAL CERTIFICATION.
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LICENSE NO. 9746
EXPIRATION DATE: 11/21/2023



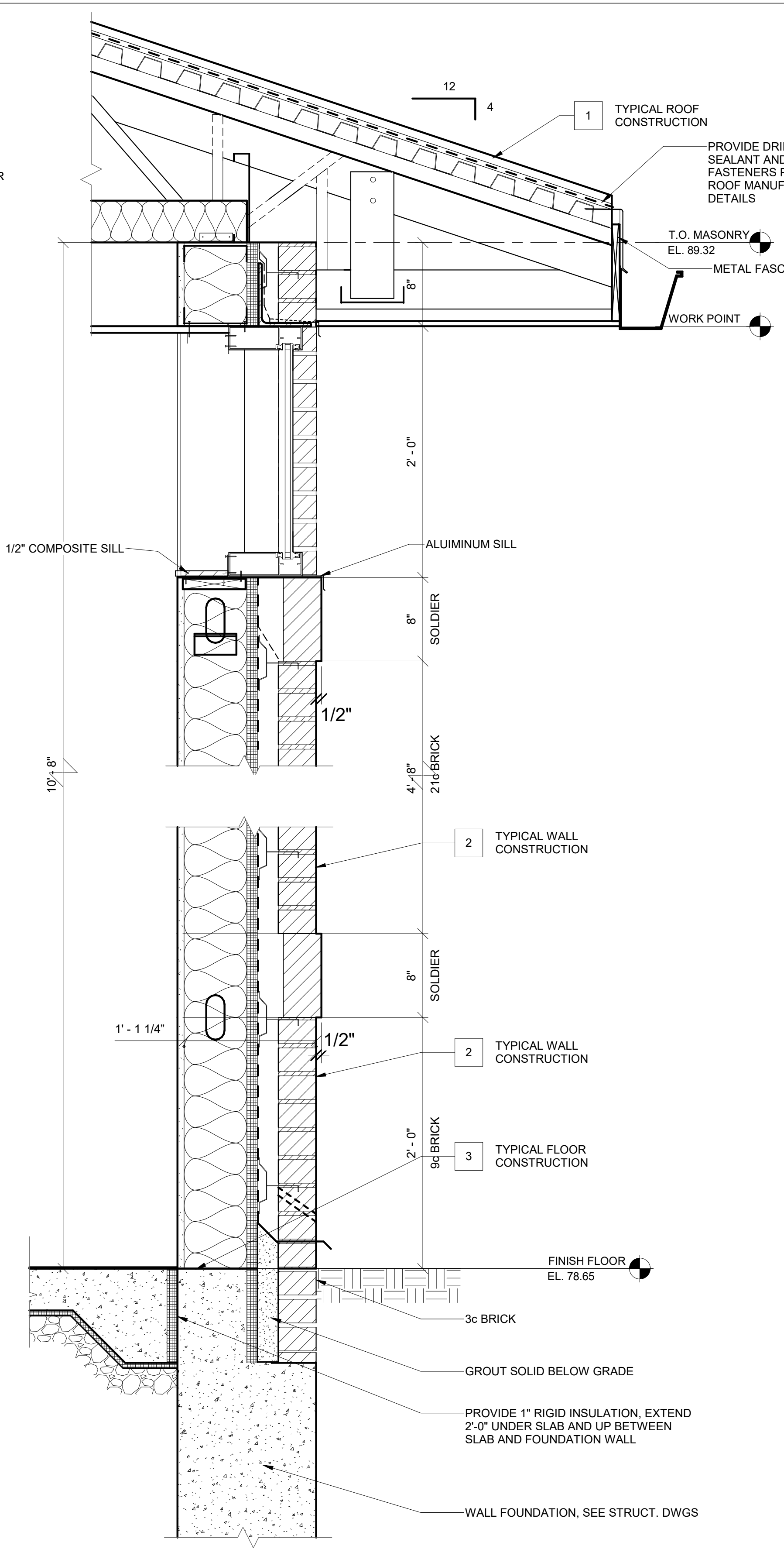
REVISIONS			
NO.	DESCRIPTION	BY	DATE

APPROVED			
DocuSigned by:	DATE	DocuSigned by:	DATE
	12/13/2023 10:25 EST		12/12/2023 6:23 EST
CHIEF ENGINEER		PROJECT MANAGER	
	12/13/2023 08:44 EST		12/12/2023 09:23 EST
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY SERVICES	

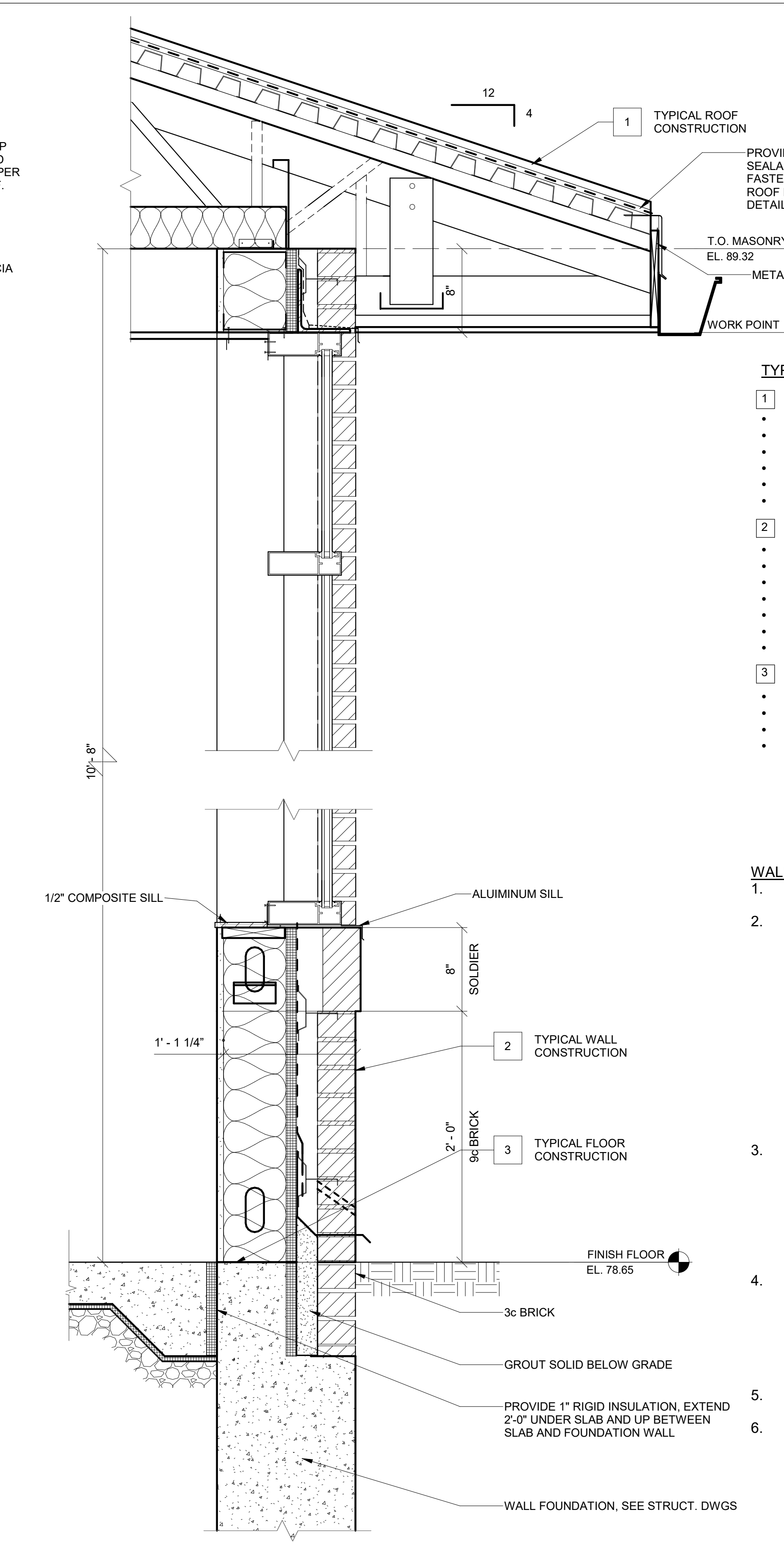
JANUARY 2024	DWG. A-07
ANNE ARUNDEL COUNTY	
DEPARTMENT OF PUBLIC WORKS 105785	
BROAD CREEK II WTP	
NEW OPERATOR BUILDING	
DETAIL PLANS	
DRAWN BY: JL	CHECKED BY: SS
SHEET NO.: 20 OF 35	PROJECT NO.: W804000
CONTRACT NO.: W804010	



1 EXTERIOR WALL SECTION
SCALE: 1 1/2" = 1'-0"



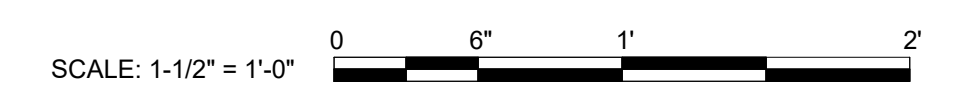
2 EXTERIOR WALL SECTION @ UPPER WINDOW
SCALE: 1 1/2" = 1'-0"



3 EXTERIOR WALL SECTION @ UPPER/LOWER WINDOW
SCALE: 1 1/2" = 1'-0"

- TYPICAL CONSTRUCTION NOTES:**
- TYPICAL ROOF CONSTRUCTION R-38**
 - STANDING SEAM METAL ROOF AS SPECIFIED
 - #30 FELT UNDER LAYMENT
 - 1/2" EXTERIOR SHEATHING
 - PRE-ENGINEERED METAL TRUSS
 - BATT INSULATION
 - CEILING FINISH - SEE FINISH SCHEDULE
 - TYPICAL WALL CONSTRUCTION R-13+R-7.5ci**
 - BRICK VENEER
 - BRICK TIES @16" O.C.
 - AIR SPACE
 - 1" RIGID INSULATION
 - W/WATER RESISTANT BARRIER
 - 6" STRUCTURAL STEEL STUDS
 - 1/2" BATT INSULATION
 - TYPICAL FLOOR CONSTRUCTION**
 - CONCRETE SLAB W/VAPOR RETARDER
 - COMPACTED GRADE
 - PROVIDE 1" RIGID INSULATION W/ 1/2" OF SLAB EDGE
 - SEE STRUCTURAL DWGS FOR DETAIL FOUNDATION

- WALL SECTION NOTES**
- AIR SPACE:** CONTRACTOR TO MAINTAIN AIRSPACE CLEAR OF ALL OBSTRUCTIONS (I.E. MORTAR)
 - FLASHING:**
 - DO NOT STOP FLASHING BEHIND THE FACE OF THE BRICKWORK
 - PLACE FLASHING AT ALL POINTS WHERE AIRSPACE IS INTERRUPTED
 - EXTEND FLASHING VERTICALLY UP THE BACKING TO 8 IN. MINIMUM HEIGHT
 - LAP FLASHING TO 4" MINIMUM HEIGHT UNDER WATER-RESISTANT BARRIER OR BEHIND SHEATHING ABOVE GRADE
 - INSTALL BASE FLASHING MINIMUM 6 IN. ABOVE GRADE
 - TURN UP FLASHING ENDS INTO HEAD JOINT A MINIMUM OF 1" TO FORM END DAM
 - WEEPS:**
 - OPEN HEAD JOINT WEEPS SPACED AT NO MORE THAN 24" O.C. RECOMMENDED
 - MOST BUILDING CODES PERMIT WEEPS NO LESS THAN 3/16" DIAMETER AND SPACED NO MORE THAN 33" O.C.
 - WICK AND TUBE WEEP SPACING RECOMMENDED AT NO MORE THAN 18" O.C.
 - ANCHORS**
 - PROVIDE ANCHORS @ 2 FT² MIN.
 - VERTICAL SPACING: MAX 18" O.C.
 - HORIZONTAL SPACING: MAX 32" O.C.
 - SECURELY ATTACH ANCHORS TO STEEL STUDS THROUGH THE SHEATHING, NOT TO SHEATHING ALONE
 - SHEATHING**
 - CLOSED CELL RIGID INSULATION
 - WATER RESISTANT BARRIER**
 - INSTALL WATER RESISTANT BARRIER INDICATED --- OVER SHEATHING.
 - SHIP LAP WATER RESISTANT BARRIER PIECES 6" MIN. AND PER MANUFACTURER'S INSTRUCTIONS.



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LICENSE NO. 9746

EXPIRATION DATE: 11/21/2023

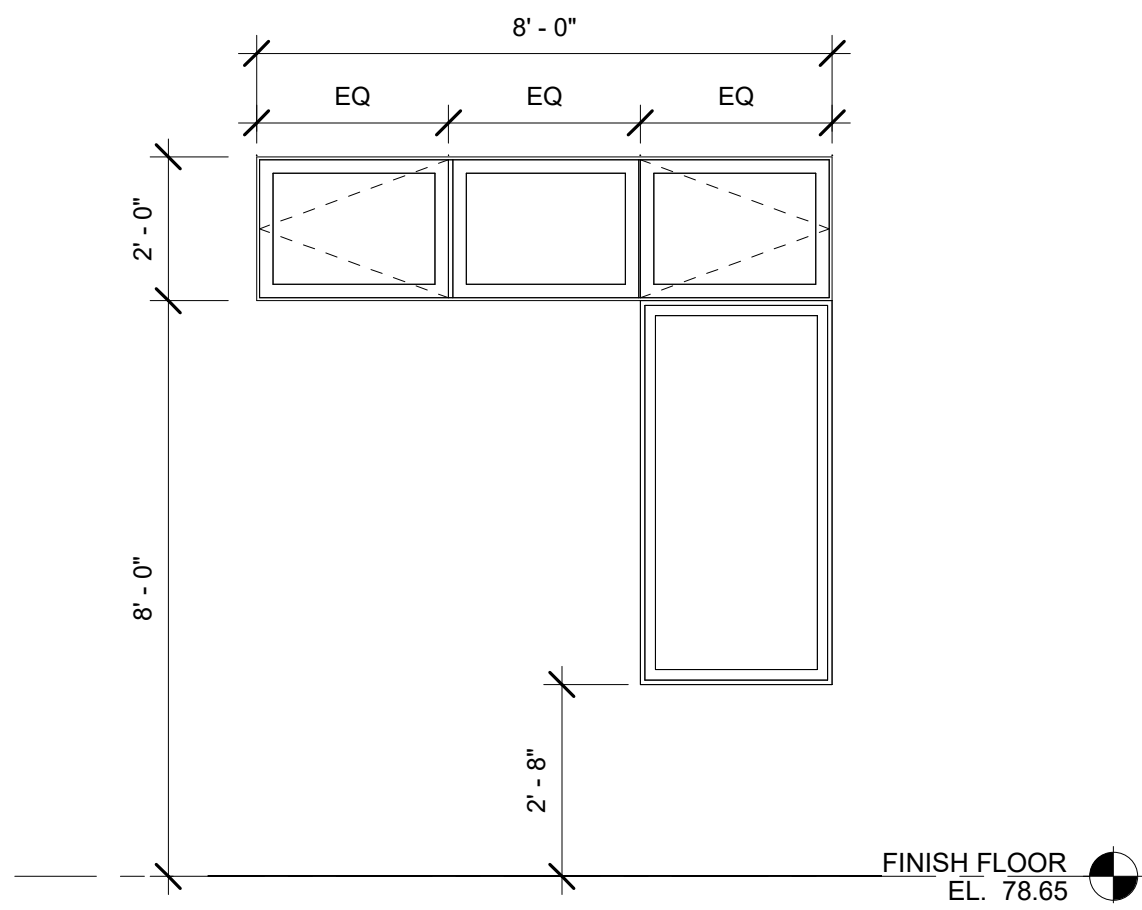


REVISIONS			
NO.	DESCRIPTION	BY	DATE

APPROVED <i>[Signature]</i> CHIEF ENGINEER	DATE 12/13/2023 10:25	APPROVED <i>[Signature]</i> PROJECT MANAGER	DATE 12/12/2023 09:19
APPROVED <i>[Signature]</i> ASSISTANT CHIEF ENGINEER	DATE 12/13/2023 08:44	APPROVED <i>[Signature]</i> CHIEF, RIGHT OF WAY SERVICES	DATE 12/12/2023 09:23

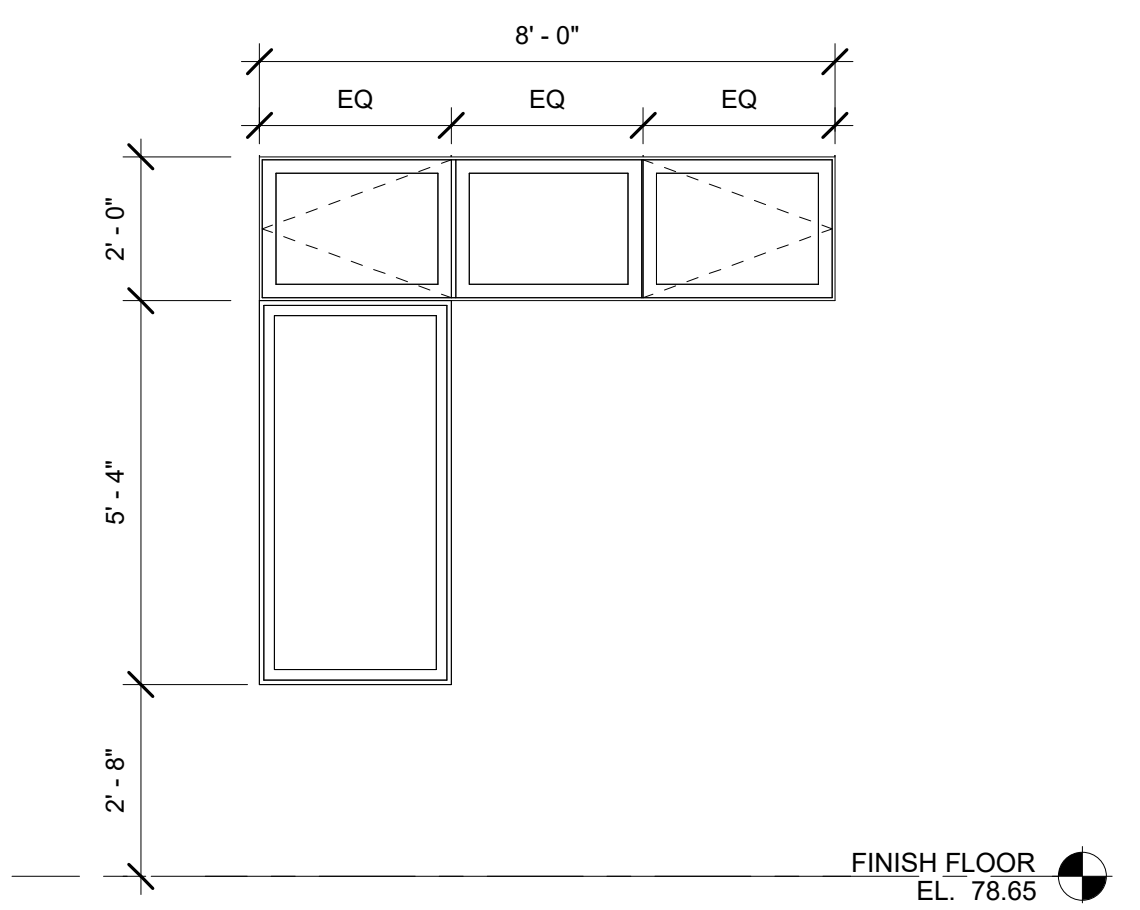
ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS		SCALE: 1 1/2" = 1'-0"	JANUARY 2024	DWG. A-08
		DRAWN BY: JL	105786	
		CHECKED BY: SS	BROAD CREEK II WTP	
		SHEET NO.: 21 OF 35	NEW OPERATOR BUILDING	
		PROJECT NO.: W804000	WALL SECTIONS	
		CONTRACT NO.: W804010		

DOOR AND FRAME SCHEDULE										
ROOM NAME AND NUMBER	DOOR NO.	DOOR				FRAME		HARDWARE		REMARKS
		W	H	THK	TYPE	MATL	TYPE	MATL	SET NO.	
OPERATOR AREA 101	101	3'-0"	7'-0"	1 3/4"	C	HM	F1	HM	HW-1	
BREAK ROOM 102	NOT USED									
CONFERENCE ROOM 103	103	(2) 3' -0"	6' -8"	1 3/4"	B			HM		HARDWARE PER - GLASS DOOR MANUFACTURER
ELEC/IT ROOM 104	104	3' -0"	7' -0"	1 3/4"	A	HM	F2	HM	HW-7	
HVAC ROOM 105	105	3' -0"	7' -0"	1 3/4"	A	HM	F2	HM	HW-7	
LOCKER ROOM 106	106	3' -0"	7' -0"	1 3/4"	A	HM	F2	HM	HW-6	
UNISEX SHOWER 107	107	3' -0"	7' -0"	1 3/4"	A	HM	F2	HM	HW-6	
UNISEX RESTROOM 108	108	3' -0"	7' -0"	1 3/4"	A	HM	F2	HM	HW-6	
JANITORS CLOSET 109	109	3' -0"	7' -0"	1 3/4"	A	HM	F2	HM	HW-7	
BREAK ROOM CLOSET 110	110	3' -0"	7' -0"	1 3/4"	A	HM	F2	HM	HW-7	



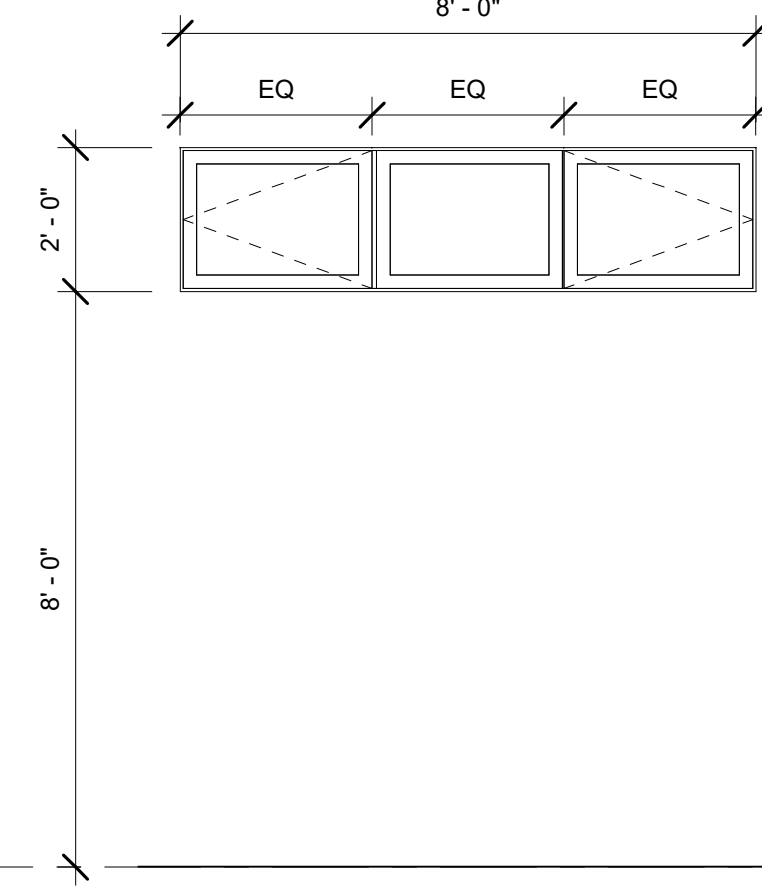
WINDOW TYPE A

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



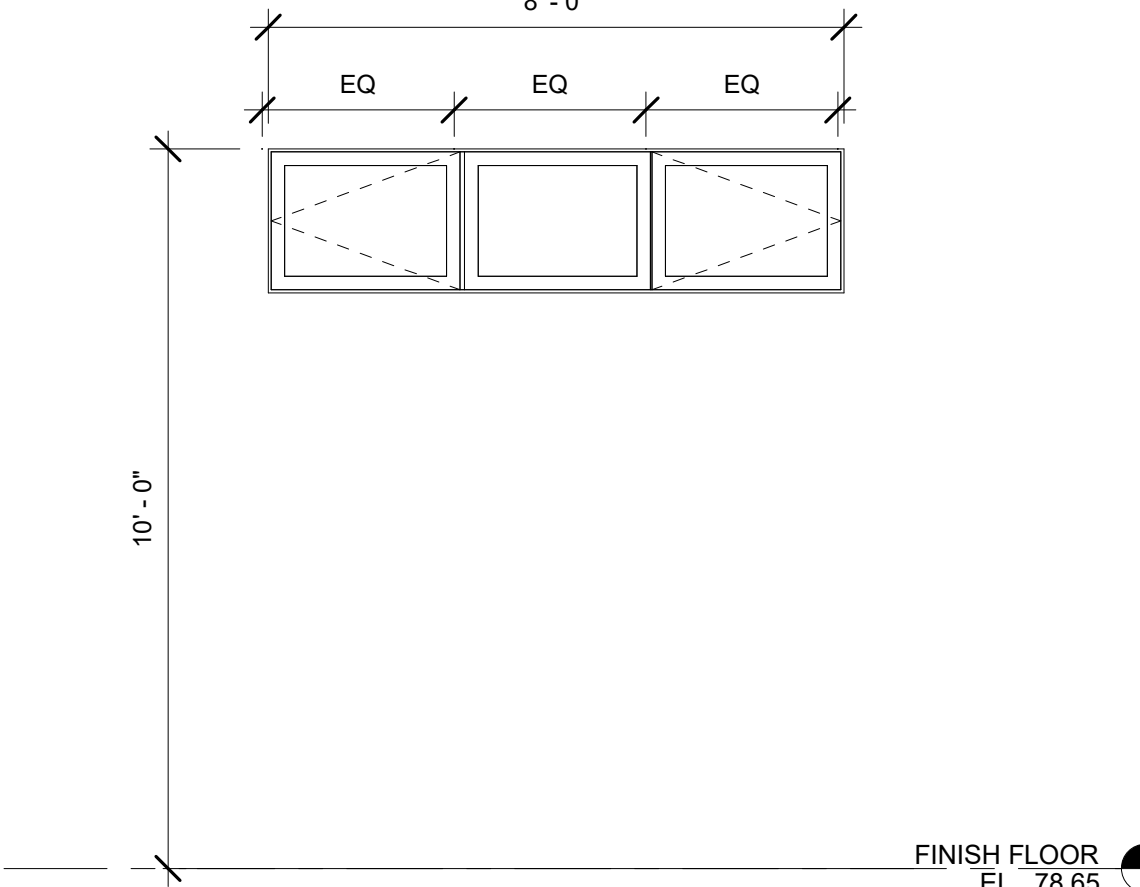
WINDOW TYPE B

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



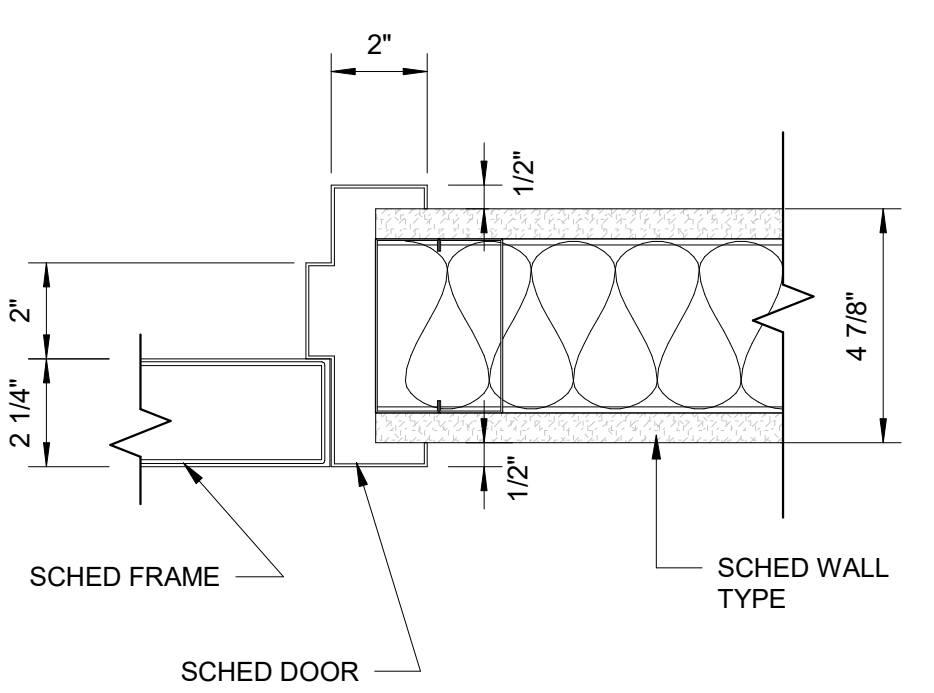
WINDOW TYPE C

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



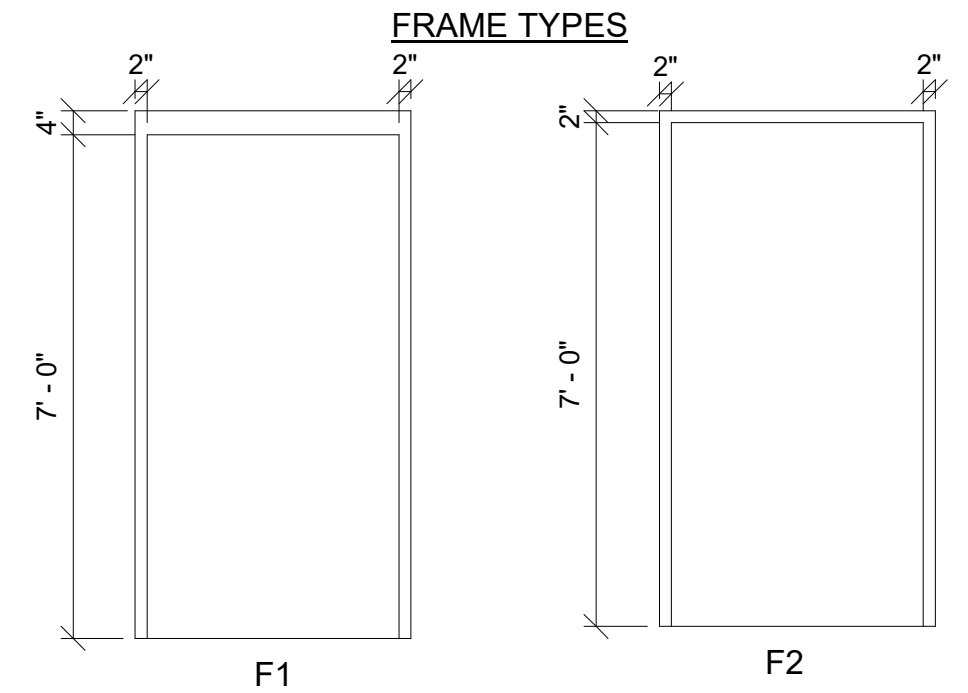
WINDOW TYPE D

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

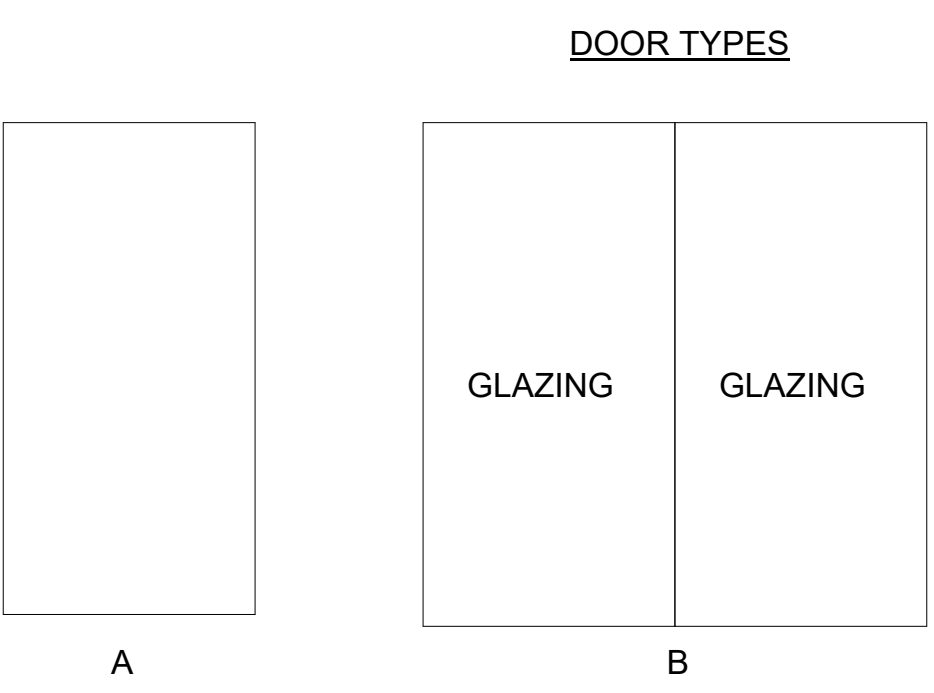


WINDOW TYPE E

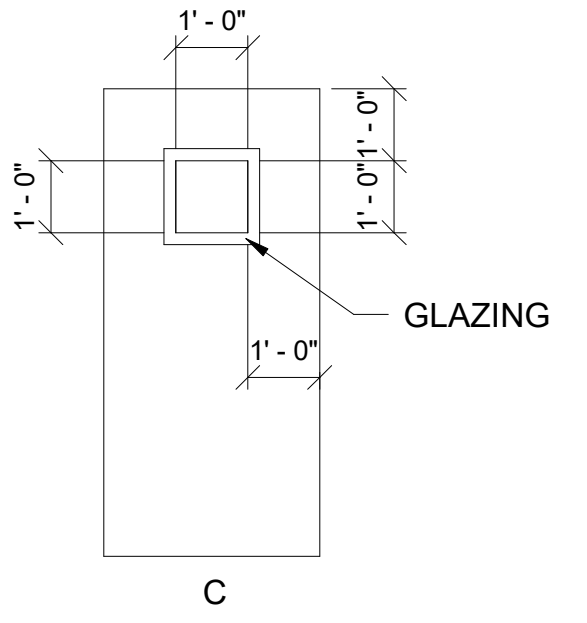
SCALE: 3/8" = 1'-0"



FRAME TYPES

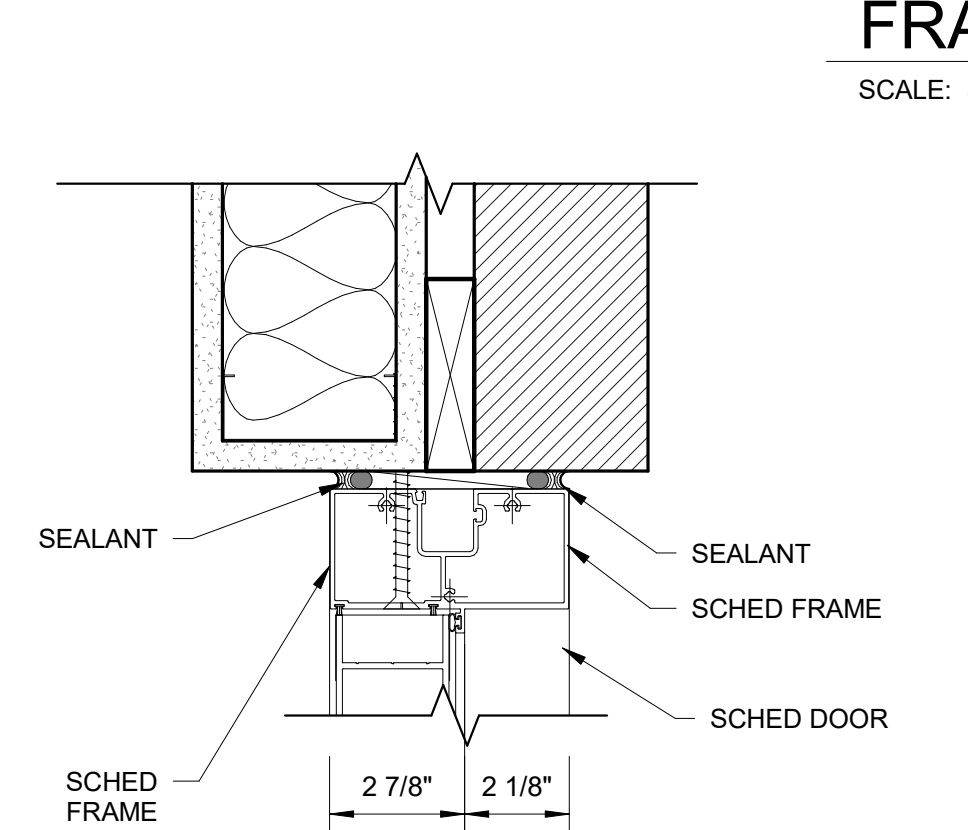


DOOR TYPES



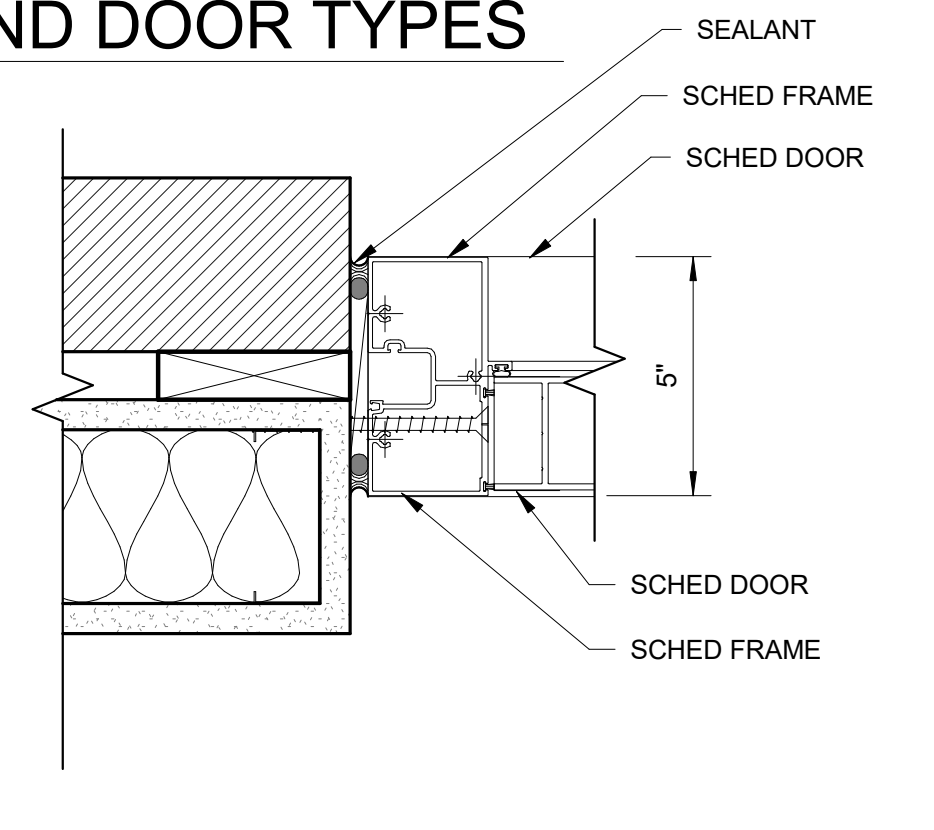
FRAME AND DOOR TYPES

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



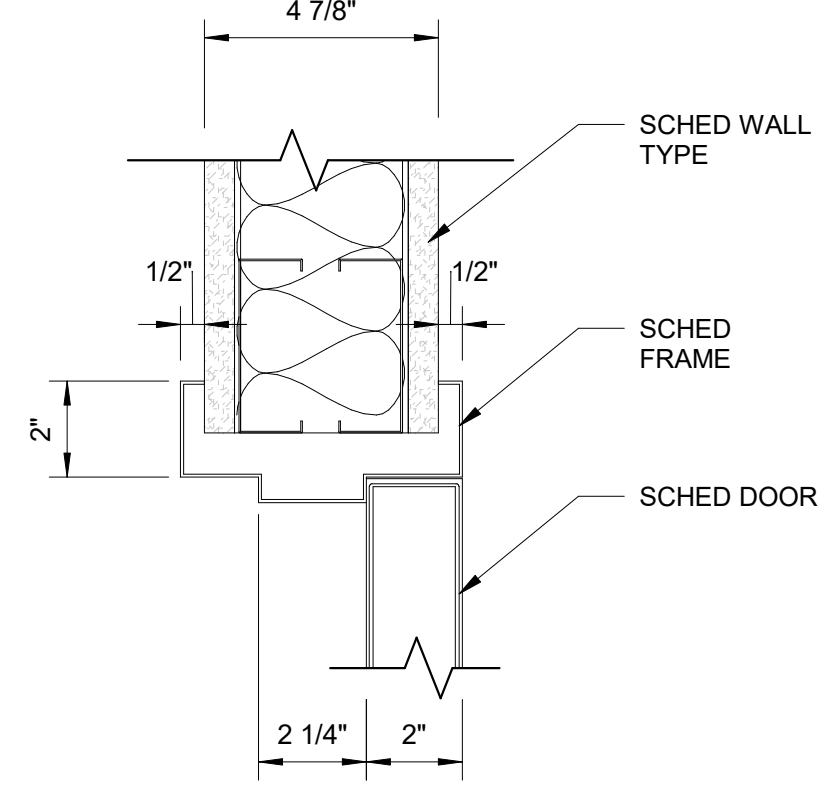
EXTERIOR DOOR / HEAD DETAIL

NOT TO SCALE



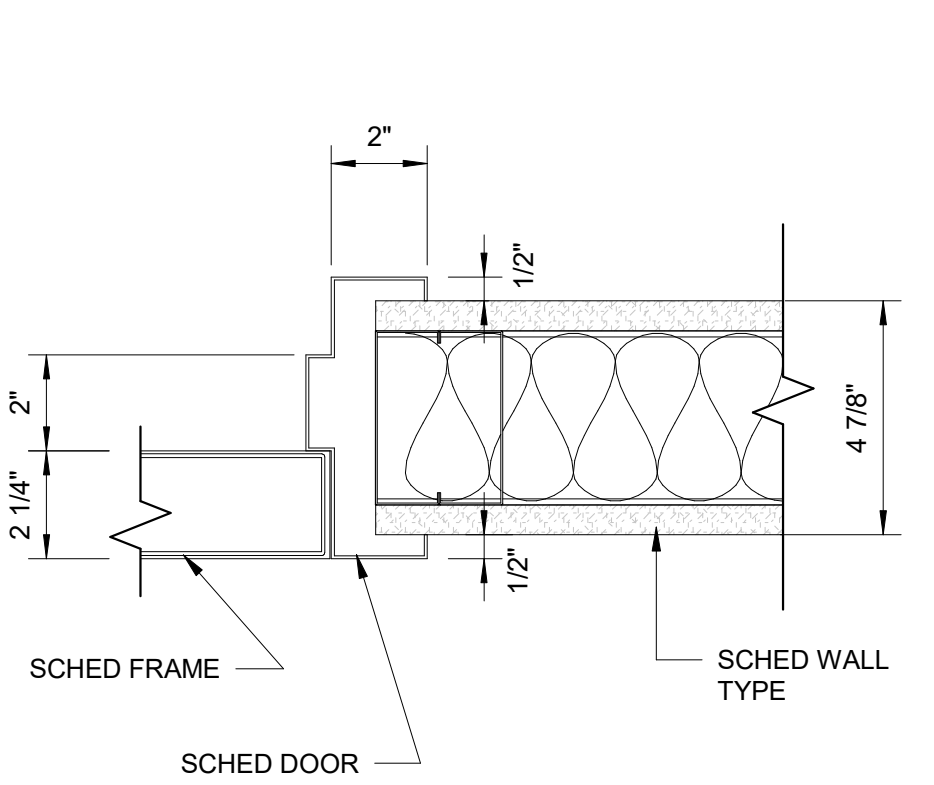
EXTERIOR DOOR / JAMB DETAIL

NOT TO SCALE



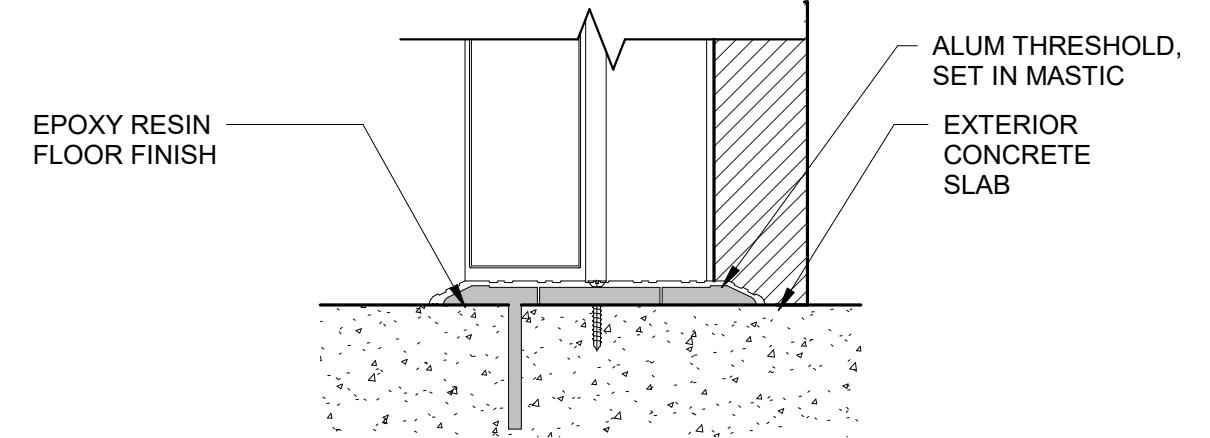
INTERIOR DOOR / HEAD DETAIL

NOT TO SCALE



INTERIOR DOOR / JAMB DETAIL

NOT TO SCALE



SILL DETAIL @ EXTERIOR DOOR

NOT TO SCALE



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LICENSE NO. 9746
EXPIRATION DATE: 11/21/2023



REVISIONS			
NO.	DESCRIPTION	BY	DATE

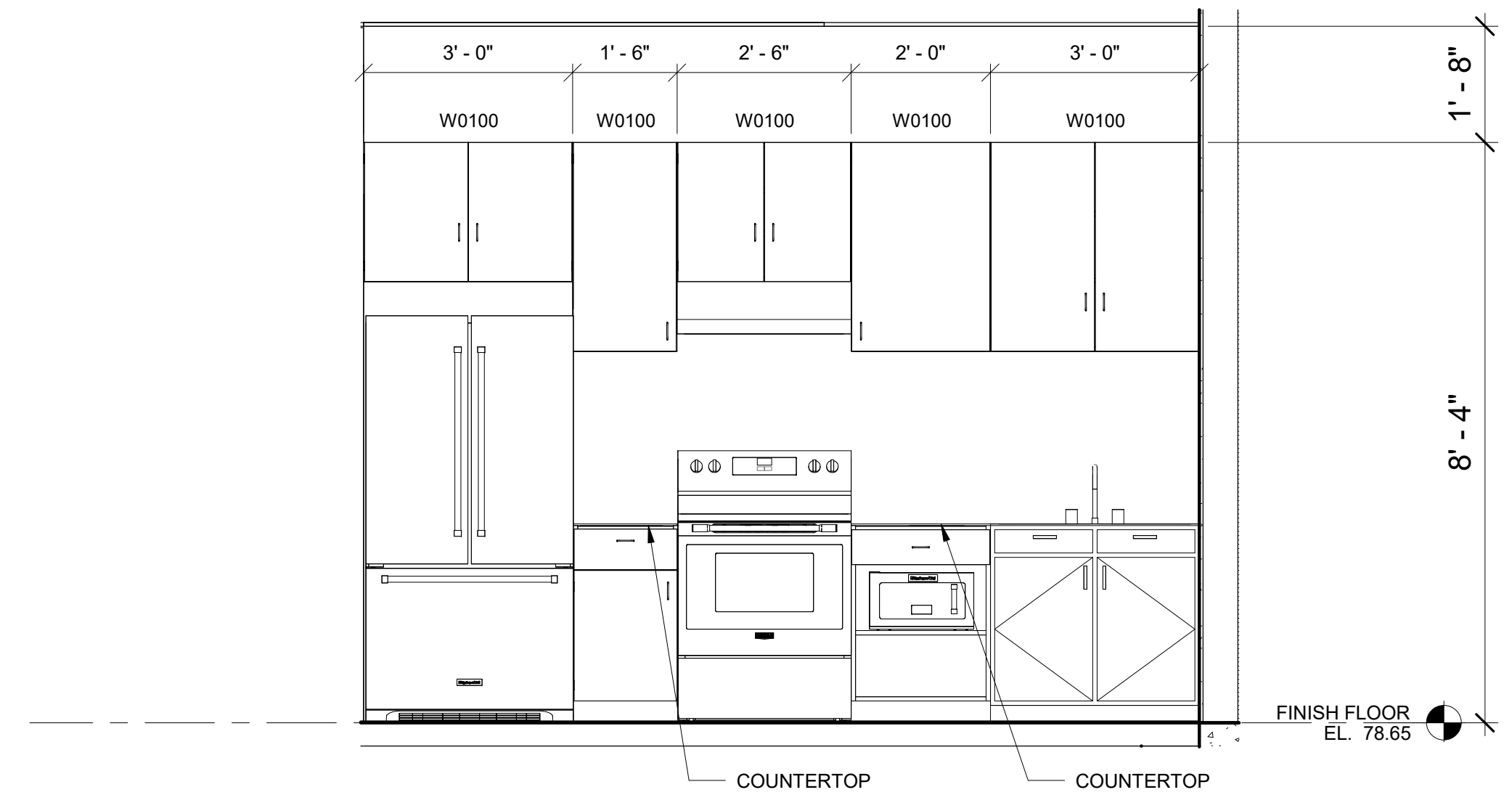
APPROVED	DATE	APPROVED	DATE
<i>Manal Moon</i>	12/13/2023 10:25 EST	<i>Manal Moon</i>	12/12/2023 09:19 EST
CHIEF ENGINEER		PROJECT MANAGER	
<i>Tom Burke</i>	12/13/2023 08:44 EST	<i>Tom Burke</i>	12/12/2023 09:23 EST
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY SERVICES	

ANNE ARUNDEL COUNTY
DEPARTMENT OF PUBLIC WORKS
SCALE: As indicated
DRAWN BY: JL
CHECKED BY: SS
SHEET NO.: 22 OF 35
PROJECT NO.: W804000
CONTRACT NO.: W804010

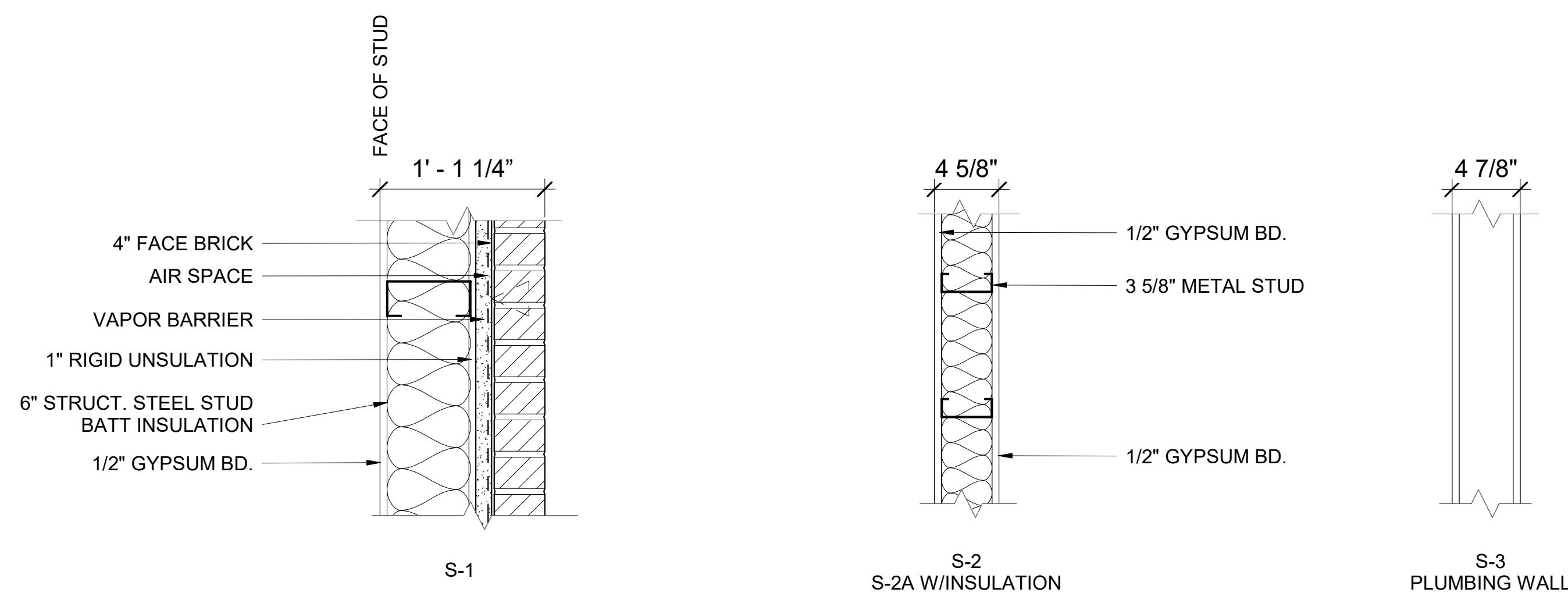
JANUARY 2024 DWG. A-09
105787
BROAD CREEK II WTP
NEW OPERATOR BUILDING
DOOR, WINDOW, AND FLOOR DETAILS

ROOM FINISH SCHEDULE					
ROOM NO	ROOM NAME	FLOOR	BASE	WALL	CEILING
101	OPERATOR AREA	LVT	LVT	GB	ACT
102	BREAK ROOM	LVT	LVT	GB	ACT
103	CONFERENCE ROOM	LVT	LVT	GB	ACT
104	ELEC/IT ROOM	LVT	LVT	GB	ACT
105	HVAC ROOM	LVT	LVT	GB	ACT
106	LOCKER ROOM	VCT	LVT	GB	ACT
107	UNISEX SHOWER	LVT	LVT	GB	GBD
108	UNISEX RESTROOM	LVT	LVT	GB	GBD
109	JANITORS CLOSET	LVT	LVT	GB	ACT
110	BREAK ROOM CLOSET	LVT	LVT	GB	ACT

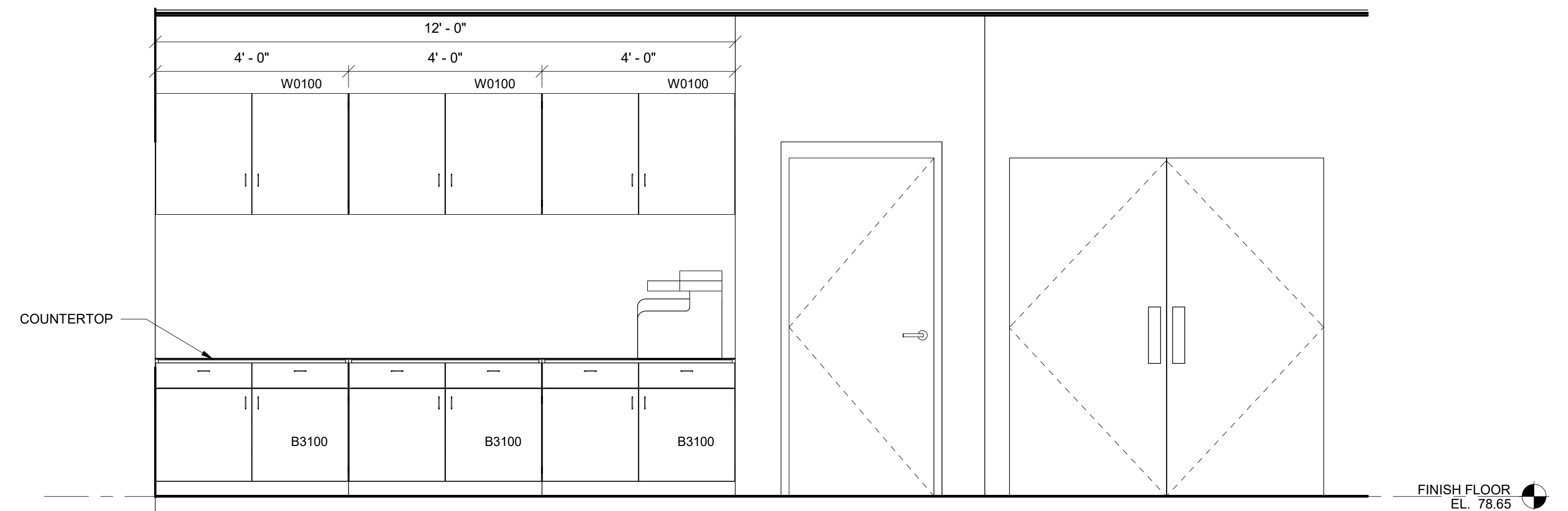
VCT - VINYL COMPOSITE TILE
 VCB - VINYL COMPOSITE BASE
 CT - CERAMIC TILE
 PTD - PAINTED
 ACT - ACOUSTIC CEILING TILE
 GB - GYPSUM BOARD
 LVT - LUXURY VINYL TILE



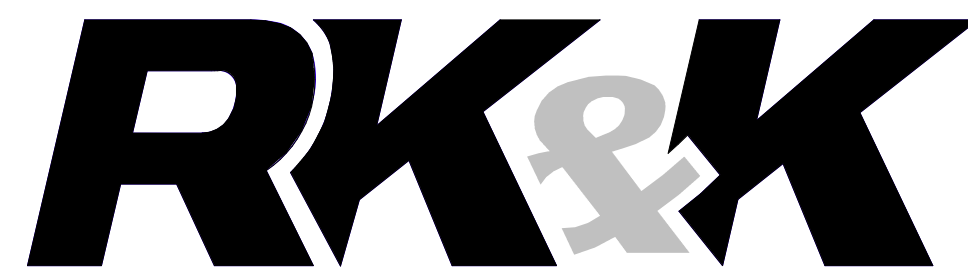
1 KITCHEN ELEVATION
 SCALE: 1/2" = 1'-0"



3 WALL TYPES
 SCALE: 1 1/2" = 1'-0"



2 WORK STATION ELEVATION
 SCALE: 1/2" = 1'-0"



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 RK&K, LLP
 700 EAST PRATT STREET, SUITE 500 • BALTIMORE, MARYLAND 21202 • 410.728.2900

PROFESSIONAL CERTIFICATION.
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 LICENSE NO. 9746
 EXPIRATION DATE: 11/21/2023



REVISIONS			
NO.	DESCRIPTION	BY	DATE

ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS			
APPROVED	DATE	APPROVED	DATE
<i>[Signature]</i>	12/13/2023	<i>[Signature]</i>	12/12/2023
CHIEF ENGINEER		PROJECT MANAGER	
<i>[Signature]</i>	12/13/2023	<i>[Signature]</i>	12/12/2023
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY SERVICES	

JANUARY 2024	DWG. A-10
105788	
BROAD CREEK II WTP	
NEW OPERATOR BUILDING	
WALL, WORK STATION, AND KITCHEN DETAILS	
DRAWN BY: JL	CHECKED BY: SS
SHEET NO.: 23 OF 35	PROJECT NO.: W804000
CONTRACT NO.: W804010	

GENERAL

- 1. ALL ELEVATIONS ARE REFERENCED TO MSL. SEE CIVIL DWG FOR FINISHED FLOOR ELEV. ALL ELEVATIONS SHOWN ON PLANS ARE REFERENCED TO THIS DATUM UNLESS NOTED.
2. THE GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO FABRICATION OR START OF CONSTRUCTION.
3. NO STRUCTURAL MEMBER SHALL BE CUT, NOTCHED OR OTHERWISE REDUCED IN STRENGTH WITHOUT THE PRIOR NOTIFICATION OF THE STRUCTURAL ENGINEER.
4. THE GENERAL CONTRACTOR SHALL COORDINATE ALL OTHER DISCIPLINES FOR ANY ITEMS WHICH EFFECT THE STRUCTURAL DRAWINGS.
5. CONTRACTOR SHALL PROVIDE TEMPORARY BRACING, GUY WIRES, ETC., WHERE NECESSARY TO ADEQUATELY RESIST ALL CONSTRUCTION LOADS.

DESIGN CRITERIA

- 1. STRUCTURAL DESIGN SHALL BE IN ACCORDANCE WITH THE GOVERNING PROVISIONS OF THE FOLLOWING CODE, STANDARDS AND SPECIFICATIONS:
a. INTERNATIONAL BUILDING CODE (IBC) 2018
b. ASCE 7-16 MIN. DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES.
c. ACI 318-14 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE.
d. ACI 350-06 CODE REQUIREMENTS FOR ENVIRONMENTAL CONCRETE STRUCTURES.
e. TMS 402/602 BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES.
f. AISC 360-16 SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS.
g. AWS D1.1 STRUCTURAL WELDING CODE - STEEL.
2. SUPERIMPOSED DESIGN LOADS:
a. DEAD LOADS:
ROOF: 15 PSF
b. LIVE LOADS (MIN):
ROOFS, NON-REDUCIBLE: 30 PSF
FLOOR: 125 PSF
c. ASCE 7-16 RISK CATEGORY = III
d. WIND LOADS:
ULTIMATE DESIGN SPEED: 120 MPH
NOMINAL DESIGN SPEED: 93 MPH
EXPOSURE: C
EDGE DISTANCE (a): 3.2 FEET
WIND VELOCITY PRESSURE (C&C)
ZONE 4: 34.0 PSF
ZONE 5: 42.0 PSF
INTERNAL PRESSURE COEFF.: +/- 0.18
e. EARTHQUAKE DESIGN DATA:
SEISMIC IMPORTANCE FACTOR: Ie=1.25
MAPPED SPECTRAL RESPONSE ACCELERATION: Ss=0.129
MAPPED SPECTRAL RESPONSE ACCELERATION: S1=0.042
DESIGN SPECTRAL RESPONSE ACCELERATION: SdS=0.137
DESIGN SPECTRAL RESPONSE ACCELERATION: Sd1=0.067
SOIL SITE CLASSIFICATION: TYPE D
SEISMIC DESIGN CATEGORY: B
DESIGN BASE SHEAR: 6.8 KIPS
SEISMIC RESPONSE COEFFICIENT: Cs=0.043
RESPONSE COEFFICIENT: R=6.5
ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE PROCEDURE
f. SNOW LOADS:
GROUND SNOW LOAD (Pg): 25 PSF
BALANCED SLOPED ROOF SNOW LOAD (Ps): 27.5 PSF
SNOW EXPOSURE FACTOR (Ce): 0.9
SNOW THERMAL FACTOR (Ct): 1.0
SNOW LOAD IMPORTANCE FACTOR (Is): 1.10
3. FOUNDATION: SPREAD & WALL FOOTINGS
a. ASSUMED ALLOWABLE BEARING PRESSURE: 2,000 PSF (CONTRACTOR TO CONFIRM ASSUMPTION)
b. ASSUMED INTERNAL ANGLE OF FRICTION: 30 DEGREES
c. ASSUMED UNIT WEIGHT OF SOIL (ABOVE WATER TABLE): 125 PCF
d. ASSUMED UNIT WEIGHT OF SOIL (BELOW WATER TABLE): 75 PCF
e. ASSUMED AT REST EARTH PRESSURE COEFFICIENT: Ko=0.50
f. REFER TO GEOTECHNICAL REPORT PREPARED BY FINDLING, INC. AND DATED AUG. 04, 2022 FOR EARTHWORK REQUIREMENTS

FOUNDATION

- 1. ALL FOUNDATIONS SHALL BEAR ON 6" OF #57 STONE OVER UNDISTURBED SOIL WITH AN ALLOWABLE BEARING CAPACITY SPECIFIED.
2. CONCRETE SHALL NOT BE POURED ON FROZEN GROUND.
3. PROVIDE SHEETING AS REQUIRED TO SUPPORT LATERAL LOADS DURING EXCAVATION. SEE GEOTECHNICAL REPORT FOR SOIL PROPERTIES.
4. FILL ALL VOIDS AND REPLACE DISTURBED SOIL WITH LEAN CONCRETE.
5. DO NOT BACKFILL AGAINST WALLS UNTIL TOP OF WALL IS EITHER TEMPORARILY BRACED OR SUPPORTING SLABS ARE IN PLACE AND HAVE OBTAINED REQUIRED STRENGTH. WHERE BACKFILL IS REQUIRED ON BOTH SIDES OF WALL, BACKFILL BOTH SIDES SIMULTANEOUSLY.
6. REFER TO GEOTECHNICAL REPORT FOR ADDITIONAL INFORMATION.

CAST-IN-PLACE REINFORCED CONCRETE

- 1. ALL CONCRETE WORK SHALL CONFORM TO ACI-350-06 CODE REQUIREMENTS FOR ENVIRONMENTAL CONCRETE STRUCTURES.
2. MINIMUM 28 DAY COMPRESSIVE STRENGTH, MAX WATER TO CEMENTITIOUS MATERIAL RATIOS & AGGREGATE SIZE:
A. SLAB, FOUNDATIONS AND WALLS: 4,000 PSI, NORMAL WEIGHT, W/C=0.45, #57 AGGREGATE
3. ALL FOUNDATION AND EXPOSED CONCRETE SHALL INCLUDE 5% AIR ENTRAINMENT, UNLESS NOTED OTHERWISE.
4. SLUMP 3" MAX FOR FOUNDATIONS & 4" MAX FOR WALLS, PRIOR TO MID RANGE WATER REDUCER (MRWR).
5. REINFORCING STEEL SHALL CONFORM TO ASTM A-615 GRADE 60. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A-1064.
6. TERMINATE ALL DISCONTINUED TOP BARS WITH 90 DEGREE STANDARD HOOK UNLESS OTHERWISE NOTED.
7. CONTINUOUS BOTTOM BARS SHALL BE SPLICED AT CENTERLINE OF SUPPORTS. CONTINUOUS TOP BARS SHALL BE SPLICED AT MIDSPAN.
8. AT CHANGES IN DIRECTION OF CONCRETE WALLS, STRIP FOOTINGS, BEAMS, TIE-BEAMS AND BOND BEAMS, PROVIDE CORNER BARS AT SAME SIZE AND SPACING AS HORIZONTAL STEEL.
9. CHAMFER ALL EDGES OF BEAMS, COLUMNS, HAUNCHES, WALLS EQUIPMENT PADS AND SLABS EXPOSED TO VIEW 3/4" UNLESS OTHERWISE NOTED.
10. SEE SPECIFICATIONS FOR WATERPROOFING MEMBRANES.

STRUCTURAL STEEL

- 1. ALL STRUCTURAL STEEL SHALL CONFORM TO THE AISC SPECIFICATIONS FOR THE DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS
2. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING ASTM DESIGNATIONS:
a. CHANNELS, ANGLES, BARS & PLATES: A36, FY = 36 KSI.
3. BOLTS SHALL CONFORM TO THE FOLLOWING ASTM DESIGNATIONS:
a. HIGH STRENGTH BOLTS: ASTM F315 GRADE 325
b. ANCHOR BOLTS: ASTM F1554 GRADE 36
4. NO PENETRATIONS ARE PERMITTED THROUGH STRUCTURAL STEEL MEMBERS UNLESS INDICATED ON STRUCTURAL DRAWINGS OR APPROVED BY ARCHITECT/ENGINEER.
5. APPROVAL OF THE ARCHITECT/ENGINEER SHALL BE MANDATORY FOR THE USE OF CUTTING TORCH IN THE FIELD.
6. ALL GROUT UNDER STEEL PLATES SHALL BE NON-SHRINK "PRE-MIX" TYPE AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 5000 PSI.
7. FOR ALL MISCELLANEOUS STEEL CONSTRUCTION NOT SHOWN ON STRUCTURAL DRAWINGS, SEE THE ARCHITECTURAL AND MECHANICAL DRAWINGS.
8. ALL STEEL & CONNECTIONS EXPOSED TO WEATHER SHALL BE HOT-DIPPED GALVANIZED ACCORDING TO ASTM A123.

METAL DECK

- 1. METAL DECK SHALL CONFORM TO THE AISI (AMERICAN IRON AND STEEL INSTITUTE) SPECIFICATIONS FOR THE DESIGN OF LIGHT GAGE COLD-FORMED STRUCTURAL STEEL MEMBERS AND SDI CODE OF RECOMMENDED STANDARD PRACTICE
2. METAL DECKING SHALL BE MADE OF STEEL CONFORMING TO ASTM A653 GRADE A FOR GALVANIZED DECK AND/OR ASTM A1008, GRADE C FOR PAINTED DECK HAVING A MINIMUM YIELD STRENGTH OF 33,000 PSI.
3. ALL METAL DECK HAS BEEN DESIGNED TO BE CONTINUOUS OVER THREE SPANS MINIMUM, AND SHALL BEAR AT LEAST 2" ON STEEL SUPPORTS. FOR ONE OR TWO SPAN CONDITIONS, THE CONTRACTOR SHALL PROVIDE SHORING AS REQUIRED, OR FURNISH HIGHER GAGE DECK AS REQUIRED TO SUPPORT ALL THE APPLICABLE LOADS. CONTRACTOR SHALL SUBMIT ALTERNATE FOR APPROVAL.
4. DECK SHALL BE SCREWED TO SUPPORTING TRUSSES AT ENDS OF UNITS AND AT ALL INTERMEDIATE SUPPORTS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND TYPICAL DETAIL IN THESE DRAWINGS. SIDE LAPS SHALL BE SCREWED AT 30" O/C MAXIMUM. SEE TYPICAL DETAIL FOR CONNECTIONS.
5. PROVIDE RIDGE AND VALLEY PLATES, STANDARD CLOSURES, CANT STRIPS, POUR STOPS AND OTHER ACCESSORIES AS SHOWN ON DRAWINGS OR AS REQUIRED.
6. ROOF DECK SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES PER FOOT WIDTH UNLESS NOTED OTHERWISE ON THE DRAWINGS:
a. 1 1/2", TYPE B, WIDE RIB, 22 GAUGE (0.0295 INCH)
b. I = 0.155 IN^4
c. SP = 0.169 IN^3
d. SN = 0.179 IN^2
7. DECK OPENINGS THAT ARE LARGER THAN 8" OR CUT THROUGH MORE THAN 2 WEBS SHALL BE REINFORCED PER TYPICAL DETAILS.

COLD-FORMED METAL FRAMING

- 1. LIGHT GAGE STEEL FRAMING SHALL CONFORM TO THE AISI (AMERICAN IRON AND STEEL INSTITUTE) SPECIFICATIONS FOR THE DESIGN OF LIGHT GAGE COLD-FORMED STRUCTURAL STEEL MEMBERS AND SDI CODE OF RECOMMENDED STANDARD PRACTICE.
2. SUBMIT TO THE ARCHITECT FOR REVIEW, PRIOR TO FABRICATION, COMPLETE SHOP DRAWINGS AND CALCULATIONS FOR ALL LIGHT GAGE FRAMING ELEMENTS. SHOP DRAWINGS SHALL INCLUDE COMPLETE SECTION PROPERTIES OF MEMBERS, CONNECTION DETAILS, BRIDGING SIZE AND LOCATION AND ERECTION PLANS. SHOP DRAWINGS AND CALCULATIONS SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF THE MARYLAND.
3. PROVIDE A CONTINUOUS STEEL TRACK AT THE TOP AND BOTTOM OF ALL STUD WALLS AND HORIZONTAL BRIDGING AT MID-HEIGHT OF ALL WALLS UNLESS NOTED OTHERWISE ON THE CONTRACT DRAWINGS. CONNECT BRIDGING TO EACH FLANGE ON EACH STUD. DETAILS SHALL APPEAR ON SHOP DRAWINGS.
4. ALL LIGHT GAGE FRAMING SHALL BE A MINIMUM OF 20 GAGE, UNLESS NOTED OTHERWISE ON THE DRAWINGS, AND SHALL BE GALVANIZED. SEE PLAN AND SECTIONS FOR DEPTH AND SPACING OF LIGHT GAGE FRAMING.

COLD-FORMED METAL FRAMING (CONT'D)

- 5. SCREW ALL CONNECTIONS OF STUD TO STUD, STUD TO TRACK AND STUD TO FRAME USING 2-NO. 8 SELF TAPPING METAL SCREWS AT EACH CONNECTION, UNLESS NOTED OTHERWISE ON DRAWINGS.
6. PROVIDE DOUBLE JAMB EACH END OF LINTEL, UNLESS NOTED OTHERWISE.
7. CONNECT STUD FLANGES TO TRACK. STUDS SHALL HAVE FULL BEARING AGAINST INSIDE WEB OF TRACK. NO VOIDS WILL BE PERMITTED AT TOP OR BOTTOM OF STUD AT TRACK (TYPICAL).
8. LIGHT GAGE FRAMING INSTALLATION SHALL BE INSPECTED IN THE FIELD BY AN INDEPENDENT TESTING AGENCY APPROVED BY THE ARCHITECT AND PAID FOR BY THE OWNER.
9. SHEATHING ON THE COLD-FORMED METAL FRAMING SHALL BE INSTALLED AS INDICATED IN THE PROJECT CONSTRUCTION DOCUMENTS AND SPECIFICATIONS AND PER ASTM C955 UNLESS SPECIFIC FASTENER SPACING IS CALLED FOR IN THESE DRAWINGS. FOR ALL SHEAR WALLS SHOWN IN PLAN PROVIDE A MINIMUM OF 7/16" OSB WOOD SHEATHING ATTACHED TO EDGE SUPPORTS WITH NO 8 SCREWS AT 6" SPACING (JNO) AND TO INTERMEDIATE SUPPORTS WITH NO 8 SCREWS AT 12" SPACING.

PRE-ENGINEERED COLD-FORMED STEEL ROOF TRUSSES

- 1. ALL COLD-FORMED DESIGN AND FABRICATION SHALL CONFORM TO THE LATEST EDITION OF THE FOLLOWING:
a. "AMERICAN IRON AND STEEL INSTITUTE STANDARD FOR COLD-FORMED STEEL FRAMING - TRUSS DESIGN STRUCTURAL MEMBERS."
b. "AMERICAN IRON AND STEEL INSTITUTE, NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS."
c. STRUCTURAL BUILDING COMPONENTS ASSOCIATION - COLD-FORMED STEEL BUILDING COMPONENT SAFETY INFORMATION (CFSBCS).
2. SHOP DRAWINGS FOR ALL COLD-FORMED STEEL TRUSSES AND CONNECTORS SHALL IDENTIFY THE SPECIFIC PROJECT, SHALL LIST ALL DESIGN CRITERIA AND SHALL SHOW ALL DETAILS NECESSARY FOR PROPER ERECTION. SHOP DRAWINGS SHALL BEAR THE SIGNATURE AND IMPRESSED SEAL OF THE PROFESSIONAL ENGINEER LICENSED IN MARYLAND WHO PREPARED THEM.
3. SIGNED AND SEALED SHOP DRAWINGS SHALL INCLUDE ALL TRUSS MEMBER SIZES, CONNECTORS, FRAMING PLANS IDENTIFYING EACH TRUSS AND IT'S LOCATION, PERMANENT BRACING AND ANCHORAGE OF BRACING, TRUSS TO TRUSS CONNECTION DETAILS, TRUSS TO STRUCTURE CONNECTORS NOT SHOWN ON THE STRUCTURAL DRAWINGS AND ANY OTHER TEMPORARILY AND PERMANENT ERECTION AND FABRICATION INFORMATION.
4. PROVIDE COMPONENTS WITH PROTECTIVE ZINC COATING COMPLYING WITH ASTM A653, MINIMUM G60 COATING.
5. STRUCTURAL MEMBERS SHALL MEET THE FOLLOWING MINIMUM YIELD STRENGTH REQUIREMENTS:
a. CHORD AN WEB MEMBER: Fy=50 KSI
b. BRACING, BRIDGING AND BLOCKING MEMBERS: Fy=33 KSI
6. THE ERECTION AND BRACING OF COLD-FORMED STEEL TRUSSES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE IN ACCORDANCE WITH THE CFSBCS COMMENTARY AND THE RECOMMENDATIONS UNLESS NOTED OTHERWISE ON APPROVED SHOP DRAWINGS.
7. TRUSSES SHALL PRODUCE NO HORIZONTAL THRUST TO BEARING WALLS.

DELEGATED DESIGN

- 1. THE CONTRACTOR IS RESPONSIBLE FOR THE ENGINEERING OF THE FOLLOWING DELEGATED DESIGN ITEMS:
a. ROOF TRUSSES
b. COLD FORMED METAL FRAMING
2. DELEGATED DESIGN ITEMS SHALL BE DESIGNED TO ALL APPLICABLE BUILDING CODE STANDARDS INCLUDING STATE AND LOCAL CODES.
3. SUBMIT SHOP DRAWINGS AND CALCULATIONS FOR THESE ITEMS FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION. CALCULATIONS SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF MARYLAND.

SUBMISSIONS AND SHOP DRAWINGS

- 1. SUBMIT SHOP DRAWINGS FOR ALL STRUCTURAL ELEMENTS SHOWN IN THE CONTRACT DOCUMENTS. SEE SPECIFICATIONS FOR REQUIRED SUBMITTALS.
2. BEFORE SUBMISSION OF SHOP DRAWINGS, THE CONTRACTOR SHALL HAVE DETERMINED AND VERIFIED ALL QUANTITIES, DIMENSIONS, SPECIFIED PERFORMANCE CRITERIA, INSTALLATION REQUIREMENTS, MATERIALS, CATALOG NUMBERS AND SIMILAR DATA AND SHALL HAVE COORDINATED EACH SHOP DRAWING WITH OTHER SHOP DRAWINGS AND THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.
3. PRIOR TO SUBMISSIONS, THE CONTRACTOR SHALL STAMP THE SHOP DRAWING INDICATING THAT THE CONTRACTOR HAS REVIEWED THE SUBMISSION AND IS SATISFIED THE CONTENTS ARE IN COMPLIANCE WITH THE CONTRACT DRAWINGS.
4. REPRINTS OF THE CONTRACT DRAWINGS WILL NOT BE ACCEPTED.
5. NO DIMENSIONAL INFORMATION MAY BE OBTAINED BY DIRECT SCALING OF THE DRAWINGS.

SPECIAL INSPECTION

- 1. OWNER SHALL ENGAGE AN INDEPENDENT SPECIAL INSPECTION AGENCY. CONTRACTOR SHALL NOTIFY INSPECTOR OF CONSTRUCTION PROGRESS AND PROVIDE ACCESS TO THE SITE AND WORK TO COMPLETE INSPECTIONS.
2. INSPECTION SHALL BE ACCORDING TO THE FOLLOWING IBC 2018 SECTIONS:
a. SPECIAL INSPECTIONS 1704.2
b. STEEL CONSTRUCTION 1705.2
c. CONCRETE CONSTRUCTION 1705.3
d. SOILS 1705.6

NOTE: THE OWNER OR THE OWNER'S AUTHORIZED AGENT, OTHER THAN THE CONTRACTOR, SHALL ENGAGE THE INDEPENDENT SPECIAL INSPECTION AGENCY. THE COST OF ALL TESTS AND OTHER INVESTIGATIONS REQUIRED FOR SPECIAL INSPECTIONS SHALL BE BORNE BY THE OWNER. (SEE IBC 1704.2) THE CONTRACTOR SHALL NOTIFY THE INSPECTOR OF PROGRESS OF CONSTRUCTION AND PROVIDE ACCESS TO THE SITE TO COMPLETE INSPECTIONS.



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PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 23393 EXPIRATION DATE: 08/25/24



Table with 4 columns: NO., DESCRIPTION, BY, DATE. Contains revision entries for APPROVED and CHIEF ENGINEER.

Approval table with columns for APPROVED, DATE, and SIGNED. Includes signatures for Daniel and Tom Burke.

ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS 105789 BROAD CREEK II WTP NEW OPERATOR BUILDING GENERAL STRUCTURAL NOTES

ABBREVIATIONS

L	ANGLE
@	AT
Ø	DIAMETER
ADD'L	ADDITIONAL
ARCH	ARCHITECTURAL
BOT	BOTTOM
BRG	BEARING
CFM	COLD-FORMED METAL
CJ	CONTROL JOINT
CLR	CLEAR
CONC	CONCRETE
CONN	CONNECTION
CONT	CONTINUOUS
DIA	DIAMETER
DIM	DIMENSION
DTL	DETAIL
DWG(S)	DRAWING(S)
EA	EACH
EL / ELEV	ELEVATION
EMBED	EMBED(MENT)
EQ	EQUAL
EW	EACH WAY
EXP	EXPANSION
FF	FINISHED FLOOR
FTG	FOOTING
GA	GAUGE
GALV	GALVANIZED
HT	HEIGHT
JT	JOINT
MANUF/ MFR	MANUFACTURER
MAX	MAXIMUM
MIN	MINIMUM
MISC	MISCELLANEOUS
NO	NUMBER
OC	ON CENTER
PSF	POUNDS/SQUARE FOOT
PSI	POUNDS/SQUARE INCH
REINF	REINFORCEMENT
SIM	SIMILAR
STD	STANDARD
T&B	TOP & BOTTOM
TYP	TYPICAL
T/.....	TOP OF
UNO	UNLESS NOTED OTHERWISE
W/	WITH
W/C	WATER TO CEMENT RATIO
WWF	WELDED WIRE FABRIC

STRUCTURAL LEGEND

	10 MIL VAPOR BARRIER
	COLD FORMED STEEL TRUSSES
	BRICK
	SHEAR WALL
	CALLOUT
	CALLOUT
	COMPACTED STRUCTURAL FILL
	COMPACTED SUBGRADE
	CONCRETE
	CONTROL JOINT (C.J.)
	DIRECTION OF SLOPE
	DIRECTION OF SPAN
	ELEVATION DATUM
	FOOTING
	GROUT
	LINTEL OVER OPENING
	STUD (CFM)
	TEK SCREW
	TRACK (CFM)
	SECTION INDICATION
	SECTION NUMBER
	SHOWN ON SHEET NUMBER



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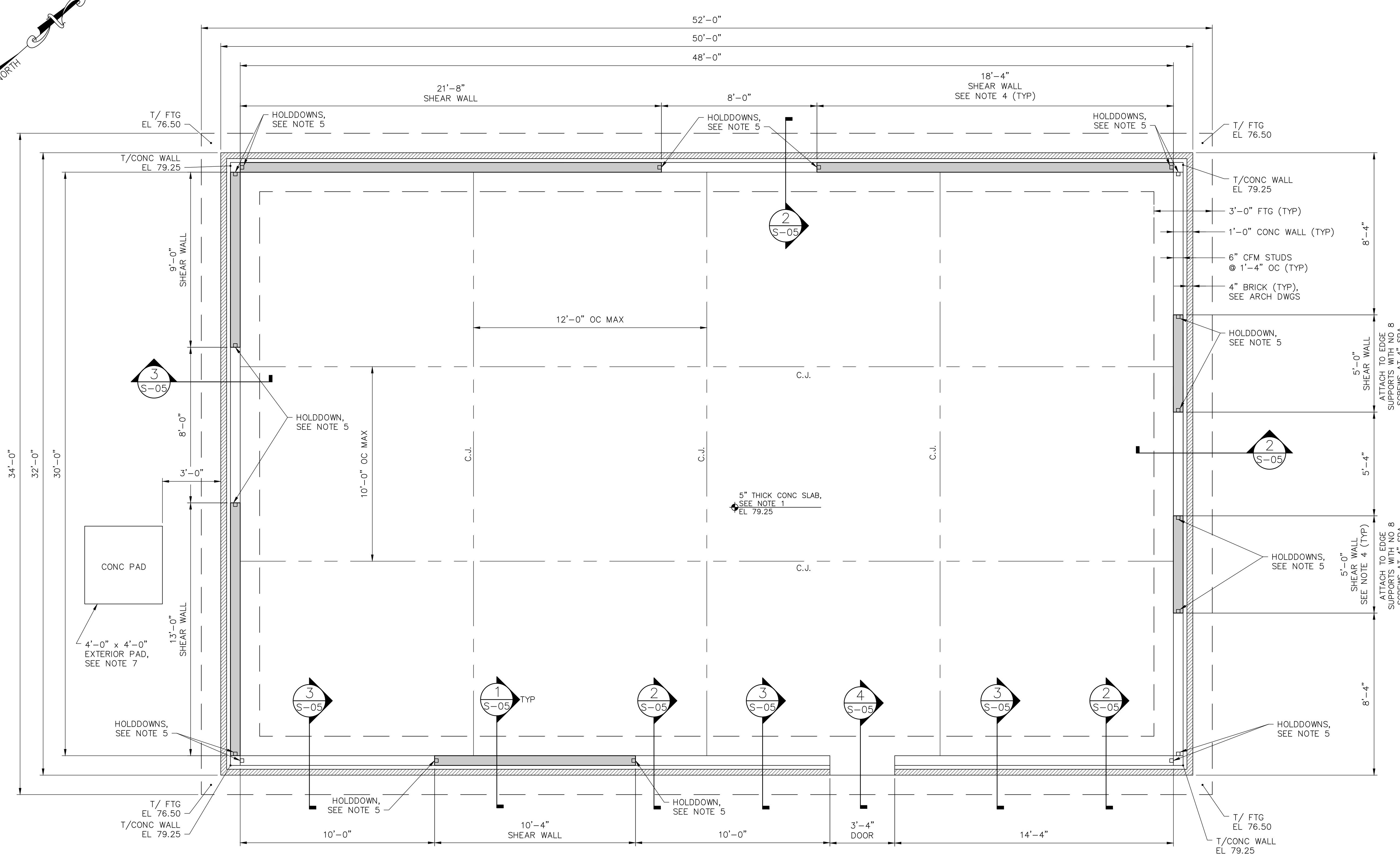
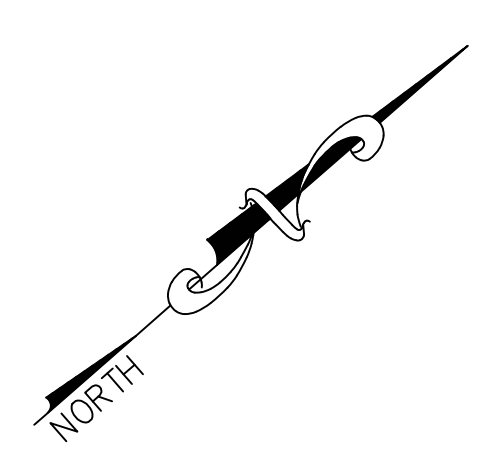
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LICENSE NO. 23393
EXPIRATION DATE: 08/25/24



REVISIONS			
NO.	DESCRIPTION	BY	DATE

APPROVED	DATE	APPROVED	DATE
	12/13/2023		12/12/2023
CHIEF ENGINEER		PROJECT MANAGER	
APPROVED	DATE	APPROVED	DATE
	12/13/2023		12/12/2023
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY SERVICES	

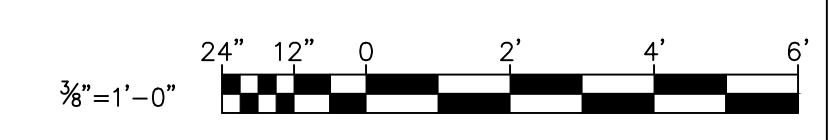
ANNE ARUNDEL COUNTY		JANUARY 2024	DWG. S-02
DEPARTMENT OF PUBLIC WORKS		105790	
SCALE: AS SHOWN	DRAWN BY: K.A.P.	CHECKED BY: C.C.C./R.L.A.	BROAD CREEK II WTP
SHEET NO.: 25 OF 36	PROJECT NO.: W804000	CONTRACT NO.: W804010	NEW OPERATOR BUILDING
GENERAL STRUCTURAL ABBREVIATIONS AND LEGEND			



- GENERAL NOTES:**
1. SLAB TO BE 0'-5" THICK CONCRETE SLAB-ON-GRADE WITH #5 @ 12" OC, EW.
 2. COORDINATE WITH ARCHITECTURAL AND MECHANICAL DRAWINGS FOR ALL OPENINGS.
 3. C.J. = CONTROL JOINT, SEE DETAIL C/S-06. ADD A CONSTRUCTION JOINT WHERE NEEDED IN SUBSTITUTION OF A CONTROL JOINT, SEE DETAIL B/S-06.
 4. SHEAR WALL, PROVIDE A MINIMUM OF 1/4" OSB WOOD SHEATHING AT ALL SHEAR WALLS. ATTACH TO EDGE SUPPORTS WITH NO 8 SCREWS AT 6" SPACING UNLESS NOTED OTHERWISE ON PLAN. ATTACH TO INTERMEDIATE SUPPORTS WITH NO 8 SCREWS AT 12" SPACING. PROVIDE DOUBLE STUDS AT BOTH ENDS OF ALL SHEAR WALLS.
 5. PROVIDE SIMPSON S/HD85 HOLDDOWNS AT EACH END OF ALL SHEAR WALLS AND AT ALL CORNERS, AS SHOWN IN PLAN. SEE DETAIL A/S-08.
 6. REFER TO DETAIL E/S-08 FOR TYPICAL LG CORNER DETAIL.
 7. SEE MECHANICAL DRAWINGS FOR EXTERIOR EQUIPMENT PAD LOCATION AND SIZES, SEE DETAIL G/S-06.

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



JANUARY 2024 DWG. S-03



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 EXPIRATION DATE: 08/25/24



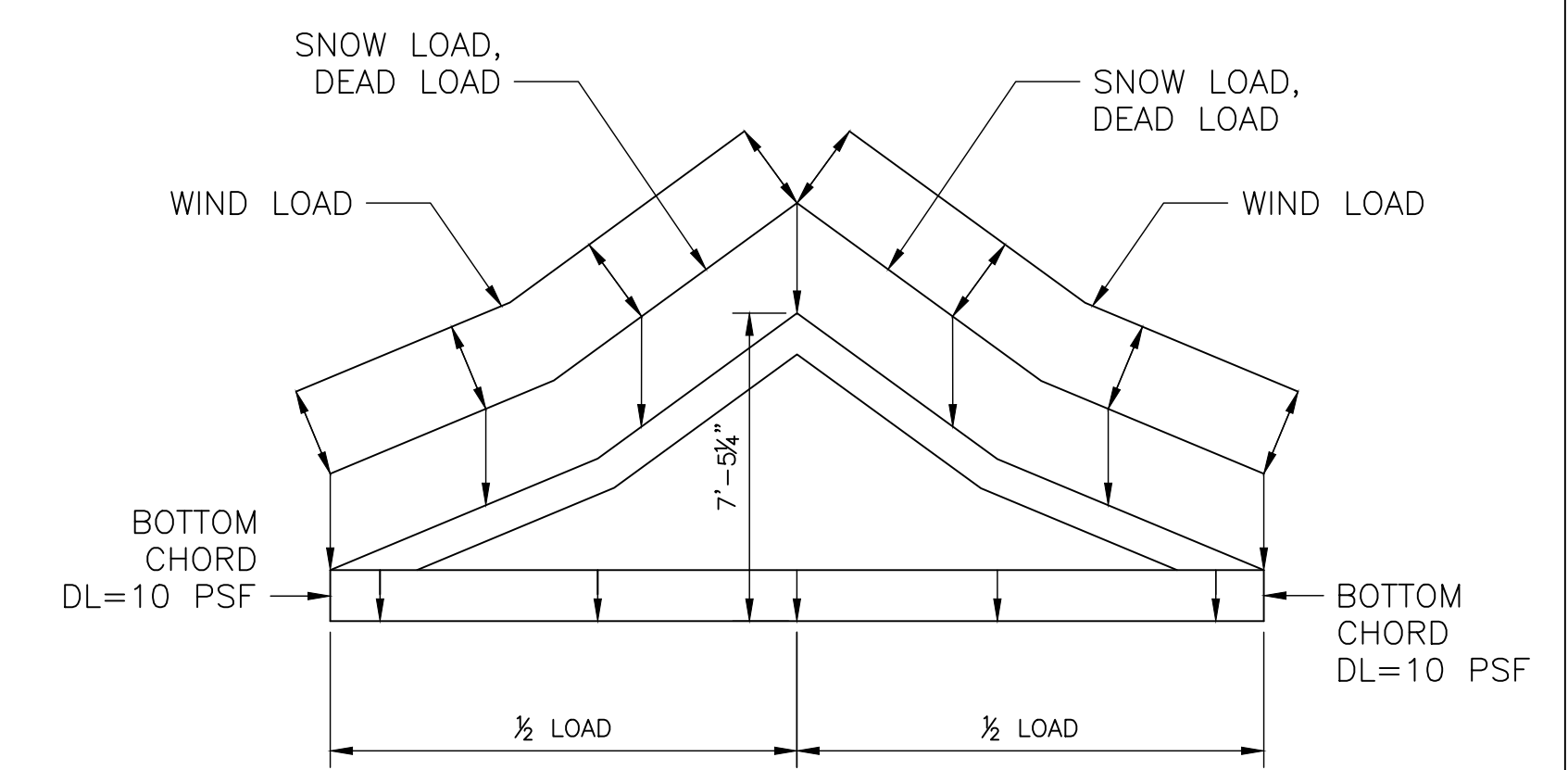
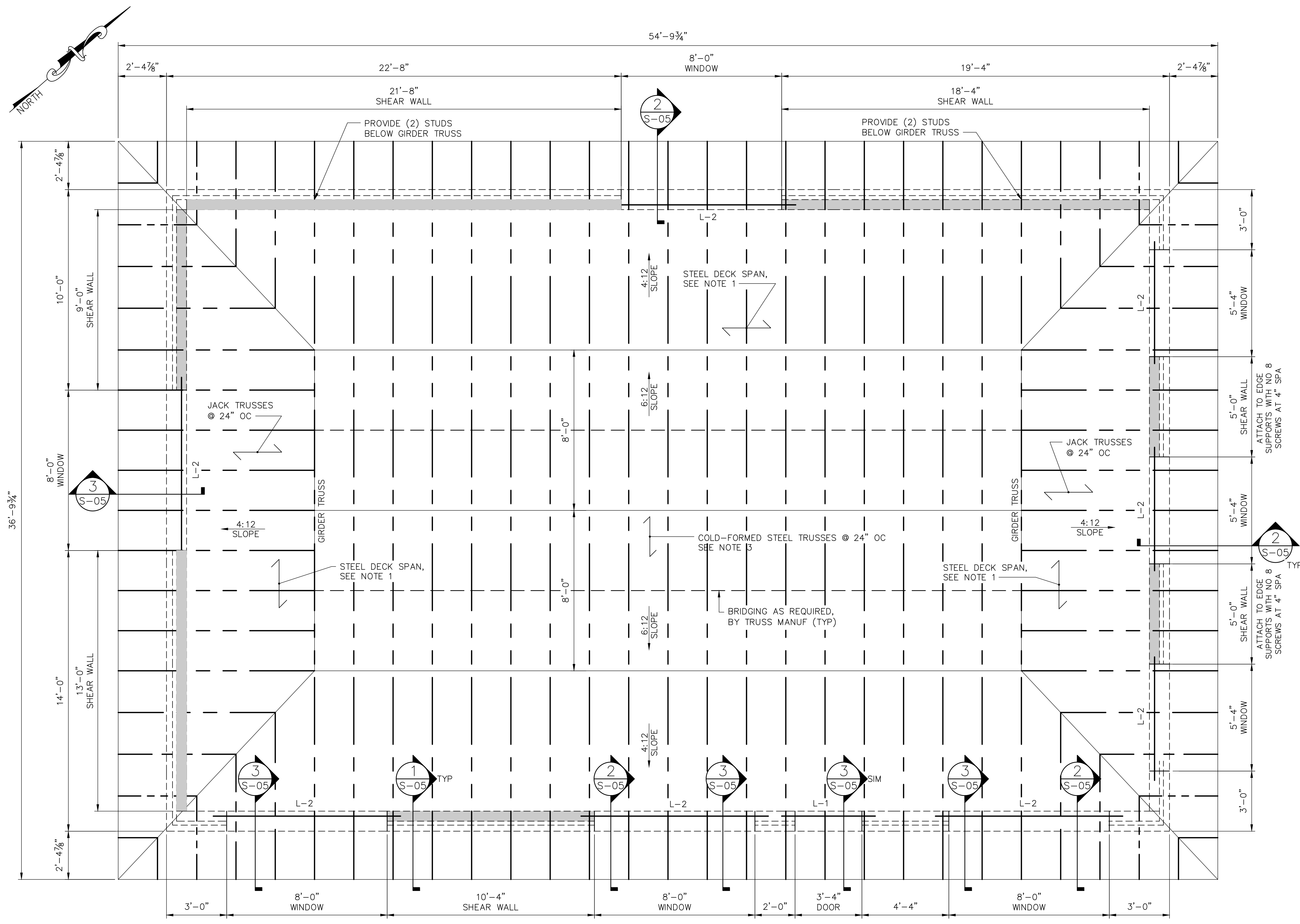
REVISIONS			
NO.	DESCRIPTION	BY	DATE

APPROVED	DATE	APPROVED	DATE
<i>Blair</i>	12/13/2023	<i>Maribel Moon</i>	12/12/2023
CHIEF ENGINEER		PROJECT MANAGER	
APPROVED	DATE	APPROVED	DATE
<i>Tom Burke</i>	12/13/2023	<i>Tom Burke</i>	12/12/2023
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY SERVICES	

ANNE ARUNDEL COUNTY
 DEPARTMENT OF PUBLIC WORKS **105791**
 BROAD CREEK II WTP
 NEW OPERATOR BUILDING
FOUNDATION PLAN
 SCALE: AS SHOWN
 DRAWN BY: K.A.P.
 CHECKED BY: C.C.C./R.L.A.
 SHEET NO.: 26 OF 36
 PROJECT NO.: W804000
 CONTRACT NO.: W804010

GENERAL NOTES:

1. 1/2" GALVANIZED METAL ROOF DECK (22 GAGE). SEE DETAIL A/S-07 FOR DECK CONNECTIONS.
2. L-# DENOTES LINTEL TYPE. SEE DETAIL H/S-07.
3. ROOF TRUSSES TO BE DESIGNED BY STEEL TRUSS MANUFACTURER. SEE GENERAL STRUCTURAL NOTES AND SPECIFICATIONS.
4. SHEAR WALL, PROVIDE A MINIMUM OF 1/4" OSB WOOD SHEATHING ATTACHED TO EDGE SUPPORTS WITH NO 8 SCREWS AT 6" SPACING UNLESS NOTED OTHERWISE ON PLAN. AT ALL INTERMEDIATE SUPPORTS ATTACH SHEATHING WITH NO 8 SCREWS AT 12" SPACING. PROVIDE DOUBLE STUDS AT BOTH ENDS OF ALL SHEAR WALLS.
5. SEE FOUNDATION PLAN FOR ALL HOLDDOWN LOCATIONS.



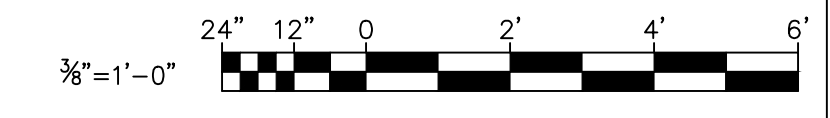
LOAD TYPE	SERVICE LOAD (psf)	
	1/2	1/2
DEAD	10	10
SNOW	27.5	27.5
LIVE	30	30
WIND ZONE 1	16	-34.8
WIND ZONE 2e	16	-42.6
WIND ZONE 2r	16	-52.9
WIND ZONE 3	16	-42.6
NET UPLIFT	-16.6	-16.6

- NOTES:
1. LOADS LISTED ARE SERVICE LOADS TO BE COMBINED PER ASCE 7-16 LOAD COMBINATIONS.
 2. WIND LOADS LISTED ARE COMPONENTS AND CLADDING LOADS BASED ON ULTIMATE WIND SPEED PER ASCE 7-16.
 3. DEFLECTION LIMITS: L/360 UNDER LIVE LOAD, L/240 UNDER TOTAL LOAD.

TRUSS LOADING DIAGRAM
SCALE: NONE

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



JANUARY 2024 DWG. S-04

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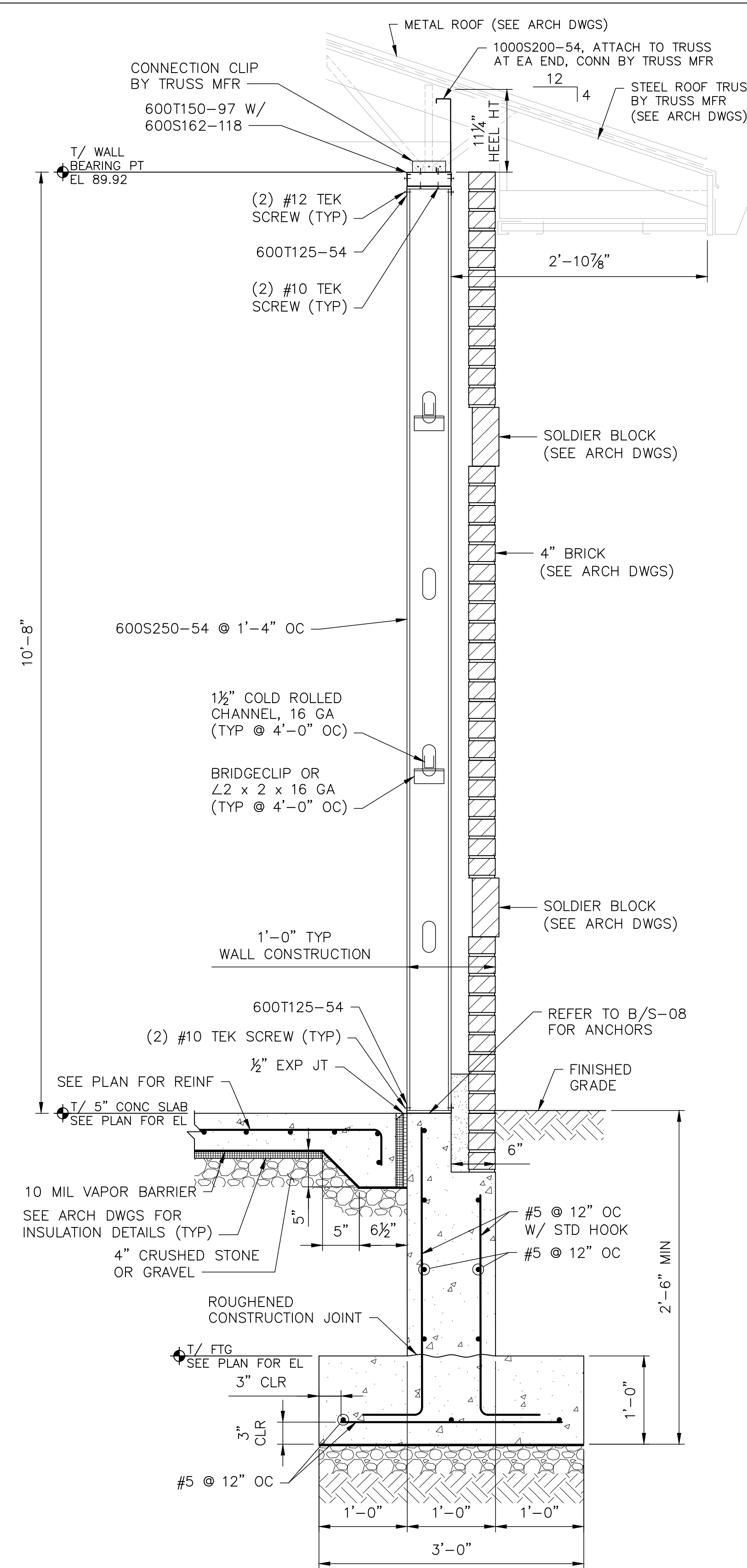
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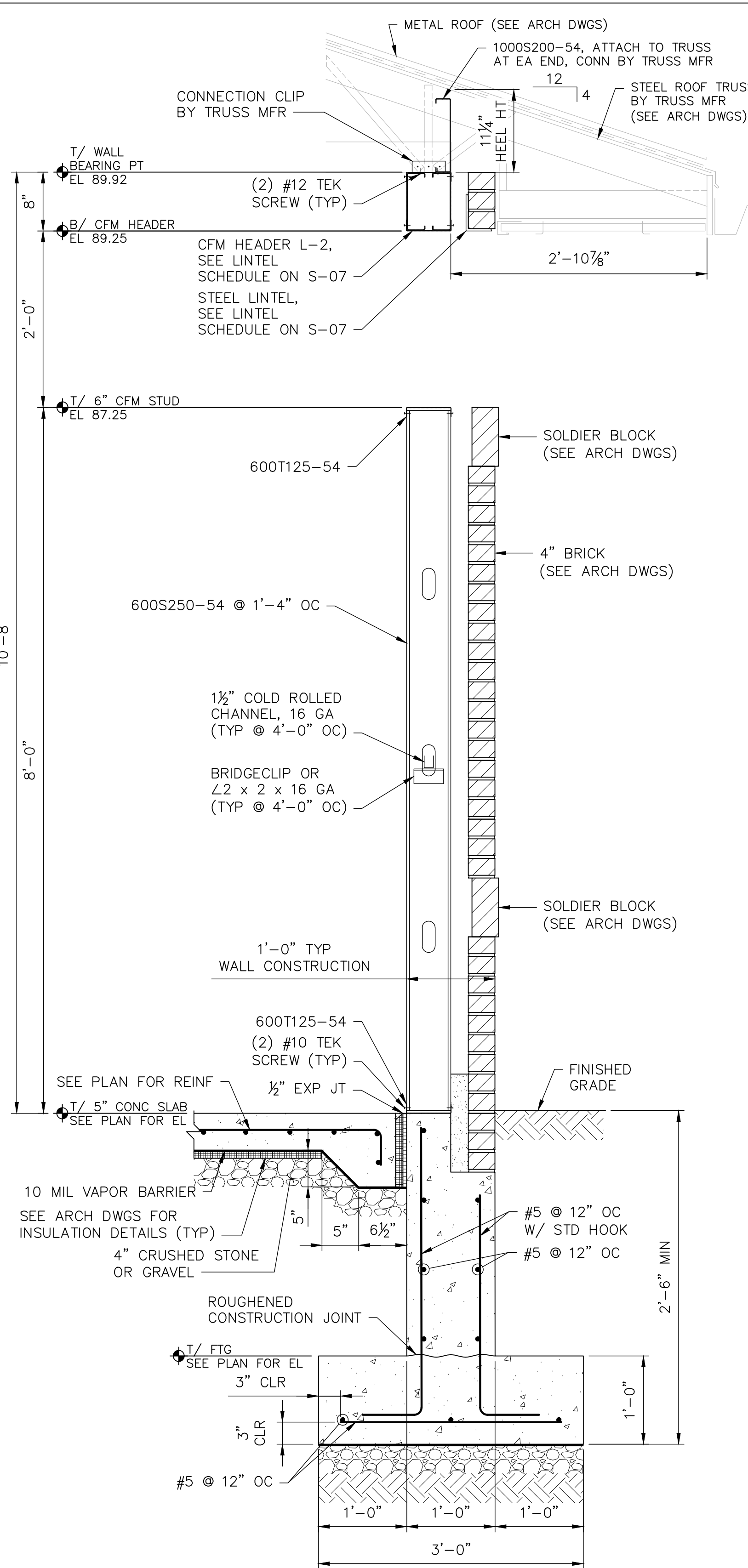
REVISIONS			
NO.	DESCRIPTION	BY	DATE

APPROVED	DATE	APPROVED	DATE
<i>Markel Moon</i>	12/13/2023	<i>Tom Burke</i>	12/12/2023
CHIEF ENGINEER		CHIEF, RIGHT OF WAY SERVICES	
<i>Tom Burke</i>	12/13/2023		
ASSISTANT CHIEF ENGINEER			

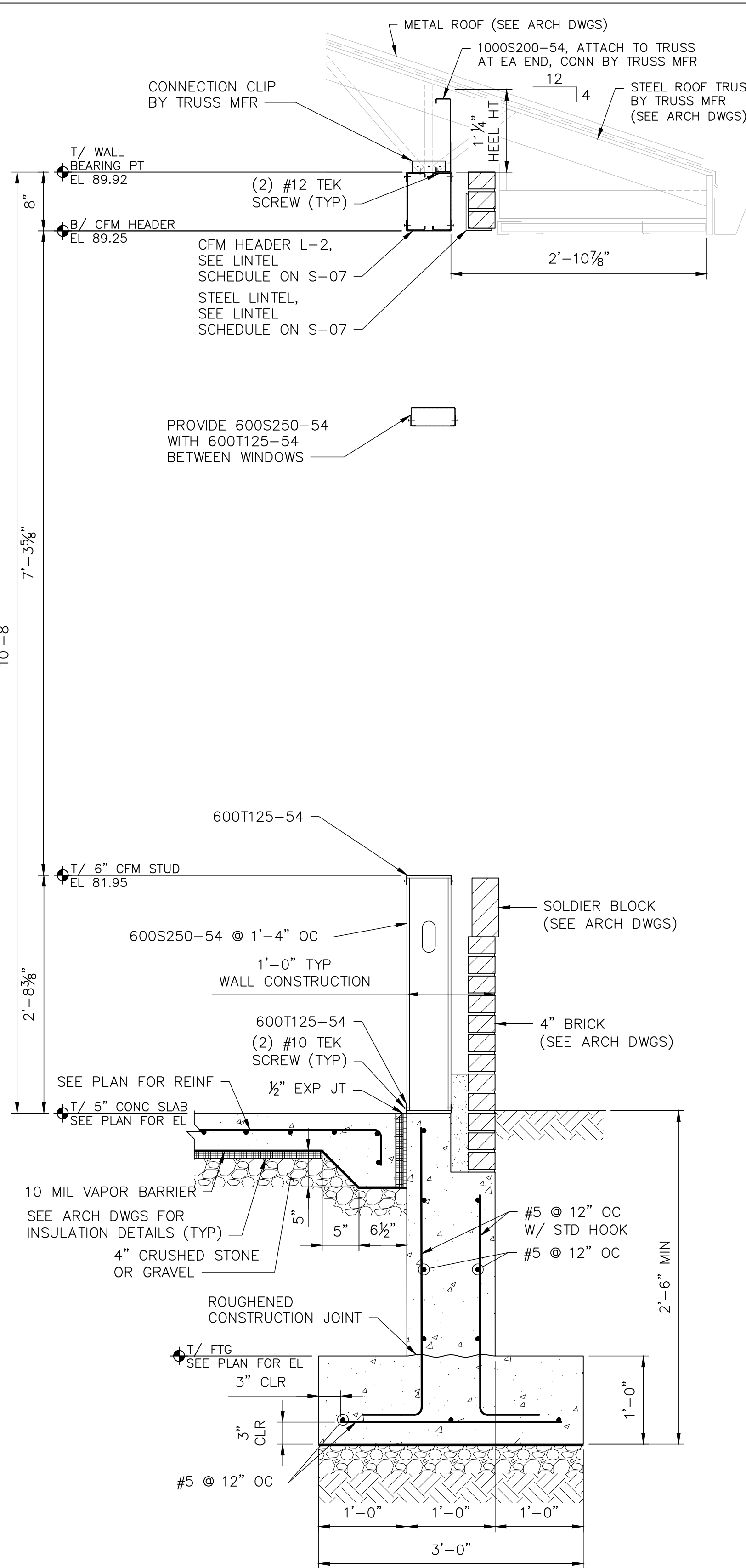
ANNE ARUNDEL COUNTY
DEPARTMENT OF PUBLIC WORKS
105792
BROAD CREEK II WTP
NEW OPERATOR BUILDING
ROOF PLAN
SCALE: AS SHOWN
DRAWN BY: K.A.P.
CHECKED BY: C.C.C./R.L.A.
SHEET NO.: 27 OF 36
PROJECT NO.: W804000
CONTRACT NO.: W804010



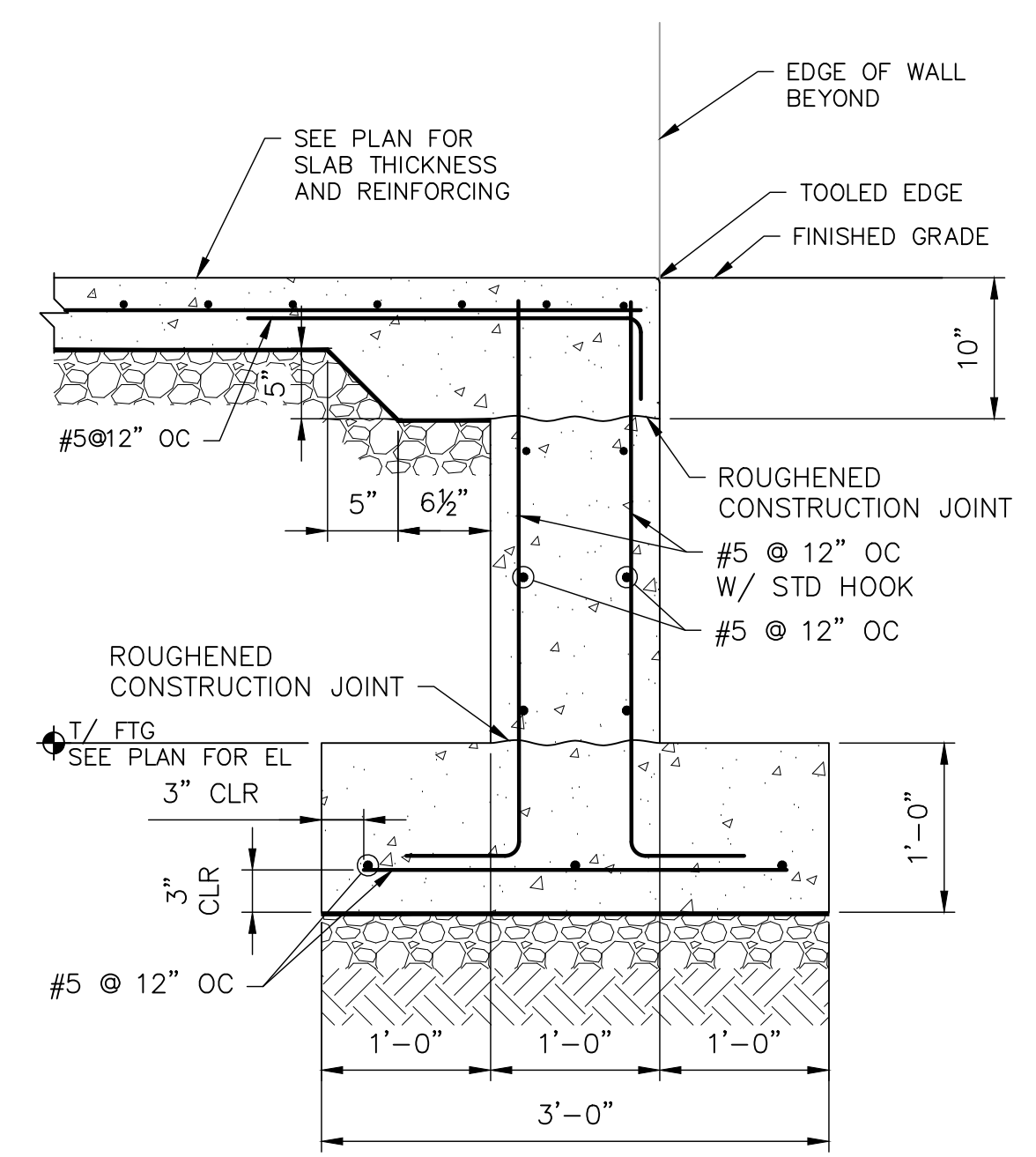
1 SECTION
S-05 SCALE: 1"=1'-0"



2 SECTION
S-05 SCALE: 1"=1'-0"



3 SECTION
S-05 SCALE: 1"=1'-0"



4 SECTION
S-05 SCALE: 1"=1'-0"

- NOTES:
- SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
 - ALL LIGHT GAGE MEMBER SIZES AND DETAILS SHOWN ARE FOR INFORMATIONAL PURPOSES ONLY. IT IS THE RESPONSIBILITY OF THE LIGHT GAGE DESIGNER TO DESIGN FRAMING AND CONNECTIONS BASED ON LOADS PROVIDED.



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BALTIMORE, MD 21224
410-522-5870



700 EAST PRATT STREET, SUITE 500 • BALTIMORE, MARYLAND 21202 • 410.728.2900

PROFESSIONAL CERTIFICATION.
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 23393
EXPIRATION DATE: 08/25/24

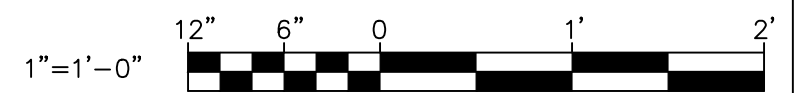


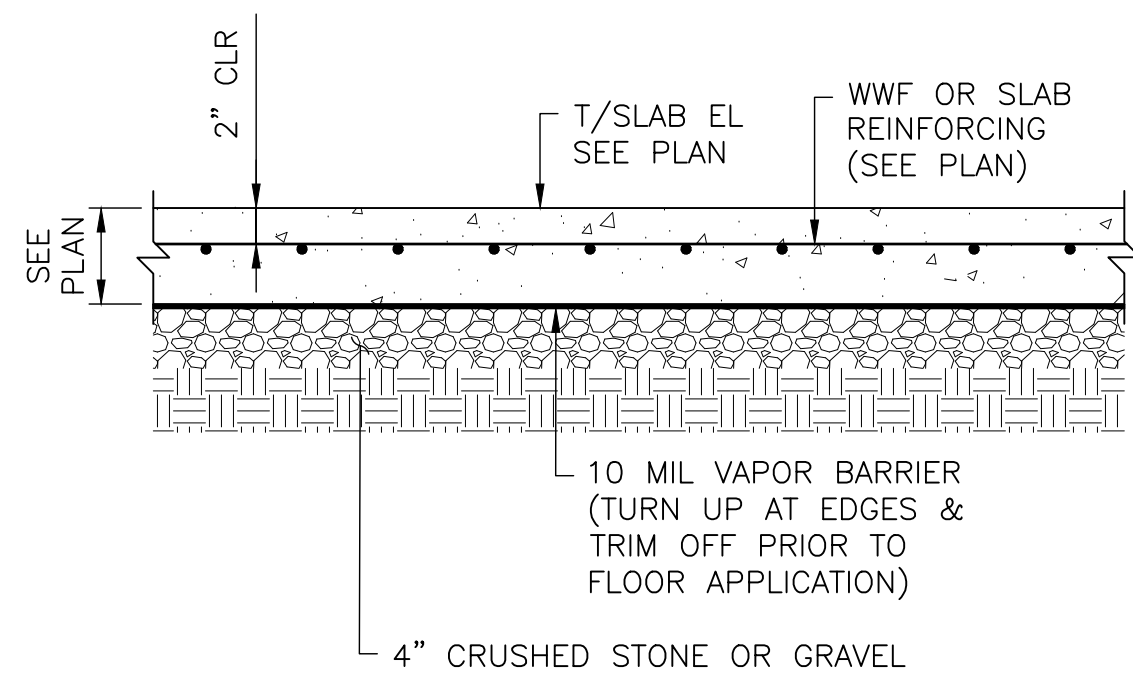
REVISIONS			
NO.	DESCRIPTION	BY	DATE

APPROVED <i>[Signature]</i> CHIEF ENGINEER	DATE 12/13/2023	APPROVED <i>[Signature]</i> PROJECT MANAGER	DATE 12/12/2023
APPROVED <i>[Signature]</i> ASSISTANT CHIEF ENGINEER	DATE 12/13/2023	APPROVED <i>[Signature]</i> CHIEF, RIGHT OF WAY SERVICES	DATE 12/12/2023

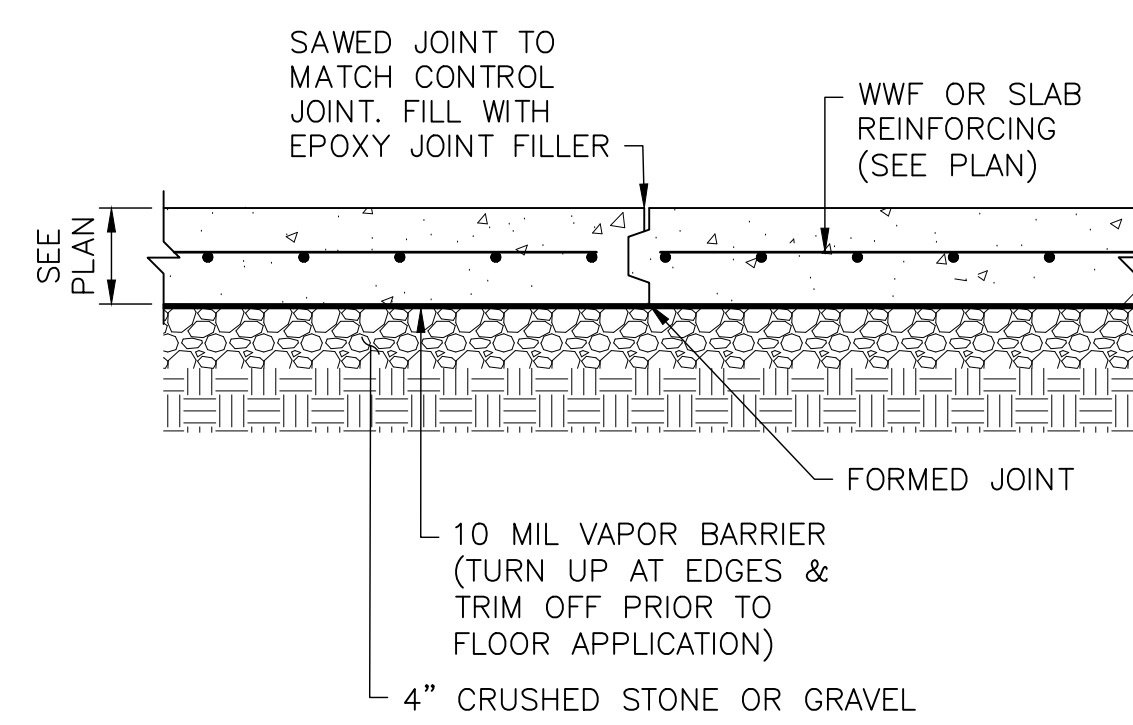
ANNE ARUNDEL COUNTY
DEPARTMENT OF PUBLIC WORKS
SCALE: AS SHOWN
DRAWN BY: K.A.P.
CHECKED BY: C.C.C./R.L.A.
SHEET NO.: 28 OF 36
PROJECT NO.: W804000
CONTRACT NO.: W804010

JANUARY 2024 DWG. S-05
105793
BROAD CREEK II WTP
NEW OPERATOR BUILDING
SECTIONS AND DETAILS

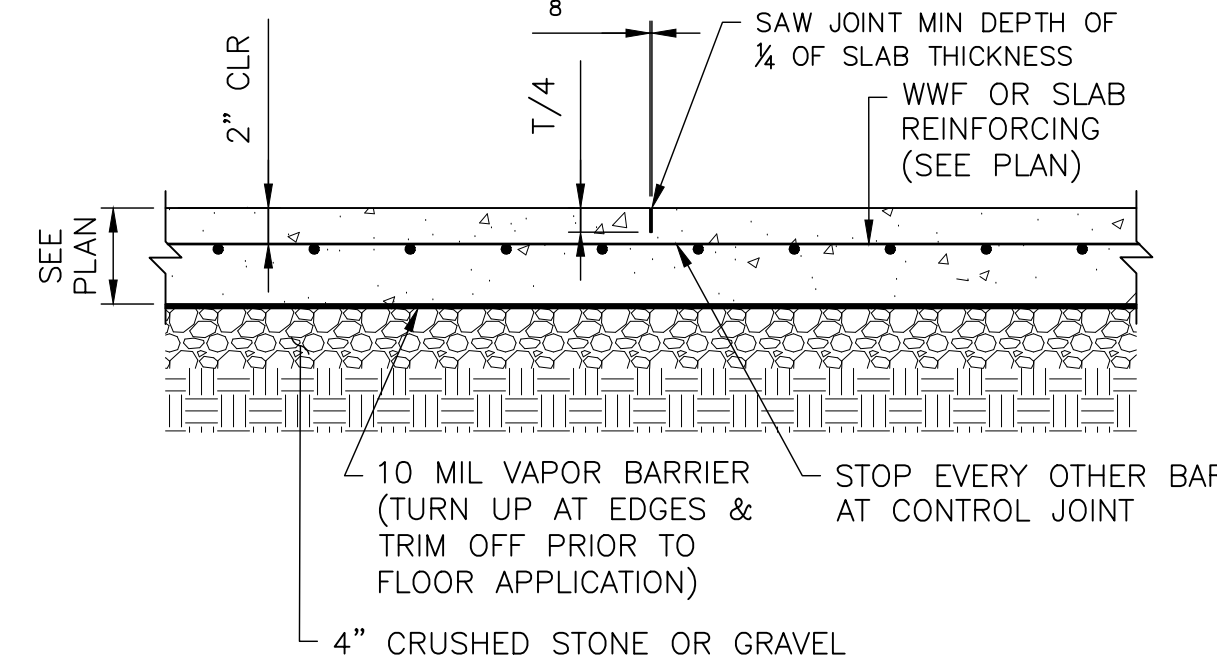




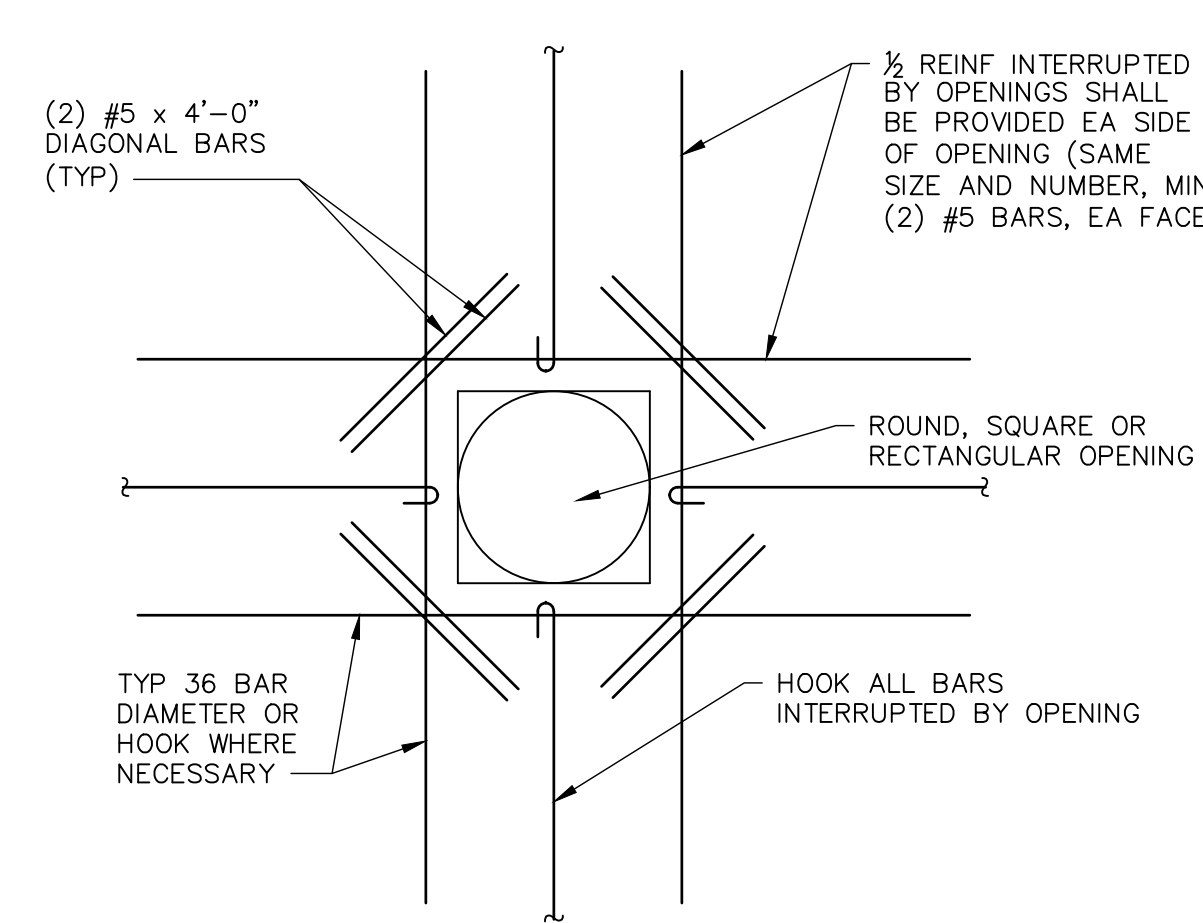
A SLAB-ON-GRADE
S-06 SCALE: NONE



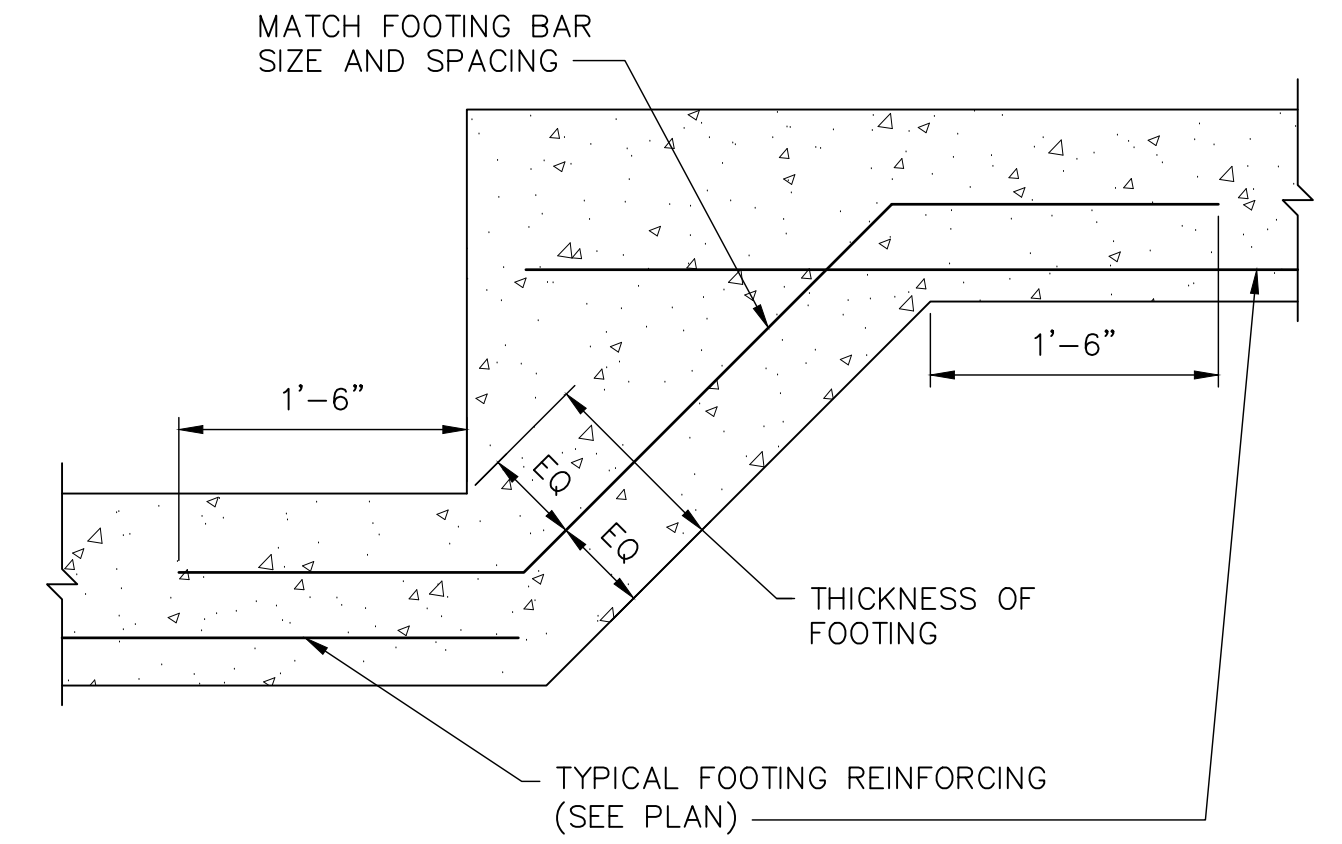
B SLAB-ON-GRADE CONSTRUCTION JOINT
S-06 SCALE: NONE



C SLAB-ON-GRADE CONTROL JOINT
S-06 SCALE: NONE

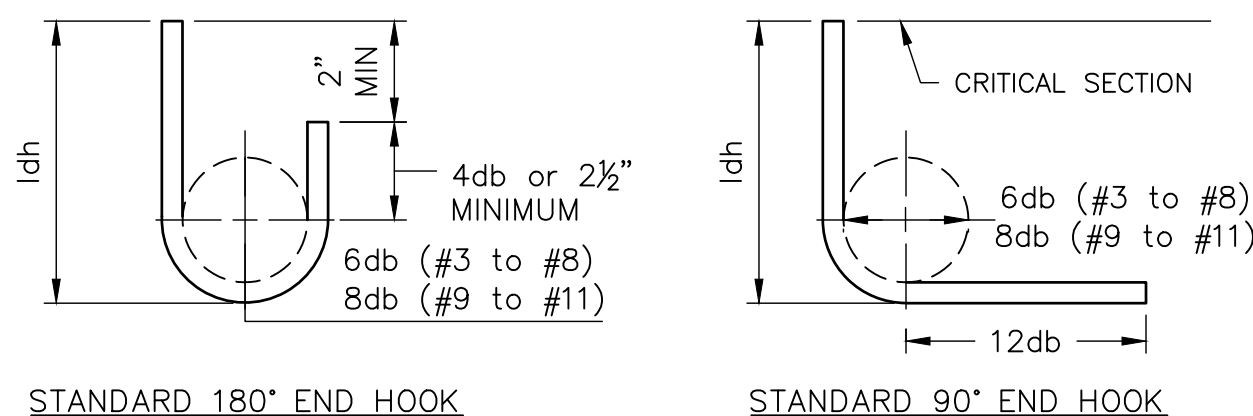


D SLAB / WALL OPENING REINFORCEMENT
S-06 SCALE: NONE



E STEP FOOTING
S-06 SCALE: NONE

BAR SIZE	f'c = 3000 PSI			f'c = 4000 PSI			f'c = 5000 PSI		
	l _d	l _{dh}	LAP SPLICE	l _d	l _{dh}	LAP SPLICE	l _d	l _{dh}	LAP SPLICE
#3	16"	8"	21"	14"	7"	18"	13"	6"	17"
#4	22"	11"	29"	19"	10"	25"	17"	9"	22"
#5	27"	14"	36"	24"	12"	31"	21"	11"	28"
#6	33"	16"	43"	29"	14"	37"	26"	13"	33"
#7	48"	19"	62"	42"	17"	54"	37"	15"	48"
#8	55"	22"	71"	47"	19"	62"	42"	17"	55"
#9	62"	25"	80"	53"	21"	69"	48"	19"	62"
#10	69"	27"	89"	59"	24"	77"	53"	21"	69"
#11	75"	30"	98"	65"	26"	85"	58"	23"	76"



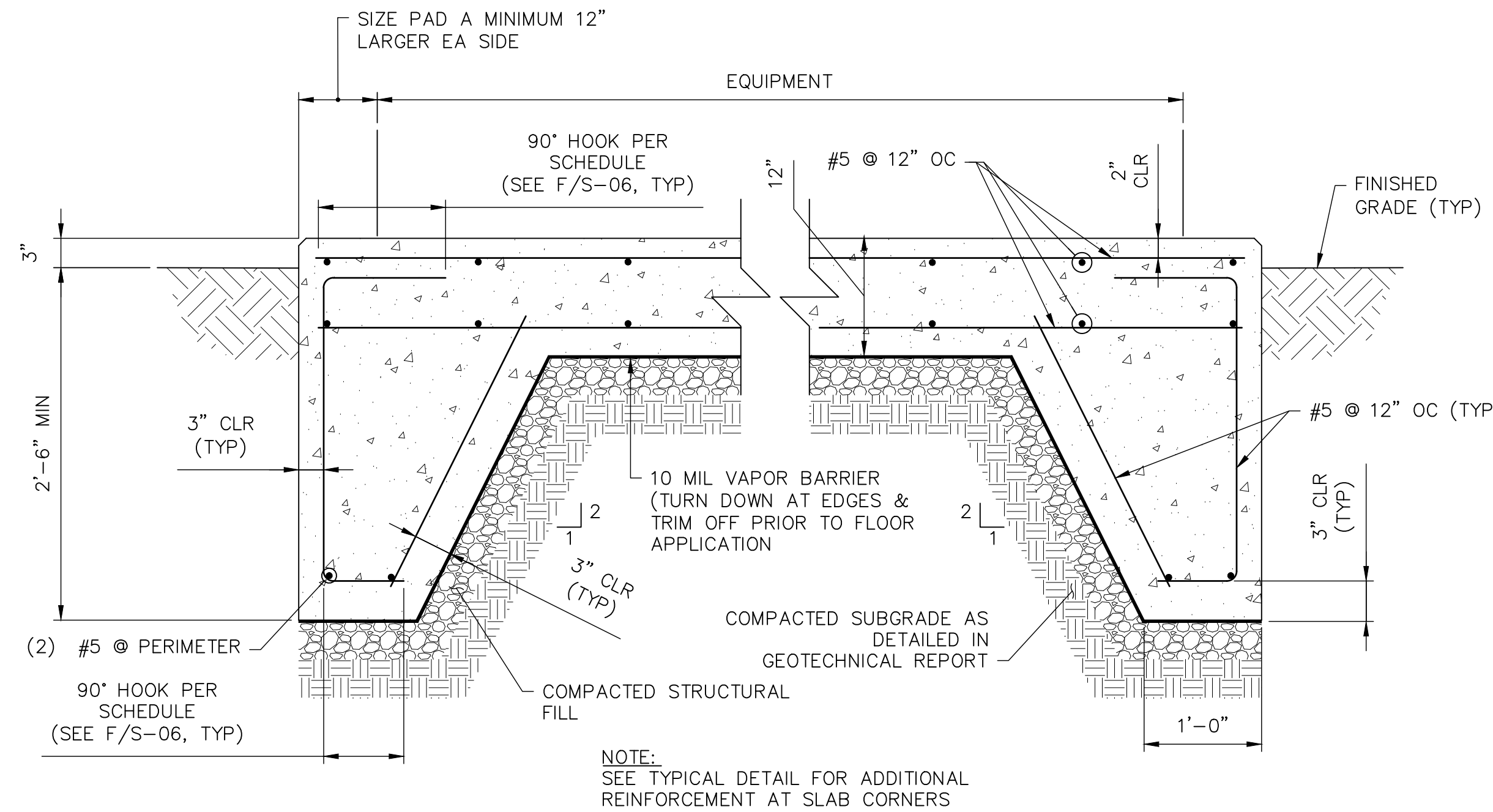
NOTES FOR DEVELOPMENT LENGTH OF STRAIGHT BARS (l_d) AND LAP SPLICE LENGTHS:

- MULTIPLY VALUES IN TABLE BY 1.33 FOR LIGHTWEIGHT CONCRETE.
- MULTIPLY VALUES IN TABLE BY 1.5 FOR EPOXY COATED REINFORCEMENT.
- MULTIPLY VALUES IN TABLE BY 1.3 FOR TOP BARS (BARS CAST WITH MORE THAN 12" OF CONCRETE BELOW THEM).
- FOR BARS WITHOUT STIRRUPS, SPACING SHALL NOT BE LESS THAN 2*db AND COVER SHALL NOT BE LESS THAN db.
- FOR BARS WITH STIRRUPS, SPACING SHALL NOT BE LESS THAN db AND COVER SHALL NOT BE LESS THAN db.

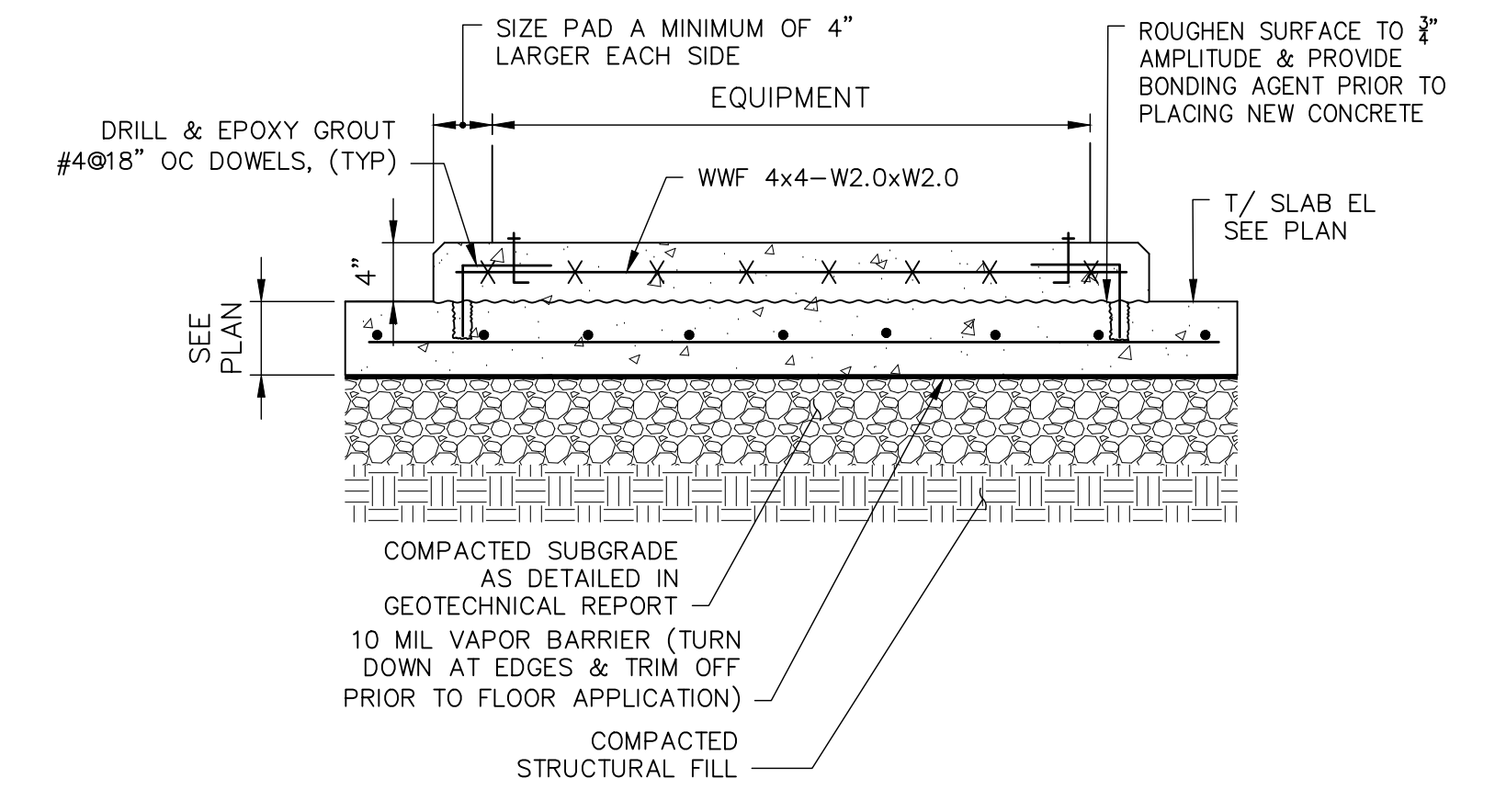
NOTES FOR DEVELOPMENT LENGTH OF BARS WITH STANDARD HOOKS (l_{dh}):

- MULTIPLY VALUES IN TABLE BY 1.33 FOR LIGHTWEIGHT CONCRETE.
- MULTIPLY VALUES IN TABLE BY 1.2 FOR EPOXY COATED REINFORCEMENT.
- MULTIPLY VALUES IN TABLE BY 0.8 FOR BARS WITH STIRRUPS MEETING ACI REQUIREMENTS.
- MULTIPLY VALUES IN TABLE BY 0.7 FOR BARS WITH COVER MEETING ACI REQUIREMENTS.

F REINFORCEMENT LAP SPLICE AND STANDARD HOOK LENGTHS
S-06 SCALE: NONE



G EXTERIOR CONCRETE PAD
S-06 SCALE: NONE



H 4" CONCRETE EQUIPMENT PAD SUPPORT
S-06 SCALE: NONE



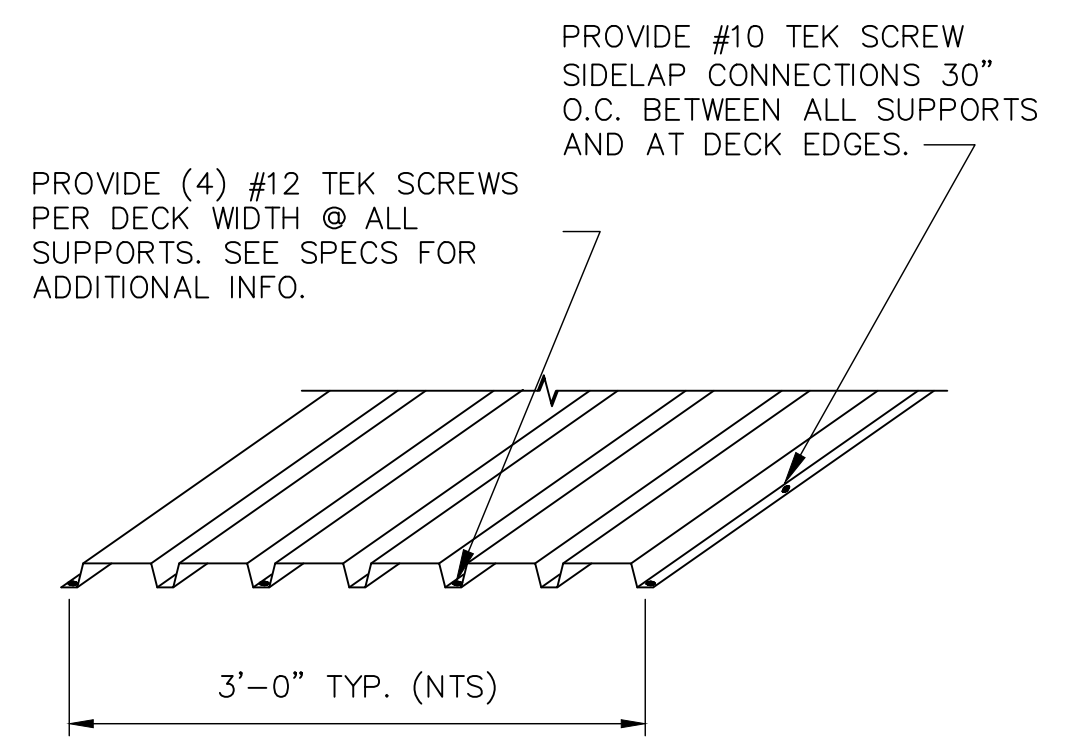
PROFESSIONAL CERTIFICATION.
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 23393
EXPIRATION DATE: 08/25/24



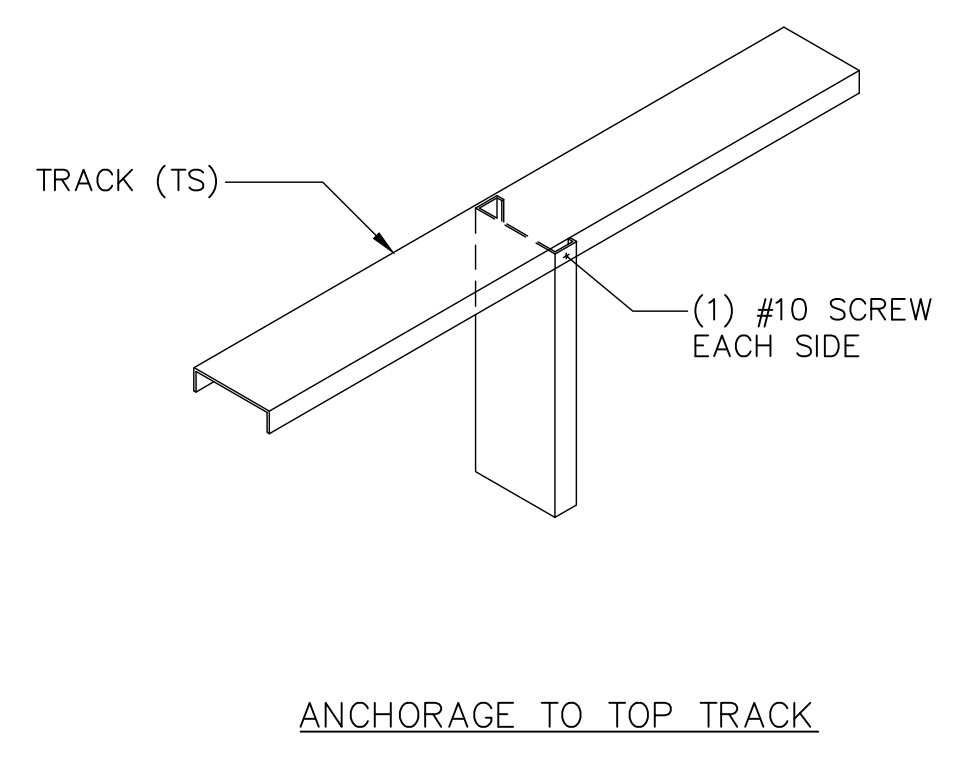
REVISIONS			
NO.	DESCRIPTION	BY	DATE

APPROVED		DATE	APPROVED		DATE
<i>[Signature]</i>	CHIEF ENGINEER	12/13/2023	<i>[Signature]</i>	PROJECT MANAGER	12/12/2023
<i>[Signature]</i>	ASSISTANT CHIEF ENGINEER	12/13/2023	<i>[Signature]</i>	CHIEF, RIGHT OF WAY SERVICES	12/12/2023

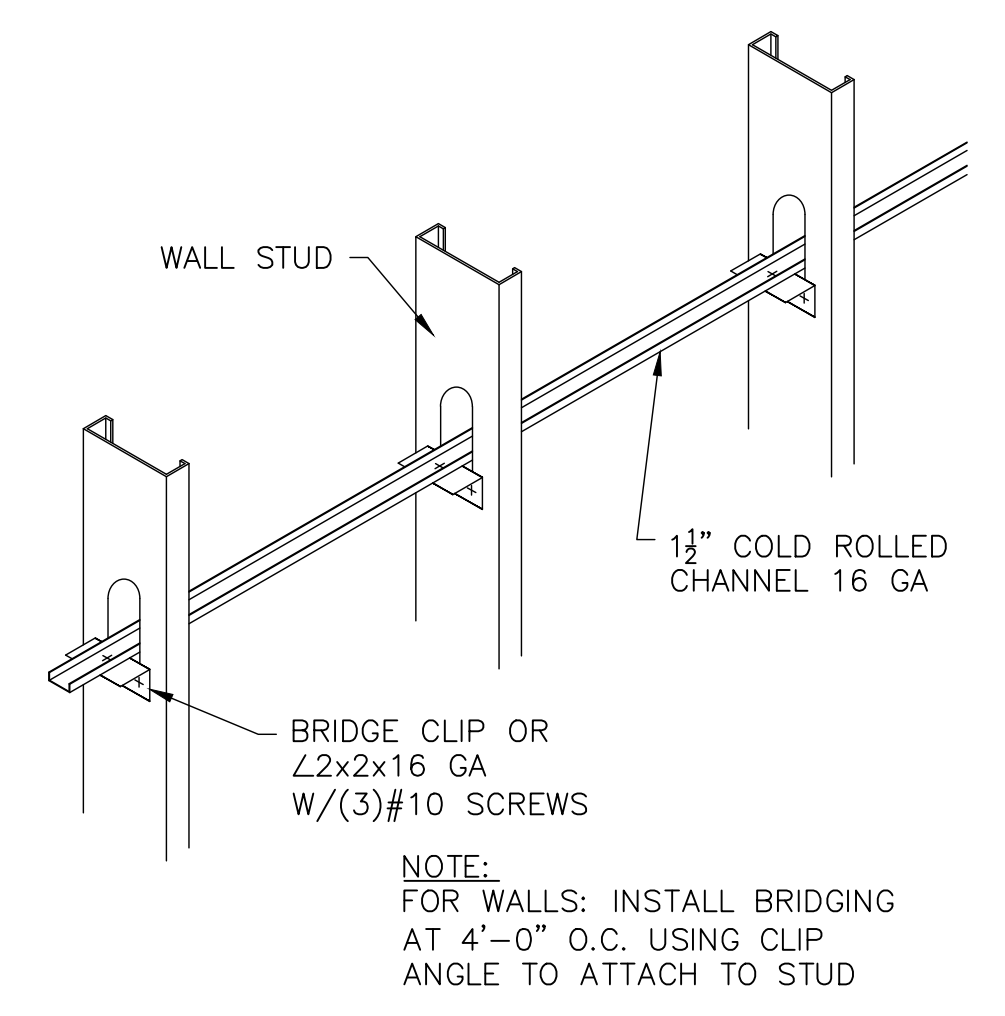
ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS		105794
JANUARY 2024	DWG. S-06	BROAD CREEK II WTP
SCALE: AS SHOWN	DRAWN BY: K.A.P.	NEW OPERATOR BUILDING
CHECKED BY: C.C.C./R.L.A.	SHEET NO.: 29 OF 36	TYPICAL STANDARD DETAILS I
PROJECT NO.: W804000	CONTRACT NO.: W804010	



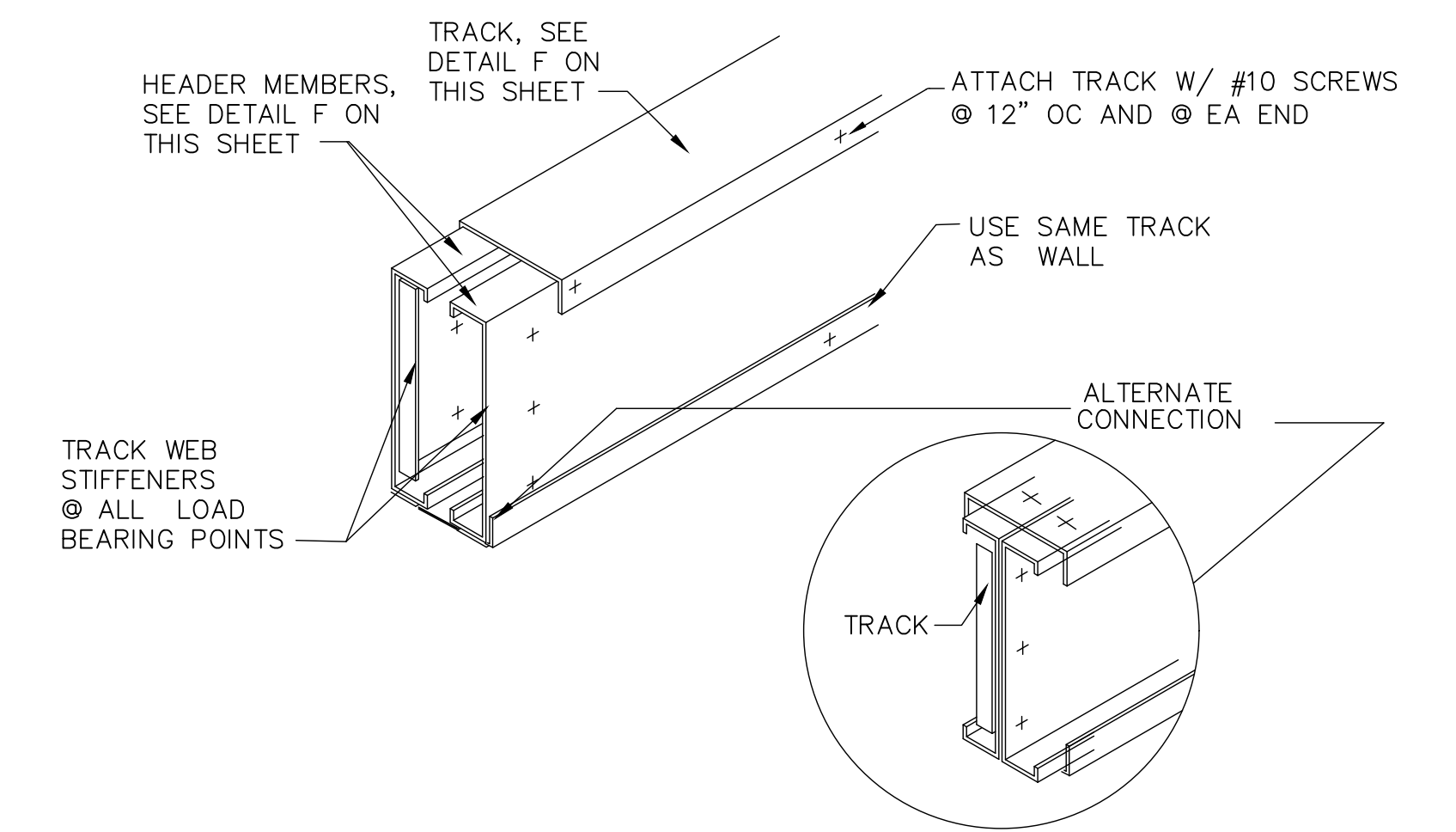
A METAL DECK CONNECTION
S-07 SCALE: NONE



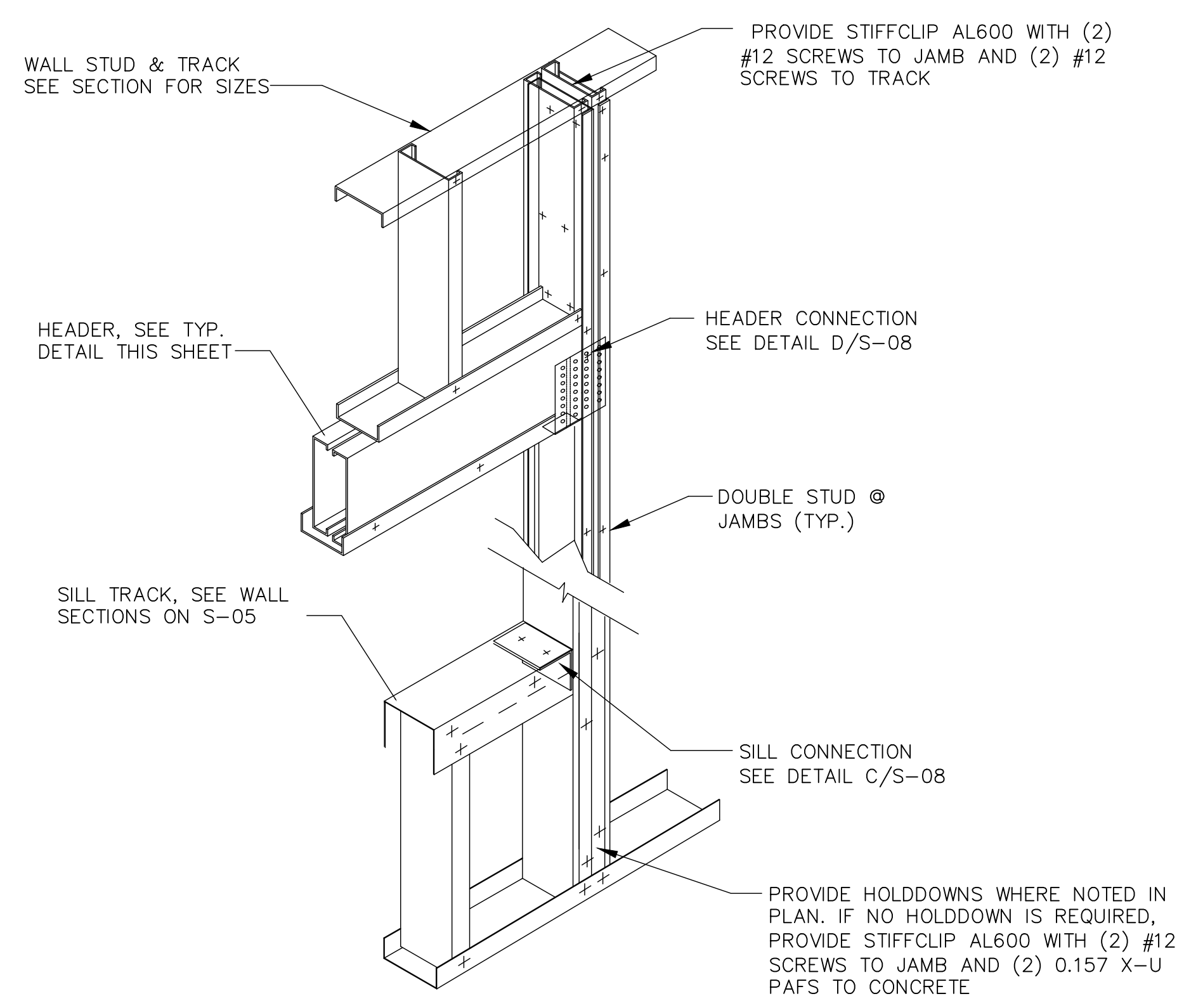
B STUD/TRACK ATTACHMENTS
S-07 SCALE: NONE



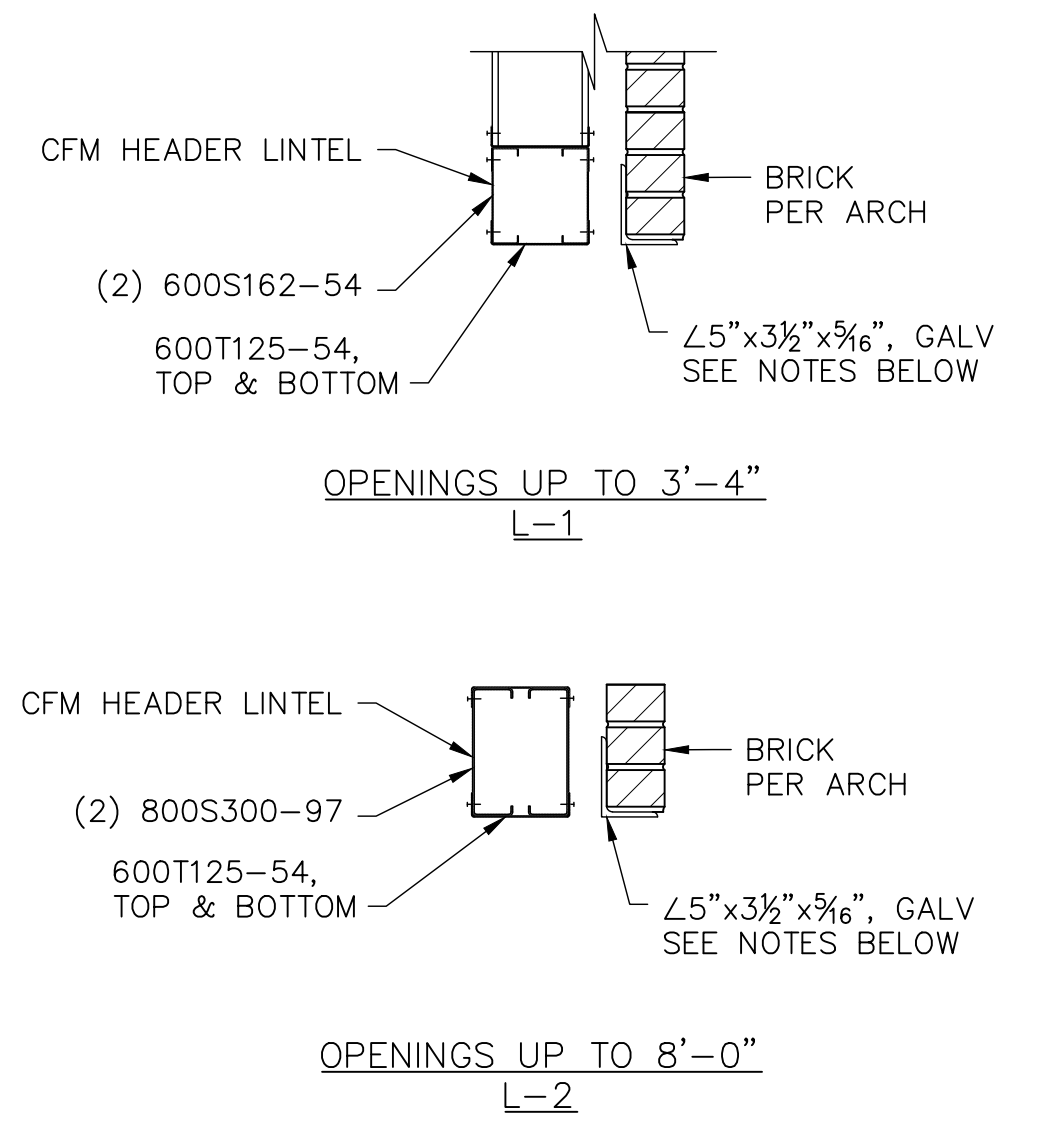
C TYP BRIDGING FOR WALL STUDS
S-07 SCALE: NONE



D TYP HEADER
S-07 SCALE: NONE



E TYP OPENING AT WINDOWS
S-07 SCALE: NONE



F LINTEL SCHEDULE
S-07 SCALE: NONE

NOTES:
1. ALL STEEL LINTELS IN EXTERIOR WALLS SHALL BE HOT-DIP GALVANIZED.
2. PROVIDE MINIMUM BEARING OF 1" PER FOOT OF SPAN ON EACH END.

ALBRECHT ENGINEERING INC
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NOTES:
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RK&K, LLP
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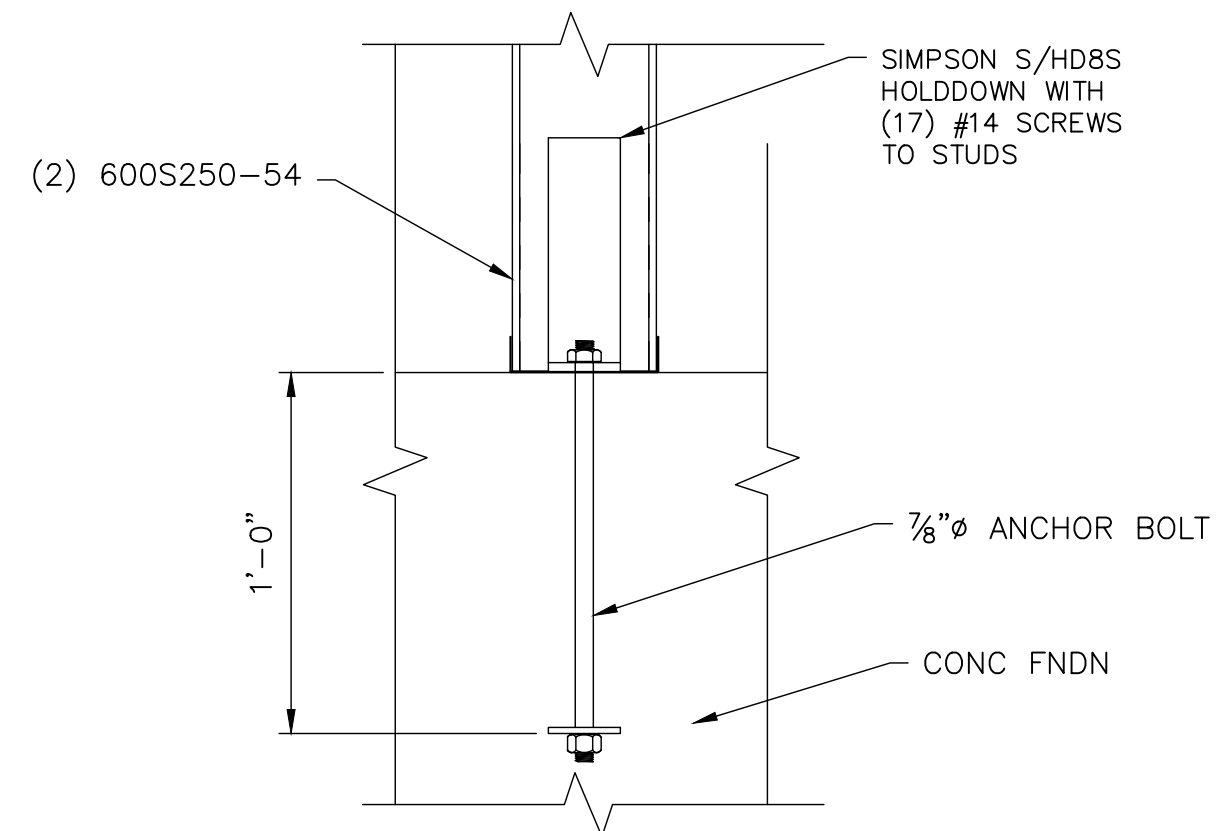
PROFESSIONAL CERTIFICATION.
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LICENSE NO. 23393
EXPIRATION DATE: 08/25/24



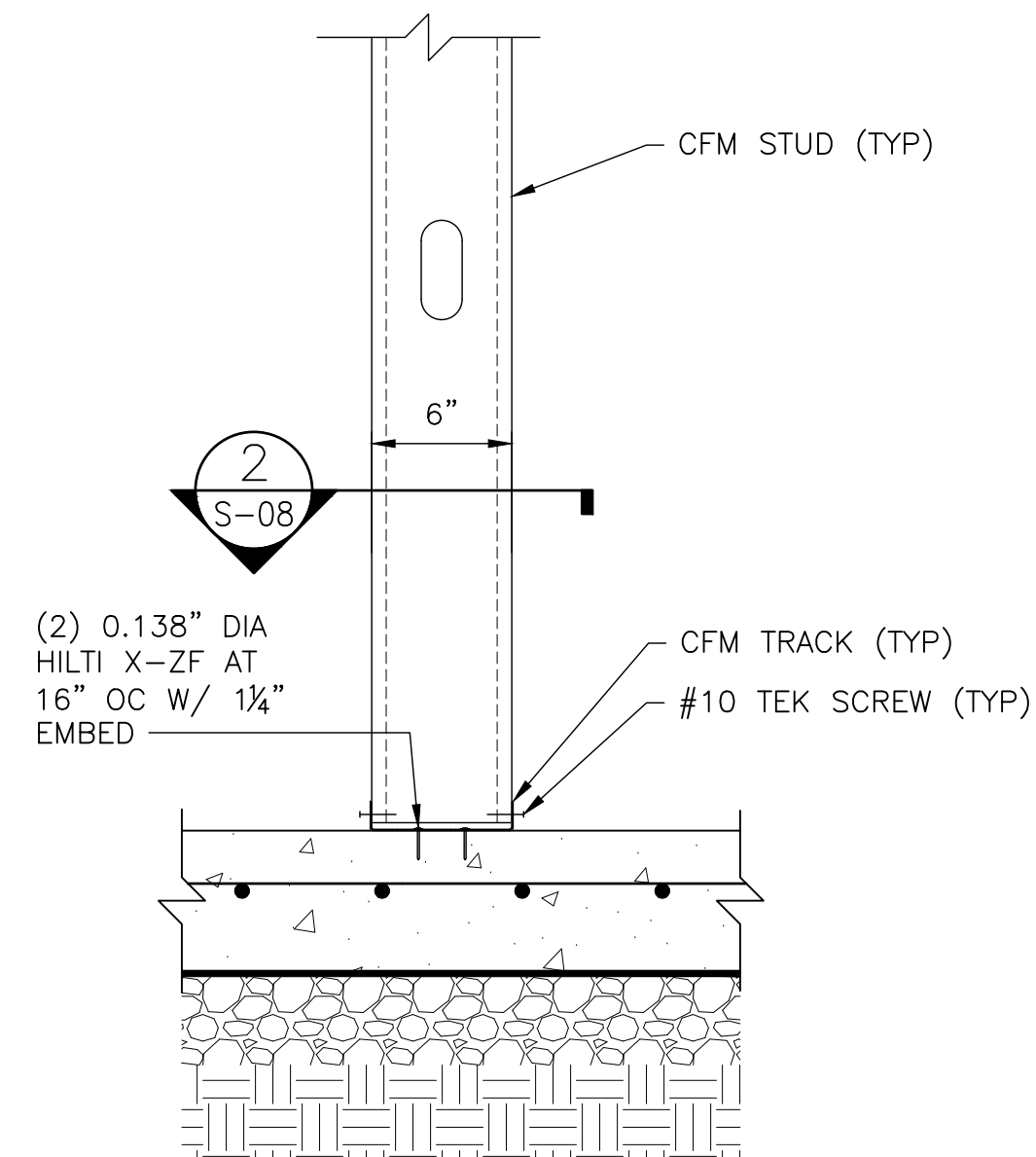
REVISIONS			
NO.	DESCRIPTION	BY	DATE

APPROVED		DATE	
<i>[Signature]</i>	12/13/2023	<i>[Signature]</i>	12/12/2023
CHIEF ENGINEER		PROJECT MANAGER	
<i>[Signature]</i>	12/13/2023	<i>[Signature]</i>	12/12/2023
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY SERVICES	

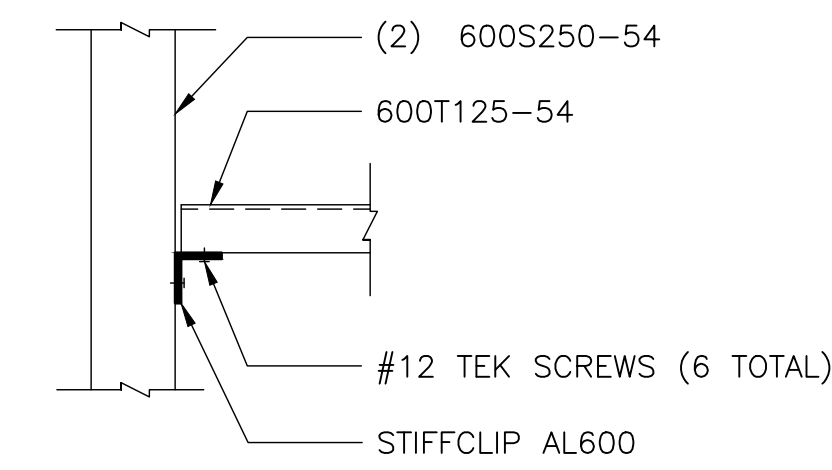
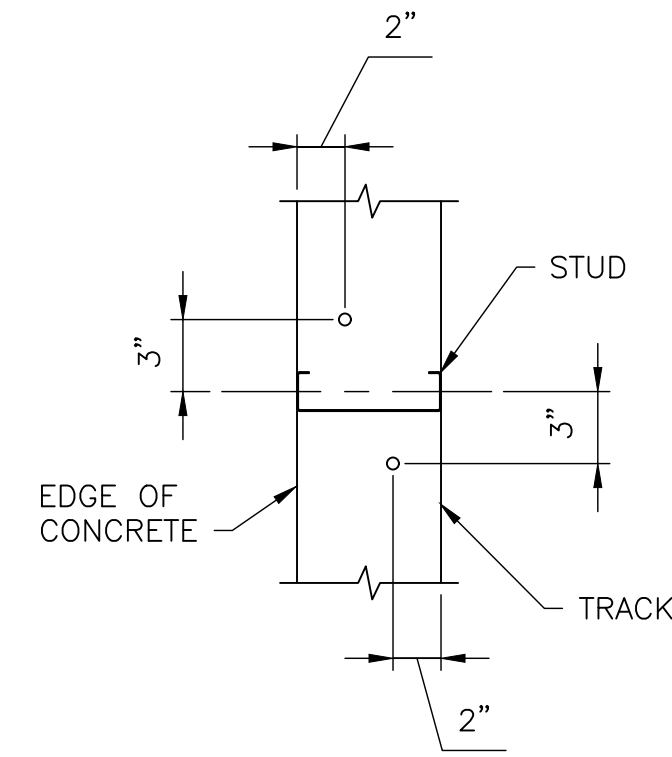
ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS		105795
SCALE: AS SHOWN	SHEET NO.: 30 OF 36	CONTRACT NO.: W804010
DRAWN BY: K.A.P.	CHECKED BY: C.C.C./R.L.A.	
BROAD CREEK II WTP NEW OPERATOR BUILDING TYPICAL STANDARD DETAILS II		



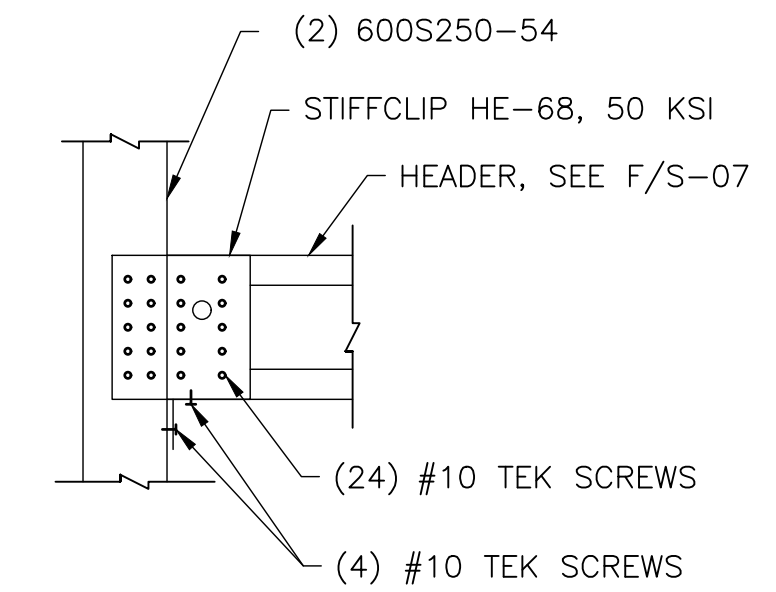
A SECTION
S-08 SCALE: NONE



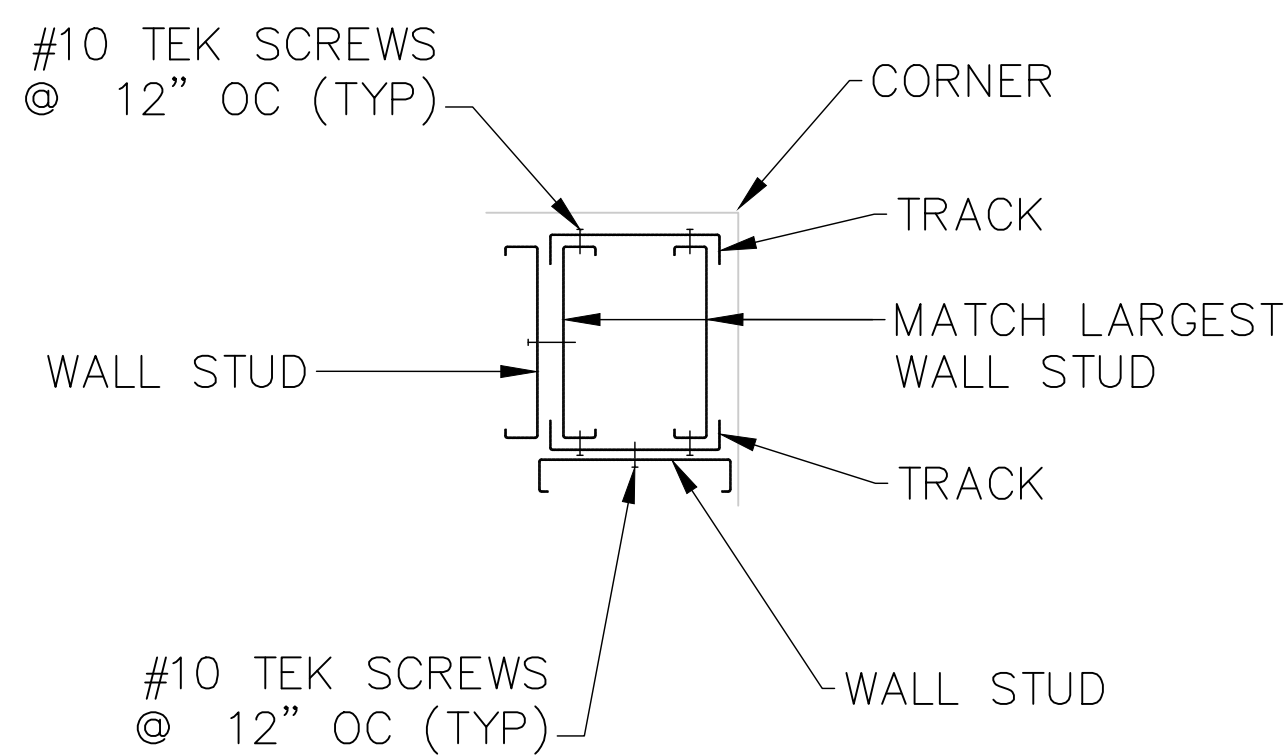
B TRACK ANCHORAGE - ELEVATION
S-08 SCALE: NONE



C SILL CONNECTION
S-08 SCALE: NONE



D HEADER CONNECTION
S-08 SCALE: NONE



E TYP CORNER DETAIL
S-08 SCALE: NONE

ALBRECHT
ENGINEERING INC
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SUITE 329
BALTIMORE, MD 21224
410-522-5870

NOTES:
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RK&K, LLP
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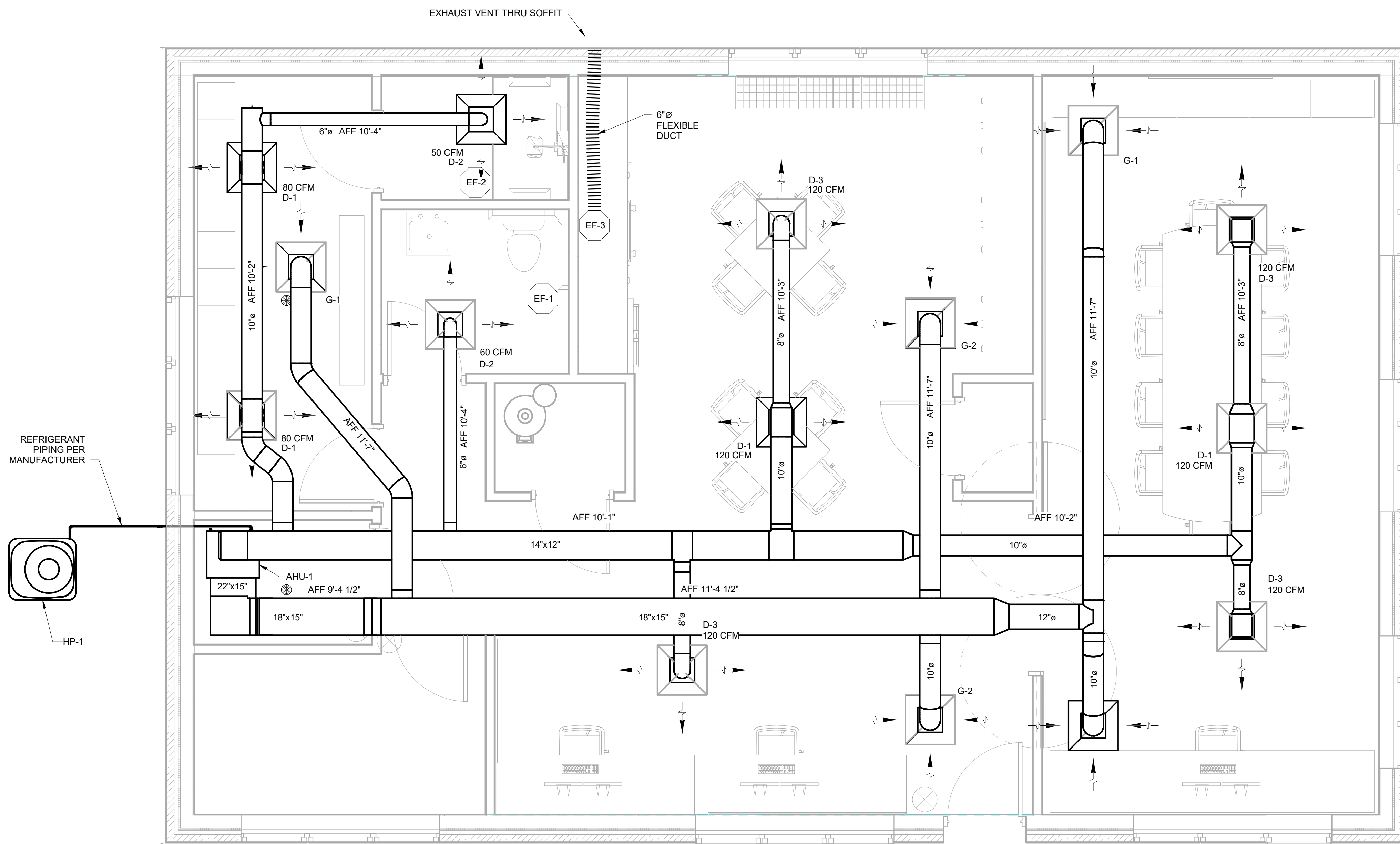
PROFESSIONAL CERTIFICATION.
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 23393
EXPIRATION DATE: 08/25/24



REVISIONS			
NO.	DESCRIPTION	BY	DATE

ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS			
APPROVED	DATE	APPROVED	DATE
<i>[Signature]</i>	12/13/2023 10:25	<i>[Signature]</i>	12/12/2023 09:19 EST
CHIEF ENGINEER		PROJECT MANAGER	
APPROVED	DATE	APPROVED	DATE
<i>[Signature]</i>	12/13/2023 08:44	<i>[Signature]</i>	12/12/2023 09:23 EST
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY SERVICES	

JANUARY 2024 DWG. S-08
105796
BROAD CREEK II WTP
NEW OPERATOR BUILDING
TYPICAL STANDARD
DETAILS III
SCALE: AS SHOWN
DRAWN BY: K.A.P.
CHECKED BY: C.C.C./R.L.A.
SHEET NO.: 31 OF 36
PROJECT NO.: W804000
CONTRACT NO.: W804010



HVAC PLAN

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

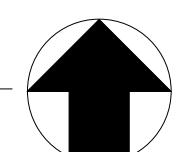
NOTES:

1. DUCTWORK ELEVATIONS SHOWN ARE TO BOTTOM OF DUCT GRILLES AND DIFFUSERS MOUNTED TO A.C.T. GRID @ 9'-4" AFF

GRILLES, REGISTER AND DIFFUSER SCHEDULE

MARK	MFR	MODEL	PANEL SIZE	NECK SIZE	USE	NOTES
D-1	GREENHECK	XG-5800-6	24"x24"	10"	SUPPLY	1
D-2	GREENHECK	XG-5800-6	24"x24"	6"	SUPPLY	1
D-3	GREENHECK	XG-5800-6	24"x24"	8"	SUPPLY	1
G-1	GREENHECK	XG-PRTB-6	24"x24"	10"	RETURN	2
G-2	GREENHECK	XG-PRTB-6	24"x24"	12"	RETURN	2

- NOTES:**
1. SQUARE FACE DIFFUSER, ROUND NECK
 2. PERFORATED SCREEN GRILLE



EXHAUST FAN SCHEDULE

MARK	LOCATION	DRIVE	CFM	RPM	TOTAL SP (IN-WG)	WATT	VOLTS/ PHZ/ HZ	FLA	MFR	NOTES
EF-1	BATHROOM	DIRECT	60	700	0.13	18	115/ 1/ 60	0.31	GREENHECK SP-A50	1
EF-2	SHOWER	DIRECT	50	685	0.13	11	115/ 1/ 60	0.28	GREENHECK SP-LP0511	1
EF-3	KITCHEN	DIRECT	390				120/1/60		GE PVX7300SJS	2,3,4

- NOTES:**
1. SWITCHED WITH LIGHTING
 2. UNDER CABINET RANGE HOOD - VENTED TO OUTSIDE
 3. FOUR FAN SPEEDS 70/210/310/390 CFM - 2.5A @ 120V
 4. CONTROLS INTEGRAL TO HOOD

AIR HANDLER UNIT SCHEDULE

MARK	MAX CFM	COIL TYPE	FACE AREA	FAN TYPE	FAN HP	FAN SPEED	VOLTS/ PHZ/ HZ	MFR	NOTES
AHU-1	990	PLATE FIN	5.04	CENTRIFUGAL	1/2	VARIABLE	208/ 1/ 60	TRANE TAM9A0B30V31DA	1,2

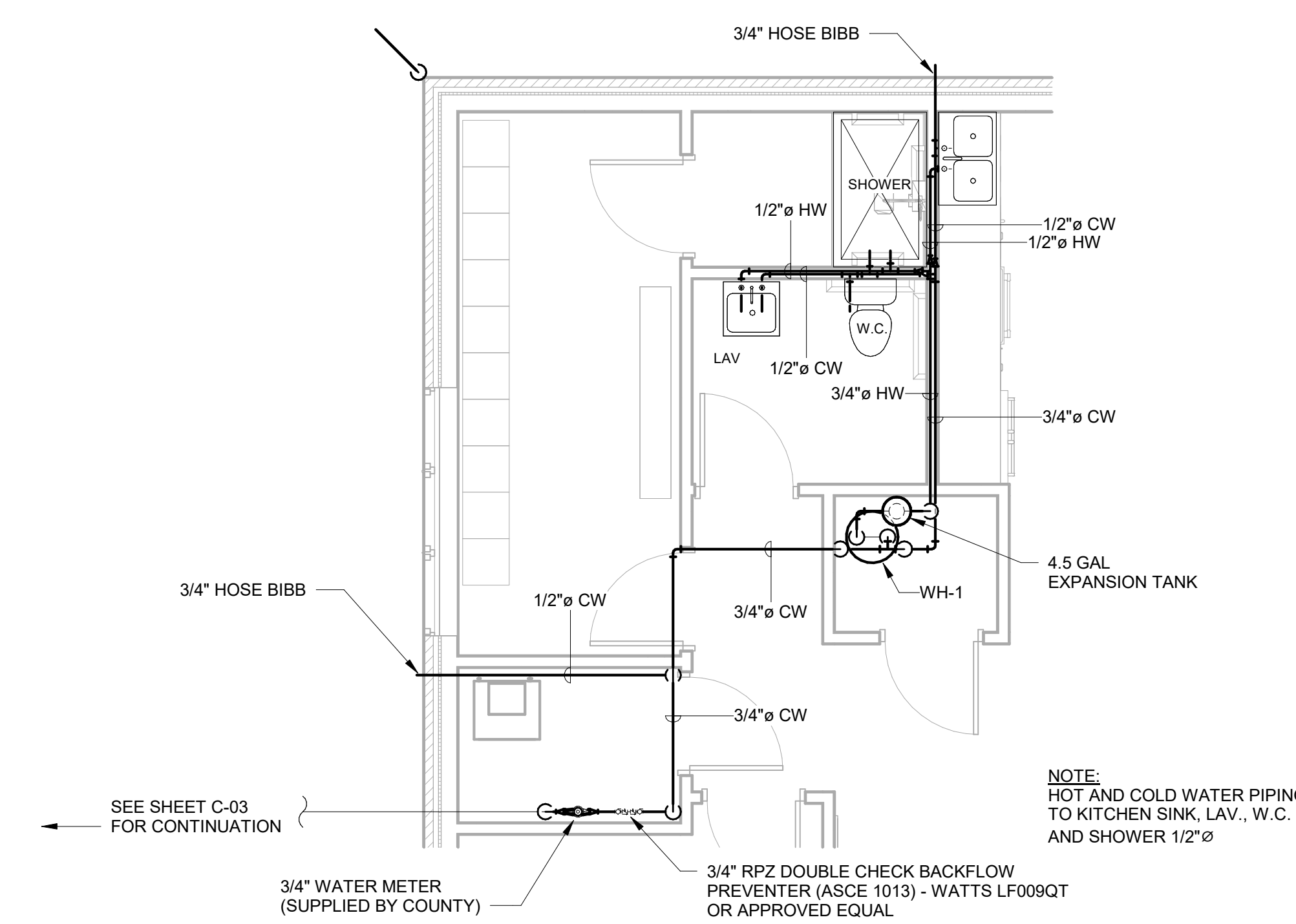
- NOTES:**
1. ELECTRIC HEATER COIL, 5KW, BREAKER
 2. FILTER, RETURN SIDE
 3. THERMOSTAT CONTROLLED

HEAT PUMP CONDENSOR UNIT SCHEDULE

MARK	NOM CAP TONS	TYPE	RLA	REFRIGERANT TYPE	FAN HP	VOLTS/ PHZ/ HZ	BREAKER AMPS	MFR	NOTES
HP-1	2.5	SCROLL	12.8	R-410A	1/8	208/ 1/ 60	25	TRANE 4TWR5030H1000A	

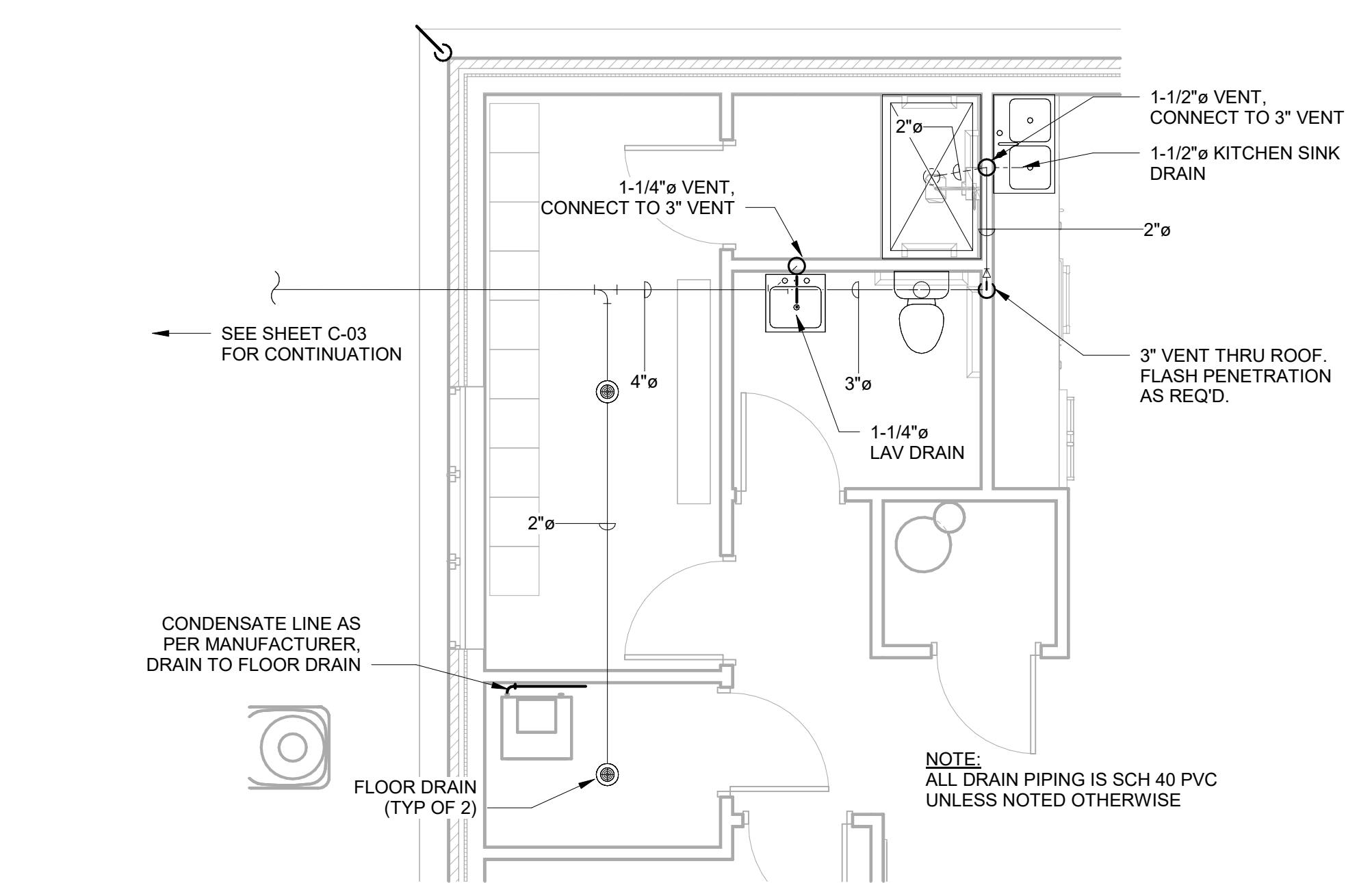
WATER HEATER SCHEDULE

MARK	MFR	MODEL	VOLTS/ PHZ/ HZ	KW	RECOVERY @ 90F RISE	NOTES
WH-1	STATE HEATER	SSE-40	208/3/60	15	68 GPH	



WATER PLAN

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



DRAIN PLAN

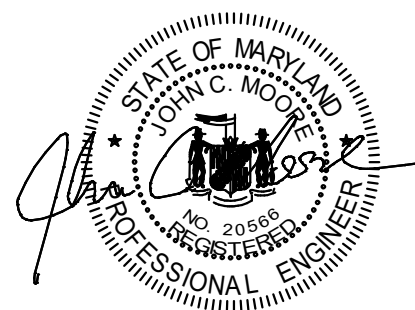
SCALE: 1/4" = 1'-0"



JANUARY 2024 DWG. M-01



PROFESSIONAL CERTIFICATION.
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 20566
EXPIRATION DATE: 09/09/2024



REVISIONS			
NO.	DESCRIPTION	BY	DATE

APPROVED			
DATE	DATE	DATE	DATE
12/13/2023	12/12/2023	12/12/2023	12/12/2023
Chief Engineer	Chief Engineer	Chief Engineer	Chief Engineer
12/13/2023	12/12/2023	12/12/2023	12/12/2023
Assistant Chief Engineer	Chief, Right of Way Services	Chief Engineer	Chief Engineer

ANNE ARUNDEL COUNTY
DEPARTMENT OF PUBLIC WORKS
105797
BROAD CREEK II WTP
NEW OPERATOR BUILDING
HVAC AND PLUMBING PLANS
DRAWN BY: WJG
CHECKED BY: JCM
SHEET NO.: 32 OF 36
PROJECT NO.: W804000
CONTRACT NO.: W804010

ELECTRICAL ABBREVIATIONS

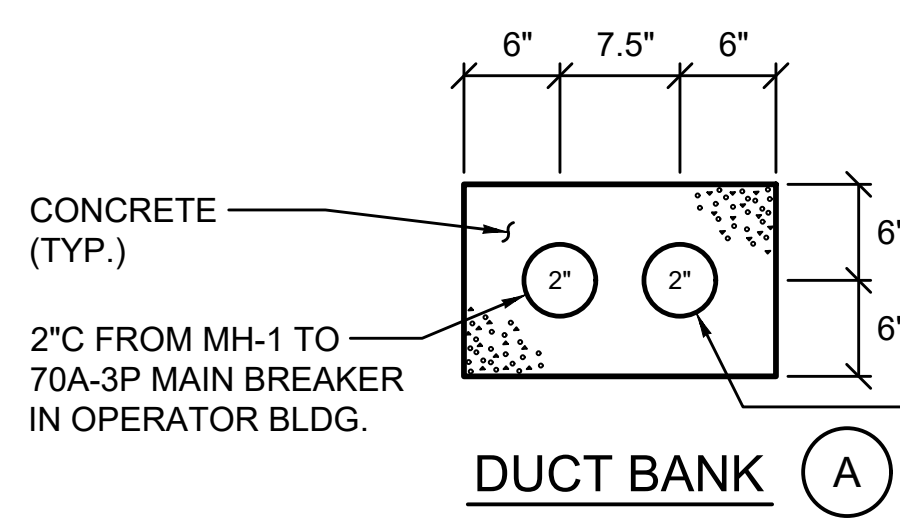
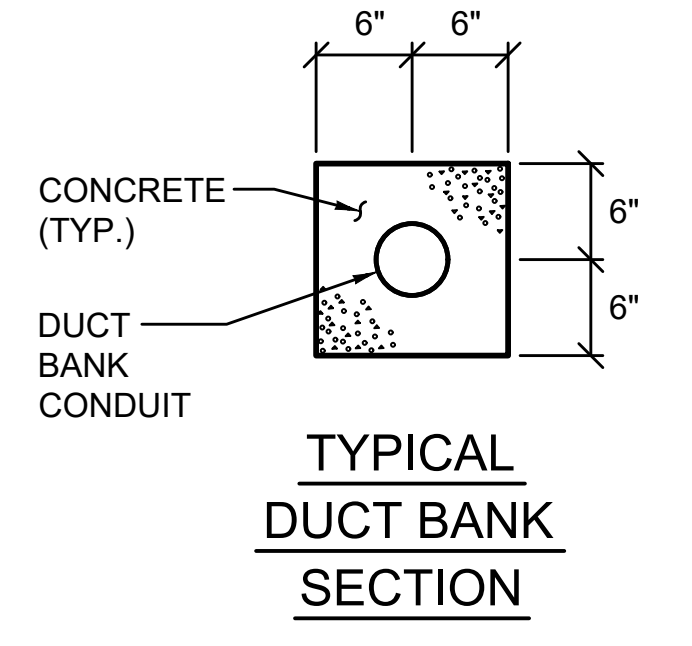
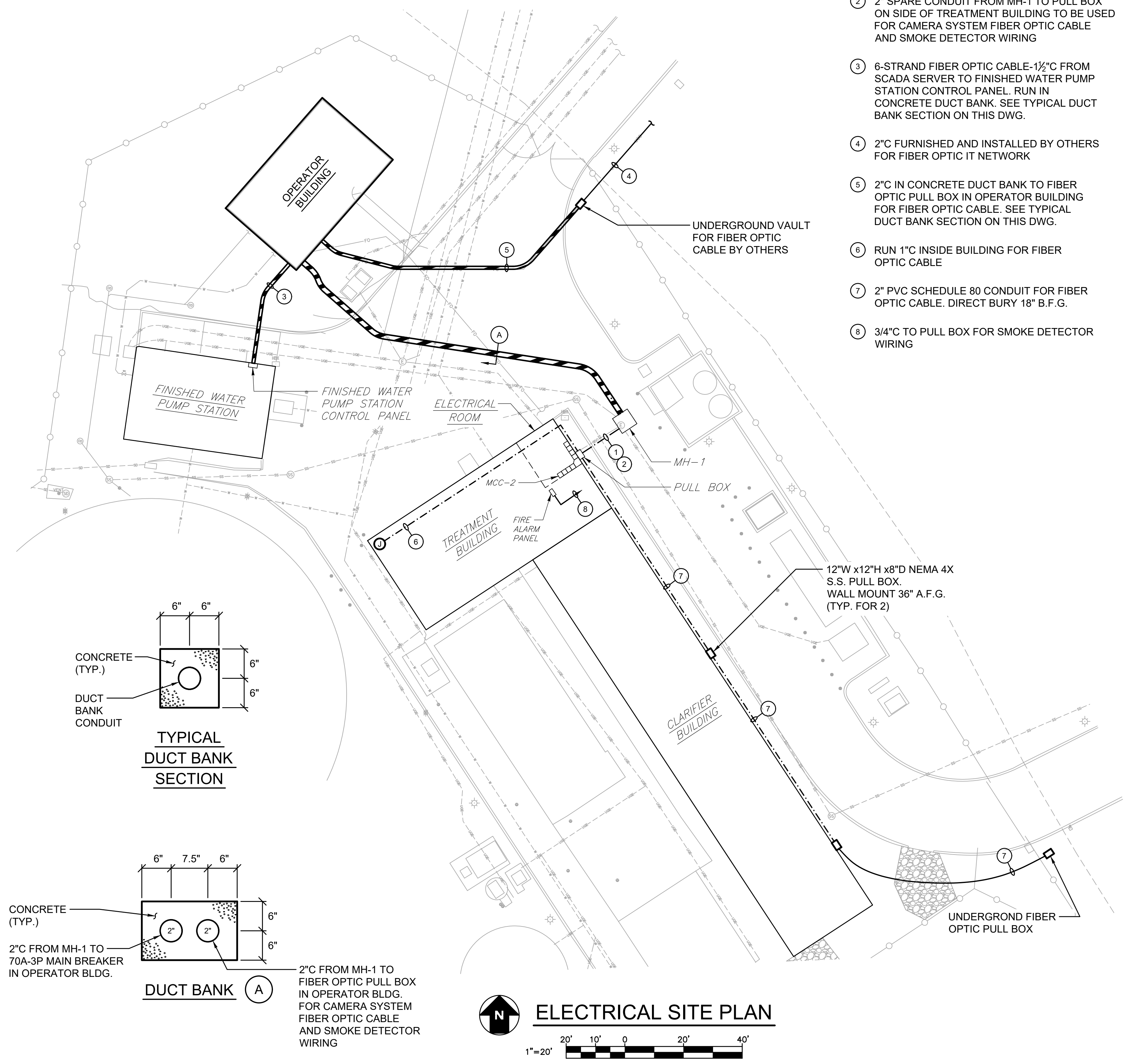
A	-	AMPERES
AC	-	ALTERNATING CURRENT
A.F.F.	-	ABOVE FINISHED FLOOR
A.F.G.	-	ABOVE FINISHED GRADE
B.F.G.	-	BELOW FINISHED GRADE
C	-	CONDUIT
D	-	DEEP
DC	-	DIRECT CURRENT
DISC.	-	DISCONNECT
DWG.	-	DRAWING
EF	-	EXHAUST FAN
G.F.I.	-	GROUND FAULT INTERRUPTER
GRD.	-	GROUND
GRS	-	GALVANIZED RIGID STEEL
H	-	HIGH
HP	-	HORSEPOWER
KW	-	KILOWATT
KVA	-	KILOVOLT AMPERES
MCP	-	MOTOR CIRCUIT PROTECTOR
M.O.D.	-	MOTOR OPERATED DAMPER
NO.	-	NUMBER
P	-	POLE
PH	-	PHASE
PR.	-	PAIR
SHLD.	-	SHIELDED
SN	-	SOLID NEUTRAL
T-M	-	THERMAL MAGNETIC
TVSS	-	TRANSIENT VOLTAGE SURGE SUPPRESSOR
TYP.	-	TYPICAL
V	-	VOLTS
W	-	WIRE, WATT, WIDE
WP	-	WEATHERPROOF
XFMR	-	TRANSFORMER

ELECTRICAL SYMBOL SCHEDULE

	-	LED LIGHT FIXTURE
	-	EMERGENCY LIGHT FIXTURE
	-	EMERGENCY LIGHT FIXTURE DUAL REMOTE HEADS
	-	EMERGENCY LIGHT FIXTURE REMOTE HEAD
	-	COMBINATION EMERGENCY LIGHT AND EXIT FIXTURE
	-	EXIT FIXTURE
	-	LIGHTING PHOTOCCELL
	-	20A-120V DUPLEX RECEPTACLE
	-	FLOOR-MOUNTED 20A-120V DUPLEX RECEPTACLE
	-	VOICE OUTLET
	-	FLOOR-MOUNTED VOICE OUTLET
	-	DATA OUTLET
	-	FLOOR-MOUNTED DATA OUTLET
	-	MOTOR (NUMBER INDICATES HP)
	-	DISCONNECT SWITCH
	-	JUNCTION BOX
	-	THERMOSTAT
	-	TRANSFORMER
	-	SINGLE POLE SWITCH
	-	THREE WAY SWITCH
	-	DIMMER SWITCH
	-	MOTOR THERMAL SWITCH WITH H/O/A
	-	HOME RUN TO PANEL
	-	TICKS INDICATE NUMBER OF WIRES - NOT INCLUDING GROUND CONDUCTOR
	-	WIRING CONCEALED IN CONDUIT
	-	CONDUIT CONCEALED IN FLOOR OR SLAB
	-	ELECTRICAL DUCT BANK
#4/0 Ground Ring Symbol"/>	-	#4/0 GROUND RING
	-	CADWELDED GROUND CONNECTION

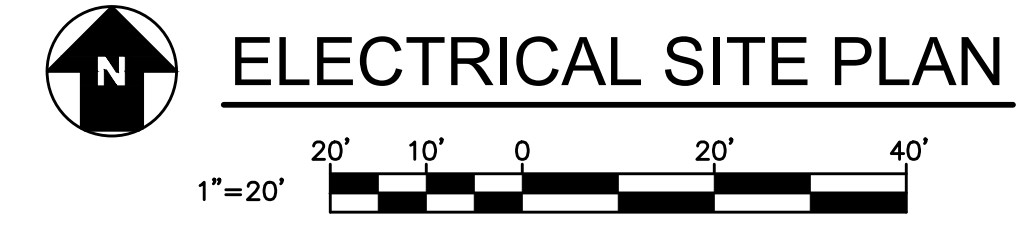
WIRING LEGEND

- ① RUN POWER FEEDER TO OPERATOR BUILDING IN 4" SPARE CONDUIT FROM MCC-2 TO MH-1
- ② 2" SPARE CONDUIT FROM MH-1 TO PULL BOX ON SIDE OF TREATMENT BUILDING TO BE USED FOR CAMERA SYSTEM FIBER OPTIC CABLE AND SMOKE DETECTOR WIRING
- ③ 6-STRAND FIBER OPTIC CABLE-1 1/2" C FROM SCADA SERVER TO FINISHED WATER PUMP STATION CONTROL PANEL. RUN IN CONCRETE DUCT BANK. SEE TYPICAL DUCT BANK SECTION ON THIS DWG.
- ④ 2" C FURNISHED AND INSTALLED BY OTHERS FOR FIBER OPTIC IT NETWORK
- ⑤ 2" C IN CONCRETE DUCT BANK TO FIBER OPTIC PULL BOX IN OPERATOR BUILDING FOR FIBER OPTIC CABLE. SEE TYPICAL DUCT BANK SECTION ON THIS DWG.
- ⑥ RUN 1" C INSIDE BUILDING FOR FIBER OPTIC CABLE
- ⑦ 2" PVC SCHEDULE 80 CONDUIT FOR FIBER OPTIC CABLE. DIRECT BURY 18" B.F.G.
- ⑧ 3/4" C TO PULL BOX FOR SMOKE DETECTOR WIRING



GENERAL ELECTRICAL NOTES (APPLICABLE TO ALL DRAWINGS)

1. EXISTING EQUIPMENT IS SHOWN IN A LIGHT WEIGHT AND IDENTIFIED WITH SLANTED TEXT. NEW EQUIPMENT AND WIRING IS SHOWN BOLD.
2. ALL FASTENERS AND MOUNTING HARDWARE USED FOR THE INSTALLATION OF ALL ELECTRICAL ITEMS SHALL BE 316 STAINLESS STEEL.
3. ALL FLOOR MOUNTED ELECTRICAL EQUIPMENT SHALL BE INSTALLED ON A CONCRETE PAD WITH CHAMFERED EDGES. THE PAD SHALL EXTEND 2" BEYOND THE EDGES OF THE EQUIPMENT. SEE PAD DETAIL ON STRUCTURAL DWGS.
4. CONTRACTOR SHALL FURNISH AND INSTALL A SEPARATE INSULATED GROUND CONDUCTOR IN ALL CONDUITS. ALL GROUND CONDUCTORS SHALL BE #12 UNLESS NOTED OTHERWISE ON DRAWINGS.
5. CONTRACTOR SHALL COORDINATE THE EXACT LOCATION OF ALL DUCT BANKS AND UNDERGROUND CONDUITS TO AVOID INTERFERENCES WITH UNDERGROUND PIPING AND EXISTING UNDERGROUND ELECTRIC.
6. WHERE A WIRING LEGEND IS SHOWN ON A DRAWING, IT ONLY PERTAINS TO THAT DRAWING.
7. WIRING TO DISCONNECT SWITCHES SHALL BE CONTINUED FROM DISCONNECT SWITCH TO MOTOR OR HVAC EQUIPMENT.
8. PROVIDE AN ENGRAVED YELLOW NAMEPLATE ON ALL PANELS INDICATING WHERE THE PANEL IS FED FROM.



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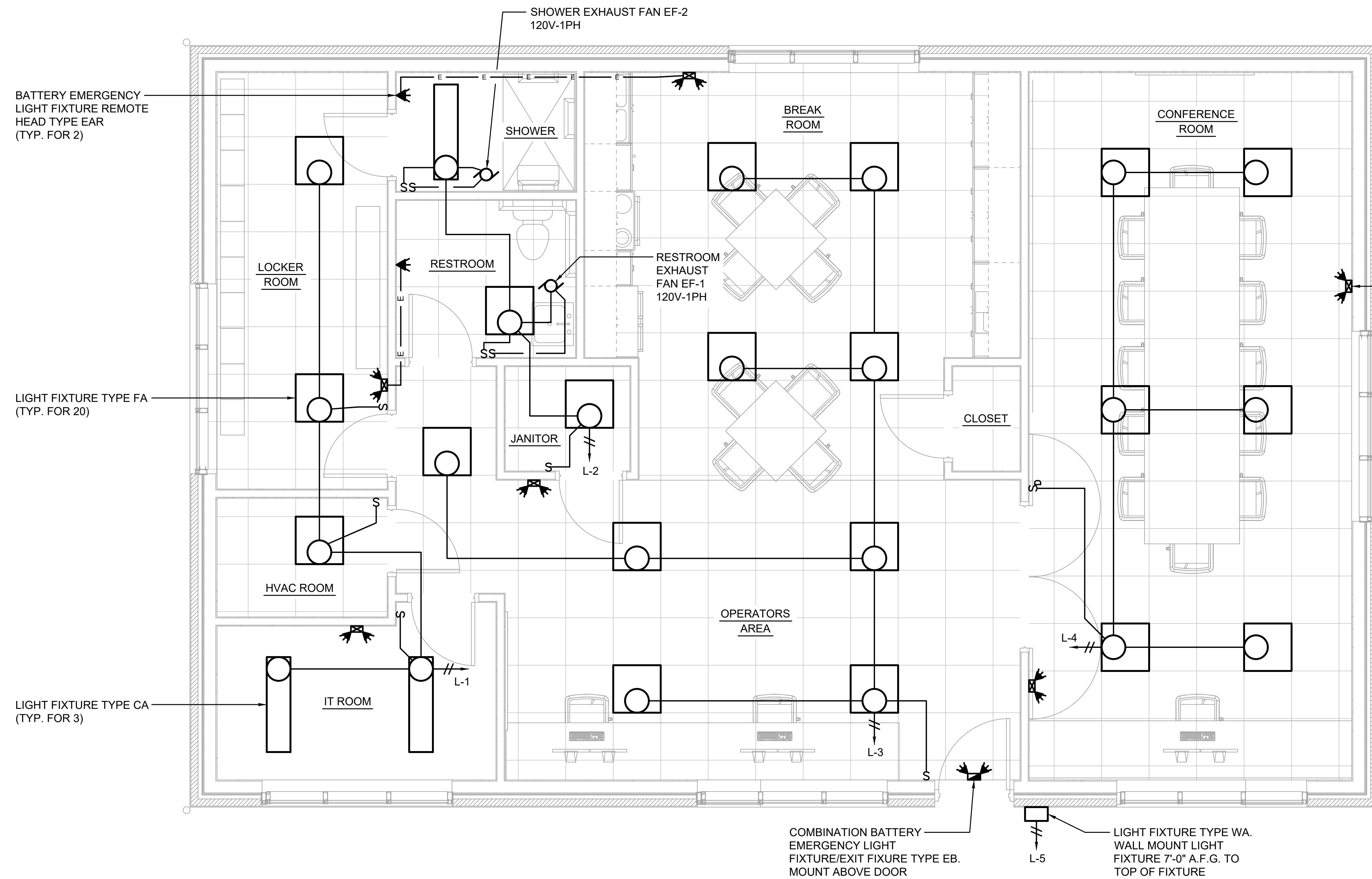
PROFESSIONAL CERTIFICATION.
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
 LICENSE NO. 50811
 EXPIRATION DATE: 06/14/2025



REVISIONS			
NO.	DESCRIPTION	BY	DATE

ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS			
APPROVED	DATE	APPROVED	DATE
<i>Blair</i>	12/13/2023	<i>Markel Moore</i>	12/12/2023
CHIEF ENGINEER		PROJECT MANAGER	
<i>Tom Burke</i>	12/13/2023	<i>Tom Burke</i>	12/12/2023
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY SERVICES	

JANUARY 2024	DWG. E-01
BROAD CREEK II WTP	
NEW OPERATOR BUILDING	
ELECTRICAL SITE PLAN	
SCALE: AS SHOWN	SHEET NO.: 33 OF 36
DRAWN BY: SMJ	PROJECT NO.: W804000
CHECKED BY: DTB	CONTRACT NO.: W804010



- NOTES**
1. WIRE ALL EMERGENCY LIGHT FIXTURES AND EXIT FIXTURES TO THE LIGHTING CIRCUIT IN THE ROOM WHERE THEY ARE LOCATED.

BATTERY EMERGENCY LIGHT FIXTURE REMOTE HEAD TYPE EAR (TYP. FOR 2)

LIGHT FIXTURE TYPE FA (TYP. FOR 20)

LIGHT FIXTURE TYPE CA (TYP. FOR 3)

BATTERY EMERGENCY LIGHT FIXTURE TYPE EA. WALL MOUNT 8'-0" A.F.F. (TYP. FOR 6)

COMBINATION BATTERY EMERGENCY LIGHT FIXTURE/EXIT FIXTURE TYPE EB. MOUNT ABOVE DOOR

LIGHT FIXTURE TYPE WA. WALL MOUNT LIGHT FIXTURE 7'-0" A.F.G. TO TOP OF FIXTURE

OPERATOR BUILDING LIGHTING PLAN

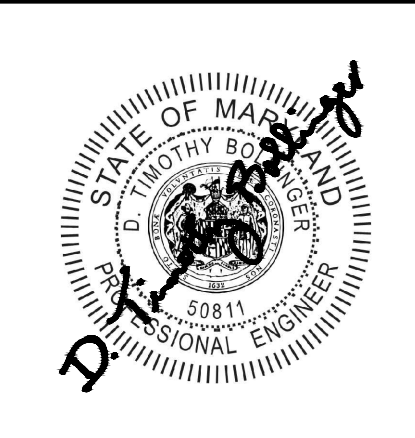
3/8"=1'-0"

24" 12" 0 2' 4' 6'



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LICENSE NO. 50811
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ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS			
APPROVED	DATE	APPROVED	DATE
<i>Blaise</i>	12/13/2023	<i>Manuel Moon</i>	12/12/2023
CHIEF ENGINEER		PROJECT MANAGER	
<i>Blaise</i>	12/13/2023	<i>Tom Burtel</i>	12/12/2023
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY SERVICES	

JANUARY 2024	DWG. E-02
SCALE: AS SHOWN	
DRAWN BY: SMJ	
CHECKED BY: DTB	
SHEET NO.: 34 OF 36	
PROJECT NO.: W804000	
CONTRACT NO.: W804010	

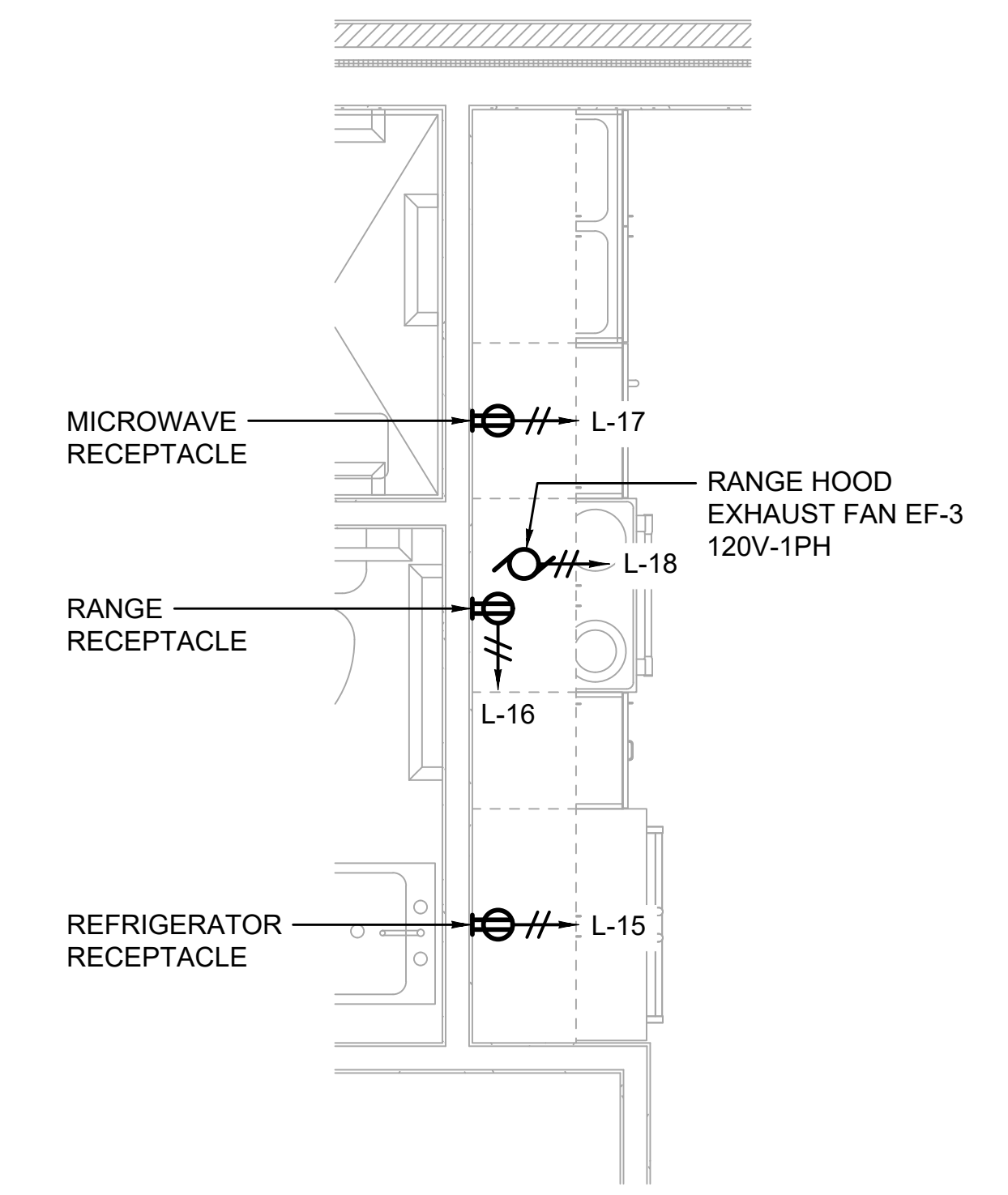
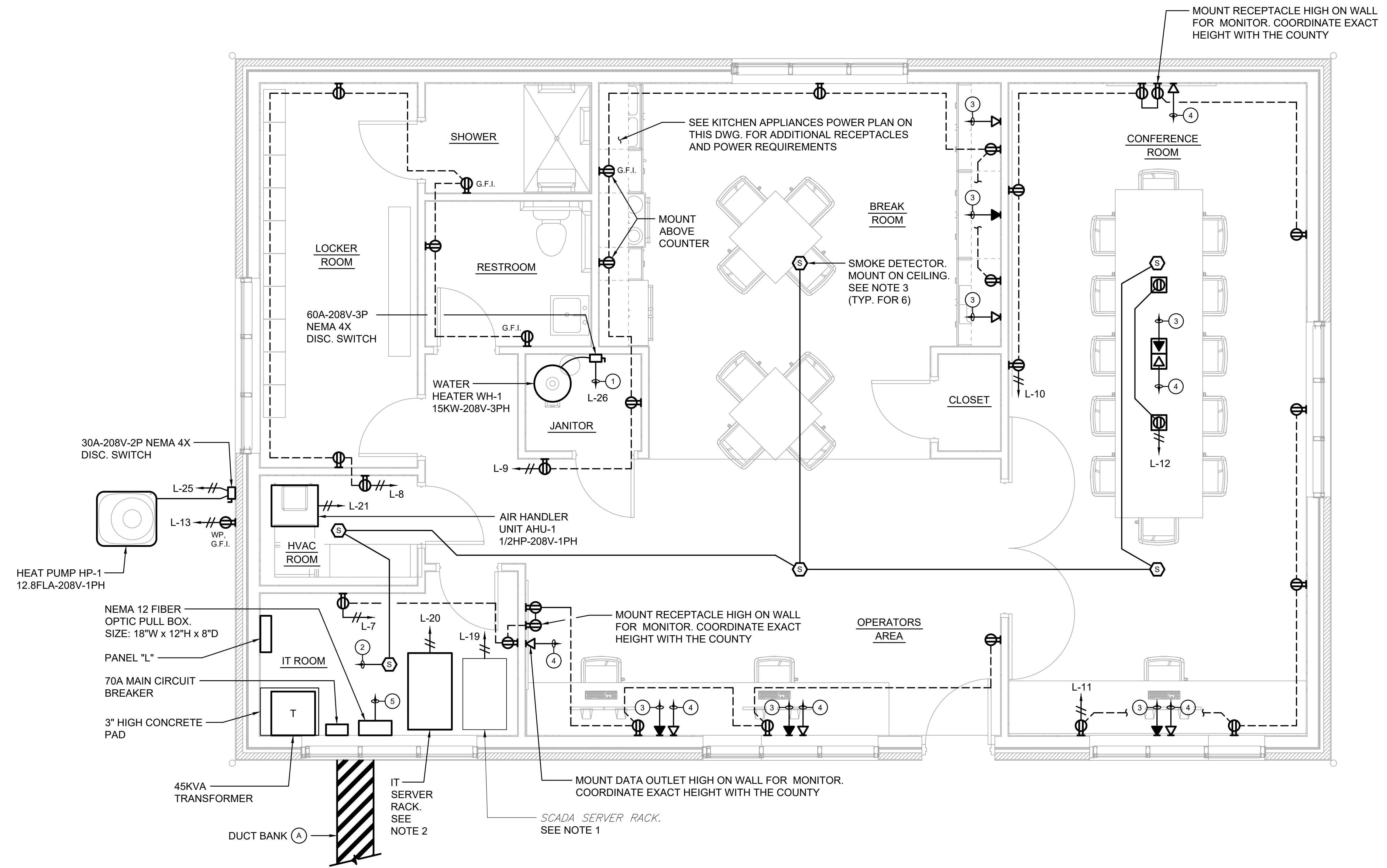
105799
 BROAD CREEK II WTP
 NEW OPERATOR BUILDING
 OPERATOR BUILDING LIGHTING PLAN

NOTES

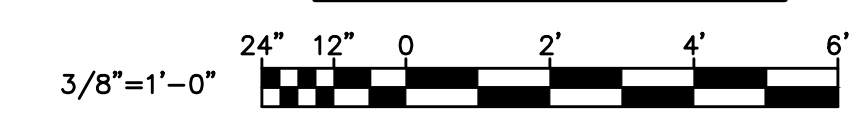
1. RELOCATE THE EXISTING SCADA SERVER RACK FROM THE TREATMENT BUILDING LAB TO THE IT ROOM. COORDINATE THE RELOCATION WITH THE COUNTY.
2. THE IT SERVER RACK WILL BE PROVIDED BY THE COUNTY. COORDINATE THE INSTALLATION OF THE SERVER RACK WITH THE COUNTY.
3. CONTRACTOR SHALL WIRE SMOKE DETECTORS AS REQUIRED BY SMOKE DETECTOR MANUFACTURER TO EXISTING FIRE ALARM PANEL IN TREATMENT BUILDING LAB.

WIRING LEGEND

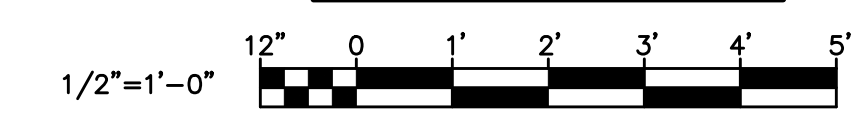
- ① 3#6, #8 GRD.-1 1/4" C TO PANEL "L"
- ② 2#14 TO EXISTING FIRE ALARM PANEL IN TREATMENT BUILDING LAB. RUN IN 3/4" C TO FIBER OPTIC PULL BOX AND IN 2" C TO TREATMENT BUILDING
- ③ 3/4" C TO IT SERVER RACK
- ④ ETHERNET CABLE-3/4" C TO SCADA SERVER
- ⑤ 1 1/2" C TO IT SERVER RACK FOR FIBER OPTIC CABLE



OPERATOR BUILDING POWER PLAN

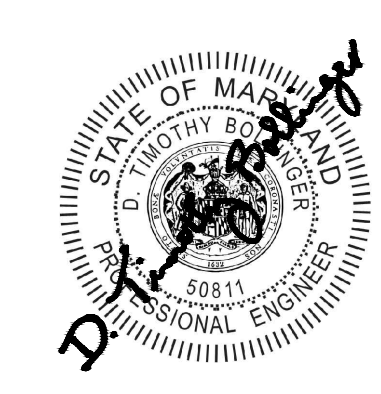


KITCHEN APPLIANCES POWER PLAN



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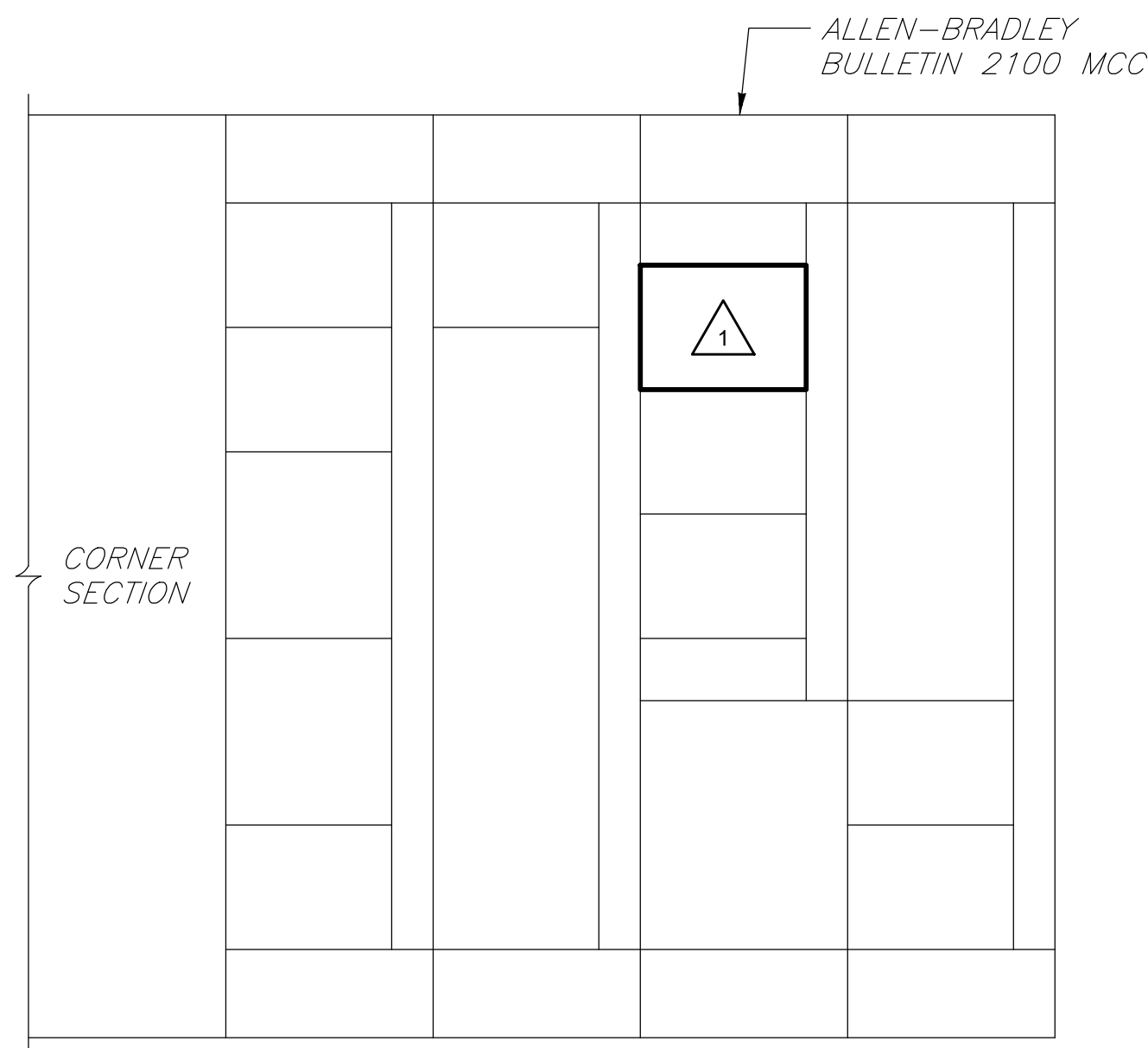
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LICENSE NO. 50811
EXPIRATION DATE: 06/14/2025



REVISIONS			
NO.	DESCRIPTION	BY	DATE

APPROVED	DATE	APPROVED	DATE
<i>[Signature]</i>	12/13/2023	<i>[Signature]</i>	12/12/2023
CHIEF ENGINEER		PROJECT MANAGER	
APPROVED	DATE	APPROVED	DATE
<i>[Signature]</i>	12/13/2023	<i>[Signature]</i>	12/12/2023
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY SERVICES	

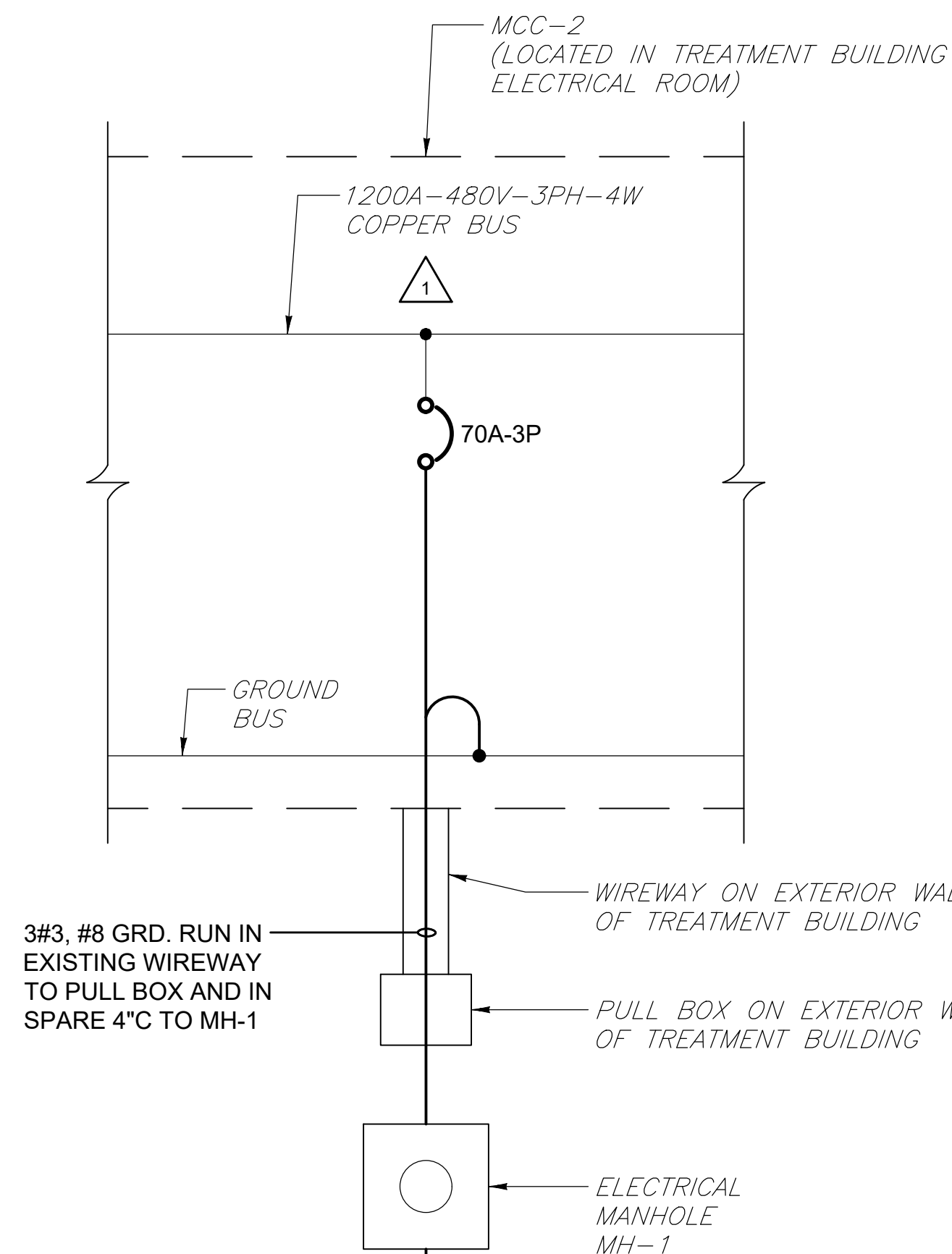
ANNE ARUNDEL COUNTY		DEPARTMENT OF PUBLIC WORKS		105800	
SCALE: AS SHOWN		DRAWN BY: SMJ		CHECKED BY: DTB	
SHEET NO.: 35 OF 36		PROJECT NO.: W804000		CONTRACT NO.: W804010	
JANUARY 2024		DWG. E-03		BROAD CREEK II WTP	
				NEW OPERATOR BUILDING	
				OPERATOR BUILDING POWER PLAN	



EXISTING MCC-2 ELEVATION (RIGHT SIDE)
(LOCATED IN TREATMENT BUILDING ELECTRICAL ROOM)

MCC-2 MODIFICATIONS

- 1 INSTALL A 70A-3P CIRCUIT BREAKER BUCKET IN EXISTING SPACE FOR OPERATOR BUILDING FEEDER. AIC RATING SHALL BE 42,000 AMPS. SEE ONE-LINE DIAGRAM ON THIS DWG. PROVIDE AN ENGRAVED NAMEPLATE ON THE UNIT DOOR.



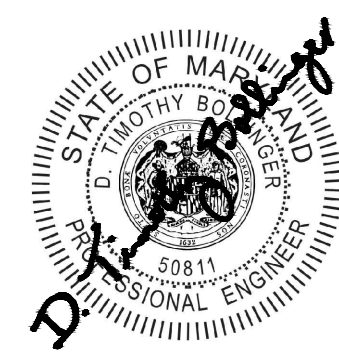
ELECTRICAL ONE-LINE DIAGRAM

PANELBOARD "L" SCHEDULE													
VOLTAGE: 120/208V-3PH-4W						PANEL TYPE: SURFACE MOUNTED, BREAKER							
MAIN BUS BARS AND LUGS: 225A						MIN. A.I.C. RATING: 30,000							
MAIN BREAKER: 150A-3P						LOCATION: OPERATOR BUILDING IT ROOM							
NOTES	HP	WATTS	LOCATION	POLE	AMP/TRIP	AMP/TRIP	POLE	LOCATION	WATTS	HP	NOTES		
LIGHTS		300	IT ROOM	1	20	1	20	JANITOR	300		LIGHTS		
LIGHTS		500	OPER. AREA	1	20	3	4	CONF. ROOM	400		LIGHTS		
EXTERIOR LIGHT		104	OUTSIDE	1	20	5	6				SPARE		
RECEPTACLES		1400	IT ROOM	1	20	7	8	HVAC ROOM	1200		RECEPTACLES		
RECEPTACLES		1400	BREAK ROOM	1	20	9	10	CONF. ROOM	1000		RECEPTACLES		
RECEPTACLES		800	CONF. ROOM	1	20	11	12	CONF. ROOM	400		RECEPTACLES		
RECEPTACLE		200	OUTSIDE	1	20	13	14				SPARE		
REFRIGERATOR RECEPTACLE		200	BREAK ROOM	1	20	15	16	BREAK ROOM	200		RANGE RECEPTACLE		
MICROWAVE RECEPTACLE		200	BREAK ROOM	1	20	17	18	BREAK ROOM		1/4	RANGE HOOD EXHAUST FAN EF-3		
SCADA SERVER RACK		1000	IT ROOM	1	20	19	20	IT ROOM	1000		IT SERVER RACK		
AIR HANDLER UNIT AHU-1	1/2		HVAC ROOM	2	20	21	22				SPARE		
						23	24				SPARE		
HEAT PUMP HP-1	12.8 FLA		OUTSIDE	2	20	25	26	JANITOR	15,000		WATER HEATER WH-1		
SPARE						29							
SPARE						31	32				SPARE		
SPARE						33	34				SPARE		
SPARE						35	36				SPARE		
SPACE						37	38				SPACE		
SPACE						39	40				SPACE		
SPACE						41	42				SPACE		



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12/13/2023	<i>Tom Burke</i>	12/12/2023	<i>Tom Burke</i>
	ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY SERVICES

JANUARY 2024	DWG. E-04
SCALE: AS SHOWN	
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CHECKED BY: DTB	
SHEET NO.: 36 OF 36	
PROJECT NO.: W804000	
CONTRACT NO.: W804010	

105801

BROAD CREEK II WTP
 NEW OPERATOR BUILDING
 ELECTRICAL ONE-LINE DIAGRAM