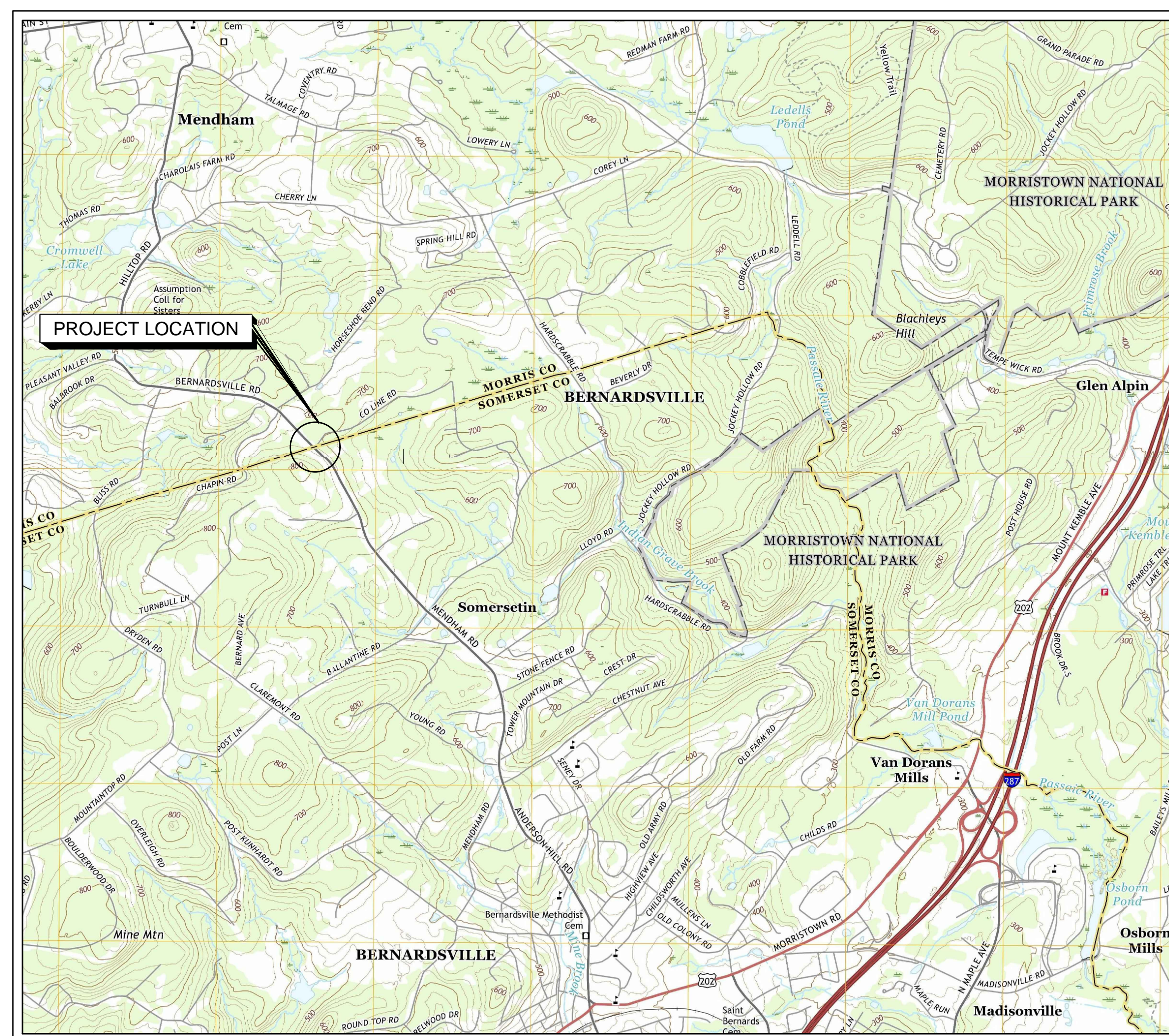


# FENWICK TANK REPLACEMENT PROJECT

## NEW JERSEY AMERICAN WATER

### BOROUGH OF BERNARDSVILLE, SOMERSET COUNTY, NJ

- Site Plan of Fenwick Tank  
 Lot 5 Block 5 Zone R-1-10  
 Date \_\_\_\_\_ Scale 1"=20'  
 Applicant New Jersey American Water
- I consent to the filing of this Site Plan with the Board of Adjustment of Bernardsville.  
 \_\_\_\_\_  
 (Owner) (Address) (Phone No.) (Date)
- I hereby certify that I have prepared the Site Plan and that all dimensions and information are correct.  
 \_\_\_\_\_  
 (Name) (Address) (Title and License No.)
- I have reviewed this Site Plan and certify that it meets all codes and ordinances under my jurisdiction.  
 \_\_\_\_\_  
 (Date) (Borough Engineer)
- To be signed before issuance of a building permit: I hereby certify that all the required improvements have been installed or a bond posted in compliance with all applicable codes and ordinances.  
 \_\_\_\_\_  
 (Date) (Borough Engineer)
- (If improvements installed) \_\_\_\_\_  
 \_\_\_\_\_  
 (Date) (Borough Engineer)
- (If bond posted) \_\_\_\_\_  
 \_\_\_\_\_  
 (Date) (Borough Engineer)
- Building Permit issued \_\_\_\_\_  
 \_\_\_\_\_  
 (Date) (Date)
- Approved by the Board of Adjustment  
 \_\_\_\_\_  
 Preliminary \_\_\_\_\_ Final \_\_\_\_\_  
 \_\_\_\_\_  
 (Chairman) (Date) (Secty.) (Date)



SOURCE: USGS QUAD (BERNARDSVILLE + MENDHAM)

SCALE: 1"=2000'

KEY MAP

#### INDEX OF DRAWINGS

- SHEET C00: SITE EXISTING CONDITIONS & DEMOLITION PLAN
- SHEET C01: TANK SITE PLAN
- SHEET C01A: SITE PLAN DETAILS
- SHEET C02: LANDSCAPING PLAN
- SHEET C03: CONSTRUCTION STAGING PLAN
- SHEET D01-D02: DETAIL SHEETS
- SHEET SC01-SC02: SOIL EROSION & SEDIMENT CONTROL NOTES & DETAILS

#### BOROUGH OF BERNARDSVILLE Block and Lot Listing

Identification	Name	Street Address	City, State	Property Location	Zip
Block: 5 Lot: 3 Qual: _____	SAVAS, PAUL & MARYBETH	35 EAST 62ND STREET	NEW YORK, NY	440 MENDHAM RD.	10065
Block: 5 Lot: 3.06 Qual: _____	SAVAS, PAUL & MARYBETH	35 EAST 62ND STREET	NEW YORK, NY	MENDHAM ROAD	10065
Block: 5 Lot: 4 Qual: _____	LIU, AILI TRUSTEE	400 MENDHAM ROAD	BERNARDSVILLE, NJ	400 MENDHAM RD.	07924
Block: 7 Lot: 1.01 Qual: _____	MAIO, JOSEPH A. & PATRICIA L.	1 COUNTY LINE RD.	MENDHAM, NJ	MENDHAM RD.	07945



**FEBRUARY 2020**  
 (REVISED MARCH 25, 2021)  
**PERMIT SET**

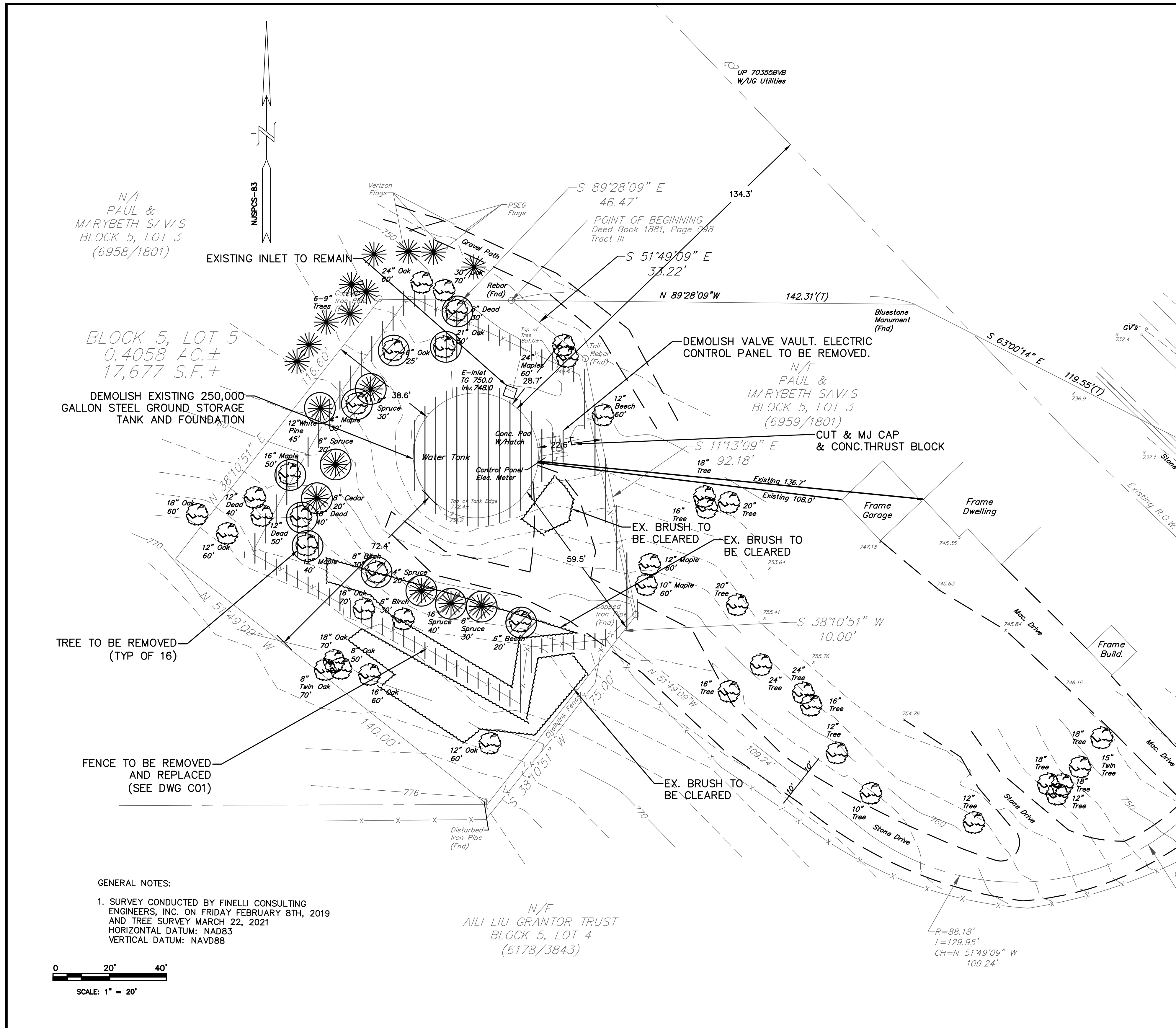
EDWARD DIMOND  
 PROFESSIONAL ENGINEER

NJ LIC. No. 26662

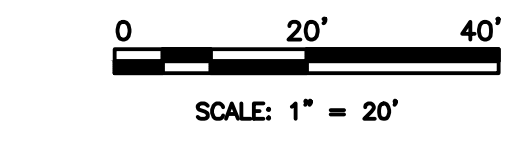
DATE \_\_\_\_\_



SIZE OF TREE TO BE REMOVED (IN)	EXISTING TREE HEIGHT (FT)	NUMBER OF TREES TO BE REMOVED	NUMBER OF REPLACEMENT TREES REQUIRED	
4" (SPRUCE)	20	1	1	NUMBER OF REPLACEMENT TREES REQUIRED TO BE PLANTED ONSITE (MIN. 25%) SEE DWG. C02 LANDSCAPING PLAN
4" (MAPLE)	30	1	1	
6" (OAK)	25	1	2	
6" (SPRUCE)	30	1	2	
6" (SPRUCE)	20	1	2	
6" (BEECH)	20	1	2	
8" (CEDAR)	20	1	2	
8" (BIRCH)	30	1	2	
8" (SPRUCE)	30	1	2	
8" (DEAD)	30	1	-	
12" (WHITE PINE)	45	1	2	
12" (MAPLE)	40	1	2	
16" (MAPLE)	50	1	4	
16" (SPRUCE)	40	1	4	
18" (DEAD)	40	1	-	
21" (OAK)	50	1	5	
TOTAL		16	33	9



GENERAL NOTES:  
 1. SURVEY CONDUCTED BY FINELLI CONSULTING ENGINEERS, INC. ON FRIDAY FEBRUARY 8TH, 2019 AND TREE SURVEY MARCH 22, 2021  
 HORIZONTAL DATUM: NAD83  
 VERTICAL DATUM: NAVD88



REVISIONS	REVISIONS
1 REVISIONS BASED ON FERRIERO ENGINEERING COMMENTS D.K. 8/5/20	△
2 RE-ISSUE ZONING BOARD SET MVP 11/18/20	△
3 REVISIONS BASED ON FERRIERO ENGINEERING COMMENTS DATED 3/10/21	△
△	△
△	△

EDWARD J. DIMOND

**BUCHART HORN**  
 ENGINEERS • ARCHITECTS • PLANNERS

NJ LICENSED PROFESSIONAL ENGINEER  
 NO. 26662

BUCHART HORN, INC.  
 2 EVES DRIVE, SUITE 110  
 MARLTON, NEW JERSEY 08053

DRAWN BY DK  
 PROJECT ENG'R EJD

DATE 10/29/2019

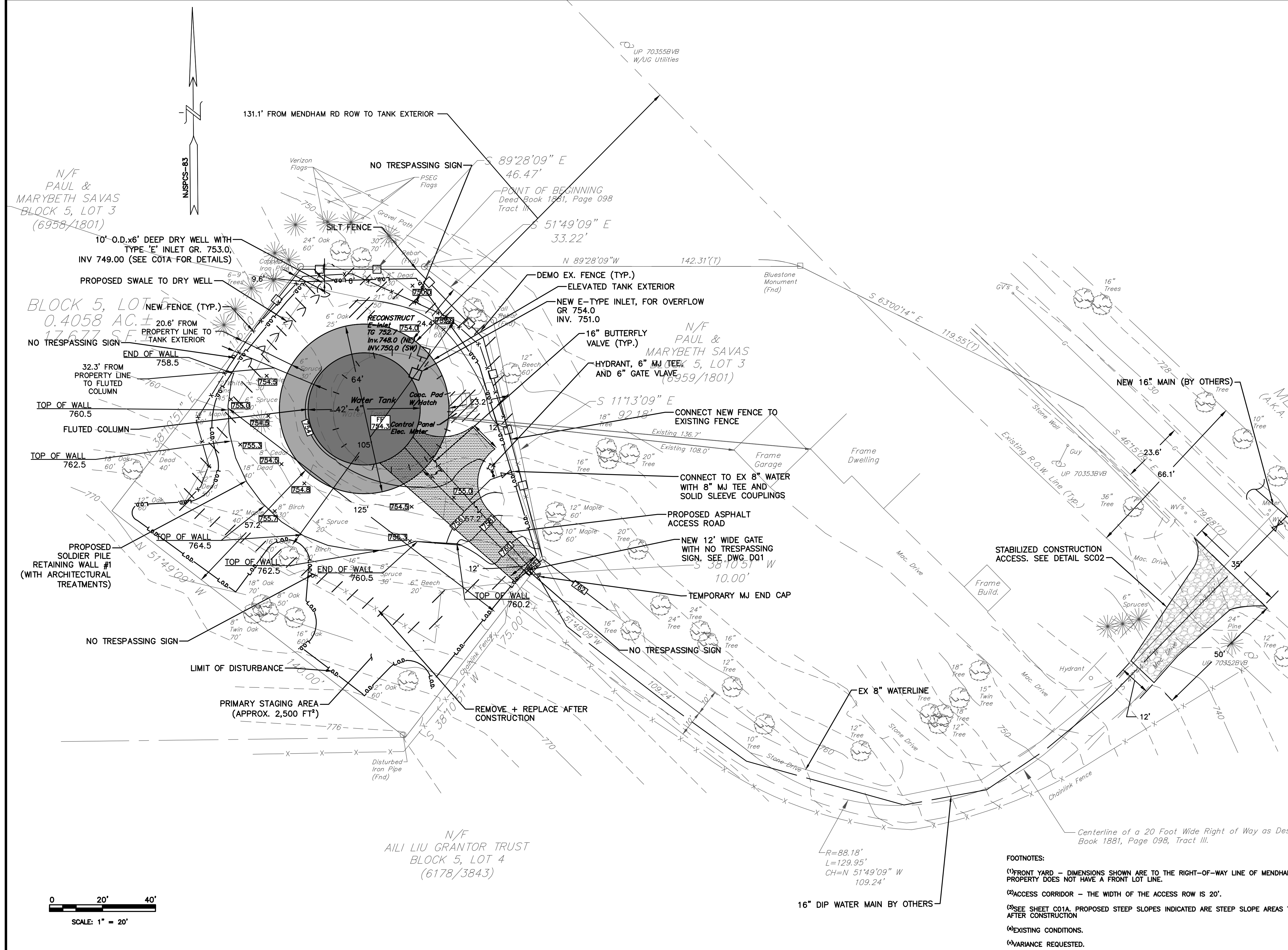
PROJECT 76255-1N

**NEW JERSEY AMERICAN WATER**  
**FENWICK TANK PROJECT**  
 BOROUGH OF BERNARDSVILLE, SOMERSET COUNTY, NJ  
 BLOCK 5, LOT 5  
 SITE EXISTING CONDITIONS & DEMOLITION PLANS

NEW JERSEY AMERICAN WATER	PASSAIC WATER SYSTEM	USE DIMENSIONS ONLY SCALE AS SHOWN
USE APPROVED DRAWINGS ONLY FOR CONSTRUCTION PURPOSES	PERMIT SET	C00

**ZONING TABLE & DATA**

ZONE: R-1-10	CONDITIONAL USE STANDARD	REQUIREMENT OF ZONE	EXISTING	PROPOSED
HEIGHT OF BUILDING (FT & STORIES)	12-25.1.3 (SAME AS ZONE)	35 - 2.5 STORIES	ANTENNA 56' <sup>(1)</sup> SOLAR PANELS 29' ROOF 74' <sup>(1)</sup>	ANTENNA 83' <sup>(1)</sup> RAILING 82' <sup>(1)</sup> ROOF 74' <sup>(1)</sup> OVERFLOW ELEV 67' <sup>(1)</sup>
FRONT YARD <sup>(1)</sup>	12-25.1.4 (SAME AS ZONE)	125'	28.7' TO PROPERTY LINE 134.3' TO ROAD ROW	24.4' TO PROPERTY LINE 131.1' TO ROAD ROW
SIDE YARDS	12-25.1.4 (SAME AS ZONE)	75'	22.6' <sup>(1)</sup> (1ST SIDE YARD) 38.6' <sup>(1)</sup> (2ND SIDE YARD)	20.6' <sup>(1)</sup> (1ST SIDE YARD) 23.2' <sup>(1)</sup> (2ND SIDE YARD)
REAR YARD	12-25.1.4 (SAME AS ZONE)	100'	72.4' <sup>(1)</sup>	57.2' <sup>(1)</sup>
ACCESS CORRIDOR (& FRONTAGE ON ST)		50'	20' <sup>(2)</sup>	20' <sup>(2)</sup>
DRIVEWAY POSITION RELATIVE TO PROPERTY LINES		10'	0' <sup>(3)</sup>	0' <sup>(3)</sup>
DRIVEWAY DESIGN (AS PER SEC 12-23.3 a, b, c)			a. K-TURN OR LOOP b. RAD. ≥ 45' + 14' WIDTH FOR CURVE, 12' FOR REMAINDER c. INTERSECTION ≥ 60°	a. YES (K-TURN) b. YES c. YES
MIN LOT AREA (SQFT)		435600 SQFT	17677 SQFT <sup>(1)(4)</sup>	17677 SQFT <sup>(1)(4)</sup>
LOT SHAPE (MIN CIRCLE DIA)	12-25.1.4 (SAME AS ZONE)	475'	105' <sup>(4)</sup>	105' <sup>(4)</sup>
BUILDING ENVELOPE (FREE OF RIPARIAN YARD, WETLANDS & WETLANDS BUFFERS)			NO (0 SQFT)	NO (0 SQFT)
SURFACE DISTURBANCE (ALLOWABLE STEEP SLOPE DISTURBANCE)				
	15-24.99%	1000 SQFT	8730 SQFT <sup>(1)(4)</sup>	6916 SQFT <sup>(1)(4)</sup>
	25-29.99%	500 SQFT	1531 SQFT <sup>(1)(4)</sup>	642 SQFT <sup>(1)(4)</sup>
	30% OR GREATER	250 SQFT	1670 SQFT <sup>(1)(4)</sup>	509 SQFT <sup>(1)(4)</sup>
MIN FLOOR AREA (AS DEFINED IN SEC 12-23.19)		1500 SQFT	1521 SQFT <sup>(1)(4)</sup>	1408 SQFT
MAX PERMITTED FLOOR AREA		3967.7 SQFT	1521 SQFT <sup>(1)(4)</sup>	1408 SQFT
MAX IMPERVIOUS COVERAGE (AS DEFINED IN SEC 12-23.19)	12-25.1.2 (25%) 4419.25 SQFT	Allowed 6353.5 (28.7' setback) 6287.6 (24' setback)	3310 SQFT	4645 SQFT <sup>(1)(4)</sup>
PARKING		N/A	N/A	N/A
DISTANCE BETWEEN BUILDING		N/A	N/A	N/A
ACCESSORY BUILDING				
	HEIGHT	N/A	N/A	N/A
	DISTANCE FROM PRINCIPLE BUILDING	N/A	N/A	N/A
	SETBACKS	N/A	N/A	N/A
NUMBER OF GARAGE SPACES		N/A	N/A	N/A
SIGNS		EXEMPT (12-23.15a-1b)	PRIVATE PROPERTY/ NO TRESPASSING SIGNS	PRIVATE PROPERTY/ NO TRESPASSING SIGNS
TOTAL AREA OF DISTURBANCE		N/A	N/A	13663 SQFT



**FOOTNOTES:**  
 (1) FRONT YARD - DIMENSIONS SHOWN ARE TO THE RIGHT-OF-WAY LINE OF MENDHAM ROAD, SINCE THE PROPERTY DOES NOT HAVE A FRONT LOT LINE.  
 (2) ACCESS CORRIDOR - THE WIDTH OF THE ACCESS ROW IS 20'.  
 (3) SEE SHEET C01A. PROPOSED STEEP SLOPES INDICATED ARE STEEP SLOPE AREAS THAT WILL REMAIN AFTER CONSTRUCTION.  
 (4) EXISTING CONDITIONS.  
 (5) VARIANCE REQUESTED.



REVISIONS	REVISIONS
1 REVISIONS BASED ON FERRIERO ENGINEERING COMMENTS DK 6/30/20	△
2 REMOVED CONCRETE RETAINING WALL AND REVISING GRADING + FENCING. DK 8/5/20	△
3 REVISIONS PER 10/29/20 REVIEW LETTER BY FERRIERO ENGINEERING VP 11/11/20	△
4 RE-ISSUE ZONING BOARD SET MWP 11/16/20	△
5 REVISIONS PER FERRIERO ENGINEERING COMMENTS DATED 3/10/21 DK 3/25/21	△

**BUCHART HORN**  
 ENGINEERS • ARCHITECTS • PLANNERS

EDWARD J. DIMOND  
 BUCHART HORN, INC.  
 2 EVES DRIVE, SUITE 110  
 MARLTON, NEW JERSEY 08053

DRAWN BY DK  
 PROJECT ENG'R EJD

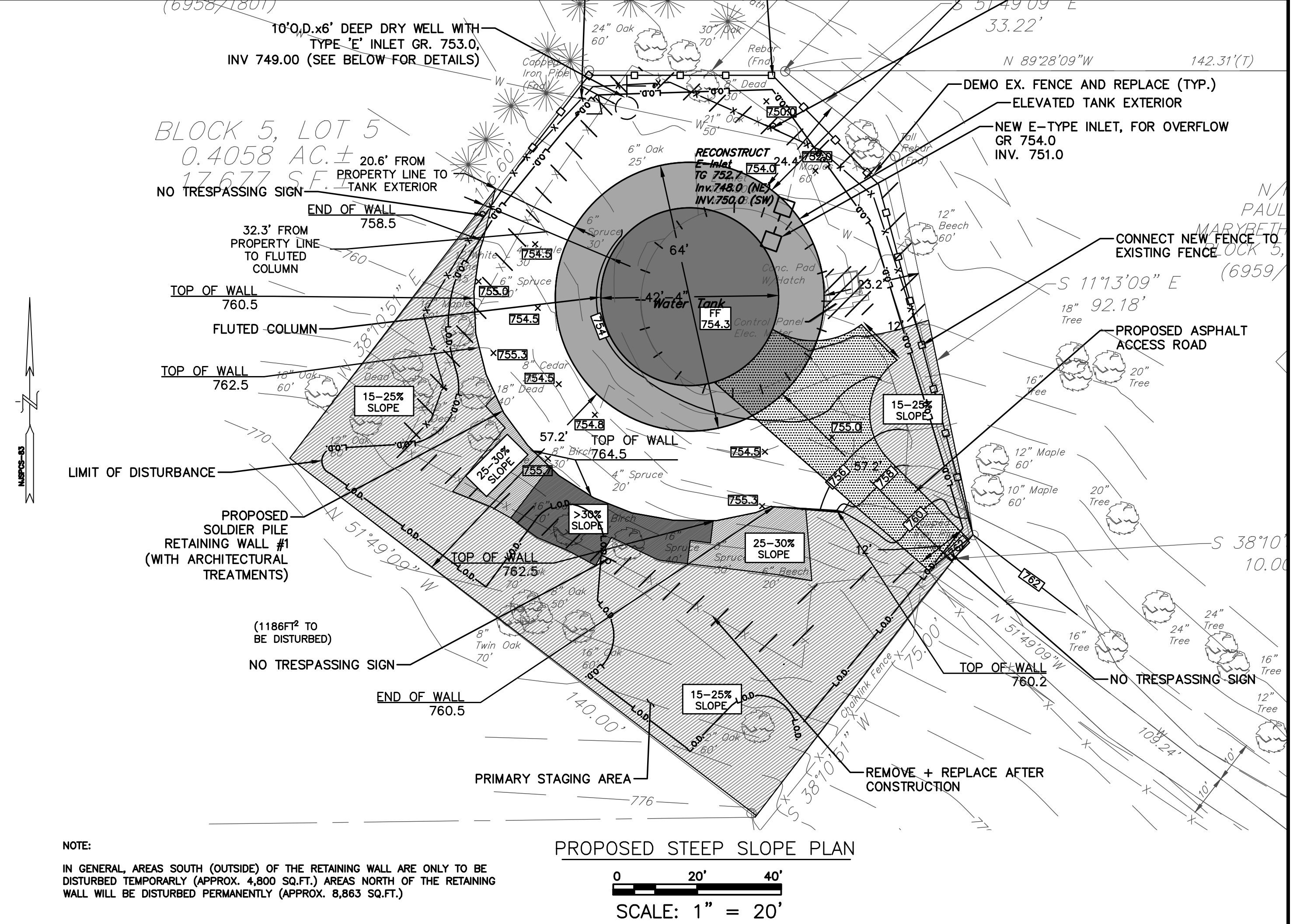
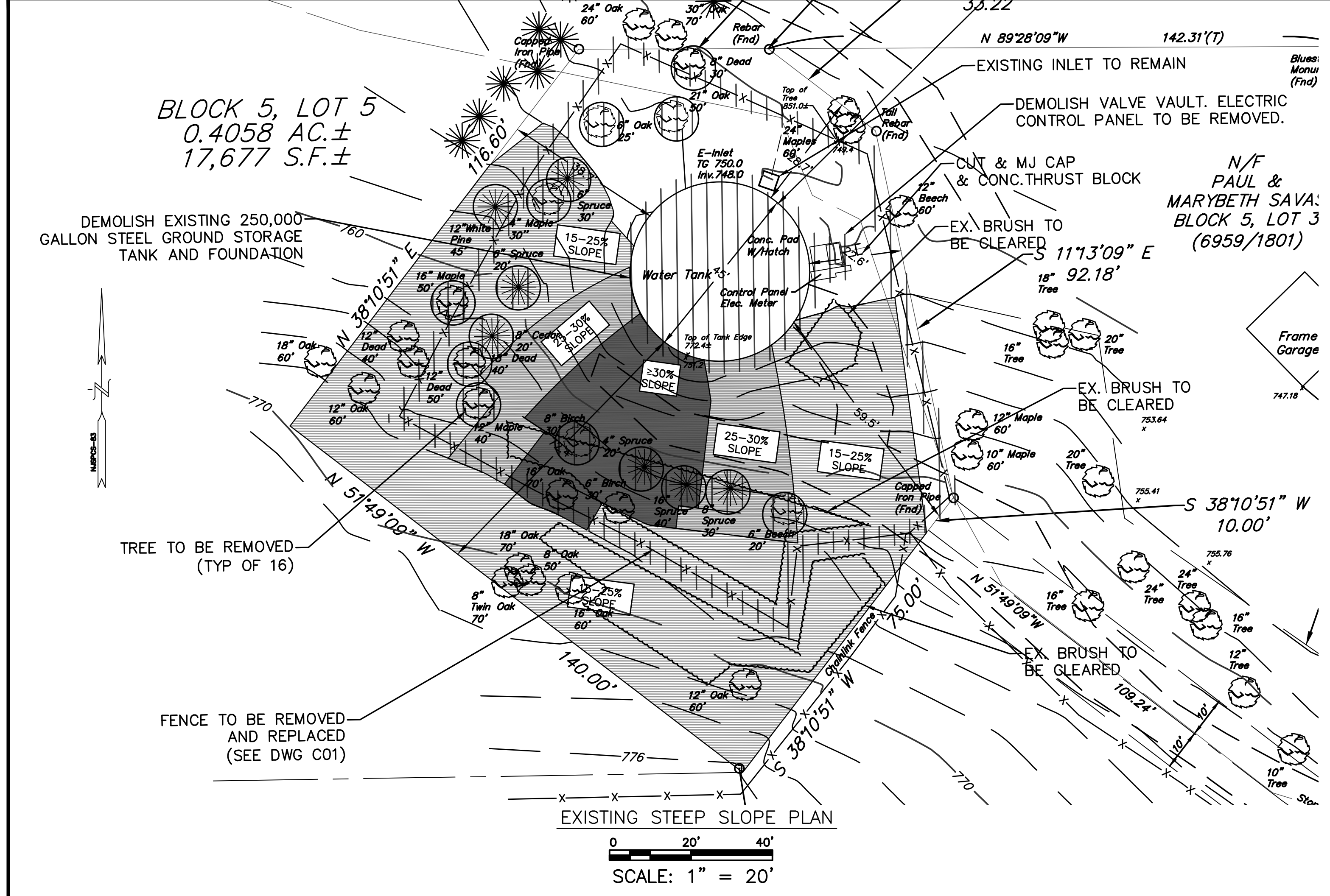
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PROJECT 76255-1N

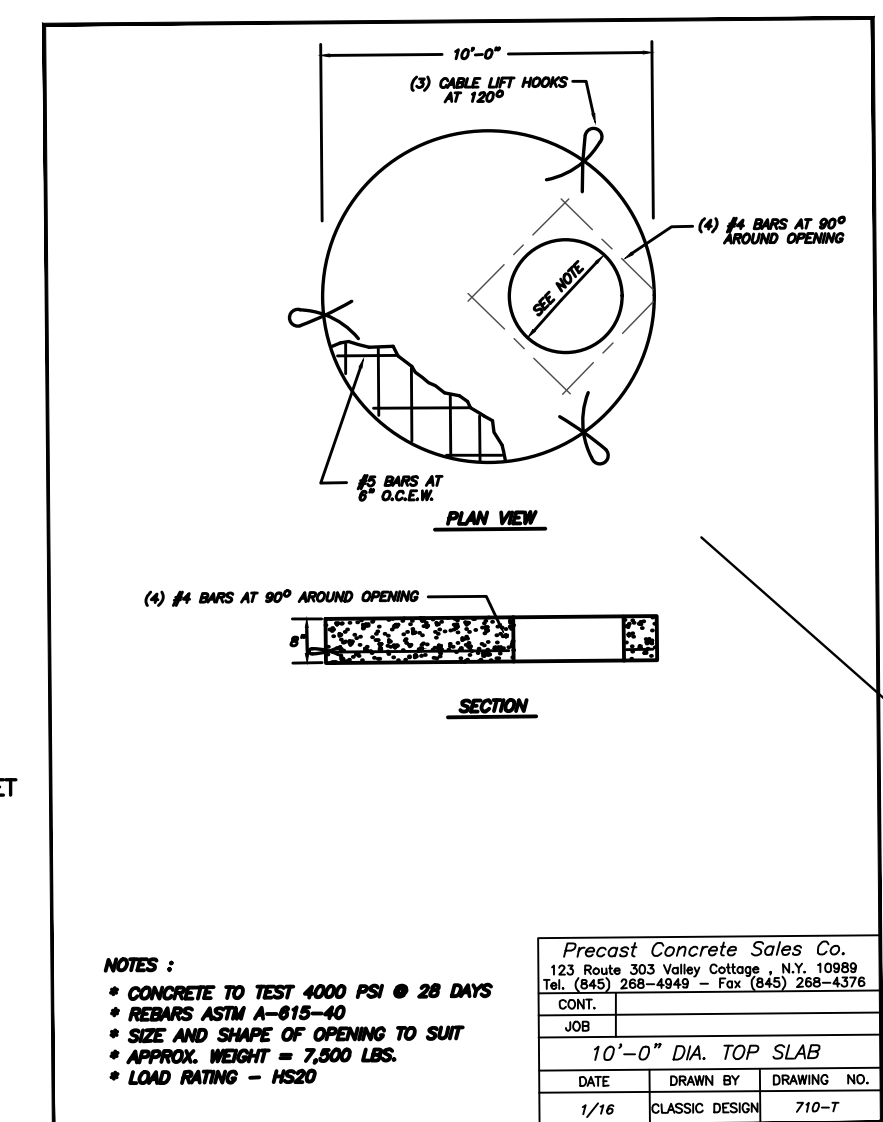
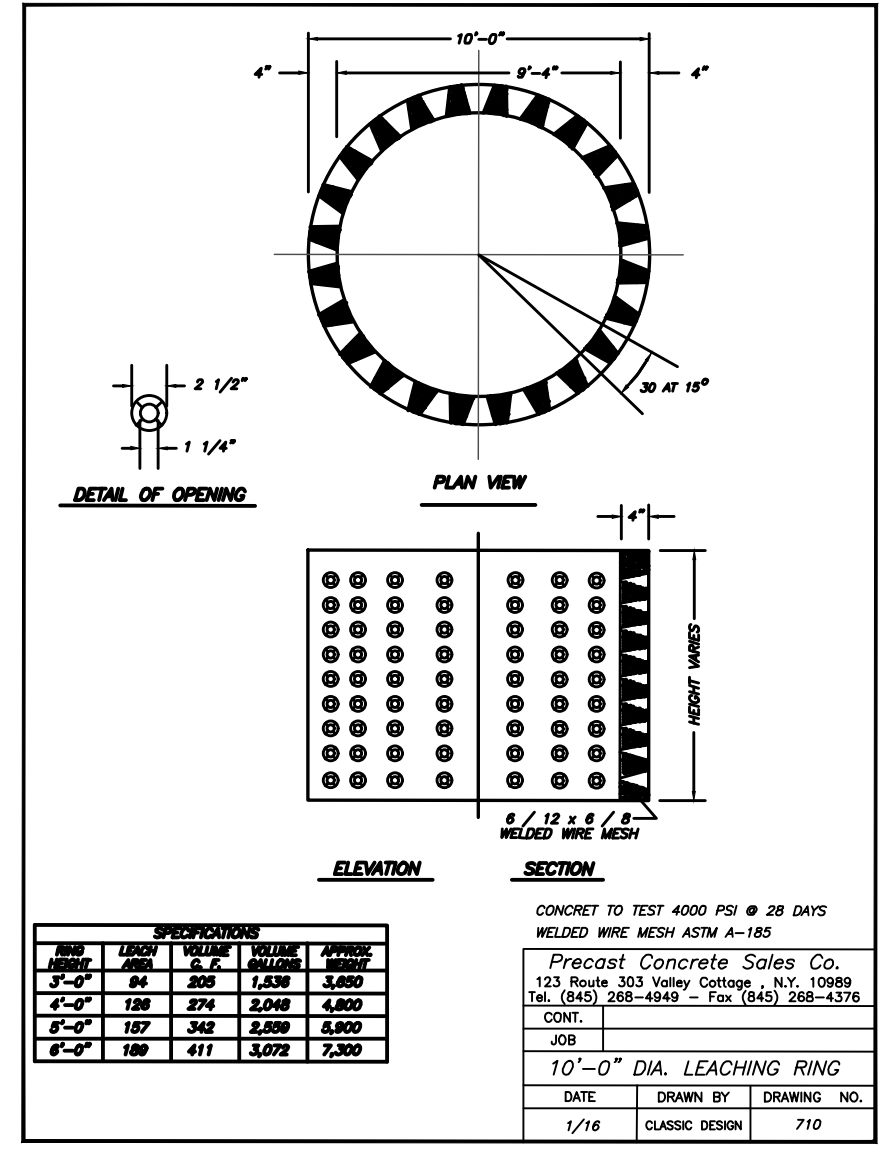
NJ LICENSED PROFESSIONAL ENGINEER  
 NO. 26662

**NEW JERSEY AMERICAN WATER**  
 FENWICK TANK PROJECT  
 BOROUGH OF BERNARDSVILLE, SOMERSET COUNTY, NJ  
 BLOCK 5, LOT 5  
 SITE PLAN - 0.75M GAL FLUTED COLUMN

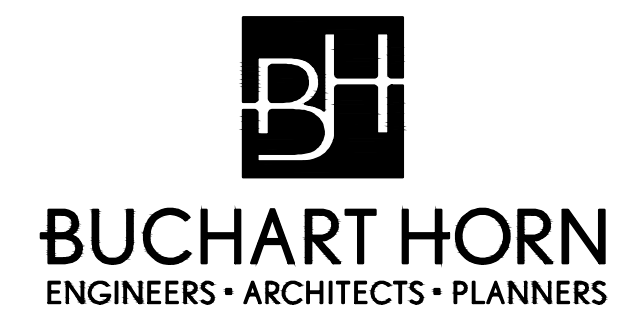
NEW JERSEY AMERICAN WATER	PASSAIC WATER SYSTEM	USE DIMENSIONS ONLY SCALE AS SHOWN
USE APPROVED DRAWINGS ONLY FOR CONSTRUCTION PURPOSES	PERMIT SET	C01



NOTE:  
IN GENERAL, AREAS SOUTH (OUTSIDE) OF THE RETAINING WALL ARE ONLY TO BE DISTURBED TEMPORARILY (APPROX. 4,800 SQ.FT.) AREAS NORTH OF THE RETAINING WALL WILL BE DISTURBED PERMANENTLY (APPROX. 8,863 SQ.FT.)



REVISIONS	REVISIONS
1 SHEET ADDED TO ADDRESS COMMENTS FROM 10/29/20 REVIEW LETTER BY FERRIERO ENGINEERING VP 11/11/20	△
2 RE-ISSUE ZONING BOARD SET MVP 11/16/20	△
3 REVISIONS PER FERRIERO ENGINEERING COMMENTS DATED 3/10/21 DK/U 3/25/21	△
△	△
△	△

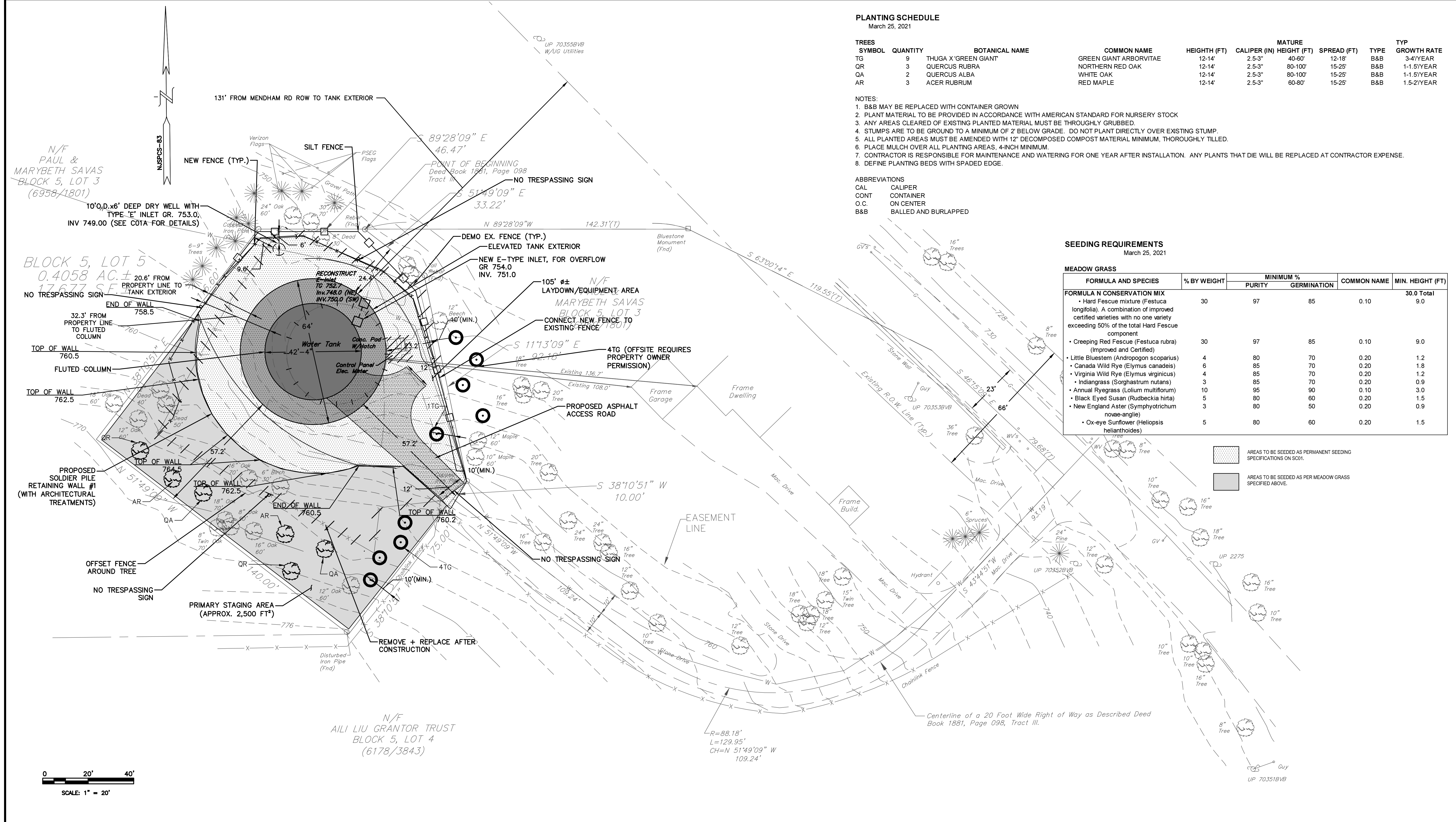


EDWARD J. DIMOND  
BUCHART HORN, INC.  
2 EVES DRIVE, SUITE 110  
MARLTON, NEW JERSEY 08053

DRAWN BY: VP PROJECT ENG'R EJD  
DATE: 11/11/2020  
PROJECT: 76255-1N

N.J. LICENSED PROFESSIONAL ENGINEER  
NO. 26662

NEW JERSEY AMERICAN WATER FENWICK TANK PROJECT BOROUGH OF BERNARDSVILLE, SOMERSET COUNTY, NJ BLOCK 5, LOT 5 SITE PLAN DETAILS		
NEW JERSEY AMERICAN WATER	PASSAIC WATER SYSTEM	USE DIMENSIONS ONLY SCALE AS SHOWN
USE APPROVED DRAWINGS ONLY FOR CONSTRUCTION PURPOSES	PERMIT SET	C01A



**PLANTING SCHEDULE**  
March 25, 2021

TREES	SYMBOL	QUANTITY	BOTANICAL NAME	COMMON NAME	HEIGHT (FT)	CALIPER (IN)	MATURE HEIGHT (FT)	SPREAD (FT)	TYP	GROWTH RATE
TG		9	THUGA X 'GREEN GIANT'	GREEN GIANT ARBORVITAE	12-14'	2.5-3"	40-60'	12-18'	B&B	3-4'/YEAR
QR		3	QUERCUS RUBRA	NORTHERN RED OAK	12-14'	2.5-3"	80-100'	15-25'	B&B	1-1.5'/YEAR
QA		2	QUERCUS ALBA	WHITE OAK	12-14'	2.5-3"	80-100'	15-25'	B&B	1-1.5'/YEAR
AR		3	ACER RUBRUM	RED MAPLE	12-14'	2.5-3"	60-80'	15-25'	B&B	1.5-2'/YEAR

- NOTES:
- B&B MAY BE REPLACED WITH CONTAINER GROWN
  - PLANT MATERIAL TO BE PROVIDED IN ACCORDANCE WITH AMERICAN STANDARD FOR NURSERY STOCK
  - ANY AREAS CLEARED OF EXISTING PLANTED MATERIAL MUST BE THOROUGHLY GRUBBED.
  - STUMPS ARE TO BE GROUND TO A MINIMUM OF 2' BELOW GRADE. DO NOT PLANT DIRECTLY OVER EXISTING STUMP.
  - ALL PLANTED AREAS MUST BE AMENDED WITH 12" DECOMPOSED COMPOST MATERIAL MINIMUM, THOROUGHLY TILLED.
  - PLACE MULCH OVER ALL PLANTING AREAS, 4-INCH MINIMUM.
  - CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE AND WATERING FOR ONE YEAR AFTER INSTALLATION. ANY PLANTS THAT DIE WILL BE REPLACED AT CONTRACTOR EXPENSE.
  - DEFINE PLANTING BEDS WITH SPADED EDGE.

ABBREVIATIONS  
 CAL CALIPER  
 CONT CONTAINER  
 O.C. ON CENTER  
 B&B BALLED AND BURLAPPED

**SEEDING REQUIREMENTS**  
March 25, 2021

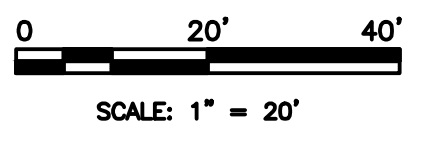
MEADOW GRASS	FORMULA AND SPECIES	% BY WEIGHT	MINIMUM %		COMMON NAME	MIN. HEIGHT (FT)
			PURITY	GERMINATION		
	<b>FORMULA N CONSERVATION MIX</b>					30.0 Total
	• Hard Fescue mixture (Festuca longifolia). A combination of improved certified varieties with no one variety exceeding 50% of the total Hard Fescue component	30	97	85	0.10	9.0
	• Creeping Red Fescue (Festuca rubra) (Improved and Certified)	30	97	85	0.10	9.0
	• Little Bluestem (Andropogon scoparius)	4	80	70	0.20	1.2
	• Canada Wild Rye (Elymus canadensis)	6	85	70	0.20	1.8
	• Virginia Wild Rye (Elymus virginicus)	4	85	70	0.20	1.2
	• Indiangrass (Sorghastrum nutans)	3	85	70	0.20	0.9
	• Annual Ryegrass (Lolium multiflorum)	10	95	90	0.10	3.0
	• Black Eyed Susan (Rudbeckia hirta)	5	80	60	0.20	1.5
	• New England Aster (Symphyotrichum novae-angliae)	3	80	50	0.20	0.9
	• Ox-eye Sunflower (Helianthus helianthoides)	5	80	60	0.20	1.5

AREAS TO BE SEED AS PERMANENT SEEDING SPECIFICATIONS ON S001.  
 AREAS TO BE SEED AS PER MEADOW GRASS SPECIFIED ABOVE.

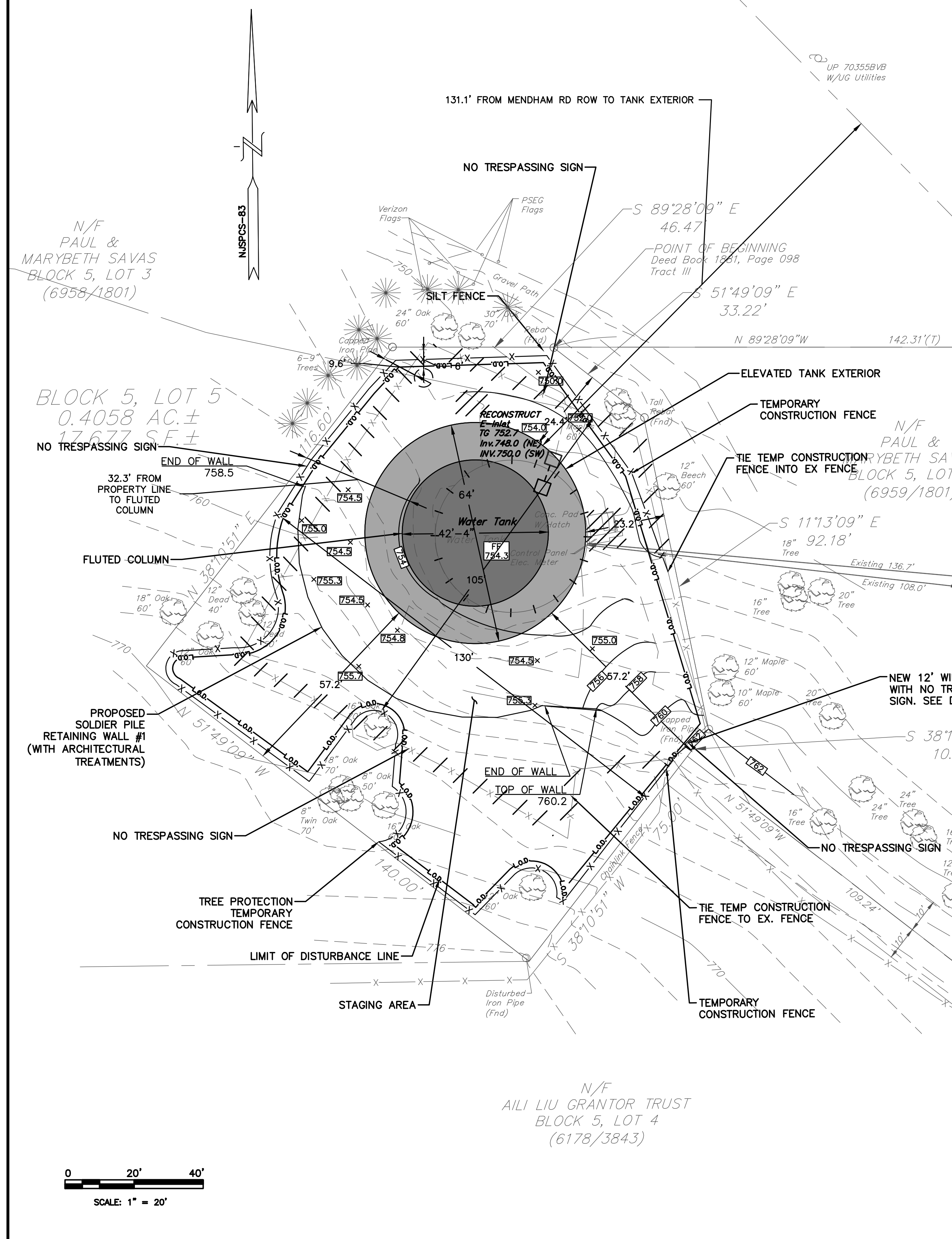
N/F PAUL & MARYBETH SAVAS BLOCK 5, LOT 3 (6958/1801)

BLOCK 5, LOT 5 0.4058 AC. ± 17677 S.F. 20.6' FROM PROPERTY LINE TO TANK EXTERIOR

N/F AILI LIU GRANTOR TRUST BLOCK 5, LOT 4 (6178/3843)

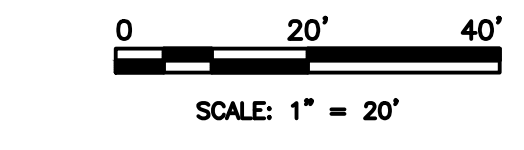
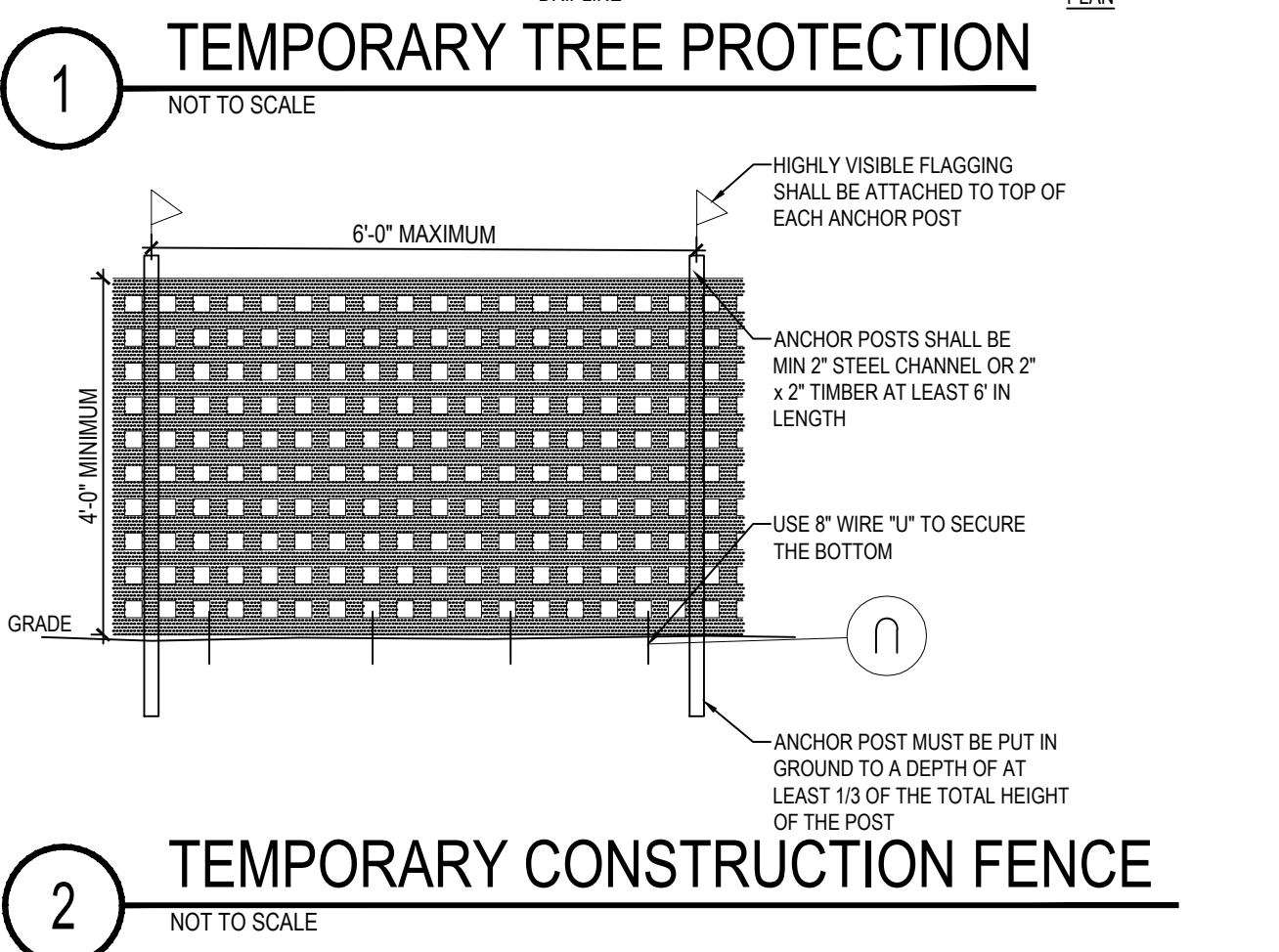
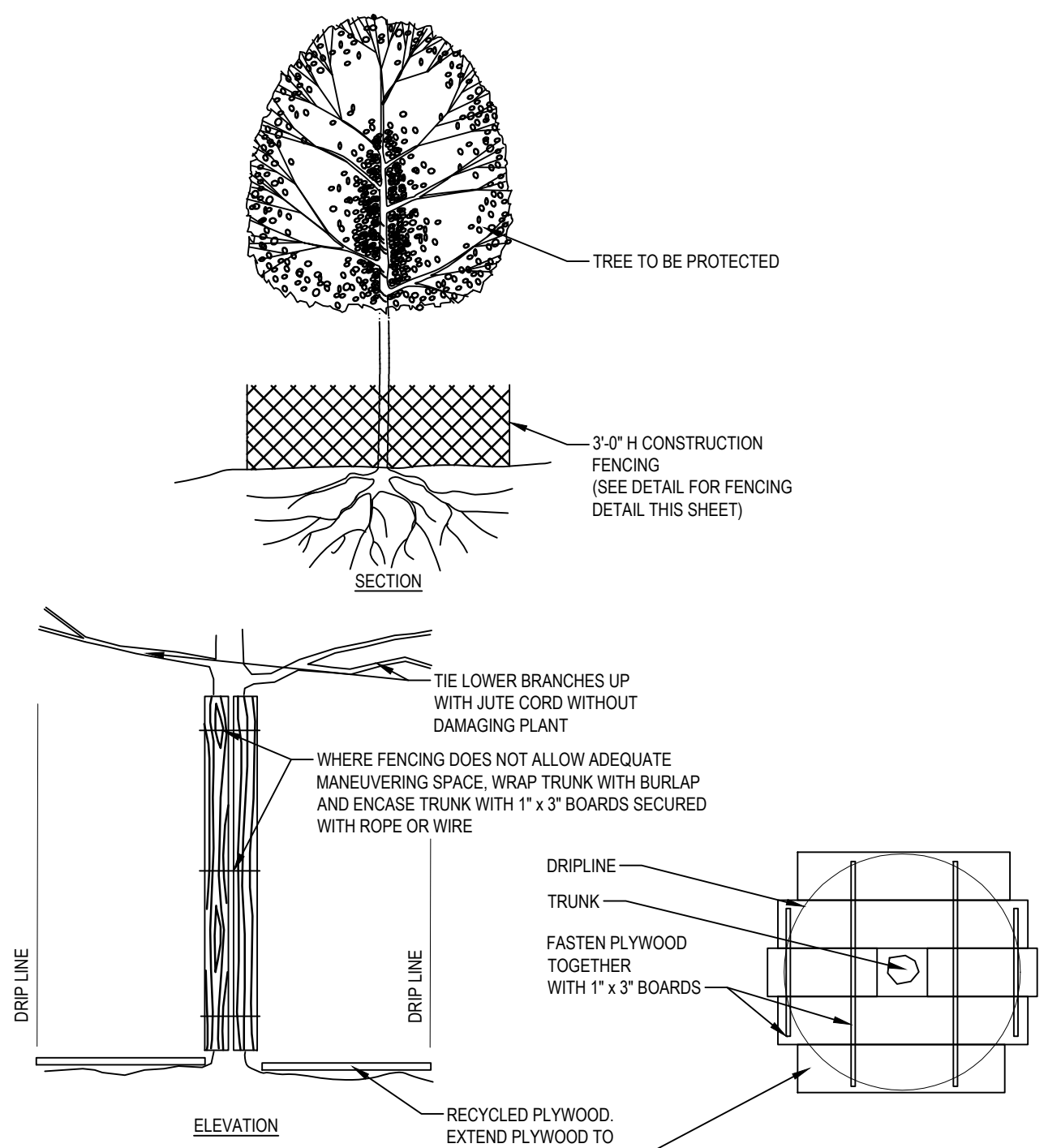


<p><b>NEW JERSEY AMERICAN WATER</b></p>	<p>REVISIONS</p> <table border="1"> <tr><td>1</td><td>REVISIONS PER FERRERO ENGINEERING COMMENTS DK DATED 3/25/21</td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </table>	1	REVISIONS PER FERRERO ENGINEERING COMMENTS DK DATED 3/25/21									<p>REVISIONS</p> <table border="1"> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </table>											<p><b>BUCHART HORN</b> ENGINEERS • ARCHITECTS • PLANNERS</p>	<p>EDWARD J. DIMOND</p> <p>BUCHART HORN, INC. 2 EVES DRIVE, SUITE 110 MARLTON, NEW JERSEY 08053</p>	<p><b>NEW JERSEY AMERICAN WATER</b> FENWICK TANK PROJECT BOROUGH OF BERNARDSVILLE, SOMERSET COUNTY, NJ BLOCK 5, LOT 5 LANDSCAPING PLAN</p>		
	1	REVISIONS PER FERRERO ENGINEERING COMMENTS DK DATED 3/25/21																									
<p>DATE 11/16/2020</p>	<p>NEW JERSEY AMERICAN WATER</p>	<p>PASSAIC WATER SYSTEM</p>	<p>USE DIMENSIONS ONLY SCALE AS SHOWN</p>																								
<p>PROJECT 76255-1N</p>	<p>USE APPROVED DRAWINGS ONLY FOR CONSTRUCTION PURPOSES</p>	<p>PERMIT SET</p>	<p>C02</p>																								
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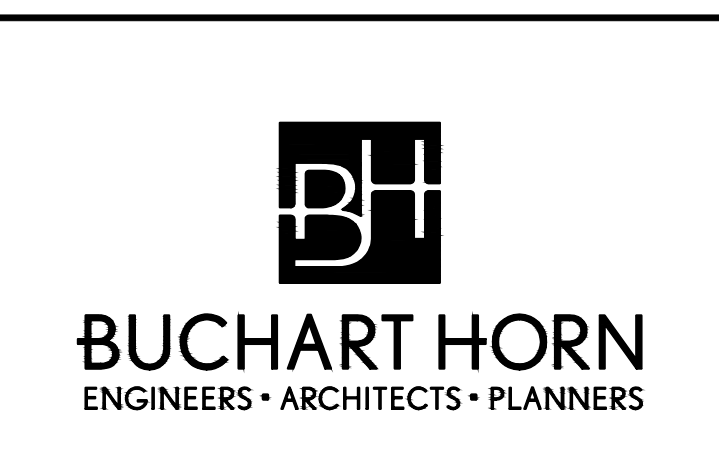


Major Construction Tasks	Expected Duration (days)	Anticipated No. Daily Deliveries	Type of Trips	Location where Trucks will park	Anticipated Traffic Impact during Deliveries
Tank Demolition	10	1 to 2 2 to 3	dump trucks per day Daily workers trucks	Onsite	None None
Site Clearing & Temporary Fence	15	2 2 to 3	dump trucks per week Daily workers trucks	Onsite	None None
Retaining Wall	20	2 to 3 2 to 3	Material delivered-1st week Daily workers trucks	Onsite	Temporary Lane Closure while Truck backs onsite (10 minutes per) None
Tank Foundation	60	1 1 2 to 3 2 to 3 2 to 3 1	Excavator Delivery Rebar delivery Dump trucks, remove excess and deliver stone per day, 3 pours, concrete trucks Daily workers pickup trucks Excavator Removal	Onsite	Temporary Lane Closure while Truck backs onsite (10 minutes per) Temporary Lane Closure while Truck backs onsite (10 minutes per) None None None Temporary Lane Closure while Truck backs onsite (10 minutes)

Tank Work	Expected Duration (days)	No. Daily Deliveries	Type of Trips	Location where Trucks will park	Anticipated Traffic Impact during Deliveries
- Placement of Derick	5	1	crane to set Derick	Onsite	Temporary Lane Closure while Truck backs onsite (10 to 15 minutes)
- Construction of tank pedestal	15	2 to 3	Materials deliveries per day over 10 day period	Onsite	Temporary Lane Closure while Truck backs onsite (10 to 15 minutes)
- Placement/Welding Tank Bowl Panels	120	2 to 3 3 to 4 3 to 4	Materials deliveries per day over 60 days Daily workers trucks Daily workers Truck	Onsite Onsite Offsite	Temporary Lane Closure while Truck backs onsite (10 to 15 minutes) none none
- Testing of Welds	concurrent with welding	1	Inspectors truck	onsite	none
- Removal of Derick	5	1	Crane to remove Derick	Onsite	Temporary Lane Closure while Truck backs onsite (10 to 15 minutes)
- Tank Painting	60	4	Daily workers trucks	Onsite	none
- Paint Curing	30	0			
- Tank Disinfection & Water Quality Test	10	2 to 4	Daily workers trucks	Onsite	none
Site Piping	15	2 3 to 4	Pipe deliveries Daily workers trucks	Onsite Onsite	Temporary Lane Closure while Truck backs onsite (10 minutes) none
Site Work & Landscaping	30	2 to 3	Daily workers Trucks	Onsite	none
Tank Commissioning	5	3 to 4	Workers & NJAW Trucks	Onsite	none
<b>Total</b>	<b>400</b>				

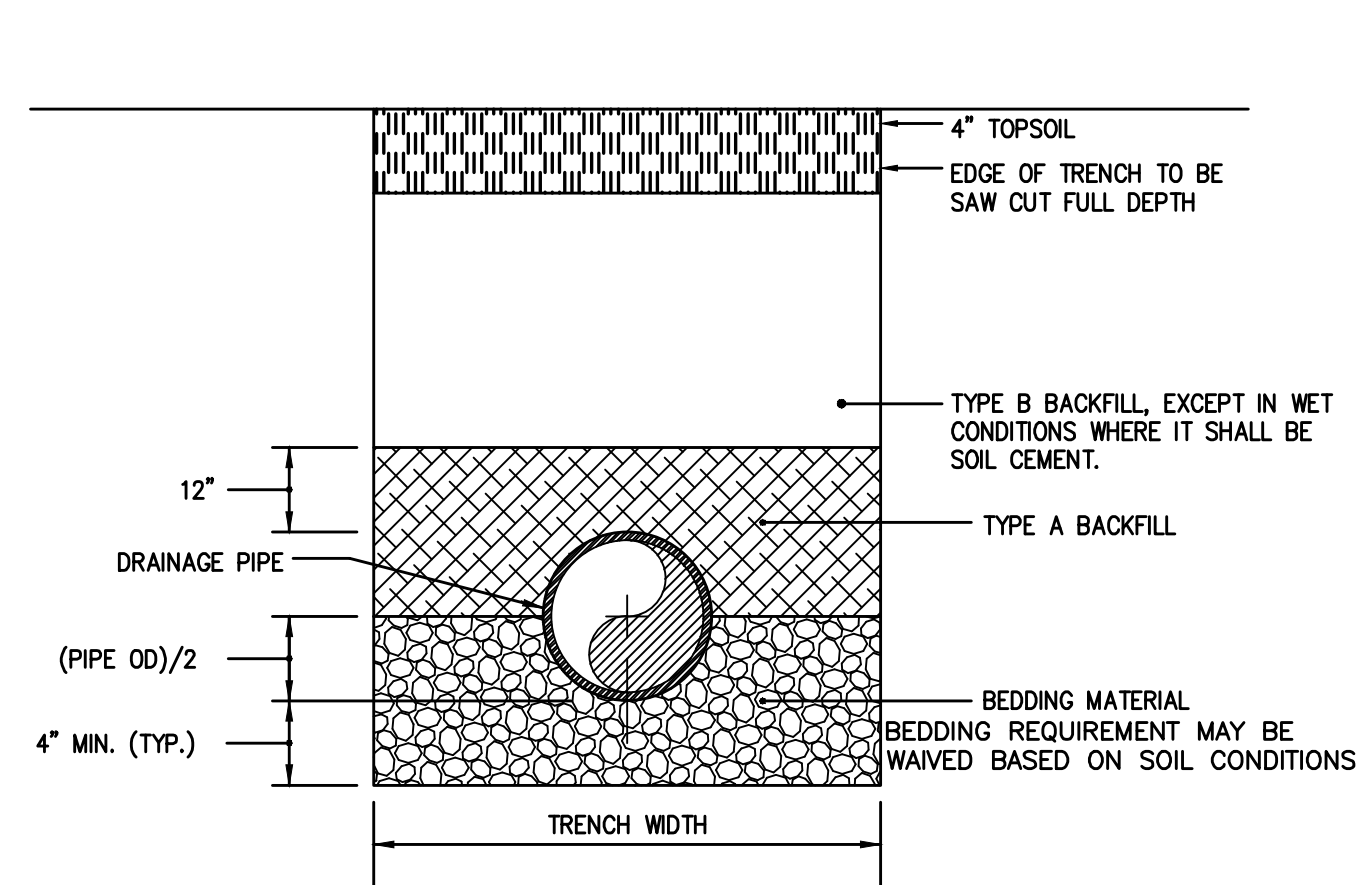


REVISIONS	REVISIONS
1 NEW SHEET 3/25/21	

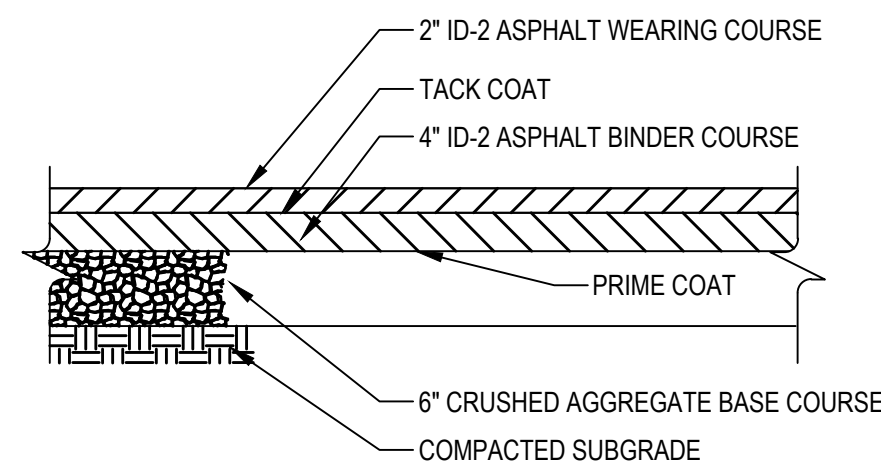


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 MARLTON, NEW JERSEY 08053  
 DRAWN BY DK PROJECT ENG'R EJD  
 DATE 3/25/2020  
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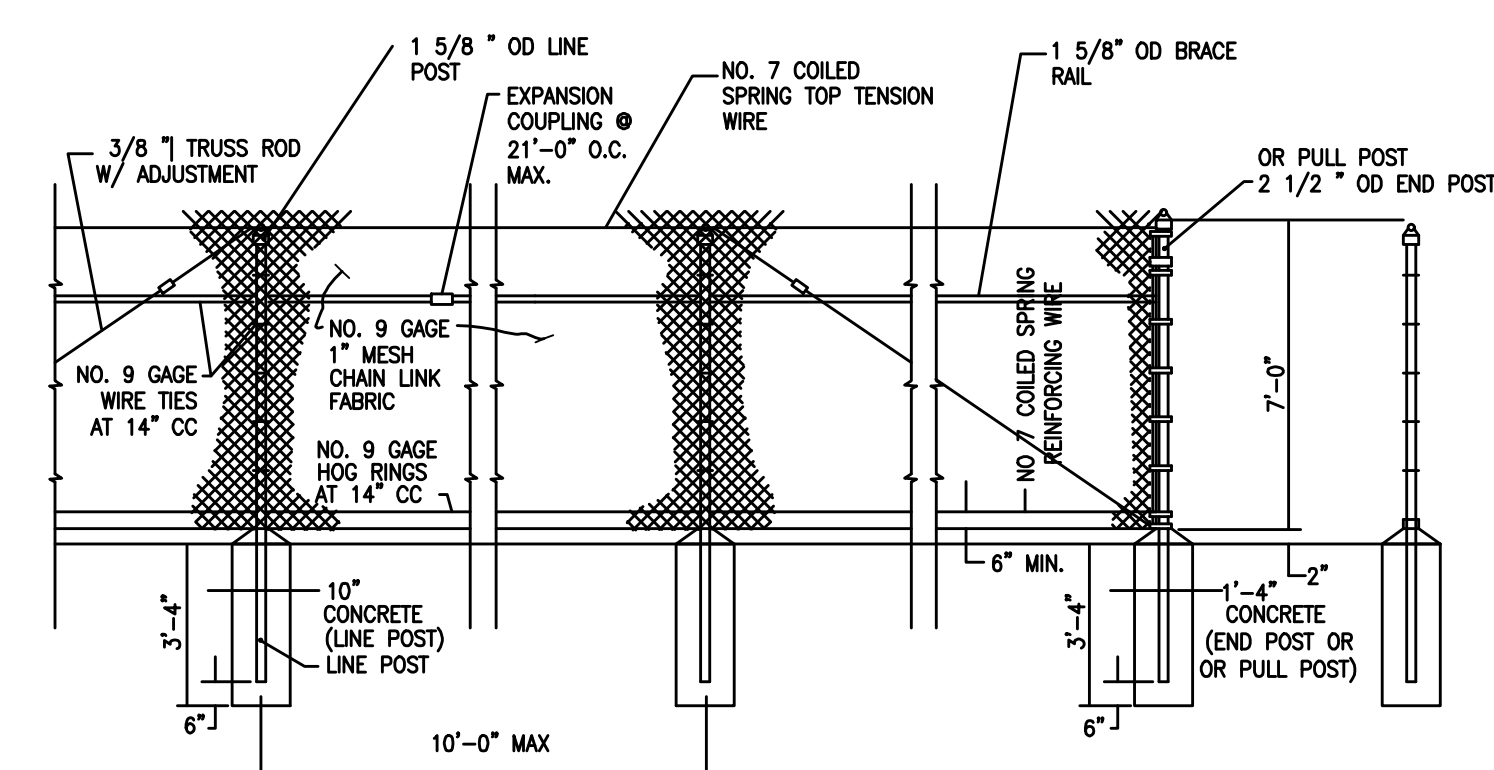
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 BOROUGH OF BERNARDSVILLE, SOMERSET COUNTY, NJ  
 BLOCK 5, LOT 5  
 CONSTRUCTION STAGING - 0.75M GAL FLUTED COLUMN  
 NEW JERSEY AMERICAN WATER  
 PASSAIC WATER SYSTEM  
 USE APPROVED DRAWINGS ONLY FOR CONSTRUCTION PURPOSES  
 PERMIT SET  
 USE DIMENSIONS ONLY SCALE AS SHOWN  
 C03



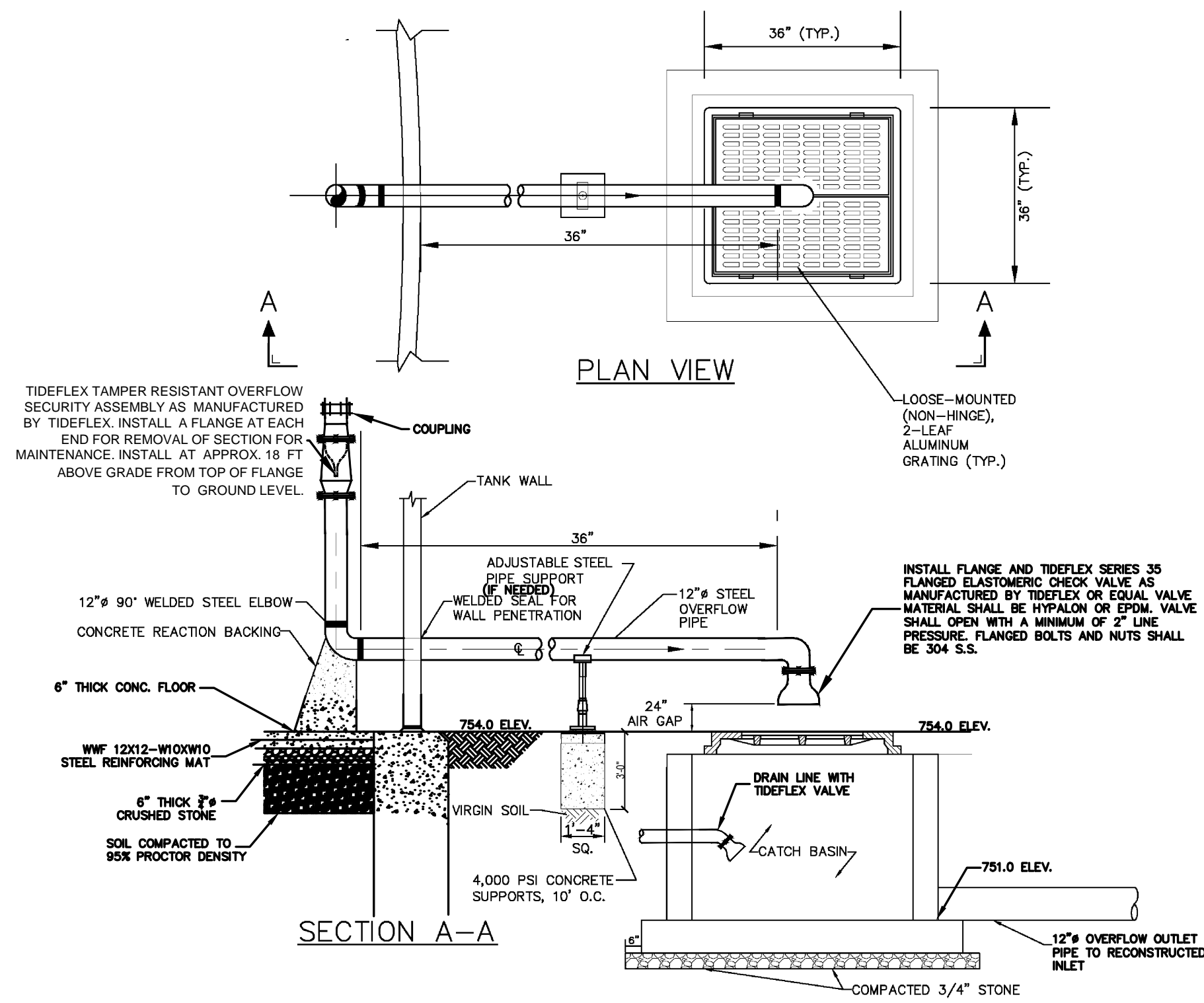
1 TRENCH RESTORATION & FINAL BACKFILL  
NOT TO SCALE



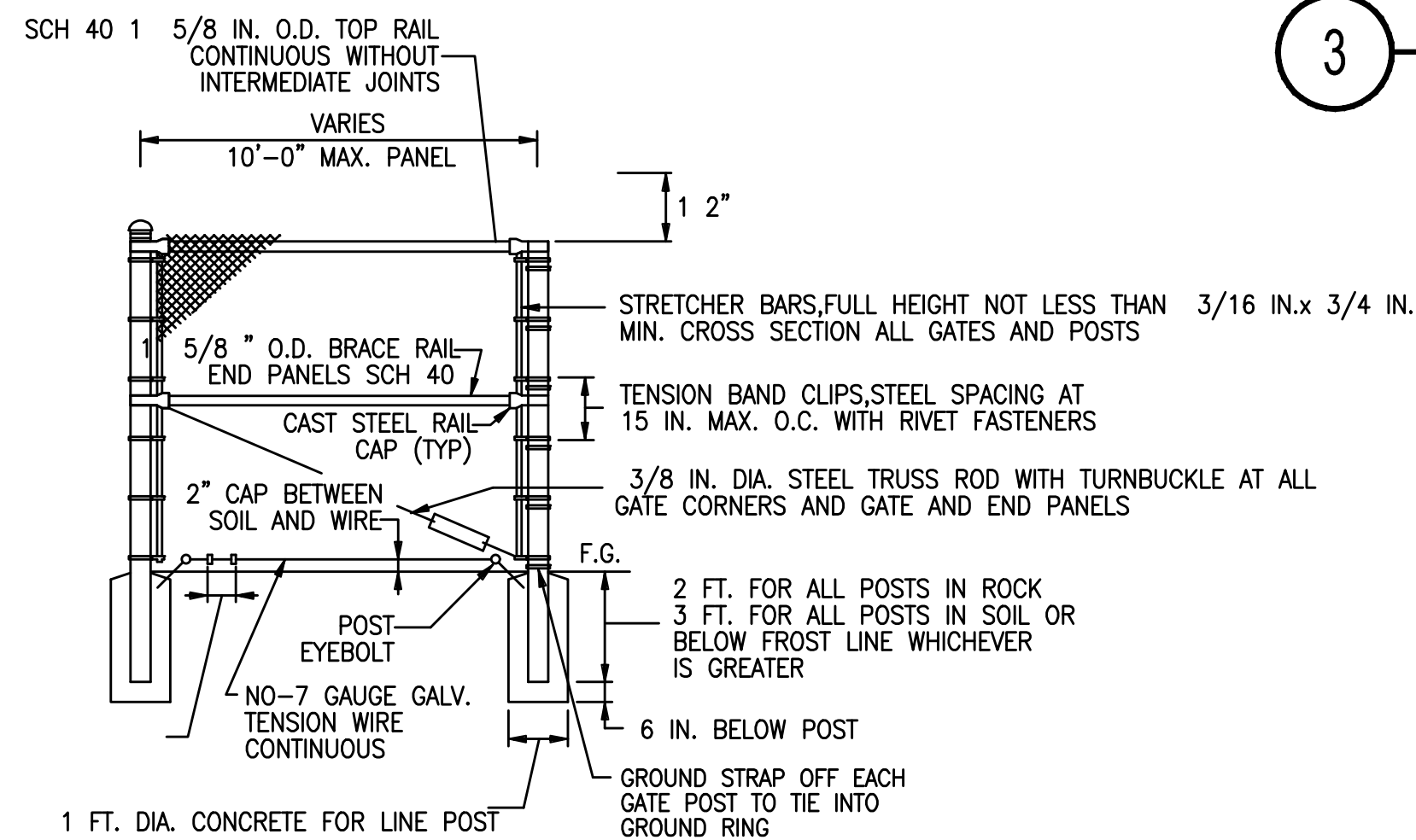
2 ASPHALT DRIVEWAY PAVING DETAIL  
NOT TO SCALE



3 CHAIN LINK VINYL COVERED FABRIC FENCE  
NOT TO SCALE



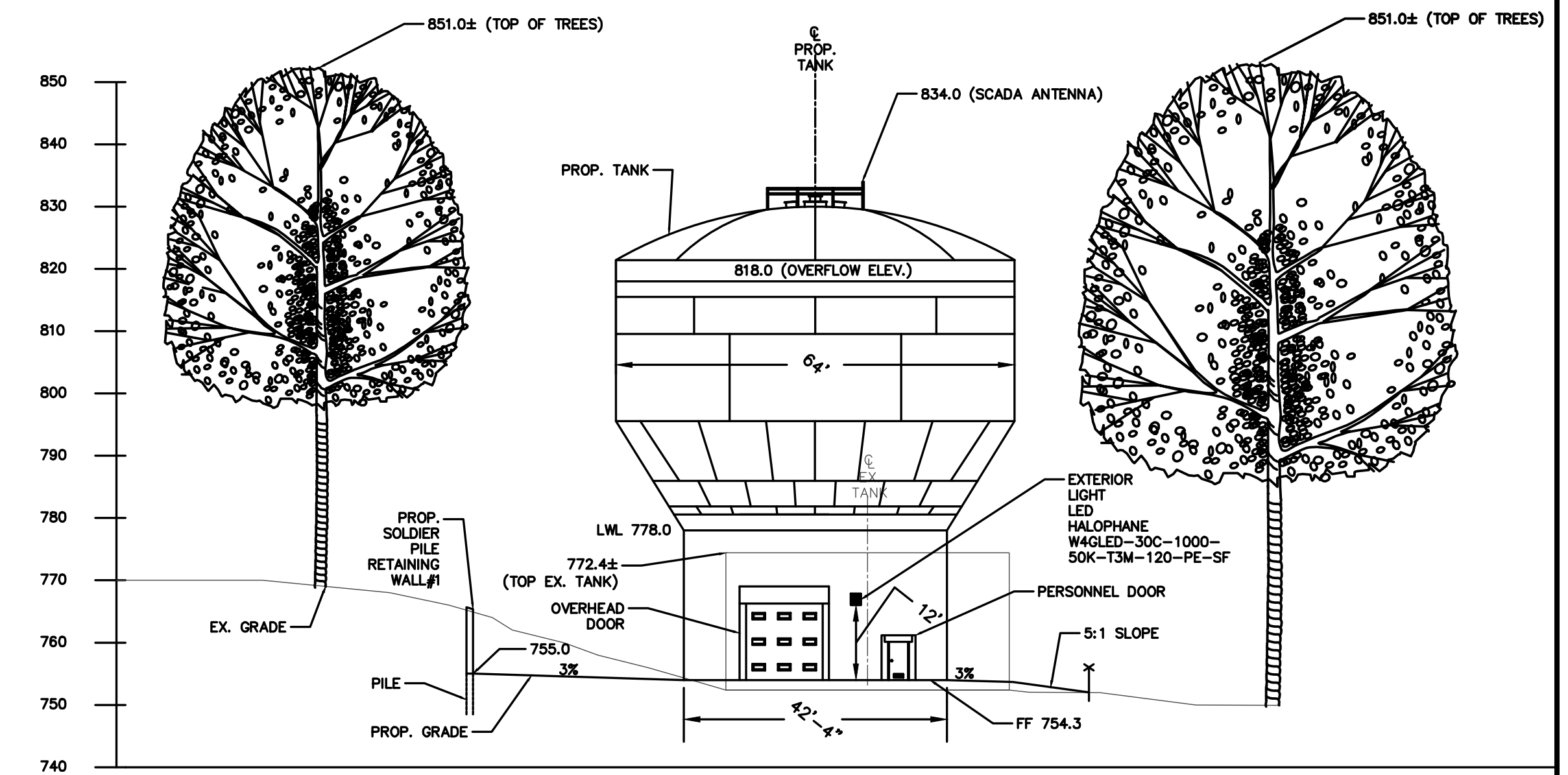
4 TANK OVERFLOW INLET  
NOT TO SCALE



5 SWING GATE  
NOT TO SCALE



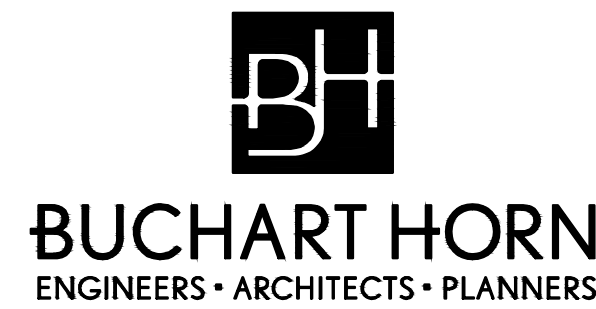
6 NO TRESPASSING SIGN DETAIL  
NOT TO SCALE



7 TANK EXTERIOR ELEVATION  
SCALE: 1" = 20'



REVISIONS	REVISIONS
1 REVISIONS BASED ON FERRIERO ENGINEERING COMMENTS D.K. 6/30/20	△
2 MOVED EXT ELEV DETAIL TO THIS SHEET D.K. 8/5/20	△
3 RE-ISSUE ZONING BOARD SET MVP 11/18/20	△
4 NO REVISIONS RE-ISSUED DK 3/25/21	△
△	△

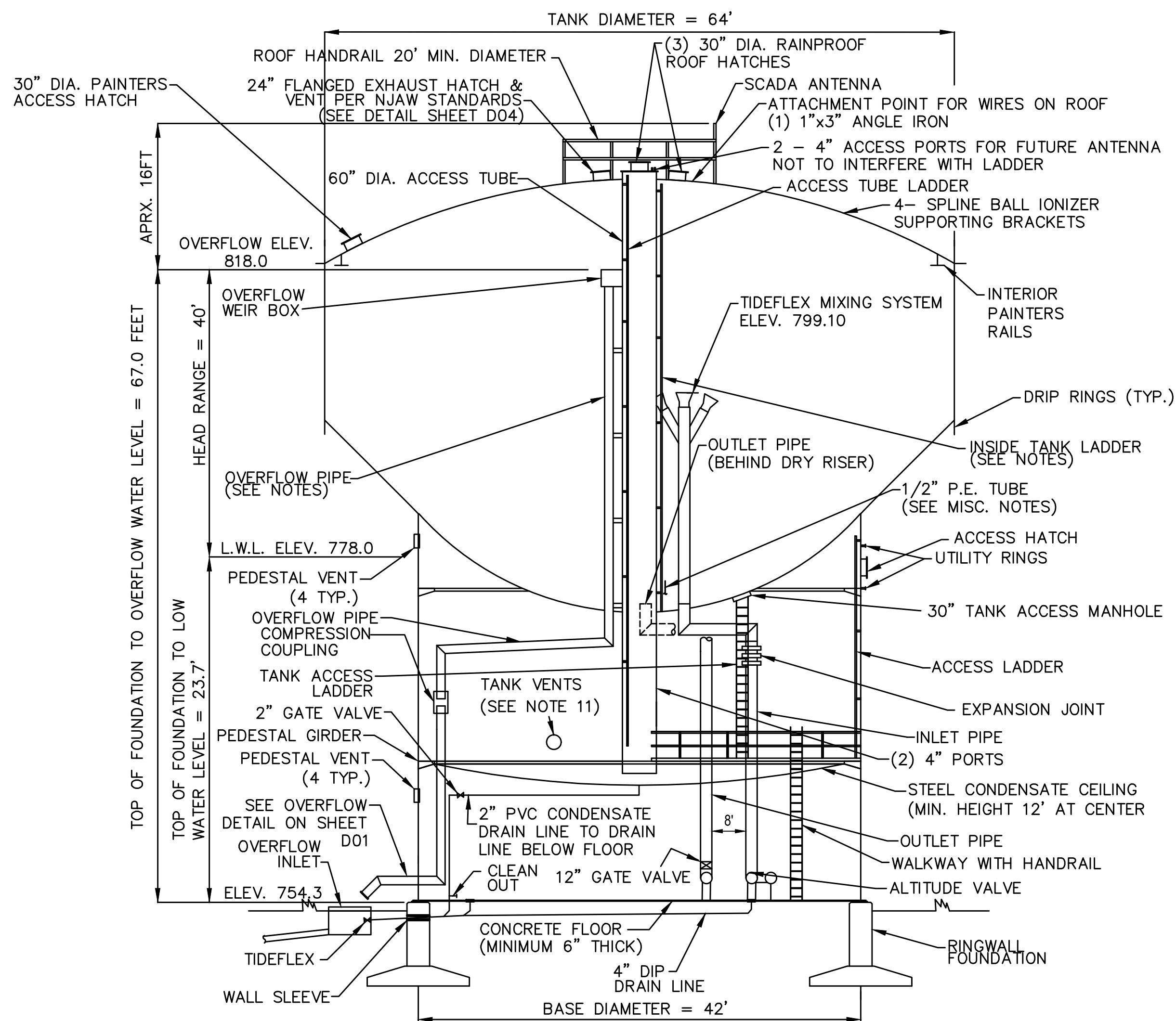


EDWARD J. DIMOND  
NJ LICENSED PROFESSIONAL ENGINEER  
NO. 26562

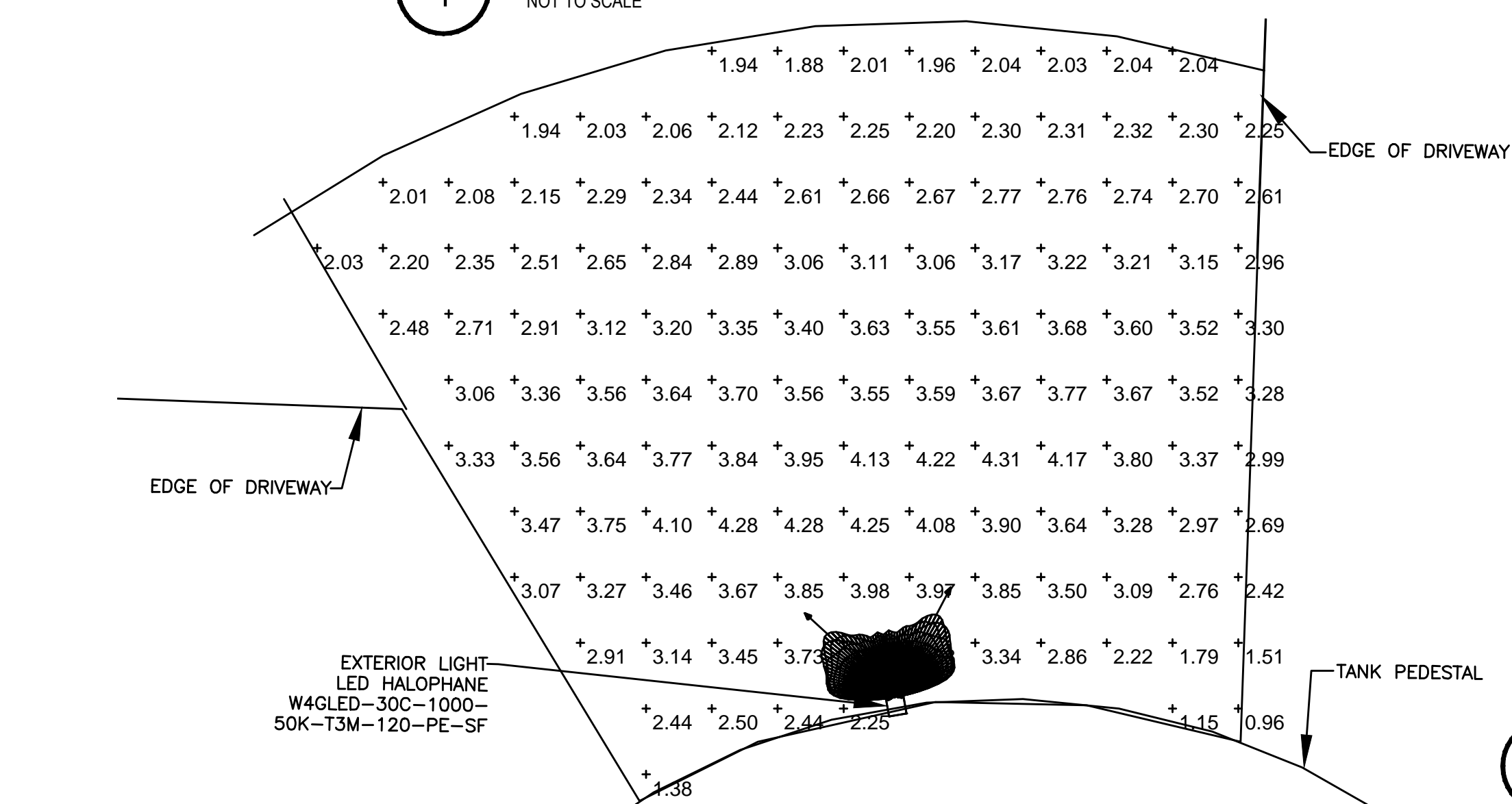
BUCHART HORN, INC.  
2 EVES DRIVE, SUITE 110  
MARLTON, NEW JERSEY 08053  
DRAWN BY DK  
PROJECT ENG'R EJD  
DATE 03/07/2019  
PROJECT 76255-1N

NEW JERSEY AMERICAN WATER  
FENWICK TANK PROJECT  
BOROUGH OF BERNARDSVILLE, SOMERSET COUNTY, NJ  
BLOCK 5, LOT 5  
DETAILS

NEW JERSEY AMERICAN WATER	PASSAIC WATER SYSTEM	USE APPROVED DRAWINGS ONLY FOR CONSTRUCTION PURPOSES	PERMIT SET	USE DIMENSIONS ONLY SCALE AS SHOWN
				D01



**1 TANK INTERIOR ELEVATION DETAIL**  
NOT TO SCALE



**3 LIGHTING ILLUMINATION PATTERN**  
SCALE: 1"=4'

**GENERAL NOTES:**

**DESIGN:**

- TANK AND SUPPORT SHALL BE STRUCTURE DESIGNED, FABRICATED AND ERECTED IN ACCORDANCE WITH AWWA D100-96 AND NJAW STANDARDS.
- FLUTED COLUMN DIAMETER AND DIMENSIONS OF FOUNDATION SHALL BE DETERMINED BY THE TANK CONTRACTOR BASED UPON THE INFORMATION IN THE GEOTECHNICAL REPORT.
- TANK ERECTOR SHALL GROUT UNDER BASE PLATE RING.
- TWO (2) HARNESSES FOR THE LADDER SAFETY DEVICE MEETING OSHA STANDARDS SHALL BE PROVIDED.
- SEE SPECIFICATIONS FOR OPTIONAL ACCESSORIES AND ALTERNATE ITEMS.
- TANK RAILING MATERIALS, THICKNESS AND CONFIGURATION PER OSHA, WITH LAYOUT CONDUCTIVE TO SCADA ANTENNA MOUNTING.
- INTERIOR LIGHTING AND HEATING TO BE PROVIDED BY TANK CONTRACTOR.

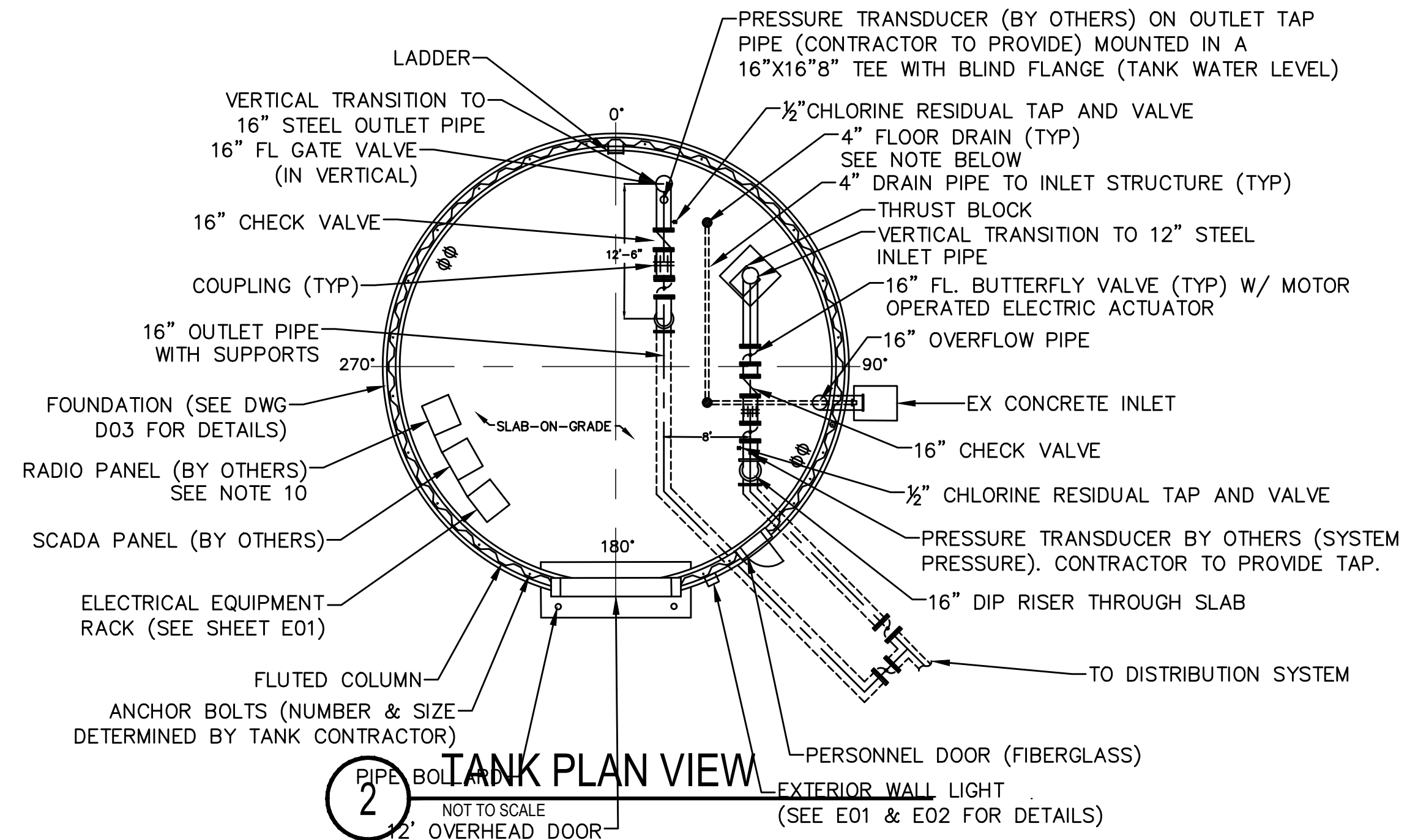
WIND LOAD: 90 MPH  
SNOW LOAD: 25 PSF  
SEISMIC ZONE: III, S<sub>s</sub>= 0.118 ; S<sub>1</sub>= 0.047 ; SITE CLASS C  
LAT. 40° 44' 60" LONG. 74° 35' 25"

**MATERIALS:**

STEEL PLATE: ASTM A283 GR.C / A36  
STRUCTURAL STEEL SHAPES: ASTM A36  
LADDER RUNGS: ASTM A706

**MISC. NOTES:**

- ACCESSORIES SHOWN ON ELEVATION DRAWING ARE ROTATED FOR CLARITY.
- ALL HANDRAILS, PLATFORM LANDINGS, WALKWAYS, LADDERS, AND SAFETY CLIMB DEVICES SHALL CONFORM WITH CURRENT OSHA STANDARDS.
- SEE PROJECT SPECIFICATIONS FOR SHOP AND FIELD PAINT REQUIREMENTS.
- STERILIZE TANK IN ACCORDANCE WITH AWWA C652-92 AND PROJECT SPECIFICATIONS.
- INSULATE INLET AND OUTLET PIPES IN ACCORDANCE WITH SPECIFICATION SECTION 13210.
- WELD FOUR (4) SPLINE BALL IONIZER SUPPORT BRACKETS WITH DAVITS AT LOCATIONS TO BE DETERMINED.
- PROVIDE A 1/2" DIAMETER POLYETHYLENE LINE FOR ADDITIONAL PRESSURE SENSING AND WATER SAMPLING FROM THE BOTTOM OF THE TANK AND EXTEND TO THE BASE ELBOW OF THE OUTLET PIPE. THE POLYETHYLENE PIPE SHALL BE INSTALLED INSIDE OF THE OUTLET PIPE.



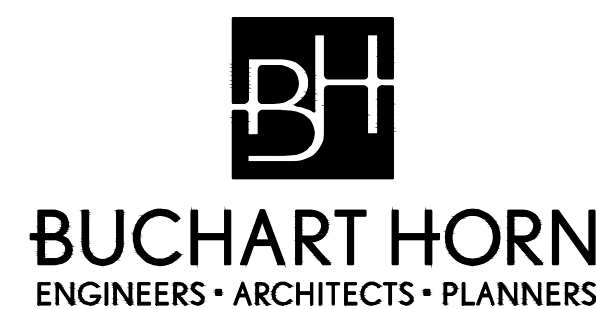
**2 TANK PLAN VIEW**  
NOT TO SCALE

**FOUNDATION & TANK NOTES:**

- FOUNDATION CONSTRUCTION SHALL COMPLY WITH A.C.I. 318-99, A.C.I. 301-96, AWWA D100-96, AND APPLICABLE SECTIONS OF THE PROJECT SPECIFICATIONS AND THE PROJECT SOILS REPORT.
- FINAL FOUNDATION DESIGN WILL BE THE RESPONSIBILITY OF THE TANK CONTRACTOR.
- FOUNDATION DIMENSIONS AND CONCRETE REINFORCEMENT SHALL BE DETERMINED BY THE TANK CONTRACTOR.
- MINIMUM CONCRETE COMPRESSIVE STRENGTH SHALL BE 4,000 P.S.I. AT 28 DAYS. REINFORCEMENT SHALL CONFORM TO ASTM A615 GR. 60.
- CONSTRUCTION JOINTS SHALL BE ROUGHENED ACROSS ENTIRE FACE WITH 1/4" MINIMUM DEPTH INDENTATIONS.
- THE TOP OF THE RINGWALL SHALL BE LEVEL WITHIN (±) 1/8" IN 30' WITH A MAXIMUM DIFFERENTIAL OF (±) 1/4" BETWEEN ANY TWO POINTS ON THE CIRCUMFERENCE.
- ANCHOR BOLTS SHALL BE PLACED WITHIN 1/8" OF THE PLAN DIMENSIONS, PLUMB WITHIN 1/4" IN 12" AND EXTEND ABOVE THE TOP OF FOUNDATION TO WITHIN 1/2" OF THE SPECIFIED PROJECTION.
- PROVIDE 1/2" THICK EXPANSION JOINT MATERIAL BETWEEN FLOOR AND WALL AND AT ALL PIPING PENETRATIONS.
- SLOPE CONCRETE FLOOR TOWARDS FLOOR DRAINS.
- TANK CONTRACTOR TO PROVIDE MOUNTING BOARD FOR THE RADIO AND SCADA EQUIPMENT BY OTHERS (8'X4').
- CONTRACTOR TO PROVIDE TANK VENTS TOP AND BOTTOM AS REQUIRED. BOTTOM VENTS TO BE LOCATED ABOVE CONDENSATE CEILING.



REVISIONS	REVISIONS
1 NEW SHEET D.K. 8/5/20	△
2 RE-ISSUE ZONING BOARD SET MVP 11/16/20	△
3 NO REVISIONS RE-ISSUED DK 3/21/21	△
△	△
△	△



EDWARD J. DIMOND  
NJ LICENSED PROFESSIONAL ENGINEER  
NO. 26662

BUCHART HORN, INC.  
2 EVES DRIVE, SUITE 110  
MARLTON, NEW JERSEY 08053  
DRAWN BY DK  
PROJECT ENGR EJD  
DATE 8/5/20  
PROJECT 76255-1N

NEW JERSEY AMERICAN WATER  
FENWICK TANK PROJECT  
BOROUGH OF BERNARDSVILLE, SOMERSET COUNTY, NJ  
BLOCK 5, LOT 5  
DETAILS

NEW JERSEY AMERICAN WATER	PASSAIC WATER SYSTEM	USE DIMENSIONS ONLY SCALE AS SHOWN
USE APPROVED DRAWINGS ONLY FOR CONSTRUCTION PURPOSES	PERMIT SET	D02



**STANDARDS FOR DUST CONTROL**

DEFINITION - THE CONTROL OF DUST ON CONSTRUCTION SITES AND ROADS.

PURPOSE - TO PREVENT BLOWING AND MOVEMENT OF DUST FROM EXPOSED SOIL SURFACES, REDUCE ON- AND OFF-SITE DAMAGE AND HEALTH HAZARDS, AND IMPROVE TRAFFIC SAFETY.

WHERE APPLICABLE - THIS PRACTICE IS APPLICABLE TO AREAS SUBJECT TO DUST BLOWING AND MOVEMENT WHERE ON- AND OFF-SITE DAMAGE IS LIKELY WITHOUT TREATMENT. CONSULT WITH LOCAL MUNICIPAL ORDINANCES ON ANY RESTRICTIONS.

PLANNING CRITERIA - THE FOLLOWING METHODS SHOULD BE CONSIDERED FOR CONTROLLING DUST:

MULCHES - SEE STANDARDS FOR STABILIZATION WITH MULCHES ONLY (P. 5-1)

VEGETATIVE COVER - SEE STANDARD FOR TEMPORARY VEGETATIVE COVER (P. 7-1) PERMANENT VEGETATIVE COVER (P. 4-1), AND PERMANENT STABILIZATION WITH SOD (P. 6-1)

SPRAY-ON ADHESIVES - ON MINERAL SOILS (NOT EFFECTIVE ON MUCK SOILS). KEEP TRAFFIC OFF THESE AREAS.

	WATER DILUTION	TYPE OF NOZZLE	APPLY GALLONS/ACRE
ANIONIC ASPHALT EMULSION	7:1	COARSE SPRAY	1,200
LATEX EMULSION	12:5:1	FINE SPRAY	235
RESIN IN WATER	4:1	FINE SPRAY	300
POLYACRYLAMIDE (PAM)-SPRAY OR POLYACRYLAMIDE (PAM)-DRY SPREAD		APPLY ACCORDING TO MANUFACTURER'S INSTRUCTIONS. MAY ALSO BE USED AS AN ADDITIVE TO SEDIMENT BASINS TO FLOCCULATE AND PRECIPITATE SUSPENDED SOLIDS. SEE SEDIMENT BASIN STANDARD, P.26-1.	
ACIDULATED SOD BEAN SOAP STICK	NONE	COARSE SPRAY	1,200

TILLAGE - TO ROUGHEN SURFACE AND BRING CLODS TO THE SURFACE. THIS IS A TEMPORARY EMERGENCY MEASURE WHICH SHOULD BE USED BEFORE SOIL BLOWING STARTS. BEGIN PLDING ON WINDWARD SIDE OF SITE. CHISEL-TYPE PLOWS SPACED ABOUT 12 INCHES APART, AND SPRING TOOTHED HARROWS ARE EXAMPLES OF EQUIPMENT WHICH MAY PRODUCE THE DESIRED EFFECT.

SPRINKLING - SITE IS SPRINKLED UNTIL THE SURFACE IS WET.

BARRIERS - SOLID BOARDS FENCES, SNOW FENCES, BURLAP FENCES, CRATE WALLS, BALES OF HAY, AND SIMILAR MATERIAL CAN BE USED TO CONTROL AIR CURRENTS AND SOIL BLOWING.

CALCIUM CHLORIDE - SHALL BE IN THE FORM OF LOOSE, DRY GRANULES OR FLAKES FINE ENOUGH TO FEED THROUGH COMMONLY USED SPREADERS AT A RATE THAT WILL KEEP SURFACE MOIST BUT NOT CAUSE POLLUTION OR PLANT DAMAGE. IF USED ON STEEPER SLOPES, THEN USE OTHER PRACTICES TO PREVENT WASHING INTO STREAMS OR ACCUMULATION AROUND PLANTS.

STONE - COVER SURFACE WITH CRUSHED STONE OR COARSE GRAVEL.

**GENERAL NOTES:**  
 IN ALL AREAS WHERE THE WORK IS OUTSIDE OF PAVED ROADS, THE CONTRACTOR SHALL INSTALL AND MAINTAIN APPROPRIATE SOIL EROSION CONTROL MEASURES IN ACCORDANCE WITH THE DETAILS ON THE DRAWINGS, REGARDLESS OF WHETHER OR NOT THE LOCATION OF SUCH MEASURES ARE SPECIFICALLY SHOWN ON THE PLANS. SUCH MEASURES SHALL INCLUDE, BUT ARE NOT LIMITED TO, SILT FENCES ALONG THE PERIMETER OF DISTURBED AREAS AND AROUND MATERIAL STOCKPILES, AND STONE CONSTRUCTION ENTRANCE PADS AT POINTS OF MAJOR INGRESS AND EGRESS FROM PAVED ROADS TO UNPAVED AREAS.  
 WHERE WORK IS IN PAVED ROADS, EROSION CONTROL MEASURES SHALL INCLUDE, BUT ARE NOT LIMITED TO, STORM DRAIN INLET PROTECTION, KEEPING ROADS CLEAN, AND CONTROLLING DUST.

LIMITS OF DISTURBANCE WITHIN PAVED AREAS SHALL BE THE TRENCH WIDTH (40' MAX) IN ACCORDANCE WITH SPECIFICATIONS AND PIPE INSTALLATION DETAILS.

**NOTE:**

FILTER BAGS WILL BE USED AS AN EFFECTIVE FILTER MEDIUM TO CONTAIN SAND, SILT AND FINES WHEN TRENCH DEWATERING. THE WETLAND FILTER BAG CONTAINS THESE MATERIALS WHILE ALLOWING THE WATER TO FLOW THROUGH THE FABRIC.

WETLAND FILTER BAGS MAY REPLACE HAY BALE CORRALS DURING TRENCH DEWATERING, AT THE DISCRETION OF THE ENVIRONMENTAL INSPECTOR. TO INSURE, PROPER INSTALLATION, FILTER BAGS WILL BE PLACED ON RELATIVELY FLAT TERRAIN FREE OF BRUSH AND STUMPS TO AVOID RUPTURES AND PUNCTURES. PROPER INSTALLATION REQUIRES CUTTING A SMALL HOLE IN THE CORNER OF THE BAG, INSERTING THE PUMP DISCHARGE HOSE, AND THEN SECURING THE DISCHARGE HOSE TO THE BAG WITH A HOSE CLAMP. FILTER BAGS WILL BE PLACED AS FAR AWAY FROM FLOWING STREAMS AND WETLANDS AS POSSIBLE.

PRIOR TO REMOVING A BAG FROM THE HOSE, THE BAG WILL BE TIED OFF BELOW THE END OF THE HOSE ALLOWING THE BAG TO DRAIN. DRAINAGE WILL NOT BE ALLOWED THROUGH THE INLET HOLE. TO AVOID RUPTURE, THE BAGS WILL BE ATTENDED AND PUMPING RATES MONITORED. ONCE THE BAG IS INFLATED TO A HEIGHT OF 4 FEET, PUMPING WILL STOP TO AVOID RUPTURE. FILTER BAGS USED DURING CONSTRUCTION WILL BE BUNDLED AND REMOVED FOR PROPER DISPOSAL.

FILTER BAGS ARE CONSTRUCTED OF NON-WOVEN GEOTEXTILE FABRIC. A MAXIMUM OF ONE SIX INCH DISCHARGE HOSE WILL BE ALLOWED PER FILTER BAG. BAG CAPACITY WILL BE EXCEEDED BEYOND 2,000 GALLONS PER MINUTE. TYPICAL BAG DIMENSIONS ARE 15 FEET BY 13.25 FEET. TO HELP PREVENT PUNCTURES, GEOTEXTILE FABRIC WILL BE PLACED BENEATH THE FILTER BAG WHEN USED IN WOODED LOCATIONS. UNATTENDED FILTER BAGS WILL BE ENCIRCLED WITH A HAYBALE OR SILT FENCE CORRAL. HOSE CLAMPS WILL BE USED TO SECURE THE DISCHARGE HOSE, WIRE OR STRING WILL NOT BE USED.

**NOTES FOR SOIL EROSION AND SEDIMENT CONTROL**

- ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES ARE TO BE INSTALLED PRIOR TO ANY MAJOR SOIL DISTURBANCE, OR IN THEIR PROPER SEQUENCE, AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
- ANY DISTURBED AREAS THAT WILL BE LEFT EXPOSED MORE THAN THIRTY (30) DAYS, AND NOT SUBJECT TO CONSTRUCTION TRAFFIC, WILL IMMEDIATELY RECEIVE A TEMPORARY SEEDING. IF THE SEASON PREVENTS THE ESTABLISHMENT OF A TEMPORARY COVER, THE DISTURBED AREAS WILL BE MULCHED WITH STRAW, OR EQUIVALENT MATERIAL, AT A RATE OF 2 TO 2 1/2 TONS PER ACRE, ACCORDING TO STATE STANDARD FOR STABILIZATION WITH MULCH ONLY.
- PERMANENT VEGETATION TO BE SEEDED OR SODDED ON ALL EXPOSED AREAS WITHIN TEN (10) DAYS AFTER FINAL GRADING.
- ALL WORK IS TO BE DONE IN ACCORDANCE WITH THE STATE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL OF NEW JERSEY.
- A SUBBASE COURSE WILL BE APPLIED IMMEDIATELY FOLLOWING ROUGH GRADING AND INSTALLATION OF IMPROVEMENTS TO STABILIZE STREETS, ROADS, DRIVEWAYS AND PARKING AREAS. IN AREAS WHERE NO UTILITIES ARE PRESENT, THE SUBBASE SHALL BE INSTALLED WITHIN FIFTEEN (15) DAYS OF THE PRELIMINARY GRADING.
- IMMEDIATELY FOLLOWING INITIAL DISTURBANCE OR ROUGH GRADING, ALL CRITICAL AREAS SUBJECT TO EROSION (I.E. STEEP SLOPES AND ROADWAY EMBANKMENTS) WILL RECEIVE TEMPORARY SEEDING IN COMBINATION WITH STRAW MULCH OR A SUITABLE EQUIVALENT, AT A RATE OF 1 1/2 TO 2 TONS PER ACRE, ACCORDING TO STATE STANDARD.
- ANY STEEP SLOPES RECEIVING PIPELINE INSTALLATION WILL BE BACKFILLED AND STABILIZED DAILY, AS THE INSTALLATION CONTINUES (I.E., SLOPES GREATER THAN 3:1).
- THE STANDARD FOR STABILIZED CONSTRUCTION ACCESS REQUIRES THE INSTALLATION OF A PAD OF CLEANED CRUSHED STONE AT POINTS WHERE TRAFFIC WILL BE ACCESSING THE CONSTRUCTION SITE. AFTER INTERIOR ROADWAYS ARE PAVED, INDIVIDUAL LOTS REQUIRE A STABILIZED CONSTRUCTION ENTRANCE CONSISTING OF ONE INCH TO TWO INCH (1"-2") STONE FOR A MINIMUM LENGTH OF TEN FEET (10') EQUAL TO THE LOT ENTRANCE WIDTH. ALL OTHER ACCESS POINTS SHALL BE BLOCKED OFF.
- IN ACCORDANCE WITH THE STANDARD FOR MANAGEMENT OF HIGH ACID PRODUCING SOILS, ANY SOIL HAVING A PH OF 4 OR LESS OR CONTAINING IRON SULFIDES SHALL BE COVERED WITH A MINIMUM OF TWELVE (12) INCHES OF SOIL HAVING A PH OF 5 OR MORE PRIOR TO SEEDBED PREPARATION. AREAS WHERE TREES OR SHRUBS ARE TO BE PLANTED SHALL BE COVERED WITH A MINIMUM OF TWENTY-FOUR (24) INCHES OF SOIL HAVING A PH OF 5 OR MORE.
- THE SOMERSET-UNION COUNTY SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED SEVENTY-TWO (72) HOURS IN ADVANCE OF ANY LAND DISTURBING ACTIVITY.
- AT THE TIME THE SITE PREPARATION FOR PERMANENT VEGETATIVE STABILIZATION IS GOING TO BE ACCOMPLISHED, ANY SOIL THAT WILL NOT PROVIDE A SUITABLE ENVIRONMENT TO SUPPORT ADEQUATE VEGETATIVE GROUND COVER SHALL BE REMOVED OR TREATED IN SUCH A WAY THAT IT WILL PERMANENTLY ADJUST THE SOIL CONDITIONS AND RENDER IT SUITABLE FOR VEGETATIVE GROUND COVER. IF THE REMOVAL OR TREATMENT OF THE SOIL WILL NOT PROVIDE SUITABLE CONDITIONS, NON-VEGETATIVE MEANS OF PERMANENT GROUND STABILIZATION WILL HAVE TO BE EMPLOYED.
- IN THAT N.J.S.A. 4:24-39 ET. SEQ. REQUIRES THAT NO CERTIFICATES OF OCCUPANCY BE ISSUED BEFORE THE PROVISIONS OF THE CERTIFIED PLAN FOR EROSION CONTROL HAVE BEEN COMPLIED WITH FOR PERMANENT MEASURES. ALL SITE WORK FOR SITE PLANS AND ALL WORK AROUND INDIVIDUAL LOTS IN SUBDIVISIONS, WILL HAVE TO BE COMPLETED PRIOR TO THE DISTRICT ISSUING A REPORT OF COMPLIANCE FOR THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY BY THE MUNICIPALITY.
- CONDUIT OUTLET PROTECTION MUST BE INSTALLED AT ALL REQUIRED OUTFALLS PRIOR TO THE DRAINAGE SYSTEM BECOMING OPERATIONAL.
- ANY CHANGES TO THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLANS WILL REQUIRE THE SUBMISSION OF REVISED SOIL EROSION AND SEDIMENT CONTROL PLANS TO THE DISTRICT FOR RECERTIFICATION. THE REVISED PLANS MUST MEET ALL CURRENT STATE SOIL EROSION AND SEDIMENT CONTROL STANDARDS.
- UNFILTERED DEWATERING IS NOT PERMITTED. NECESSARY PRECAUTIONS MUST BE TAKEN DURING ALL DEWATERING OPERATIONS TO MINIMIZE SEDIMENT TRANSFER. ANY DEWATERING METHODS USED MUST BE IN ACCORDANCE WITH THE STANDARD FOR DEWATERING.
- SHOULD THE CONTROL OF DUST AT THE SITE BE NECESSARY, THE SITE WILL BE SPRINKLED UNTIL THE SURFACE IS WET, TEMPORARY VEGETATIVE COVER SHALL BE ESTABLISHED OR MULCH SHALL BE APPLIED AS REQUIRED BY THE STANDARD FOR DUST CONTROL.
- ALL SOIL WASHED, DROPPED, SPILLED, OR TRACKED OUTSIDE THE LIMIT OF DISTURBANCE OR ONTO PUBLIC RIGHTS-OF-WAY WILL BE REMOVED IMMEDIATELY.
- THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR ANY EROSION OR SEDIMENTATION THAT MAY OCCUR BELOW STORMWATER OUTFALLS OR OFFSITE AS A RESULT OF CONSTRUCTION OF THE PROJECT.
- STOCKPILE AND STAGING LOCATIONS DETERMINED IN THE FIELD SHALL BE PLACED WITHIN THE LIMIT OF DISTURBANCE ACCORDING TO THE CERTIFIED PLAN. STAGING AND STOCKPILES NOT LOCATED WITHIN THE LIMIT OF DISTURBANCE WILL REQUIRE CERTIFICATION OF A REVISED SOIL EROSION AND SEDIMENT CONTROL PLAN. CERTIFICATION OF A NEW SOIL EROSION AND SEDIMENT CONTROL PLAN MAY BE REQUIRED FOR THESE ACTIVITIES IF AN AREA GREATER THAN 5,000 SQUARE FEET IS DISTURBED.
- ALL SOIL STOCKPILES ARE TO BE TEMPORARILY STABILIZED IN ACCORDANCE WITH SOIL EROSION AND SEDIMENT CONTROL NOTE #2.
- ALL PAVED SURFACES SHALL BE SWEEP CLEAN AT THE END OF EACH WORK WEEK.

**SEQUENCE OF CONSTRUCTION:**

- INSTALL SOIL EROSION AND SEDIMENT CONTROL MEASURES.
- CLEAR AND ROUGH GRADE SITE
- PROCEED WITH EXCAVATION, TANK FOUNDATION, TANK ERECTION, PIPELINE INSTALLATION, & BACKFILL.
- CONSTRUCT RETAINING WALL
- BACKFILL AND FINAL GRADING
- INSTALL PERMANENT FENCE
- CONSTRUCT OR REPLACE DRIVEWAY AND PAVED AREAS.
- FINAL RESTORATION OF GRASS AREAS.
- REMOVE SOIL EROSION AND SEDIMENT CONTROL MEASURES.

**\*PERMANENT SEEDING NOTES:**

RESTORATION OF GRASSED AND CULTIVATED AREAS: BEFORE REPLACING TOPSOIL, THE SUBGRADE SHALL BE SCARIFIED TO A DEPTH OF THREE (3) INCHES, ALL LUMPS, STONES, AND FOREIGN MATERIALS REMOVED, AND THE SURFACE RAKED TO A UNIFORM GRADE. TOPSOIL SHALL THEN BE SPREAD, RAKED, AND ROLLED TO FORM AN EVEN SURFACE WITH EXISTING GRADE. IF SUFFICIENT TOPSOIL IS NOT OBTAINED FROM STRIPPING THE ORIGINAL AREAS DISTURBED, THE CONTRACTOR SHALL FURNISH ADDITIONAL MATERIAL AT NO ADDITIONAL COST.

THE GRASSED AREAS SHALL THEN BE LIMED, FERTILIZED AND SEEDED. LIME SHALL BE GROUND AGRICULTURAL LIMESTONE, 50% CALCIUM CARBONATE EQUIVALENT AND SHALL BE SPREAD AT THE RATE OF 90 LBS PER 1000 SQUARE FEET. FERTILIZER SHALL BE APPROVED 10-20-10 COMMERCIAL FERTILIZER, SPREAD AT THE RATE OF 11 LBS PER SQUARE FEET. TEMPORARY SEED SHALL BE OATS APPLIED AT THE RATE OF 2 LBS PER 1000 SQUARE FEET OR PEARL MILLET APPLIED AT THE RATE OF 0.5 LBS PER 1000 SQUARE FEET AND THE FINISHED SURFACE LIGHTLY RAKED AND ROLLED SMOOTH.

THE CONTRACTOR SHALL PROTECT ALL SEEDED SURFACES BY MULCHING WITH SMALL GRAIN STRAW, OR HAY WITH A LIQUID MULCH BINDER APPLIED AT A RATE OF 70-90 LBS PER 1000 SQUARE FEET AND SHALL TEND AND WATER ALL SEEDED AREAS UNTIL A SATISFACTORY GROWTH HAS BEEN ESTABLISHED. AREAS WHICH FAIL TO SHOW A SATISFACTORY GROWTH SHALL BE RESEDED, FERTILIZED AND MULCHED UNTIL FULLY SATISFACTORY GROWTH IS ACHIEVED.

\*SEE SPECIFICATIONS FOR PERMANENT SEEDING REQUIREMENTS

**STANDARD FOR MANAGEMENT OF ACID SOILS:**

- LIMIT THE EXCAVATION AREA AND EXPOSURE TIME IF HIGH ACID PRODUCING SOILS ARE ENCOUNTERED.
- SEE NOTE 9 OF NOTES FOR SOIL EROSION AND SEDIMENT CONTROL.
- EQUIPMENT USED FOR MOVEMENT OF HIGH ACID PRODUCING SOILS SHOULD BE CLEANED AT THE END OF EACH DAY TO PREVENT SPREADING OF HIGH ACID SOIL MATERIALS TO OTHER PARTS OF THE SITE, INTO STREAMS OR STORMWATER CONVEYANCES AND TO PROTECT MACHINERY FROM ACCELERATED RUSTING.
- NON VEGETATIVE EROSION CONTROL PRACTICES (STONE TRACKING PADS, STRATEGICALLY PLACED LIMESTONE CHECK DAM, SILT FENCE, WOOD CHIPS) SHOULD BE INSTALLED TO LIMIT THE MOVEMENT OF HIGH ACID PRODUCING SOILS FROM AROUND OR OFF THE SITE.

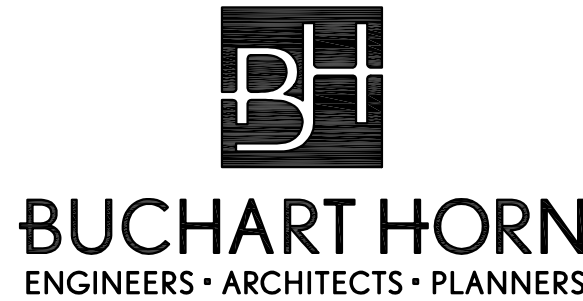
**PERMANENT SEEDING SPECIFICATIONS:**

SEEDING MIXTURE SHALL CONSIST OF THE FOLLOWING MIXTURE:

SEED TYPE	RATE IN LBS PER 1000 SF.
HARD FESCUE	2.7
PERENNIAL RYEGRASS	0.7
KENTUCKY BLUEGRASS (BLUE)	0.9



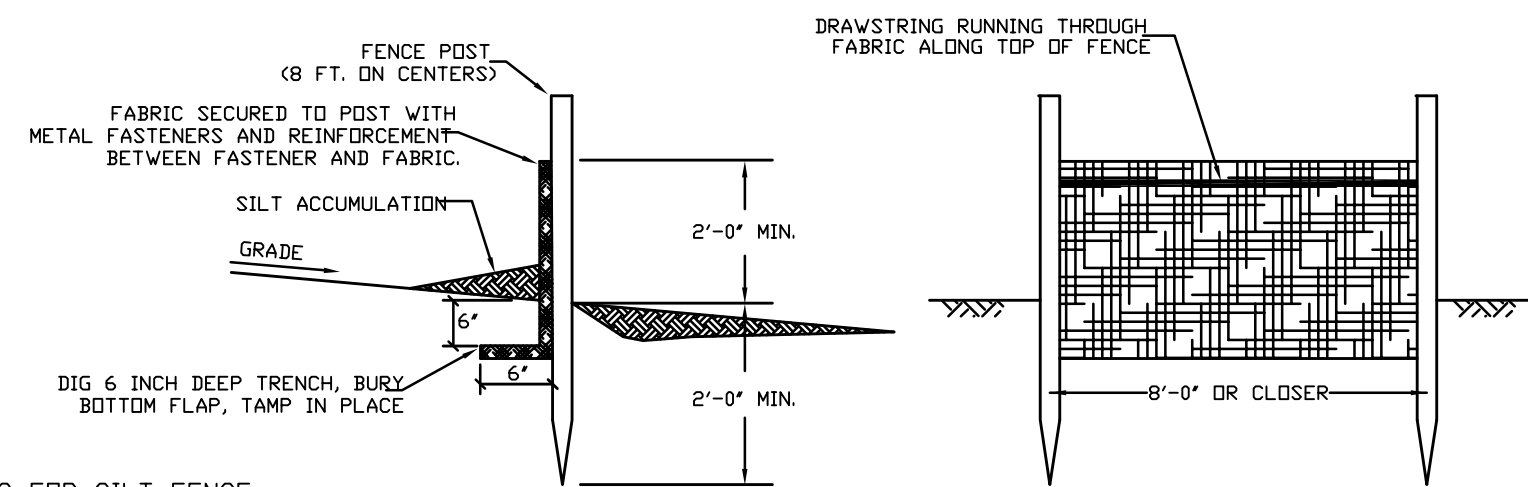
REVISIONS	REVISIONS
△ NEW SHEET DK 3/25/21	△
△	△
△	△
△	△
△	△



EDWARD J. DIMOND  
 NJ LICENSED PROFESSIONAL ENGINEER  
 NO. 26662

BUCHART HORN, INC.  
 2 EVES DRIVE, SUITE 110  
 MARLTON, NEW JERSEY 08053  
 DRAWN BY DK  
 PROJECT ENG'R EJD  
 DATE 03/25/2021  
 PROJECT 76255-1N

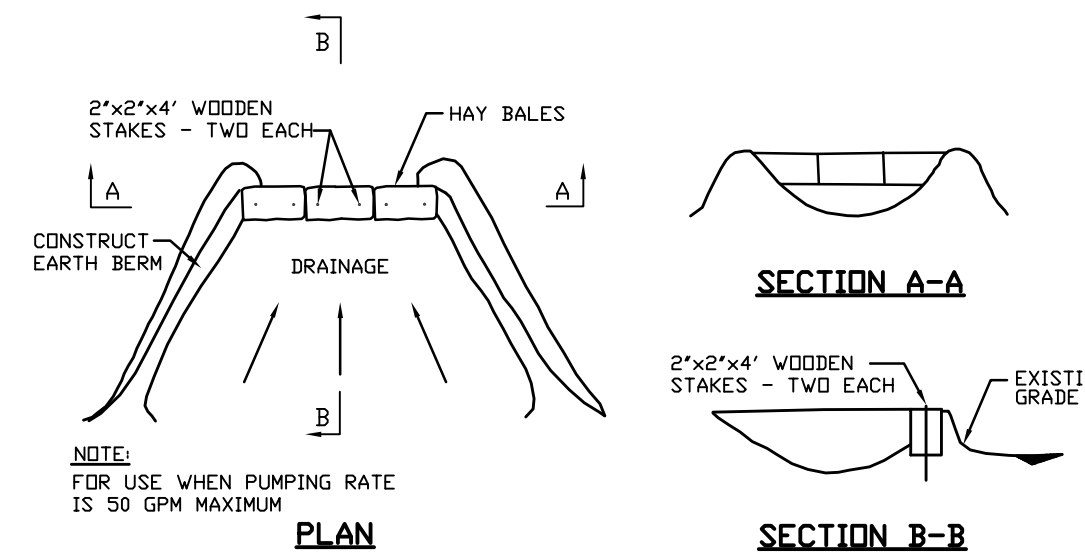
<b>FENWICK TANK PROJECT</b> BOROUGH OF BERNARDSVILLE, SOMERSET COUNTY, NJ BLOCK 5, LOT 5 SOIL EROSION SEDIMENT CONTROL DETAILS		
NEW JERSEY AMERICAN WATER	PASSAIC WATER SYSTEM	USE DIMENSIONS ONLY SCALE AS SHOWN
USE APPROVED DRAWINGS ONLY FOR CONSTRUCTION PURPOSES	PERMIT PLANS	SC01



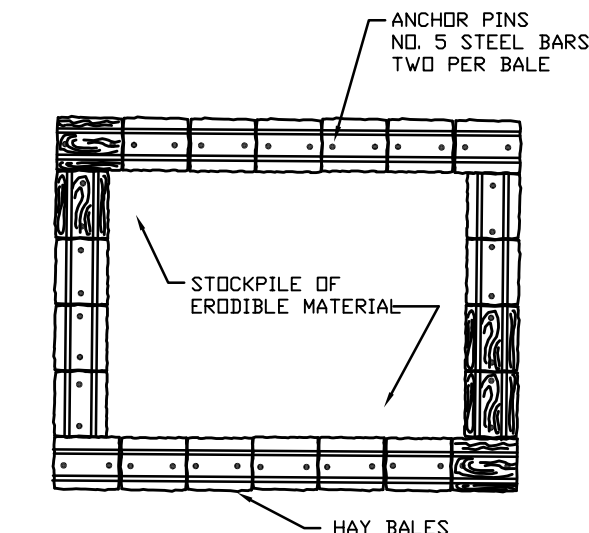
**REQUIREMENTS FOR SILT FENCE**

1. FENCE POSTS SHALL BE SPACED 8 FEET CENTER TO CENTER OR CLOSER. THEY SHALL EXTEND AT LEAST 2 FEET INTO GROUND AND EXTEND AT LEAST 2 FEET ABOVE GROUND. POSTS SHALL BE CONSTRUCTED OF HARDWOOD WITH A MINIMUM DIAMETER THICKNESS OF 1-1/2 INCHES.
2. A METAL FENCE WITH 6 INCH OR SMALLER OPENINGS AND AT LEAST 2 FEET HIGH MAY BE UTILIZED, FASTENED TO THE FENCE POSTS, TO PROVIDE REINFORCEMENT AND SUPPORT TO THE GEOTEXTILE FABRIC WHERE SPACE FOR OTHER PRACTICES IS LIMITED AND HEAVY SEDIMENT LOADING IS EXPECTED.
3. A GEOTEXTILE FABRIC, RECOMMENDED FOR SUCH USE BY THE MANUFACTURER, SHALL BE BURIED AT LEAST 6 INCHES DEEP IN THE GROUND. THE FABRIC MUST BE SECURELY FASTENED TO THE POSTS USING A SYSTEM CONSISTING OF METAL FASTENERS (NAILS OR STAPLES) AND A HIGH STRENGTH REINFORCEMENT MATERIAL (NYLON WEBBING, GROMMETS, WASHERS, ETC.) PLACED BETWEEN THE FASTENER AND GEOTEXTILE FABRIC. THE FASTENING SYSTEM SHALL RESIST TEARING AWAY FROM THE POST. THE FABRIC SHALL INCORPORATE A DRAWSTRING IN THE TOP PORTION OF THE FENCE FOR ADDED STRENGTH.

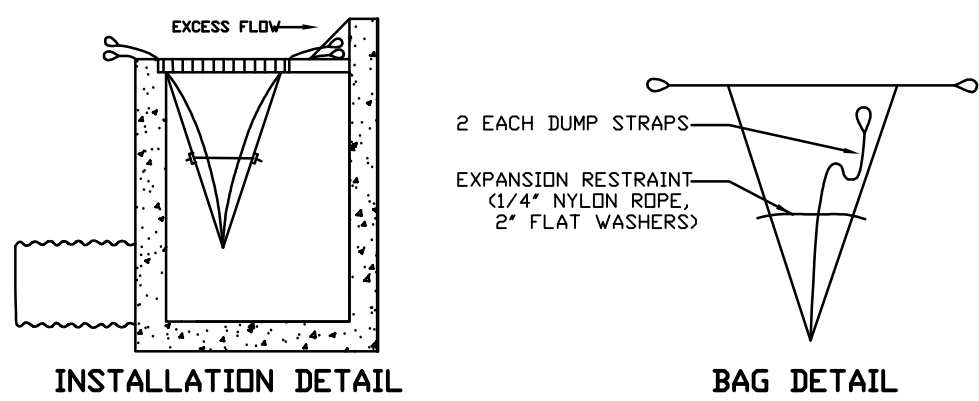
**SILT FENCE DETAIL**  
NOT TO SCALE



**SEDIMENT TRAP DETAIL FOR TRENCH DEWATERING OPERATIONS**  
NOT TO SCALE

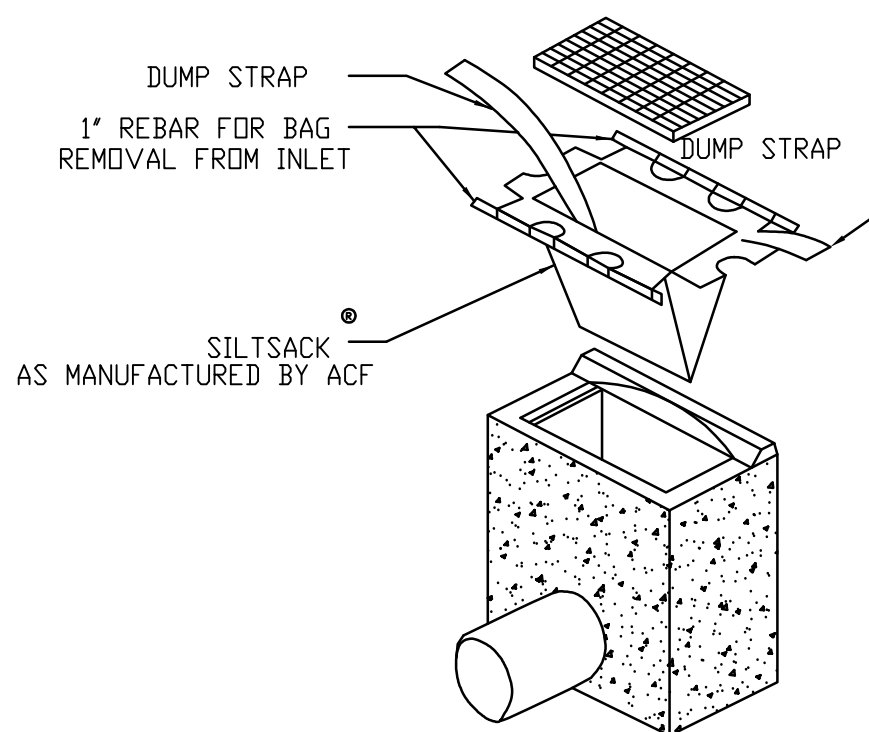


**MATERIAL STOCKPILE DETAIL**  
NOT TO SCALE



**INSTALLATION DETAIL**

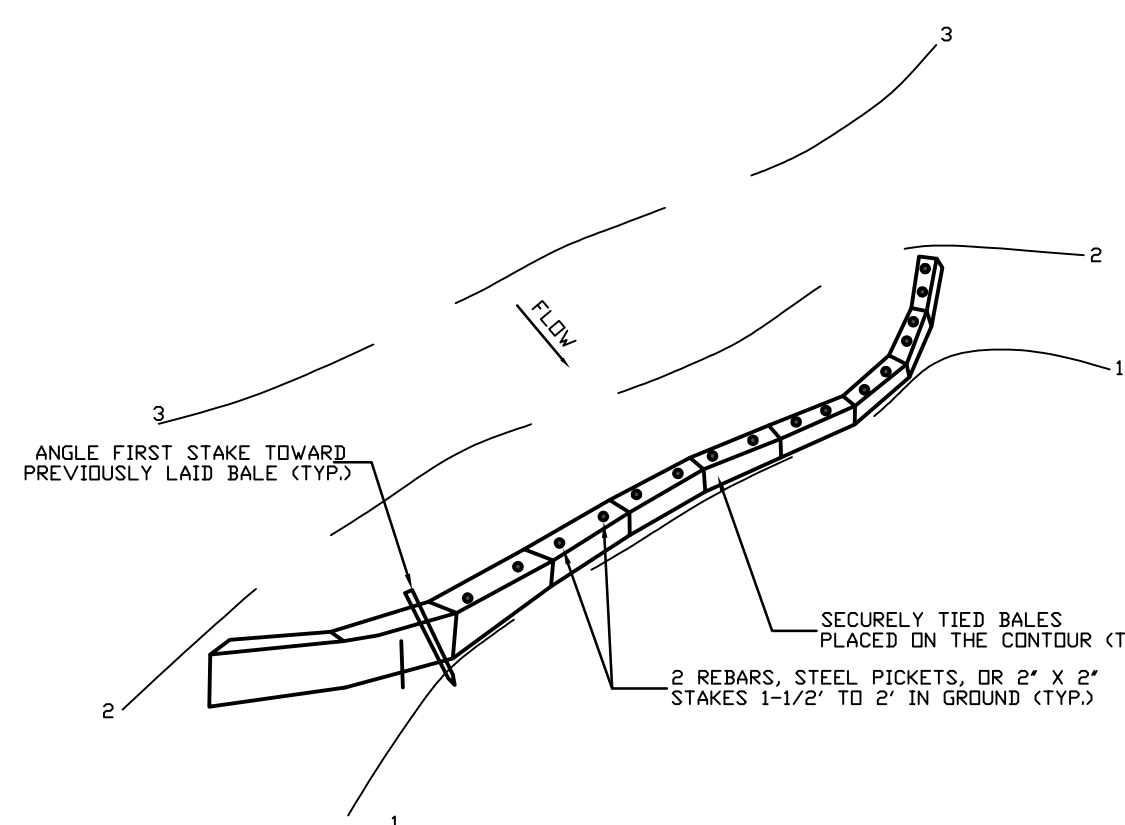
**BAG DETAIL**



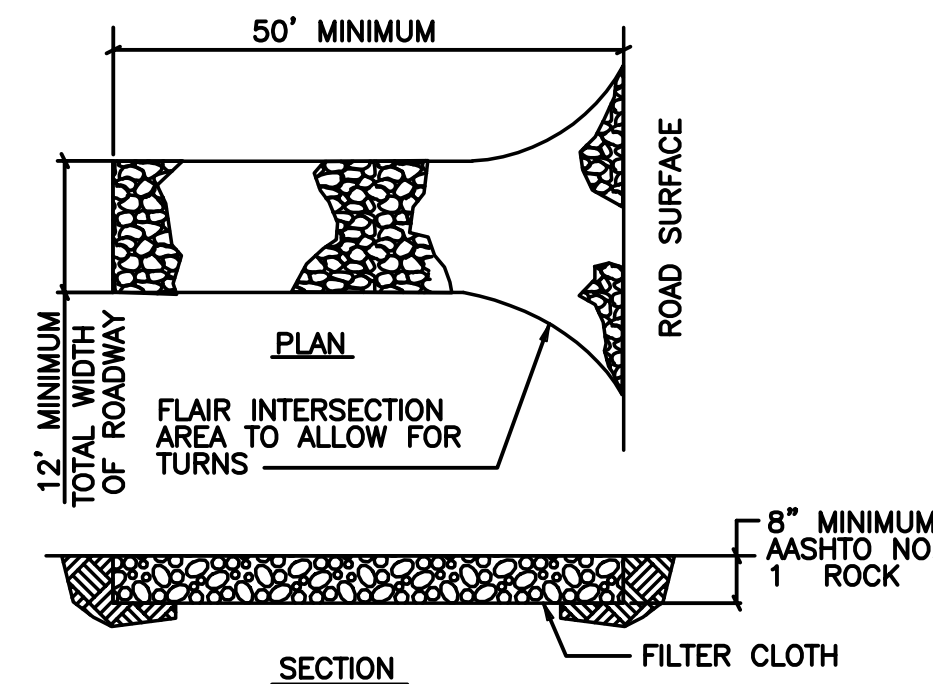
**INLET SEDIMENT CONTROL DEVICE DETAIL**  
NOT TO SCALE

**NOTES ON STORM SEWER INLET PROTECTION:**

1. MUST SLOW THE STORM WATER, PROVIDE THE COARSE SEDIMENT PARTICLES A CHANCE TO SETTLE, AND PROVIDE AN AREA TO RETAIN THE PARTICLES THAT HAVE SETTLED.
2. IN ALL CASES, INLET PROTECTION SHOULD NOT COMPLETELY CLOSE OFF THE INLET.
3. THE PROTECTION DEVICE WILL BE DESIGNED TO CAPTURE OR FILTER RUNOFF FROM THE 1 YEAR, 24 HOUR STORM EVENT AND SHALL SAFELY CONVEY HIGHER FLOWS DIRECTLY INTO THE STORM SEWER SYSTEM.
4. OTHER METHODS THAT ACCOMPLISH THE PURPOSE OF STORM SEWER INLET PROTECTION MAY BE USED IF APPROVED BY THE SOIL CONSERVATION DISTRICT.
5. INSPECTIONS SHALL BE FREQUENT. MAINTENANCE, REPAIR, AND REPLACEMENT SHALL BE MADE PROMPTLY, AS NEEDED. THE BARRIER SHALL BE REMOVED WHEN THE AREA DRAINING TOWARD THE INLET HAS BEEN STABILIZED.
6. THE CONTRACTOR SHALL INSTALL STORM SEWER INLET PROTECTION IN ACCORDANCE WITH THE SE&SC IN NJ, #30, JULY 1999.



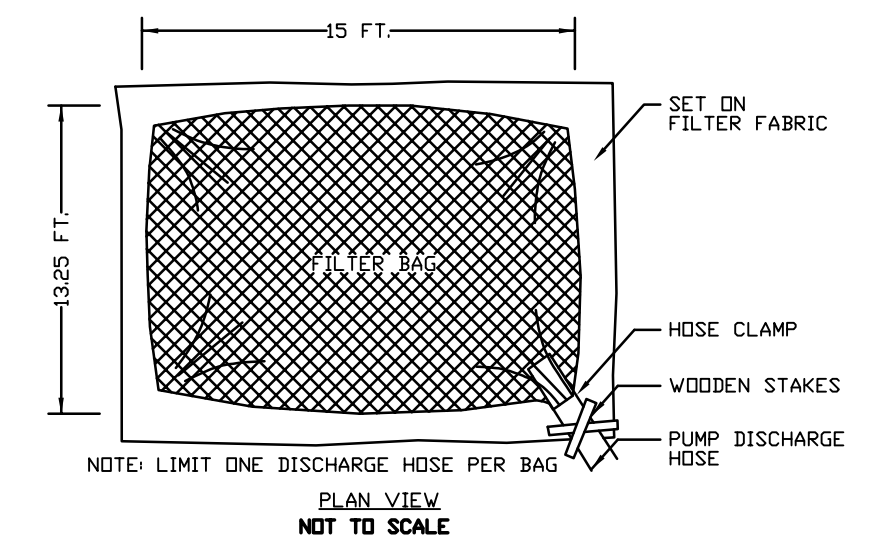
**PLACEMENT AND ANCHORING DETAIL BALE SEDIMENT BARRIERS**  
NOT TO SCALE



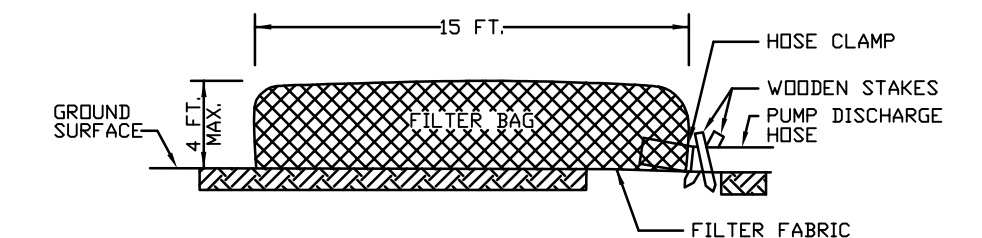
**A. DESIGN**

- (1) ROCK CONSTRUCTION ENTRANCES WILL BE CONSTRUCTED TO THE MINIMUM WIDTH, LENGTH AND THICKNESS AS SHOWN.
  - (2) ROCK WILL BE AASHTO NUMBER 1.
  - (3) FOR INSTALLATION ON CLAYEY OR POORLY DRAINED SOILS, A GEOTEXTILE FABRIC UNDERLAYMENT OF A TYPE RECOMMENDED FOR SUCH APPLICATIONS WILL BE USED.
- B. TEMPORARY CONSTRUCTION STAGING AREA TO BE DETERMINED BY CONTRACTOR. RCE SHALL BE INSTALLED AS PER DETAIL SHOWN.**
- C. MAINTENANCE: THE STRUCTURE'S THICKNESS WILL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSION BY ADDING ROCK. A STOCKPILE OF ROCK MATERIAL WILL BE MAINTAINED ON THE SITE FOR THIS PURPOSE. AT THE END OF EACH CONSTRUCTION DAY, ALL SEDIMENT DEPOSITED ON PUBLIC ROADWAYS WILL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE. WASHING OF THE ROADWAY WITH WATER IS NOT PERMITTED.**

**STABILIZED CONSTRUCTION ENTRANCE**  
NOT TO SCALE

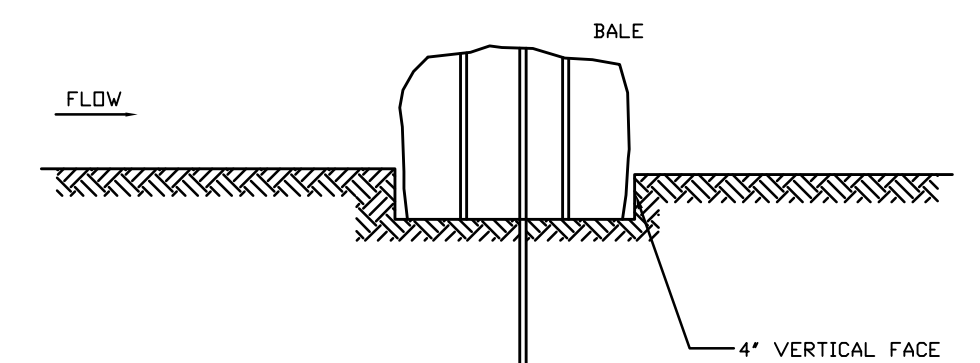


**PLAN VIEW**



**CROSS SECTION**

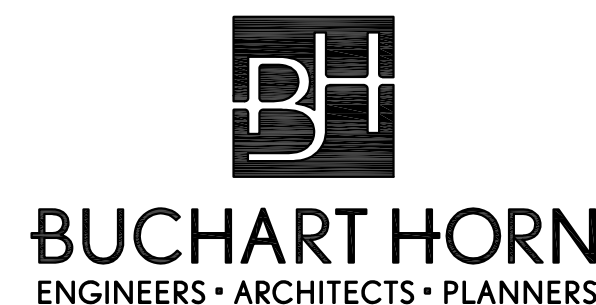
**FILTER BAG DETAIL FOR TRENCH DEWATERING OPERATIONS**  
NOT TO SCALE



**EMBEDDING DETAIL**  
NOT TO SCALE



REVISIONS	REVISIONS
1 NEW SHEET DK 3/25/21	△
△	△
△	△
△	△
△	△



EDWARD J. DIMOND

NJ LICENSED PROFESSIONAL ENGINEER  
NO. 26662

BUCHART HORN, INC.  
2 EVES DRIVE, SUITE 110  
MARLTON, NEW JERSEY 08053

DRAWN BY DK  
PROJECT ENG'R EJD

DATE 03/25/2021

PROJECT 76255-1N

FENWICK TANK PROJECT  
BOROUGH OF BERNARDSVILLE, SOMERSET COUNTY, NJ  
BLOCK 5, LOT 5  
SOIL EROSION SEDIMENT CONTROL DETAILS

NEW JERSEY AMERICAN WATER

PASSAIC WATER SYSTEM

USE DIMENSIONS ONLY  
SCALE AS SHOWN

USE APPROVED DRAWINGS ONLY  
FOR CONSTRUCTION PURPOSES

PERMIT PLANS

SC02

SC01-SC02.DWG