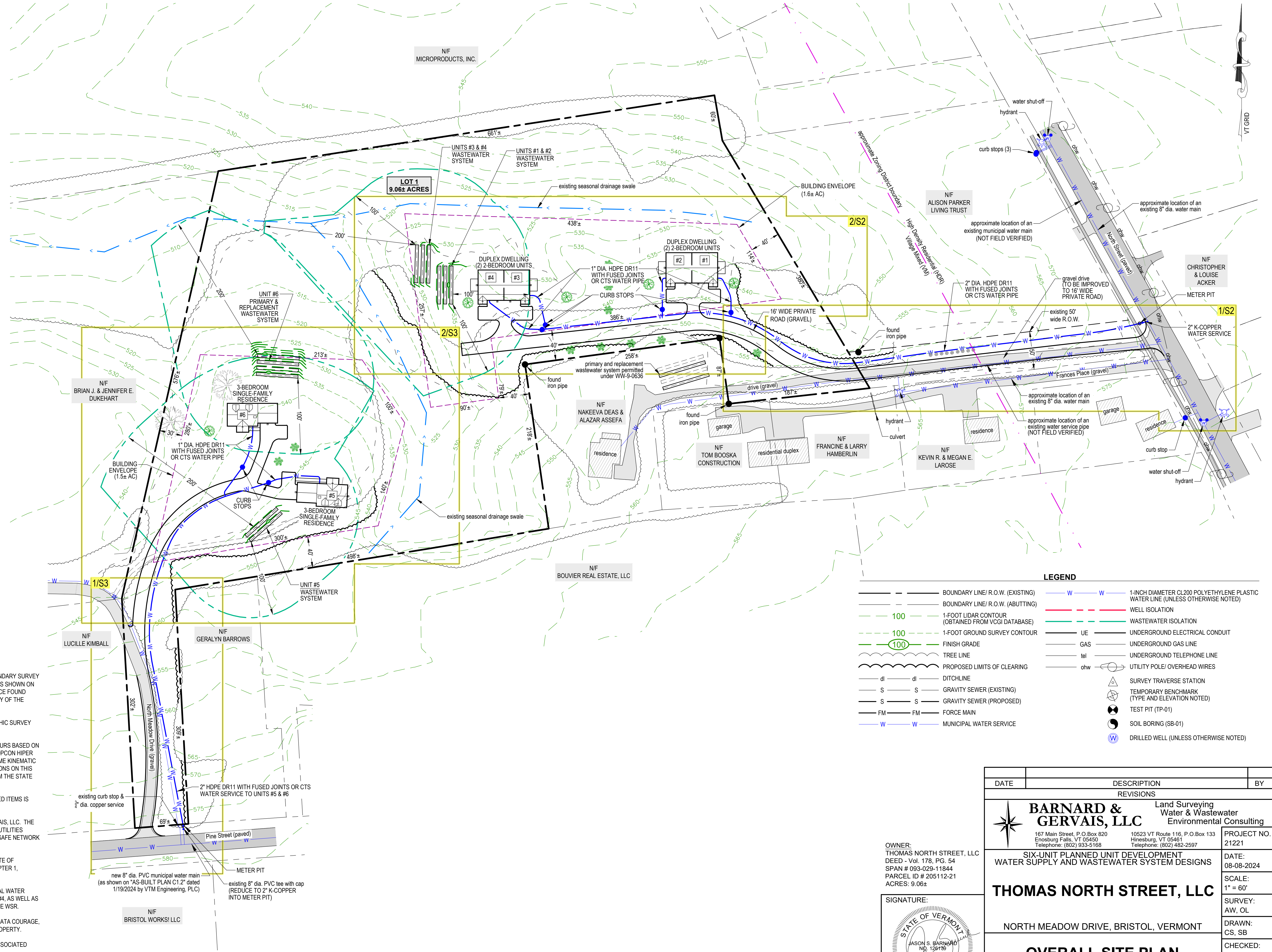


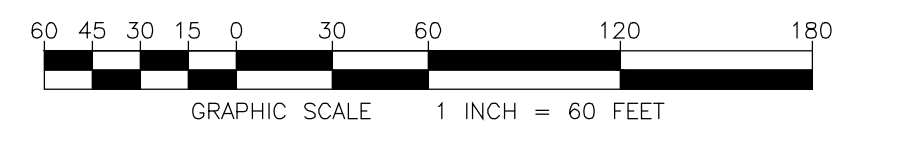
Project Location Map
Not to Scale

ZONING INFORMATION	
ZONING DISTRICT	
VILLAGE MIXED DISTRICT (VM)	
DIMENSIONAL REQUIREMENTS	
DENSITY - RESIDENTIAL:	2 UNITS/AC MAX.
LOT SIZE - RESIDENTIAL:	15,000 SF MIN.
LOT FRONTAGE:	75 FT. MIN.
LOT DEPTH :	100 FT. MIN.
LOT COVERAGE - RESIDENTIAL:	20% MAX.
SETBACK - FRONT YARD (CL):	40 FT. MIN.
SETBACK - REAR YARD:	20 FT. MIN.
SETBACK - SIDE YARD:	20 FT. MIN.
BUILDING HEIGHT:	35 FT. MAX.

- PROJECT NOTES:**
- THIS IS NOT A BOUNDARY SURVEY AND DOES NOT MEET THE LEGAL REQUIREMENTS OF A BOUNDARY SURVEY AS DESCRIBED IN 27 V.S.A. § 1403. PROJECT PERIMETER LINES ARE BASED ON BRISTOL TAX MAPS SHOWN ON THE AGENCY OF NATURAL RESOURCES (ANR) ENVIRONMENTAL INTEREST LOCATOR AND EVIDENCE FOUND DURING THE NOVEMBER 2021 TOPOGRAPHIC SURVEY. NO WARRANTY IS MADE TO THE ACCURACY OF THE BOUNDARY LINES SHOWN HEREON.
 - THE LOCATIONS OF EXISTING PHYSICAL FEATURES ON THIS PLAN ARE BASED ON A TOPOGRAPHIC SURVEY COMPLETED BY BARNARD & GERVAIS, LLC IN NOVEMBER 2021.
 - THE ELEVATIONS ON THIS PLAN WITHIN THE DASHED BOUNDARIES SHOWN ARE 1-FOOT CONTOURS BASED ON NAVD83 (GEOID12B) ESTABLISHED FROM SURVEY GRADE GNSS READINGS COLLECTED WITH A TOPCON HIPER SR GNSS RECEIVER ADJUSTED TO VERMONT GRID ON RANDOM CONTROL POINTS USING REAL TIME KINEMATIC CORRECTIONS FROM A VIRTUAL REFERENCE STATION OF THE VT CORS NETWORK. THE ELEVATIONS ON THIS PLAN OUTSIDE THE DASHED BOUNDARIES SHOWN ARE 1-FOOT LIDAR CONTOURS OBTAINED FROM THE STATE OF VERMONT VCGI OPEN DATA PORTAL DATABASE.
 - FOR CLARITY, TEXT IDENTIFYING EXISTING ITEMS IS LOWER CASE; TEXT IDENTIFYING PROPOSED ITEMS IS UPPER CASE.
 - NO ATTEMPT HAS BEEN MADE TO LOCATE ANY UNDERGROUND UTILITIES BY BARNARD & GERVAIS, LLC. THE CONTRACTOR WILL BE RESPONSIBLE FOR CONTACTING DIG SAFE TO HAVE ANY UNDERGROUND UTILITIES MARKED PRIOR TO ANY EXCAVATION OR SITE WORK. THE CONTRACTOR SHALL NOTIFY THE DIG SAFE NETWORK AT LEAST 72 HOURS PRIOR TO THE START OF CONSTRUCTION.
 - THE WASTEWATER DISPOSAL SYSTEMS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE STATE OF VERMONT, AGENCY OF NATURAL RESOURCES, ENVIRONMENTAL PROTECTION RULES (EPR), CHAPTER 1, "WASTEWATER SYSTEM AND POTABLE WATER SUPPLY RULES" (WSR) EFFECTIVE APRIL 12, 2019.
 - BASED ON PROVIDED INFORMATION AND AN EVALUATION OF THE PROPOSED SHARED MUNICIPAL WATER SERVICES, THE SHARED MUNICIPAL WATER SERVICES THAT WILL PROVIDE WATER TO UNITS #1 - #4, AS WELL AS UNITS #5 & #6 HAVE BEEN DESIGNED IN ACCORDANCE WITH THE STATE OF VERMONT EPR AND THE WSR.
 - THE SUBJECT PROPERTY WAS REVIEWED BY WETLANDS ECOLOGIST DONOVAN WARD AND ZAPATA COURAGE, STATE WETLANDS ECOLOGIST ON MAY 18, 2022 AND NO WETLANDS WERE IDENTIFIED ON THE PROPERTY.
 - BARNARD & GERVAIS, LLC IS NOT RESPONSIBLE FOR ANY ASPECTS OF HEALTH AND SAFETY ASSOCIATED WITH THIS PROJECT.
 - ALL EXCAVATION WORK SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE STATE OF VERMONT, OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) GUIDELINES FOR TRENCH EXCAVATIONS.
 - AS SHOWN, THE PROJECT CONTAINS 32,386 SF (0.74 AC) OF PROPOSED IMPERVIOUS SURFACE AREA.



LEGEND	
---	BOUNDARY LINE/ R.O.W. (EXISTING)
---	BOUNDARY LINE/ R.O.W. (ABUTTING)
100	1-FOOT LIDAR CONTOUR (OBTAINED FROM VCGI DATABASE)
100	1-FOOT GROUND SURVEY CONTOUR
100	FINISH GRADE
---	TREE LINE
---	PROPOSED LIMITS OF CLEARING
dl	DITCHLINE
S	GRAVITY SEWER (EXISTING)
S	GRAVITY SEWER (PROPOSED)
FM	FORCE MAIN
W	MUNICIPAL WATER SERVICE
W	1-INCH DIAMETER CL200 POLYETHYLENE PLASTIC WATER LINE (UNLESS OTHERWISE NOTED)
---	WELL ISOLATION
---	WASTEWATER ISOLATION
UE	UNDERGROUND ELECTRICAL CONDUIT
---	UNDERGROUND GAS LINE
tel	UNDERGROUND TELEPHONE LINE
ohw	UTILITY POLE/ OVERHEAD WIRES
△	SURVEY TRAVERSE STATION
⊕	TEMPORARY BENCHMARK (TYPE AND ELEVATION NOTED)
⊙	TEST PIT (TP-01)
⊙	SOIL BORING (SB-01)
⊙	DRILLED WELL (UNLESS OTHERWISE NOTED)

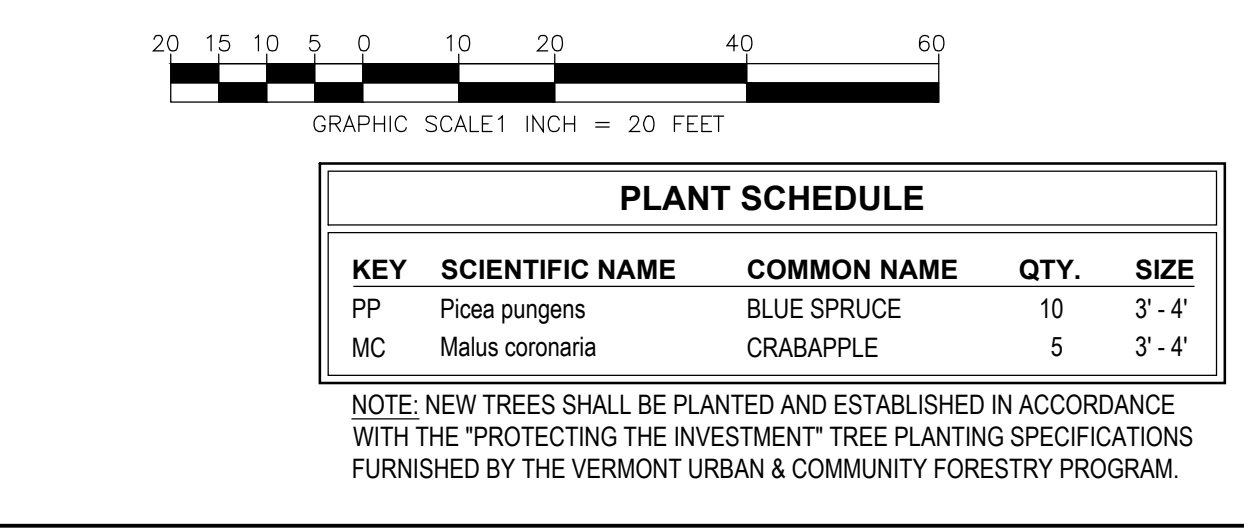
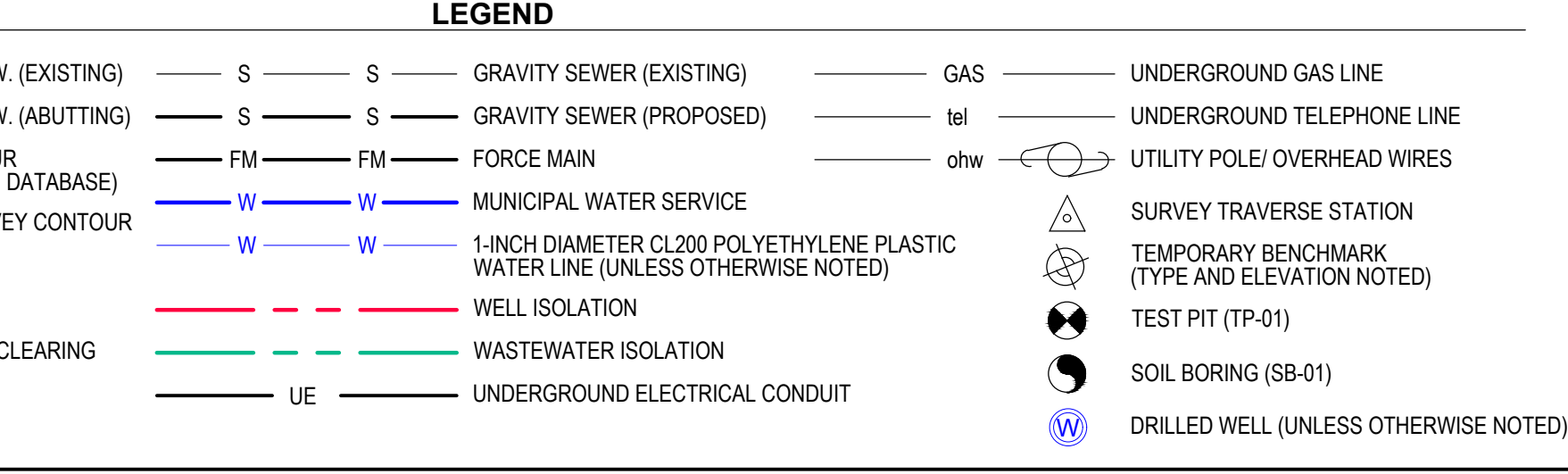
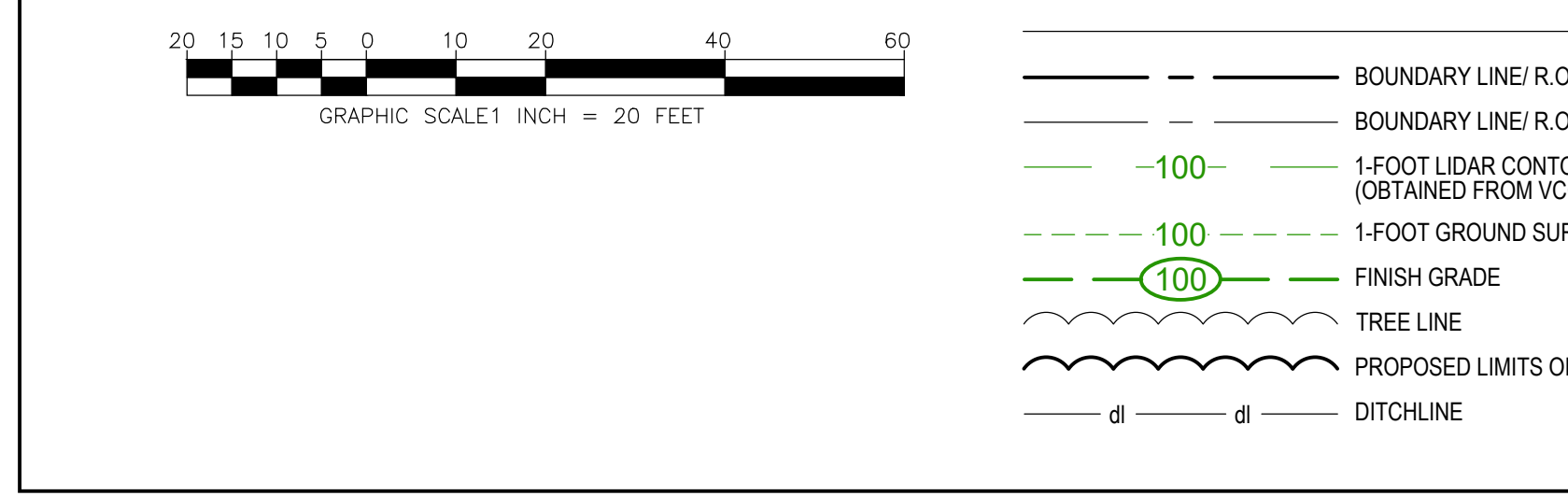
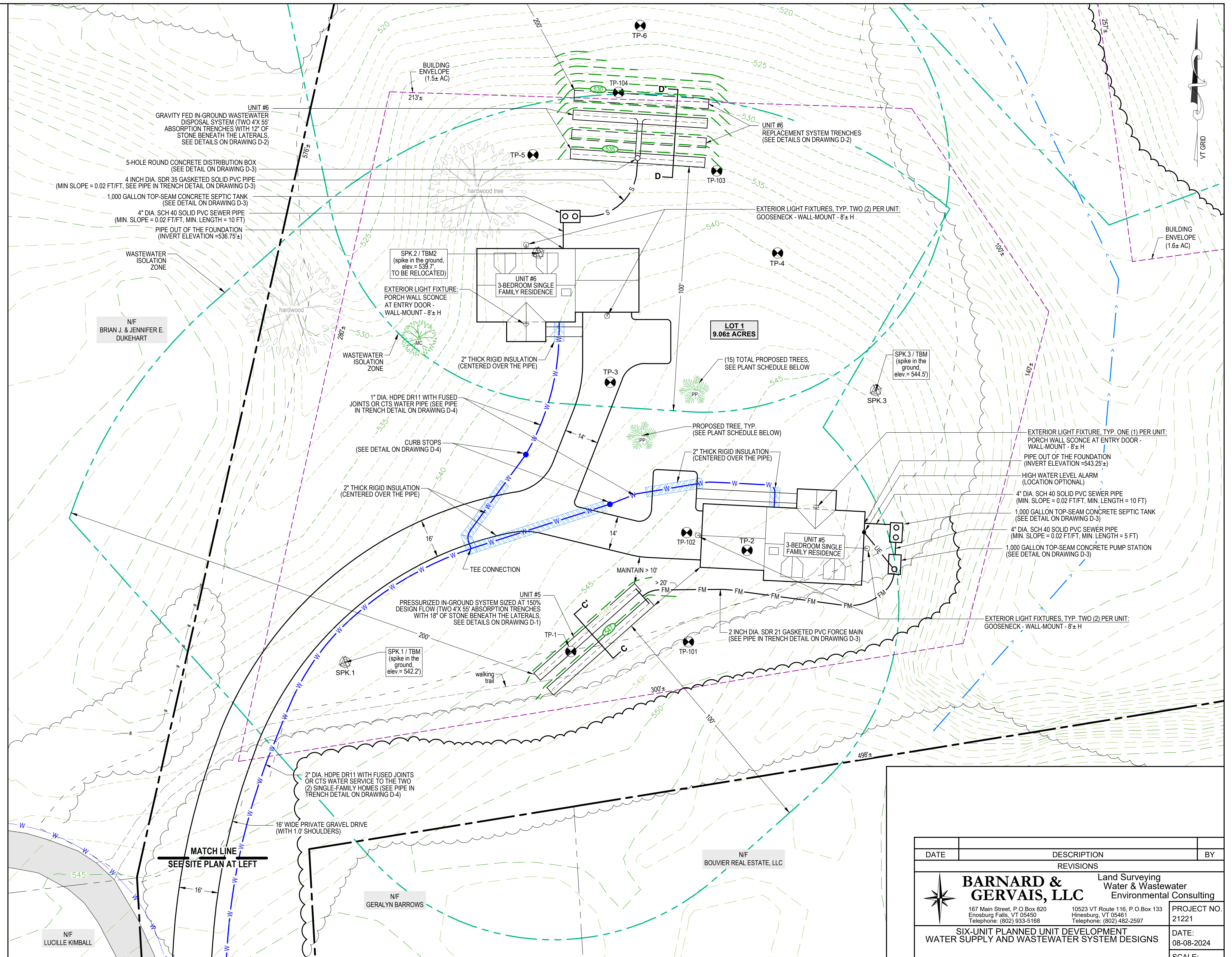
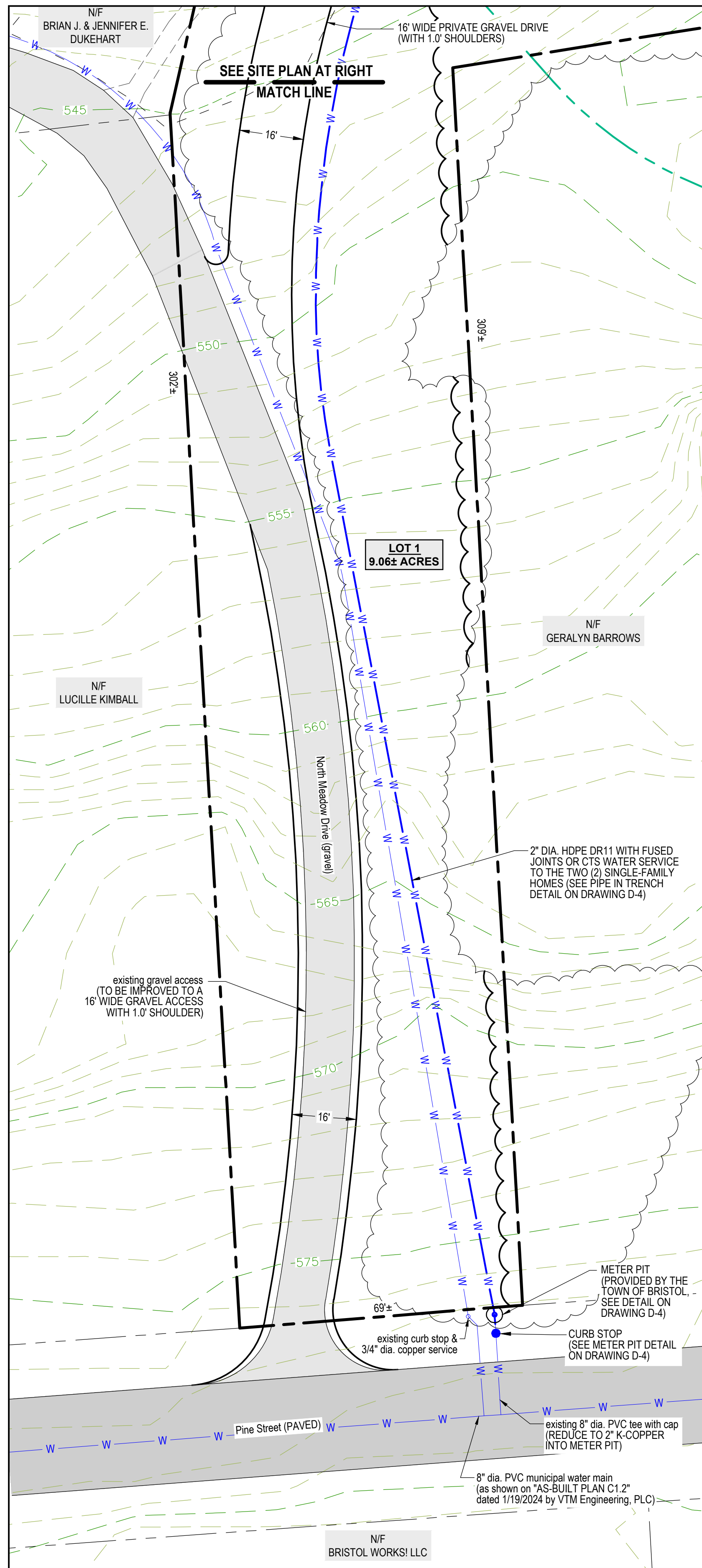


OWNER:
THOMAS NORTH STREET, LLC
DEED - Vol. 178, PG. 54
SPAN # 093-029-11844
PARCEL ID # 205112-21
ACRES: 9.06±

SIGNATURE:

JASON S. BARNARD
LICENSED DESIGNER #126179

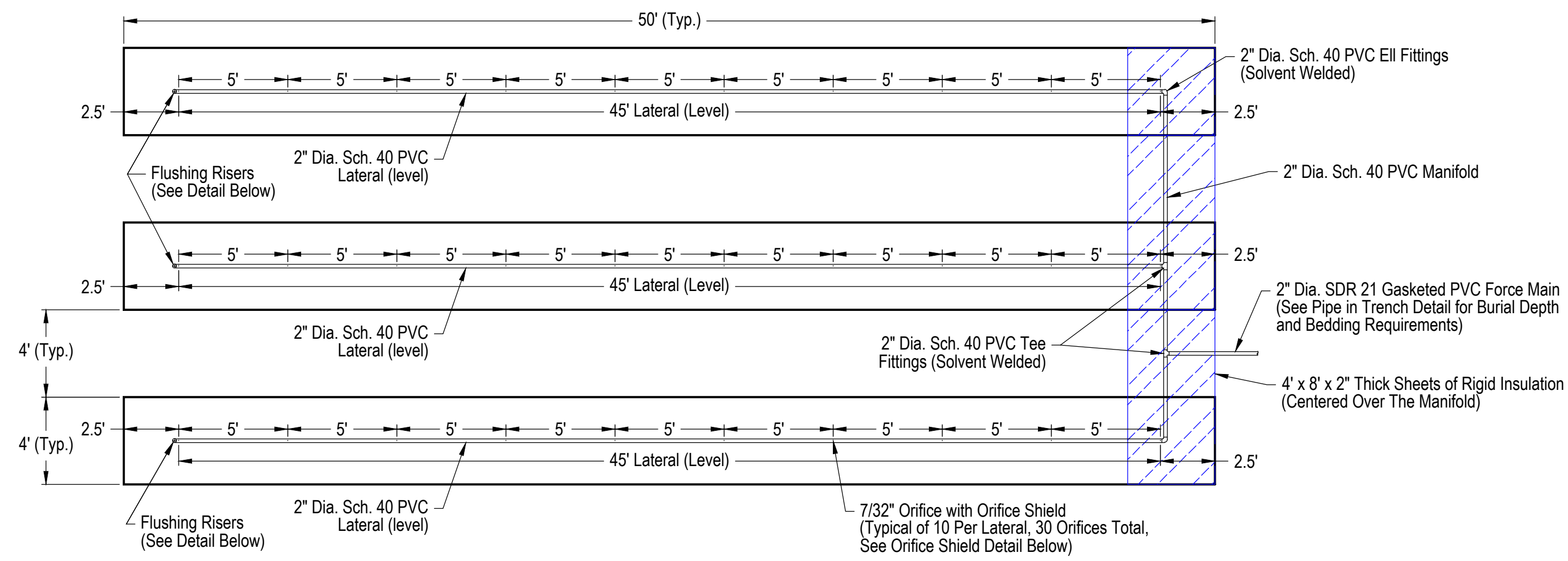
DATE	DESCRIPTION	BY
REVISIONS		
 BARNARD & GERVAIS, LLC Land Surveying Water & Wastewater Environmental Consulting 167 Main Street, P.O. Box 820 Enosburg Falls, VT 05450 Telephone: (802) 933-5168 10523 VT Route 116, P.O. Box 133 Hinesburg, VT 05461 Telephone: (802) 482-2597		
SIX-UNIT PLANNED UNIT DEVELOPMENT WATER SUPPLY AND WASTEWATER SYSTEM DESIGNS		
THOMAS NORTH STREET, LLC		
NORTH MEADOW DRIVE, BRISTOL, VERMONT		
OVERALL SITE PLAN		
THESE PLANS WITH LATEST REVISIONS SHOULD ONLY BE USED FOR THE PURPOSE SHOWN BELOW:		
<input type="checkbox"/>	PRELIMINARY DRAFT	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	FINAL STATE REVIEW	
PROJECT NO. 21221	DATE: 08-08-2024	SCALE: 1" = 60'
SURVEY: AW, OL	DRAWN: CS, SB	CHECKED: JB
DRAWING NO. S-1		SHEET 1 OF 7



SIGNATURE:

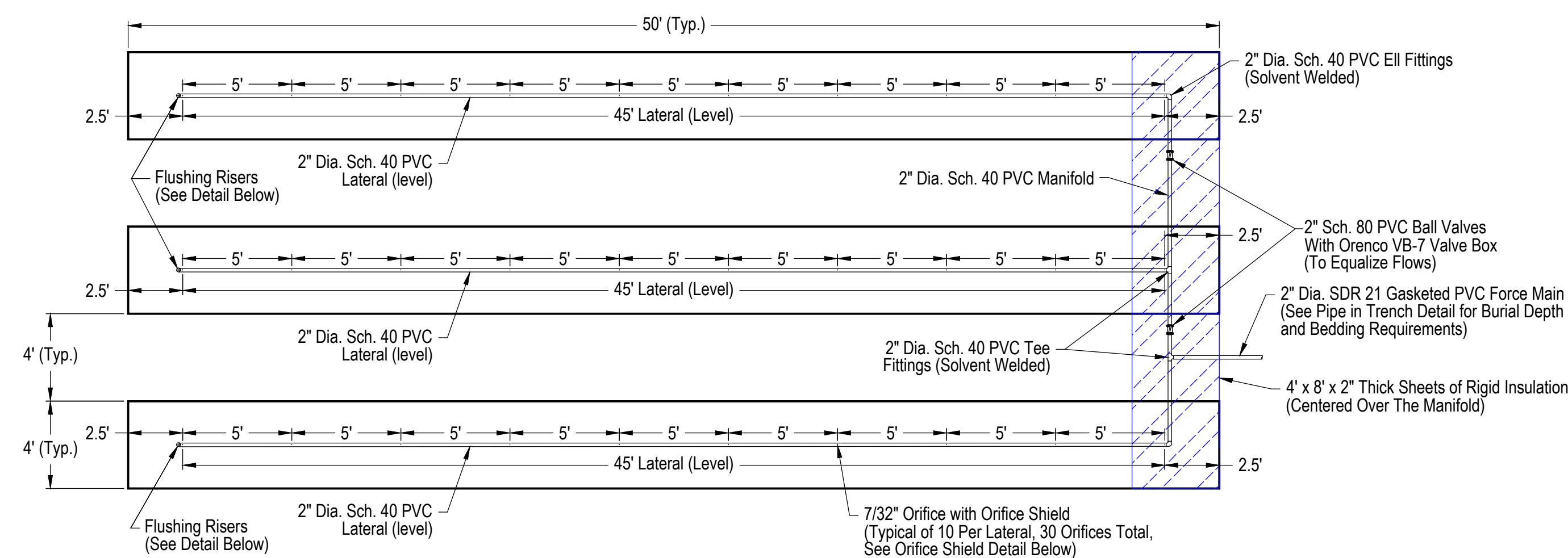
JASON S. BARNARD
LICENSED DESIGNER #126179

DATE	DESCRIPTION	BY
REVISIONS		
BARNARD & GERVAIS, LLC Land Surveying Water & Wastewater Environmental Consulting		
167 Main Street, P.O. Box 820 Enosburg Falls, VT 05450 Telephone: (802) 933-5168		10523 VT Route 116, P.O. Box 133 Hinesburg, VT 05461 Telephone: (802) 482-2597
SIX-UNIT PLANNED UNIT DEVELOPMENT WATER SUPPLY AND WASTEWATER SYSTEM DESIGNS		
PROJECT NO.	DATE:	SCALE:
21221	08-08-2024	1" = 20'
THOMAS NORTH STREET, LLC		
NORTH MEADOW DRIVE, BRISTOL, VERMONT		
SITE PLAN - WESTERLY UNITS		
THESE PLANS WITH LATEST REVISIONS SHOULD ONLY BE USED FOR THE PURPOSE SHOWN BELOW:		
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DRAWN:		CHECKED:
SB, CS		JB
DRAWING NO.		SHEET 3 OF 7
S-3		



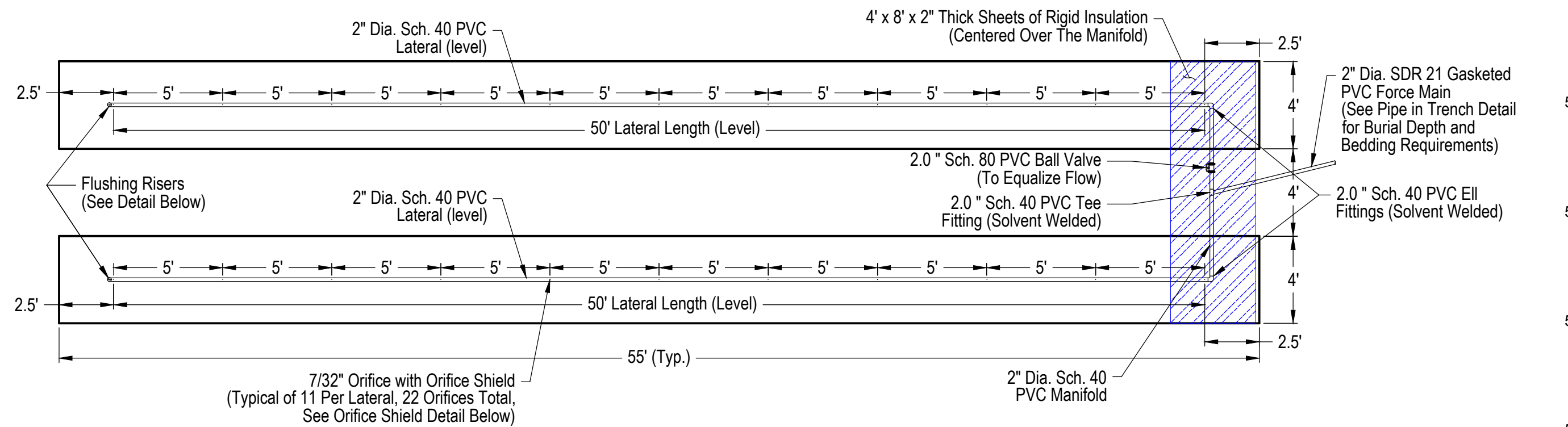
UNIT #1 & #2 - PRESSURIZED IN-GROUND WASTEWATER DISPOSAL SYSTEM PLAN VIEW DETAIL

SCALE: 1-INCH = 5-FEET



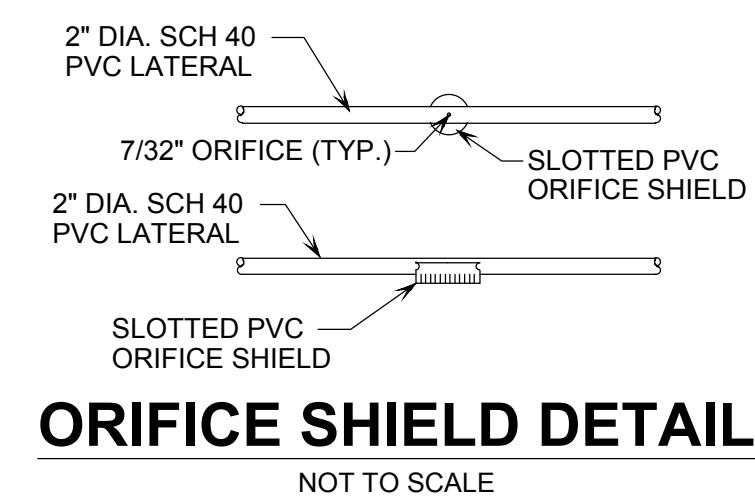
UNIT #3 & #4 - PRESSURIZED IN-GROUND WASTEWATER DISPOSAL SYSTEM PLAN VIEW DETAIL

SCALE: 1-INCH = 5-FEET

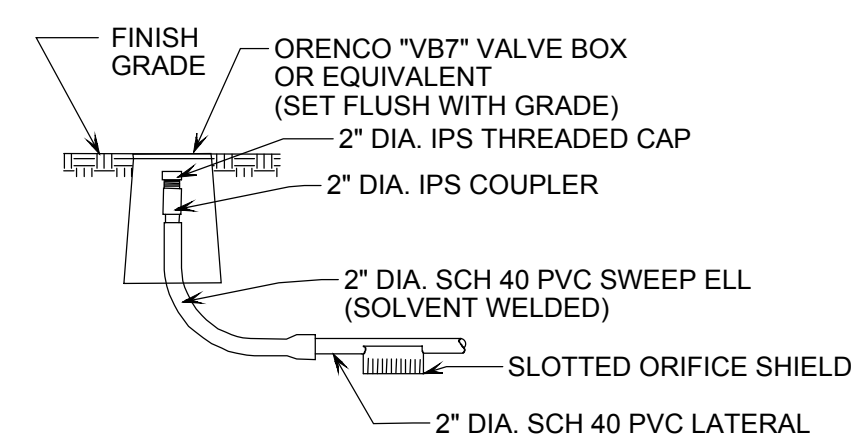


UNIT #5 - PRESSURIZED IN-GROUND WASTEWATER DISPOSAL SYSTEM PLAN VIEW DETAIL

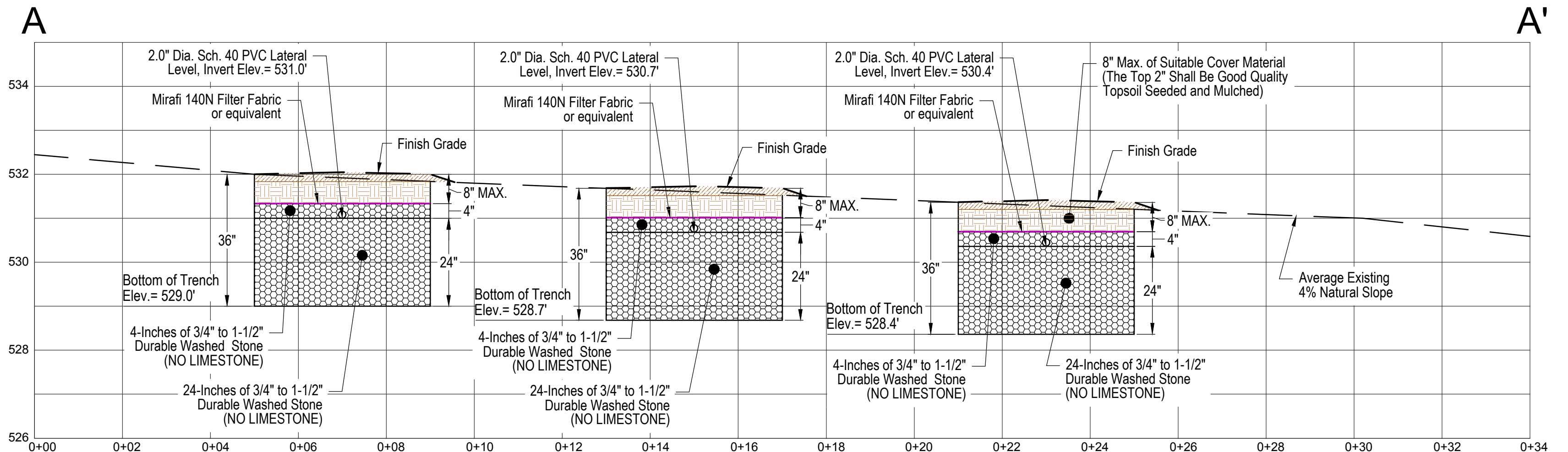
SCALE: 1-INCH = 5-FEET



ORIFICE SHIELD DETAIL
NOT TO SCALE

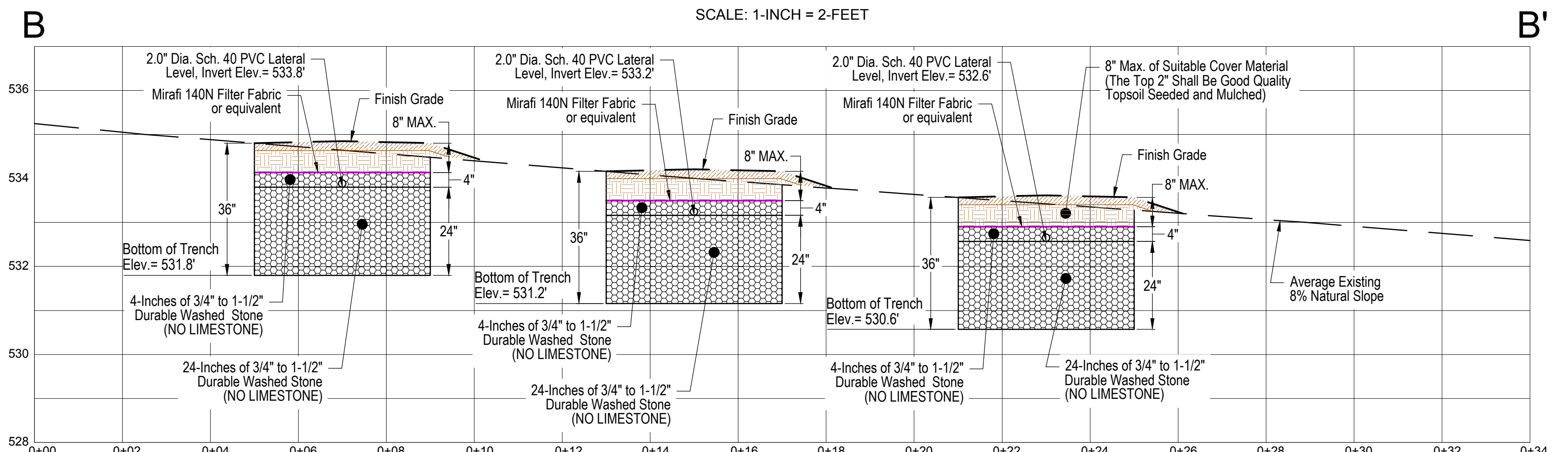


FLUSHING RISER DETAIL
NOT TO SCALE



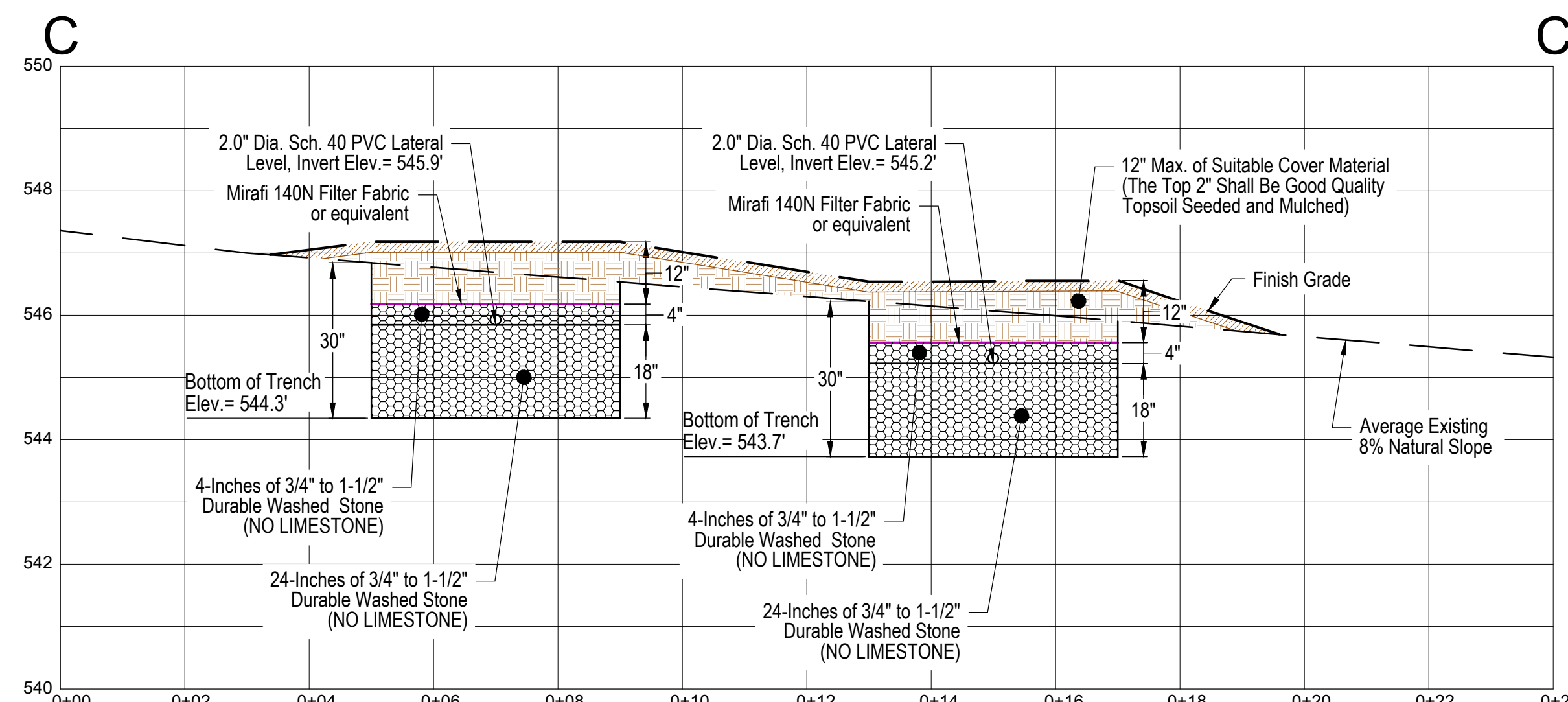
UNIT #1 & #2 - PRESSURIZED IN-GROUND WASTEWATER DISPOSAL SYSTEM SECTION DETAIL

SCALE: 1-INCH = 2-FEET



UNIT #3 & #4 - PRESSURIZED IN-GROUND WASTEWATER DISPOSAL SYSTEM SECTION DETAIL

SCALE: 1-INCH = 2-FEET



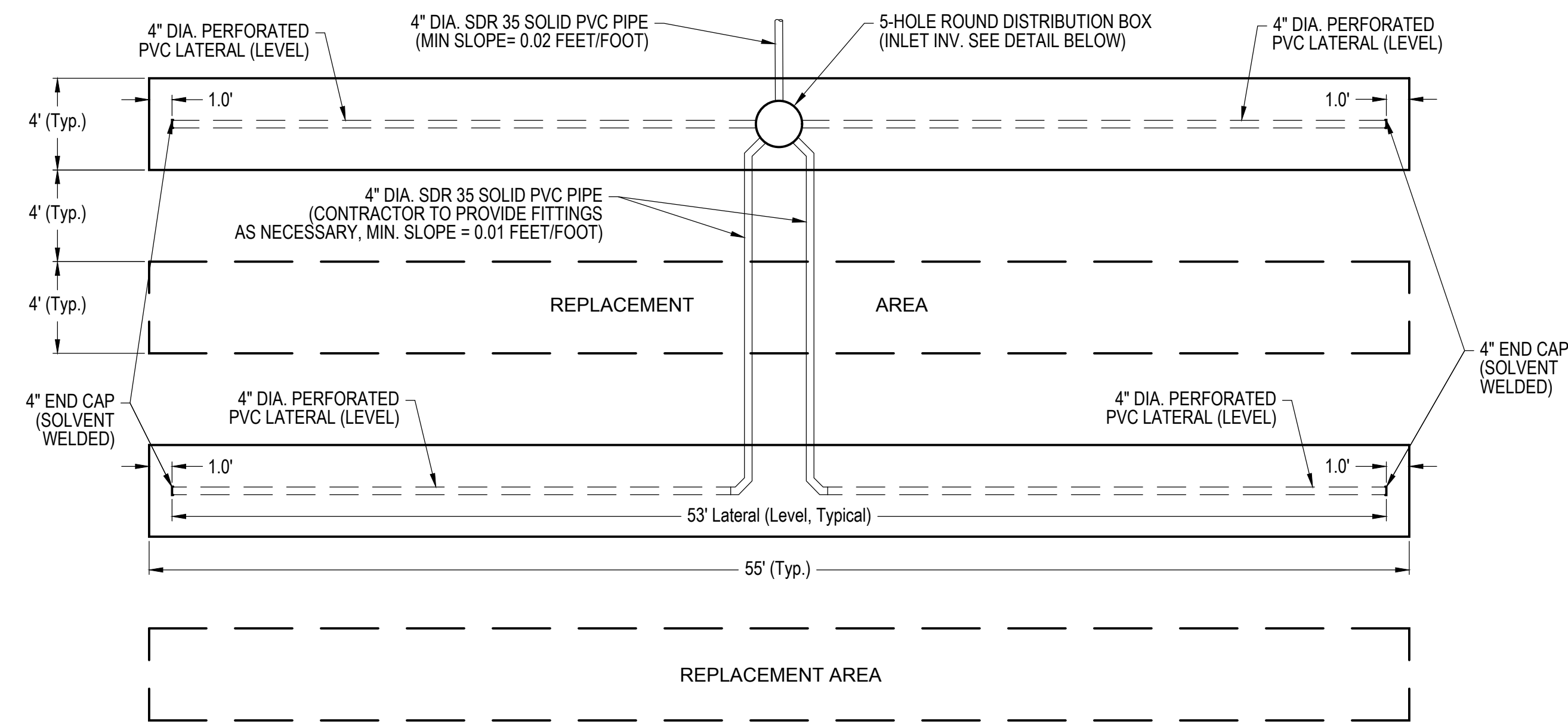
UNIT #5 - PRESSURIZED IN-GROUND WASTEWATER DISPOSAL SYSTEM SECTION DETAIL

SCALE: 1-INCH = 2-FEET

SIGNATURE:

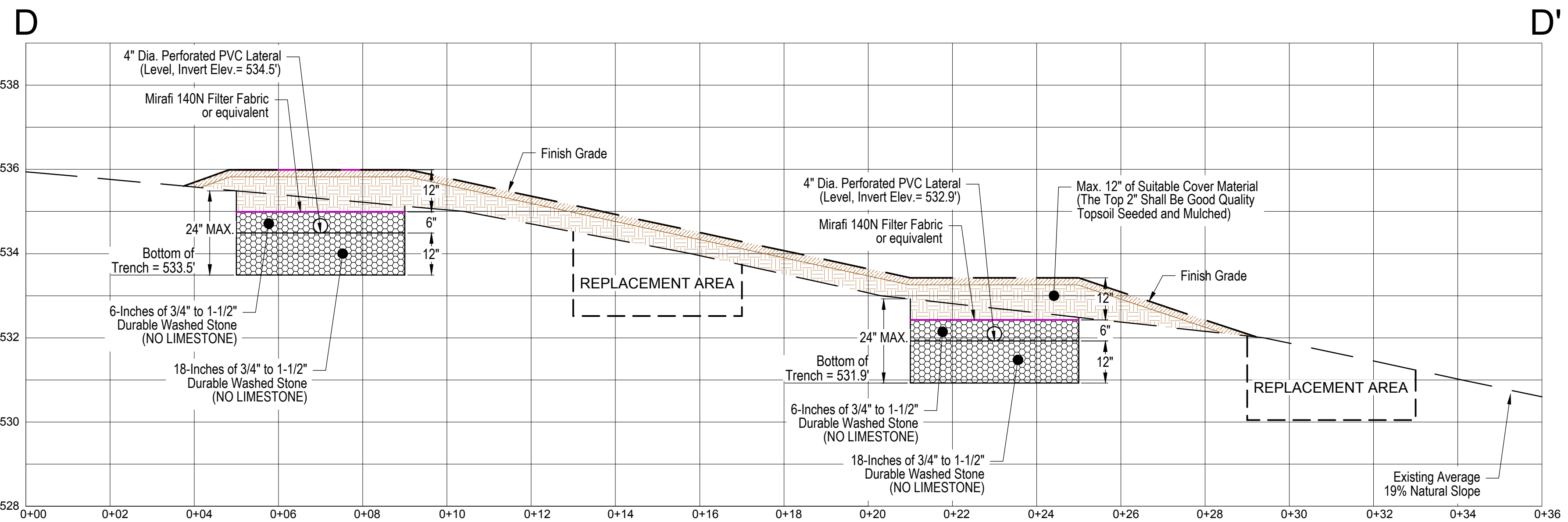
 JASON S. BARNARD
 LICENSED DESIGNER #126178

DATE	DESCRIPTION	BY
REVISIONS		
SIX-UNIT PLANNED UNIT DEVELOPMENT WATER SUPPLY AND WASTEWATER SYSTEM DESIGNS		
THOMAS NORTH STREET, LLC		
NORTH MEADOW DRIVE, BRISTOL, VERMONT		
UNIT #1, #2, #3, #4 & #5 PRESSURIZED IN-GROUND WASTEWATER SYSTEM DETAILS		
THESE PLANS WITH LATEST REVISIONS SHOULD ONLY BE USED FOR THE PURPOSE SHOWN BELOW:		
<input type="checkbox"/> PRELIMINARY DRAFT <input checked="" type="checkbox"/> FINAL STATE REVIEW		
PROJECT NO.	21221	
DATE:	08-05-2024	
SCALE:	AS NOTED	
SURVEY:	AW, OL	
DRAWN:	CS	
CHECKED:	JB	
DRAWING NO.	D-1	
SHEET 4 OF 7		



UNIT #6 GRAVITY IN-GROUND WASTEWATER DISPOSAL SYSTEM PLAN VIEW DETAIL

SCALE: 1-INCH = 5-FEET



UNIT #6 - GRAVITY IN-GROUND WASTEWATER DISPOSAL SYSTEM SECTION

SCALE: 1-INCH = 2-FEET

NOTE:
1. DISTRIBUTION LATERAL PIPE PERFORATIONS SHALL BE ORIENTATED SO THAT THE HOLES ARE AT 4 O'CLOCK AND 8 O'CLOCK WITH THE PIPE INVERT AT 6 O'CLOCK.

FORCE MAIN PRESSURE AND LEAKAGE TESTING:

IN ACCORDANCE WITH § 1-1-1009 OF THE CURRENT EPR:

(b) UPON COMPLETION OF CONSTRUCTION OF A FORCE MAIN, THE FORCE MAIN SHALL BE PRESSURE AND LEAKAGE TESTED TO ENSURE THERE ARE NO LEAKS.

(1) PRESSURE TEST

(A) ALL NEWLY LAID PIPE OR ANY VALVED SECTION THEREOF SHALL BE SUBJECTED TO A HYDROSTATIC PRESSURE OF AT LEAST 1.5 TIMES THE HIGHEST WORKING PRESSURE IN THE SECTION IN ACCORDANCE WITH THE FOLLOWING PROCEDURE:

- (i) TEST PRESSURES SHALL:
 - (I) NOT BE LESS THAN 50 POUNDS PER SQUARE INCH AT THE HIGHEST POINT ALONG THE TEST SECTION;
 - (II) NOT EXCEED PIPE OR THRUST RESTRAINT DESIGN PRESSURES;
 - (III) BE OF AT LEAST 2-HOUR DURATION;
 - (IV) NOT VARY BY MORE THAN 5 POUNDS PER SQUARE INCH; AND
 - (V) NOT EXCEED TWICE THE RATED PRESSURE OF THE VALVES WHEN THE PRESSURE BOUNDARY OF THE TEST SECTION INCLUDES CLOSED GATE VALVES.

(B) EACH VALVED SECTION OF PIPE SHALL BE FILLED WITH WATER SLOWLY AND THE SPECIFIED TEST PRESSURE, BASED ON THE ELEVATION OF THE LOWEST POINT OF THE LINE OR SECTION UNDER TEST AND CORRECTED TO TEST GAUGE, SHALL BE APPLIED BY MEANS OF A PUMP CONNECTED TO THE PIPE.

(C) BEFORE APPLYING THE SPECIFIED TEST PRESSURE, AIR SHALL BE EXPELLED COMPLETELY FROM THE PIPE AND VALVES.

(D) ALL EXPOSED PIPE, FITTINGS, VALVES, AND JOINTS SHALL BE EXAMINED CAREFULLY DURING THE TEST. ANY DAMAGED OR DEFECTIVE PIPE, FITTINGS, OR VALVES THAT ARE DISCOVERED FOLLOWING THE PRESSURE TEST SHALL BE REPAIRED OR REPLACED WITH SOUND MATERIAL AND THE TEST SHALL BE REPEATED.

(2) LEAKAGE TEST

(A) A LEAKAGE TEST SHALL BE CONDUCTED CONCURRENTLY WITH THE PRESSURE TEST.

(B) LEAKAGE SHALL BE DETERMINED BY THE QUANTITY OF WATER THAT MUST BE SUPPLIED INTO THE NEWLY LAID PIPE, OR ANY VALVED SECTION THEREOF, TO MAINTAIN PRESSURE WITHIN 5 POUNDS PER SQUARE INCH OF THE SPECIFIED TEST PRESSURE AFTER THE AIR IN THE PIPELINE HAS BEEN EXPELLED AND THE PIPE HAS BEEN FILLED.

(C) NO PIPE INSTALLATION WILL BE ACCEPTED IF THE LEAKAGE IS GREATER THAN THAT DETERMINED BY THE FOLLOWING FORMULA:

$$L = (N)(D)(\bar{P}) + 7400$$

WHERE:

L IS THE ALLOWABLE LEAKAGE, IN GALLONS PER HOUR;

N IS THE NUMBER OF JOINTS IN THE LENGTH OF PIPELINE TESTED;

D IS THE NOMINAL DIAMETER OF THE PIPE, IN INCHES; AND

P IS THE AVERAGE TEST PRESSURE DURING THE LEAKAGE TEST, IN POUNDS PER SQUARE INCH GAUGE.

(c) FORCE MAINS SHALL BE COVERED WITH SUFFICIENT EARTH OR OTHER INSULATION TO PREVENT FREEZING.

GRAVITY & PRESSURIZED IN-GROUND CONSTRUCTION INSTRUCTIONS:

IN-GROUND CONSTRUCTION PROCEDURES ARE JUST AS IMPORTANT AS THE IN-GROUND DESIGN. GOOD DESIGN WITH POOR CONSTRUCTION WILL RESULT IN THE IN-GROUND OPERATING POORLY AND MAY RESULT IN FAILURE. PROPER EQUIPMENT IS ESSENTIAL. SMALL TRACK TYPE EXCAVATORS WORK BEST. WHEEL TYPE TRACTORS ARE TOO DIFFICULT TO MANEUVER IN THE FILL. THE FOLLOWING IS A STEP BY STEP PROCEDURE FOR IN-GROUND CONSTRUCTION WHICH HAS BEEN TRIED AND PROVEN. OTHER TECHNIQUES COULD BE USED AS LONG AS THE BASIC PRINCIPLES OF IN-GROUND DESIGN, OPERATION, AND CONSTRUCTION ARE NOT VIOLATED.

1. STAKE OUT THE TRENCH LOCATIONS ON THIS SITE SO THAT THE TRENCHES RUN PERPENDICULAR TO THE DIRECTION OF THE SLOPE. REFERENCE STAKES ARE RECOMMENDED IN CASE CORNER STAKES ARE DISTURBED.
2. **GRAVITY-FED:** STAKE OUT THE LOCATION OF THE DISTRIBUTION BOX (D-BOX) AND DETERMINE THE INLET ELEVATION WHERE THE GRAVITY SEWER PIPE CONNECTS FROM THE SEPTIC TANK. **PRESSURIZED:** DETERMINE WHERE THE FORCE MAIN FROM THE PUMP CHAMBER CONNECTS TO THE DISTRIBUTION SYSTEM IN THE TRENCHES.
3. **GRAVITY-FED:** TRENCH AND LAY THE GRAVITY SEWER PIPE FROM THE SEPTIC TANK TO THE D-BOX. **PRESSURIZED:** TRENCH AND LAY THE FORCE MAIN FROM THE PUMP CHAMBER TO THE MOUND. LAY THE PIPE 5' BELOW THE GROUND SURFACE FOR FROST PROTECTION. WHERE THERE IS LESS THAN 5' OF COVER, INSULATE WITH 2" OF RIGID POLYSTYRENE INSULATION 4" WIDE (2" EITHER SIDE OF PIPE, PLACED IN TWO 1" LAYERS WITH STAGGERED JOINTS). ALTERNATIVELY, WHERE THERE IS LESS THAN 5' OF SOIL COVER, THE FORCE MAIN CAN BE SLOPED UNIFORMLY BACK TO THE PUMPING CHAMBER SO THAT IT DRAINS AFTER EACH DOSING. CUT AND CAP THE PIPE ONE FOOT BENEATH THE GROUND SURFACE. BACKFILL AND COMPACT SOIL AROUND THE PIPE TO PREVENT BACK SEEPAGE OF EFFLUENT ALONG PIPE. THIS STEP MUST BE DONE BEFORE PLOWING TO AVOID COMPACTING AND DISTURBANCE OF SURFACE.
4. INSTALL THE CURTAIN DRAIN (IF SHOWN ON PLANS).
5. CHECK THE MOISTURE CONTENT OF THE SOIL AT 7 - 8 INCHES DEEP. IF IT IS TOO WET, SMEARING AND COMPACTION WILL RESULT, THUS REDUCING THE INFILTRATION CAPACITY OF THE SOIL. SOIL MOISTURE CAN BE DETERMINED BY ROLLING A SOIL SAMPLE BETWEEN THE HANDS. IF IT ROLLS INTO A RIBBON, THE SITE IS TOO WET TO PREPARE. IF IT CRUMBLES, SOIL PREPARATION CAN PROCEED.
6. PREPARE THE SITE BY CUTTING TREES TO GROUND LEVEL AND REMOVE EXCESS VEGETATION BY MOWING.
7. WITH THE BLADE OF A SMALL TRACK TYPE TRACTOR FORM THE TRENCHES. HAND LEVEL THE BOTTOM OF THE TRENCHES. MAKE SURE BOTTOM IS AT THE SAME ELEVATION AND LEVEL.
8. PLACE THE COARSE AGGREGATE IN THE TRENCHES. IT SHOULD BE ¾ TO 1 ½ INCH, WASHED, DURABLE AGGREGATE (I.E. NOT LIMESTONE OR MARBLE). LEVEL AGGREGATE TO THE DESIGN DEPTH.
9. PLACE THE DISTRIBUTION SYSTEM ON THE AGGREGATE. **GRAVITY FED:** CONNECT THE SEWER PIPE AND LATERALS TO THE DISTRIBUTION BOX. SLOPE MANIFOLD SLIGHTLY TOWARD DISTRIBUTION LATERALS. LAY LATERALS LEVEL, REMOVING RISES AND DIPS. PLACE ORIFICES DOWNWARD AT 4 O'CLOCK AND 8 O'CLOCK POSITIONS WITH THE BOTTOM OF THE LATERAL PIPE(S) AT 6 O'CLOCK. **PRESSURIZED:** CONNECT THE MANIFOLD TO THE FORCE MAIN FROM THE PUMP CHAMBER OR SIPHON CHAMBER. SLOPE MANIFOLD SLIGHTLY TOWARD DISTRIBUTION LATERALS. LAY LATERALS LEVEL, REMOVING RISES AND DIPS. PLACE ORIFICES UPWARDS UNTIL PRESSURE TESTING IS COMPLETE. INSPECTION REQUIRED AT THIS POINT (TO OBSERVE DISCHARGE RATE AND PRESSURE TESTING).
10. **PRESSURIZED:** ROTATE ORIFICES DOWNWARD AND PROPERLY CEMENT ALL COMPONENTS. PLACE 2 INCHES OF AGGREGATE OVER THE DISTRIBUTION PIPE.
11. PLACE A SYNTHETIC NON-WOVEN FILTER FABRIC (MIRAFI 140N OR EQUIVALENT) OVER THE ENTIRE STONE TRENCH. OVERLAP JOINTS BY 12" MINIMUM. **PRESSURIZED:** PLACE AN 8'X8' MAT OF RIGID POLYSTYRENE INSULATION, 2 INCHES THICK, CENTERED OVER FORCE MAIN RISER. PLACE INSULATION IN TWO LAYERS (1" EACH) AND STAGGER THE JOINT PATTERN.
12. PLACE SOIL ON TOP OF THE TRENCH TO A DEPTH OF 1 FOOT (12 INCHES) IN CENTER OF TRENCHES. THIS MAY BE A SUBSOIL OR TOPSOIL. THE TOP 2 INCHES SHALL BE A GOOD QUALITY TOPSOIL. INSPECTION REQUIRED AT THIS POINT.
13. LANDSCAPE THE LEACHFIELD AREA BY PLANTING GRASS, USING THE BEST VEGETATION ADAPTABLE TO THE AREA. A MIXTURE OF 90% BIRDSFOOT TREFLOID AND 10% TIMOTHY MAY BE DESIRABLE IF THE MOUND IS NOT MANICURED. IF MANICURING IS DESIRED, A COMBINATION OF 60% BLUEGRASS, 30% CREEPING RED FESCUE AND 10% ANNUAL RYE GRASS MAY BE THE DESIRED VEGETATIVE COVER. KEEP ALL TREES AND SHRUBS AWAY FROM THE TOP OF THE LEACHFIELD, AS ROOT SYSTEMS CAN DESTROY THE DISTRIBUTION NETWORK.
14. WASTEWATER SYSTEM MAINTENANCE INVOLVES PUMPING THE SEPTIC TANK AND PUMP CHAMBER EVERY 1 TO 3 YEARS TO AVOID CARRYOVER OF SOLIDS INTO THE DISPOSAL SYSTEM. A GOOD WATER CONSERVATION PLAN WITHIN THE HOUSE ASSURES THAT THE DISPOSAL SYSTEM WILL NOT BE OVERLOADED. AVOID EXCESS TRAFFIC ON THE LEACHFIELD AREA. WINTER TRAFFIC ON THE LEACHFIELD SHOULD BE AVOIDED TO MINIMIZE THE FROST PENETRATION. INSPECT PUMP CHAMBER AND SEPTIC TANK EACH YEAR TO DETERMINE THE LEVEL OF SLUDGE ACCUMULATION.

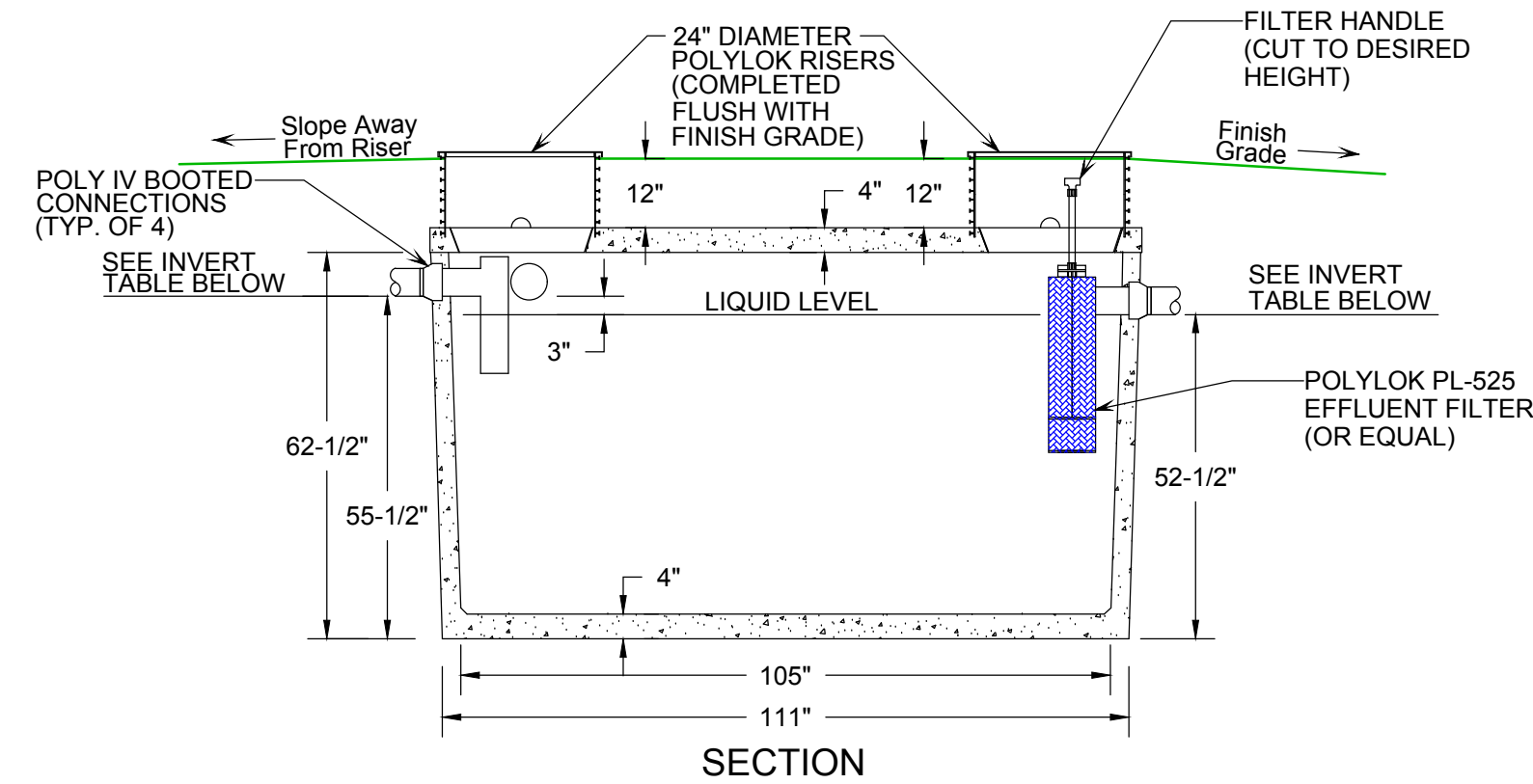
WASTEWATER DISPOSAL SYSTEM CONSTRUCTION AND MAINTENANCE NOTES

1. THE WASTEWATER DISPOSAL SYSTEM SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STATE OF VERMONT, AGENCY OF NATURAL RESOURCES, ENVIRONMENTAL PROTECTION RULES, CHAPTER 1, WASTEWATER SYSTEM AND POTABLE WATER SUPPLY RULES.
2. WASTEWATER DISPOSAL SYSTEM LOCATION SHALL BE STAKED OUT BY THE DESIGNER PRIOR TO START OF CONSTRUCTION.
3. ATTACHED MOUND SYSTEM CONSTRUCTION INSTRUCTIONS SHALL BE FOLLOWED DURING THE INSTALLATION OF THE REPLACEMENT MOUND-TYPE WASTEWATER SYSTEM.
4. THE DESIGNER SHALL BE NOTIFIED AT LEAST 48 HOURS IN ADVANCE FOR INSPECTIONS OF THE SEPTIC TANK, PUMP STATION, PLOWED LAYER, AND PLACEMENT OF THE MOUND SAND.
5. THE DESIGNER SHALL BE NOTIFIED AT LEAST 48 HOURS IN ADVANCE FOR A PRESSURE TEST OF THE MOUND SYSTEM PRESSURE DISTRIBUTION NETWORK.
6. WASTEWATER SYSTEM FINISH GRADES WILL VARY WITH NATURAL TOPOGRAPHY PRIORITY IS TO MAINTAIN 3 ON 1 MOUND TOE SLOPES.
7. SEPTIC TANK EFFLUENT FILTER SHOULD BE REMOVED AND RINSED BACK INTO THE SEPTIC TANK ANNUALLY.
8. THE SEPTIC TANK AND PUMP STATION SHOULD BE INSPECTED ANNUALLY AND PUMPED OUT AT LEAST EVERY THREE (3) YEARS OR AS NECESSARY TO PREVENT SOLIDS FROM CARRYING OVER TO THE DISPOSAL SYSTEM.
9. FOLLOWING THE MOUND WASTEWATER SYSTEM INSTALLATION, FINISH GRADE SHALL BE SEEDED AND MULCHED WITH A CONSERVATION GRASS SEED MIX.
10. WATER SOFTENER BACKWASH, SEPTIC TANK ADDITIVES, GREASE OR SANITIZERS SHALL NOT BE INTRODUCED INTO THE WASTEWATER DISPOSAL SYSTEM.

SIGNATURE:

 JASON S. BARNARD
 LICENSED DESIGNER #126178

DATE	DESCRIPTION	BY
REVISIONS		
 BARNARD & GERVAIS, LLC Land Surveying Water & Wastewater Environmental Consulting 167 Main Street, P. O. Box 820 Ensbury Falls, VT 05459 Telephone: (802) 933-5168 10523 VT Route 116, P. O. Box 133 Hinesburg, VT 05461 Telephone: (802) 482-2597		
PROJECT NO. 21221		DATE: 08-05-2024
SIX-UNIT PLANNED UNIT DEVELOPMENT WATER SUPPLY AND WASTEWATER SYSTEM DESIGNS		SCALE: AS NOTED
THOMAS NORTH STREET, LLC		SURVEY: AW, OL
NORTH MEADOW DRIVE, BRISTOL, VERMONT		DRAWN: CS
UNIT #6 - GRAVITY IN-GROUND WASTEWATER SYSTEM DETAILS & WASTEWATER SYSTEM NOTES		CHECKED: JB
THESE PLANS WITH LATEST REVISIONS SHOULD ONLY BE USED FOR THE PURPOSE SHOWN BELOW:		DRAWING NO. D-2
<input type="checkbox"/> PRELIMINARY DRAFT <input checked="" type="checkbox"/> FINAL STATE REVIEW		SHEET 5 OF 7



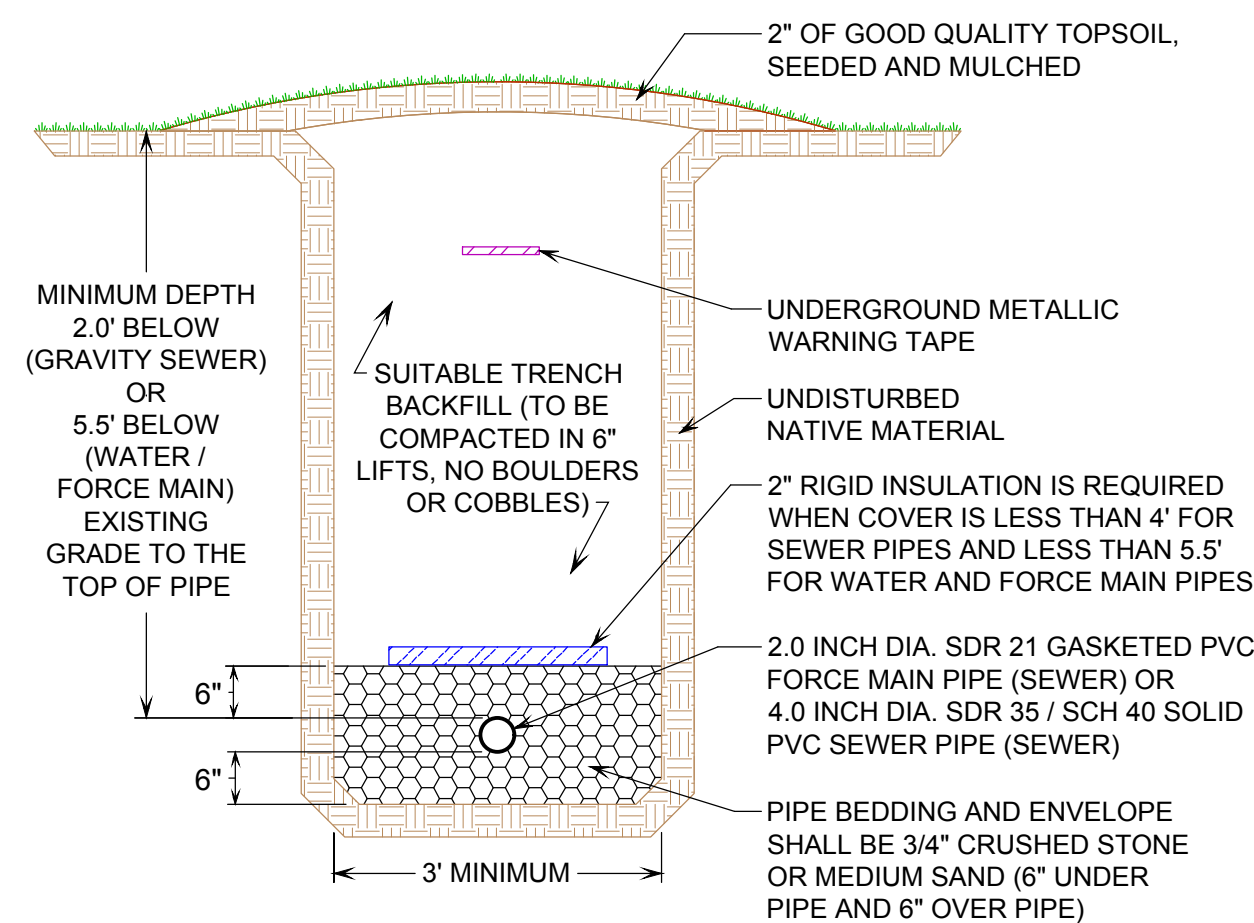
- NOTES:
- SEPTIC TANK SHALL BE SET LEVEL ON A MINIMUM OF SIX INCHES OF COMPACTED GRANULAR BASE.
 - AN INLET TEE BAFFLE IS REQUIRED.
 - IF WATER-PROOF BOOTED CONNECTIONS ARE NOT USED, ALL PIPE PENETRATIONS SHALL BE SEALED WITH A "WATER PLUG" NON-SHRINK HYDRAULIC CEMENT.
 - EFFLUENT FILTER ACCESS SHALL BE COMPLETED FLUSH WITH FINISH GRADE.

UNIT #1- #4 - 1,500 GALLON TOP SEAM CONCRETE SEPTIC TANK

NOT TO SCALE

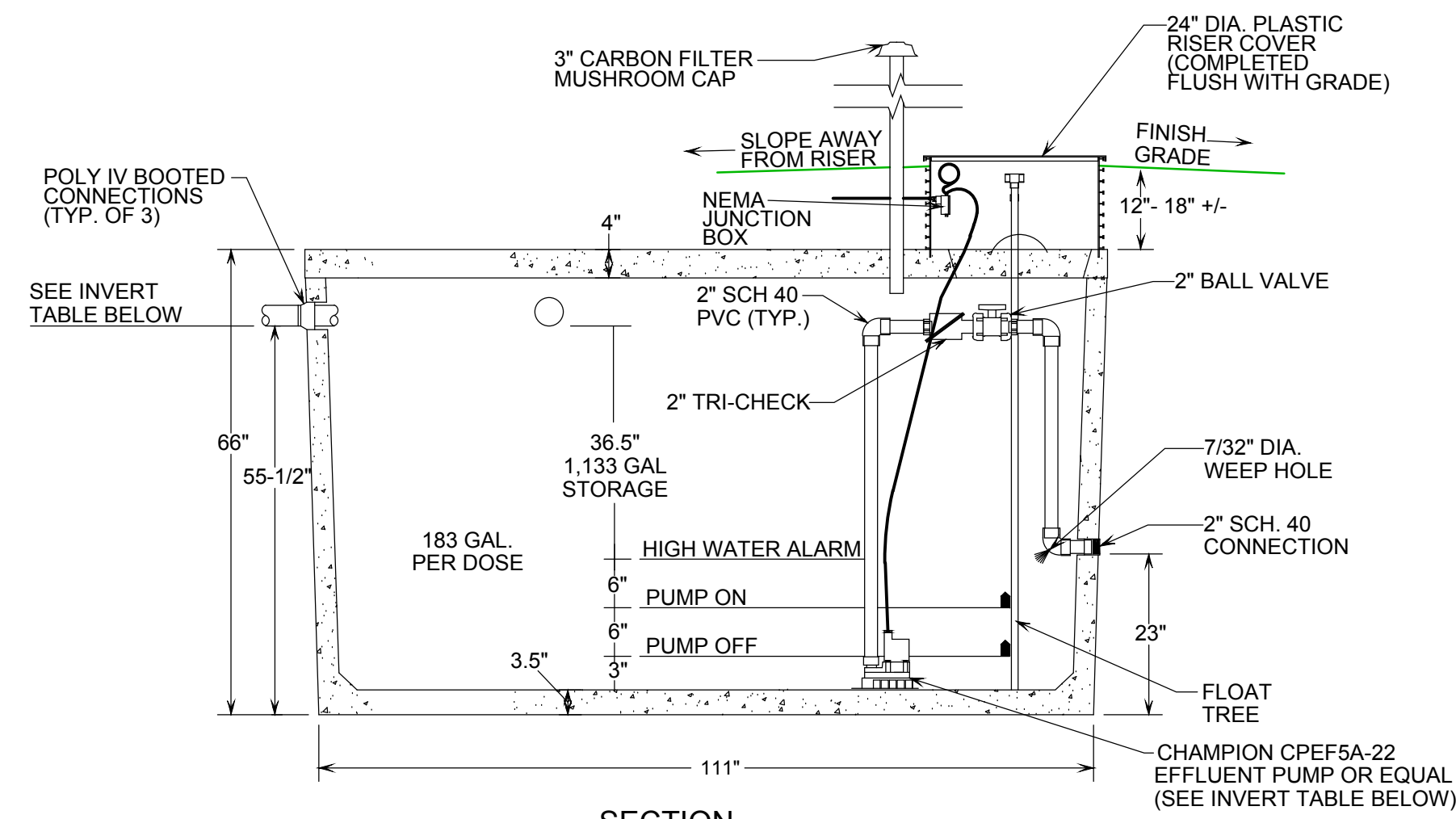
SEPTIC TANK INVERT SCHEDULE

	INLET INVERT ELEVATION	OUTLET INVERT ELEVATION
UNIT #1 / #2	533.0'±	532.75'±
UNIT #3 / #4	532.0'±	531.75'±



GRASSED AREA WASTEWATER SYSTEM PIPE IN TRENCH DETAIL

NOT TO SCALE



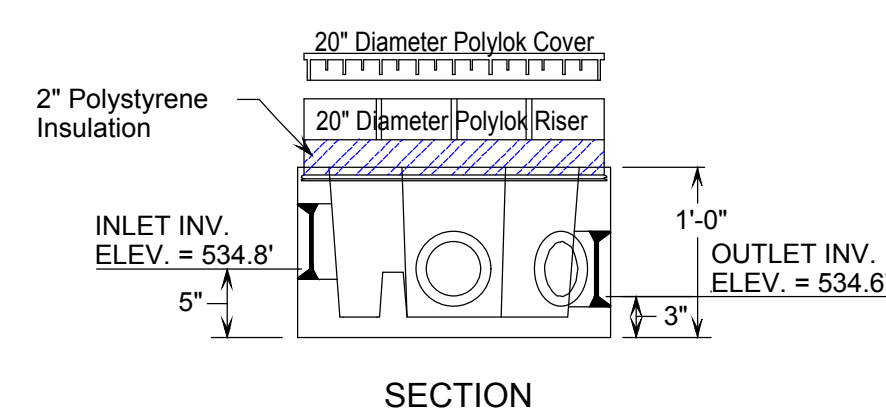
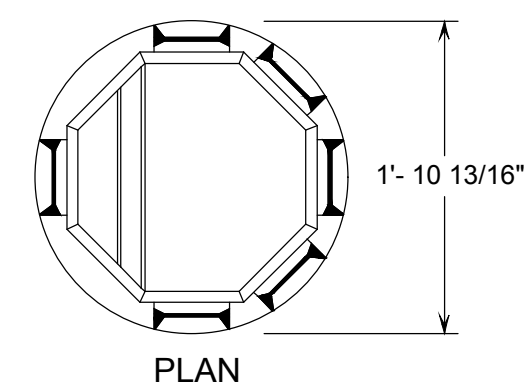
- NOTES:
- PUMP STATION SHALL BE SET LEVEL ON A MINIMUM OF 6-INCHES OF COMPACTED GRANULAR BASE.
 - PUMP STATION SECTIONS SHALL HAVE BUTYL RUBBER JOINT SEALER.
 - IF WATER-PROOF BOOTED PIPE CONNECTIONS ARE NOT USED, PIPE PENETRATIONS SHALL BE SEALED WITH "WATER PLUG" NON-SHRINK HYDRAULIC CEMENT.
 - ON/OFF FLOAT SWITCH TO BE SET WITH A 6 INCH SWING SETTING TO PROVIDE A 183 GALLON DOSE VOLUME.
 - HIGH WATER LEVEL ALARM AND PUMP STATION SHALL BE WIRED BY A LICENSED ELECTRICIAN.
 - THE HIGH WATER ALARM SHALL BE MOUNTED AT A VISIBLE LOCATION.
 - THE EFFLUENT PUMP SHALL BE CAPABLE OF THE GPM AND TDH SHOWN IN THE TABLE BELOW.

UNIT #1- #4 - 1,500-GALLON TOP-SEAM CONCRETE PUMP STATION

NOT TO SCALE

PUMP STATION INVERT & PRESSURE TABLE

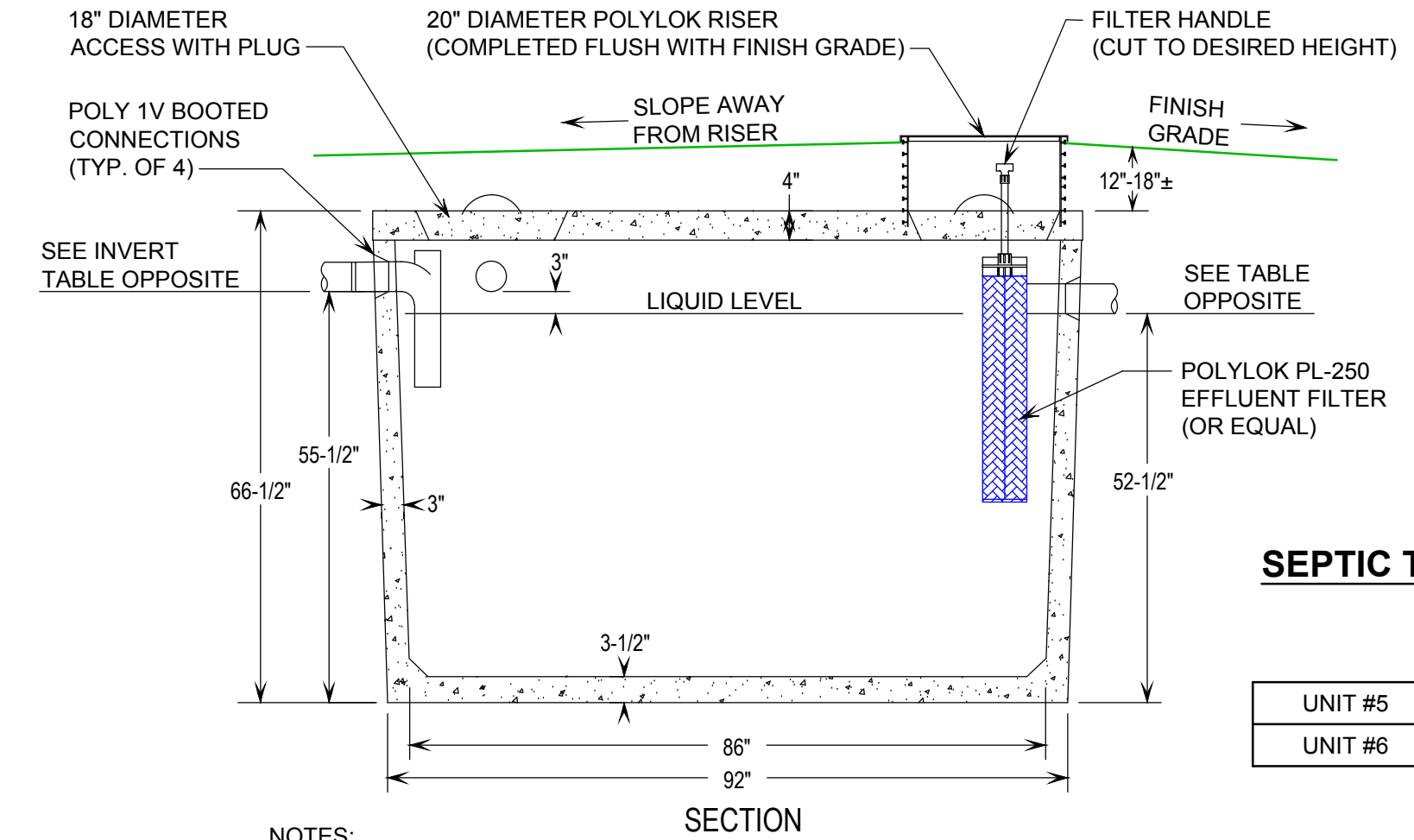
	INLET INVERT ELEVATION	PUMP ELEVATION	GPM	TDH
UNIT #1 / #2	532.65'±	528.3'±	44	26
UNIT #3 / #4	531.65'±	527.3'±	47	23



- NOTES:
- DISTRIBUTION BOX TO BE SET ON 6" OF GRANULAR BASE.
 - FLOW EQUALIZERS ARE REQUIRED.
 - D-BOX AND FLOW EQUALIZERS SHALL BE WATER LEVELED.
 - ALL PIPE PENETRATIONS SHALL BE SEALED WITH A "WATER PLUG" NON-SHRINK HYDRAULIC CEMENT.
 - DISTRIBUTION BOX ACCESS COVER SHALL BE COMPLETED FLUSH WITH FINISH GRADE.

UNIT #6 - 5-OUTLET ROUND CONCRETE DISTRIBUTION BOX

NOT TO SCALE



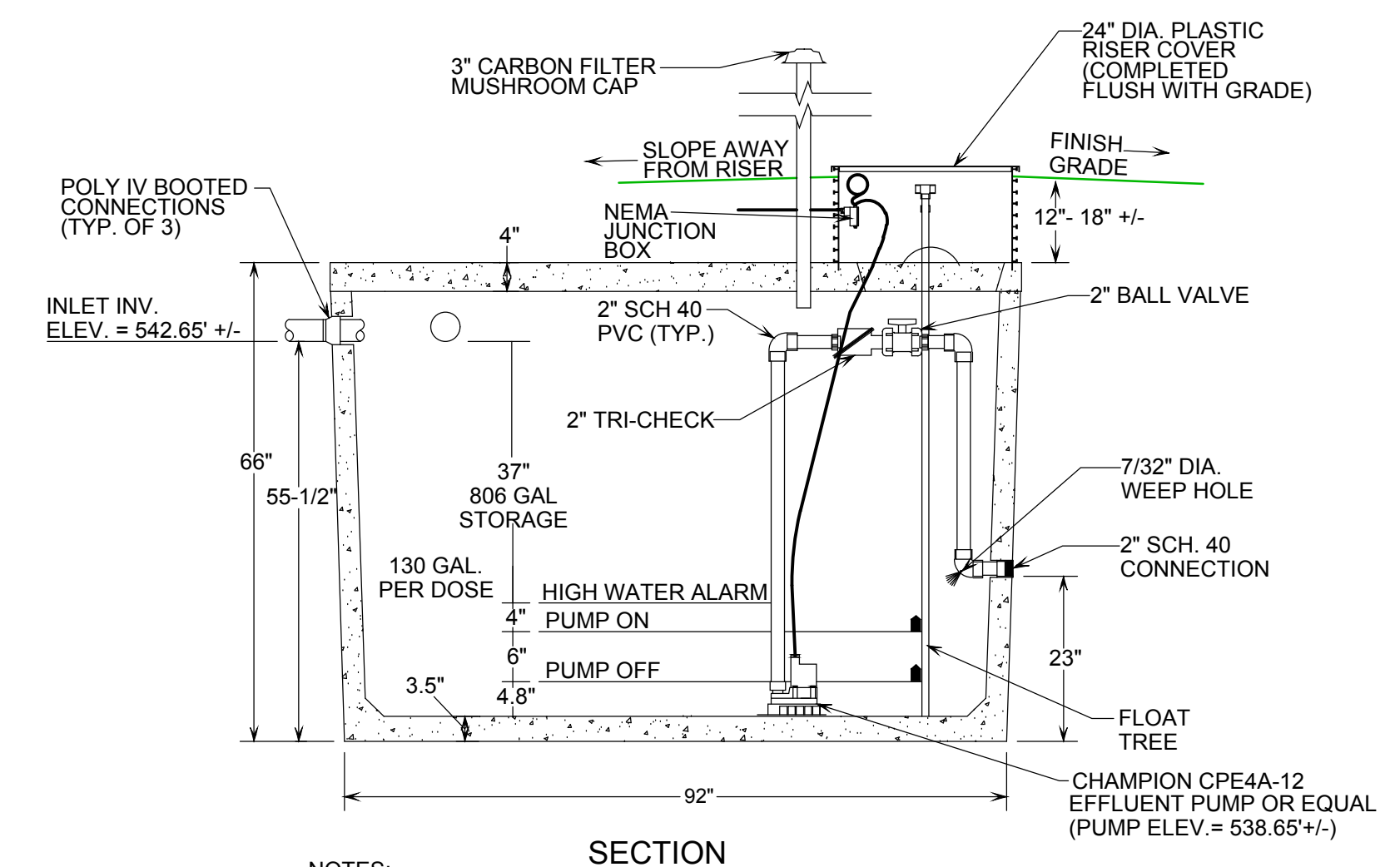
SEPTIC TANK INVERT SCHEDULE

	INLET INVERT ELEVATION	OUTLET INVERT ELEVATION
UNIT #5	543.0'±	542.75'±
UNIT #6	536.5'±	536.25'±

- NOTES:
- SEPTIC TANK SHALL BE SET LEVEL ON A MINIMUM OF SIX INCHES OF COMPACTED GRANULAR BASE.
 - AN INLET TEE BAFFLE IS REQUIRED.
 - IF WATER-PROOF BOOTED CONNECTIONS ARE NOT USED, ALL PIPE PENETRATIONS SHALL BE SEALED WITH A "WATER PLUG" NON-SHRINK HYDRAULIC CEMENT.
 - EFFLUENT FILTER ACCESS SHALL BE COMPLETED FLUSH WITH FINISH GRADE.

UNITS #5 & #6 - 1,000 GALLON TOP-SEAM CONCRETE SEPTIC TANK

NOT TO SCALE



- NOTES:
- PUMP STATION SHALL BE SET LEVEL ON A MINIMUM OF 6-INCHES OF COMPACTED GRANULAR BASE.
 - PUMP STATION SECTIONS SHALL HAVE BUTYL RUBBER JOINT SEALER.
 - IF WATER-PROOF BOOTED PIPE CONNECTIONS ARE NOT USED, PIPE PENETRATIONS SHALL BE SEALED WITH "WATER PLUG" NON-SHRINK HYDRAULIC CEMENT.
 - ON/OFF FLOAT SWITCH TO BE SET WITH A 6 INCH SWING SETTING TO PROVIDE A 130 GALLON DOSE VOLUME.
 - HIGH WATER LEVEL ALARM AND PUMP STATION SHALL BE WIRED BY A LICENSED ELECTRICIAN.
 - THE HIGH WATER ALARM SHALL BE MOUNTED AT A VISIBLE LOCATION.
 - THE EFFLUENT PUMP SHALL BE CAPABLE OF 32 GPM VS. 21 TDH.

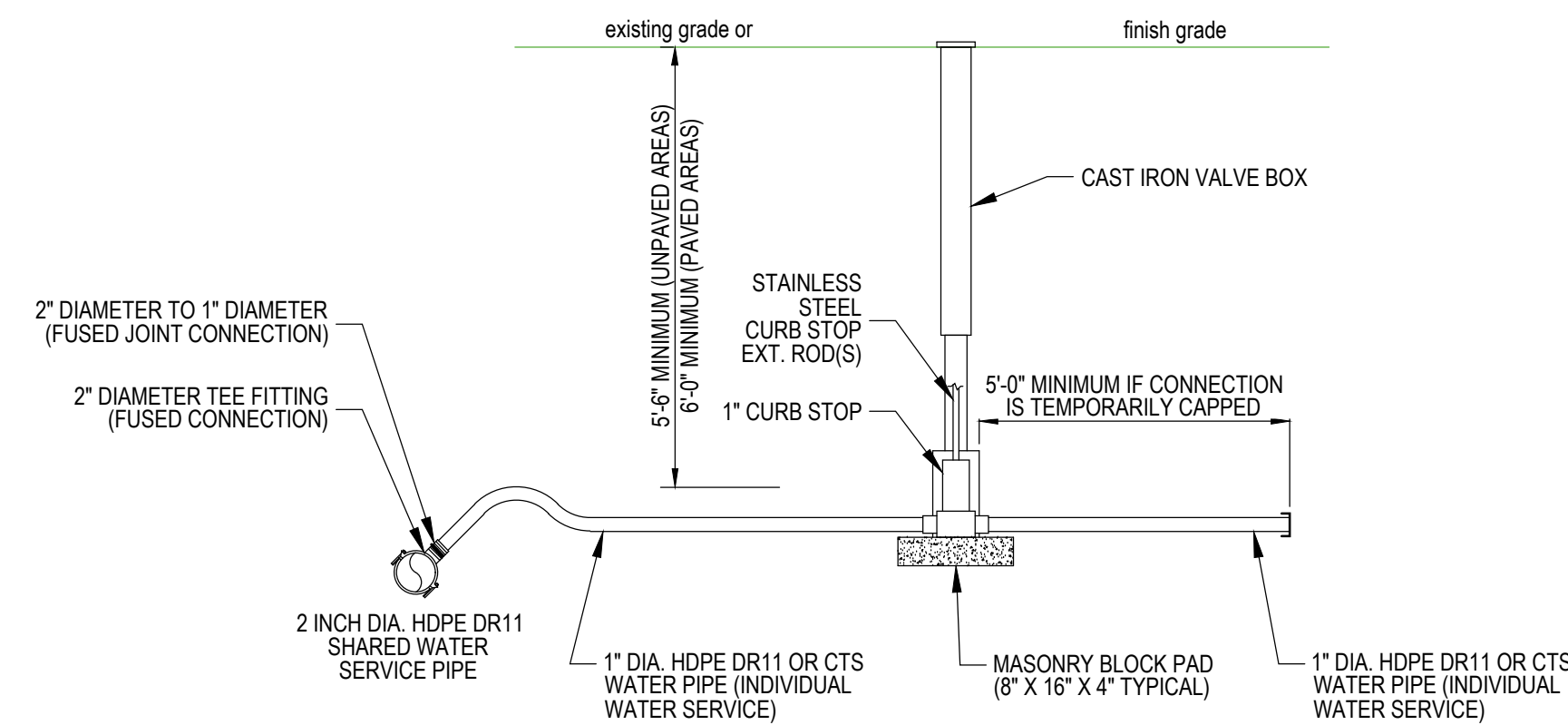
UNIT #5 - 1,000-GALLON TOP-SEAM CONCRETE PUMP STATION

NOT TO SCALE

DATE	DESCRIPTION	BY
REVISIONS		
167 Main Street, P.O. Box 820 Enosburg Falls, VT 05450 Telephone: (802) 933-5168		Land Surveying Water & Wastewater Environmental Consulting 10523 VT Route 116, P.O. Box 133 Hinesburg, VT 05461 Telephone: (802) 482-2597
PROJECT NO.	21221	
DATE:	08-05-2024	
SCALE:	AS NOTED	
SURVEY:	AW, OL	
DRAWN:	CS	
CHECKED:	JB	
DRAWING NO.	D-3	
THESE PLANS WITH LATEST REVISIONS SHOULD ONLY BE USED FOR THE PURPOSE SHOWN BELOW:		
<input type="checkbox"/> PRELIMINARY DRAFT <input checked="" type="checkbox"/> FINAL STATE REVIEW		

SIGNATURE:

JASON S. BARNARD
LICENSED DESIGNER #126179

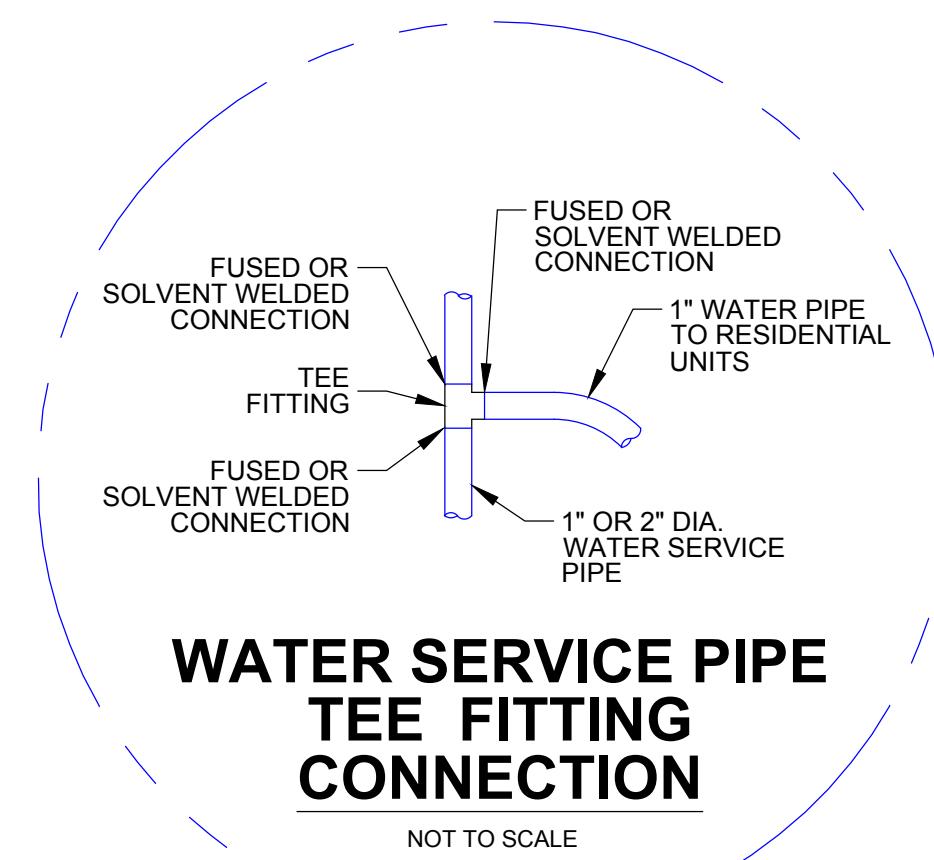


ELEVATION VIEW

- NOTES:**
1. REFER TO PIPE IN TRENCH DETAIL FOR BEDDING AND BACKFILL REQUIREMENTS.
 2. WATER SERVICE CONNECTION TO BE MADE IN ACCORDANCE WITH STATE OF VERMONT WSR AND TOWN OF BRISTOL WATER DEPT. REQUIREMENTS.
 3. WATER PIPE FITTINGS SHALL BE COMPRESSION FITTINGS OR PIPE JOINTS SHALL BE FUSED.

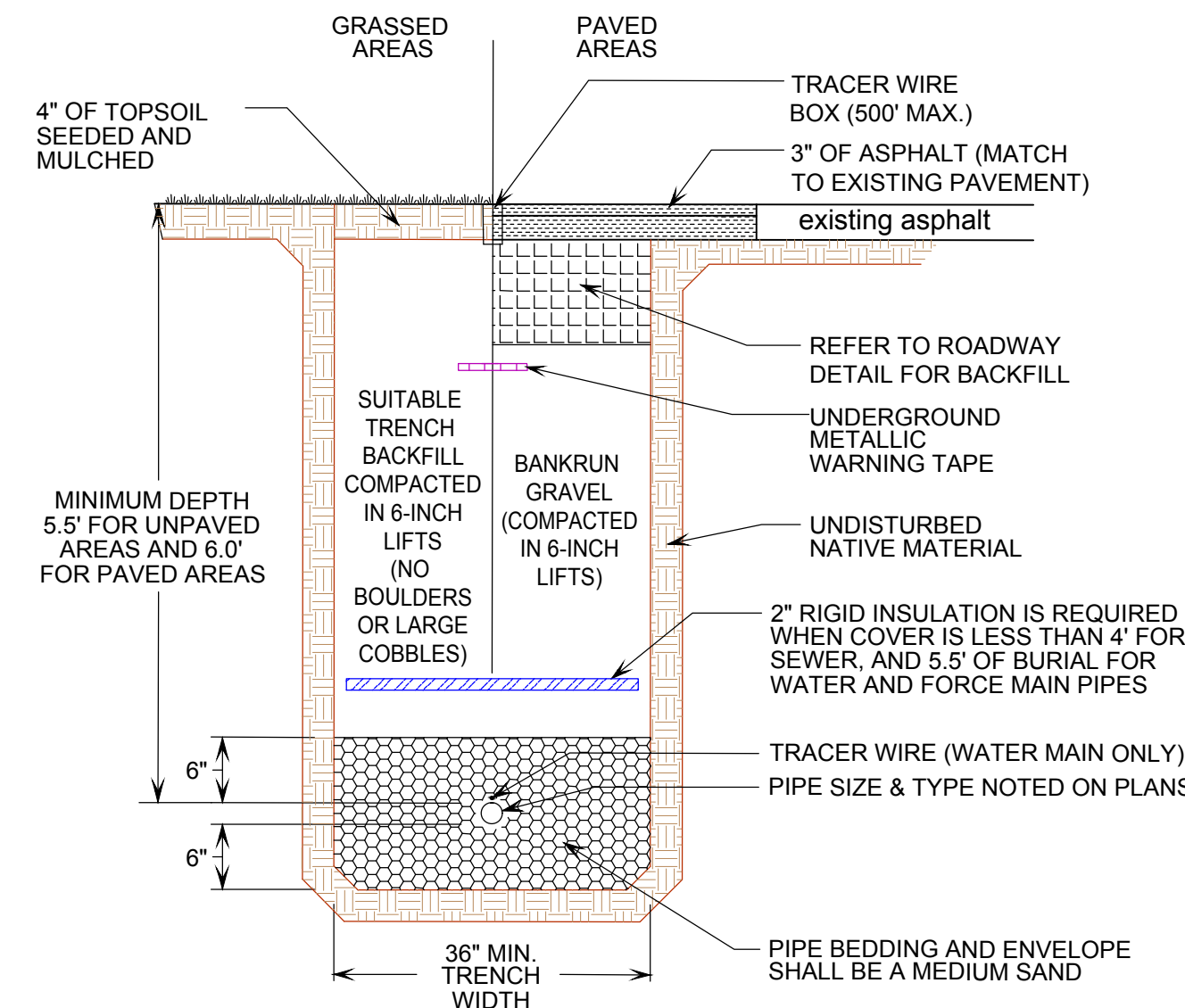
TYPICAL INDIVIDUAL WATER SERVICE CONNECTION DETAIL

NOT TO SCALE



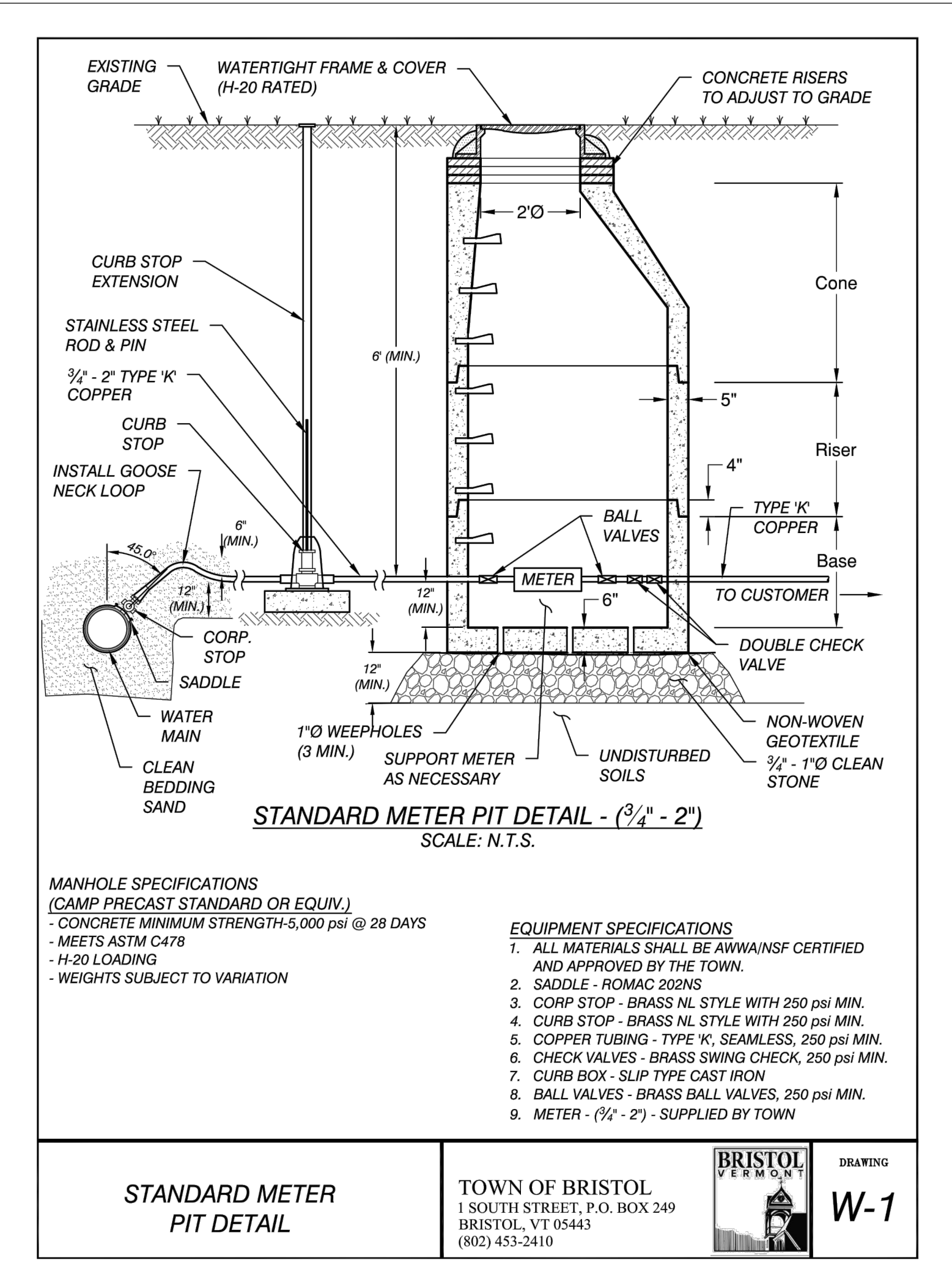
WATER SERVICE PIPE TEE FITTING CONNECTION

NOT TO SCALE



WATER PIPE IN TRENCH DETAIL

NOT TO SCALE



STANDARD METER PIT DETAIL - (3/4" - 2")

SCALE: N.T.S.

- MANHOLE SPECIFICATIONS (CAMP PRECAST STANDARD OR EQUIV.)**
- CONCRETE MINIMUM STRENGTH 5,000 psi @ 28 DAYS
 - MEETS ASTM C478
 - H-20 LOADING
 - WEIGHTS SUBJECT TO VARIATION
- EQUIPMENT SPECIFICATIONS**
1. ALL MATERIALS SHALL BE AWWA/NF CERTIFIED AND APPROVED BY THE TOWN.
 2. SADDLE - ROMAC 2029S
 3. CORP STOP - BRASS NL STYLE WITH 250 PSI MIN.
 4. CURB STOP - BRASS NL STYLE WITH 250 PSI MIN.
 5. COPPER TUBING - TYPE 'K', SEAMLESS, 250 PSI MIN.
 6. CHECK VALVES - BRASS SWING CHECK, 250 PSI MIN.
 7. CURB BOX - SLIP TYPE CAST IRON
 8. BALL VALVES - BRASS BALL VALVES, 250 PSI MIN.
 9. METER - (3/4" - 2") - SUPPLIED BY TOWN

STANDARD METER PIT DETAIL

TOWN OF BRISTOL
1 SOUTH STREET, P.O. BOX 249
BRISTOL, VT 05443
(802) 453-2410

BRISTOL VERMONT
DRAWING
W-1

- METER PIT NOTES:**
1. THE METER PIT SHOWN HEREON HAS BEEN PROVIDED BY THE TOWN OF BRISTOL AND SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE DETAIL ABOVE.
 2. AFTER THE METER PIT, THE SHARED WATER SERVICE PIPES SHALL TRANSITION TO 2 INCH DIAMETER HDPE DR11 FUSED JOINT PIPE OR 2 INCH DIAMETER CTS PIPE.
 3. THE TOWN OF BRISTOL WATER DEPT., AND TOWN ENGINEER AND THE DESIGNER SHALL BE NOTIFIED 48 HOURS IN ADVANCE TO INSPECT THE INSTALLED METER PIT.
 4. A PERMIT TO WORK IN THE RIGHT-OF-WAY SHALL BE OBTAINED BY THE CONTRACTOR PRIOR TO COMPLETING THE WATER MAIN TAP.
 5. ALL COMPONENTS SHALL BE PURCHASED BY THE CONTRACTOR AND APPROVED BY THE TOWN OF BRISTOL WATER DEPARTMENT PRIOR TO INSTALLATION.

UNITS #1 - #4 WATER SYSTEM DESIGN PRESSURES AND FLOWS

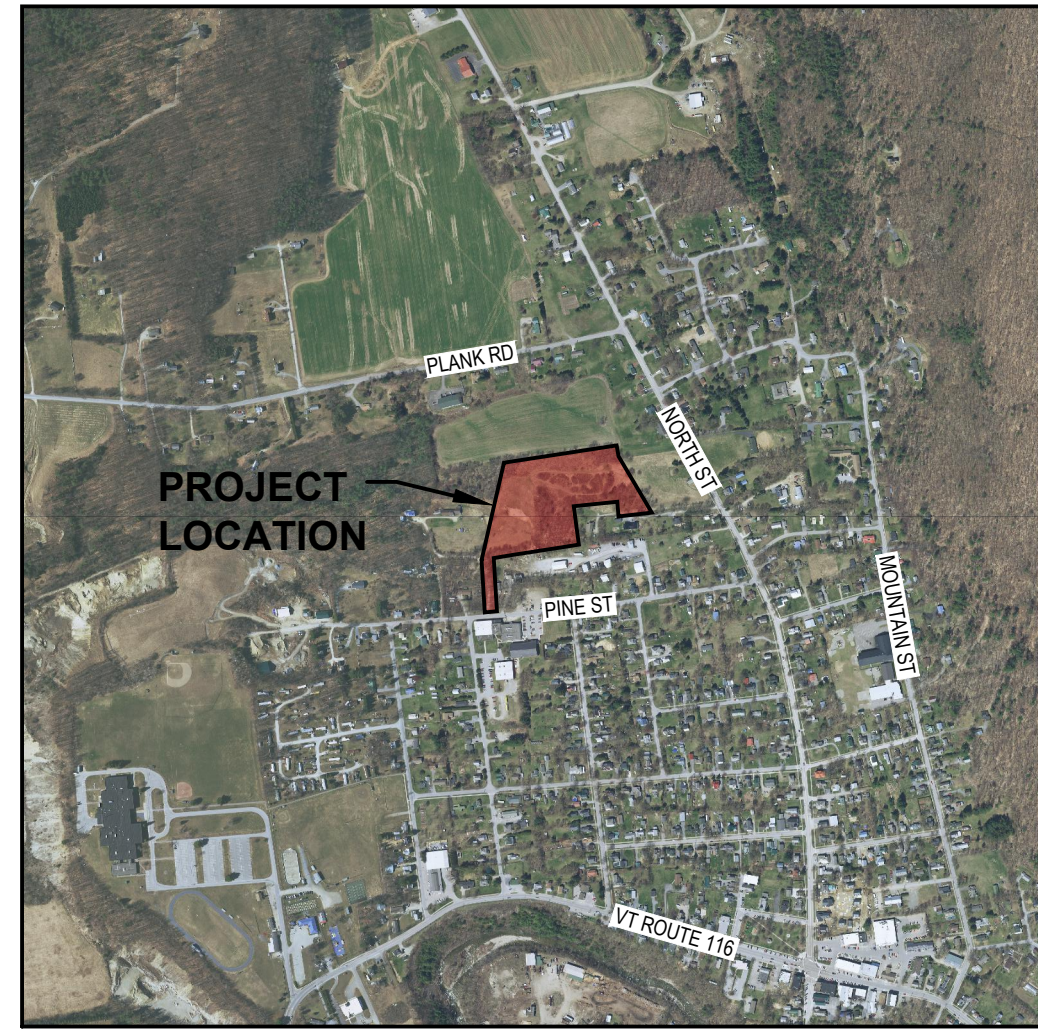
Water System Segment	Segment Location	Segment Length (FT)	Pipe Size and Type	Elevation Change (FT)	Headloss From Elevation Change	Headloss Due To Friction	Additional Headloss from Fittings or Taps (psi)	Total Headloss in Segment (psi)	System Pressure at the End of the Segment (psi)
A - B	2" Dia. Tap Off the 8" Dia. Main on North Street to the Meter Pit	11±	2" Dia. K-Copper Water Pipe	0' Change in Elev. Tap to Curb Stop	0' x 0.433 psi/ft = 0.0 psi (gain/loss)	20 gallons per minute (gpm) Through 11' of 2" dia. pipe = 1.0 psi (loss)	Loss Through a 2" Dia. Tap and One Curb Stop = 0.7 psi	1.0 psi (loss) + 0.7 psi (loss) = 1.7 psi (loss)	110 psi - 1.7 psi = 108.3 psi at the Meter Pit
B - C	From the Meter Pit to Unit #1 Tee Connection	560±	2" Dia. HDPE DR11 or CTS Water Pipe	30' Drop in Elev. Curb Stop to the Unit #1 Tee	30' x 0.433 psi/ft = 13 psi (gain)	20 gallons per minute (gpm) Through 560' of 2" HDPE or CTS pipe = 2.4 psi (loss)	Negligible	13 psi (gain) - 2.4 psi (loss) = 10.6 psi (gain)	108.3 psi + 10.6 psi (gain) = 118.9 psi
C - D	From the Unit #1 Tee Fitting to Unit #1	60±	1" Dia. HDPE DR11 or CTS Water Pipe	7' Drop in Elev. Curb Stop to Unit #1	7' x 0.433 psi/ft = 3 psi (gain)	5 gpm Through 60' of 1" HDPE or CTS pipe = 1.0 psi (loss)	Loss Through a 1" Dia. Curb Stop = 0.7 psi	3 psi (gain) - 0.7 psi (loss) = 2.3 psi (gain)	118.9 psi + 2.3 psi (gain) = 121.2 psi
D - E	From the Unit #1 Tee Connection to Unit #2 Tee Connection	70±	1" Dia. HDPE DR11 or CTS Water Pipe	0' Change in Elev. Unit #1 Tee to Unit #2 Tee	Negligible	5 gpm Through 70' of 1" HDPE or CTS pipe = 0.2 psi (loss)	Negligible	-0.2 psi (loss)	121.2 psi - 0.2 psi (loss) = 121.0 psi
E - F	From the Unit #2 Tee Fitting to Unit #2	40±	1" Dia. HDPE DR11 or CTS Water Pipe	5' Drop in Elev. Unit #2 Tee to Unit #2	5' x 0.433 psi/ft = 2.2 psi (gain)	5 gpm Through 40' of 1" HDPE or CTS pipe = 0.1 psi (loss)	Loss Through a 1" Dia. Tee Fitting = 0.7 psi	2.2 psi (gain) - 0.8 psi (loss) = 1.4 psi (gain)	121.0 psi + 1.4 psi (gain) = 122.4 psi
F - G	From the Unit #2 Tee to Unit #3 / #4 Tee Fitting	180±	2" Dia. HDPE DR11 or CTS Water Pipe	5' Drop in Elev. Unit #2 Tee to Unit #3 / #4 Tee	5' x 0.433 psi/ft = 2.2 psi (gain)	10 gpm Through 180' of 2" HDPE or CTS pipe = 0.2 psi (loss)	Negligible	2.2 psi (gain) - 0.2 psi (loss) = 2.0 psi (gain)	122.4 psi + 2.0 psi (gain) = 124.4 psi
G - H	From the Unit #3 / #4 Tee to Unit #3	50±	1" Dia. HDPE DR11 or CTS Water Pipe	5' Drop in Elev. Unit #3 / #4 Tee to Unit #3	5' x 0.433 psi/ft = 2.2 psi (gain)	5 gpm Through 50' of 1" HDPE or CTS pipe = 0.5 psi (loss)	Loss Through a 1" Dia. Curb Stop = 0.7 psi	2.2 psi (gain) - 1.2 psi (loss) = 1.0 psi (gain)	124.4 psi + 1.0 psi (gain) = 125.4 psi
H - I	From the Unit #3 / #4 Tee to Unit #4	85±	1" Dia. HDPE DR11 or CTS Water Pipe	5' Drop in Elev. Unit #3 / #4 Tee to Unit #4	5' x 0.433 psi/ft = 2.2 psi (gain)	5 gpm Through 85' of 1" HDPE or CTS pipe = 0.8 psi (loss)	Loss Through a 1" Dia. Curb Stop = 0.7 psi	2.2 psi (gain) - 1.5 psi (loss) = 0.7 psi (gain)	125.4 psi + 0.7 psi (gain) = 126.1 psi

UNITS #5 & #6 WATER SYSTEM DESIGN PRESSURES AND FLOWS

Water System Segment	Segment Location	Segment Length (FT)	Pipe Size and Type	Elevation Change (FT)	Headloss From Elevation Change	Headloss Due To Friction	Additional Headloss from Fittings or Taps (psi)	Total Headloss in Segment (psi)	System Pressure at the End of the Segment (psi)
A - B	2" Dia. Tap Off the 8" Dia. Main on Pine Street to the Meter Pit	25±	2" Dia. K-Copper Water Pipe	2' Drop in Elev. Tap to Meter Pit	2' x 0.433 psi/ft = 0.86 psi (gain)	10 gpm Through 25' of 2" HDPE or CTS pipe = 0.3 psi (loss)	Loss Through a 2" Dia. Tap and One Curb Stop = 0.7 psi	0.86 psi (gain) - 1.0 psi (loss) = -0.14 psi (loss)	110 psi - 0.14 psi = 109.86 psi at the Meter Pit
B - C	From the Meter Pit to Units #5 & #6	480±	2" Dia. HDPE DR11 or CTS Water Pipe	35' Change in Elev. Meter Pit to Tee	35' x 0.433 psi/ft = 15 psi (gain)	10 gpm Through 480' of 2" HDPE or CTS pipe = 0.3 psi (loss)	Negligible	15 psi (gain) - 0.3 psi (loss) = 14.7 psi (gain)	109.86 psi + 14.7 psi (gain) = 124.6 psi
C - D	From the Tee Connection to Unit #5	140±	1" Dia. HDPE DR11 or CTS Water Pipe	5' Change in Elev. Unit #5 / #6 Tee to Unit #5	5' x 0.433 psi/ft = 2.2 psi (loss)	5 gpm Through 140' of 1" HDPE or CTS pipe = 1.0 psi (loss)	Loss Through a Curb Stop = 0.7 psi	2.2 psi (loss) + 1.7 psi (loss) = 3.9 psi (loss)	124.6 psi - 3.9 psi (loss) = 120.7 psi at Unit #5
D - E	From the Unit #5 / #6 Tee Connection to Unit #6	110±	1" Dia. HDPE DR11 or CTS Water Pipe	2' Change in Elev. Unit #5 / #6 Tee to Unit #6	2' x 0.433 psi/ft = 0.86 psi (gain)	5 gpm Through 110' of 1" HDPE or CTS pipe = 1.0 psi (loss)	Loss Through a Curb Stop = 0.7 psi	0.86 psi (gain) + 1.0 psi (loss) = 0.14 psi (loss)	120.7 psi - 0.14 psi (loss) = 120.56 psi at Unit #6

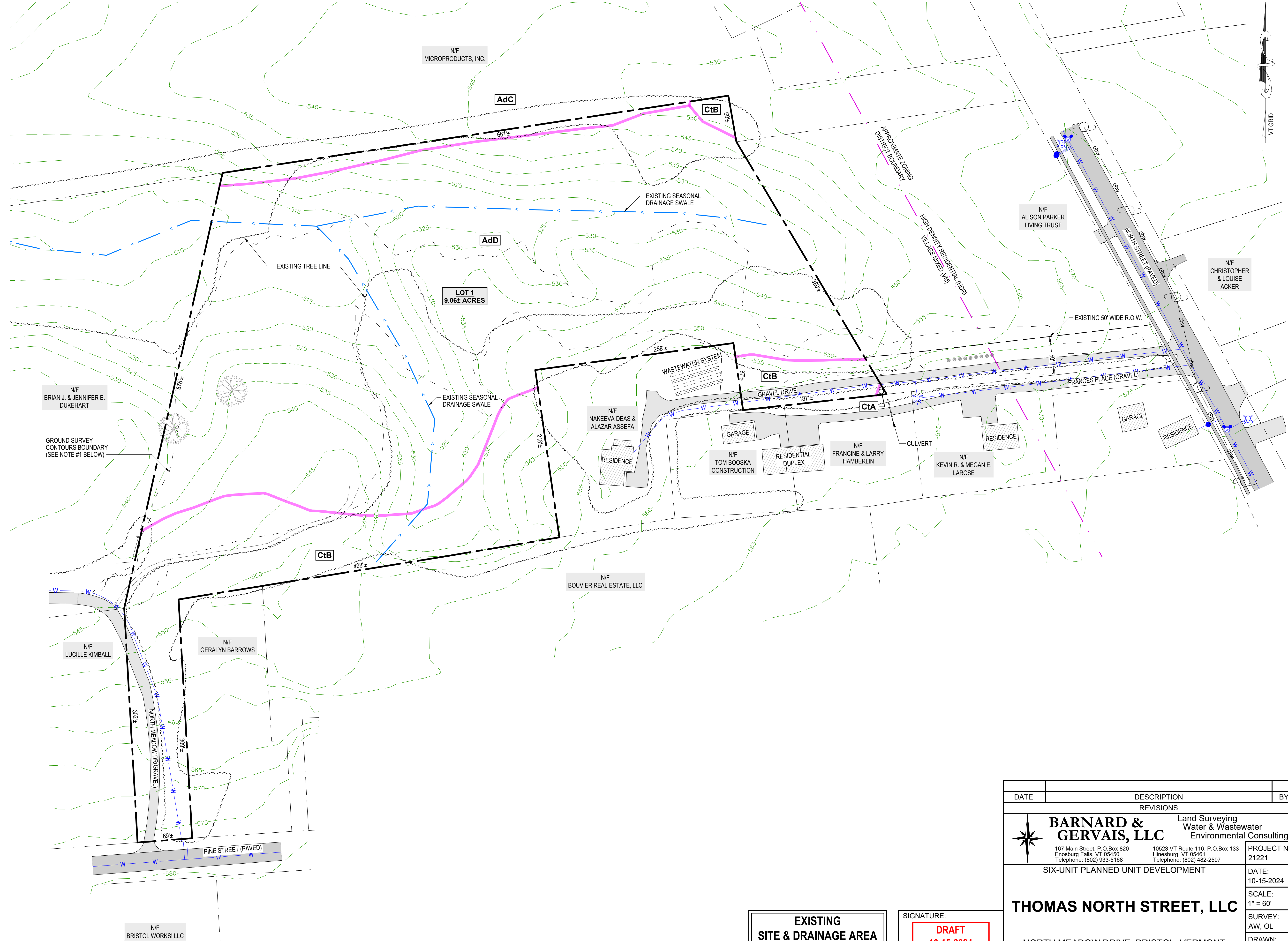
- NOTES:**
1. SYSTEM PRESSURES ARE BASED ON A STATIC PRESSURE OF 110 POUNDS PER SQUARE INCH (PSI) AT THE 8 INCH DIA. MAIN ON THE WESTERLY SIDE OF NORTH STREET AND A STATIC PRESSURE OF 110 POUNDS PER SQUARE INCH (PSI) AT THE 8 INCH DIA. MAIN ON THE SOUTHERLY SIDE OF PINE STREET. THIS STATIC PRESSURE WAS PROVIDED BY TOWN OF BRISTOL ENGINEER STEVE PALMER, P.E.
 2. SYSTEM ELEVATIONS ARE BASED ON THE PIPE BEING INSTALLED AT A DEPTH OF 5 TO 6 FEET BELOW EXISTING GROUND SURFACE.
 3. SYSTEM FLOW RATES ARE BASED ON 5 GALLONS PER MINUTE (GPM) FOR EACH RESIDENCE AS STIPULATED BY THE STATE OF VERMONT REGULATIONS FOR A TOTAL PROJECT INSTANTANEOUS PEAK DEMAND (IPD) OF 20 GPM. FOR UNITS #1 - #4, AND 10 GPM FOR UNITS #5 AND #6.
 4. THE HAZEN-WILLIAMS FORMULA WAS USED TO CALCULATE THE FRICTION LOSS IN EACH SEGMENT OF WATER PIPE. A ROUGHNESS COEFFICIENT (C) OF 140 IS USED FOR HDPE, CTS AND COPPER PIPES.
 5. BASED ON PROVIDED INFORMATION AND THE EVOLUTION OF THE NEW WATER SERVICE CONNECTIONS, THE PRESSURES AT EACH OF THE UNITS WILL EXCEED 120 PSI. THEREFORE, THE PROPOSED WATER SERVICES ARE ADEQUATELY SIZED FOR THE PROJECT AND IN FACT PRESSURE REDUCING VALVES (PRV) WILL LIKELY BE REQUIRED TO REDUCE THE PRESSURES AT EACH UNIT.

DATE	DESCRIPTION	BY
REVISIONS		
BARNARD & GERVAIS, LLC		Land Surveying Water & Wastewater Environmental Consulting
167 Main Street, P.O. Box 820 Enosburg Falls, VT 05450 Telephone: (802) 933-5168		10523 VT Route 116, P.O. Box 133 Hinesburg, VT 05461 Telephone: (802) 482-2597
SIX-UNIT PLANNED UNIT DEVELOPMENT WATER SUPPLY AND WASTEWATER SYSTEM DESIGNS		
THOMAS NORTH STREET, LLC		PROJECT NO. 21221
NORTH MEADOW DRIVE, BRISTOL, VERMONT		DATE: 08-05-2024
MUNICIPAL WATER SYSTEM CONNECTION DETAILS		SCALE: AS NOTED
THESE PLANS WITH LATEST REVISIONS SHOULD ONLY BE USED FOR THE PURPOSE SHOWN BELOW:		SURVEY: AW, OL
<input type="checkbox"/> PRELIMINARY DRAFT <input checked="" type="checkbox"/> FINAL STATE REVIEW		DRAWN: CS
SIGNATURE:		CHECKED: JB
		DRAWING NO. D-4
JASON S. BARNARD LICENSED DESIGNER #126178		SHEET 7 OF 7

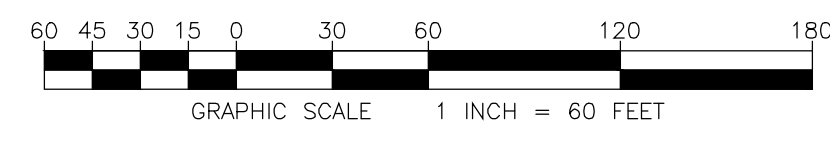


Project Location Map
Not to Scale

- LEGEND**
- BOUNDARY LINE/ R.O.W. (SUBJECT PARCEL)
 - - - BOUNDARY LINE/ R.O.W. (ABUTTING PARCEL)
 - - - SIDELINE OF EASEMENT
 - - - EDGE OF ROAD/DRIVE (SURFACE NOTED)
 - 100 5-FOOT LIDAR CONTOUR (OBTAINED FROM VCGI DATABASE)
 - 100 5-FOOT GROUND SURVEY CONTOUR
 - - - ZONING DISTRICT BOUNDARY
 - TREE LINE
 - S S GRAVITY SEWER
 - FM FM FORCE MAIN
 - W W 1-INCH DIAMETER CL200 POLYETHYLENE PLASTIC WATER LINE (UNLESS OTHERWISE NOTED)
 - WL WETLAND BOUNDARY
 - WB WETLAND BUFFER
 - UE UNDERGROUND ELECTRICAL CONDUIT
 - ohw UTILITY POLE/ OVERHEAD WIRES
 - T ELECTRICAL PEDESTAL
 - TEMPORARY BENCHMARK (TYPE AND ELEVATION NOTED)
 - SOIL BORING (SB-01)
 - DRILLED WELL (UNLESS OTHERWISE NOTED)
 - Abc NRCS SOIL CLASSIFICATION
 - NRCS SOIL CLASSIFICATION BOUNDARY
 - PROJECT SITE AND DRAINAGE AREA
 - DRAINAGE SUBCATCHMENT AREA
 - RUNOFF FLOW PATH
 - # DRAINAGE SUBCATCHMENT DESIGNATION



NOTES:
1. THE ELEVATIONS ON THIS PLAN WITHIN THE DASHED BOUNDARIES SHOWN ARE 1-FOOT CONTOURS BASED ON NAVD88 (GEOID12B) ESTABLISHED FROM SURVEY GRADE GNSS READINGS COLLECTED WITH A TOPCON HIPER SR GNSS RECEIVER ADJUSTED TO VERMONT GRID ON RANDOM CONTROL POINTS USING REAL TIME KINEMATIC CORRECTIONS FROM A VIRTUAL REFERENCE STATION OF THE VT CORN NETWORK. THE ELEVATIONS ON THIS PLAN OUTSIDE THE DASHED BOUNDARIES SHOWN ARE 1-FOOT LIDAR CONTOURS OBTAINED FROM THE STATE OF VERMONT VCGI OPEN DATA PORTAL DATABASE.



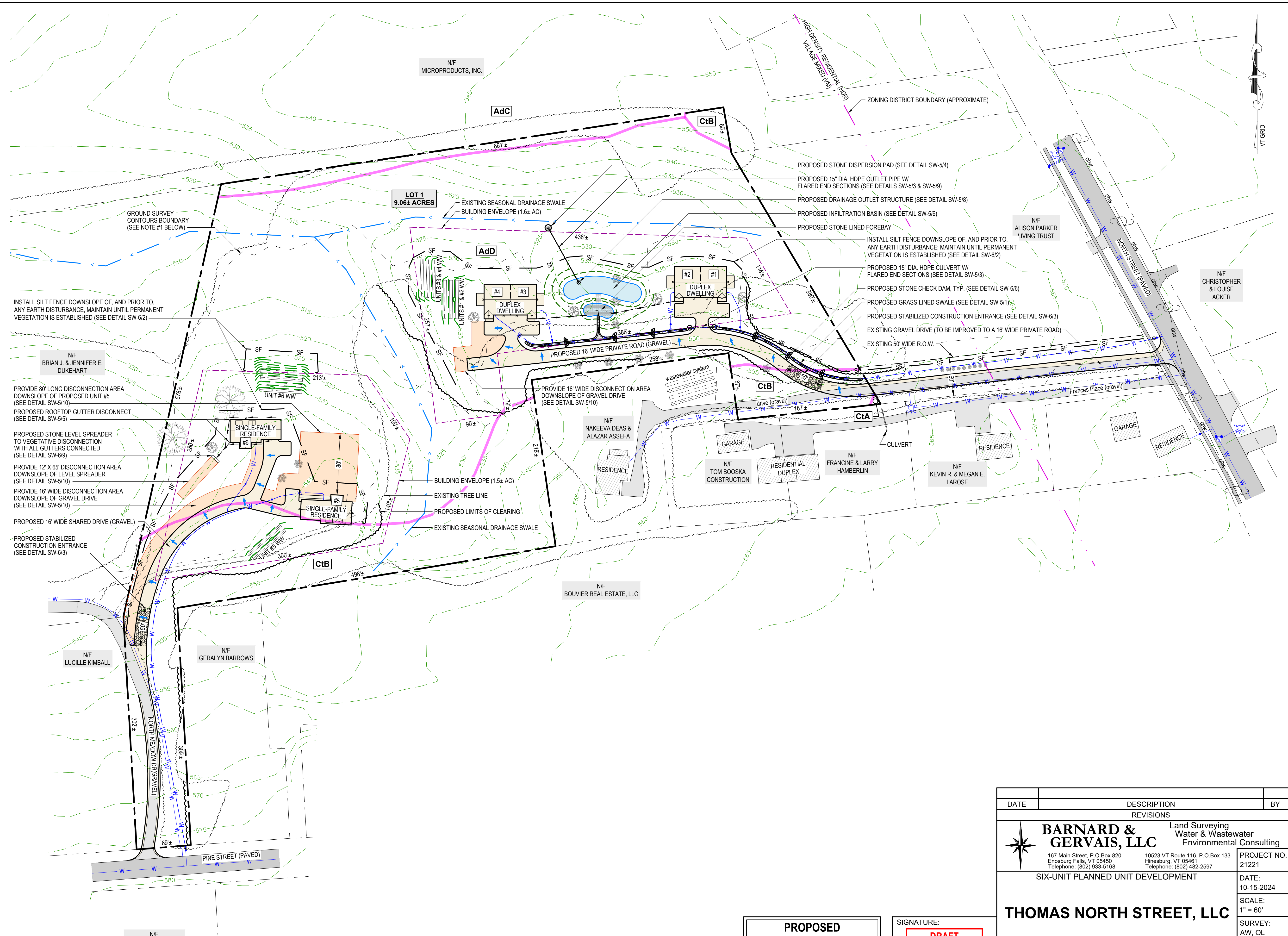
EXISTING SITE & DRAINAGE AREA	
IMPERVIOUS:	0.00 AC
WOODS:	0.00 AC
MEADOW:	0.00 AC
TOTAL:	0.00 AC

SIGNATURE:
DRAFT
10-15-2024
Town of Bristol
P.U.D. Permit Set
NOT FOR CONSTRUCTION
JEFFREY OLESKY, P.E.
PROFESSIONAL ENGINEER #8819

DATE	DESCRIPTION	BY
REVISIONS		
BARNARD & GERVAIS, LLC Land Surveying Water & Wastewater Environmental Consulting <small>167 Main Street, P.O. Box 820 Enosburg Falls, VT 05450 Telephone: (802) 933-5168</small> <small>10523 VT Route 116, P.O. Box 133 Hinesburg, VT 05461 Telephone: (802) 482-2597</small>		
SIX-UNIT PLANNED UNIT DEVELOPMENT		
PROJECT NO.	21221	
DATE:	10-15-2024	
SCALE:	1" = 60'	
SURVEY:	AW, OL	
DRAWN:	CS, SB	
CHECKED:	JO	
DRAWING NO.	SW-1	
THESE PLANS WITH LATEST REVISIONS SHOULD ONLY BE USED FOR THE PURPOSE SHOWN BELOW:		
<input checked="" type="checkbox"/> PRELIMINARY DRAFT <input type="checkbox"/> FINAL STATE REVIEW		

THOMAS NORTH STREET, LLC
NORTH MEADOW DRIVE, BRISTOL, VERMONT
EXISTING STORMWATER MANAGEMENT SITE PLAN

- LEGEND**
- BOUNDARY LINE/ R.O.W. (SUBJECT PARCEL)
 - BOUNDARY LINE/ R.O.W. (ABUTTING PARCEL)
 - SIDELINE OF EASEMENT
 - EDGE OF ROAD/DRIVE (SURFACE NOTED)
 - 100 5-FOOT LIDAR CONTOUR (OBTAINED FROM VCGI DATABASE)
 - 100 5-FOOT GROUND SURVEY CONTOUR
 - 100 FINISH GRADE
 - ZONING DISTRICT BOUNDARY
 - BUILDING ENVELOPE
 - TREE LINE
 - PROPOSED LIMITS OF CLEARING
 - S S GRAVITY SEWER
 - FM FM FORCE MAIN
 - W W 1-INCH DIAMETER CL200 POLYETHYLENE PLASTIC WATER LINE (UNLESS OTHERWISE NOTED)
 - WL WETLAND BOUNDARY
 - WB WETLAND BUFFER
 - UE UNDERGROUND ELECTRICAL CONDUIT
 - ohw UTILITY POLE/ OVERHEAD WIRES
 - ⊕ ELECTRICAL PEDESTAL
 - ⊕ TEMPORARY BENCHMARK (TYPE AND ELEVATION NOTED)
 - ⊕ SOIL BORING (SB-01)
 - ⊕ DRILLED WELL (UNLESS OTHERWISE NOTED)
 - ABC NRCS SOIL CLASSIFICATION
 - NRCS SOIL CLASSIFICATION BOUNDARY
 - PROJECT SITE AND DRAINAGE AREA
 - DRAINAGE SUBCATCHMENT AREA
 - RUNOFF FLOW PATH
 - GRASS SWALE
 - STONE SWALE
 - # DRAINAGE SUBCATCHMENT DESIGNATION
 - RUNOFF FLOW
 - EROSION CONTROL MATTING
 - STONE CHECK DAM
 - ⊕ STORMWATER MAINTENANCE PLAN ITEM



INSTALL SILT FENCE DOWNSLOPE OF, AND PRIOR TO, ANY EARTH DISTURBANCE. MAINTAIN UNTIL PERMANENT VEGETATION IS ESTABLISHED (SEE DETAIL SW-6/2)

PROVIDE 80' LONG DISCONNECTION AREA DOWNSLOPE OF PROPOSED UNIT #5 (SEE DETAIL SW-5/10)

PROVIDE 12' X 65' DISCONNECTION AREA DOWNSLOPE OF LEVEL SPREADER (SEE DETAIL SW-5/10)

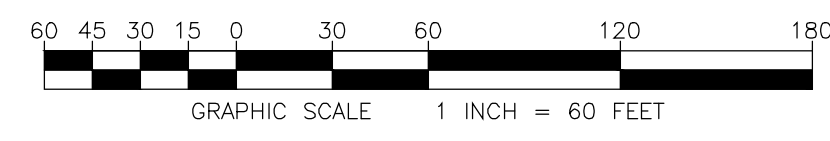
PROVIDE 16' WIDE DISCONNECTION AREA DOWNSLOPE OF GRAVEL DRIVE (SEE DETAIL SW-5/10)

PROVIDE 16' WIDE SHARED DRIVE (GRAVEL)

PROPOSED STABILIZED CONSTRUCTION ENTRANCE (SEE DETAIL SW-6/3)

PROPOSED STONE DISPERSION PAD (SEE DETAIL SW-5/4)
 PROPOSED 15" DIA. HDPE OUTLET PIPE W/ FLARED END SECTIONS (SEE DETAILS SW-5/3 & SW-5/9)
 PROPOSED DRAINAGE OUTLET STRUCTURE (SEE DETAIL SW-5/8)
 PROPOSED INFILTRATION BASIN (SEE DETAIL SW-5/6)
 PROPOSED STONE-LINED FOREBAY
 INSTALL SILT FENCE DOWNSLOPE OF, AND PRIOR TO, ANY EARTH DISTURBANCE. MAINTAIN UNTIL PERMANENT VEGETATION IS ESTABLISHED (SEE DETAIL SW-6/2)
 PROPOSED 15" DIA. HDPE CULVERT W/ FLARED END SECTIONS (SEE DETAIL SW-5/3)
 PROPOSED STONE CHECK DAM, TYP. (SEE DETAIL SW-6/6)
 PROPOSED GRASS-LINED SWALE (SEE DETAIL SW-5/1)
 PROPOSED STABILIZED CONSTRUCTION ENTRANCE (SEE DETAIL SW-6/3)
 EXISTING GRAVEL DRIVE (TO BE IMPROVED TO A 16' WIDE PRIVATE ROAD)
 EXISTING 50' WIDE R.O.W.

NOTES:
 1. THE ELEVATIONS ON THIS PLAN WITHIN THE DASHED BOUNDARIES SHOWN ARE 1-FOOT CONTOURS BASED ON NAVD88 (GEOID12B) ESTABLISHED FROM SURVEY GRADE GNSS READINGS COLLECTED WITH A TOPCON HIPER SR GNSS RECEIVER ADJUSTED TO VERMONT GRID ON RANDOM CONTROL POINTS USING REAL TIME KINEMATIC CORRECTIONS FROM A VIRTUAL REFERENCE STATION OF THE VT CORS NETWORK. THE ELEVATIONS ON THIS PLAN OUTSIDE THE DASHED BOUNDARIES SHOWN ARE 1-FOOT LIDAR CONTOURS OBTAINED FROM THE STATE OF VERMONT VCGI OPEN DATA PORTAL DATABASE.

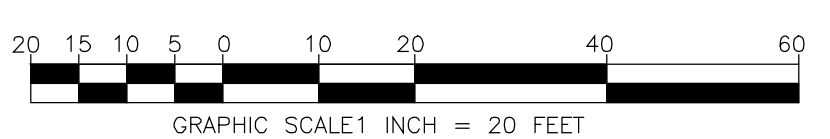
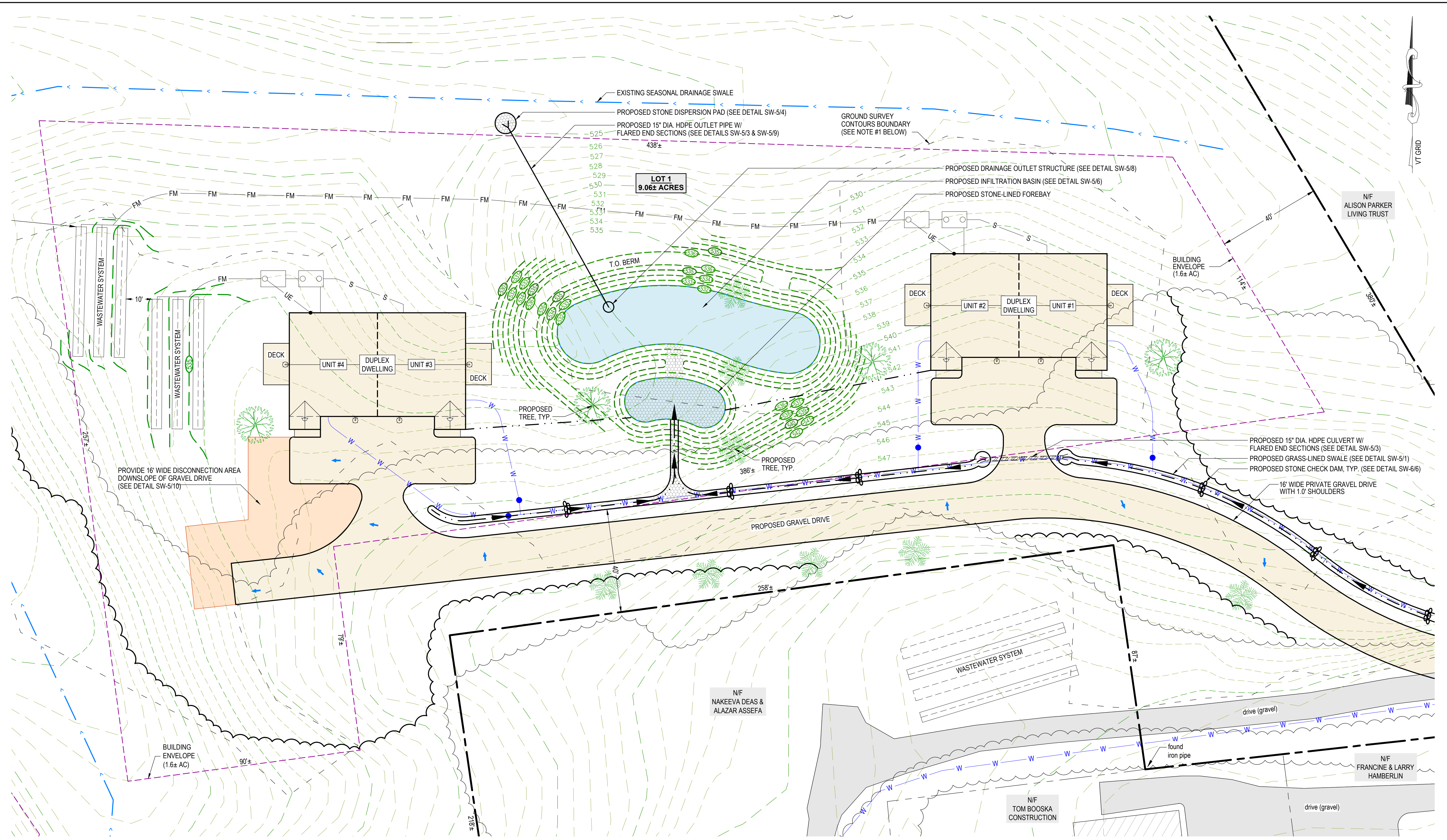


PROPOSED SITE & DRAINAGE AREA	
IMPERVIOUS:	0.00 AC
WOODS:	0.00 AC
MEADOW:	0.00 AC
TOTAL:	0.00 AC

SIGNATURE:
DRAFT
10-15-2024
Town of Bristol
P.U.D. Permit Set
NOT FOR CONSTRUCTION
 JEFFREY OLESKY, P.E.
 PROFESSIONAL ENGINEER #8819

DATE	DESCRIPTION	BY
REVISIONS		
BARNARD & GERVAIS, LLC Land Surveying Water & Wastewater Environmental Consulting 167 Main Street, P.O. Box 820 Enosburg Falls, VT 05450 Telephone: (802) 933-5168 10523 VT Route 116, P.O. Box 133 Hinesburg, VT 05461 Telephone: (802) 482-2597		
PROJECT NO. 21221		DATE: 10-15-2024
SIX-UNIT PLANNED UNIT DEVELOPMENT		SCALE: 1" = 60'
THOMAS NORTH STREET, LLC		SURVEY: AW, OL
NORTH MEADOW DRIVE, BRISTOL, VERMONT		DRAWN: CS, SB
PROPOSED STORMWATER MANAGEMENT & EPSC/ STABILIZATION SITE PLAN		CHECKED: JO
THESE PLANS WITH LATEST REVISIONS SHOULD ONLY BE USED FOR THE PURPOSE SHOWN BELOW:		DRAWING NO. SW-2
<input checked="" type="checkbox"/> PRELIMINARY DRAFT <input type="checkbox"/> FINAL STATE REVIEW		SHEET 2 OF 6

- LEGEND**
- BOUNDARY LINE/ R.O.W. (SUBJECT PARCEL)
 - BOUNDARY LINE/ R.O.W. (ABUTTING PARCEL)
 - SIDELINE OF EASEMENT
 - EDGE OF ROAD/DRIVE (SURFACE NOTED)
 - 100 1-FOOT LIDAR CONTOUR (OBTAINED FROM VCGI DATABASE)
 - 100 1-FOOT GROUND SURVEY CONTOUR
 - 100 FINISH GRADE
 - BUILDING ENVELOPE
 - TREE LINE
 - PROPOSED LIMITS OF CLEARING
 - S S GRAVITY SEWER
 - FM FM FORCE MAIN
 - W W 1-INCH DIAMETER CL200 POLYETHYLENE PLASTIC WATER LINE (UNLESS OTHERWISE NOTED)
 - WL WETLAND BOUNDARY
 - WB WETLAND BUFFER
 - UE UNDERGROUND ELECTRICAL CONDUIT
 - ohw UTILITY POLE/ OVERHEAD WIRES
 - T ELECTRICAL PEDESTAL
 - TEMPORARY BENCHMARK (TYPE AND ELEVATION NOTED)
 - SOIL BORING (SB-01)
 - DRILLED WELL (UNLESS OTHERWISE NOTED)
 - Abc NRCS SOIL CLASSIFICATION
 - NRCS SOIL CLASSIFICATION BOUNDARY
 - PROJECT SITE AND DRAINAGE AREA
 - DRAINAGE SUBCATCHMENT AREA
 - RUNOFF FLOW PATH
 - GRASS SWALE
 - STONE SWALE
 - # DRAINAGE SUBCATCHMENT DESIGNATION
 - RUNOFF FLOW
 - EROSION CONTROL MATTING
 - STONE CHECK DAM



NOTES:
 1. THE ELEVATIONS ON THIS PLAN WITHIN THE DASHED BOUNDARIES SHOWN ARE 1-FOOT CONTOURS BASED ON NAVD88 (GEOID12B) ESTABLISHED FROM SURVEY GRADE GNSS READINGS COLLECTED WITH A TOPCON HIPER SR GNSS RECEIVER ADJUSTED TO VERMONT GRID ON RANDOM CONTROL POINTS USING REAL TIME KINEMATIC CORRECTIONS FROM A VIRTUAL REFERENCE STATION OF THE VT CORS NETWORK. THE ELEVATIONS ON THIS PLAN OUTSIDE THE DASHED BOUNDARIES SHOWN ARE 1-FOOT LIDAR CONTOURS OBTAINED FROM THE STATE OF VERMONT VCGI OPEN DATA PORTAL DATABASE.

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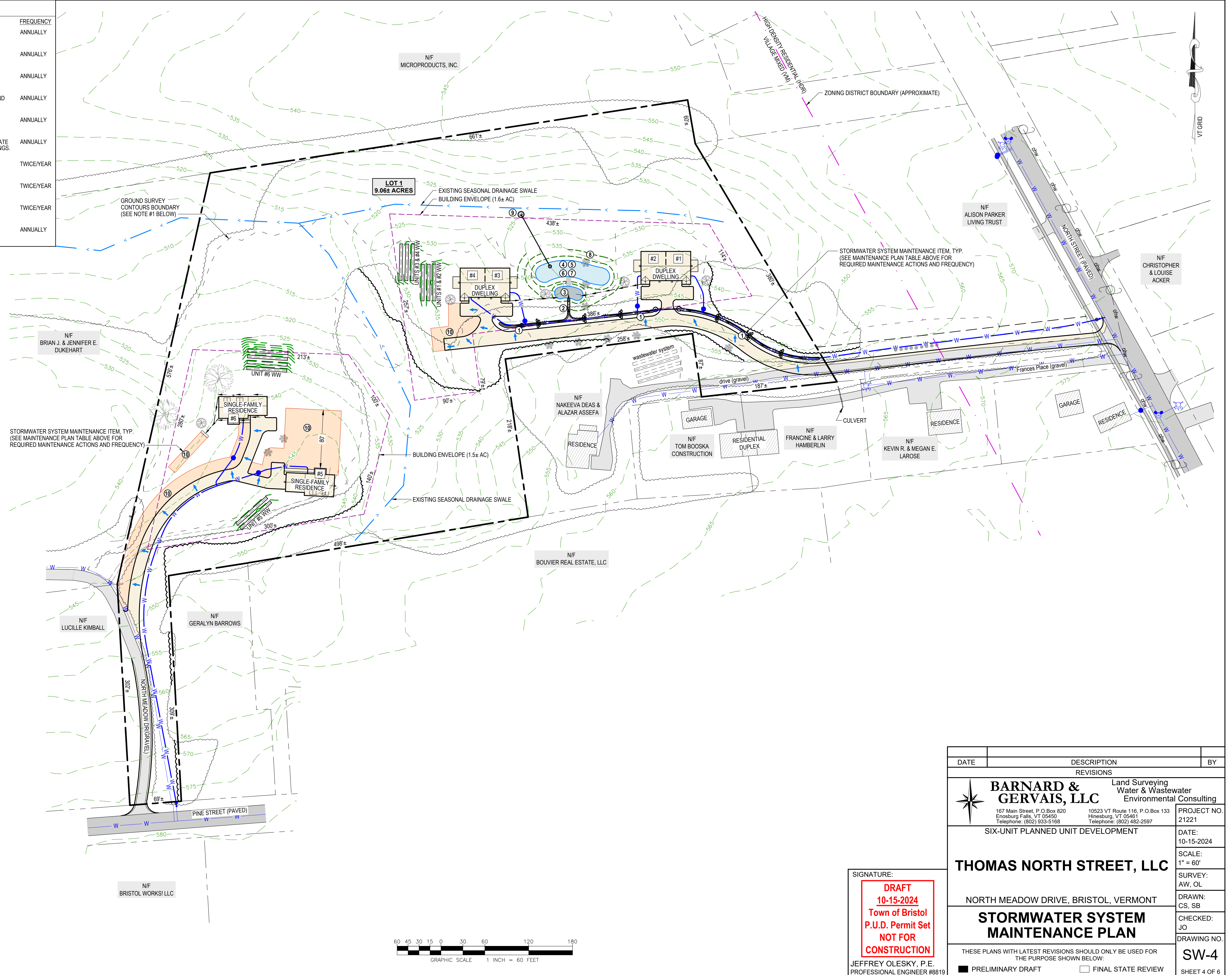
DATE	DESCRIPTION	BY
REVISIONS		
BARNARD & GERVAIS, LLC Land Surveying Water & Wastewater Environmental Consulting <small>167 Main Street, P.O. Box 820 Enosburg Falls, VT 05450 Telephone: (802) 933-5168</small> <small>10523 VT Route 116, P.O. Box 133 Hinesburg, VT 05461 Telephone: (802) 482-2597</small>		
PROJECT NO. 21221		DATE: 10-15-2024
THOMAS NORTH STREET, LLC		SCALE: 1" = 20'
NORTH MEADOW DRIVE, BRISTOL, VERMONT		SURVEY: AW, OL
PROPOSED INFILTRATION BASIN SITE PLAN		DRAWN: CS, SB
THESE PLANS WITH LATEST REVISIONS SHOULD ONLY BE USED FOR THE PURPOSE SHOWN BELOW:		CHECKED: JO
<input checked="" type="checkbox"/> PRELIMINARY DRAFT <input type="checkbox"/> FINAL STATE REVIEW		DRAWING NO. SW-3
		SHEET 3 OF 6

STORMWATER SYSTEM MAINTENANCE PLAN

NUMBER	MAINTENANCE ITEM	ACTION	FREQUENCY
①	GRASS SWALES	INSPECT GRASS SWALES TO ENSURE THEY ARE CLEAR OF DEBRIS AND EROSION. REPAIR AS REQUIRED.	ANNUALLY
②	STONE SWALES	INSPECT STONE SWALES TO ENSURE THEY ARE CLEAR OF DEBRIS AND EROSION. REPAIR AS REQUIRED.	ANNUALLY
③	FOREBAY	INSPECT FOREBAY FOR SEDIMENT ACCUMULATION. REMOVE SEDIMENT FROM FOREBAY AS REQUIRED.	ANNUALLY
④	DEBRIS & LITTER	INSPECT INFILTRATION BASIN FOR PRESENCE OF DEBRIS AND OTHER MATERIALS. REMOVE MATERIALS AS REQUIRED.	ANNUALLY
⑤	ANIMAL BURROWS	INSPECT INFILTRATION BASIN AND PERIMETER FOR ANIMAL BURROWS, HOLES OR OTHER DAMAGE. REPAIR AS REQUIRED.	ANNUALLY
⑥	VEGETATION	INSPECT INFILTRATION BASIN AND PERIMETER FOR ADEQUATE VEGETATION COVERAGE AND GENERAL HEALTH OF PLANTINGS. RESEED AND/OR REPLANT AS REQUIRED.	ANNUALLY
⑦	GENERAL EROSION	INSPECT INFILTRATION BASIN AND PERIMETER TO ENSURE THERE IS NO EROSION OR CHANNELIZATION. REPAIR AS REQUIRED.	TWICE/YEAR
⑧	STONE SPILLWAY	INSPECT STONE SPILLWAY TO VERIFY IT IS CLEAR OF VEGETATION. CLEAN AS REQUIRED.	TWICE/YEAR
⑨	DISPERSION PADS	INSPECT STONE DISPERSION PADS TO VERIFY THEY ARE CLEAR OF DEBRIS, VEGETATION AND EROSION. REPAIR AS REQUIRED.	TWICE/YEAR
⑩	DISCONNECTION AREAS	INSPECT DISCONNECTION AREAS TO VERIFY THAT THEY REMAIN UNDEVELOPED AND THAT VEGETATIVE COVER IS MAINTAINED. MAINTAIN/REVEGETATE AS REQUIRED.	ANNUALLY

LEGEND

- BOUNDARY LINE/ R.O.W. (SUBJECT PARCEL)
- BOUNDARY LINE/ R.O.W. (ABUTTING PARCEL)
- - - SIDELINE OF EASEMENT
- - - EDGE OF ROAD/DRIVE (SURFACE NOTED)
- 100 5-FOOT LIDAR CONTOUR (OBTAINED FROM VCGI DATABASE)
- 100 5-FOOT GROUND SURVEY CONTOUR
- 100 FINISH GRADE
- - - ZONING DISTRICT BOUNDARY
- - - BUILDING ENVELOPE
- TREE LINE
- - - PROPOSED LIMITS OF CLEARING
- S S GRAVITY SEWER
- FM FM FORCE MAIN
- W W 1-INCH DIAMETER CL200 POLYETHYLENE PLASTIC WATER LINE (UNLESS OTHERWISE NOTED)
- WL WETLAND BOUNDARY
- WB WETLAND BUFFER
- UE UNDERGROUND ELECTRICAL CONDUIT
- ohw UTILITY POLE/ OVERHEAD WIRES
- ⊕ ELECTRICAL PEDESTAL
- ⊕ TEMPORARY BENCHMARK (TYPE AND ELEVATION NOTED)
- ⊕ SOIL BORING (SB-01)
- ⊕ DRILLED WELL (UNLESS OTHERWISE NOTED)
- GRASS SWALE
- STONE SWALE
- RUNOFF FLOW
- ▨ EROSION CONTROL MATTING
- ⊕ STONE CHECK DAM
- ⊕ STORMWATER MAINTENANCE PLAN ITEM

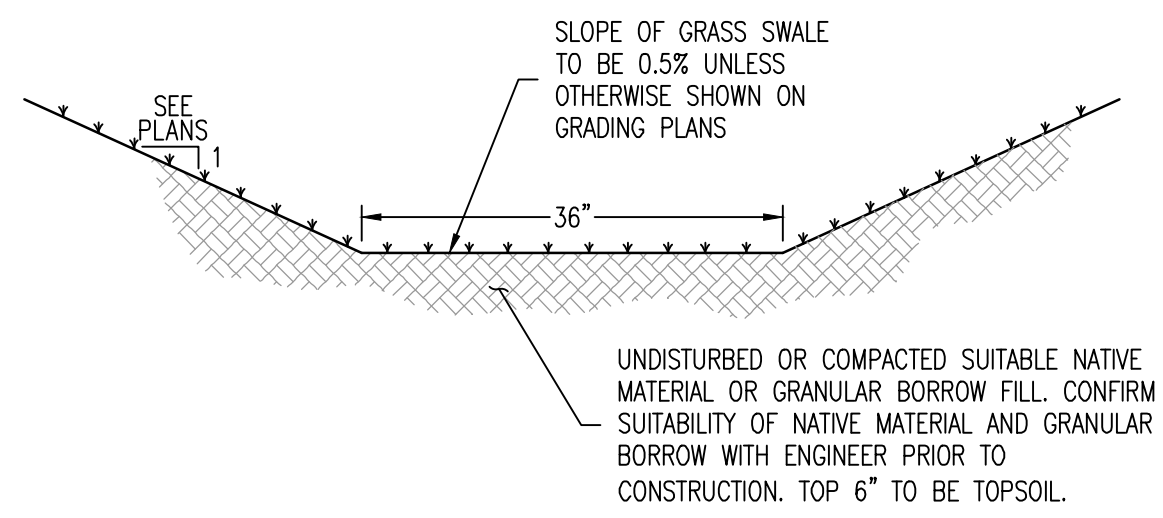


NOTES:
 1. THE ELEVATIONS ON THIS PLAN WITHIN THE DASHED BOUNDARIES SHOWN ARE 1-FOOT CONTOURS BASED ON NAVD88 (GEOID12B) ESTABLISHED FROM SURVEY GRADE GNSS READINGS COLLECTED WITH A TOPCON HIPER SR GNSS RECEIVER ADJUSTED TO VERMONT GRID ON RANDOM CONTROL POINTS USING REAL TIME KINEMATIC CORRECTIONS FROM A VIRTUAL REFERENCE STATION OF THE VT CORS NETWORK. THE ELEVATIONS ON THIS PLAN OUTSIDE THE DASHED BOUNDARIES SHOWN ARE 1-FOOT LIDAR CONTOURS OBTAINED FROM THE STATE OF VERMONT VCGI OPEN DATA PORTAL DATABASE.



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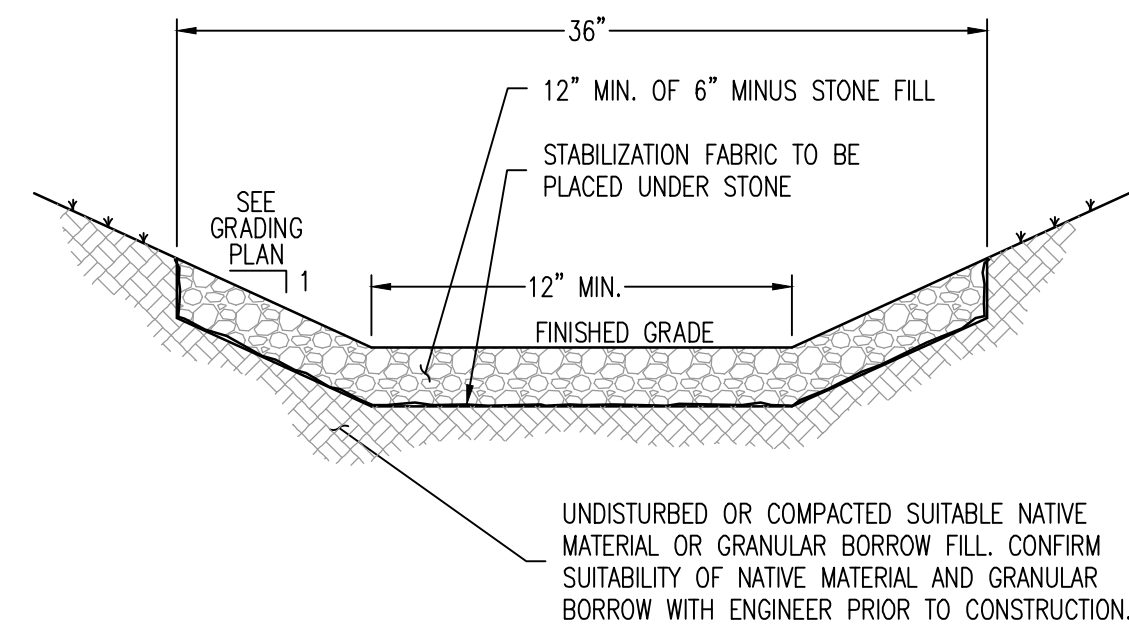
DATE	DESCRIPTION	BY
REVISIONS		
BARNARD & GERVAIS, LLC Land Surveying Water & Wastewater Environmental Consulting 167 Main Street, P.O. Box 820 Enosburg Falls, VT 05450 Telephone: (802) 933-5168 10523 VT Route 116, P.O. Box 133 Hinesburg, VT 05461 Telephone: (802) 482-2597		
PROJECT NO. 21221		DATE: 10-15-2024
SIX-UNIT PLANNED UNIT DEVELOPMENT		SCALE: 1" = 60'
THOMAS NORTH STREET, LLC		SURVEY: AW, OL
NORTH MEADOW DRIVE, BRISTOL, VERMONT		DRAWN: CS, SB
STORMWATER SYSTEM MAINTENANCE PLAN		CHECKED: JO
THESE PLANS WITH LATEST REVISIONS SHOULD ONLY BE USED FOR THE PURPOSE SHOWN BELOW:		DRAWING NO. SW-4
<input checked="" type="checkbox"/> PRELIMINARY DRAFT <input type="checkbox"/> FINAL STATE REVIEW		SHEET 4 OF 6



- NOTES:
1. GRANULAR BORROW FILL TO MEET AOT SPEC 703.04.
 2. GRASS SWALE TO BE USED PRIMARILY WHERE SLOPE IS LESS THAN 5% OR AS SHOWN ON GRADING PLANS.

GRASS SWALE DETAIL

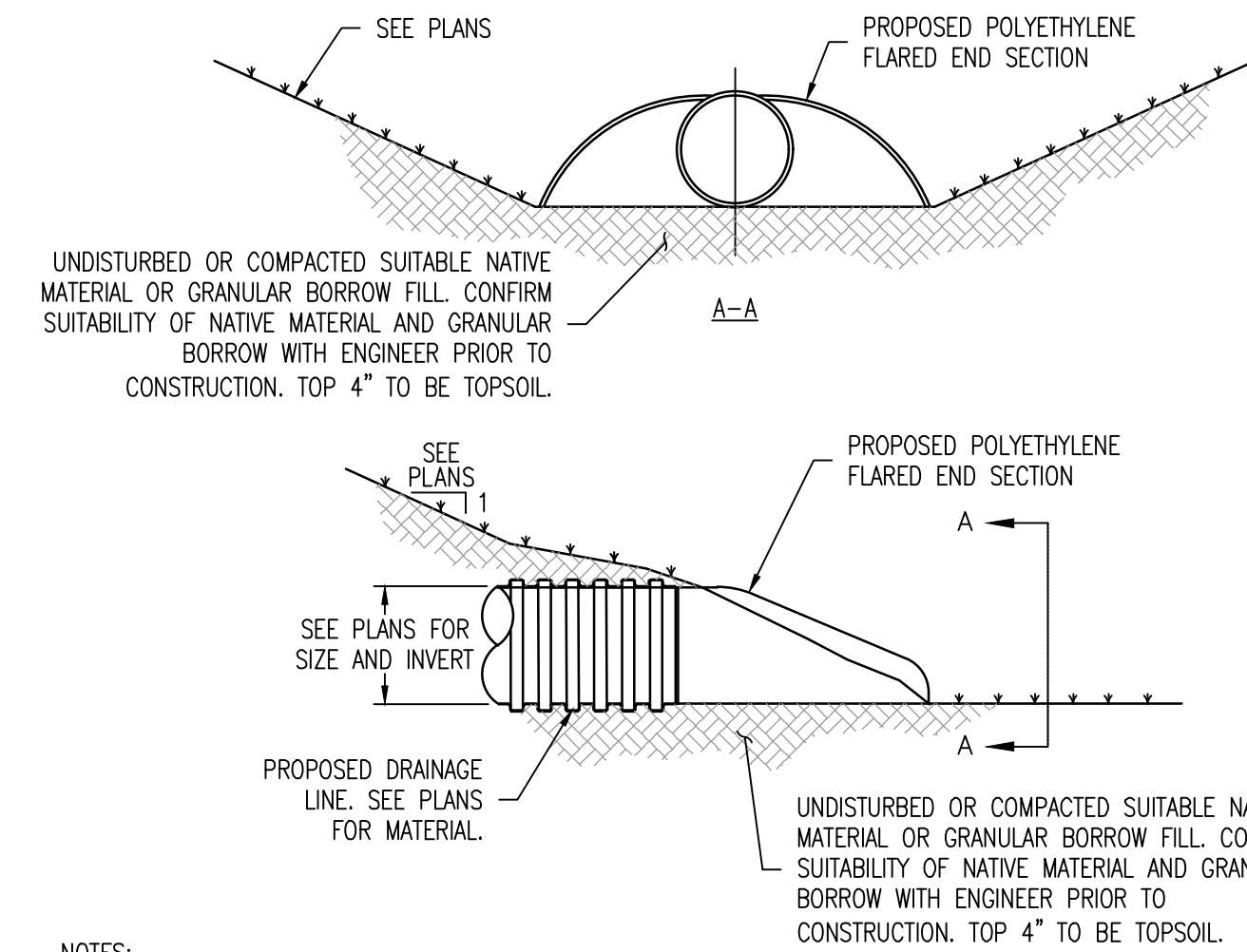
N.T.S. 1 SW-5



- NOTES:
1. GRANULAR BORROW FILL TO MEET AOT SPEC 703.04.
 2. STONE FILL TO MEET AOT SPEC 704.17(A).
 3. STABILIZATION FABRIC TO MEET AOT SPEC 720.01 FOR GEOTEXTILE UNDER STONE FILL.
 4. STONE SWALE TO BE USED PRIMARILY WHERE SLOPE IS EQUAL TO OR EXCEEDS 5% OR AS SHOWN ON GRADING PLANS.

STONE SWALE DETAIL

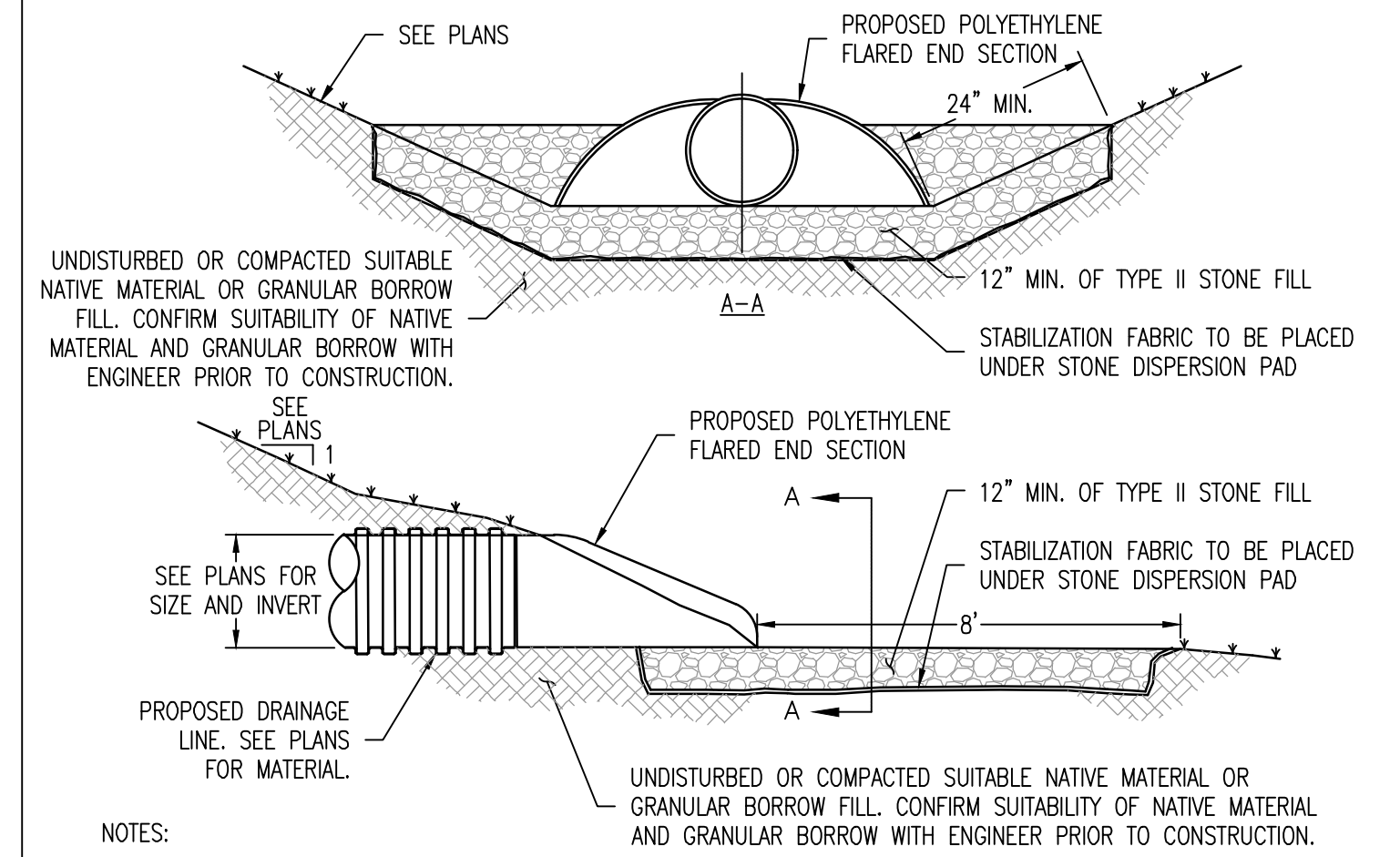
N.T.S. 2 SW-5



- NOTES:
1. DRAINAGE LINES AND FITTINGS TO MEET AOT SPEC 710.03 AND BE INSTALLED AND TESTED IN ACCORDANCE WITH AOT SPEC 601.
 2. GRANULAR BORROW FILL TO MEET AOT SPEC 703.04.

FLARED END SECTION DETAIL

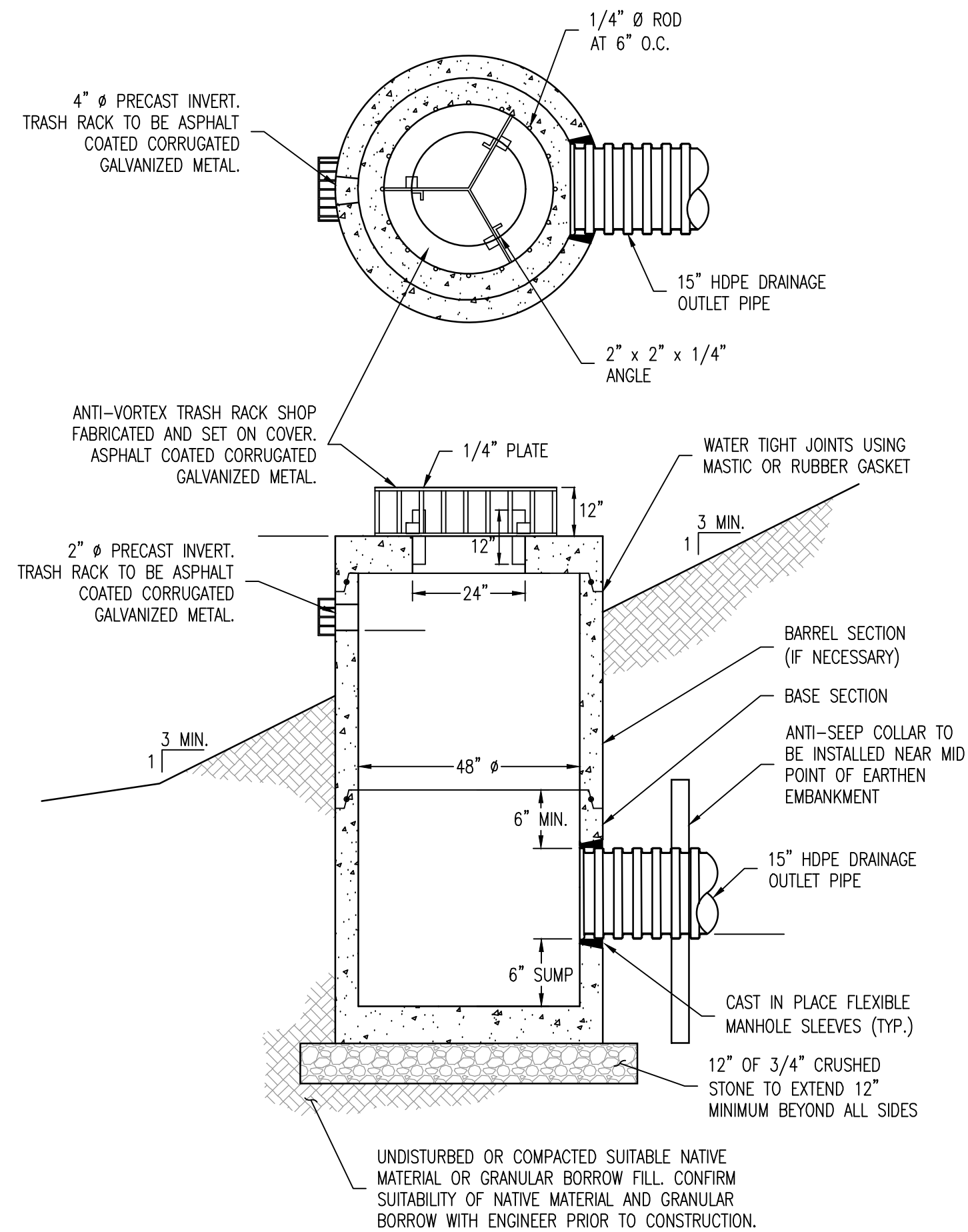
N.T.S. 3 SW-5



- NOTES:
1. DRAINAGE LINES AND FITTINGS TO MEET AOT SPEC 710.03 AND BE INSTALLED AND TESTED IN ACCORDANCE WITH AOT SPEC 601.
 2. GRANULAR BORROW FILL TO MEET AOT SPEC 703.04.
 3. TYPE II STONE FILL TO MEET AOT SPEC 706.04(b).
 4. STABILIZATION FABRIC TO MEET AOT SPEC 720.01 FOR GEOTEXTILE UNDER STONE FILL.

STONE DISPERSION PAD DETAIL

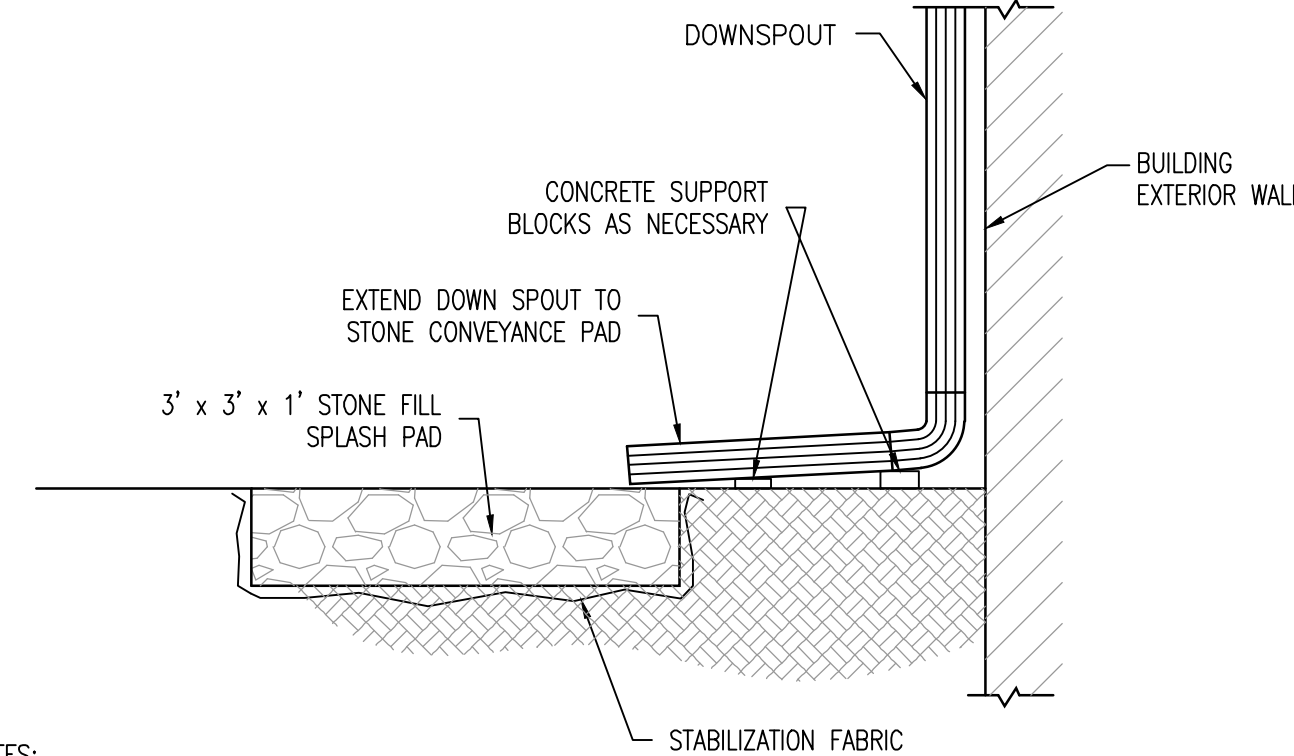
N.T.S. 4 SW-5



- NOTES:
1. DRAINAGE MANHOLE TO MEET AOT SPEC 705.04 AND BE INSTALLED AND TESTED IN ACCORDANCE WITH AOT SPEC 604.
 2. DRAINAGE LINES AND FITTINGS TO MEET AOT SPEC 710.03 AND BE INSTALLED AND TESTED IN ACCORDANCE WITH AOT SPEC 601.
 3. 3/4" STONE FOR BEDDING TO MEET AOT SPEC 704.02B.
 4. GRANULAR BORROW FILL TO MEET AOT SPEC 703.04.

DRAINAGE OUTLET STRUCTURE DETAIL

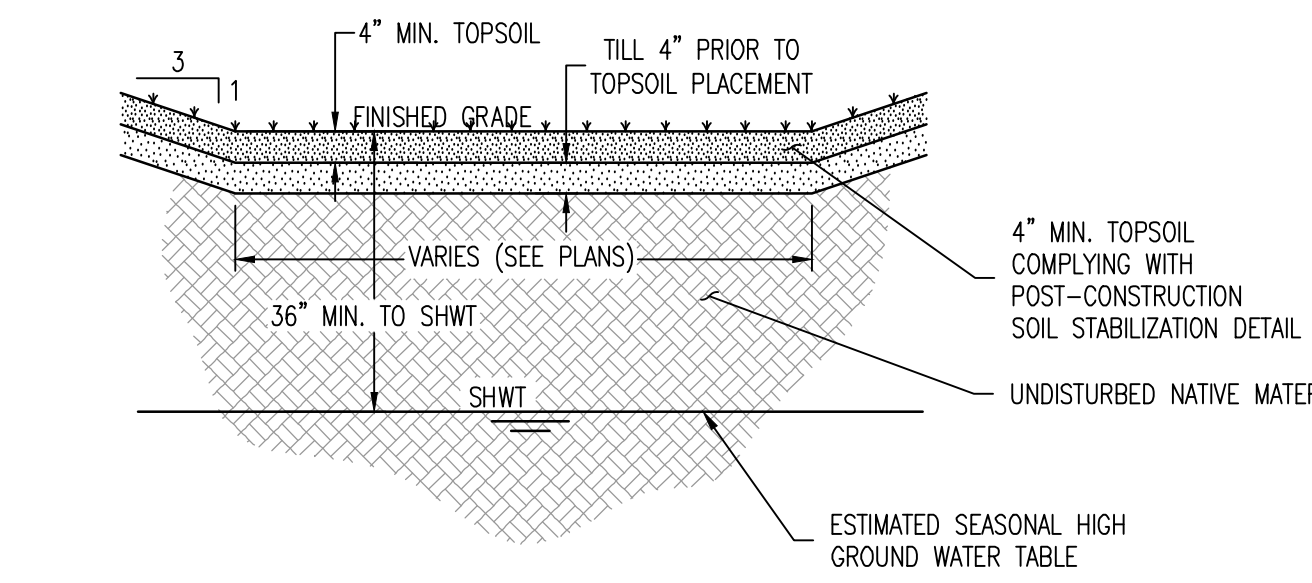
N.T.S. 8 SW-5



- NOTES:
1. DOWN SPOUT, CONNECTIONS AND SUPPORTS TO BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
 2. STONE FILL TO MEET AOT SPEC 704.17(A).
 3. STABILIZATION FABRIC TO MEET AOT SPEC 720.01 FOR GEOTEXTILE UNDER STONE FILL.

DOWN SPOUT SPLASH PAD DETAIL

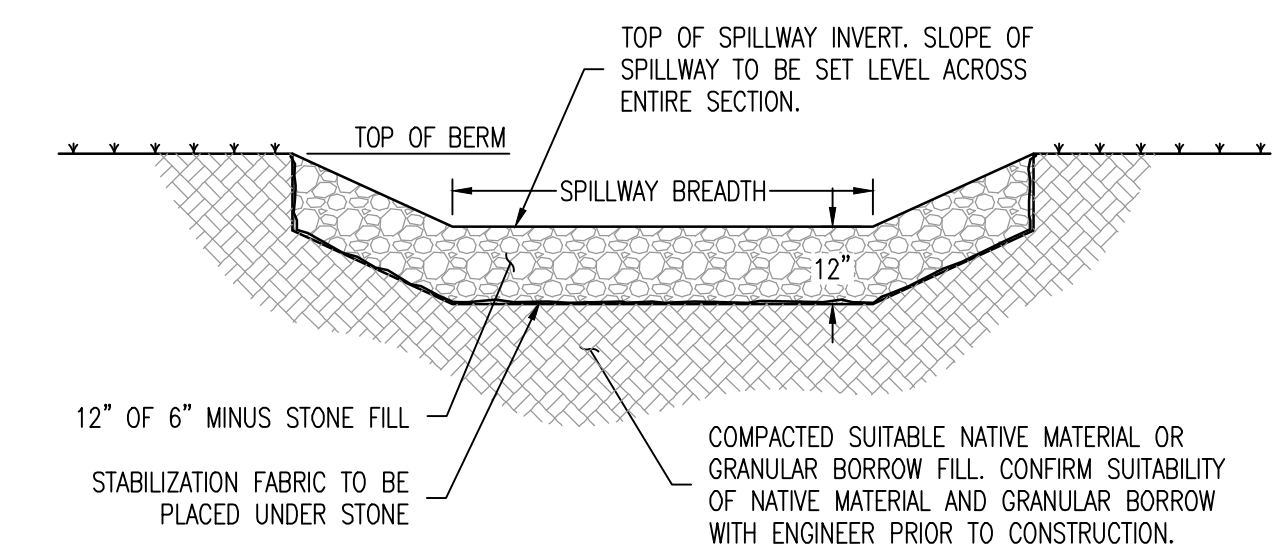
N.T.S. 5 SW-5



- NOTES:
1. THE EARTHEN EMBANKMENTS SHALL BE CONSTRUCTED WITH SUITABLE NATIVE MATERIAL OR GRANULAR BORROW FILL MEETING AOT SPEC 703.04.
 2. GRADING OF THE BASIN SHALL BE PERFORMED AS CLOSE TO DESIGN AS POSSIBLE TO ENSURE ADEQUATE VOLUME ARE PROVIDED TO MEET THE VERMONT STORMWATER TREATMENT STANDARDS. SIDES SLOPES SHALL NOT EXCEED 3H:1V.
 3. WOODY VEGETATION MAY NOT BE PLANTED OR ALLOWED TO GROW WITHIN 15 FEET OF THE TOE OF THE EMBANKMENT AND 25' FROM THE PRIMARY SPILLWAY STRUCTURE.
 4. REFER TO THE SITE STABILIZATION PLAN FOR THE SOIL, SEED AND FERTILIZER REQUIREMENTS FOR PERMANENT STABILIZATION. ALL VEGETATED AREAS TO COMPLY WITH THE POST-CONSTRUCTION SOIL STABILIZATION DETAIL.
 5. THE EMERGENCY SPILLWAY SHALL BE STABILIZED WITH 12" OF TYPE I STONE FILL MEETING AOT SPEC 706.04(g).
 6. UPSTREAM CONSTRUCTION SHALL BE COMPLETED AND STABILIZED BEFORE CONNECTION TO THE INFILTRATION FACILITY.

INFILTRATION BASIN DETAIL

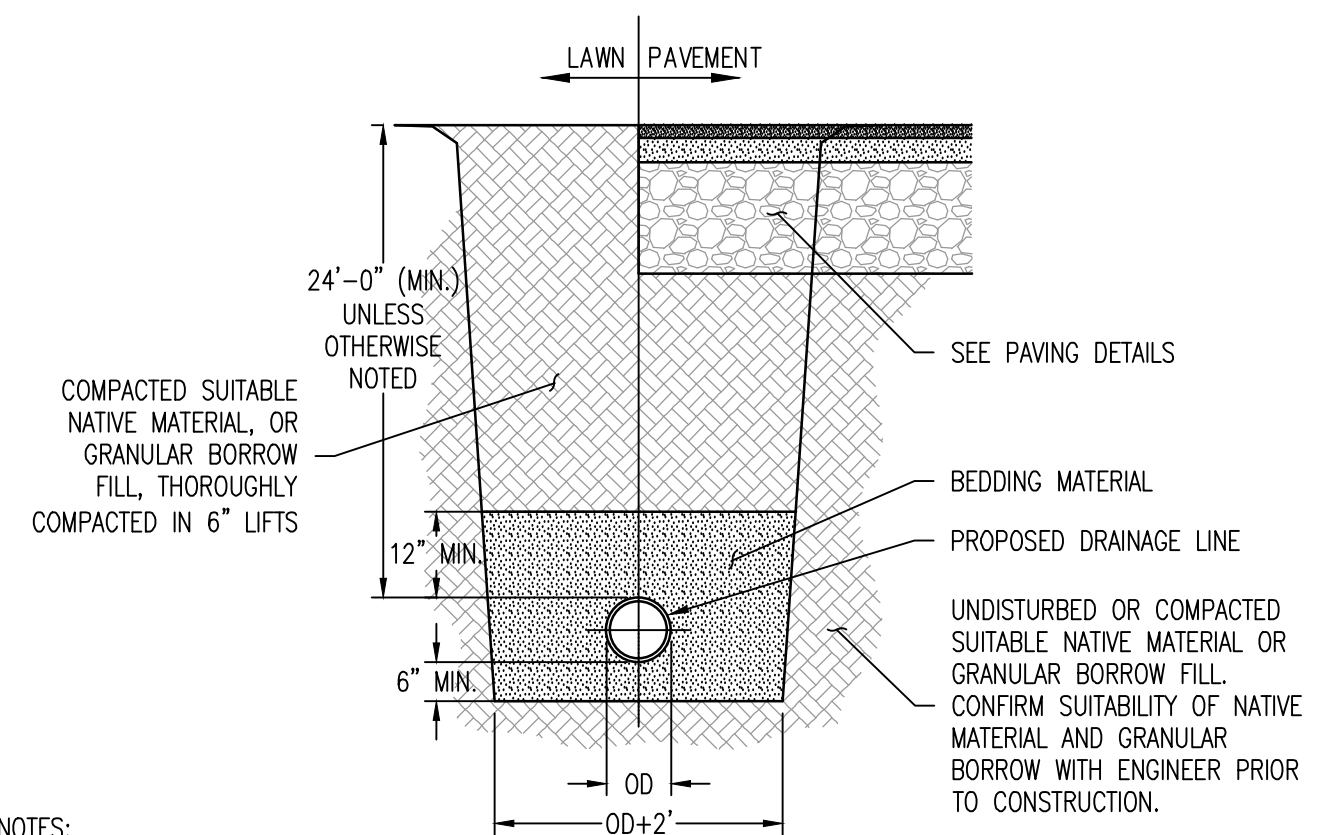
N.T.S. 6 SW-5



- NOTES:
1. GRANULAR BORROW FILL TO MEET AOT SPEC 703.04.
 2. STONE FILL TO MEET AOT SPEC 704.17(A).
 3. STABILIZATION FABRIC TO MEET AOT SPEC 720.01 FOR GEOTEXTILE UNDER STONE FILL.

EMERGENCY SPILLWAY DETAIL

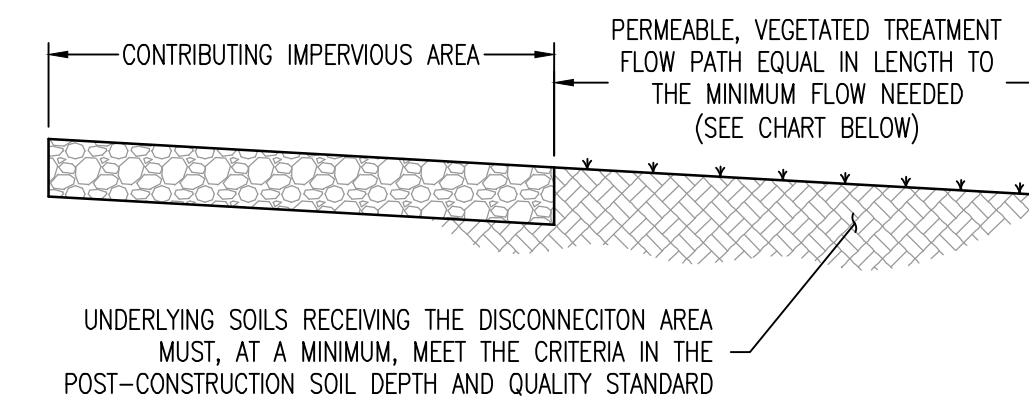
N.T.S. 7 SW-5



- NOTES:
1. DRAINAGE LINES AND FITTINGS TO MEET AOT SPEC 710.03 AND BE INSTALLED AND TESTED IN ACCORDANCE WITH AOT SPEC 601.
 2. BEDDING MATERIAL SHALL BE SAND, GRAVEL OR CRUSHED STONE WITH NO STONES GREATER THAN 3". BEDDING MATERIAL SHALL NOT BE PLACED ON FROZEN SUBGRADE.
 3. IN TRENCHES WITH UNSTABLE MATERIALS, THE TRENCH BOTTOM SHALL BE STABILIZED WITH FILTER FABRIC AND 4" OF 3/4" CRUSHED STONE MEETING AOT SPEC 704.02B.
 4. GRANULAR BORROW FILL TO MEET AOT SPEC 703.04.

STORMWATER TRENCH DETAIL

N.T.S. 9 SW-5



- NOTES:
1. FOR IMPERVIOUS SURFACES CONTRIBUTING LENGTHS LESS THAN OR EQUAL TO 10 FEET, THE DISCONNECTION LENGTH SHALL EQUAL THE CONTRIBUTING LENGTH FOR SLOPES LESS THAN 8% OR DOUBLE THE CONTRIBUTING LENGTH FOR SLOPES GREATER THAN OR EQUAL TO 8%.
 2. THE WIDTH OF THE DISCONNECTION AREA SHALL BE AT LEAST 12 FEET FOR DISCONNECTED ROOFTOPS THAT DISCHARGE VIA DOWNSPOUTS, OR EQUAL TO THE CONTRIBUTING WIDTH FOR ALL OTHER SURFACES.
 3. THE MAXIMUM CONTRIBUTING IMPERVIOUS FLOW PATH LENGTH TO ANY ONE DISCHARGE LOCATION SHALL BE 75 FEET.
 4. RECEIVING AREAS SHALL NOT OVERLAP.
 5. THE VEGETATED AREA SHALL HAVE A MAXIMUM SLOPE OF 15% WITH LAND GRADED TO PROMOTE SHEET FLOW.

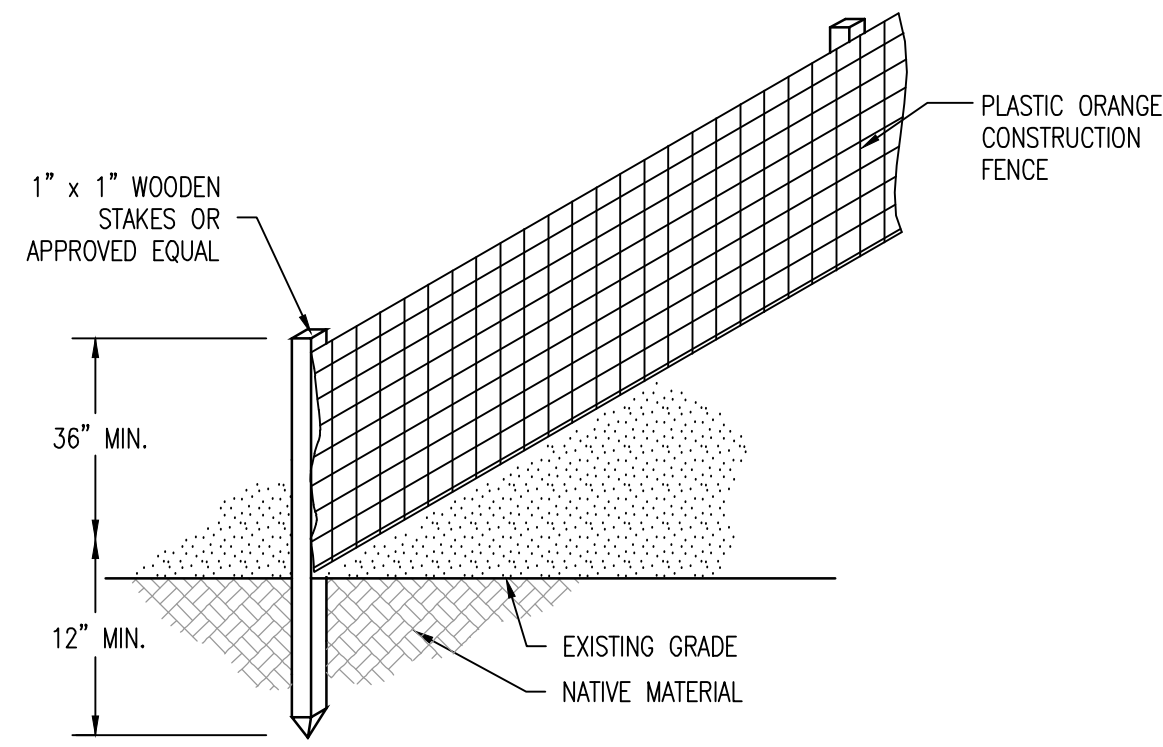
SIMPLE DISCONNECTION DETAIL

N.T.S. 10 SW-5

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JEFFREY OLESKY, P.E.
 PROFESSIONAL ENGINEER #8819

DATE	DESCRIPTION	BY
REVISIONS		
BARNARD & GERVAIS, LLC Land Surveying Water & Wastewater Environmental Consulting 167 Main Street, P.O. Box 820 Enosburg Falls, VT 05450 Telephone: (802) 933-5168 10523 VT Route 116, P.O. Box 133 Hinesburg, VT 05461 Telephone: (802) 482-2597		
SIX-UNIT PLANNED UNIT DEVELOPMENT		PROJECT NO. 21221
THOMAS NORTH STREET, LLC		DATE: 10-15-2024
NORTH MEADOW DRIVE, BRISTOL, VERMONT		SCALE: AS NOTED
STORMWATER DETAILS		SURVEY: AW, OL
THESE PLANS WITH LATEST REVISIONS SHOULD ONLY BE USED FOR THE PURPOSE SHOWN BELOW.		DRAWN: SB
<input checked="" type="checkbox"/> PRELIMINARY DRAFT <input type="checkbox"/> FINAL STATE REVIEW		CHECKED: JO
		DRAWING NO. SW-5
		SHEET 5 OF 6

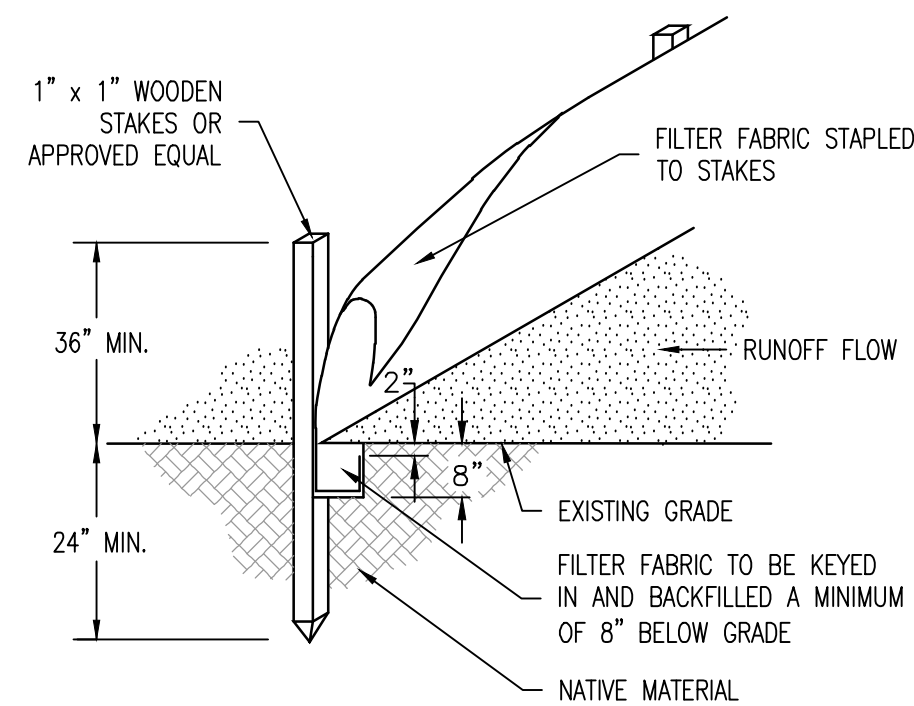


NOTES:

- PROJECT DEMARCATION FENCE TO BE INSTALLED IN ACCORDANCE WITH AOT SPEC 653.06.
- WOODEN STAKES TO BE INSTALLED A MINIMUM OF 5' O/C.
- PROJECT DEMARCATION FENCE TO BE INSTALLED PRIOR TO ANY CONSTRUCTION AND MAINTAINED THROUGHOUT THE CONSTRUCTION PROCESS.

PROJECT DEMARCATION FENCE DETAIL

N.T.S. 1 SW-6

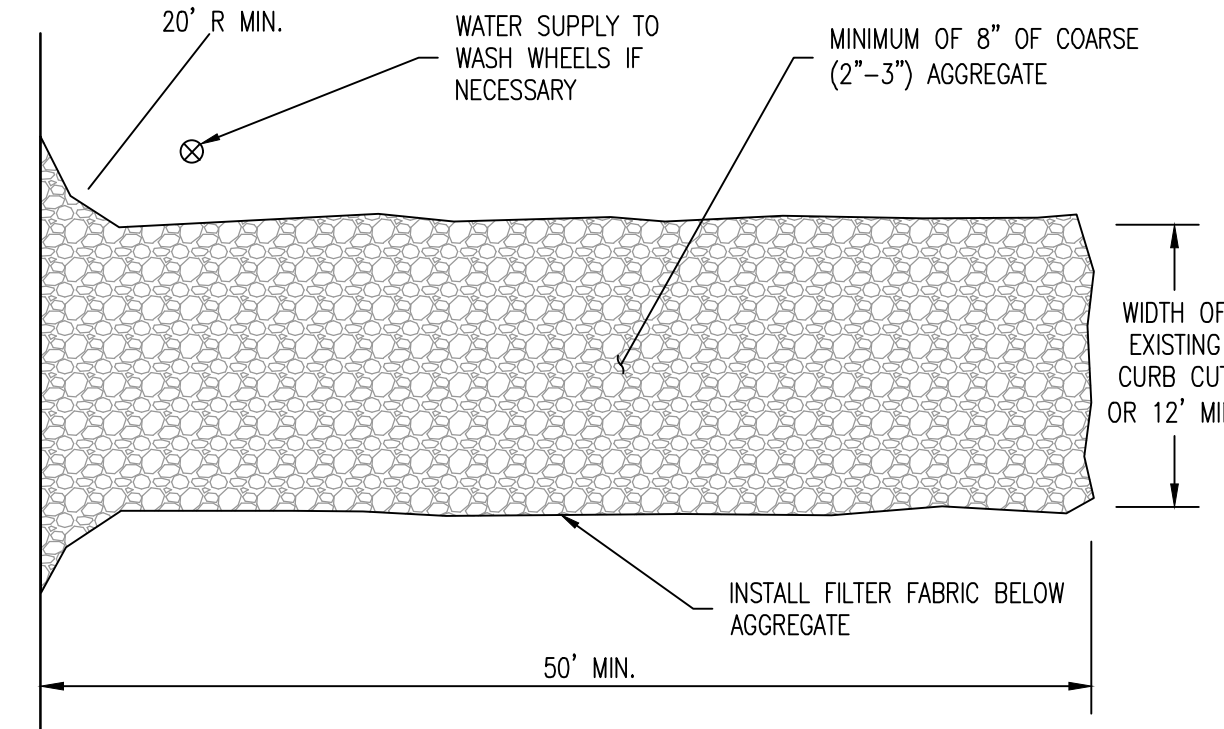


NOTES:

- SILT FENCE TO BE INSTALLED IN ACCORDANCE WITH AOT SPEC 653.08(b) AND USING MATERIAL MEETING AOT SPEC 720.01 FOR SILT FENCE.
- WOODEN STAKES TO BE INSTALLED A MINIMUM OF 5' O/C.
- INSTALL SILT FENCES AT TOES OF ALL UNPROTECTED SLOPES AND AS PARALLEL TO CONTOURS AS POSSIBLE. THIS INCLUDES ALL FILLED OR UNPROTECTED SLOPES CREATED DURING CONSTRUCTION, NOT NECESSARILY REFLECTED ON THE FINAL PLANS. CURVE THE ENDS OF THE FENCE UP INTO THE SLOPE. WHEN SILT FENCE IS INSTALLED ON MINOR CROSS SLOPES, "J" HOOKS SHALL BE INSTALLED EVERY 50' MINIMUM TO MINIMIZE SEDIMENT LOAD AT BOTTOM OF SLOPE. WHEN TWO SECTIONS OF FABRIC ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6", FOLDED AND STAPLED.
- SILT FENCE TO BE INSTALLED PRIOR TO CONSTRUCTION AND MAINTAINED UNTIL SLOPES ARE STABILIZED AND PERMANENT VEGETATION IS ESTABLISHED. REMOVE SEDIMENT WHEN ACCUMULATED TO HALF THE HEIGHT OF THE FENCE.

SILT FENCE DETAIL

N.T.S. 2 SW-6

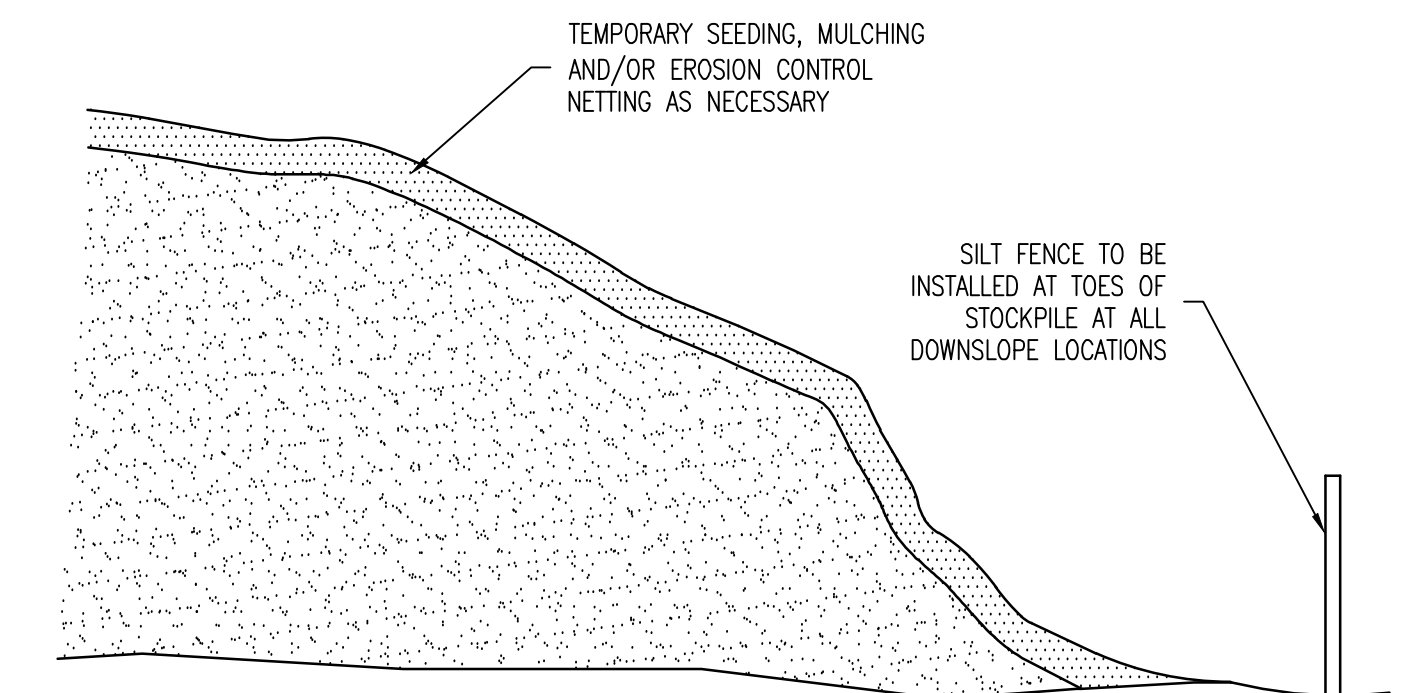


NOTES:

- STONE CONSTRUCTION ENTRANCE TO BE INSTALLED IN ACCORDANCE WITH AOT SPEC 653.09(c) AND USING MATERIAL MEETING AOT SPEC 704.17. FILTER FABRIC TO MEET AOT SPEC 720.01 FOR GEOTEXTILE FOR ROADBED SEPARATOR.
- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OF SEDIMENT ONTO THE PUBLIC ROW. THIS MAY REQUIRE MAINTENANCE AND REPAIR OF ANY MEASURES USED TO TRAP SEDIMENT.
- WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO THE PUBLIC ROW.
- WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AGGREGATE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP.

CONSTRUCTION ENTRANCE DETAIL

N.T.S. 3 SW-6

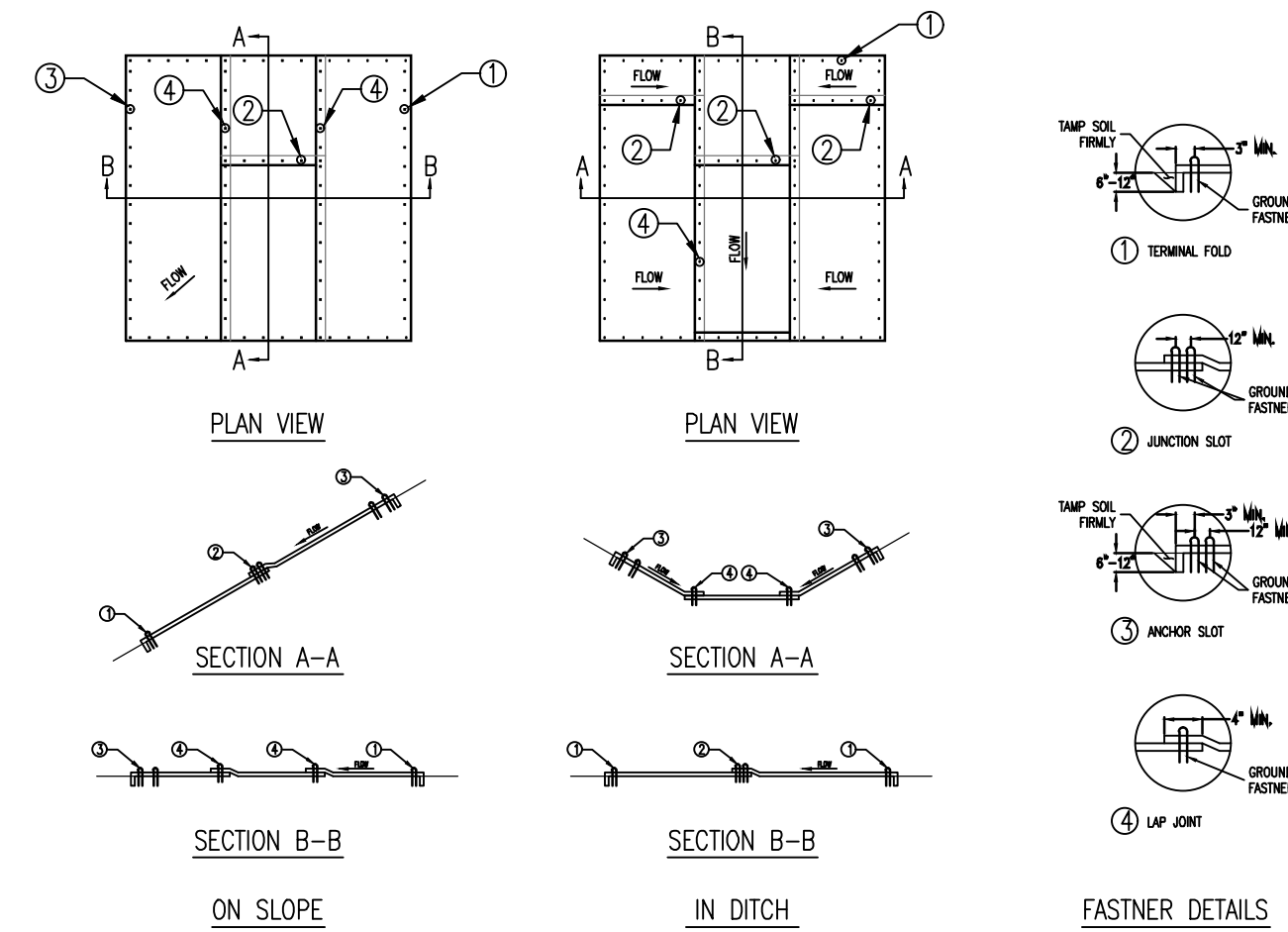


NOTES:

- THE STOCKPILE, OR PORTIONS THEREOF, THAT WILL NOT BE USED OR DISTURBED WITHIN 14 DAYS SHALL BE TEMPORARILY STABILIZED WITH MULCH. THE STOCKPILE, OR PORTIONS THEREOF, THAT WILL NOT BE USED OR DISTURBED WITHIN 3 MONTHS SHALL BE STABILIZED WITH GRASS SEED AND MULCH OR EROSION CONTROL NETTING AS NECESSARY TO MINIMIZE THE POTENTIAL FOR EROSION.
- SILT FENCE TO BE INSTALLED IN ACCORDANCE WITH AOT SPEC 653.08(b) AND USING MATERIAL MEETING AOT SPEC 720.01 FOR SILT FENCE.

TOPSOIL STOCKPILE DETAIL

N.T.S. 4 SW-6

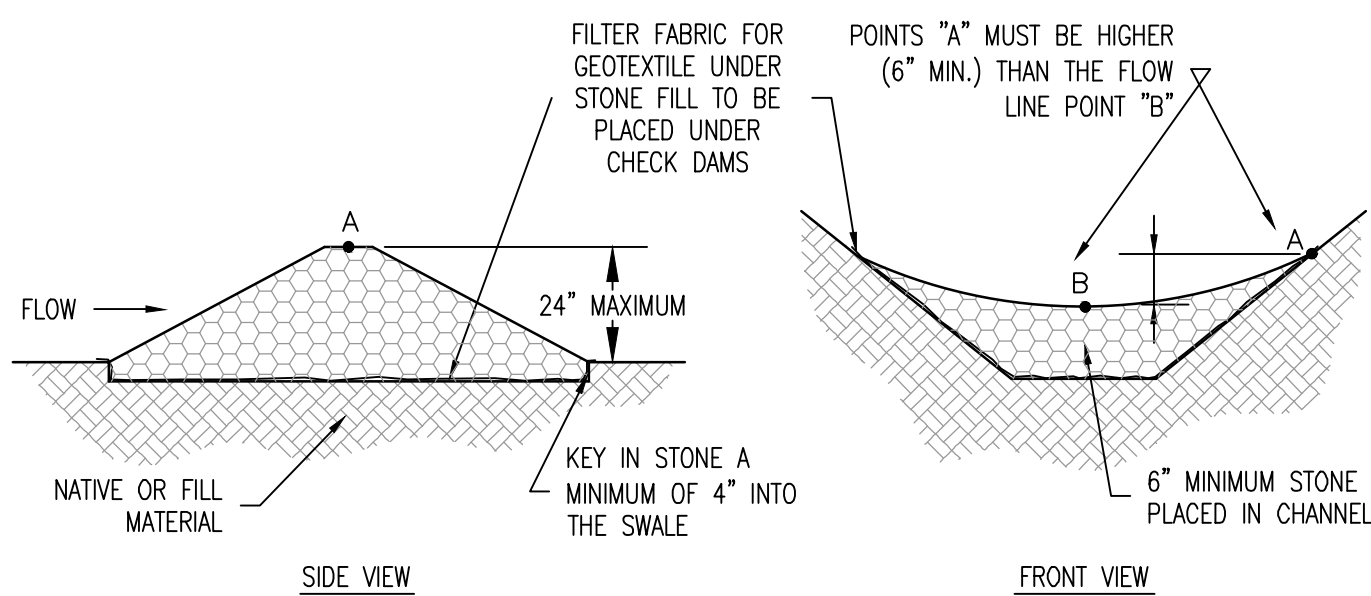


NOTES:

- EROSION CONTROL PRODUCT TO BE INSTALLED IN ACCORDANCE WITH AOT SPEC 653.07(b) AND USING MATERIAL MEETING AOT SPEC 755.11 FOR ROLLED EROSION CONTROL PRODUCT TYPE I (RECP).
- RECP TO BE INSTALLED ON ALL SLOPES GREATER THAN 1V:3H OR WHERE NECESSARY OR DIRECTED BY ENGINEER.
- FASTENRS ARE TO BE PLACED ALTERNATELY, IN COLUMNS APPROXIMATELY 2' APART AND IN ROWS APPROXIMATELY 3' APART AND PER MANUFACTURERS SPECIFICATIONS TO ENSURE PROPER INSTALLATION.

EROSION CONTROL MATTING DETAIL

N.T.S. 5 SW-6



NOTES:

- STONE CHECK DAMS TO BE CONSTRUCTED IN ACCORDANCE WITH AOT SPEC 653.08(c) AND USING MATERIAL MEETING AOT SPEC 704.17. FILTER FABRIC FOR CHECK DAMS TO MEET AOT SPEC 720.01 FOR GEOTEXTILES UNDER STONE FILL.
- STONE CHECK DAMS TO BE INSTALLED PRIOR TO CONSTRUCTION, OR UPON CONSTRUCTION OF NEW SWALES, AND MAINTAINED UNTIL PERMANENT VEGETATION IS ESTABLISHED.

STONE CHECK DAM DETAIL

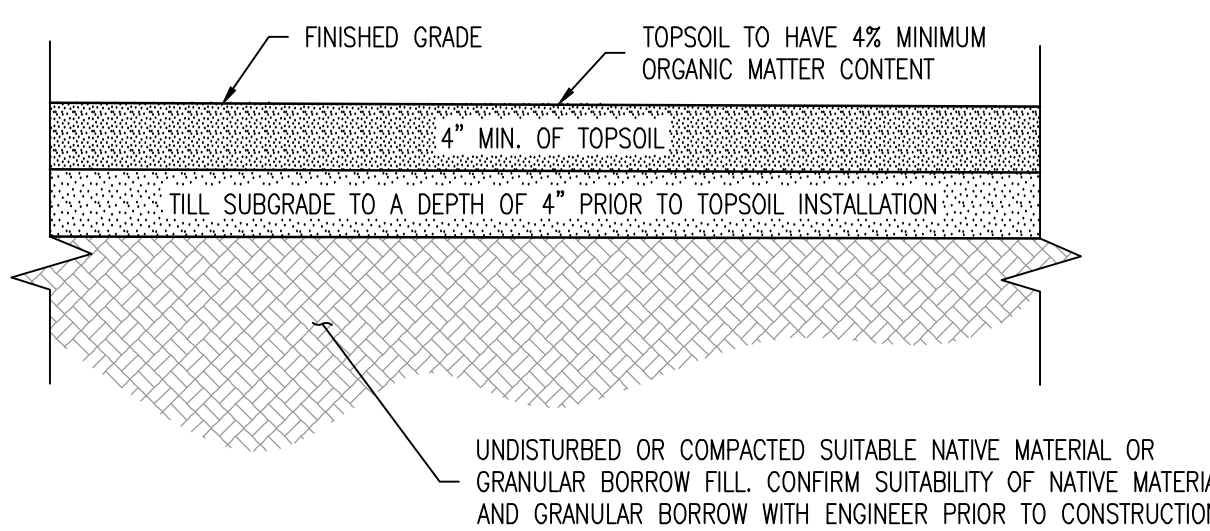
N.T.S. 6 SW-6

GENERAL EROSION PREVENTION AND SEDIMENT CONTROL NOTES:

- IN ADDITION TO THE PLANS, DETAILS AND SPECIFICATIONS IN THESE PLANS, ALL EROSION PREVENTION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE STATE OF VERMONT LOW RISK HANDBOOK FOR CONSTRUCTION SITES SUBJECT TO STATE GENERAL CONSTRUCTION PERMIT 3-9020.
- THE DISCHARGE OF SEDIMENT LADEN WATER FROM THE PROJECT SITE IS PROHIBITED. ALL DISCHARGED WATER FROM DEWATERING OPERATIONS SHALL DISCHARGE INTO A TEMPORARY SEDIMENT CONTROL TRAP OR SEDIMENTATION BASIN.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSPECTING AND MAINTAINING ALL EROSION CONTROL MEASURES UNTIL THE PROJECT IS COMPLETE.
- THE CONTRACTOR SHALL LIMIT SOIL DISTURBANCE AND SEEDING APPLICATION DATES TO BETWEEN MAY 1ST AND OCTOBER 15TH. IF SOIL DISTURBANCE OCCURS LATER THAN OCTOBER 15TH OR PRIOR TO MAY 1ST, WINTER EROSION CONTROL MEASURES WILL BE NECESSARY. THE CONTRACTOR SHALL CONSULT WITH THE ENGINEER FOR ADDITIONAL SPECIFIC WINTER EROSION CONTROL MEASURES.
- ALL STOCKPILE MATERIAL (TOPSOIL, BORROW, ETC.) SHALL HAVE SILT FENCE CONSTRUCTED AROUND THE PERIMETER. SEED AND MULCH STOCKPILED MATERIAL A SOON AS POSSIBLE TO PREVENT SOIL EROSION AND SEDIMENTATION OFF SITE. LOCATE STOCKPILES ON THE UPHILL SIDE OF THE DISTURBED AREAS, IF POSSIBLE. DURING WINDY CONDITIONS, STOCKPILED MATERIAL SHALL BE COVERED OR WATERED APPROPRIATELY TO PREVENT WIND EROSION.
- SLOPES GREATER THAN 1:3 SHALL HAVE EROSION CONTROL NETTING INSTALLED TO STABILIZE THE SLOPE AND REDUCE THE POTENTIAL FOR EROSION. INSTALL NETTING OVER MULCHED SLOPES SO THAT ALL PARTS ARE IN CONTACT WITH THE SOIL AND MULCH. PIN NETTING WITH WIRE STAPLES 3' O.C. TO ENSURE FULL BONDING WITH SOIL SURFACE.
- INSTALL STONE CHECK DAMS IN GRASS LINES SWALES 50' O.C. TO PREVENT SILT FROM WASHING INTO THE DRAINAGE SYSTEM DURING CONSTRUCTION. STONE CHECK DAMS SHALL BE REMOVED WHEN PERMANENT VEGETATION IS ESTABLISHED.
- CONTROL DUST THROUGH THE APPLICATION OF WATER. THE AMOUNT OF APPLICATIONS AND AMOUNT OF DUST CONTROL SHALL BE BASED UPON FIELD AND WEATHER CONDITIONS. IT SHALL BE SPREAD IN SUCH A MANNER AND BY SUCH DEVICES THAT UNIFORM DISTRIBUTION IS ATTAINED OVER THE ENTIRE AREA ON WHICH IT IS PLACED.
- AS SOON AS CONSTRUCTION IS COMPLETED IN A GIVEN AREA, IT SHALL BE TOPSOILED, SEEDED, FERTILIZED AND MULCHED.
- ALL EROSION CONTROL MEASURES SHALL BE INSPECTED WEEKLY, AND AFTER PERIODS OF HEAVY RAIN, AND REPAIRED AND/OR REPLACED AS NEEDED. STONE CONSTRUCTION ENTRANCES SHALL BE TOP DRESSED WITH ADDITIONAL STONE SHOULD THE EXISTING STONE BECOME CLOGGED WITH SEDIMENT.
- MULCH IS SUBJECT TO WIND ACTION AND MAY REQUIRE ANCHORING AS THE WEATHER CONDITIONS WARRANT.
- IF, DUE TO THE PROJECT SCHEDULE, CONSTRUCTION DURING THE WINTER MONTHS IS NECESSARY, THE CONTRACTOR SHALL FOLLOW WINTER CONSTRUCTION PROCEDURES AT A MINIMUM, BUT NOT LIMITED TO, THE FOLLOWING: A. MINIMIZE DISTURBANCE BETWEEN OCTOBER AND MAY; B. ALL EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO THE GROUND FREEZING.; C. MULCH SHALL BE APPLIED TO ALL DISTURBED AREAS AT A RATE OF 90 LBS. PER 1,000 SF. THE CONTRACTOR SHALL MAINTAIN ALL AREAS THAT ARE MULCHED UNTIL PERMANENT VEGETATION IS ESTABLISHED.

GENERAL EPSC NOTES

N.T.S. 7 SW-6

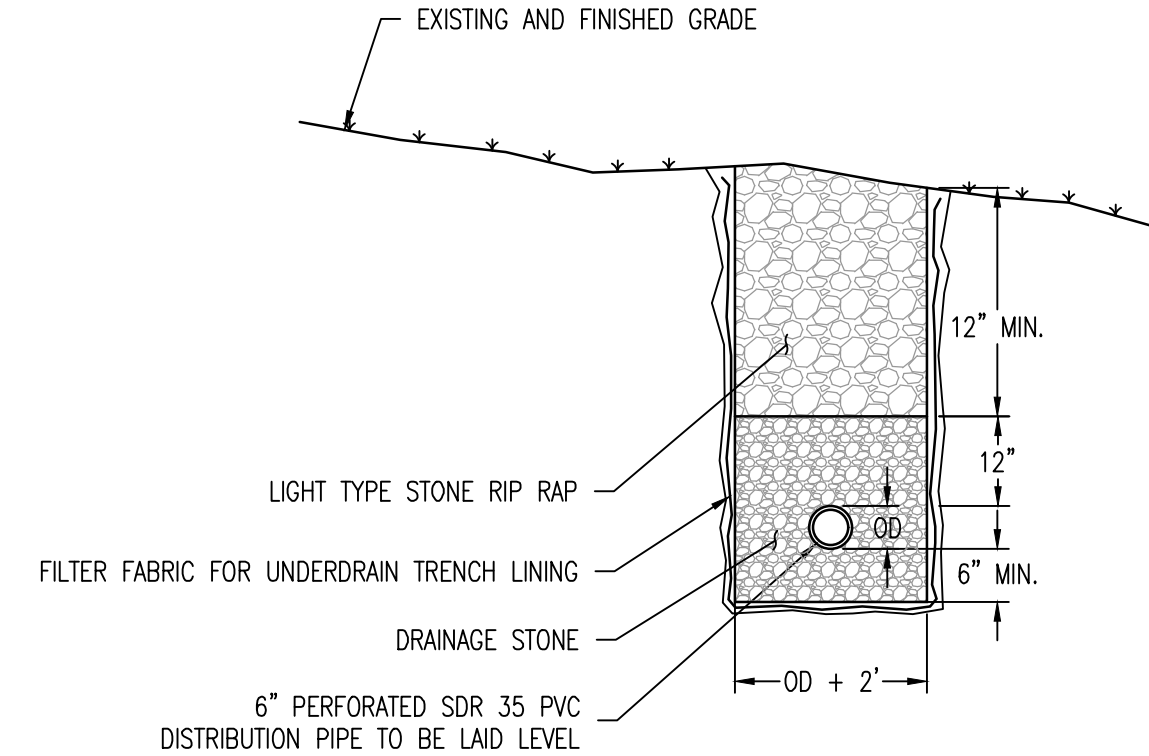


NOTES:

- TOPSOIL SHALL BE REMOVED, STOCKPILED AND STABILIZED IN A DESIGNATED CONTROLLED AREA, AT LEAST 50' FROM SURFACE WATERS, WETLANDS, FLOODPLAINS OR OTHER CRITICAL RESOURCES AREAS.
- PRIOR TO PLACING TOPSOIL, SCARIFY SUBGRADE TO A DEPTH OF 4", EXCEPT WITHIN DRIP LINE OF EXISTING TREES.
- REPLACE STOCKPILED TOPSOIL AND RAKE TO LEVEL, REMOVING ANY ROCKS GREATER THAN 2" IN DIAMETER.
- UNLESS OTHERWISE DETAILED IN THE LANDSCAPING PLANS, ALL DISTURBED AREAS SHALL BE STABILIZED WITH THE FOLLOWING SEED/SLOPE MIX -
- 100% PERENNIAL GRASSES WITH FINE TO MEDIUM TEXTURE
- SEED AT 4 LBS./1,000 SF (40% CREEPING RED FESCUE, 30% KENTUCKY BLUEGRASS, 30% PERENNIAL RYEGRASS)
- CONTRACTOR SHALL VERIFY THE STANDARD BY PERFORMING SAMPLING OF TEST HOLES AT A RATE OF NINE (9), 8" DEEP, TEST HOLES PER ACRE OF DISTURBED SOIL. TEST HOLES SHALL BE EXCAVATED WITH A SHOVEL DRIVEN SOLELY BY THE INSPECTOR'S WEIGHT AND SHALL BE AT LEAST 50' APART FROM EACH OTHER.
- CONTRACTOR SHALL MAINTAIN AREAS UNTIL PERMANENT, DENSE AND VIGOROUS, VEGETATION IS ESTABLISHED.

POST-CONSTRUCTION SOIL STABILIZATION DETAIL

N.T.S. 8 SW-6



NOTES:

- DISTRIBUTION PIPE TO MEET AOT SPEC 710.06 AND BE INSTALLED IN ACCORDANCE WITH AOT SPEC 605.04.
- RIP RAP TO MEET AOT SPEC 706.03 FOR LIGHT TYPE STONE FOR RIP RAP.
- DRAINAGE STONE TO MEET AOT SPEC 704.16.
- FILTER FABRIC TO MEET AOT SPEC 720.01 FOR GEOTEXTILE FOR UNDERDRAIN TRENCH LINING.
- COMPACTION OF MATERIALS TO MEET AOT SPEC 301.06.

LEVEL SPREADER DETAIL

N.T.S. 9 SW-6

SIGNATURE:
DRAFT
10-15-2024
Town of Bristol
P.U.D. Permit Set
NOT FOR
CONSTRUCTION
JEFFREY OLESKY, P.E.
PROFESSIONAL ENGINEER #8819

DATE	DESCRIPTION	BY
REVISIONS		
167 Main Street, P.O. Box 820 Enosburg Falls, VT 05450 Telephone: (802) 933-5168		10523 VT Route 116, P.O. Box 133 Hinesburg, VT 05461 Telephone: (802) 482-2597
SIX-UNIT PLANNED UNIT DEVELOPMENT		PROJECT NO. 21221
THOMAS NORTH STREET, LLC		DATE: 10-15-2024
NORTH MEADOW DRIVE, BRISTOL, VERMONT		SCALE: AS NOTED
EROSION PREVENTION & SEDIMENT CONTROL DETAILS		SURVEY: AW, OL
THESE PLANS WITH LATEST REVISIONS SHOULD ONLY BE USED FOR THE PURPOSE SHOWN BELOW.		DRAWN: SB
<input checked="" type="checkbox"/> PRELIMINARY DRAFT <input type="checkbox"/> FINAL STATE REVIEW		CHECKED: JO
		DRAWING NO. SW-6
		SHEET 6 OF 6