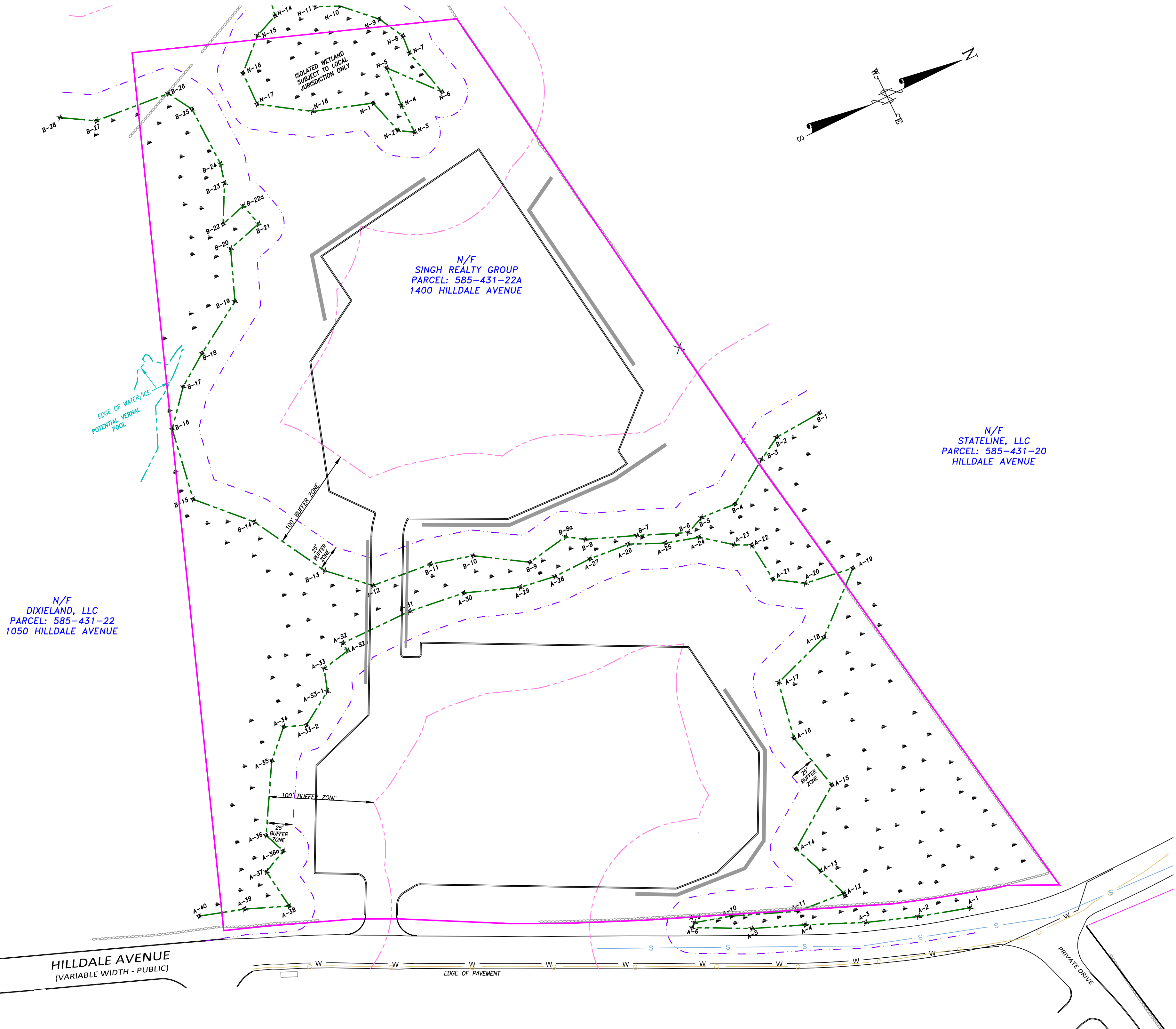
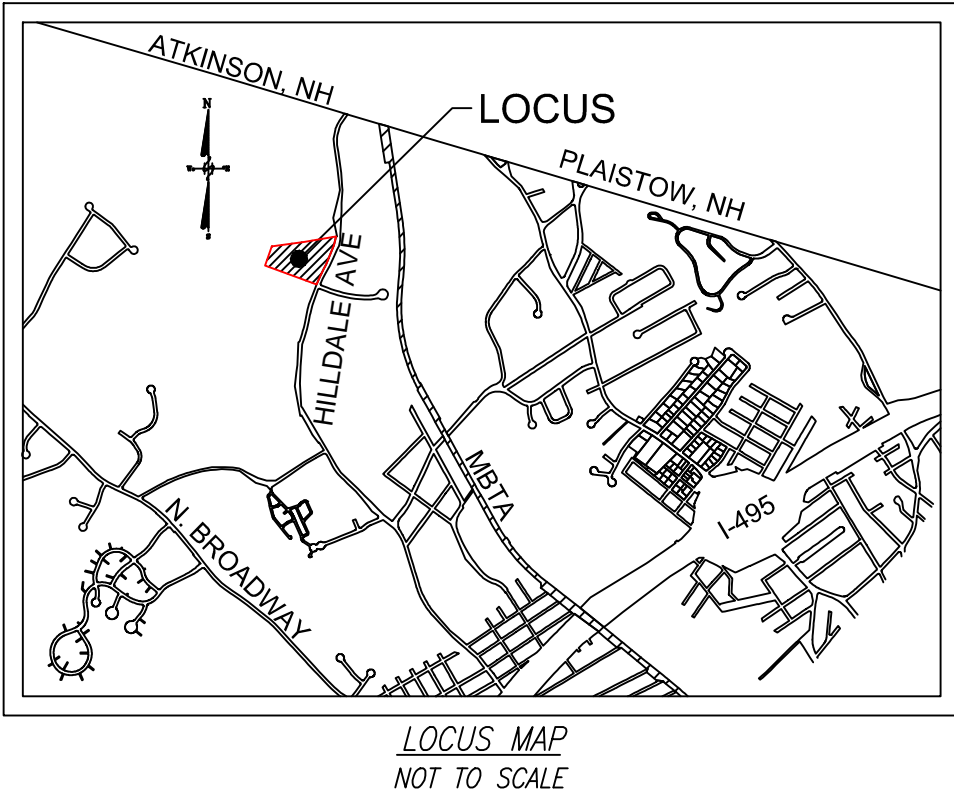


PROPOSED INDUSTRIAL OUTDOOR STORAGE YARD 1400 HILLDALE AVENUE



INDEX TO SHEETS

- SHEET #1 - COVER SHEET
- SHEET #2 - EXISTING CONDITIONS PLAN
- SHEET #3 - SOIL EROSION & SEDIMENTATION CONTROL
- SHEET #4 - SITE PREPARATION PLAN
- SHEET #5 - SITE LAYOUT PLAN
- SHEET #6 - GRADING PLAN
- SHEET #7 - DRAINAGE & UTILITY PLAN
- SHEET #8 - DETAILS & MATERIAL SPECIFICATIONS
- SHEET #9 - DETAIL SHEET
- SHEET #10 - DETAIL SHEET

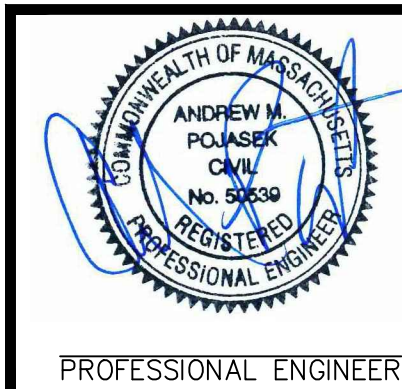
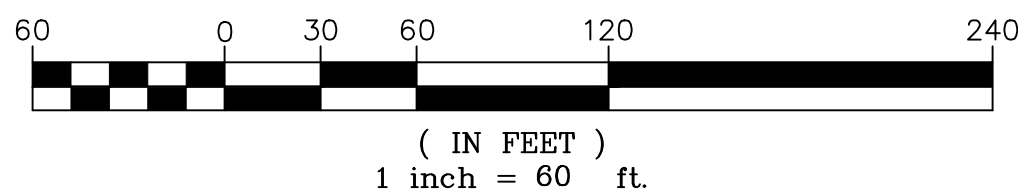
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RECORD OWNER:

SINGH REALTY GROUP, LLC
6 FONDI ROAD
HAVERHILL, MA

UTILITY STATEMENT:
THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES STATE THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.



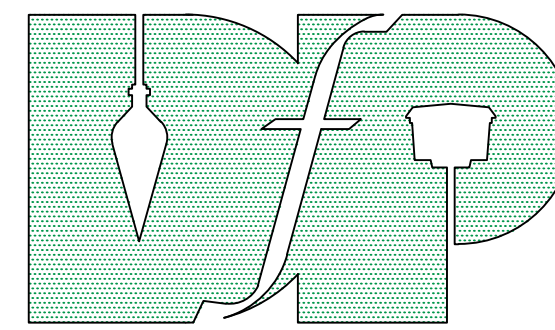
COVER SHEET
INDUSTRIAL OUTDOOR STORAGE YARD
1400 HILLDALE AVENUE
HAVERHILL, MASSACHUSETTS

SCALE: 1" = 60' DATE: FEBRUARY 19, 2025

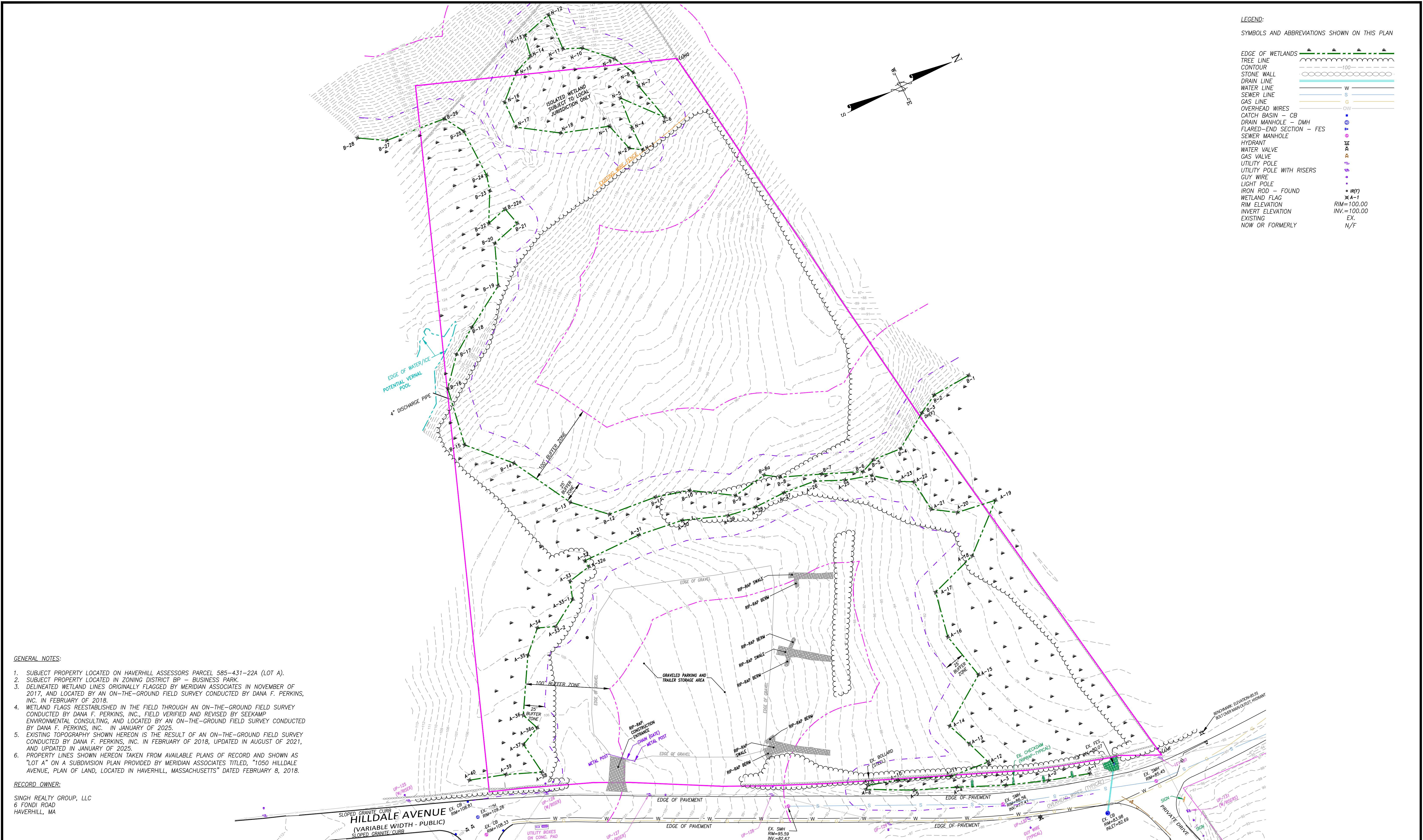
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1057 EAST STREET ~ TEWKSBURY, MASSACHUSETTS 01876
TEL: 978-858-0680 FAX: 978-640-0237
DANAFPERKINS.COM

PREPARED FOR:
SINGH REALTY GROUP
6 FONDI ROAD
HAVERHILL, MA

JOB NO. 51856D SHEET 1 OF 10



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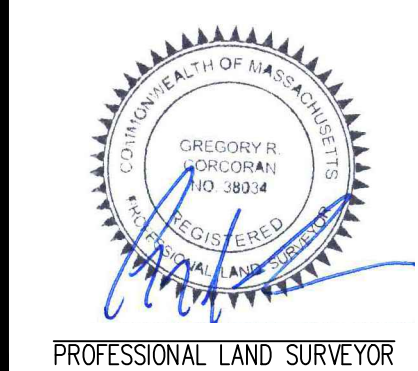
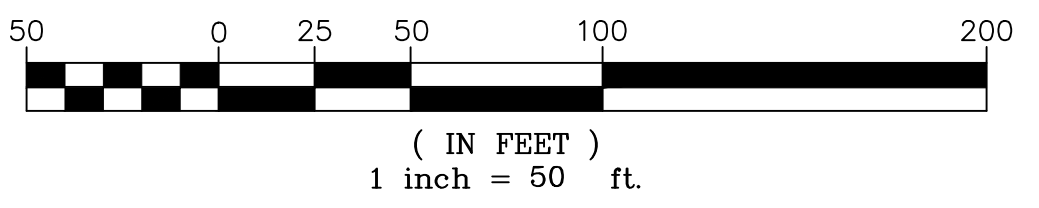
- LEGEND:**
- SYMBOLS AND ABBREVIATIONS SHOWN ON THIS PLAN
- EDGE OF WETLANDS
 - TREE LINE
 - CONTOUR
 - STONE WALL
 - DRAIN LINE
 - WATER LINE
 - SEWER LINE
 - GAS LINE
 - OVERHEAD WIRES
 - CATCH BASIN - CB
 - DRAIN MANHOLE - DMH
 - FLARED-END SECTION - FES
 - SEWER MANHOLE
 - HYDRANT
 - WATER VALVE
 - GAS VALVE
 - UTILITY POLE
 - UTILITY POLE WITH RISERS
 - GUY WIRE
 - LIGHT POLE
 - IRON ROD - FOUND
 - WETLAND FLAG
 - RIM ELEVATION
 - INVERT ELEVATION
 - EXISTING
 - NOW OR FORMERLY
- R(F)
X A-1
RIM=100.00
INV.=100.00
EX.
N/F

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6 FONDI ROAD
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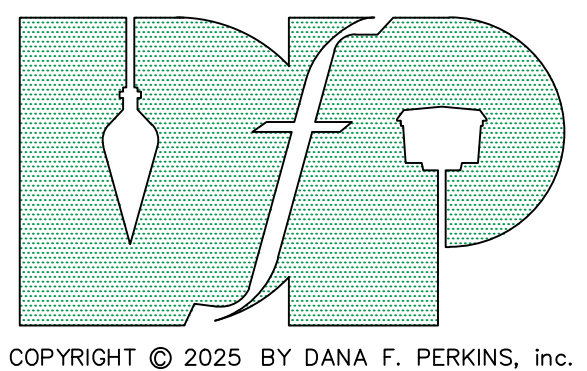


EXISTING CONDITIONS PLAN
INDUSTRIAL OUTDOOR STORAGE YARD
1400 HILLDALE AVENUE
HAVERHILL, MASSACHUSETTS

SCALE: 1" = 50'
DATE: FEBRUARY 19, 2025

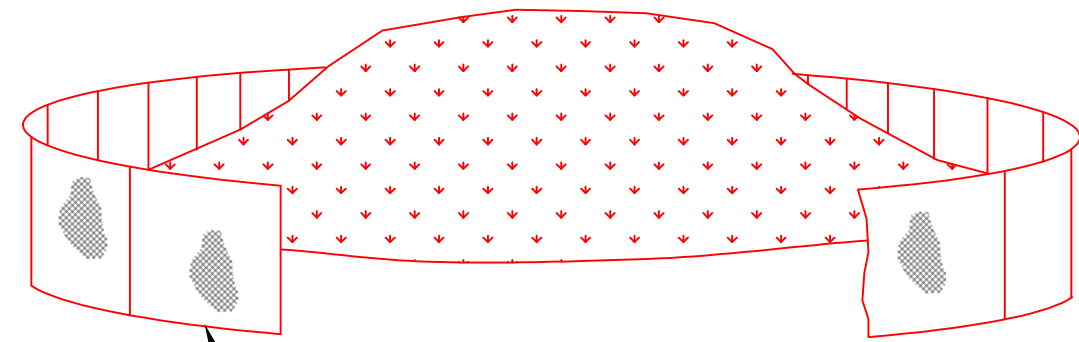
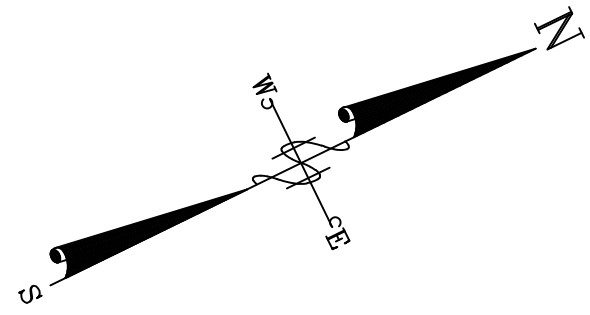
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PREPARED FOR:
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6 FONDI ROAD
HAVERHILL, MA



05/12/25	AMP	REVISIONS PER PEER REVIEW AND TOWN COMMENTS
DATE	BY	REVISION

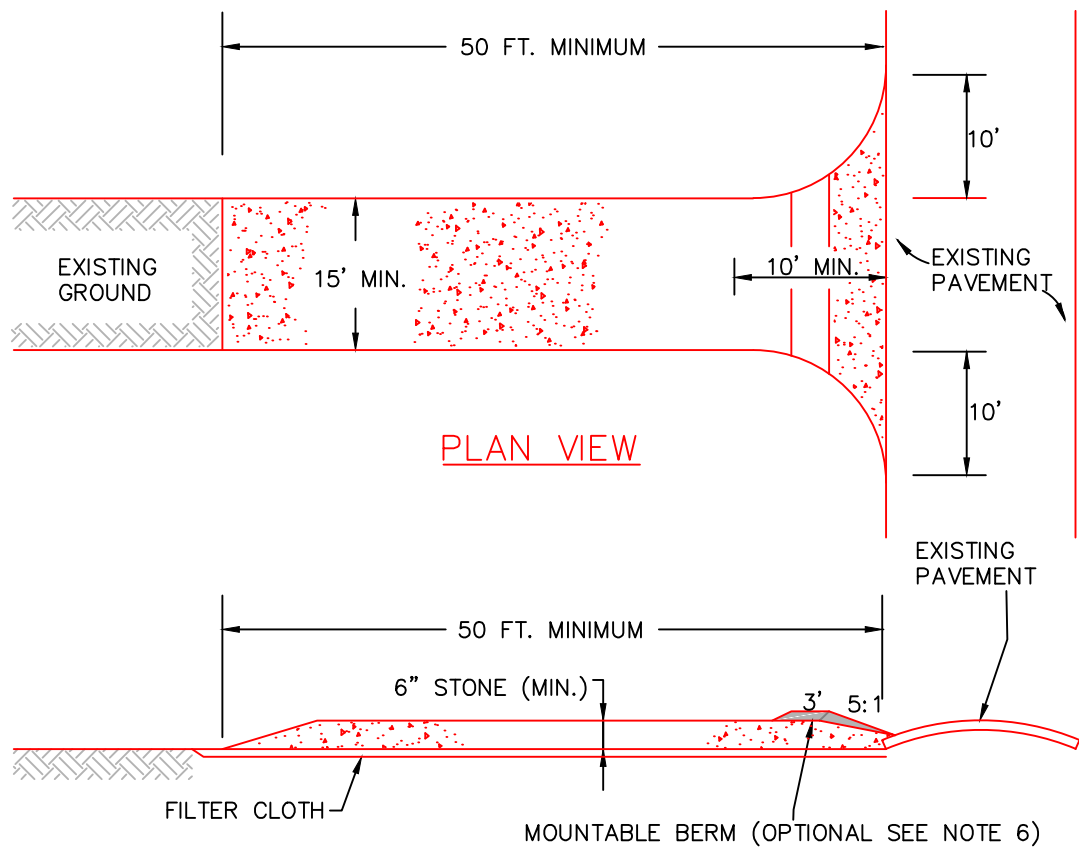
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NOTE:
ENTRENCH SILT FENCE BARRIER
STABILIZE STOCKPILE WITH ANNUAL RYEGRASS, MULCH OR EROSION CONTROL BLANKETS.

SOIL STOCKPILE

NOT TO SCALE



PLAN VIEW

CROSS SECTION

CONSTRUCTION ENTRANCE

NOT TO SCALE

- CONSTRUCTION SPECIFICATIONS:
1. STONE SIZE—USE 2" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
 2. LENGTH—RECOMMEND GREATER THAN OR EQUAL TO 50 FEET WHERE SOILS ARE SANDS AND GRAVELS AND 100 FEET IN SILTS AND CLAYS.
 3. THICKNESS—NOT LESS THAN SIX (6) INCHES.
 4. WIDTH—FIFTEEN (15) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OF EGRESS OCCURS.
 5. FILTER CLOTH—SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
 6. SURFACE WATER—ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM SHALL BE INSTALLED.
 7. MAINTENANCE—THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH SHALL PREVENT TRACKING OF FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
 8. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED.

GENERAL NOTES:

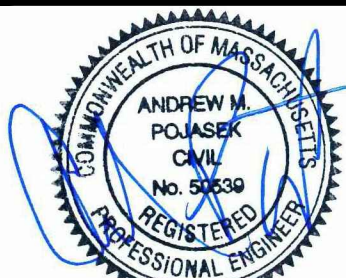
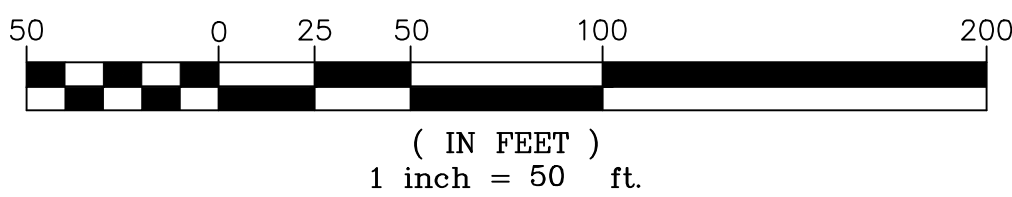
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6 FONDI ROAD
HAVERHILL, MA

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PROFESSIONAL ENGINEER

SOIL EROSION & SEDIMENTATION CONTROL

INDUSTRIAL OUTDOOR STORAGE YARD
1400 HILLDALE AVENUE
HAVERHILL, MASSACHUSETTS

SCALE: 1" = 50'

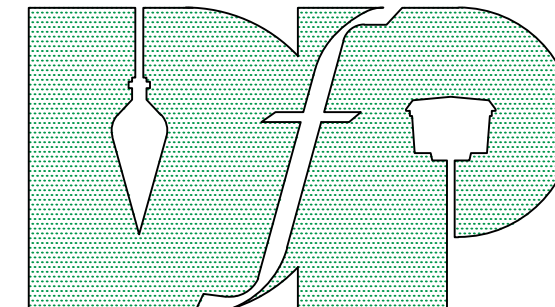
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TEL: 978-858-0680 FAX: 978-640-0237
DANAFPERKINS.COM

PREPARED FOR:
SINGH REALTY GROUP
6 FONDI ROAD
HAVERHILL, MA

JOB NO. 51856D

SHEET 3 OF 10



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LEGEND:

SYMBOLS AND ABBREVIATIONS SHOWN ON THIS PLAN

CONTOUR	---
CHAIN LINK FENCE	—o—o—
STOCKADE FENCE	—x—x—
PROPOSED EROSION CONTROL	—x—x—x—
CATCH BASIN ~ CB	—o—o—
DRAIN MANHOLE ~ DMH	—o—o—
UTILITY POLE	—o—o—
GUY WIRE	—o—o—
GAS METER	—o—o—
ELECTRIC METER	—o—o—
HYDRANT	—o—o—
WATER VALVE	—o—o—
AUTO-SPRINKLER	—o—o—
POST INDICATOR VALVE ~ PIV	—o—o—
FIRE ALARM PULLBOX	—o—o—
FLOOD LIGHT	—o—o—
FINISH FLOOR ELEVATION	F.F.=100.00
INVERT ELEVATION	INV.=100.00
BITUMINOUS	BIT.
CONCRETE	CONC.
EXISTING	EX.
PROPOSED	PR.
SQUARE FEET	SF
NOW OR FORMERLY	N/F

SOIL EROSION AND SEDIMENTATION CONTROL NOTES:

1. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE IN PLACE AND OBSERVED PRIOR TO ANY WORK STARTING ON THE PROJECT. ALL CONTROL MEASURES SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD.
2. ANY CONSTRUCTION STAGING AREAS AND ALL TEMPORARY STOCKPILE AREAS SHALL HAVE EROSION CONTROLS AROUND THE PERIMETER.
3. SITE ENTRY AND EXIT LOCATIONS SHALL BE MAINTAINED TO PREVENT TRACKING OF SEDIMENT ONTO PUBLIC ROADWAYS.
4. TEMPORARY SEEDING OR OTHER METHODS OF STABILIZATION SHALL BE INITIATED WITHIN 14 DAYS OF THE LAST DISTURBANCE ON ANY AREA OF THE SITE WHERE CONSTRUCTION HAS BEEN COMPLETED.
5. EROSION CONTROLS SHALL BE REPAIRED OR REPLACED AS NECESSARY.
6. ANY TEMPORARY STOCKPILE AREAS ARE TO BE LOCATED OUTSIDE OF THE 100' BUFFER FROM THE EXISTING WETLAND RESOURCE AREA.
7. CONSTRUCTION STAGING AREAS AND TEMPORARY STOCKPILE AREAS SHALL BE CONSIDERED APPROXIMATE. CONTRACTOR SHALL BE RESPONSIBLE FOR DESIGNATING AREAS.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING TEMPORARY SEDIMENT BASINS AND/OR ADDITIONAL EROSION CONTROLS, AS NECESSARY, ONCE CONSTRUCTION HAS BEGUN.
9. ONCE DRAINAGE STRUCTURES ARE INSTALLED, EROSION CONTROLS SHALL BE PLACED TO PROVIDE PROTECTION AT ALL CATCH BASINS AND INLETS TO HELP PREVENT SEDIMENT FROM ENTERING THE DRAINAGE SYSTEM.
10. TEMPORARY EROSION CONTROLS SHALL BE INSTALLED ALONG HILLDALE AVENUE FOR WORK WITHIN HILLDALE AVENUE RIGHT OF WAY.
11. SILTSACK INLET PROTECTION SHALL BE INSTALLED IN THE EXISTING CATCH BASINS LOCATED ON HILLDALE AVENUE.
12. CONTRACTOR SHALL BE REQUIRED TO STORE ADDITIONAL SEDIMENT CONTROLS ON SITE TO BE USED FOR REPLACING DAMAGED SEDIMENT CONTROLS.
13. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING AREAS WHERE PROPOSED INFILTRATION SYSTEMS ARE LOCATED DURING THE CONSTRUCTION PERIOD. NO STORAGE OF MATERIAL AND/OR EXCESSIVE COMPACTION BY CONSTRUCTION VEHICLES SHALL BE ALLOWED IN AREAS WHERE INFILTRATION SYSTEMS ARE PROPOSED.

GENERAL SEQUENCE OF CONSTRUCTION

1. ALL SEDIMENTATION AND EROSION CONTROL MEASURES SHALL BE IN PLACE AND OBSERVED PRIOR TO ANY WORK STARTING ON THE PROJECT. ALL CONTROL MEASURES SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD.
2. THE CONTRACTOR SHALL CUT AND REMOVE ALL TREES WITHIN THE LIMIT OF WORK AND STUMP THE SITE.
3. THE LOAM AND SUBSOIL WITHIN THE LIMIT OF WORK SHALL BE STRIPPED. THE MAJORITY OF THE STRIPPED SOILS WILL BE HAULED OFF SITE. SOME LOAM MAY BE RETAINED AND STOCKPILED IN DESIGNATED SOIL STOCKPILE AREAS.
4. TEMPORARY SEDIMENT BASINS SHALL BE CONSTRUCTED TO HELP CONTROL RUNOFF FROM THE SITE.
5. GENERAL SITE GRADING SHALL BE COMPLETED, INCLUDING THE INSTALLATION OF THE RETAINING WALLS.
6. ONCE GENERAL SITE GRADING IS COMPLETED, THE DRAINAGE SYSTEM SHALL BE INSTALLED, STARTING WITH OUTLETS, FOLLOWED BY THE UNDERGROUND SYSTEMS, AND FINISHING WITH PIPING AND DRAINAGE STRUCTURES.
7. UTILITIES, INCLUDING ELECTRIC AND SITE LIGHTING, SHALL BE INSTALLED.
8. FINAL SITE GRADING SHALL BE COMPLETED.
9. THE SITE SHALL BE PREPARED FOR PAVEMENT, AND THEN THE BASE COAT OF PAVEMENT SHALL BE INSTALLED.
10. STORMWATER SYSTEMS SHALL BE ACTIVATED ONCE THE BASE COAT OF PAVEMENT HAS BEEN INSTALLED.
11. LANDSCAPING AND SIGNAGE SHALL BE INSTALLED.
12. TOP COURSE PAVING AND STRIPING SHALL BE COMPLETED.
13. ONCE SITE IS STABILIZED, EROSION CONTROL MEASURES SHALL BE REMOVED.

GENERAL NOTES:

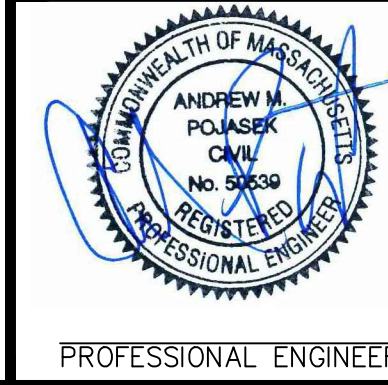
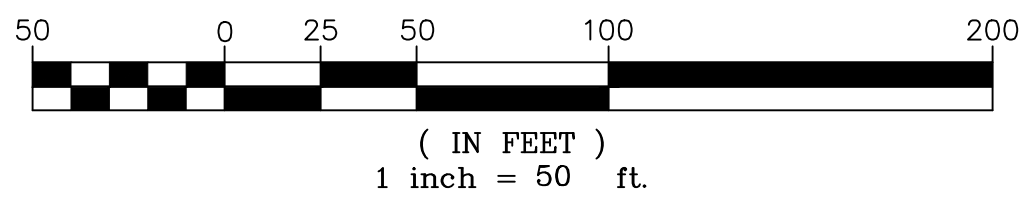
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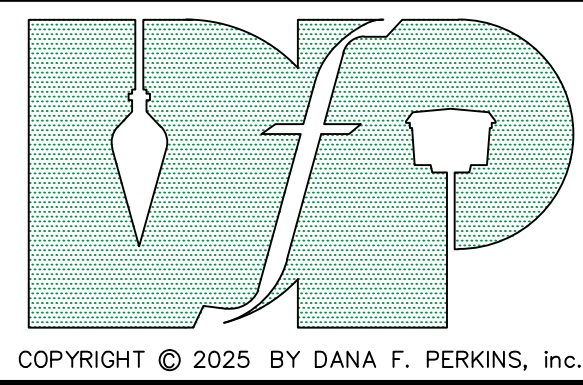
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DATE	BY	REVISION
05/12/25	AMP	REVISIONS PER PEER REVIEW AND TOWN COMMENTS



SITE PREPARATION PLAN
INDUSTRIAL OUTDOOR STORAGE YARD
1400 HILLDALE AVENUE
HAVERHILL, MASSACHUSETTS
SCALE: 1" = 50'
DATE: FEBRUARY 19, 2025

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DANA@PERKINS.COM
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6 FONDI ROAD
HAVERHILL, MA
JOB NO. 51856D
SHEET 4 OF 10



LEGEND:

SYMBOLS AND ABBREVIATIONS SHOWN ON THIS PLAN

EDGE OF WETLANDS	▲▲▲▲
TREE LINE	~ ~ ~ ~
CONTOUR	- - - - 100 - - - -
STONE WALL	=====
DRAIN LINE	=====
WATER LINE	===== W
SEWER LINE	===== S
GAS LINE	===== G
OVERHEAD WIRES	===== H
CATCH BASIN - CB	⊠
DRAIN MANHOLE - DMH	⊙
FLARED-END SECTION - FES	⊠
SEWER MANHOLE	⊙
HYDRANT	⊙
WATER VALVE	⊙
GAS VALVE	⊙
UTILITY POLE	⊙
UTILITY POLE WITH RISERS	⊙
GUY WIRE	⊙
LIGHT POLE	⊙
IRON ROD - FOUND	⊙
WETLAND FLAG	⊙
RIM ELEVATION	⊙ RIM=100.00
INVERT ELEVATION	⊙ INV.=100.00
EXISTING	EX
NOW OR FORMERLY	N/F

LEGEND:

SYMBOLS AND ABBREVIATIONS SHOWN ON THIS PLAN

EDGE OF WETLANDS	EP
EDGE OF PAVEMENT	EPCCB
EDGE OF PAVEMENT - GRANITE CURB	EPCCB
EDGE OF PAVEMENT - CAPE COD BERM	PROP.
PROPOSED	BIT.
BITUMINOUS	CONC.
CONCRETE	RET.
RETAINING	

SNOW STORAGE NOTES:

1. PROPOSED SNOW STORAGE AREAS, AS SHOWN, SHALL BE CONSIDERED APPROXIMATE. OWNER SHALL BE RESPONSIBLE FOR MAINTAINING ADEQUATE SNOW STORAGE AREAS ON SITE LOCATED WITHIN IMPERVIOUS AREAS ONLY. DUMPING SNOW INTO EXISTING WETLAND AREAS SHALL NOT BE PROHIBITED.
2. ALTERNATIVELY, SNOWBANKS CAN BE REMOVED AND TRANSPORTED VIA TRUCK TO A SPECIFIED SNOW FARM TO BE DETERMINED BY THE SNOW PLOWING CONTRACTOR.
3. OWNER SHALL BE RESPONSIBLE FOR REVIEWING REQUIREMENTS WITH THE PLOWING CONTRACTOR.
4. DUMPING SNOW DIRECTLY INTO THE WETLAND AREAS IS PROHIBITED.

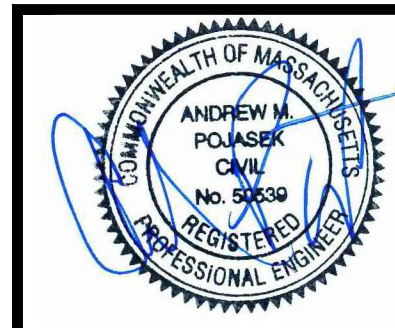
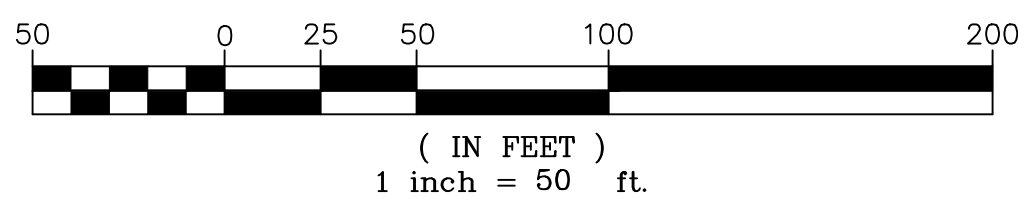
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3. DELINEATED WETLAND LINES ORIGINALLY FLAGGED BY MERIDIAN ASSOCIATES IN NOVEMBER OF 2017, AND LOCATED BY AN ON-THE-GROUND FIELD SURVEY CONDUCTED BY DANA F. PERKINS, INC. IN FEBRUARY OF 2018.
4. WETLAND FLAGS REESTABLISHED IN THE FIELD THROUGH AN ON-THE-GROUND FIELD SURVEY CONDUCTED BY DANA F. PERKINS, INC., FIELD VERIFIED AND REVISED BY SEEKAMP ENVIRONMENTAL CONSULTING, AND LOCATED BY AN ON-THE-GROUND FIELD SURVEY CONDUCTED BY DANA F. PERKINS, INC. IN JANUARY OF 2025.
5. EXISTING TOPOGRAPHY SHOWN HEREON IS THE RESULT OF AN ON-THE-GROUND FIELD SURVEY CONDUCTED BY DANA F. PERKINS, INC. IN FEBRUARY OF 2018, UPDATED IN AUGUST OF 2021, AND UPDATED IN JANUARY OF 2025.
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RECORD OWNER:

SINGH REALTY GROUP, LLC
6 FONDI ROAD
HAVERHILL, MA

05/12/25	AMP	REVISIONS PER PEER REVIEW AND TOWN COMMENTS
DATE	BY	REVISION



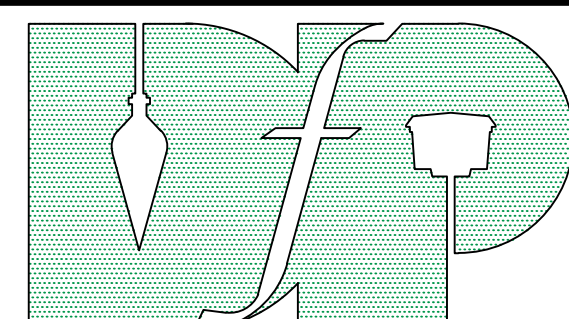
SITE LAYOUT PLAN
INDUSTRIAL OUTDOOR STORAGE YARD
1400 HILLDALE AVENUE
HAVERHILL, MASSACHUSETTS

SCALE: 1" = 50' DATE: FEBRUARY 19, 2025

DANA F. PERKINS, inc.
Consulting Engineers & Land Surveyors
1057 EAST STREET ~ TEWKSBURY, MASSACHUSETTS 01876
TEL: 978-858-0680 FAX: 978-640-0237
DANA.F.PERKINS.COM

PREPARED FOR:
SINGH REALTY GROUP
6 FONDI ROAD
HAVERHILL, MA

JOB NO. 51856D SHEET 5 OF 10



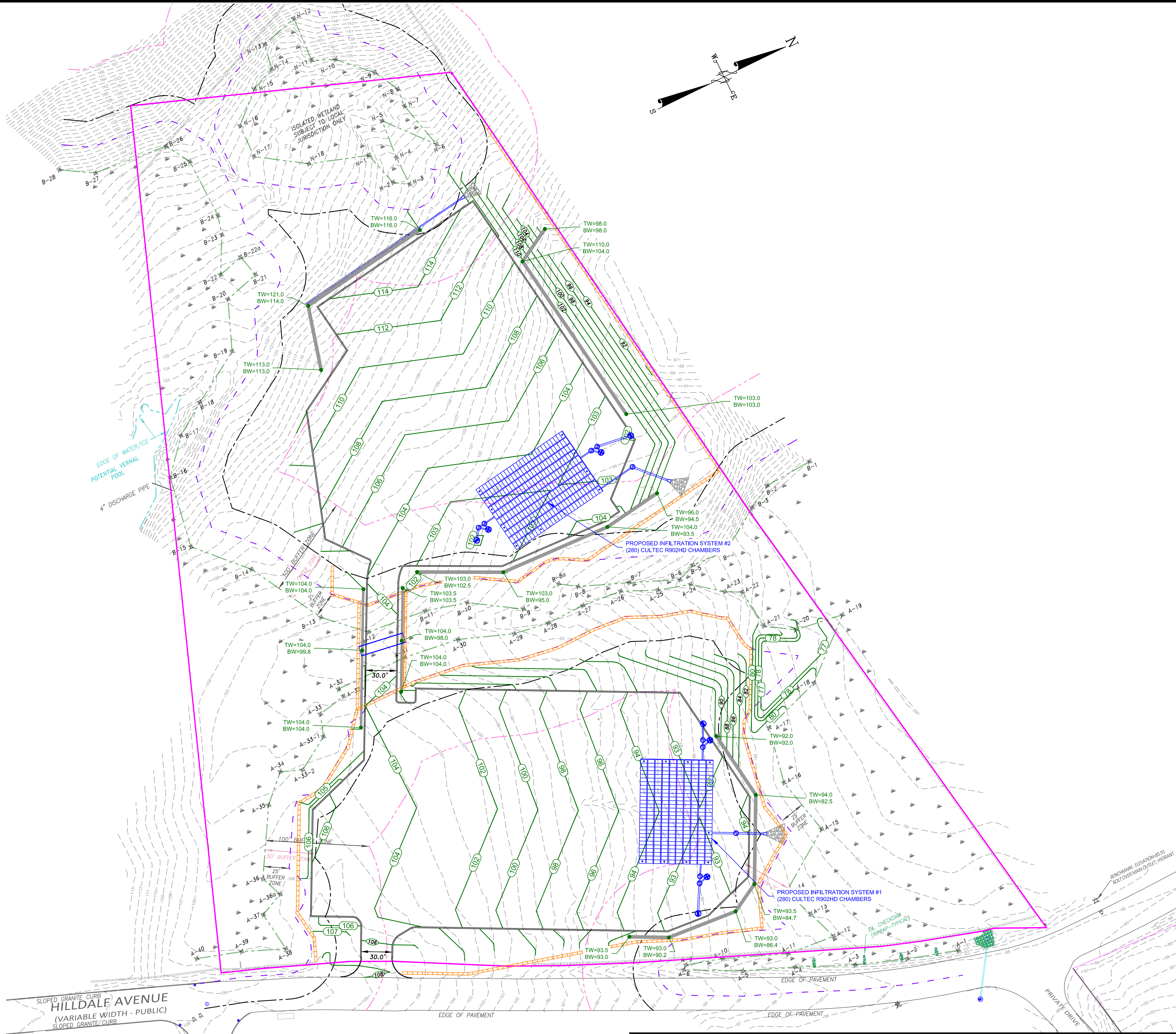
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LEGEND:

SYMBOLS AND ABBREVIATIONS SHOWN ON THIS PLAN

CONTOUR
CHAIN LINK FENCE
STOCKADE FENCE
PROPOSED CONTOUR
PROPOSED DRAIN LINE
PROPOSED SEWER LINE
CATCH BASIN ~ CB
DRAIN MANHOLE ~ DMH
SEWER MANHOLE
PROPOSED CATCH BASIN ~ CB
PROPOSED DRAIN MANHOLE ~ DMH
PROPOSED SPOT ELEVATION
INVERT ELEVATION
CORRUGATED METAL PIPE
HIGH-DENSITY POLYETHYLENE (PIPE)
FINISH FLOOR ELEVATION
BIT.
CONCRETE
EXISTING
PROPOSED
SQUARE FEET

PS
• 100x00
INV=100.00
CMP
HDPE
F.F.=100.00
BIT.
CONC.
EX.
PROP.
SF



GENERAL NOTES:

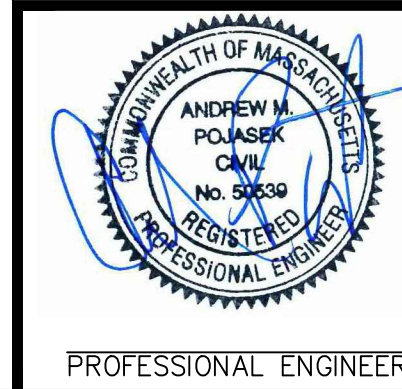
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RECORD OWNER:

SINGH REALTY GROUP, LLC
6 FONDI ROAD
HAVERHILL, MA

05/12/25	AMP	REVISIONS PER PEER REVIEW AND TOWN COMMENTS
DATE	BY	REVISION

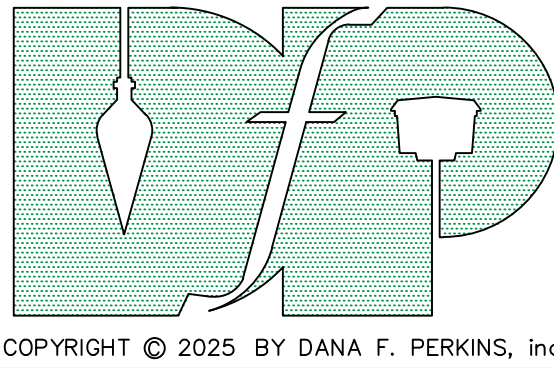
50 0 25 50 100 200
(IN FEET)
1 inch = 50 ft.



SITE GRADING PLAN
INDUSTRIAL OUTDOOR STORAGE YARD
1400 HILLDALE AVENUE
HAVERHILL, MASSACHUSETTS

SCALE: 1" = 50' DATE: FEBRUARY 19, 2025

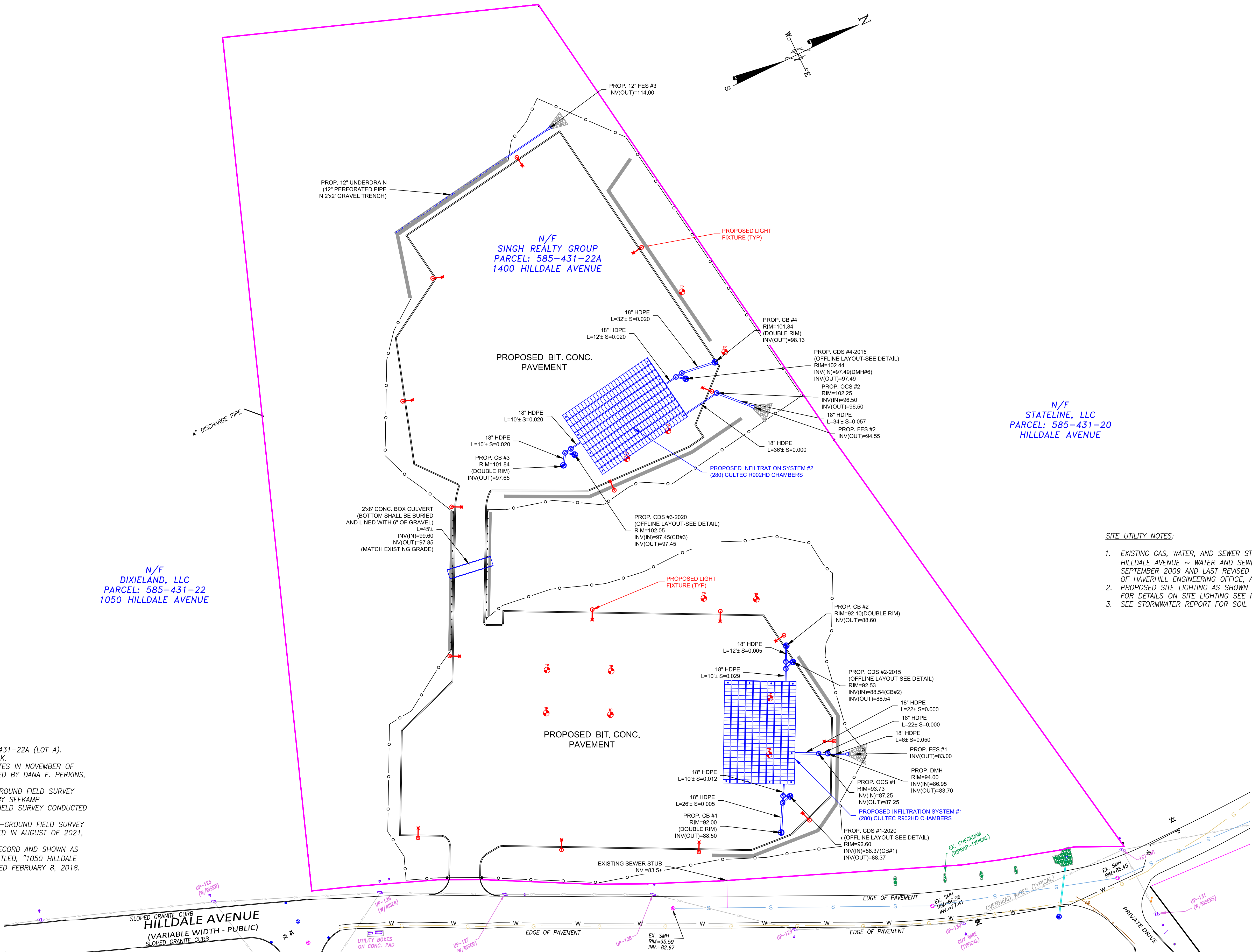
DANA F. PERKINS, inc.
Consulting Engineers & Land Surveyors
1057 EAST STREET ~ TEWKSBURY, MASSACHUSETTS 01876
TEL: 978-858-0680 FAX: 978-640-0237
DANAFPERKINS.COM
PREPARED FOR: SINGH REALTY GROUP
6 FONDI ROAD
HAVERHILL, MA
JOB NO. 51856D SHEET 6 OF 10



LEGEND:

SYMBOLS AND ABBREVIATIONS SHOWN ON THIS PLAN

EXISTING WATER SERVICE	W
EXISTING GAS SERVICE	G
EXISTING OVERHEAD WIRES	OH
PROPOSED WATER SERVICE	PW
PROPOSED GAS SERVICE	PG
PROPOSED ELECTRIC LINE	PE
PROPOSED DRAIN LINE	PS
PROPOSED SEWER LINE	PS
EXISTING CATCH BASIN	●
EXISTING DRAIN MANHOLE	⊙
SEWER MANHOLE	⊙
PROPOSED CATCH BASIN	⊙
PROPOSED DRAIN MANHOLE	⊙
UTILITY POLE	⊙
GUY WIRE	⊙
HYDRANT	⊙
WATER VALVE	⊙
GAS VALVE	⊙
EXISTING	EX.
PROPOSED	PROP.



SITE UTILITY NOTES:

- EXISTING GAS, WATER, AND SEWER STUBS TAKEN FROM PLANS ENTITLED, "UPPER HILLDALE AVENUE ~ WATER AND SEWER EXTENSION" PREPARED BY CDM DATED SEPTEMBER 2009 AND LAST REVISED JANUARY 2011, AS PROVIDED BY THE CITY OF HAVERHILL ENGINEERING OFFICE, AND SHOULD BE CONSIDERED APPROXIMATE.
- PROPOSED SITE LIGHTING AS SHOWN SHOULD BE CONSIDERED APPROXIMATE. FOR DETAILS ON SITE LIGHTING SEE PLANS BY OTHERS.
- SEE STORMWATER REPORT FOR SOIL TEST PIT RESULTS.

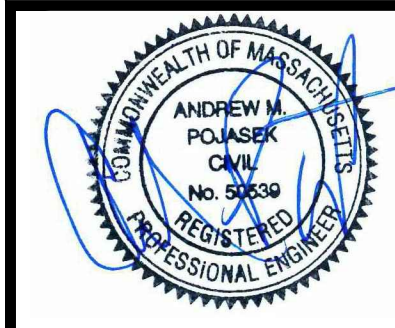
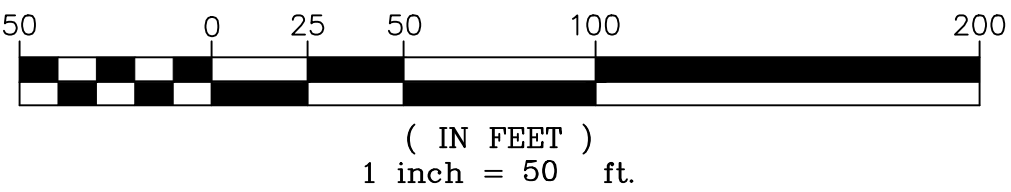
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RECORD OWNER:

SINGH REALTY GROUP, LLC
6 FONDI ROAD
HAVERHILL, MA

05/12/25	AMP	REVISIONS PER PEER REVIEW AND TOWN COMMENTS
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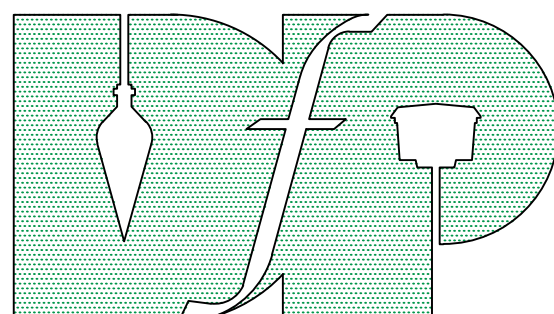
SITE DRAINAGE & UTILITY PLAN
INDUSTRIAL OUTDOOR STORAGE YARD
1400 HILLDALE AVENUE
HAVERHILL, MASSACHUSETTS

SCALE: 1" = 50' DATE: FEBRUARY 19, 2025

DANA F. PERKINS, inc.
Consulting Engineers & Land Surveyors
1057 EAST STREET ~ TEWKSBURY, MASSACHUSETTS 01876
TEL: 978-858-0680 FAX: 978-640-0237
DANAFPERKINS.COM

PREPARED FOR:
SINGH REALTY GROUP
6 FONDI ROAD
HAVERHILL, MA

JOB NO. 51856D SHEET 7 OF 10



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MATERIAL SPECIFICATIONS

1. Drain manhole rims shall be cast iron heavy duty frames and covers as manufactured by East Jordan Iron Works or approved equal. Castings shall be a least Class 25 conforming to the latest ASTM Specification A-48. Drain covers shall read "DRAIN".
2. Catch basin frames and covers as manufactured by East Jordan Iron Works or approved equal. Castings shall be at least class 35 conforming to the latest ASTM specification A-48.
3. Catch basins and drain manholes shall be reinforced precast concrete base, riser, and cone sections or flat slab sections conforming to the latest ASTM Specification C-478 as manufactured by Concrete Systems, Inc., Hudson, NH, or conforming to the latest ASTM Specification C-4443. Mortar for brickwork shall be composed of Portland cement Type II hydrated lime type S and sand. In general the proportions for mortar shall be 1:1/2:4 1/2 cement:hydrated lime:sand. Outside faces of brick shall be plastered with 1/4" to 3/8" thickness of mortar. All catch basins shall be minimum 4'0" inside diameter. Larger diameter manholes and catch basins shall be used when required to accommodate pipe size or configuration.
4. Bituminous concrete curbing where shown on the plans shall be MDPW "Cape Cod Berm". All curbing shall be placed on the binder course of pavement. When curbing placement follows pavement installation by more than 48 hours, the binder course shall be prepared with a tack coat of 0.1 gallons/s.y. RS-1 Emulsified Asphalt (MDPW M3.03.0). Curbing methods of application shall conform to MDPW 501.64 and materials shall conform to MDPW M3.11.03 - Top Course.
5. Upon completion of the application and curbing (7 days minimum) of the pavement surface, the contractor shall paint all parking space and driveway lines with fast-drying, highway paint MDPW M7.01.10. (P225) Paint shall be applied to a thickness of 15 mils to form a 4" wide line. Paint application shall conform to MDPW Standards Section 860.
6. Drainage piping where shown as HDPE shall be corrugated polyethylene pipe. All pipe and fittings shall conform to ASTM F405 and ASTM F667 as manufactured by Hancor or approved equal. Pipe and fittings must be backfilled in accordance with manufacturer's guidelines.
7. Sewer pipe shall be Polyvinyl Chloride Pipe, and shall conform to ASTM D 3034.
8. All proposed grass areas shall be brought to subgrade and then graded with 4" of loam. The areas shall then be limed, fertilized and seeded in accordance with USDA Guidelines. Hay or straw mulch shall be applied to all slope areas to prevent erosion. All slopes must be stabilized during seed germination with jute netting.
9. The contractor shall install erosion controls as shown on these plans prior to construction. Erosion control shall be repaired, replaced or cleaned as necessary during construction so as to provide a siltation barrier to the adjacent areas until permanent vegetative cover is re-established in all disturbed areas.
10. All existing topsoil and subsoil shall be removed before any fill material is placed (in filled area). Topsoil and subsoil removed from areas to be filled on site can be reused on site as fill material in landscaped areas and in slope areas.
11. All fill material in unpaved applications shall be compacted to 95% of maximum density using approved methods.
12. Disturbed areas shall be stabilized immediately after final grading and no area shall be left unstable for more than 30 days. If soil material is stockpiled on site, erosion controls shall be placed around the entire perimeter of the pile.

GENERAL NOTES

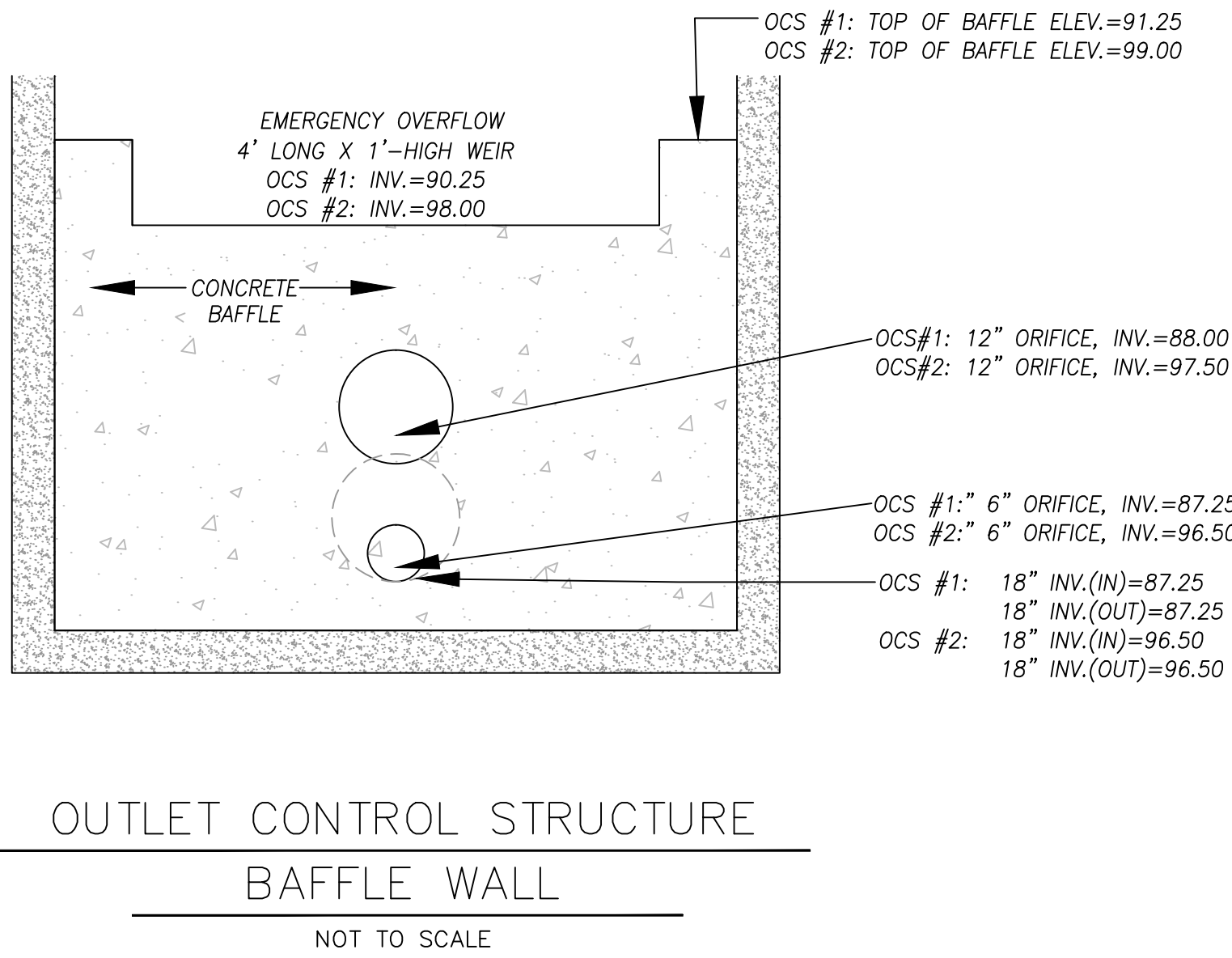
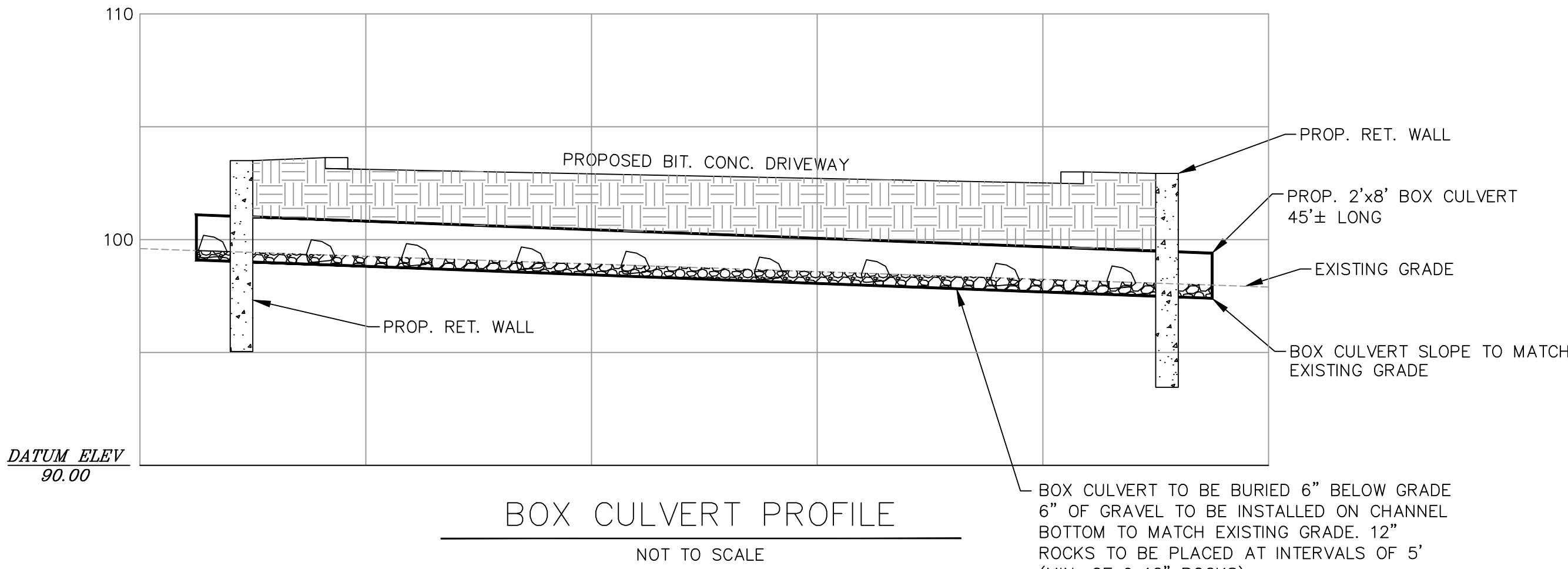
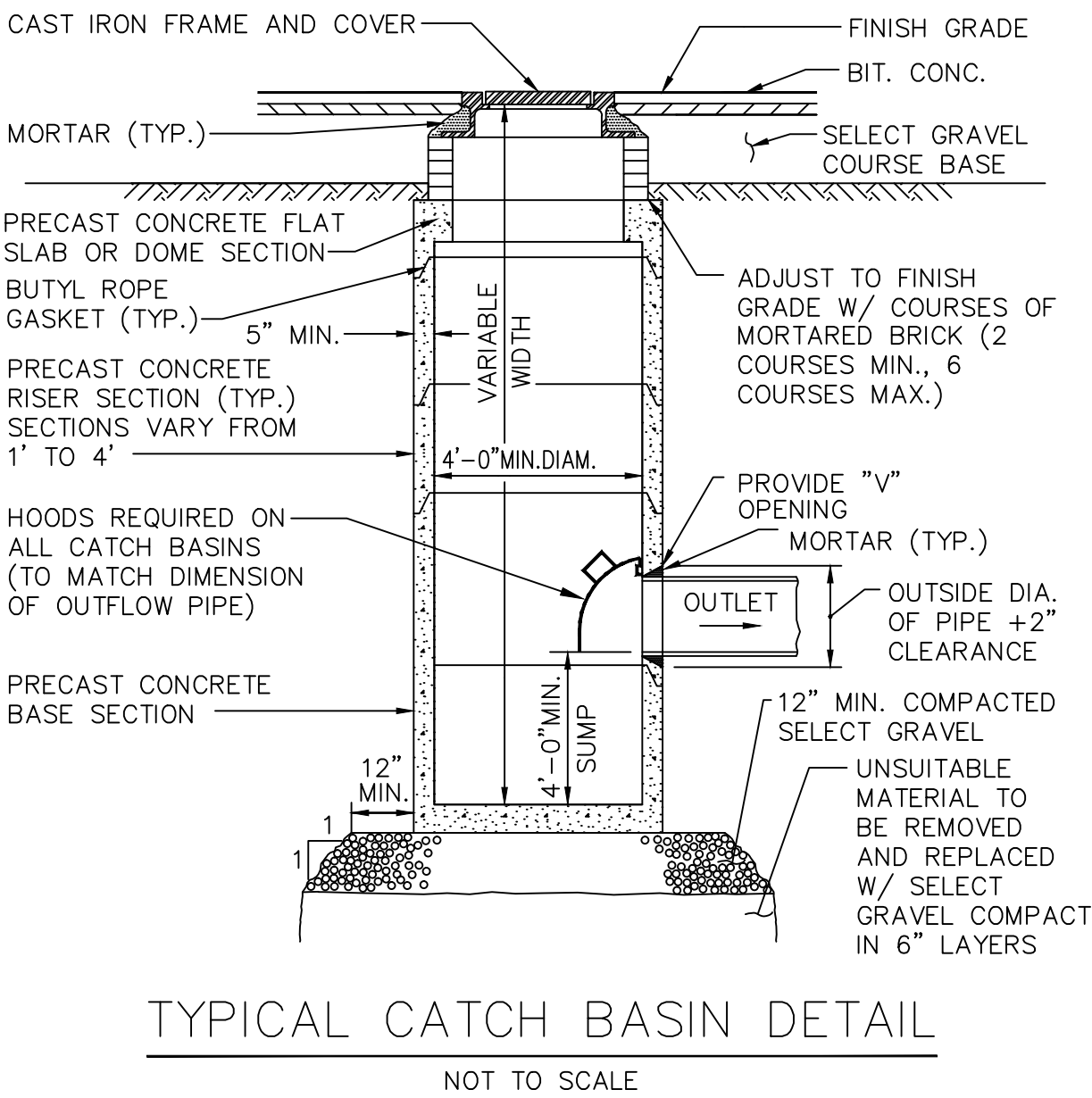
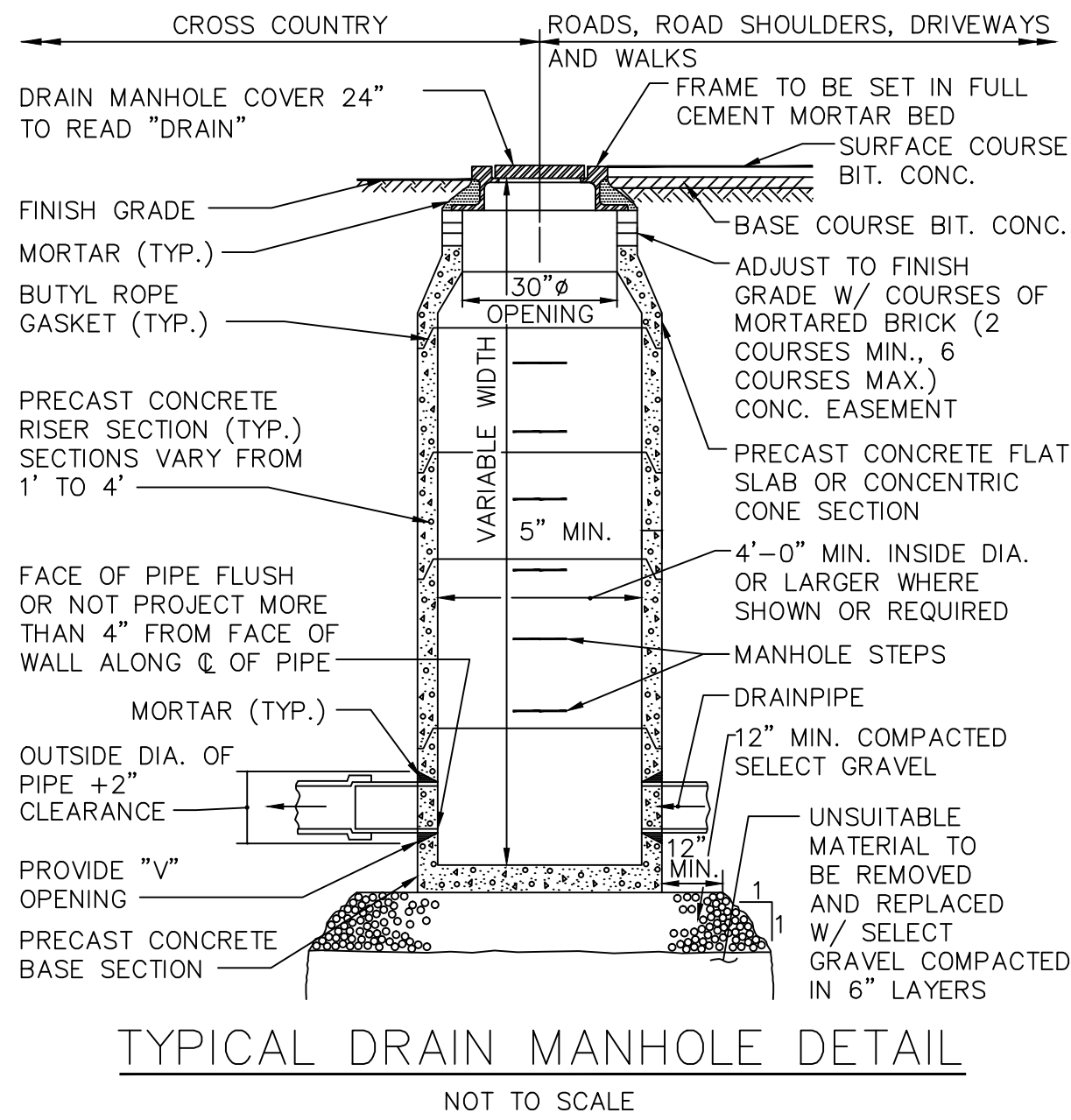
1. These plans and specifications are intended to be explanatory of the work to be done and of each other, but should any omissions, errors, or discrepancies appear, they shall be subject to correction and interpretation by the design engineer.
2. All curb cuts, utility connections and street openings may require the approval of and granting of permits by the City of Haverhill. It shall be the responsibility of the general site contractor to see that all construction approvals and permits are obtained.
3. The work on this project is governed or controlled by several permits and approvals. The contractor MUST obtain copies of all such permits and approvals PRIOR to starting work on the project. The contractor must read all such permits and approvals to familiarize himself with any and all general or special conditions or requirements. MANY OF THESE CONDITIONS OR REQUIREMENTS CONTROL THE CONSTRUCTION PROCESS OR COVER WORK NOT SHOWN ON THESE PLANS.
4. Alternate manufacturers for materials shown on these plans may be used upon written approval by the design engineer. Alternate manufacturers will not be approved if the use of their equipment requires design changes.
5. If any part of this design is to be altered in any way, the design engineer, as well as the approving authorities, shall be notified in writing before construction.
6. The location of existing underground utilities were taken from available records and their locations shall be considered approximate. The location and elevation of all existing utilities shall be considered approximate and must be verified by the contractor prior to any construction. As required by Massachusetts General Laws, Chapter 82, Section 40 and Chapter 164, Section 76(d), the contractor must call "DIG SAFE" 72 hours prior to any excavation, telephone no. 1-888-344-7233. The contractor shall test pit at the location of any crossings of proposed utilities over existing utilities. Underground Fire Alarm, Gas, Electric and Telephone lines, if any, are shown as approximate on these plans. The general contractor shall contact the respective utility companies relative to the location and elevation of these lines. Any discrepancies in the location of any utilities shown or encountered during construction shall be reported to Dana F. Perkins, Inc., Civil Engineering Division, 1057 East Street, Tewksbury, MA 01876.
7. The contractor shall comply with all applicable federal, state and local safety codes in the construction of all proposed utilities.
8. All appropriate agencies and utility companies shall be notified, in writing, 48 hours prior to any construction within their jurisdiction.
9. The construction of all proposed utilities shall conform to the City of Haverhill Standards and Specifications, latest edition, as well as the Commonwealth of Massachusetts DPW Standards and Specifications, latest edition.
10. The responsibility of notifying the City of Haverhill Department of Public Works for field inspections of the construction progress is solely that of the installing contractor. The Contractor shall give a minimum of 24 hours prior notice.
11. For details on Site Lighting, see plans by others.
12. Subject property located in City of Haverhill Zoning District: Business Park

Construction Period Pollution Prevention Plan

Maintenance / Inspection Procedures

The following maintenance and inspection procedures shall be followed so as to ensure proper erosion and sediment control throughout construction.

1. The siltation controls shall be installed prior to conducting any land-disturbing activities.
2. All erosion control measures shall be inspected once per week and following any storm event of 0.5 inches or greater.
3. Should dewatering activities be required, pumped groundwater shall be directed to a dewatering sump prior to discharge to any wetland resource area or stormwater management area.
4. All measures will be maintained in good working order and shall be repaired as necessary throughout construction. If a repair is necessary, it will be initiated within 24 hours of observation.
5. Sediment shall be removed from the erosion controls when it has accumulated to a depth of approximately 6 inches.
6. Any catch basins located immediately downstream from the construction site shall be inspected once per week and following any storm event of 0.5 inches or greater. Any significant sediment accumulation within these catch basins shall be removed within 24 hours of observation.
7. All seeded areas shall be inspected periodically to insure proper germination and adequate coverage and shall be reseeded as necessary. Any washouts shall be promptly repaired, reseeded and mulched.
8. Provide and maintain dumpsters for trash removal. Trash and construction debris shall be picked up daily.
9. The Contractor shall direct surface runoff to unpaved, pervious areas on the site to the maximum extent possible, utilizing temporary silt soxx as required preventing erosion and sedimentation of offsite areas.
10. During construction and installation of the Stormwater Management BMPs, care should be taken to minimize any sediment intrusion into these systems. Any significant sediment accumulation within these systems shall be removed within 24 hours of observation.
11. The Contractor shall make every effort to minimize the amount of impervious pavement area tributary to the drainage system and Stormwater Management BMPs until the site has been stabilized. The Contractor shall continue to direct surface runoff to unpaved areas as noted above.
12. A maintenance inspection report will be made after each inspection during construction. A copy of the report form to be completed by the inspector is attached. These reports shall be compiled and kept on site during construction. They shall be retained by the contractor for a period of 3 years.



NOTES:
OUTLET CONTROL STRUCTURES SHALL CONSIST OF A 5'-DIAMETER DRAIN MANHOLE WITH A CONCRETE BAFLE WALL

05/12/25	AMP	REVISIONS PER PEER REVIEW AND TOWN COMMENTS
DATE	BY	REVISION

PROFESSIONAL ENGINEER

DETAILS & MATERIALS SPECIFICATIONS

INDUSTRIAL OUTDOOR STORAGE YARD

1400 HILLDALE AVENUE

HAVERHILL, MASSACHUSETTS

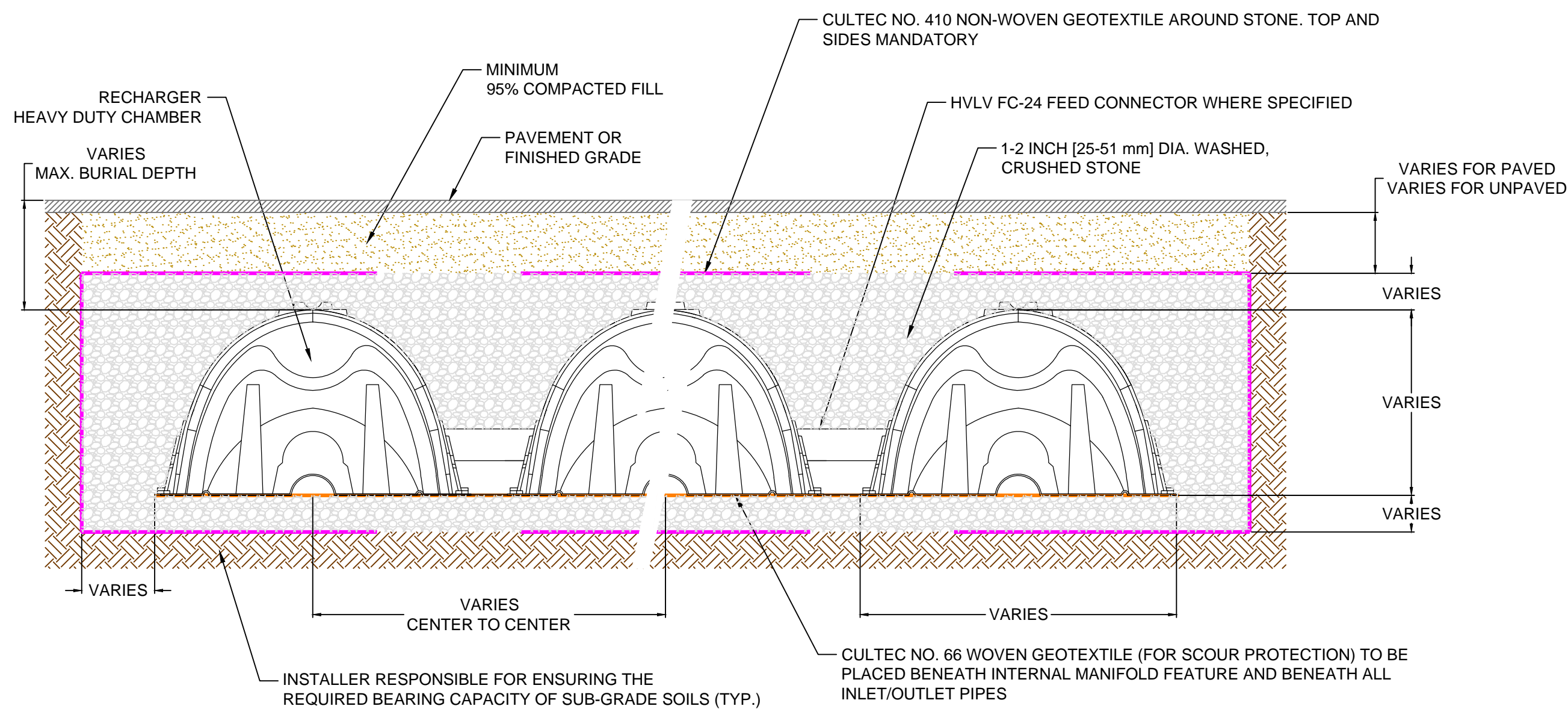
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DANAFPERKINS.COM

PREPARED FOR:
SINGH REALTY GROUP
6 FONDI ROAD
HAVERHILL, MA

JOB NO. 5185SD SHEET 8 OF 10

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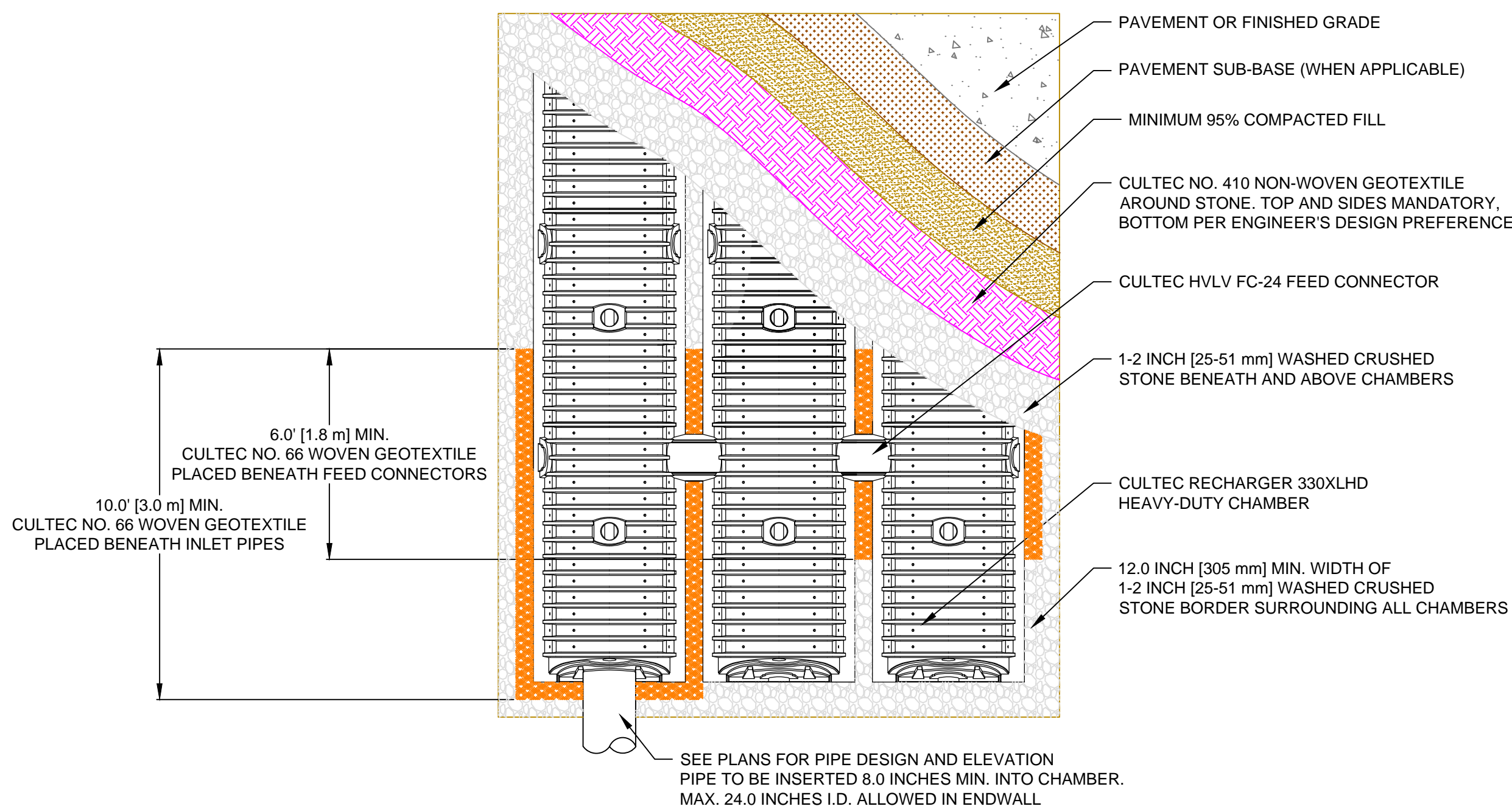
GENERAL NOTES

RECHARGER BY CULTEC, INC. OF BROOKFIELD, CT. REFER TO CULTEC, INC.'S CURRENT RECOMMENDED INSTALLATION GUIDELINES. THE CHAMBER WILL BE DESIGNED TO WITHSTAND TRAFFIC LOADS WHEN INSTALLED ACCORDING TO CULTEC'S RECOMMENDED INSTALLATION INSTRUCTIONS

ALL RECHARGER HEAVY DUTY UNITS ARE MARKED WITH A COLOR STRIPE FORMED INTO THE PART ALONG THE LENGTH OF THE CHAMBER. ALL RECHARGER CHAMBERS MUST BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS

CULTEC RECHARGER CHAMBER SYSTEM TYPICAL CROSS-SECTION

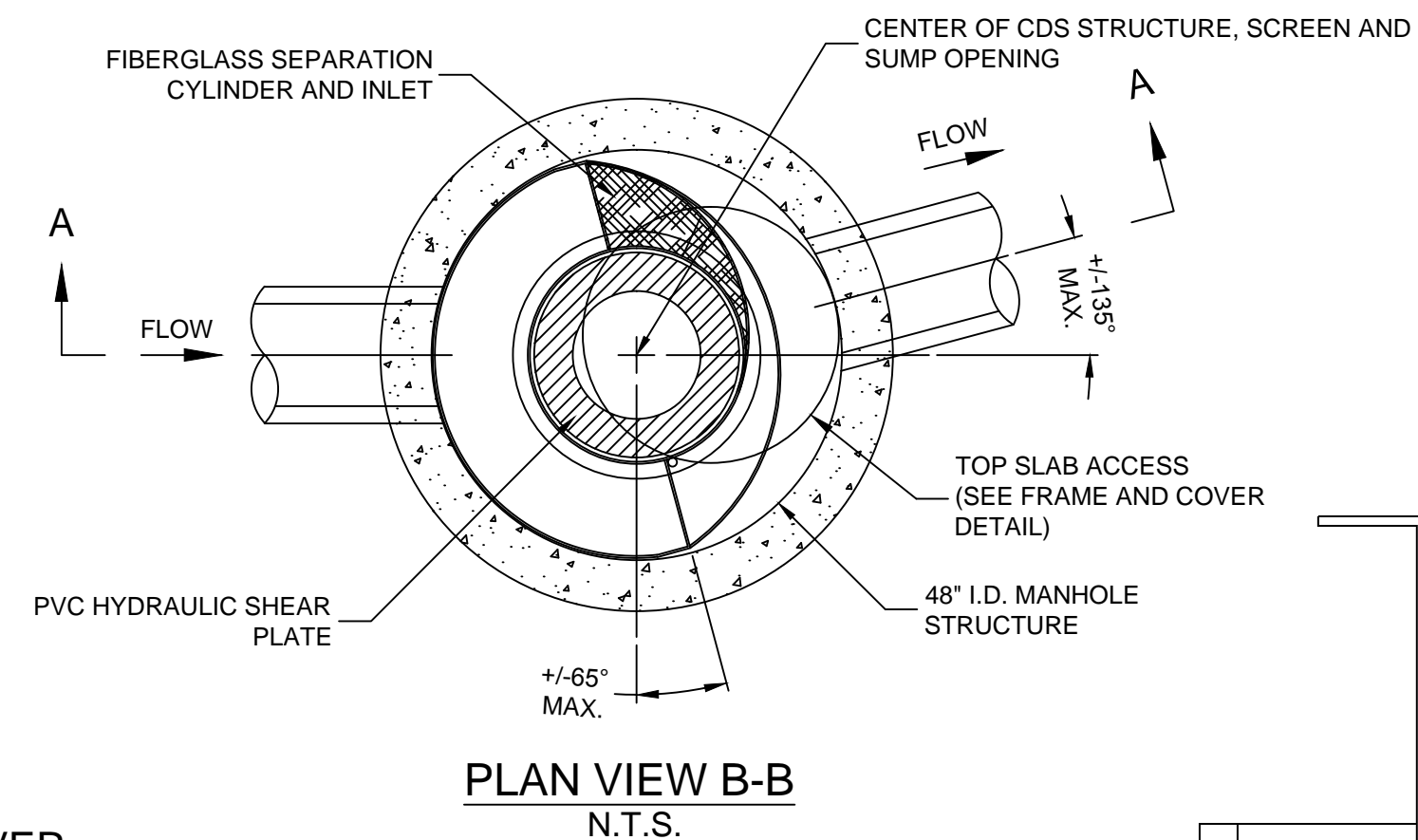
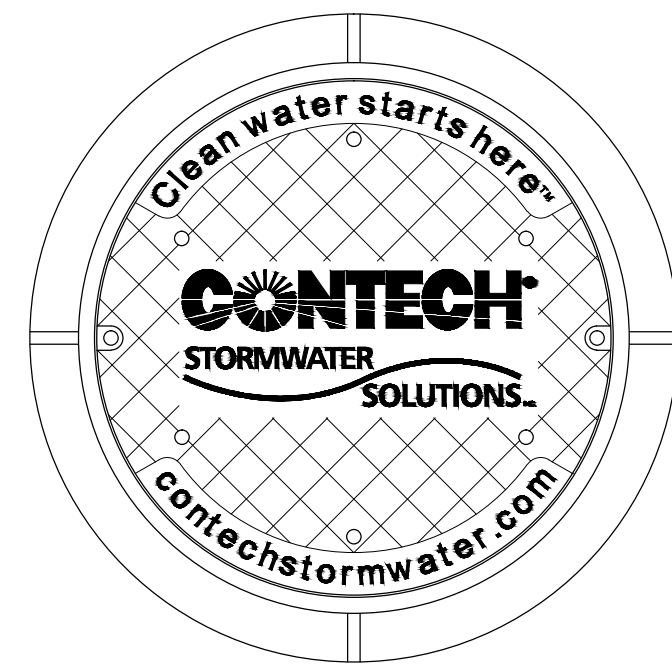
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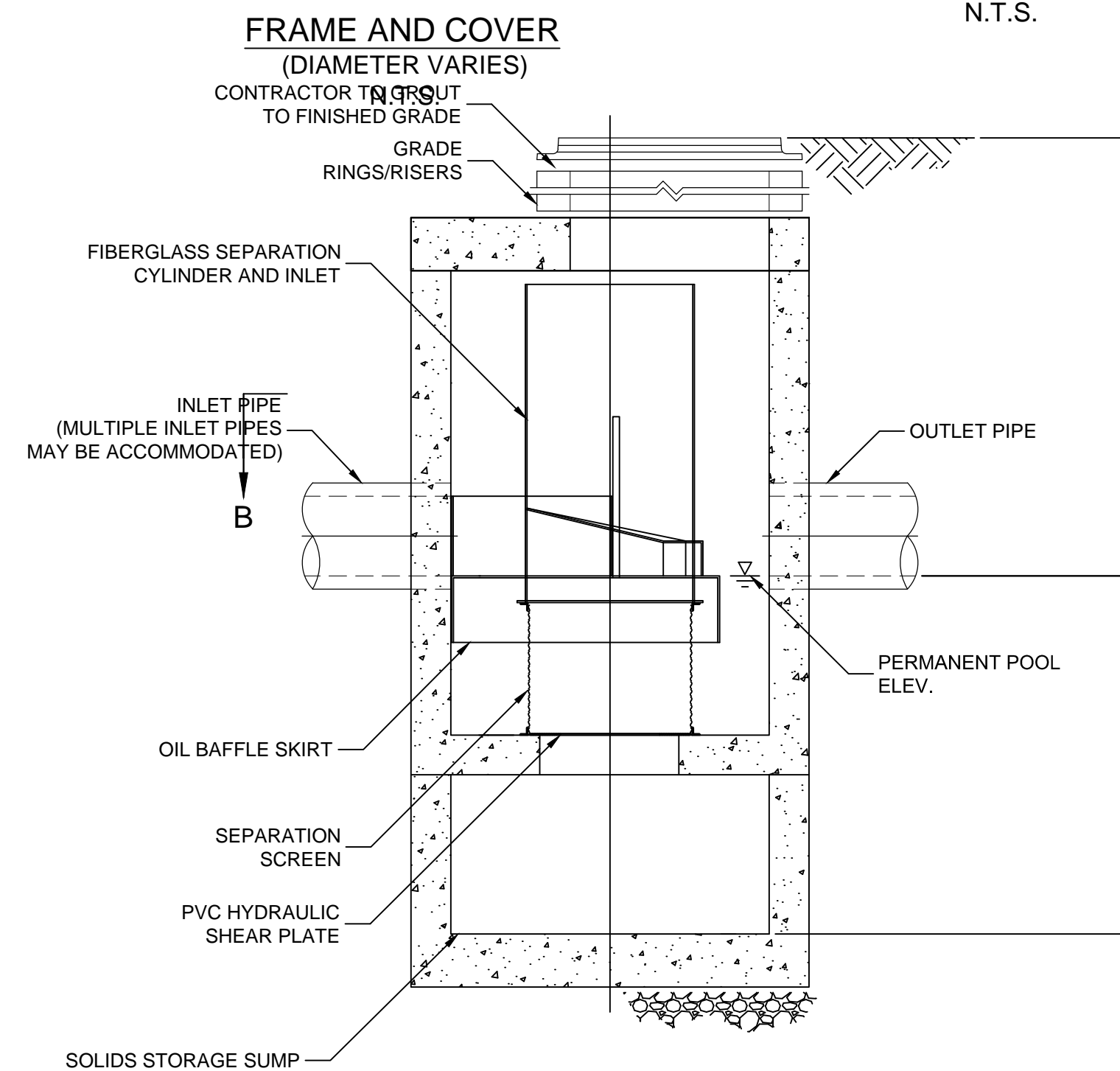
CULTEC RECHARGER CHAMBER SYSTEM PLAN VIEW

NOT TO SCALE

PROPOSED INFILTRATION SYSTEM	NUMBER OF CHAMBERS	BOTTOM OF STONE	BOTTOM OF CHAMBERS	TOP OF STONE	INVERT (IN)	INVERT (OUT)
1	280-R902	85.00	85.75	90.75	88.25 (18")	87.25 (18")
2	280-R902	94.00	94.75	98.75	97.25 (18")	96.50 (18")



PLAN VIEW B-B N.T.S.



ELEVATION A-A N.T.S.

CDS ~ GENERAL NOTES

- CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
- DIMENSIONS MARKED WITH () ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
- FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH REPRESENTATIVE.
- CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
- STRUCTURE SHALL MEET AASHTO H520 AND CASTINGS SHALL MEET AASHTO M306 LOAD RATING, ASSUMING GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. CONTRACTOR TO CONFIRM OUTLET PIPE INVERT ELEVATION IS ABOVE THE GROUNDWATER ELEVATION PRIOR TO CONSTRUCTION.
- PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.

CDS ~ INSTALLATION NOTES

- ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
- CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE (LIFTING CLUTCHES PROVIDED).
- CONTRACTOR TO ADD JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS, AND ASSEMBLE STRUCTURE.
- CONTRACTOR TO PROVIDE, INSTALL, AND GROUT PIPES. MATCH PIPE INVERTS WITH ELEVATIONS SHOWN.
- CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

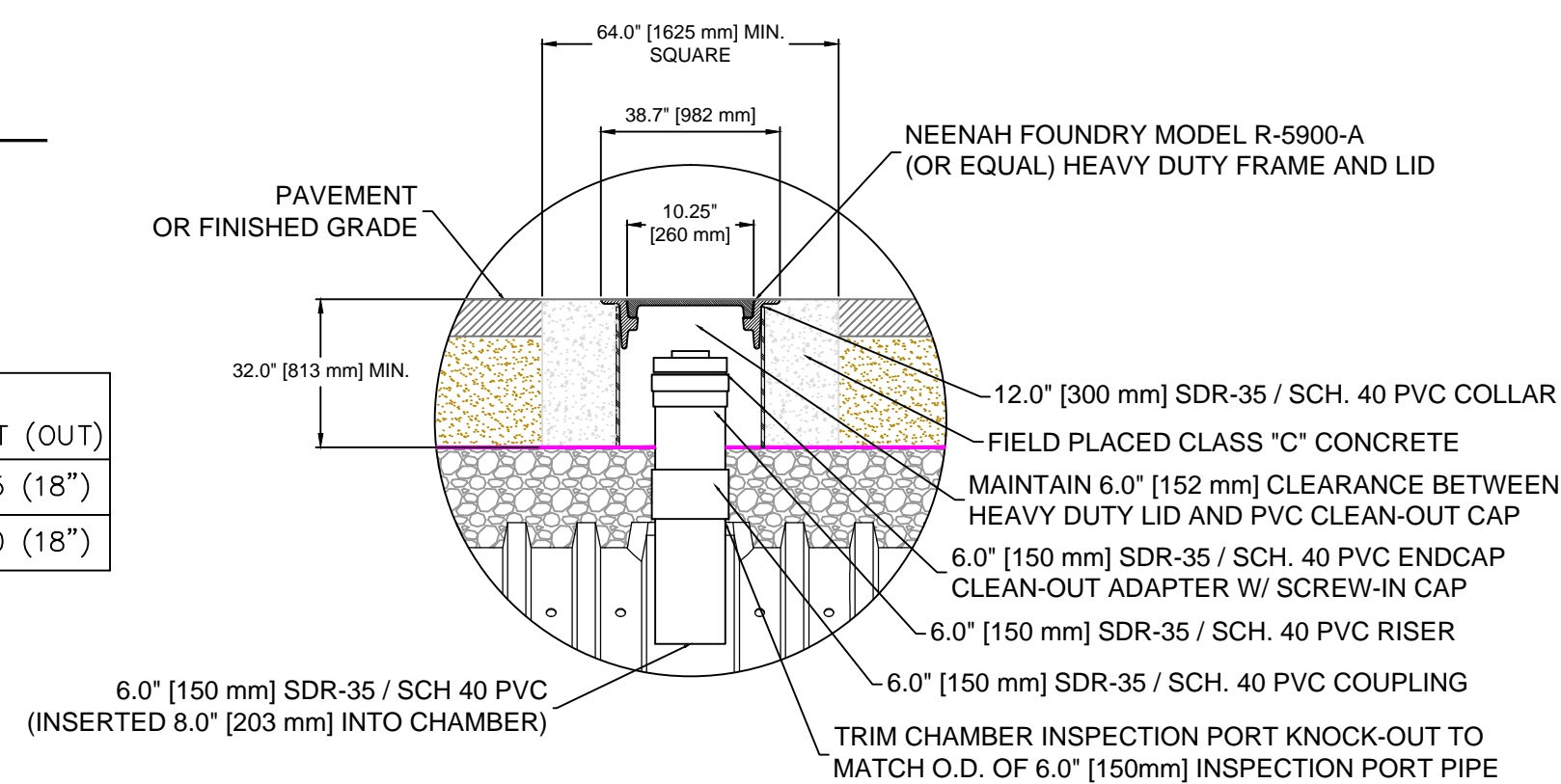
CDS UNIT (TYPICAL)

CDS INLINE ~ STANDARD DETAIL ~ STORMWATER TREATMENT STRUCTURE

~BY CONTECH ENGINEERED SOLUTIONS, LLC

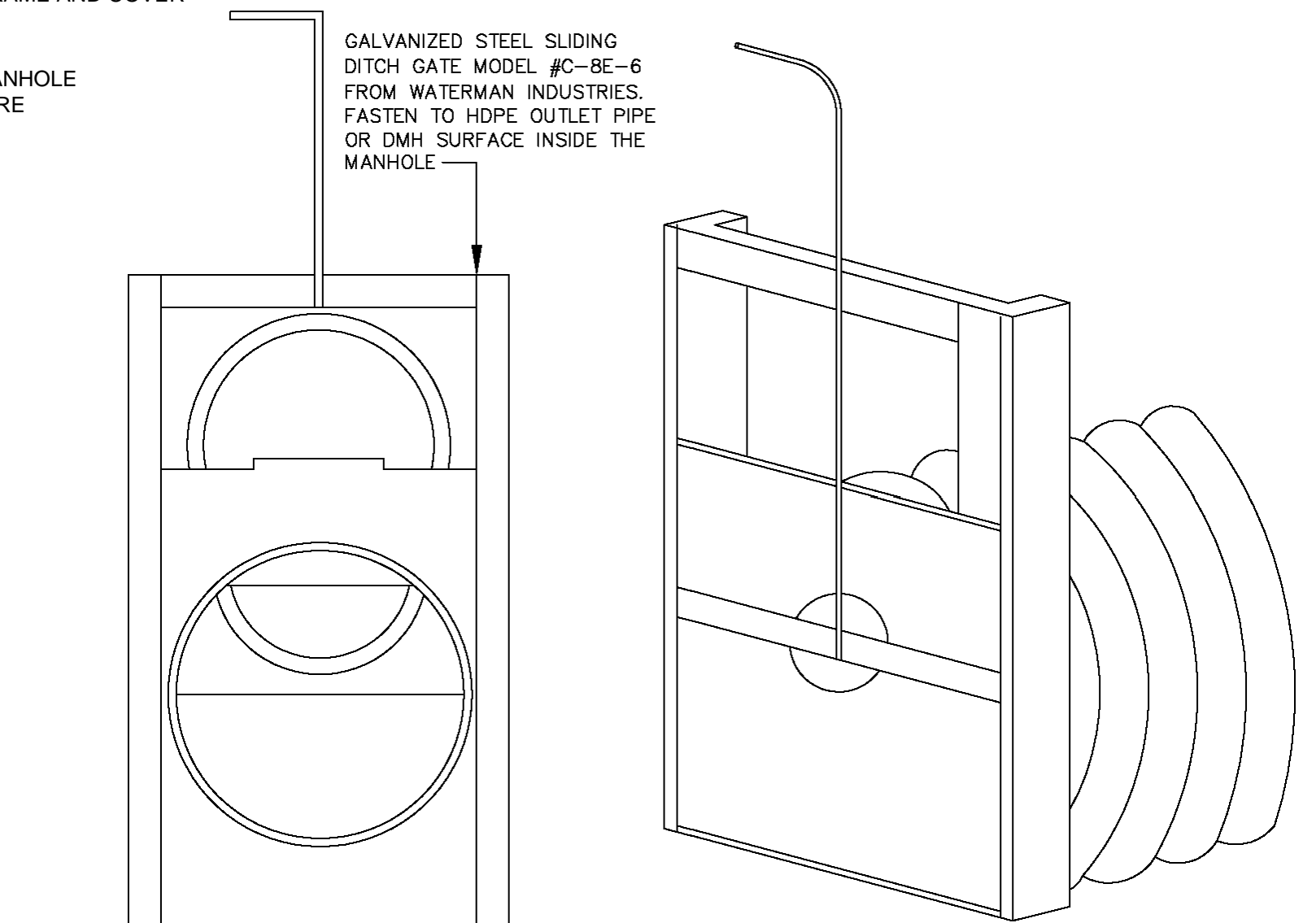
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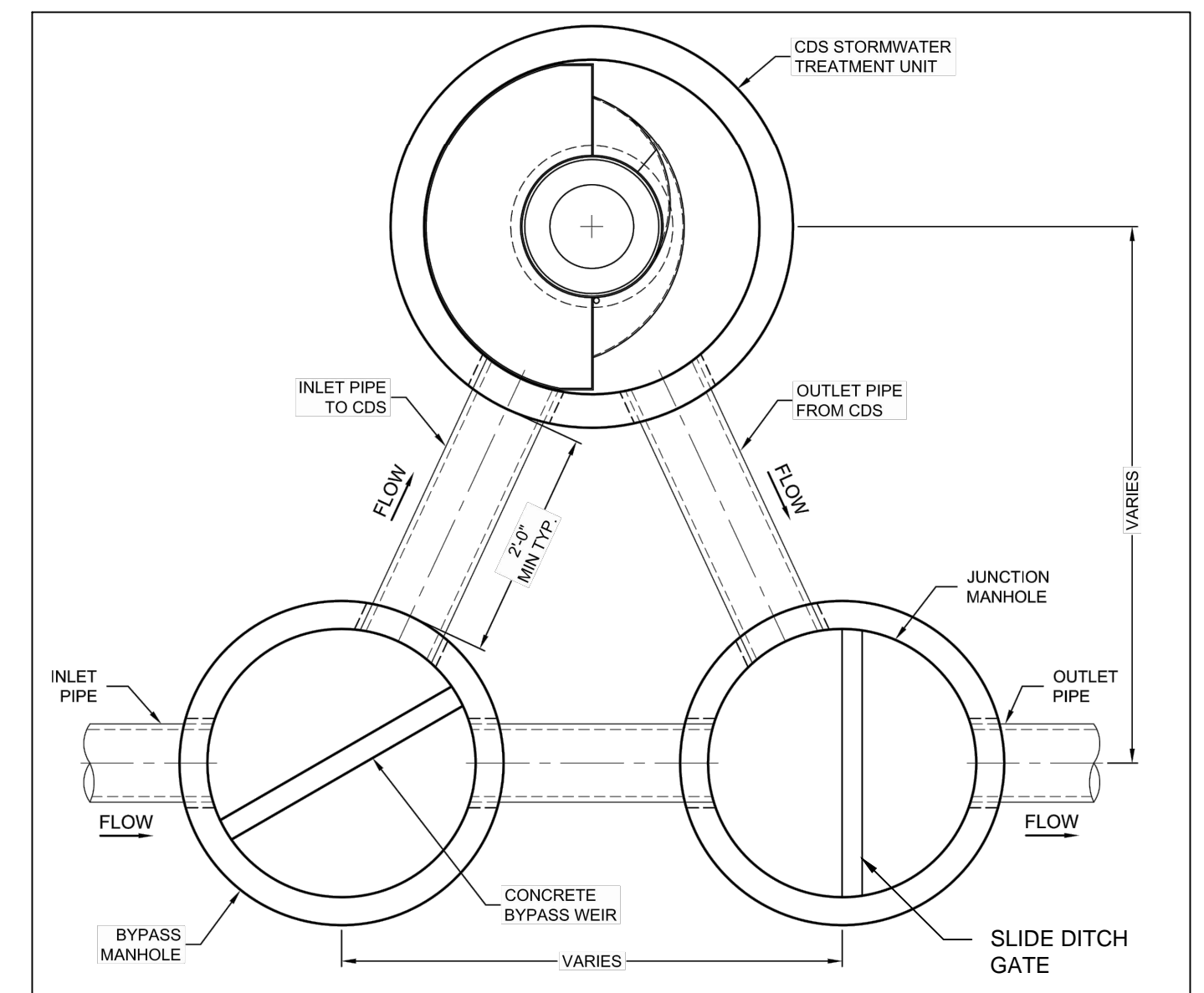
INSPECTION PORT

NOT TO SCALE



SLIDE DITCH GATE DETAIL

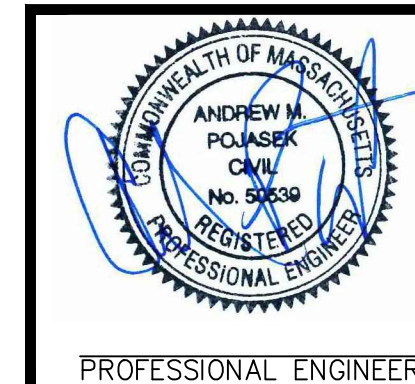
NOT TO SCALE



CDS UNIT TYPICAL OFFLINE LAYOUT DETAIL

NOT TO SCALE

05/12/25	AMP	REVISIONS PER PEER REVIEW AND TOWN COMMENTS
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DETAIL SHEET

INDUSTRIAL OUTDOOR STORAGE YARD

1400 HILLDALE AVENUE

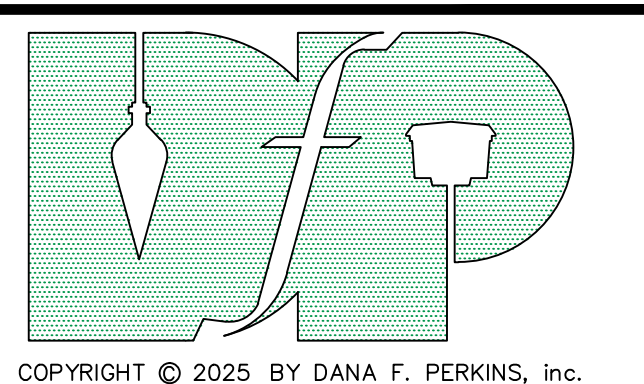
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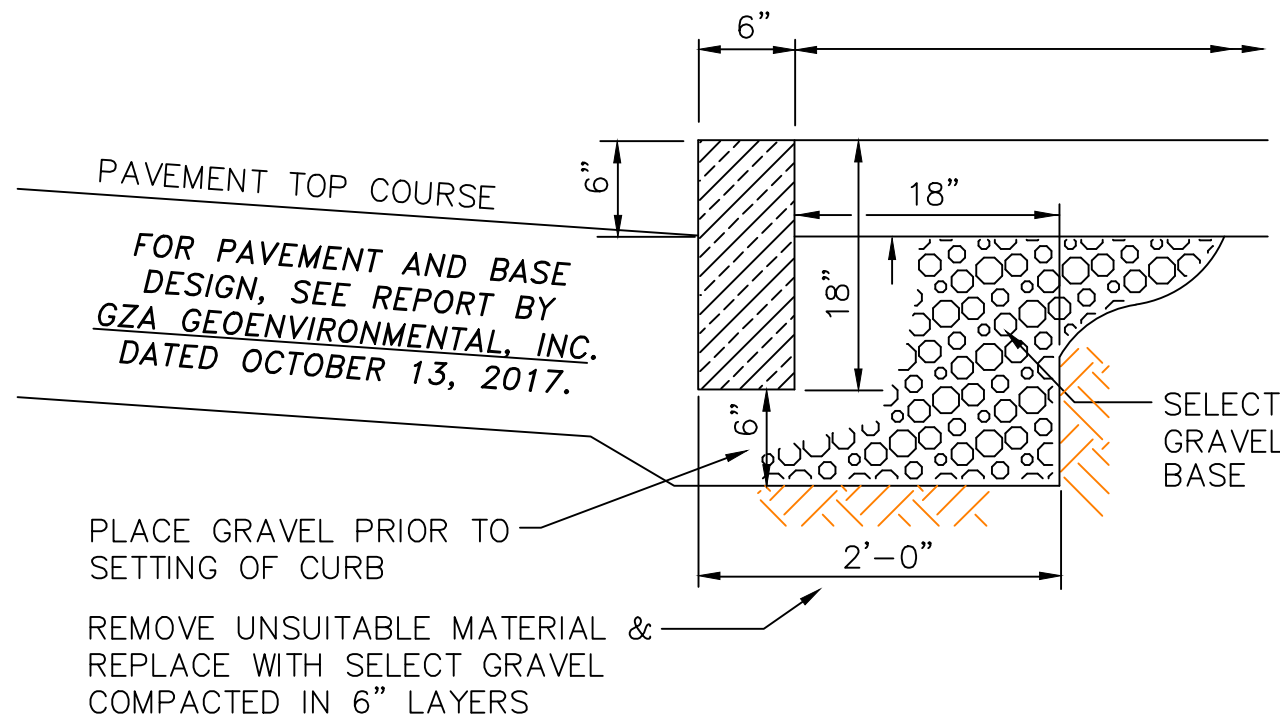
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PREPARED FOR: SINGH REALTY GROUP
6 FONDI ROAD
HAVERHILL, MA

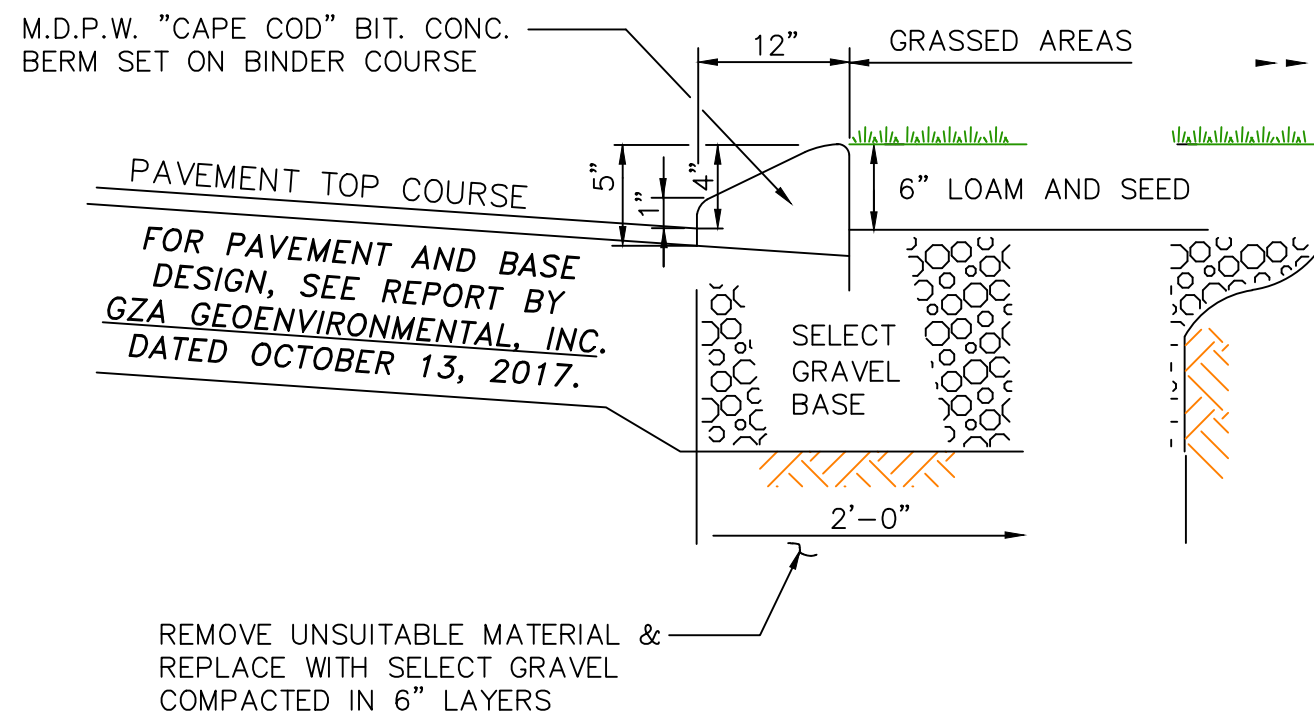
JOB NO. 51856D SHEET 9 OF 10



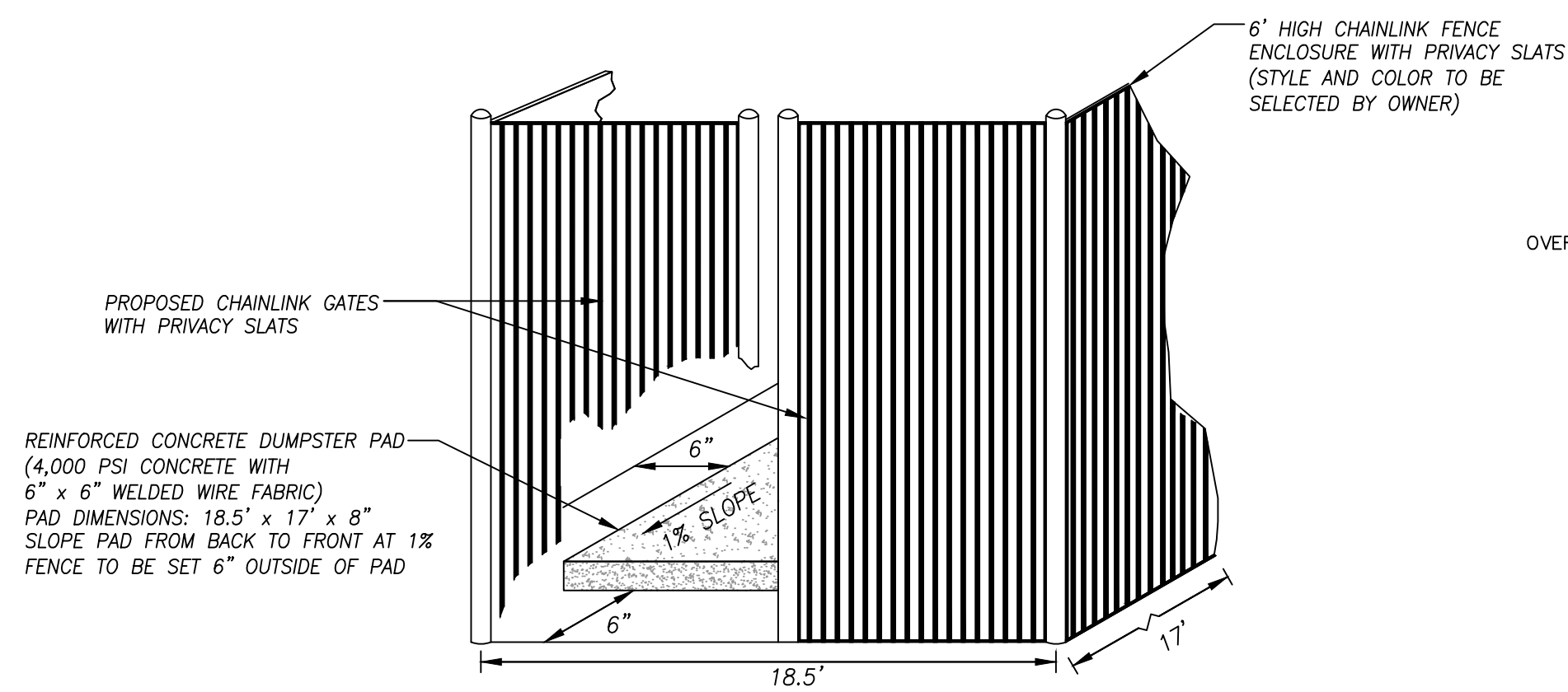
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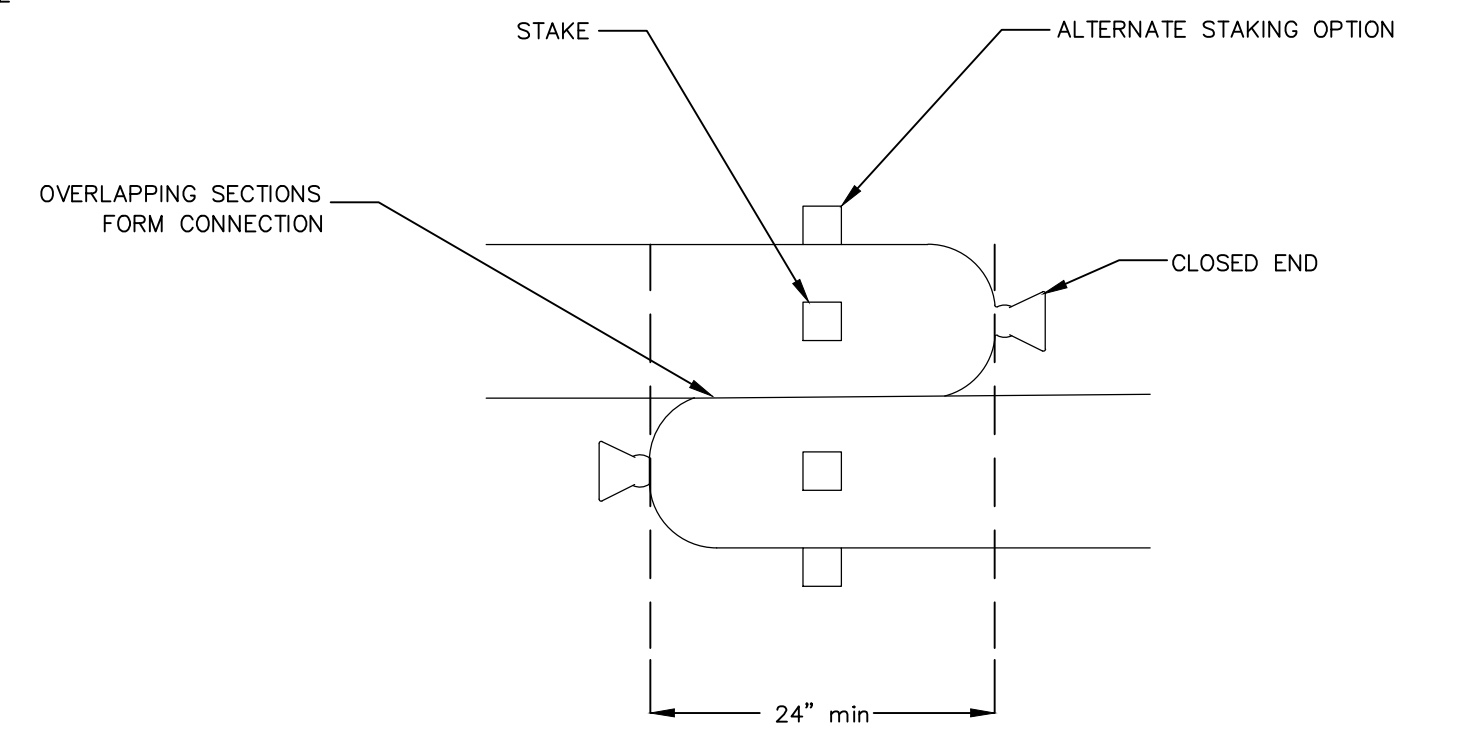
TYPICAL PAVEMENT AND TYPE VA-4
VERTICAL GRANITE CURB SECTION
NOT TO SCALE



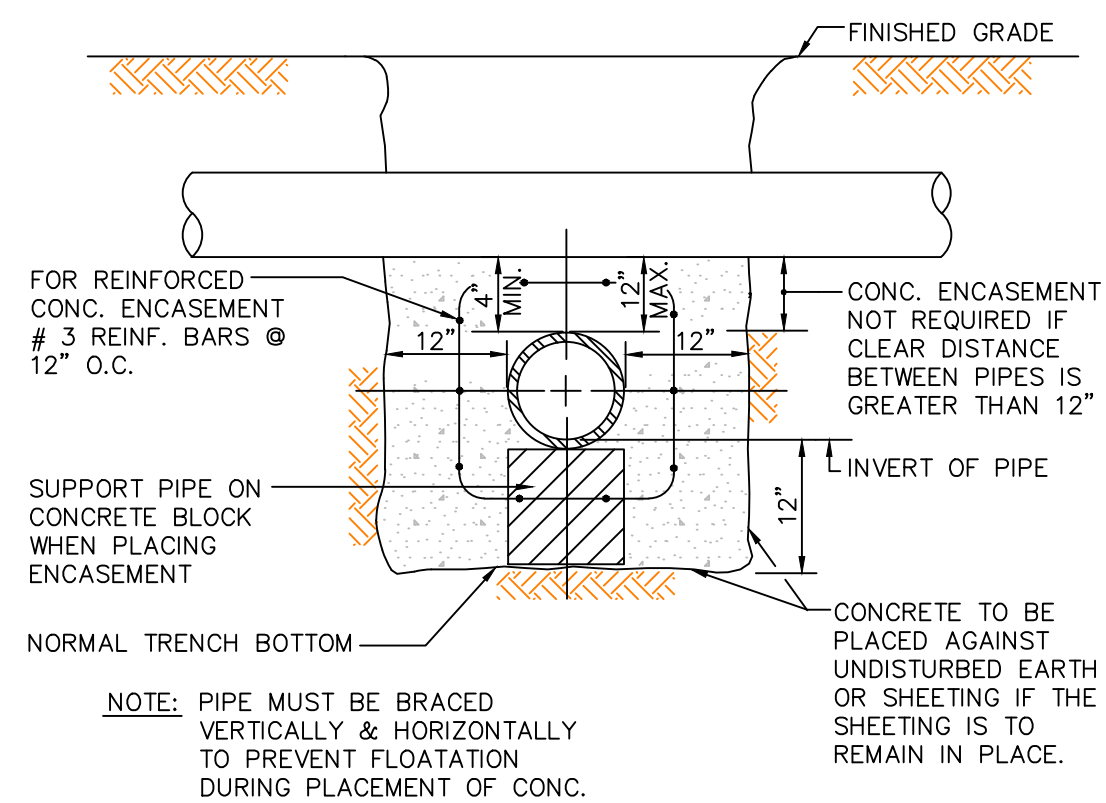
TYPICAL PAVEMENT AND
BITUMINOUS CONC. BERM SECTION
NOT TO SCALE



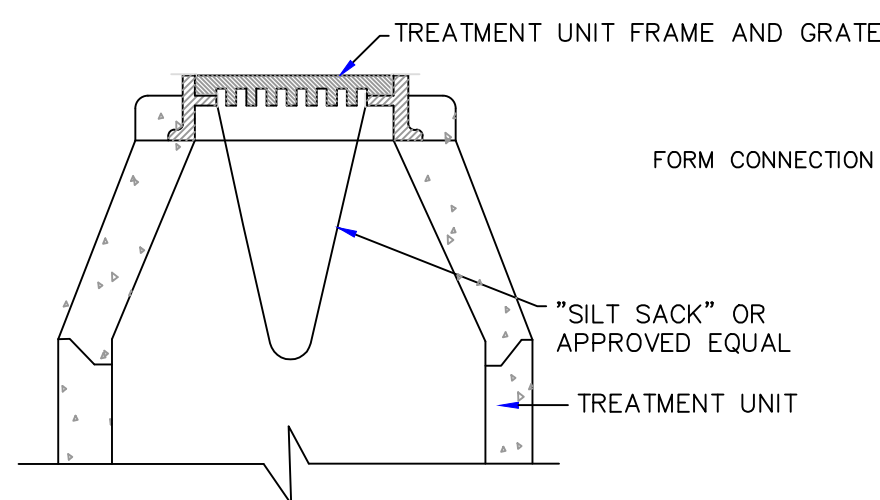
DUMPSTER PAD WITH SCREENED ENCLOSURE
NOT TO SCALE



FILTREX SILT SOXX CONNECTION DETAIL
NOT TO SCALE

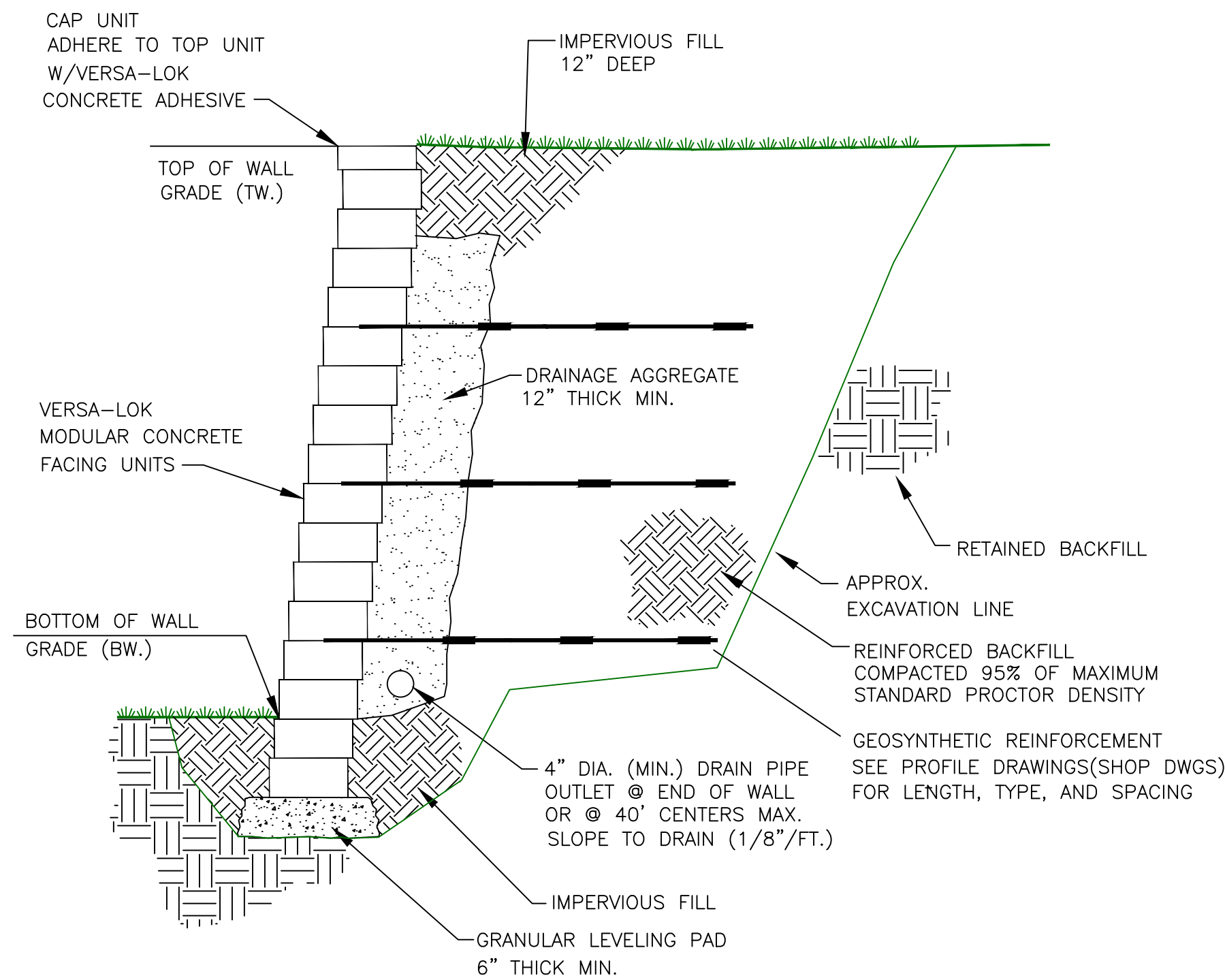


CONCRETE ENCASEMENT DETAIL
AT UTILITY CROSSINGS
NOT TO SCALE



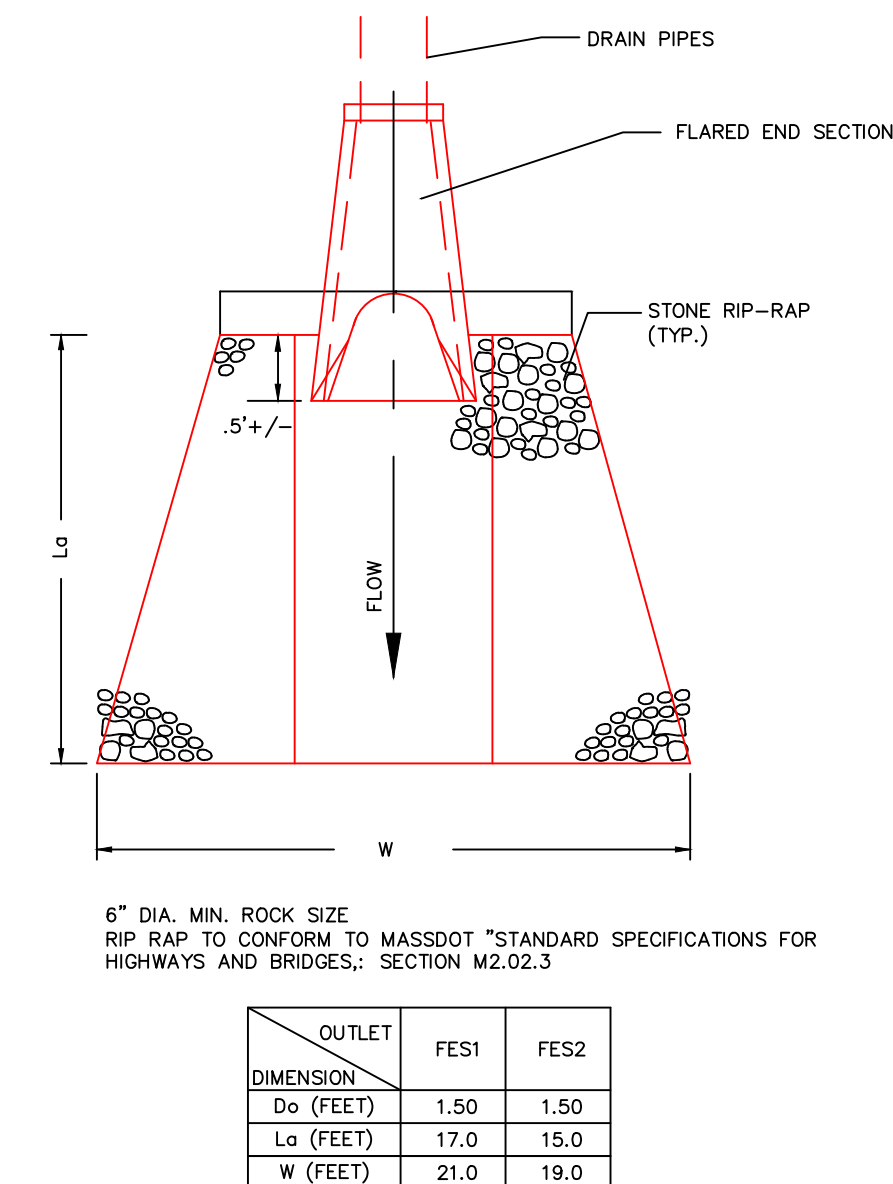
- NOTES:
1. TO BE INSTALLED IN ALL GRATED TREATMENT UNITS AFTER INSTALLATION AND UNTIL COMPLETION OF CONSTRUCTION.
 2. BOOT ADAPTER MAY BE TRIMMED TO SIZE.

SILTSACK DETAIL
NOT TO SCALE

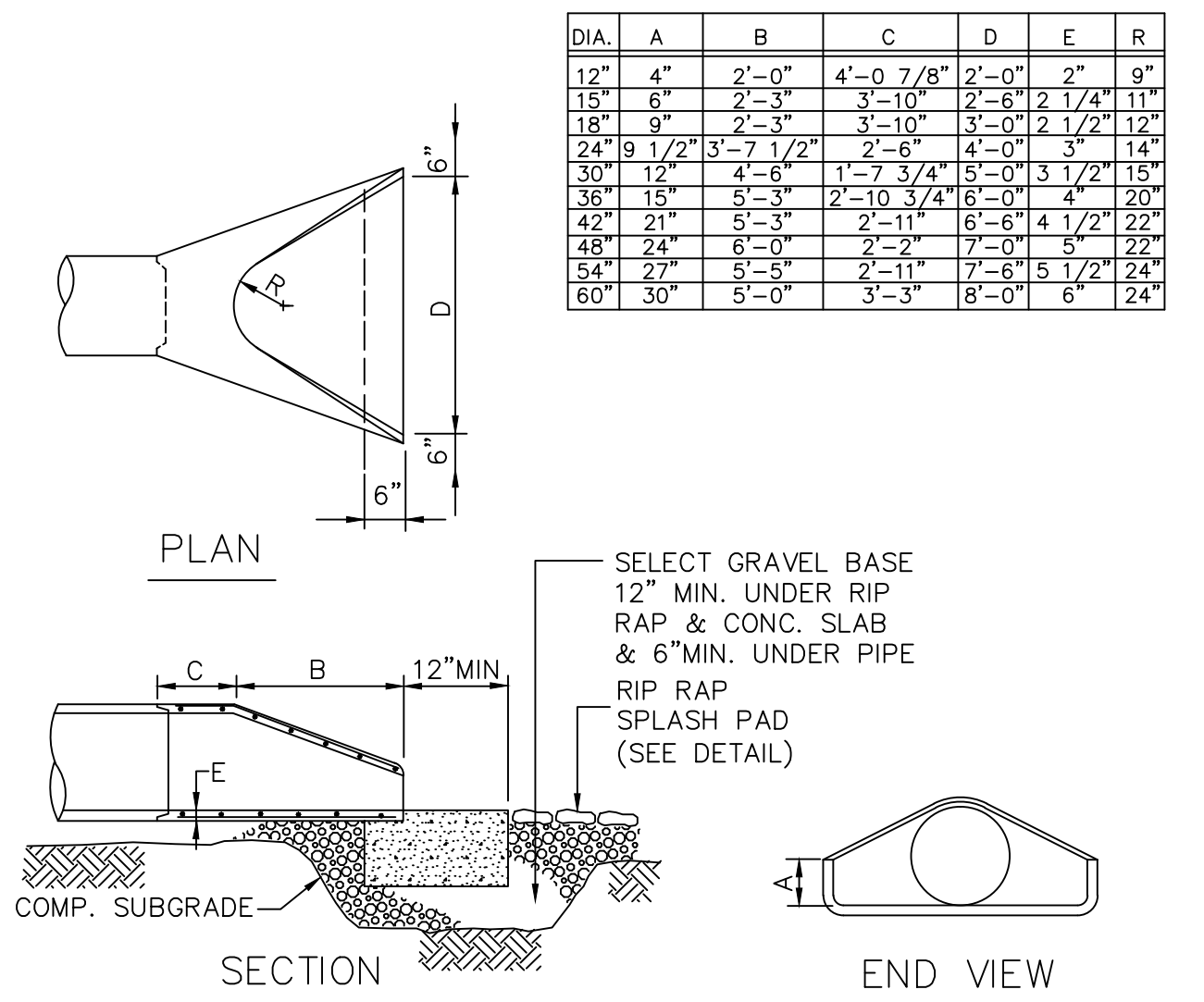


TYPICAL SECTION-REINFORCED RETAINING WALL

NOTE: DETAIL PROVIDED FOR GENERAL INFORMATION ONLY. FINAL PROJECT SPECIFIC DESIGN SHALL BE DESIGNED BY A QUALIFIED STRUCTURAL ENGINEER REGISTERED IN MASSACHUSETTS. RETAINING WALL OUTFALL LOCATIONS SHALL BE COORDINATED DURING CONSTRUCTION TO MINIMIZE THE IMPACT OF SILT FROM FILLS GOING THROUGH THE WALL AND INTO THE WETLANDS.



RIP RAP SPLASH PAD DETAIL
NOT TO SCALE



FLARED END SECTION
NOT TO SCALE

DIA.	A	B	C	D	E	R
12"	4"	2'-0"	4'-0 7/8"	2'-0"	2"	9"
15"	6"	2'-3"	3'-10"	2'-6"	2 1/4"	11"
18"	9"	2'-3"	3'-10"	3'-0"	2 1/2"	12"
24"	9 1/2"	3'-7 1/2"	2'-6"	4'-0"	3"	14"
30"	12"	4'-6"	1'-7 3/4"	5'-0"	3 1/2"	15"
36"	15"	5'-3"	2'-10 3/4"	6'-0"	4"	20"
42"	21"	5'-3"	2'-11"	6'-6"	4 1/2"	22"
48"	24"	6'-0"	2'-2"	7'-0"	5"	22"
54"	27"	5'-5"	2'-11"	7'-6"	5 1/2"	24"
60"	30"	5'-0"	3'-3"	8'-0"	6"	24"

05/12/25	AMP	REVISIONS PER PEER REVIEW AND TOWN COMMENTS
DATE	BY	REVISION



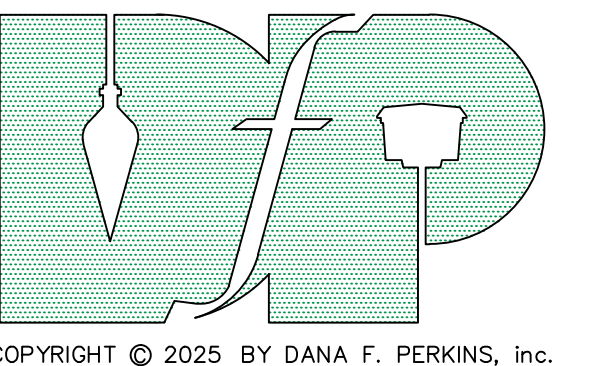
DETAIL SHEET
INDUSTRIAL OUTDOOR STORAGE YARD
1400 HILLDALE AVENUE
HAVERHILL, MASSACHUSETTS

SCALE: AS SHOWN DATE: FEBRUARY 19, 2025

DANA F. PERKINS, inc.
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1057 EAST STREET ~ TEWKSBURY, MASSACHUSETTS 01876
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DANAFPERKINS.COM

PREPARED FOR:
SINGH REALTY GROUP
6 FONDI ROAD
HAVERHILL, MA

JOB NO. 51856D SHEET 10 OF 10



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