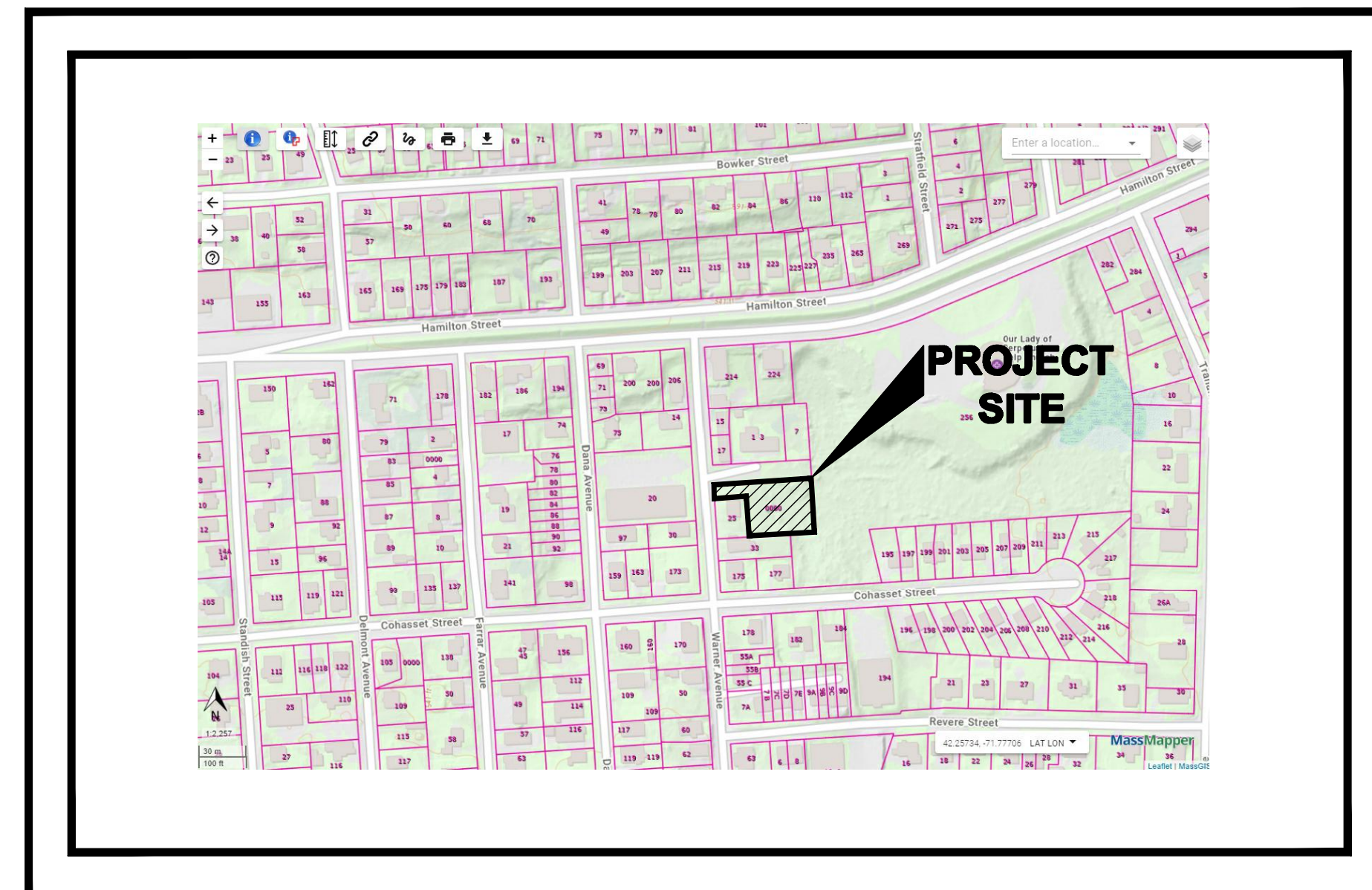


# 0 FARRINGTON STREET WORCESTER, MASSACHUSETTS DEFINITIVE SITE PLAN APPROVAL AND LOCAL CONSERVATION

JULY 24, 2024



**SHEET NO. SHEET TITLE**

- 1 COVER SHEET
- 2 EXISTING CONDITIONS PLAN
- 3 SITE LAYOUT PLAN
- 4 GRADING, UTILITIES
- 5 EROSION CONTROL PLAN
- 6-9 DETAIL SHEETS

**FRONT YARD IMPERVIOUS CALCULATIONS**

FRONT YARD AREA=2850 SF ±  
 IMPERVIOUS SURFACE IN FRONT YARD (DRIVEWAY)=889.11 SF ±  
 PERCENTAGE OF IMPERVIOUS SURFACE IN FRONT YARD = 889.11 SF/2850 SF=0.31=<50%

**LOT ZONING SUMMARY**

TOTAL LOT AREA: 16,673 SF (0.38 ± ACRES)  
 ZONING DISTRICT: RG-5  
 EXISTING USE: VACANT  
 PROPOSED USE: 11 UNIT BUILDING

**ZONING SUMMARY TABLE**

ZONING REQUIREMENTS	REQUIRED/ALLOWED	RESIDENTIAL
MINIMUM LOT AREA	5,000 SF	16,673 SF
MINIMUM LOT FRONTAGE	50 FT	200.00 FT
MINIMUM FRONT YARD SETBACK	15 FT	17.00 FT
MINIMUM SIDE YARD SETBACK	10 FT	10.4 FT
MINIMUM REAR YARD SETBACK	15 FT	15.00 FT
MAXIMUM BUILDING COVERAGE	NA	NA
MAXIMUM HEIGHT (IN FEET)	NA	NA

**PARKING CALCULATIONS:**

USE-RESIDENTIAL UNITS TWO SPACE PER UNIT  
 TOTAL NUMBER OF PARKING SPACES REQUIRED: 2 SPACES / PER 1 UNIT 22 SPACES REQUIRED

**LEGEND**

PROPERTY LINE	PROPOSED SANITARY LINE
EOP	PROPOSED WATER LINE
EXISTING 2' CONTOUR	PROPOSED DRAIN LINE
EXISTING 10' CONTOUR	PROPOSED SILT FENCE WITH WATTLES
PROPOSED CONTOUR	TOP OF WALL ELEVATION
EXISTING SURFACE DRAIN MANHOLE	BOTTOM OF WALL ELEVATION
EXISTING SANITARY SEWER MANHOLE	TOP OF CONCRETE
EXISTING CATCH BASIN	BASEMENT FLOOR ELEVATION
EXISTING SANITARY SEWER LINE	GARAGE FLOOR ELEVATION
EXISTING WATER LINE	
EXISTING DRAIN LINE	

**LOCUS PLAN**

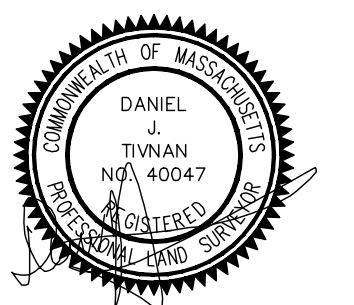
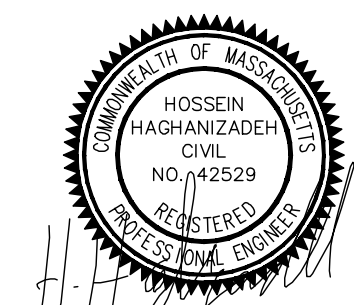
SCALE: 1"=300'

LOT INFORMATION:

MAP-BLOCK-LOT: 18-046-07-01

DEED REFERENCE:

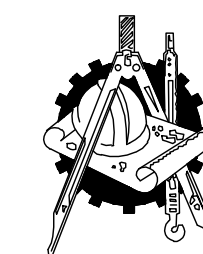
WORCESTER REGISTRY OF DEEDS  
 BOOK 61059 PAGE 0111



**OWNER/APPLICANT:**  
 CHALLAB, ASAAD  
 3 FARRINGTON STREET  
 WORCESTER, MA 01604

**ENGINEER/SURVEYOR:**  
**H. S. & T. GROUP, INC.**

PROFESSIONAL CIVIL ENGINEERS & LAND SURVEYORS  
 75 HAMMOND STREET - 2ND FLOOR  
 WORCESTER, MASSACHUSETTS 01610-1723  
 PHONE: (508) 757-4944 FAX: (508) 752-8895  
 EMAIL: INFO@HSTGROUP.NET WWW.HSTGROUP.NET



**LAYOUT NOTES:**

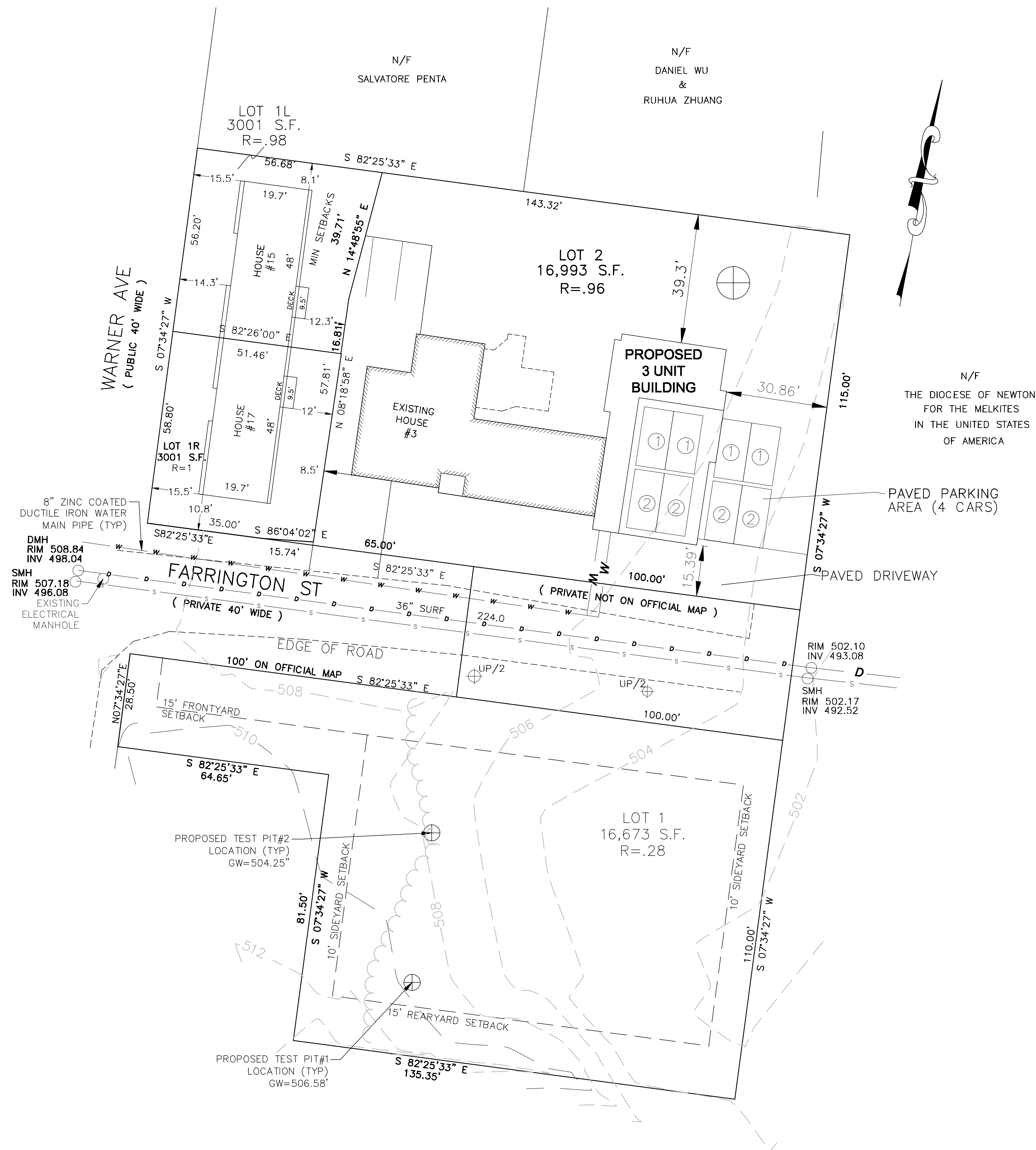
1. THE CONTRACTOR SHALL MAINTAIN EMERGENCY ACCESS THROUGHOUT CONSTRUCTION. ALL WORK SHALL BE COORDINATED WITH THE OWNER, POLICE AND FIRE DEPARTMENTS ACCORDINGLY.
2. DIMENSIONS SHOWN ARE TO THE FACE OF THE CURB/GUTTER LINE OR THE FACE OF THE BUILDING UNLESS OTHERWISE NOTED.
3. SEE ARCHITECTURAL PLANS FOR PROPOSED BUILDING LAYOUT, DIMENSIONS, ELEVATIONS AND STAIR CONFIGURATIONS.
4. THE PROPOSED DRIVEWAY AND PARKING LOT AREA FOR THE BUILDING SHALL BE PAVED WITH BITUMINOUS CONCRETE. SEE DETAIL SHEETS FOR PAVEMENT DETAIL.
5. THE PROPOSED CURBING SHALL BE 6" BITUMINOUS CURBING.
6. SEE GRADING AND UTILITY PLAN FOR WALL ELEVATIONS.
7. PROPOSED RETAINING WALLS IN EXCESS OF 4' IN HEIGHT SHALL BE DESIGNED BY A STRUCTURAL ENGINEER.
8. PROPOSED PLANTINGS FOR THE SITE SHALL CONSIST OF A MIXTURE OF TREES AND SHRUBS. PLANTINGS SHALL CONFORM TO THE LANDSCAPING DESIGN STANDARDS FOR THE CITY OF WORCESTER. AT A MINIMUM, TREES SHALL BE PLANTED NO MORE THAN 25 FEET ON CENTER ALONG THE PERIMETER OF THE PARKING LOT AS SHOWN. TREES TO BE PLANTED SHALL HAVE TRUNKS AT LEAST 3 INCHES IN DIAMETER WHEN MEASURED 6 INCHES ABOVE THE GROUND. RECOMMENDED TREE SPECIES MAY BE FOUND IN THE CITY OF WORCESTER ZONING ORDINANCE. SHRUBS SHALL BE PLANTING ALONG WITH THE TREES IN THE LANDSCAPING AREAS. SHRUBS MAY BE DECIDUOUS OR EVERGREEN OR A MIXTURE OF BOTH. SHRUBS SHALL BE DENSELY PLANTED AS TO PROVIDE A MATURE APPEARANCE WITHIN 3 YEARS. SHRUB HEIGHTS SHALL VARY. RECOMMENDED SHRUB SPECIES AND HEIGHTS MAY BE FOUND IN THE CITY OF WORCESTER ZONING ORDINANCE. ALL LANDSCAPING TREES AND SHRUBS SHALL BE ASIAN LONGHORNED BEETLE RESISTANT.

**NOTES:**

1. THIS PLAN WAS PREPARED BY H. S. & T. GROUP, INC. OF WORCESTER, MASSACHUSETTS AND IS BASED ON AN ON THE GROUND BOUNDARY SURVEY PERFORMED BY H. S. & T. GROUP, INC. ON JANUARY 18, 2023.
2. THE DEED FOR THESE PARCELS ARE RECORDED IN BOOK 59712 PAGES 0103 AT THE WORCESTER REGISTRY OF DEEDS.
3. THE WORCESTER ASSESSOR'S GRID INDEX MAPS SHOW THESE PROPERTIES AS MAP-BLOCK-LOT 18-046-07-01.
4. THIS PROPERTY IS PART OF THE RESIDENCE LIMITED, 7,000 SF MINIMUM LOT SIZE (RG-5) ZONING DISTRICT IN THE CITY OF WORCESTER, MASSACHUSETTS.
5. THIS PLAN DOES NOT SHOW ANY UNRECORDED OR UNWRITTEN EASEMENTS WHICH MAY EXIST. A REASONABLE AND DILIGENT ATTEMPT HAS BEEN MADE TO OBSERVE ANY APPARENT USES OF THE LAND; HOWEVER THIS DOES NOT CONSTITUTE A GUARANTEE THAT NO SUCH EASEMENTS EXIST.

**GENERAL NOTES:**

1. ALL REQUIRED PERMITS SHALL BE SECURED PRIOR TO COMMENCING WORK.
2. ALL WORK SHALL CONFORM TO THE CITY OF WORCESTER ZONING BYLAWS, ZONING BOARD OF APPEALS DECISIONS, CONSERVATION COMMISSION ORDER OF CONDITIONS, DEPARTMENT OF PUBLIC WORKS AND ANY OTHER LOCAL BYLAWS OR STATE REGULATIONS (IF APPLICABLE).
3. CONSTRUCTION OPERATIONS SHALL BE LIMITED TO MONDAY THROUGH SATURDAY BETWEEN THE HOURS OF 7:00 AM AND 7:00 PM. THERE SHALL BE NO WORK ON SUNDAYS OR HOLIDAYS.
4. ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE LOCATION. THE CONTRACTOR MUST VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ALL UTILITIES AFFECTED BY THE WORK PRIOR TO CONSTRUCTION. CONTRACTOR SHALL ASSUME ALL LIABILITY ASSOCIATED WITH THE VERIFICATION, DISTURBANCE AND/OR REPLACEMENT OF ALL EXISTING UTILITIES ENCOUNTERED PRIOR TO OR DURING CONSTRUCTION. CONTRACTOR SHALL CALL "DIG-SAFE" (811) 72 HOURS PRIOR TO CONSTRUCTION (EXCLUDING SATURDAY, SUNDAYS AND HOLIDAYS).
5. ANY WORK IN AN EXISTING CITY ROAD WILL REQUIRE A ROAD-OPENING PERMIT FROM THE TOWN DEPARTMENT OF PUBLIC WORKS.
6. ALL PROPOSED UNDERGROUND MATERIALS AND STRUCTURES SHALL BE CAPABLE OF SUPPORTING H-20 WHEEL LOADINGS.
7. ANY MINOR MODIFICATIONS (AS DETERMINED BY THE CITY AND/OR OWNER) TO THE INFORMATION SHOWN ON THE APPROVED PLANS SHALL BE SUBMITTED TO THE CITY AS A MINOR PLAN REVISION FOR APPROVAL PRIOR TO THE WORK BEING PERFORMED.
8. CONTRACTOR SHALL REFER TO BUILDING PLANS FOR THE EXACT DIMENSIONS AND LOCATIONS OF BUILDING APPURTENANCES AND UTILITY ENTRANCE LOCATIONS.
9. THE CONTRACTOR SHALL RETAIN THE SERVICES OF A LICENSED SURVEYOR TO LAY OUT THE SITE CONSTRUCTION. THE SURVEYOR SHALL CERTIFY THAT ALL LOCATIONS ARE AS PER PLAN.
10. THE CONTRACTOR SHALL MAINTAIN COMPLETE RECORDS OF AS-BUILT LOCATIONS OF ALL UNDERGROUND AND ABOVE GROUND UTILITIES. THE CONTRACTOR SHALL PROVIDE THE TOWN AND H. S. & T. GROUP, INC. WITH COMPLETE AS-BUILT PLANS UPON COMPLETION OF THE PROJECT.



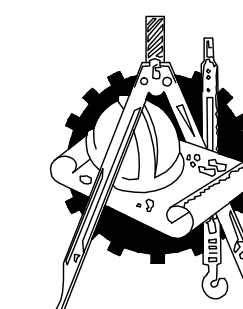
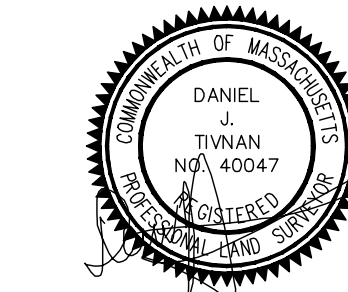
HORIZONTAL SCALE 1"=20'

**NOT FOR CONSTRUCTION**

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**PLAN REVISIONS:**

NO.	DATE	DESCRIPTION	BY



**hs&t group, inc.**

PROFESSIONAL CIVIL ENGINEERS & LAND SURVEYORS  
 75 HAMMOND STREET - 2ND FLOOR  
 WORCESTER, MASSACHUSETTS 01610-1723  
 PHONE: 508-757-4944 EMAIL: INFO@HSTGROUP.NET  
 FAX: 508-752-8895 WWW.HSTGROUP.NET

**EXISTING**

0 FARRINGTON ST WORCESTER MA

APPLICANT(S)/OWNER(S):  
 ASAAD CHALLAB  
 3 FARRINGTON ST WORCESTER MA

DATE: 07/24/2024 COMP'D: DJT FIELD: PS

SCALE: 1"=20' CAD: LLW FLD. BK: 653-16

ZONE: RG-5 REV'D: FARRINGTONPROP 2

JOB NUMBER: 7172  
 DWG NUMBER:

SHEET NUMBER  
 2 OF 9

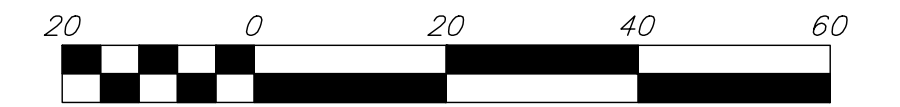
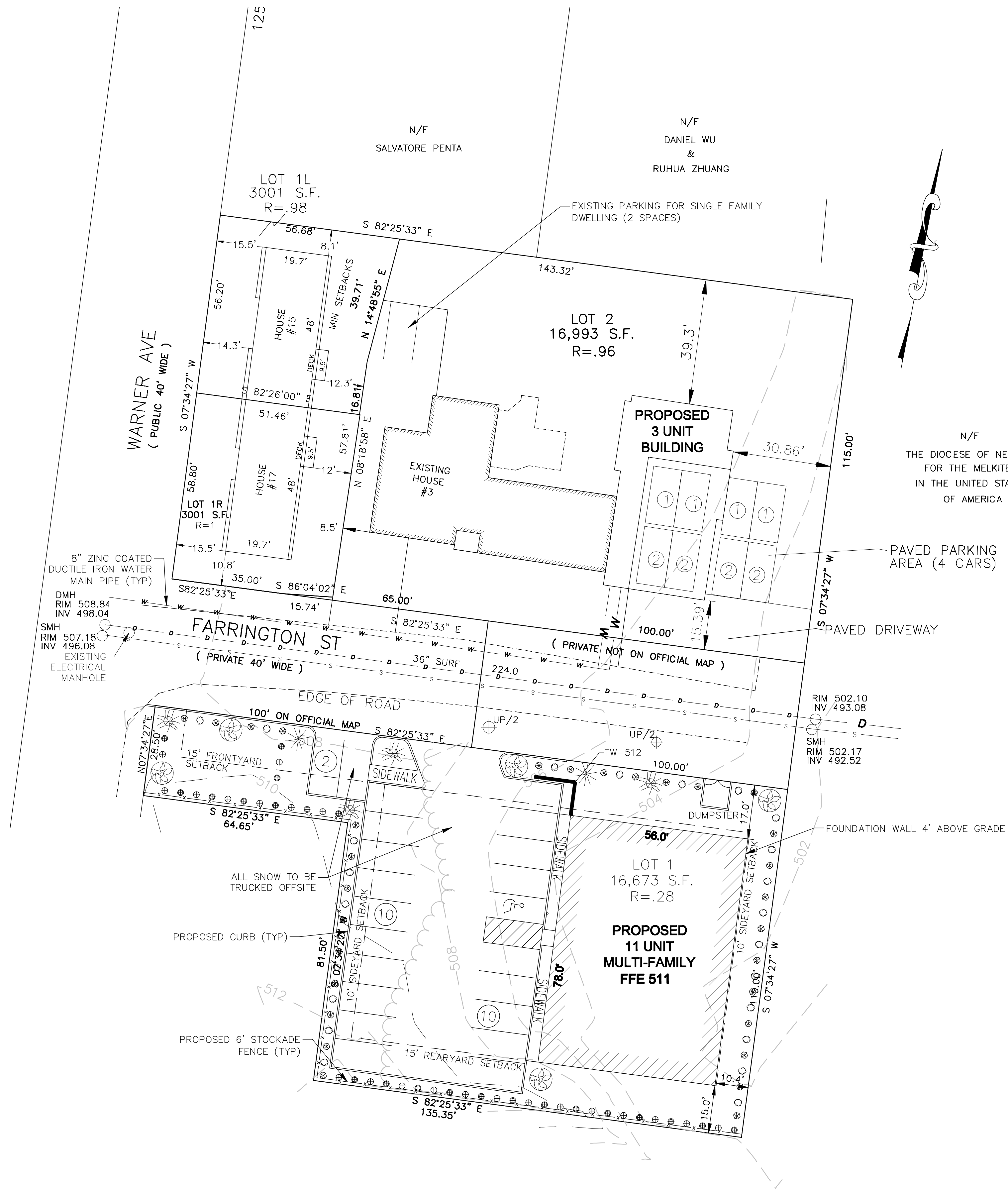
**SITE LANDSCAPING LEGEND**

SYMBOL	QUANTITY	BOTANICAL NAME	COMMON NAME	MINIMUM SIZE
	4	GLEDITSIA TRIACANTHOS	HONEYLOCUST	3"-3 1/2" CALIPER
	5	CORNUS KOUSA	KOUSA DOGWOOD	3"-3 1/2" CALIPER
	2	PINUS STROBUS 'FASTIGIATA'	FASTIGATE WHITE PINE	3"-3 1/2" CALIPER
	30	KALMIA LATIFOLIA	SNOWDRIFT MOUNTAIN LAUREL	2-3' IN HEIGHT
	24	VIBURNUM TRILOBUM	AMERICAN CRANBERRY BUSH	3' IN HEIGHT
	21	ILEX X MESERVEAE BLUE BOY	HOLLY - BLUE BOY	3' IN HEIGHT
	25	ILEX X MESERVEAE BLUE GIRL	HOLLY - BLUE GIRL	3' IN HEIGHT

NOTE: ABOVE LIST ARE SUGGESTED TREE AND SHRUB VARIETIES. SUBSTITUTIONS MAY BE MADE AS LONG AS TREE AND SHRUB SPECIES SELECTED CONFORM TO THE CITY OF WORCESTER LANDSCAPING REQUIREMENTS. ALL LANDSCAPING MATERIALS TO BE PLANTED ON THE SITE SHALL BE ASIAN LONGHORNEED BEETLE RESISTANT SPECIES.

**SITE PERCENTAGE**

PAVED PARKING	6,397 SF	38.37%
BUILDING	4,368 SF	26.20%
OPEN SPACE	5,908 SF	35.43%
TOTAL	16,673 SF	100%



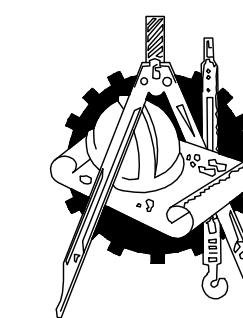
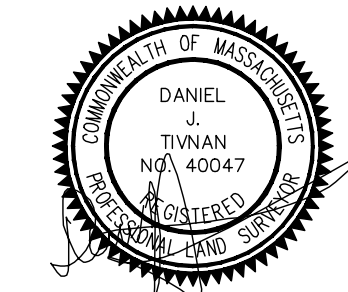
HORIZONTAL SCALE 1"=20'

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**LAYOUT**

0 FARRINGTON ST WORCESTER MA

APPLICANT(S)/OWNER(S):  
 ASAAD CHALLAB  
 3 FARRINGTON ST WORCESTER MA

DATE: 07/24/2024	COMP'D: DJT	FIELD: PS
SCALE: 1"=20'	CAD: LLW	FLD. BK: 653-16
ZONE: RG-5	REV'D:	FARRINGTONPROP 2

JOB NUMBER: 7172  
 DWG NUMBER:

SHEET NUMBER  
 3 of 9

**GRADING, UTILITY & EROSION CONTROL NOTES:**

- ELEVATIONS AND BENCHMARKS SHOWN HEREON ARE REFERENCED TO NAVD 88 DATUM.
- ALL UTILITY GRATES, COVERS OR OTHER SURFACE ELEMENTS INTENDED TO BE EXPOSED AT GRADE SHALL BE FLUSH WITH THE ADJACENT FINISHED GRADE AND ADJUSTED TO PROVIDE A SMOOTH TRANSITION AT ALL EDGES.
- ALL PROPOSED PAVEMENT AREAS SHALL BE PITCHED AS SHOWN ON THE DRAWINGS. IF NOT OTHERWISE SHOWN, PROPOSED PAVEMENT AREAS SHALL BE PITCHED A MINIMUM OF 1% (1/8" PER FOOT) TO PROVIDE POSITIVE DRAINAGE.
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND GRADES ON THE GROUND AND REPORT ANY DISCREPANCIES IMMEDIATELY TO THE ENGINEER.
- ALL GRADING IS TO BE SMOOTH AND CONTINUOUS WHERE PROPOSED PAVEMENT MEETS EXISTING PAVEMENTS. EDGES ARE TO BE SAW CUT. THE PAVEMENT JOINTS ARE TO BE EMULSION OILED AND SANDED.
- THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATIONS AND/OR ELEVATIONS OF EXISTING UTILITIES AND STRUCTURES AS SHOWN ON THESE PLANS ARE BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, ANY GOVERNING PERMITTING AUTHORITY AND "DIG SAFE" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST EXACT FIELD LOCATION OF UTILITIES. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION IS TO BE TAKEN BEFORE PROCEEDING WITH THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLAN.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING ALL CONTROL POINTS AND BENCHMARKS NECESSARY FOR THE WORK.
- A MINIMUM OF 18 INCHES OF VERTICAL CLEARANCE SHALL BE MAINTAINED WHERE WATER SERVICES CROSS STORM DRAIN LINES. WATER SERVICES SHALL BE ENCASED IN CONCRETE REGARDLESS OF CLEARANCE WHEN PASSING BELOW STORM DRAIN LINES. ENCASEMENT SHALL EXTEND ALONG WATER SERVICE A MINIMUM DISTANCE OF 10 FEET FROM THE CROSSING POINT OF THE OTHER PIPE AS MEASURED NORMALLY FROM ALL POINTS ALONG THE PIPE.
- PROPOSED RETAINING WALLS IN EXCESS OF 4' IN HEIGHT SHALL BE DESIGNED BY A STRUCTURAL ENGINEER.
- PROPOSED RETAINING WALLS SHALL TIE INTO THE EXISTING GROUND SURFACE ALONG THE OUTSIDE PERIMETER OF THE WALL.
- ALL WATER SERVICES SHALL BE INSTALLED WITH A MINIMUM OF 5 FEET OF COVER EXCEPT AS NOTED OR DETAILED OTHERWISE. WATER LINES SHALL BE INSULATED IN AREAS WHERE THERE IS LESS THAN 4 FEET OF COVER.
- ALL WATER MAIN APPURTENANCES, MATERIALS, METHODS OF INSTALLATION AND TESTING REQUIREMENTS SHALL CONFORM TO THE CITY OF WORCESTER REQUIREMENTS.
- PRESSURE AND LEAKAGE TESTING, DISINFECTION AND FLUSHING SHALL BE IN ACCORDANCE WITH ALL LOCAL MUNICIPAL STANDARDS AND REQUIREMENTS. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS IN CONNECTION WITH UTILITY TESTS, FLUSHING AND INSPECTION AS REQUIRED BY THE LOCAL MUNICIPALITY.
- THE PRIMARY WATER METER (AND BACKFLOW PREVENTER, IF REQUIRED) SHALL BE LOCATED AT THE POINT WHERE THE WATER LINE ENTERS THE BUILDING UNLESS OTHERWISE NOTED OR DETAILED ON THE DRAWINGS.
- WHERE SANITARY SEWERS CROSS WATER MAINS, THE SEWER SHALL BE LAID AT SUCH AN ELEVATION THAT THE CROWN OF THE SEWER IS AT LEAST 18 INCHES BELOW THE INVERT OF THE WATER MAIN. IF THE ELEVATION OF THE SEWER CANNOT BE VARIED TO MEET THIS REQUIREMENT, THE WATER MAIN SHALL BE RELOCATED TO PROVIDE THIS SEPARATION OR CONSTRUCTED WITH MECHANICAL JOINT PIPE FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE SEWER SO THAT BOTH JOINTS WILL BE AS FAR FROM THE SEWER AS POSSIBLE. IF MECHANICAL JOINT PIPE IS NOT USED, THEN BOTH THE WATER MAIN AND SANITARY SEWER SHALL BE ENCASED IN CONCRETE FOR A MINIMUM DISTANCE OF 10 FEET FROM THE CROSSING POINT OF THE PIPES AS MEASURED NORMALLY FROM ALL POINTS ALONG THE PIPE.
- EXACT LOCATION OF UTILITY STUBS FOR BUILDINGS CONNECTIONS SHALL BE VERIFIED WITH THE BUILDING DRAWINGS. SERVICE STUBS TO THE BUILDINGS SHALL BE INSTALLED TO A POINT 10 FEET FROM THE BUILDING WALL UNLESS OTHERWISE NOTED OR DETAILED.
- ALL WATER AND SEWER CONSTRUCTION SHALL BE INSPECTED BY THE CITY OF WORCESTER BEFORE BEING BACKFILLED. THE CITY SHALL BE NOTIFIED AT LEAST 24 HOURS PRIOR TO THE REQUIRED INSPECTION.
- ANY WORK WITHIN THE CITY RIGHT-OF-WAY SHALL CONFORM TO THE CITY OF WORCESTER REQUIREMENTS. THE CONTRACTOR SHALL OBTAIN A STREET OPENING PERMIT PRIOR TO ANY CONSTRUCTION WITHIN THE CITY RIGHT-OF-WAY.
- THE STRAW WATTLES AND SILT FENCE SHALL BE INSTALLED PRIOR TO ANY CUTTING OF VEGETATION OR EARTHWORK. THE STRAW WATTLES AND SILT FENCE SHALL SERVE AS THE LIMIT OF WORK. THE STRAW WATTLES AND SILT FENCE SHALL BE KEPT IN GOOD WORKING ORDER DURING THE DEVELOPMENT OF THIS LOT.

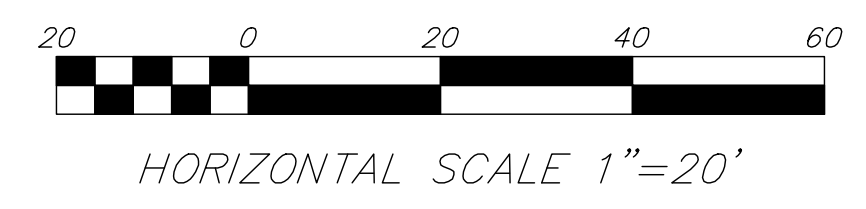
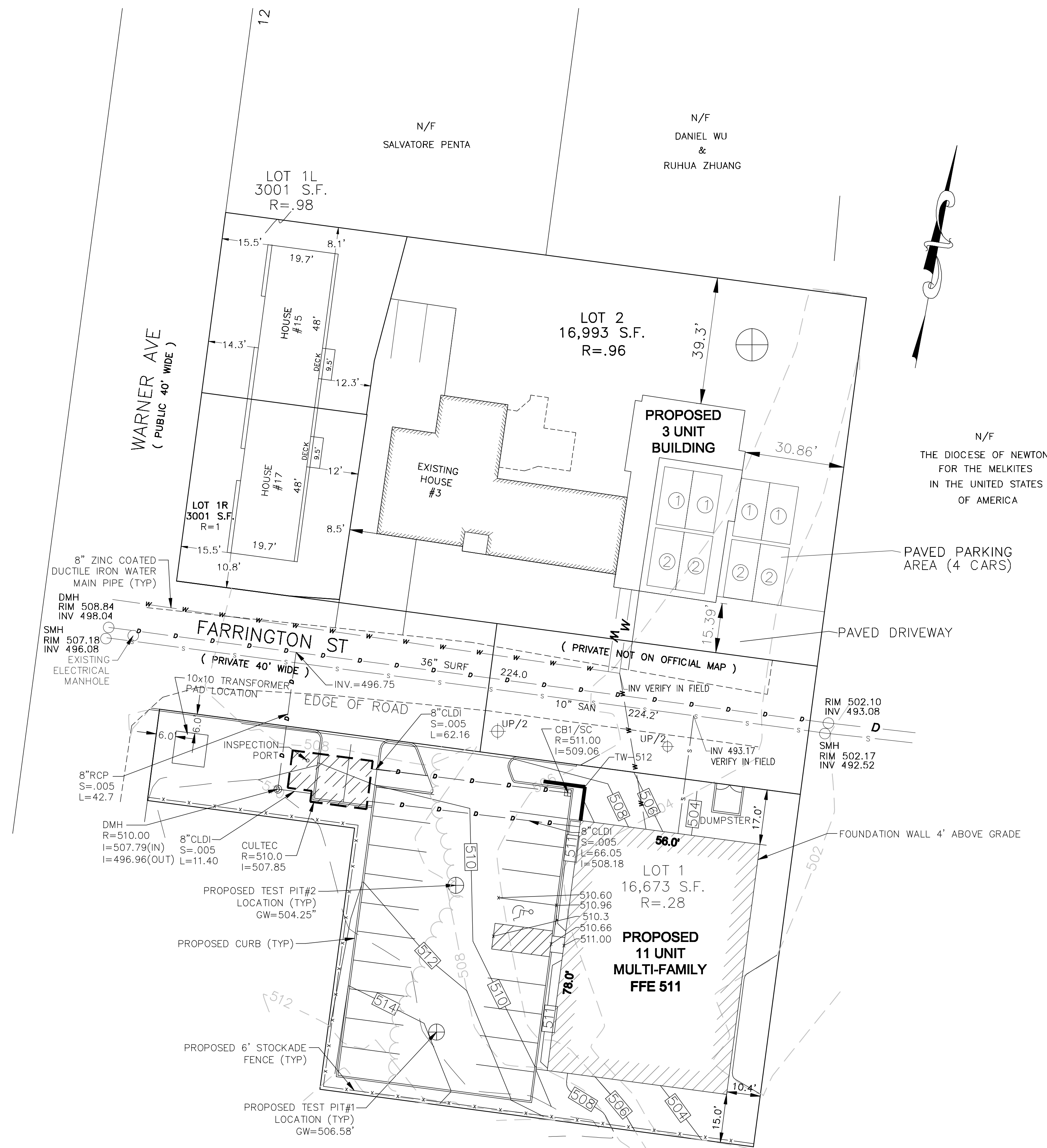
**CONSTRUCTION SEQUENCE:**

- OWNER OR CONTRACTOR SHALL OBTAIN APPLICABLE PERMITS AND ATTEND A PRE-CONSTRUCTION MEETING WITH THE CITY OF WORCESTER (IF APPLICABLE).
- STAKE OR FLAG EXISTING WETLANDS AND BUFFER ZONES AS REQUIRED (IF APPLICABLE), STAKE PROPERTY LINES.
- INSTALL EROSION CONTROLS, INCLUDING SILT FENCE WITH STRAW WATTLES, CONSTRUCTION ENTRANCE AND SILT SACKS.
- BEGIN TREE CUTTING, CLEARING AND GRUBBING.
- EXCAVATE AND POUR FOUNDATIONS. ROUGH GRADE LOT.
- CONNECT SERVICE UTILITIES, BEGIN FRAMING BUILDING.
- FINISH GRADE AND LOAM AND SEED.
- PLANT TREES AND ESTABLISH OTHER VEGETATION.

**CONSTRUCTION SEQUENCE:**

THE FOLLOWING SHOULD BE PERFORMED PRIOR TO AND DURING EXTENDED PERIOD WHERE CONSTRUCTION IS NOT UNDERWAY.

- INSPECT AND REPAIR PERIMETER STRAW WATTLE AND SILT FENCE EROSION CONTROL.
- PROVIDE LOAM AND SEED OR OTHER VEGETATIVE COVER OVER EXPOSED SOIL AREAS.
- PROVIDE VEGETATIVE COVER OR TARPS OVER STOCKPILED SOILS AND ERODABLE MATERIALS.
- INSPECT SITE REGULARLY AND AFTER SIGNIFICANT RAINFALL EVENTS TO CONFIRM SEDIMENT AND EROSION CONTROL MEASURES ARE PERFORMING AS DESIGNED.



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PLAN REVISIONS:

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**GRADING, DRAINAGE AND UTILITIES**  
 0 FARRINGTON ST WORCESTER MA

APPLICANT(S)/OWNER(S):  
 ASAAD CHALLAB  
 3 FARRINGTON ST WORCESTER MA

DATE: 07/24/2024	COMP'D: DJT	FIELD: PS
SCALE: 1"=20'	CAD: LLW	FLD. BK: 653-16
ZONE: RG-5	REV'D:	FARRINGTONPROP 2

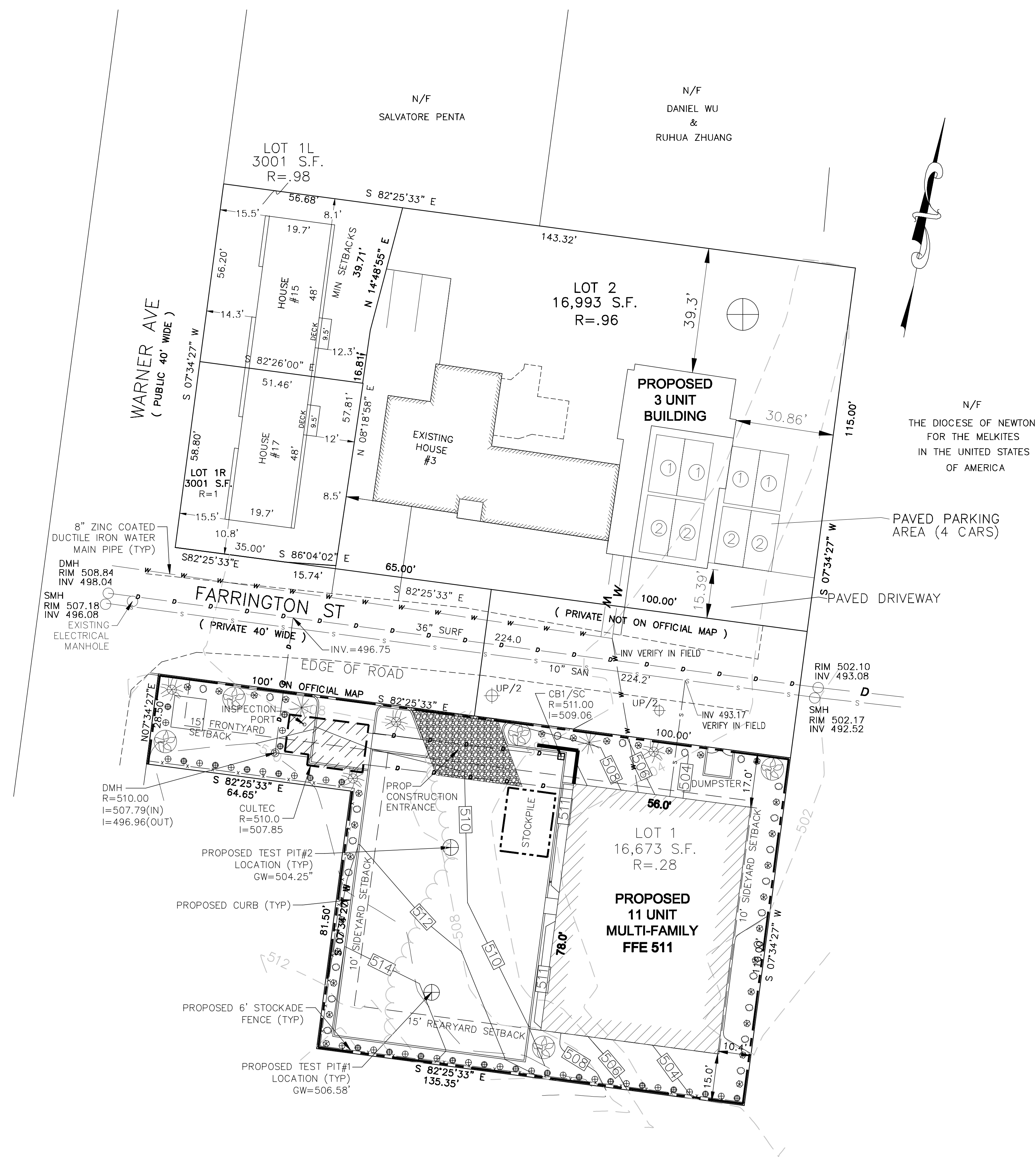
JOB NUMBER: **7172** SHEET NUMBER: **4 OF 9**  
 DWG NUMBER:



HORIZONTAL SCALE 1"=20'

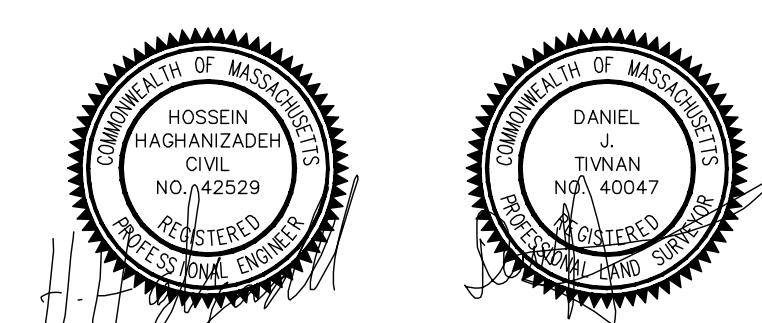
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## EROSION CONTROL

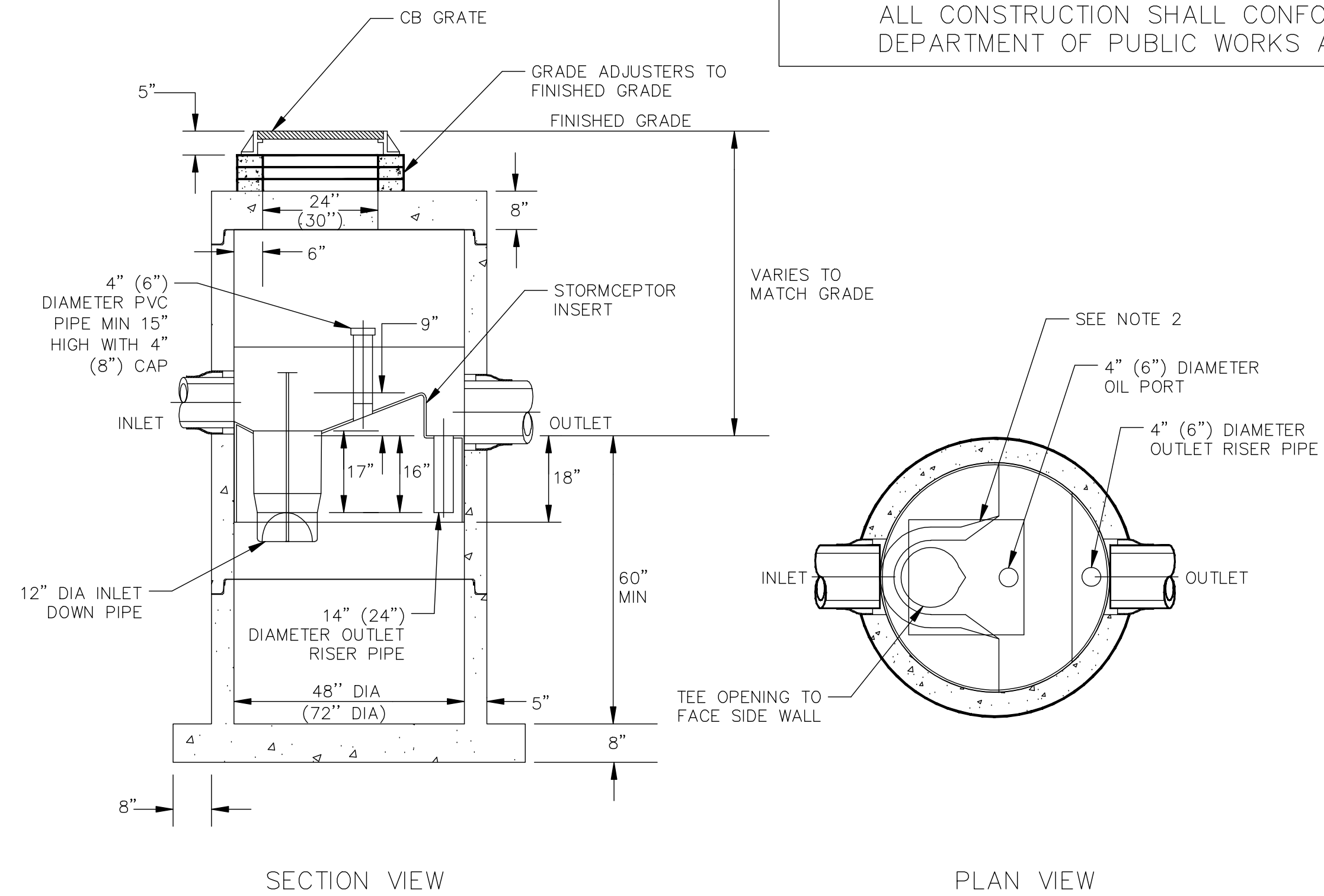
0 FARRINGTON ST WORCESTER MA

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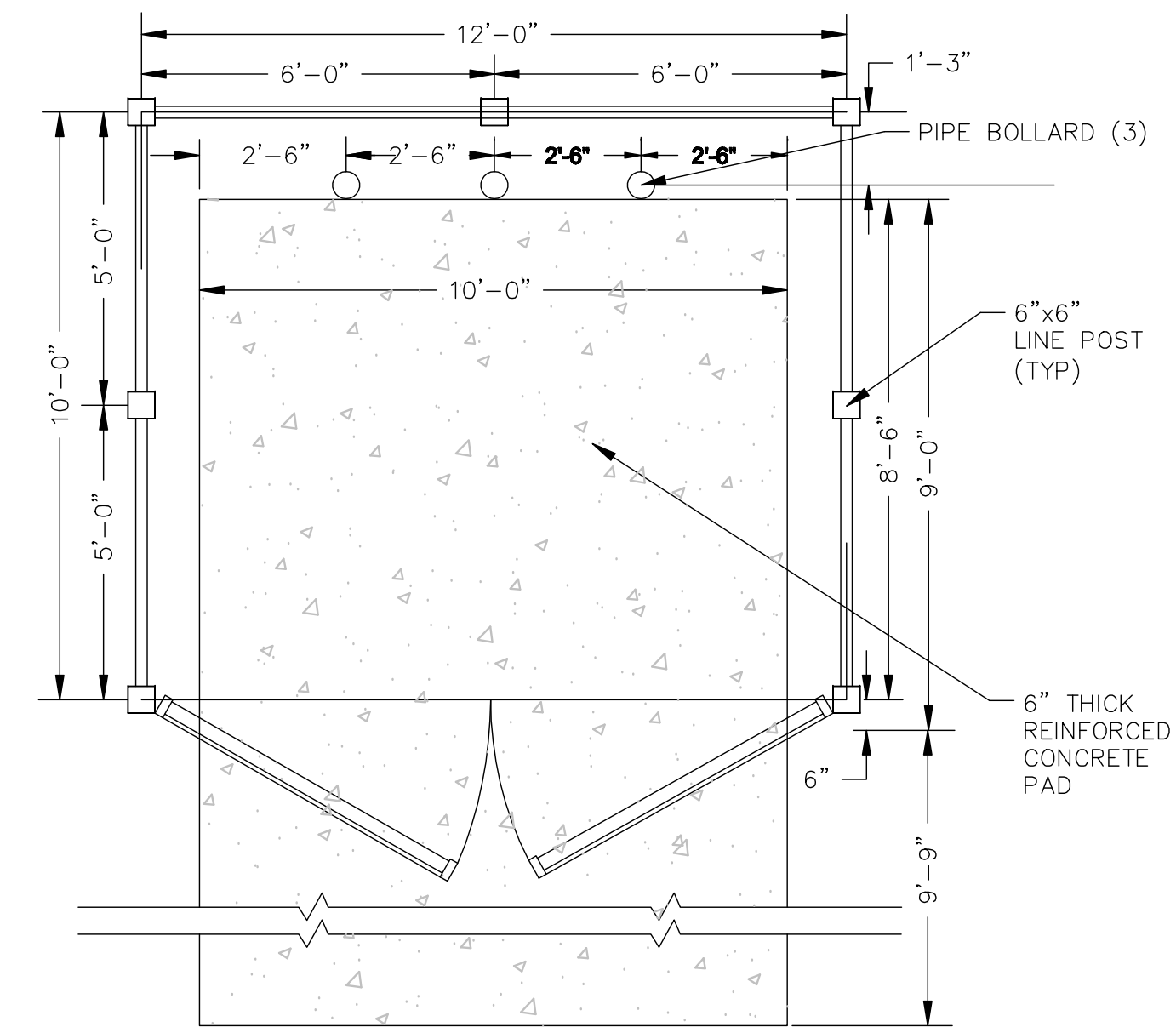
JOB NUMBER: 7172	SHEET NUMBER: 5 of 9
DWG NUMBER:	

NOTE:  
ALL CONSTRUCTION SHALL CONFORM TO THE CITY OF WORCESTER  
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING STANDARDS.

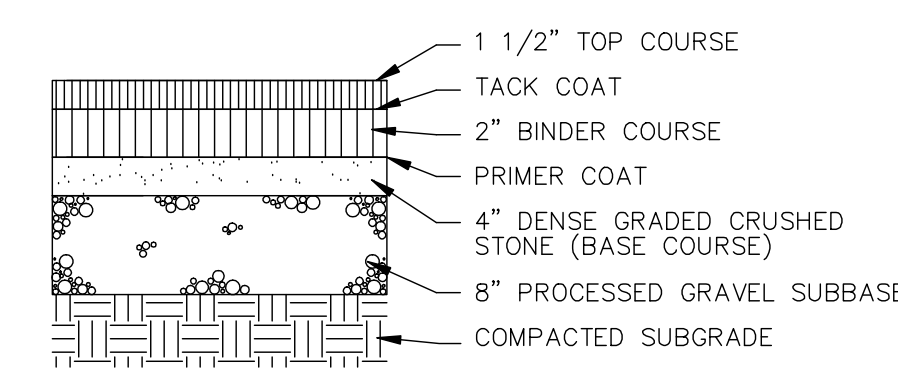


- NOTES:  
1. STORMCEPTOR UNITS SHALL BE INSTALLED AS RECOMMENDED BY THE MANUFACTURER.  
2. THE USE OF A FLEXIBLE CONNECTION IS RECOMMENDED AT THE INLET AND OUTLET (WHERE APPLICABLE).  
3. DIMENSIONS IN PARENTHESES ARE FOR THE STC 900 MODEL.

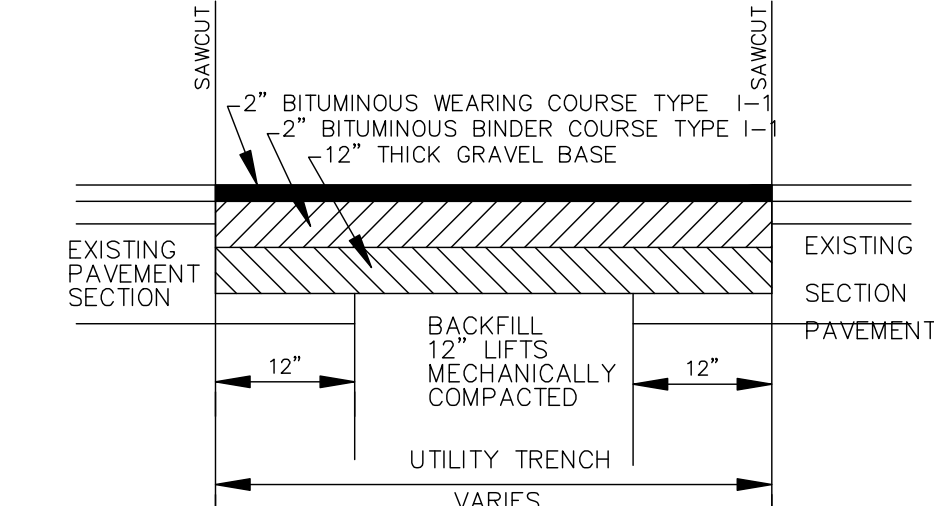
**STC 450i PRECAST CONCRETE STORMCEPTOR**  
NTS



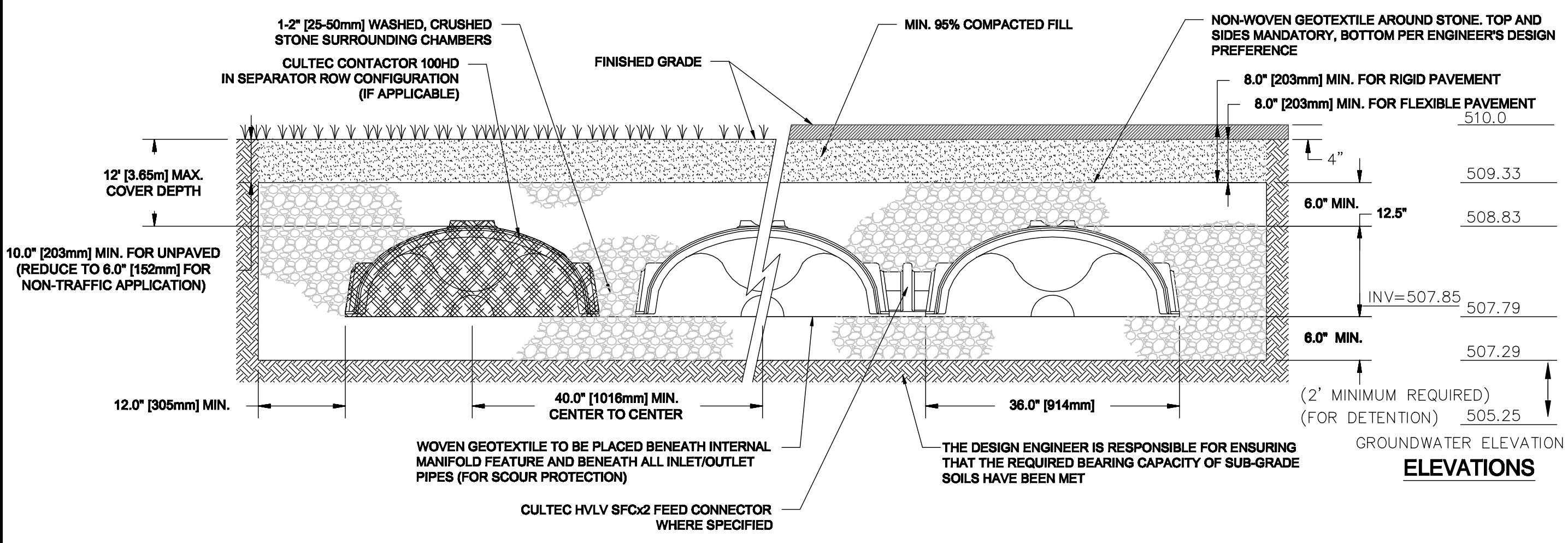
**DUMPSTER ENCLOSURE DETAIL**  
NTS



**BIT PAVEMENT**  
NTS



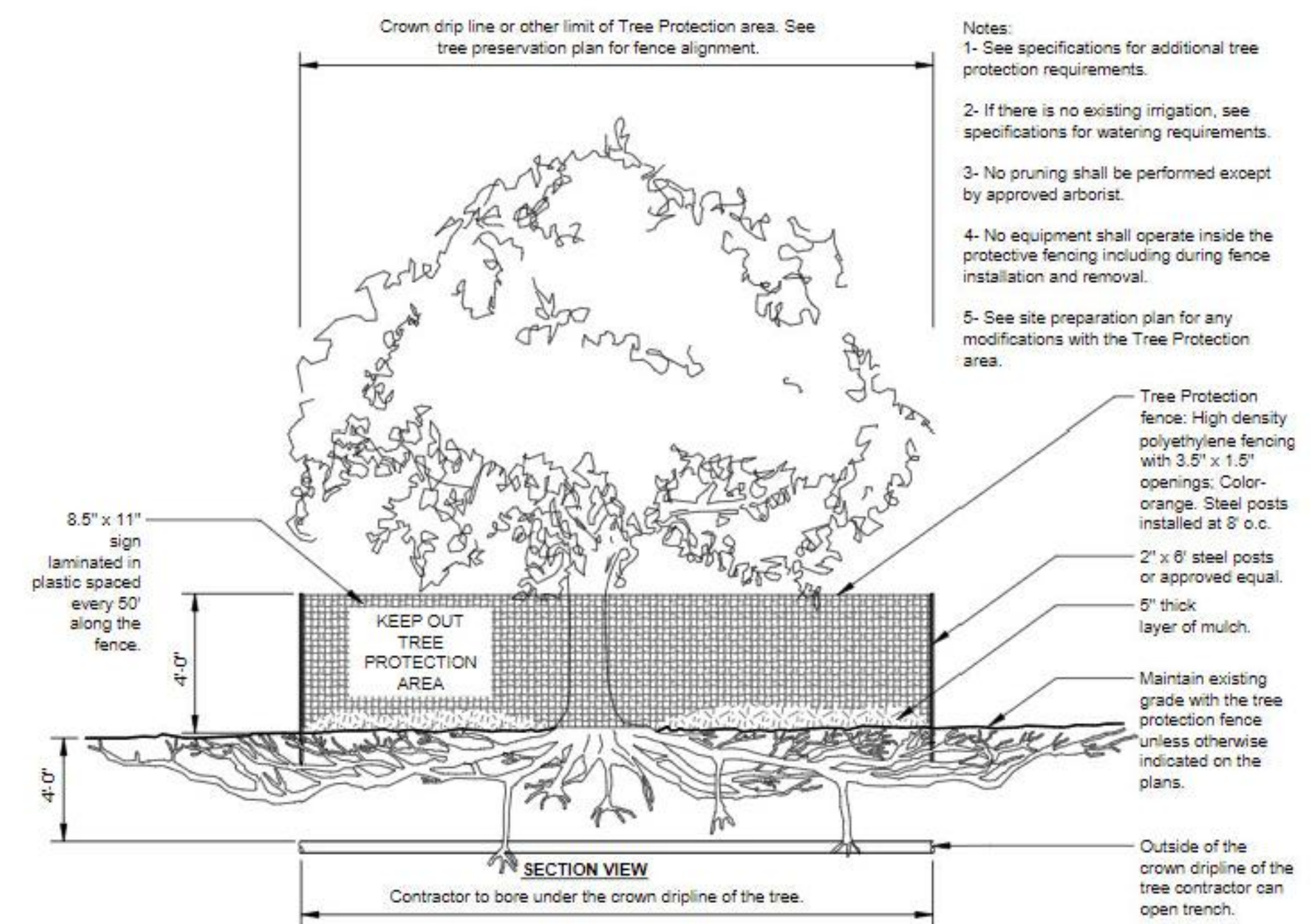
**BIT PAVEMENT PATCH**  
NTS



**CULTEC CONTACTOR 100HD CROSS SECTION**

**CULTEC RECHARGER 100HD CHAMBER SYSTEM**  
NTS

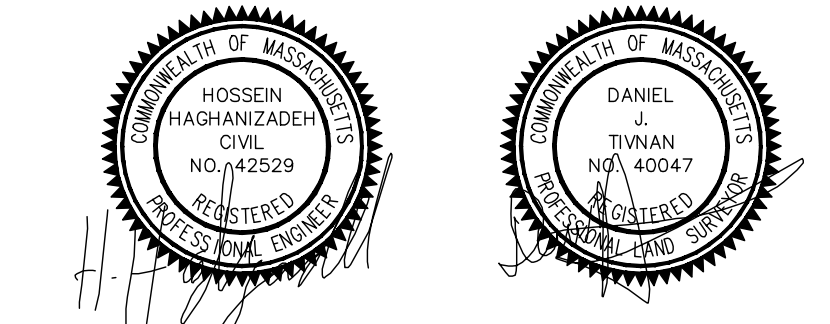
- NOTES:  
1. RECHARGER 100HD UNIT IS MANUFACTURED BY CULTEC, INC. OF BROOKFIELD, CT.  
2. REFER TO CULTEC, INC.'S CURRENT RECOMMENDED INSTALLATION GUIDELINES.  
3. THE CHAMBER HAS BEEN DESIGNED TO WITHSTAND TRAFFIC LOADS WHEN INSTALLED ACCORDING TO CULTEC'S RECOMMENDED INSTALLATION INSTRUCTIONS.



**TREE PROTECTION DETAIL**  
NTS

PLAN REVISIONS:

NO.	DATE	DESCRIPTION	BY



**hs&t group, inc.**  
PROFESSIONAL CIVIL ENGINEERS & LAND SURVEYORS  
75 HAMMOND STREET - 2ND FLOOR  
WORCESTER, MASSACHUSETTS 01610-1723  
PHONE: 508-757-4944 EMAIL: INFO@HSTGROUP.NET  
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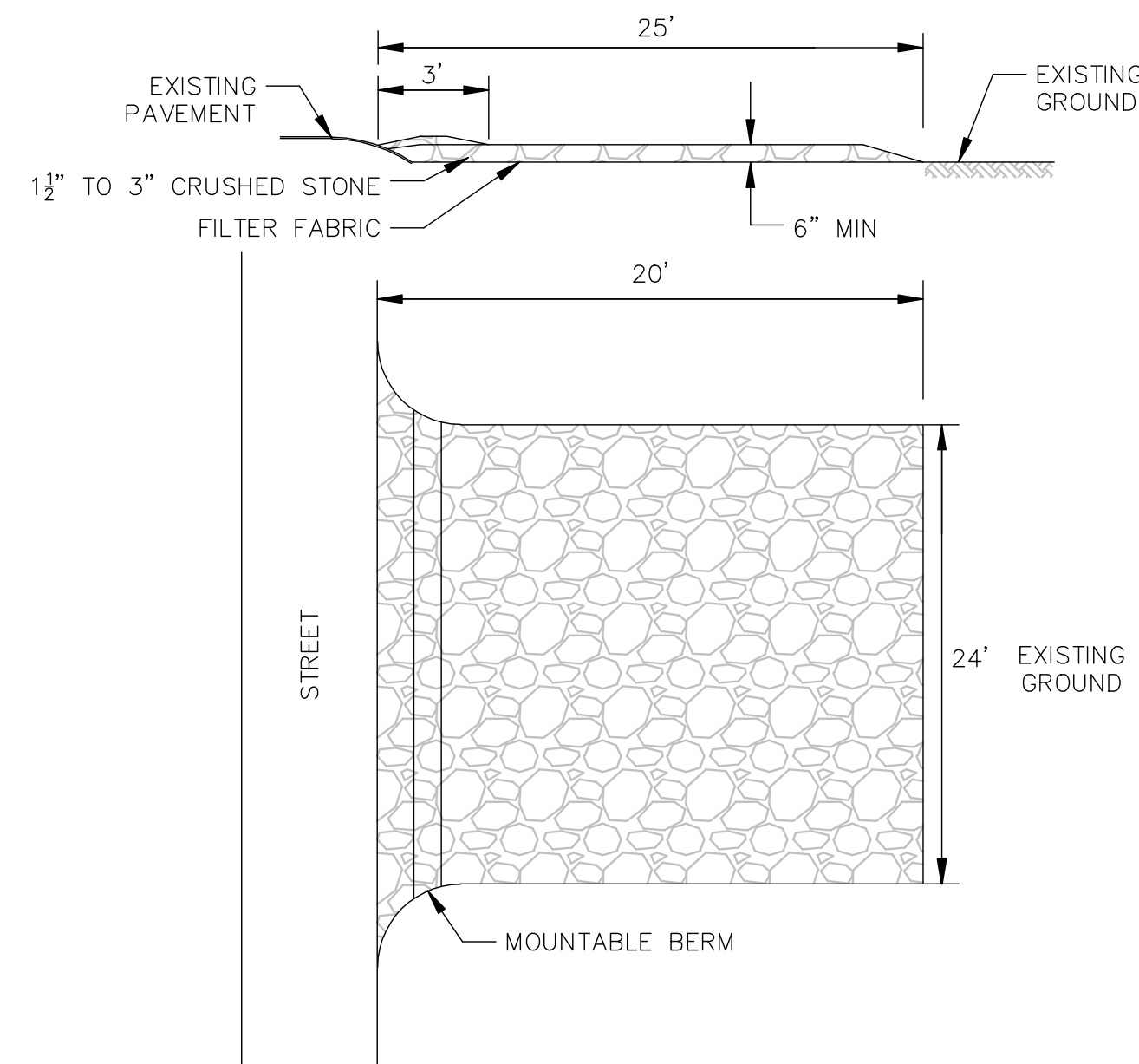
**DETAILS**  
0 FARRINGTON ST WORCESTER MA

APPLICANT(S)/OWNER(S):  
ASAAD CHALLAB  
3 FARRINGTON ST WORCESTER MA

DATE: 07/24/2024	COMP'D: DJT	FIELD: PS
SCALE: 1"=20'	CAD: LLW	FLD. BK: 65.3-16
ZONE: RG-5	REV'D:	FARRINGTONPROP 2

JOB NUMBER: 7172	SHEET NUMBER: 6 of 9
DWG NUMBER:	

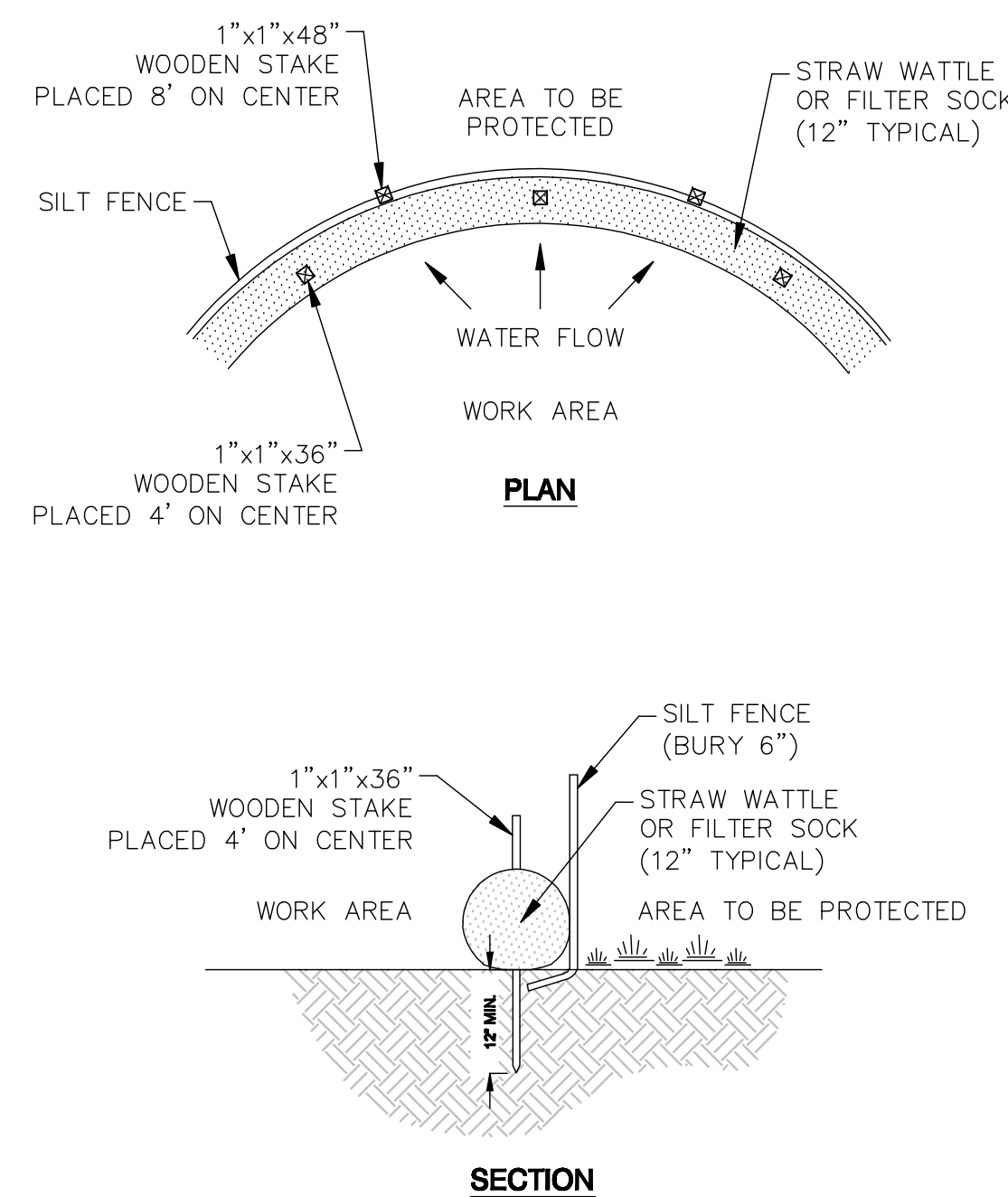
NOTE:  
ALL CONSTRUCTION SHALL CONFORM TO THE CITY OF WORCESTER  
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING STANDARDS.



NOTE:  
THE MOUNTABLE BERM SHALL BE USED TO ASSIST REMOVAL OF MUD  
FROM THE TIRES OF VEHICLES LEAVING THE SITE DURING CONSTRUCTION.

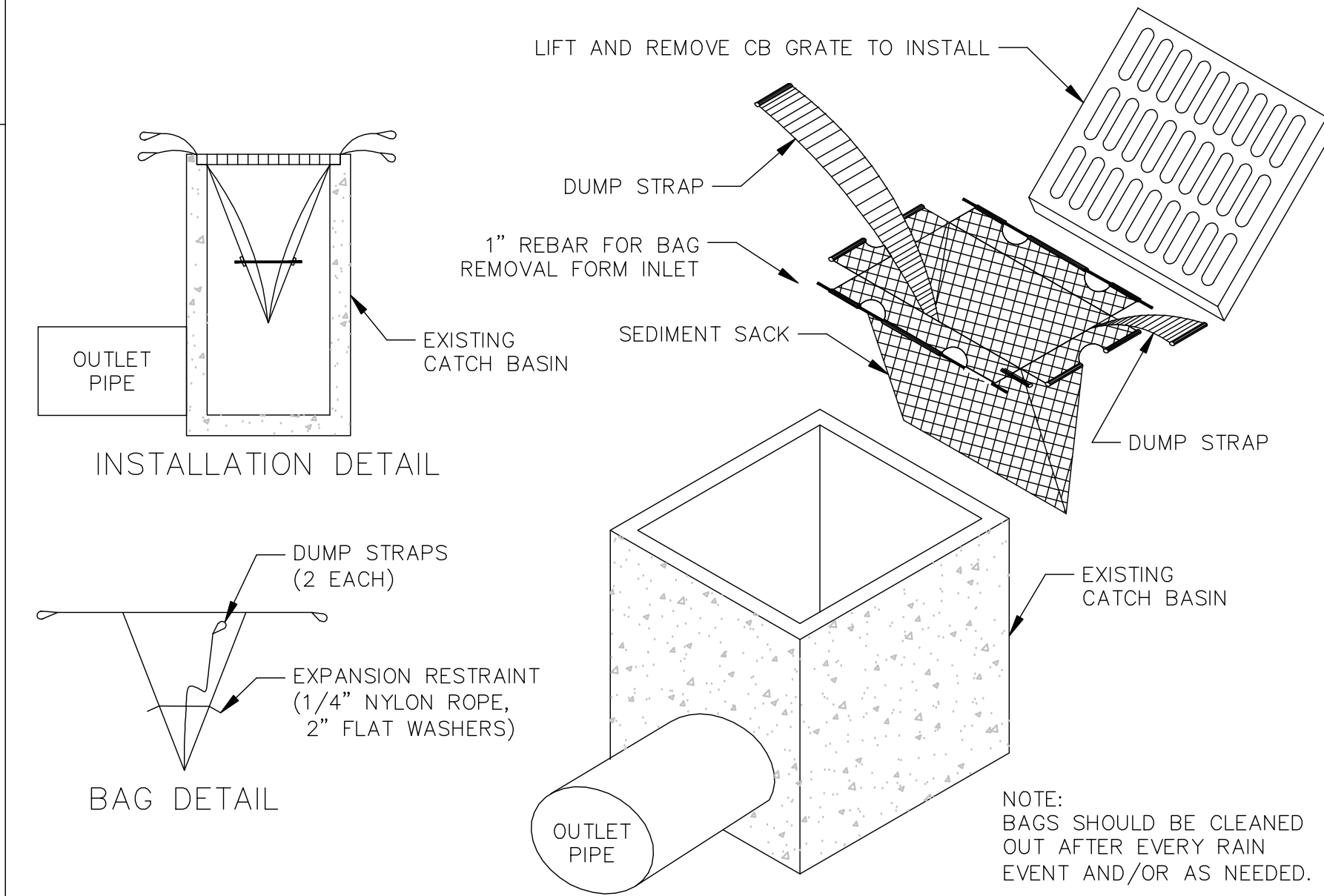
**STABILIZED CONSTRUCTION ENTRANCE**

NTS



**EROSION CONTROL BARRIER (ECB)**

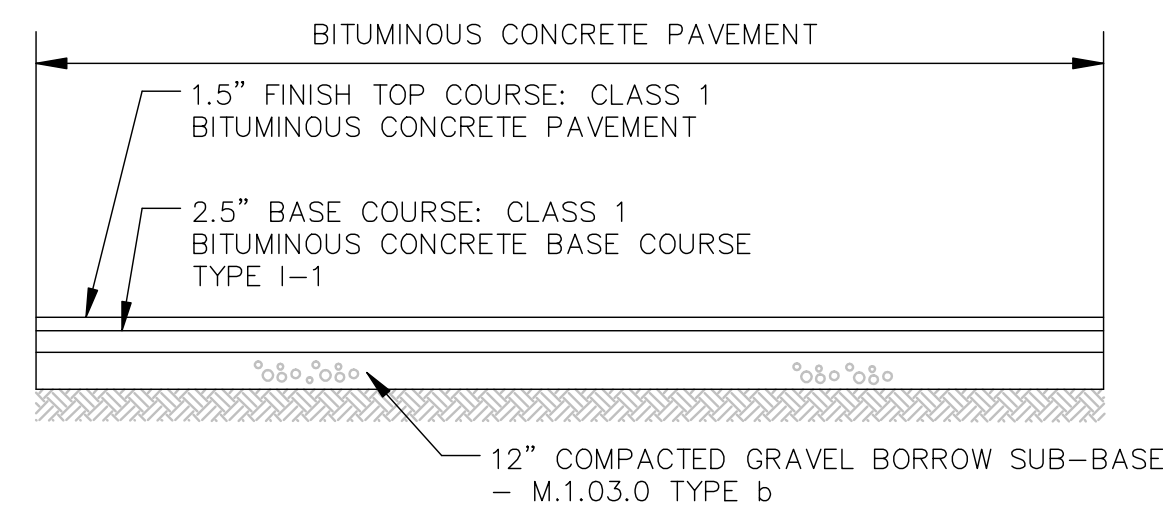
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**EXISTING CATCH BASIN SILT SACK EROSION CONTROL DEVICE**

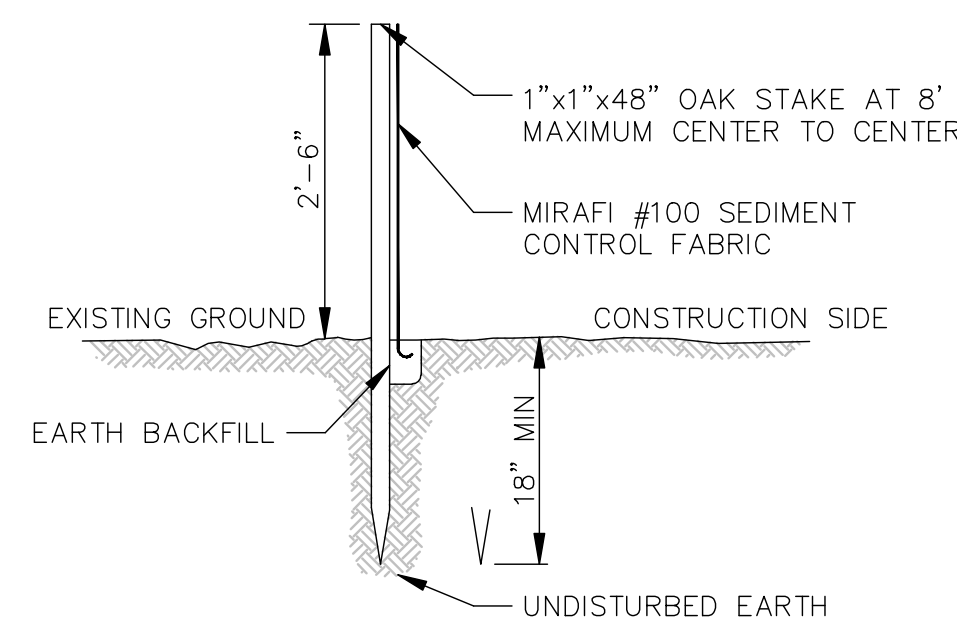
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NOTE:  
BAGS SHOULD BE CLEANED  
OUT AFTER EVERY RAIN  
EVENT AND/OR AS NEEDED.



**DRIVEWAY AND PARKING AREA CROSS SECTION**

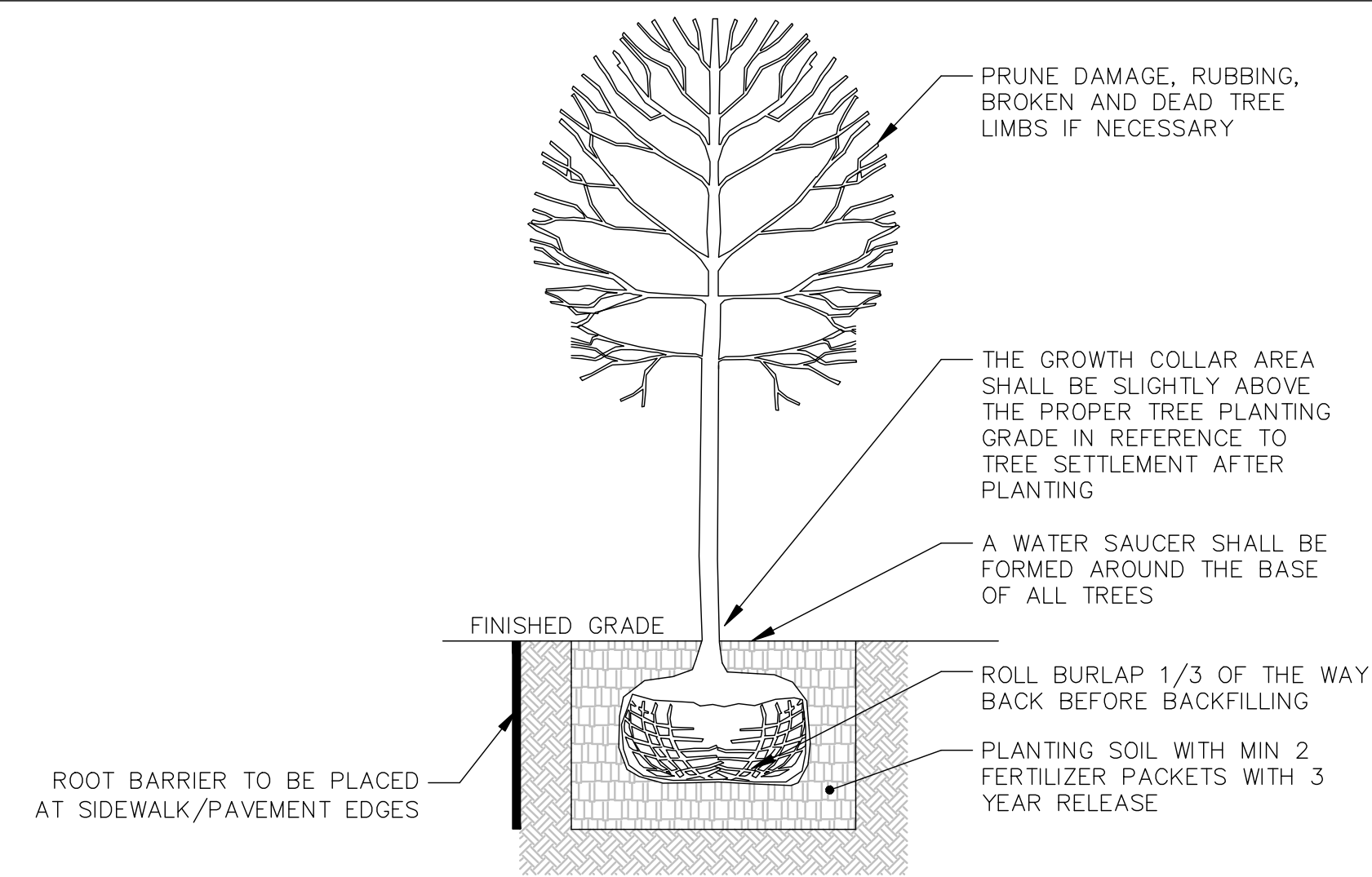
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**SILT FENCE DETAIL**

NTS

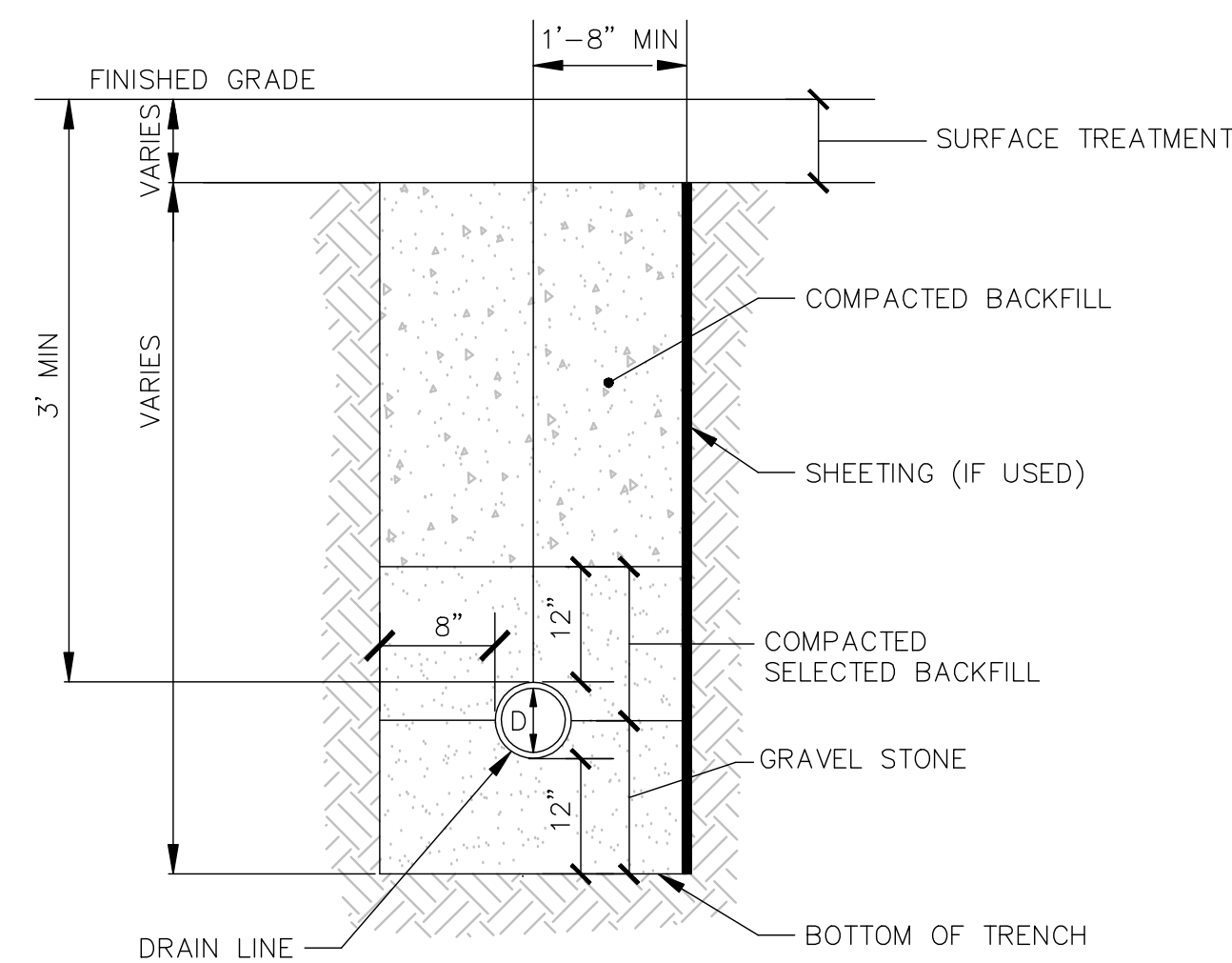
- NOTES:
- SILT FENCE SHALL BE SECURELY ANCHORED IN PLACE BY 1"x1"x36" OAK STAKES, D.
  - INSPECTION OF THE SILT FENCE SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
  - SEDIMENT SHALL BE REMOVED WHEN SEDIMENT BLOCKS OR IMPEDES STORM FLOW OR DRAINAGE.
  - SILT FENCE SHALL BE REMOVED WHEN THE PROJECT IS COMPLETED.



**TREE PLANTING**

NTS

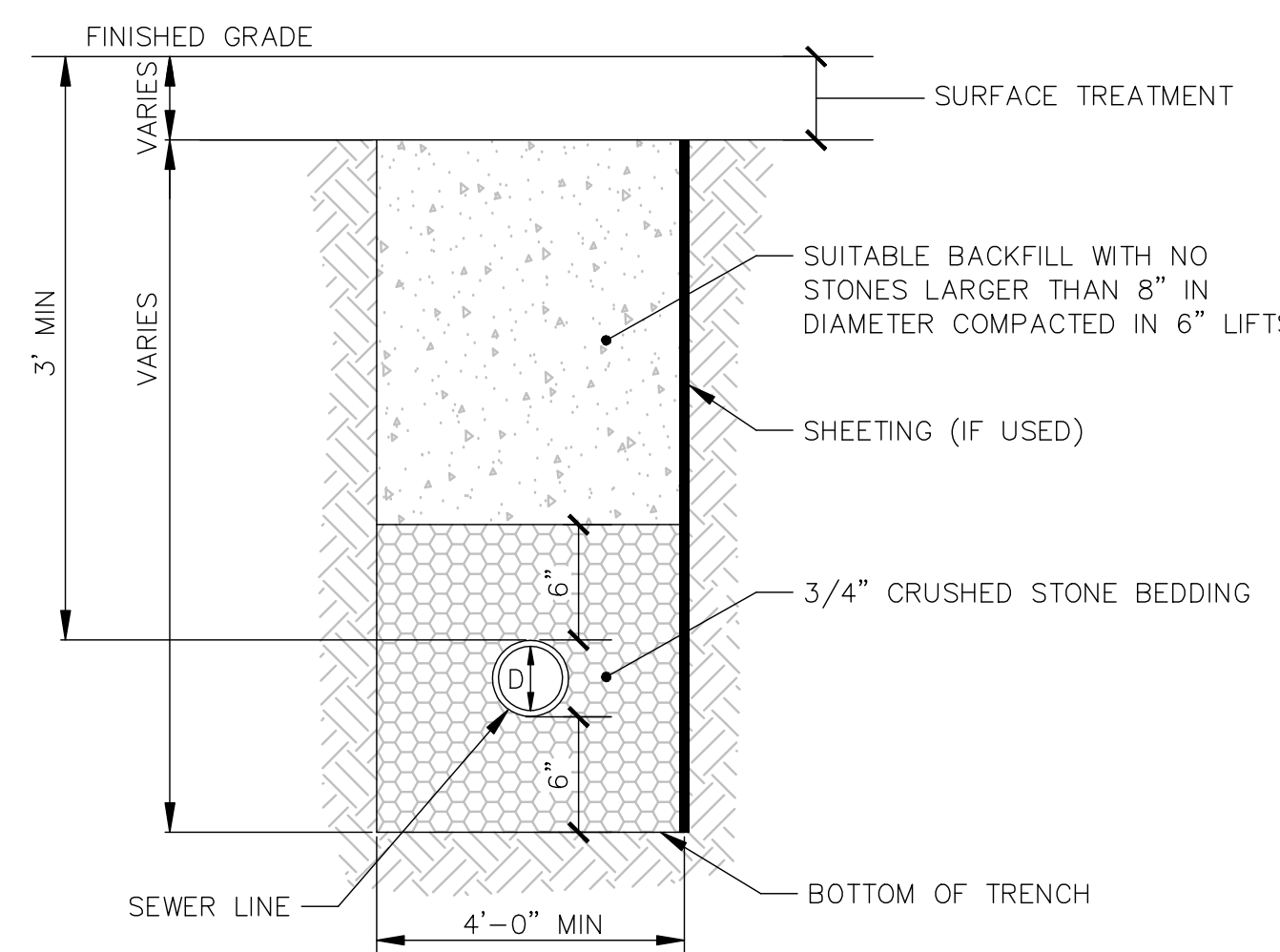
- NOTES:
- ALL TREES AND SHRUBS TO BE PLANTED SHALL BE ASIAN LONGHORNED BEATLE RESISTANT.
  - TREES SHALL BE A MINIMUM OF 3 1/2" IN DIAMETER.
  - THE CONTRACTOR IS TO LOCATE AND/OR PLACE ALL UNDERGROUND UTILITIES BEFORE DIGGING TREE PLANTING PITS.
  - NO TREE STAKES NOR TREE WRAP IS REQUIRED.
  - THE TREE ROOT BALL SHALL BE SET ON COMPACTED SOIL AREA TO REDUCE SETTLEMENT OF THE TREE.



**STORM DRAIN TRENCH**

NTS

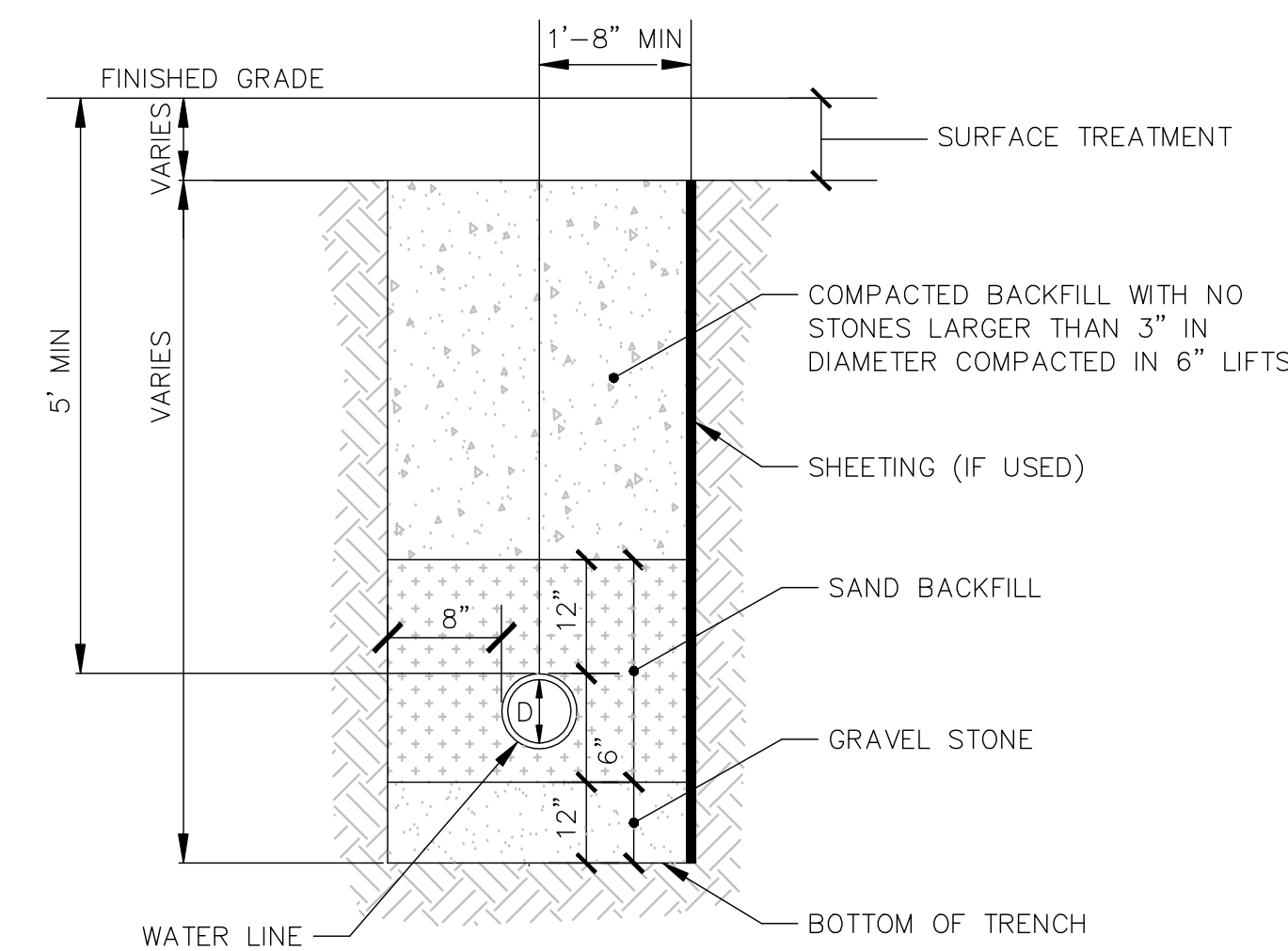
- NOTES:
- THE PROPOSED DRAIN LINE SHALL MAINTAIN A MINIMUM SEPARATION OF 12" TO BEDROCK IN ALL DIRECTIONS.
  - THE TRENCH SHALL BE CONSTRUCTED IN ACCORDANCE WITH OSHA STANDARDS AND OTHER APPLICABLE STANDARDS.



**SEWER TRENCH**

NTS

- NOTES:
- THE PROPOSED SEWER LINE SHALL MAINTAIN A MINIMUM SEPARATION OF 6" TO BEDROCK IN ALL DIRECTIONS.
  - THE TRENCH SHALL BE CONSTRUCTED IN ACCORDANCE WITH OSHA STANDARDS AND OTHER APPLICABLE STANDARDS.



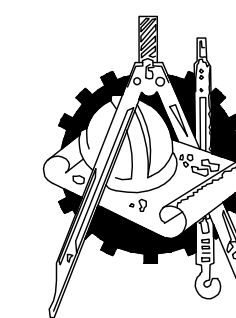
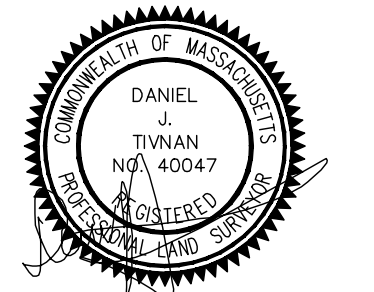
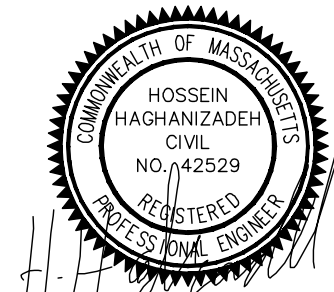
**WATER MAIN TRENCH**

NTS

- NOTES:
- THE PROPOSED WATER LINE SHALL MAINTAIN A MINIMUM SEPARATION OF 12" TO BEDROCK IN ALL DIRECTIONS.
  - THE TRENCH SHALL BE CONSTRUCTED IN ACCORDANCE WITH OSHA STANDARDS AND OTHER APPLICABLE STANDARDS.

PLAN REVISIONS:

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**DETAILS**

0 FARRINGTON ST WORCESTER MA

APPLICANT(S)/OWNER(S):

ASAAD CHALLAB  
3 FARRINGTON ST WORCESTER MA

DATE: 07/24/2024 COMP'D: DJT FIELD: PS

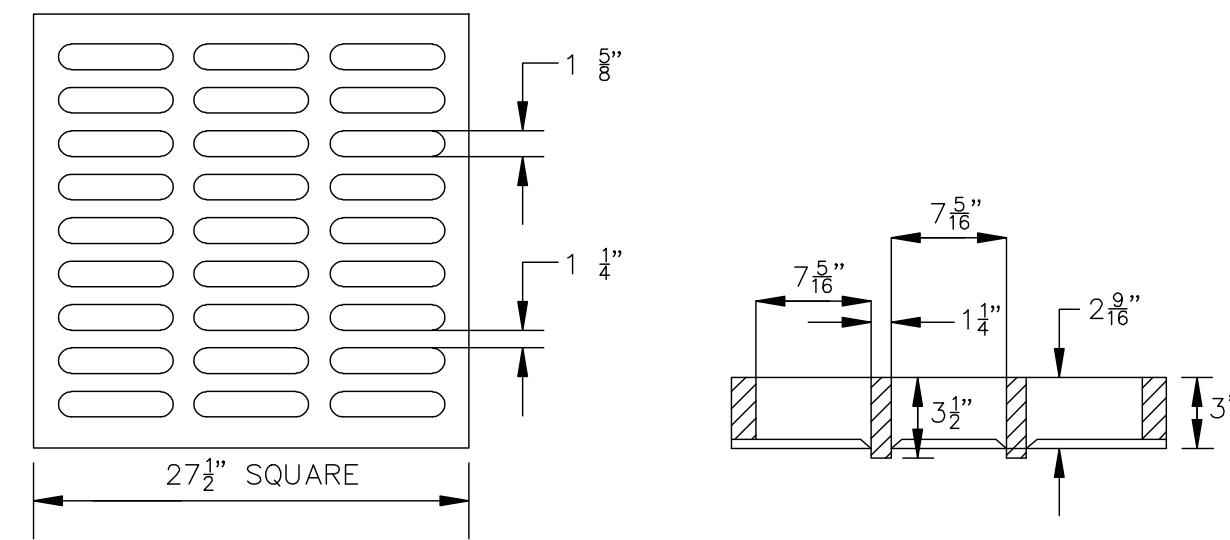
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ZONE: RG-5 REV'D: FARRINGTONPROP 2

JOB NUMBER: 7172

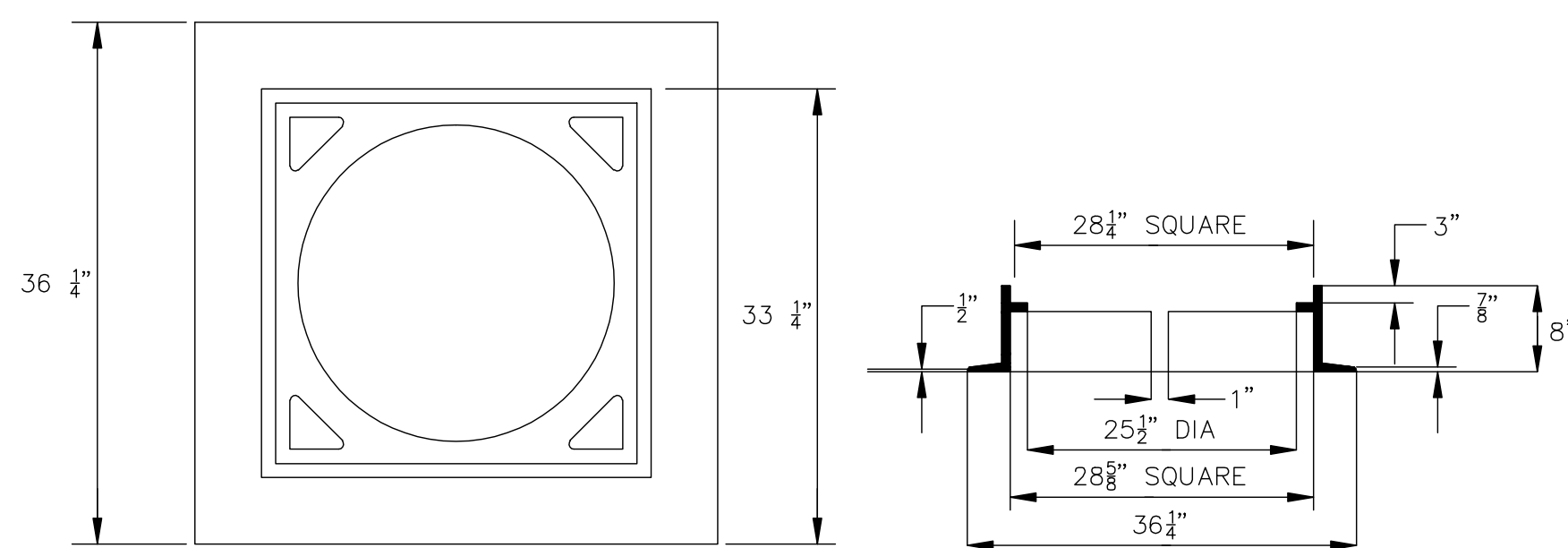
SHEET NUMBER  
7 OF 9

DWG NUMBER:



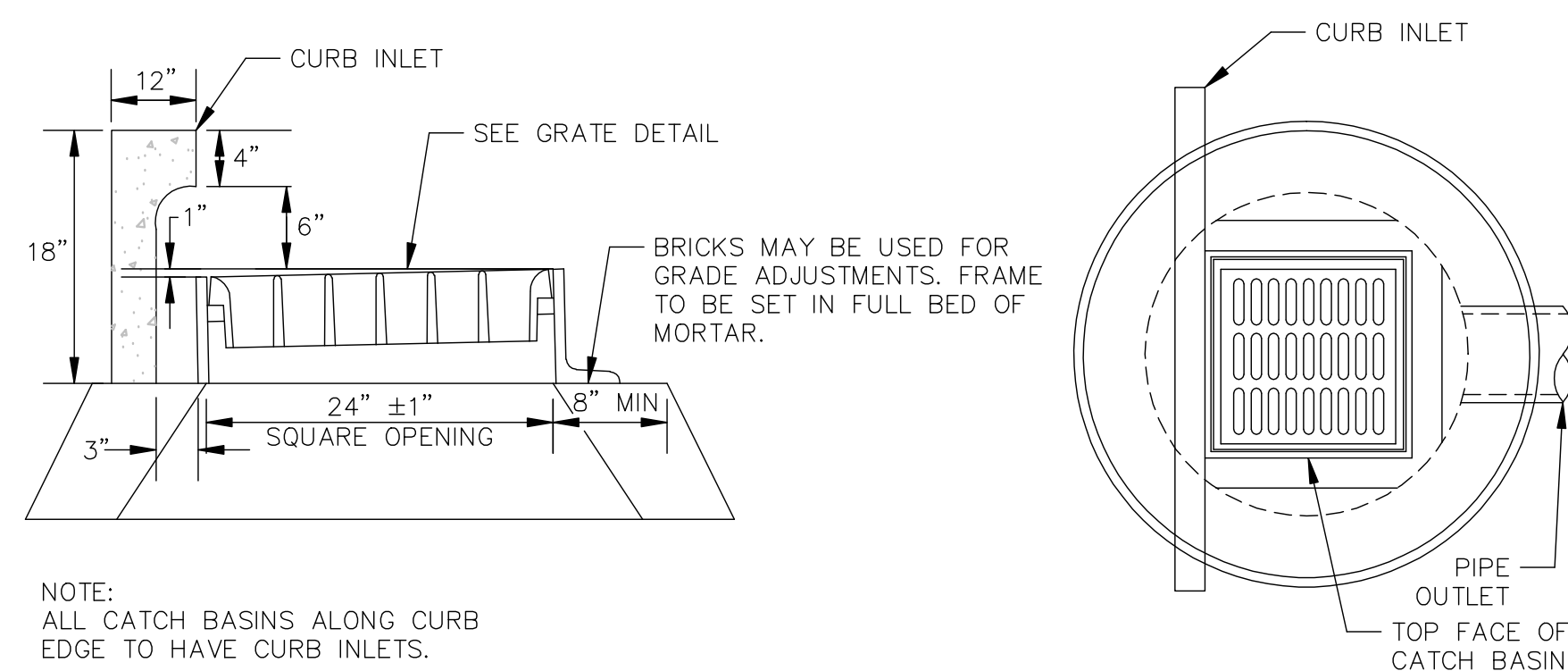
**CATCH BASIN GRATE**

NTS



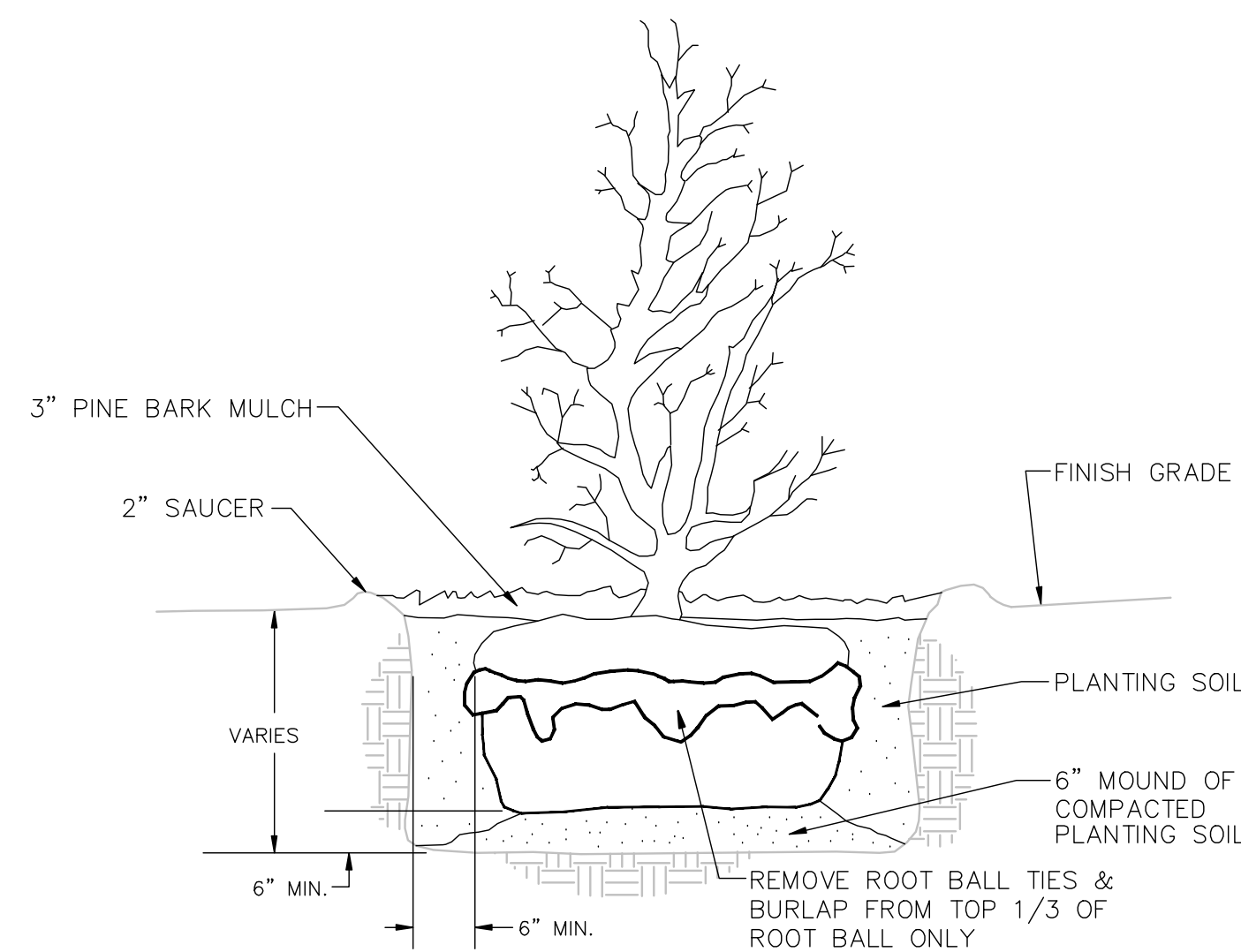
**CATCH BASIN FRAME**

NTS



**CATCH BASIN AT CURB**

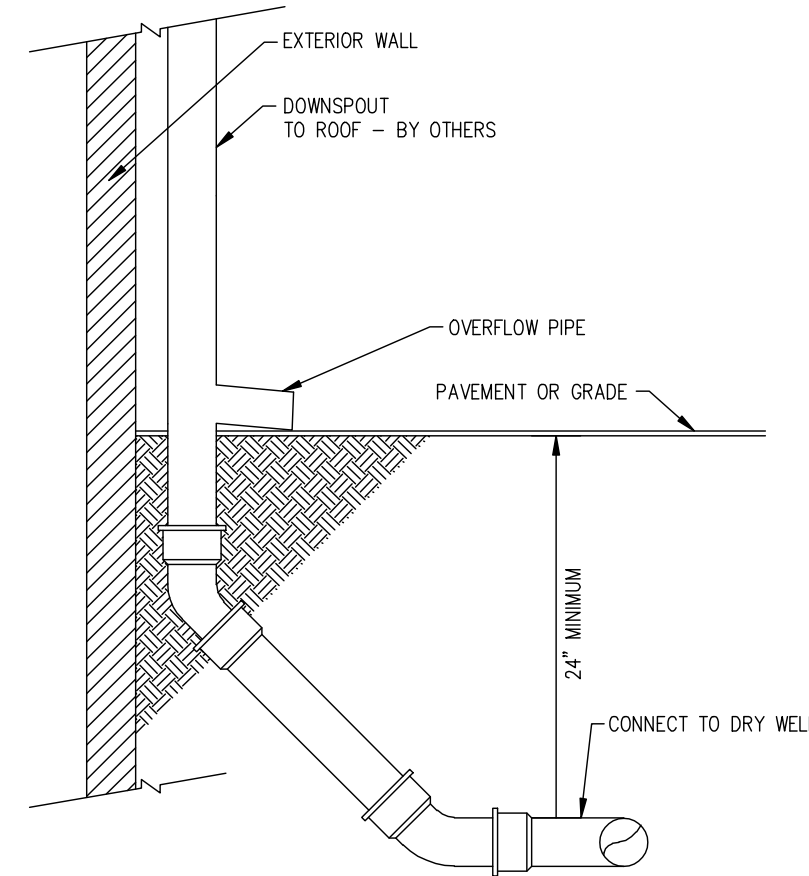
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**TYPICAL SHRUB PLANTING DETAIL**

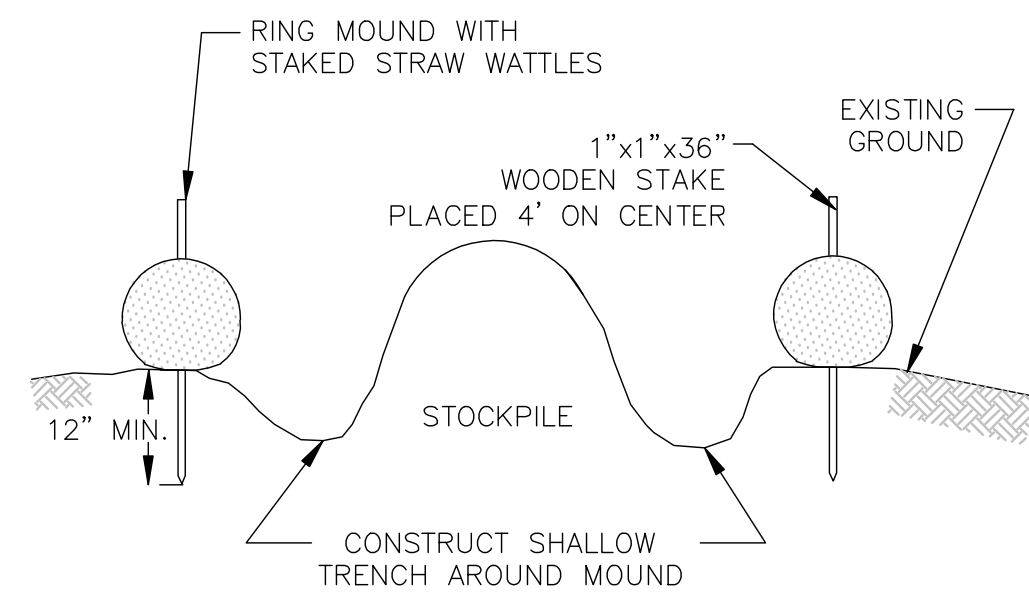
N.T.S.

NOTE:  
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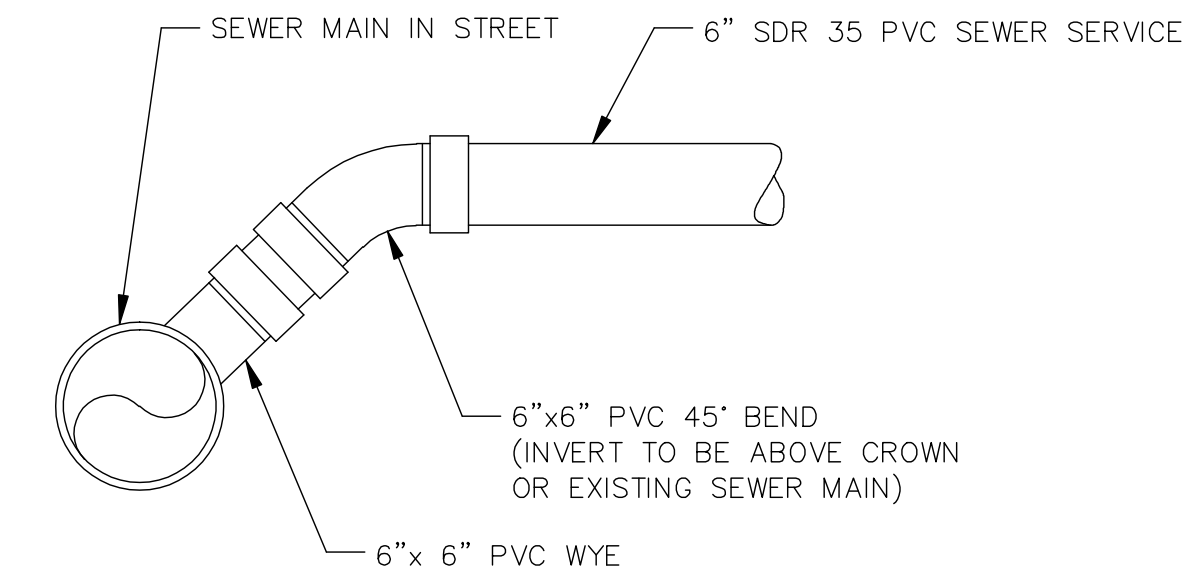
**DOWNSPOUT CONNECTION AND OVERFLOW**

N.T.S.



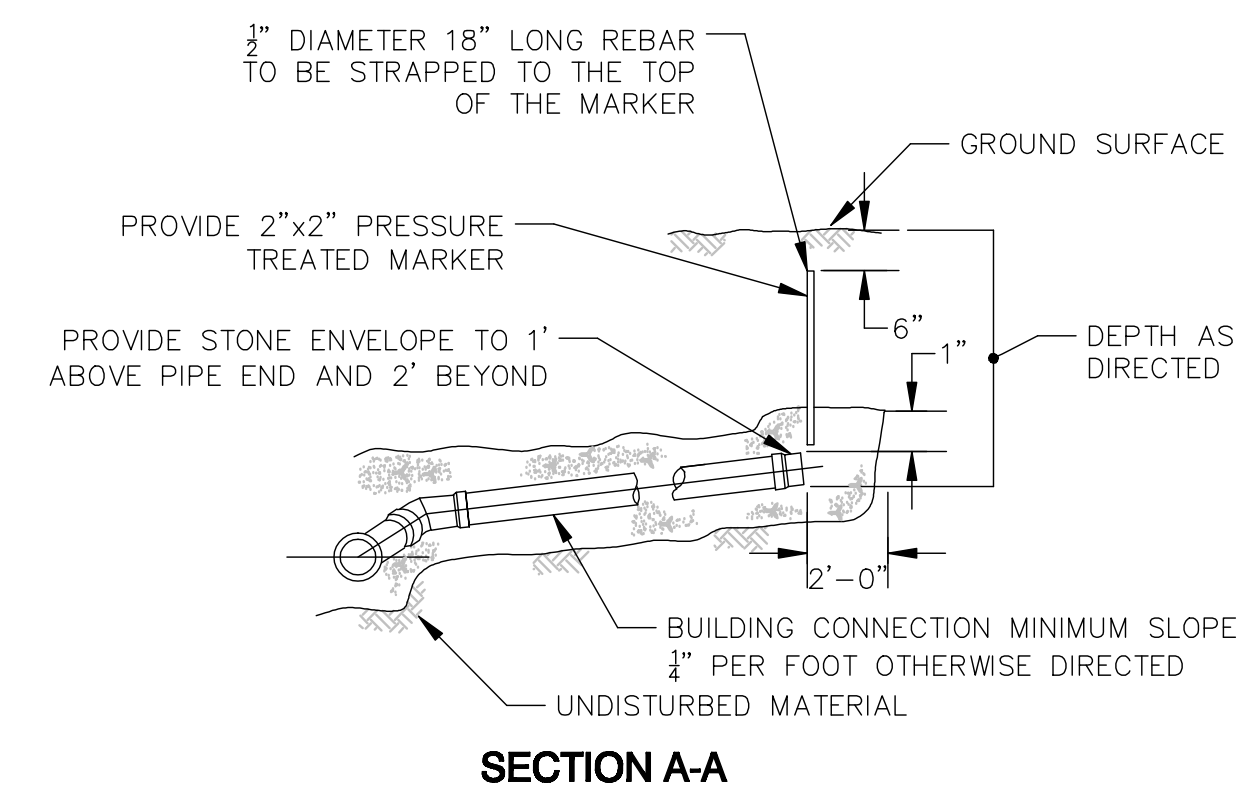
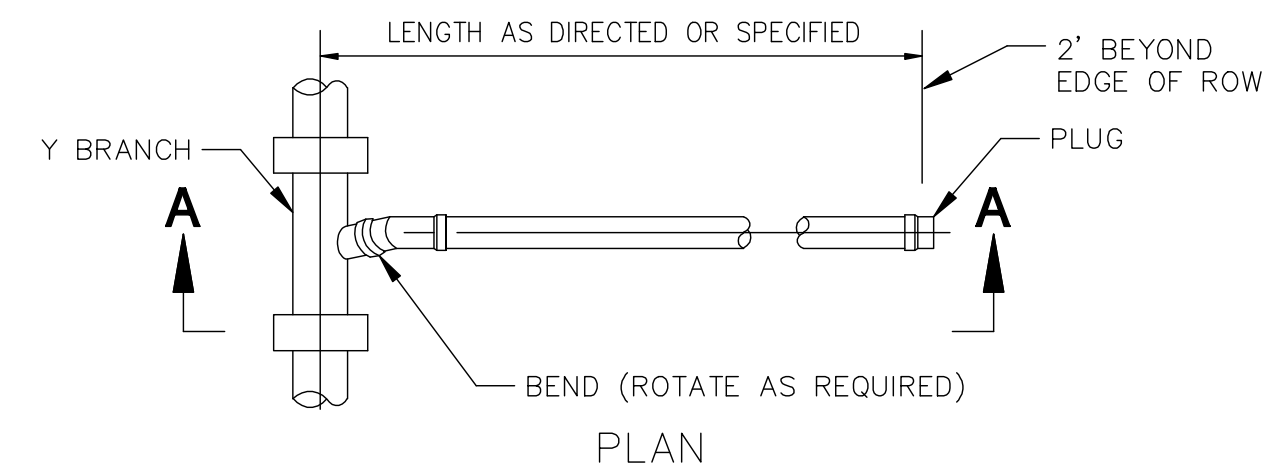
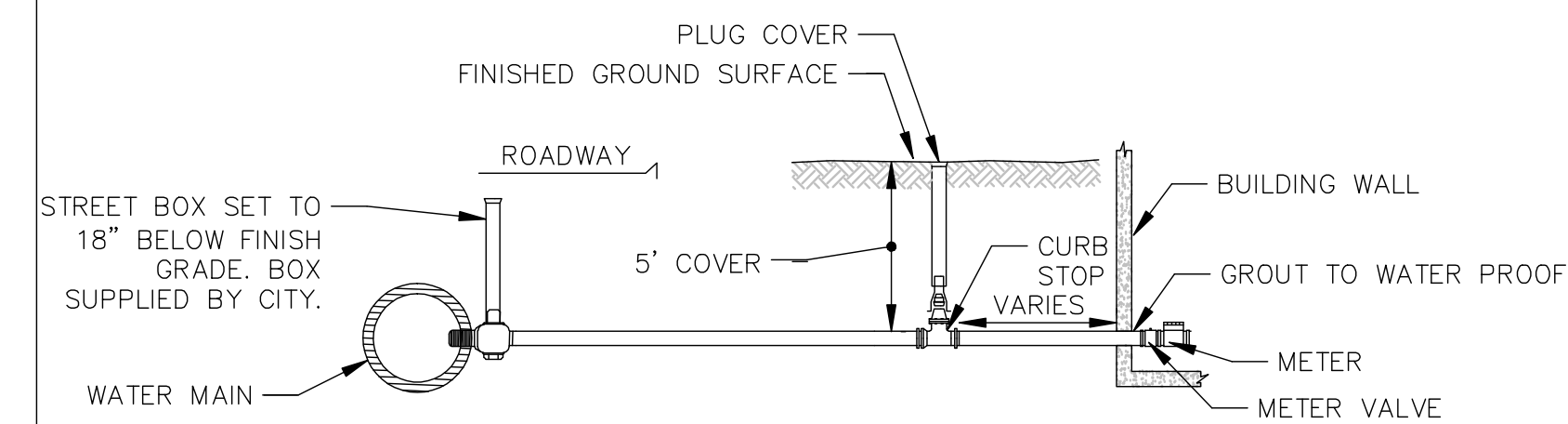
**TEMPORARY STOCKPILE DETAIL**

NTS



**SEWER SERVICE CONNECTION**

NTS



NOTES:

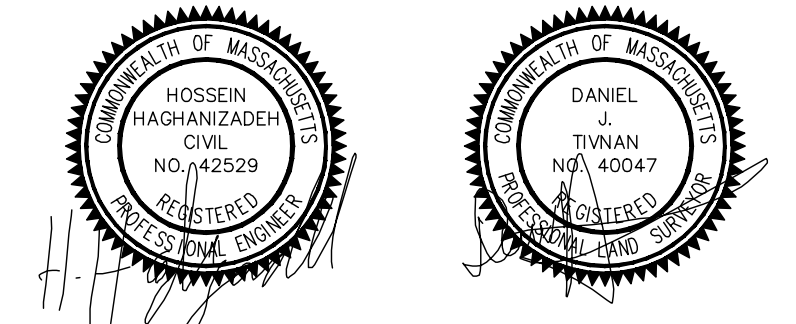
- FITTINGS AND VALVES SHALL BE MANUFACTURED BY FORD OR APPROVED EQUAL CORPORATION: FORD FB1000 WITH TEE HEAD ADAPTER (CC THREADxCOMP) BALL VALVE CURB STOP: FORD B44 FULL PORT (COMPxCOMP).
- SERVICE SADDLES SHALL BE USED FOR WATERMAINS SMALLER THAN 16 INCHES IN DIAMETER. SADDLES SHALL BE DOUBLE STRAP EQUAL TO ROCKWELL 313.
- SAND SHALL BE USED FOR BACKFILLING FROM A POINT 6 INCHES BELOW THE PIPE TO A POINT 12 INCHES ABOVE THE PIPE. THE REMAINING BACKFILL SHALL HAVE NO STONES GREATER THAN 3 INCHES IN THEIR LARGEST DIMENSION. BEFORE ANY EXCAVATION IS DONE AND ANY PIPE IS INSTALLED, PERMITS SHALL BE OBTAINED FROM THE MANAGEMENT SERVICES OFFICE AT 20 EAST WORCESTER STREET AND THE WATER ENGINEERING OFFICE AT 18 EAST WORCESTER STREET. ALL PAVING SHALL CONFORM TO CITY OF WORCESTER DPW STANDARDS.
- SERVICES SHALL BE FLUSHED BEFORE ACTIVATING TO AVOID METER CLOGGING.
- MAIN VALVES ARE TO BE OPERATED BY THE CITY ONLY. COSTS INCURRED IN SHUTTING DOWN MAINS DUE TO NEGLIGENCE OF THE CONTRACTOR, AS DETERMINED BY THE FIELD INSPECTOR, SHALL BE PAID BY THE CONTRACTOR.
- THE CONTRACTOR SHALL INFORM THE OWNER AND THE CITY WIRE INSPECTOR OF PROPER GROUNDING REQUIREMENTS PURSUANT TO M.G.L. CHAPTER 165, SECTION 1C.
- THE WATER SERVICE SHALL BE A MINIMUM OF 10 HORIZONTAL FEET FROM THE SEWER SERVICE.
- THE CONTRACTOR SHALL FURNISH AND COMPLETELY INSTALL THE WATER SERVICE FROM CORPORATION TO METER VALVES WITH NEW MATERIALS.
- UPON INSTALLATION OF THE SERVICE BOX, THE CONTRACTOR SHALL OPERATE THE VALVE TO THE SATISFACTION OF THE FIELD INSPECTOR PRIOR TO ACCEPTANCE OF THE JOB.

**TYPICAL PERMANENT SERVICE CONNECTION**

NTS

PLAN REVISIONS:

NO.	DATE	DESCRIPTION	BY



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 PHONE: 508-757-4944 EMAIL: INFO@HSTGROUP.NET  
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**DETAILS**  
0 FARRINGTON ST WORCESTER MA

APPLICANT(S)/OWNER(S):  
ASAAD CHALLAB  
3 FARRINGTON ST WORCESTER MA

DATE: 07/24/2024	COMP'D: DJT	FIELD: PS
SCALE: 1"=20'	CAD: LLW	FLD. BK: 653-16
ZONE: RG-5	REV'D:	FARRINGTONPROP 2

JOB NUMBER: 7172	SHEET NUMBER: 8 OF 9
DWG NUMBER:	



**PROPOSED STORMWATER MANAGEMENT SYSTEM ELEVATIONS (FT)**

MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT OR UNPAVED)	520.83
MINIMUM ALLOWABLE GRADE (UNPAVED TRAFFIC)	510.17
MINIMUM ALLOWABLE GRADE (TOP OF RIGID PAVEMENT)	510.00
MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT)	510.00
TOP OF STONE ELEVATION	509.33
TOP OF CHAMBER ELEVATION	508.83
6" x 6" TOP MANIFOLD INVERT	508.17
8" SEPARATOR ROW INVERT	507.85
8" BOTTOM CONNECTION INVERT	507.85
BOTTOM OF CHAMBER ELEVATION	507.79
BOTTOM OF STONE ELEVATION	507.29

**CULTEC STORMWATER MANAGEMENT SYSTEM SUMMARY**

TOTAL STORAGE REQUIRED (CU. FEET)	375
TOTAL STORAGE PROVIDED (CU. FEET)	380
% STONE POROSITY	40
SYSTEM AREA (SQ. FEET)	350
DEPTH OF EMBEDMENT STONE (IN)	6
DEPTH OF BEDDING STONE (IN)	6
SYSTEM PERIMETER (FT)	80.0
SPACING BETWEEN CHAMBER ROWS (IN)	4.0

NOTES: ALL EXTERNAL SYSTEM STRUCTURES, INLET/OUTLET PIPES, AND PROPOSED ELEVATIONS MUST BE DESIGNED AND APPROVED BY THE ENGINEER OF RECORD. ALL PROPOSED SYSTEM ELEVATIONS PROVIDED MUST BE VERIFIED BY THE ENGINEER OF RECORD ENGINEER AND THE ENGINEER OF RECORD MUST ENSURE CHAMBER BURIAL REQUIREMENTS ARE MET.

**MATERIALS LIST SUPPLIED BY CULTEC**

CULTEC CONTACTOR® 100RHD STARTER/STAND ALONE	4	PIECES
CULTEC CONTACTOR® 100HD END	7	PIECES
CULTEC HVLV SFC-2 FEED CONNECTOR	4	PIECES
CULTEC No.410 NON-WOVEN GEOTEXTILE (40% OVERAGE)	146	SQ. YARDS
CULTEC AFAB-HPF WOVEN GEOTEXTILE (10% OVERAGE)	61	FEET
CULTEC INSPECTION PORT KIT	1	PIECES

**MATERIALS LIST NOT SUPPLIED BY CULTEC**

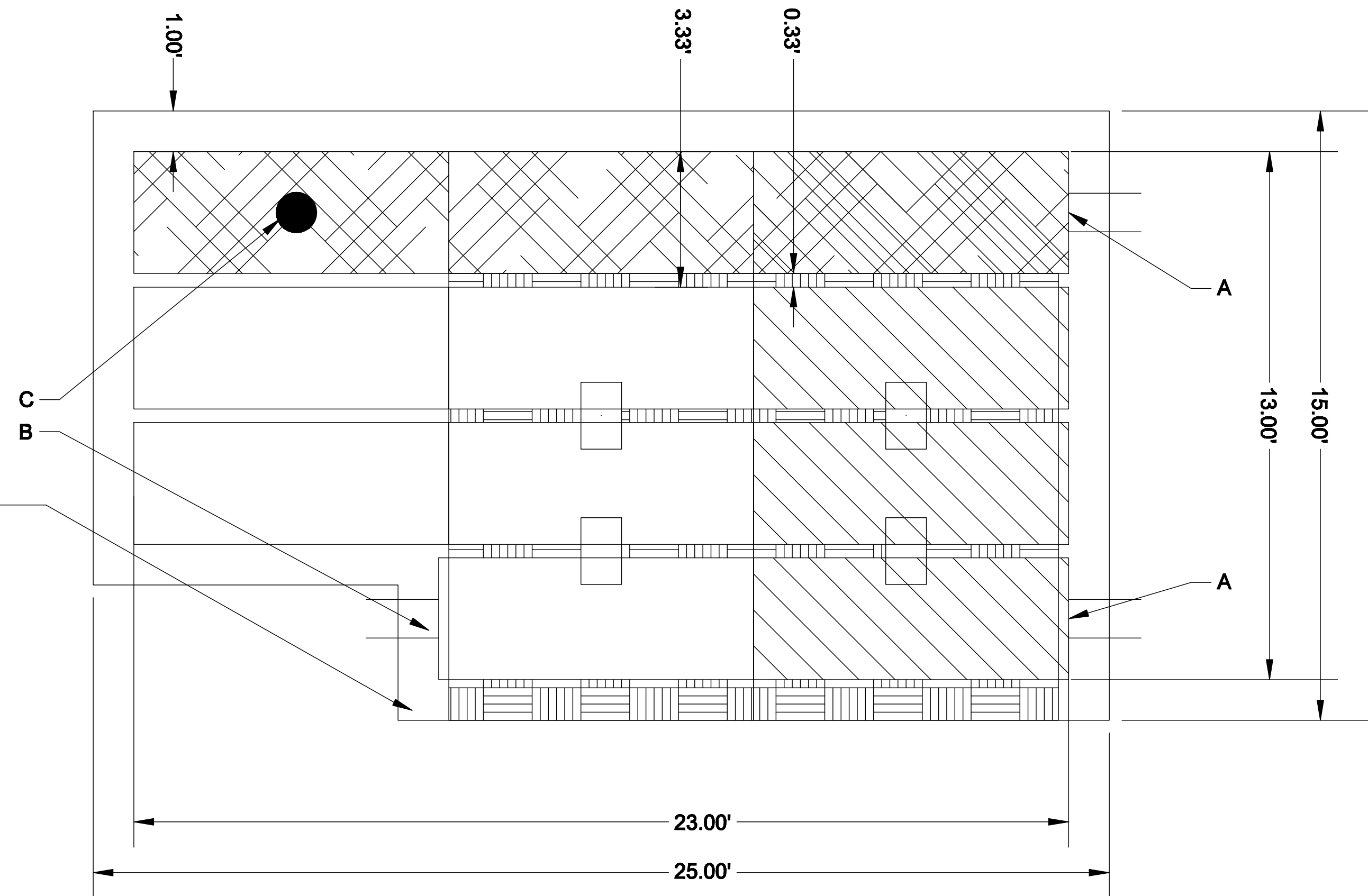
1-2 INCH WASHED, CRUSHED STONE	21	CU. YARDS
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PART TYPE	ITEM ON LAYOUT	DESCRIPTION	*INVERT ABOVE BASE OF CHAMBER
INLET PIPE	A	8" INLET/SEPARATOR ROW ACCESS PIPE (PROVIDED BY OTHERS)	0.75"
OUTLET PIPE	B	8" OUTLET PIPE (PROVIDED BY OTHERS)	0.75"
INSPECTION PORT	C	6"-10" UNIVERSAL (SEE DETAIL)	

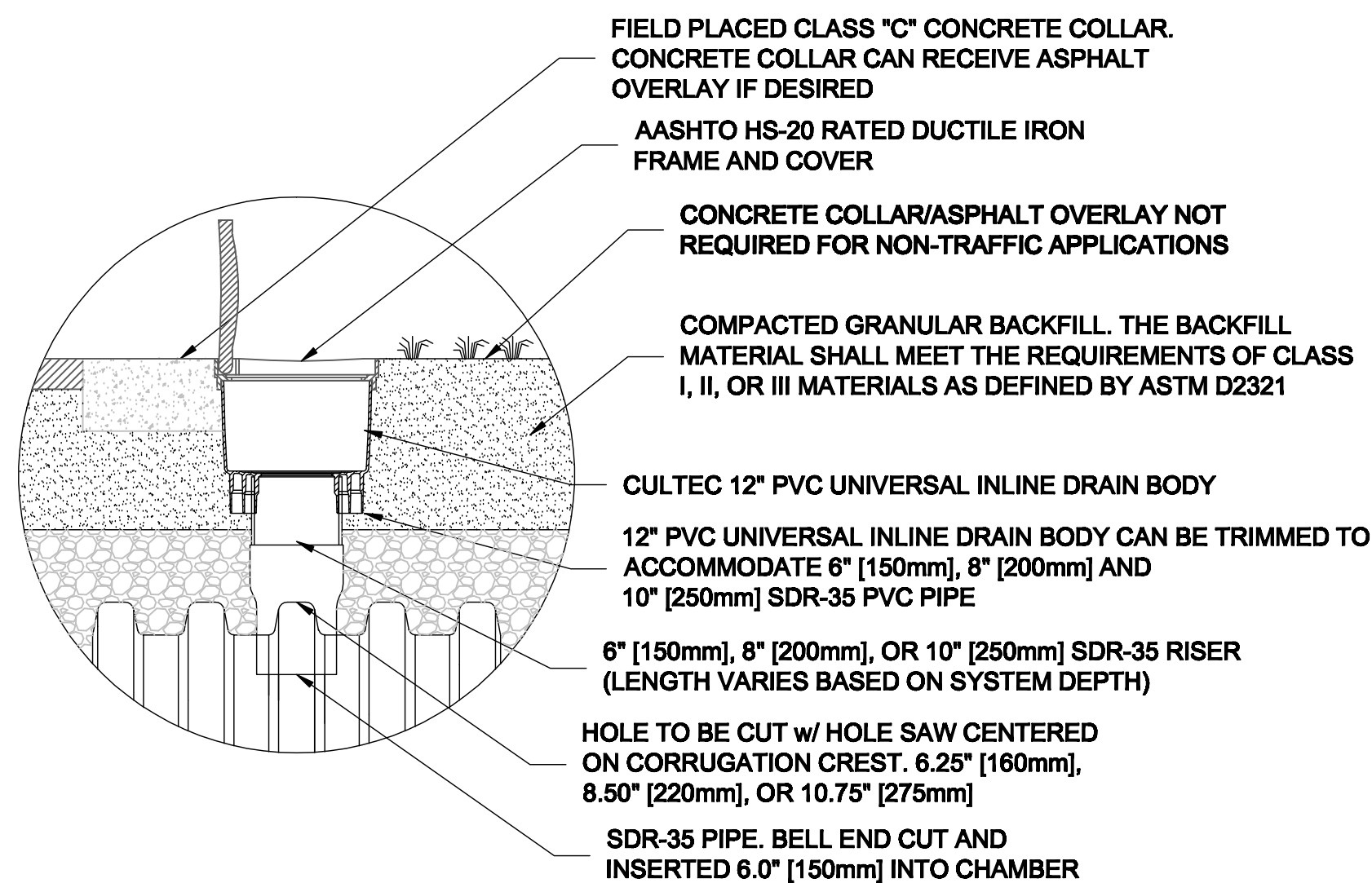
PLACE CULTEC WOVEN GEOTEXTILE UNDER THE HVLV FEED CONNECTORS, INLET AND OUTLET PIPES, AND CULTEC SEPARATOR ROW TO PROTECT AGAINST SCOUR PROTECTION. WOVEN GEOTEXTILE TO EXTEND A MINIMUM OF 12' (3.66m) DOWN CHAMBER ROWS AT ALL INLET AND OUTLET PIPES

**CULTEC CONTACTOR® 100HD LEGEND**

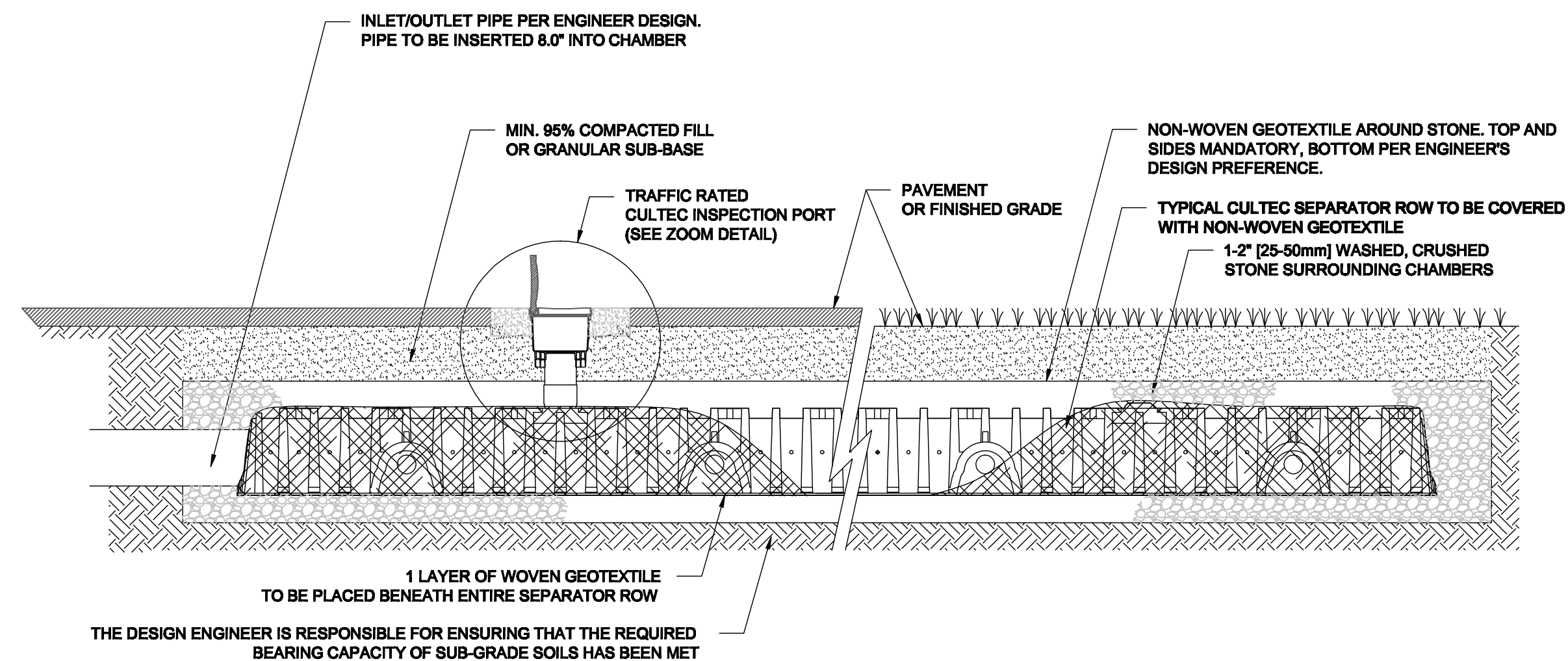
- CULTEC CONTACTOR 100RHD STARTER
- CULTEC CONTACTOR 100EHD END
- CULTEC HVLV SFC-2 FEED CONNECTORS
- CULTEC SEPARATOR ROW
- CULTEC WOVEN GEOTEXTILE
- STONE BORDER



**SYSTEM LAYOUT**

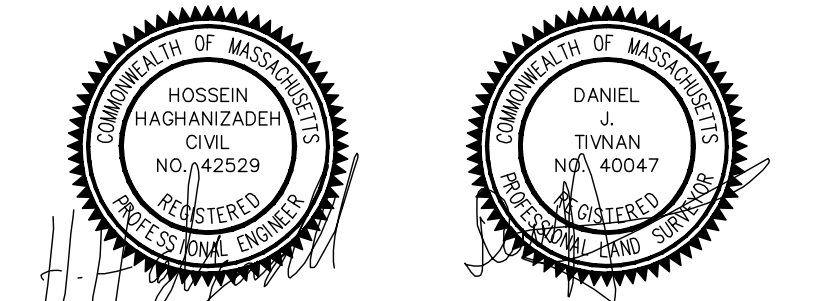


**OPTIONAL CULTEC INSPECTION PORT - ZOOM DETAIL**



**CULTEC SEPARATOR ROW - CULTEC INSPECTION PORT DETAIL (IF APPLICABLE)**

PLAN REVISIONS:			
NO.	DATE	DESCRIPTION	BY



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