

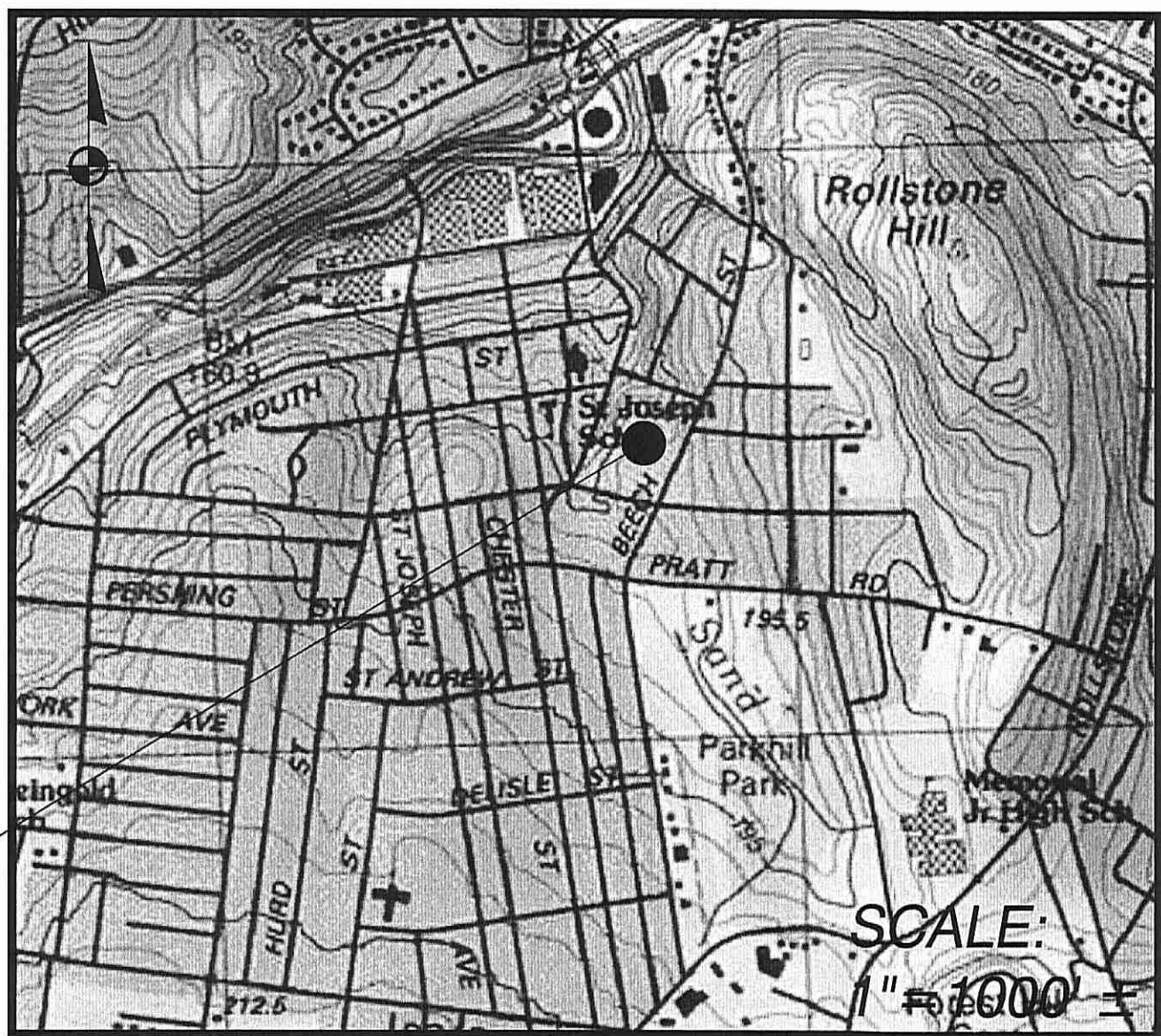
Special Permit Plans

June 22, 2007 (Revised May 11, 2023)

Planned Unit Development

Beech Street
Fitchburg, Massachusetts 01462

PROJECT SITE

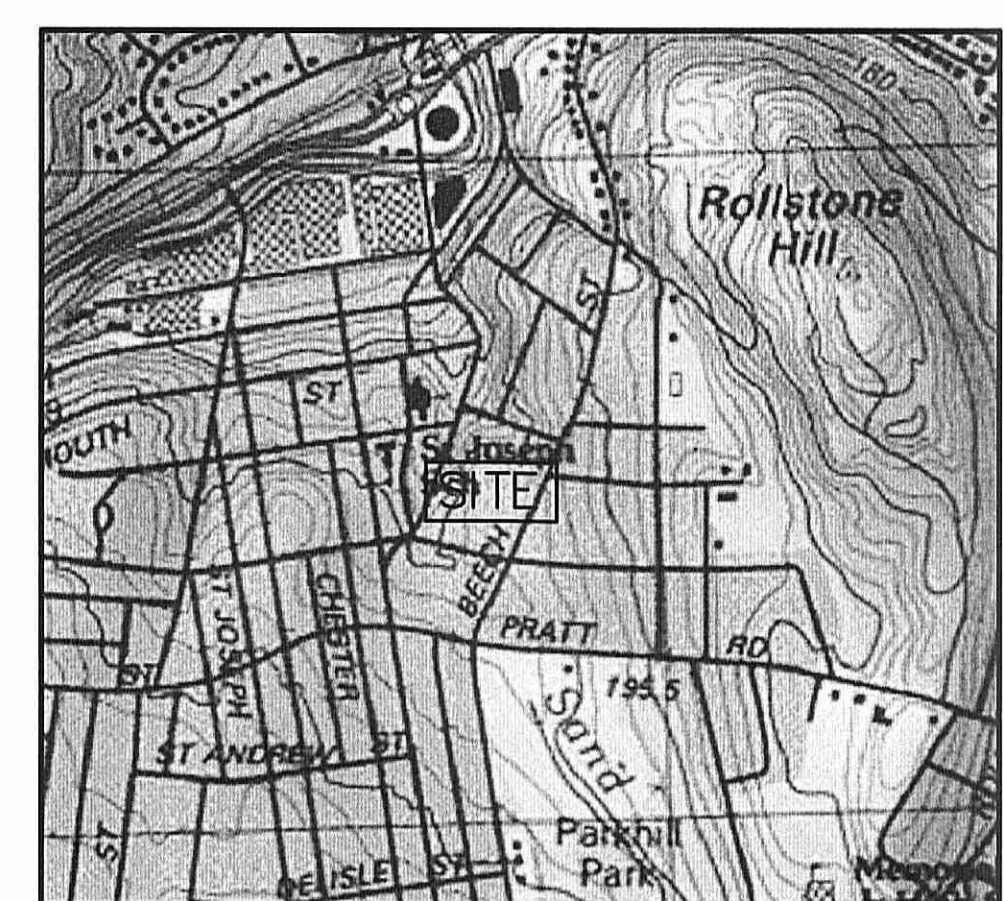
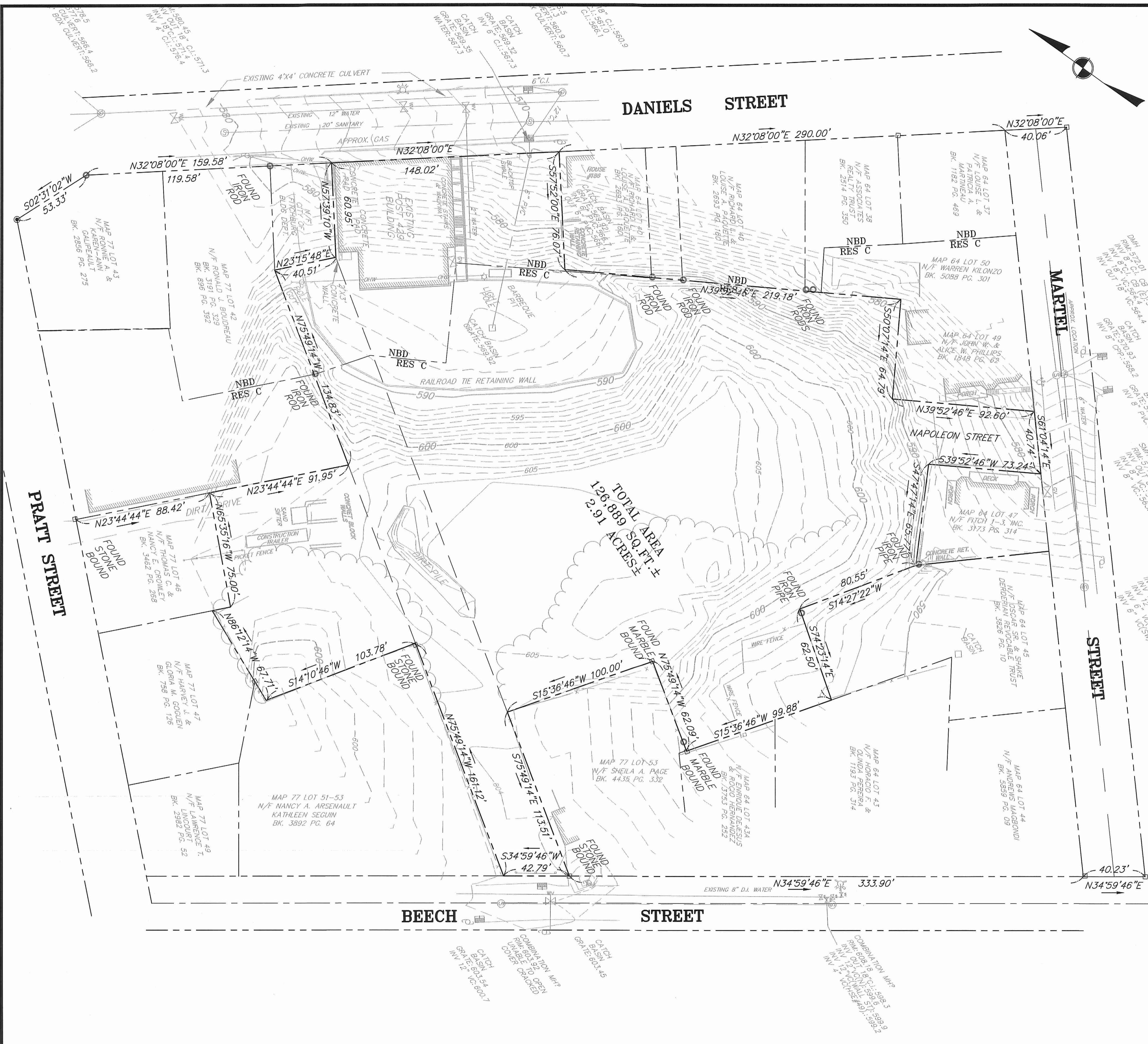


Applicant:
Amit Schilgi
B16 LLC
55 Mead Street Leominster, MA 01453
(917) 935-1793
Civil Engineer:
McCarty Engineering, Inc.
42 Tucker Drive
Leominster, MA 01453
(978) 534-1318
Surveyor :
Whitman & Bingham, LLC
510 Mechanic Street
Leominster, MA 01453
(978) 537-5296

Sheet No.	Sheet Title		
1	Existing Conditions Plan	8	Construction Details
2	Layout & Materials Plan	9	Stormtech Detail Sheet
3	Grading & Drainage Plan		
4	Utility Plan		
5	Erosion Control Plan		
6	Construction Details		
7	Construction Details		



Brian R. Marchetti 5/11/23



LOCUS PLAN
1"=1,500 FT.±

- NOTES:
1. PROPERTY LINE & TOPOGRAPHIC INFORMATION SHOWN WAS RECEIVED ELECTRONICALLY FROM WHITMAN & BINGHAM ASSOCIATES, LLC., 510 MECHANIC STREET, LEOMINSTER, MA ON OCTOBER 12, 2006. A COPY OF THE WHITMAN & BINGHAM PLANS ARE INCLUDED IN THIS PLAN SET.
 2. NO AREAS SUBJECT TO THE WETLANDS PROTECTION ACT WERE OBSERVED ON SITE.
 3. LANDSCAPE AREAS SHALL BE A MIXTURE OF SHRUBS, BARK MULCH, AND ANNUALS.
 4. EACH UNIT TO BE PROVIDED WITH AN INDIVIDUAL REFUSE TOTE. COLLECTION AND DISPOSAL OF REFUSE TO BE PERFORMED BY AN INDEPENDENT LICENSED REFUSE HAULER. COLLECTION AND DISPOSAL FEES TO BE PAID BY THE CONDOMINIUM ASSOCIATION.

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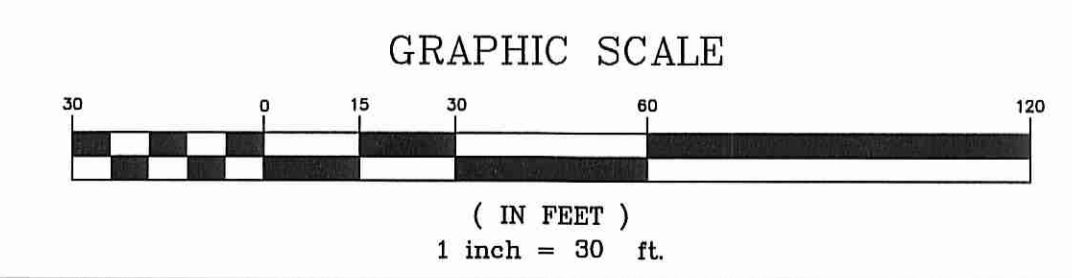
Professional Engineer Seal for Brian R. Marchetti, No. 48279, State of Massachusetts. Signature of Brian R. Marchetti dated 5/14/23.

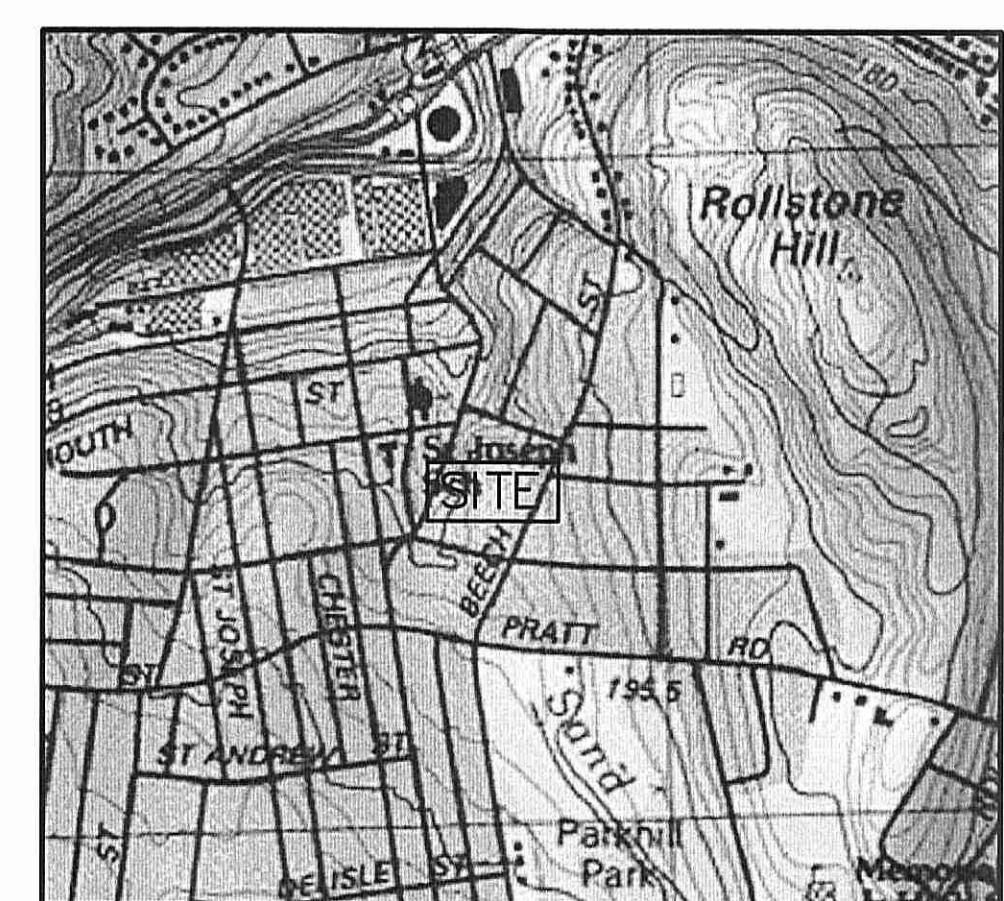
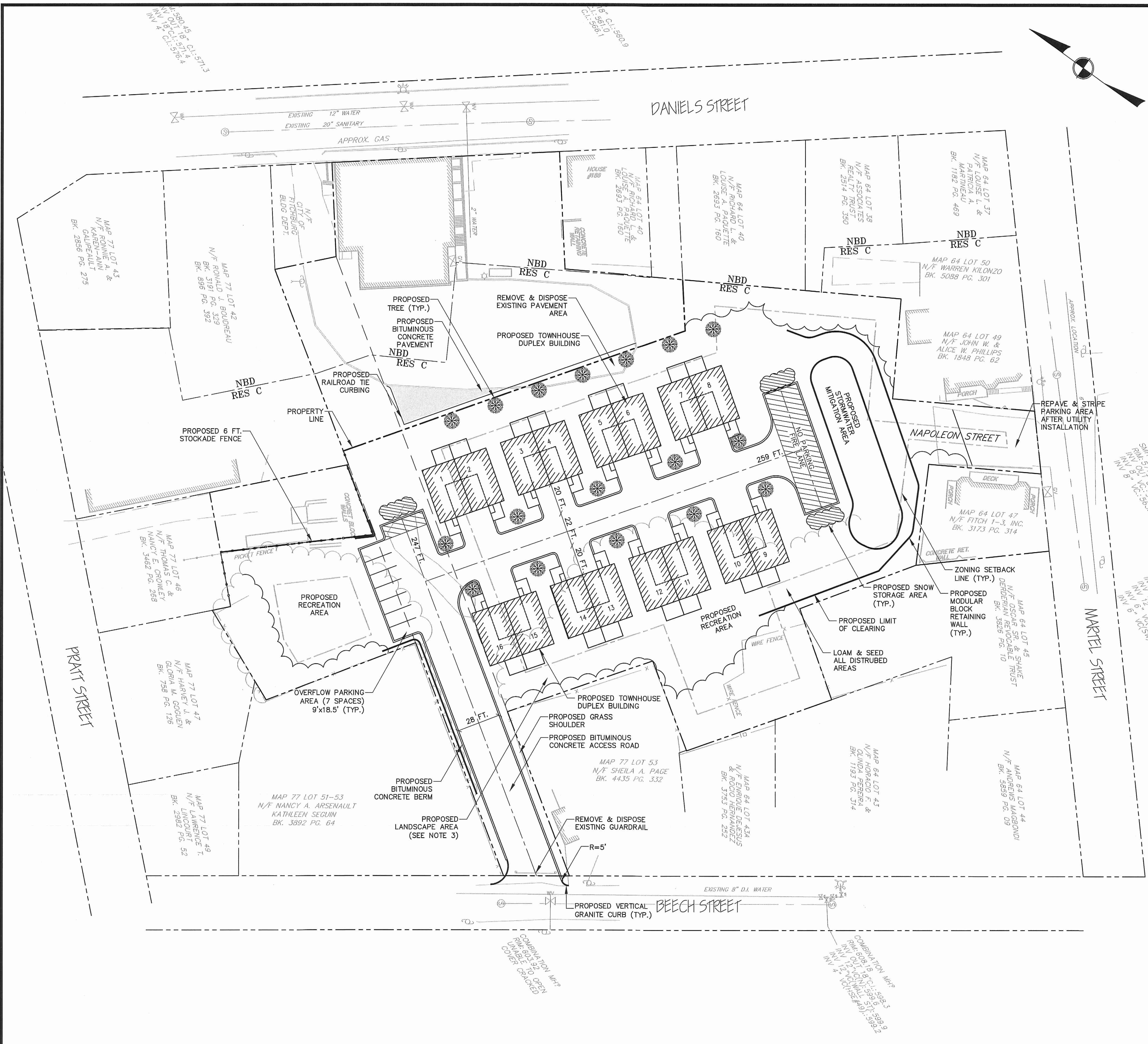
Drawn By: PJM Designed By: PJM Checked By: PJM

McCarty Engineering, Inc.
Civil Engineers
42 Tucker Drive, Leominster, MA 01453
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Special Permit Plans
Beech Street
Fitchburg, MA

Sheet Title
Existing Conditions
Plan





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ZONING SUMMARY:

FITCHBURG:

DISTRICT: RESIDENTIAL C: NON-SINGLE FAMILY

DIMENSIONAL REQUIREMENTS:

MIN. LOT WIDTH:	50 FT.
FRONT SETBACK:	20 FT.
REAR SETBACK:	20 FT.
SIDE SETBACK:	10 FT.
MAX. HEIGHT:	40 FT.
FRONTAGE:	50 FT.
LOT AREA:	7,500 S.F.

DESIGN FEATURES:

PROJECT AREA:	92,107 S.F. (2.11 AC.)
LENGTH OF ROADWAYS:	509 FT.
NUMBER OF UNITS:	16
MUNICIPAL SEWER:	YES
MUNICIPAL WATER:	YES

UNIT DENSITY:

REQUIRED AREA FOR FIRST THREE UNITS: 3 X 1 1/3 X REQ. LOT AREA

REQUIRED AREA FOR FIRST THREE UNITS: 3 X 3,333 SF=10,000 SF

REQUIRED AREA FOR REMAINING UNITS: 17 X 3,333 SF=56,661 SF

REQUIRED AREA FOR DEVELOPMENT: 10,000 SF + 56,661 SF=66,661 SF

PARKING SUMMARY:

REQUIREMENTS:

RESIDENTIAL SINGLE FAMILY 2-BEDROOM UNITS: 1.5 SPACE/UNIT

PROPOSED:

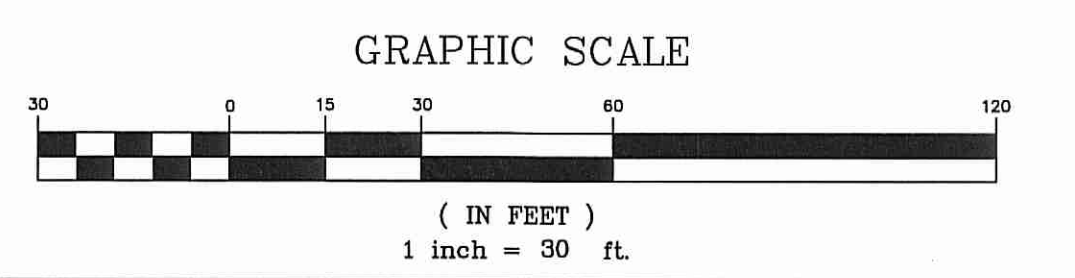
RESIDENTIAL: 16 SINGLE FAMILY 2-BEDROOM UNITS

PARKING REQUIRED:

RESIDENTIAL: 16 1 FAMILY UNITS X 1.5 SP/UNIT= 24 SPACES

TOTAL SPACES REQUIRED: 24 SPACES

PARKING PROVIDED: 39 SPACES



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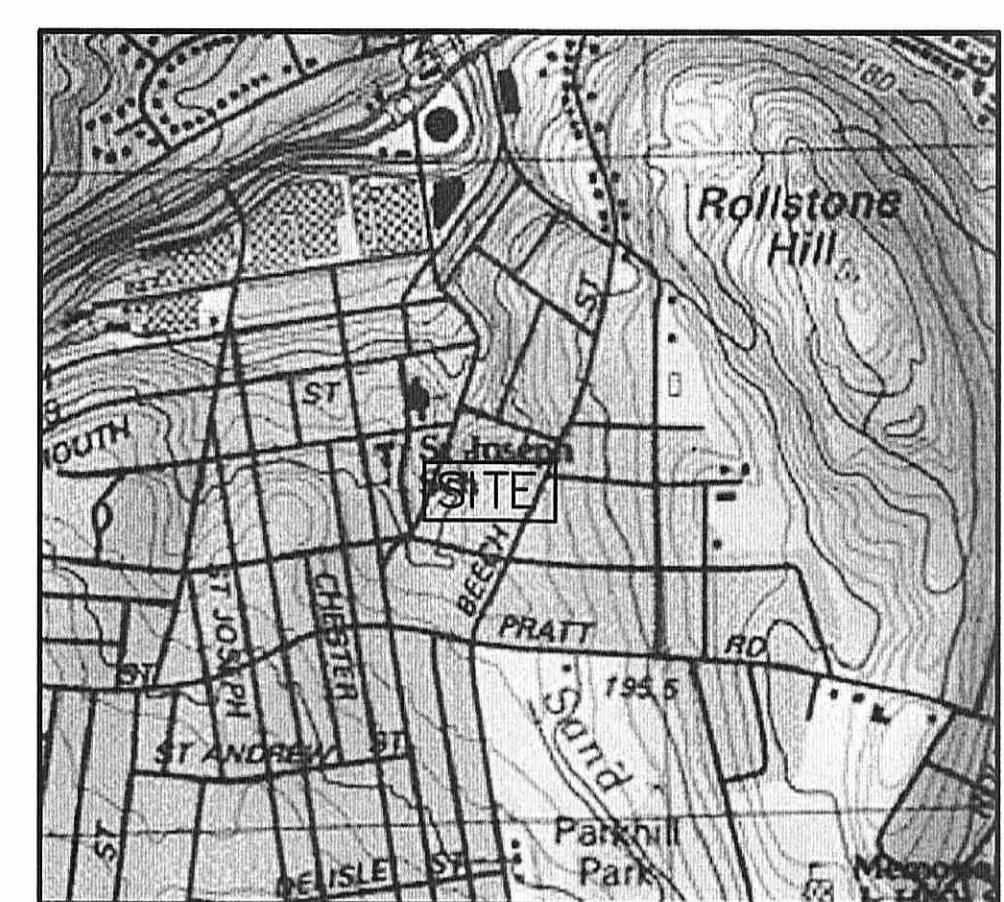
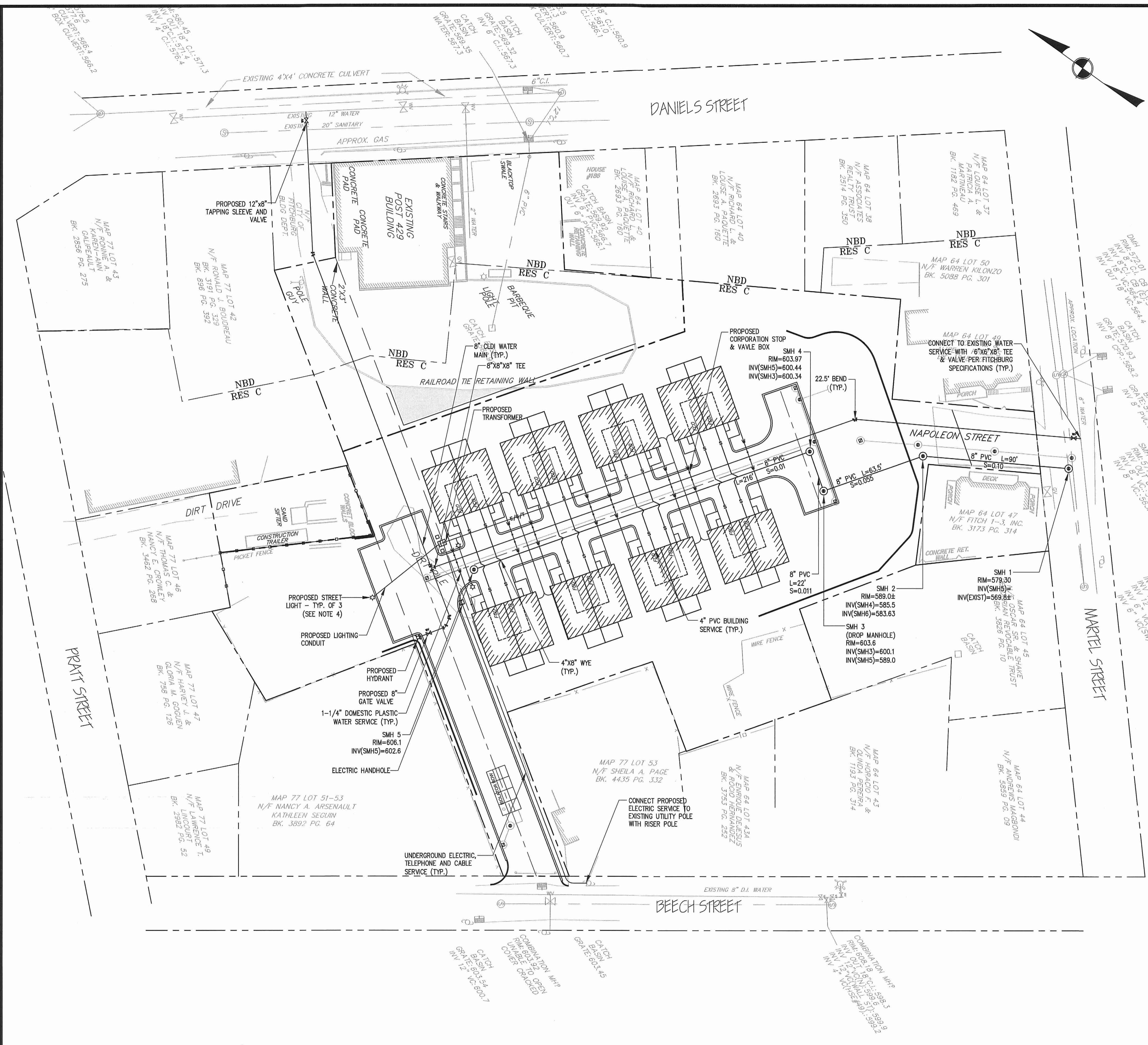
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Job No: 011
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Sheet No.
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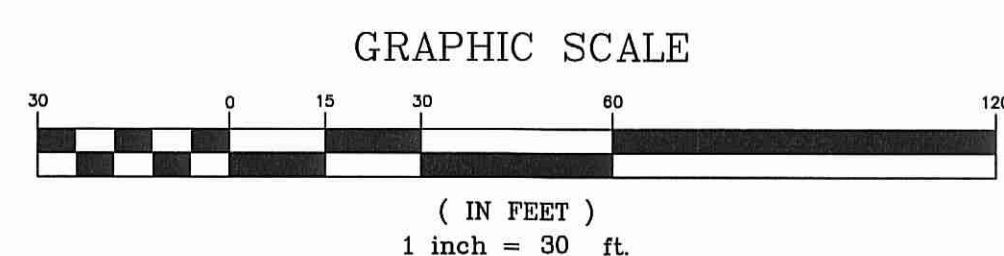


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 2. WATER SERVICE PIPE MUST BE CHANGED TO COPPER PRIOR TO ITS PENETRATING OF THE FOUNDATION WALL.
 3. STREET LIGHTS TO BE FED BY A SEPARATE TRANSFORMER MOUNTED ELECTRIC METER. ELECTRICITY COSTS TO BE PAID BY THE CONDO ASSOCIATION.

GENERAL NOTES

1. THE CONSTRUCTION OF ALL PROPOSED UTILITIES SHALL CONFORM TO THE CITY OF FITCHBURG STANDARDS AND SPECIFICATIONS, LATEST EDITION, AS WELL AS THE COMMONWEALTH OF MASSACHUSETTS DEPARTMENT OF PUBLIC WORKS STANDARDS AND SPECIFICATIONS, LATEST EDITION. CONTRACTOR SHALL CONFORM TO ALL APPLICABLE LOCAL, STATE, AND FEDERAL CODES AND REQUIREMENTS DURING CONSTRUCTION.
2. THE LOCATIONS AND ELEVATIONS OF ALL EXISTING UTILITIES SHALL BE CONSIDERED APPROXIMATE AND MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO ANY CONSTRUCTION. ANY DISCREPANCIES IN THE LOCATION OF ANY UTILITIES SHOWN OR ENCOUNTERED DURING CONSTRUCTION SHALL BE REPORTED TO MCCARTY ENGINEERING, INC. AT 978-534-1318.
3. THE CONTRACTOR SHALL CALL "DIG-SAFE" AT 1-888-DIG-SAFE (344-7233) 72 HOURS PRIOR TO CONSTRUCTION TO INFORM THE UTILITY COMPANIES OF ANY EXCAVATION ADJACENT TO EXISTING UTILITIES.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR DISPOSAL OF ALL WASTE MATERIAL AT AN APPROVED SITE. BURIAL OF WASTE MATERIAL ON-SITE IS NOT PERMITTED.
5. CONTRACTOR SHALL STRIP TOP SOIL AND STOCKPILE ON-SITE FOR REUSE. SOIL STOCKPILES SHALL BE NO HIGHER THAN 8'. STOCKPILES SHALL BE ENCLOSED BY TEMPORARY SILT FENCES TO PREVENT TRAVEL OF SEDIMENT TO ADJACENT DRAINAGE WAYS.
6. EROSION CONTROL MEASURES SHALL REMAIN IN PLACE UNTIL SURFACE RESTORATION IS COMPLETE AND SHALL BE MAINTAINED IN GOOD CONDITION AT ALL TIMES.
7. CONTRACTOR SHALL PROTECT ADJACENT PROPERTIES FROM ON-SITE CONSTRUCTION ACTIVITIES AND REMOVE ANY SEDIMENT OR DEBRIS DEPOSITED THEREON IMMEDIATELY.
8. DRAINAGE GENERATED AS A RESULT OF TRENCH DEWATERING SHALL BE DISCHARGED TO EXISTING DRAINAGE COURSES WITH PROPER EROSION CONTROL MEASURES. DISCHARGE ONTO PAVEMENT OR PRIVATE PROPERTY SHALL NOT BE ALLOWED.
9. WHEN TAPPING EXISTING PRECAST MANHOLES OR SEWER PIPE, DRILL HOLES AT 4" CENTER TO CENTER WITH A STARDRILL AROUND THE PERIPHERY OF THE OPENING TO CREATE A PLANE OF WEAKNESS BEFORE BREAKING THE SECTION OUT.
10. SANITARY SEWER AND WATER MAIN SHALL BE SEPARATED BY 10 FEET MINIMUM HORIZONTALLY. WHEN SEWER AND WATER CROSS, THE WATER MAIN SHALL BE A MINIMUM OF 18" ABOVE THE SEWER PIPE CROWN.
11. UNLESS OTHERWISE SPECIFIED ON THE PLANS, TOP OF ALL WATER MAINS SHALL BE A MINIMUM 5.0 FEET BELOW FINISH GRADE. IF 5.0 FEET OF COVER CANNOT BE OBTAINED, WATER MAINS SHALL BE INSULATED.
12. VERIFY LOCATION OF BUILDING UTILITY CONNECTIONS WITH ARCHITECTURAL, MECHANICAL AND PLUMBING PLANS.



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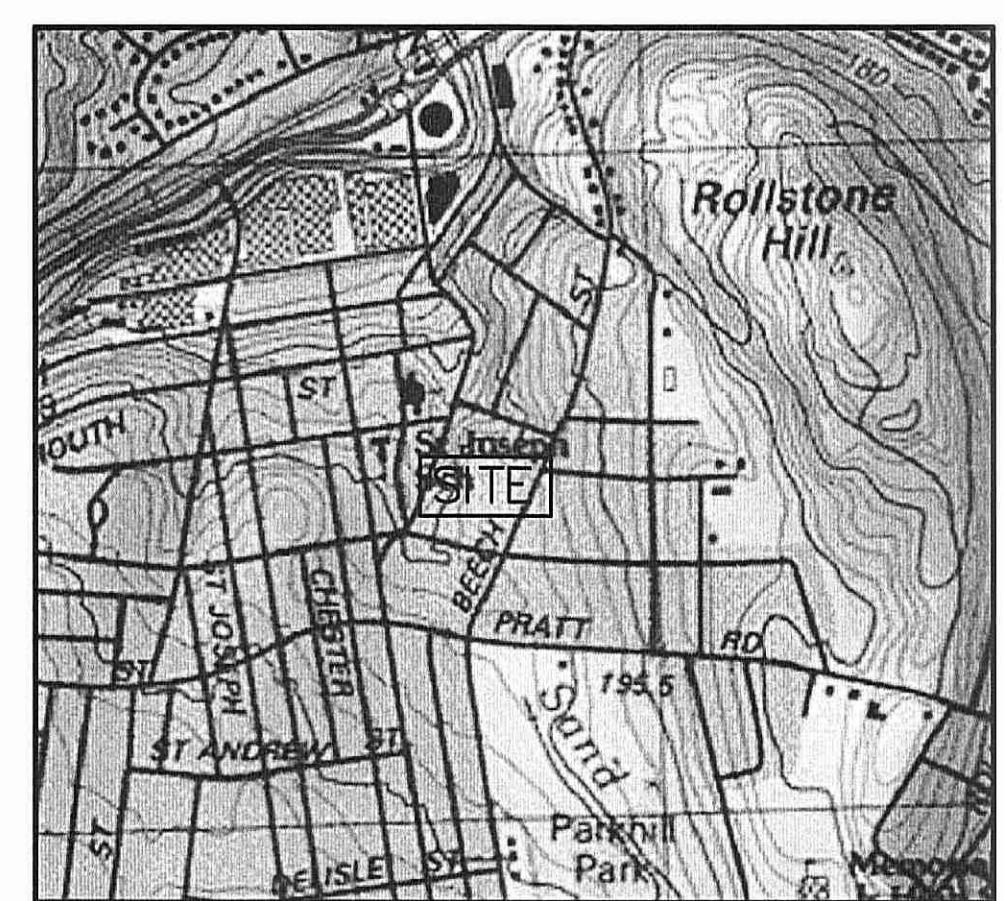
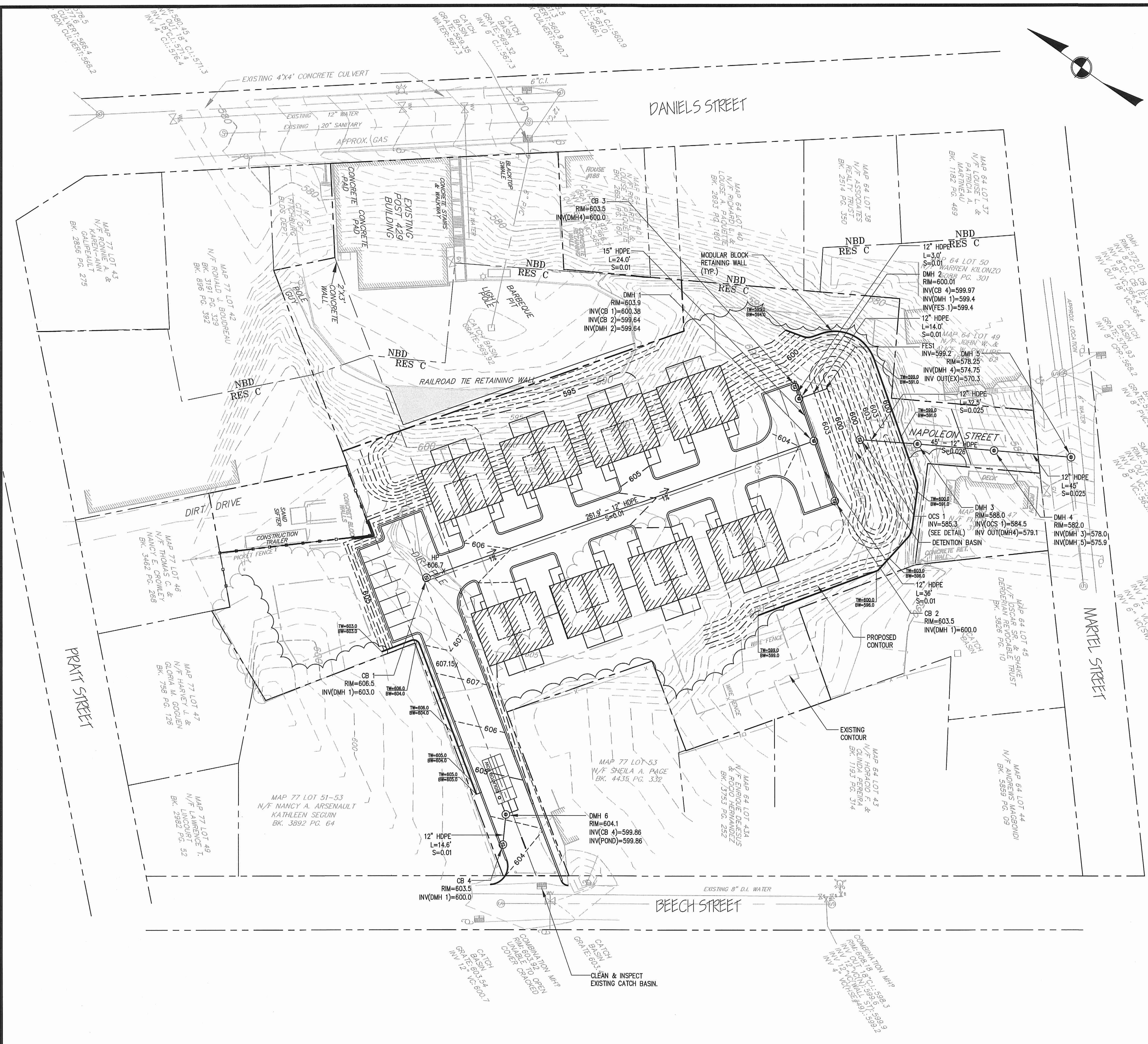
Drawn By: JLL
Designed By: JLL
Checked By: *BSM*

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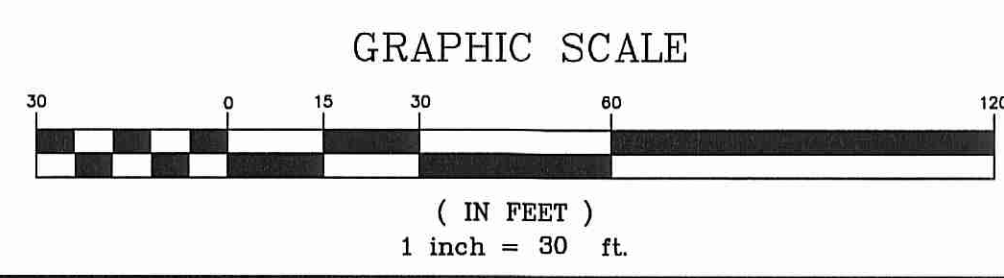


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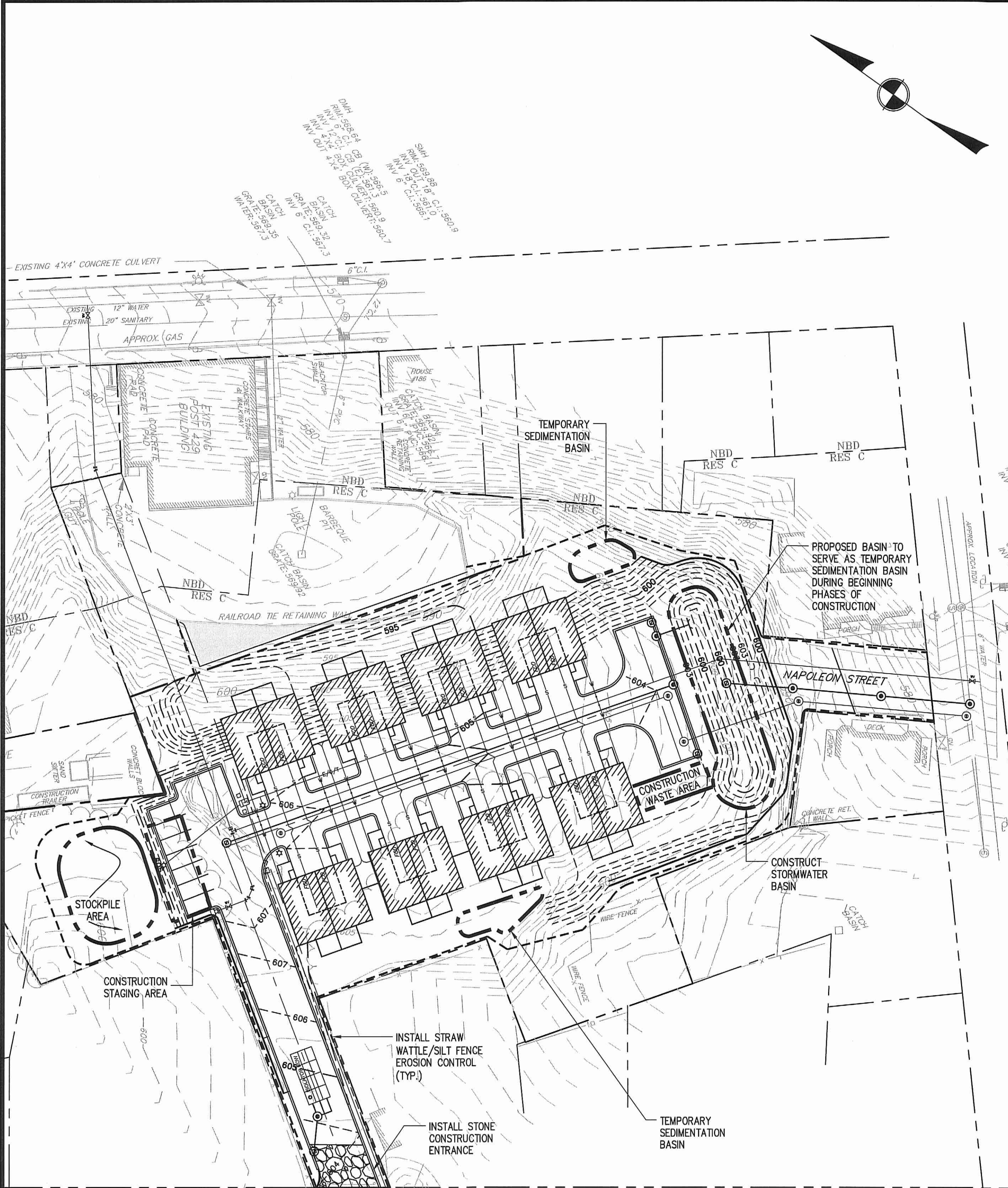
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3



NOTE: DURING AND AFTER THE CONSTRUCTION PERIOD, THE RESPONSIBLE PARTY FOR THE OPERATION AND MAINTENANCE OF THE SITE WILL BE THE PROPERTY OWNER / APPLICANT.

Construction Process
A sign for all job notices must be posted conspicuously near the main construction entrance to the Site.
Before construction begins, siltation control barriers consisting of silt fencing attached to wood posts and backed by staked straw wattles will be placed between the work areas and abutting properties. Additional siltation control barriers will be installed around the proposed drainage and sewage disposal systems and at other critical locations.

- The Contractor will record:
- 1) Dates when major grading activities occur;
 - 2) Dates when construction activities temporarily or permanently cease on a portion of the site; and
 - 3) Dates when stabilization measures are initiated.

The time of construction requiring the most attention and care occurs between the stripping of natural overburden and the stabilization of construction areas. Cut and fill areas create additional risk by increasing the possibility of stormwater runoff causing erosion.

The Contractor will, as much as possible, leave natural cover untouched. The Contractor will limit to the shortest time possible the time that slopes are exposed. The slope stabilization will be completed as early as construction activities will allow. During the times between clearing and landscaping, slopes will be stabilized with a combination of rip-rap, straw mulch, temporary grass seeding and other measures as necessary to prevent any significant erosion of soils.

When necessary, the Contractor shall implement structural practices to divert flows from exposed soils, retain/detain flows, or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Structural measures should be placed on upland soils to the degree practicable. Such measures must be designed and installed in compliance with applicable federal, state or local requirements.

All solid materials such as washings from concrete trucks, building materials, or surplus concrete, shall not be directed to any drainage system or wetland abutting properties. In conjunction with the site grading process, a number of sedimentation control procedures will be followed. The object of the procedures is to prevent the erosion of soils and the transport of sediments to the abutting properties and off the site.

The Proponent shall meet the US EPA Construction General Permit requirements and file a Stormwater Pollution Prevention Plan (SWPPP).

Stabilization
Temporary and permanent stabilization of disturbed surfaces is the most reliable method of preventing the erosion and transport of site soils. Toward that end, the areas that are disturbed will be provided temporary stabilization within two weeks after the last disturbance when:

- 1) Work is not complete in that area;
- 2) Work will remain incomplete for a period of two weeks or more, and
- 3) The planting season has not been reached in areas which will be re-vegetated.

Permanent stabilization will take place when:

- 4) Work is complete in that area and
- 5) The planting season has been reached and areas can be revegetated.

Best Management Practices Employed
To guard against the transport of soils to abutting properties, several Best Management Practices (BMPs), will be employed. Siltation control barriers, sediment sumps, straw check dikes, swales, temporary settling basins, vegetative filter strips, site entrance mat, rip-rap outlet protection, flocculants with jute mesh or other biomedica, will or may be used on this site as appropriate to the needs of erosion control. Some of these items, such as sediment sumps, are temporary. Other features, such as catch basins and area drains are permanent.

Sediment from sediment traps or sedimentation ponds must be removed when design capacity has been reduced by 50 percent.

INSPECTION AND MAINTENANCE OF EROSION CONTROLS

- 1) At all times, siltation fabric fencing, stakes and straw wattles sufficient to construct an erosion control barrier a minimum 100 feet long will be stockpiled on the Site in order to repair established barriers that may have been damaged or breached.
- 2) The Applicant will designate an Inspector, a person or entity other than the Site Contractor. The Inspector must be accessible seven days a week and be responsible for inspecting and coordinating the maintenance and repair of all erosion control systems on the site.
- 3) An inspection of all erosion control measures shall be conducted by the Inspector at least once each week until the completion of construction of the project. The Contractor shall inspect all erosion control systems daily and shall notify the Inspector of any breaches or failures. In case of any noted breach or failure, the Contractor shall immediately make appropriate repairs.
- 4) The Inspector shall inspect all erosion control systems on the Site before, during and after any storm event reaching one of the following thresholds:
 - a) Any storm event in which rain is predicted to last for 12 consecutive hours or more;
 - b) Any storm event for which a flash flood watch or warning is issued;
 - c) Any single storm event predicted to have a cumulative rainfall greater than 1/2 inch; or
 - d) Any storm event not meeting the previous three thresholds but which would mark the third consecutive day of measurable rainfall.
- 5) The Inspector shall inspect erosion control measures at times of significant increase in surface water runoff due to rapid thawing when the risk of failure of those measures is significant.
- 6) In such instances as remedial action is necessary, the Inspector shall cause to be repaired within three days, any and all significant deficiencies in erosion control measures.

EROSION CONTROL DEVICES

- 1) Site Entrance Mat
A Site Entrance Mat will be installed at the construction entrance to the site. It will consist of a 30-foot long, 6-inch thick layer of 1-1/2" to 3" crushed stone overlying a 6-inch thick layer of 3" to 6" crushed stone. The site entrance mat will be installed over a compacted base. The crushed stone will be refreshed as necessary. If earthen products are transported onto abutting ways during any of the construction phases, than the site contractor is responsible for removing these earthen products.
 - 2) Erosion Control Barriers
The Erosion Control Barriers will consist of an approved siltation fabric fencing installed on posts according to the manufacturer's instructions and backed by staked straw wattles where appropriate. The filter fabric and straw wattles will be placed in a manner that prevents the passage of soil materials under, around or over the fencing. Any Sediment that has been captured against the barrier will be removed promptly and the area that has areas of erosion will be stabilized promptly.
 - 3) Straw wattles Diversion Dikes
Straw wattles will be placed in other locations on the site in order to further prevent the flow of sediment from the site or reduce the velocity of runoff crossing open land or running off of stockpile or fill areas. Straw wattles diversion dikes will also be placed within developing rills to reduce surface runoff velocities and to shift the path of the water flow. The locations where straw wattles diversion dikes are installed will be determined in the field at the Inspector's discretion.
 - 4) Slope Stabilization
Slopes or surfaces that are created due to excavation or filling of the site will be stabilized with one or more of the following:
 - Straw mulch,
 - Softwood and hardwood chips, or
 - In areas that will be steeper than 2.5:1 after construction, the slope will be stabilized by the placement of erosion control blanket or heavy rip-rap. The rip-rap slope to be placed will be formed by placing heavy stone on a one foot thick layer of gravel.
- Permanent stabilization of slopes and surfaces will employ one or more of the following:
- Loam and grass,
 - Sod,
 - Rip-Rap, or
- A combination of grasses, rip-rap and/or plants and shrubbery.

EROSION CONTROL DEVICES (continued.)

- 5) Runoff Diversion Swales
Runoff Diversion Swales will be provided in order to intercept sheet and concentrated flows above areas of cut, above abutting properties and above resource areas. The swales will direct runoff to sediment sumps or temporary settling basins or to detention basins.
- 6) Sediment Sumps
Sediment Sumps are excavated depressions 10-foot in diameter and 2-foot deep. The sumps will collect runoff from the unfinished drive and slopes and will allow sediment to settle out before flow continues to a detention area or siltation control barrier. Sediment sumps will be cleaned whenever the accumulated sediment has reached one-half of the original depth of the sump.
- 7) Temporary Settling Basins
A Temporary Settling Basin is a large, excavated sediment sump that has a stone face overflow leading to a swale or to a drainage inlet structure. The size varies with the area draining to it. Temporary settling basins will be cleaned whenever the accumulated sediment has reached one half of their original depth.
- 8) Rip-Rip Outlet Protection
Rip-rap outlet protection is a stone apron beginning at a drainage system discharge point and extending down the slope. The rip-rap will serve to reduce the velocity of the discharge, thereby preventing erosion.

WASTE DISPOSAL
All waste materials will be collected and stored securely in metal dumpsters. The dumpster will meet local and state solid waste management regulations. All trash and construction debris will be deposited in the dumpster and emptied as necessary. A licensed company in accordance with applicable Federal, State, and local regulations will transport the trash. No trash or construction debris will be buried on site. The disposal of liquid waste is not allowed. Individuals working on the site will be informed of the appropriate procedure for the disposal of construction debris. The site contractor shall be responsible for ensuring that the project site is free of litter and refuse.

HAZARDOUS WASTE
All hazardous waste materials will be disposed of in accordance with applicable Federal, State and local regulations and in accordance with the manufacturer's recommendations. Individuals working on the site will be informed of the appropriate procedures for waste disposal. The construction supervisor will be responsible for overseeing that the proper procedures are followed.

SANITARY WASTE
All sanitary waste will be collected in a timely manner by a licensed contractor and disposed of in accordance with Federal, State, and local regulations.

EQUIPMENT & VEHICLE FUELING AND MAINTENANCE PRACTICES
Large equipment will be fueled by an over the road fuel truck and small equipment will be fueled by fitted pickup truck fuel tanks. All equipment will be fueled at a minimum 100 feet from any wetland and/or water body. Fueling areas will be inspected for signs of leaks or spills.

EQUIPMENT & VEHICLE WASHING
No heavy equipment and vehicle washing will be allowed on the site. All construction equipment will be parked in the designated staging area at least 100-feet from any wetland or water body.

SPILL PREVENTION AND CONTROL
All construction personnel will be instructed regarding the following measures. The site construction supervisor will be responsible for overseeing that all spill prevention procedures will be adhered to. No storage, stockpiling, or staging of equipment or construction material will occur within 100-feet of any wetland or waterbody. All materials stored onsite will be maintained in an orderly manner and in their appropriate containers. Materials will be kept in there original containers with their original labels. Substances will not be mixed with one another unless recommended by the manufacturer. The manufacturers guidelines for the proper use and disposal will be implemented. The construction supervisor will inspect the premises regularly to ensure proper use and disposal of materials.

PETROLEUM PRODUCTS
All onsite construction machinery and vehicles will be monitored for leaks and will receive regular preventive maintenance to reduce the likelihood of leakage. No vehicle maintenance or handling of petroleum of products will occur within 100-feet of any wetland or waterbody. No petroleum products will stored onsite

FERTILIZERS
Fertilizers will be applied at the minimum amount recommended by the manufacturer. The storage of fertilizer products will not be allowed onsite.

SOLVENTS & PAINTS
All containers will be sealed and stored when not used. Excess material will not be discharged to the storm and or sewer systems and will be properly disposed of according to the manufacturers specifications including all Federal, State, and local regulations. No storage will occur within 100' of a wetland or waterbody.

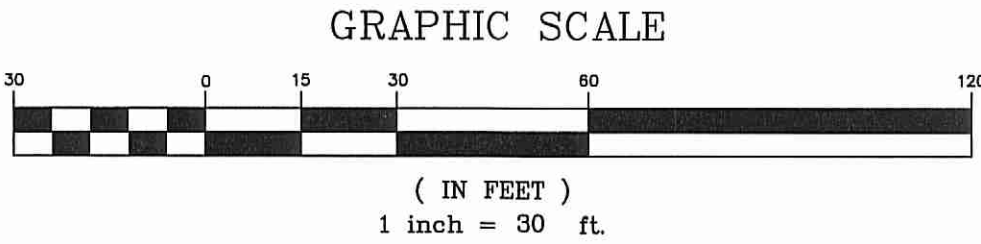
CONCRETE TRUCK WASHOUT
Concrete trucks will discharge into temporary basins, where the concrete will be allowed to cure. Once the concrete is cured, the concrete will be broken up and hauled off site.

SPILL CONTROL PRACTICES
All of the manufacturers recommended methods for spill cleanup will be clearly posted and site personnel will be informed of the necessary procedures and the location of the cleanup supplies. Materials and the equipment necessary for cleanup of a spill will be kept on site in a designated area. Examples of cleaning equipment are: shovels, rakes, wheel barrows, brooms, dust pans, mops ,rags, safety gloves and eye wear, absorbent foams, sand, sawdust, and plastic or metal bins designated specifically for spill cleanup. After discovery, all spills will be removed as soon as possible.

CONSTRUCTION SEQUENCING:

CONSTRUCTION SCHEDULE
The following is a general construction sequence for the construction of the Site. The actual schedule may vary somewhat from that stated if site or weather conditions require a different schedule and if such change does not negatively affect the prevention of pollution. An example of a logical change to the schedule would be deviating from the sequence below to allow the laying of driveway berm prior to a winter freeze in order to better control the site drainage.

- The Applicant will hold a pre-construction meeting with representatives of the Town, the Engineer, Contractor's employees and the Inspector in order to review permits, procedures and construction methods.
- Establish the Site Entrance Mat at the construction entrance to the site.
- Establish a construction staging and equipment storage area protected against erosion by lines of staked straw wattles and siltation fencing.
- Install the siltation control barriers between the work areas and in other locations as shown within the plan set.
- Tree and Brush clearing
- Strip and Stockpile Topsoil
- Place the straw bales or fencing at least five feet from the base of the loam pile, if applicable.
- Establish and build temporary sedimentation basins
- Excavate for roadway
- Excavate for foundation
- Import Structural fill
- Export ordinary fill
- Pour concrete foundation
- Pour Interior slab
- Excavate for interior Plumbing and electrical
- Excavate for Domestic water
- Backfill foundations
- Establish and build the drainage discharge points, and various additional erosion control measures.
- Begin rough grading/earthwork operations.
- Install drainage system, including pipes, drain manholes and catch basins.
- Apply temporary or permanent stabilization measures immediately on all disturbed areas where work is completed or delayed greater than 2 weeks
- and form and pour foundation walls
- Install site utilities including underground electrical
- Complete site grading to match the site design
- Lay the binder course of pavement.
- Complete the permanent stabilization of slopes, repair areas that have been damaged, and install additional erosion control devices as required.
- Install concrete flatwork
- Install landscape material and site improvements
- Remove accumulated sediment and temporary erosion control measures after all slopes have been permanently stabilized and the risk of erosion has passed.
- Equipment moving, project punchlist and closeout



NOT FOR CONSTRUCTION
THESE PLANS WERE PREPARED FOR THE PURPOSE OF OBTAINING STATE AND LOCAL PERMITS AND ARE NOT INTENDED TO BE USED AS CONSTRUCTION DOCUMENTS.

4	5/11/2023	Response to Comments
3	3/14/2023	Revised Layout
2	11/16/2021	Response to Comments
1	9/28/2021	Response to Comments
No.	Date	Revision

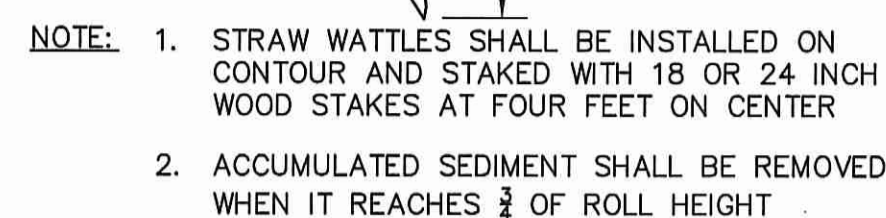
Seal of the Commonwealth of Massachusetts Professional Engineer
BRIAN R. MARCHETTI
CIVIL
NO. 46278
EXPIRATION DATE 12/31/2025
5/11/23
Drawn By: JLL
Designed By: JLL
Checked By: JLL

McCarty Engineering, Inc.
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42 Tucker Drive, Loominster, MA 01453
phone:(978) 534-1318 fax: (978) 840-6907

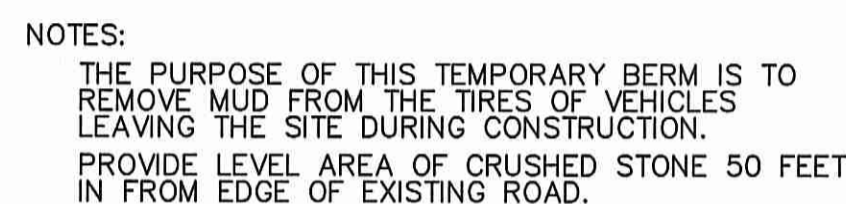
Project Name
Special Permit Plans
Beech Street
Fitchburg, MA

Sheet Title
Erosion Control
Plan

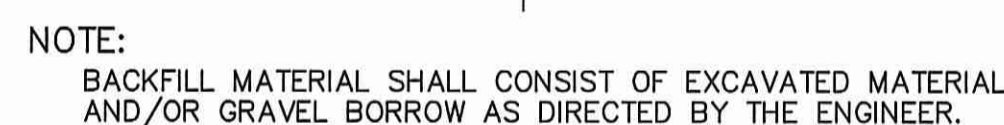
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File Name: 011P-CPG01
Date: May 19, 2021
Scale: 1"=30'
Sheet No.
5



N.T.S.



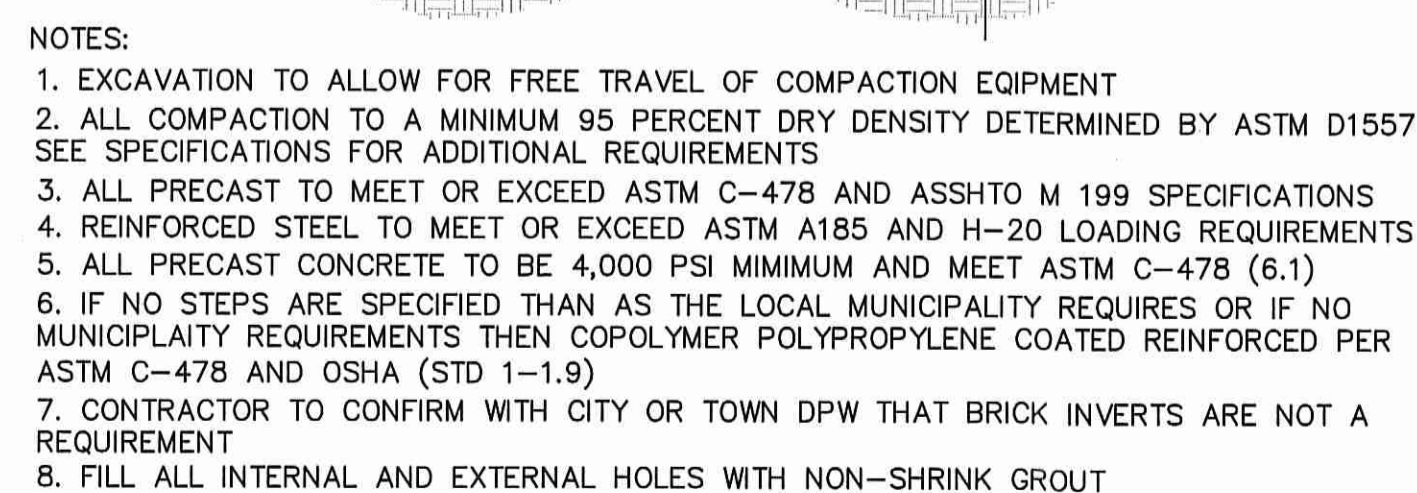
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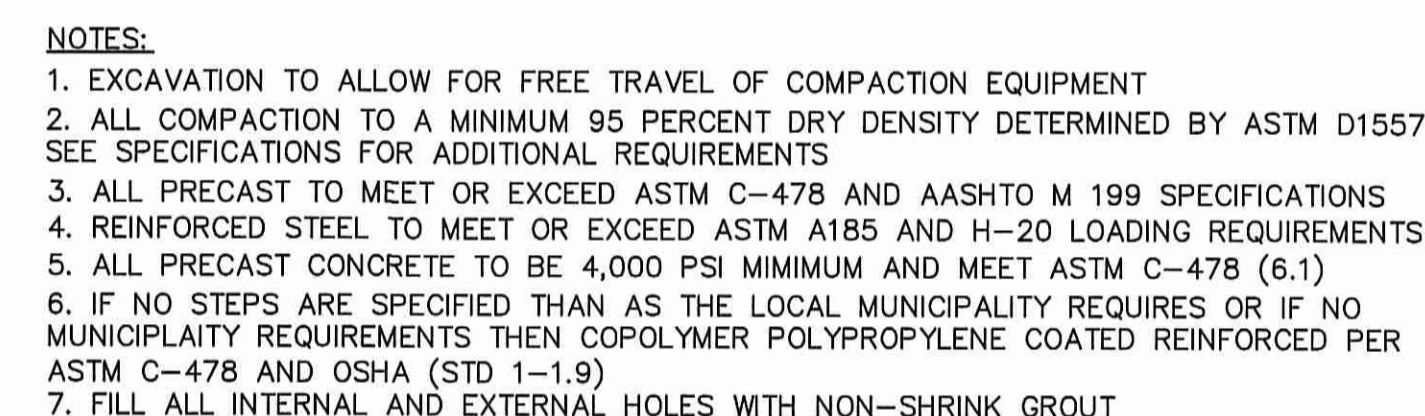
N. T. S.



N.T.S.

TRENCH WIDTH DATA

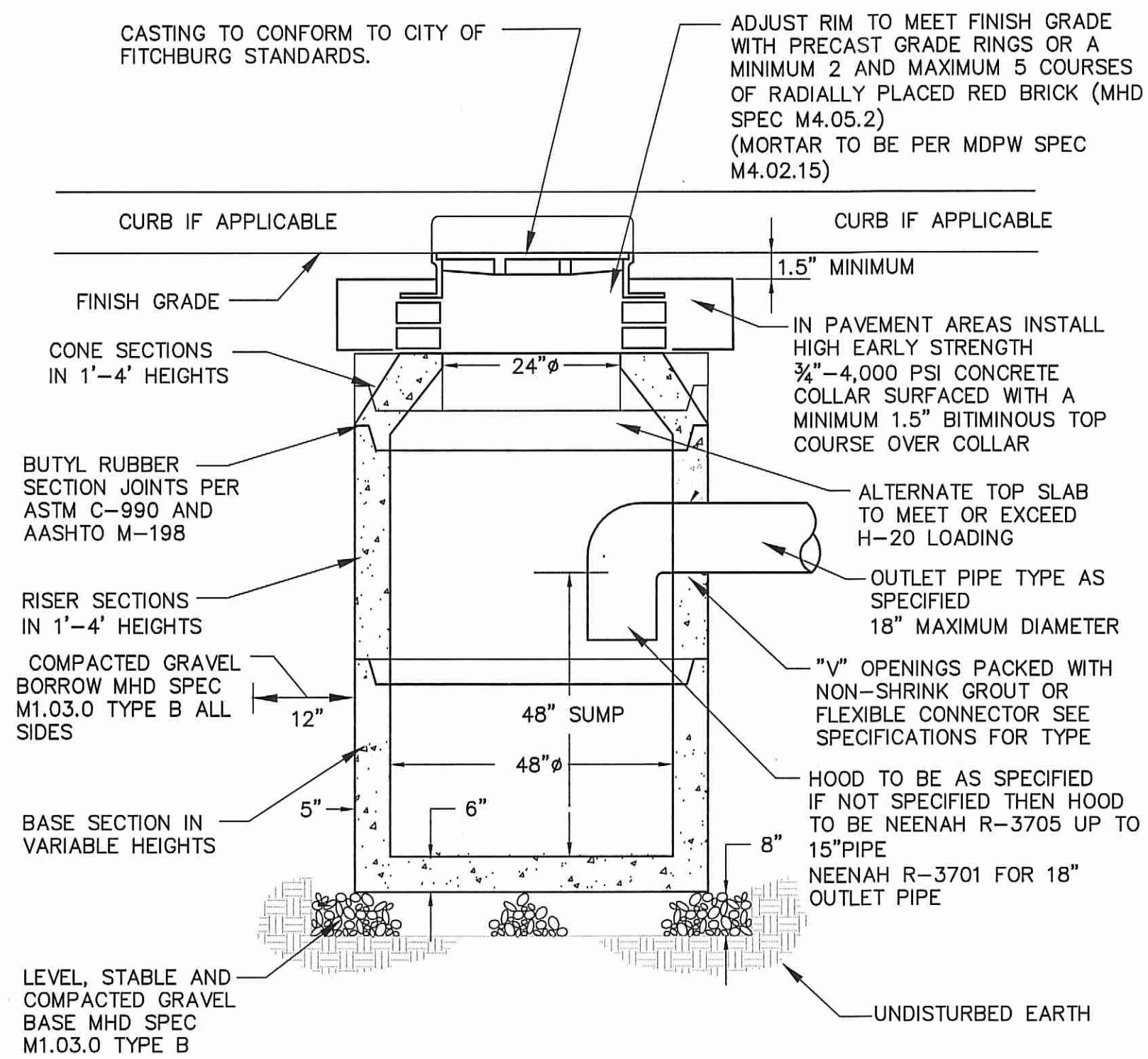
NTS



N.T.S.



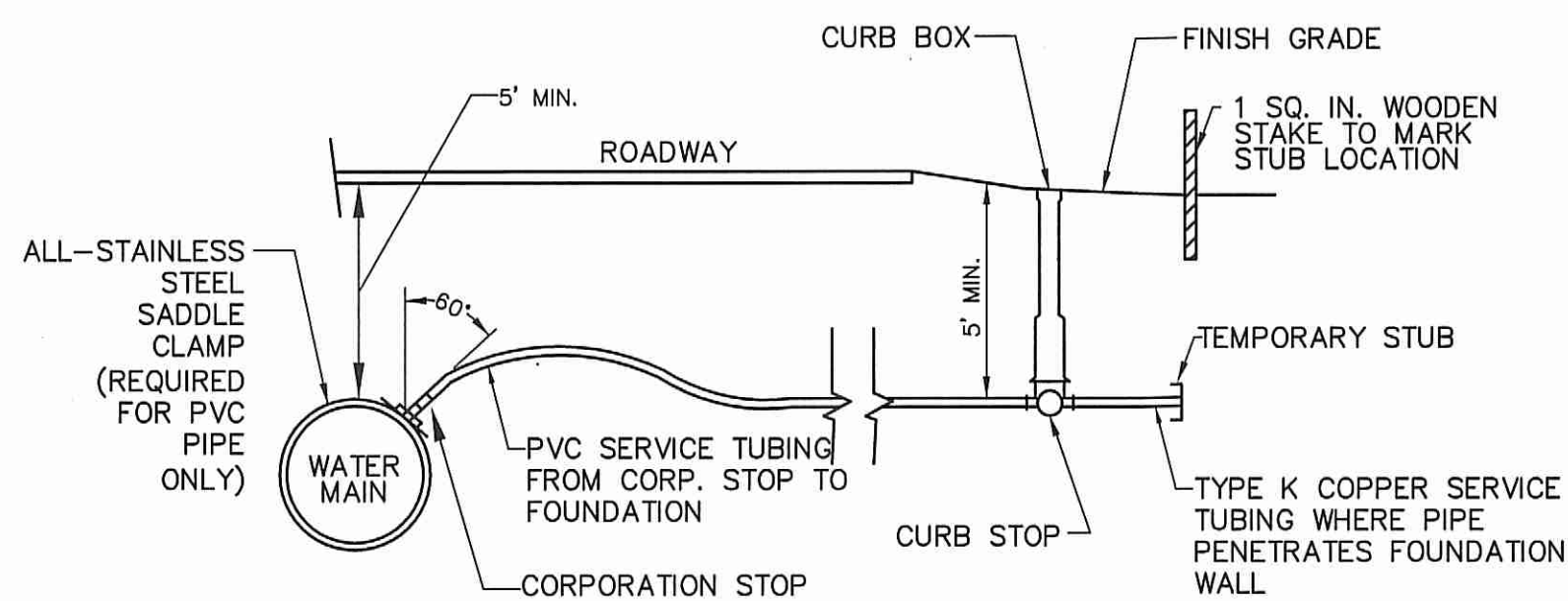
Job No: 011
File Name: 011P-DET01
Date: June 22, 2007
Scale: N.T.S.



1. EXCAVATION TO ALLOW FOR FREE TRAVEL OF COMPACTION EQUIPMENT
2. ALL COMPACTION TO A MINIMUM 95 PERCENT DRY DENSITY DETERMINED BY ASTM D1557 SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS
3. ALL PRECAST TO MEET OR EXCEED ASTM C-478 AND AASHTO M 199 SPECIFICATIONS
4. REINFORCED STEEL TO MEET OR EXCEED ASTM A185 AND H-20 LOADING REQUIREMENTS
5. ALL PRECAST CONCRETE TO BE 4,000 PSI MINIMUM AND MEET ASTM C-478 (6.1)
6. ALL INTERIOR HOLES TO BE SEALED WITH NON-SHRINK GROUT

PRECAST CONCRETE CATCH BASIN DETAIL

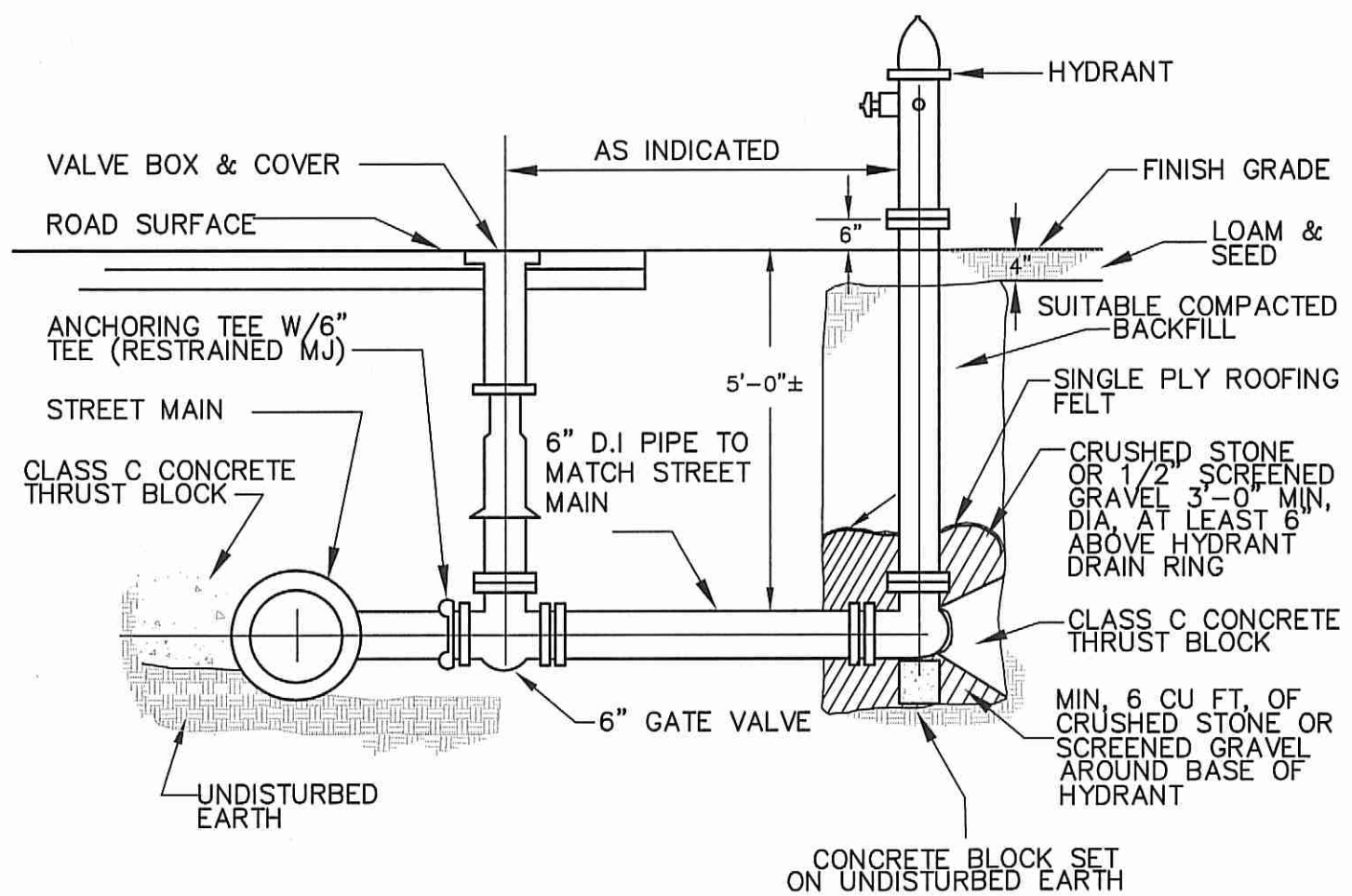
N.T.S.



NOTE:
TUBING, CORPORATION COCK & CURB STOP SHALL BE AS REQUIRED.

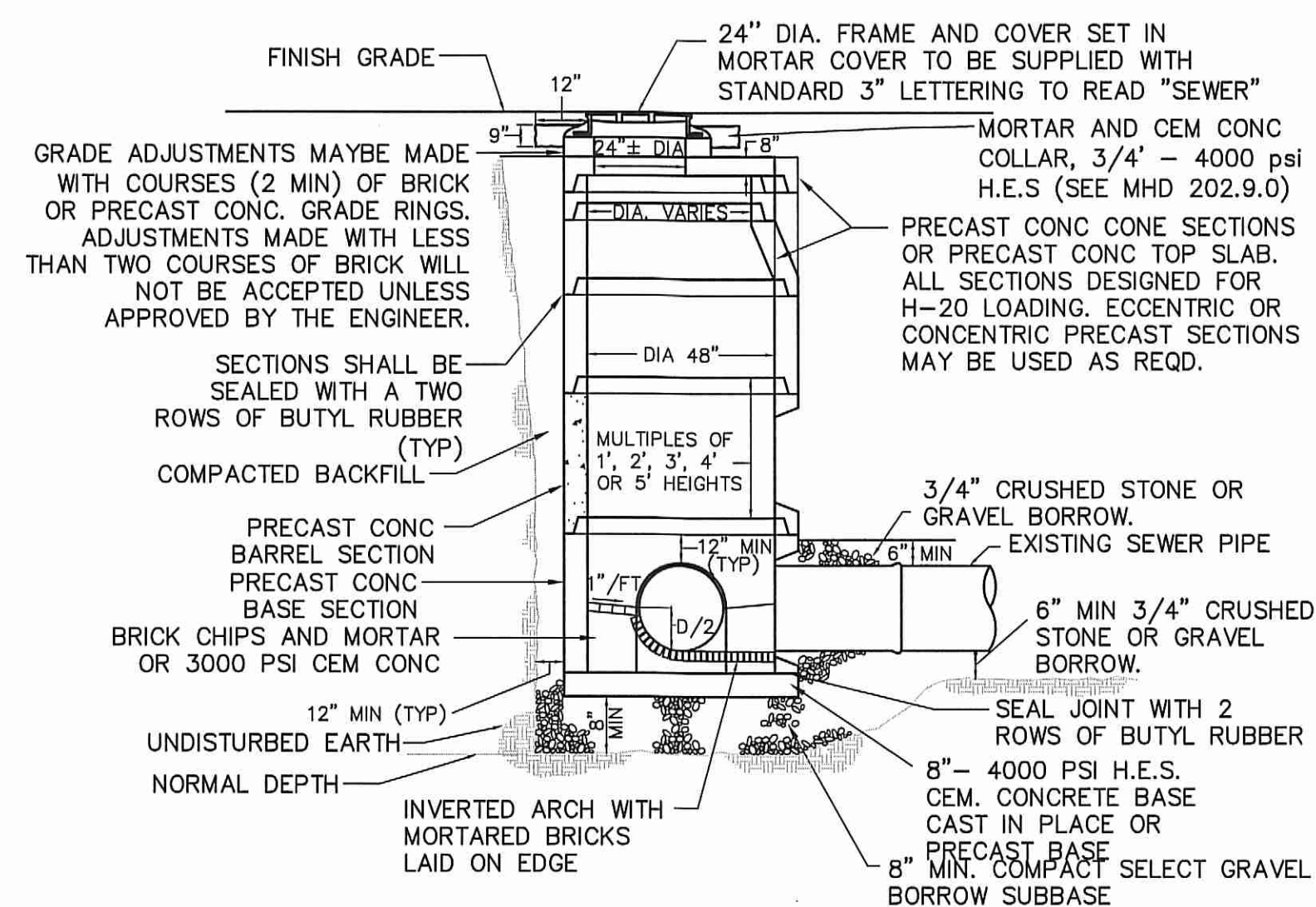
WATER SERVICE DETAIL

N.T.S.



HYDRANT CONNECTION DETAIL

N.T.S.



NOTES:

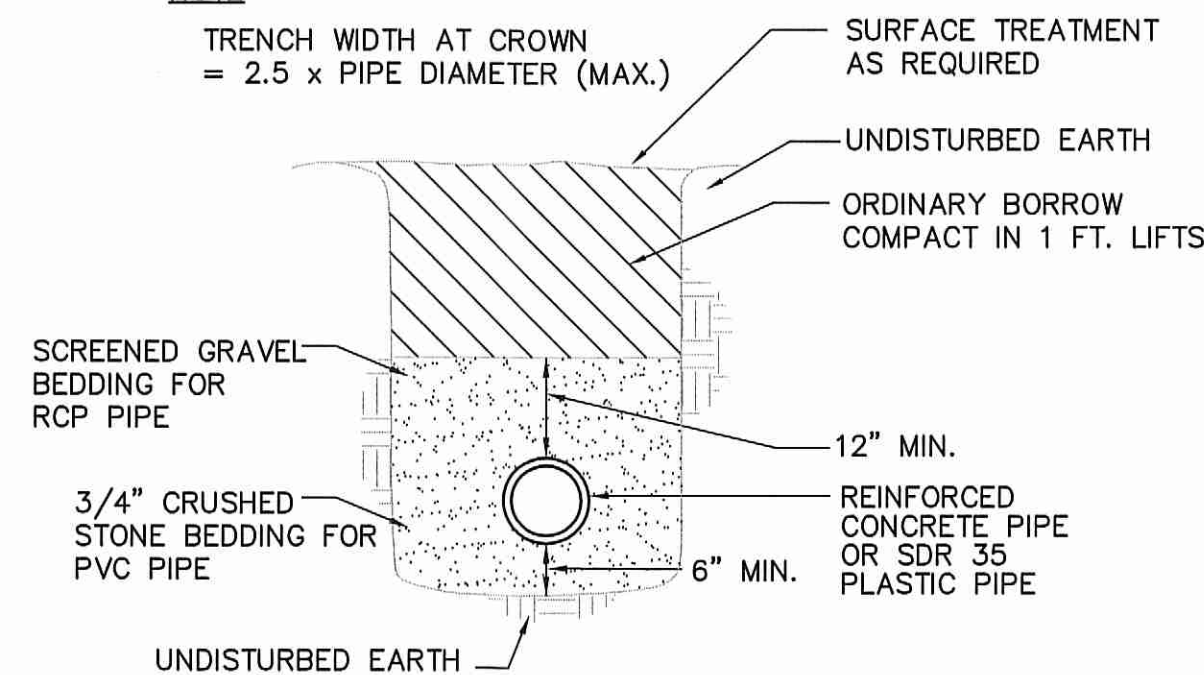
1. MANHOLE SHALL BE PRECAST CEMENT CONCRETE MANUFACTURED IN ACCORDANCE WITH ASTM C-478 DESIGNED FOR H-20 LOADING. MANHOLES SHALL BE 48" DIA. UNLESS OTHERWISE INDICATED ON GENERAL PLANS.
2. BACKFILL MATERIAL SHALL CONSIST OF SUITABLE EXCAVATED MATERIAL AND/OR GRAVEL BORROW.

PRECAST CONCRETE SEWER MH OVER EXISTING SEWER

N.T.S.

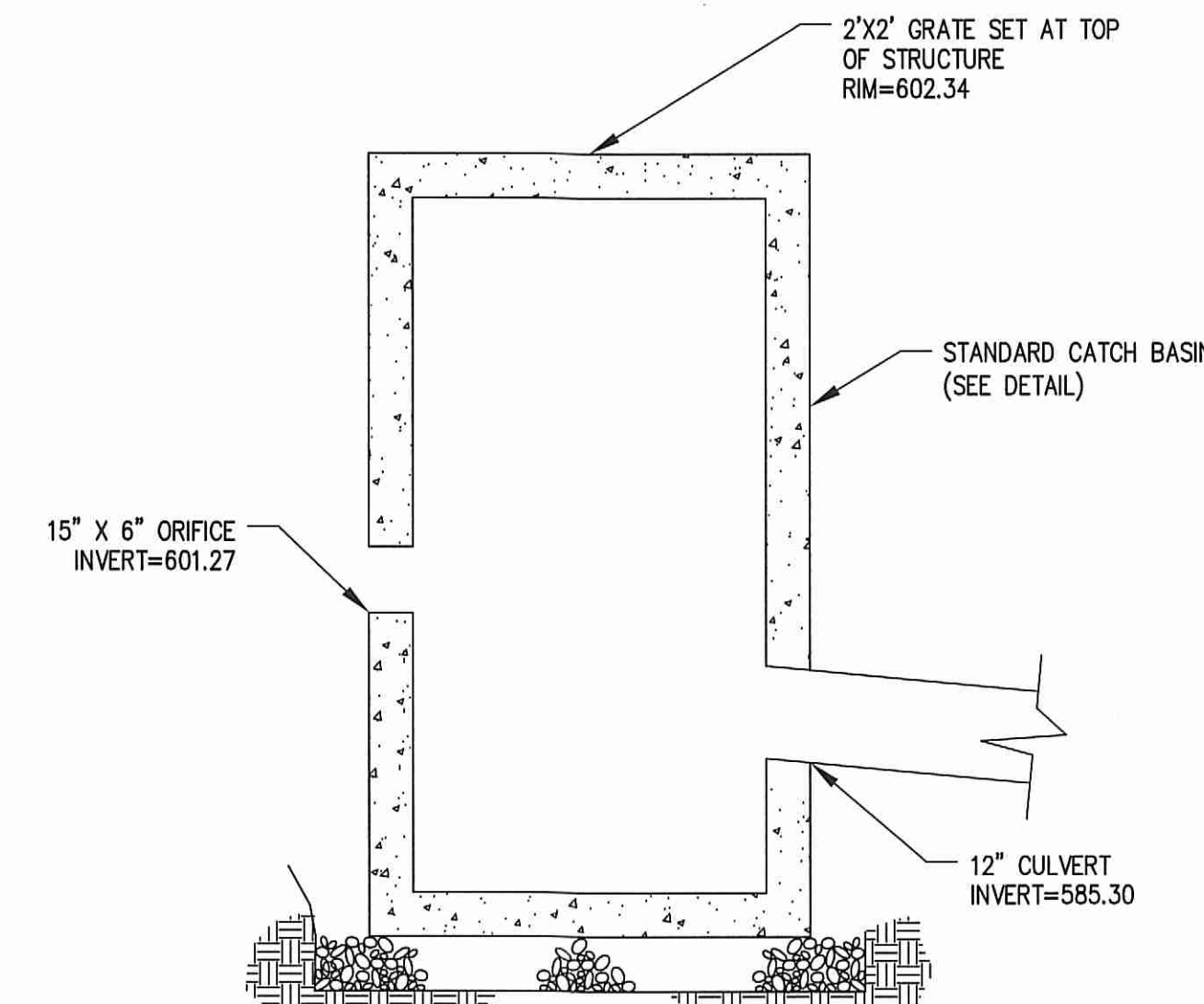
NOTE

TRENCH WIDTH AT CROWN = 2.5 x PIPE DIAMETER (MAX.)



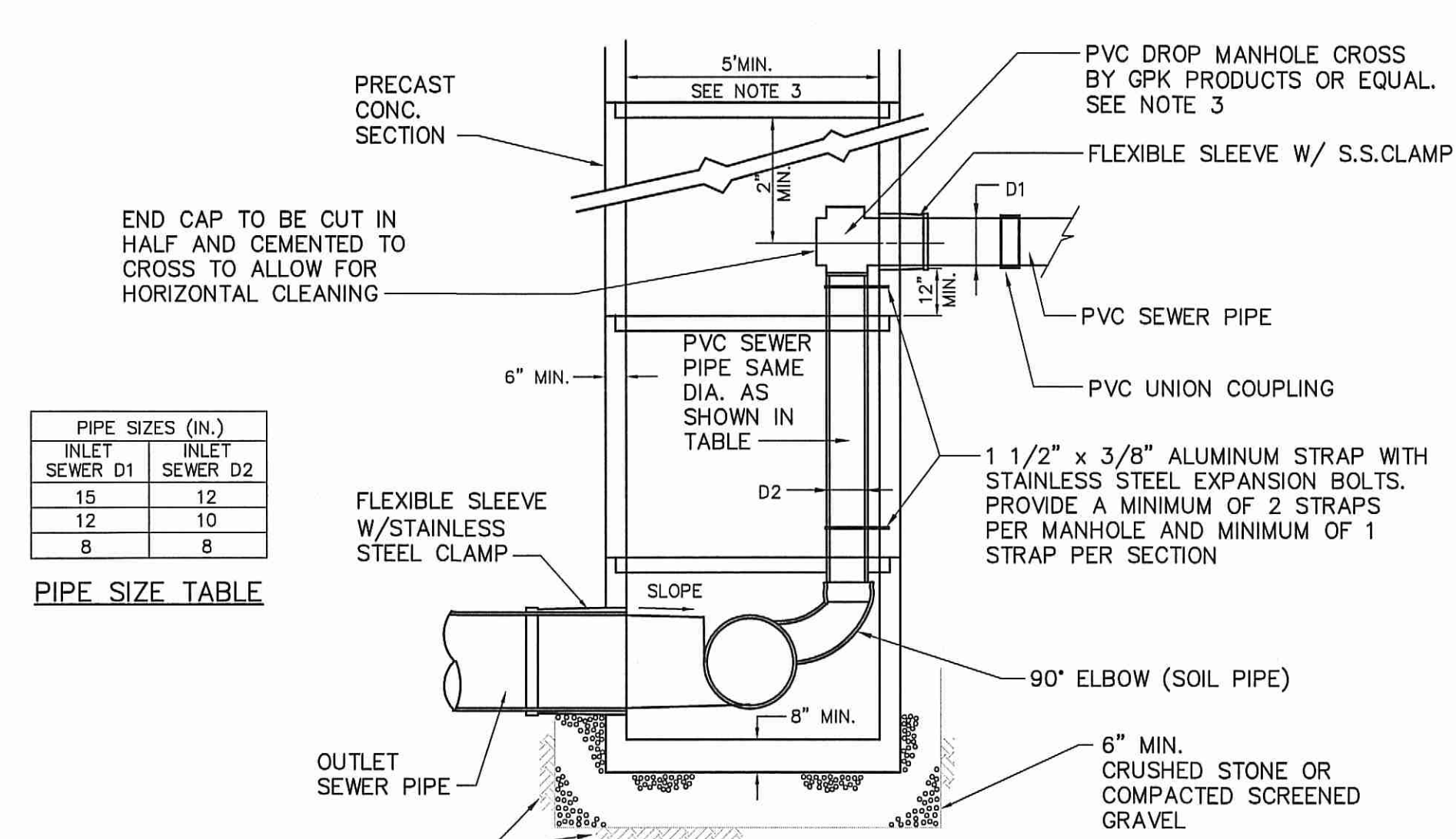
DRAIN PIPE TRENCH DETAIL

N.T.S.



OUTLET CONTROL STRUCTURE DETAIL

N.T.S.



PIPE SIZES (IN.)	
INLET SEWER D1	INLET SEWER D2
16	12
12	10
8	8

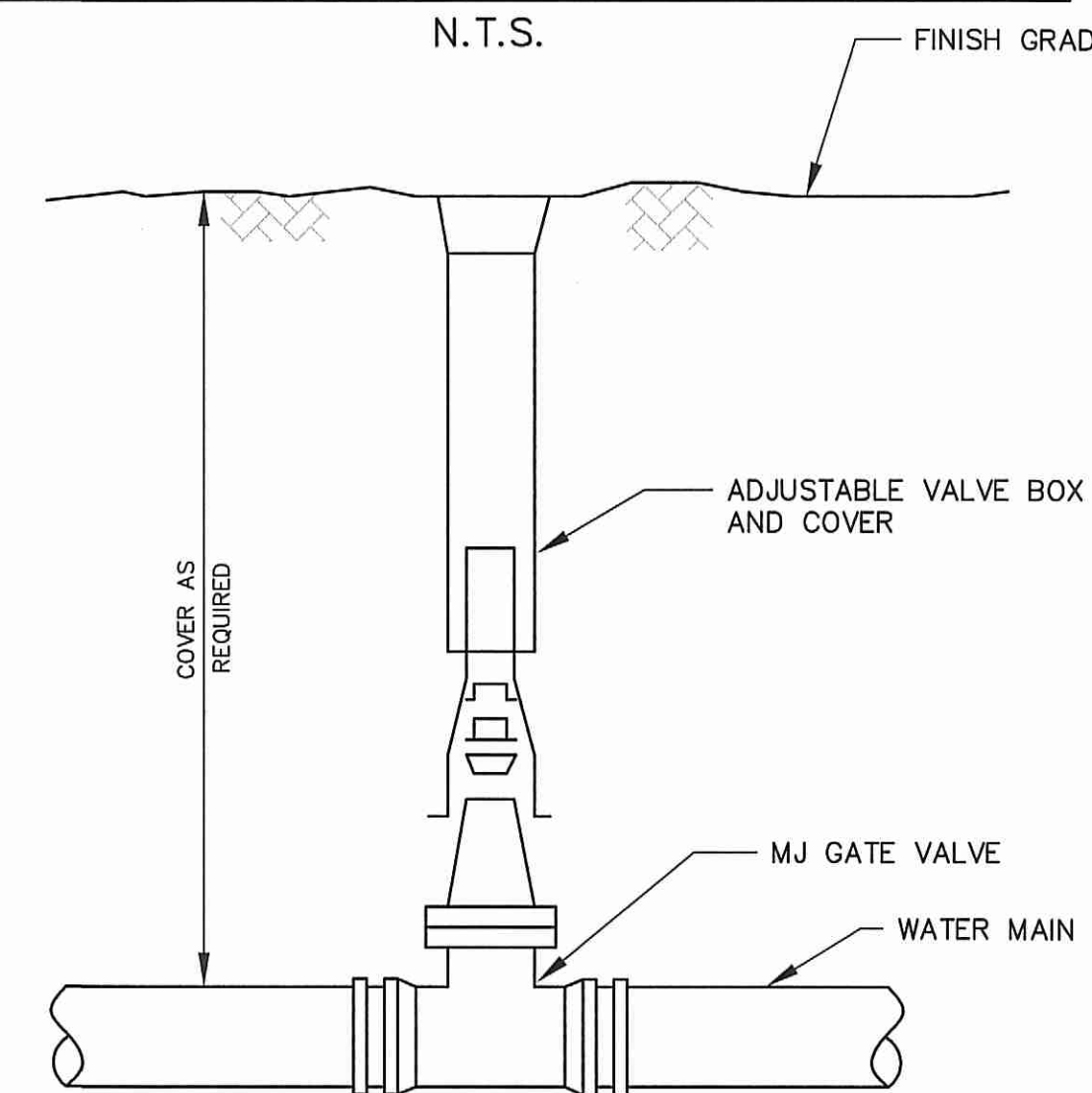
PIPE SIZE TABLE

NOTES

1. DROP MANHOLE INSIDE DIAMETER IS TO BE 5 FEET (SEE NOTE 3)
2. DIMENSIONS AND CONSTRUCTION OF DROP MANHOLE TO BE SIMILAR TO TYPICAL MANHOLE EXCEPT AS SHOWN.
3. IF THE DROP MANHOLE CROSS BY GPK PRODUCTS OR EQUAL IS NOT USED, THEN A 6' DIA. M.H. IS TO BE USED FOR 12" SEWERS OR GREATER AND A STANDARD PVC CROSS IS TO BE SUBSTITUTED FOR THE GPK CROSS OR EQUAL.

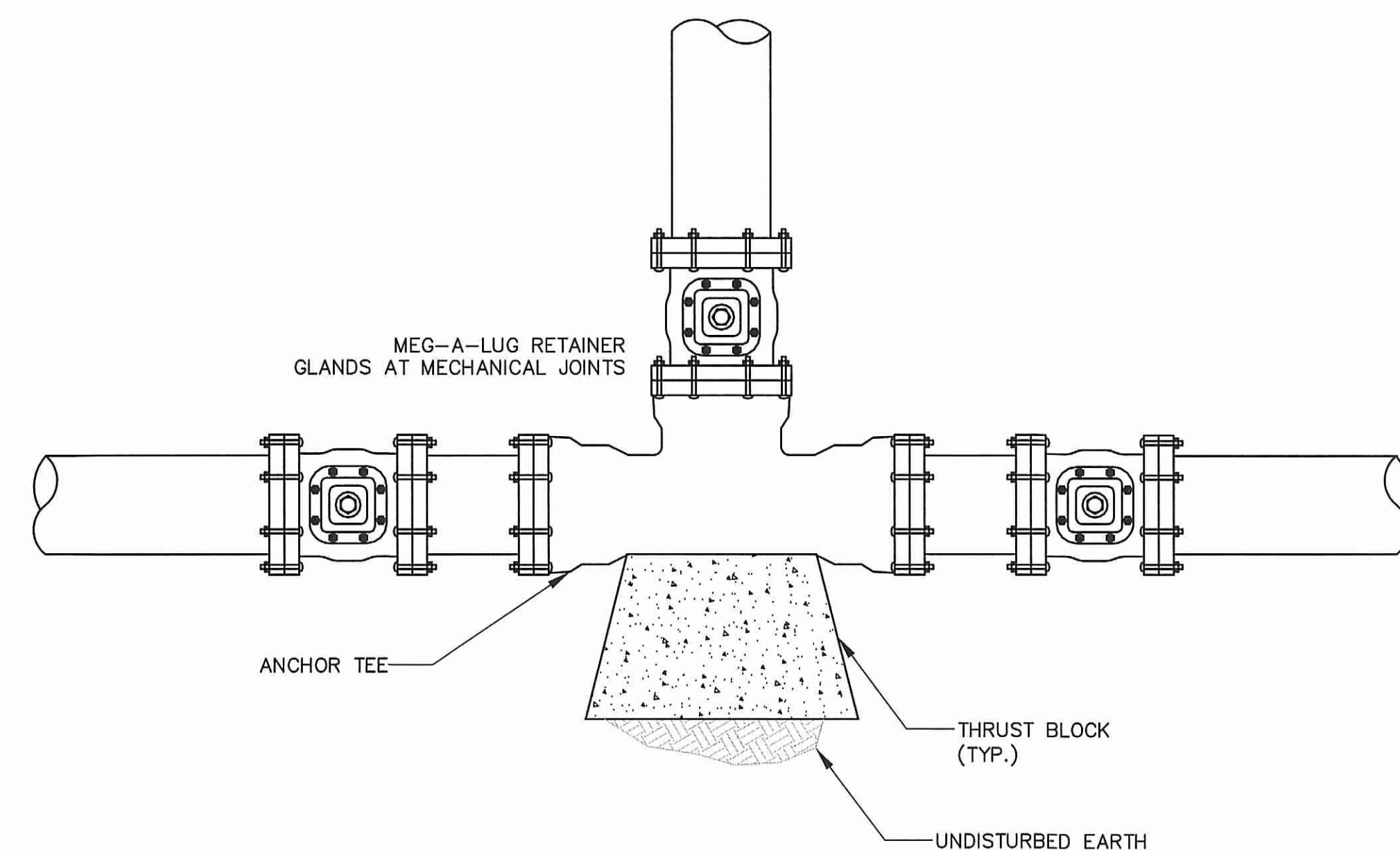
DROP SEWER MANHOLE INSIDE CONNECTION

N.T.S.



BURIED GATE VALVE DETAIL

N.T.S.



TYPICAL ANCHOR TEE INSTALLATION

N.T.S.

NOT FOR CONSTRUCTION

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No.	Date	Revision
8	04/17/2023	Response to Comments
7	3/14/2023	Revised Layout
6	11/16/2021	No Change
5	9/28/2021	Response to Comments
4	06/29/21	Response to Comments
3	05/19/21	New SP Application
2	11/19/07	Issued for Construction
1	08/21/07	No Rev. this sheet



B. Marchetti 5/14/23

Drawn By: P.J.M. Designed By: P.J.M. Checked By: *P.J.M.*

McCarty Engineering, Inc.
Civil Engineers
42 Tucker Drive, Leominster, MA 01453
phone: (978) 534-1318 fax: (978) 840-6907

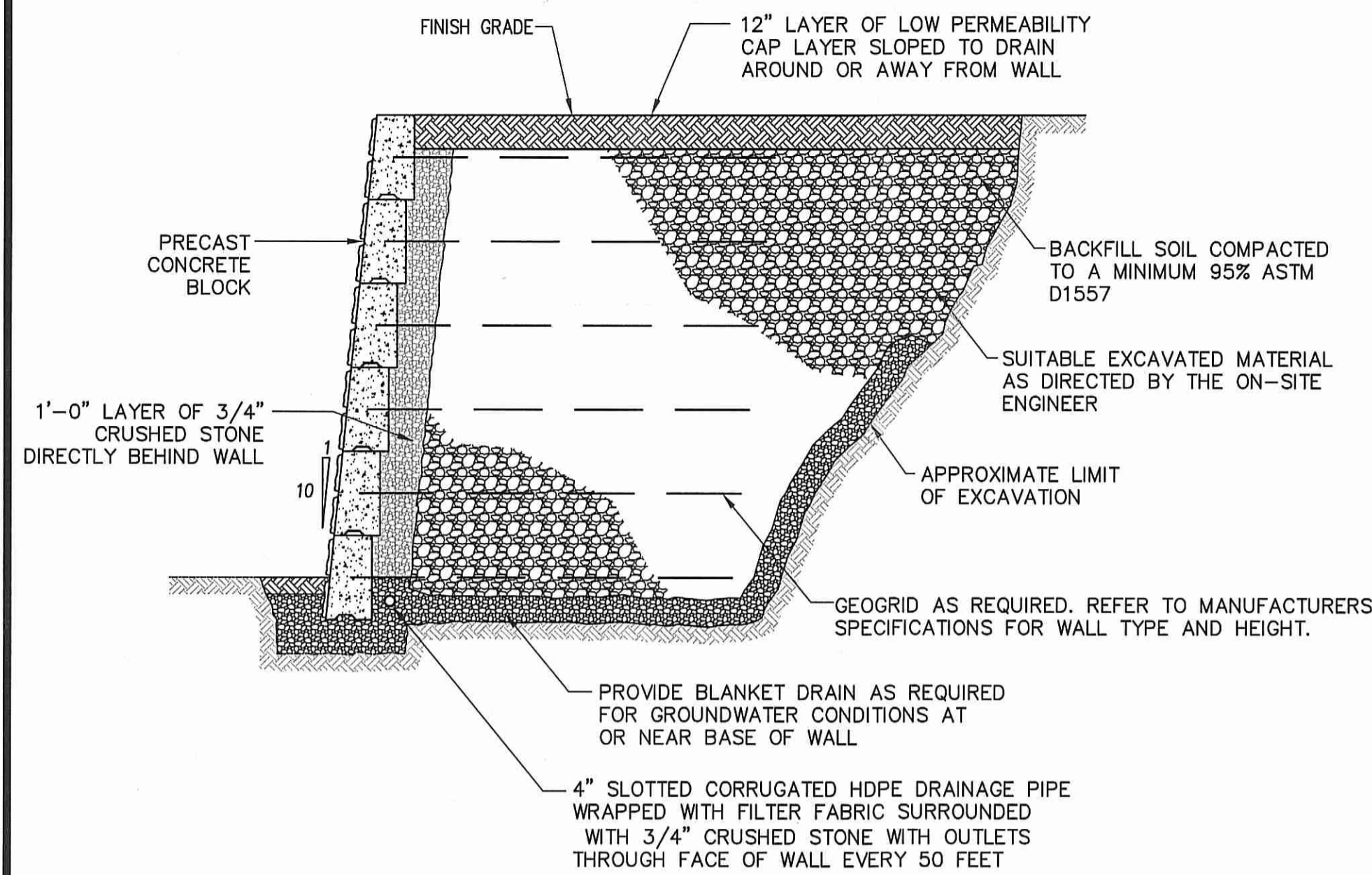
Project Name
Special Permit Plans
Beech Street
Fitchburg, MA

Sheet Title
Construction
Details

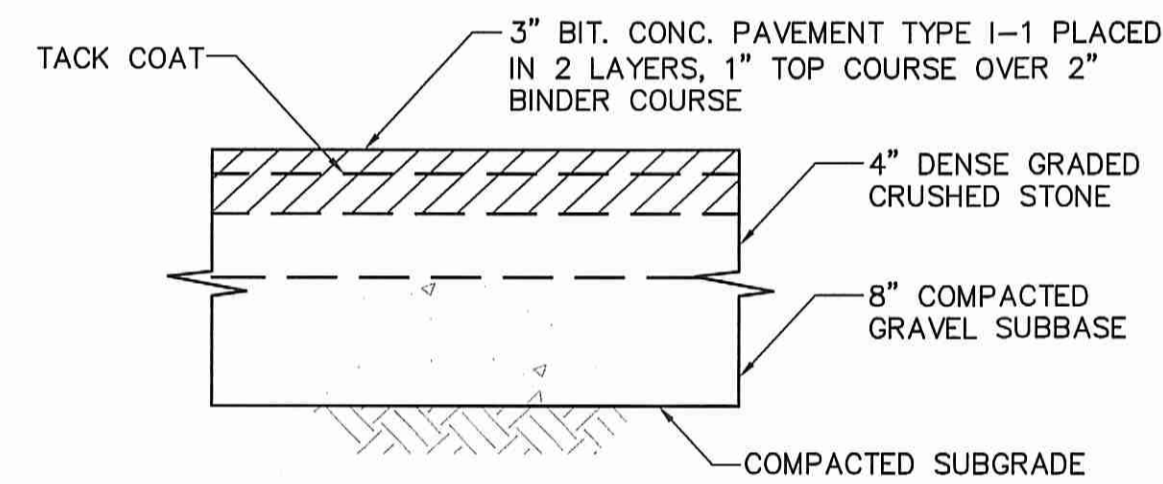
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File Name: 011P-DET02
Date: June 22, 2007
Scale: N.T.S.

Sheet No.

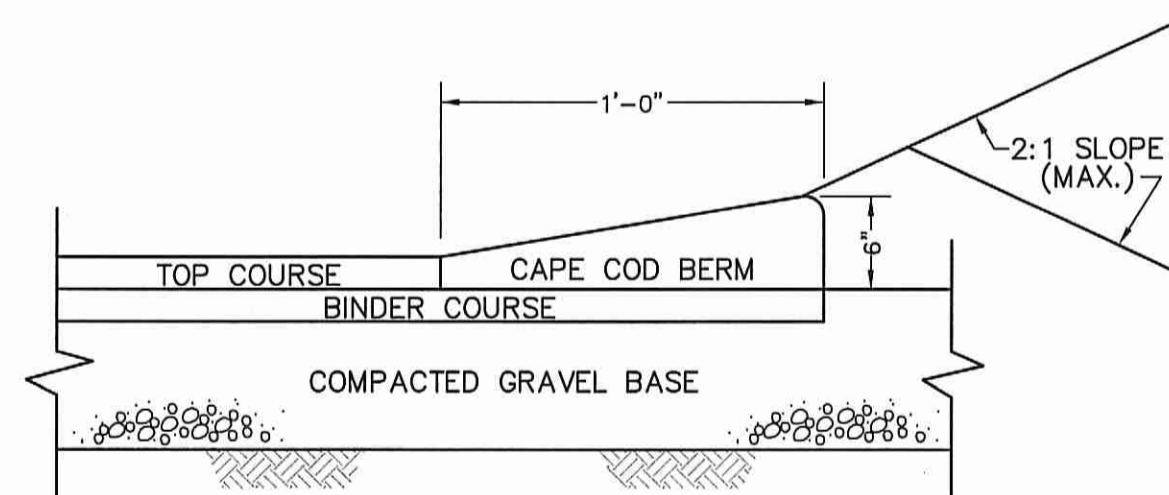
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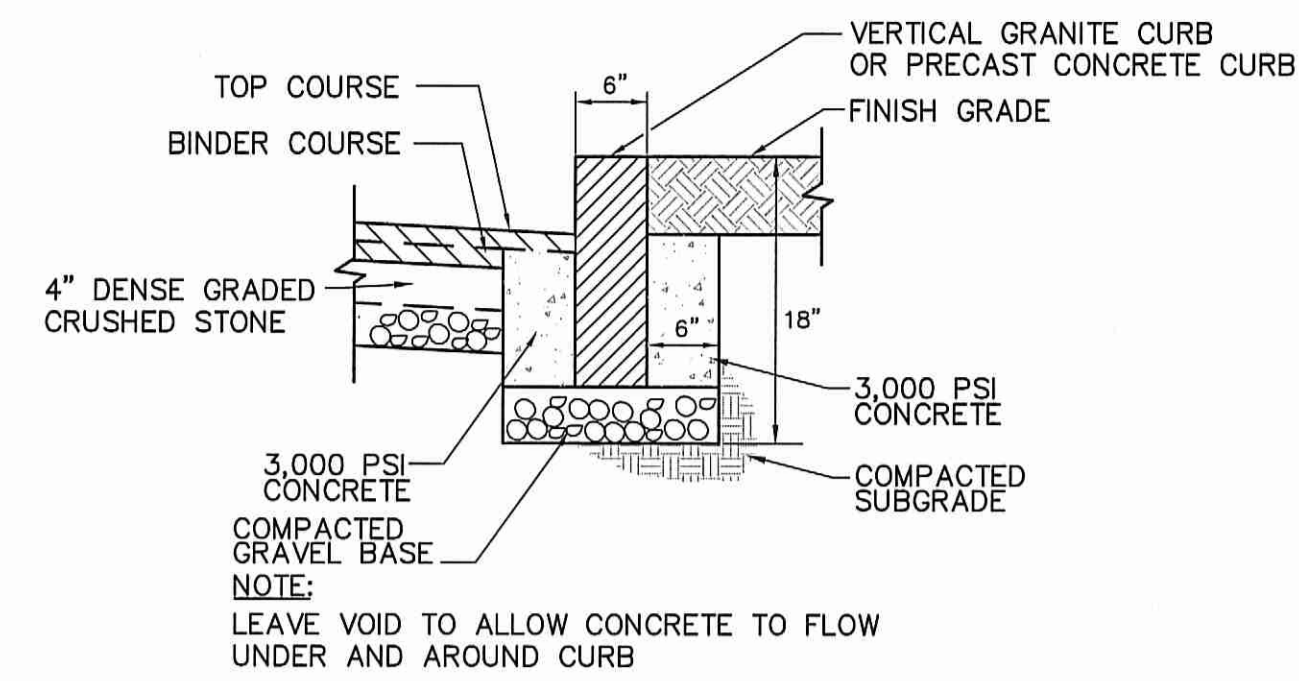
PRECAST CONCRETE RETAINING WALL DETAIL
N.T.S.



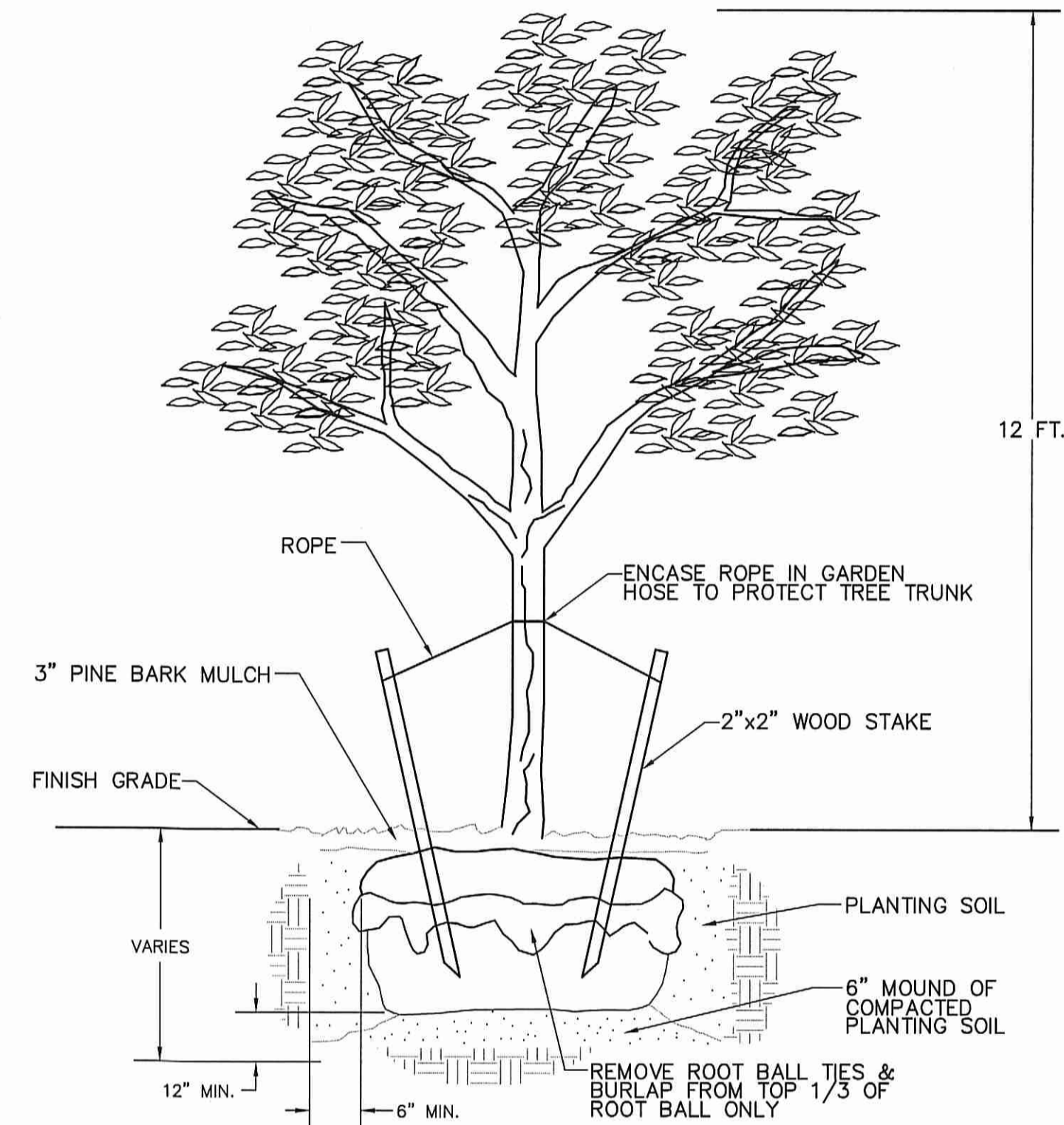
BITUMINOUS CONCRETE PAVEMENT DETAIL
N.T.S.



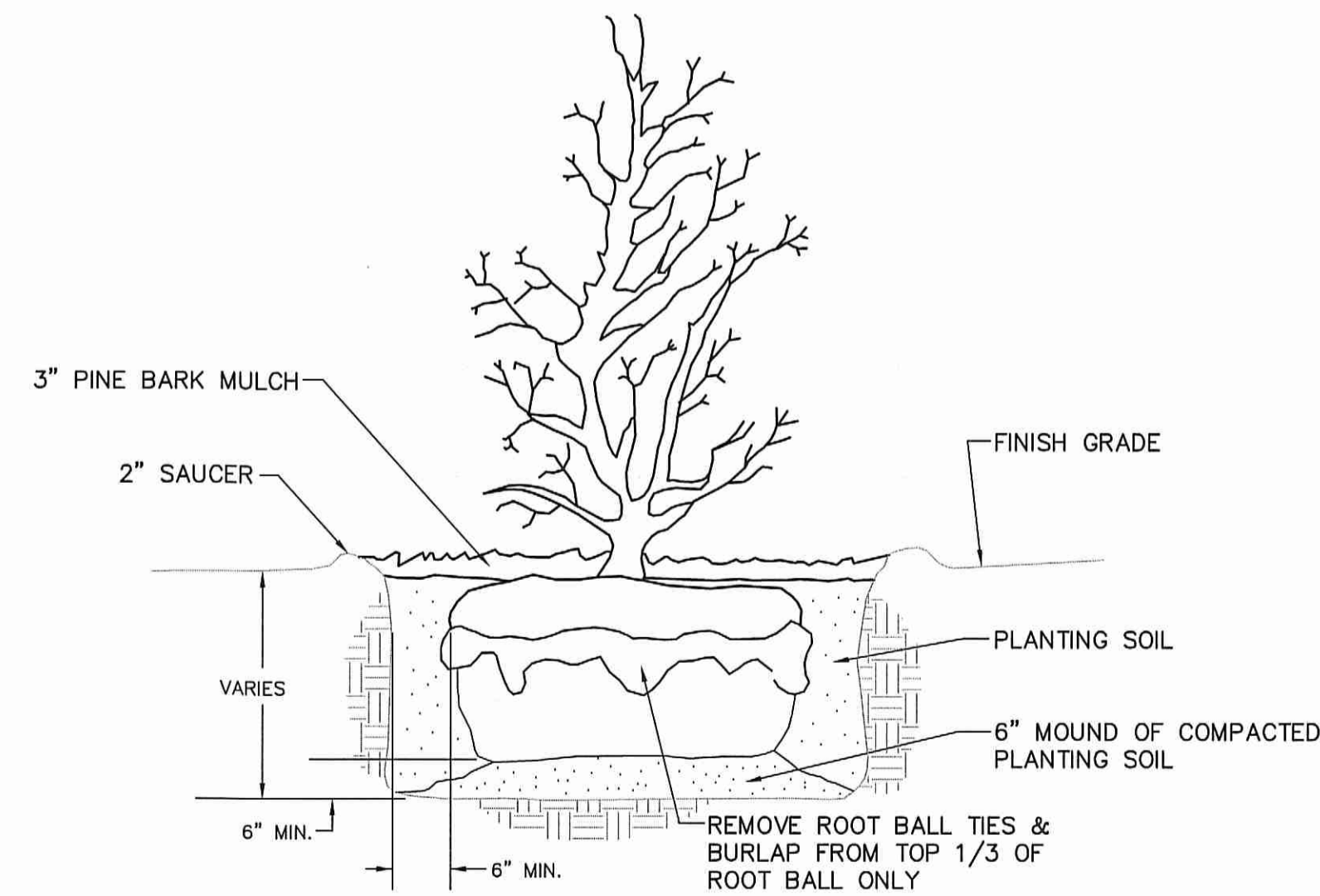
BITUMINOUS CONCRETE BERM DETAIL
N.T.S.



VERTICAL GRANITE/PRECAST CONCRETE CURB DETAIL
N.T.S.



TYPICAL TREE PLANTING DETAIL
N.T.S.



TYPICAL SHRUB PLANTING DETAIL
N.T.S.

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AND LOCAL PERMITS AND ARE NOT
INTENDED TO BE USED AS
CONSTRUCTION DOCUMENTS.



5/11/23

Drawn By: PJM
Designed By: PJM
Checked By: PJM

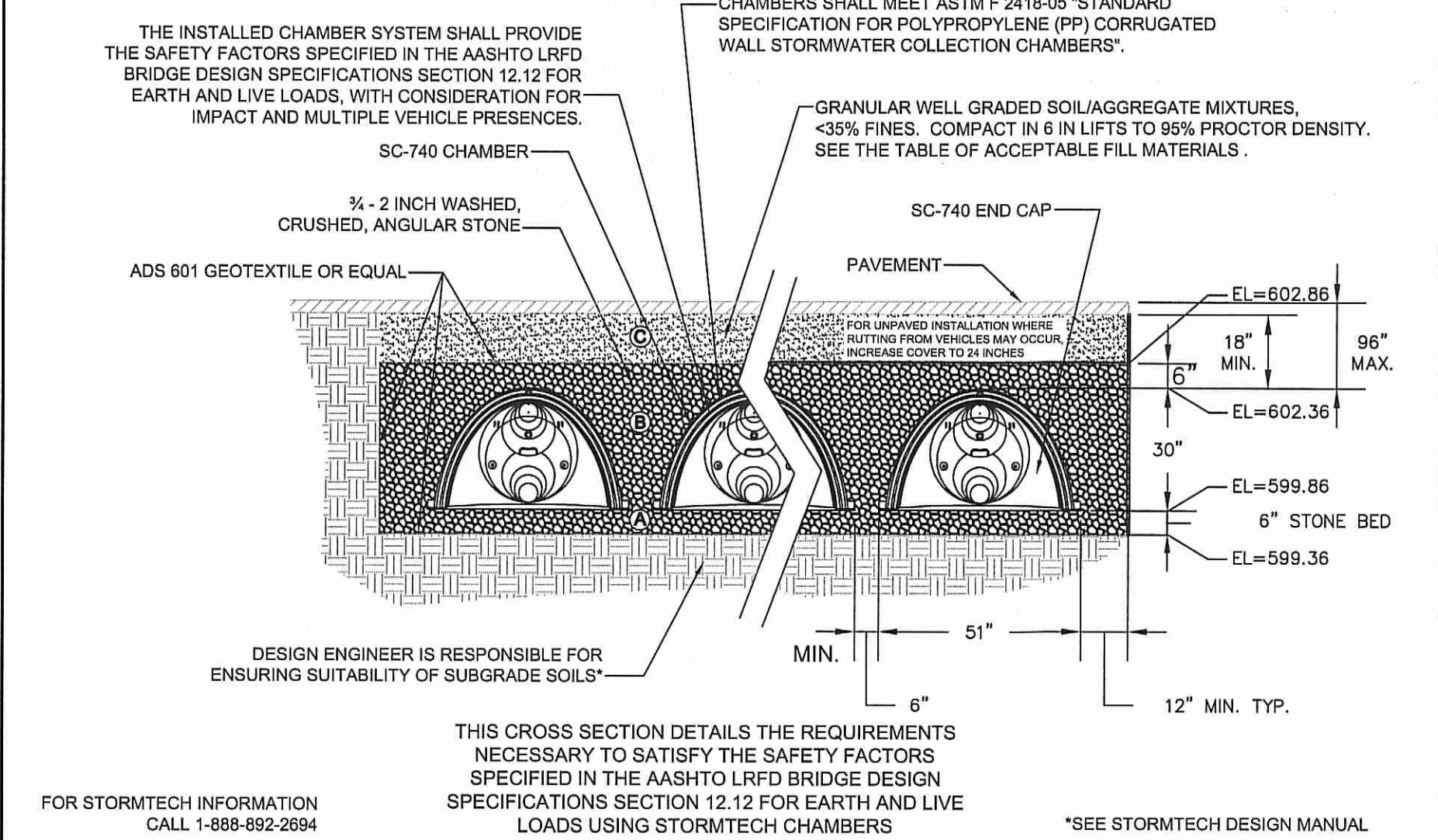
McCarty Engineering, Inc.
Civil Engineers
42 Tucker Drive, Leominster, MA 01453
phone:(978) 534-1318 fax: (978) 840-6907

Project Name
Special Permit Plans
Beech Street
Fitchburg, MA

Sheet Title
Construction
Details

Job No: 011
File Name: 011P-DET02
Date: May 11, 2023
Scale: N.T.S.

Sheet No.
8



ST 1.0

SC-740 TYPICAL CROSS SECTION

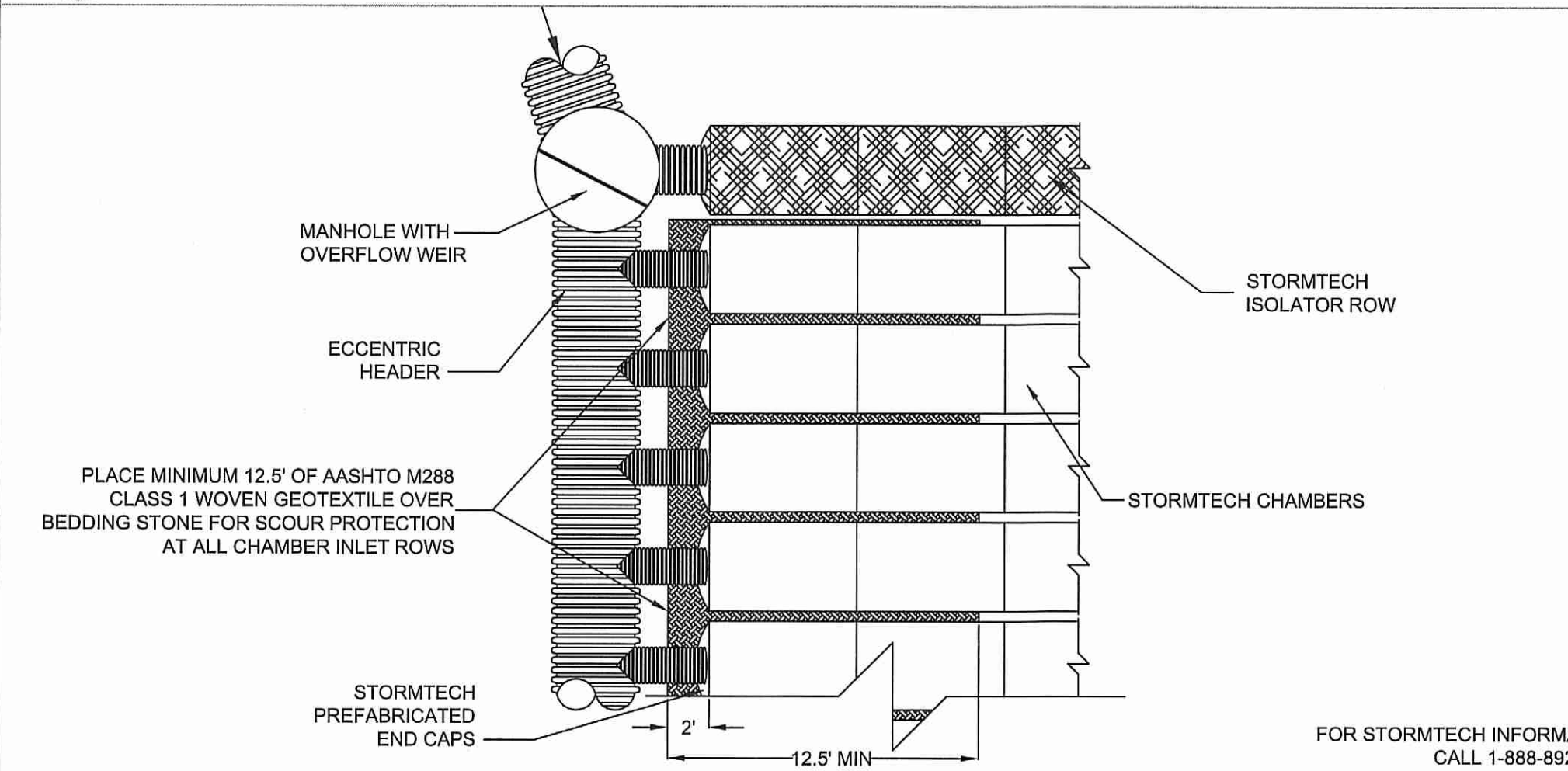
ACCEPTABLE FILL MATERIALS
STORMTECH SC-740 CHAMBER SYSTEMS

MATERIAL LOCATION	DESCRIPTION	AASHTO M43 DESIGNATION	AASHTO M145 DESIGNATION	COMPACTION/DENSITY REQUIREMENT
FILL MATERIAL FROM 18" TO GRADE ABOVE CHAMBERS	ANY SOIL/ROCK MATERIALS, NATIVE SOILS OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	N/A	PREPARE PER ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
FILL MATERIAL FOR 6" TO 18" ELEVATION ABOVE CHAMBERS (24" FOR UNPAVED INSTALLATIONS)	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES.	3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	A-1 A-2 A-3	COMPACT IN 6" LIFTS TO A MINIMUM 95% STANDARD PROCTOR DENSITY. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 LBS. DYNAMIC FORCE NOT TO EXCEED 20,000 LBS.
EMBEDMENT STONE SURROUNDING AND TO A 6" ELEVATION ABOVE CHAMBERS	WASHED ANGULAR STONE WITH THE MAJORITY OF PARTICLES BETWEEN 3/4 - 2 INCH	3, 357, 4, 467, 5, 56, 57	N/A	NO COMPACTION REQUIRED
FOUNDATION STONE BELOW CHAMBERS	WASHED ANGULAR STONE WITH THE MAJORITY OF PARTICLES BETWEEN 3/4 - 2 INCH	3, 357, 4, 467, 5, 56, 57	N/A	PLATE COMPACT OR ROLL TO ACHIEVE A 95% STANDARD PROCTOR DENSITY

PLEASE NOTE: THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE WASHED CRUSHED ANGULAR. FOR EXAMPLE, THE STONE MUST BE SPECIFIED AS WASHED, CRUSHED, ANGULAR NO. 4 STONE.

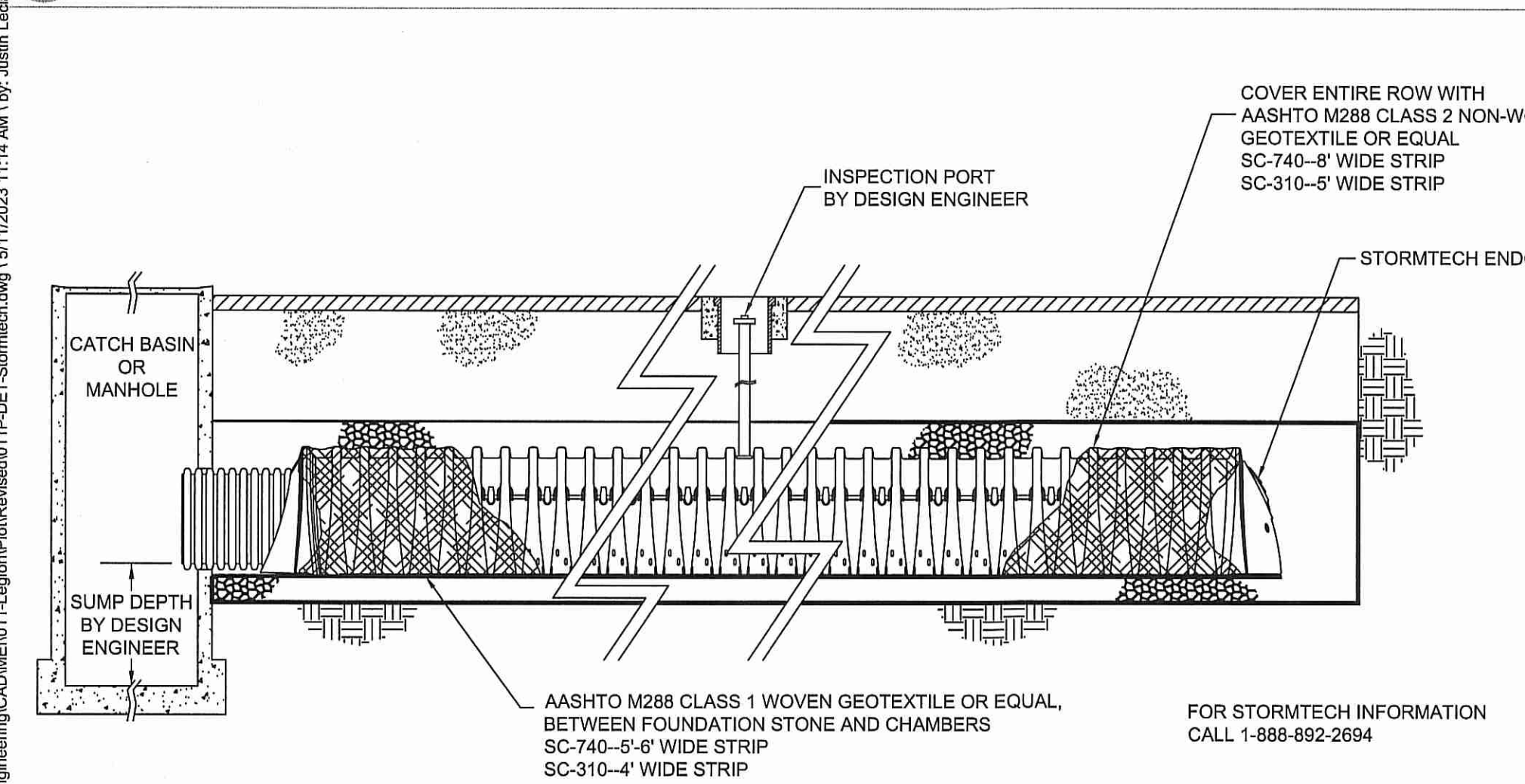
ST 3.0

STORMTECH ACCEPTABLE FILL MATERIALS



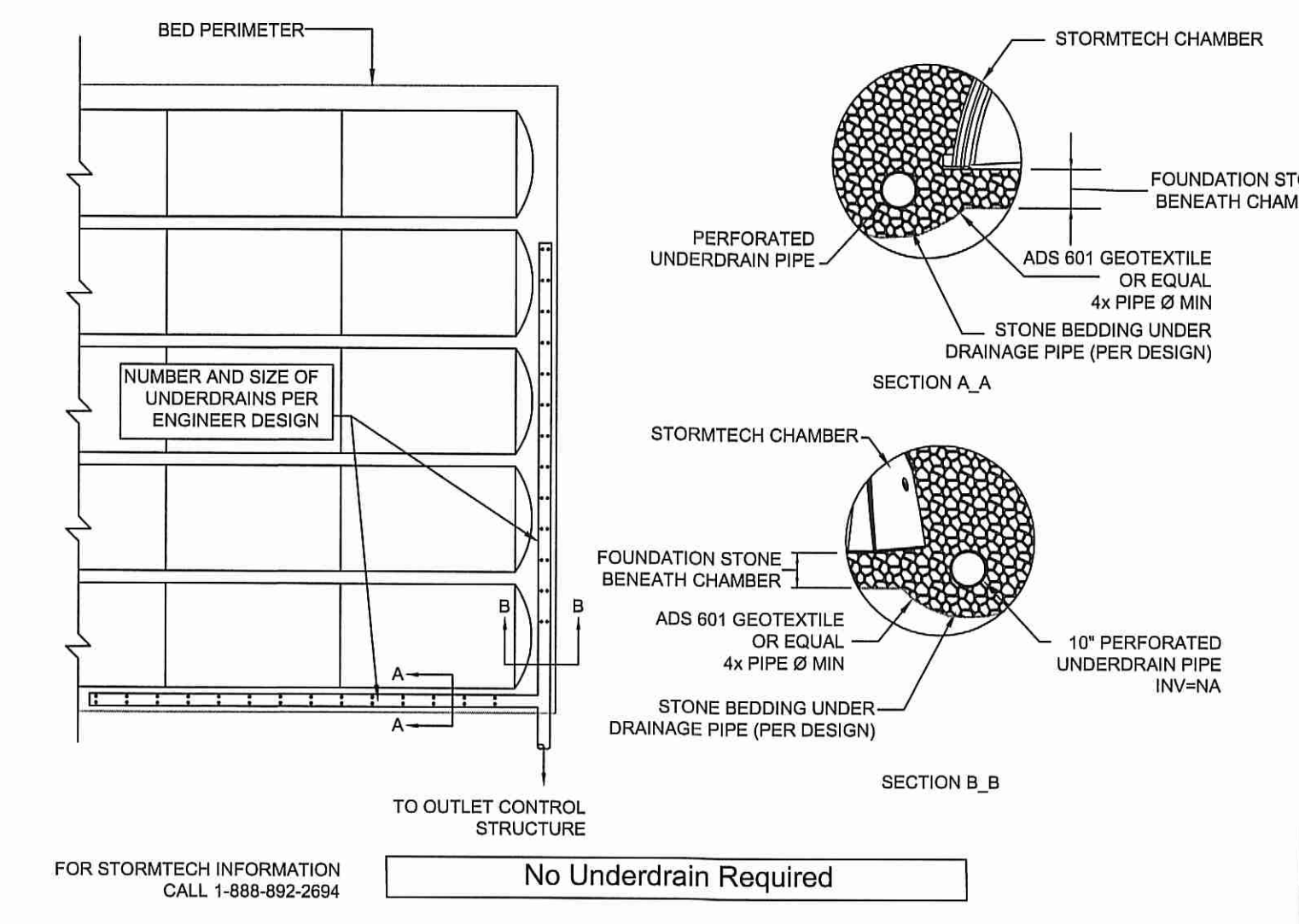
ST 4.0

STORMTECH ISOLATOR™ ROW MANIFOLD DETAIL



ST 6.0

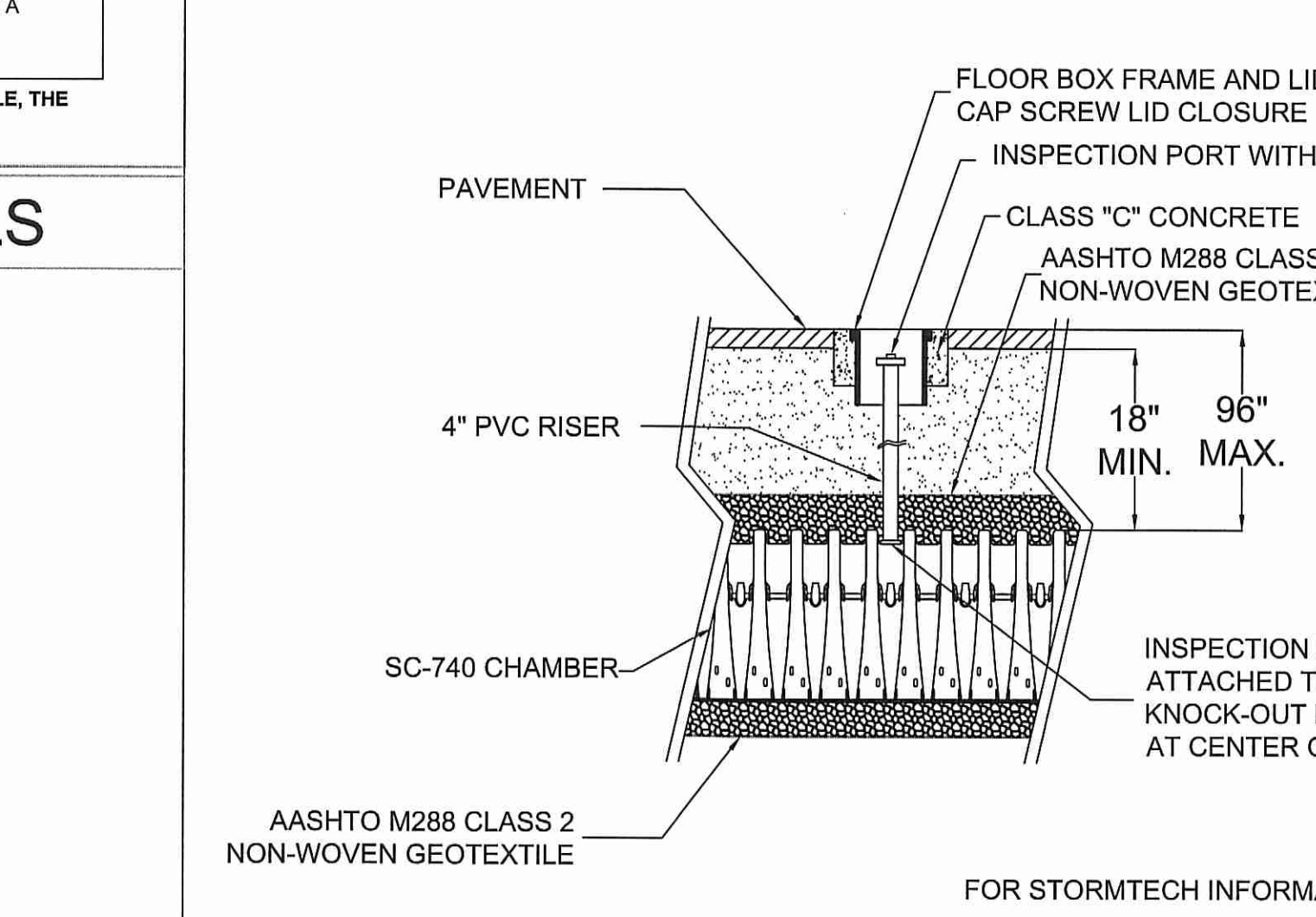
STORMTECH ISOLATOR™ ROW DETAIL



ST 2.0

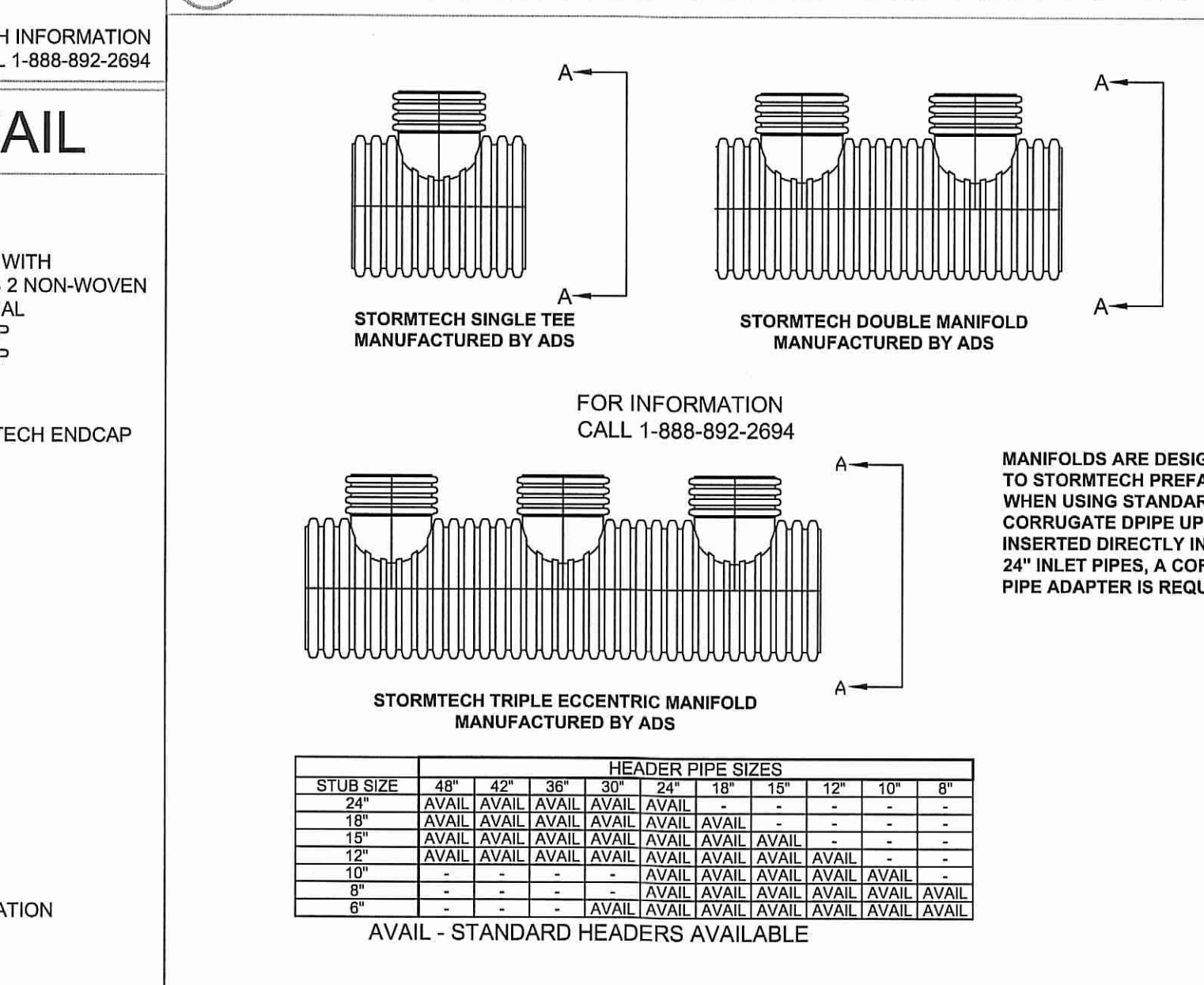
STORMTECH UNDERDRAIN DETAIL

NOTES:
1. ALL DESIGN SPECIFICATIONS FOR STORMTECH CHAMBERS SHALL BE IN ACCORDANCE WITH THE STORMTECH DESIGN MANUAL.
2. THE INSTALLATION OF STORMTECH CHAMBERS SHALL BE IN ACCORDANCE WITH THE LATEST STORMTECH INSTALLATION INSTRUCTIONS.
3. THE CONTRACTOR IS ADVISED TO REVIEW AND UNDERSTAND THE INSTALLATION INSTRUCTIONS PRIOR TO BEGINNING SYSTEM INSTALLATION. CALL 1-888-892-2694 OR VISIT WWW.STORMTECH.COM TO RECEIVE A COPY OF THE LATEST STORMTECH INSTALLATION INSTRUCTIONS.
4. CHAMBERS SHALL MEET THE DESIGN REQUIREMENTS AND SAFETY FACTORS SPECIFIED IN SECTION 12.12 OF THE LATEST EDITION OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.



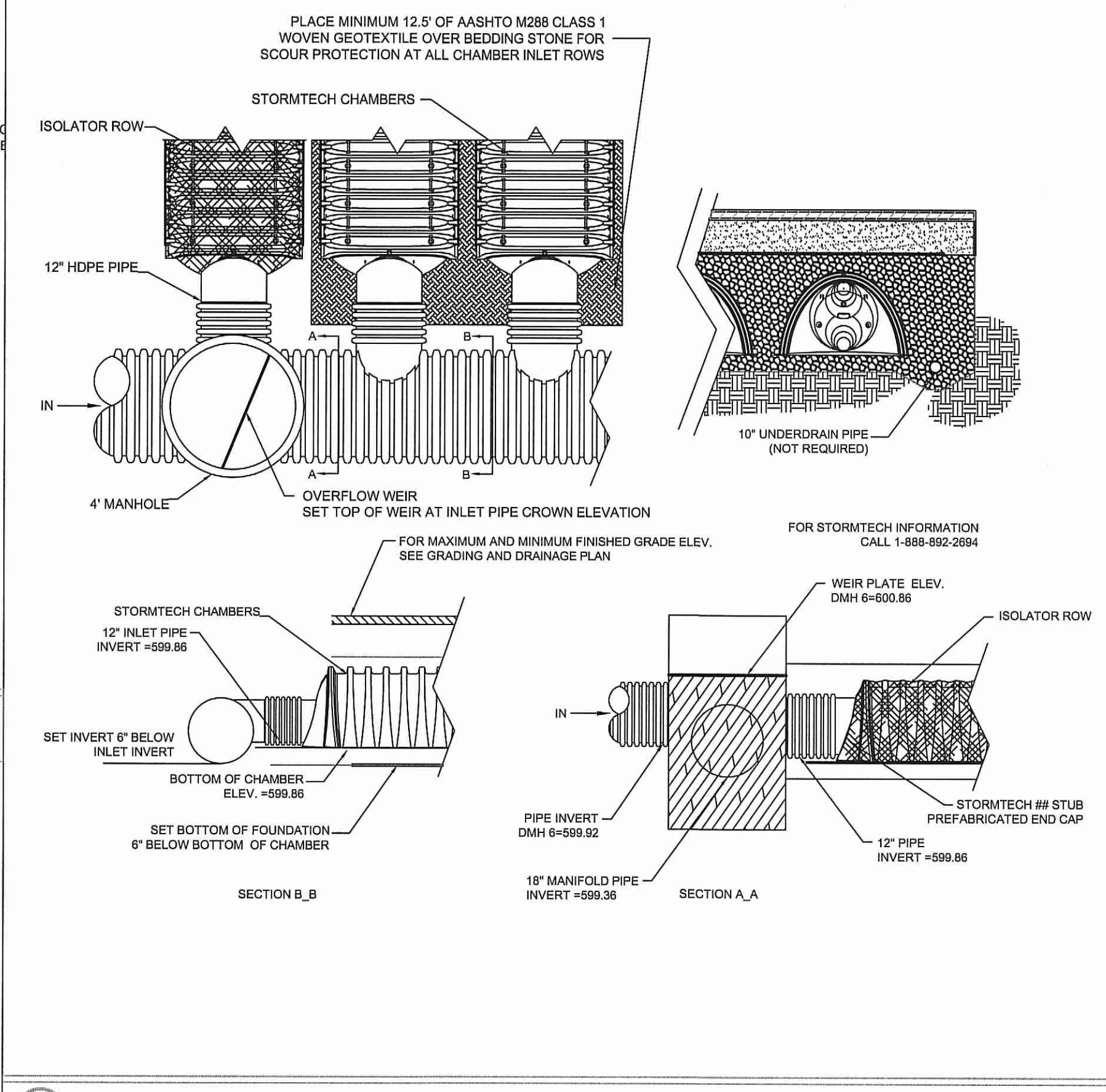
ST 5.0

STORMTECH INSPECTION PORT DETAIL



ST 7.0

ADS MANIFOLD DETAILS

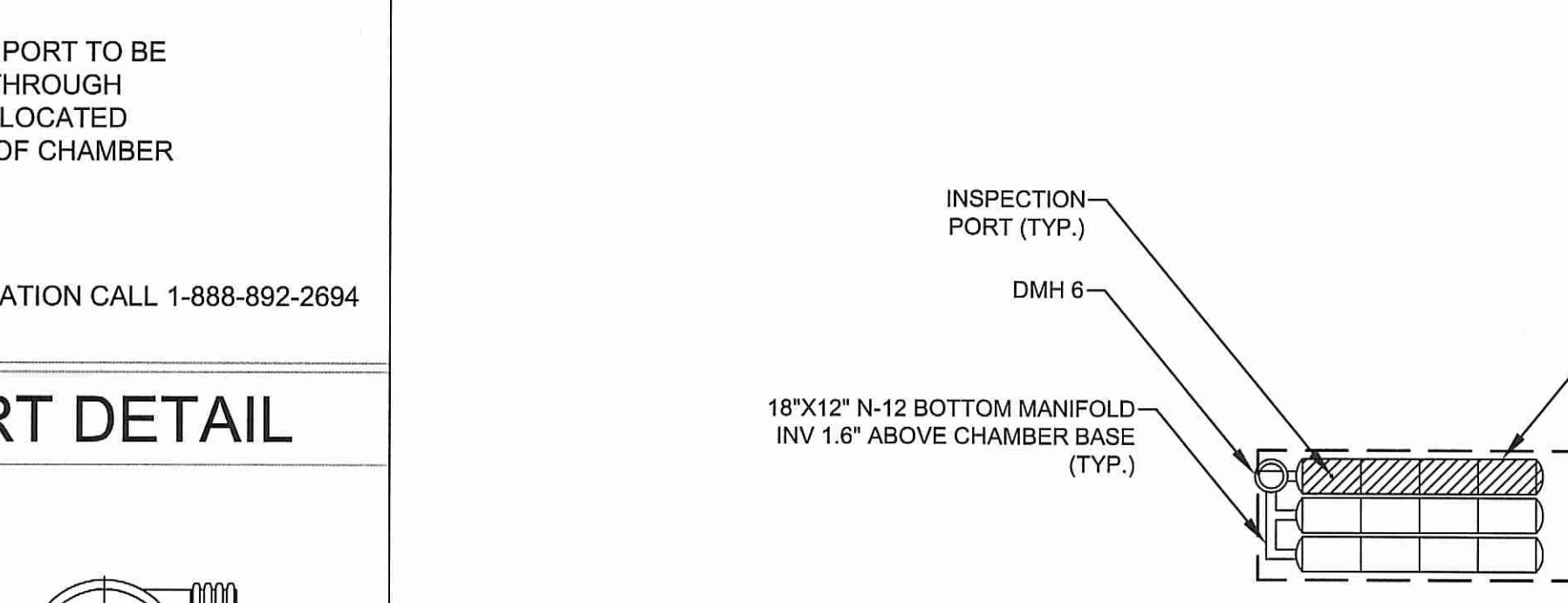


ST 8.0

STORMTECH ELEVATIONS

PROPOSED LAYOUT
(12) STORMTECH SC-740 CHAMBERS
INSTALLED WITH 6" COVER STONE, 6" BASE STONE, 40% STONE VOID
INSTALLED SYSTEM VOLUME: 1,038.5 CF
AREA OF SYSTEM: 505.58 FT²
PERIMETER OF SYSTEM: 95.7 FT

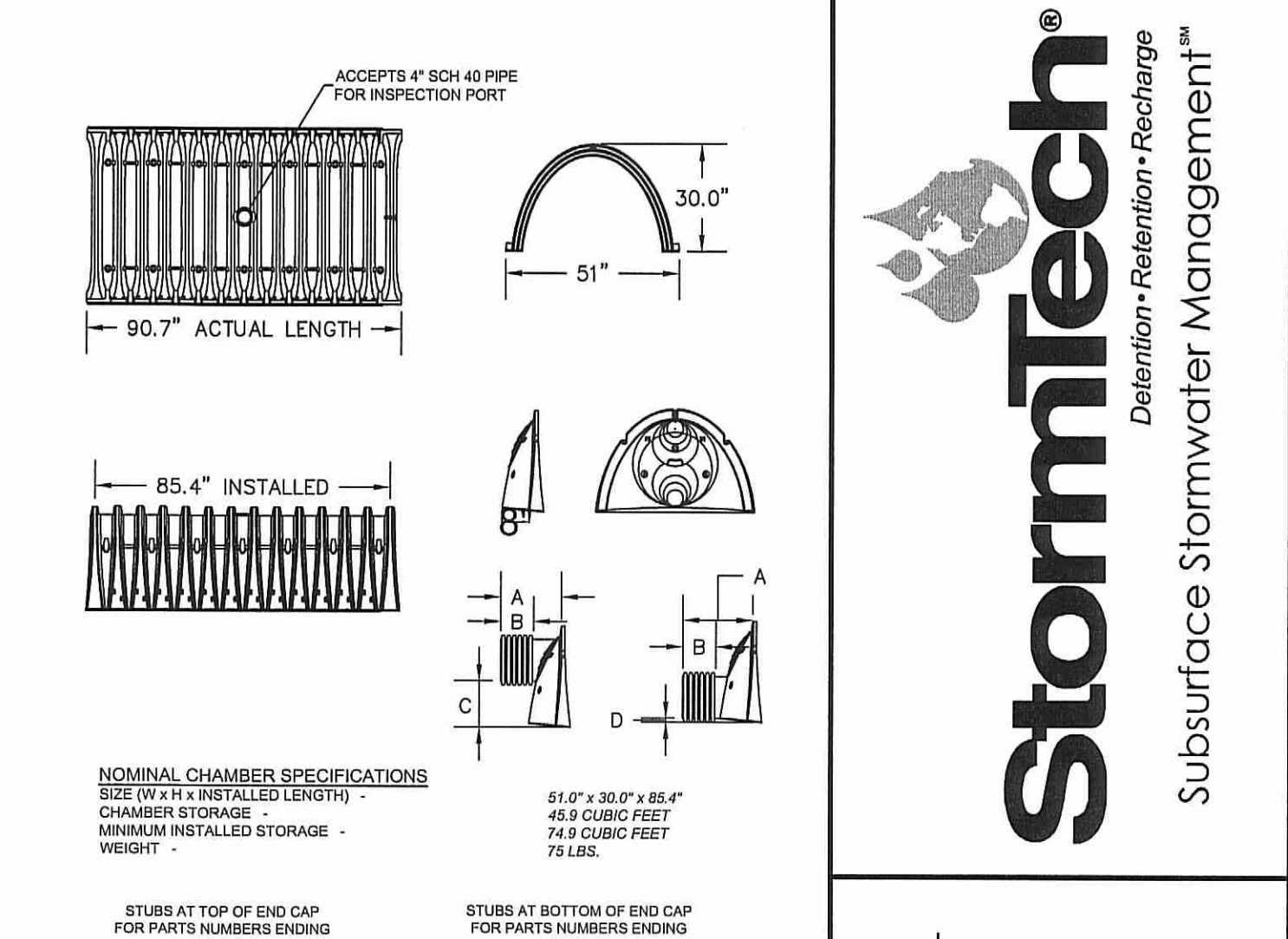
PROPOSED ELEVATION
TOP OF STONE: 602.86
BOTTOM OF STONE: 599.36
TOP OF CHAMBER: 602.36
BOTTOM OF CHAMBER: 599.86



CHAMBERS SHALL MEET THE DESIGN REQUIREMENTS AND SAFETY FACTORS SPECIFIED IN SECTION 12.12 OF THE LATEST EDITION OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS LOADS SHALL BE CALCULATED IN ACCORDANCE WITH SECTION 3 AND SHALL INCLUDE H20 DESIGN TRUCK, IMPACT FACTOR, MULTIPLE PRESENCE, AND LANE LOAD.

ST 10.0

STORMTECH SC-740 CHAMBER LAYOUT



ST 9.0

TECHNICAL DETAILS

PART #	CHAMBER	PIPE SIZE	A	B	C	D
SCH48PE08T	SC 740	8 in (203 mm)	10.60 in (270 mm)	3.85 in (98 mm)	18.50 in (470 mm)	N/A
SCH48PE08B	SC 740	8 in (203 mm)	10.50 in (267 mm)	3.85 in (98 mm)	N/A	0.80 in (20 mm)
SCH48PE12T	SC 740	12 in (305 mm)	14.70 in (373 mm)	7.70 in (196 mm)	12.50 in (318 mm)	N/A
SCH48PE12B	SC 740	12 in (305 mm)	14.70 in (373 mm)	7.70 in (196 mm)	N/A	1.20 in (30 mm)
SCH48PE18T	SC 740	18 in (457 mm)	14.40 in (366 mm)	10.36 in (263 mm)	8.00 in (203 mm)	N/A
SCH48PE18B	SC 740	18 in (457 mm)	14.40 in (366 mm)	10.36 in (263 mm)	N/A	1.20 in (30 mm)
SCH48PE18S	SC 740	18 in (457 mm)	16.70 in (424 mm)	10.72 in (272 mm)	5.00 in (127 mm)	N/A
SCH48PE18L	SC 740	18 in (457 mm)	16.70 in (424 mm)	10.72 in (272 mm)	N/A	1.60 in (41 mm)
SCH48PE24B	SC 740	24 in (609 mm)	18.60 in (470 mm)	9.45 in (240 mm)	N/A	0.10 in (3 mm)

ALL STUBS, EXCEPT FOR THE SC48PE08T AND SC48PE08B, ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIMENSION OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

* FOR THE SC48PE08T THE 24" STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 1.75" BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SETS LEVEL.



PROJECT NAME
Special Permit Plans
Beech Street
Fitchburg, MA

This drawing was prepared to support the design engineer for the proposed conversion. It is the ultimate responsibility of the design engineer to assure that the stormwater system's design is in full compliance with all applicable laws and regulations. It is the design engineer's responsibility to ensure that the StormTech products are designed in accordance with StormTech minimum requirements. StormTech LLC does not approve plans, sizing, or system designs. The design engineer is responsible for all design decisions.

REVISIONS	DATE

STORMTECH, LLC
20 BEAVER RD, SUITE 104
WETHERSFIELD, CT 06109
tel. 888-892-2694
fax 866-328-8401
WWW.STORMTECH.COM

DRAWING TITLE
Stormtech
Infiltration Basin
Details

STORMTECH SC-740 CHAMBER DETAIL SHEET	
SAVED AS	011P DET-Stormtech
DRAWN BY	JLL
CHECKED BY	BRM
SCALE	NTS
DATE	5/11/2023
PROJECT NO.	011
DRAWING NO.	9