

MAINTENANCE OF CATCH BASINS DURING CONSTRUCTION

The Catch Basins are designed to be a low maintenance oil and sediment control system. Sediments entering the grates will settle to the bottom of the sumps and be filtered out of the drainage runoff. Oil and gasoline will float on the surface of the water where evaporation can take place. The restricted outlet will allow water to exit the structures while the floating petroleum products are trapped. During periods of heavy rainfall, the agitation of the sediments will further serve to combine with the oil and settle it to the bottom.

Catch Basin Silt Sacks are to be installed in all proposed catch basins and stormceptor. Silt Sacks are to be inspected and cleaned periodically and after every rain storm. Under normal operation most of the oil will be combined with the sediment deposits and therefore removed as well. Special care is to be taken during cleaning to avoid damaging the oil trap structure. Any damaged oil traps should be repaired immediately.

All sediments and debris are to be properly disposed of in a suitable area provided by the Millbury DPW. All structures should be inspected on a regular basis during construction of the paved areas.

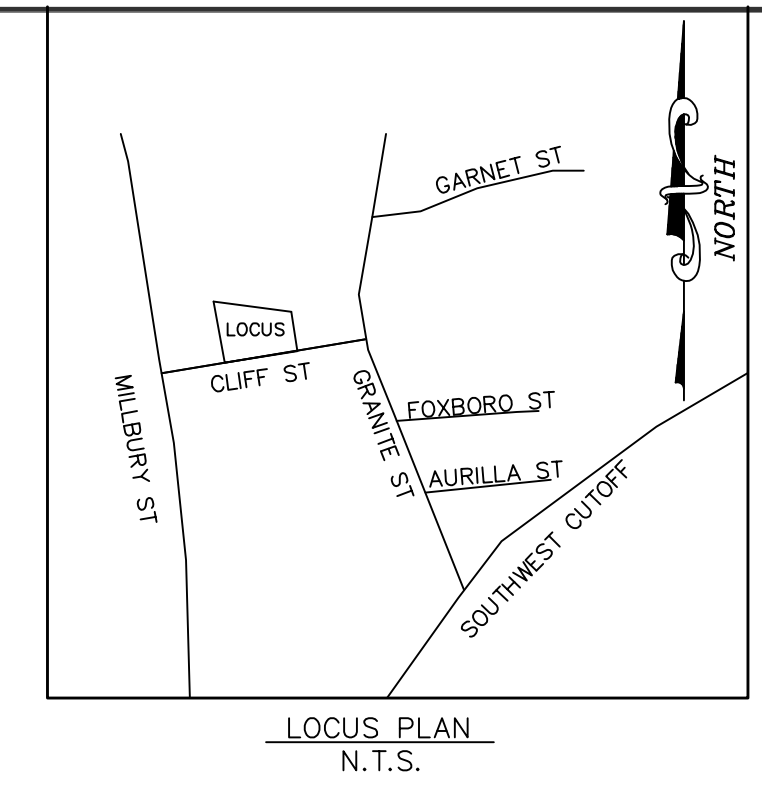
MAINTENANCE OF SEDIMENT BASIN DURING CONSTRUCTION

Specifications for the maintenance of all stormwater management facilities within this site are taken from the Stormwater Management Guidelines (Volume Two) as prepared by the Massachusetts Department of Environmental Protection. All parties responsible for the drainage facilities may need to review this document in order to more fully understand the function of the various components of this system.

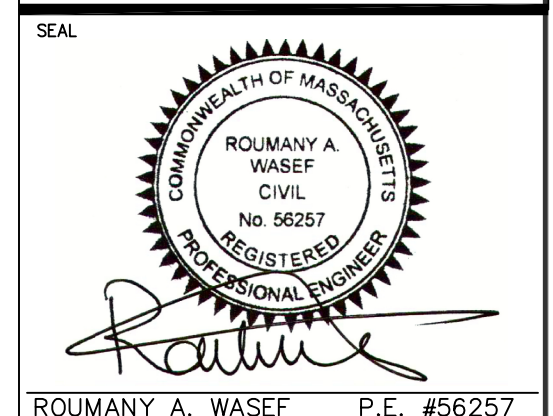
The maintenance of the sediment basin during all phases of construction is critical for the enhancement of the required groundwater recharge. All sediments are to be removed with hand shovels as required. Every attempt should be made to keep sediments from accumulating within basin. Sediment should be inspected periodically and after every rain storm. Sediment should be removed from the basin everytime it reaches 6" deep and be properly disposed of in a suitable area provided by the Millbury DPW.

ZONING DISTRICT: MG-1.0

LOT AREA	NA
FRONTAGE	NA
FRONT YARD	15 F.T.
SIDE YARD	NA
REAR YARD	15 F.T.



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ROUMANY A. WASEF P.E. #56257

DESIGNED BY: R. Monarkyous DRAWN BY: R. Murphy
SURVEY BY: R. Monarkyous

DATE: 04/10/2024
PROJECT NO: 22-0654
PLOT REFERENCE NO: NONE
DRAWING SCALE: 1"=20'

NO.	DATE	DESCRIPTION

LOCUS REFERENCES:
ID: 31/ 003/ 0006A
DEED BK. 68170, PG. 381
PLAN BK. 965, PL. 64
RECORDED @ WORCESTER
REGISTRY OF DEEDS

LEGEND

- - - EXISTING TOPO
- UTILITY POLE
- OHW- OVERHANG WIRE
- STONE WALL
- CATCH BASIN
- SETBACK LINE
- GAS LINE
- SEWER LINE
- WATER LINE
- Fence
- SEWER MANHOLE
- IRON ROD FOUND
- TREES & SHRUBS

GRADING & LANDSCAPE PLAN
LOCATED AT
11 CLIFF STREET, WORCESTER MA
OWNED BY AND PREPARED FOR
LILI LLC
1127 & GRAFTON STREET
WORCESTER, MA

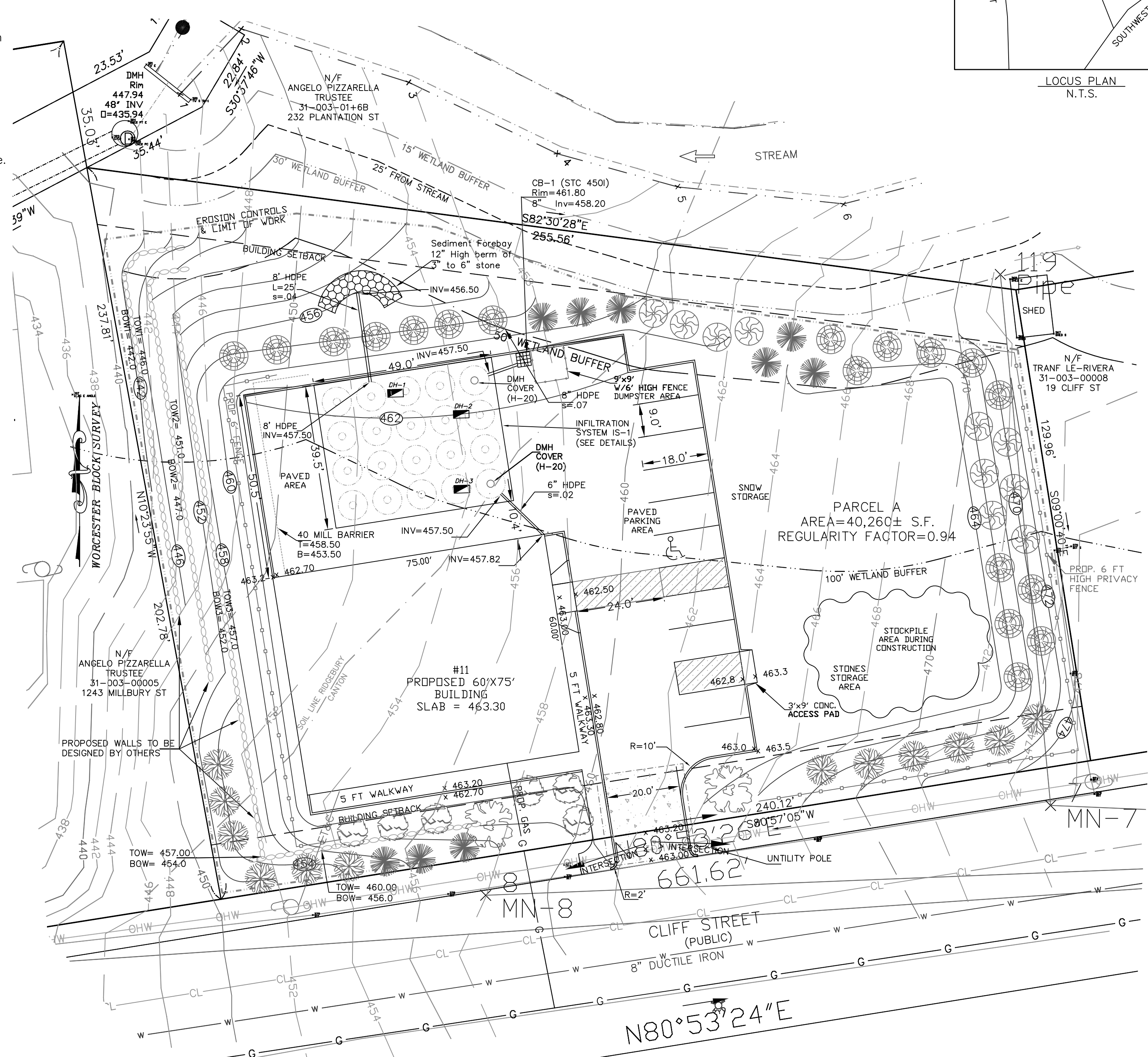
LANDSCAPE PLAN
SHEET 1 OF 2

GENERAL NOTES

- 1.0 UTILITIES**
- Place 6" Loam and seed in all disturbed areas of the project not otherwise improved.
 - Install nylon string in all conduit for pull through of cables
 - All trenches for utilities to be backfilled and compacted with granular materials free of rocks larger than 2".
 - All underground utility locations shown are based on field evidence and records provided to ALPHA OMEGA ENGINEERING INC. These locations should be considered approximate. Other utilities may exist which are not evident or for which record information was not found. The contractor must contact all utility companies and "Dig Safe" before excavation begins. We assume no responsibility for damages incurred as a result of utilities omitted or inaccurately shown.
 - It is the responsibility of the contractor to review all of the drawings and specifications associated with this project work and project scope prior to the initiation of construction. Should the contractor find a conflict with the documents, relative to the specifications or applicable codes, it is the contractor's responsibility to notify the project engineer of record in writing prior to the start of construction. Failure by the contractor to notify the project engineer shall constitute acceptance of full responsibility by the contractor to complete the scope of work as defined by the drawings and in full conformance with local regulations and codes.
 - All work shall conform to the City of Worcester and the Massachusetts Highway Department construction standards as applicable.
 - All work is to be performed in accordance with O.S.H.A. requirements.
 - Contractor is responsible for all excavation to be performed in accordance with current O.S.H.A. standards, as well as additional provisions to assure stability of contiguous structures, as field conditions dictate.
 - Refer to the Stormwater Pollution Prevention Plan for erosion control details and specifications. Erosion controls are to be installed and inspected prior to commencement of land clearing.

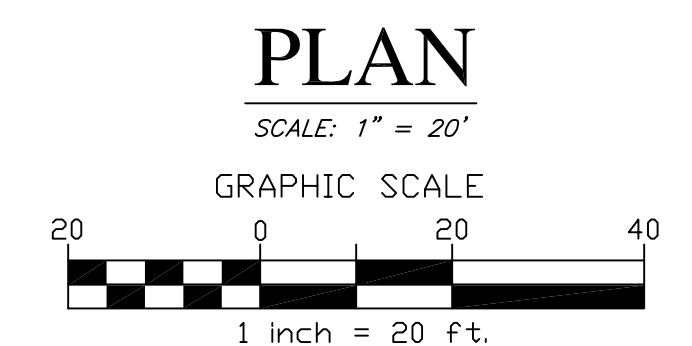
SOIL TEST DATA

O.H. #	Depth from Surface (Inches)	Soil Horizon	Soil Texture (USDA)	Soil Color (Munsell)	Soil Mottling	Other (Structures, Stones, Boulders, Consistency % Gravel)
1	00-27"	FILL	SL	10 YR5/6	@40	GRANULAR, FRIABLE
	27-30"	Ab	SL	10 YR6/4		
	30-60"	B	SANDY CL	2.5Y5/2		
2	00-15"	FILL	SL	10 YR5/6	@36	GRANULAR, FRIABLE
	15-24"	Ab	SL	10 YR6/4		
	24-48"	B	SANDY CL	2.5Y5/2		



PARKING CALCULATIONS

USE	AREA	REQUIRED
OFFICE SPACE	1500 S.F.	1/300 S.F. = 5
STORGE	3000 S.F.	1/1000 S.F. = 3
TOTAL REQUIRED = 8		
TOTAL PROPOSED = 11		



- LIST OF PLANT MATERIALS**
- USE NATIVE PLANTS - LOCALLY GROWN IN NEW ENGLAND TEMPERATE ZONE 5
- 2 MALUS Floribunda, Flowering Crab 2 1/2" Dia.
 - 12 THUJA Occidentalis, Emerald Arborvitae 4' Tall
 - 10 JUNIPERUS Sargentii, Sargent Juniper 18" Tall
 - 9 JUNIPERUS Pfitzeriana, Pfitzer Juniper 18" Tall
 - 6 RHODODENDRON Cataw. Pink Rhododendron 18" Tall
 - 18 KALMIA Latifolia, Mountain Laurel 18" Tall

CONTRACTOR TO NOTIFY DIG SAFE
72 HOURS PRIOR TO ANY EXCAVATION
TELEPHONE NUMBER 1-888-344-7233
WWW.DIGSAFE.COM

ALL UNDERGROUND UTILITIES INFORMATION SHOWN HEREON WERE TAKEN FROM FIELD OBSERVATIONS AND UTILITY RECORDS.
ALL LOCATIONS MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO START OF ANY CONSTRUCTION.

Percentage of Lot covered by Buildings = 19.4%
NOTE: There is no work proposed within the 25' Riverfront Zone or the 30' Buffer Zone.

THE STRUCTURE IS LOCATED WITHIN FEDERAL FLOOD ZONE X PER HUD MAP # 250349
COMMUNITY # 0809E DATED 07/04/2011

FIRM COMMUNITY PANEL NO. 25027C0806E
DATE: 07-04-2011

CC-2023-000; DEP FILE #349-1000

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CONSTRUCTION SEQUENCE & EROSION CONTROLS

11 CLIFF STREET, WORCESTER, MASSACHUSETTS

The following is a list of the proposed construction sequence and erosion controls for the development of the Commercial Building proposed by LLI, LLC at 11 Cliff Street, Worcester, Massachusetts. Wetland Ordinance File #CC-2023-000, DEP File #349-1000

1. The contractor and all sub-contractors are to be made aware of the recorded Order of Conditions as issued by the Worcester Conservation Commission and its Regulations applicable to this project. A copy of the Site Plans and Specifications are to be available on site at all times during all phases of construction. The Wetland Ordinance & DEP File numbers are to be installed along the street as required where they can be easily viewed.

2. Staked compost wattles and silt fence are to be installed where shown on the site plan. The compost wattle berm at the entrance is to be placed across the entrance during off hours. This berm is to prevent erosion from entering into the paved street. The contractor and the owner are responsible for the proper maintenance of the erosion controls and to identify and correct all sources of erosion. Extra compost wattles are to be stored on site in order to quickly repair erosion prone areas.

3. Rough grading and stump removal are to be confined to areas as shown on the site plan for the development of the Building, Utilities, Paving and Landscaped areas. Construction materials are to be stockpiled behind the erosion control barrier in a manner that will not impact the municipal drainage system. All fueling of construction equipment is to be done in the upland areas outside of the buffer zone when practicable. All construction debris is to be removed from the site on a weekly basis.

4. Temporary stabilization of disturbed areas is to limit erosion toward the downslope areas. All trenches are to be filled on a daily basis with special care taken to avoid routing rainfall through gullies toward the lower paved areas. The contractor is to use proper judgment relative to construction practices during adverse weather conditions.

5. Periodic maintenance of the erosion control structures is required in order to insure the proper protection of the municipal drainage system. The wattles are to serve as the limit of work. There is to be no work performed within the adjacent Right of Way without the expressed consent of the Worcester Department of Public Works.

6. All graded areas are to be stabilized as soon as the final grading is completed. All landscape slopes are to be seeded as soon as possible in order to insure the rapid stabilization of the erosion prone areas. A Conservation Seed Mixture of 33% Annual Ryegrass, 33% Chewings Fescue & 33% Canada Bluegrass is required. Additional watering is recommended during dry periods.

7. The staked, 100% biodegradable compost wattles are to remain in place for at least one full growing season or when the Certificate of Compliance has been issued. Periodic inspections of these erosion control structures is to continue during all phases of vegetation and slope stabilization. In areas where silt fences have been installed, they are to be removed once the slopes have been stabilized.

8. The contractor is to stabilize all slopes immediately upon completion of work within each phase to prevent erosion of soils into the resource areas or their associated buffer zones. During the grow-in period, temporary erosion controls (i.e. bark mulch) is to be used to prevent erosion during periods of heavy rainfall or snowmelt. If erosion of slopes should occur, immediate attention is to be given to stabilizing these areas to prevent impacts to the adjacent seeded slopes and wetland resource areas.

9. Periodic inspections of the entire construction site are to be performed by a competent representative who will insure the adherence to the regulations as set forth in the Worcester Wetlands Ordinance. The contractor is to allow unimpeded access to the jurisdictional areas by Agents of the Worcester Conservation Commission in order that they may view the construction procedures. No unauthorized individuals are to enter the construction area without the expressed consent of the owner.

10. A copy of the Order of Conditions along with the approved Site Plans are to be readily available for review on site at all times during the entire construction phase of this project. All construction management personnel are to be familiar with the contents of these documents. 24 hour contact information is to be provided to the Commission.

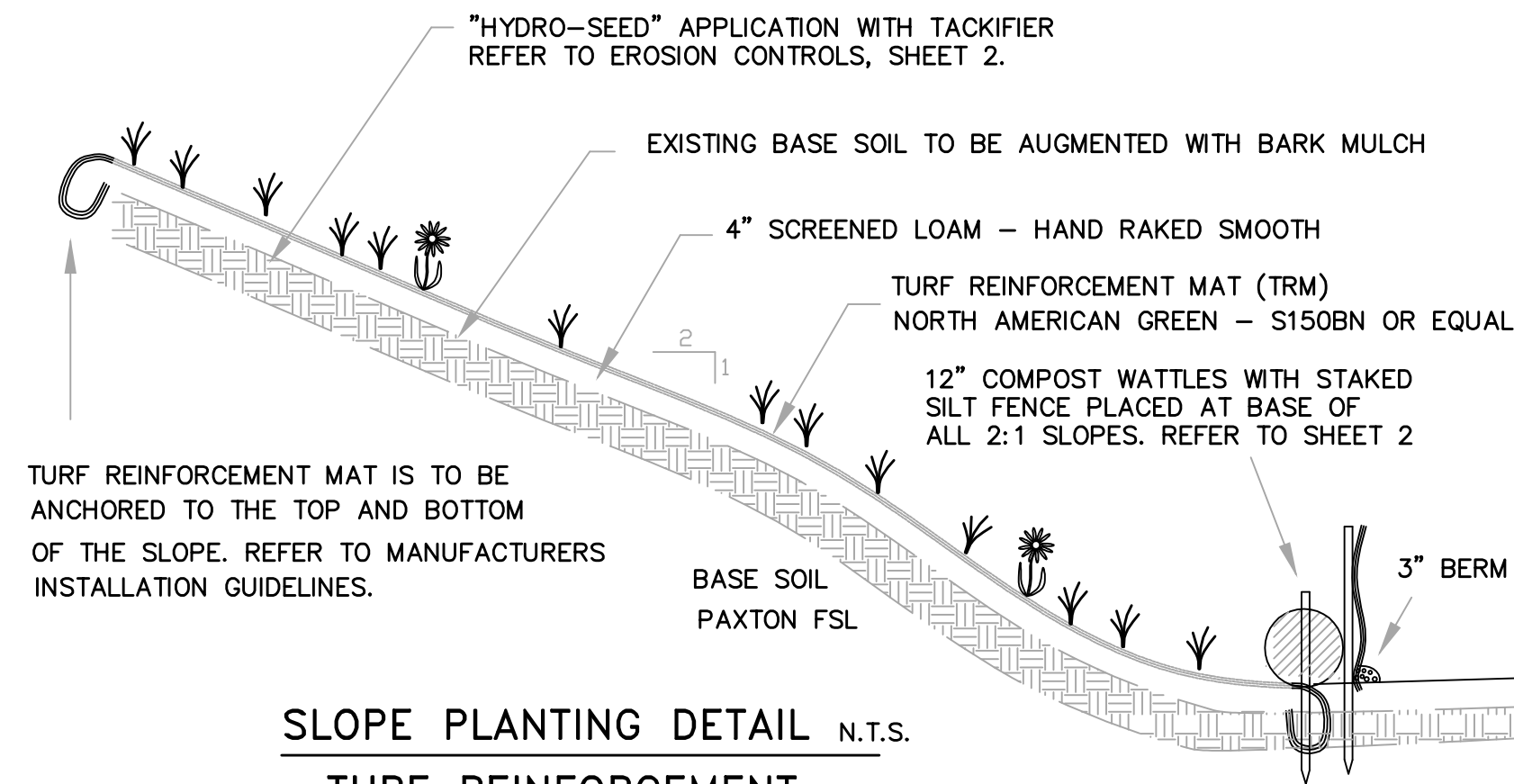
11. All buried utilities as shown are taken from available information and are to be considered as approximate only. Prior to commencement of construction, the contractor is to contact DIG SAFE at 1-888-DIG SAFE to have all buried utilities properly located.

12. The Owner is to notify the Worcester Conservation Commission when the project is completed and properly stabilized. The Certificate of Compliance (when issued) shall be recorded at the Worcester South Registry of Deeds. This is mandatory.

13. It is the responsibility of the owner and the general contractor to verify that all construction permits for this project are obtained and kept up to date. Once the project has been completed, the owner is to notify the Worcester Conservation Commission in order to obtain the required Certificate of Compliance. This Certificate of Compliance is to be recorded at the Worcester Registry of Deeds.

14. The stormwater system shall be owned, operated and maintained by the applicant. A copy of this Operation and Maintenance Schedule is to be provided to the owner of the commercial site and is to be used as an on-site reference by maintenance personnel.

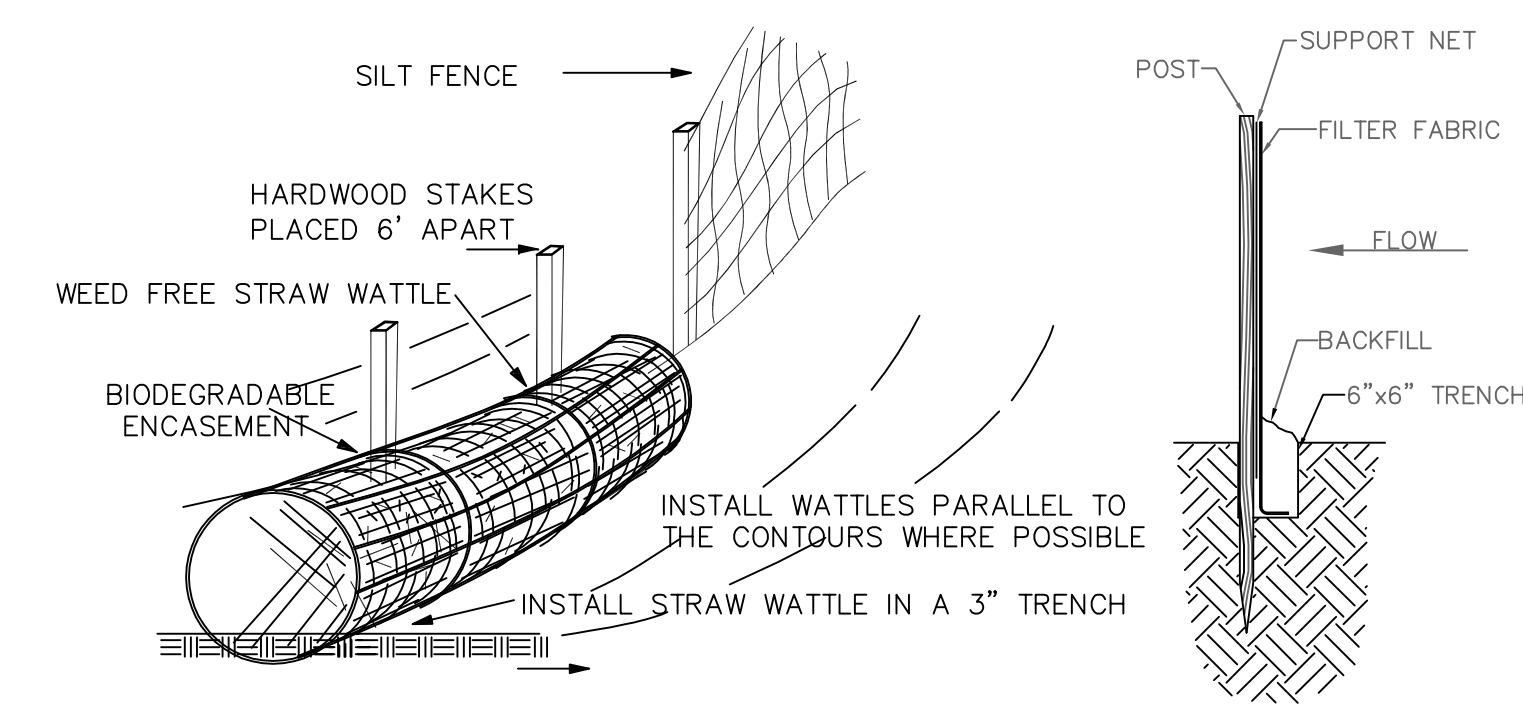
15. All work within the associated buffer zones is subject to regulation by the Worcester Conservation Commission and the Massachusetts Department of Environmental Protection. It is especially important to use proper judgment when working within erosion prone areas with respect to periods of heavy rainfall. In the event of rainfall greater than 1/2 inch during a twenty-four-hour period, there is to be an inspection of the entire site to identify problem areas. All erosion controls are to be inspected on a weekly basis and maintained as necessary.



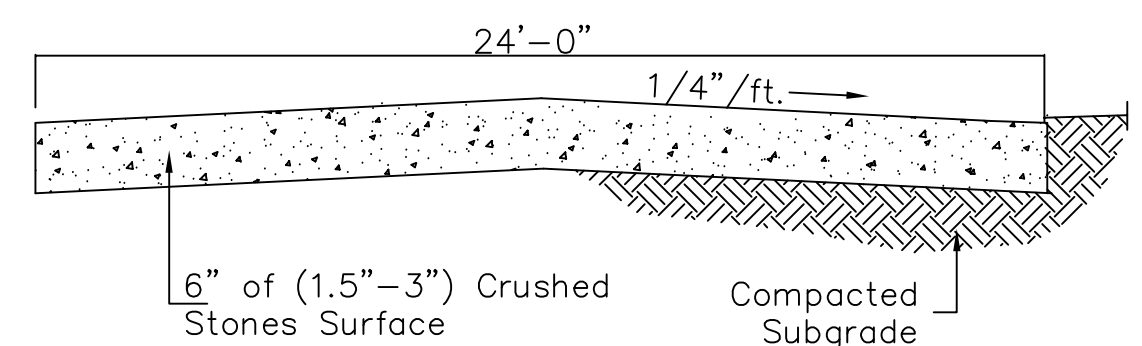
SLOPE PLANTING DETAIL N.T.S. TURF REINFORCEMENT

ALL SLOPES GREATER THAN 3:1 ARE TO BE STABILIZED WITH A TURF REINFORCEMENT MAT (TRM) MANUFACTURED TO MEET THE FOLLOWING SPECIFICATIONS.

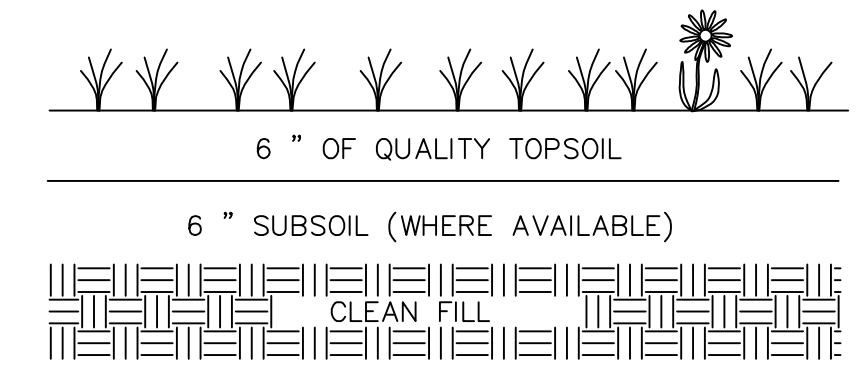
- FUNCTIONAL LONGEVITY = 12 MONTHS
- MATERIAL - 100% STRAW/COCONUT FIBER MATRIX WITH BIODEGRADABLE NETTING
- 100% BIODEGRADABLE WITHIN 30 MONTHS
- 6' WIDE X 100' LONG ROLLS, MINIMUM TENSILE STRENGTH = 156 X 110 LBS/FT
- SHEAR STRESS = 1.80 LBS/FT²



STRAW WATTLE AND SILT FENCE DETAIL



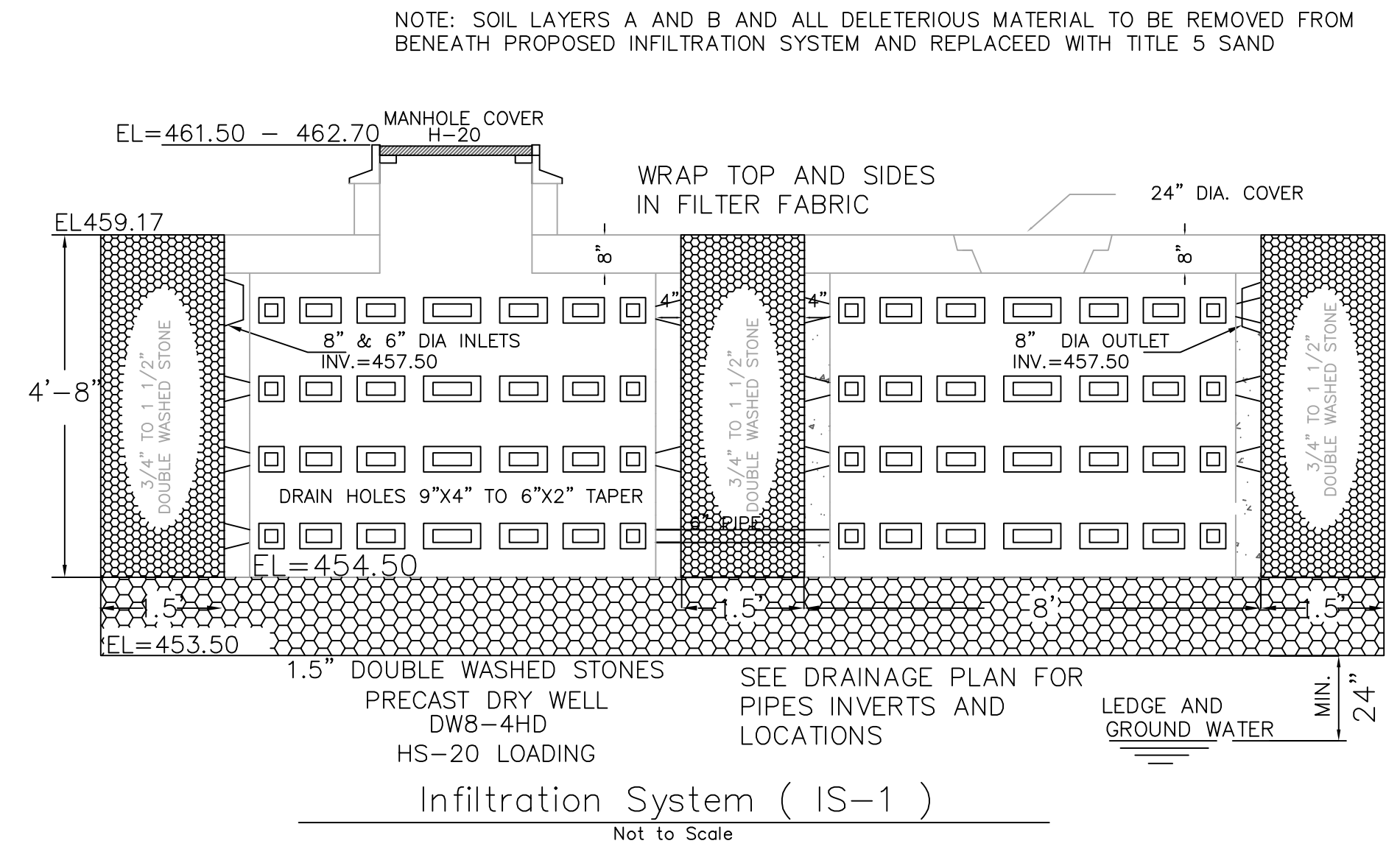
Detail of Temporary 25' Construction Entrance Not to Scale



LAWN PLANTING DETAIL

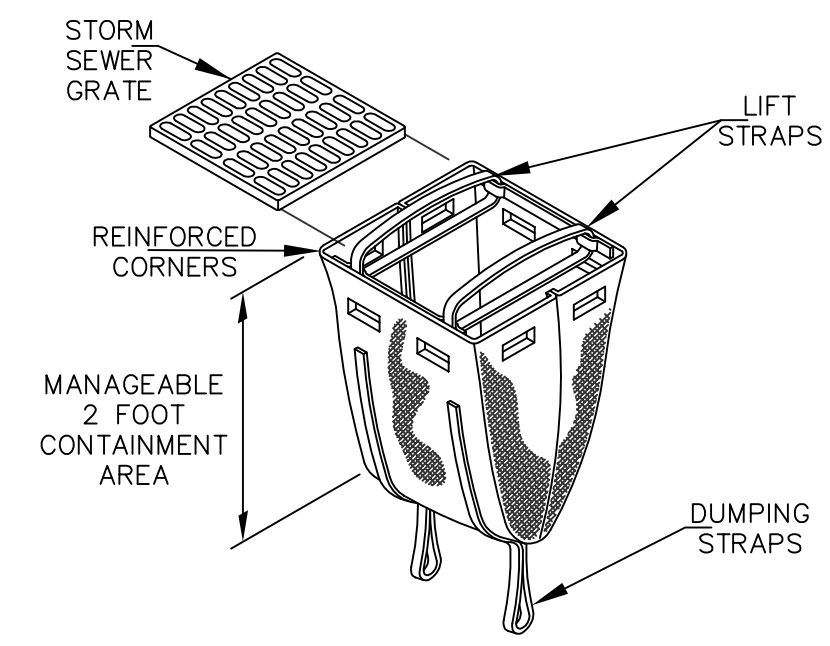
PLANTING SPECIFICATIONS:

LOAM MAY BE SUPPLEMENTED WITH ORGANIC FERTILIZER. NO COMMERCIAL FERTILIZERS OR PESTICIDES ARE TO BE USED. SPREAD A MINIMUM OF 6 INCHES OF GOOD QUALITY LOAM WITH A BASE OF 6\"/>



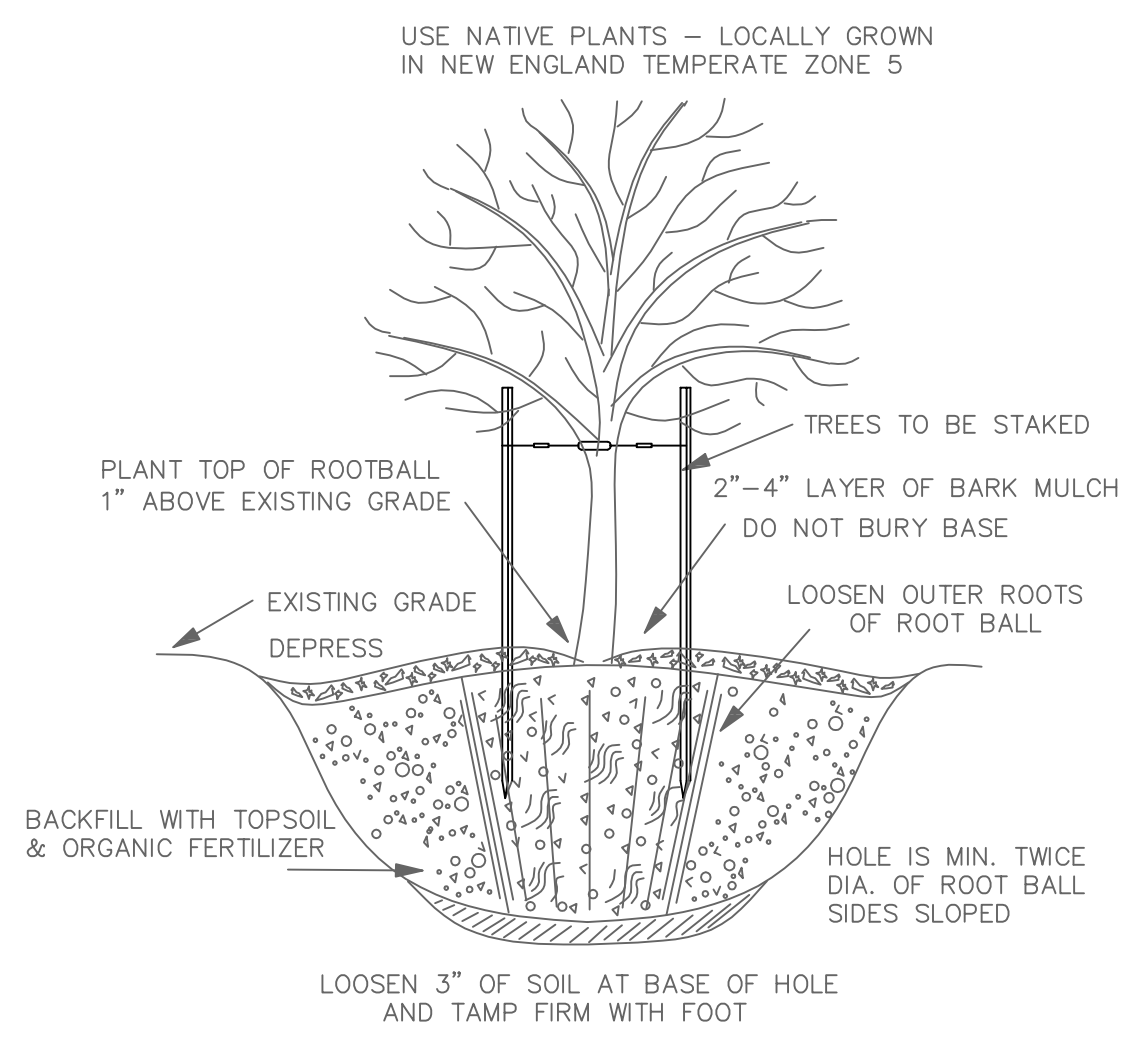
NOTE: SOIL LAYERS A AND B AND ALL DELETERIOUS MATERIAL TO BE REMOVED FROM BENEATH PROPOSED INFILTRATION SYSTEM AND REPLACED WITH TITLE 5 SAND

Infiltration System (IS-1) Not to Scale



SACK DETAILS POLYPROPYLENE SILT SACK TO BE INSTALLED IN CATCH BASIN IN CLIFF STREET

USE NATIVE PLANTS - LOCALLY GROWN IN NEW ENGLAND TEMPERATE ZONE 5



PLANTING DETAIL

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SEAL

 ROUMANY A. WASEF P.E. #56257

DESIGNED BY: R. Monkaryous DRAWN BY: R. Murphy
 SURVEY BY: R. Monkaryous

DATE	04/10/2024
PROJECT NO.	22-0654
PLOT REFERENCE NO.	NONE
DRAWING SCALE	1"=20'

NO.	DATE	DESCRIPTION

CONTRACTOR TO NOTIFY CITY/TOWN DPW PRIOR TO ANY EXCAVATION

 CONTRACTOR TO NOTIFY DIG SAFE 72 HOURS PRIOR TO ANY EXCAVATION TELEPHONE NUMBER 1-888-344-7233 WWW.DIGSAFE.COM
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STORMWATER MANAGEMENT
 LOCATED AT
 11 CLIFF STREET, WORCESTER MA
 OWNED BY AND PREPARED FOR
LILI LLC
 1127 & GRAFTON STREET
 WORCESTER, MA

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