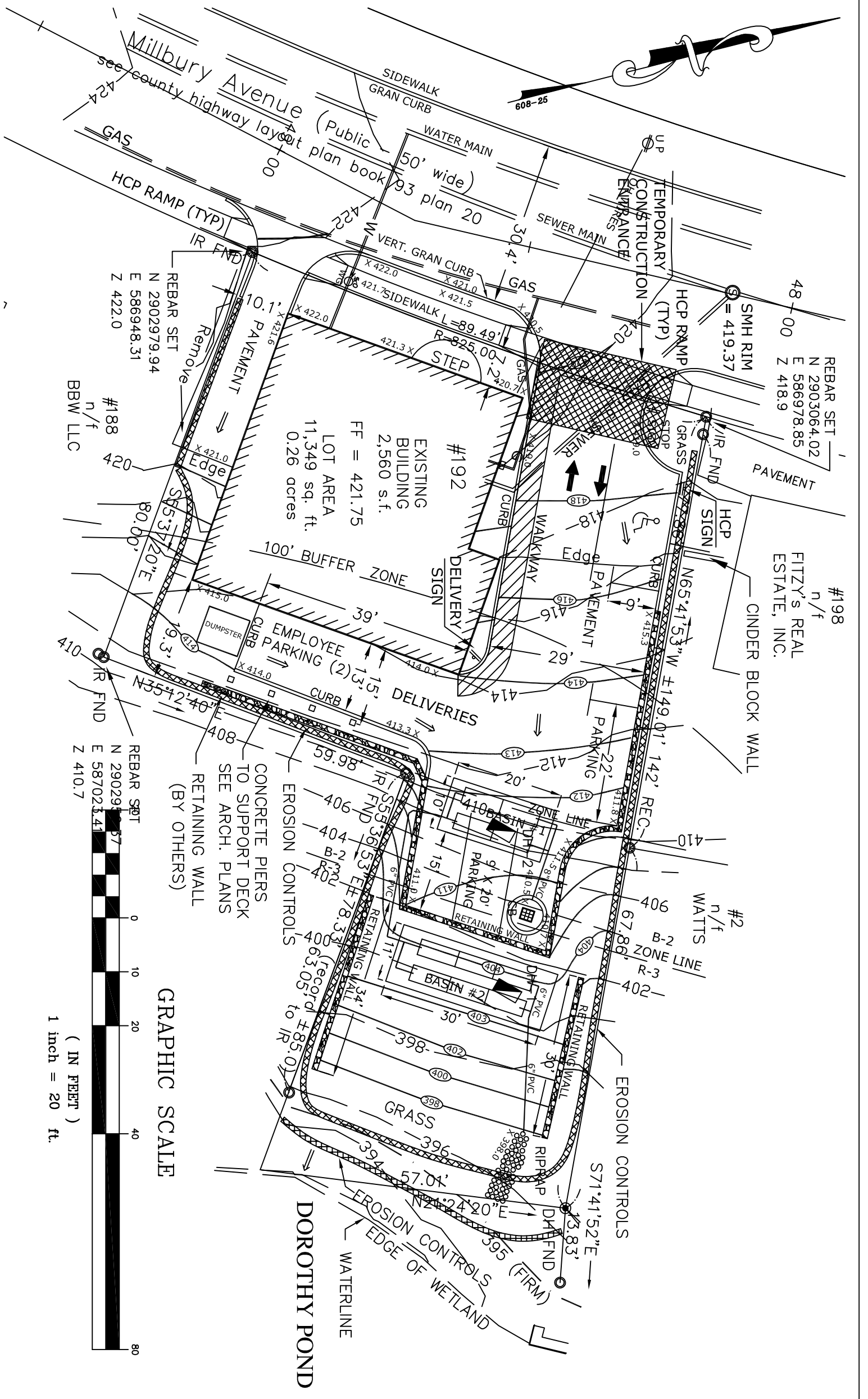


CONSTRUCTION SEQUENCE - EROSION & SEDIMENTATION CONTROL
192 MILLBURY AVENUE, MILLBURY, MASSACHUSETTS DEP FILE #24-0826

The following is a list of the proposed construction sequence and erosion controls for the redevelopment of the existing commercial site.

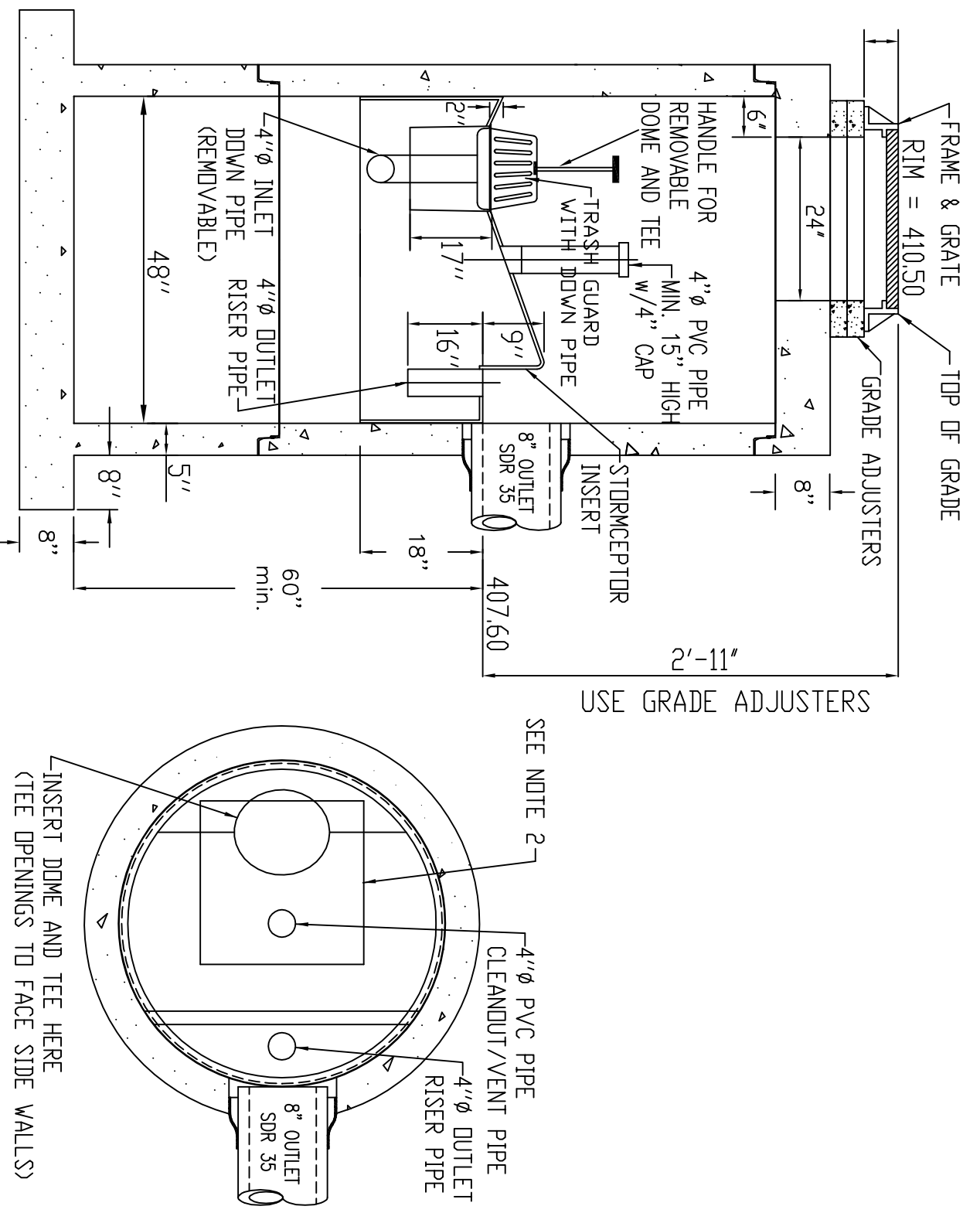
- The contractor and all sub-contractors are to be made aware of the Conditions of Approval as issued by the Millbury Conservation Commission. A copy of this permit and the approved plans are to be readily available for inspection purposes, on site at all times.
- Prior to the commencement of construction, the owner of the project is to conduct an onsite pre-development meeting with all concerned parties. Present at this meeting shall be the owner and/or their legal representatives, the project superintendent for the general contractor, the environmental consultant, and site-contractors responsible for the installation of the erosion and sedimentation controls. During this meeting, the limits of land clearing and perimeter of construction shall be clearly identified. The names and telephone numbers of these parties are to be supplied to the Millbury Conservation Commission to avoid time delays during emergency situations.
- The parking area rough grading and hand clearing activities are to be completed during the first phase of this project. For this reason, all the erosion controls are to be in place and inspected prior to the commencement of construction. Approved erosion controls are to be installed where shown on the site plans and are to function as a limit of work. The temporary detention basins are to be constructed with no outflow at this time. The contractor is responsible for the daily maintenance of the erosion controls and to identify and correct all sources of erosion immediately. Due to the possibility of high intensity rainfall during thunderstorms and hurricanes, a "protective" approach to controlling erosion will be required. Refer to the Stormwater Management - Operation and Maintenance Schedule in this report.
- All earth removal and hand clearing activities within the entire site are to be done with minimal amounts of securing and removal of the existing topsoil to limit the potential for erosion. The staging areas for clearing activities are to be located well away from all wetland areas. Additional erosion controls may be required along the perimeter of the temporary staging area. Chipping of tree limbs is recommended to provide greater erosion control along exposed slopes. At no time are the chips to be directed onto adjacent properties. Construction materials are to be stockpiled well away from the temporary sediment basins in a manner that will not impact the adjacent wetlands.
- The removal and rough grading of the site should commence in the southwestern area away from the roadway. Where possible, access to the excavated areas will be limited to the temporary construction entrance. Progressing in a northwesterly direction in a stepped manner will allow the contractor to identify the potential runoff drainage routes before they become a problem. Stabilization of disturbed slopes with wood chips and bark mulch will provide protection at this stage of construction. It should be noted that the contractor will be responsible for the "common sense" approach of maintaining the temporary sediment basin during all phases of this project. Refer to the Stormwater Management plan for additional details.
- All work adjacent to Millbury Ave. shall be performed in accordance with the 1988 & 1995 editions of the Commonwealth of Massachusetts Highway Department Standards and Specifications for Highways and Bridges, and the Supplemental Specifications dated July 11, 2015. The Millbury Department of Public Works (DPW) is to be contacted prior to the installation of utilities adjacent to the highway.
- The permanent surface and subsurface infiltration structures are to be installed once the land clearing is completed and the need for heavy equipment passing through the site is limited. The catch basins are to be fitted with Silt Sack as soon as possible to limit unnecessary sediments from entering. In trenches where drainage runoff is expected, special care is to be taken to avoid routing water through gutters toward the lower property. All utility trenches are to be fitted on a daily basis. Under no circumstances are utility trenches to be left open for a period exceeding twenty-four hours. The contractor is to use proper judgment relative to construction practices during adverse weather conditions. No work is to be performed within 30 feet of Cold Spring Brook during periods of heavy rainfall. Staging areas for the heating, maintenance and storage of construction equipment are to be located where they will not impact the wetland resource areas and all adjacent properties.
- All spillages of petroleum products is to be cleaned immediately and disposed of following DEP guidelines. All construction debris is to be stored in dumpster trailers and removed in a timely fashion. In areas where the erosion control barriers have been damaged, they are to be repaired immediately. Extra straw wattles and silt fence fabric are to be stored on site for this purpose.
- All exposed slopes are to be stabilized as soon as possible. No slopes are to be left untreated for a period exceeding fifteen days. A heavy fiber Hydroseed mixture with a tackifier will limit the potential for erosion of fine sediments along graded slopes that are not yet completed. Special care is to be taken to limit drainage runoff from concentrating within the graded slopes and channeling toward the recently stabilized areas.
- Once the rough grading of the pavement has been completed and the temporary entrance is installed, the mobilization of various construction vehicles throughout the site will be possible. For this reason, the daily stabilization of the exposed cut and fill slopes should be a priority over all the other construction activities from this point on. Vegetated areas should be planted and maintained in an immediate succession to the completion of underground utilities. Vegetated slopes greater than 2 to 1 are to be stabilized with a layer of organic mulch to limit fine soil particles from eroding and to stabilize the infiltration trenches. The installation of all underground utilities within the site will require a coordinated effort by the various subcontractors to assure the least amount of time that open trenches are exposed within the buffer zones. In areas where exposed trenches may project outside of the stabilized slopes, it may be necessary to install temporary erosion control barriers to limit routing drainage through the unstabilized soils. This applies to sloped swales and culverts as well.
- Once the site utilities have been completed and inspected as per the Order of Conditions, the binder course of pavement is to be installed. As previously stated, the paved areas are to be constructed as a single phase. However, the paving may be completed as a progression of steps to protect the completed sub-base within the parking areas from erosion. As a result of the introduction of the increased impervious areas as well as the reduction of drainage flows within the immediate site, there will be an increase in storm water flows to the down slope areas. Special attention to prevent concentrated discharges from bypassing the stormwater detention controls will be necessary at this time. Temporary erosion control barriers will need to be maintained daily during this period.
- During periods of heavy rainfall, there may be occurrences of erosion of the unstabilized slopes once the pavement has been installed. Immediate attention to the maintenance of these eroded areas will further ensure the successful stabilization of the down gradient slopes while limiting the impacts to the specific areas. Wood chips and stump grindings provide an excellent source for creating temporary check dams to control drainage runoff during high intensity storms. During the summer months it is crucial for the protection of all vegetated slopes that concentrated flows of runoff be directed away from recently stabilized areas. For this reason, the general contractor will be responsible to delegate authority to at least one individual who will be available at a moment's notice (7 days a week).
- Periodic inspections of the entire construction site are to be performed by a competent representative who will ensure the adherence to the regulations as set forth in the Clean Water Act, as amended (33 USC 1251). An authorized Agent of the Millbury Conservation Commission may conduct inspections of the jurisdictional areas and consult with the project engineer as necessary before, during and after the commencement of construction.
- Robert G. Murphy is to be granted authority by the owner of the project to monitor the erosion and sedimentation controls and to cease and desist all construction activities if, in his discretion, said activities are in violation of the Stormwater Management Permit and supporting documents. Refer to the recorded Order of Conditions.

- The contractor is to allow unimpeded access to the site by the authorized Agent of the Millbury Conservation Commission in order that they may view the construction procedures. Members of the Municipal Boards and/or their Agents shall not engage in the direction of construction procedures or other areas of current construction activity without first notifying the General Contractor and/or their representatives. All complaints and/or concerns are to be done through the proper "chain of command". No unauthorized individuals are to enter the construction area without the expressed consent of the owner and/or their representatives. All parties are to be properly insured (with adequate proof) before entering the construction site.
- It is the responsibility of the owner 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 Millbury Conservation Commission and the Board of Health in order to complete the specific requirements for certification.



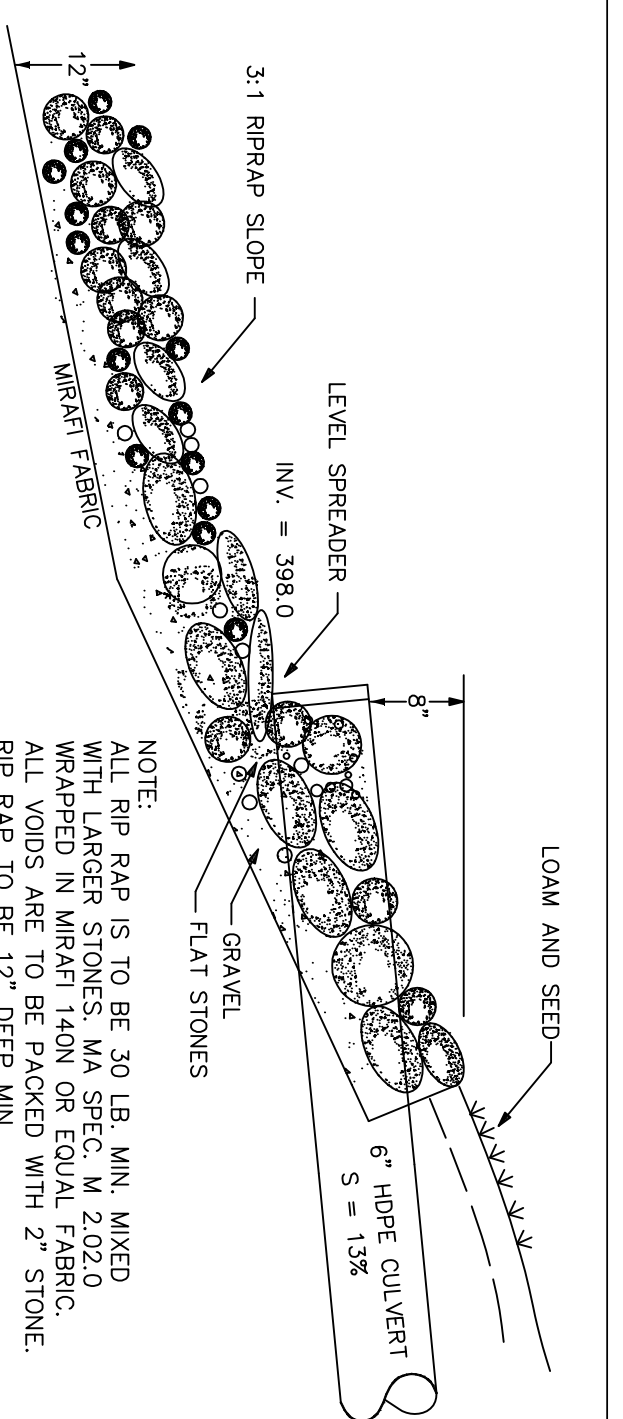
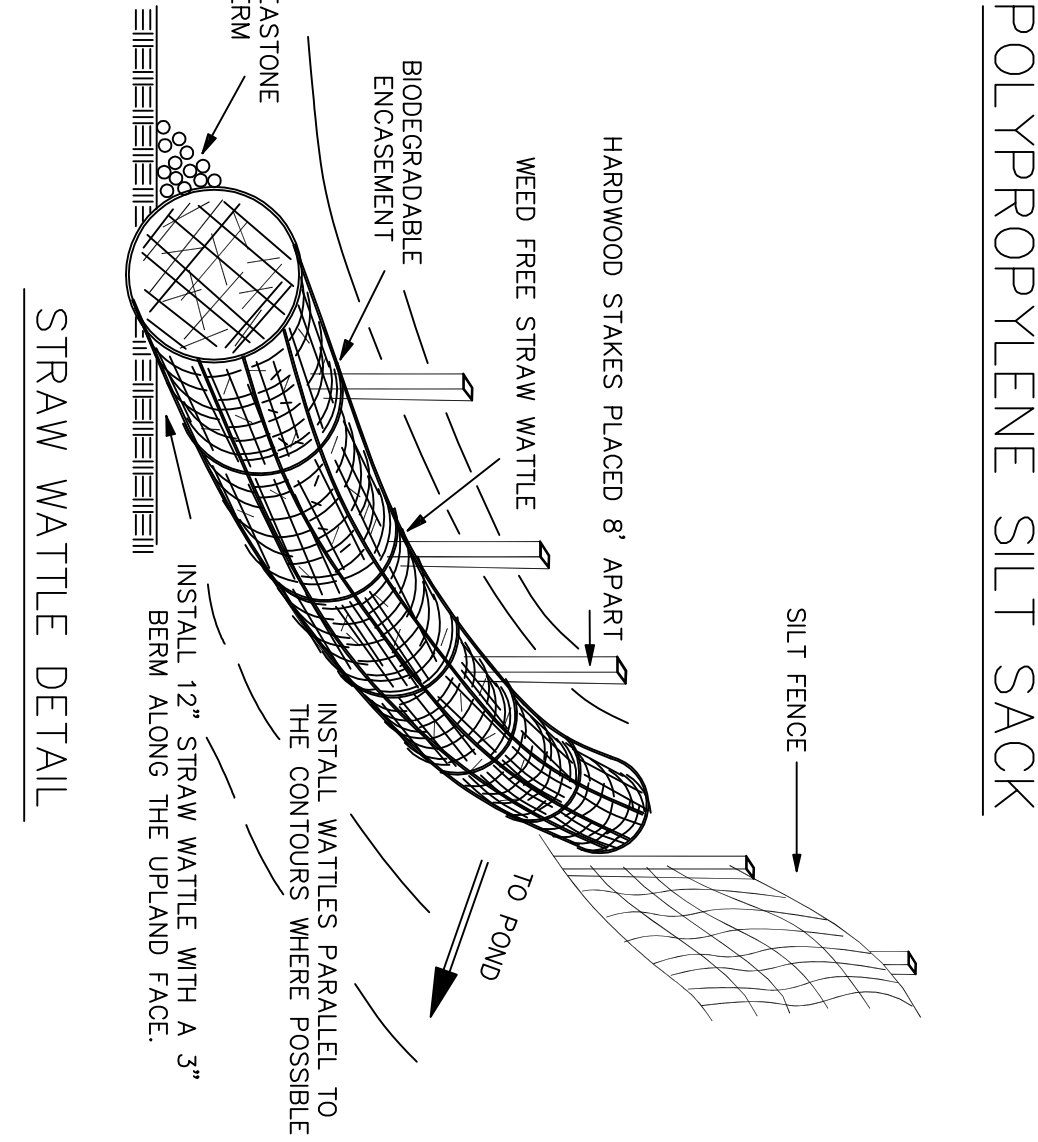
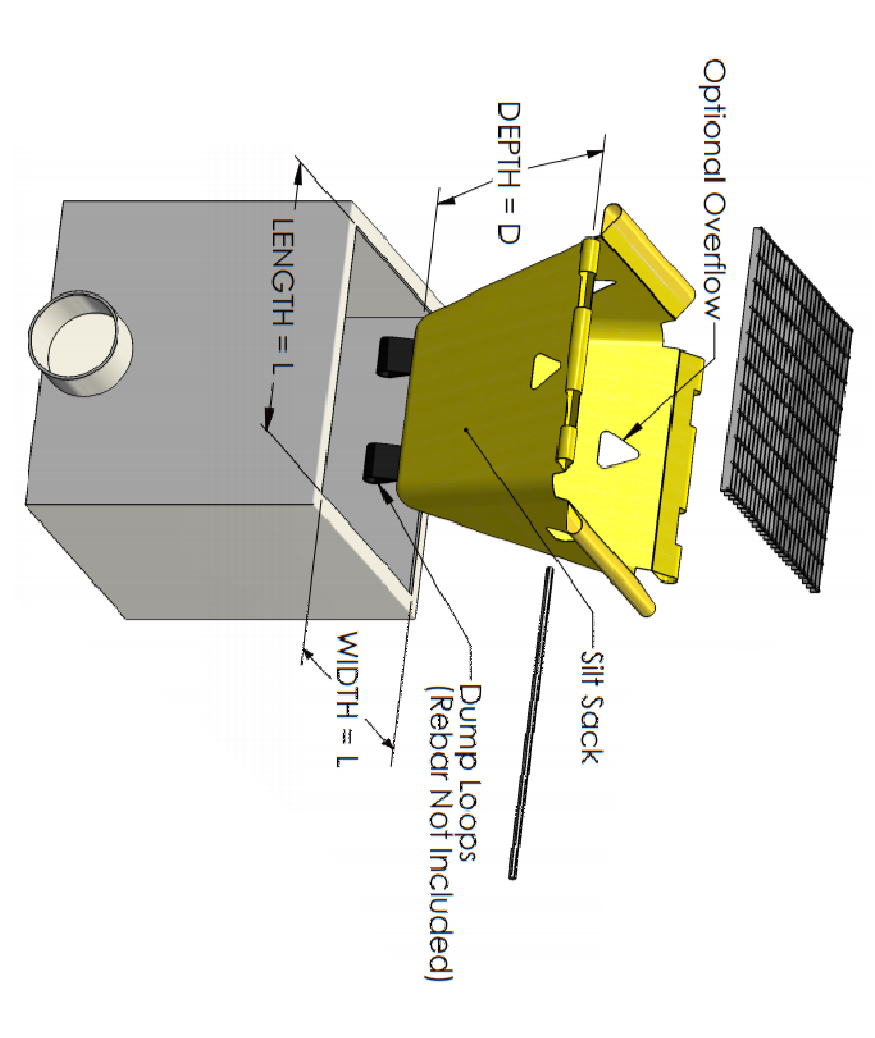
EROSION & SEDIMENT CONTROL PLAN

STC 450i Precast Concrete Stormceptor
 (450 US Gallon Capacity)



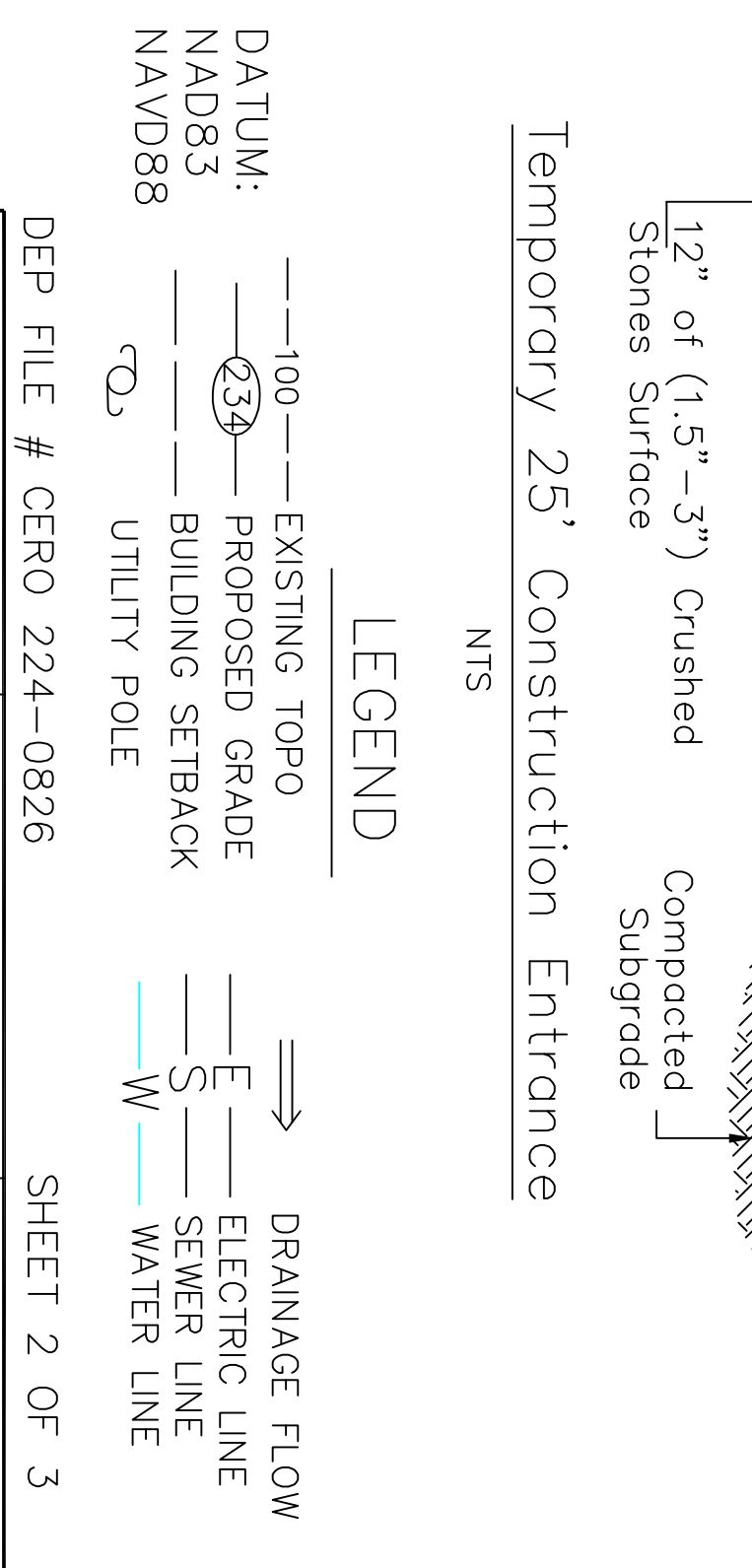
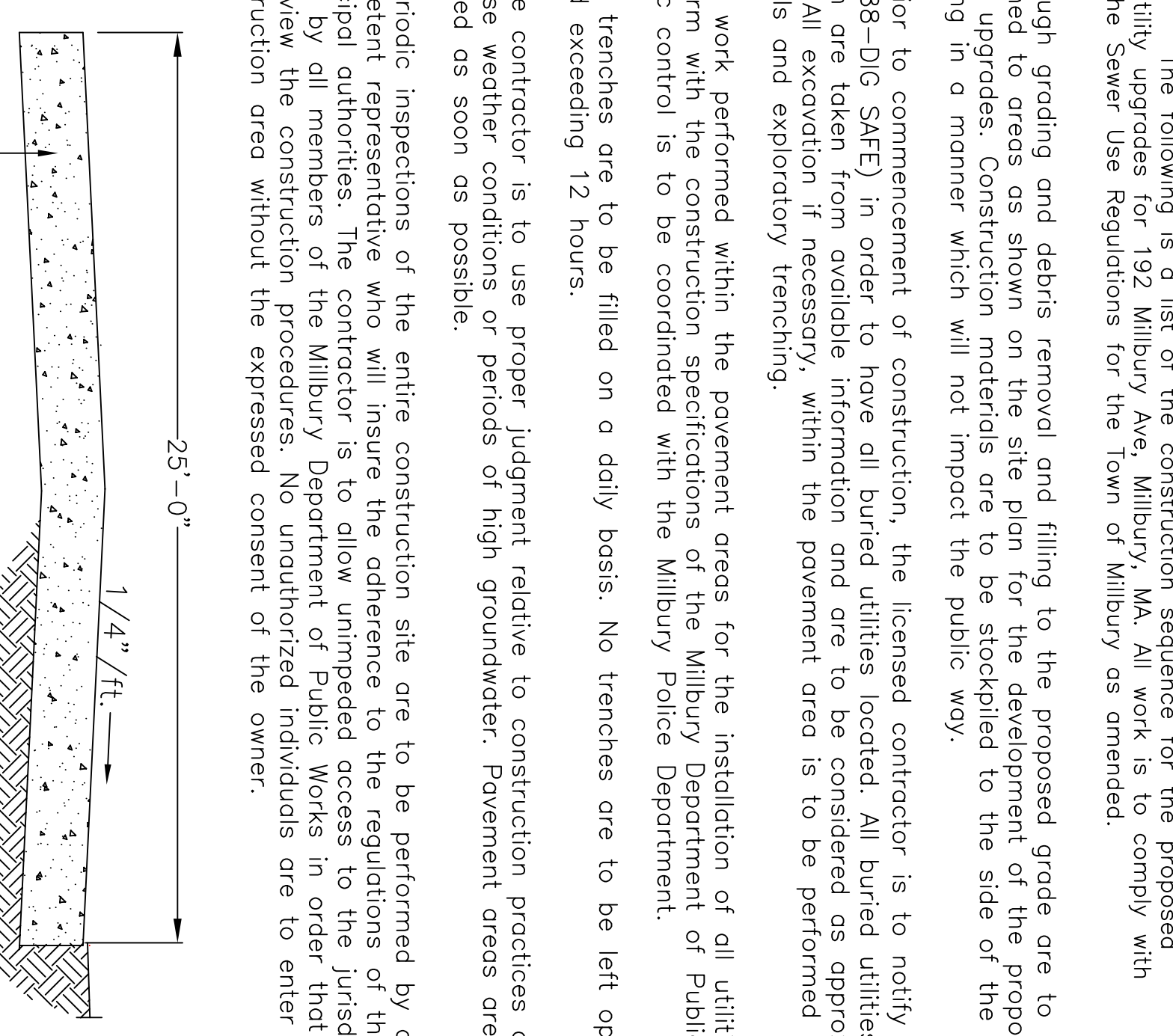
- NOTE:
- AT THE OUTLET WHERE APPLICABLE, THE USE OF FLEXIBLE CONNECTIONS IS RECOMMENDED
 - THE COVER SHOULD BE POSITIONED OVER THE 4" Ø CLEANOUT/VENT PIPE AND THE 4" Ø INLET DOWN PIPE.
 - OFF THE FOLLOWING U.S. PATENTS: #4985148, #5498331, #5725780, #5753115, #5849181.
 - CONTRACTOR TO PROVIDE CRANE TO SET UNIT (HEAVIEST SECTION WEIGHS 5000 LB)

STORMCEPTOR® STC 450i CATCH BASIN
 NTS



RIPRAP SIZING IS BASED UPON THE ISBASH CURVE AS TAKEN FROM THE NATIONAL ENGINEERING HANDBOOK. THE MAXIMUM VELOCITY OF DRAINAGE OUTFLOWS IS EQUAL TO 6 FPS. 5" STONE WITH A MINIMUM WEIGHT OF 30 LBS IS TO BE PLACED AT THE DRAINAGE OUTFLOW.

- Prior to commencement of construction, the licensed contractor is to notify DIG SAFE (1-888-DIG SAFE) in order to have all buried utilities located. All buried utilities are shown on drawings from available information and are to be considered as approximate only. All excavation if necessary, within the pavement area is to be performed with hand shovels and exploratory trenching.
- All work performed within the pavement areas for the installation of all utilities is to conform with the construction specifications of the Millbury Department of Public Works. Traffic control is to be coordinated with the Millbury Police Department.
- All trenches are to be filled on a daily basis. No trenches are to be left open for a period exceeding 12 hours.
- The contractor is to use proper judgment relative to construction practices during adverse weather conditions or periods of high groundwater. Pavement areas are to be repaired as soon as possible.
- Periodic inspections of the entire construction site are to be performed by a competent representative who will insure the adherence to the regulations of the various municipal authorities. The contractor is to allow unimpeded access to the jurisdictional areas by all members of the Millbury Department of Public Works 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.



DESIGNED BY: R. G. MURPHY
 DRAWN BY: R. G. MURPHY
 DATE: 8-25-2021

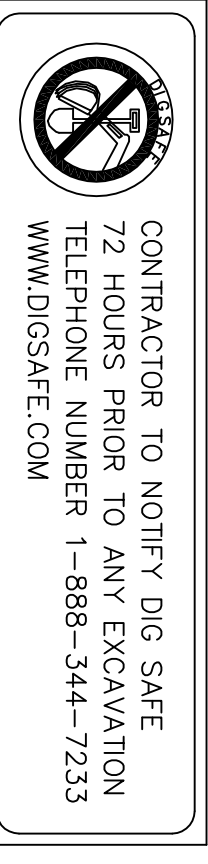
ROBERT G. MURPHY & ASSOC., INC.
 ENVIRONMENTAL CONSULTANTS
 214 Worcester Street
 No. Grafton, Massachusetts 01536
 (508) 839-0310
 Fax: (508) 839-5914

STORMWATER MANAGEMENT PLAN
 192 MILLBURY AVE.
 MILLBURY, MASSACHUSETTS

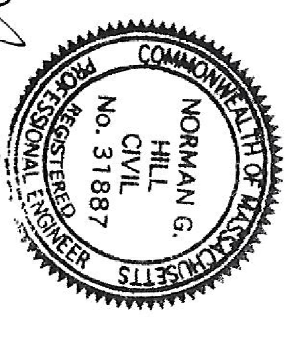
REVISIONS: AS PER STATE REVIEW DATED 9-24-21, RGN 10-19-2021

SHEET 2 OF 3

SITE PLAN	APPROVED
MILLBURY	PLANNING BOARD
DATE	



PROPOSED CONSTRUCTION IS NOT LOCATED WITHIN THE 100 YEAR FLOOD ZONE AE (395) REFER TO FIRM MAP 25027C0809E, 7-4-2011



10-19-2021
 NORMAN G. HILL, PE DATE
 LAND PLANNING, INC.
 214 Worcester Street
 North Grafton, Massachusetts 01536