



HERITAGE
PROPERTIES

490B Boston Post Road, Suite 202
Sudbury, MA 01776
978.443.4642 (Phone)
978.443.8612 (Fax)

February 14, 2018

Jeanne Guthrie
Sherborn Zoning Board of appeals
19 Washington Street
Sherborn, MA 01770

RE: Peer Review Response - 59 N. Main Street Village, Sherborn (55 & Over-40B)

Dear Jeanne

In response to the peer review comments outlined in the peer review report prepared by Professional Services Corporation, PC. on September 12, 2017 and later revised on December 18, 2017, for the above referenced project, the following information is included as our response:

1. Letter dated 2/9/18 with peer review responses prepared by the project Engineer, EDC, Inc. (Attached), (21 pages)
2. Peer review responses prepared by the project Owner/Applicant, Vin Gately, Heritage Properties. The responses are dated 11/27/17 in "Red" and 2/14/18 in "Blue." (11 pages)
NOTE: All Exhibits referenced herein were previously submitted on 11/27/17
3. Revised Site Plans prepared by EDC, Inc. for 59 N. Main St., Rev. 1/30/18 (8 pages)
4. Landscape Plan prepared by Cosmos Associates for 59 N. Main St, dated 2/12/18 (2 pages)
5. Summary of Proposed Waivers prepared by EDC, Inc., dated 2/10/18 (2 pages)
6. Soil Absorption System (SAS) Plan prepared by EDC, Inc., dated 1/30/18 (2 pages)
7. Form 12 – Percolation Test, prepared by EDC, Inc. (1 page)
8. Form 11 – Soil Suitability Assessment for On-Site Sewerage Disposal, prepared by EDC, Inc., (8 pages)

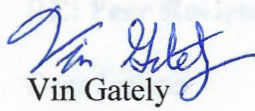
9. Conservation Peer Review Response prepared by EDC, Inc. dated 1/31/18
(50 pages)

The above information has been delivered today to the following:

- A. Professional Services Corp., PC - (Peer Review Copy)
- B. Sherborn Planning Board - (Town Copy)
- C. Sherborn Zoning Board of Appeals – (40B Project Copy)
- D. Sherborn Conservation Commission
- E. Sherborn Board of Health

As always, please contact me if you have any questions or need any more information

Sincerely,


Vin Gately
President

February 9, 2018

Board of Appeals
Town Hall
Sherborn, Massachusetts 01772

Reference:

Sherborn Village
59 North Main Street
Sherborn, Massachusetts
EDC Job No.: 3438

Dear Board Members:

The following are responses in red pertain to a letter of peer review dated, December 18, 2017, by Professional Services Corporation, PC. Items that are not addressed by EDC are to be addressed by project proponent Vin Gately and/or Landscape Architect Steve Cosmos.

If you have any questions or comments, please let us know.

Very truly yours,

ENGINEERING DESIGN CONSULTANTS, INC.

Walter Lewinski

Walter M. Lewinski, P.E.

SECTION II - STATUTORY THRESHOLDS

The application includes calculations of statutory minima as they relate to consistency with local needs. Issues relating to the computation of statutory thresholds are summarized as follows:

COMPUTATION OF STATUTORY MINIMA

1. The application includes a computation of the existing 40B Housing Inventory. The Housing Inventory based upon DHCD counts as of February, 2017 indicates that Sherborn has 34 subsidized housing inventory units (2.3% of its housing inventory), which are 114 units shy of the 10% SHI threshold. The applicant's contribution of three units would increase the Town's SHI from 2.3% to 2.5%.

Response: No response by EDC required.

PSC: OK. Closed Item.

2. A computation for General Land Area Minimum should be provided to indicate acreage added by the project to the existing Town Low and Moderate Income Housing areas. To meet the threshold, the Land Area Minimum Standard requires that 1.5% of the total Town land area be held for affordable Chapter 40B housing. For Sherborn, 1.5% is equivalent to no more than 153.6 acres (likely less when subtracting wetlands and unbuildable areas). The application does not document existing Chapter 40B land areas toward the statutory minimum.

Response: No response by EDC required.

PSC: Agreed. OK. Closed Item.

SECTION III - CONTENTS OF THE APPLICATION

PROJECT ELIGIBILITY LETTER

3. The project Comprehensive Permit application contains correspondence from Massachusetts Housing Finance Agency dated February 21, 2017 regarding the *59 North Main Street Village, Sherborn Project Eligibility/Site Approval Project #895*. The description of the project in the letter appears consistent with the Sherborn Village plans. OK

Response: No response by EDC required.

PSC: Agreed. OK. Closed Item.

4. The project eligibility letter acknowledges the Town's concern with stormwater management and alterations to the wetland buffer zone and riverfront impacts. MassHousing requires that the applicant discuss during the public hearing, resolution of all environmental conditions per laws, regulations and standards applicable to existing conditions and to the proposed use, including but not limited to compliance with all applicable regulatory restrictions relating to floodplain management, the protection of wetlands (WPA), river and wildlife habitats, conservation areas as well as state environmental protection requirements relating to the protection of the public water supply stormwater runoff and hazardous waste safety, and further that the Applicant should provide evidence of such compliance prior to the issuance of a building permit for the project.

Response: No response by EDC required.

PSC: Agreed. OK. **Closed Item.**

5. The project eligibility letter acknowledges the Town's concern with the project's water supply & wastewater management and requires that the Applicant must comply with Title V regulations regarding the design and construction of individual wells and septic systems, and further that the Applicant should provide evidence of such compliance prior to the issuance of a building permit for the project.

Response: The soil absorption system plans as well as the site plans will be submitted to the Board of Health and these documents have been designed according to Title V and to the maximum extent possible the local Town of Sherborn's regulations..

PSC:

The soil absorption system plans as well as the site plans have been on file the Board of Health since November and these documents were designed according to Title V and to the maximum extent possible the local Town of Sherborn's regulations. Additional soil testing was completed within the SAS limits and this testing corroborated the original soil testing completed by EDC and testing completed by other certified soil evaluators.

6. The project eligibility letter acknowledges the Town's concern with general operation concerns such as the impact of the project on traffic and local roads and further requires the Applicant to provide a detailed traffic study assessing potential impacts of the Project on area roadways, including traffic volumes, crash rates and the safety and level of service (LOS) of area intersections, identifying appropriate traffic mitigation in compliance with all applicable state and local requirements governing site design. The letter also requires the traffic study to review on-site parking and circulation to ensure compliance with industry standards.

Response: EDC discussed traffic during the public hearing process and formally requested a waiver from supplying any additional information.

PSC:

We continue to believe that no further traffic review is needed for this project and look to the ZBA to close out this item.

7. The project eligibility letter acknowledges the Town's concern with wastewater management and water use and requires the Applicant to be prepared to provide detailed information relative to proposed water and sewer use, potential impacts on existing capacity, and appropriate mitigation. The shared wastewater design is schematic and calculations were not provided in the application.

Response: No response by EDC required.

PSC: Agreed. OK. Closed Item.

EVIDENCE OF SITE CONTROL

8. Evidence of Site Control – The applicant has provided a copy of the Quitclaim Deed for the parcel conveying the property to HP Sherborn, LLC (June 23, 2015 for \$1,275,000). (DB 65811, pp 274-275).

Response: No response by EDC required.

PSC: Noted. Closed Item.

9. A copy of the Purchase and Sale Agreement, dated November 1, 2016 from HP Sherborn, LLC to 59 Main Street Village, Inc., was provided (for \$1,950,000).

Response: No response by EDC required.

PSC: Noted. Closed Item.

10. Any easement rights held by others (if any) should be added to the plan.

Response: Any and all easement identified at Middlesex Registry of Deeds are identified.

PSC: OK. Closed Item.

EXISTING SITE CONDITIONS

11. As set forth in the Department of Housing and Community Development's Guidelines for Local Review of Comprehensive Permits, the Applicant is required to submit a narrative detailing "alternative site uses under existing zoning." An endorsed Site Plan was supplied, showing development of the project in conformance with existing Zoning dimensional requirements for RA. OK.

Response: No response by EDC required.

PSC: Requirement fulfilled. OK. **Closed Item.**

12. Several large trees, between 24-inches and 48-inches in diameter have been identified on the plan for preservation. Proposed grade changes and the proximity of construction near the project entrance and Unit 12 make it unlikely that three large trees (30-inch, 36-inch and 48-inch) deciduous specimens will be maintained. Specific construction-stage and permanent measures to provide for tree protection should be specified.

Response: Landscape Architect Steve Cosmos will respond [and] has determined that the trees cannot be maintained and shall be removed.

PSC: The three referenced trees near the entrance and Unit 12 will be removed. **Closed Item.**

13. Inspection of the of Flood Insurance Rate Map (FIRM), Map Number 25017C00538F, Middlesex County Massachusetts, effective date July 7th, 2014 indicates that the entirety of the site falls outside the 100-year jurisdictional floodplain of the perennial stream. The site is located outside the Zone X, with less than 0.2% chance of annual flooding (500-year floodplain).

Response: A note has been added to the Existing Conditions Plan.

PSC: OK. **Closed Item.**

14. The wetlands and resource areas indicated on the drawings should be referenced by date and the delineator. An Order of Resource Area Delineation (ORAD) was issued by the Sherborn Commission (DEP #283-0361) on December 23, 2014 and it should be referenced on the drawing. If requested by the applicant, the Sherborn Conservation Commission would need to extend the ORAD prior to its three-year expiry date on December 23, 2017.

Response: A note has been added to the Existing Conditions Plan.

PSC: OK. **Closed Item.**

15. All abutting parcels (including any registered Land Court parcels) should be clearly designated on the drawings.

Response: All abutting parcels are designated on the drawings.

PSC: OK. **Closed Item.**

16. Both existing well and septic soil absorption areas are located for the adjacent properties at #55 and #61 North Main Street. Well locations for properties across North Main Street (#58 and #60) have been provided as well. Well setback radii have been provided, consistent with Section 10.1 in the Board of Health Regulations. OK

Response: No response by EDC required.

PSC: Agreed. **Closed Item.**

EXISTING SITE CONDITIONS REPORT

17. A first level Environmental Assessment in accordance with MGL Ch. 21E should be furnished if available.

Response: Project proponent Vin Gately to respond:

PSC: Open Item. **Vin Gately's response should close out this Item.**

18. The narrative does not address methods or extent of investigation for any features of historic or archeological significance, but indicates that none are currently known.

Response: The dwelling that was located on the site was listed by the Massachusetts Historical Commission and has since been razed with permission from local approving authorities, no other listing is provided for this address.

PSC: OK. **Closed Item.**

PROPOSED SITE DEVELOPMENT PLANS

Site Planning

19. The project proposes 28 bedrooms on the 6.04 acre site which would result in 3,080 GPO of sewage flows. As on-site wells are proposed for potable water, the project is subject to nitrogen loading limitations as defined under 310 CMR 15.214(2) and would be subject to effluent

limitations of 440 GPO/acre under a conventional design (or 550 GPO/acre for recirculating sand filter).

Response: The site development program is based upon 24 bedrooms, which would result in 2,640 gpd, or 437 gpd/acre under a conventional design, however the units are restricted to 55 years or older and therefore designated as elderly housing under MassDEP guidelines which in turn results in 150 gallons per day per 2-bedroom unit, thus with 12 2-bedroom units the total dailyflow for the project is 1,800 gpd or 298 gpd/acre well below any limiting thresholds.

PSC: OK. **Closed Item.**

20. The architectural drawings indicate an optional loft space that should be construed as a third bedroom for each 2-BR unit. For age 55 and over units, sewer generation increases from 150 GPO for two-bedroom to 330 GPO for three-bedroom units. The sewer generation flows would increase to 3,960 GPO (for the third bedroom). The locus does not have sufficient land area to support excess nitrogen loading from a third bedroom for all twelve units.

Response: The site development plan is based upon 24 bedrooms, or 12 single unit dwellings containing 2-bedroom each.

PSC: The loft space could be construed as a third bedroom. Open Item.

The units are designed as 2-bedroom and the condominium documents will govern use, the ZBA should accept or reject the architectural design in order to close out this item.

21. Please indicate the percentage of Riverfront buffer that will be altered as a result of the project. No more than 10% of the available riverfront should be altered by development of the project. 310 CMR 10.58(4)(d)l.

Response: Riverfront statistics are included on the Layout & Materials Plan.

PSC: OK. **Closed Item.**

22. Although the drawings indicate twenty-two (22) test pits and eighteen (18) monitoring wells have been advanced on the site, and soils have been discussed in a general manner based upon the NRCS Soils Atlas and mapping, site specific test pit information has not been provided, but will be required beneath the soils absorption systems and the stormwater retention/detention areas.

Response: Extensive soil testing has been conducted onsite and included with Soil Absorption System Plans which will have been provided to the Board of Health and Zoning Board.

PSC: Open Item.

As was agreed to at the last public session of this application, Peter Bemis with EDC excavated 2 additional test pits and percolation soil tests within the soil absorption system limits and 11 additional soil tests within the various storm water leaching system areas with Beth Hallal with Sherborn Board of Health. The test pit data has been included in both the Site Plan Set and Soil Absorption System plan. Mounding and drawdown computations are included with EDC's Conservation Commission Peer Review Response Package which is to be provided to the Zoning Board separately.

23. The Infiltration Trench System detail on Plan Sheet 6 provided the design bottom elevation for each of the six (6) Cultec Systems. Estimated Seasonal High Groundwater (ESHGW) beneath each system should be provided in this table. A minimum 2-foot vertical separation to ESHGW is required beneath the stone for each system. If less than four feet is provided, then groundwater mounding calculations will also be required.

Response: High ground water elevations have been added to the table.

PSC: No soils logs have been submitted. Soils tests have been performed under any of the stormwater management recharge areas. Open Item.

As outlined in response to Item 22 above, additional soil testing was completed along with mounding computations and all leaching area limits meet or exceed the DEP storm water management guideline recommendations.

24. Project lighting is not indicated within the site. Proposed lighting should be developed with photometrics using specific light fixtures that are consistent with residential scale and style typically acceptable in the town.

Response: Lighting details and photometrics have been added to Plans.

PSC: OK. Closed Item.

25. Please indicate whether a streetlight is proposed for the project entrance at its intersection with North Main Street.

Response: A pole mounted light is set to be 40'± from the intersection with North Main Street as shown on the lighting plan.

PSC: OK. Closed Item.

26. Although driver visibility appears sufficient, stopping sight distance and intersection sight distance information should be provided at the entrance along North Main Street in both directions.

Response: Sight distance in either direction is greater than 350 feet from the driveway entrance and is indicated on sheet 3.

PSC: OK. **Closed Item.**

27. A more detailed plan prepared by a Landscape Architect or other qualified professional should be submitted indicating active and passive recreational facilities. Extending on-site pathways to connect the project to the town-owned land north of the project should also be evaluated and considered.

Response: Steve Cosmos will address and his Landscape Plans have been provided.

PSC: Open Item. **Steve Cosmos has updated his Landscape Plan and the ZBA should accept or reject this design in order to close out this Item.**

28. Please indicate whether each unit will be individually served for trash removal. In the event that dumpsters are required, all dumpsters should have permanent, attractive enclosures.

Response: Each unit owner will collect their own refuse and store it within the garage of each unit. Refuse will be collected weekly by the facility management company and disposed with a licensed facility.

PSC: OK. **Closed Item.**

29. Multifamily developments typically are required to have common mailbox locations, which can present significant site circulation issues. The location for a common mailbox facility with associated parking/pullout should be shown.

Response: A mail and community kiosk will be located at the exit driveway as indicated on the Layout & Materials Plan.

PSC: A mail kiosk located near the intersection is convenient for exiting traffic but may be problematic to access for cars entering the site. It is recommended that the location be shifted to the right, closer to Unit #12.

We have reviewed this item with Vin Gately and the current Kiosk position is preferred, therefore the ZBA should accept or reject this design position in order to close out this item.

30. A Stormwater Pollution Prevention Plan (SWPPP) was submitted and are generally sufficient. The Project Manager and Person and Entity responsible for plan compliance, as well as the Owner of the Stormwater System, as well as the person responsible for financing maintenance and emergency repairs should be added to the SWPPP when known.

Response: This shall be provided when contractors and project managers are contractually obligated to the project.

PSC: OK. Closed Item.

31. The SWPPP should specify weekly street sweeping of North Main Street.

Response: Weekly sweeping of North Main Street has been added to the SWPPP.

PSC: OK Closed Item.

32. The applicant should confer with the Sherborn Fire/Rescue Department and provide documentation from the Department indicating their concurrence with fire access to buildings, unit separation, available pressure and volumes from the on-site well system (whether supplemental water tank, auxiliary pumping, etc. will be required), alarms, and other fire protection related matters. Please indicate whether the buildings are to be sprinklered.

Response: A 20,000 Gal. Cistern is proposed at the entrance driveway and we met with the fire chief and safety officer to ensure that the development plan met with their satisfaction. Dwelling units shall be separated with a minimum separation of 10-feet. Project documents will continue to be forwarded to the Sherborn Fire Department to ensure acceptance of the final site development program.

PSC: OK. Closed Item, however we recently learned that the fire chief would prefer to have a 30K cistern and as such that change has been made to the plan.

33. The applicant should confer with Police Officials and provide documentation indicating that they are satisfied with access and safety issues during construction and operation of the project.

Response: A one-way driveway is provided with superior site visibility at the North Main Street curb cut. Project documents will continue to be forwarded to the Sherborn Police Department to ensure acceptance of the final site development program.

PSC: Open Item. Police and fire officials have reviewed the plans and their comments were previously addressed, we continue to believe that this is a closed Item.

34. Any temporary construction signage should be shown and details provided on the size, illumination, style, and legend.

Response: Project proponent Vin Gately to respond

PSC: Open Item. Vin Gately has supplied this information.

35. A permanent entrance sign has not been shown. Details on the size, illumination, style, and legend of any proposed sign should be given.

Response: Project proponent Vin Gately to respond.

PSC: Open Item. Vin Gately has supplied this information.

36. The site should be fenced and secured during construction.

Response: Project proponent Vin Gately to respond

PSC: Open Item. Vin Gately has supplied this information.

37. Given the density of this project, snow storage is a significant concern. Snow storage areas should be designated outside paved or on adjacent grassed areas that maximize recharge, outside well setback areas. The interior soil absorption field and all buffer zones should specifically be prohibited for snow storage.

Response: There are limited snow storage areas onsite and notes have been added to ensure that snow is removed from the project site when volume exceeds storage capacity.

PSC: Snow storage areas and areas where snow storage is prohibited should both be specified on the plan.

Specific snow storage areas are defined on the site plan set and should these limits exceed storage capacity then snow shall be removed from the site and disposed of at a licensed facility.

38. All walkway and any common parking area grades (common mailbox area) should adhere to all current Architectural Access Board regulations.

Response: Site driveway at curb cut included ADA compliant sidewalk connections with tactile mats.

PSC: Response for sidewalks OK. Verify ADA compliant grades along the parking/pullout at the kiosk. **Construction notes and detail provided required ADA compliant approach at sidewalk and along the Kiosk limits, closed item.**

Access, Circulation, and Parking

39. As designed, the 18-foot wide interior driveway is narrow for two-way traffic, particularly for a project of this density with cars maneuvering out of closely spaced driveways into two way traffic movements. Unless the pavement width is increased, preferably to a minimum 22 feet, the design will be congested. Parking should be prohibited along the roadway edges.

Response: The driveway has been designed for one-way traffic.

PSC: To reduce left turns inside the project entrance to the front units, one way traffic should be better controlled at the interior intersection, either with paint markings, a channelizing feature or other appropriate design measure.

Directional signage should be sufficient, however if the ZBA would prefer then painted arrows can be applied to the pavement, ZBA should advise in order to close out this item.

40. The curvilinear geometry should aid in limiting vehicle speeds, however the project is not designed with a sidewalk that should be included to help segregate pedestrians from traffic.

Response: With the driveway having only one-way traffic flow we believe that the limited volume of pedestrian traffic can safely pass along the edge of the driveway to the sidewalk at North Main Street.

PSC: At a minimum, sidewalks should be provided along the two way entrance.

Sidewalk has been added to the 2-way section of roadway as requested.

41. Fire officials should verify that they are satisfied with exterior access to the rear of Units 3, 4 and 5. Rear access is also limited behind Units 8 and 10 with rear decks about 15 feet from the no alteration zone.

Response: We met with the fire chief and safety officer to ensure that the development plan met

with their satisfaction. Project documents will continue to be forwarded to the Sherborn Fire Department to ensure acceptance of the final site development program.

PSC: Confirmation should be provided from this meeting with a follow-up letter.

Vin Gately will provide letter and/or email from meeting.

42. The geometry of the roadway should accommodate the largest Fire/Rescue Department's design vehicle. Concern was expressed regarding the roadway geometry in the rear of the site. Documentation should be provided indicating that the Department's concerns have been addressed and should include approval for the layout and methods of construction of the on-site access and circulation system.

Response: The driveway was designed with the Fire/Rescue design vehicle. We reviewed the turning templates with Sherborn Fire officials.

PSC: OK. **Closed Item.**

43. For safety, vertical faced granite curb or precast concrete curb should be specified along both sides of the main drive and intersection radii.

Response: The project was designed using cape-cod berm so that vehicles could park on the gravel-pave areas that are designated on sheet 4.

PSC: Vertical faced granite or precast curb should be specified along both sides of the main entrance drive and intersection radii, but not across the gravel-pave areas.

Vertical granite curb is included within the 2-way traffic limits.

Grading

44. Construction of the proposed site improvements will likely include reuse of onsite materials. General information on the structural reuse of onsite soil types should be provided.

Response: The site consists of sands and gravels with depth, overlain by layers of sandy loams. All onsite materials are to be reused as part of the redevelopment activities. There will be imported materials including processed gravels for roadway and driveways, sands and aggregates for bedding utilities, septic system sands, gravels and aggregates for system construction and mulches for landscaping activities. Trees will be cut to trunk lengths and hauled away with limbs chipped onsite for reuse when needed or hauled away.

PSC: OK. **Closed Item.**

45. The proposed grades do not differ significantly from existing grades. It is not anticipated that significant quantities of native material will be exported from the project. Similarly, the site should not require import of bulk material for fill. OK.

Response: Site is balanced except for required import materials as noted in item 44 above.

PSC: OK. **Closed Item.**

Landscaping

46. The applicant should be encouraged to limit turf areas due to water demand and requirements for lawn chemicals and fertilizer. A Turf Management plan should be provided that adequately protects the adjacent resource areas from nitrate and phosphate loadings.

Response: See Landscape Plan by Cosmos Associates.

PSC: Turf management is not addressed on the Landscape Design Plan. Open Item.

A turf management plan was included in the SWPPP document included with the ConCom response package provided separately.

47. A *Tree Protection Plan* should be provided for the trees to be preserved along the front of the site.

Response: See Landscape Plan by Cosmos Associates.

PSC: Tree protection is not addressed on the Landscape Design Plan. Open Item.
Steve Cosmos to address this item.

48. Minimal landscape improvements are proposed for the project. Street trees should be considered to enhance the appearance of the project.

Response: See Landscape Plan by Cosmos Associates.

PSC: OK. **Closed Item.**

PROJECT IMPACTS

49. The Applicant should prepare and submit for review, a detailed management plan indicating the organization and funding mechanism for a homeowners' association or other organization that will be responsible for maintaining the on-site parking, access, utilities, and landscaping and for contributing to ongoing maintenance of the shared wastewater facility.

Response: Project proponent Vin Gately to respond.

PSC: Open Item. **Vin Gately to respond**

50. Any impacts to abutters from construction noise, vibration, or any required blasting should be identified.

Response: Based upon the soils work completed to date, we do not anticipate any blasting, however in the event it is required all blasting will be conducted in accordance with local requirements which include abutter notification. Work hours for the project will adhere to the local Sherborn ordinances concerning commercial work activities.

PSC: OK. **Closed Item.**

51. The project driveway is directly opposite the existing residence across North Main Street at #58 North Main Street. This residence should be plotted on the drawings in relation to the driveway. Headlights from exiting cars will impact this residence and should be mitigated. A contribution toward off-site vegetated screening should be coordinated with the property owner.

Response: The residences across North Main Street have been added to sheet 3 & sheet 4, this item shall be discussed..

PSC: To be discussed. Open Item.

Steve Cosmos must address this item as part of the Landscape Plan.

52. Landscape design should include screening residential abutters on both sides of the project. Screening should be focused in the non-buildable parcel A on the left side of the project, and behind Units 11 and 12 on the right.

Response: See Landscape Plan by Cosmos Associates..

PSC: Plantings have been supplemented along the right side of the project between the

residence at #61 North Main Street and the project. A double row of arbor vitae have been proposed 8'-10' at time of planting. OK. **Closed Item.**

53. The extent of construction traffic including truck trips should be identified. Proposed truck routes and scheduling should be shown. The analysis should include a distribution breakdown.

Response: Construction traffic will vary with the specific construction activity and construction sequence. Project proponent Vin Gately to further respond.

PSC: Open Item to be discussed. **Vin Gately to respond**

54. A dedicated location should be provided on the site for equipment fueling operations that is sited outside the wetland and riverfront buffers and minimizes the potential for contamination of individual wells from spills.

Response: The SWPPP Plan identifies the fueling location and procedures.

PSC: OK **Closed Item.**

55. The development team should provide a rough construction schedule with anticipated milestone dates for major components of the project. Verify that the project will be constructed as a single phase.

Response: Project proponent Vin Gately to respond.

PSC: Open Item to be discussed. **Vin Gately to respond**

56. The MassHousing Project Eligibility letter recommended that the applicant provide a detailed traffic study, assessing the potential impacts of the Project on area roadways, including traffic volumes, crash rates, and the safety and level of service of area intersections. The Study should identify appropriate traffic mitigation, and address on-site parking and circulation. The estimated traffic generated from the project should be evaluated based upon the ITE Trip Generation Manual, 9th Edition (latest). Peak hour generation should be addressed in the analysis.

Response: Project proponent Vin Gately to respond.

PSC: Open Item to be discussed. **Vin Gately to respond**

57. A Traffic Management Plan should be submitted that has the approval of the Sherborn Chief of Police. As a minimum the Traffic Management Plan should identify the number of truck trips, proposed truck routes, and an overall construction schedule.

Response: Project proponent Vin Gately to respond

PSC: Open Item to be discussed. **Vin Gately to respond**

PRELIMINARY ARCHITECTURAL DESIGN

58. The affordable units have been designated on the plans as Unit #2, #4 and #12. Each of the affordable units are designated as three-bedroom units (Architectural Type A). All others are designated as two bedroom units.nd should be uniformly distributed throughout all buildings. Verify the proposed distribution of the affordable units.

Response: All dwelling units shall be 2-bedroom units, the affordable units are designated as units #2, #4, and #J 2. Project proponent Vin Gately to further respond.

PSC: The plan should be updated with the location of the affordable units.

The civil site plan continue to identify the affordable units, closed item.

59. Preliminary architectural drawings were provided for review depicting six types of units. In addition to bedroom counts, the building floor plans should be evaluated to include the study, loft and similar rooms that should be counted as "bedrooms" for the purposes of determining sewage generation. There is not a significant difference between the three-bedroom configuration and two-bedroom layout between the unit types and it appears all units could use the loft as the third bedroom.

Response: All dwelling units shall be 2-bedroom units. Project proponent Vin Gately to further respond.

PSC: Open Item. **Vin Gately to respond**

60. Information on exterior finishes should be provided.

Response: Project proponent Vin Gately to respond.

PSC: Open Item. **Vin Gately to respond.**

61. The height of each building should be calculated, as set forth in the Zoning Bylaw.

Response: Building height will comply with the underlying zoning provisions. Project proponent Vin Gately to further respond.

PSC: Open Item. **Vin Gately to respond.**

UTILITIES PLAN

62. Specific arrangements for operation and maintenance of the sewer dosing chamber should be detailed.

Response: A separate management company shall be hired to operate and maintain the septic system. Project proponent Vin Gately to further respond.

PSC: Open Item. **Vin Gately to respond.**

63. Water for the project will be drawn from two on-site wells. Construction Note #6 references an 8-inch CLDI water main, which does not appear to be correct. Additional detail of the design should be provided including pipe sizes, pump details, backup generation, etc.

Response: Additional water system details will be forthcoming from Provencher Engineering.

PSC: Open Item.

The water system layout is indicated, however until the well testing procedures are established a final detailed design cannot be completed. ZBA either needs to establish the testing and monitoring protocol or can conditionally approved the project subject to completion of the well testing.

64. Verify pipe materials, depth of cover and minimum separation between services for water and sewer services.

Response: Additional utility details have been added to plans and we anticipate that additional water system details will be forthcoming from Provencher Engineering.

PSC: Open Item.

The water system layout does satisfy setbacks, however as stated above final details cannot be completed without establishing testing protocol.

UTILITIES PLAN - STORMDRAINS

65. The plan shows all the on-site galleys that accommodate runoff are retention systems. In order for each system to be effective, it must be empty prior to a storm event. All basins must be designed such that spring high groundwater is two feet below the bottom of the basin. Soils information should be provided.

Response: All Cultec chambers have been designed to be at least 2-feet above high groundwater.

PSC: Open Item. Please refer also to Status of Comments #22 and #23.

EDC addressed in items 22 & 23 above.

66. Logs of test pits were not furnished with the plans or report. Existing groundwater elevations must be determined for each of the six systems. Provide soils test data including soils classification, observed groundwater and mottled soils elevations in the footprint of each system.

Response: The test pit logs are attached.

PSC: The revised submission should include test pit logs. Open Item.

EDC addressed in items 22 & 23 above.

67. Pipe capacity calculations for the stormdrain system should be added to the stormwater management report.

Response: The pipe capacity calculations have been added to the report.

PSC: Revised calculations have not been provided. Open Item.

Storm Drainage Calculations were provided previously and are attached again herewith.

REQUIRED EXEMPTIONS

68. The application documents variances required from the Zoning By-Laws of the Town of Sherborn. An additional section was identified that will require a variance. Section 4.3.6. Number and Location of Dwellings on One Lot.

Response: EDC prepared a waiver outline letter and does not anticipate any additional items at this time.

PSC: Verify that the letter includes variance request from Section 4.3.6.
EDC has updated the 5/11/17 letter and reissued 2/10/18 to include this item.

69. A variance has been requested from Section 5.2.6.a of the By-Laws regarding permanent monument signage. The proposed project signage should be provided for evaluation by the Board.

Response: Project proponent Vin Gately to respond

PSC: Open Item. **Vin Gately to respond**

70. Submit a tabulation of departures from the Planning Board's Rules & Regulations, which serve as Town construction standards, particularly Section 4.0- *Design Standards* and Section 5.0- *Required Improvements*. Describe why there is a public interest in allowing various downgrades.

Response: EDC prepared a waiver outline letter and does not anticipate any additional items at this time.

PSC: No further comment. **Closed Item.**

FEDERAL AND STATE PERMITS AND MEPA COMPLIANCE

71. An NPDES General Construction Permit is required for sites involving disturbance greater than or equal to 1 acre.

Response: A NPDES will be filed with EPA in advance of any construction activities.

PSC: OK. **Closed Item.**

Date: 9/18/17
Revised:
Job No: 3,438
Calc. by: WML

Calc. by: WML

[illegible]

SECTION II – STATUTORY THRESHOLDS

The application includes calculations of statutory minima as they relate to consistency with local needs. Issues relating to the computation of statutory thresholds are summarized as follows:

COMPUTATION OF STATUTORY MINIMA

1. The application includes a computation of the existing 40B Housing Inventory. The Housing Inventory based upon DHCD counts as of February, 2017 indicates that Sherborn has 34 subsidized housing inventory units (2.3% of its housing inventory), which are 114 units shy of the 10% SHI threshold. The applicant's contribution of three units would increase the Town's SHI from 2.3% to 2.5%.
2. A computation for General Land Area Minimum should be provided to indicate acreage added by the project to the existing Town Low and Moderate Income Housing areas. To meet the threshold, the Land Area Minimum Standard requires that 1.5% of the total Town land area be held for affordable Chapter 40B housing. For Sherborn, 1.5% is equivalent to no more than 153.6 acres (likely less when subtracting wetlands and unbuildable areas). The application does not document existing Chapter 40B land areas toward the statutory minimum.

SECTION III – CONTENTS OF THE APPLICATION

PROJECT ELIGIBILITY LETTER

3. The project Comprehensive Permit application contains correspondence from Massachusetts Housing Finance Agency dated February 21, 2017 regarding the *59 North Main Street Village, Sherborn Project Eligibility/Site Approval Project #895*. The description of the project in the letter appears consistent with the Sherborn Village plans. **OK**
4. The project eligibility letter acknowledges the Town's concern with stormwater management and alterations to the wetland buffer zone and riverfront impacts. MassHousing requires that the applicant discuss during the public hearing, resolution of all environmental conditions per laws, regulations and standards applicable to existing conditions and to the proposed use, including but not limited to compliance with all applicable regulatory restrictions relating to floodplain management, the protection of wetlands (WPA), river and wildlife habitats, conservation areas as well as state environmental protection requirements relating to the protection of the public water supply stormwater runoff and hazardous waste safety, and further that the Applicant should provide evidence of such compliance prior to the issuance of a building permit for the project.

Owner/Applicant has addressed all of the Town's concerns outlined in the Project Eligibility Letter through written responses and/or information provided during public hearings with the ZBA. Any further Town concerns not already resolved will be resolved prior to the issuance of building permits

5. The project eligibility letter acknowledges the Town's concern with the project's water supply & wastewater management and requires that the Applicant must comply with Title V regulations regarding the design and construction of individual wells and septic systems, and further that the Applicant should provide evidence of such compliance prior to the issuance of a building permit for the project.

The Owner/Applicant understands that the soil absorption system (SAS) must comply with Title V regulations and will be designed and submitted to BOH for review on or before Dec. 1, 2017. The project's water supply will consist of two individual wells. the Owner/Applicant has installed both wells and plans to continue with system design and testing so that the water system is approved prior to issuance of building permits. Under 40-B regulations, the SAS system and water system are not required to be designed or approved prior to the issuance of the Comprehensive Permit. The Applicant has agreed to begin the design process for both the SAS and water system prior to the issuance of the Comprehensive Permit.

6. The project eligibility letter acknowledges the Town's concern with general operation concerns such as the impact of the project on traffic and local roads and further requires the Applicant to provide a detailed traffic study assessing potential impacts of the Project on area roadways, including traffic volumes, crash rates and the safety and level of service (LOS) of area intersections, identifying appropriate traffic mitigation in compliance with all applicable state and local requirements governing site design. The letter also requires the traffic study to review on-site parking and circulation to ensure compliance with industry standards.

The Project Engineer, Peter Bemis (EDC, Inc.), submitted the attached letter (EXHIBIT 1) dated 5/11/17 to the ZBA requesting, for the reasons stated, that a formal traffic study not be required. The Owner/Applicant and Project Engineer discussed this letter with the ZBA during a hearing and we believe that the ZBA was in agreement that, for the reasons stated in the attached letter, a formal traffic study would not be required.

7. The project eligibility letter acknowledges the Town's concern with wastewater management and water use and requires the Applicant to be prepared to provide detailed information relative to proposed water and sewer use, potential impacts on existing capacity, and appropriate mitigation. The shared wastewater design is schematic and calculations were not provided in the application.

EVIDENCE OF SITE CONTROL

8. Evidence of Site Control – The applicant has provided a copy of the Quitclaim Deed for the parcel conveying the property to HP Sherborn, LLC (June 23, 2015 for \$1,275,000). (DB 65811, pp 274-275).
9. A copy of the Purchase and Sale Agreement, dated November 1, 2016 from HP Sherborn, LLC to 59 Main Street Village, Inc., was provided (for \$1,950,000)
10. Any easement rights held by others (if any) should be added to the plan.

EXISTING SITE CONDITIONS

11. As set forth in the Department of Housing and Community Development's Guidelines for Local Review of Comprehensive Permits, the Applicant is required to submit a narrative detailing "alternative site uses under existing zoning." An endorsed Site Plan was supplied, showing development of the project in conformance with existing Zoning dimensional requirements for RA. **OK.**
12. Several large trees, between 24-inches and 48-inches in diameter have been identified on the plan for preservation. Proposed grade changes and the proximity of construction near the project entrance and Unit 12 make it unlikely that three large trees (30-inch, 36-inch and 48inch) deciduous specimens will be maintained. Specific construction-stage and permanent measures to provide for tree protection should be specified.
13. Inspection of the of Flood Insurance Rate Map (FIRM), Map Number 25017C00538F, Middlesex County Massachusetts, effective date July 7th, 2014 indicates that the entirety of the site falls outside the 100-year jurisdictional floodplain of the perennial stream. The site is located outside the Zone X, with less than 0.2% chance of annual flooding (500-year floodplain).
14. The wetlands and resource areas indicated on the drawings should be referenced by date and the delineator. An Order of Resource Area Delineation (ORAD) was issued by the Sherborn Commission (DEP #283-0361) on December 23, 2014 and it should be referenced on the drawing. If requested by the applicant, the Sherborn Conservation Commission would need to extend the ORAD prior to its three-year expiry date on December 23, 2017.
15. All abutting parcels (including any registered Land Court parcels) should be clearly designated on the drawings.
16. Both existing well and septic soil absorption areas are located for the adjacent properties at #55 and #61 North Main Street. Well locations for properties across North Main Street (#58 and #60) have been provided as well. Well setback radii have been provided, consistent with Section 10.1 in the Board of Health Regulations. **OK.**

EXISTING SITE CONDITIONS REPORT

17. A first level Environmental Assessment in accordance with MGL Ch. 21E should be furnished if available.

Not Available. The Owner/Applicant's lender did not require any type of Environmental Assessment on this property upon purchase so nothing is available. We don't intend to do any type of assessment.

18. The narrative does not address methods or extent of investigation for any features of historic or archeological significance, but indicates that none are currently known.

PROPOSED SITE DEVELOPMENT PLANS

Site Planning

19. The project proposes 28 bedrooms on the 6.04 acre site which would result in 3,080 GPD of sewage flows. As on-site wells are proposed for potable water, the project is subject to nitrogen loading limitations as defined under 310 CMR 15.214(2) and would be subject to effluent limitations of 440 GPD/acre under a conventional design (or 550 GPD/acre for recirculating sand filter).

The original Project Eligibility submittal to MassHousing included preliminary draft floors plans. There was one unit floor plan that was a 3 bedroom unit. All preliminary draft plans were later superceded during the ZBA hearing process by the final units floor plans (See attached PDF file – “Sherborn – 4 Floor Plans 10-1-17” 17 pages). This project consists of a total of 24 bedrooms (12 units x 2 bedrooms ea.).

It should be noted that the 11/27/17 revised Site Plan only shows Unit #1 with the correct footprint as what will be built in that location. Unit #'s 2 through #12 on the Site plan are shown with the footprint of the “C-Chatham” unit. The Project Engineer did this to be conservative with drainage calculations. Affordable units (Units #2, #4 and #12) are designated to be Floor Plan type “D-Danbury” which has a smaller footprint. The other Unit # locations (#3, #5, #6, #7, #8, #9, #10 and #11) will have unit types based on buyer demand. Buyers can select either Floor Plan type “A,” “C,” or “D” in any of these 8 unit locations.

20. The architectural drawings indicate an optional loft that should be construed as a third bedroom for each 2-BR unit. For age 55 and over units, sewer generation increases from 150 GPD for two-bedroom to 330 GPD for three-bedroom units. The sewer generation flows would increase to 3,960 GPD (for the third bedroom). The locus does not have sufficient land area to support excess nitrogen loading from a third bedroom for all twelve units.

The Owner/Applicant disagrees that the loft area on the 2nd floor is optional and should be construed as a third bedroom. The loft area is a standard feature for the respective floor plan type and is not optional. Further, this loft space is critical to the value and economic feasibility of the project. We propose to control the number of bedrooms and limiting the number to 2 bedrooms per unit by disclosing the 2-bedroom limitation in each owner’s unit deed and the Master Deed. Attached are sample draft condominium documents including Quitclaim Deed (Unit Deed), Master Deed and Condominium Trust which include the 2-bedroom deed restriction.

21. Please indicate the percentage of Riverfront buffer that will be altered as a result of the project. No more than 10% of the available riverfront should be altered by development of the project. 310 CMR 10.58(4)(d)1.
22. Although the drawings indicate twenty-two (22) test pits and eighteen (18) monitoring wells have been advanced on the site, and soils have been discussed in a general manner based upon the NRCS Soils Atlas and mapping, site specific test pit information has not been provided, but will be required beneath the soils absorption systems and the stormwater retention/detention areas.

23. The Infiltration Trench System detail on Plan Sheet 6 provided the design bottom elevation for each of the six (6) Cultec Systems. Estimated Seasonal High Groundwater (ESHGW) beneath each system should be provided in this table. A minimum 2-foot vertical separation to ESHGW is required beneath the stone for each system. If less than four feet is provided, then groundwater mounding calculations will also be required.
24. Project lighting is not indicated within the site. Proposed lighting should be developed with photometrics using specific light fixtures that are consistent with residential scale and style typically acceptable in the town.
25. Please indicate whether a streetlight is proposed for the project entrance at its intersection with North Main Street.
26. Although driver visibility appears sufficient, stopping sight distance and intersection sight distance information should be provided at the entrance along North Main Street in both directions.
27. A more detailed plan prepared by a Landscape Architect or other qualified professional should be submitted indicating active and passive recreational facilities. Extending on-site pathways to connect the project to the town-owned land north of the project should also be evaluated and considered.
28. Please indicate whether each unit will be individually served for trash removal. In the event that dumpsters are required, all dumpsters should have permanent, attractive enclosures.

Dumpsters are not required and will be prohibited. All trash will be stored by each owner in their garage. The property management company for the home owner association (HOA) will contract privately with a licensed refuse disposal company to provide weekly trash and recycling pickup. All owners will be required to wheel their barrels from their garage to the end of their driveway for weekly curbside pickup.

29. Multifamily developments typically are required to have common mailbox locations, which can present significant site circulation issues. The location for a common mailbox facility with associated parking/pullout should be shown.
30. A *Stormwater Pollution Prevention Plan* (SWPPP) was submitted and are generally sufficient. The Project Manager and Person and Entity responsible for plan compliance, as well as the Owner of the Stormwater System, as well as the person responsible for financing maintenance and emergency repairs should be added to the SWPPP when known.
31. The SWPPP should specify weekly street sweeping of North Main Street.
32. The applicant should confer with the Sherborn Fire/Rescue Department and provide documentation from the Department indicating their concurrence with fire access to buildings, unit separation, available pressure and volumes from the on-site well system (whether supplemental water tank, auxiliary pumping, etc. will be required), alarms, and other fire protection related matters. Please indicate whether the buildings are to be sprinklered.

HP: The Owner/Applicant and Project Engineer met with the Sherborn Fire Chief Kinney and his Lieutenant–Safety Officer. Fire Chief Kinney was satisfied with all of the issues mentioned above and required a 20,000 gallon cistern be installed on-site at the location now shown in the

11/27/17 Revised Site Plans (Page 4). The individual units will not be sprinklered since each unit will have more than 10 ft. of separation from adjacent units..

HP: Fire Chief Kinney requested that the cistern be 30,000 Gallons. This has been noted on the revised site plans. We expect a letter from the Fire Chief to confirm this information

33. The applicant should confer with Police Officials and provide documentation indicating that they are satisfied with access and safety issues during construction and operation of the project.

HP: The Owner/Applicant has discussed and reviewed the site plan with Sherborn Police Lieutenant David Bento. Lieutenant Bento supports the project as designed.

HP: We expect a letter from the Police Dept. to confirm this information.

34. Any temporary construction signage should be shown and details provided on the size, illumination, style, and legend.

The Owner/Applicant was granted a special permit on 9/26/17 from the Sherborn ZBA under Section 5.2.6d of the Sherborn Zoning By-Laws for a 40 SF (8 ft. by 5 ft.) temporary sign, no illumination.

35. A permanent entrance sign has not been shown. Details on the size, illumination, style, and legend of any proposed sign should be given.

A permanent entrance sign has not been designed so it is not shown on the latest revised site plan. The Owner/Applicant expects that there will be a simple granite etched sign showing the address "59 North Main" at the entrance with illumination in accordance with the general regulations for permanent signs (Section 5.2.3) of the town zoning by-laws. This will be submitted for approval to the ZBA before the issuance of any Certificates of Occupancy.

36. The site should be fenced and secured during construction.

A temporary construction fence will be installed along the N. Main Street frontage for this property prior to the issuance of any building permits.

37. Given the density of this project, snow storage is a significant concern. Snow storage areas should be designated outside paved or on adjacent grassed areas that maximize recharge, outside well setback areas. The interior soil absorption field and all buffer zones should specifically be prohibited for snow storage.
38. All walkway and any common parking area grades (common mailbox area) should adhere to all current Architectural Access Board regulations.

Access, Circulation, and Parking

39. As designed, the 18-foot wide interior driveway is narrow for two-way traffic, particularly for a project of this density with cars maneuvering out of closely spaced driveways into two way traffic movements. Unless the pavement width is increased, preferably to a minimum 22 feet, the design will be congested. Parking should be prohibited along the roadway edges.
40. The curvilinear geometry should aid in limiting vehicle speeds, however the project is not designed with a sidewalk that should be included to help segregate pedestrians from traffic.

41. Fire officials should verify that they are satisfied with exterior access to the rear of Units 3, 4 and 5. Rear access is also limited behind Units 8 and 10 with rear decks about 15 feet from the no alteration zone.

HP: The Owner/Applicant and Project Engineer met with the Sherborn Fire Chief Kinney and his Lieutenant-Safety Officer. They had no issue with rear access to any units. We requested and expect a letter from the Fire Dept. to confirm their support of the project as designed and shown on the latest revised site plans

42. The geometry of the roadway should accommodate the largest Fire/Rescue Department's design vehicle. Concern was expressed regarding the roadway geometry in the rear of the site. Documentation should be provided indicating that the Department's concerns have been addressed and should include approval for the layout and methods of construction of the on-site access and circulation system.
43. For safety, vertical faced granite curb or precast concrete curb should be specified along both sides of the main drive and intersection radii.

Grading

44. Construction of the proposed site improvements will likely include reuse of onsite materials. General information on the structural reuse of onsite soil types should be provided.
45. The proposed grades do not differ significantly from existing grades. It is not anticipated that significant quantities of native material will be exported from the project. Similarly, the site should not require import of bulk material for fill. **OK.**

Landscaping

46. The applicant should be encouraged to limit turf areas due to water demand and requirements for lawn chemicals and fertilizer. A Turf Management plan should be provided that adequately protects the adjacent resource areas from nitrate and phosphate loadings.
47. A *Tree Protection Plan* should be provided for the trees to be preserved along the front of the site.

HP: Tree Protection has been noted on page L 1 of the Landscape Plan

48. Minimal landscape improvements are proposed for the project. Street trees should be considered to enhance the appearance of the project.

PROJECT IMPACTS

49. The Applicant should prepare and submit for review, a detailed management plan indicating the organization and funding mechanism for a homeowners' association or other organization that will be responsible for maintaining the on-site parking, access, utilities, and landscaping and for contributing to ongoing maintenance of the shared wastewater facility.

The Applicant/Owner, HP Sherborn LLC, will be the initial and sole Trustee of the Sherborn Village Condominium Trust (HOA) until 100% (all 12 units) are conveyed. Heritage Properties

(HP) will property manage this project for no management fee until the takeover date (i.e. all 12 units are conveyed. As with all new condo projects developed by HP, we will offer the Owners 1 year of property management services, at no cost, after the takeover date. HP has been providing property management services to condo projects and apartment projects for over 15 years.

The funding for the HOA will be provided by the owners who will pay a 2-month condo fee reserve at closing plus monthly condo fees based on an operating budget prepared by HP. The HOA will benefit through competitive/low costs from contractors/suppliers with whom HP has long term relationships and receives competitive pricing based on annual bids. HP will provide contractors/suppliers that will provide the following services: (1) weekly trash/recycling pickup, (2) snow removal, (3) full landscaping, (4) master condo insurance, (5) septic system cleaning, testing & repair, (6) well/water system testing and repair, (7) complete maintenance & repairs for common areas, on-site drainage systems and exteriors of buildings, (8) collection of condo fees, payments of all HOA expenses, preparation of HOA financial statements, filing of HOA tax returns and any local, state and federal reports/documents, preparing annual condo budgets and setting monthly condo fees, issuing 6 (d) certificates and completing condo questionnaires for owner mortgages. Attached is a sample draft Property Management Contract that would be revised for as needed to fit the service requirement of this project.

50. Any impacts to abutters from construction noise, vibration, or any required blasting should be identified.
51. The project driveway is directly opposite the existing residence across North Main Street at #58 North Main Street. This residence should be plotted on the drawings in relation to the driveway. Headlights from exiting cars will impact this residence and should be mitigated. A contribution toward off-site vegetated screening should be coordinated with the property owner.
52. Landscape design should include screening residential abutters on both sides of the project. Screening should be focused in the non-buildable parcel A on the left side of the project, and behind Units 11 and 12 on the right.
53. The extent of construction traffic including truck trips should be identified. Proposed truck routes and scheduling should be shown. The analysis should include a distribution breakdown.

The most significant construction vehicle (well drilling rig truck) has already completed its work on-site. This site is relatively flat and balanced so the amount of fill being trucked on/off site is negligible. Construction traffic for site and infrastructure work is expected to be less than 3 trips per week. All heavy construction equipment such as excavators and loaders will come on-site once and stay on-site until the work requiring that equipment is completed. Therefore, construction traffic for these vehicles/equipment is negligible.

The only time we expect to have 3 or more trips per week will occur during an approx. 25-day period (April 23 to May 18 – See Construction Schedule in Comment #55 below) while gravel and graded base is trucked on-site for the 700 ft. road to be constructed to serve the 12 detached homes. During this period, we expect approx. 5 truck trips per day.

Home construction is expected to start in mid-April 2018 (See Construction Schedule in Comment #55 below) and continue until late fall of 2019. During this period medium to large supplier trucks will be delivering lumber and other building materials at the rate of between 3 and 5 trips per week.

54. A dedicated location should be provided on the site for equipment fueling operations that is sited outside the wetland and riverfront buffers and minimizes the potential for contamination of individual wells from spills.
55. The development team should provide a rough construction schedule with anticipated milestone dates for major components of the project. Verify that the project will be constructed as a single phase.

See attached draft Construction Schedule – EXHIBIT 2 for both Sitework/Infrastructure and Home Construction. As shown, Sitework/Infrastructure will take approx. 5 months. Also as shown, each detached home will take 5 months from start (Building Permit) to finish (Certificate of Occupancy).

The condominium will be created in multiple Phases and not one single Phase. The number of Phases and the number of homes per Phase will be based on sales/absorption rates. Based on pre-construction marketing activity to-date, the Owner/Applicant estimates that there will be 3 Phases of approx. 4 units per Phase. Under this projection, each Phase would contain 1 affordable unit and 3 market rate units.

56. The MassHousing Project Eligibility letter recommended that the applicant provide a detailed traffic study, assessing the potential impacts of the Project on area roadways, including traffic volumes, crash rates, and the safety and level of service of area intersections. The Study should identify appropriate traffic mitigation, and should address on-site parking and circulation. The estimated traffic generated from the project should be evaluated based upon the ITE Trip Generation Manual, 9th Edition (latest). Peak hour generation should be addressed in the analysis.

This comment is essentially a repeat of Comment #6 above. See the response to Comment #6 above. The Owner/Applicant and Project Engineer believe that the ZBA, during public hearings, has agreed to our request to waive a traffic study.

57. A Traffic Management Plan should be submitted that has the approval of the Sherborn Chief of Police. As a minimum the Traffic Management Plan should identify the number of truck trips, proposed truck routes, and an overall construction schedule.

HP: The Police Dept. (Lieutenant David Bento) has told me that he has no requirement for any type of Traffic Management Plan therefore none will be provided.

PRELIMINARY ARCHITECTURAL DESIGN

58. The affordable units have been designated on the plans as Unit #2, #4 and #12. Each of the affordable units are designated as three-bedroom units (Architectural Type A). All others are designated as two bedroom units and should be uniformly distributed throughout all buildings. Verify the proposed distribution of the affordable units.

See the response to Comment # 19 above. The affordable units are 2 bedrooms units not 3. See attached PDF file – “Sherborn – 4 Floor Plans 10-1-17” 17 pages). The affordable units have been designated as Unit Type “D - Danbury” in locations #2, #4 and #12. This same Danbury unit is available to market rate buyers in site locations #3, #5, #6, #7, #8, #9, #10 and #11. The Owner/Applicant has reviewed and discussed the affordable unit locations during several ZBA hearings and believes that everyone agrees that these locations fit the definition of uniform

distribution considering that this is a small community with all units located around the same center island.

59. Preliminary architectural drawings were provided for review depicting six types of units. In addition to bedroom counts, the building floor plans should be evaluated to include the study, loft and similar rooms that should be counted as “bedrooms” for the purposes of determining sewage generation. There is not a significant difference between the three-bedroom configuration and two-bedroom layout between the unit types and it appears all units could use the loft as the third bedroom.

Please see the response to Comment #19 and #20 above. All 12 units are legally restricted as 2 bedroom units, in perpetuity, as outlined in both the Master Deed and Unit Deed attached. The loft areas are open with no door to enclose the area and no closet. As such they don't meet the normal definition of a bedroom by building code. These loft areas are important finished living areas that add to the finished square footage of the respective unit. These lofts are a critical feature that adds to the market value of each unit without which this project would not be economically feasible. The 2 bedroom deed restriction is considered to be a reasonable solution to the number of bedrooms in projects that have private SAS systems, especially projects that are 55 + adult communities permitted under MA comprehensive permit 40B regulations.

60. Information on exterior finishes should be provided.

Siding - Shingles: Cement board by James Hardie, CertainTeed, or equal

Siding - Clapboard: Cement board by James Hardie, CertainTeed, or equal

Siding- Vertical (Board & Batten): Cement board by James Hardie, CertainTeed, or equal

Trim: Composite PVC by Azek, Trex, or equal

Trim: Pine

Other exterior finishes including windows, asphalt shingles, metal roofing decking and exterior doors have not yet been selected. All materials will be high quality and all units will be Energy Star certified

61. The height of each building should be calculated, as set forth in the Zoning Bylaw.

All buildings will be 35 ft. or less

UTILITIES PLAN

62. Specific arrangements for operation and maintenance of the sewer dosing chamber should be detailed.

The HOA through the property management company will hire a licensed operator to provide maintenance to the SAS system at intervals agreed to with the Sherborn BOH. The specifics arrangements will be worked out as part of the SAS system approval with the BOH.

63. Water for the project will be drawn from two on-site wells. Construction Note #6 references an 8-inch CLDI water main, which does not appear to be correct. Additional detail of the design should be provided including pipe sizes, pump details, backup generation, etc.
64. Verify pipe materials, depth of cover and minimum separation between services for water and sewer services.

UTILITIES PLAN – STORMDRAINS

65. The plan shows all the on-site galleys that accommodate runoff are retention systems. In order for each system to be effective, it must be empty prior to a storm event. All basins must be designed such that spring high groundwater is two feet below the bottom of the basin. Soils information should be provided.
66. Logs of test pits were not furnished with the plans or report. Existing groundwater elevations must be determined for each of the six systems. Provide soils test data including soils classification, observed groundwater and mottled soils elevations in the footprint of each system.
67. Pipe capacity calculations for the stormdrain system should be added to the stormwater management report.

REQUIRED EXEMPTIONS

68. The application documents variances required from the Zoning By-Laws of the Town of Sherborn. An additional section was identified that will require a variance. Section 4.3.6. Number and Location of Dwellings on One Lot.
69. A variance has been requested from Section 5.2.6.a of the By-Laws regarding permanent monument signage. The proposed project signage should be provided for evaluation by the Board.

See the response to comment #35 above

70. Submit a tabulation of departures from the Planning Board's Rules & Regulations, which serve as Town construction standards, particularly Section 4.0- *Design Standards* and Section 5.0- *Required Improvements*. Describe why there is a public interest in allowing various downgrades.

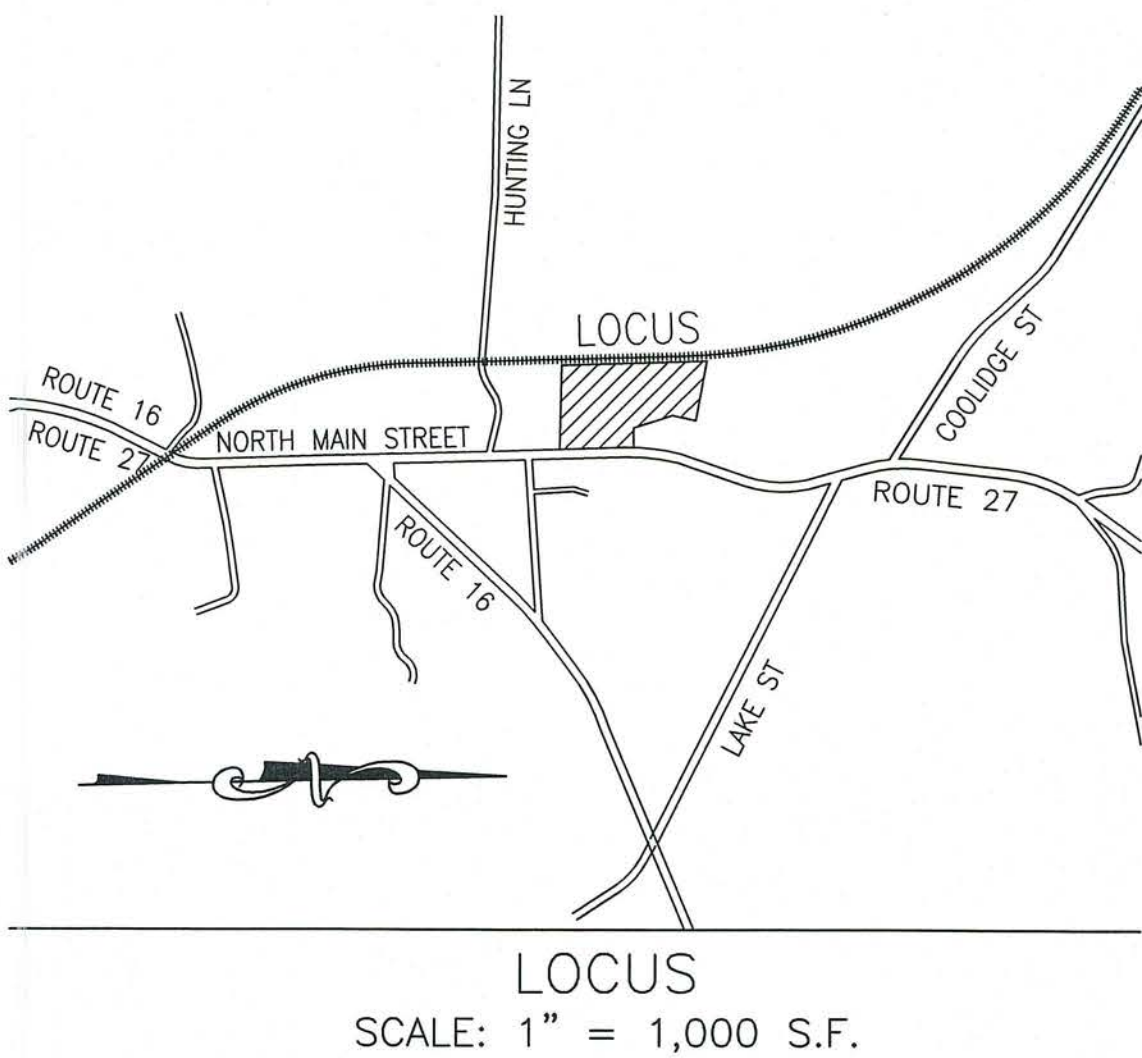
FEDERAL AND STATE PERMITS AND MEPA COMPLIANCE

71. An NPDES General Construction Permit is required for sites involving disturbance greater than or equal to 1 acre.

SHERBORN VILLAGE
IN
SHERBORN, MASSACHUSETTS
(MIDDLESEX COUNTY)

OWNER/APPLICANT:
HERITAGE PROPERTIES
490-B BOSTON POST ROAD
SUDBURY, MA 01776

ENGINEER:
ENGINEERING DESIGN
CONSULTANTS, INC.
32 TURNPIKE ROAD
SOUTHBOROUGH, MASSACHUSETTS



LOCUS
SCALE: 1" = 1,000 S.F.

SHEET INDEX	
SHEET	TITLE
1	COVER
2	EXISTING CONDITIONS
3	LAYOUT & MATERIALS
4	GRADING & UTILITIES
5	PROFILE
6	LIGHTING
7	DETAILS
L1	LANDSCAPE PLAN
L2	LANDSCAPE DETAILS

LEGEND	
BIT CONC	BITUMINOUS CONCRETE
CB	CATCH BASIN
CC	CONCRETE CURB
CCB	CAPE COD BERM
CO	CLEAN OUT
CONC	CONCRETE
CS	CURB STOP
D	DRAINLINE
DCB	DOUBLE CATCH BASIN
DI	DUCTILE IRON
DMH	DRAIN MANHOLE
ELEC	ELECTRIC
EMH	ELECTRIC MANHOLE
ETC	ELECTRIC, TELEPHONE, CABLE
FD	FOUNDATION DRAIN
FE	FLARED END
GAS	GAS LINE
GG	GAS GATE
GV	GATE VALVE
HC	HANDICAPPED RAMP
HYD	HYDRANT
INV	INVERT
LP	LIGHT POLE
MH	MANHOLE
PIV	POST INDICATOR VALVE
PPVC	PERFORATED POLY-VINYL-CHLORIDE
PVC	POLY-VINYL-CHLORIDE
RCP	REINFORCED CONCRETE PIPE
RD OR RL	ROOF DRAIN OR ROOF LEADER
S	SEWER LINE
SB/DH	STONE BOUND/DRILLHOLE
SGC	SLOPED GRANITE CURB
SMH	SEWER MANHOLE
TD	TRENCH DRAIN
TEL	TELEPHONE LINE
TMH	TELEPHONE MANHOLE
TRANS	TRANSFORMER
TS	TRANSITION STONE
UD	UNDERDRAIN
VGC	VERTICAL GRANITE CURB
W	WATER LINE
WG	WATER GATE
W-S	WATER SHUTOFF
TP	TEST PIT
WF	WETLAND FLAG
ECB	EROSION CONTROL BARRIER
T24	24" TREE
(TBS)	STONE BOUND/DRILL HOLE TO BE SET
	WATER SHUTOFF

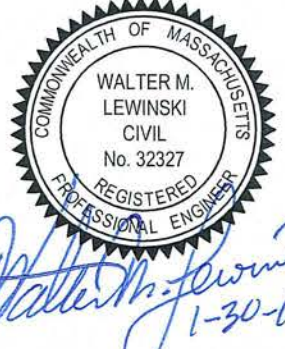
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REVISIONS	
REV	DATE
3	1/30/18
2	12/26/17
1	11/27/17
0	7/25/17
DATE	DESCRIPTION
WML	ISSUED FOR PEER REVIEW
PSB	ISSUED FOR PEER REVIEW
PSB	ISSUED FOR PEER REVIEW



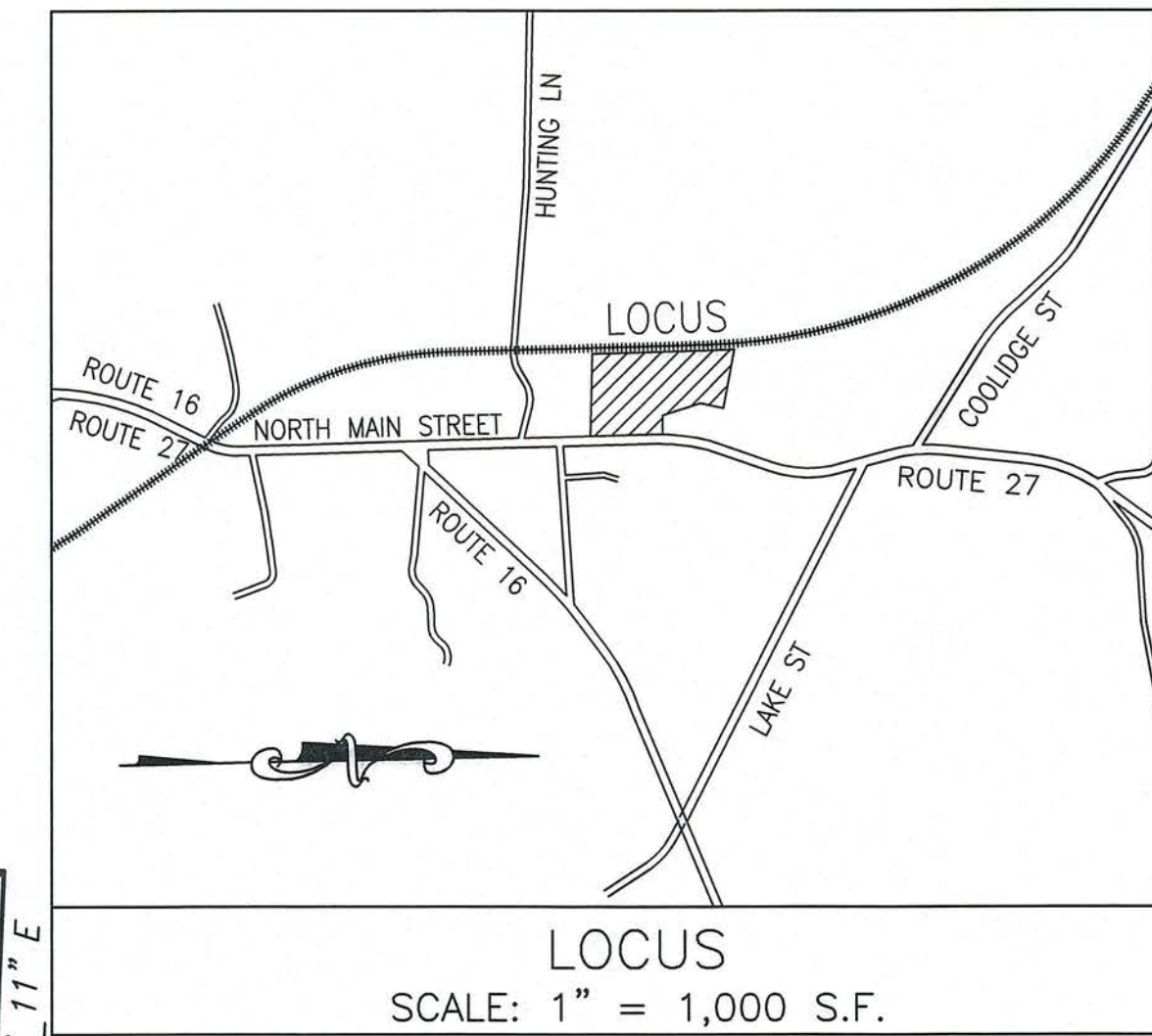
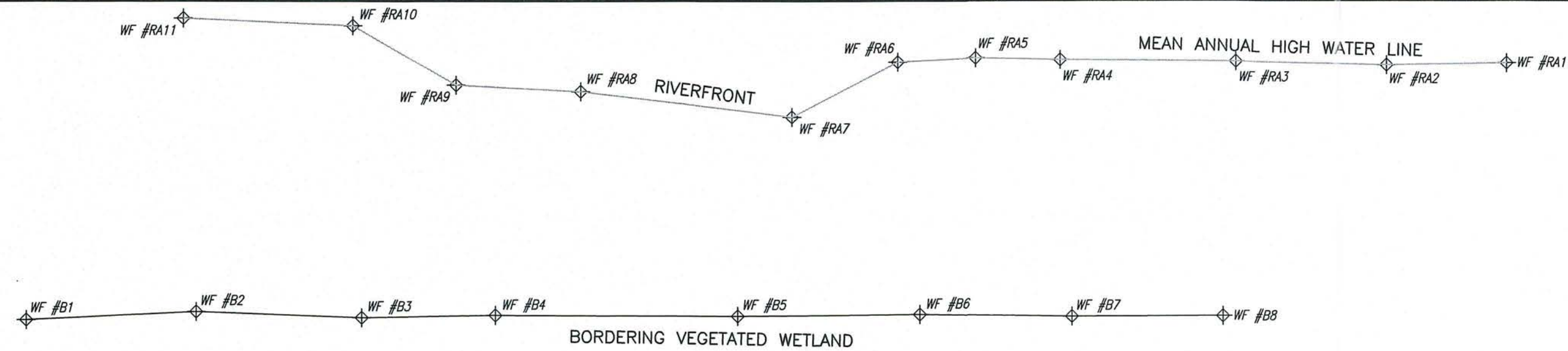
PREPARED BY:
Engineering Design Consultants, Inc.
32 Turnpike Road
Southborough, Massachusetts
(508) 480-0225

PROJECT:
SHERBORN VILLAGE
A
RESIDENTIAL DEVELOPMENT
IN
SHERBORN, MASSACHUSETTS

TITLE:
COVER
#59 NORTH MAIN STREET
SHERBORN, MASSACHUSETTS

OWNER/APPLICANT:
HERITAGE PROPERTIES
490-B BOSTON POST ROAD
SUDBURY, MA 01776

FILE NO: 3438
COVER
DATE: JULY 25, 2017
PLAN NO: 1 of 7
1



NOTE:
UNDERGROUND UTILITY LOCATIONS ARE
NOT GUARANTEED.

IT SHALL BE THE RESPONSIBILITY OF THE
CONTRACTOR TO VERIFY LOCATIONS AND
ELEVATIONS OF EXISTING UTILITIES PRIOR
TO COMMENCEMENT OF ANY CONSTRUCTION

DIGSAFE IS TO BE NOTIFIED 72 BUSINESS
HOURS IN ADVANCE OF CONSTRUCTION.
CALL DIGSAFE AT 811



NOTES:

CURRENT OWNER OF RECORD:

JULIANI LABADINI PROPERTIES, LLC
ONE HOLLIS STREET - SUITE 207
WELLESLEY, MA 02482

DEED REFERENCE: BOOK 62749 PAGE 279

WETLAND AND RESOURCE AREAS DELINEATED BY ECOTEC,
INC ON 11/18/14. AN ORDER OF RESOURCE AREA
DELINEATION WAS ISSUED BY THE SHERBORN
CONSERVATION COMMISSION (DEP #283-0361) ON
DECEMBER 23, 2014.

FIRM MAP NO: 25017C00538F INDICATES THE ENTIRE SITE IS OUTSIDE
THE 100 & 500 YEAR FLOOD PLAINS.

SOIL TESTING RESULTS LOCATED ON SHEET 6 OF 7.

ASSESSORS REFERENCE:

MAP: 10 LOT:25

CURRENT ZONING INFORMATION

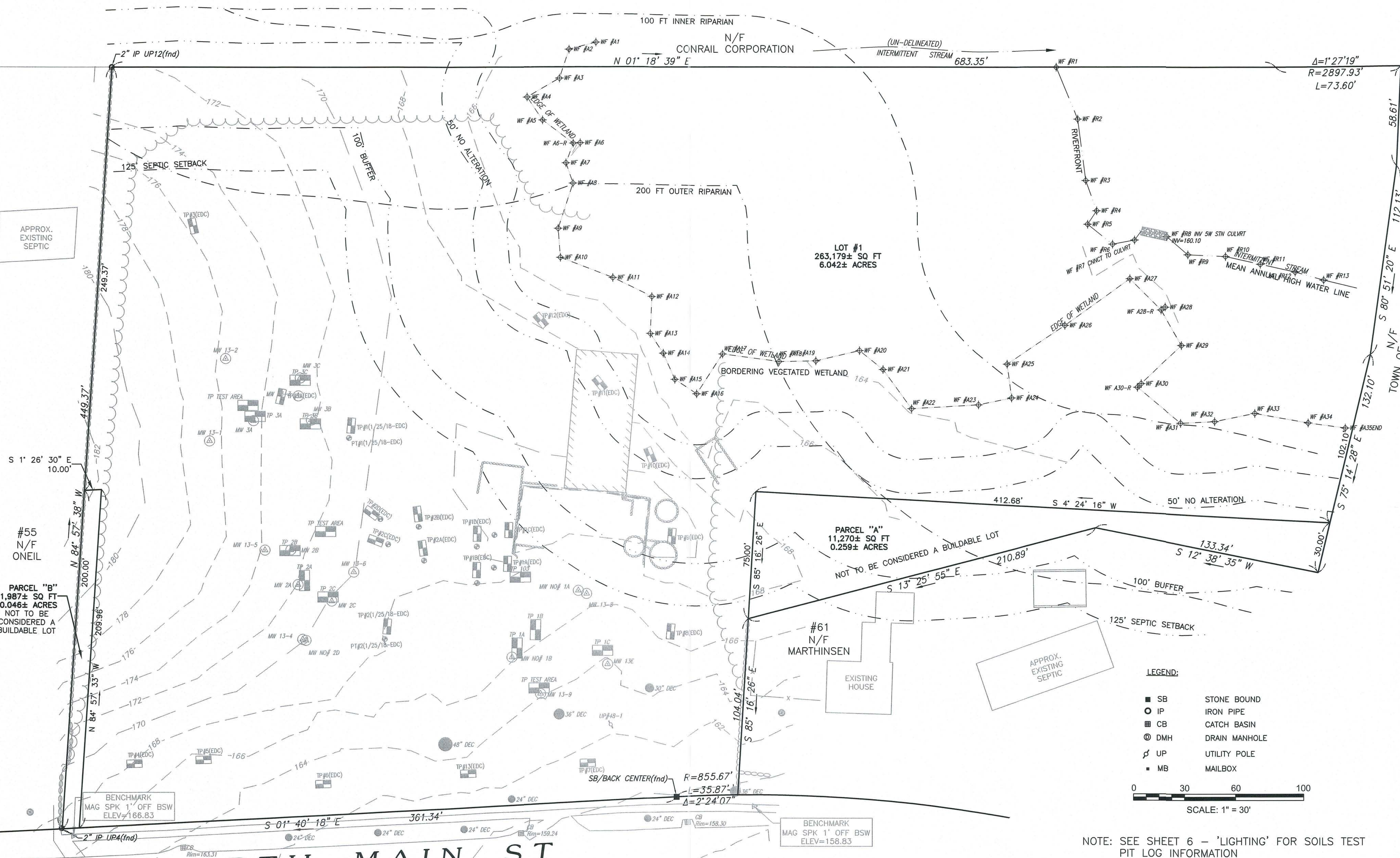
ZONING DISTRICT = RA

DIMENSIONAL REQUIREMENTS	REQUIRED
AREA	43,560 S.F.
FRONTAGE	150.0 FT.
WIDTH	150.0 FT.
BUILDING SETBACK:	
FRONT	60 FT.
SIDE	30 FT.
REAR	30 FT.
HEIGHT	35' MAX., 2.5 STORY

PROPOSED ZONING INFORMATION

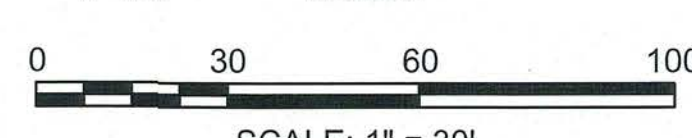
ZONING DISTRICT = EA

DIMENSIONAL REQUIREMENTS	REQUIRED	PROPOSED
AREA	43,560 S.F.	263,179 S.F.
FRONTAGE	150.0 FT.	361.3 FT.(EXIST.)
BUILDING SETBACK:		
FRONT	100 FT.	45.3 FT. WAIVER NEEDED
SIDE	60 FT.	17.7 FT. WAIVER NEEDED
REAR	60 FT.	64.0 FT.
HEIGHT	35' MAX., 2.5 STORY	(NOT EXCEEDED)



LEGEND:

- SB STONE BOUND
- IP IRON PIPE
- CB CATCH BASIN
- DMH DRAIN MANHOLE
- UP UTILITY POLE
- MB MAILBOX



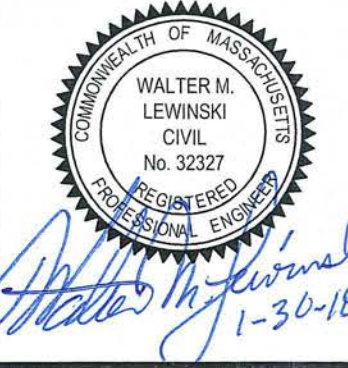
NOTE: SEE SHEET 6 - 'LIGHTING' FOR SOILS TEST
PIT LOG INFORMATION

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CONTRACTOR TO CARRY OUT THE WORK IN ACCORDANCE
WITH THE CONTRACT DOCUMENTS.

ENGINEERING DESIGN CONSULTANTS, INC.'S LIABILITY FOR
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REVISIONS	DATE	DESCRIPTION
3	1/30/18	ISSUED FOR PEER REVIEW
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0	7/25/17	ISSUED FOR PEER REVIEW



ENGINEERING DESIGN CONSULTANTS, INC.
32 Turnpike Road
Southborough, Massachusetts
(508) 480-0225

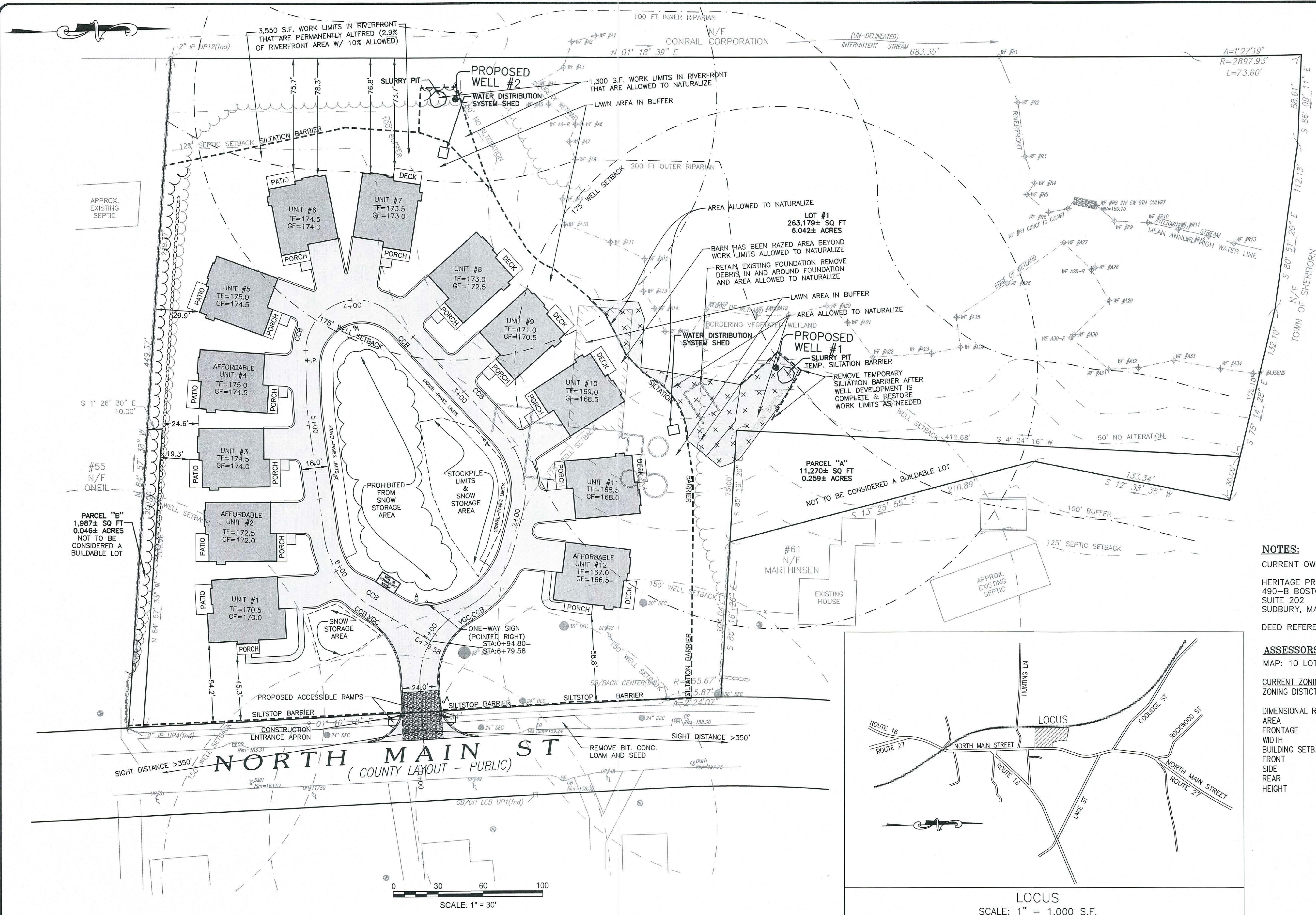
SHERBORN VILLAGE
A
RESIDENTIAL DEVELOPMENT
IN
SHERBORN, MASSACHUSETTS

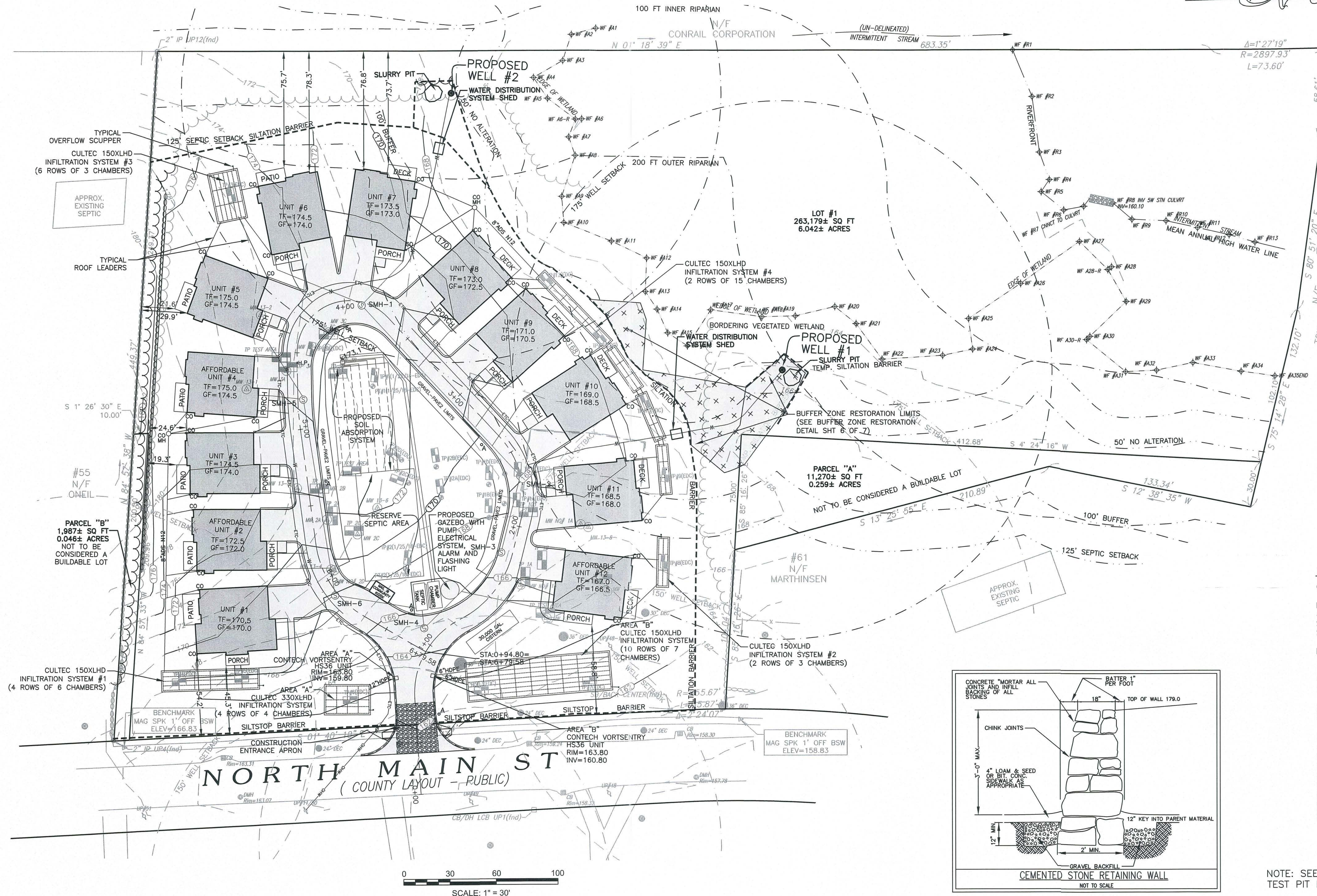
EXISTING CONDITIONS
#59 NORTH MAIN STREET
SHERBORN, MASSACHUSETTS

HERITAGE PROPERTIES
490-B BOSTON POST ROAD
SUDBURY, MA 01776

FILE NO: 3438
EXISTING CONDITIONS
DATE: JULY 25, 2017
PLAN NO: 2 of 7
2

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NOTE:
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DIGSAFE IS TO BE NOTIFIED 72 BUSINESS HOURS IN ADVANCE OF CONSTRUCTION. CALL DIGSAFE AT 811



CONSTRUCTION NOTES

1. DWELLING INFILTRATION SHALL BE CULTEC RECHARGER C150XLHD, ELEVATIONS AS SHOWN ON THE DETAILS. THEY SHALL BE INTERCONNECTED WITH THE CULTEC HVLV FC-24 FEED CONNECTOR AND 8-INCH DIAMETER ADS. N-12 PIPE. ROOF LEADERS SHALL BE 4-INCH ADS.
2. DRIVEWAY INFILTRATION SHALL BE CULTEC RECHARGER C150XLHD & C330XLHD, ELEVATIONS AS SHOWN ON THE DETAILS.
3. SEWER PIPE SHALL BE 6" SCH-40 PVC, PRIME AND THOROUGHLY GLUE ALL PIPE FITTINGS.
4. MINIMUM SLOPE OF SEWER CONNECTIONS FROM UNITS S=0.010.
5. UNITS SHALL HAVE SEWER BACKFLOW PREVENTERS.
6. WATER MAIN LINE SHALL BE 2" PVC
7. WATER SERVICES SHALL BE 1 1/2" TYPE K COPPER.
8. SEE CONSTRUCTION NOTES AND DETAILS ON SHEET 6
9. AREA "A" & "B" SHALL BE VORTSENTRY HS36 UNITS.
10. SEWER PIPE CROSSING WATER LINE OR DRAIN LINE SHALL BE ENCASED IN CONCRETE WITH A MINIMUM OF 6-INCHES OF CONCRETE ALL AROUND AND 5-FEET TO EITHER SIDE OF THE UTILITY CROSSING.

WETLAND NOTE

WETLAND RESOURCE AREAS IDENTIFIED BY SCOTT MORRISON OF ECOTEC, INC. ON NOVEMBER 18, 2014 AND LOCATED BY FIELD SURVEY BY EDC. SHERBORN CONSERVATION COMMISSION ISSUED ORAD CONFIRMING RESOURCE AREA LIMITS ON DECEMBER 23, 2014, DEP #283-0361. EDC FILED NOTICE OF INTENT FOR LOTS 1-3 AND SHERBORN CONSERVATION COMMISSION ISSUED ORDER OF CONDITIONS FOR LOT 1, DEP #283-0363 AND LOT 3, DEP #283-0364 ON MAY 28, 2015. ALL PERMIT DECISIONS RECORDED AT THE MIDDLESEX REGISTRY OF DEEDS.

NOTES:

CURRENT OWNER OF RECORD

HP SHERBORN LLC
490-B BOSTON POST ROAD
SUITE 202
SUDBURY, MA 01776

DEED REFERENCE: BOOK 65811 PAGE 274

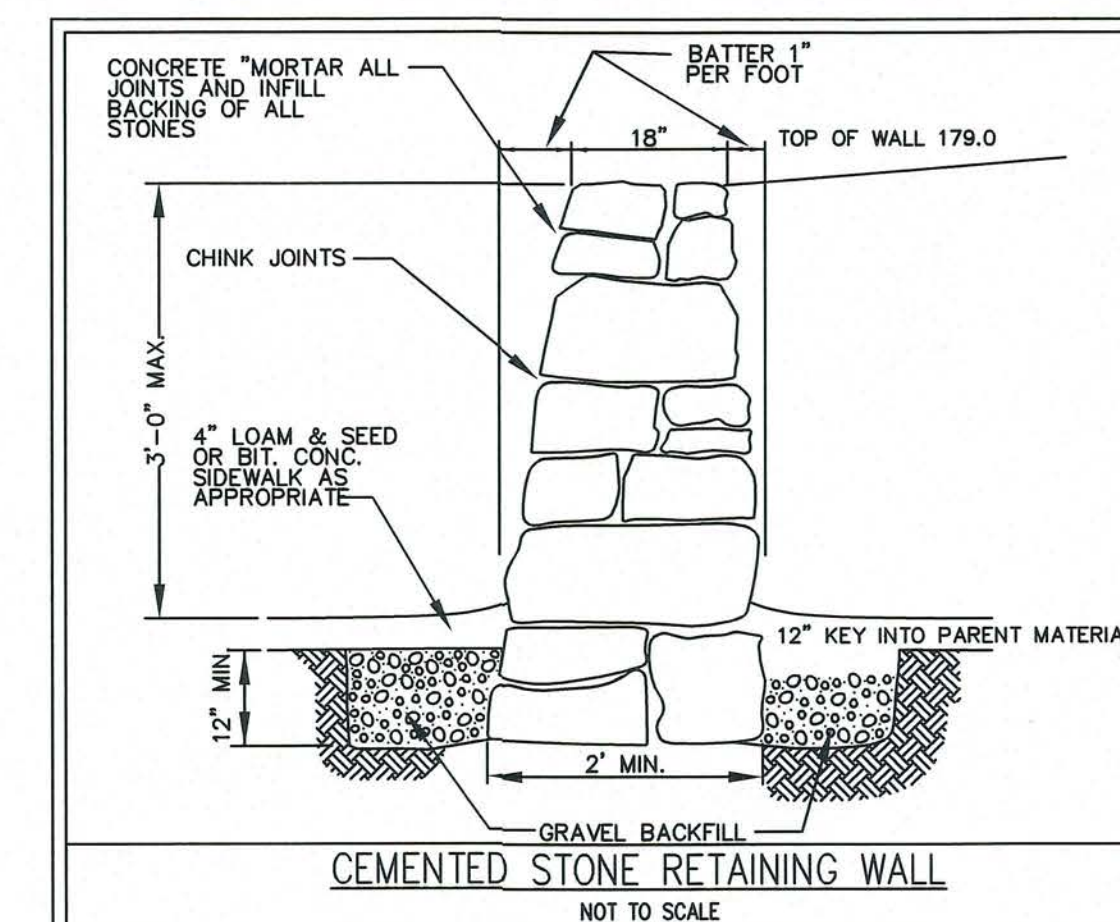
ASSESSORS REFERENCE:

MAP: 10 LOT: 25

CURRENT ZONING INFORMATION
ZONING DISTRICT = RA

DIMENSIONAL REQUIREMENTS	REQUIRED	PROPOSED
AREA	43,560 S.F.	263,179 S.F.
FRONTAGE	150.0 FT.	
WIDTH	150.0 FT.	
BUILDING SETBACK:		
FRONT	60 FT.	45.3 FT
SIDE	30 FT.	19.3 FT
REAR	30 FT.	73.7 FT
HEIGHT	35' MAX., 2.5 STORY	<35' 2.5 STORY

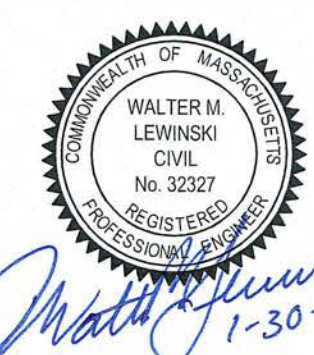
NOTE: SEE SHEET 6 OF 7 - 'LIGHTING' FOR SOILS TEST PIT LOG INFORMATION



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REV	DATE	DESCRIPTION
1	1/30/18	ISSUED FOR PEER REVIEW
2	12/26/17	ISSUED FOR PEER REVIEW
3	11/21/17	ISSUED FOR PEER REVIEW
4	7/25/17	ISSUED FOR PEER REVIEW



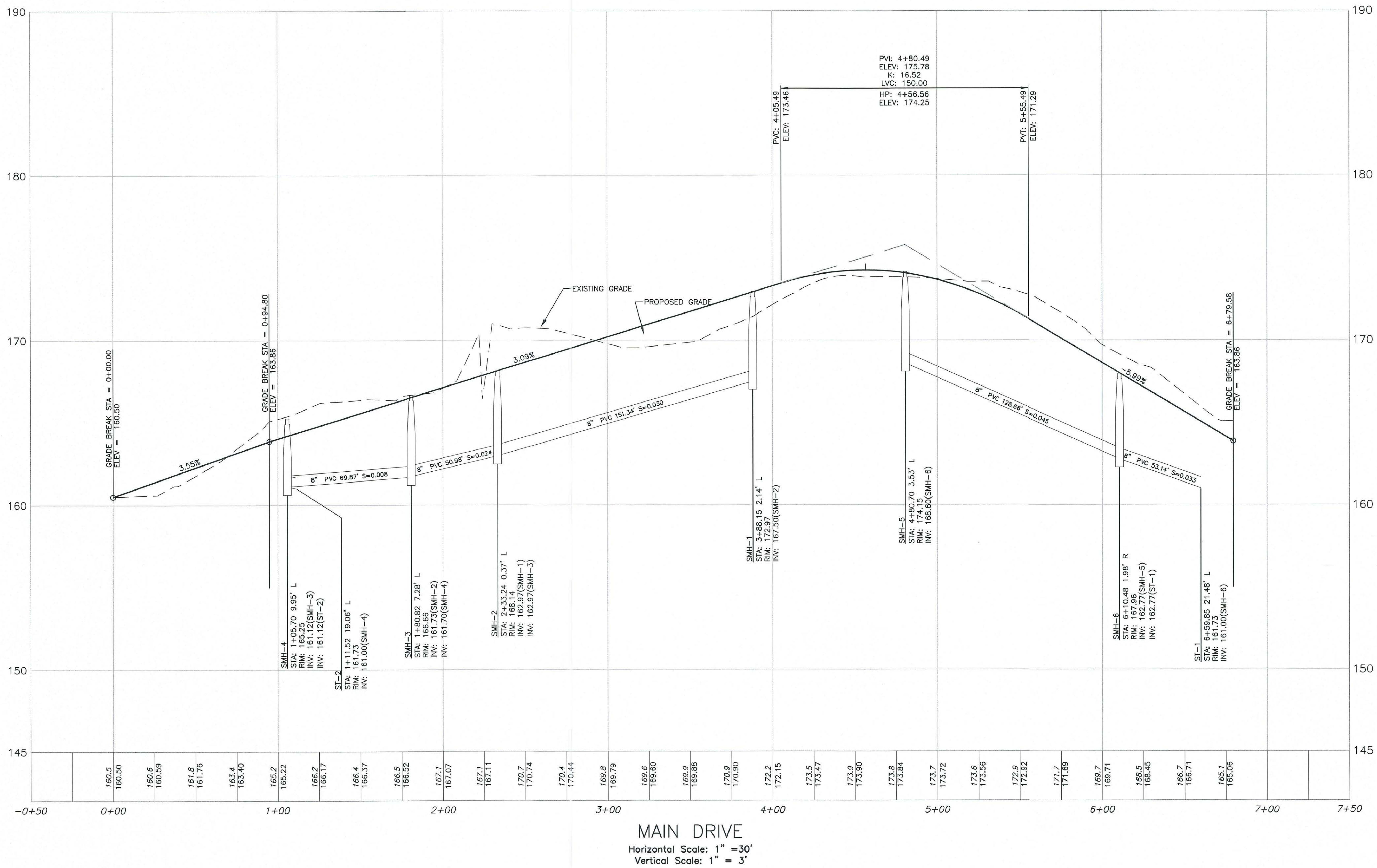
Engineering Design Consultants, Inc.
32 Turnpike Road
Southborough, Massachusetts
(508) 480-0225

SHERBORN VILLAGE
A
RESIDENTIAL DEVELOPMENT
IN
SHERBORN, MASSACHUSETTS

GRADING & UTILITIES
#59 NORTH MAIN STREET
SHERBORN, MASSACHUSETTS

HERITAGE PROPERTIES
490-B BOSTON POST ROAD
SUDBURY, MA 01776

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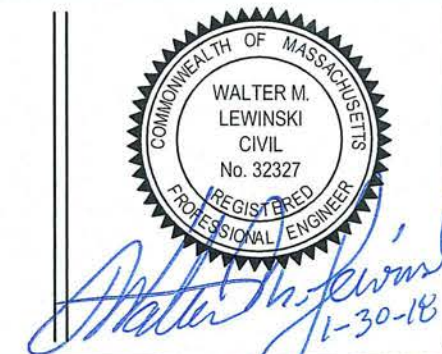


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1	11/27/17	ISSUED FOR PEER REVIEW	
0	7/25/17	ISSUED FOR PEER REVIEW	

DRAWN BY:	WML
CHECKED BY:	PSB
APPROVED BY:	PSB



PREPARED BY:
Engineering Design Consultants, Inc.
32 Tumpike Road
Southborough, Massachusetts
(508) 480-0225

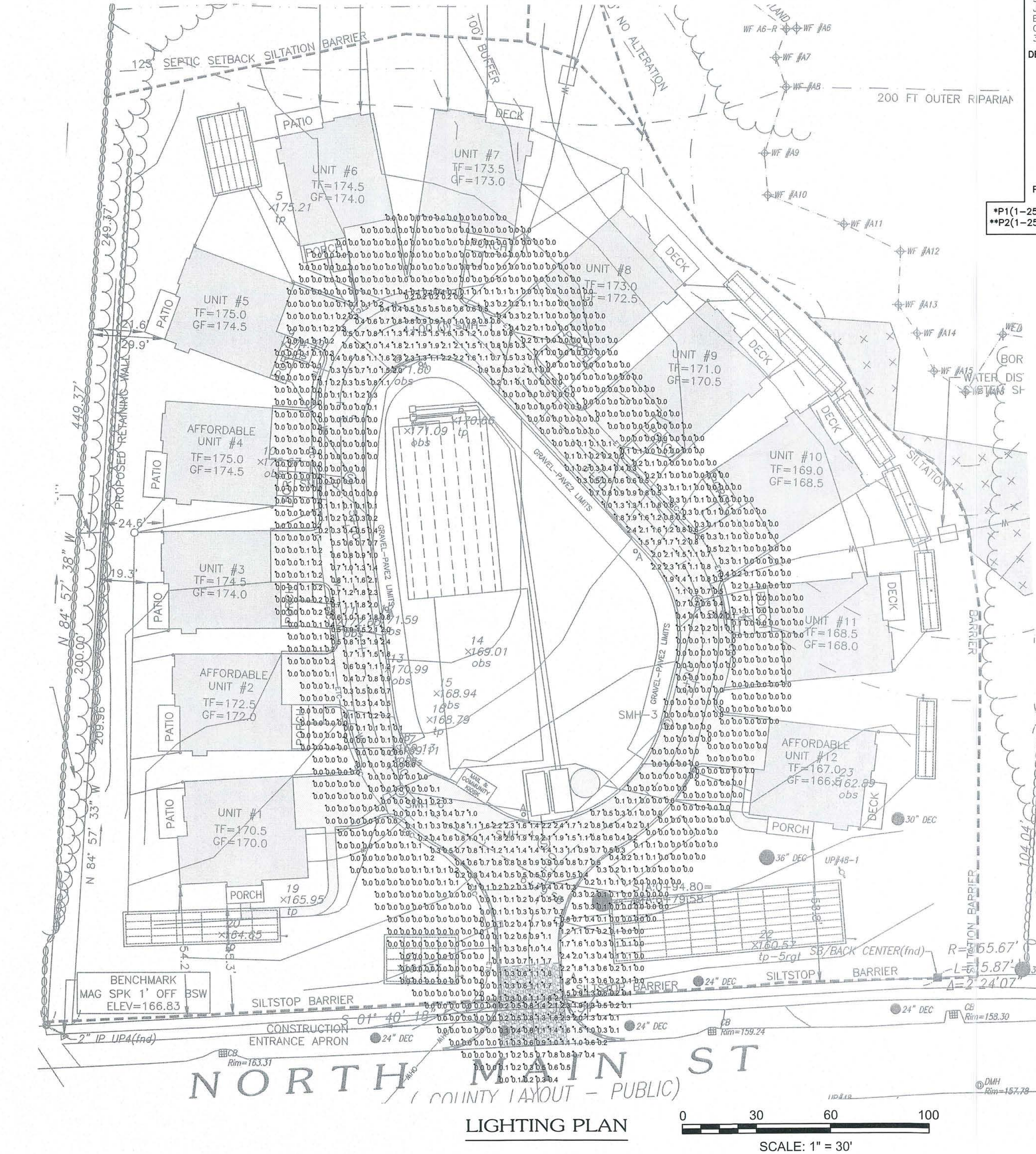
PROJECT:
SHERBORN VILLAGE
A
RESIDENTIAL DEVELOPMENT
IN
SHERBORN, MASSACHUSETTS

TITLE:
PROFILE
#59 NORTH MAIN STREET
SHERBORN, MASSACHUSETTS

OWNER/APPLICANT:
HERITAGE PROPERTIES
490-B BOSTON POST ROAD
SUDBURY, MA 01776

FILE NO: 3438
PROFILE
DATE: JULY 25, 2017
PLAN NO: 5 OF 7
5

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Symbol	Label	Quantity	Manufacturer	Catalog Number	Description	Number Lamps	Filename	Lumens Per Lamp	Light Loss Factor	Wattage
□	A	5	ANP LIGHTING	LA772 1 FR 46W N T3 35K FINISH	30TH X 14" DIA. LED TRADITIONAL LUMINAIRE 3500K LEDS WITH TYPE III OPTICS AND FROSTED LENS	1	L02133101.IES	2977	1	46

SOIL TESTS PERFORMED BY: PETER BEMIS, SOIL EVALUATOR ON JAN. 25, 2018. PETER BEMIS PASSED THE SOIL EVALUATOR EXAMINATION APPROVED BY DEP IN NOVEMBER 1994 AND HAS CERTIFIED THAT HIS ANALYSIS WAS PERFORMED CONSISTENT WITH 310 CMR 15.017. SOIL TESTS WITNESSED BY BETH HALLAL, SBOH.

DEEP HOLE # 1(1-25-18) ELEV. 170.3

12" Ap	LOAMY SAND 10YR3/3	169.3	15" Ap	LOAMY SAND 10YR3/3	167.3
24" Bw	LOAMY SAND 10YR5/8	168.3	32" Bw	LOAMY SAND 10YR5/8	165.8
120" C	SAND 2.5Y6/4	160.3	120" C	SAND 2.5Y6/4	158.5

MOTTLING: NONE
PERCOLATION TEST: 2 MPI*
SOIL CLASS: CLASS I

DEEP HOLE # 2(1-25-18) ELEV. 168.5

12" Ap	LOAMY SAND 10YR3/3	169.3	15" Ap	LOAMY SAND 10YR3/3	167.3
24" Bw	LOAMY SAND 10YR5/8	168.3	32" Bw	LOAMY SAND 10YR5/8	165.8
120" C	SAND 2.5Y6/4	160.3	120" C	SAND 2.5Y6/4	158.5

MOTTLING: NONE
PERCOLATION TEST: 2 MPI**
SOIL CLASS: CLASS I

*P1(1-25-18): 1:18;1:19;1:21;1:22;1:23;1:24 1 MIN. PER INCH DROP
**P2(1-25-18): 1:44;1:47;1:50;1:54;1:59;2:04;2:10 6 MIN. PER INCH DROP

NOTE: UNDERGROUND UTILITY LOCATIONS ARE NOT GUARANTEED.

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DIGSAFE IS TO BE NOTIFIED 72 BUSINESS HOURS IN ADVANCE OF CONSTRUCTION. CALL DIGSAFE AT 811



SOIL TESTS PERFORMED BY: PETER BEMIS, SOIL EVALUATOR ON MARCH 25, 2015. PETER BEMIS PASSED THE SOIL EVALUATOR EXAMINATION APPROVED BY DEP IN NOVEMBER 1994 AND HAS CERTIFIED THAT HIS ANALYSIS WAS PERFORMED CONSISTENT WITH 310 CMR 15.017. SOIL TESTS WITNESSED BY ETHAN MASCOOP, SBOH.

DEEP HOLE # 1-A(EDC) & 1-B(EDC) ELEV. 169.0

24"	FILL	167.0	36"	FILL	167.0
108" C	LOAMY SAND 2.5Y5/4	160.0	132" C	LOAMY SAND 2.5Y6/2	159.0

MOTTLING: 72"-10YR5/8 - 163.0
PERCOLATION TEST: 4 MPI
SOIL CLASS: CLASS I

DEEP HOLE # 1-C(EDC) & 1-D(EDC) ELEV. 170.0

24"	FILL	167.0	36"	FILL	167.0
108" C	LOAMY SAND 2.5Y5/4	160.0	132" C	LOAMY SAND 2.5Y6/2	159.0

MOTTLING: 84"-10YR5/8 - 163.0
PERCOLATION TEST: 3 MPI
SOIL CLASS: CLASS I

DEEP HOLE # 2-A(EDC) & 2-B(EDC) ELEV. 168.0

6" A	TOPSOIL	168.5	6" A	TOPSOIL	169.0
24" Bw	LOAMY SAND 10YR5/8	167.0	36" Bw	LOAMY SAND 10YR5/8	166.5
108" C	LOAMY SAND 2.5Y5/4	160.0	120" C	LOAMY SAND 2.5Y5/4	159.5

MOTTLING: 72"-10YR5/8 - 163.0
PERCOLATION TEST: 7 MPI
SOIL CLASS: CLASS I

DEEP HOLE # 2-C(EDC) & 2-D(EDC) ELEV. 169.5

6" A	TOPSOIL	169.0	6" A	TOPSOIL	172.9
24" Bw	LOAMY SAND 10YR5/8	167.0	36" Bw	LOAMY SAND 10YR5/8	166.5
108" C	LOAMY SAND 2.5Y5/4	160.0	138" C	LOAMY SAND 2.5Y5/4	161.9

MOTTLING: 78"-10YR5/8 - 163.0
PERCOLATION TEST: 3 MPI
SOIL CLASS: CLASS I

DEEP HOLE # 3-A(EDC) ELEV. 173.4

6" A	TOPSOIL	172.9	30" Bw	SAND 10YR5/8	170.9
108" C	LOAMY SAND 2.5Y5/4	161.9			

MOTTLING: NONE
PERCOLATION TEST: N/A
SOIL CLASS: CLASS I

SOIL TESTS PERFORMED BY: PETER BEMIS, SOIL EVALUATOR ON JAN. 25, 2018. PETER BEMIS PASSED THE SOIL EVALUATOR EXAMINATION APPROVED BY DEP IN NOVEMBER 1994 AND HAS CERTIFIED THAT HIS ANALYSIS WAS PERFORMED CONSISTENT WITH 310 CMR 15.017. SOIL TESTS WITNESSED BY BETH HALLAL, SBOH.

DEEP HOLE # 1(1/25/18-EDC) ELEV. 168.5

12" Ap	LOAMY SAND 10YR3/3	169.3	15" Ap	LOAMY SAND 10YR3/3	167.3
24" Bw	LOAMY SAND 10YR5/8	168.3	32" Bw	LOAMY SAND 10YR5/8	165.8
120" C	COARSE SAND 2.5Y6/4	160.3	120" C	COARSE SAND 2.5Y6/4	158.5

MOTTLING: N/A
PERCOLATION TEST: 1 MPI

DEEP HOLE # 2(1/25/18-EDC) ELEV. 168.5

12" Ap	LOAMY SAND 10YR3/3	169.3	15" Ap	LOAMY SAND 10YR3/3	167.3
24" Bw	LOAMY SAND 10YR5/8	168.3	32" Bw	LOAMY SAND 10YR5/8	165.8
120" C	COARSE SAND 2.5Y6/4	160.3	120" C	COARSE SAND 2.5Y6/4	158.5

MOTTLING: N/A
PERCOLATION TEST: 6MPI

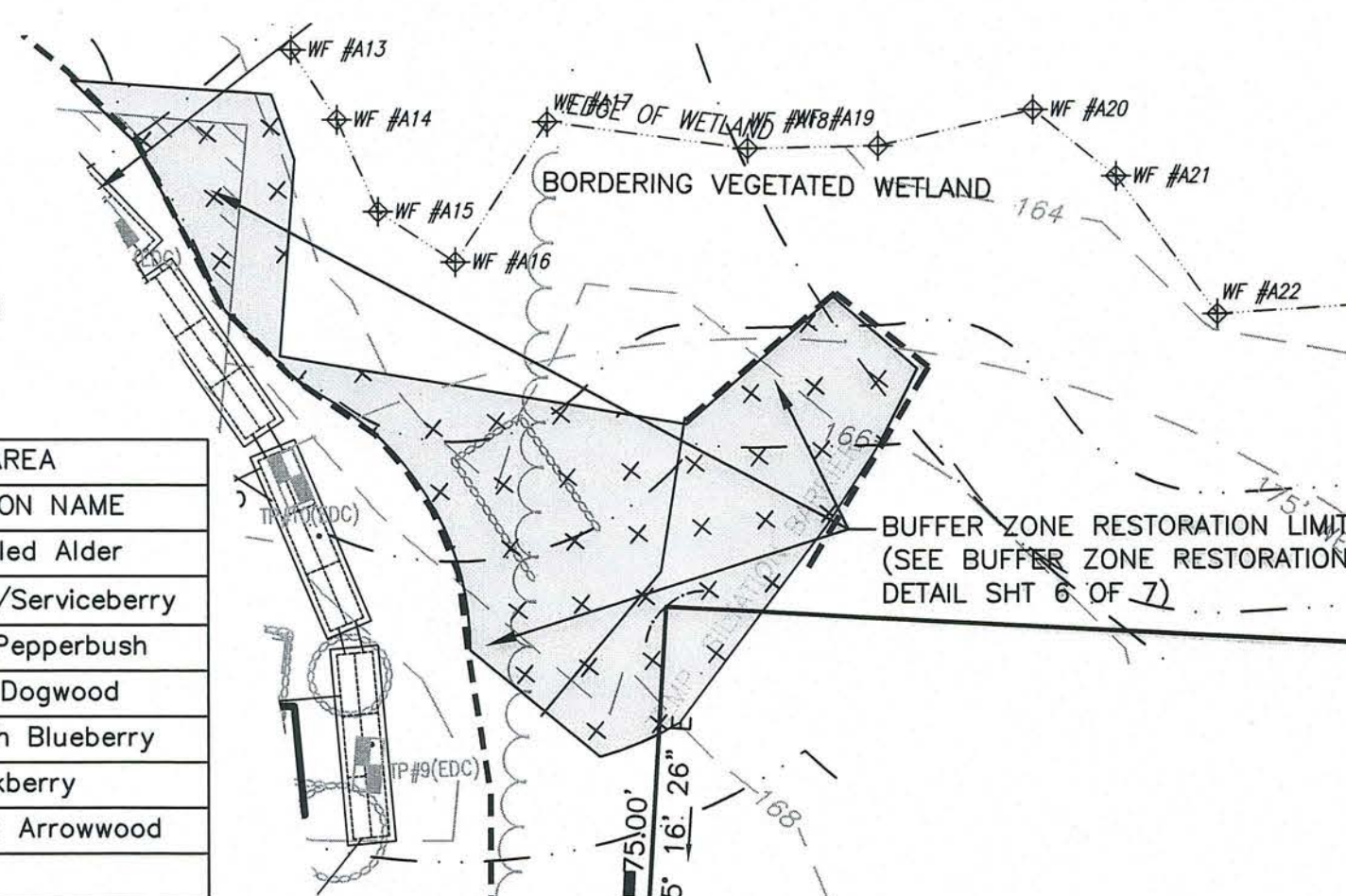
SOIL TESTS PERFORMED BY: PETER BEMIS, SOIL EVALUATOR ON JAN. 25, 2018 FOR ANALYSIS OF STORM WATER MANAGEMENT SYSTEM LIMITS. PETER BEMIS PASSED THE SOIL EVALUATOR EXAMINATION APPROVED BY DEP IN NOVEMBER 1994 AND HAS CERTIFIED THAT HIS ANALYSIS WAS PERFORMED CONSISTENT WITH 310 CMR 15.017. SOIL TESTS WITNESSED BY BETH HALLAL, SBOH.

DEEP HOLE # 3(EDC)			DEEP HOLE # 4(EDC)			DEEP HOLE # 5(EDC)			DEEP HOLE # 6(EDC)			DEEP HOLE # 7(EDC)		
	GROUND	ELEV. 175.9		GROUND	ELEV. 167.8		GROUND	ELEV. 165.8		GROUND	ELEV. 163.1		GROUND	ELEV. 161.7
12" Ap	LOAMY SAND 10YR3/3	174.9	12" Ap	LOAMY SAND 10YR3/3	166.8	12" Ap	LOAMY SAND 10YR3/3	164.8	12" Ap	LOAMY SAND 10YR3/3	162.1	12" Ap	LOAMY SAND 10YR3/3	160.7
24" Bw	LOAMY SAND 10YR5/8	173.9	24" Bw	LOAMY SAND 10YR5/8	165.8	24" Bw	LOAMY SAND 10YR5/8	163.8	24" Bw	LOAMY SAND 10YR5/8	161.1	30" Bw	LOAMY SAND 10YR5/8	159.2
96" C	COARSE SAND 2.5Y6/4	167.9	96" C	COARSE SAND 2.5Y6/4	159.8	96" C	COARSE SAND 2.5Y6/4	157.8	90" C	COARSE SAND 2.5Y6/4	155.6	78" C	COARSE SAND 2.5Y6/4	155.2
MOTTLING: N/A PERCOLATION TEST: N/A SOIL CLASS: CLASS I			MOTTLING: N/A PERCOLATION TEST: N/A SOIL CLASS: CLASS I			MOTTLING: N/A PERCOLATION TEST: N/A SOIL CLASS: CLASS I			MOTTLING: N/A PERCOLATION TEST: N/A SOIL CLASS: CLASS I			MOTTLING: 54" (157.2) 10YR5/8 PERCOLATION TEST: N/A SOIL CLASS: CLASS I STANDING WATER: 72" (155.7)		
DEEP HOLE # 9(EDC)			DEEP HOLE # 10(EDC)			DEEP HOLE # 11(EDC)			DEEP HOLE # 12(EDC)			DEEP HOLE # 13(EDC)		
	GROUND	ELEV. 170.6		GROUND	ELEV. 170.1		GROUND	ELEV. 168.9		GROUND	ELEV. 166.4		GROUND	ELEV. 162.3
165.9												12" Ap	LOAMY SAND 10YR3/3	161.3
164.4	48"	166.6	48"	FILL	166.1	48"	FILL	164.9	30"	FILL	163.9	30"	LOAMY SAND 10YR5/8	159.8
158.4	96" C	162.6	98" C	COARSE SAND 2.5Y6/4	161.9	98" C	COARSE SAND 2.5Y6/4	160.7	84" C	COARSE SAND 2.5Y6/4	159.4	90" C	COARSE SAND 2.5Y6/4	154.8
MOTTLING: N/A PERCOLATION TEST: N/A SOIL CLASS: CLASS I			MOTTLING: N/A PERCOLATION TEST: N/A SOIL CLASS: CLASS I			MOTTLING: N/A PERCOLATION TEST: N/A SOIL CLASS: CLASS I STANDING WATER: 90" (161.4)			MOTTLING: 84"(159.4)10YR5/8 PERCOLATION TEST: N/A SOIL CLASS: CLASS I STANDING WATER: 60" (161.4)			MOTTLING: 60"(157.3)10YR5/8 PERCOLATION TEST: N/A SOIL CLASS: CLASS I DEEP HOLE #13 PERFORMED 2/2/18 & OBS.		

BUFFER ZONE RESTORATION DETAIL

THE BUFFER ZONE LIMITS IDENTIFIED SHALL BE RESTORED WITH THE PLANTINGS AS OUTLINED BELOW. THE SHERBORN CONSERVATION COMMISSION MAY SUBSTITUTE ALTERNATIVE PLANTS NOT OUTLINED ON THIS LIST BASED UPON ACTUAL FIELD CONDITIONS.

QUANTITY	LATIN NAME	COMMON NAME
6	Alnus incana	Speckled Alder
6	Amelanchier canadensis	Shadblow/Serviceberry
6	Clethra alnifolia	Sweet Pepperbush
6	Cornus amomum	Silky Dogwood
6	Vaccinium corymbosum	Highbush Blueberry
6	Ilex glabra	Inkberry
6	Viburnum dentatum	Northern Arrowwood
42	Total	



ENGINEERING DESIGN CONSULTANTS, INC. SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, OR PROCEDURES UTILIZED BY THE CONTRACTOR, NOR FOR THE SAFETY OF PUBLIC OR CONTRACTOR'S EMPLOYEES, OR FOR THE FAILURE OF THE CONTRACTOR TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

ENGINEERING DESIGN CONSULTANTS, INC.'S LIABILITY FOR THIS PLAN IS LIMITED TO THE EXTENT OF ITS FEE LESS THIRD PARTY COSTS.

REV	DATE	DESCRIPTION
3	1/30/18	ISSUED FOR PEER REVIEW
2	12/26/17	ISSUED FOR PEER REVIEW
1	11/27/17	ISSUED FOR PEER REVIEW
0	7/25/17	ISSUED FOR PEER REVIEW



PREPARED BY: *Walter M. Lewinski*

Engineering Design Consultants, Inc.
32 Turnpike Road
Southborough, Massachusetts
(508) 480-0225

PROJECT:

SHERBORN VILLAGE
A
RESIDENTIAL DEVELOPMENT
IN
SHERBORN, MASSACHUSETTS

TITLE:

LIGHTING
#59 NORTH MAIN STREET
SHERBORN, MASSACHUSETTS

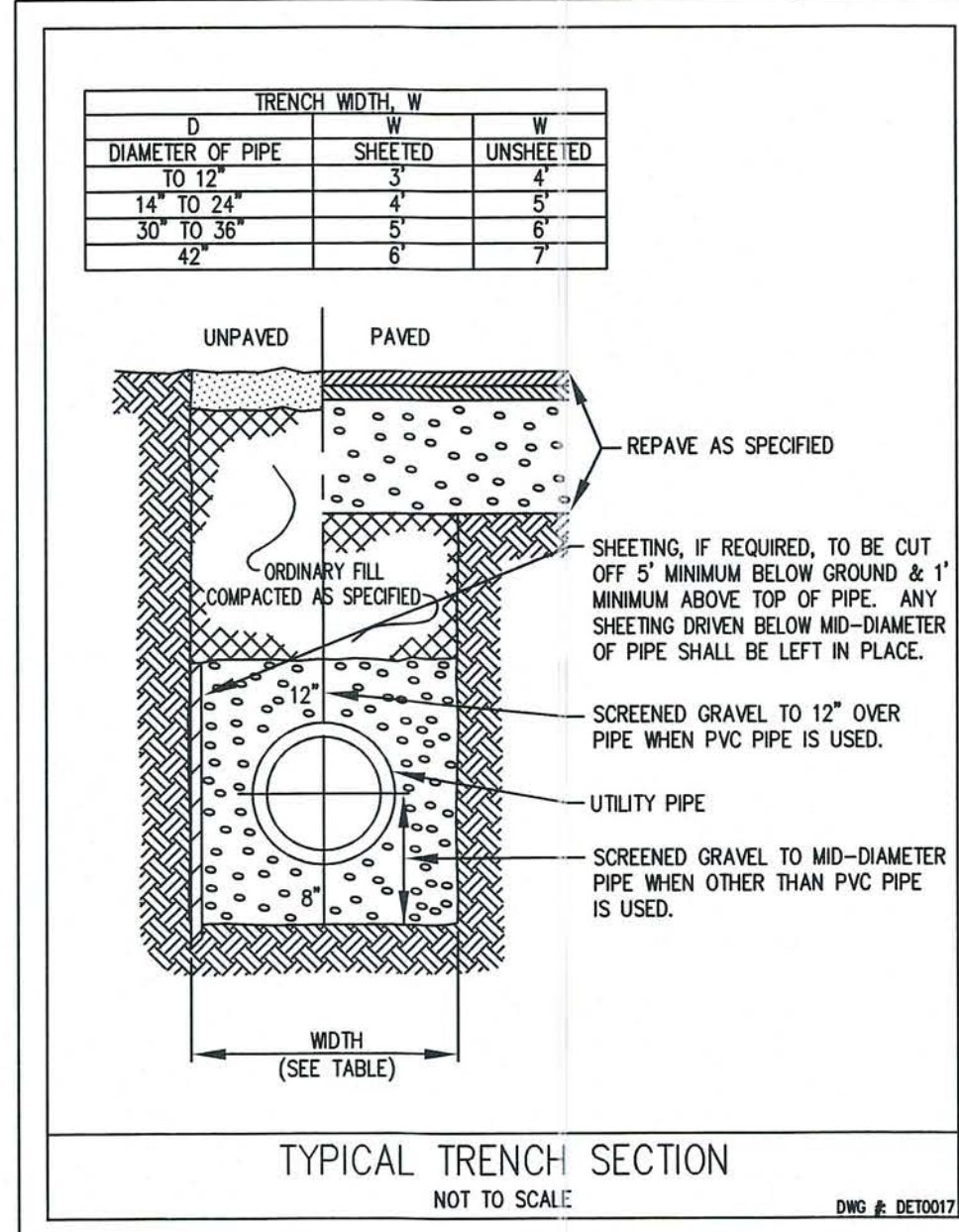
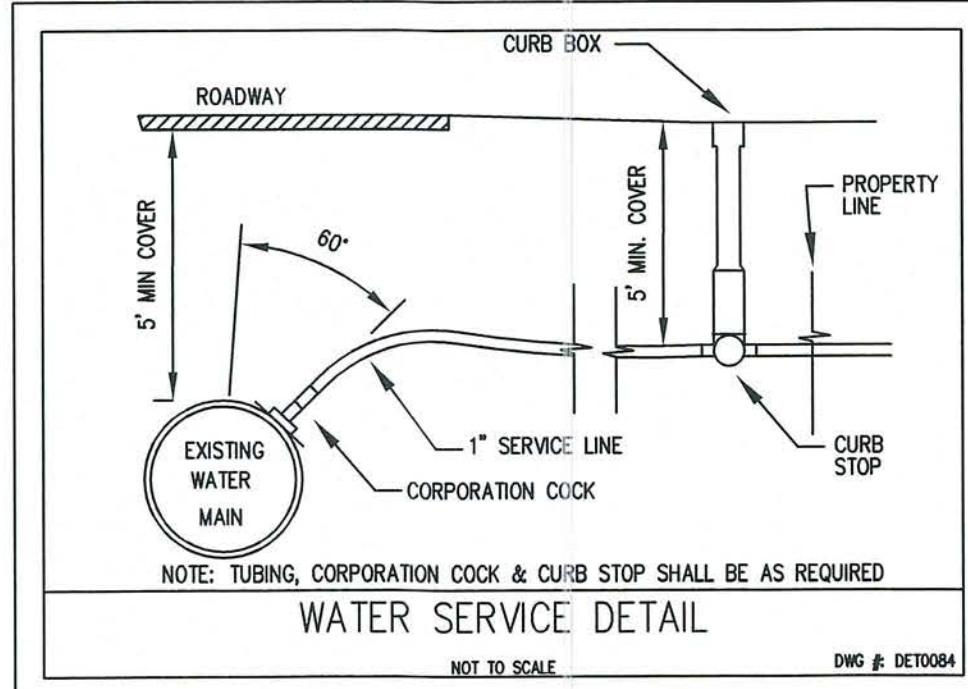
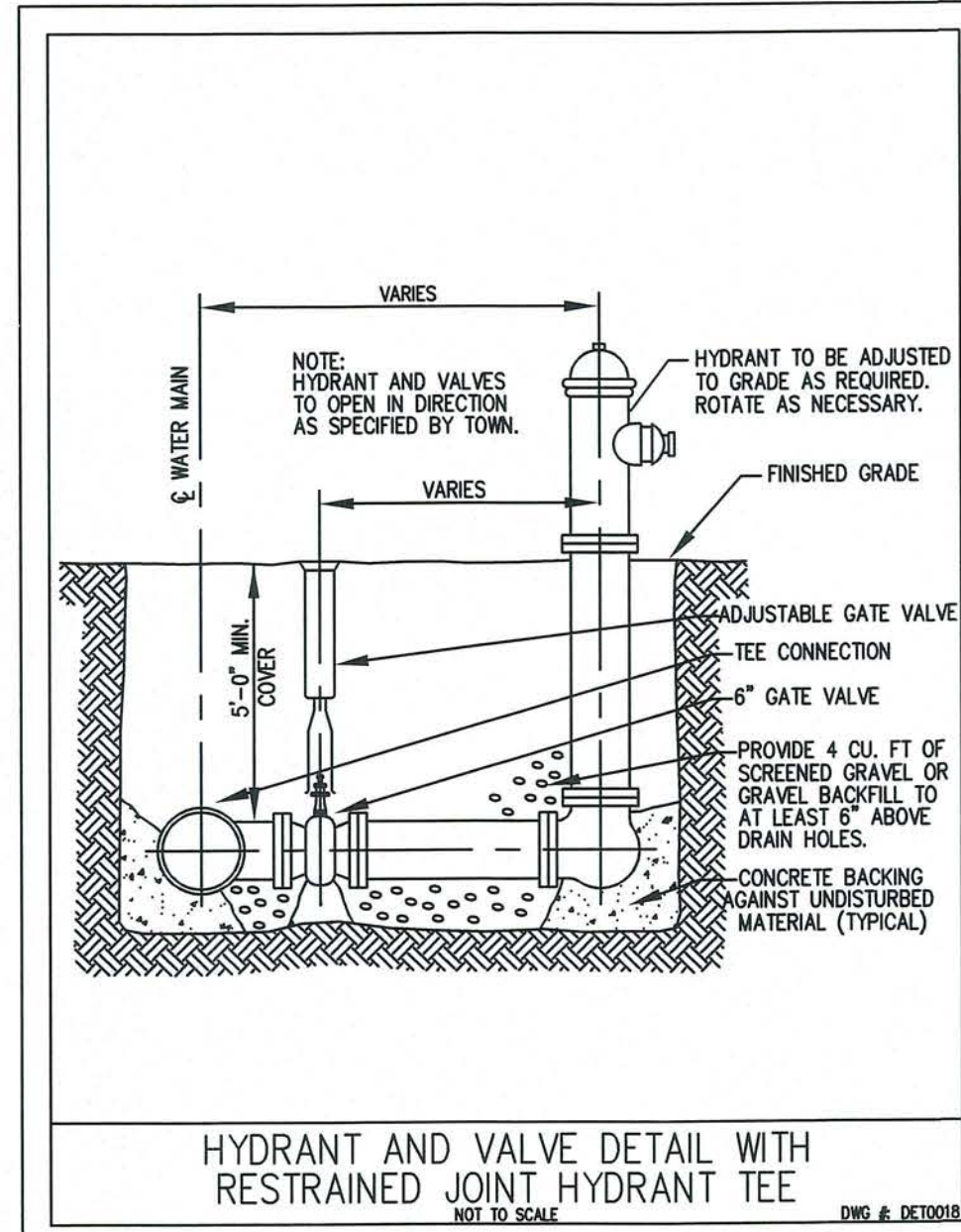
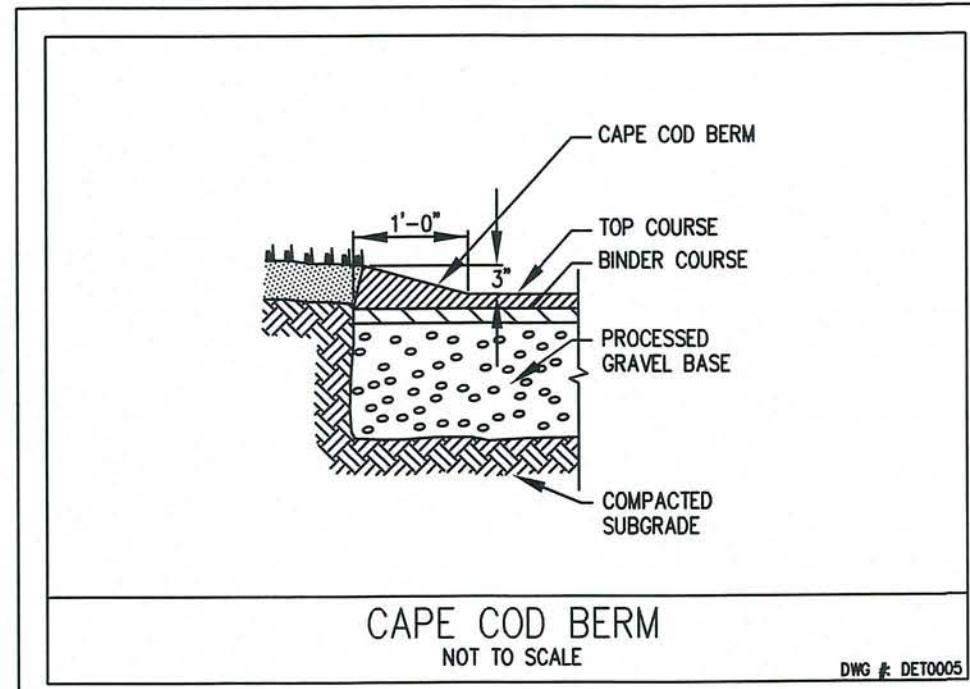
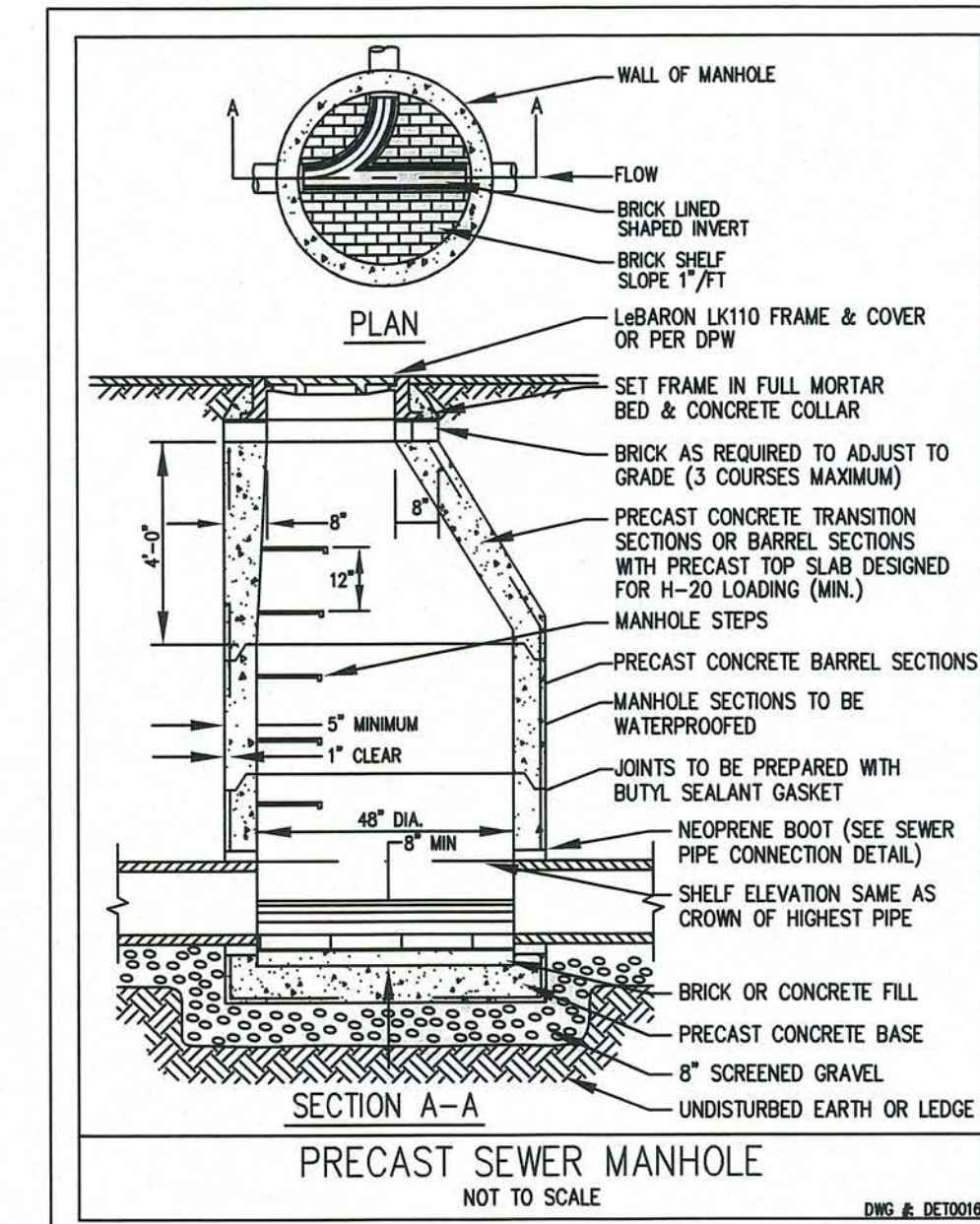
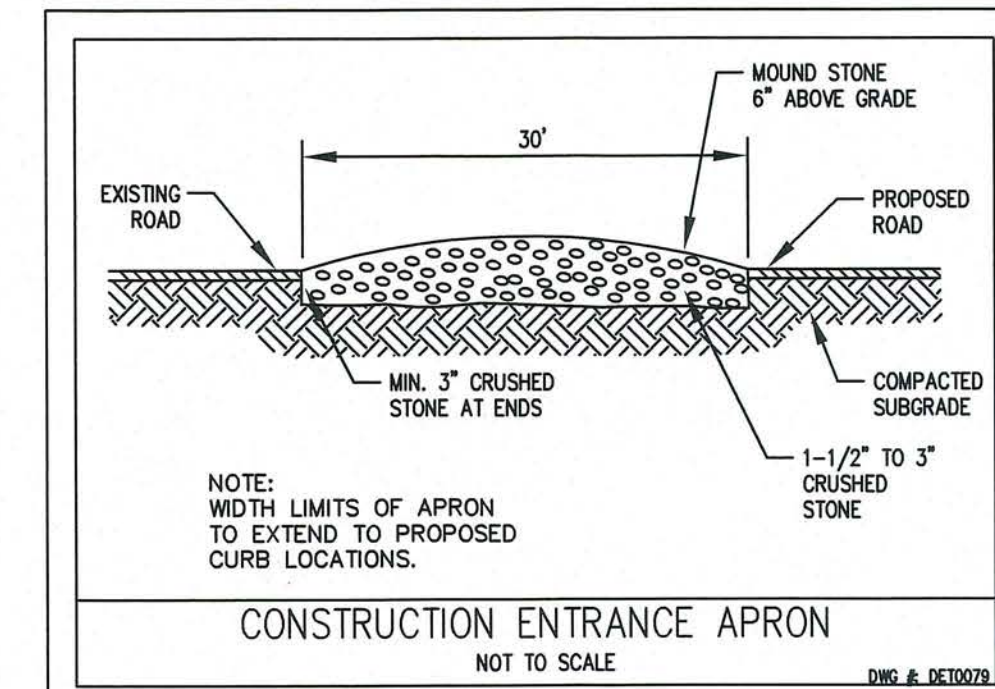
OWNER/APPLICANT:

HERITAGE PROPERTIES
490-B BOSTON POST ROAD
SUDBURY, MA 01776

FILE NO: 3438
LIGHTING
DATE: JULY 25, 2017
PLAN NO: 6 of 7

ALL RIGHTS RESERVED
NO PART OF THIS DOCUMENT MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF ENGINEERING DESIGN CONSULTANTS, INC. ANY MODIFICATIONS TO THIS DOCUMENT WITHOUT THE WRITTEN PERMISSION OF ENGINEERING DESIGN CONSULTANTS, INC. SHALL RENDER THEM INVALID AND UNSOUND.

1. THE SITE CONTRACTOR SHALL POST "DEP" SIGN AND REVIEW THE CONDITIONS DESCRIBED IN THE "ORDER OF CONDITIONS" ISSUED FOR THIS PROJECT.
2. EROSION CONTROL MEASURES (SEE DETAILS) SHALL BE INSTALLED PRIOR TO COMMENCEMENT OF CONSTRUCTION AS INDICATED.
3. MEASURES SHALL BE TAKEN TO LIMIT THE TRACKING OF MATERIAL FROM THE SITE ONTO NORTH MAIN STREET.
4. DUST SHALL BE CONTROLLED BY SPRINKLING OR OTHER APPROVED MEASURES AS NECESSARY.
5. CATCH BASIN AND FLARED END STRUCTURES SHALL BE RINGED WITH STAKED HAYBALES UNTIL THE ADJACENT SLOPES HAVE FULLY VEGETATED.
6. THROUGHOUT CONSTRUCTION, ALL DISTURBED AREAS SHALL BE LOAMED AND SEEDED AND MULCHED AS SOON AS PRACTICABLE IN ORDER TO AVOID OVERLAND TRANSPORT OF SEDIMENT.
7. EROSION CONTROL MEASURES ARE TO BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD AND PARTICULARLY AFTER SIGNIFICANT RAINFALL. DILAPIDATED HAYBALES AND SILT STOP SHALL BE REPLACED AS REQUIRED TO MAINTAIN THE INTEGRITY OF THE BARRIER.
8. WITH SLOPES STABILIZED AND FINAL CONSERVATION COMMISSION INSPECTION COMPLETE, THE EROSION CONTROL BARRIER SHALL BE REMOVED AND PROPERLY DISPOSED OFF-SITE.
- SEDIMENTATION & EROSION CONTROL METHODS & PROCEDURES**



VORTSENTRY HS DESIGN NOTES

VHS RATED TREATMENT CAPACITY IS SHOWN IN THE TABLE BELOW, ON PER LOCAL REGULATIONS. MAXIMUM HYDRAULIC INTERNAL BYPASS CAPACITY Varies. CONTACT YOUR VORTSENTRY REPRESENTATIVE FOR ADDITIONAL INFORMATION.

THE STANDARD SOLID COVER CONFIGURATION IS SHOWN. ALTERNATE CONFIGURATIONS ARE AVAILABLE AND ARE LISTED BELOW.

CONFIGURATION OPTION DESCRIPTION

GRATE INLET (NO INLET PIPE)

GRATE INLET WITH INLET PIPE

VORTSENTRY HS GENERAL INFORMATION

Model	Manhole Diameter (ID)	Total Treatment Flow Rate	Typical Total Distance Rim to Outside Bottom	Typical Distance Rim to Invert	Typical Depth Below Invert	Approximate Minimum Distance Rim to Invert	Maximum Pipe Diameter (ID)
H100	10	100	10.0	10.0	10.0	10.0	10.0
H125	12.5	125	12.5	12.5	12.5	12.5	12.5
H150	15	150	15.0	15.0	15.0	15.0	15.0
H175	17.5	175	17.5	17.5	17.5	17.5	17.5
H200	20	200	20.0	20.0	20.0	20.0	20.0
H225	22.5	225	22.5	22.5	22.5	22.5	22.5
H250	25	250	25.0	25.0	25.0	25.0	25.0
H275	27.5	275	27.5	27.5	27.5	27.5	27.5
H300	30	300	30.0	30.0	30.0	30.0	30.0
H325	32.5	325	32.5	32.5	32.5	32.5	32.5
H350	35	350	35.0	35.0	35.0	35.0	35.0
H375	37.5	375	37.5	37.5	37.5	37.5	37.5
H400	40	400	40.0	40.0	40.0	40.0	40.0
H425	42.5	425	42.5	42.5	42.5	42.5	42.5
H450	45	450	45.0	45.0	45.0	45.0	45.0
H475	47.5	475	47.5	47.5	47.5	47.5	47.5
H500	50	500	50.0	50.0	50.0	50.0	50.0
H525	52.5	525	52.5	52.5	52.5	52.5	52.5
H550	55	550	55.0	55.0	55.0	55.0	55.0
H575	57.5	575	57.5	57.5	57.5	57.5	57.5
H600	60	600	60.0	60.0	60.0	60.0	60.0
H625	62.5	625	62.5	62.5	62.5	62.5	62.5
H650	65	650	65.0	65.0	65.0	65.0	65.0
H675	67.5	675	67.5	67.5	67.5	67.5	67.5
H700	70	700	70.0	70.0	70.0	70.0	70.0
H725	72.5	725	72.5	72.5	72.5	72.5	72.5
H750	75	750	75.0	75.0	75.0	75.0	75.0
H775	77.5	775	77.5	77.5	77.5	77.5	77.5
H800	80	800	80.0	80.0	80.0	80.0	80.0
H825	82.5	825	82.5	82.5	82.5	82.5	82.5
H850	85	850	85.0	85.0	85.0	85.0	85.0
H875	87.5	875	87.5	87.5	87.5	87.5	87.5
H900	90	900	90.0	90.0	90.0	90.0	90.0
H925	92.5	925	92.5	92.5	92.5	92.5	92.5
H950	95	950	95.0	95.0	95.0	95.0	95.0
H975	97.5	975	97.5	97.5	97.5	97.5	97.5
H1000	100	1000	100.0	100.0	100.0	100.0	100.0

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID

WATER QUALITY FLOW RATE (GPM)

PEAK FLOW RATE (GPM)

RETURN PERIOD OF PEAK FLOW (YRS)

PIPE DATA

INLET PIPE

OUTLET PIPE

RIM ELEVATION

ANTI-FLATION BALLAST

NOTES/SPECIAL REQUIREMENTS

PER ENGINEER OF RECORD

GENERAL NOTES

1. CONTRACTOR TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.

2. DIMENSIONS MARKED WITH (A) ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.

3. FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR VORTSENTRY HS WATER QUALITY SOLUTIONS LLC REPRESENTATIVE. www.contechhs.com

4. VORTSENTRY HS WATER QUALITY SOLUTIONS LLC SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.

5. STRUCTURE SHALL MEET ASBESTO HSD AND CATHODIC SHALL MEET ASBESTO HSD LOAD RATING, ASSUMING GROUNDWATER ELEVATION AT OR BELOW THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION.

INSTALLATION NOTES

1. ANY SUB-BASE, BACKFILL, DEPTH, AND/OR ANTI-FLATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY THE ENGINEER OF RECORD.

2. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STRUCTURE INTO PLACE.

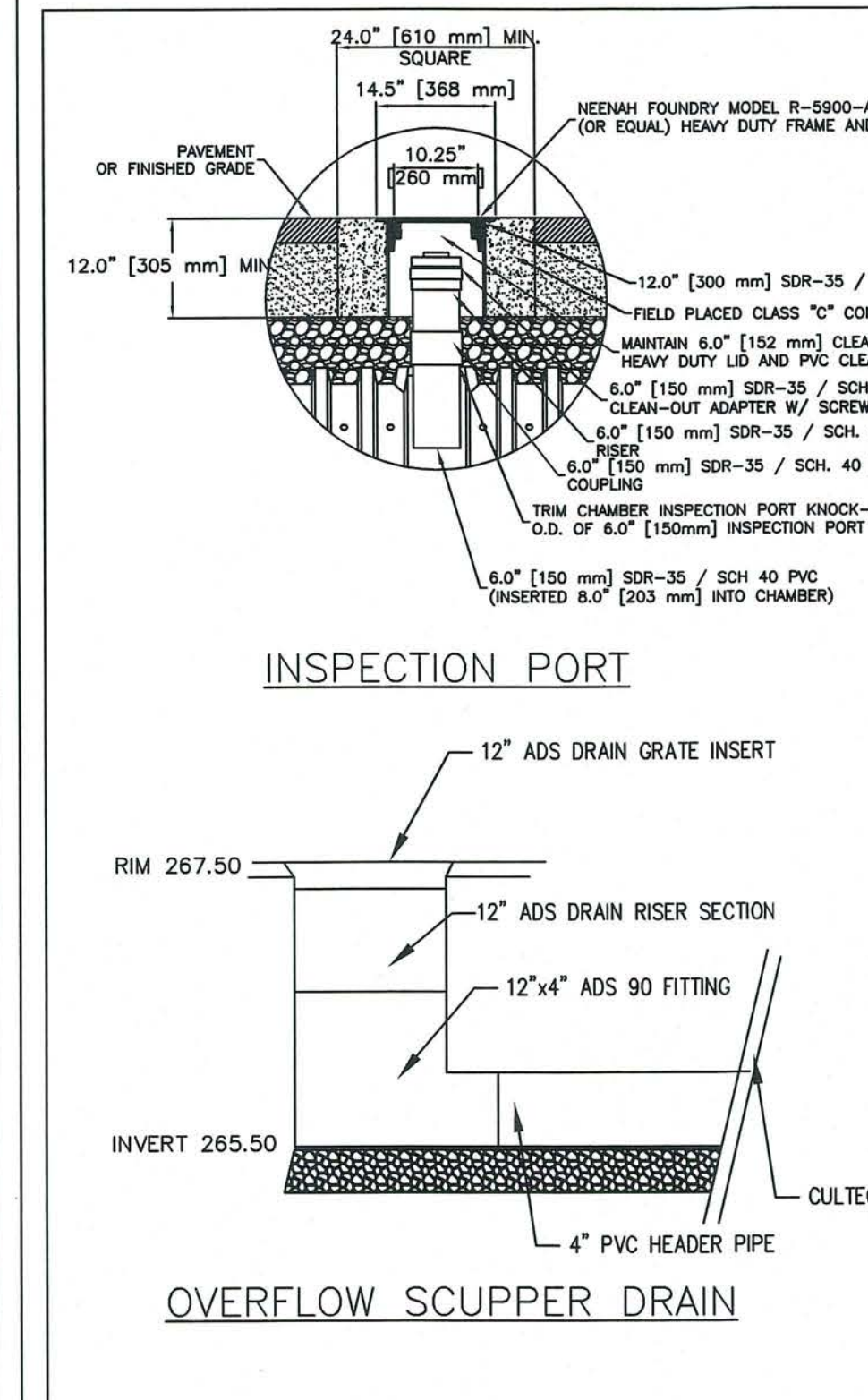
3. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STRUCTURE INTO PLACE.

4. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLY STRUCTURE.

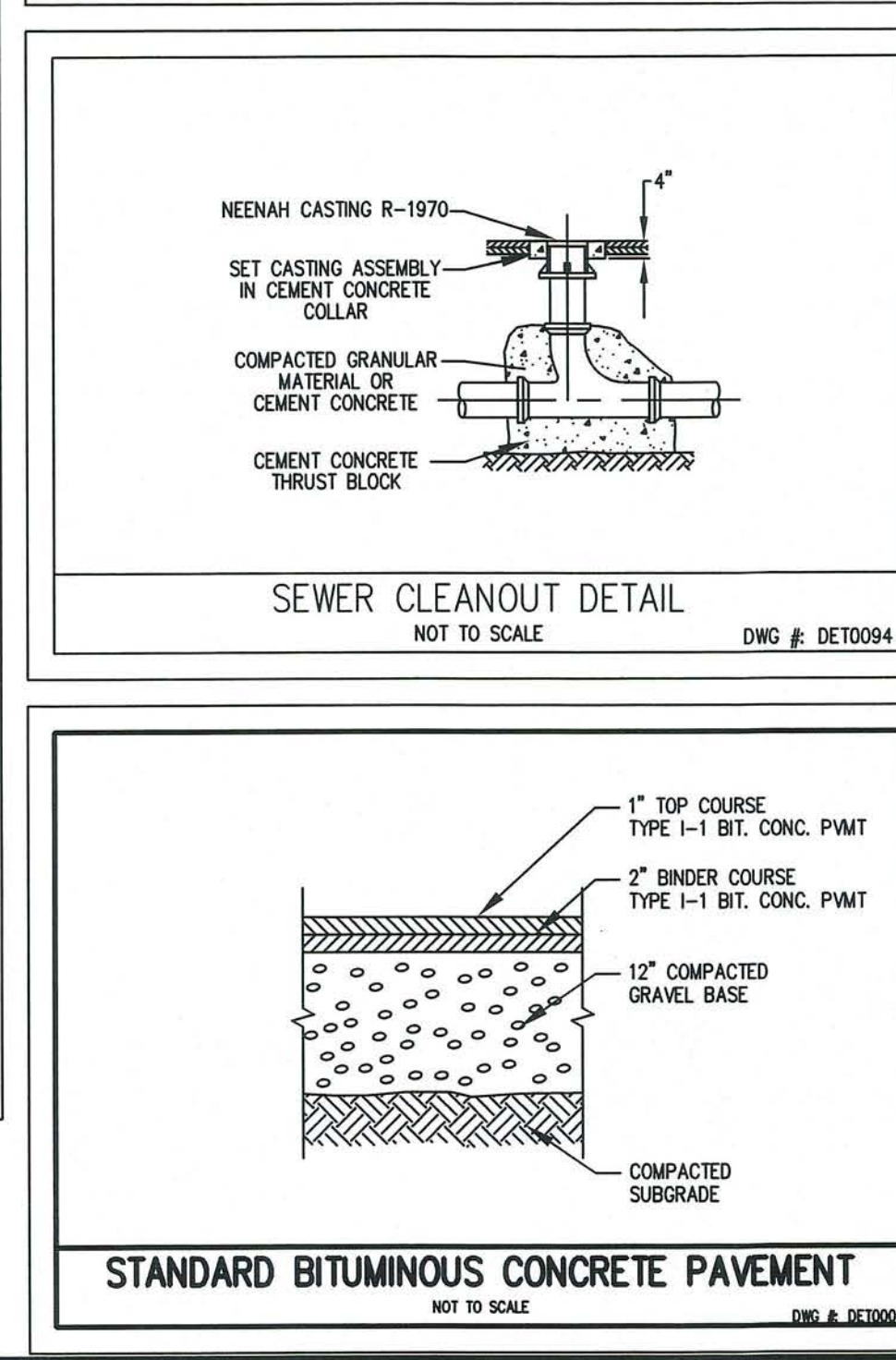
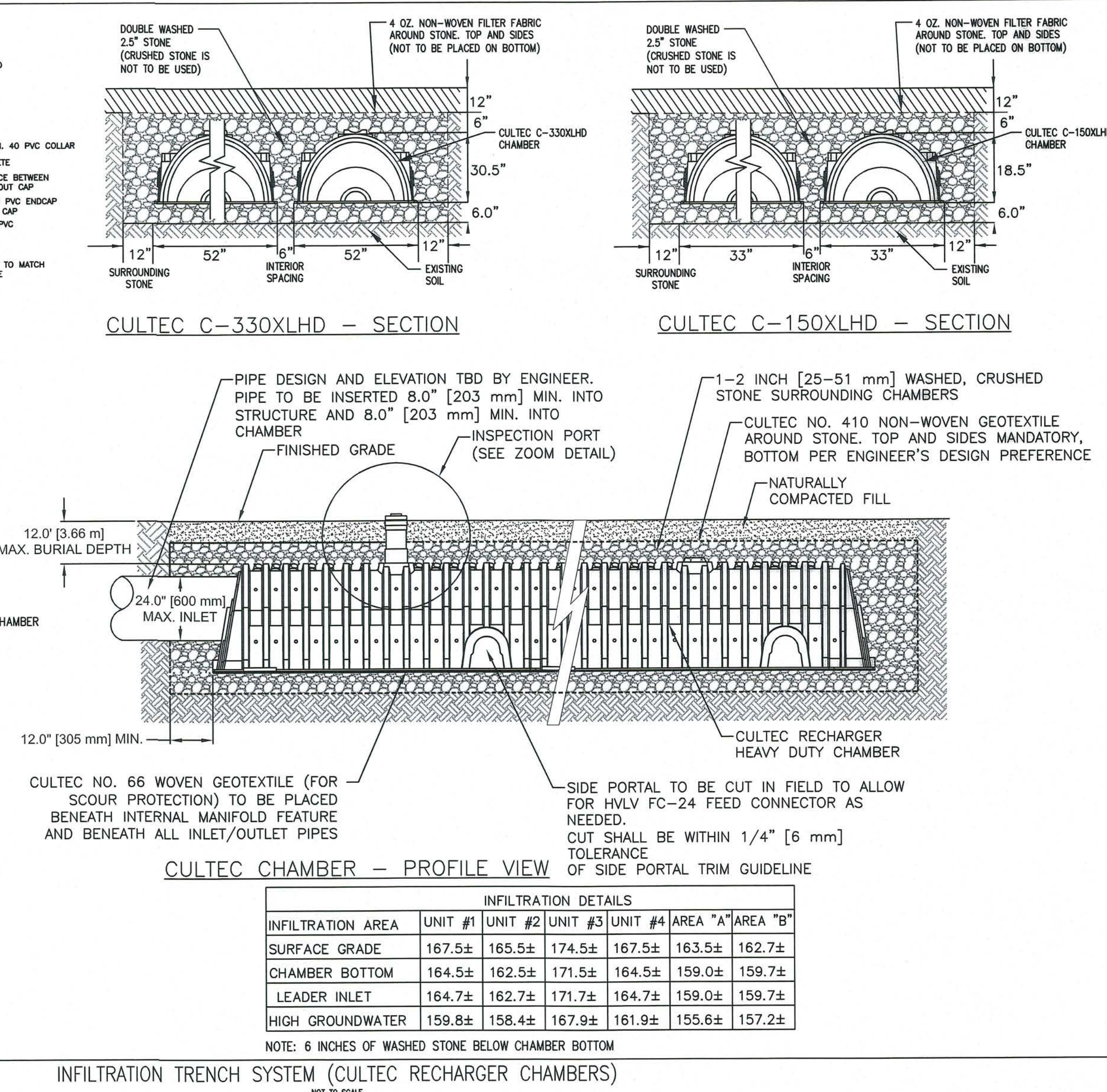
5. CONTRACTOR TO PROVIDE INSTALL AND GROUT PIPES. MATCH PIPE INVERTS WITH ELEVATION DRAWING.

6. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS RECOMMENDED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

VORTSENTRY HS STANDARD DETAIL



- NOTES:
- THE INSPECTION PORTS SHALL BE EXTENDED TO GRADE AND HAVE A REMOVABLE COVER AT SURFACE GRADE.
 - SEE DETAIL FOR OVERFLOW SCUPPER
 - AREAS 1-4 SHALL CONSIST OF CULTEC C-150XLHD AS NOTED ON THE PLANS
 - INFILTRATION AREA "A" IS COMPRISED OF SIXTEEN (16) CULTEC C-330XLHD CHAMBERS.
 - INFILTRATION AREA "B" IS COMPRISED OF THIRTY-FIVE (35) CULTEC C-330XLHD CHAMBERS.



- CONSTRUCTION NOTES**
- THE CONTRACTOR SHALL REPORT TO THE OWNER AND ENGINEER ANY SIGNIFICANT VARIATIONS IN EXISTING SITE CONDITIONS FROM THOSE SHOWN ON THESE PLANS. ANY PROPOSED REVISIONS TO THE WORK, IF REQUIRED BY THESE SITE CONDITIONS, SHALL NOT BE UNDERTAKEN UNTIL REVIEWED BY THE OWNER AND THE ENGINEER.
 - THE CONTRACTOR SHALL NOTIFY THE RELEVANT TOWN DEPARTMENTS AT LEAST 48 HOURS IN ADVANCE OF ANY REQUIRED INSPECTIONS.
 - IN ORDER TO PROTECT THE PUBLIC SAFETY DURING CONSTRUCTION, THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING AND MAINTAINING AT ALL TIMES NECESSARY SAFETY SERVICES AND PERSONNEL, WARNING LIGHTS, BARRICADES, AND POLICE DETAILS.
 - THE CONTRACTOR SHALL REGULARLY INSPECT THE PERIMETER OF THE PROPERTY TO CLEAN UP AND REMOVE LOOSE CONSTRUCTION.
 - IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSTITUTE EROSION CONTROL MEASURES ON AN AS NECESSARY BASIS, SUCH THAT EXCESSIVE SOIL EROSION DOES NOT OCCUR. MEASURES SHALL INCLUDE HAY BALE DIKES ALONG THE PERIMETER OF CUTS AND FILLS, MULCHING, AND PLANTING OF DISTURBED AREAS AS SOON AS PRACTICABLE.
 - AT THE END OF CONSTRUCTION THE CONTRACTOR SHALL REMOVE ALL CONSTRUCTION DEBRIS AND SURPLUS MATERIALS FROM THE SITE. A THOROUGH INSPECTION OF THE WORK PERIMETER IS TO BE MADE AND ALL DISCARDED MATERIALS, BLOWN OR WATER CARRIED DEBRIS, SHALL BE COLLECTED AND REMOVED.
 - THE LOCATION OF UNDERGROUND UTILITIES AS REPRESENTED ON THESE PLANS IS BASED UPON PLANS AND INFORMATION PROVIDED BY THE RESPECTIVE UTILITIES COMPANIES OR MUNICIPAL DEPARTMENTS SUPPLEMENTED BY FIELD IDENTIFICATION WHEREVER POSSIBLE. NO WARRANTY IS MADE AS TO THE ACCURACY OF THESE LOCATIONS OR THAT ALL UNDERGROUND UTILITIES ARE SHOWN. THE CONTRACTOR IS TO CONTACT DIG SAFE AT LEAST 72 HOURS PRIOR TO THE START OF CONSTRUCTION. DIG SAFE TELEPHONE NUMBER IS 811.
 - THE CONTRACTOR IS TO VERIFY THE LOCATION, SIZE, AND DEPTH OF EXISTING UTILITIES PRIOR TO TAPPING INTO, CROSSING OR EXTENDING THEM. IF THE PROPOSED WORK POSES A CONFLICT WITH THE EXISTING UTILITIES, THE ENGINEER IS TO BE NOTIFIED PRIOR TO THE CONTRACTOR CONTINUING.
 - REFER TO ARCHITECTURAL DRAWINGS FOR EXACT BUILDING DIMENSIONS, DOOR LOCATIONS, AND ENTRY DETAILS.
 - THE TOWN OF SHERBORN COMMUNITY MAINTENANCE AND DEVELOPMENT DEPARTMENT ARE TO BE NOTIFIED PRIOR TO THE START OF ANY WORK ON NORTH MAIN STREET.
 - NO LEDGE, BOULDERS, OR OTHER UNYIELDING MATERIALS ARE TO BE LEFT WITHIN 6" OF THE WATER TRENCH, NOR ARE THEY TO BE USED FOR BACKFILL FOR THE FIRST 12" ABOVE THE SERVICES.
 - EROSION CONTROL GRASS MIXTURE (SIDE SLOPE GREATER THAN 4 HORIZONTAL TO 1 VERTICAL) FOLLOWING COMPLETION OF GRADING. THE FOLLOWING SEED MIX SHALL BE APPLIED:
 - TYPE OF SEED

	% BY WEIGHT
CREeping RED FESCUE	30
TALL FESCUE	30
WHITE DUTCH CLOVER	30
RED TOP	10

SEED AT THE RATE OF 2#/2,000 SF
USE THE ABOVE MIX AT THE RATE OF 50#/ACRE AND WITH 1/2 BUSHEL/ACRE OF WINTER RYE - ALL DISTURBED AREAS ARE TO BE LOAMED AND SEEDED WITH A MINIMUM OF 4" OF TOP SOIL SPREAD EVENLY THROUGHOUT. PROVIDE EROSION CONTROL MEASURES AS NECESSARY TO PROVIDE SLOPE STABILITY UNTIL VEGETATION IS ESTABLISHED.
 - ALL STUMPS, TOP SOIL, SUB SOIL AND OTHER DELETERIOUS MATERIALS ARE TO BE REMOVED FROM THE PROPOSED BUILDING AND PAVING AREAS.

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REVISIONS:

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2	12/26/17	ISSUED FOR PEER REVIEW
1	11/27/17	ISSUED FOR PEER REVIEW
0	7/25/17	ISSUED FOR PEER REVIEW

DOWN BY: VML
CHK'D BY: PSB
APP'D BY: PSB

WALTER M. LEVINSON
CIVIL
No. 23227
MASSACHUSETTS
1-30-18

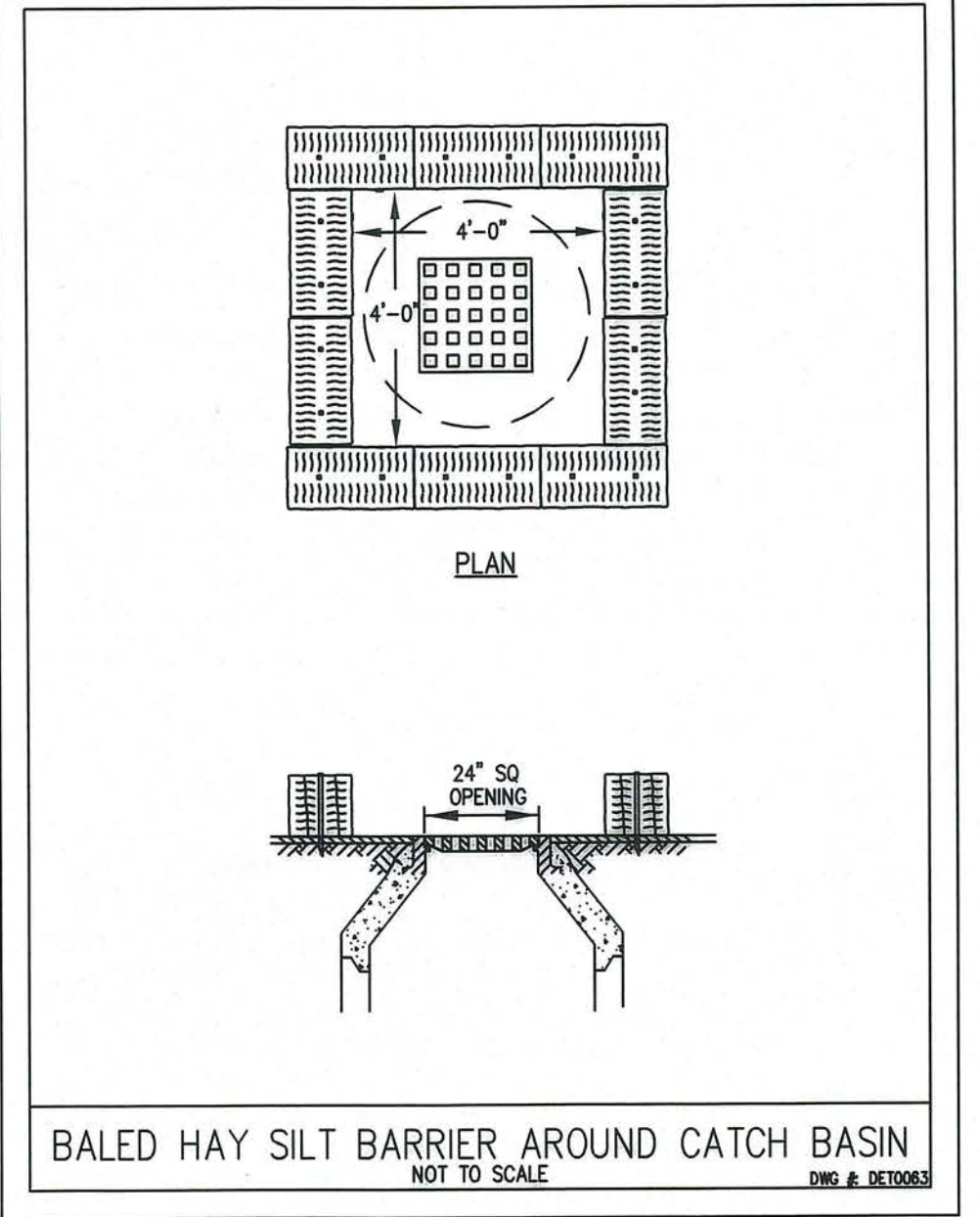
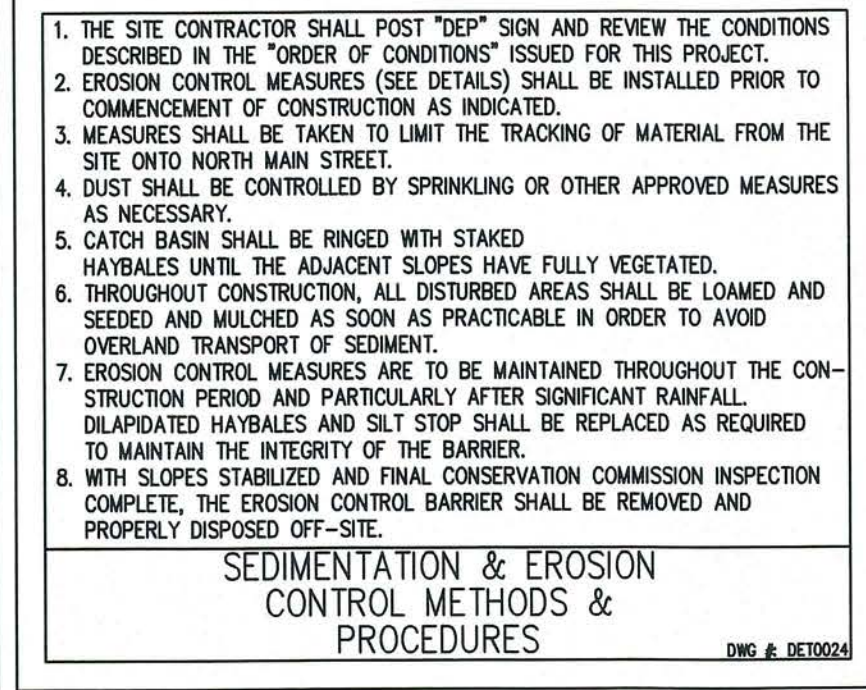
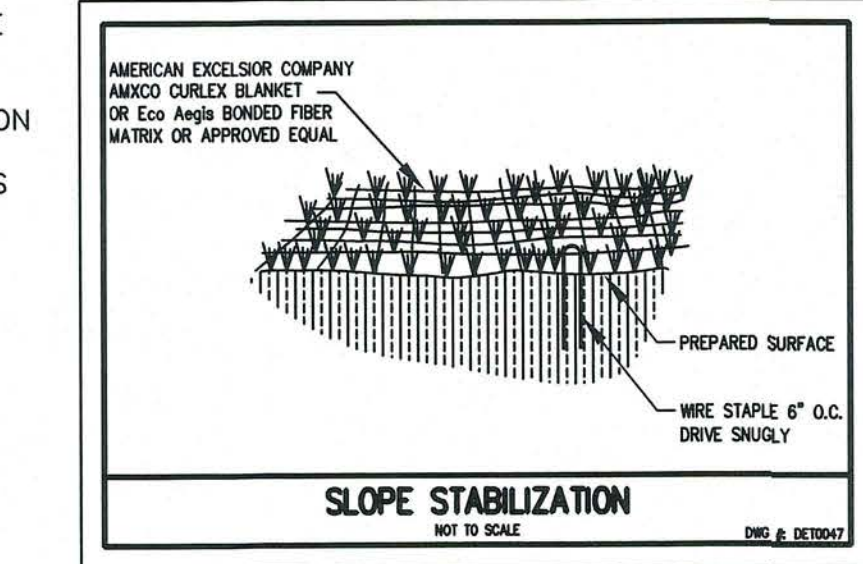
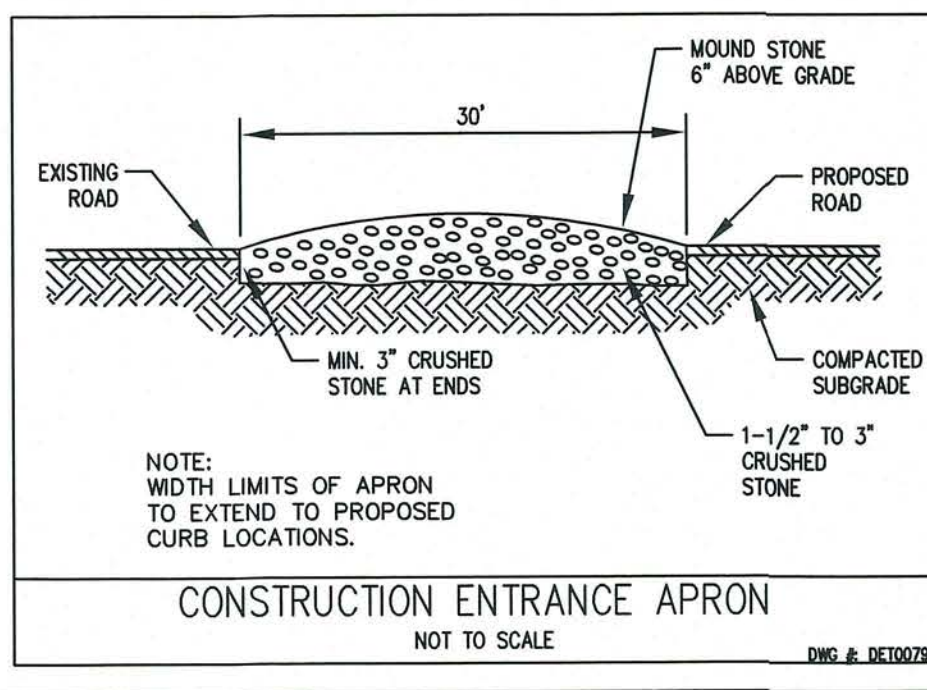
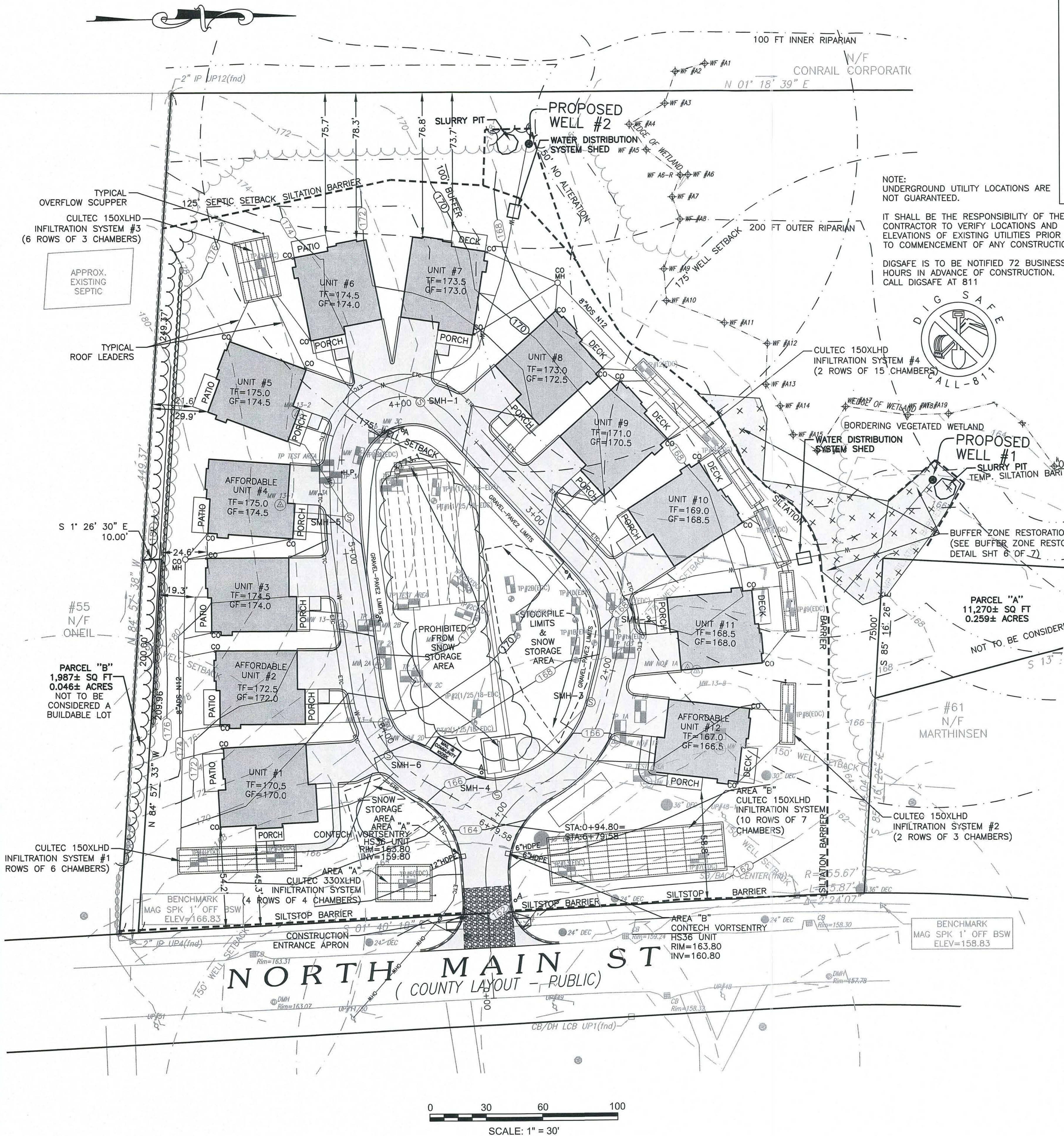
Engineering Design Consultants, Inc.
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SHERBORN VILLAGE
A
RESIDENTIAL DEVELOPMENT
IN
SHERBORN, MASSACHUSETTS

DETAILS
#59 NORTH MAIN STREET
SHERBORN, MASSACHUSETTS

OWNER/APPLICANT:
HERITAGE PROPERTIES
490-B BOSTON POST ROAD
SUDBURY, MA 01776

FILE NO: 3438
DETAILS
DATE: JULY 25, 2017
PLAN NO: 7 & 7



OPERATION AND MAINTENANCE PLAN:

MAJOR O&M PLAN TASKS AND DESCRIPTIONS IS OUTLINED AS FOLLOWS:

- SCHEDULE OF SHORT-TERM OPERATION AND MAINTENANCE (DURING CONSTRUCTION):
 - EROSION CONTROL BARRIER: THE EROSION CONTROL BARRIER SHALL BE INSTALLED PRIOR TO COMMENCEMENT OF CONSTRUCTION AND SHALL BE INSPECTED WEEKLY, PRIOR TO STORM EVENTS AND IMMEDIATELY AFTER STORM EVENTS TO ENSURE ITS INTEGRITY. PORTIONS OF THE EROSION CONTROL BARRIER SHALL BE REMEDIED AS NECESSARY TO PREVENT EROSION.
 - CONSTRUCTION ENTRANCE APRON: THE CONSTRUCTION ENTRANCE APRON SHALL BE INSTALLED PRIOR TO COMMENCEMENT OF CONSTRUCTION AND SHALL BE REPLACED WHEN THE CONSTRUCTION ENTRANCE APRON BECOMES NOTICEABLE ON THE EXISTING PAVEMENT SURFACES OPPOSITE THE CONSTRUCTION SIDE OF THE PROPOSED WORK.
 - SLOPE STABILIZATION: THE SLOPE STABILIZATION CONTROLS SHALL BE INSTALLED IMMEDIATELY UPON OBTAINING FINAL GRADES AS SHOWN ON THE PROJECT PLANS. AREAS IN FAILURE SHALL BE RE-GRADED TO FINAL GRADE AND STABILIZED AS NECESSARY.
 - CONSTRUCTION COMPLETION: THE ENTIRE STORM WATER MANAGEMENT SYSTEM SHALL BE INSPECTED UPON COMPLETION OF CONSTRUCTION. PORTIONS OF THE SYSTEM CONTAINING SEDIMENTATION SHALL BE PROPERLY CLEANED AND THE SILT REMOVED.
- MAINTENANCE AGREEMENT/SCHEDULE FOR LONG-TERM OPERATION AND MAINTENANCE (POST CONSTRUCTION)
 - OWNER OF THE STORMWATER SYSTEM: _____ DATE: _____
 - PERSON RESPONSIBLE FOR FINANCING MAINTENANCE AND EMERGENCY REPAIRS: _____
 - THE ESTIMATED ANNUAL MAINTENANCE COST OF THIS STORMWATER MANAGEMENT SYSTEM IS \$5,000.
 - CDs UNIT INSPECTIONS: INSPECTION IS THE KEY TO EFFECTIVE MAINTENANCE AND IS EASILY PERFORMED. POLLUTANT DEPOSITION AND TRANSPORT MAY VARY FROM YEAR TO YEAR, AND REGULAR INSPECTIONS WILL HELP INSURE THAT THE SYSTEM IS CLEANED OUT AT THE APPROPRIATE TIME. AT A MINIMUM, INSPECTIONS SHOULD BE PERFORMED TWICE PER YEAR (I.E. SPRING AND FALL) HOWEVER MORE FREQUENT INSPECTIONS MAY BE NECESSARY WHERE FREQUENT WINTER SANDING OPERATIONS MAY LEAD TO RAPID ACCUMULATIONS. THE VISUAL INSPECTION SHOULD ASCERTAIN THAT THE SYSTEM COMPONENTS ARE IN WORKING ORDER AND THAT THERE ARE NO BLOCKAGES OR OBSTRUCTIONS TO INLET AND/OR SEPARATION SCREEN. THE INSPECTION SHOULD ALSO IDENTIFY ACCUMULATIONS OF HYDROCARBONS, TRASH, AND SEDIMENT MEASURING POLLUTANT ACCUMULATION CAN BE DONE WITH A CALIBRATED DIPSTICK, TAPE MEASURE OR OTHER MEASURING INSTRUMENT. IT IS USEFUL AND OFTEN REQUIRED AS PART OF A PERMIT TO KEEP A RECORD OF EACH INSPECTION. (SEE THE INSPECTION AND MAINTENANCE GUIDE PROVIDED BY THE MANUFACTURER, ATTACHED TO THE DRAINAGE CALCULATIONS SUBMITTED WITH THIS PLAN)
 - CLEANING OF THE CDs UNITS SHOULD BE DONE WHEN SEDIMENT ACCUMULATES AT A DEPTH OF TWO FEET WITHIN THE UNIT AND SHOULD BE DONE DURING DRY WEATHER CONDITIONS WHEN NO FLOW IS ENTERING THE SYSTEM. CLEANOUT WITH A VACUUM TRUCK IS GENERALLY THE MOST EFFECTIVE AND CONVENIENT METHOD OF EXCAVATING POLLUTANTS FROM THE SYSTEM. SIMPLY REMOVE THE MANHOLE COVERS AND INSERT THE VACUUM HOSE INTO THE SUMP. THE SYSTEM SHOULD BE COMPLETELY DRAINED DOWN AND THE SUMP FULLY EVACUATED OF SEDIMENT. THE AREA OUTSIDE THE SCREEN SHOULD BE PUMPED OUT ALSO IF POLLUTANT BUILD-UP EXISTS IN THIS AREA.
 - INFILTRATION CHAMBERS: CONSTRUCTED INFILTRATION CHAMBERS ARE PROVIDED WITH INSPECTION PORTS THAT AFFORD VISUAL ACCESS TO THE CHAMBERS. PERIODIC SMALL-SCALE MAINTENANCE AT REGULAR INTERVALS TO EVALUATE AND REMOVE ANY ACCUMULATED SEDIMENT MAY BE NECESSARY. HOWEVER WITH PROPER MAINTENANCE OF THE CDs UNITS AND MAINTAINING A HEALTHY LAWN SHOULD MINIMIZE AND POTENTIALLY ELIMINATE THE TRANSPORT OF SEDIMENT INTO THE INFILTRATION CHAMBERS. INSPECT THE INFILTRATION CHAMBERS TWICE ANNUALLY AT THE SAME TIME AS THE CATCH BASINS AND REMOVE ANY SEDIMENT ACCUMULATIONS. IF STORMWATER IS REMAINING IN THE CHAMBERS, IT IS A SIGN THE BOTTOM IS CLOGGED. THE CHAMBERS SHOULD BE REMOVED AS WELL AS THE STONE BED, THE MATERIAL BELOW SHOULD BE SCARIFIED AND THE STONE BED AND CHAMBERS REPLACED.
 - INSPECTION REPORTS: SEE #12 UNDER, "CONSTRUCTION PERIOD POLLUTION PREVENTION AND EROSION AND SEDIMENTATION CONTROL PLAN," FOR REPORTS. REPORTS SHALL BE MAINTAINED FOR SUBMISSION TO THE DIRECTOR OF COMMUNITY MAINTENANCE AND DEVELOPMENT ANNUALLY FOR A PERIOD OF THREE YEARS. IF MAINTENANCE OR REPAIRS ARE NECESSARY, A DOCUMENT SHALL BE PROVIDED TO THE DIRECTOR OF COMMUNITY MAINTENANCE AND DEVELOPMENT LISTING THE COMPONENT THAT WAS MAINTAINED/REPAIRED AND WHEN THE REPAIR WAS COMPLETED.
 - ILLUOT DISCHARGES: ALL ILLUOT DISCHARGES TO ANY PART OF THE STORMWATER SYSTEM ARE STRICTLY PROHIBITED. IF AN ACCIDENTAL SPILL OCCURS (OIL AND/OR CHEMICAL SPILLS, RADIATION EMERGENCIES, AND BIOLOGICAL DISCHARGES) THE NATIONAL RESPONSE CENTER MUST BE CALLED AT 1-800-424-8802.
 - FUELING MUST TAKE PLACE OUTSIDE OF ALL BUFFER ZONES BY A TRAINED AND LICENSED INDIVIDUAL. EQUIPMENT MUST BE STORED OUTSIDE THE 100-FT BUFFER ZONE AS SHOWN ON THE PLAN.
 - SNOW STORAGE LIMITS - SHOULD ON-SITE SNOW STORAGE EXCEED CAPACITY OF LIMITS INDICATED THEN SNOW MUST BE REMOVED FROM THE SITE AND HAULED TO A LICENSED FACILITY FOR DISPOSAL.
 - FEDERAL EPA ONLINE FILING MUST BE COMPLETED PRIOR TO START OF CONSTRUCTION.

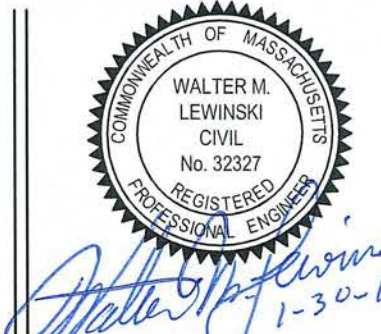
CONSTRUCTION PERIOD POLLUTION PREVENTION AND EROSION AND SEDIMENTATION CONTROL PLAN:

- NAME OF PERSON AND ENTITY RESPONSIBLE FOR PLAN COMPLIANCE: _____
- PROJECT MANAGER OF SHERBORN VILLAGE IS THE CONTACT PERSON. CONTACT NUMBER IS _____
- CONSTRUCTION PERIOD POLLUTION PREVENTION MEASURES: AS DEFINED WITHIN.
- EROSION AND SEDIMENTATION CONTROL PLAN DRAWINGS: REFER TO PLAN VIEW FOR EROSION CONTROL MEASURE LOCATIONS.
- DETAIL DRAWINGS AND SPECIFICATIONS FOR EROSION CONTROL: REFER TO INDIVIDUAL DETAILS FOR INSTALLATION OF EROSION CONTROL MEASURES.
- VEGETATION PLANNING: THE PROPOSED CONSTRUCTION ACTIVITIES WILL BE PERFORMED WITHIN THE LIMITS OF WORK AREA (SILTATION BARRIER BEING THE LIMIT OF WORK). THE FINAL PROPOSED SURFACE WILL CONSIST OF PAVING, TREES/SHRUBS/MULCH AND GRASSED AREAS (REFER TO SEQUENCING BELOW).
- SITE DEVELOPMENT PLAN: REFER TO PLAN VIEW & APPROVED SITE PLANS.
- CONSTRUCTION SEQUENCING PLAN: THE FOLLOWING CONSTRUCTION SEQUENCE SHALL BE FOLLOWED:
 - EROSION CONTROL PROVISIONS IN PLACE AND INSPECTED PRIOR TO ANY AND ALL CONSTRUCTION.
 - EROSION CONTROL MEASURES AT EXISTING CATCH BASINS IN NORTH MAIN STREET.
 - CLEAR AND CRUB WOODED AREAS. REMOVE ALL UNDESIRABLE MATERIAL FROM SITE.
 - STRIP AND STOCKPILE TOPSOIL. PROVIDE TEMPORARY SEEDING OF STOCKPILE, PLACE SILTATION BARRIER AROUND STOCKPILE AND PLACE TARPS OVER THE STOCKPILE IF NECESSARY.
 - ROUGH GRADE LOT AND DRIVES. REMOVE UNDESIRABLE MATERIAL FROM SITE.
 - INSTALL ALL UTILITIES & INFILTRATIVE DRAINAGE SYSTEMS. PROTECT THE INFILTRATION AREA FROM STORMWATER RUNOFF. NO SILT OR TOPSOIL IS TO BE DEPOSITED IN THIS AREA. THE INFILTRATION CAPACITY OF THE NATIVE SOIL MUST BE PROTECTED.
 - PERFORM UNDER BASE PAVING OPERATIONS.
 - CONSTRUCTION OF BUILDING UNITS.
 - EROSION CONTROL MEASURES AT NEW DRAINAGE INLET UNITS.
 - FINAL GRADING.
 - LOAN AND SEED ALL DISTURBED AREAS & LANDSCAPE.
 - PERFORM FINAL PAVING OPERATIONS.
 - REMOVE EROSION CONTROL PROVISIONS UPON STABILIZATION AND FINAL SITE INSPECTION.
- SEQUENCING OF EROSION AND SEDIMENTATION CONTROLS: EROSION CONTROL PROVISIONS IN PLACE AND INSPECTED PRIOR TO ANY AND ALL CONSTRUCTION.
- OPERATION AND MAINTENANCE OF EROSION AND SEDIMENTATION CONTROLS: THE CONTRACTOR/OPERATOR IS RESPONSIBLE FOR MAINTAINING A STABLE SITE. THE OPERATOR SHALL EMPLOY EROSION AND SEDIMENTATION CONTROLS TO PREVENT EROSION AND SEDIMENT RELEASES BEYOND THE SEDIMENT BARRIER. THE EROSION CONTROL MEASURES INDICATED ARE THE MINIMUM THAT SHOULD BE EMPLOYED. THE CONTRACTOR/OPERATOR SHALL EMPLOY ADDITIONAL CONTROLS AS THE ON-SITE CONSTRUCTION EXPERIENCE DICTATES.
- STREET SWEEPING OF NORTH MAIN STREET SHALL BE PROVIDED ONCE A WEEK UNTIL CONSTRUCTION COMPLETION.
- INSPECTION SCHEDULE:
 - INSPECTIONS SHALL TAKE PLACE AT LEAST EVERY 7 CALENDAR DAYS OR WITHIN 24 HOURS OF THE END OF A STORM EVENT OF 0.25" OF RAIN OR GREATER.
 - INSPECTION FREQUENCY MAY BE REDUCED TO ONCE A MONTH IF THE ENTIRE SITE IS TEMPORARILY STABILIZED OR RUNOFF IS UNLIKELY DUE TO WINTER CONDITIONS.
 - INSPECTIONS MUST BE CONDUCTED BY A PROPERLY AUTHORIZED QUALIFIED PERSONNEL.
 - INSPECTIONS SHALL INCLUDE ALL AREAS OF THE SITE DISTURBED BY CONSTRUCTION ACTIVITIES. INSPECTIONS MUST LOOK FOR EVIDENCE OF POLLUTANTS OR POTENTIAL POLLUTANTS ENTERING THE STORM WATER SYSTEM. SEDIMENT AND EROSION CONTROL MEASURES SHALL BE INSPECTED TO ENSURE PROPER OPERATION. LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE MUST BE INSPECTED FOR EVIDENCE OF OFF-SITE SEDIMENT TRACKING.
- MAINTENANCE SCHEDULE: REPORTS SUMMARIZING THE INSPECTIONS SHOULD BE KEPT AS PART OF THIS CONSTRUCTION PERIOD POLLUTION PREVENTION AND SOIL EROSION AND SEDIMENTATION CONTROL PLAN. AT A MINIMUM THE INSPECTION REPORTS SHALL INCLUDE:
 - INSPECTION DATE;
 - NAME, TITLE AND QUALIFICATIONS OF THE PERSONNEL MAKING THE INSPECTION;
 - WEATHER CONDITIONS AT THE TIME OF INSPECTION AND SINCE THE PREVIOUS INSPECTION, INCLUDING A BEST ESTIMATE OF THE BEGINNING OF EACH STORM EVENT THAT OCCURRED, DURATION OF EACH STORM EVENT, APPROXIMATE AMOUNT OF RAINFALL FOR EACH STORM EVENT, AND WHETHER ANY DISCHARGES HAVE OCCURRED;
 - DISCHARGES THAT OCCUR AT THE TIME OF INSPECTION;
 - LOCATION OF DISCHARGES OR SEDIMENTATION FROM THE SITE;
 - LOCATION OF "BMPs" THAT NEED TO BE MAINTAINED;
 - LOCATION OF "BMPs" THAT FAILED TO OPERATE AS DESIGNED OR PROVED INADEQUATE FOR A PARTICULAR LOCATION;
 - LOCATIONS WHERE ADDITIONAL "BMPs" ARE NEEDED THAT DID NOT EXIST AT THE TIME OF INSPECTION; AND
 - CORRECTIVE ACTION REQUIRED INCLUDING ANY CHANGES TO THIS PLAN.
- ALL REPORTS SHALL BE SUBMITTED TO THE DIRECTOR OF COMMUNITY MAINTENANCE AND DEVELOPMENT ON A MONTHLY BASIS DURING CONSTRUCTION PERIOD, AND MAINTAINED FOR THREE YEARS AFTER FINAL CONSTRUCTION PROJECT CLOSEOUT IS COMPLETE.

ENGINEERING DESIGN CONSULTANTS, INC. SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, OR PROCEDURES UTILIZED BY THE CONTRACTOR, NOR FOR THE SAFETY OF PUBLIC OR CONTRACTORS EMPLOYEES; OR FOR THE FAILURE OF THE CONTRACTOR TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

ENGINEERING DESIGN CONSULTANTS, INC.'S LIABILITY FOR THIS PLAN IS LIMITED TO THE EXTENT OF ITS FEE LESS THIRD PARTY COSTS.

REVISED	DATE	DESCRIPTION
3	1/30/18	ISSUED FOR PEER REVIEW
2	12/26/17	ISSUED FOR PEER REVIEW
1	11/27/17	ISSUED FOR PEER REVIEW
0	7/25/17	ISSUED FOR PEER REVIEW



PREPARED BY:
EDC
 Engineering Design Consultants, Inc.
 32 Turnpike Road
 Southborough, Massachusetts
 (508) 480-0225

PROJECT:
SHERBORN VILLAGE
 A
 RESIDENTIAL DEVELOPMENT
 IN
 SHERBORN, MASSACHUSETTS

TITLE:
STORMWATER POLLUTION PREVENTION PLAN
#59 NORTH MAIN STREET
SHERBORN, MASSACHUSETTS

OWNER/APPLICANT:
HERITAGE PROPERTIES
490-B BOSTON POST ROAD
SUDBURY, MA 01776

FILE NO: 3438
 SWPPP
 DATE: JULY 25, 2017
 PLAN NO: 1 of 1
1

Sherborn-Lndscap_2018-2.dwg \ Sherborn-Lndscap_L1_2018-2-12_Rev2.pdf

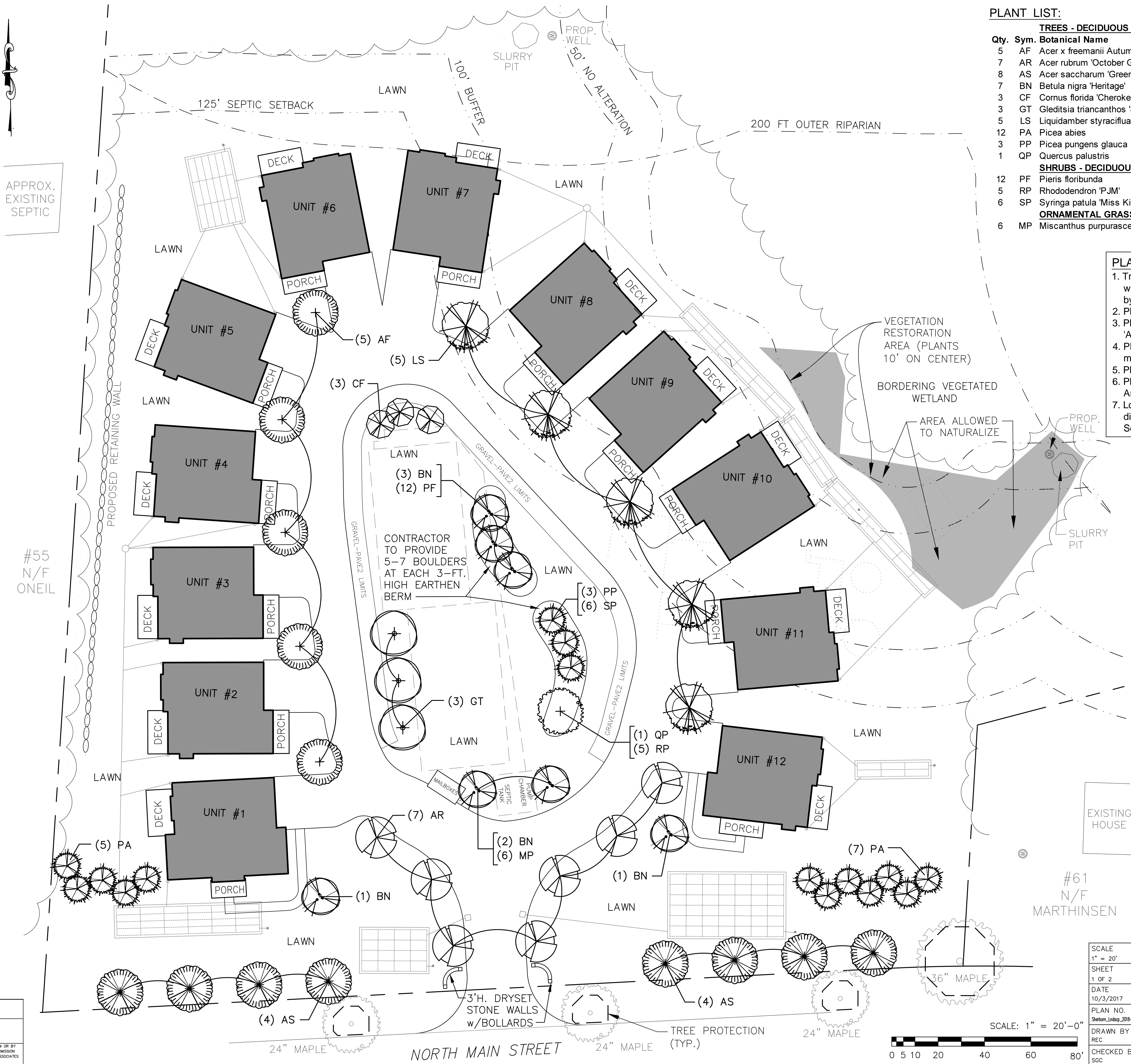


Call DIGSAFE, 1-888-344-7233,
for location and marking of all
utilities prior to any excavation.
Private utilities may require
additional marking and investigation.

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PLANT LIST:

TREES - DECIDUOUS AND EVERGREEN				
Qty.	Sym.	Botanical Name	Common Name	Size
5	AF	Acer x freemanii 'Autumn Blaze'	Autumn Blaze Maple	2 1/2 - 3" cal.
7	AR	Acer rubrum 'October Glory'	'October Glory' Red Maple	2 1/2 - 3" cal.
8	AS	Acer saccharum 'Green Mountain'	'Green Mountain' Sugar Maple	2 1/2 - 3" cal.
7	BN	Betula nigra 'Heritage'	'Heritage' River Birch	12-14' ht. clump
3	CF	Cornus florida 'Cherokee Brave'	'Cherokee Brave' Dogwood	2 - 2 1/2" cal.
3	GT	Gleditsia triacanthos 'Skyline'	'Skyline' Honeylocust	2 1/2 - 3" cal.
5	LS	Liquidambar styraciflua 'Ward'	'Ward' Cherokee Sweetgum	2 1/2 - 3" cal.
12	PA	Picea abies	Norway Spruce	10 - 12' height
3	PP	Picea pungens glauca	Colorado Blue Spruce	8 - 10' height
1	QP	Quercus palustris	Pin Oak	2 1/2 - 3" cal.
SHRUBS - DECIDUOUS AND EVERGREEN				
12	PF	Pieris floribunda	Mountain Andromeda	24 - 30" height
5	RP	Rhododendron 'PJM'	'PJM' Rhododendron	24 - 30" height
6	SP	Syringa patula 'Miss Kim'	'Miss Kim' Lilac	24 - 30" height
ORNAMENTAL GRASSES				
6	MP	Miscanthus purpurascens	Maiden Grass	5 gallon pot

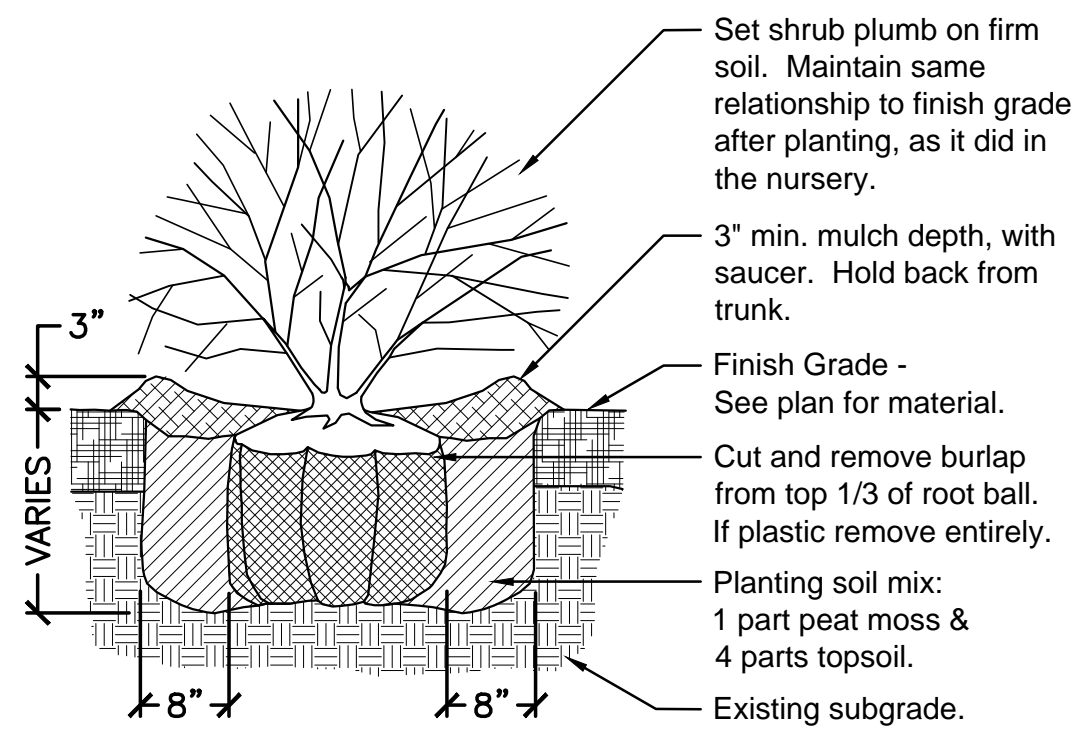
PLANTING NOTES:

1. Trees and shrubs shall be uniform, full and bushy, and well branched specimen plants. All plants to be approved by Landscape Architect.
2. Plants shall be balled and burlapped or container grown.
3. Plants to conform to the requirements established in 'American Standards For Nursery Stock', latest edition.
4. Plant beds to receive 3-inch min. depth of shredded bark mulch. Contractor to submit bark samples for approval.
5. Plants shall be guaranteed for 1-year after installation.
6. Plants to be field located and approved by the Landscape Architect.
7. Loam (5" min. depth) and seed all lawn areas and disturbed areas not noted to receive other treatment. See Civil Plans for limit of work.



SCALE	2	2/12/2018	ADDED TREE PROTECTION AT (4) TREES.	REC
1" = 20'	1	11/7/2017	REVISED PLANTING AND PLANT LIST.	REC
SHEET	1	DATE	REVISION	BY
1 OF 2				
DATE				
10/3/2017				
PLAN NO.				
Sherborn_Lndscap_2018-2.dwg				
DRAWN BY				
REC				
CHECKED BY				
SOC				
LANDSCAPE PLAN				
NORTH MAIN STREET				
SHERBORN, MA				
Cosmos Associates				
Landscape Architects & Site Planners				
5 Longview Street, Natick, MA 01760				
p: 508.628.3595 www.cosmosassociates.com				

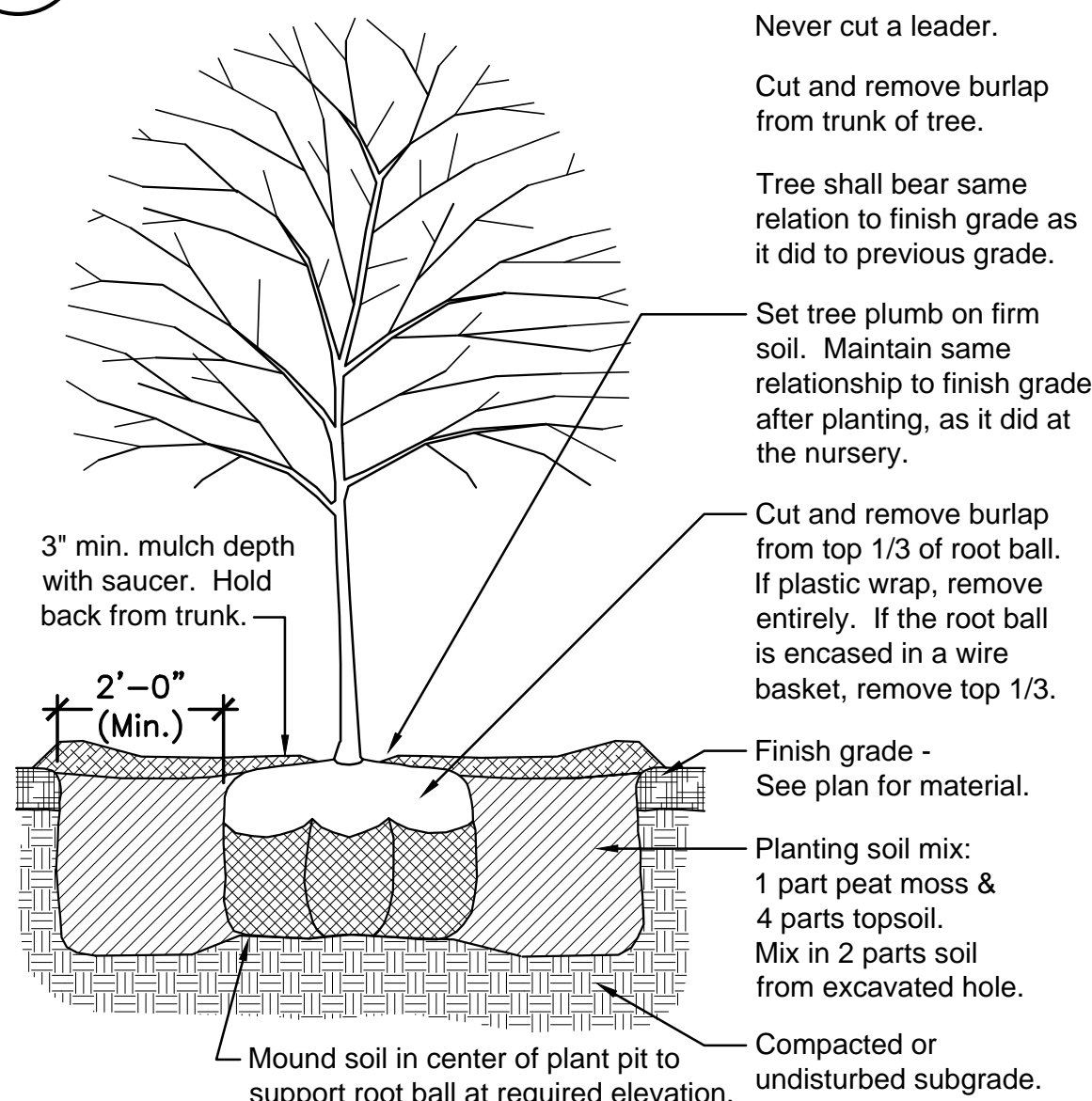
L1



- NOTES:
1. New shrub beds to have a minimum of one foot planting soil.
 2. Shrubs to be full and bushy.

1 TYPICAL SHRUB PLANTING

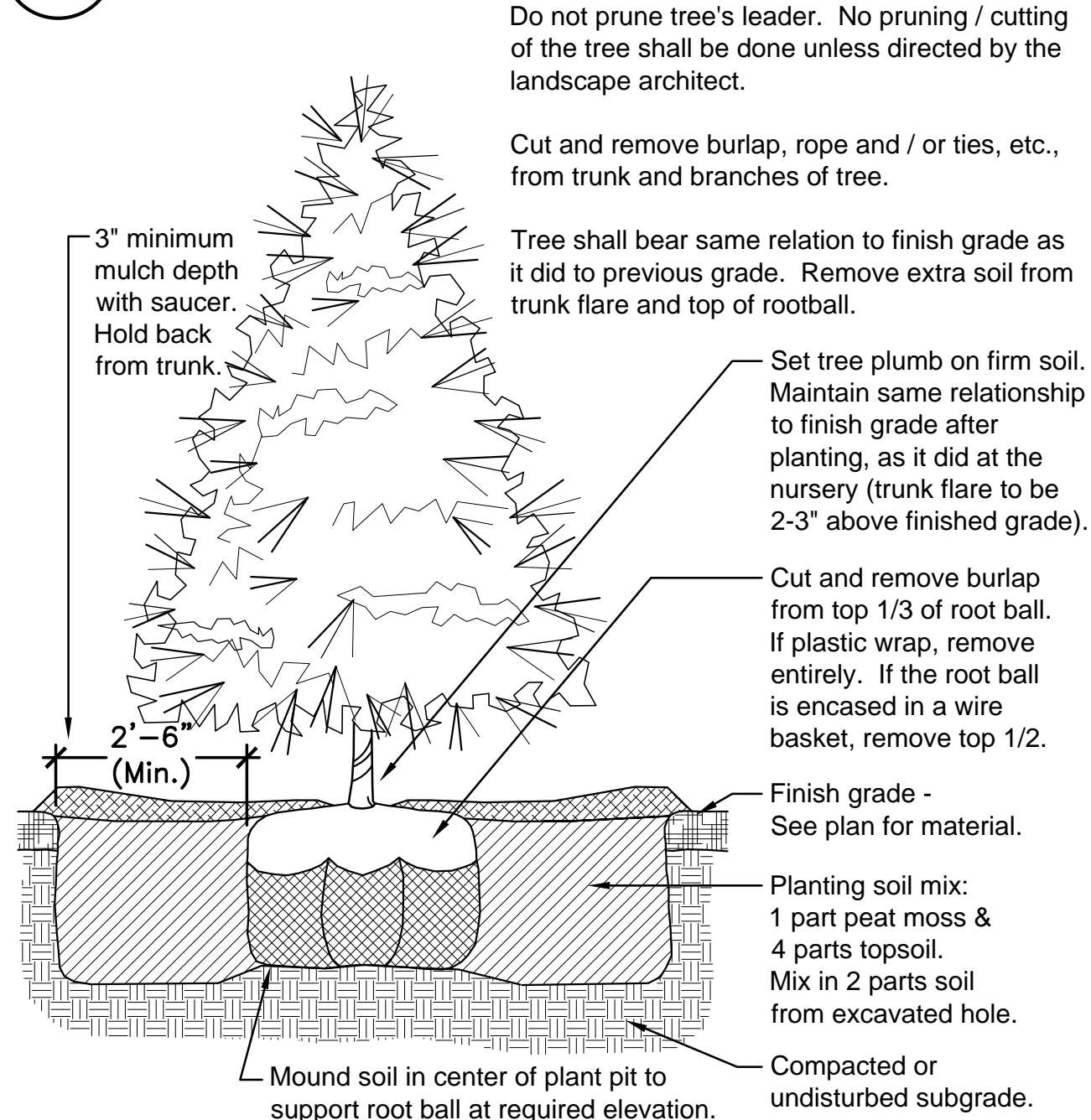
Scale: 3/4" = 1' - 0"



- NOTES:
1. Soak each tree twice weekly, for (3) weeks after fall planting
 2. Soak each tree twice weekly, during spring and summer planting.

2 TYP. DECIDUOUS TREE PLANTING

Scale: 1/2" = 1' - 0"



- NOTES:
1. Flood saucer twice during the first 24-hours after planting.
 2. Soak each tree twice weekly, for (3) weeks after fall planting.
 3. Soak each tree twice weekly, during spring and summer planting.

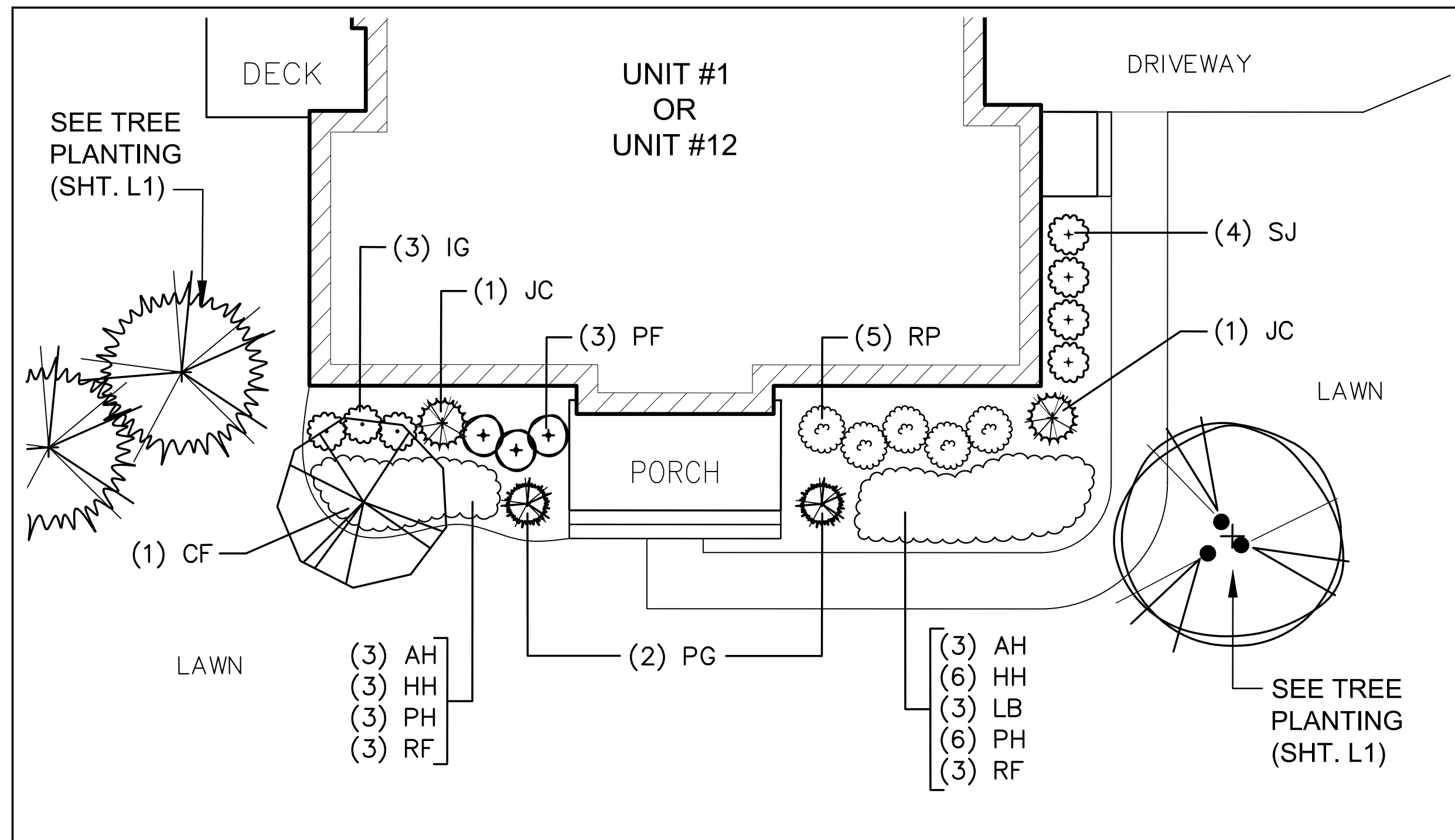
3 TYP. EVERGREEN TREE PLANTING

Scale: 1/2" = 1' - 0"

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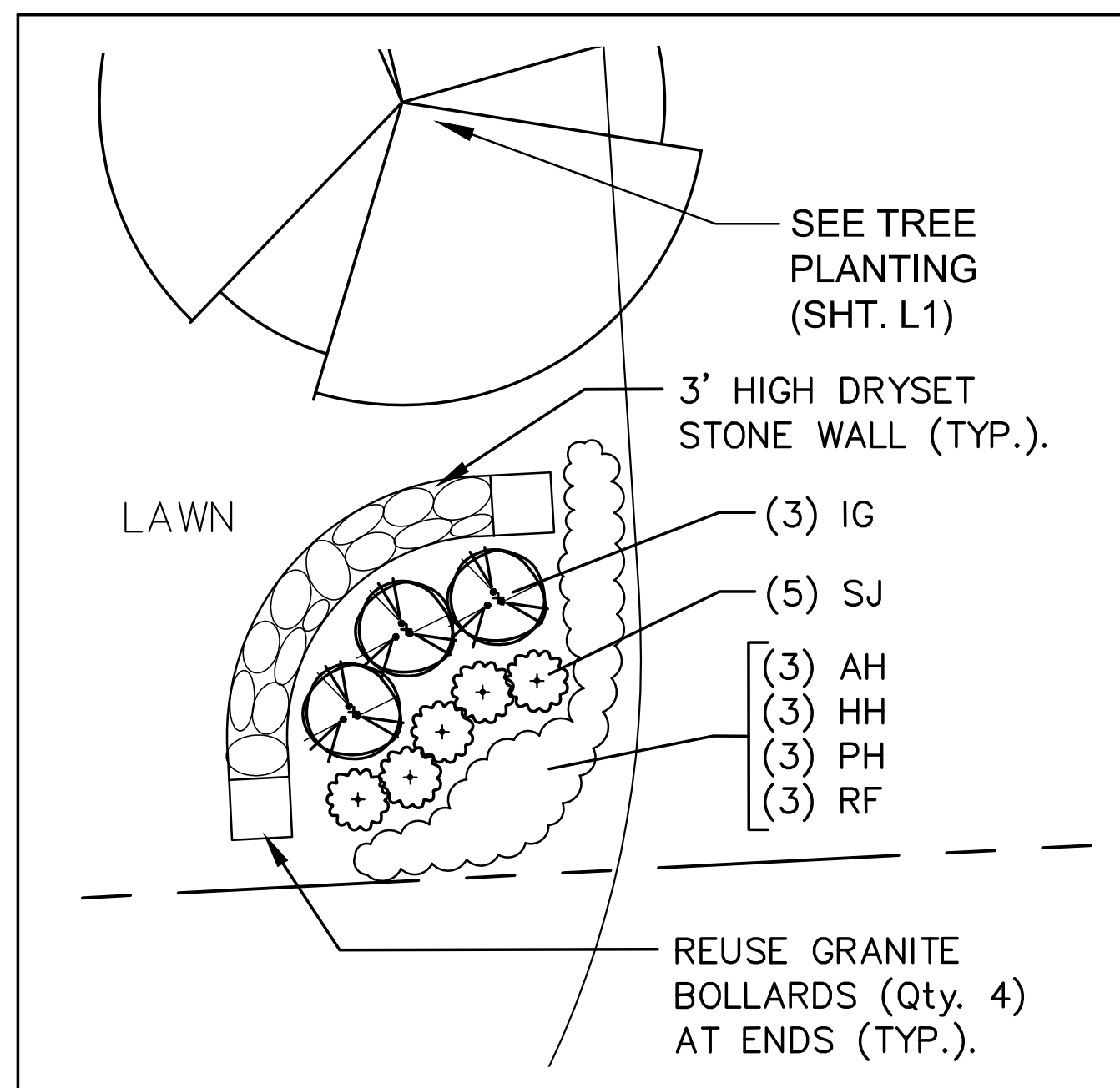


ENLARGEMENT PLAN - UNIT #1 & UNIT #12:

PLANT LIST:

TREES AND SHRUBS - DECIDUOUS AND EVERGREEN					
Qty.	Sym.	Botanical Name	Common Name	Size	
2	CF	Cornus florida 'Cherokee Brave'	'Cherokee Brave' Dogwood	2 - 2 1/2" cal.	
6	IG	Ilex glabra 'Shamrock'	'Shamrock' Inkberry	24 - 30" height	
4	JC	Juniperus chinensis communis	'Gold Cone' Common Juniper	10 gallon pot	
6	PF	Pieris floribunda	Mountain Andromeda	24 - 30" height	
4	PG	Picea glauca 'Conica'	Dwarf Alberta Spruce	30 - 36" height	
10	RP	Rhododendron 'PJM'	'PJM' Rhododendron	24 - 30" height	
8	SJ	Spirea japonica 'Gold Mound'	'Gold Mound' Spirea	18 - 24" height	
PERENNIALS AND ORNAMENTAL GRASSES					
12	AH	Amsonia hubrechtii	Blue Star	2 gallon pot	
18	HH	Hemerocallis x 'Happy Returns'	'Happy Returns' Daylily	2 gallon pot	
6	LB	Leucanthemum x superbum 'Becky'	'Becky' Shasta Daisy	2 gallon pot	
18	PH	Pennisetum alopecuroides 'Hameln'	'Hameln' Dwarf Fountain Grass	2 gallon pot	
12	RF	Rudbeckia fulgida 'Goldsturm'	'Goldsturm' Black-Eyed Susan	2 gallon pot	

NOTE: QUANTITIES LISTED ABOVE, INCLUDE PLANTINGS AT UNITS #1 AND #12.



ENLARGEMENT PLAN - WALL AT ENTRY



SCALE: 1/4" = 1'-0"



SCALE: 1/8" = 1'-0"

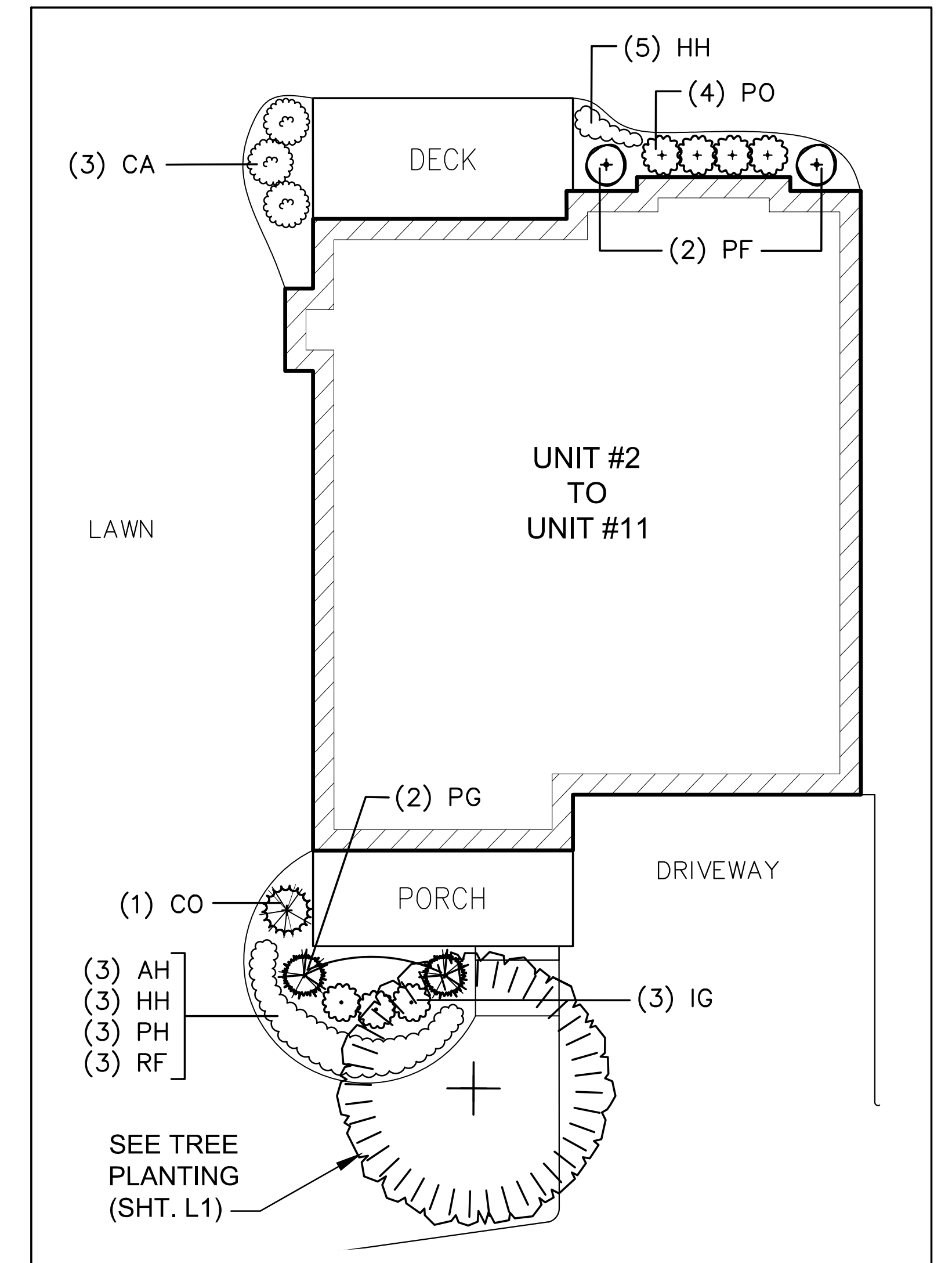
PLANTING NOTES:

1. Trees and shrubs shall be uniform, full and bushy, and well branched specimen plants. All plants to be approved by Landscape Architect.
2. Plants shall be balled and burlapped or container grown.
3. Plants to conform to the requirements established in 'American Standards For Nursery Stock', latest edition.
4. Plant beds to receive 3-inch min. depth of shredded bark mulch. Contractor to submit bark samples for approval.
5. Plants shall be guaranteed for 1-year after installation.
6. Plants to be field located and approved by the Landscape Architect.
7. Loam (5" min. depth) and seed all lawn areas and disturbed areas not noted to receive other treatment. See Civil Plans for limit of work.

PLANT LIST:

SHRUBS - DECIDUOUS AND EVERGREEN					
Qty.	Sym.	Botanical Name	Common Name	Size	
6	IG	Ilex glabra 'Shamrock'	'Shamrock' Inkberry	24 - 30" height	
10	SJ	Spirea japonica 'Gold Mound'	'Gold Mound' Spirea	18 - 24" height	
PERENNIALS AND ORNAMENTAL GRASSES					
6	AH	Amsonia hubrechtii	Blue Star	2 gallon pot	
6	HH	Hemerocallis x 'Happy Returns'	'Happy Returns' Daylily	2 gallon pot	
6	PH	Pennisetum alopecuroides 'Hameln'	'Hameln' Dwarf Fountain Grass	2 gallon pot	
6	RF	Rudbeckia fulgida 'Goldsturm'	'Goldsturm' Black-Eyed Susan	2 gallon pot	

NOTE: QUANTITIES LISTED ABOVE, INCLUDE PLANTINGS AT BOTH ENTRY WALLS.



ENLARGEMENT PLAN - UNIT #2 TO UNIT #11:



SCALE: 1/8" = 1'-0"

PLANT LIST:

SHRUBS - DECIDUOUS AND EVERGREEN					
Qty.	Sym.	Botanical Name	Common Name	Size	
30	CA	Clethra alnifolia 'Ruby Spice'	'Ruby Spice' Summersweet	24 - 30" height	
10	CO	Chamaecyparis obtusa 'Fernspray'	'Fernspray' Hinoki Cypress	3 - 4' height	
30	IG	Ilex glabra 'Shamrock'	'Shamrock' Inkberry	24 - 30" height	
20	PF	Pieris floribunda	Mountain Andromeda	24 - 30" height	
20	PG	Picea glauca 'Conica'	Dwarf Alberta Spruce	30 - 36" height	
40	PO	Physocarpus opulifolius 'Diabolo'	'Diabolo' Purple Ninebark	24 - 30" height	
PERENNIALS AND ORNAMENTAL GRASSES					
30	AH	Amsonia hubrechtii	Blue Star	2 gallon pot	
80	HH	Hemerocallis x 'Happy Returns'	'Happy Returns' Daylily	2 gallon pot	
30	PH	Pennisetum alopecuroides 'Hameln'	'Hameln' Dwarf Fountain Grass	2 gallon pot	
30	RF	Rudbeckia fulgida 'Goldsturm'	'Goldsturm' Black-Eyed Susan	2 gallon pot	

NOTE: QUANTITIES LISTED ABOVE, INCLUDE PLANTINGS AT UNITS #2 TO #11.



SCALE	1	11/7/2017	REVISED PLANTING AND PLANT LIST.	REC
AS SHOWN	REV	DATE	REVISION	BY
SHEET	2 OF 2			
DATE	10/3/2017			
PLAN NO.	Sherborn_Lnbgg_2017-11.dwg			
DRAWN BY	REC			
CHECKED BY	SEC			
LANDSCAPE ENLARGEMENTS				
NORTH MAIN STREET				
SHERBORN, MA				
Cosmos Associates				
Landscape Architects & Site Planners				
5 Longview Street, Natick, MA 01760				
p: 508.628.3595 www.cosmosassociates.com				

L2

February 10, 2018

Zoning Board of Appeals
Town Hall
Sherborn, Massachusetts

RE: Sherborn Village
59 N. Main Street
Sherborn, Massachusetts
EDC Job No.: 3438

Attn Board Members:

In support of the 40B Permit Petition by Heritage Properties, EDC offers the following summary of anticipated waivers that will need to be sought from the local rules and regulations in order to proceed with the proposed 40B project at 59 North Main Street.

Zoning By-law Waivers:

1. 3.2 Table of Use Regulations 26) Multi-Dwellings – allow multiple buildings on a single lot.
2. 4.2 Schedule of Dimensional Requirements – allow minimum front yard setback reduction from 60-feet to 45-feet and side yard reduction from 30-feet to 17-feet.
3. 4.3.6 Number and Location of Dwellings on One Lot – allow multiple dwellings on one lot.
4. 5.1.3 Parking Area Plans – allow parking layout as proposed without Planning Board Review prior to building permit.
5. 5.1.5 Screening of Parking Areas – allow parking layout as proposed without any additional planting or screening other than as proposed.
6. 5.2.6a) Allowed Permanent Signs – allow project monument sign, directional and identification signs as proposed

Wetlands Regulation Waivers:

1. 5.2 No Alteration Zone (Inner Buffer Zone) – allow earthwork and construction activities as proposed in and within the 50-foot inner wetland buffer zone.
2. 6.1 Expert Consultant Fees – allow project to proceed with Zoning Board Review and waive any separate independent 3rd party review conducted independently by the Conservation Commission.
3. 7.4.6 Information that May be Requested - allow earthwork and construction activities as proposed in and within the 50-foot inner wetland buffer zone and waive further requirements as outlined in 7.4.6 1,2,3 and 4.
4. 7.6.1 Notice of Intent (NOI) Fees – project will be recognized as a DEP Category 3 and subject to an activity fee of \$1,050.00 per building and with four buildings located within the wetland buffer zone will result in a \$4,200.00 filing fee under the state fee schedule which the town would share in slightly more than half this fee, while 7.6.1 would add considerably more on top of this amount if applied.

Sewage Disposal Regulation Waivers:

1. 7.1 Leaching Area Size – allow effluent flow rate as defined by 310 CMR 15.203 Housing for the Elderly 150 Gallons Per Day for the proposed 2-bedroom housing unit as proposed.

Domestic Water Supply:

1. 7.0 Number of Wells – allow project to proceed as planned with 2 separate wells that will each supply potable water to 6 separate housing units all of which are located upon one single lot.
2. 11.1 Well Yield - 7.4.6 allow project to proceed as planned with 150 gallons required per

- bedroom.
3. 11.2 Storage – allow project engineer to meet and/or exceed minimum state plumbing code requirement for storage and distribution of potable water supply.
 4. 12.0 Tests - allow project engineer to meet and/or exceed minimum state guidelines for well testing.
 5. 17.5.B – allow 5,000-gallon cistern to hold fire suppression water supply.

Public And Environmental Health:

1. 3.1 Environmental Health Impact Report – allow project to proceed as planned without having to complete Environmental Health Impact Report.
2. 3.2 Environmental Health Permit - allow project to proceed as planned without having to obtain Environmental Health Permit.
3. 7.0 Water Supply - allow project to proceed as planned without having to conduct separate water supply review with Board of Health.
4. 12.0 Drainage - allow project to proceed as planned without having to conduct separate drainage system review with Board of Health.

These items outlined above represent the Project Waivers that we anticipate needing in order to advance the project plans as currently before the Board. Until the project discussion and review is completed this list may need to be expanded or reduced, thus we reserve the right to amend, modify or revise the list of requested waivers. Thank you for your consideration and we look forward to continuing to work with the Board with processing this permit application.

Very truly yours,

ENGINEERING DESIGN CONSULTANTS, INC.

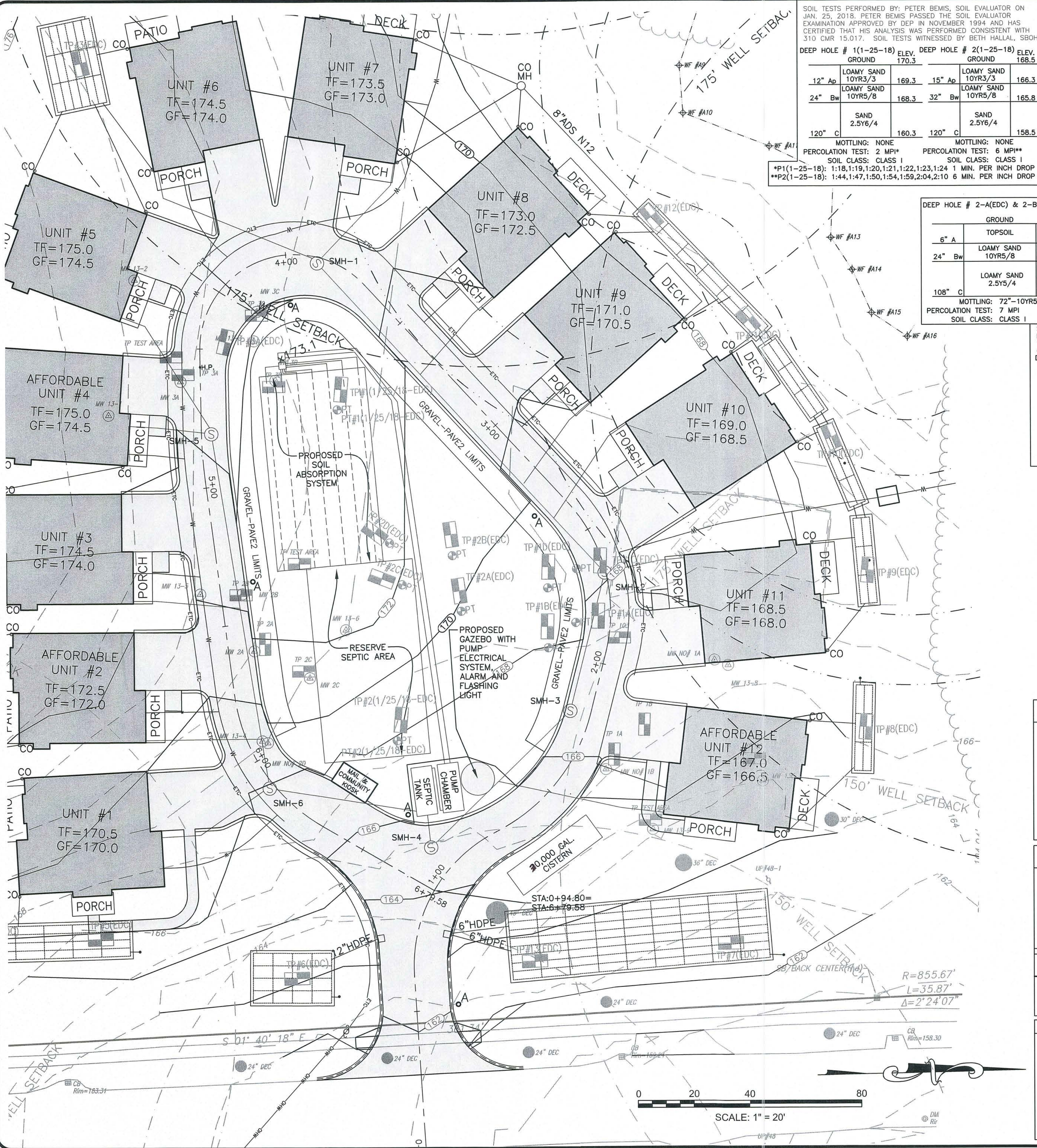


Peter Bemis

cc. Heritage Properties

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SOIL TESTS PERFORMED BY: PETER BEMIS, SOIL EVALUATOR ON JAN. 25, 2018. PETER BEMIS PASSED THE SOIL EVALUATOR EXAMINATION APPROVED BY DEP IN NOVEMBER 1994 AND HAS CERTIFIED THAT HIS ANALYSIS WAS PERFORMED CONSISTENT WITH 310 CMR 15.017. SOIL TESTS WITNESSED BY BETH HALLAL, SBOH.

DEEP HOLE # 1(1-25-18) ELEV. 170.3			DEEP HOLE # 2(1-25-18) ELEV. 168.5		
GROUND	ELEV.	GROUND	ELEV.	GROUND	ELEV.
12" Ap	169.3	15" Ap	169.3	12" Ap	169.3
24" Bw	168.3	32" Bw	168.3	24" Bw	168.3
120" C	160.3	120" C	160.3	120" C	160.3

MOTTLING: NONE
PERCOLATION TEST: 2 MPI**
SOIL CLASS: CLASS I

MOTTLING: NONE
PERCOLATION TEST: 6 MPI**
SOIL CLASS: CLASS I

*P1(1-25-18): 1:18,1:19,1:20,1:21,1:22,1:23,1:24 1 MIN. PER INCH DROP
**P2(1-25-18): 1:44,1:47,1:50,1:54,1:59,2:04,2:10 6 MIN. PER INCH DROP

DEEP HOLE # 2-A(EDC) & 2-B	
	GROUND
6" A	TOPSOIL
24" Bw	LOAMY SAND 10YR5/8
108" C	LOAMY SAND 2.5Y5/4
MOTTLING: 72"-10YR5	
PERCOLATION TEST: 7 MPI	
SOIL CLASS: CLASS I	

SOIL TESTS PERFORMED BY: PETER BEMIS, SOIL EVALUATOR ON JAN. 25, 2018. PETER BEMIS PASSED THE SOIL EVALUATOR EXAMINATION APPROVED BY DEP IN NOVEMBER 1994 AND HAS CERTIFIED THAT HIS ANALYSIS WAS PERFORMED CONSISTENT WITH 310 CMR 15.017. SOIL TESTS WITNESSED BY BETH HALLAL, SBOH.

DEEP HOLE # 1(1/25/18-EDC) ELEV. 170.3			DEEP HOLE # 2(1/25/18-EDC) ELEV. 168.5		
GROUND	ELEV.	GROUND	ELEV.	GROUND	ELEV.
12" Ap	169.3	15" Ap	167.3	12" Ap	169.3
24" Bw	168.3	32" Bw	165.8	24" Bw	165.8
120" C	160.3	120" C	158.5	120" C	158.5

MOTTLING: N/A
PERCOLATION TEST: 1 MPI
SOIL CLASS: CLASS II

MOTTLING: N/A
PERCOLATION TEST: 6MPI
SOIL CLASS: CLASS II

BUOYANCY CALCULATIONS

ITEM	VALUE	UNIT
4,000 gallon tank (2 COMP)	131.25	sf
TANK AREA - 17'-6" x 7'-6"		
FINISH GRADE	165.50	
TOP OF TANK	162.42	
BOTTOM OF TANK	154.75	
Groundwater(Mottles)	160.50	
Weight of water	62.40	lb/c f
Weight of soil	100.00	lb/c f
Empty Tank Weight	61,400.00	lbs
Weight of soil above tank	40,468.75	lbs
	101,868.75	lbs
Weight of groundwater displaced	47,092.50	lbs

NOTE: WHEN TANKS ARE PLACED DURING CONSTRUCTION, ADEQUATE PROTECTION FROM FLOODING SHALL BE TAKEN BY THE CONTRACTOR, BY THE USE OF PUMPING GROUNDWATER AND/OR CONSTRUCTION WHEN GROUNDWATER IS LOW. SOIL COVER SHALL BE PLACED ON THE TANKS AS SOON AS POSSIBLE, THE DESIGN ELEVATIONS OF THE TANKS MUST BE MAINTAINED.

SCHEDULE OF ELEVATIONS

ITEM	VALUE
INVERT AT BUILDINGS	VARIES
INVERT INTO SEPTIC TANK	161.00
INVERT OUT OF SEPTIC TANK	160.83
INVERT INTO PUMP CHAMBER	160.50
INVERT OUT OF PUMP CHAMBER	160.33
INVERT INTO DIST. BOX #1	171.67
INVERT INTO DIST. BOX #2	171.50
INVERT INTO DIST. BOX #3	171.37
INVERT OUT OF DIST. BOX #2	171.20
INVERT OF PERF. LATERAL LINES	170.85
BOTTOM OF STONE BED	170.50
OBSERVED GROUNDWATER (MAX.)	78" (163.0) TP-2-C & 2-D EDC

DESIGN CRITERIA

RESIDENTIAL DWELLINGS	PROPOSED 12 UNITS @ 2 BR. = 24 BR.
ESTIMATED SEWAGE FLOW	12 x 150 GPD = 1,800 GALLONS PER DAY
PERCOLATION RATE	7 MPI DESIGN
SYSTEM DIMENSIONS	38.00' x 70.00' = 2,660 S.F.
RESERVE SYSTEM DIMENSIONS	38.00' x 70.00' = 2,660 S.F.
TOTAL LEACHING AREA	2,660 S.F.

LEACHING AREA COMPUTATIONS

PERC RATE 7 MPI; REQ. LTAR=0.68 GPD/SQ. REQ. (15,242)
LENGTH 38' x WIDTH 70' = 2,660 SF PROVIDED AREA PROVIDED WHICH WILL TREAT 2,660 S.F. x 0.68 = 1,808 GPD > 1,800 GPD REQ.

SOIL TEST DATA

SOIL TESTS PERFORMED BY: R.L. LAVIGNE, SOIL EVALUATOR #1329, ON OCTOBER 29, 2014, AND HAS CERTIFIED THAT THE ANALYSIS WAS PERFORMED CONSISTENT WITH 310 CMR 15.017. SOIL TESTS WITNESSED BY ETHAN MASCOOP, SBOH.

DEEP HOLE # 1-A			DEEP HOLE # 1-B			DEEP HOLE # 1-C			
GROUND	ELEV.	GROUND	ELEV.	GROUND	ELEV.	GROUND	ELEV.	GROUND	ELEV.
19"	165.22	17" Ap	164.68	17" Ap	163.0	17" Ap	163.0	17" Ap	163.0
25" Apb	164.72	32" Bw	163.43	45" Bw	160.7	45" Bw	160.7	45" Bw	160.7
42" Bw	163.30	93" C	158.35	90" C	156.9	90" C	156.9	90" C	156.9
120" C	156.80	126" 2C	155.60	122" 2C	154.2	122" 2C	154.2	122" 2C	154.2

MOTTLING: N/A
PERCOLATION TEST: <2MPI @ 72"
SOIL CLASS: CLASS I

MOTTLING: 93"-10YR5/8-158.35
PERCOLATION TEST: N/A
SOIL CLASS: CLASS I

MOTTLING: 72"-10YR5/8- 158.4
PERCOLATION TEST: <2MPI @ 42"
SOIL CLASS: CLASS I

DEEP HOLE # 2-A			DEEP HOLE # 2-B			DEEP HOLE # 2-C			
GROUND	ELEV.	GROUND	ELEV.	GROUND	ELEV.	GROUND	ELEV.	GROUND	ELEV.
19"	170.32	10" Ap	164.68	17" Ap	163.0	17" Ap	163.0	17" Ap	163.0
25" Apb	169.82	24" Bw	163.43	45" Bw	160.7	45" Bw	160.7	45" Bw	160.7
42" Bw	168.40	48" C	158.35	90" C	156.9	90" C	156.9	90" C	156.9

MOTTLING: N/A
PERCOLATION TEST: <2MPI @ 42"
SOIL CLASS: CLASS I

MOTTLING: N/A
PERCOLATION TEST: <2 MPI @ 36"
SOIL CLASS: CLASS I

MOTTLING: 72"-10YR5/8-
N/A
PERCOLATION TEST: N/A
SOIL CLASS: CLASS I

DEEP HOLE # 3-A			DEEP HOLE # 3-B			DEEP HOLE # 3-C			
GROUND	ELEV.	GROUND	ELEV.	GROUND	ELEV.	GROUND	ELEV.	GROUND	ELEV.
10" Ap	173.47	14" Ap	171.03	12" Ap	171.40	10" Ap	173.47	10" Ap	173.47
28" Bw	171.97	36" Bw	169.20	24" Bw	170.40	28" Bw	171.97	28" Bw	171.97
120" C	164.30	126" C	161.70	126" C	161.90	120" C	164.30	120" C	164.30

MOTTLING: N/A
PERCOLATION TEST: <2MPI @ 54"
SOIL CLASS: CLASS I

MOTTLING: N/A
PERCOLATION TEST: 2MPI @ 42"
SOIL CLASS: CLASS I

MOTTLING: N/A
PERCOLATION TEST: N/A
SOIL CLASS: CLASS I

BUOYANCY CALCULATIONS

ITEM	VALUE	UNIT
3,000 gallon tank	131.25	sf
TANK AREA - 17'-6" x 7'-6"		
FINISH GRADE	165.50	
TOP OF TANK	162.10	
BOTTOM OF TANK	155.92	
Groundwater(Mottles)	160.50	
Weight of water	62.40	lb/c f
Weight of soil	100.00	lb/c f
Empty Tank Weight	45,100.00	lbs
Weight of soil above tank	44,625.00	lbs
	89,725.00	lbs
Weight of groundwater displaced	37,510.20	lbs

NOTE: WHEN TANKS ARE PLACED DURING CONSTRUCTION, ADEQUATE PROTECTION FROM FLOODING SHALL BE TAKEN BY THE CONTRACTOR, BY THE USE OF PUMPING GROUNDWATER AND/OR CONSTRUCTION WHEN GROUNDWATER IS LOW. SOIL COVER SHALL BE PLACED ON THE TANKS AS SOON AS POSSIBLE, THE DESIGN ELEVATIONS OF THE TANKS MUST BE MAINTAINED.

CONSTRUCTION NOTES

1. LEACHING AREA FILL SHALL CONSIST OF SELECT ON-SITE OR IMPORTED SOIL MATERIAL. THE FILL SHALL BE COMPRISED OF CLEAN GRANULAR SAND, BE FREE FROM ORGANIC MATTER AND DELETERIOUS SUBSTANCES, AND SHALL NOT CONTAIN REMEDIATION WASTE AS THAT TERM IS DEFINED IN 310 CMR 40.0000. MIXTURES AND LAYERS OF DIFFERENT CLASSES OF SOIL SHALL NOT BE USED. THE FILL SHALL NOT CONTAIN ANY MATERIAL LARGER THAN TWO INCHES. A SIEVE ANALYSIS, USING A #4 SIEVE, SHALL BE PERFORMED ON A REPRESENTATIVE SAMPLE OF THE FILL. UP TO 45% BY WEIGHT OF THE FILL SAMPLE MAY BE RETAINED ON THE #4 SIEVE. SIEVE ANALYSES ALSO SHALL BE PERFORMED ON THE FRACTION OF THE FILL SAMPLE PASSING THE #4 SIEVE, SUCH ANALYSES MUST DEMONSTRATE THAT THE MATERIAL MEETS EACH OF THE FOLLOWING SPECIFICATIONS:
SIEVE SIZE
#4 4.75 MM 100%
#50 0.30 MM 10%-100%
#100 0.15 MM 0%-20%
#200 0.075MM 0%-5%
A PLOT OF SIEVE ANALYSES OF A PORTION OF THE SAMPLE PASSING THE #4 SIEVE SHALL FALL ON OR BETWEEN THE LINES ON THE GRAPH AS DEPICTED IN 310 CMR 15.255(3).
2. NO PERSON SHALL DISCHARGE SEWAGE TO A NEW, UPGRADED OR EXPANDED SYSTEM WITHOUT FIRST OBTAINING A CERTIFICATE OF COMPLIANCE FROM THE APPROVING AUTHORITY IN ACCORDANCE WITH 310 CMR 15.021(2) THROUGH (5). A REQUEST FOR CERTIFICATE OF COMPLIANCE SHALL BE ACCOMPANIED BY A CERTIFIED AS-BUILT OF THE SOIL ABSORPTION AS-BUILT APPURTENANCES PREPARED BY THE DESIGN FIRM.
3. ALL SYSTEM COMPONENTS SHALL BE MARKED WITH MAGNETIC MARKING TAPE OR A COMPARABLE MEANS IN ORDER TO LOCATE THEM ONCE BURIED.
4. THE SOIL ABSORPTION SYSTEM SHALL HAVE A MINIMUM OF ONE (1) INSPECTION PORT CONSISTING OF A PERFORATED FOUR (4) INCH PIPE PLACED VERTICALLY DOWN INTO THE STONE TO THE NATURALLY OCCURRING SOIL OR SAND FILL BELOW THE STONE. THE PIPE SHALL BE CAPPED WITH A THREADED CLEANOUT ASSEMBLY WITHIN A SMALL IRRIGATION VALVE BOX ACCESSIBLE TO WITHIN THREE (3) INCHES OF FINISH GRADE (SEE DETAIL).
5. THE SEPTIC TANK SHALL BE PUMPED WHEN THE TOP OF THE SLUDGE OR SOLIDS LAYER IS WITHIN 12" OR LESS OF THE BOTTOM OF THE OUTLET TEE OR THE TOP OF THE SCUM LAYER IS WITHIN TWO INCHES OF THE TOP OF THE OUTLET TEE OR THE BOTTOM OF THE SCUM LAYER IS WITHIN TWO INCHES OF THE BOTTOM OF THE OUTLET TEE. PUMPING FREQUENCY IS A FUNCTION OF USE, PUMPING IS REQUIRED AT LEAST ONCE EVERY THREE YEARS AND RECOMMENDED ON AN ANNUAL BASIS BY THIS DESIGN FIRM.

GENERAL NOTES

1. ELEVATION REFER TO BENCHMARK: MAGNETIC SPIKE 1 FT OFF BACK OF SIDEWALK ON NORTH MAIN(166.83)
2. ENGINEERING DESIGN CONSULTANTS, INC. WILL NOT BE RESPONSIBLE FOR BEDROCK FOUND WITHIN EXCAVATIONS OR VARIATIONS IN THE SOIL OR EXISTING CONDITIONS REPORTED HEREIN.
3. GARBAGE DISPOSAL UNITS SHALL NOT BE CONNECTED TO THIS SOIL ABSORPTION SYSTEM.
4. THIS PLAN IS TO BE UTILIZED ONLY FOR THE CONSTRUCTION OF THE SOIL ABSORPTION SYSTEM ILLUSTRATED HEREON.
5. ALL CONSTRUCTION METHODS AND MATERIALS SHALL CONFORM TO THE REGULATION OF THE LOCAL BOARD OF HEALTH AND THE STATE ENVIRONMENTAL CODE TITLE 5.
6. ANY ALTERATION TO THE APPROVED SOIL ABSORPTION DESIGN MUST BE APPROVED BY THE DESIGN ENGINEER AND SUBMITTED TO THE LOCAL BOARD OF HEALTH FOR APPROVAL PRIOR TO CONSTRUCTION.
7. PRIOR TO BACKFILLING THE SOIL ABSORPTION SYSTEM, THE DESIGN ENGINEER SHALL BE NOTIFIED 72 HOURS IN ADVANCE FOR INSPECTION OF ALL MATERIALS AND METHODS TO INSURE COMPLIANCE WITH THIS DESIGN.
8. THIS SOIL ABSORPTION SYSTEM MUST BE INSPECTED AND CERTIFIED BY AN ENGINEER AND THE LOCAL BOARD OF HEALTH. A CERTIFICATE OF COMPLIANCE FROM THE ENGINEER WILL BE REQUIRED INDICATING THAT THE SYSTEM HAS BEEN LOCATED AND CONSTRUCTED IN COMPLIANCE WITH THE TERMS OF THE PERMIT. PRIOR TO FINAL APPROVAL BY THE LOCAL BOARD OF HEALTH.
9. NO SOIL ABSORPTION SYSTEM SHALL BE LOCATED WITHIN 150' OF A DOMESTIC WELL.

PORTION OF ASSESSORS MAP 10 LOT 25

10. AS-BUILT PLANS SHALL BE REQUIRED SHOWING THE EXACT LOCATION OF THE ON-SITE SUBSURFACE SEWAGE DISPOSAL SYSTEM AND WELL AFTER SYSTEM HAS BEEN INSTALLED. THERE SHALL BE INCLUDED A CERTIFICATION BY THE DESIGN ENGINEER THAT THE SYSTEM, INCLUDING FINAL GRADING, HAS BEEN CONSTRUCTED IN ACCORDANCE WITH THE APPROVED PLAN AND TERMS OF THE PERMIT. THIS PLAN SHALL BE SUBMITTED BEFORE THE FINAL INSPECTION IS MADE BY THE BOARD OF HEALTH AND BEFORE A CERTIFICATE OF COMPLIANCE IS ISSUED. THIS AS-BUILT PLAN SHALL REMAIN ON FILE AT THE BOARD OF HEALTH OFFICE. A COMPUTERIZED COPY OF THE AS-BUILT PLAN SHALL BE SUBMITTED.
11. PRIOR TO CONSTRUCTION OF THE SEPTIC SYSTEM THE BUILDER SHALL SUBMIT TO THE BOARD OF HEALTH TWO COPIES OF THE CERTIFIED FOUNDATION PLAN, SHOWING ELEVATIONS OF THE TOP OF THE CELLAR FLOOR AND TOP OF FOUNDATION AND THE LOCATION OF THE WELL.
12. THERE SHALL BE A MINIMUM OF THREE IN-PROGRESS INSPECTIONS OF THE DISPOSAL WORKS. ONE INSPECTION SHALL BE CONDUCTED WHEN THE DISPOSAL AREA IS EXCAVATED AND THE SEPTIC TANK IS IN PLACE, ONE WHEN THE CONSTRUCTION OF THE SEPTIC SYSTEM IS COMPLETED EXCEPT FOR BACKFILLING AND ONE WHEN THE FINISHED GRADING OF THE LOT IS COMPLETED.
13. THE ENTIRE SYSTEM INCLUDING THE BUILDING SEWER SHALL REMAIN EXPOSED FOR THE SECOND INSPECTION AND THE DISTRIBUTION BOX SHALL BE LEVEL AND FILLED WITH WATER. A RESPONSIBLE PERIOD OF NOTIFICATION SHALL BE GIVEN TO THE BOARD OF HEALTH FOR AN EXAMINATION REQUEST.

NOTE: UNDERGROUND UTILITY LOCATIONS ARE NOT GUARANTEED.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY LOCATIONS AND ELEVATIONS OF EXISTING UTILITIES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION.

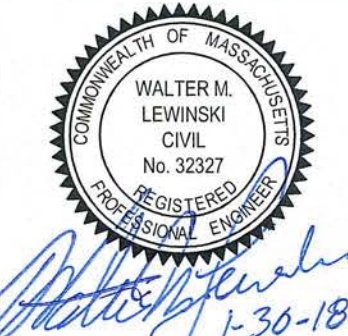
DIGSAFE IS TO BE NOTIFIED 72 BUSINESS HOURS IN ADVANCE OF CONSTRUCTION. CALL DIGSAFE AT 811



ENGINEERING DESIGN CONSULTANTS, INC. SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, OR PROCEDURES UTILIZED BY THE CONTRACTOR, NOR FOR THE SAFETY OF PUBLIC OR CONTRACTOR EMPLOYEES, OR FOR THE FAILURE OF THE CONTRACTOR TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

ENGINEERING DESIGN CONSULTANTS, INC.'S LIABILITY FOR THIS PLAN IS LIMITED TO THE EXTENT OF ITS FEE LESS THIRD PARTY COSTS.

REV	DATE	DESCRIPTION
3	1/30/18	ISSUED FOR PEER REVIEW
2	12/26/17	ISSUED FOR PEER REVIEW
1	11/27/17	ISSUED FOR PEER REVIEW
0	7/25/17	ISSUED FOR PEER REVIEW



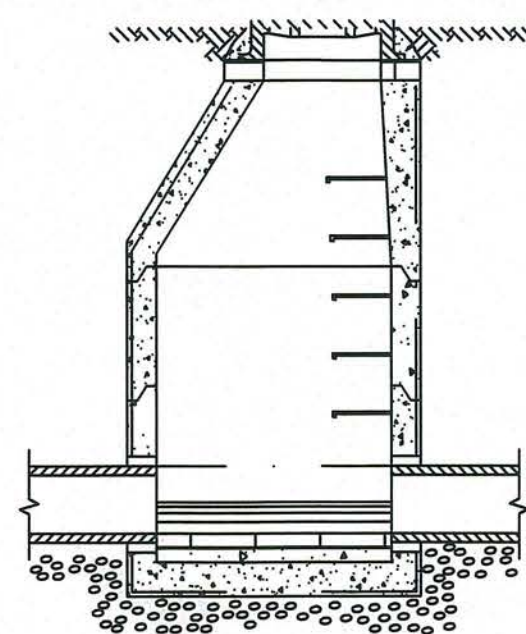
PREPARED BY:
ED
Engineering Design Consultants, Inc.
32 Turnpike Road
Southborough, Massachusetts
(508) 480-0225

PROJECT:
SHERBORN VILLAGE
A
RESIDENTIAL DEVELOPMENT
IN
SHERBORN, MASSACHUSETTS

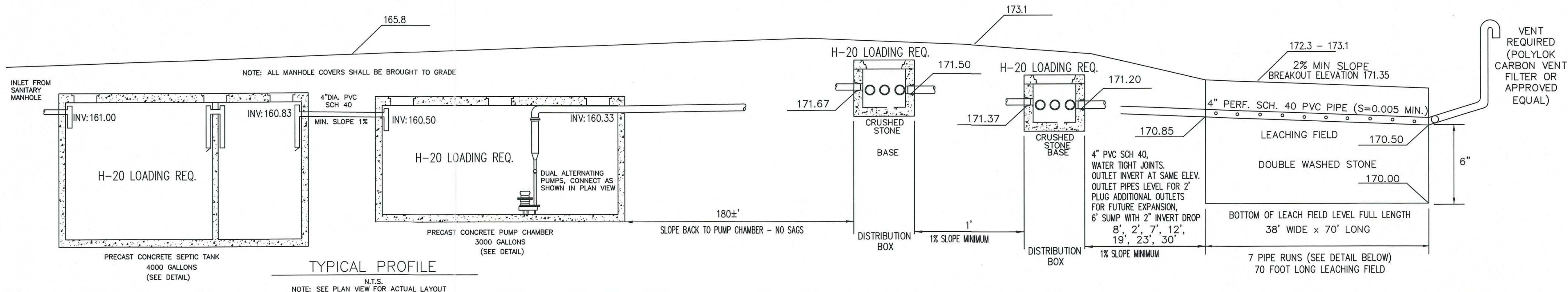
TITLE:
SOIL ABSORPTION SYSTEM
#59 NORTH MAIN STREET
SHERBORN, MASSACHUSETTS

OWNER/APPLICANT:
HERITAGE PROPERTIES
490-B BOSTON POST ROAD
SUDBURY, MA 01776

FILE NO: 3438
SOIL ABSORPTION SYSTEM
DATE: JULY 25, 2017
PLAN NO: 1 of 2
1



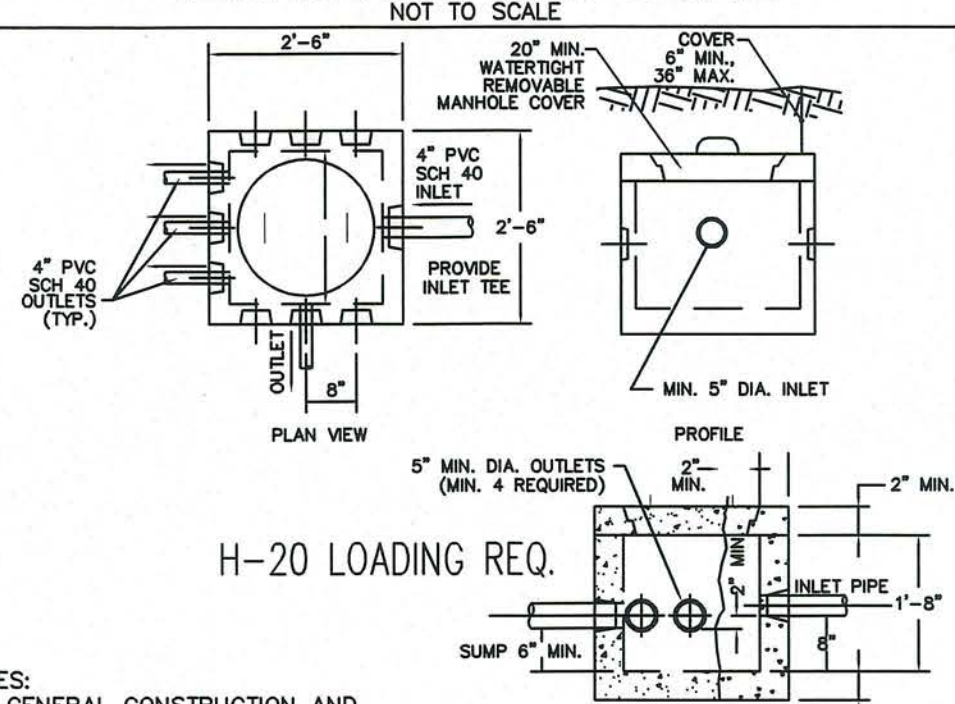
SANITARY MANHOLE #4 INV: 161.12
SANITARY MANHOLE #6 INV: 162.77



TYPICAL PROFILE

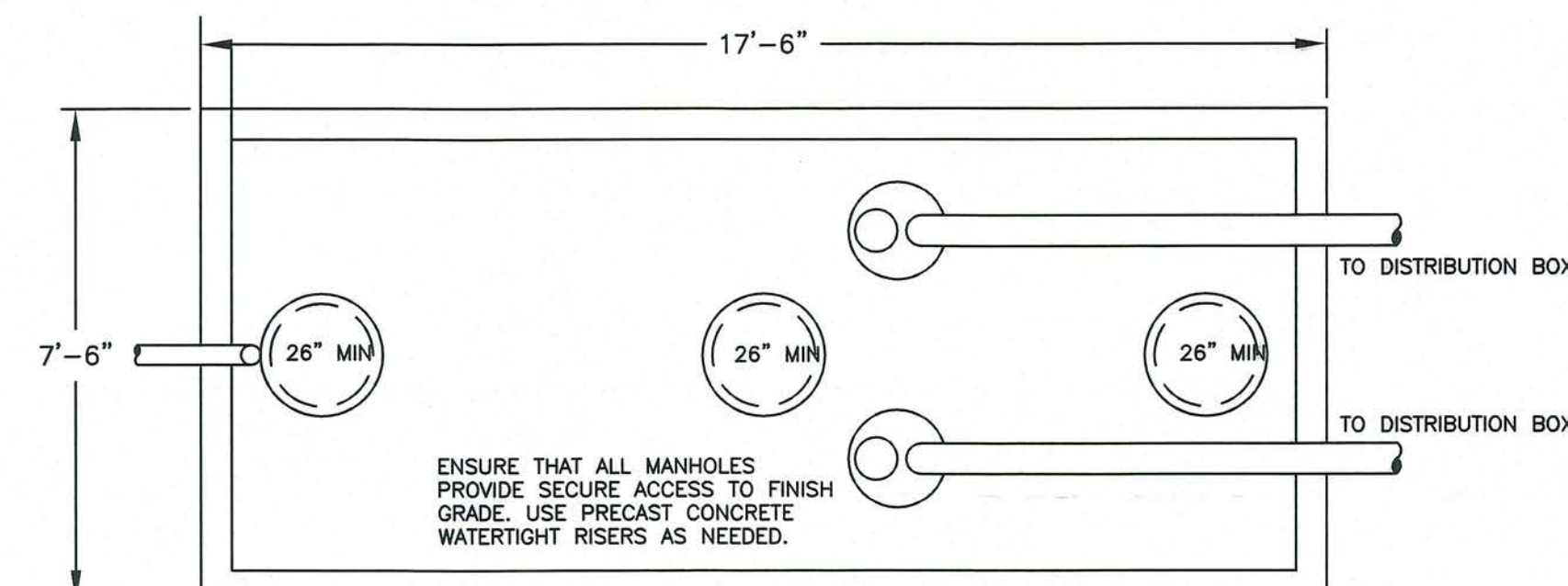
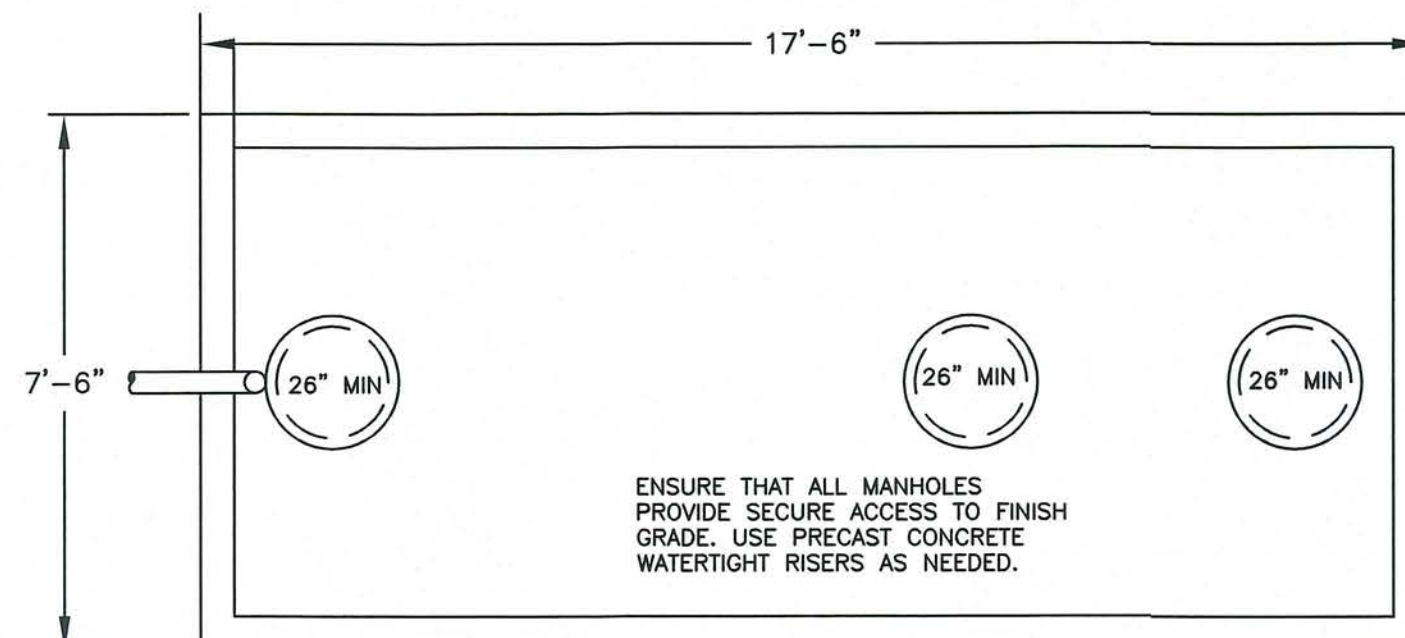
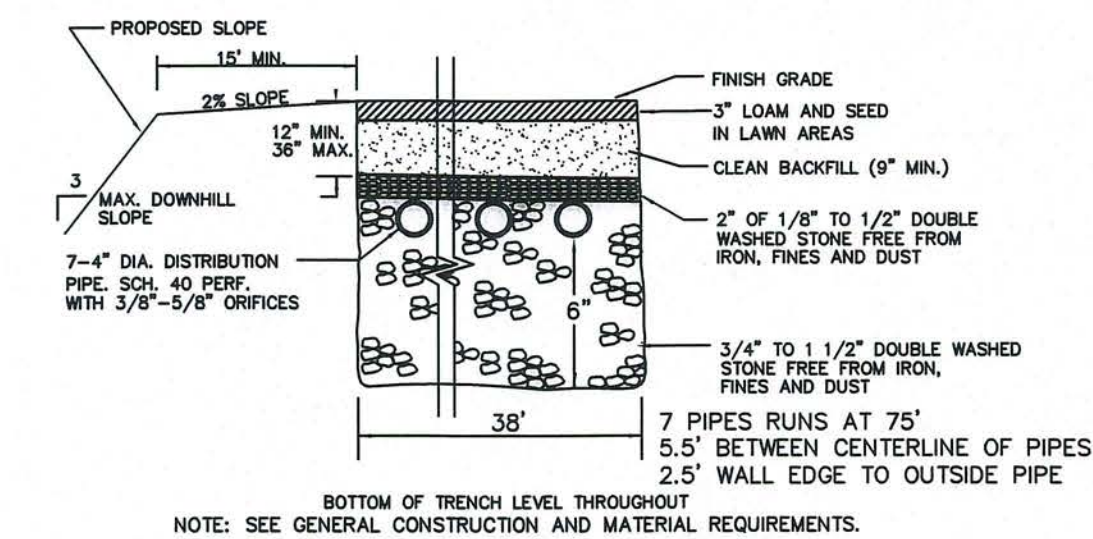
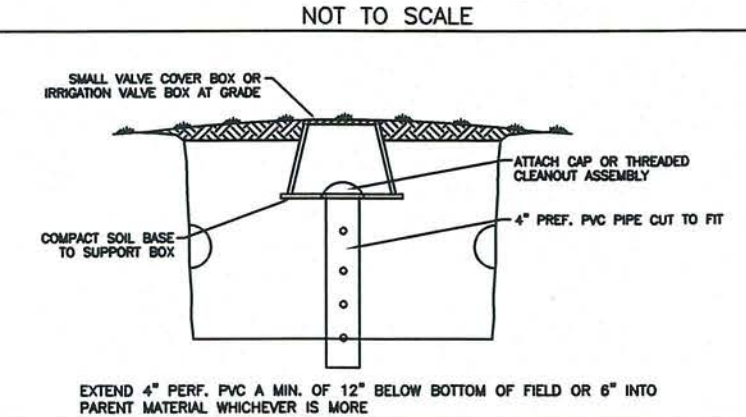
NOTE: SEE PLAN VIEW FOR ACTUAL LAYOUT

DISTRIBUTION BOX DETAIL

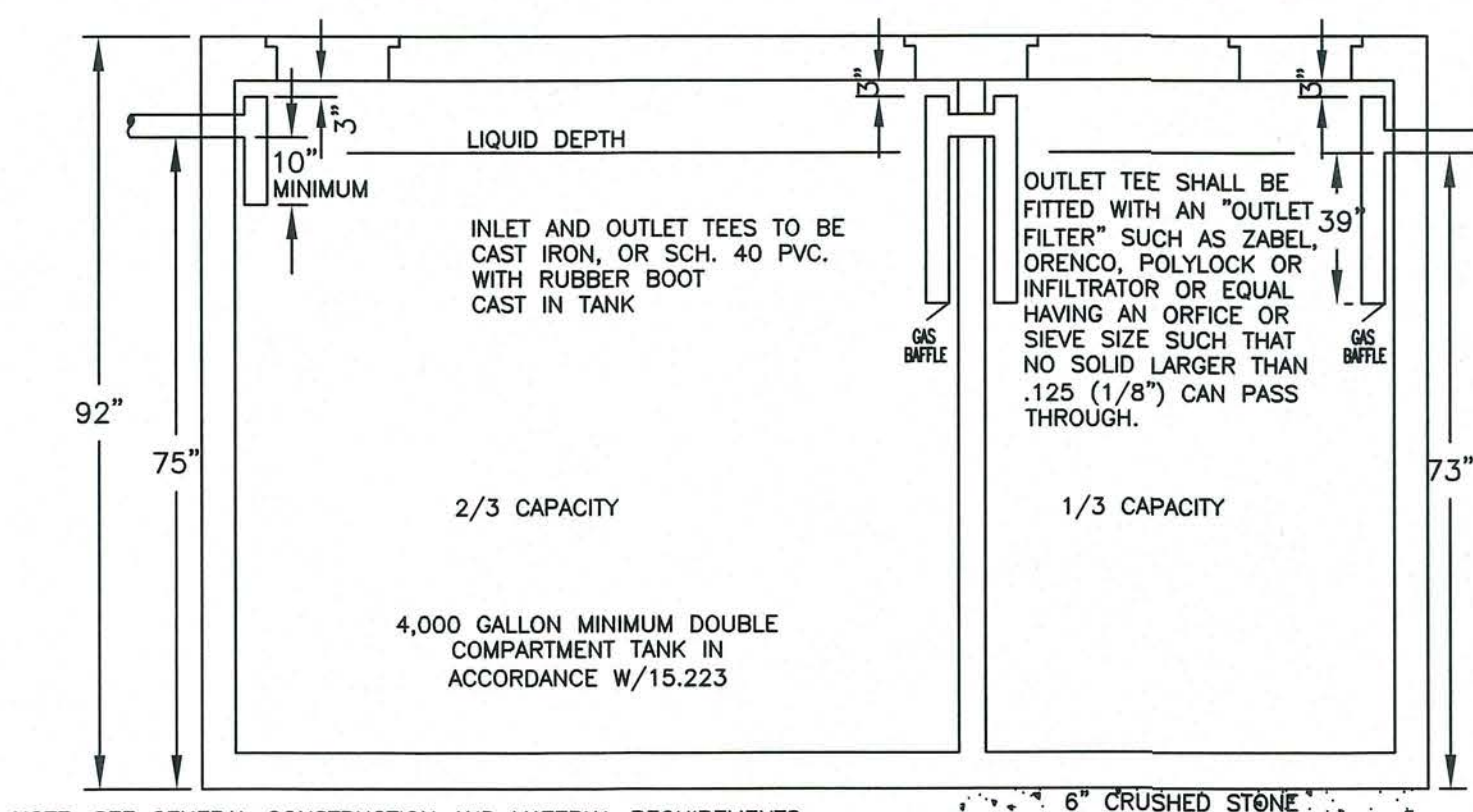


NOTES:
SEE GENERAL CONSTRUCTION AND MATERIAL REQUIREMENTS. THE INITIAL TWO FEET OF ALL PIPE OUT OF THE DISTRIBUTION BOX TO BE SET LEVEL. DISTRIBUTION BOX TO CONFORM TO TITLE 5 REQUIREMENTS. INLET TEE MUST BE PROVIDED WITH PUMP SYSTEMS AND PIPE SLOPES IN EXCESS OF 6% TO D-BOX. MINIMUM INSIDE DIMENSION OF THE DISTRIBUTION BOX TO BE 12".
*MAGNETIC TAPE REQUIRED OVER DISTRIBUTION BOX

INSPECTION PORT



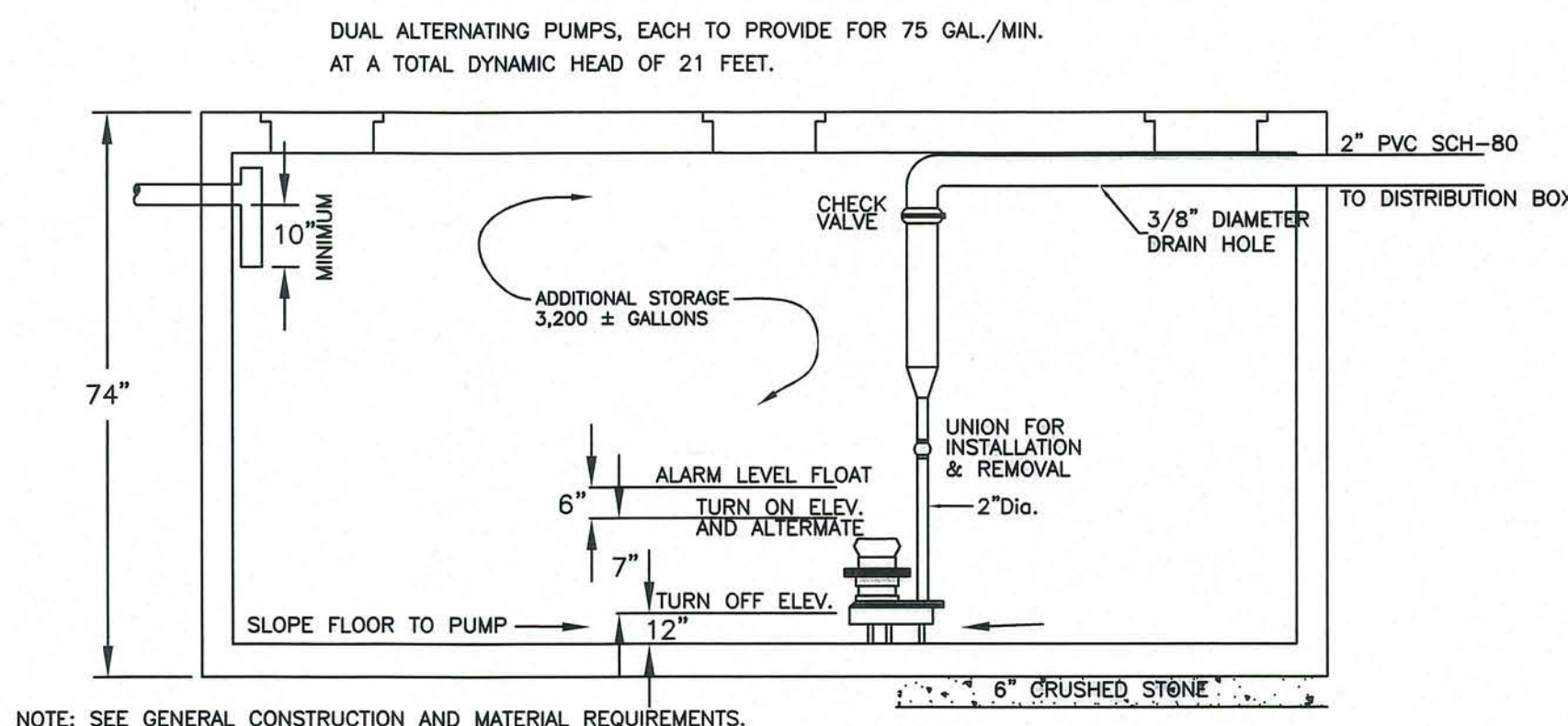
DUAL ALTERNATING PUMPS, EACH TO PROVIDE FOR 75 GAL./MIN. AT A TOTAL DYNAMIC HEAD OF 21 FEET.



NOTE: SEE GENERAL CONSTRUCTION AND MATERIAL REQUIREMENTS. TANK TO CONFORM TO TITLE 5 REQUIREMENTS.
*CHECK TANK DIMENSIONS PRIOR TO EXCAVATION
**MAGNETIC TAPE REQUIRED OVER TANK

PRECAST CONCRETE SEPTIC TANK

4,000 GALLONS
WILLIAM N. LAMARRE CONCRETE PRODUCTS - H2O COMMERCIAL 2-COMP.
LIQUID CAPACITY = 4,455 GALLONS



NOTE: SEE GENERAL CONSTRUCTION AND MATERIAL REQUIREMENTS. TANK TO CONFORM TO TITLE 5 REQUIREMENTS.
*CHECK TANK DIMENSIONS PRIOR TO EXCAVATION
**MAGNETIC TAPE REQUIRED OVER TANK

PRECAST CONCRETE PUMP CHAMBER

3,000 GALLONS
WILLIAM N. LAMARRE CONCRETE PRODUCTS - H2O COMMERCIAL
LIQUID CAPACITY = 3,240 GALLONS
802 GALLONS PER VERTICAL FOOT
4 DOSES PER DAY AT 450 GAL. PER DOSE (~7").

MEASUREMENTS TO BE TAKEN FROM BOTTOM OF PUMP CHAMBER
PUMP OFF = 12"
PUMP ON = 19"
ALARM ON = 25"
* TWO PUMPS-ONE ALTERNATING WITH THE OTHER AT PUMP ON.

CONSTRUCTION NOTES:

1. PROVIDE TWO (2) ALTERNATING MEYERS SRM4 0.4 HP PUMPS OR EQUAL. (PROVIDE 17" OF HEAD @ 20±GPM)
2. PROVIDE 3,000 GALLON PRECAST PUMP CHAMBER.
3. PUMP CHAMBER SHALL BE WATER TIGHT CONSTRUCTION AND HAVE MANUFACTURERS QUALITY CONTROL SEAL.
4. PROVIDE 4,000 GALLON SEPTIC TANK
5. SEPTIC TANK SHALL BE WATER TIGHT CONSTRUCTION AND HAVE MANUFACTURERS QUALITY CONTROL SEAL.
6. WHEN TANKS ARE PLACED DURING CONSTRUCTION, ADEQUATE PROTECTION FROM FLOATING SHALL BE TAKEN BY THE CONTRACTOR, BY THE USE OF PUMPING GROUNDWATER AND/OR CONSTRUCTION WHEN GROUNDWATER IS LOW. SOIL COVER SHALL BE PLACED ON THE TANKS AS SOON AS POSSIBLE, THE DESIGN ELEVATIONS OF THE TANKS MUST BE MAINTAINED.
7. POWER SUPPLY FOR PUMPS AND ALL ELECTRICAL CONNECTIONS TO BE VERIFIED PRIOR TO INSTALLATION AND PERFORMED BY A LICENSED ELECTRICIAN.
8. THE CONTROL PANEL SHALL INCLUDE A MANUAL ON-OFF, AUTOMATIC ON-OFF SWITCH, VISUAL ALARM, AUDIBLE ALARM, AND AUDIBLE ALARM SILENCER SWITCH. THERE SHALL BE A MINIMUM OF THREE SWITCHES IN THE PUMP CHAMBER.
9. THE ALARM SHALL BE CONNECTED TO A SEPARATE ELECTRICAL CIRCUIT FROM THE PUMP, ALSO THE PUMP ELECTRICAL EQUIPMENT SHALL BE EQUIPPED WITH A TRANSFER SWITCH TO ALLOW CONNECTION TO A PORTABLE GENERATOR.
10. THE PUMPS SHALL BE LOCATED AS CLOSE TO THE ACCESS MANHOLE OF THE PUMP CHAMBER AS POSSIBLE.
11. THE ACCESS MANHOLE SHALL BE CONSTRUCTED TO FINISH GRADE WITH A SECURE COVER OF HEAVY WEIGHT OR LOCKABLE TO PREVENT UNAUTHORIZED ACCESS.
12. PRIOR TO INSPECTION OF THE PUMP SYSTEM, THE DESIGNER SHALL CONDUCT A FLOW RATE TEST TO CONFIRM EQUAL DISTRIBUTION OF EFFLUENT THROUGH LATERALS.

WEIGHT = 80,692 LBS.

SPECIAL NOTES:

1. SYSTEM DESIGN BASED ON CONVENTIONAL FIELD.
2. DESIGNER TO STAKE & FLAG SAS LOCATION. CONTRACTOR SHALL MAINTAIN LIMITS, UNTIL CERTIFICATE OF COMPLIANCE ISSUED AT INSTALLATION COMPLETION.
3. INSTALLER SHALL SUBMIT CERTIFICATION OF INSTALLATION AT SAS COMPLETION.

ENGINEERING DESIGN CONSULTANTS, INC. SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, OR PROCEDURES UTILIZED BY THE CONTRACTOR, NOR FOR THE SAFETY OF PUBLIC OR CONTRACTORS EMPLOYEES, OR FOR THE FAILURE OF THE CONTRACTOR TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

ENGINEERING DESIGN CONSULTANTS, INC.'S LIABILITY FOR THIS PLAN IS LIMITED TO THE EXTENT OF ITS FEE LESS THIRD PARTY COSTS.

REV	DATE	DESCRIPTION
1	1/30/18	ISSUED FOR PEER REVIEW
2	12/26/17	ISSUED FOR PEER REVIEW
3	11/27/17	ISSUED FOR PEER REVIEW
4	7/25/17	ISSUED FOR PEER REVIEW



PREPARED BY:



Engineering Design Consultants, Inc.
32 Turnpike Road
Southborough, Massachusetts
(508) 480-0225

PROJECT:

SHERBORN VILLAGE
A
RESIDENTIAL DEVELOPMENT
IN
SHERBORN, MASSACHUSETTS

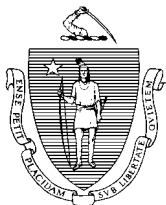
TITLE:

SAS DETAILS
#59 NORTH MAIN STREET
SHERBORN, MASSACHUSETTS

OWNER/APPLICANT:

HERITAGE PROPERTIES
490-B BOSTON POST ROAD
SUDBURY, MA 01776

FILE NO: 3438
SAS DETAILS
DATE: JULY 25, 2017
PLAN NO: 2 of 2
2



Commonwealth of Massachusetts

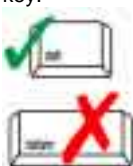
City/Town of

Percolation Test

Form 12

Important:

When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



Percolation test results must be submitted with the Soil Suitability Assessment for On-site Sewage Disposal. DEP has provided this form for use by local Boards of Health. Other forms may be used, but the information must be substantially the same as that provided here. Before using this form, check with the local Board of Health to determine the form they use.

A. Site Information

HP SHERBORN LLC

Owner Name

59 NORTH MAIN STREET

Street Address or Lot #

SHERBORN

City/Town

MA

State

01770

Zip Code

Contact Person (if different from Owner)

Telephone Number

B. Test Results

	1/25/18		1/25/18	
	Date	Time	Date	Time
Observation Hole #	TP1(1/25/18)		TP2(1/25/18)	
Depth of Perc	48"		76"	
Start Pre-Soak	1:03		1:29	
End Pre-Soak	1:18		1:44	
Time at 12"	1:18		1:44	
Time at 9"	1:21		1:54	
Time at 6"	1:24		2:10	
Time (9"-6")	3		16	
Rate (Min./Inch)	1 MPI		6 MPI	
	Test Passed:	<input checked="" type="checkbox"/>	Test Passed:	<input checked="" type="checkbox"/>
	Test Failed:	<input type="checkbox"/>	Test Failed:	<input type="checkbox"/>

Test Performed By: PETER BEMIS

Witnessed By: BETH HALLAL

Comments:

P1: 1:18, 1:19, 1:20, 1:21, 1:22, 1:23, 1:24, 1MPI

P2: 1:44, 1:47, 1:50, 1:54, 1:59, 2:04, 2:10, 6MPI



Commonwealth of Massachusetts

City/Town of

Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

A. Facility Information

HP Sherborn LLC

Owner Name

59 North Main Street

Street Address

Sherborn

City

MA

State

Map 10 Lot 25

Map/Lot #

01770

Zip Code

B. Site Information

1. (Check one) ☒ New Construction ☐ Upgrade ☐ Repair

2. Soil Survey Available? ☐ Yes ☐ No

If yes: NCSS(Web Soil Survey)

254B

Source

Soil Map Unit

Merrimac fine sandy loam

Highly permeable

Soil Name

Soil Limitations

Glacial Sand Deposit

Outwash

Geologic/Parent Material

Landform

3. Surficial Geological Report Available? ☒ Yes ☐ No

If yes: 9/25/12

1:24000

Holliston

Year Published/Source

Publication Scale

Map Unit

4. Flood Rate Insurance Map

Above the 500-year flood boundary? ☒ Yes ☐ No

If Yes, continue to #5.

Within the 100-year flood boundary? ☐ Yes ☒ No

5. Within a velocity zone? ☐ Yes ☒ No

Wetland mapped w/perennial brook

6. Within a Mapped Wetland Area? ☐ Yes ☒ No

MassGIS Wetland Data Layer:

Wetland Type

7. Current Water Resource Conditions (USGS): 1/18
Month/Year

Range: ☐ Above Normal ☒ Normal ☐ Below Normal

8. Other references reviewed:



Commonwealth of Massachusetts

City/Town of

Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

C. On-Site Review (minimum of two holes required at every proposed primary and reserve disposal area)

Deep Observation Hole Number: 1(1-25-18) 1/25/18

Date

Time

Weather

1. Location

Ground Elevation at Surface of Hole: 170.3
feet

Latitude/Longitude: 42-15-07.28N/71-22-14.42W
/

Description of Location:

2. Land Use

LAWN

(e.g., woodland, agricultural field, vacant lot, etc.)

Surface Stones (e.g., cobbles, stones, boulders, etc.)

6%

Slope (%)

3. Distances from:

Vegetation

Open Water Body

300'+

feet

Landform

Drainage Way

feet

Position on Landscape (SU, SH, BS, FS, TS)

Wetlands

150'+

feet

Property Line

210'

feet

Drinking Water Well

190'+

feet

Other

feet

4. Parent Material:

Glacial Sand Deposit

Unsuitable Materials Present:

☐ Yes

☒ No

If Yes:

☐ Disturbed Soil

☐ Fill Material

☐ Impervious Layer(s)

☐ Weathered/Fractured Rock

☐ Bedrock

5. Groundwater Observed: ☒ Yes

☐ No

If yes:

Estimated Depth to High Groundwater: 120"
inches

160.3
elevation

Depth Weeping from Pit

120"
Depth Standing Water in Hole



Commonwealth of Massachusetts

City/Town of

Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

C. On-Site Review (continued)

Deep Observation Hole Number: 1(1-25-18)

Depth (in.)	Soil Horizon/ Layer	Soil Matrix: Color- Moist (Munsell)	Redoximorphic Features			Soil Texture (USDA)	Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
			Depth	Color	Percent		Gravel	Cobbles & Stones			
12"	Ap	10YR3/3				LOAMY SAND					
24"	Bw	10YR5/8				LOAMY SAND					
120"	C	2.5Y6/4				COARSE SAND & GRAVEL	15%	5%			

Additional Notes:



Commonwealth of Massachusetts

City/Town of

Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

C. On-Site Review (continued)

Deep Observation Hole Number: 2(1-25-18) 1/25/18
Date Time Weather

1. Location
Ground Elevation at Surface of Hole: 168.5 feet Latitude/Longitude: 42-15-07.28N/71-22-14.42W /
2. Land Use LAWN (e.g., woodland, agricultural field, vacant lot, etc.) Surface Stones (e.g., cobbles, stones, boulders, etc.) 5% Slope (%)

3. Distances from: Vegetation Open Water Body 300'+ feet Drainage Way feet Wetlands 200'+ feet
Property Line 120' feet Drinking Water Well 190'+ feet Other feet

4. Parent Material: Glacial Sand Deposit Unsuitable Materials Present: ☐ Yes ☒ No

If Yes: ☐ Disturbed Soil ☐ Fill Material ☐ Impervious Layer(s) ☐ Weathered/Fractured Rock ☐ Bedrock

5. Groundwater Observed: ☐ Yes ☒ No If yes: Depth Weeping from Pit Depth Standing Water in Hole
Estimated Depth to High Groundwater: inches elevation



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C. On-Site Review (continued)

Deep Observation Hole Number: TP2(1/25/18)

Depth (in.)	Soil Horizon/ Layer	Soil Matrix: Color- Moist (Munsell)	Redoximorphic Features			Soil Texture (USDA)	Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
			Depth	Color	Percent		Gravel	Cobbles & Stones			
15"	Ap	10YR3/3				LOAMY SAND					
32"	Bw	10YR5/8				LOAMY SAND					
120"	C	2.5Y6/4				SAND	15%	5%			

Additional Notes:



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D. Determination of High Groundwater Elevation

1. Method Used:

☐ Depth observed standing water in observation hole

☐ Depth weeping from side of observation hole

☐ Depth to soil redoximorphic features (mottles)

☐ Depth to adjusted seasonal high groundwater (S_h)
(USGS methodology)

Obs. Hole # TP1(1/25/18)

120"

inches

inches

inches

inches

Obs. Hole # TP2(1/25/18)

120"

inches

inches

inches

inches

Index Well Number

Reading Date

$$S_h = S_c - [S_r \times (OW_c - OW_{max}) / OW_r]$$

Obs. Hole # _____ S_c _____ S_r _____ OW_c _____ OW_{max} _____ OW_r _____ S_h _____

Obs. Hole # _____ S_c _____ S_r _____ OW_c _____ OW_{max} _____ OW_r _____ S_h _____

E. Depth of Pervious Material

1. Depth of Naturally Occurring Pervious Material

a. Does at least four feet of naturally occurring pervious material exist in all areas observed throughout the area proposed for the soil absorption system?

☒ Yes ☐ No

b. If yes, at what depth was it observed?

Upper boundary: 24"/32"
inches

Lower boundary: 120"/120"
inches

c. If no, at what depth was impervious material observed?

Upper boundary: _____
inches

Lower boundary: _____
inches



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F. Certification

I certify that I am currently approved by the Department of Environmental Protection pursuant to 310 CMR 15.017 to conduct soil evaluations and that the above analysis has been performed by me consistent with the required training, expertise and experience described in 310 CMR 15.017. I further certify that the results of my soil evaluation, as indicated in the attached Soil Evaluation Form, are accurate and in accordance with 310 CMR 15.100 through 15.107.

Signature of Soil Evaluator

Peter Bemis, SE-130

Typed or Printed Name of Soil Evaluator / License #

BETH HALLAL

Name of Board of Health Witness

1-25-18

Date

6-30-19

Expiration Date of License

Sherborn

Board of Health

Note: In accordance with 310 CMR 15.018(2) this form must be submitted to the approving authority within 60 days of the date of field testing, and to the designer and the property owner with Percolation Test Form 12.



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Field Diagrams

Use this sheet for field diagrams:

See SAS Design by Engineering Design Consultants, Inc. dated , JULY 25, 2017, REV. 1/30/18