

INLAND WETLANDS
COMMISSION
Telephone (203) 563-0180
Fax (203) 563-0284



TOWN HALL
238 Danbury Road
Wilton, Connecticut 06897

APPLICATION FOR A SIGNIFICANT REGULATED ACTIVITY

For Office Use Only:

Filing Fee \$ _____	WET# _____
Date of Submission _____	Wilton Land Record Map# _____
Date of Acceptance _____	Volume # _____ Page # _____
	Assessor's Map # _____ Lot# _____

APPLICANT INFORMATION:

Applicant Sandra Davis-Chen
Address 105 Nod Hill Road
Wilton, CT 06897
Telephone (914) 589-0127
Email skmcdavis@gmail.com

Agent (if applicable) McChord Engineering Associates, Inc.
Address 1 Grumman Hill Road
Wilton, CT 06897
Telephone (203) 864-0569
Email hrocheville@mcchordengineering.com

PROJECT INFORMATION:

Property Address 105 Nod Hill Road
Acres of altered Wetlands On-Site 0.0
Linear Feet of Watercourse 55
Linear Feet of Open Water 0.0
Sq. Ft. of proposed and/or altered impervious
coverage 2,900

Site Acreage 2.29
Cu. Yds. of Material Excavated 405
Cu. Yds. of Material to be Deposited 210
Acres of altered upland buffer 0.48
Sq. Ft. of disturbed land in regulated area 20,910

APPLICATION REQUIREMENTS:

Is The Site Within a Public Water Supply
Watershed Boundary? NO YES* X

Is The Site Within 500 Feet of a Town Boundary?
NO X YES* _____

* If the answer is yes, then the applicant is responsible for notifying the appropriate water authority and/or adjoining community's Wetlands Department. Instructions for notification are available at the office of the commission.

Project Description and Purpose: New single-family residence on vacant lot with associated driveway, site grading, septic system, stormwater management system, utilities and erosion controls. See attached Engineering Summary for additional information.

In addition, the applicant shall provide eleven (11) collated copies of the following information as well as an electronic submission via email to mike.conklin@wiltonct.org & elizabeth.larkin@wiltonct.org **


- ☒ A. Written consent from the owner authorizing the agent to act on his/her behalf
- ☒ B. A Location Map at a scale of 1" = 800'
- ☒ C. ***A Site Plan showing existing and proposed features at a scale not to exceed 1" = 40'*** accurate to the level of a A-2 property and T-2 topographic surveys
- ☐ D. Sketch Plans depicting the alternatives considered
- ☒ E. Engineering Reports and Analysis and additional drawing to fully describe the proposed project
- ☒ F. Sedimentation and Erosion Control Plan, including the Construction Sequence
- ☒ G. Names and addresses of adjoining property owners
- ☒ H. A narrative describing, in detail
 - a. the proposed activity
 - b. the alternatives considered
 - c. impacts
 - d. proposed mitigation measures
- ☒ I. Soils Report prepared by a Certified Soil Scientist and Wetlands Map prepared by a Registered Land Surveyor
- ☒ J. A Biological Evaluation prepared by a biologist or other qualified professional
- ☒ K. Description of the chemical and physical characteristics of fill material to be used in the Regulated Area
- ☒ L. Description and maps detailing the watershed of the Regulated Area
- ☒ M. Envelopes addressed to adjacent neighbors, the applicant, and/or agent, with certified postage and no return address

****Application materials shall be collated and copies of documents more than two pages in length shall be double sided.**

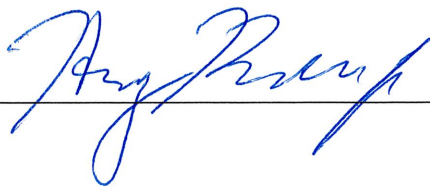
See Section 7 of the Wetlands and Watercourses Regulations of the Town of Wilton for a more detailed description of applications requirements.

The Applicant or his/her agent certifies that he is familiar with the information provided in this application and is aware of the penalties for obtaining a permit through deception, inaccurate or misleading information.

By signing this application, permission is hereby given to necessary and proper inspections of the subject property by the Commissioners and designated agents of the Commission or consultants to the Commission, at reasonable times, both before and after a final decision has been rendered.

Applicant's Signature:  Date: Nov. 9, 2020

Agent's Signature (if applicable)



Date:

11-10-20

November 5, 2020

I, Sandra Chen-Davis, owner of 105 Nod Hill Road in Wilton, CT, authorize McChord Engineering Associates and its representatives to submit an Inland Wetlands application to the Town of Wilton on my behalf.

Sincerely,

A handwritten signature in cursive script that reads "Sandra Chen-Davis". The signature is written in dark ink and is positioned above the printed name.

Sandra Chen-Davis

Adjacent Property Owners of Property

105 Nod Hill Road
Wilton, CT 06897
Map 92, Lot 1-1

<u>M-B-L</u>	<u>Property Owner</u>	<u>Mailing Address</u>
92-1	Craig E Johnson & Kimberly E Young	77 Nod Hill Road Wilton, CT 06897
92-2-1	Gerry & Barbara Vangeyzel	134 Harrison Avenue New Canaan, CT 06840
92-2	David G & Subha T Clarke	125 Nod Hill Road Wilton, CT 06897
92-3	Janet W Foster	141 Nod Hill Road Wilton, CT 06897
91-16	Second Taxing District City of Norwalk	164 Water Street Norwalk, CT 06854
91-7	Brent Omland & Anne M Edmonds	108 Nod Hill Road Wilton, CT 06897

MB Soil Mapping

Soil and Environmental Consulting

Marc B. Beroz
Phone & Fax (860) 349-3334

102 Creamery Road
Durham, CT 06422

Mr. J. Casey Healy
Gregory and Adams, P.C.
190 Old Ridgefield Road
Wilton, CT 06897

March 5, 2004

JOB NO. 04B24M1A

Dear Mr. Healy:

RE: PORTION OF THE PROPERTY AT 77 NOD HILL ROAD, WILTON, CT

At your request, I made an on-site investigation of a portion of the property located at 77 Nod Hill Road in Wilton, Connecticut. The purpose of my visit was to identify the Connecticut inland wetland and watercourse boundaries in two areas in the northerly part of the property. The field work was done on February 24 and March 4, 2004.

The wetland boundaries are marked with blue flagging numbered MB 1 through MB 54. Please refer to the enclosed sketch for the approximate location of the inland wetland boundaries and key wetland flag numbers.

The soil map and narrative are a refinement of data contained in the Soil Survey of Fairfield County, Connecticut. The symbols on the sketch identify map units. Each map unit has a unique combination of soils. Areas with the same symbol have similar composition. The following map unit descriptions are based on the data collected at this particular site. For this reason, there may be some differences between these descriptions and map unit symbols and those provided in the soil survey report.

WETLAND SOILS

Map Unit LcB and LcD

The LcB and LcD map units are composed primarily of Leicester soils. Leicester soils are very deep, poorly drained and formed in loamy till that was derived from gneiss and schist. Typically they have a fine sandy loam or loam surface layer and subsoil over a friable fine sandy loam or sandy loam substratum. The substratum extends to a depth of 60 inches or more. Leicester soils have a high water table within 20 inches of the soil surface during the late fall through spring months.

Included in the delineation identified by wetland flags MB 43 through MB 54 is an area that ponds up to 6 inches of water during

the wet periods of the year.

Slopes are dominantly 3 to 8 percent in map unit LcB and 15 to 25 percent in map unit LcD.

Map Unit Rd

The Rd map unit is composed primarily of Ridgebury soils on 8 to 15 percent slopes. Ridgebury soils are very deep, poorly drained and formed in compact till derived mainly from gneiss and schist. Typically they have a fine sandy loam or loam surface layer and subsoil over a firm loam, fine sandy loam or sandy loam substratum that extends to a depth of 60 inches or more.

Ridgebury soils have a densely compacted layer commonly called hardpan with its upper boundary between the depths of 14 to 30 inches. The hardpan is very slowly permeable. Water that enters the soil moves downward to the hardpan layer and then tends to move laterally over the hardpan surface. Depth to the seasonal high water table is less than 20 inches during the fall through early spring months.

NON-WETLAND SOILS

The non-wetland soils were not studied in detail. Observations were made of these soils only in the process of identifying the wetland sites. The following descriptions do not constitute a detailed soil survey, but may be used as an aid in site planning.

Map Unit ChC

The ChC map unit consists primarily of Charlton soils on 8 to 15 percent slopes. Charlton soils are very deep, well drained and formed in loose glacial till. Typically they have a fine sandy loam surface layer and subsoil over a friable fine sandy loam or sandy loam substratum that extends to a depth of 60 inches or more.

Map Units CrC and CrE

The CrC and CrE complex map units consist primarily of three dominant soils that are so intermingled on the landscape that they could not be separated on the map.

The first soil is named Charlton. Charlton soils are very deep and well drained. Typically they have a fine sandy loam surface layer and subsoil over a friable fine sandy loam or sandy loam substratum. Depth to bedrock is greater than 60 inches.

The second soil is named Chatfield. Chatfield soils are moderately deep and well drained. Typically they have a fine sandy loam surface layer and subsoil over hard bedrock at a 20 to 40 inch depth.

The third soil is named Hollis. Hollis soils are shallow and well drained. Typically they have a fine sandy loam or loam surface layer and subsoil over hard bedrock at a 10 to 20 inch depth.

Included in these complexes are deep, well drained soils that have bedrock at a 40 to 60 inch depth; soils underlain by compact till; moderately well drained soils; very shallow soils that have bedrock at depths of less than 10 inches; and a few rock outcrops.

Slopes are dominantly 3 to 15 percent in map unit CrC and 15 to 45 percent in map unit CrE.

Map Unit SvB

The SvB map unit is composed primarily of Sutton soils on 3 to 8 percent slopes. Sutton soils are very deep, moderately well drained and formed in loose till. Typically they have a fine sandy loam or loam surface layer and subsoil over a fine sandy loam or sandy loam substratum that extends to a depth of 60 inches or more.

Map Unit UA

The UA map unit consists primarily of man-made, moderately well drained soils named Udorthents, wet substratum. These areas have been cut and/or filled. Slopes range from 0 to 5 percent. Typically these soils are in places that have 20 inches or more of fill placed over poorly or very poorly drained soils; or the original soil materials have been mixed to the extent that the natural soil horizons are no longer identifiable. The fill consists of mineral soil materials but may also contain minor amounts of non-earthly materials such as pieces of concrete, brick, asphalt, wood, metal and glass.

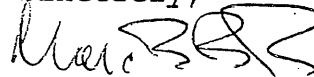
Map Unit UD

The UD map unit consists primarily of man-made, well drained soils in cut and/or fill areas. The soils are named Udorthents. Slopes are dominantly 0 to 15 percent. The fill is mostly earthy materials with minor amounts of non-earthly materials such as pieces of concrete, brick, wood, metal and glass. In cut areas the natural topsoil and subsoil layers have been removed and the substratum materials are now at the soil surface.

The identification of the soils on this site was based on field observations and the guidelines of the National Cooperative Soil Survey Program.

Please contact me if you have any questions.

Sincerely,



Marc B. Beroz
Soil Scientist

PORTION OF THE PROPERTY AT
77 NOD HILL ROAD
WILTON, CT

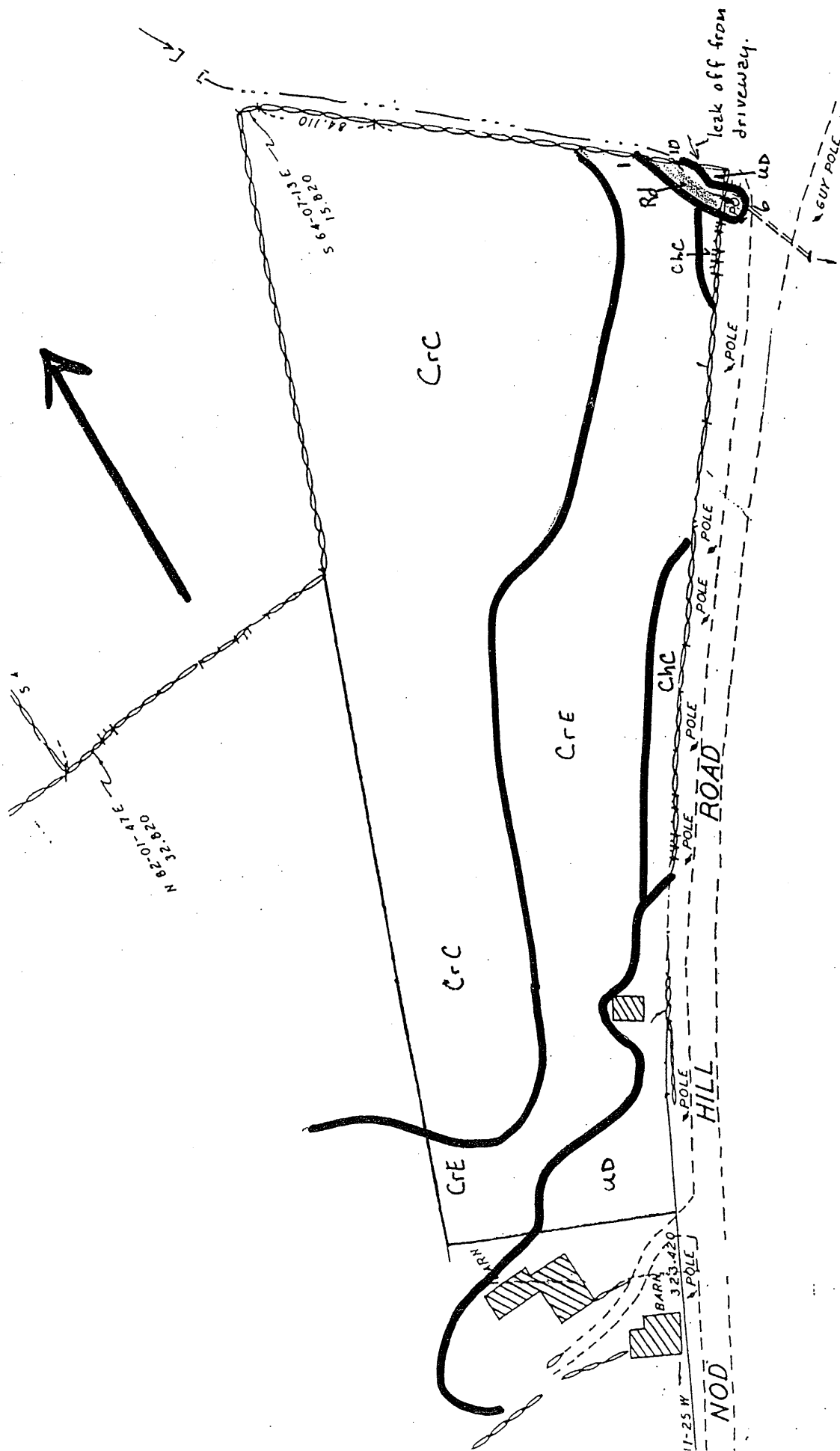
MAP LEGEND

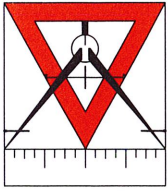
- · · · — INTERMITTENT WATERCOURSE
- APPROXIMATE LOCATION OF FLAGGED INLAND WETLAND BOUNDARIES
- OTHER SOIL MAP UNIT DELINEATION LINES
- LcB SOIL MAP UNIT SYMBOLS
- 54 APPROXIMATE LOCATION OF KEY INLAND WETLAND FLAGS
- ~~~~ BREAK IN FLAG NUMBERING SEQUENCE
- INLAND WETLAND SOILS

MAP
UNIT
SYM

MAP UNIT NAME

ChC	Charlton very stony fine sandy loam, 8 to 15 percent slopes
CrC	Charlton-Chatfield-Hollis complex, 3 to 15 percent slopes
CrE	Charlton-Chatfield-Hollis complex, 15 to 45 percent slopes
LcB	Leicester stony fine sandy loam, 3 to 8 percent slopes
LcD	Leicester stony fine sandy loam, 15 to 25 percent slopes
Rd	Ridgebury extremely stony fine sandy loam, 8 to 15 percent slopes
SvB	Sutton stony fine sandy loam, 3 to 8 percent slopes
UA	Udorthents, wet substratum, 0 to 5 percent slopes
UD	Udorthents, 0 to 15 percent slopes





McChord Engineering Associates, Inc.
Civil Engineers and Land Planners

1 Grumman Hill Rd, Wilton, CT 06897
Tel: (203) 834-0569 Fax: (203) 834-2789

November 10, 2020

Inland Wetlands Commission
Town Hall Annex
238 Danbury Road
Wilton, CT 06897

Re: Engineering Summary
Proposed Site Development
105 Nod Hill Road, Wilton, CT
Map 92, Lot 1-1

Dear Commissioners:

This office has been commissioned by Sandra Davis-Chen to prepare a site development plan for a new residence at 105 Nod Hill Road. A portion of the proposed activity will extend into the regulated area for the watercourse and inland wetlands on the site. The total earthwork within the regulated area is over 100 cubic yards and is therefore considered a Significant Activity. The following is an engineering summary of the existing conditions, proposed development and potential impacts.

The property totals 2.29-acres and is located within Wilton's "R-2" land use zone. The property is undeveloped and is a result of a two-lot subdivision from 2005. A single-family residential development was approved by the Inland Wetlands Commission as a significant activity (WET#1591(S)), but that permit has since lapsed. The property mainly consists of meadow area. The edges of the property are adjacent residences, a common driveway and Nod Hill Road. Topography on the site consists of gradual and steep slopes that drain east. There is an extended regulated area beyond the 100-ft setback on the property due to the steep slopes.

The entire property drains east following the topography. There is a watercourse that runs parallel to the common driveway just east of the property. The watercourse conveys runoff to a headwall that discharges to Streets Pond which is on the other side of Nod Hill Road. There is an inland wetlands pocket just prior to the headwall along the watercourse. The upstream watershed that is conveyed by the watercourse consists of approximately 24 acres (see attached mapping). The property is also within the public water supply watershed of Norwalk's Second Taxing District.

The proposed project consists of the construction of a new single family residence and driveway. The property will gain access from Nod Hill Road via an existing driveway

easement. The proposed development is concentrated on the western side of the site where the gradual slopes exist and closely mirrors the previously approved plan. The development maintains existing drainage patterns. Earthwork is required to construct the driveway, foundation, septic system and drainage system. A majority of the earthwork is required to construct the driveway against to the steep slopes off of Nod Hill Road. This will require cutting into the existing slope to create a driveway that meets Town Code. An underground detention system is proposed to mitigate the site runoff. Drainage structures are proposed along the driveway to capture runoff and convey it to the existing headwall. The new house will be served by a septic system and private well. There is approximately 20,910 square feet of disturbance and approximately 615 cubic yards of total earthwork within the regulated area. Detailed information on the site development is shown on the "Septic System/Site Development Plan" prepared by this office.

The largest encroachment into the regulated area is for the driveway construction. Boulder retaining walls are proposed to limit the amount of site grading required to construct the driveway. The driveway is located more than 100-ft from the watercourse, wetlands and pond, but is within the extended regulated area due to the steep slopes. The closest point of the driveway to the watercourse, wetlands or pond is 134-ft to the pond. The driveway design within the regulated area did not change from the original wetlands permit.

Another encroachment into the regulated area is for the installation of the underground detention system and footing drain outlet from the new house. This will be a one-time disturbance in order to achieve gravity flow for the detention system and footing drain. The detention system and footing drain outlet are located to minimize disturbance to the large trees in the area and meet setbacks to the septic system. They are also located in an area with gradual slopes to minimize the filling required to install the detention system above a high hardpan elevation. A proposed rip-rap outlet will ensure that there is no erosion from this discharge point, which is located 54-ft from the watercourse. The closet point of this disturbance to the watercourse, wetlands or pond is 43-ft from the watercourse. These locations remained generally the same from the original wetlands permit.

The last encroachment into the regulated area is a small portion of the septic system fill package. The area of disturbance for this fill package is approximately 170-ft². The septic system trenches will be completely outside of the regulated area. The fill is required to construct the septic system above a shallow hardpan layer. The closest disturbance is 91-ft from the watercourse. This area was chosen for the septic system due to the gradual slopes and good soil conditions that will allow for infiltration. The septic system location remained generally the same from the original wetlands permit, but decreased in size to meet the standards of the latest CT Public Health Code.

Multiple alternatives were considered to reduce the disturbance within the regulated area. Different house locations and orientations were considered. However, the proposed site development plan proved to be the best option since the house is located at the high point of the property in the southwest corner of the buildable area. This allows the septic and detention systems to achieve gravity flow, meet required setbacks and be located on the gradual slopes as far from the watercourse, wetlands and pond as possible. Other driveway

designs were considered, but due to the complexity of the steep slopes the current proposal was the only feasible option. Driveway access from the common driveway could greatly reduce the disturbance and earthwork within the regulated area, but that option was rejected by the homeowners that currently have access to the common driveway.

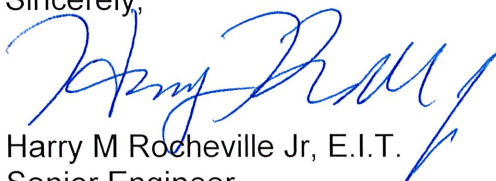
Some fill material will be needed within the regulated area. Filling for small portions of the driveway and area around the detention system will be minimal and will use material from the basement excavation or driveway cut. Topsoil within the construction area will be stockpiled and reused. Select septic fill will be required to be imported onto the site for the proposed septic system. Select septic fill is a clean granular material. Clean gravel and/or crushed stone will also need to be imported for the proposed septic and detention galleries.

The proposed project will require multiple sediment and erosion controls due to the steep slopes. Haybales sandwiched between silt fences will be installed downgradient of the disturbance, silt fence "wings" backed with haybales will be installed to capture sediment as it conveys along the silt fence. A single row of silt fence will be installed along Nod Hill Road. Temporary water bars will be installed along the driveway to slowdown and divert runoff during construction. The water bars will outlet to the aforementioned silt fence "wings". Temporary sediment settling areas will be installed on each side of a water bar at the top of the driveway to capture and settle runoff before it can flow down the steep slopes. Excess soil will be stockpiled outside the regulated area and surrounded by silt fence. Sediment and erosion control measures will be installed prior to the start of construction, maintained throughout construction and will only be removed once a permanent vegetative cover is established.

Runoff from the proposed roof and upper section of the driveway will be directed to an underground detention system that will promote groundwater infiltration in order to decrease quantity and improve the quality of the stormwater runoff. Runoff from the lower section of driveway will be captured by a series of driveway drains/drywells, conveyed via 15" drainage piping and discharged adjacent to the existing headwall at Nod Hill Road by a flared end with rip rap outlet protection. Additional details on the stormwater management system are included in the "Stormwater Management Report" prepared by this office and included with this application.

Proper implementation of the proposed erosion controls will protect the watercourse and wetlands during construction. Long term, the proposed stormwater management system will reduce runoff and improve water quality from the site. It is the opinion of this office that the proposed site development will not impact the watercourse or wetlands on the property.

Sincerely,

A handwritten signature in blue ink, appearing to read "Harry Rocheville Jr.", is written over the typed name.

Harry M Rocheville Jr, E.I.T.
Senior Engineer



Environmental Land Solutions, LLC
Environmental Analysis, Landscape Architecture & Planning

November 9, 2020

Inland Wetlands Commission
Town Hall Annex
238 Danbury Road
Wilton, CT 06897

Re: Significant Inland Wetlands Application
105 Nod Hill Road, Wilton, CT

Dear Members of the Commission:

The owners of the above referenced property are proposing to subdivide this property and develop one new single-family residential house at the northeast portion of the property. Environmental Land Solutions, LLC (ELS) has been authorized to prepare the biological evaluation report as required for this Significant Inland Wetlands Application and prepare a planting plan for disturbed areas. To complete this evaluation, a site visit was made by ELS staff on April 11, 2006, and November 5, 2020. Plans prepared by McChord Engineering Associates, Inc., dated October 21, 2020, entitled "Septic System/Site Development Plan," for this proposed development were reviewed as part of this evaluation. This property received a wetlands approval in 2006 for a similar lot configuration.

EXISTING CONDITIONS

The existing site is a 2.86 acre building lot at the western side of Nod Hill Road, across the street from Pope's Pond. The majority of the proposed lot is maintained in a field condition. Apple trees are found scattered throughout the field and indicating a previous orchard farming. Along the north and eastern perimeters of the property there is a hedgerow of mature trees and shrubs. Vegetation along the road is a mix of planted and naturalized trees and a shrub/scrub edge that cover the steeper sloping areas (greater than 20%) along the road. Much of the understory is dominated by nonnative invasive plants: i.e. Multiflora Rose, Japanese Barberry and Garlic Mustard and many of the trees are heavily burdened with Asiatic bittersweet. Recent storms have topped several dead Ash trees. At the top of the slope, 40' above the road, the grade levels out to less than 20%. The property is in the watershed of Barrett's Brook. The watershed above the property from the west is approximately 2-3 acres.

Wetlands and Watercourses

Within the property a small wetland was identified in the northeastern corner of the site. This wetland was flagged by Mark Beroz, Certified Soil Scientist and surveyed onto the survey by Roland Gardner Land Surveyor. Refer to the soil report submitted with the application documents for specific soils information. A small watercourse corridor runs into this wetland that originates from a small farm pond overflow located on the property to the west. This watercourse appears to have been reworked years ago for driveway drainage for the adjacent common driveway that now services three residential houses. The watercourse is composed of boulders and stones that retain a well-defined ditch. Vegetation along the watercourse and wetland are dominated by nonnative invasive plants that thrive in disturbed areas. Plants that were found along the watercourse include Multiflora Rose, Winged Euonymus, Grape, Japanese Honeysuckle, Japanese Barberry, Goldenrod species, Garlic Mustard, Burdock, Indiangrass, Orchard grass, Foxtail, Christmas Fern, Impatiens, Sensitive Fern and Woodland aster. Hedgerow trees along the wall include Ash, Hickory, Sugar Maple and Black Birch.

Across Nod Hill Road is the Second Taxing District Reservoir, also known as Pope's Pond. Its 100' regulated area extends on the northeastern section of the site with the steep slope area. Due to steep slope adjacent to the 100' off and on site wetlands/watercourses the regulated area will extend 60-160' ± further up the slope.

Wetland and Watercourse Functions

The functional evaluation of the wetlands is based on professional experience and the suggested criteria cited in the publication entitled "The Highway Methodology Workbook Supplement, Wetland Functions and Values, *A Descriptive Approach*," prepared by the US Army Corps of Engineers, NEDEP-360-1-30a, September 1999. Using this publication, the primary function of the watercourse and wetland is to convey stormwater flows. The following functions may occur within the small on-site wetland to a minimal degree: sediment retention, nutrient removal, and groundwater discharge point. It is recognized this area does not retain or pond water, and due to its size, has minimal value in stormwater treatment.

Wildlife

Due to the size of this wetland and its limited function, it still will provide a limited cover and food source for animals passing through but is extremely limited in wildlife value.

The following wildlife species were observed on or near the site during the site inspections: Tufted Titmouse, Cardinal, Grey Squirrel, Chipmunk, House Sparrow, White-tailed Deer. In addition to the above species, the following wildlife species may routinely use the site and surrounding areas: Mourning Dove, Red-tailed Hawk, Downy Woodpecker, Blue Jay, American Crow, Hairy Woodpecker, Downy Woodpecker, Black-capped Chickadee, White-breasted Nuthatch, Wild Turkey, Eastern Phoebe, Carolina Wren, Northern Mockingbird,

Cedar Waxwing, European Starling, Yellow Warbler, Common yellowthroat, Chipping sparrow, Song sparrow, Common grackle, Brown-headed Cowbird, Eastern Garter Snake, Opossum, Eastern Mole, Woodchuck, White-footed Mouse, Norway Rat, Raccoon and Striped Skunk. Other species such as Coyote, Red Fox and Mink have been observed in this vicinity on occasion.

PROPOSED CONDITIONS

The proposed development of the site is for a new residential house with vehicular access off Nod Hill Road. The location of the driveway will be within the upland review area due to slopes over 20% within 100' from a watercourse or water body. Therefore, the regulated area extends 60-160' beyond the 100' upland review area, that extends up to but does not include the house site.

The site development will include new lawn area, minor tree removal, septic system, and storm-water infiltrators. A retaining wall behind the house has been proposed to reduce regrading in the steeper slope areas. The driveway is proposed to follow an old farm road that traverses the slope along the Nod Hill Road to access the house site. The grading for the driveway will include the utilization of a retaining wall to reduce grading area. Driveway disturbance will be stabilized with a replanting of native trees and shrubs.

Alternatives

A driveway alternative to access the site from the common driveway to the north was previously approved by the Inland Wetlands Commission and included a driveway crossing of the watercourse on the north side of the site. However, this option is no longer available due to the withdrawal by the neighbor from the previous agreement. Therefore, the proposed driveway ingress from Nod Hill Road is the only viable access for the site.

Wetland/Watercourse Impacts and Mitigation

The majority of site work will be over 100' from the watercourse and wetland on the property which is separated by a stone wall. Therefore, the concern for direct impacts to the wetland resources is extremely small. However, due to steep slopes below the development and the grading required for the driveway from Nod Hill Road the concerns are heightened during the construction period when soil will be disturbed and stockpiled. During the construction period the likelihood of sediment and erosion problems are increased; therefore additional measures stated below should be provided to address short term impacts.

MITIGATION MEASURES:

Previous approved mitigation measures for this development requested additional sedimentation and control erosion during construction. Some of these recommendations were

incorporated in the Site Plans prepared by McChord Engineering Associates, and include:

1. All temporary disturbed soil shall be seeded/mulched until permanently stabilized.
2. Provide a detailed construction sequence on the sedimentation and erosion control plan.
3. All silt fences shall be doubled with hay bale reinforcements below the construction envelope.
4. A phasing plan that notes each phase should be completely stabilized prior to beginning the next phase.
5. Provide temporary settling basins area at the top of the driveway.
6. Provide gravel water bars on the driveway during construction to prevent gully formation.
7. Replanting steep slopes along the driveway (see plans prepared by ELS) with trees and shrubs for long term stabilization.

However, since the driveway cut is expected to be performed during the winter months when seed cover cannot be established the additional notes and measures are recommended.

1. Provide a detailed construction sequence on the sedimentation and erosion control plan that separates the driveway work from the house site work. The driveway should be completed and stabilized before the topsoil is stripped for the house development.
2. Provide clear procedures on the placement of erosion controls along and across the drive and how they will be replaced at the end of every work day.
3. Exposed soil areas that are completed to rough grade shall be covered with erosion control fabric, when outside of the growing season. Stockpiles shall be heavy mulched or covered with a tarp.

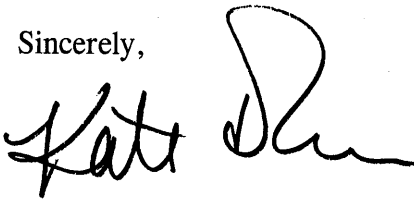
Once the driveway is completely stabilized, and the erosion controls for the site properly installed, the concern for sediment laden stormwater leaving the site will be diminished.

SUMMARY:

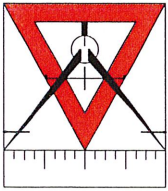
The proposed new house site will occur on gently sloped areas outside the setback areas. Beyond the location of the roof drain infiltrators, no work is proposed inside of the upland review area. Primary consideration is therefore given to phasing construction adjacent to steep slopes. Extra precautionary provisions should be taken for installation and proper maintenance of sedimentation and erosion controls to prevent short-term impacts to the regulated areas.

Regarding long term effects to the regulated area and its resources, the proposed infiltrators will provide long term benefits for infiltration of runoff and the replacement of trees will provide vegetative replacement on sloping areas. The Planting Plan by ELS provides boulder demarcation for lawn delineation along the top of the steep slope, and native plants for stabilization along the driveway.

Sincerely,

A handwritten signature in black ink, appearing to read "Kate Throckmorton", written in a cursive style.

Kate Throckmorton, ASLA
Landscape Architect



McChord Engineering Associates, Inc.
Civil Engineers and Land Planners

1 Grumman Hill Rd, Wilton, CT 06897
Tel: (203) 834-0569 Fax: (203) 834-2789

STORMWATER MANAGEMENT REPORT

Prepared For

PROPOSED SITE DEVELOPMENT

105 NOD HILL ROAD, WILTON, CT

November 10, 2020

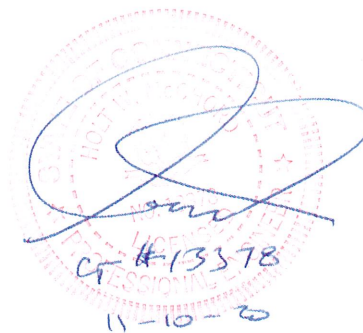


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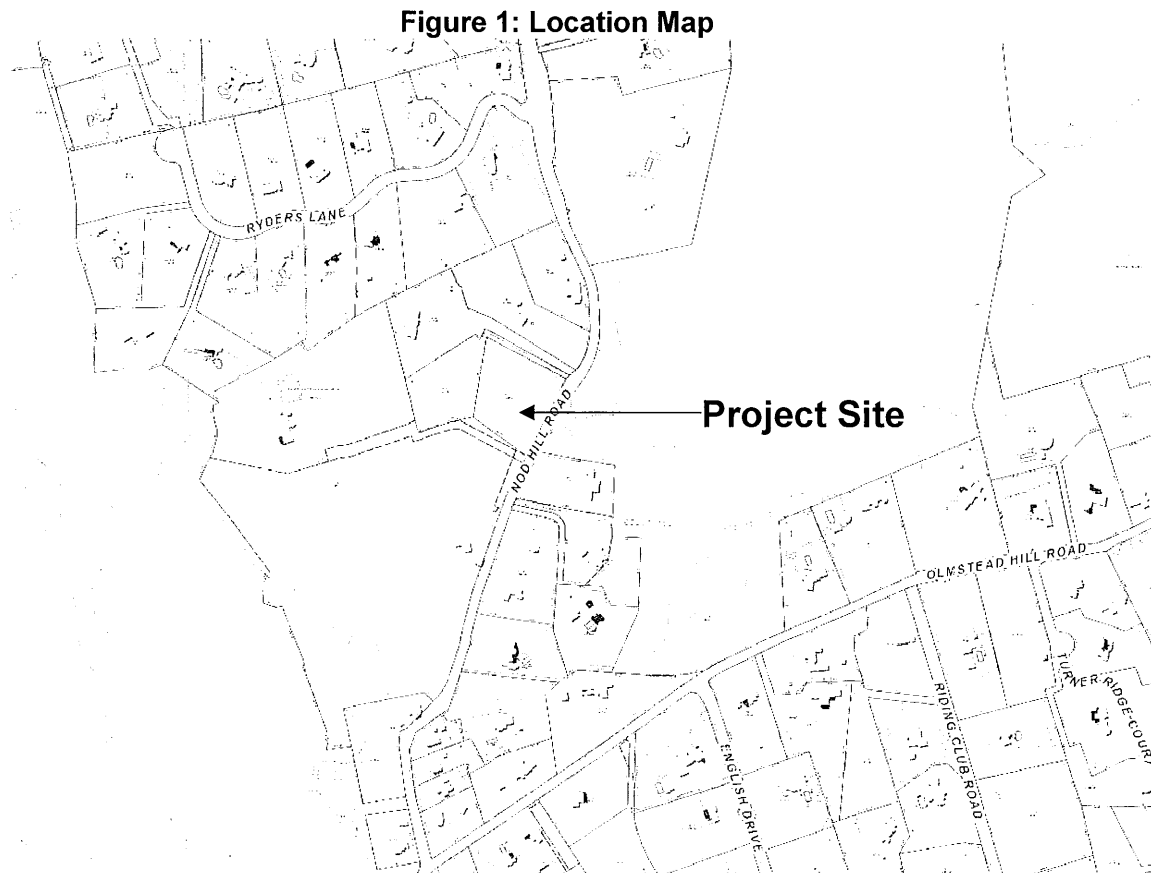
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Appendix A: Peak Flow Computations

Appendix B: Stormwater Facilities Maintenance Plan

1. INTRODUCTION

McChord Engineering Associates, Inc. has been commissioned by Sandra Chen-Davis to perform stormwater management computations for the proposed development at 105 Nod Hill Road in Wilton, Connecticut. The property consists of 2.29-acres and is located on the west side of Nod Hill Road. The property is located within the Comstock Brook subregional watershed basin and the Second Taxing District City of Norwalk public water supply watershed. Figure 1 shows the location of the property on the Wilton GIS Service.



The property is currently vacant and undeveloped. The edges of the property are adjacent residences, a common driveway and Nod Hill Road. There is a watercourse that runs parallel to the common driveway just east of the property. The watercourse conveys to a headwall at Nod Hill Road and discharges to the pond across the street. Topography on the site consists of gradual then steep slopes that drain east towards the watercourse and headwall.

The proposed development consists of constructing a new single-family residence with associated driveway and hardscape on the property. A stormwater management system will be installed to control runoff from the proposed development. The property will be served by a septic system and private well.

2. SCOPE OF STUDY

This stormwater management report contains studies comparing peak rate of runoff between the existing conditions and the proposed development to ensure that the proposed development will have no adverse impact on adjoining property owners or downstream drainage systems. The site will be developed with its own on-site stormwater management system capable of controlling the increase in peak runoff.

3. ANALYSIS METHODOLOGY

Runoff was modeled with HydroCAD 8.50 software produced by HydroCAD Software Solutions LLC. This software uses the NRCS TR-20 method for analyzing stormwater runoff. Soil characteristics, cover conditions, slope, time of concentration, and historical rainfall data are all parameters that are utilized by this method. The analysis considered the 2, 5, 10 and 25-year storm events. Precipitation depth for each storm event was taken from the National Oceanic and Atmospheric Administration's (NOAA) Atlas 14 Point Precipitation Frequency Estimates specific to the subject property.

4. STORMWATER MANAGEMENT STRATEGY

Currently, the property is undeveloped. Runoff from the property sheet flows east to the headwall at Nod Hill Road following the topography.

The proposed stormwater management system maintains existing drainage patterns on the site. Runoff from the proposed residence will be captured by roof leaders and conveyed to an underground detention system. Runoff from the upper section of the new driveway will be captured by driveway drains and conveyed to an underground detention system. The detention system will consist of twenty-one (21) units of 24" high x 48" wide x 96" long precast concrete galleries surrounded by crushed stone with a storage capacity of approximately 1,394 cubic feet below the high level overflow pipe invert. During typical storm events stormwater will infiltrate into the underlying soils. A high level overflow pipe discharging to a rip rap outlet will be installed to provide relief during extreme storm events. Runoff from the lower section of driveway will be captured by a series of driveway drains/drywells, conveyed via 15" drainage piping and discharged adjacent to the existing headwall at Nod Hill Road by a flared end with rip rap outlet protection. Runoff from the remainder will continue to sheet flow east conforming to existing conditions.

Detailed information on the size and configuration of the proposed stormwater management measures is available on the most recent revision of the "Septic System/Site Development Plan" prepared by this office. A Stormwater Facilities Maintenance Plan is also included in Appendix B.

5. ANALYSIS & RESULTS

Runoff from the property was analyzed under existing and proposed conditions. Runoff from offsite areas will not be captured by the proposed stormwater management system and was therefore not factored into the analysis. The existing conditions analysis modeled the entire site as a whole. The proposed conditions analysis divided the property into area that is detained through the proposed detention systems and undetained areas.

Using the NRCS TR-20 method, the peak rate of runoff for the 2, 5, 10 and 25-year storm event was computed for the site. Soils on the property were determined using the NRCS Web Soil Survey. Cover conditions were derived from site observations and the "Septic System/Site Development Plan" prepared by this office, dated November 10, 2020. Soil testing was conducted on the property in the area of the proposed stormwater management system. Deep test pits and percolation tests were performed and confirmed suitable infiltration rates. The resulting peak flow rates under both the existing and proposed conditions are summarized in Table 1. For detailed computations see Appendix A.

Table 1: Peak Flows

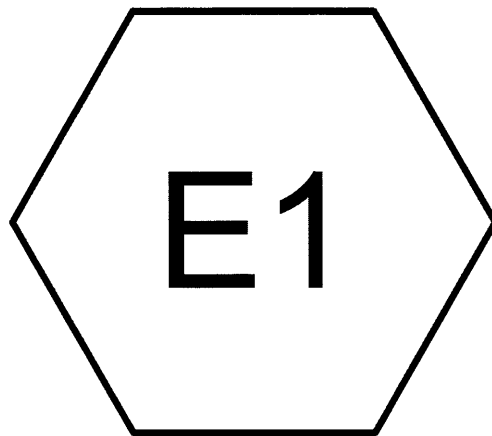
Storm Event	Existing		Proposed	
	Rate (cfs)	Volume (ft ³)	Rate (cfs)	Volume (ft ³)
2-year	0.90	4,778	0.79	4,636
5-year	1.97	8,557	1.63	8,169
10-year	3.12	12,621	2.53	11,941
25-year	5.24	20,072	4.17	19,344

The analysis shows that there is no increase in the peak rate or volume of runoff from the property during any of the analyzed storm events.

6. CONCLUSIONS

Based on our analysis, McChord Engineering Associates, Inc. has demonstrated that the proposed stormwater management system will adequately control any increase in runoff from the proposed development at 105 Nod Hill Road in Wilton, Connecticut. It is the opinion of this office and the conclusion of this report that the proposed site development will have no adverse impacts to the adjoining property owners or any downstream drainage systems.

APPENDIX A:
PEAK FLOW COMPUTATIONS



Entire Area of Study



Drainage Diagram for Existing Conditions - 105 Nod Hill Road
Prepared by McChord Engineering Associates, Inc., Printed 11/10/2020
HydroCAD® 8.50 s/n 004801 © 2007 HydroCAD Software Solutions LLC

Existing Conditions - 105 Nod Hill Road

Prepared by McChord Engineering Associates, Inc.

Printed 11/10/2020

HydroCAD® 8.50 s/n 004801 © 2007 HydroCAD Software Solutions LLC

Page 2

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
67,164	61	Meadow, non-grazed, HSG B (E1)
37,000	61	Woods/grass comb., Good, HSG B (E1)

Existing Conditions - 105 Nod Hill Road

Prepared by McChord Engineering Associates, Inc.

HydroCAD® 8.50 s/n 004801 © 2007 HydroCAD Software Solutions LLC

Type III 24-hr 25-yr Rainfall=6.45"

Printed 11/10/2020

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Summary for Subcatchment E1: Entire Area of Study

Runoff = 5.24 cfs @ 12.16 hrs, Volume= 20,072 cf, Depth= 2.31"

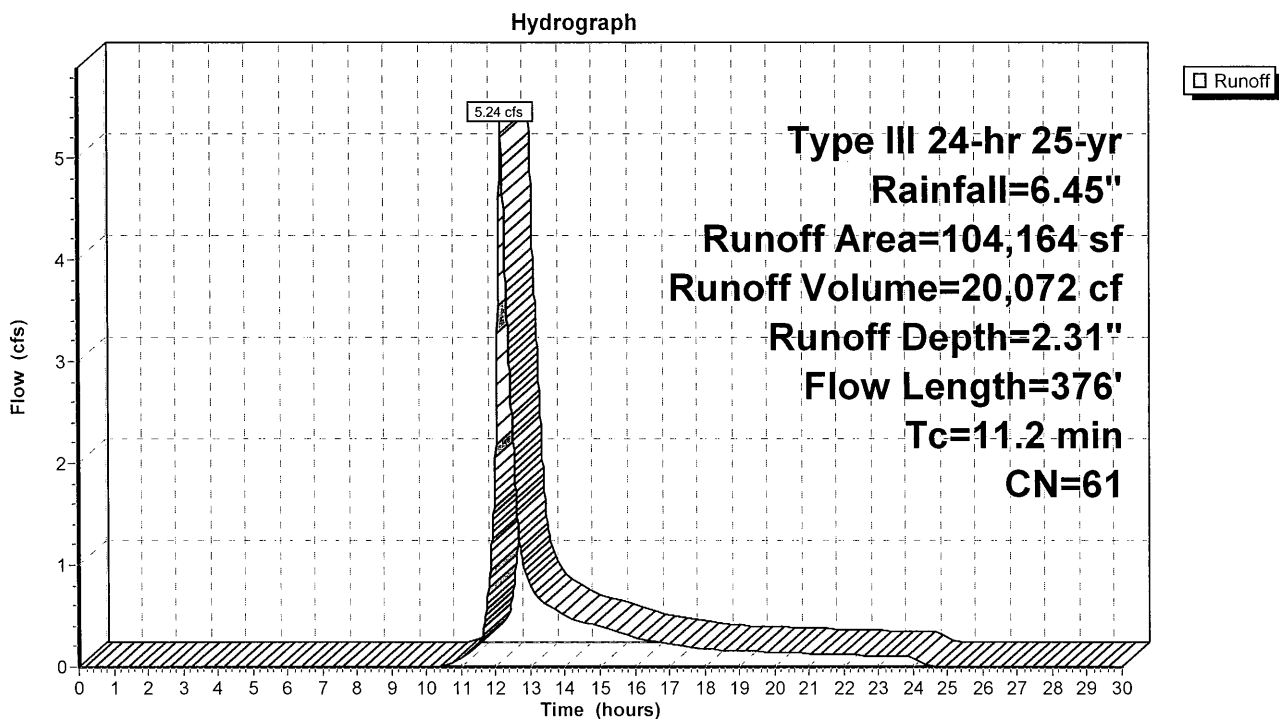
Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

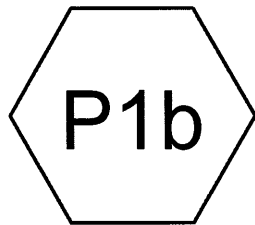
Type III 24-hr 25-yr Rainfall=6.45"

	Area (sf)	CN	Description
*	67,164	61	Meadow, non-grazed, HSG B
*	37,000	61	Woods/grass comb., Good, HSG B
	104,164	61	Weighted Average
	104,164		Pervious Area

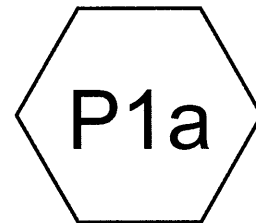
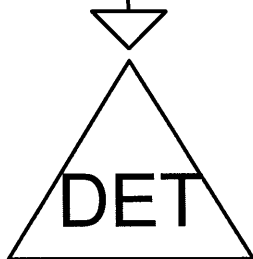
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.6	150	0.0870	0.24		Sheet Flow, AB
					Grass: Dense n= 0.240 P2= 3.45"
0.5	146	0.1030	5.17		Shallow Concentrated Flow, BC
					Unpaved Kv= 16.1 fps
0.1	80	0.4000	10.18		Shallow Concentrated Flow, CD
					Unpaved Kv= 16.1 fps
11.2	376	Total			

Subcatchment E1: Entire Area of Study





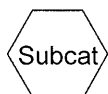
Detained Area



Undetained Area



Underground Detention System Sum of Hydrographs



Proposed Conditions - 105 Nod Hill Road

Prepared by McChord Engineering Associates, Inc.

Printed 11/10/2020

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Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
68,102	61	>75% Grass cover, Good, HSG B (P1a,P1b)
27,120	61	Meadow, non-grazed, HSG B (P1a)
5,492	98	Proposed Driveway (P1a,P1b)
363	98	Proposed Hardscape (P1b)
3,087	98	Proposed Residence (P1b)

Proposed Conditions - 105 Nod Hill Road

Prepared by McChord Engineering Associates, Inc.

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Type III 24-hr 25-yr Rainfall=6.45"

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Summary for Subcatchment P1a: Undetained Area

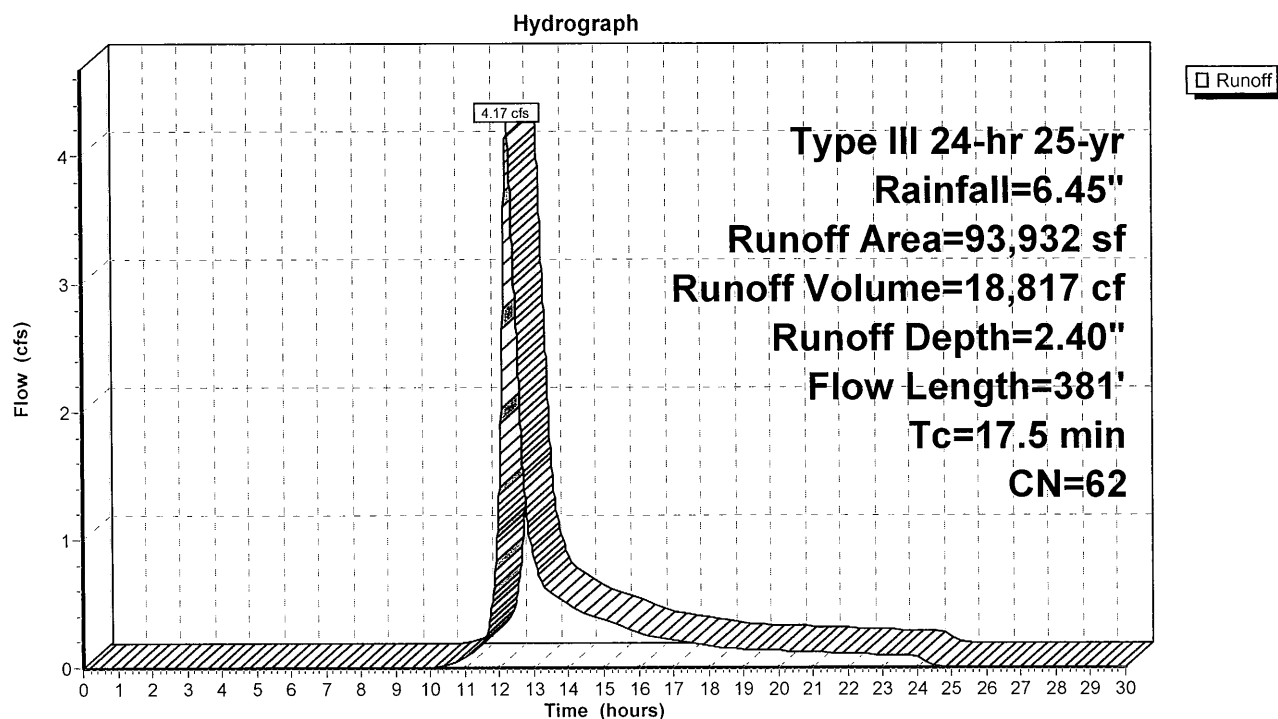
Runoff = 4.17 cfs @ 12.25 hrs, Volume= 18,817 cf, Depth= 2.40"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Type III 24-hr 25-yr Rainfall=6.45"

	Area (sf)	CN	Description
*	3,490	98	Proposed Driveway
*	27,120	61	Meadow, non-grazed, HSG B
	63,322	61	>75% Grass cover, Good, HSG B
	93,932	62	Weighted Average
	90,442		Pervious Area
	3,490		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.9	150	0.0270	0.15		Sheet Flow, AB
					Grass: Dense n= 0.240 P2= 3.45"
0.3	93	0.1080	5.29		Shallow Concentrated Flow, BC
					Unpaved Kv= 16.1 fps
0.3	138	0.2680	8.33		Shallow Concentrated Flow, CD
					Unpaved Kv= 16.1 fps
17.5	381	Total			

Subcatchment P1a: Undetained Area

Proposed Conditions - 105 Nod Hill Road

Prepared by McChord Engineering Associates, Inc.

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Type III 24-hr 25-yr Rainfall=6.45"

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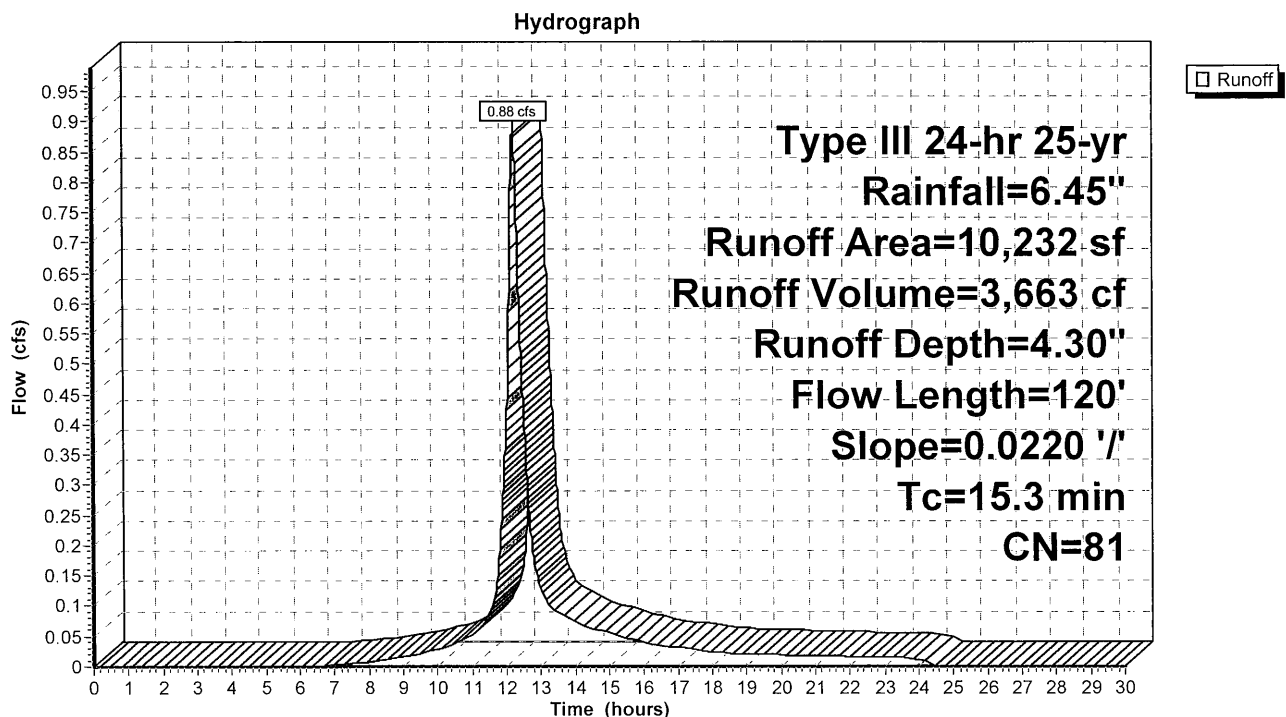
Summary for Subcatchment P1b: Detained Area

Runoff = 0.88 cfs @ 12.21 hrs, Volume= 3,663 cf, Depth= 4.30"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=6.45"

	Area (sf)	CN	Description
*	3,087	98	Proposed Residence
*	2,002	98	Proposed Driveway
*	363	98	Proposed Hardscape
	4,780	61	>75% Grass cover, Good, HSG B
	10,232	81	Weighted Average
	4,780		Pervious Area
	5,452		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.3	120	0.0220	0.13		Sheet Flow, AB
Grass: Dense n= 0.240 P2= 3.45"					

Subcatchment P1b: Detained Area

Proposed Conditions - 105 Nod Hill Road

Type III 24-hr 25-yr Rainfall=6.45"

Prepared by McChord Engineering Associates, Inc.

Printed 11/10/2020

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Summary for Pond DET: Underground Detention System

Inflow Area = 10,232 sf, 53.28% Impervious, Inflow Depth = 4.30" for 25-yr event
 Inflow = 0.88 cfs @ 12.21 hrs, Volume= 3,663 cf
 Outflow = 0.32 cfs @ 12.60 hrs, Volume= 3,663 cf, Atten= 64%, Lag= 23.7 min
 Discarded = 0.05 cfs @ 10.91 hrs, Volume= 3,136 cf
 Primary = 0.27 cfs @ 12.60 hrs, Volume= 527 cf

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 438.99' @ 12.60 hrs Surf.Area= 1,044 sf Storage= 1,462 cf

Plug-Flow detention time= 246.7 min calculated for 3,663 cf (100% of inflow)
 Center-of-Mass det. time= 246.7 min (1,064.0 - 817.3)

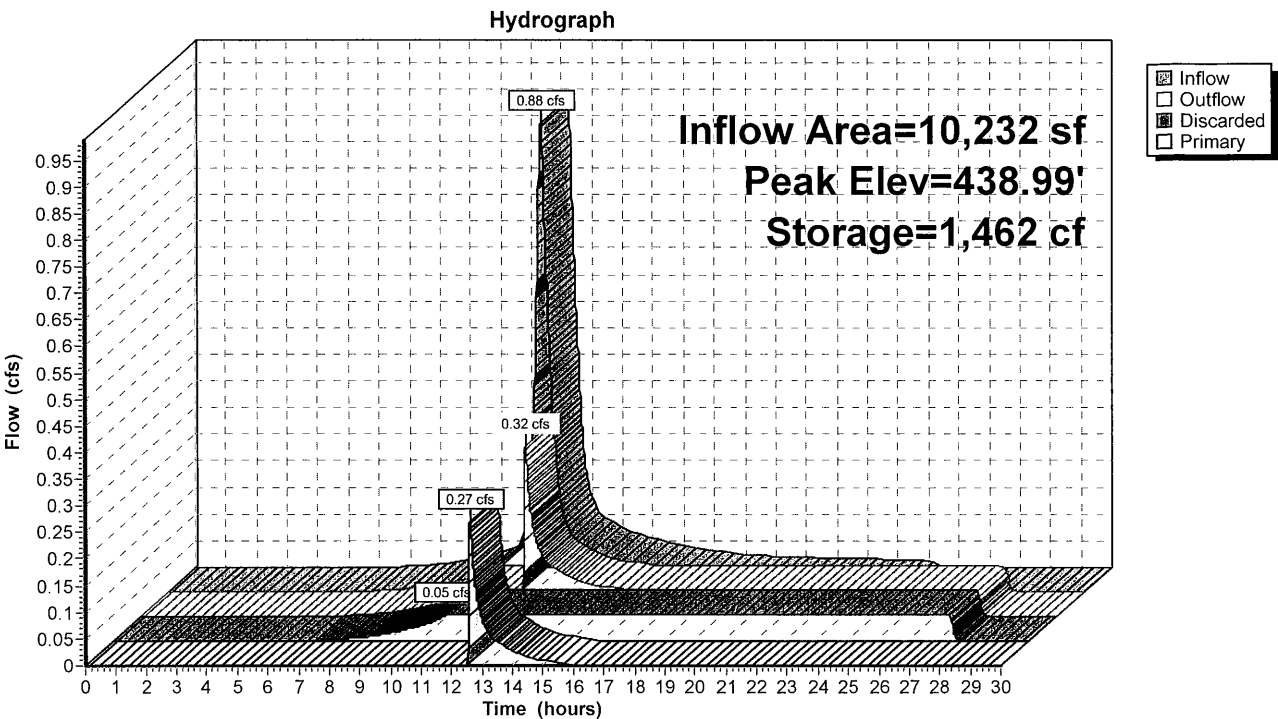
Volume	Invert	Avail.Storage	Storage Description
#1	436.50'	554 cf	6.00'W x 58.00'L x 2.60'H Gravel Bed x 3 2,714 cf Overall - 1,331 cf Embedded = 1,384 cf x 40.0% Voids
#2	437.00'	951 cf	48.0"W x 24.0"H x 56.00'L Galley 4x8x2 x 3 Inside #1
		1,505 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	436.50'	2.000 in/hr Exfiltration over Surface area
#2	Primary	438.70'	8.0" Vert. High Level Overflow Pipe C= 0.600

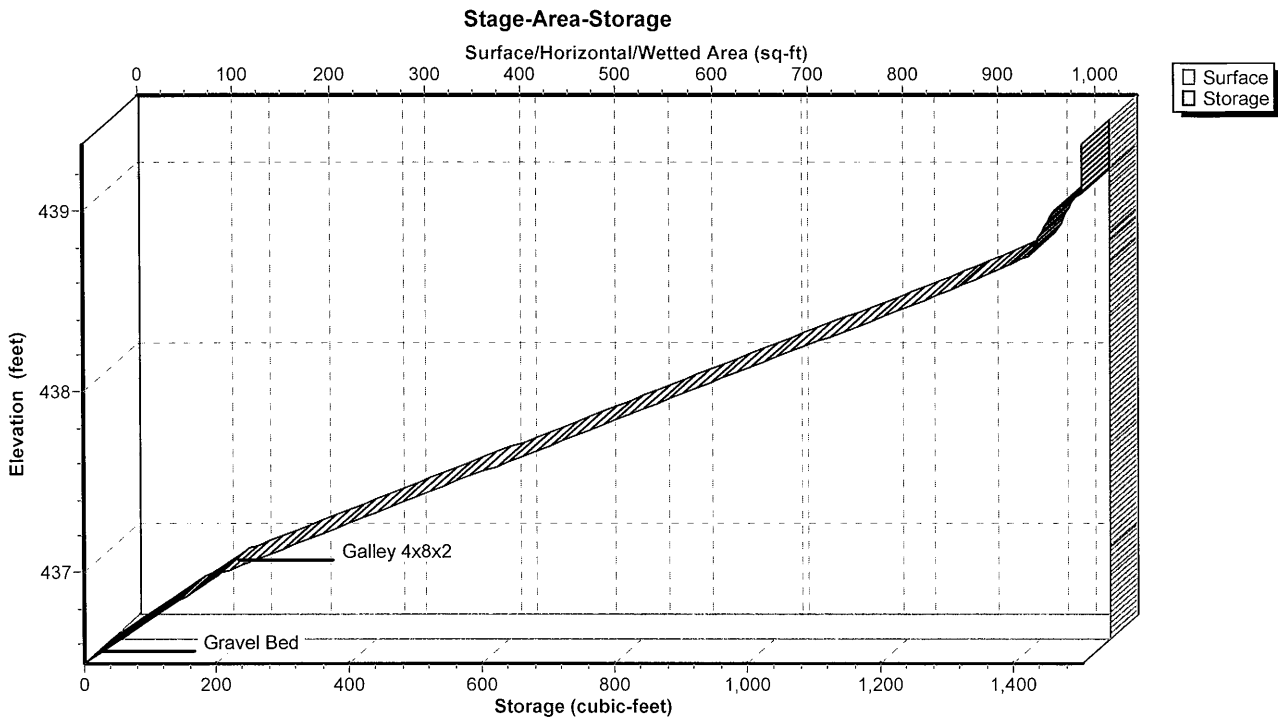
Discarded OutFlow Max=0.05 cfs @ 10.91 hrs HW=436.53' (Free Discharge)
 ↑ **1=Exfiltration** (Exfiltration Controls 0.05 cfs)

Primary OutFlow Max=0.27 cfs @ 12.60 hrs HW=438.99' (Free Discharge)
 ↑ **2=High Level Overflow Pipe** (Orifice Controls 0.27 cfs @ 1.84 fps)

Pond DET: Underground Detention System



Pond DET: Underground Detention System



Proposed Conditions - 105 Nod Hill Road

Prepared by McChord Engineering Associates, Inc.

HydroCAD® 8.50 s/n 004801 © 2007 HydroCAD Software Solutions LLC

Type III 24-hr 25-yr Rainfall=6.45"

Printed 11/10/2020

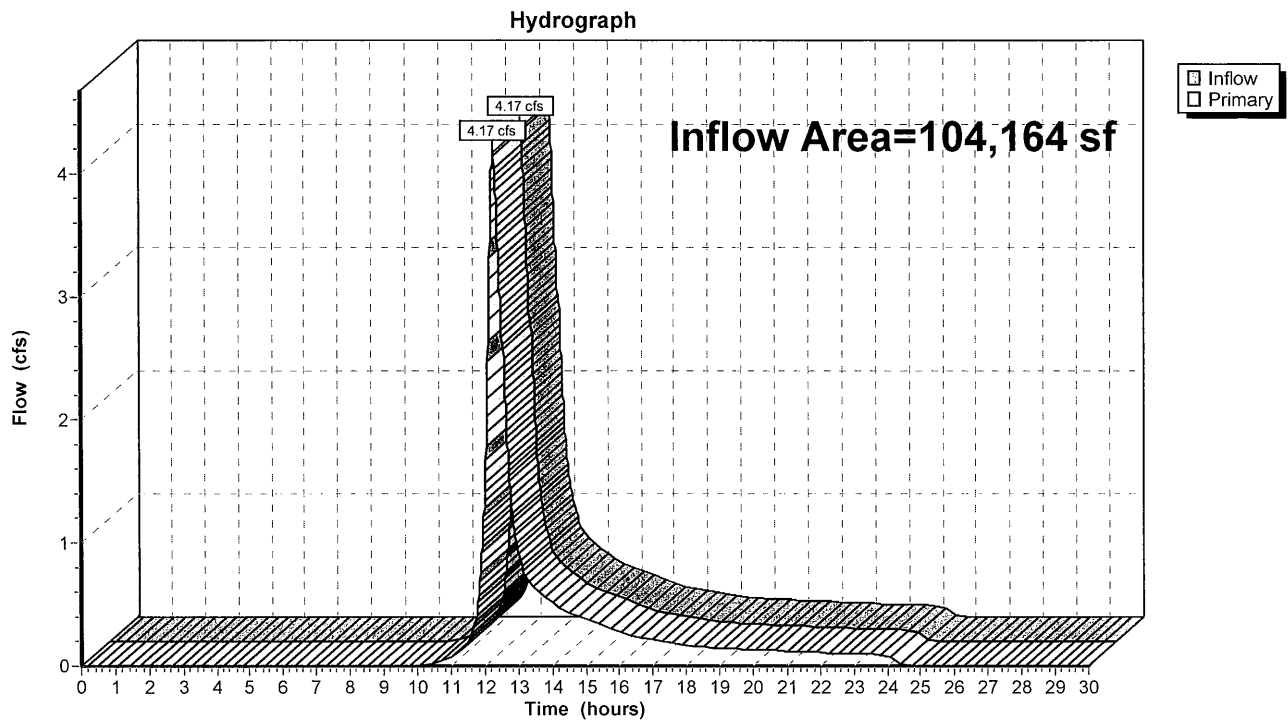
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Summary for Link SUM: Sum of Hydrographs

Inflow Area = 104,164 sf, 8.58% Impervious, Inflow Depth = 2.23" for 25-yr event
Inflow = 4.17 cfs @ 12.25 hrs, Volume= 19,344 cf
Primary = 4.17 cfs @ 12.25 hrs, Volume= 19,344 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Link SUM: Sum of Hydrographs



APPENDIX B:
STORMWATER FACILITIES MAINTENANCE PLAN

Stormwater Facilities Maintenance Plan
105 Nod Hill Road, Wilton, CT
Map 92, Lot 1-1

Scope:

The purpose of the Stormwater Facilities Maintenance Plan is to insure that the proposed stormwater components installed for the 105 Nod Hill Road are maintained in operational condition throughout the life of the home. The service procedures associated with this plan shall be performed as required by the parties legally responsible for their maintenance.

Description of Stormwater Facilities:

The proposed stormwater facilities are designed to collect, convey, detain and treat the runoff from the site in order to minimize adverse impacts to the adjoining lagoon. A description of the stormwater facilities are as follows:

1. Roof Leaders/Gutters: Roof leaders (also known as downspouts) from the house will convey roof runoff collected by the roof gutters on the proposed residence to the underground detention chambers.
2. Driveway Drains: Driveway drains will collect runoff from the driveway and convey it to either the proposed drainage pipe system or to the underground detention chambers. Driveway drains are equipped with a sump designed to capture sediment and debris from the runoff.
3. Underground Detention Chambers & Drywells: The underground detention system and drywells consist of a series of concrete chambers which provide water quality storage volume for the stormwater runoff. Stormwater in the underground detention system is designed to infiltrate into the underlying soils. The detention chambers are designed to overflow to a high level overflow pipe during extreme storm events.

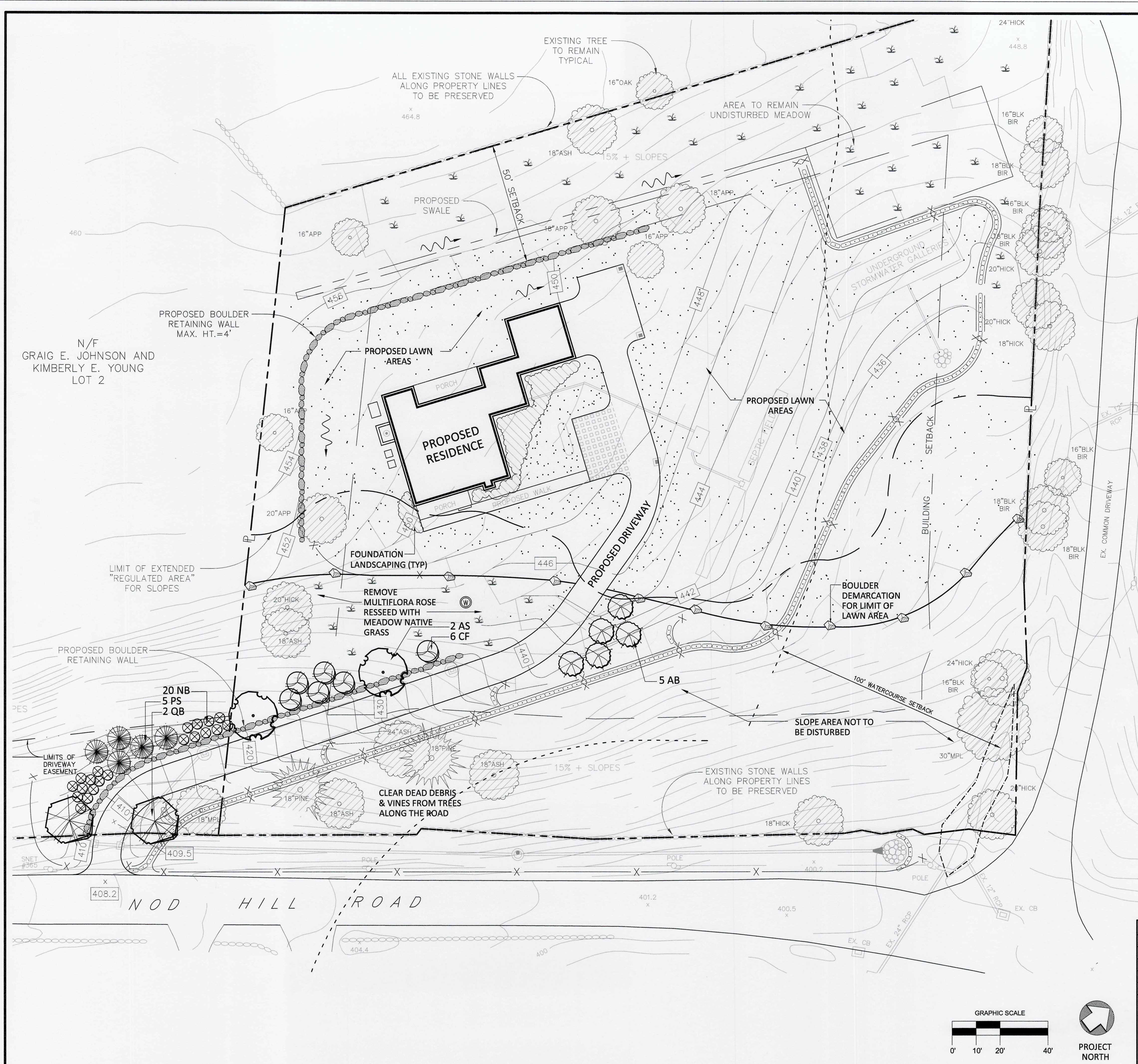
Recommended Frequency of Service:

All of the stormwater components installed for this property should be checked periodically and kept in full working order. Ultimately the frequency of inspection and service cleaning depends on the amount of runoff, pollutant loading and interference from debris (leaves, vegetation, trash, etc.); however it is recommended that each facility be inspected and cleaned a minimum of two times a year. The guidelines for the timing of service include early spring after the winter season and late fall after the leaves have fallen from the trees.

Service Procedures:

Service can be performed by the homeowner, landscape contractor or handyman since no specialized equipment is required. Specific service procedures for the stormwater facilities are as follows:

1. Roof Leaders/Gutters: Roof gutters shall be inspected twice a year during the spring and fall service inspections to ensure that roof leaders are kept free of leaves and debris that could clog the detention chambers. At a minimum, leaves should be cleaned from the gutters during the fall service inspection.
2. Driveway Drains: Driveway drains shall be inspected and cleaned twice a year during the spring and fall service inspections. The cleaning shall include both removal of sediment from the sumps and removal of any trash and/or debris from the grate.
3. Underground Detention Chambers & Drywells: Functionality of the underground detention chambers and drywells ultimately depends on keeping sediment and debris out of the chambers. This is accomplished through proper maintenance of the roof leaders, gutters and driveway drains. These components should be maintained as described above, but more frequent maintenance may be required if excessive accumulation of debris is observed.



LEGEND

- PROPERTY LINE
- WETLAND LINE
- UPLAND REVIEW LINE
- EXISTING CONTOUR
- PROPOSED CONTOUR
- NEW / EX. LAWN AREA
- EX. DECIDUOUS / EVERGREEN TREE TO REMAIN
- NEW DECIDUOUS SHADE TREE
- NEW DECIDUOUS SMALL TREE
- NEW EVERGREEN TREE
- NEW SHRUB
- NEW MEADOW
- NEW BOULDER DEMARCATION ROW

NOTES:

- EXISTING AND PROPOSED SITE INFORMATION TAKEN FROM A DIGITAL AUTOCADD SITE PLAN SUPPLIED BY MCHORED ENGINEERING ASSOCIATES, INC., ENTITLED "SEPTIC/SITE DEVELOPMENT PLAN", DATED 10/21/20.
- CONTACT "CALL BEFORE YOU DIG" AT 1-800-922-4455 TO HAVE UNDERGROUND UTILITY LINES MARKED BY THEM PRIOR TO START OF ANY EXCAVATION WORK.
- EXACT LOCATION OF PROPOSED PLANTINGS AND SPECIES TYPES MAY VARY FROM THIS PLAN BASED ON SITE PLAN REVISIONS AND/OR ACTUAL FIELD CONDITIONS.
- SEED NEW MEADOW WITH "WARM SEASON GRASS MIX" (#117) BY ERNST SEED (800-873-3321) AT THE METHODS RECOMMENDED BY THE MANUFACTURER. MAINTAIN MEADOW AT A 6" HEIGHT THE FIRST GROWING SEASON FOLLOWED BY AN ANNUAL MOWING TO A 6" HEIGHT DURING THE LATE FALL OR EARLY WINTER MONTHS.
- PLANT SPECIES SUBSTITUTIONS MAY BE MADE WITH THE APPROVAL OF THE PROJECT LANDSCAPE ARCHITECT PRIOR TO PLANTING. SUBSTITUTED PLANTS SHALL BE AT AN EQUAL OR GREATER SIZE AS NOTED USING A SIMILAR TYPE PLANT.
- PLANTING METHODS SHALL BE IN ACCORDANCE WITH THE "AMERICAN STANDARDS FOR NURSERY STOCK", LATEST EDITION, AS PUBLISHED BY THE AMERICAN NURSERY & LANDSCAPE ASSOCIATION.
- THE CONTRACTOR SHALL VERIFY WITH THE PROJECT ENGINEER THAT THE NEW PLANTINGS DO NOT INTERFERE WITH EXISTING AND/OR PROPOSED UTILITIES, SIGHT LINES, AND/OR STRUCTURES.
- THIS PLAN FOR PLANTING PURPOSES ONLY. SEE PLANS BY OTHERS FOR ADDITIONAL INFORMATION.
- SPRAY NEW PLANTINGS IMMEDIATELY AFTER INSTALLATION WITH A WHITE-TAILED DEER REPELLENT AND CONTINUE AS NEEDED TO MAINTAIN PLANTS FREE OF SIGNIFICANT DEER BROWSING.
- MULCH AREAS AROUND NEW TREES AND SHRUBS WITH A 2.5" THICK LAYER OF SHREDDED CEDAR BARK MULCH. NEW TREES SHALL EACH HAVE A 5' MIN. DIA. MULCHED BED AND NEW SHRUBS SHALL EACH HAVE A 3' MIN. DIA. MULCHED BED. AREAS WITHIN 4" OF TREE TRUNKS SHALL BE MAINTAINED FREE OF MULCH.
- THE BOULDER DEMARCATION ROW SHALL BE COMPOSED OF TWO-MAN BOULDERS (2 CUBIC FEET) OR LARGER SPACED 10' TO 15' ON CENTER. MAINTAINED LANDSCAPED AREAS (SUCH AS LAWN) WILL BE PERMITTED TO THE UPHILL SIDE OF THE BOULDER DEMARCATION ROW. LAND TO THE DOWNHILL SIDE OF THE BOULDER ROW SHALL BE MAINTAINED IN ITS CURRENT CONDITION. ADDITIONAL MANAGEMENT WORK IN THIS AREA MAY NEED WETLANDS APPROVAL. THE BOULDERS MAY BE PARTIALLY SUNKEN INTO THE GROUND WITH A MINIMUM OF 8-12" EXPOSED ABOUT THE FINAL GRADE.
- MEADOW AREAS MAY BE MAINTAINED WITH A YEARLY MOWING DURING THE LATE FALL OR EARLY WINTER MONTHS.

PLANT LIST

QTY	KEY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT
2	AS	ACER SACCHARUM 'GREEN MOUNTAIN'	GREEN MOUNTAIN MAPLE	2-2 1/2" CAL.	B&B FULL
5	AB	AMELANCHIER 'AUTUMN BRILLIANCE'	AUTUMN BRILLIANCE SHAD	5-6' HT.	B&B
6	CF	CORNUS FLORIDA	FLOWERING DOGWOOD	6-7' HT.	B&B WHITE
2	QB	QUERCUS BICOLOR	SWAMP WHITE OAK	2-2 1/2" CAL.	B&B FULL
5	PS	PINUS STROBUS	WHITE PINE	8-9' HT.	B&B
20	NB	PHYSOCARPUS OPULOFOLIUS 'AMBER JUBILEE'	AMBER JUBILEE NINEBARK	3-4' HT.	B&B

REVISIONS:

DRAWING TITLE:

PLANTING PLAN

PROJECT:

CHEN-DAVIS RESIDENCE
105 NOD HILL ROAD
WILTON, CONNECTICUT

SEAL:



DATE:

NOV. 9, 2020

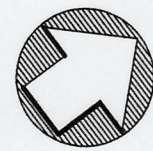
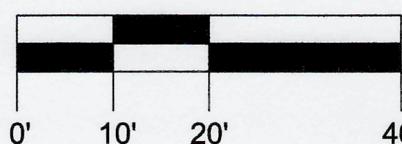
SCALE:

1"=20'

DRAWING NO.:

LP.1

GRAPHIC SCALE



PROJECT
NORTH

NOTES:

- EXISTING UTILITIES AND PROPERTY LINE INFORMATION SHOWN ON THIS PLAN IS TAKEN FROM A FIELD SURVEY PERFORMED BY ROLAND GARDNER LAND SURVEYOR, WILTON, CT., DATED: SEPTEMBER 21, 2005, SCALE: 1"=80'. TOPOGRAPHY SHOWN ON THIS PLAN IS TAKEN FROM THE "TOPOGRAPHIC MAP AND TREE LOCATION SURVEY" PREPARED BY ROLAND H. GARDNER LAND SURVEYOR, DATED SEPTEMBER 21, 2005, SCALE: 1"=40'.
- THE INLAND WETLANDS INDICATED ON THIS PLAN WERE FLAGGED BY MB SOIL MAPPING OF DURHAM, CT. ON FEBRUARY 24 AND MARCH 4, 2004. WETLAND FLAGS WERE FIELD LOCATED BY ROLAND GARDNER, LAND SURVEYOR.
- LOCATIONS OF EXISTING UNDERGROUND STRUCTURES AND UTILITIES INDICATED HEREON ARE TAKEN FROM DESIGN DRAWINGS, FIELD OBSERVATIONS, AND OTHER SOURCES OF INFORMATION AND ARE NOT TO BE CONSTRUED AS AN ACCURATE "AS-BUILT" SURVEY. THE CONTRACTOR IS RESPONSIBLE FOR HAVING THE EXISTING UTILITIES MARKED OUT IN THE FIELD, EXCAVATE TEST HOLES, AND PERFORM WHATEVER ADDITIONAL INVESTIGATION IS REQUIRED TO PRESERVE THE INTEGRITY AND OPERATION OF EXISTING UTILITIES AND STRUCTURES TO REMAIN.
- THE PURPOSE OF THIS PLAN IS TO INDICATE THE CONSTRUCTION OF A NEW 4 BEDROOM RESIDENCE WHICH WILL BE SERVED BY ON-SITE SEPTIC AND PRIVATE WELL. THE PROPOSED LAYOUT, INCLUDING HOUSE, DRIVEWAY AND SEPTIC SYSTEM IS ONE OF MANY POSSIBLE DESIGNS. ALL NEW UTILITIES SHALL BE UNDERGROUND.
- ALL CONSTRUCTION SHALL CONFORM TO THE TOWN OF WILTON STANDARD DETAILS AND SPECIFICATIONS, IN THE ABSENCE OF LOCAL STANDARDS, THE WORK SHALL CONFORM TO THE REQUIREMENTS OF THE CONNECTICUT DEPARTMENT OF TRANSPORTATION SPECIFICATION FORM 818, LATEST REVISION.
- SOIL AND EROSION CONTROL MEASURES SHOWN HEREON SHALL BE PROPERLY INSTALLED PRIOR TO THE START OF CONSTRUCTION, INSPECTED AND REPAIRED WEEKLY AND BEFORE AND AFTER STORM EVENTS, AND MAINTAINED IN FUNCTIONAL CONDITION THROUGHOUT THE CONSTRUCTION PERIOD.
- THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS PRIOR TO THE COMMENCEMENT OF THE WORK.
- SEE SHEET SE2, CONSTRUCTION NOTES AND DETAILS FOR ADDITIONAL SEPTIC SYSTEM DESIGN INFORMATION AND CONSTRUCTION DETAILS.
- MAXIMUM ALLOWABLE RETAINING WALL HEIGHT IS 6'. ANY RETAINING WALL OVER 5' IN HEIGHT REQUIRES A 4' HIGH FENCE ALONG THE TOP OF THE WALL.
- ANTICIPATED DISTURBANCE TO SLOPES IN EXCESS OF 15% GRADE FOR THE PROPOSED DEVELOPMENT IS APPROXIMATELY 4800 SF AND APPROXIMATELY 2500 SF FOR THE EASEMENT.

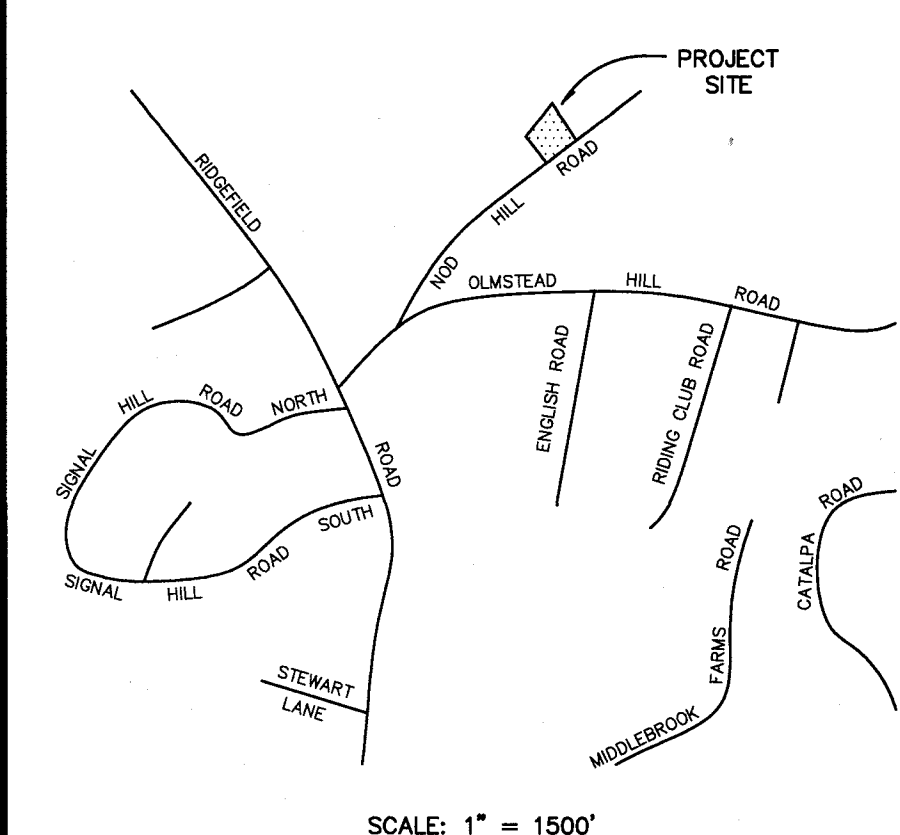
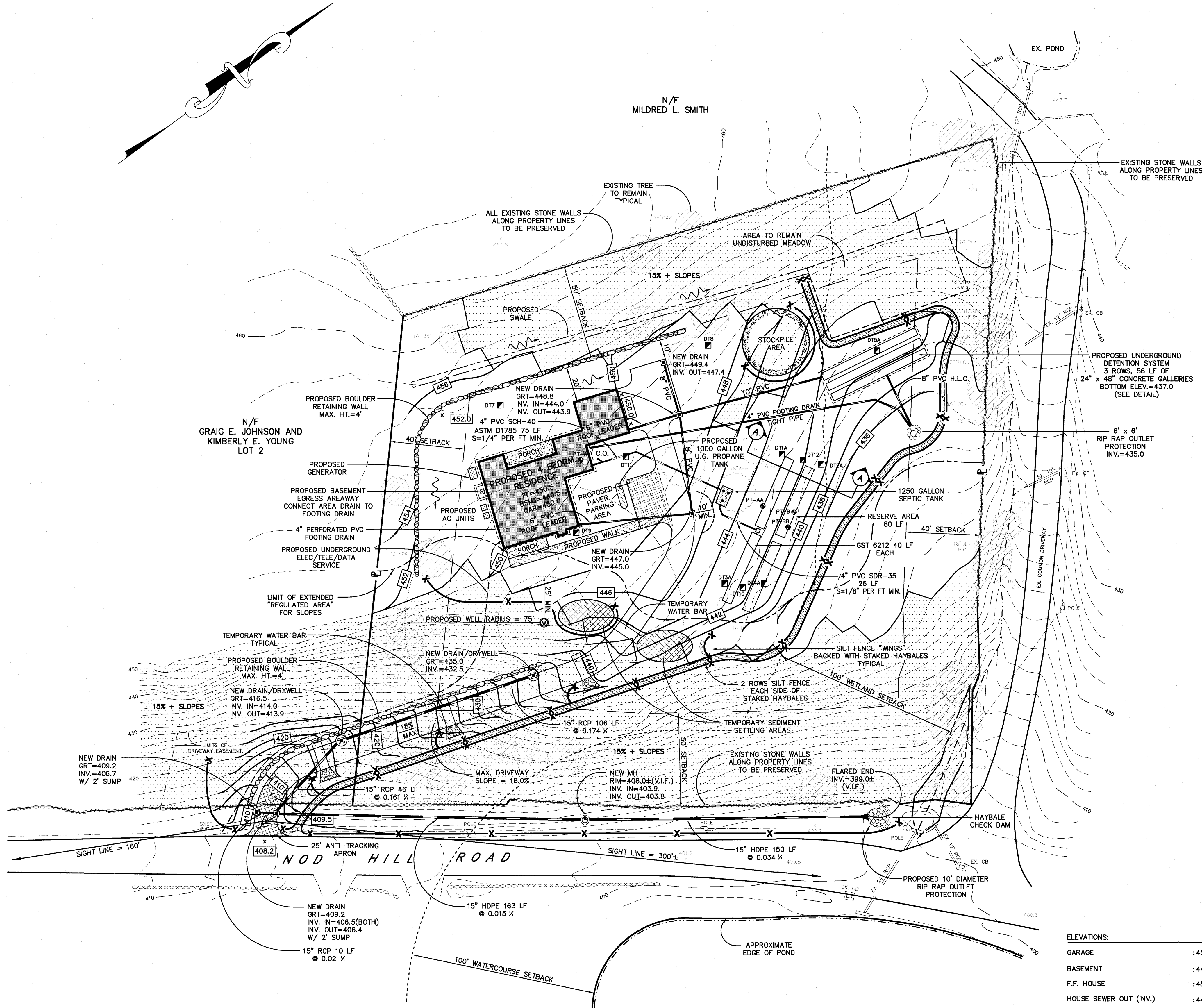
SEDIMENT AND EROSION CONTROL NARRATIVE:

THE PURPOSE OF THE SEDIMENT AND EROSION CONTROL PLAN, DETAILS AND NOTES IS TO OUTLINE A PROGRAM THAT MINIMIZES THE SOIL EROSION DURING CONSTRUCTION. THE PRIMARY POLICIES OF THIS PROGRAM ARE:

- AVOIDANCE & MINIMIZATION BY RETAINING THE NATURAL VEGETATION WHENEVER FEASIBLE AND EXPOSE THE SMALLEST PRACTICAL AREA AT ONE TIME.
- TRAPPING PARTICLES AT THE SOURCE BY PROMPTLY STABILIZING AND REVEGETATING DISTURBED AREAS.
- AVOIDING THE CONCENTRATION OF WATER AND RUNOFF.
- AVOIDING THE CONTAMINATION OF STORM DRAINS.
- MAINTAINING THE EROSION CONTROLS TO ENSURE THAT THEY ARE FUNCTIONING PROPERLY BY PERFORMING WEEKLY INSPECTIONS AND AFTER STORM EVENTS.
- DISPOSAL OF COLLECTED SILT AND SEDIMENT LEGALLY AND IN KEEPING WITH THE INTENT OF THIS PLAN.

CONSTRUCTION SEQUENCE:

- GENERAL
 - PROJECT START: WINTER 2020
 - PROJECT COMPLETION: WINTER 2021
 - BASED ON RECEIVING TIMELY APPROVALS.
 - THE PROPOSED CONSTRUCTION SEQUENCE IS PROVISIONAL.
 - THE SITE WORK DEPICTED ON THIS PLAN SHALL BE PHASED. EACH PHASE SHALL BE COMPLETED AND STABILIZED PRIOR TO THE START OF THE NEXT PHASE. THIS IS TO REDUCE EXPOSED SOIL AREAS AT ANY ONE TIME ON SITE.
- SITE PREPARATION
 - REVIEW THE SEDIMENT AND EROSION CONTROL PLAN WITH THE CONSTRUCTION TEAM, SITE ENGINEER AND CONSERVATION OFFICER.
 - INSTALL THE TRACKING PAD FOR THE CONSTRUCTION ACCESS AND INSTALL SILT FENCE ALONG THE LIMITS OF DISTURBANCE AS SHOWN ON THE PLANS.
 - FLAG AND/OR FENCE OFF ALL TREES TO BE PROTECTED.
 - CUT TREES TO BE REMOVED AND GRUB AREAS TO BE CLEARED WITHIN THE DEVELOPMENT ENVELOPE AS APPROPRIATE.
 - STRIP TOPSOIL AND STOCKPILE IN DESIGNATED AREAS. SURROUND TOPSOIL WITH SILT FENCE AND SEED AND MULCH STOCKPILES TO CONTAIN SEDIMENTS.
- GENERAL SITE CONSTRUCTION:
 - INSTALL ANTI-TRACKING APRON AT CONSTRUCTION ENTRANCE.
 - INSTALL ALL OTHER SOIL EROSION AND SEDIMENT CONTROL MEASURES AS INDICATED OR REQUIRED.
 - ROUGH GRADE THE PROPOSED DRIVEWAY AND PREPARE THE DRIVEWAY SUBGRADE.
 - INSTALL THE DRIVEWAY WATER BARS AND SEDIMENT SETTLING AREA.
 - INSTALL THE STORM SEWER AND ADDITIONAL SEDIMENT AND EROSION CONTROLS ASSOCIATED WITH THE PROPOSED STORM SEWER SYSTEM.
 - PERFORM GENERAL EARTHWORK ACTIVITIES INCLUDING EXCAVATION AND FILLING ONLY AFTER DRIVEWAY IS STABILIZED WITH A GRAVEL BASE AND THE STORM SEWER SYSTEM IS COMPLETE.
 - INSTALL THE OTHER UTILITIES, INCLUDING THE ELECTRIC, CABLE TV AND TELEPHONE.
 - STABILIZE DISTURBED AREAS AS SOON AS PRACTICAL.
- BUILDING CONSTRUCTION:
 - PERFORM GENERAL CUT AND FILL OPERATIONS.
 - INSTALL THE HOUSE FOUNDATION AND FLOOR SLAB.
 - BACKFILL THE FOUNDATIONS AND CONNECT BUILDING UTILITIES.
 - CONSTRUCT THE BUILDING SUPERSTRUCTURE.
 - INSTALL WATER SUPPLY WELL AND ON-SITE SEWAGE DISPOSAL SYSTEM. HOUSE EXCAVATION MUST BE STABILIZED PRIOR TO BEGINNING SEPTIC EXCAVATION.
 - FINE GRADE ALL DISTURBED AREAS, STABILIZE AND SEED AS SOON AS PRACTICAL.
 - INSTALL PAVING ON DRIVES AND PARKING AREAS. COMPLETE ALL WALKWAYS AND SITE HARDSCAPE.
 - INSTALL LANDSCAPING AND SEED.
- GENERAL CLEAN UP:
 - REMOVE TEMPORARY SEDIMENT AND EROSION CONTROLS.
 - MAINTAIN PERMANENT SEDIMENT AND EROSION CONTROLS.
 - COMPLETE ALL PUNCH LIST ITEMS.



ORIENTATION

GENERAL SEDIMENT AND EROSION CONTROL NOTES:

- SEDIMENT AND EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF CONSTRUCTION.
- COORDINATE THE CONSTRUCTION PHASING WITH THE TOWN OF WILTON CONSERVATION/WETLANDS STAFF PRIOR TO BEGINNING WORK IN EACH PHASE.
- EXISTING TREES TO BE SAVED SHALL BE PROTECTED BY FLAGGING AND/OR SNOW FENCING AT THE DRIP LINE WHICH SHALL BE MAINTAINED DURING CONSTRUCTION.
- ANTI-TRACKING APRON SHALL BE INSTALLED AT THE START OF CONSTRUCTION AND MAINTAINED THROUGHOUT CONSTRUCTION. APRON SHALL CONSIST OF 2'-4" CRUSHED STONE WITH A MINIMUM THICKNESS OF 6 INCHES.
- SILT FENCE AND OTHER SEDIMENT CONTROL MEASURES MUST BE INSTALLED IN ACCORDANCE WITH THE DRAWINGS AND SPECIFIC MANUFACTURER'S RECOMMENDATIONS.
- SILT FENCE SHALL BE MIRAFI ENVROFENCE OR EQUIVALENT APPROVED BY THE DESIGN ENGINEER. FILTER FABRIC SHALL BE MIRAFI 100X OR EQUIVALENT.
- ADDITIONAL SEDIMENT AND EROSION CONTROLS MAY BE INSTALLED DURING THE CONSTRUCTION PERIOD IF FOUND NECESSARY BY THE INSPECTING ENGINEER OR ANY GOVERNING AGENCY.
- AFTER EACH STORM EVENT OR AT LEAST ONCE WEEKLY, ALL SEDIMENT AND EROSION CONTROLS WILL BE INSPECTED. CORRECTIVE MEASURES TO MITIGATE ENVIRONMENTAL CONCERNS WILL BE ORDERED BY THE DESIGN ENGINEER OR GOVERNING AGENCY IF REQUIRED.
- ALL PERMANENT AND TEMPORARY SEDIMENT CONTROL MEASURES WILL BE MAINTAINED IN EFFECTIVE CONDITION THROUGHOUT THE CONSTRUCTION PERIOD. UPON COMPLETION OF WORK, ALL TEMPORARY SEDIMENT CONTROL DEVICES SHALL BE REMOVED FROM THE SITE AND ANY COLLECTED SEDIMENTS FROM THE DEVICES AND CATCH BASINS SHALL BE DISPOSED OF LEGALLY AND IN KEEPING WITH THE INTENT OF THIS PLAN.
- ALL DEWATERING PUMPING MUST HAVE SEDIMENT AND EROSION CONTROL PROVISIONS TO MAINTAIN CLEAR WATER DISCHARGE.
- LAND DISTURBANCE SHALL BE KEPT TO A MINIMUM. ALL DISTURBED AREAS SHALL BE SEED AND MULCHED. APPLY GRASS SEED AT A RATE OF APPROXIMATELY 120 LBS/ACRE. SEED MIX WILL VARY FROM UPLAND TO WETLAND AREAS. MULCH AFTER SEEDING UPLAND AT A RATIO OF 1000 LBS/ACRE.
- EFFECTED PORTIONS OF OFFSITE ROADS MUST BE SWEEP CLEAN WHEN REQUIRED OR AT LEAST ONCE A WEEK DURING CONSTRUCTION.
- ALL EROSION AND SEDIMENTATION CONTROL MEASURES WILL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE "CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL," DATED MAY 2002.

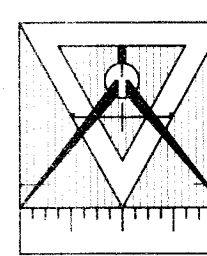
LEGEND

EXISTING	ITEM	PROPOSED
N.A.	DRIVEWAY DRAIN	☐
N.A.	STORM SEWER	—
440	CONTOUR	440
439.5	SPOT ELEVATION	439.5
●	TREE TO REMAIN	N.A.
●	DEEP TEST	☐
N.A.	PERCOLATION TEST	●
N.A.	SILT FENCE	— X —

ELEVATIONS:	
GARAGE	:450.0
BASEMENT	:440.5
F.F. HOUSE	:450.5
HOUSE SEWER OUT (INV.)	:445.5
SEPTIC TANK IN (INV.)	:443.5
SEPTIC TANK OUT (INV.)	:443.25
1st FIELD (INV. AT DB)	:442.0
(GST BOTTOM)	:441.0

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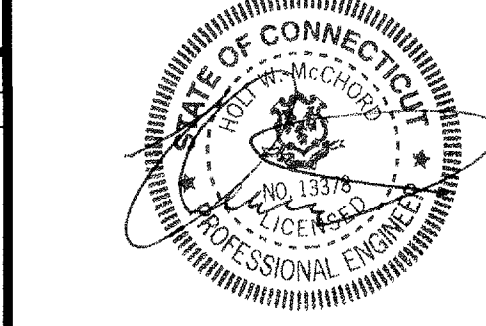


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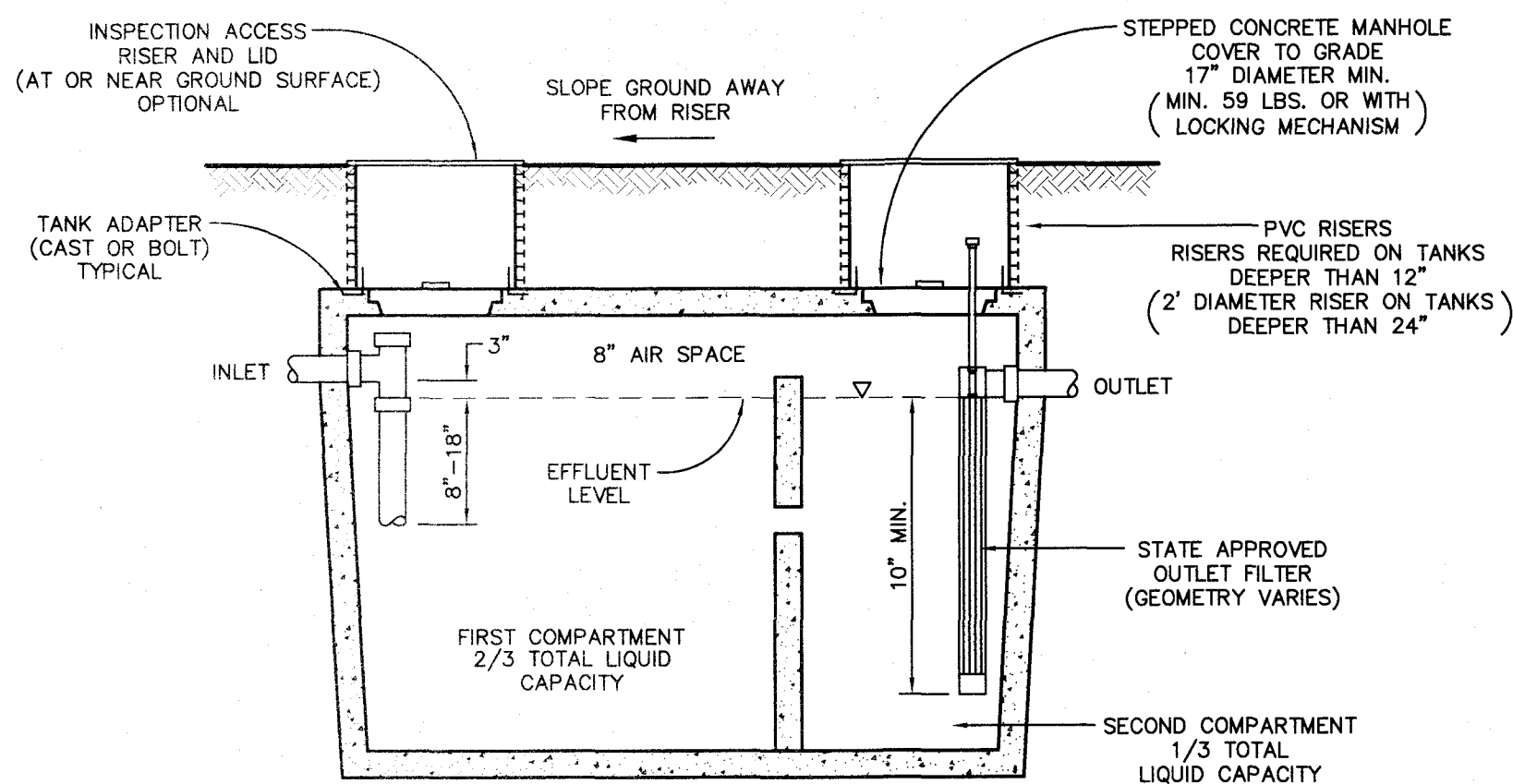
PLAN PREPARED FOR
 SANDRA CHEN-DAVIS
 WILTON, CONNECTICUT

SEPTIC SYSTEM/SITE DEVELOPMENT PLAN
 105 NOD HILL ROAD
 WILTON, CONNECTICUT

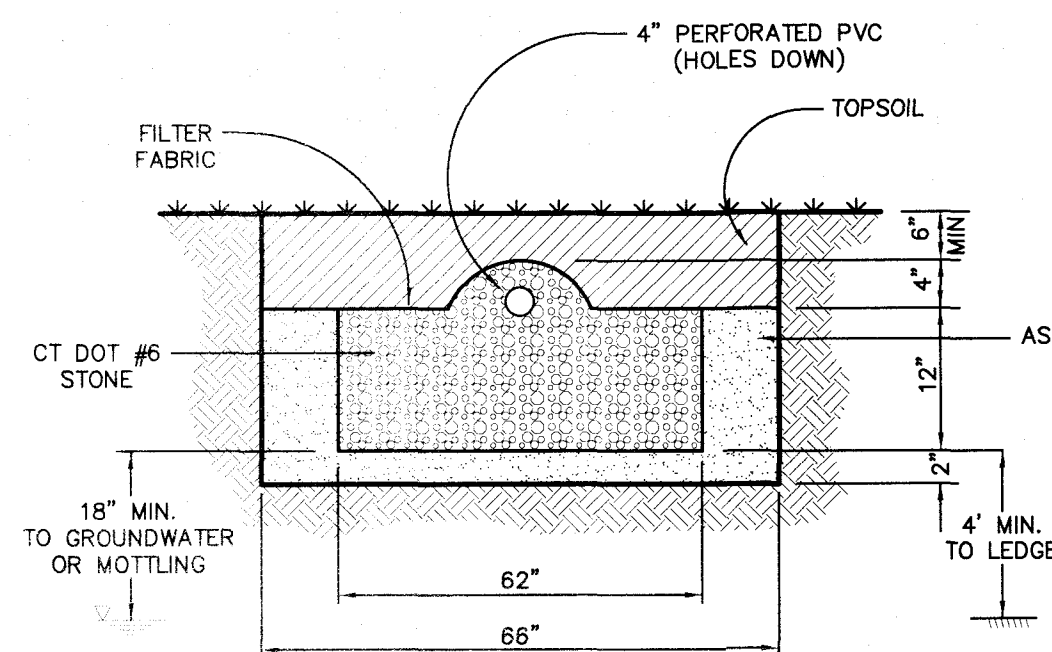
JOB NO: 1102B-1	DATE: OCTOBER 21, 2020
DRAWN BY: DRS	CHECKED BY: HWM, HMR
SCALE: 1" = 30'	



SE1

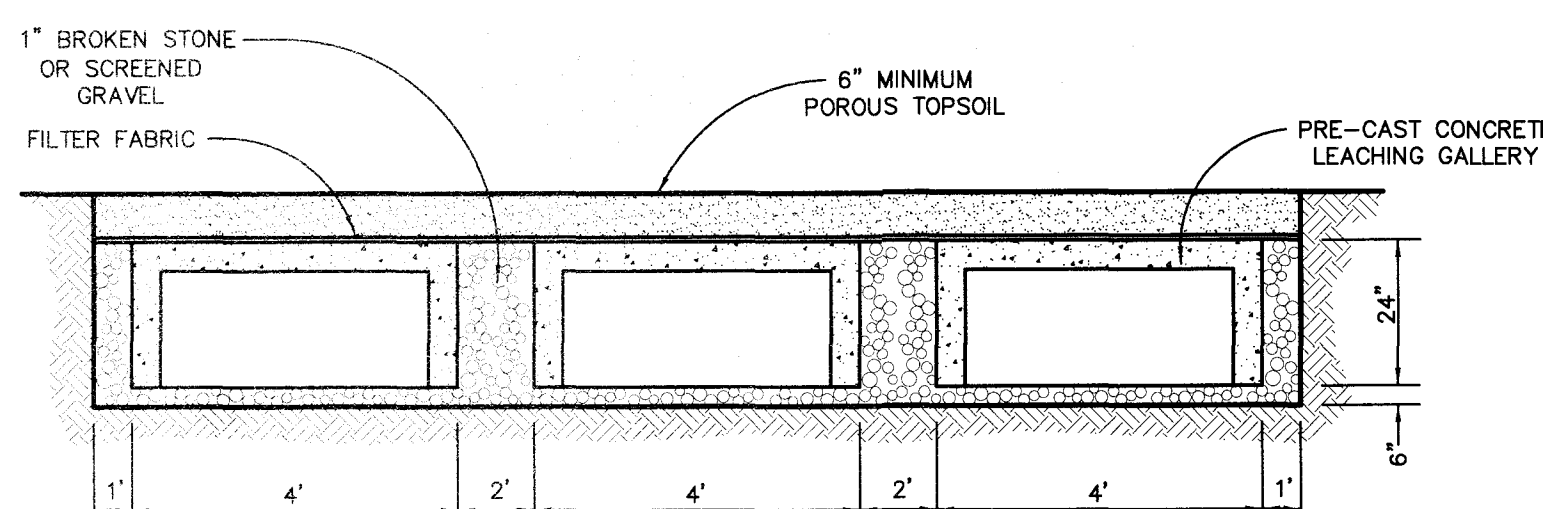


TYPICAL SEPTIC TANK DETAIL
N.T.S.

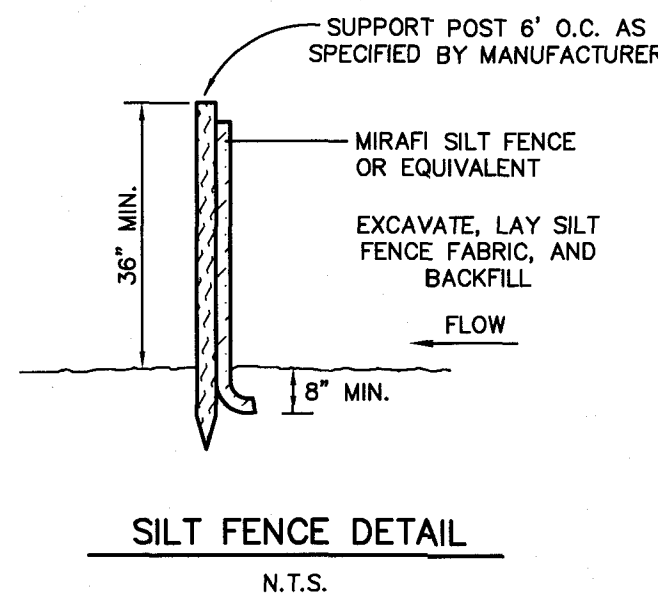
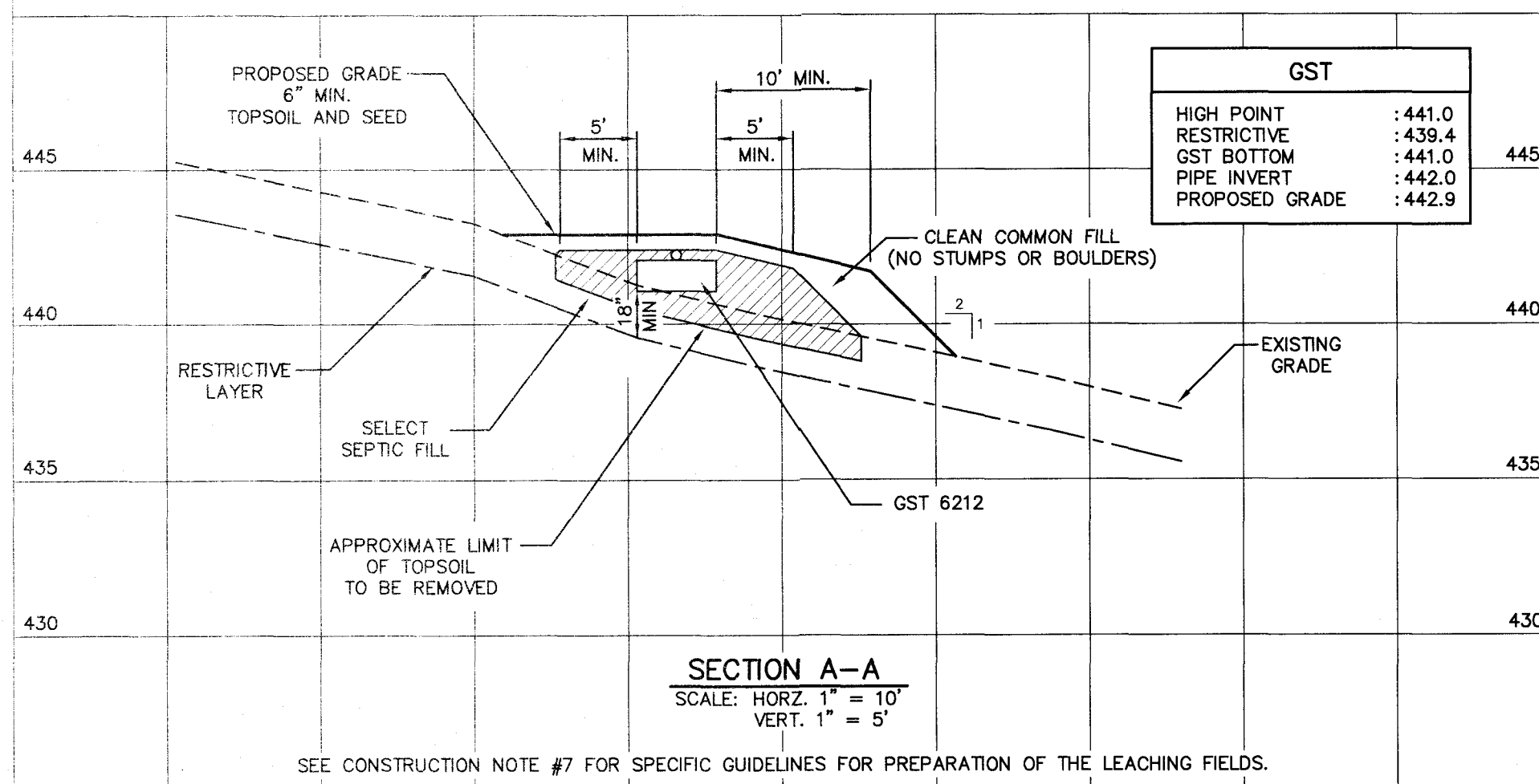


NOTE: INSTALLATION REQUIRES THE USE OF PROPRIETARY FORMS AND MUST BE SUPERVISED BY A REPRESENTATIVE FROM GEOMATRIX.

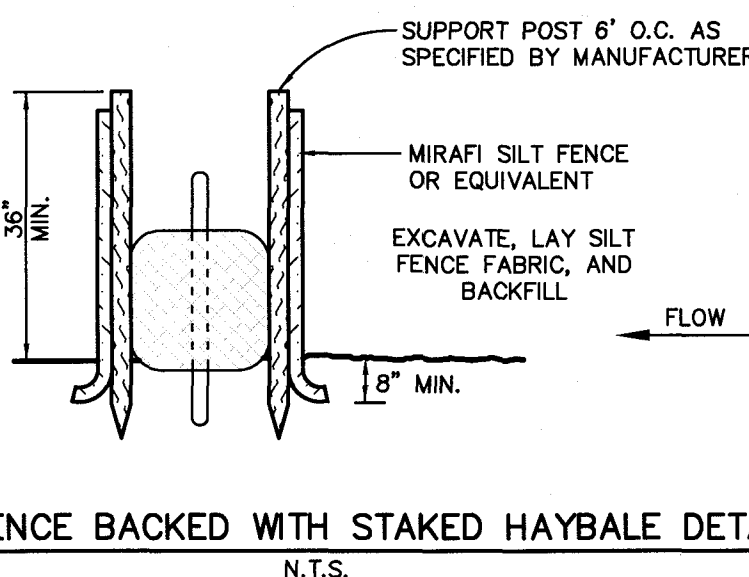
GEOMATRIX GST 6212 DETAIL
N.T.S.



24" x 48" UNDERGROUND DETENTION SYSTEM GALLERY DETAIL
N.T.S.



CONSTRUCTION ENTRANCE DETAIL
N.T.S.



DESIGN CRITERIA:

- PERCOLATION RATE: PT-AA = 1:20
 - DESIGN RATE FOR PRIMARY SYSTEM: 1:20
 - DESIGN RATE FOR RESERVE SYSTEM: 1:20
- MINIMUM LEACHING SYSTEM SPREAD (MLSS):
 - HYDRAULIC FACTOR (HF)
 - HYDRAULIC GRADIENT = 13%
 - DEPTH OF RESTRICTIVE LAYER = 26.8" (AVERAGE DT10, DT12 AND DT14 THRU 4A)
 - HYDRAULIC FACTOR = 24'
 - FLOW FACTOR (FF): 4 BEDROOM = 1.75
 - PERCOLATION FACTOR (PF): 1:20 = 1.25
 - MINIMUM LEACHING SYSTEM SPREAD = 24' x 1.75 x 1.25 = 52.5'
 - LEACHING SYSTEM SPREAD PROVIDED = 80'
- SYSTEM DESCRIPTION:
 - NUMBER OF BEDROOMS: 4
 - REQUIRED LEACHING AREA: 787.5 SF @ 10 SF/LF = 78.75 LF (PLUS 100% RESERVE)
 - SYSTEM COMPONENTS: 1250 GALLON SEPTIC TANK AND GST 6212.
 - TOTAL FIELDS PROPOSED:
 - PRIMARY SYSTEM: 1 x 80 LF = 80 LF @ 10 SF/LF = 800 SF
 - RESERVE SYSTEM: 1 x 80 LF = 80 LF @ 10 SF/LF = 880 SF
- DEPTH OF SYSTEM CONTROL: RESTRICTIVE LAYER @ 19" IN DEEP TEST 12 WILL CONTROL THE DEPTH OF THE SYSTEM.

DEEP TEST AND PERCOLATION TEST DATA:

DEEP TEST 7	DEEP TEST 8	DEEP TEST 9
0"-14" TOPSOIL 14"-29" RED-BROWN SANDY LOAM 29"-42" LIGHT BROWN FINE SAND 42"-82" MOTTLED COMPACT GREY HARDPAN	0"-14" TOPSOIL 14"-24" RED-BROWN SANDY LOAM 24"-30" LIGHT BROWN FINE SAND 30"-88" MOTTLED COMPACT GREY HARDPAN	0"-10" TOPSOIL 10"-35" BROWN SANDY LOAM 35"-80" MOTTLED COMPACT GREY HARDPAN
MOTTLING @ 42" NO LEDGE NO GROUNDWATER NO ROOTS	MOTTLING @ 30" NO LEDGE NO GROUNDWATER NO ROOTS	MOTTLING @ 35" NO LEDGE NO GROUNDWATER NO ROOTS
DEEP TEST 10	DEEP TEST 11	DEEP TEST 12
0"-8" TOPSOIL 8"-28" BROWN FINE SANDY LOAM 28"-86" MOTTLED COMPACT GREY HARDPAN	0"-12" TOPSOIL 12"-29" RED-BROWN SANDY LOAM 29"-35" BROWN FINE SANDY LOAM 35"-88" MOTTLED COMPACT HARDPAN	0"-8" TOPSOIL 8"-11" BROWN SANDY LOAM 11"-19" GREY-BROWN SAND 19"-90" MOTTLED COMPACT GREY SAND
MOTTLING @ 28" NO LEDGE NO GROUNDWATER ROOTS TO 28"	MOTTLING @ 35" NO LEDGE NO GROUNDWATER NO ROOTS	MOTTLING @ 19" NO LEDGE GROUNDWATER @ 58" ROOTS TO 19"
DEEP TEST 1A	DEEP TEST 2A	DEEP TEST 3A
0"-10" TOPSOIL 10"-34" RED/BROWN SANDY LOAM 34"-84" TAN/GRAY MODERATELY COMPACT HARDPAN	0"-24" TOPSOIL 24"-38" RED/BROWN SANDY LOAM 38"-82" GRAY MODERATELY COMPACT HARDPAN	0"-10" TOPSOIL 10"-20" RED/BROWN SANDY LOAM 20"-95" TAN/GRAY HARDPAN
NO MOTTLING NO LEDGE NO GROUNDWATER RESTRICTIVE @ 34"	NO MOTTLING NO LEDGE NO GROUNDWATER RESTRICTIVE @ 38"	NO MOTTLING NO LEDGE NO GROUNDWATER RESTRICTIVE @ 20"
DEEP TEST 4A	DEEP TEST 5A	PERCOLATION TEST A
0"-9" TOPSOIL 9"-22" RED/BROWN SANDY LOAM 22"-84" TAN/GRAY HARDPAN	0"-8" TOPSOIL 8"-29" RED/BROWN SANDY LOAM 29"-72" GRAY HARDPAN	PRESOAK: 4/5/04 DEPTH: 26" DIAMETER: 9"
NO MOTTLING NO LEDGE NO GROUNDWATER RESTRICTIVE @ 22"	NO MOTTLING NO LEDGE NO GROUNDWATER RESTRICTIVE @ 29"	TIME DEPTH DROP 8:30 4" - 8:40 7 1/2" 3 1/2" 8:50 9 1/2" 2" 9:00 10 3/4" 1 1/4" 9:10 12" 1 1/4" 9:20 13" 1" 9:30 13 3/4" 3/4"
DESIGN RATE 1:10	DESIGN RATE 1:20	DESIGN RATE 1:20
PERCOLATION TEST B	PERCOLATION TEST AA	PERCOLATION TEST BB
PRESOAK: 4/5/04 DEPTH: 26" DIAMETER: 9"	DEPTH: 20" DIAMETER: 10" PRESOAK: 1 HOUR	DEPTH: 20" DIAMETER: 8" PRESOAK: 1 HOUR
TIME DEPTH DROP 8:30 5 1/2" - 8:40 10 1/2" 5" 8:50 13 1/2" 3" 9:00 16" 2 1/2" 9:10 18" 2" 9:20 19 1/2" 1 1/2" 9:30 21" 1 1/2"	TIME DEPTH DROP 11:30 7" - 11:40 10 3/4" 3 3/4" 11:50 12 1/4" 1 1/2" 12:00 13 1/4" 1" 12:10 14 1/4" 1" 12:20 15 1/4" 1" 12:30 16" 3/4"	TIME DEPTH DROP 12:30 5 1/2" - 12:40 8 3/4" 3 1/4" 12:50 11" 2 1/4" 1:00 13 1/4" 2 1/4" 1:10 14 3/4" 1 1/2" 1:20 15 7/8" 1 1/8" 1:30 16 7/8" 1"
DESIGN RATE 1:10	DESIGN RATE 1:20	DESIGN RATE 1:10

NOTE: DEEP TESTS WERE CONDUCTED ON MARCH 2, 2004 BY McHORD ENGINEERING ASSOCIATES, INC. AND WITNESSED BY THE WILTON HEALTH DEPARTMENT. PERCOLATION TESTS WERE CONDUCTED ON APRIL 6, 2004. DEEP TESTS 1A THRU 5A AND PERCOLATION TESTS A AND B WERE PERFORMED BY McHORD ENGINEERING ASSOCIATES, INC. ON AUGUST 18, 2020. DEEP TEST PITS 1A THRU 4A WERE WITNESSED BY THE WILTON HEALTH DEPARTMENT.

CONSTRUCTION NOTES:

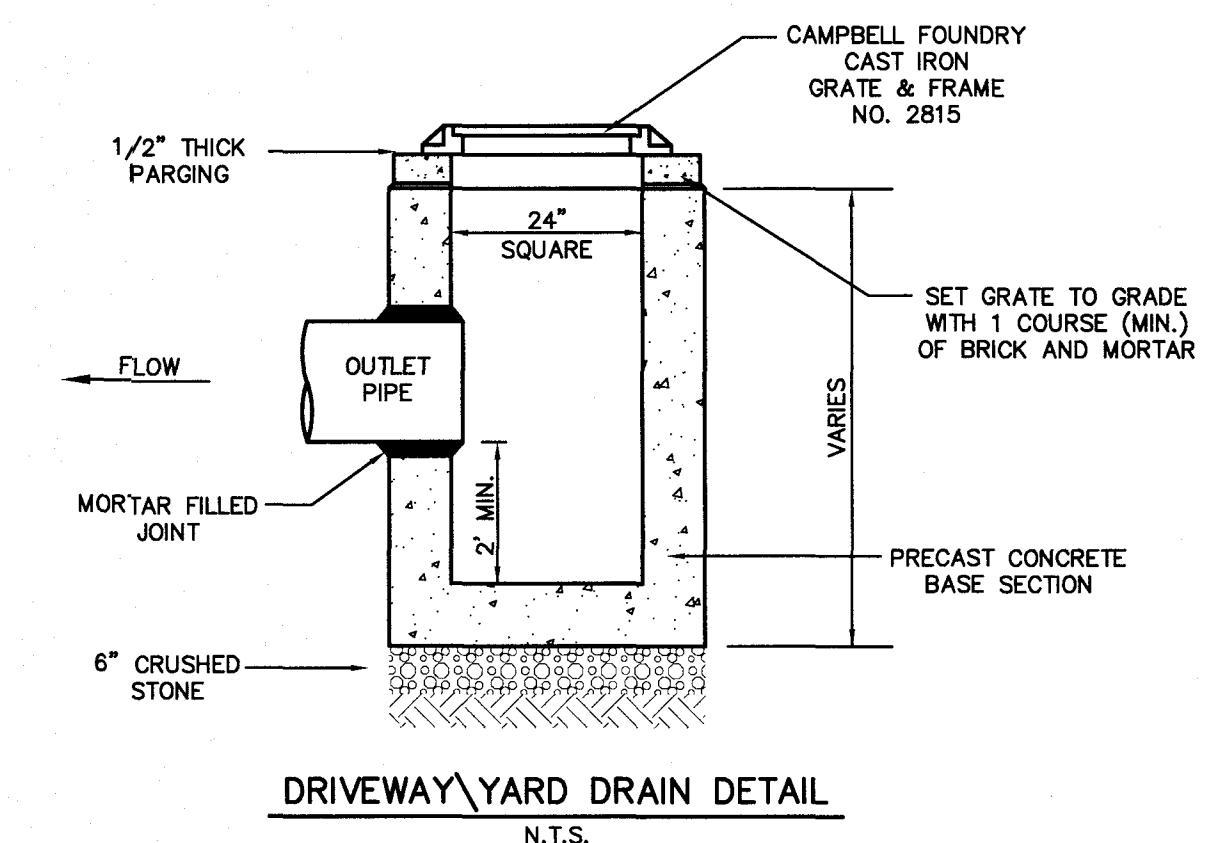
- SUBSURFACE SEWAGE DISPOSAL SYSTEM MATERIALS AND CONSTRUCTION TECHNIQUES SHALL CONFORM TO THE STATE OF CONNECTICUT AND LOCAL HEALTH CODE STANDARDS AND SPECIFICATIONS, AS WELL AS ACCEPTED STANDARDS OF GOOD WORKMANSHIP.
- FINAL INSPECTION AND AS-BUILT DRAWINGS SHALL BE MADE IN ACCORDANCE WITH STATE AND LOCAL CODES. THE DESIGN ENGINEER SHALL BE NOTIFIED AT LEAST 24 HOURS IN ADVANCE OF SYSTEM COMPLETION. INSPECTION OF THE SYSTEM SHALL OCCUR AS SOON AS POSSIBLE TO PREVENT DAMAGE AND IT SHALL BE COVERED WITHIN TWO WORKING DAYS OF THE SANITARIAN'S INSPECTION.
- THE WASTE LINE FROM THE HOUSE/BUILDING TO THE SEPTIC TANK SHALL BE NO LESS THAN 4" DIAMETER CAST IRON PIPE (ASTM A-74) OR A PVC SCHEDULE 40 (ASTM D1785), WITH RUBBER COMPRESSION GASKETS OR SOLVENT WELD JOINTS AND SHALL BE PITCHED WITH A MINIMUM SLOPE OF 1/4" PER FOOT.
- ALL SOLID DISTRIBUTION PIPING SHALL BE TIGHT JOINT 4" DIAMETER PVC (ASTM D3034 SDR 35). THESE LINES SHALL LIE ON UNDISTURBED OR COMPACTED SOIL.
- THE SEPTIC TANK SHALL HAVE A MINIMUM CAPACITY OF 1250 GALLONS AND CONTAIN TWO COMPARTMENTS. THE TANK SHALL BE INSTALLED LEVEL AND BE SET UPON AT LEAST 6" OF CRUSHED STONE OR GRAVEL, AND BE EQUIPPED WITH A 30" RISER SECTION TO GRADE, FOR ACCESS. SEPTIC TANKS INDICATED ARE MANUFACTURED BY RICHARD SEPTIC SYSTEMS, INC. OF TORRINGTON, CT. AN EQUIVALENT TANK IS ACCEPTABLE.
- DISTRIBUTION BOXES ARE MODEL DB 4 AS MANUFACTURED BY RICHARD SEPTIC SYSTEMS, INC. OF TORRINGTON, CONNECTICUT. BOXES SHALL BE SET UPON AT LEAST 6" OF CRUSHED STONE OR GRAVEL. EQUIVALENT BOXES ARE ACCEPTABLE.
- THE CONTRACTOR SHALL REMOVE FROM THE AREA OF THE SEPTIC SYSTEM ALL TOPSOIL AND ALL OTHER ORGANIC MATERIALS, TREE TRUNKS, AND DEBRIS; AND SHALL SCARIFY AND RAKE THE EXPOSED SURFACE TO ENSURE A GOOD BOND BETWEEN THE EXISTING SUBSOIL AND THE SELECT FILL.
- SELECT FILL SHALL MEET CONNECTICUT DEPARTMENT OF TRANSPORTATION SPECIFICATION M.02.06-1B AS FOLLOWS:

SIEVE	% PASSING	WET SIEVE	DRY SIEVE
#4	100	100	100
#10	70-100	70-100	70-100
#40	10-50 *	10-75	10-75
#100	0-20	0-5	0-5
#200	0-5	0-2.5	0-2.5

* PERCENT PASSING THE #40 SIEVE CAN BE INCREASED TO NO GREATER THAN 75% IF THE PERCENT PASSING THE #100 SIEVE DOES NOT EXCEED 10% AND #200 SIEVE DOES NOT EXCEED 5%.

THE FILL SHALL ALSO BE ACCEPTABLE TO THE LOCAL HEALTH DEPARTMENT.

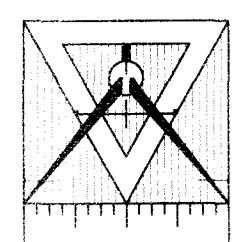
- THE FIRST 6" OF SELECT FILL SHALL BE HARROWED INTO THE EXISTING SOIL. THEREAFTER, IT SHALL BE PLACED IN 12" LIFTS AND MECHANICALLY COMPACTED. COMPACTION SHALL BE AT LEAST 90%-95% OF THAT DETERMINED BY A MODIFIED OPTIMUM COMPACTION TEST PERFORMED IN ACCORDANCE WITH ASTM D1557. SELECT FILL SHALL BE PLACED TO A POINT AT LEAST 5' FROM THE EDGE OF THE TRENCH, AND COMMON FILL TO A POINT 10' FROM THE EDGE OF THE TRENCH. IN CASES WHERE THE DEPTH OF FILL EXCEEDS 12' ABOVE THE EXISTING GRADE, THE TRENCH SHALL BE NOTCHED INTO THE EXISTING SOIL AT LEAST 12" AND FILLED WITH SELECT FILL.
- FINAL GRADING, INCLUDING THE 6" TOPSOIL LAYER, SHALL BE COMPLETED AS SOON AS POSSIBLE AFTER FINAL INSPECTION. CARE SHALL BE TAKEN TO PREVENT THE PONDING OF SURFACE WATER ON OR NEAR ANY PART OF THE SYSTEM.
- PROPOSED SEPTIC SYSTEM LOCATIONS MAY NOT BE SHIFTED WITHOUT OBTAINING WRITTEN PERMISSION FROM THE DESIGN ENGINEER AND LOCAL SANITARIAN.
- NO PART OF THE SEPTIC TANK OR LEACHING TRENCHES SHALL BE WITHIN 75' OF ANY WELL. THERE IS NO APPARENT INTERFERENCE BETWEEN THE WELLS OR SEPTIC SYSTEMS ON ADJACENT PROPERTIES AND THOSE PROPOSED ON THIS PLAN.
- SURFACE AND GROUNDWATER DRAINS SHALL BE PLACED UP GRADIENT AND AT LEAST 25' FROM THE SEPTIC SYSTEM. WHEN DRAINS ARE REQUIRED TO BE DOWN GRADIENT, THEY MUST BE AT LEAST 50' FROM THE SEPTIC SYSTEM. ALL DRAINS AND ROOF LEADERS SHALL DISCHARGE AWAY FROM THE SEPTIC SYSTEM.
- SOIL AND EROSION CONTROL MEASURES SHALL BE INSTALLED AS INDICATED ON THE PLAN AND MAINTAINED DURING CONSTRUCTION, UNTIL THE SITE IS STABILIZED.
- THIS DESIGN IS BASED UPON THE USE OF CONVENTIONAL BATHTUBS WITH A CAPACITY UNDER 100 GALLONS. IF A LARGER BATH/HOT TUB IS TO BE INSTALLED THE LEACHING AREA AND SEPTIC TANK SIZES MUST BE INCREASED TO COMPLY WITH SECTION VII.F OF THE TECHNICAL STANDARDS. ADDITIONALLY, THE SYSTEM HAS NOT BEEN DESIGNED TO ACCEPT EFFLUENT FROM WHIRLPOOL BACKWASH, WATER SOFTENER BACKWASH OR GARBAGE DISPOSALS.
- THIS DESIGN IS BASED UPON THE INSTALLATION OF THE SEPTIC SYSTEM IN UNCOMPACTED NATURAL SOIL. ALTHOUGH THE CONTRACTOR IS RESPONSIBLE FOR PREPARING THE SITE, THE USE OF HEAVY EQUIPMENT IN THE PROPOSED SEPTIC AREA IS PROHIBITED TO AVOID OVER COMPACTION OF THE NATIVE SOIL.
- THIS DESIGN CONFORMS TO APPLICABLE CODES AND ACCEPTED PRACTICE. NO OTHER WARRANTY IS EXPRESSED OR IMPLIED.
- McHORD ENGINEERING ASSOCIATES, INC. ASSUMES NO RESPONSIBILITY FOR SEPTIC SYSTEM SITE PREPARATION, LOCATION, OR INVERT ELEVATIONS IN COMPLIANCE WITH THE APPROVED PLAN, UNLESS IT SUPERVISES EACH PHASE OF SYSTEM INSTALLATION.



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NO.	DATE	REVISIONS AND SUBMISSIONS
2	11-10-20	ISSUED TO INLAND WETLANDS COMMISSION
1	10-21-20	ISSUED TO THE HEALTH DEPARTMENT
NO.	DATE	REVISIONS AND SUBMISSIONS

SIGNATURE: _____ DRAWING NO: _____

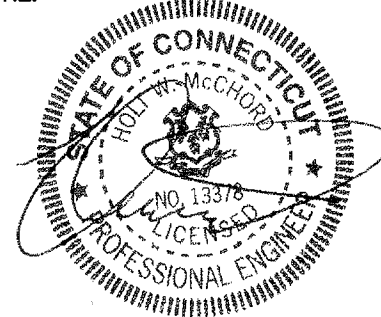


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PLAN PREPARED FOR
SANDRA CHEN-DAVIS
WILTON, CONNECTICUT

CONSTRUCTION NOTES AND DETAILS
105 NOD HILL ROAD
WILTON, CONNECTICUT

JOB NO: 1102B-1 DATE: OCTOBER 21, 2020
DRAWN BY: DRS CHECKED BY: HWM, HMR
SCALE: AS SHOWN



SE2