TOWN OF CARMEL

ENVIRONMENTAL CONSERVATION BOARD

60 McAlpin Avenue
Mahopac, New York 10541
Tel. (845) 628-1500 - Ext. 190
www.ci.carmel.ny.us

ENVIRONMENTAL CONSERVATION BOARD AGENDA

APRIL 4, 2024 – 7:30 P.M.

SUBMISSION OF APPLICATION OR LETTER OF PERMISSION

APPLICANT	ADDRESS	TAX MAP #	COMMENTS
1. Piqueras, Nicholas	10 Sugarbush Court	75.13-1-74	Construct Single Family Home, Driveway & Septic
2. Margolis, Anne	9 Averill Drive	64.12-2-19	Replace and Add on to Deck

MISCELLANEOUS

3. Minutes – 02/15/24 & 03/07/24

March 28, 2024

Environmental Conservation Board
Rose Trombetta
60 McAlpin Ave
Mahopac, NY 10541

RE: 10 Sugarbush Court
TM: 73.13-1-74

Ms. Trombetta,

Please find enclosed four (4) copies of the following:

- 4-sheets, dated January 13, 2024 prepared by Hildenbrand Engineering.
- Correspondence from DEP
- PCDOH approval
- Plan by Roy Fredrickson with NYSDEC Validation block
- SWPPP Report
- Copy of existing easements
- Well drillers license (under separate cover)

We have revised the plans based on comments received from the Conservation Board and NYCDEP. The revisions include:

- Shifting the house completely outside of the wetland buffer. This eliminates the need for a NYCDEP stormwater review.
- Wetland and Stormwater Mitigation have been provided. Stormwater runoff from the house will be piped to a rain garden. The rain garden will treat the Water Quality Volume per NYSDEC and will also mitigate the larger storm events. The sizing calculations are provided in the SWPPP report. The area upgrade of the driveway will be shaped and stabilized using stone. There will also be an underdrain to control water and to keep runoff from crossing the proposed gravel driveway.
- Wetland mitigation will include improving the existing sediment basin. The existing drain pipe currently discharges directly to the wetland. The sediment basin area is not provided much treatment prior to discharging. The proposal included clean out the basin area, removing the accumulated sediment, and stabilizing the area with field stone to create a proper basin.

  The site is currently overgrown with invasive species, particularly barberry. This plant has spread throughout the understory and has crowded out any native plants. The wetland mitigation includes the removal of the invasive species within the buffer. The area will then be seeded with a Wildlife Conservation grass seed mix that will promote better biodiversity in the area.

  The wetland boundary will be demarcated with signs. These signs have been shown and detailed on the plans.

- A construction sequence has been developed that focuses on the stream crossing work to avoid tracking equipment through any wet areas.
- The plans note that equipment will be stored overnight outside of the buffer and on 6 mil poly sheeting.
- A concrete washout area has been shown and detailed on the plans.
- The silt fence has been revised to provide continuous protection.
- All proposed pipe discharges will have a stone outlet protection.
- Stormwater Pollution Prevention and Housekeeping notes have been shown on the plan.
- The proposed well detail has been refined to address the environmentally sensitive area.

We look forward to discussing out project at the next ECB meeting.

Brian Hildenbrand, P.E.

CC:

Nicholas Piqueras, Owner

642

TOGETHER with all right, title and interest, if any, of the party of the first part in and to any streets and roads abutting the above described premises to the center lines thereof,

TOGETHER with the appurtenances and all the estate and rights of the party of the first part in and to said premises,

TO HAVE AND TO HOLD the premises herein granted unto the party of the second part, the heirs or successors and assigns of the party of the second part forever.

AND the party of the first part covenants that the party of the first part has not done or suffered anything whereby the said premises have been incumbered in any way whatever, except as aforesaid.

AND the party of the first part, in compliance with Section 13 of the Lien Law, covenants that the party of the first part will receive the consideration for this conveyance and will hold the right to receive such consideration as a trust fund to be applied first for the purpose of paying the cost of the improvement and will apply the same first to the payment of the cost of the improvement before using any part of the total of the same for any other purpose.

The word "party" shall be construed as if it read "parties" whenever the sense of this indenture so requires.

IN WITNESS WHEREOF, the party of the first part has duly executed this deed the day and year first above written.

IN PRESENCE OF:

GEORGE GREENE

Standard N.Y.B.T.U. Form 2002 — Bargain and Sale Deed, with Covenant against Grantor's Acts—Individual or Corporation (Single Sheet)

CONSULT YOUR LAWYER BEFORE SIGNING THIS INSTRUMENT—THIS INSTRUMENT SHOULD BE USED BY LAWYERS ONLY.

8.23

LIBER 652 PAGE 46

THIS INDENTURE, made the 1st day of August , nineteen hundred and sixty-seven.

BETWEEN BAML REALTY, INC.*, a domestic corporation, having its principal place of business at 174 Frederick Street, Peekskill, New York,

** incorrectly designated as BAML REALTY, CORP. in prior deed dated May 19, 1967 and recorded June 5, 1967 in Liber 647 cp 178,

party of the first part, and LEONARD DORB and HAROLD DORB, d/b/a DORB REALTY CO., both residing at 910 Parkway Place, Yorktown HEIGHTS, Westchester County, New York,

party of the second part,

WITNESSETH, that the party of the first part, in consideration of Ten Dollars and other valuable consideration paid by the party of the second part, does hereby grant and release unto the party of the second part, the heirs or successors and assigns of the party of the second part forever,

ALL that certain plot, piece or parcel of land, with the buildings and improvements thereon erected, situate, lying and being in the Town of Carmel, County of Putnam and State of New York,

known and designated as Parcels A-1, A-2, B-1, B-2, B-3 on a certain "Survey Map of Property of Harry Miller and Joseph Miller, dated August 2, 1963" by Roy Burgess and filed in the Putnam County Clerk's Office on August 20, 1963 as Map No. 980.

EXCEPTING THEREFROM, the premises described in Liber 590 cp. 379; Liber 602 cp. 81; Liber 618 cp. 488 and Liber 641 cp. 371.

SUBJECT TO a mortgage recorded in Liber 339, Page 61 and SUBJECT TO:

1. Utility Company easement in Liber 201 cp. 493.
2. Riparian rights of others to the natural flow of the brook running through the demised premises.
3. Possible outstanding mining and mineral rights in heirs of Philipse, if any.
4. Conditions in reservation in Liber 641 cp. 371.

TOGETHER with a 50-foot easement reserved in Liber 642 cp. 498.

~~ALSO SUBJECT TO a survey made by Roy Burgess dated August 2, 1963 which shows a 2 1/2 story dwelling and detached shed, pond and~~

TOGETHER with all right, title and interest, if any, of the party of the first part in and to any streets and roads abutting the above described premises to the center lines thereof; TOGETHER with the appurtenances and all the estate and rights of the party of the first part in and to said premises; TO HAVE AND TO HOLD the premises herein granted unto the party of the second part, the heirs or successors and assigns of the party of the second part forever.

This conveyance is made in the regular course of business actually conducted by the party of the first part.

AND the party of the first part covenants that the party of the first part has not done or suffered anything whereby the said premises have been encumbered in any way whatever, except as aforesaid.

AND the party of the first part, in compliance with Section 13 of the Lien Law, covenants that the party of the first part will receive the consideration for this conveyance and will hold the right to receive such consideration as a trust fund to be applied first for the purpose of paying the cost of the improvement and will apply the same first to the payment of the cost of the improvement before using any part of the total of the same for any other purpose.

The word "party" shall be construed as if it read "parties" whenever the sense of this indenture so requires.

IN WITNESS WHEREOF, the party of the first part has duly executed this deed the day and year first above written.

IN PRESENCE OF:

BAML REALTY, INC.
By:
Ben Block
Vice President

Standard N.Y.B.T.U. Form 8002—10-30-6004—Bargain and Sale Deed, with Covenant against Grantor's Acts—Individual or Corporation (Single Sheet)

CONSULT YOUR LAWYER BEFORE SIGNING THIS INSTRUMENT—THIS INSTRUMENT SHOULD BE USED BY LAWYERS ONLY.

LIBER 575 PAGE 90

THIS INDENTURE, made the 17th day of September January, nineteen hundred and sixty-eight

BETWEEN HARRY LITCHFIELD, residing at 400 Madison Avenue, in the Borough of Manhattan, City and State of New York,

party of the first part, and BEVERLY DORB, residing at 910 Parkway Place, Yorktown Heights, New York, and HAROLD DORB, residing at 620 East 83rd Street, Brooklyn, New York, Co-partners, doing business under the firm name and style of DORB REALTY CO.,

party of the second part,

WITNESSETH, that the party of the first part, in consideration of Ten Dollars and other valuable consideration paid by the party of the second part, does hereby grant and release unto the party of the second part, the heirs or successors and assigns of the party of the second part forever,

ALL that certain plot, piece or parcel of land, with the buildings and improvements thereon erected, situate, lying and being in the Town of Carmel, County of Putnam and State of New York, being a portion of the premises designated on a certain "Survey Map of Property of HARRY MILLER and JOSEPH MILLER, dated August 2, 1963 by ROY BURGESS", and filed in the Putnam County Clerk's Office on August 20, 1963 as Map No. 980 and more particularly bounded and described as follows:-

An easement and right of way for egress and ingress for vehicular and pedestrian purposes to lands of the second party with the right and privilege to the second party, his heirs, assigns and successors in interest to improve the said right of way so reserved to whatever specifications may be required by the Town of Carmel or any agency having jurisdiction thereover, it being understood and agreed that said right of way is intended to be dedicated to the Town of Carmel as a legal road in connection with the second parties' subdivision plans for lands presently owned by the second party northerly of the property of the first party herein. The first party agrees for himself, his heirs, executors or assigns to execute any instruments that may be required in connection with the dedication of the said road to the said Town of Carmel; said easement for right of way being more particularly described as follows:-

BEGINNING at a point on the Westerly side of Route 6N adjoining lands now or formerly of JOSEPH and JEANNE HERMAN;

Running thence along said lands now or formerly of JOSEPH and JEANNE HERMAN, North 46 degrees 05 minutes 20 seconds West 216.39 feet to a point;

Running thence along lands now or formerly of HARRY and JOSEPH

(CONTINUED ON ANNEXED RIDER)

Running thence along said lands now or formerly of JOSEPH and JEANNE HERMAN, North 46 degrees 05 minutes 20 seconds West 216.39 feet to a point;

Running thence along lands now or formerly of HARRY and JOSEPH

(CONTINUED ON ANNEXED RIDER)

LIBER 6750 PAGE 90

TOGETHER with all right, title and interest, if any, of the party of the first part in and to any streets and roads abutting the above described premises to the center lines thereof; TOGETHER with the appurtenances and all the estate and rights of the party of the first part in and to said premises; TO HAVE AND TO HOLD the premises herein granted unto the party of the second part, the heirs or successors and assigns of the party of the second part forever.

LIBER 6750 PAGE 92

AND the party of the first part covenants that the party of the first part has not done or suffered anything whereby the said premises have been encumbered in any way whatever, except as aforesaid.

AND the party of the first part, in compliance with Section 13 of the Lien Law, covenants that the party of the first part will receive the consideration for this conveyance and will hold the right to receive such consideration as a trust fund to be applied first for the purpose of paying the cost of the improvement and will apply the same first to the payment of the cost of the improvement before using any part of the total of the same for any other purpose.

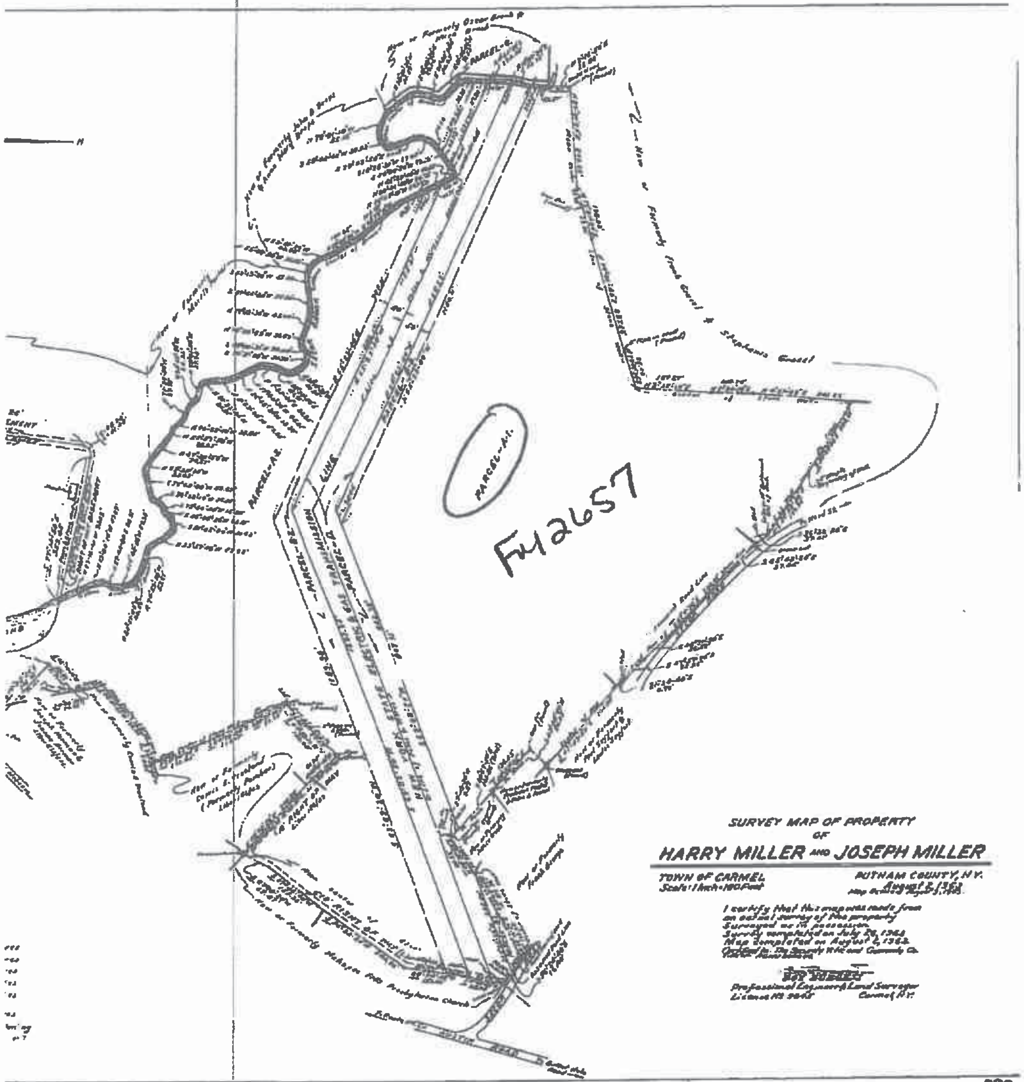
The word "party" shall be construed as if it read "parties" whenever the sense of this indenture so requires.

IN WITNESS WHEREOF, the party of the first part has duly executed this deed the day and year first above written.

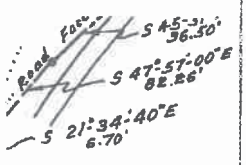
IN PRESENCE OF:

Harry Litchfield

HARRY LITCHFIELD


PARCEL-A1
FM2657
SURVEY MAP OF PROPERTY
OF
HARRY MILLER AND JOSEPH MILLER
TOWN OF CARMEL
PUTNAM COUNTY, N.Y.
I certify that this map was made from
an actual survey of the property
Surveyed as in possession.
Professional Engineer & Land Surveyor
Carmel, N.Y.
980

FM980



SURVEY MAP OF PROPERTY
OF
HARRY MILLER AND JOSEPH MILLER

TOWN OF CARMEL — PUTNAM COUNTY, N.Y.

Scale: 1 Inch = 100 Feet

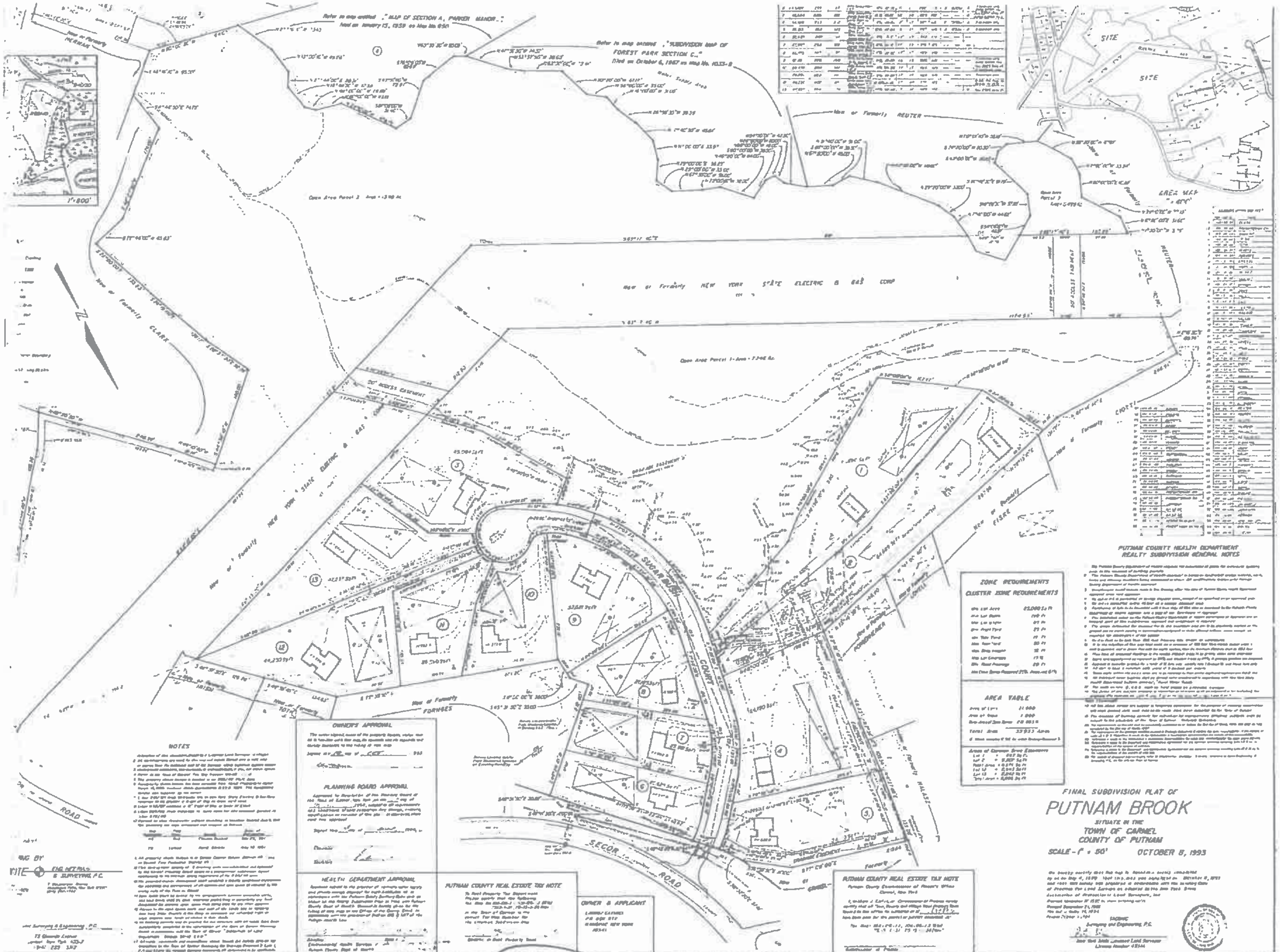
August 2, 1963.
Map Revised August 5, 1963.

I certify that this map was made from an actual survey of the property.
Surveyed as in possession.
Survey completed on July 26, 1963.
Map completed on August 2, 1963.
Certified to: The Security Title and Guaranty Co.
Title No. RGHU 200044

ROY BURGESS
Professional Engineer & Land Surveyor
License No. 9845 — Carmel, N.Y.

980

980



FINAL SUBDIVISION PLAT OF
PUTNAM BROOK
SITUATE IN THE
TOWN OF CARMEL
COUNTY OF PUTNAM
SCALE - 1" = 50'
OCTOBER 8, 1993
ZONE REQUIREMENTS
CLUSTER ZONE REQUIREMENTS
AREA TABLE
PUTNAM COUNTY HEALTH DEPARTMENT
REALTY SUBDIVISION GENERAL NOTES
OWNER'S APPROVAL
PLANNING BOARD APPROVAL
HEALTH DEPARTMENT APPROVAL
PUTNAM COUNTY REAL ESTATE TAX NOTE
OWNER & APPLICANT
NOTES
SUGAR BUSH COURT
SECOR ROAD
Now or Formerly NEW YORK STATE ELECTRIC & GAS CORP
Now or Formerly REUTER
Now or Formerly CLARK
Now or Formerly FORNGES
SITE
1" = 800'

2657

Gmail

Brian Hildenbrand <brian@hildeneng.com>

Re: FW: [EXTERNAL] 10 Sugarbush Rd - Town of Carmel

1 message

Oncioiu, Andreea <AOncioiu@dep.nyc.gov> Thu, Mar 7, 2024 at 1:01 PM
To: Brian Hildenbrand <brian@hildeneng.com>
Cc: County Excavating LLC <countyexcavating@outlook.com>

Hi Brian,

I just left you a voicemail regarding the proposed project. Based on the drawing send, it appears that a small portion of the dwelling (new impervious surface) would be within 100-feet from the NYS DEC wetland. That would require an IRSP, unless you could shift the location of the house (in the direction of the septic) and have it 100% out of the limiting distance.

If you would like to discuss further, please give me a call.

Regards,
Andreea

Andreea A. Oncioiu | Associate Project Manager III | NYC Environmental Protection

Supervisor - FAD Stormwater Management Contracts | Regulatory & Engineering Programs |

(O) (914)749-5356

aoncioiu@dep.nyc.gov

Please consider the Environment before printing this E-mail

NYC Environmental Protection

From: Brian Hildenbrand <brian@hildeneng.com>
Sent: Monday, February 26, 2024 11:21 AM
To: Oncioiu, Andreea <AOncioiu@dep.nyc.gov>
Cc: County Excavating LLC <countyexcavating@outlook.com>
Subject: Fwd: FW: [EXTERNAL] 10 Sugarbush Rd - Town of Carmel

You don't often get email from brian@hildeneng.com. Learn why this is important

Hi Andreea,

Andreea and Mariyam,

We are seeking approvals to develop a vacant lot located at 10 Sugarbush Court in the Town of Carmel (TM 75-13-1-74). We have wetland permit approval from NYSDEC. The wetland adjacent area and stream crossings will require approval from the Town of Carmel Environmental Conservation Board. Will any further approvals from NYCDEP be required? Attached is the IPP that the Town reviewed along with the NYSDEC permit.

Brian Hildenbrand, P.E.

Hildenbrand Engineering, PLLC

www.Hilden-Eng.com

(845) 206-6994

Brian@HildenEng.com

208 Creamery Road, Hopewell Junction, NY 12533

Stormwater Pollution Prevention Plan

Piqueras

10 Sugarbush Court
Town of Carmel

March 15, 2024

208 Creamery Road
Hopewell Junction, NY 12533

www.Hilden-Eng.com

Table of Contents

Forms

- NYSDEC Notice of Intent (NOI)
- Contractor Certification

Appendices

1 Executive Summary

This Stormwater Pollution Prevention Plan (SWPPP) and accompanying project plans have been prepared for the construction activities associated with 10 Sugarbush Court located in the Town of Carmel, New York. The stormwater management, pollution prevention, and erosion and sediment control measures identified and detailed in this SWPPP and on the accompanying project plans have been designed in accordance with the requirements of the Town of Carmel and the New York State Department of Environmental Conservation (NYSDEC) State Pollutant Discharge Elimination System (SPDES) Phase II technical standards.

The proposed project:

1. Maintains the existing drainage patterns, as much as possible.
2. Controls increases in the rate of stormwater runoff resulting from the proposed development without adversely affecting adjacent or downstream properties or receiving watercourses or bodies.
3. Reducing potential stormwater quality impacts and soil erosion resulting from stormwater runoff generated both during and after construction.

The pre- and post-development stormwater runoff conditions have been reviewed and evaluated. The proposed stormwater management facilities have been designed to provide both water quality and quantity controls. Stormwater runoff will be detained, treated, and released at a rate equal to or less than that which existed prior to development of the project site.

2 Project Description

The Piqueras Family owns 10 Sugarbush Court. The subject lot is 2.49 acres and located on the west side of Sugarbush Court. The property is located in the Residential Zoning District.

The Applicant has secured approval from NYSDEC for disturbances within the 100' Adjacent area. The project has also secured approval from the Putnam County Department of Health (PCDOH) for the septic system fill-ad, curtain drain and well location.

The application requires approval from the Town for the wetland/stream crossing. Therefore, no additional wetland permitting is required from the NYCDEP. The NYCDEP has also confirmed that no DEP stormwater permit is required based on the current site plan layout. There is no proposed owner-initiated impervious within 100' of the wetland.

2.1 Pre-Development Conditions

The site is currently undeveloped and a mix of woods and meadow. The parcel receives stormwater runoff overland from the drain area to the north to the on-site NYSDEC wetland. There is an intermittent stream that runs north to south, draining into the wetland. There are (2) existing drainage pipes entering the site from the north. One pipe is a 15" pipe with an existing drainage easement, assumed to be collecting Town drainage. The other pipe is privately owned 8" clay coming from the neighboring property.

2.2 Post-Development Conditions

The proposal includes the construction of a single-family dwelling, driveway, yard and septic system.

Runoff from the new impervious cover will be collected and treated using a rain garden to the rear of the house. The rain garden will overflow to the on-site wetland.

The proposed driveway will be gravel. An upgrade swale/underdrain system will be installed to protect the driveway and collect the water before washing over the gravel material. Two (2) new drain pipe runs will be installed crossing under the new driveway.

2.3 Soil Survey Data

The United States Department of Agriculture (USDA) Soil Conservation Service Soil Survey for Putnam County was reviewed. The soil data for each of the soil types is summarized in Table 1 below.

Table 1: USDA Soil Data

Map Symbol	Description	Hydrologic Soil Group
PbB	Paxton fine sandy loam, 3-8%	C
RnB	Ridgebury complex, 3-8%	D

The Soil Conservation Service defines the hydrologic soil groups as follows:

- **Type A Soils**: Soils having a high infiltration rate and low runoff potential when thoroughly wet. These soils consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

- **Type B Soils**: Soils having a moderate infiltration rate when thoroughly wet and consists mainly of moderately deep to deep, moderately well to well drained soils with moderately fine to moderately course textures. These soils have a moderate rate of water transmission.

- **Type C Soils**: Soils having a low infiltration rate when thoroughly wet and consists chiefly of soils with a layer that impedes downward movement of water and soils with moderately fine-to-fine texture. These soils have a low rate of water transmission.

- **Type D Soils**: Soils having a very low infiltration rate and high runoff potential when thoroughly wet. These soils consist chiefly of clays that have high shrink-swell potential, soils that have a permanent high water table, soils that have a clay pan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very low rate of water transmission.

3 Construction Sequencing

The total disturbance of the proposed project is 0.90 acres. The proposed project will be completed in a single phase. The construction sequencing is outlined on the accompanying plans and is provided below. The construction sequencing is as follows:

1. All Driveway work shall be progressed in increments of 75' to 100' as to not expose too much disturbance.

2. The Contractor shall flag the limits of disturbance prior to the commencement of construction. Bright orange construction fencing shall be used to demarcate the limits of disturbance to ensure over clearing does not occur.

3. For each driveway section, Remove trees, stumps, and vegetation within the disturbance limits in accordance with the project plans. All stumps shall be stockpiled for removal from site. Stump burial is prohibited

4. For Driveway, remove organic and compressible soils from work area. Install compacted base of 3'-4" rip rap stone.

5. Install driveway pipe crossings. Do not track/wheel equipment through stream or soft areas.

6. All temporary erosion and sediment control measures (e.g., stabilized construction entrances, silt fencing, etc.) shall be installed as shown on the project plans. Temporary erosion and sediment control measures shall be constructed, stabilized, and functional before site disturbance begins within their tributary areas.

7. Stabilized Driveway will be used as a haul road for site development.

8. Stake out the locations of the limits of disturbance, proposed stormwater management facilities, and improvements (e.g., house, septic, etc.).

9. Rough grade the house site. Place surplus material in the temporary soil stockpile locations shown on the project plans.

10. Construct the house foundation.

11. Construct all site utilities and utility service connections as shown on the project plans. This includes the stormwater mitigation systems.

12. Finish grading and stabilize all disturbed areas. All erosion and sediment control measures must be left in place to prevent sediment from entering the treatment practices. The Contractor shall clean all catch basins, manholes, and drainage lines of any accumulated silt and sediment prior to finalizing the swale area.

13. Remove all temporary erosion and sediment control measures. Immediately stabilize the areas disturbed during their removal. Establish permanent vegetative cover and install all landscaping and wetland mitigation plantings.

4 Erosion and Sediment Control Plan

This SWPPP and accompanying project plans identify both temporary and permanent erosion and sediment control measures, which have been designed in accordance with the *New York State Standards and Specifications for Erosion and Sediment Control*, latest revision. Temporary erosion and sediment control measures will be implemented during construction to minimize soil erosion and control sediment transport off-site. Permanent erosion and sediment control measures will be implemented after construction to control the quality and quantity of stormwater runoff from the developed site.

4.1 Erosion and Sediment Control Measures

Temporary erosion and sediment control measures to be utilized during construction generally include the following:

1. **Stabilized Construction Entrance** - Prior to construction, stabilized construction entrances shall be installed to reduce the tracking of sediment onto public roadways. Construction traffic must enter and exit the site at the stabilized construction entrance. The entrance shall be maintained in good condition, which will control tracking of sediment onto public rights-of-way or streets. When necessary, the placement of additional aggregate atop the filter fabric shall be done to assure the minimum thickness is maintained. All sediments and soils spilled, dropped, or washed onto the public rights-of-way must be removed immediately. Periodic inspection and needed maintenance shall be provided after each substantial rainfall event.

2. **Dust Control** - Water trucks shall be used, as needed, during construction to reduce dust generated on the site. Dust control must be provided by the general contractor to a degree that is acceptable to the owner/operator, and in compliance with the applicable local and state dust control requirements.

3. **Temporary Soil Stockpile** - Materials, such as topsoil, shall be temporarily stockpiled (if necessary) on the site during the construction process. Stockpiles shall be located in an area away from storm drainage, water bodies and/or courses, and shall be properly protected from erosion by a surrounding silt fence barrier or hay bales when located on paved areas.

4. **Silt Fencing** - Prior to the initiation of and during construction activities, silt fencing shall be established along the perimeter of all areas to be disturbed as a result of the construction which lie up gradient of water courses or adjacent properties. These barriers may extend into non-impact areas to ensure adequate protection of adjacent lands. Clearing and grubbing shall be performed only as necessary for the installation of the sediment control barrier. To ensure effectiveness of the silt fencing, daily inspections and inspections immediately after significant storm events shall be performed by site personnel. Maintenance of the fence shall be performed as needed.

5. **Temporary Seeding** - Within seven days after construction activity ceases on any particular area of the site, all disturbed areas where there shall not be construction for longer than 14 days shall be temporarily seeded and mulched to minimize erosion and sediment loss.

6. **Temporary Sediment Basin** – A temporary sediment basin shall be constructed to intercept sediment laden runoff, reduce the amount of sediment leaving the disturbed areas, and protect drainage ways, properties, and rights-of-way. Projects that have proposed stormwater ponds can be used as temporary sediment basins during construction. Temporary sediment basins shall be inspected at least every seven calendar days. All damages caused by soil erosion and construction equipment shall be repaired upon discovery. Accumulated sediment shall be removed from the sediment basin/trap when it reaches 50 percent of the design capacity and shall not exceed 50 percent. Sediment shall not be placed downstream from the embankment, adjacent to a stream, or floodplain.

7. **Dewatering** - Dewatering, if required, shall not be discharged directly into wetlands, water courses, water bodies, and storm sewer systems. Proper methods and devices shall be utilized to the extent permitted by law, such as pumping water into temporary sediment basins, providing surge protection at the inlet and outlet of pumps, floating the intake of the pump, or other methods to minimize and retain the suspended solids.

Permanent erosion and sediment control measures to be utilized after construction generally include the following:

1. **Establishment of Permanent Vegetation** - Disturbed areas that are not covered by impervious surfaces shall be seeded in accordance with the accompanying plans. The type of seed, mulch, and maintenance measures shall be followed. All areas at final grade shall be seeded and mulched within seven (7) days after completion of the major construction activity. All seeded areas shall be protected with mulch and/or hay. Final site stabilization is achieved when all soil-disturbing activities at the site has been completed and a uniform, perennial vegetative cover with a density of 80 percent has been established or equivalent stabilization measures (such as the use of mulches or geotextiles) have been employed on all unpaved areas and areas not covered by permanent structures.

2. **Final Seeding and Planting** - Final seeding and planting shall be installed as shown on the accompanying plans. Final seeding and planting will help minimize erosion and sediment loss.

Specific erosion and sediment control measures, inspection frequency, and remediation procedures are provided in the subsequent sections and on the accompanying project plans.

4.2 Pollution Prevention Controls

Good housekeeping practices are designed to maintain a clean and orderly work environment. Good housekeeping measures shall be maintained throughout the construction process by those parties involved with the direct care and development of the site. The following measures should be implemented to control the possible exposure of harmful substances and materials to stormwater runoff:

1. Material resulting from the clearing and grubbing operation shall be stockpiled away from storm drainage, water bodies and/or watercourses and surrounded with adequate erosion and sediment control measures. Soil stockpile locations shall be exposed no longer than 14 days before seeding.

2. Equipment maintenance areas shall be protected from stormwater flows and shall be supplied with appropriate waste receptacles for spent chemicals, solvents, oils, greases, gasoline, and any pollutants that might contaminate the surrounding habitat and/or water supply. Equipment wash-down zones shall be located within areas draining to sediment control devices.

3. The use of detergents for large-scale (i.e., vehicles, buildings, pavement surfaces, etc.) washing is prohibited.

4. Material storage locations and facilities (i.e., covered storage areas, storage sheds, etc.) shall be located onsite and shall be stored according to the manufacturer's standards in a dedicated staging area. Chemicals, paints, solvents, fertilizers, and other toxic material must be stored in waterproof containers. Runoff containing such materials must be collected, removed from the site, treated and disposed at an approved solid waste or chemical disposal facility.

5. Hazardous spills shall be immediately contained to prevent pollutants from entering the surrounding habitat and/or water supply. Spill Kits shall be provided onsite and shall be displayed in a prominent location for ease of access and use. Spills greater than five (5) gallons shall be reported to the NYSDEC Response Unit at 1-800-457-7362. In addition, a record of the incident(s) and/or notifications shall be documented and attached to the SWPPP.

6. Portable sanitary waste facilities shall be provided onsite for workers and shall be properly maintained.

7. Dumpsters and/or debris containers shall be located onsite and shall be of adequate size to manage respective materials. Regular collection and disposal of wastes shall occur as required.

8. Temporary concrete washout facilities should be located a minimum of 50 feet from storm drain inlets, open drainage facilities, and watercourses. Each facility should be located away from construction traffic or access areas to prevent disturbance or tracking. A sign should be installed adjacent to each washout facility to inform concrete equipment operators to utilize the proper facilities. When temporary concrete washout facilities are no longer required for the work, the hardened concrete shall be removed and disposed of. Materials used to construct the temporary concrete washout facilities shall be removed and disposed of. Holes, depressions or other ground disturbance caused by the removal of the temporary concrete washout facilities shall be backfilled and/or repaired, seeded, and mulched for final stabilization.

9. Non-stormwater components of site discharge must be clean water. Water used for construction, which discharges from the site, must originate from a public water supply or private well approved by the Health Department. Water used for construction that does not originate from an approved public supply must not discharge from the site. It can be retained in the ponds until it infiltrates and evaporates.

4.3 Soil Restoration

The soils within in the limits of disturbance are Type A soils. In accordance with Table 5.3 of the *New York State Stormwater Management Design Manual*, the soils shall be restored as outlined in Table 2 below:

Table 2: Soil Restoration

Type of Soil Disturbance	Soil Restoration Requirement	Comment
No soil disturbance (preservation of natural features)	Restoration not permitted	Protect from any ongoing construction activity
Minimal soil disturbance	Restoration not permitted	Clearing and grubbing activities
Areas where topsoil is stripped only (no change in grade)	Apply 6" of topsoil	Protect from any ongoing construction activity
Areas of cut or fill	Aerate and apply 6" of topsoil	Aeration includes the use of machines such as tractor-drawn implements with coulters making a narrow slit in the soils, a roller with many spikes making indentations in the soil, or prongs with function like a mini-subsoiler.
Heavy traffic areas on site (especially in a zone 5-25' around buildings but not within a 5' perimeter around foundation walls)	Apply full soil restoration (de-compaction and compost enhancement)	Deep rip the affected thickness of the exposed subsoil material, aggressively fracturing it before the protected topsoil is reapplied on site. De-compact simultaneously through the restored topsoil layer and the upper half of the affected subsoil.
Areas where runoff reduction and/or infiltration practices are applied	Restoration not required, but may be applied to enhance the reduction specified for appropriate practices.	Protect from any ongoing construction activity

During periods of relatively low to moderate subsoil moisture, the disturbed soils are returned to rough grade and the following soil restoration steps are applied:

1. Apply 3-inches of compost over subsoil.
2. Till compost into subsoil to a depth of at least 12" using a cat-mounted ripper, tractor-mounted disc, or tiller, mixing and circulating air and compost into subsoils.
3. Rock-pick until uplifted stone/rock materials of 4-inches and larger size are cleaned off the site.
4. Apply topsoil to a depth of 6-inches.
5. Vegetate as required by the project plans.

5 Stormwater Management Plan

The goals of this Stormwater Management Plan are to:

1. Analyze the peak rate of runoff under pre- and post-development conditions.
2. Maintain the pre-development rate of runoff in order to minimize impacts to adjacent or downstream properties.
3. Minimize the impact of the quality of runoff exiting the site.

These objectives will be met by applying Green Infrastructure Practices and Best Management Practices (BMPs). Stormwater runoff from the proposed project will be collected and conveyed to the proposed stormwater management facilities. Stormwater runoff will be detained, treated, and released at a rate equal to or less than that which existed prior to development of the project site.

5.1 Hydrologic Analysis

The study area was made up of one subcatchment for pre-development conditions and post-development conditions. This was dictated by watershed conditions, methods of collection, conveyance, and points of discharge. Watershed delineations were defined using the surveyed site topography.

HydroCAD, a Computer-Aided-Design (CAD) program, was used to analyze the hydrologic characteristics of the pre-development watershed conditions, post-development watershed conditions, and proposed stormwater management systems. HydroCAD has the capability of computing hydrographs (which represents discharge rates characteristic of specified watershed conditions, precipitation, and geologic factors), combining hydrographs, and routing flows though pipes, streams, channels, and ponds.

5.1.1 Rainfall Data

Rainfall data utilized in the modeling and analysis was obtained from National Weather Service (NWS) Technical Paper 40 (TP-40), Rainfall Frequency Atlas of the U.S. Weather Bureau, published by the U.S. Department of Commerce. A Type III rainfall distribution was used to evaluate the pre- and post-development stormwater runoff conditions for the 1-, 10-, and 100-year 24-hour storm events for Dutchess County. Rainfall data specific to the portion of Putnam County under consideration is provided in Table 3 below.

Table 3: Rainfall Data

Storm Event	24-Hour Rainfall
1-year	2.74 inches
10-year	4.98 inches
100-year	8.95 inches

5.1.2 Unified Stormwater Sizing Criteria

5.1.2.1 Water Quantity Control

5.1.3 Comparison of Peak Discharge Rates

A comparison of the pre- and post-development peak discharge rates is provided in Table 9 below.

Table 4: Comparison of Pre- & Post-Development Peak Discharge Rates-Design Line #1

Storm Event	Pre (cfs)	Post (cfs)	Difference
1-year	0.07	0.00	-100%
10-year	0.24	0.00	-100%
100-year	0.59	0.28	-52%

Table 5: Comparison of Pre-& Post-Development Peak Discharge Volumes- Design Line #1

Storm Event	Pre (Cu-Ft)	Post (Cu-Ft)	Difference
1-year	229	0	-100%
10-year	739	0	-100%
100-year	1,847	86	-95%

Comparison of the peak discharge rates for pre- and post-development watershed conditions demonstrates that the peak rate of runoff from the proposed development will remain the nearly the same or not be increased. Therefore, the proposed development will not adversely impact the downstream or adjacent properties, receiving water bodies or courses, or wetlands. The results of the computer modeling used to analyze the pre- and post-development watershed conditions are presented in Appendix A and Appendix B, respectively.

5.1.3.1 Water Quality Treatment

The Water Quality Volume (WQv) for this site is equal to the 1-year design storm. The WQv will be completely treated in rain garden . See Appendix C for WQv calculations.

6 Post Construction Requirements

6.1 Inspection and Maintenance

Post-construction inspections and maintenance shall be performed by the homeowner. Inspections and maintenance for the various site components and stormwater management facilities shall be performed in accordance with the accompanying project plans and this SWPPP.

A summary of the general site inspection and maintenance parameters is provided in Table 10 below. A summary of the stormwater management system inspection and maintenance parameters is provided in Table 11 below.

Table 7: General Site Post-Construction Inspection and Maintenance

Maintenance Item	Frequency	Description of Inspection Parameters	Description of Remedy Procedures
Site Structures	Annual & After Major Storms	-Accumulated sediment in catch basin sumps -Accumulated debris and litter -Damage or fatigue of storm structures or associated components -Accumulation of pollutants, including oils or grease, in catch basin sumps	-Remove -Remove -Replace and/or repair, as necessary -Remove pollutants from catch basins. Replace and/or repair pollutant source.
Pavement	Biannual/ Annual	-Accumulated sediment in paved areas -Accumulated debris and litter	-Remove (sweep min. 2 times/year) -Remove
Embankments	Annual	-Differential settlement of embankments -Embankment erosion -Animal burrows -Cracking, bulging, or sliding of embankment	-Stabilize and restore to original specs - Stabilize and restore to original specs -Remove - Stabilize and restore to original specs
Grass and Landscaped areas	Annual	-Vegetation: 80% coverage + less than 15% invasive plant species -Unauthorized plantings -Undesirable vegetative growth -Accumulated debris and litter	-Restore original specs -Remove -Mow a min. of 3 times/year. May increase for aesthetic reasons. -Remove
Winter Maintenance	Monthly	-Accumulation of snow and ice on catch basins, inlet and outlet structures, and end sections -Stock piled snow near inlets and outlets -Remaining deicing materials	-Remove -Remove -Remove in early spring by sweeping
Swales	Monthly	-Erosion of side slopes -Formation of rills or gullies -Excess grass growth -Undesirable vegetative growth -Accumulated debris, litter, or sediment -Residual deicing materials (sand)	- Stabilize and restore to original specs -Repair and restore to original specs -Mow -Remove -Remove -Remove & replace any damaged vegetation

7 Conclusion

This Stormwater Pollution Prevention Plan for the for 10 Sugarbush Court incorporates an Erosion and Sediment Control Plan and Stormwater Management Plan. The SWPPP identifies the measures to be implemented during construction to minimize soil erosion and control sediment transport off-site, and after construction to control the water quality and quantity of stormwater runoff from the developed site to minimize adverse effects to downstream conditions.

This Stormwater Pollution Prevention Plan has been developed in accordance with the requirements of the Town of Carmel and the New York State Department of Environmental Conservation (NYSDEC) State Pollutant Discharge Elimination System (SPDES) Phase II technical standards. It is our opinion that the proposed project will not adversely impact adjacent or downstream properties, or receiving surface waters or wetlands, if the erosion and sediment control measures and stormwater management facilities are properly constructed, and maintained in accordance with the requirements outlined herein.

Forms

Appendix A

Pre-Development HydroCAD Analysis

Existing

Subcat Reach Pond Link

Routing Diagram for 10 Sugarbush Storm
Prepared by Hildenbrand Engineering, PLLC, Printed 3/19/2024

Area Listing (selected nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
3,916	73	Woods, Fair, HSG C (14S)
3,916	**73**	**TOTAL AREA**

Soil Listing (selected nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
0	HSG A	
0	HSG B	
3,916	HSG C	14S
0	HSG D	
0	Other	
3,916		**TOTAL AREA**

Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment14S: Existing Runoff Area=3,916 sf 0.00% Impervious Runoff Depth=5.66"
Tc=5.0 min CN=73 Runoff=0.59 cfs 1,847 cf

Total Runoff Area = 3,916 sf Runoff Volume = 1,847 cf Average Runoff Depth = 5.66"
100.00% Pervious = 3,916 sf 0.00% Impervious = 0 sf

Summary for Subcatchment 14S: Existing

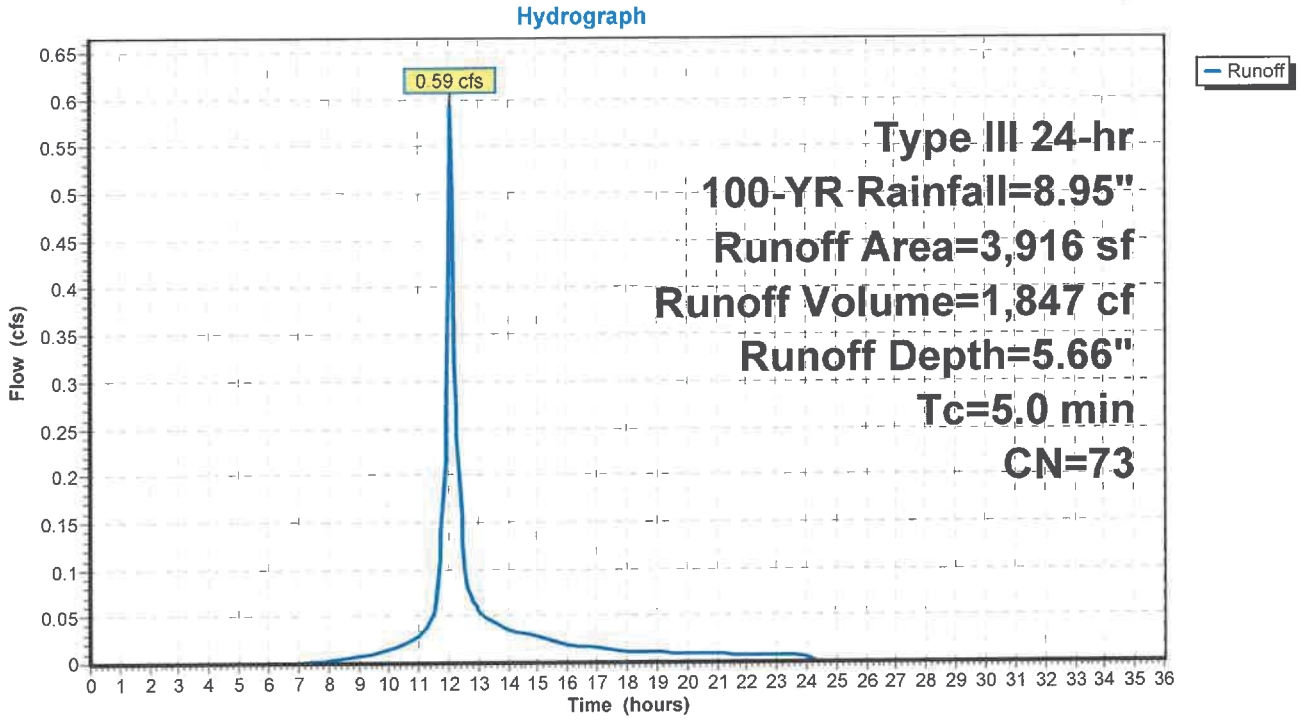
Runoff = 0.59 cfs @ 12.08 hrs, Volume= 1,847 cf, Depth= 5.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-YR Rainfall=8.95"

Area (sf)	CN	Description
3,916	73	Woods, Fair, HSG C
3,916		100.00% Pervious Area

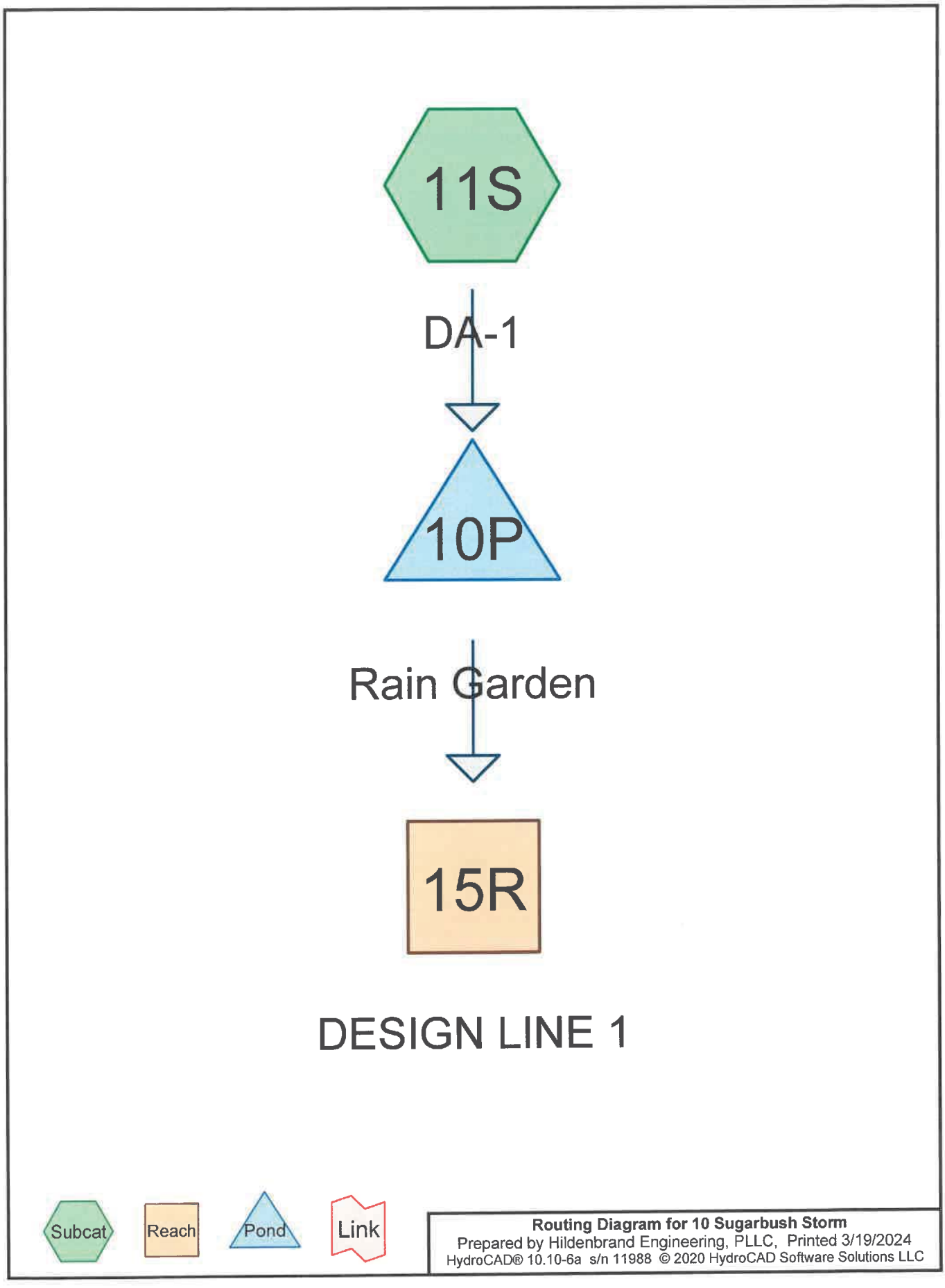
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 14S: Existing



Appendix B

Post-Development HydroCAD Analysis


11S
DA-1
10P
Rain Garden
15R
DESIGN LINE 1
Subcat
Reach
Pond
Link
Routing Diagram for 10 Sugarbush Storm
Prepared by Hildenbrand Engineering, PLLC, Printed 3/19/2024
HydroCAD® 10.10-6a s/n 11988 © 2020 HydroCAD Software Solutions LLC

Area Listing (selected nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
860	98	DRIVEWAY APRON (11S)
3,056	98	HOUSE (11S)
3,916	**98**	**TOTAL AREA**

Soil Listing (selected nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
0	HSG A	
0	HSG B	
0	HSG C	
0	HSG D	
3,916	Other	11S
3,916		**TOTAL AREA**

Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment11S: DA-1 Runoff Area=3,916 sf 100.00% Impervious Runoff Depth=8.71"
Tc=5.0 min CN=98 Runoff=0.80 cfs 2,842 cf

Reach 15R: DESIGN LINE 1 Inflow=0.28 cfs 86 cf
Outflow=0.28 cfs 86 cf

Pond 10P: Rain Garden Peak Elev=546.53' Storage=705 cf Inflow=0.80 cfs 2,842 cf
Discarded=0.10 cfs 2,584 cf Primary=0.28 cfs 86 cf Outflow=0.38 cfs 2,670 cf

Total Runoff Area = 3,916 sf Runoff Volume = 2,842 cf Average Runoff Depth = 8.71"
0.00% Pervious = 0 sf 100.00% Impervious = 3,916 sf

Summary for Subcatchment 11S: DA-1

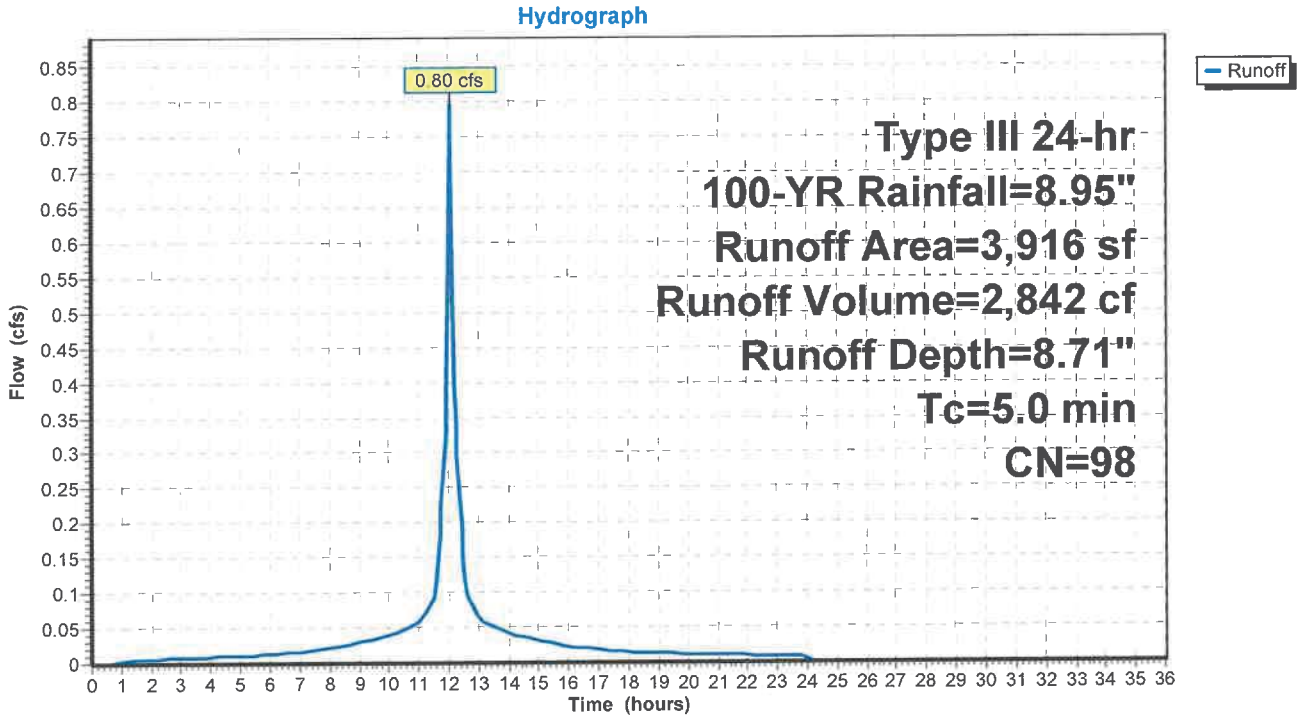
Runoff = 0.80 cfs @ 12.07 hrs, Volume= 2,842 cf, Depth= 8.71"
Routed to Pond 10P : Rain Garden

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-YR Rainfall=8.95"

	Area (sf)	CN	Description
*	860	98	DRIVEWAY APRON
*	3,056	98	HOUSE
	3,916	98	Weighted Average
	3,916		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Subcatchment 11S: DA-1

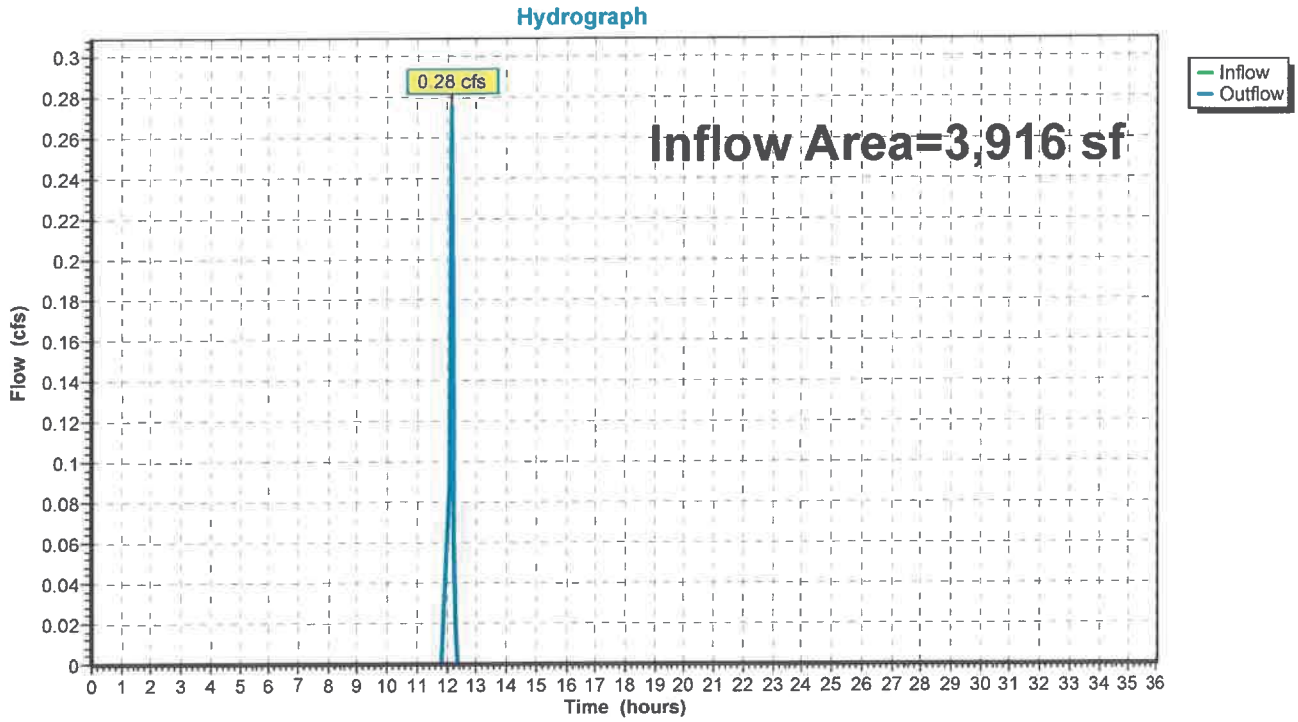


Summary for Reach 15R: DESIGN LINE 1

Inflow Area = 3,916 sf,100.00% Impervious, Inflow Depth = 0.26" for 100-YR event
Inflow = 0.28 cfs @ 12.16 hrs, Volume= 86 cf
Outflow = 0.28 cfs @ 12.16 hrs, Volume= 86 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 15R: DESIGN LINE 1



Summary for Pond 10P: Rain Garden

Inflow Area = 3,916 sf,100.00% Impervious, Inflow Depth = 8.71" for 100-YR event
Inflow = 0.80 cfs @ 12.07 hrs, Volume= 2,842 cf
Outflow = 0.38 cfs @ 12.16 hrs, Volume= 2,670 cf, Atten= 52%, Lag= 5.2 min
Discarded = 0.10 cfs @ 11.90 hrs, Volume= 2,584 cf
Primary = 0.28 cfs @ 12.16 hrs, Volume= 86 cf
Routed to Reach 15R : DESIGN LINE 1

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 546.53' @ 12.15 hrs Surf.Area= 900 sf Storage= 705 cf

Plug-Flow detention time= 81.3 min calculated for 2,666 cf (94% of inflow)
Center-of-Mass det. time= 46.9 min (785.9 - 738.9)

Volume	Invert	Avail.Storage	Storage Description
#1	545.00'	450 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)
#2	543.50'	135 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc) 450 cf Overall x 30.0% Voids
#3	542.50'	120 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc) 300 cf Overall x 40.0% Voids
		705 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
545.00	300	0	0
546.50	300	450	450

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
543.50	300	0	0
545.00	300	450	450

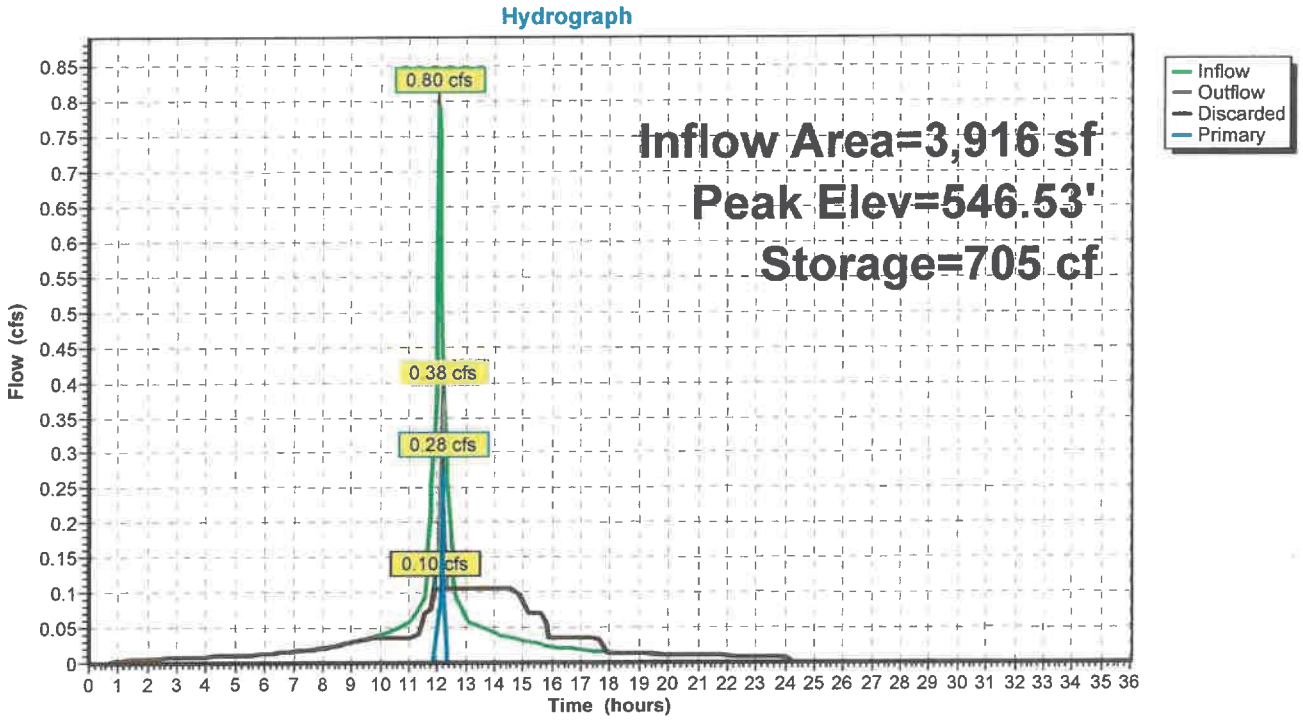
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
542.50	300	0	0
543.50	300	300	300

Device	Routing	Invert	Outlet Devices
#1	Primary	546.50'	**20.0' long x 3.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32
#2	Discarded	542.50'	**5.000 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.10 cfs @ 11.90 hrs HW=545.11' (Free Discharge)
└**2=Exfiltration** (Exfiltration Controls 0.10 cfs)

Primary OutFlow Max=0.20 cfs @ 12.16 hrs HW=546.53' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Weir Controls 0.20 cfs @ 0.39 fps)

Pond 10P: Rain Garden



Appendix C

Water Quality Volume (WQv) Calculations

Subcat Reach Pond Link

Routing Diagram for 10 Sugarbush Storm
Prepared by Hildenbrand Engineering, PLLC, Printed 3/19/2024

Area Listing (selected nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
860	98	DRIVEWAY APRON (11S)
3,056	98	HOUSE (11S)
3,916	**98**	**TOTAL AREA**

Soil Listing (selected nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
0	HSG A	
0	HSG B	
0	HSG C	
0	HSG D	
3,916	Other	11S
3,916		**TOTAL AREA**

Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment11S: DA-1 Runoff Area=3,916 sf 100.00% Impervious Runoff Depth=2.51"
Tc=5.0 min CN=98 Runoff=0.24 cfs 819 cf

Total Runoff Area = 3,916 sf Runoff Volume = 819 cf Average Runoff Depth = 2.51"
0.00% Pervious = 0 sf 100.00% Impervious = 3,916 sf

Summary for Subcatchment 11S: DA-1

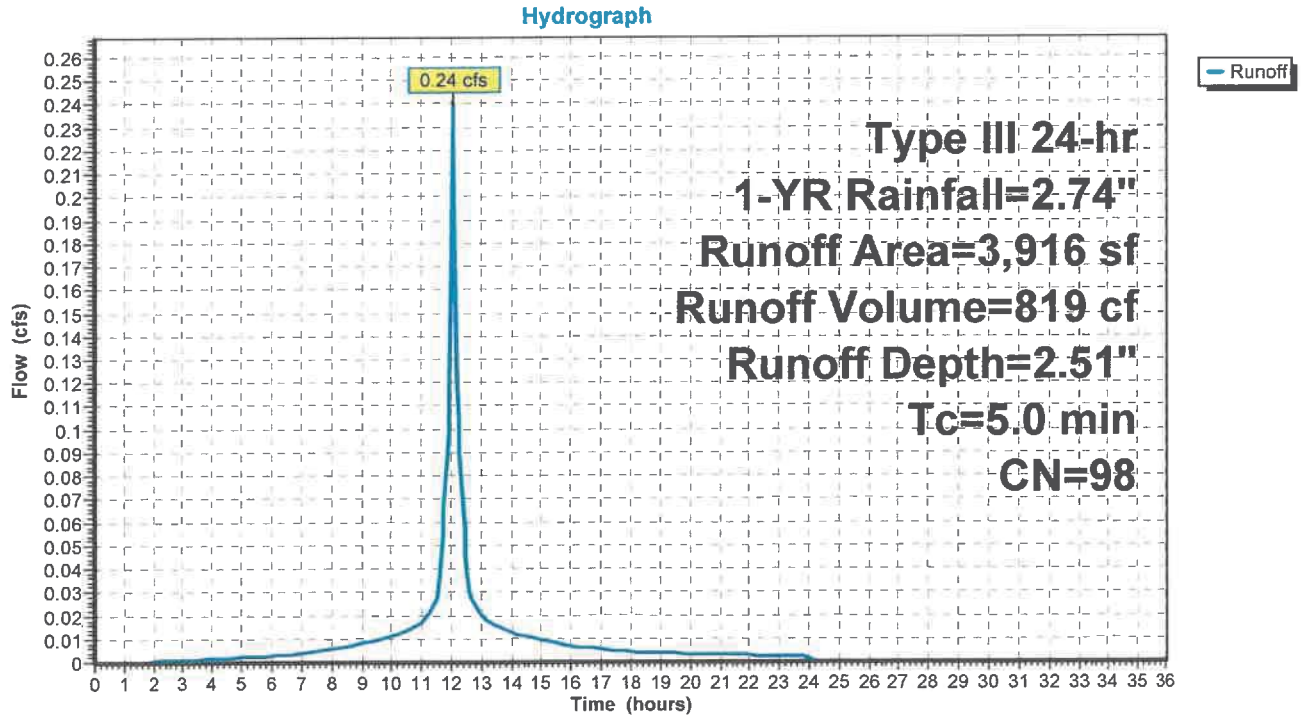
Runoff = 0.24 cfs @ 12.07 hrs, Volume= 819 cf, Depth= 2.51"
Routed to Pond 10P : Rain Garden

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-YR Rainfall=2.74"

	Area (sf)	CN	Description
*	860	98	DRIVEWAY APRON
*	3,056	98	HOUSE
	3,916	98	Weighted Average
	3,916		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Subcatchment 11S: DA-1



Hildenbrand Engineering, PLLC
208 Creamery Road
Hopewell Junction, NY 12533

Date:_____
Calculated by:_____

Rain Garden WORKSHEET
Project: 10 Sugarbush Court

$$A_f = \frac{(WQv) \times (d_f)}{(k)(h_f + d_f)(t_f)}$$

where:
A_f = the required surface area of filter bed (square feet)
WQv = water quality volume (cubic feet)
d_f = depth of the soil medium (feet)
k = the hydraulic conductivity (ft/day), usually set at 4 ft/day when soil is loosely placed in the planter, but can be varied depending on the properties of the soil media. Some other reported conductivity values are:
Sand:3.5 ft/day (City of Austin 1988)
Peat: 2.0 ft/day (Galli 1990)
Leaf Compost: 8.7 ft/day (Claytor and Schueler, 1996)
Rain Garden Soil: 0.5 ft/day (Claytor and Schueler, 1996)
h_f = average height of water above the planter bed
t_f = the design time to filter the treatment volume through the filter media

Step 1: Determine WQv for Drainage to Rain Garden Area

		Value	Units	Restrictions
Design Storm	P	-	*in*	
Impervious Area	I	-	*ac*	
Area	A	-	*ac*	< 5 acres < 217,800 sf
Percent Impervious Area	%I	-	*%*	
Runoff Volume	Rv	-		
WQv	**WQv**	**819**	***cf***	based on the 1-year post development watershed

Step 2: Calculate the Minimum Filter Area

		Value	Units	Restrictions
WQv	WQv	819	*cf*	based on the 1-year post development watershed
Depth of Soil Media	d_f	1	*ft*	
Hydraulic Conductivity	k	3	*ft/day*	
Average Height of Ponding	h_f	0.5	*ft*	6 in. maximum
Filter Time	t_f	1.50	*days*	maximum 2 days
Required Area of Filter	**A_f**	**121**	***sf***	

Step 3: Determine Actual Rain Garden Area

	Value	Units	Restrictions
Filter Width	-	*ft*	
Filter Length	-	*ft*	
Calculated Filter Area	-	*sf*	
or			
Measured Filter Area	**300**	***sf***	
Actual Volume Provided	**705**	***cf***	

Appendix D

Soil Report

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Putnam County, New York

Piqueras

March 19, 2024

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map

Map Scale: 1:1,450 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Putnam County, New York
Survey Area Data: Version 20, Sep 6, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Oct 21, 2022—Oct 27, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
PnB	Paxton fine sandy loam, 3 to 8 percent slopes	4.3	97.4%
RdB	Ridgebury complex, 3 to 8 percent slopes	0.1	2.6%
Totals for Area of Interest		**4.4**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however,

onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series.* Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases.* Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas.* Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Putnam County, New York

PnB—Paxton fine sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2t2qp
Elevation: 0 to 1,570 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Paxton and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Paxton

Setting

Landform: Ground moraines, drumlins, hills
Landform position (two-dimensional): Backslope, summit, shoulder
Landform position (three-dimensional): Side slope, crest, nose slope
Down-slope shape: Convex, linear
Across-slope shape: Convex
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Ap - 0 to 8 inches: fine sandy loam
Bw1 - 8 to 15 inches: fine sandy loam
Bw2 - 15 to 26 inches: fine sandy loam
Cd - 26 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 18 to 39 inches to densic material
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 18 to 37 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: C
Ecological site: F144AY007CT - Well Drained Dense Till Uplands
Hydric soil rating: No

Minor Components

Woodbridge

Percent of map unit: 9 percent
Landform: Ground moraines, drumlins, hills
Landform position (two-dimensional): Backslope, footslope, summit
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Ridgebury

Percent of map unit: 6 percent
Landform: Depressions, ground moraines, hills, drainageways
Landform position (two-dimensional): Toeslope, backslope, footslope
Landform position (three-dimensional): Base slope, head slope, dip
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Charlton

Percent of map unit: 5 percent
Landform: Hills
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

RdB—Ridgebury complex, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2xfg2
Elevation: 10 to 1,180 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 145 to 240 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Ridgebury, loam, and similar soils: 50 percent
Ridgebury, somewhat poorly drained, and similar soils: 35 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ridgebury, Loam

Setting

Landform: Drumlins, depressions, ground moraines, hills, drainageways
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope, head slope
Down-slope shape: Concave

Across-slope shape: Concave
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 6 inches: loam
Bw - 6 to 10 inches: gravelly fine sandy loam
Bg - 10 to 19 inches: gravelly fine sandy loam
Cd - 19 to 66 inches: gravelly loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 15 to 35 inches to densic material
Drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: D
Ecological site: F144AY009CT - Wet Till Depressions
Hydric soil rating: Yes

Description of Ridgebury, Somewhat Poorly Drained

Setting

Landform: Hills, drainageways, drumlins, depressions, ground moraines
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Head slope, base slope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Oa - 0 to 1 inches: highly decomposed plant material
A - 1 to 7 inches: loam
Bw - 7 to 13 inches: loam
Bg - 13 to 21 inches: fine sandy loam
Cd - 21 to 60 inches: gravelly fine sandy loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 15 to 35 inches to densic material
Drainage class: Somewhat poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 10 to 18 inches

Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: D
Ecological site: F144AY009CT - Wet Till Depressions
Hydric soil rating: No

Minor Components

Woodbridge, loam

Percent of map unit: 5 percent
Landform: Hills, drumlins, ground moraines
Landform position (two-dimensional): Footslope, summit, backslope
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Sun, very poorly drained

Percent of map unit: 5 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Leicester, loam

Percent of map unit: 3 percent
Landform: Ground moraines, depressions, hills, drainageways
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave, linear
Across-slope shape: Concave
Hydric soil rating: Yes

Paxton

Percent of map unit: 2 percent
Landform: Ground moraines, hills, drumlins
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Convex, linear
Across-slope shape: Linear, convex
Hydric soil rating: No

References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374

United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

Appendix E

Rainfall Data

Extreme Precipitation Tables

Northeast Regional Climate Center

Data represents point estimates calculated from partial duration series. All precipitation amounts are displayed in inches.

Metadata for Point

Smoothing	Yes
State	New York
Location	New York, United States
Latitude	41.368 degrees North
Longitude	73.777 degrees West
Elevation	170 feet
Date/Time	Tue Mar 19 2024 08:08:23 GMT-0400 (Eastern Daylight Time)

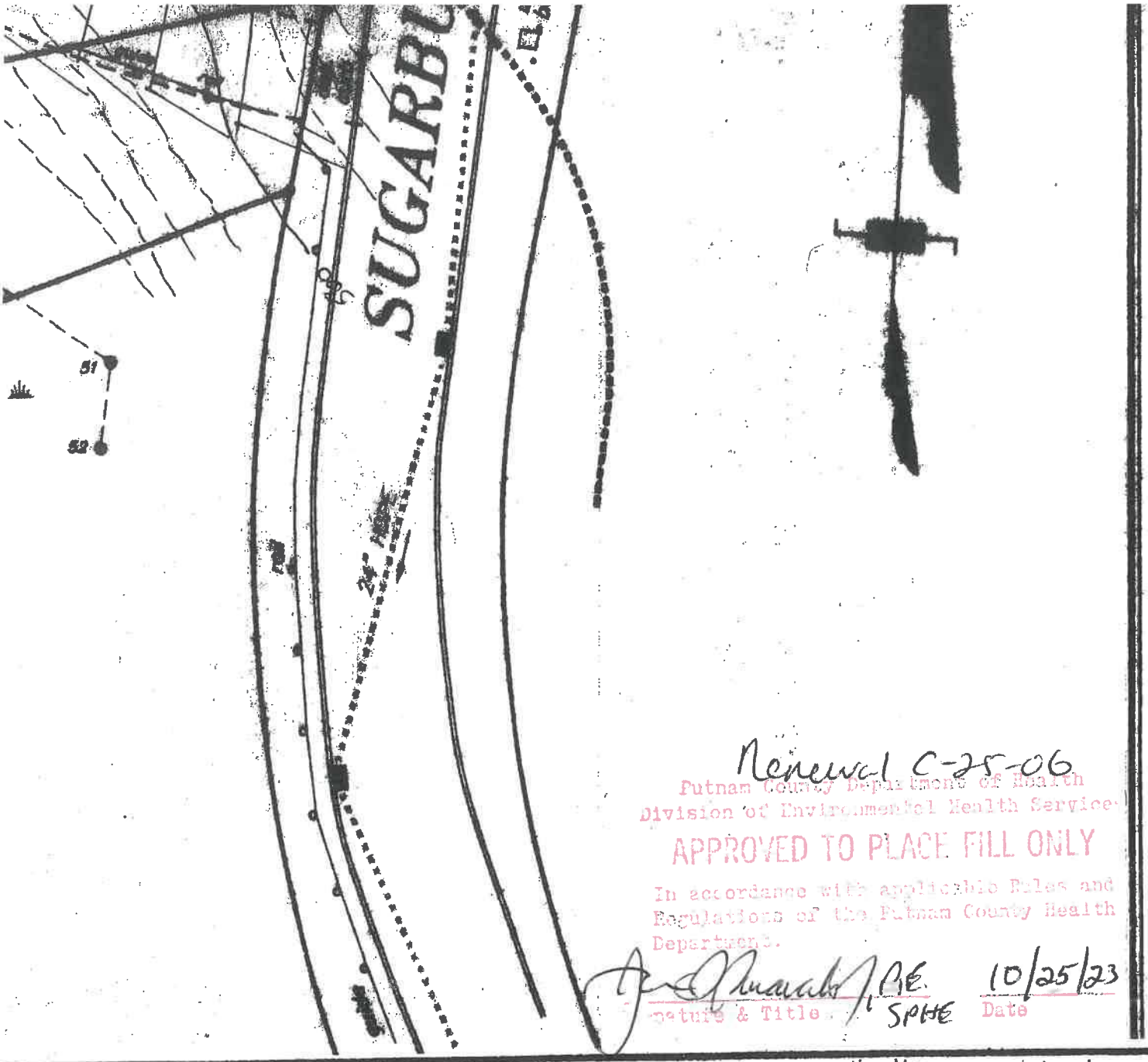
Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48h
1yr	0.34	0.52	0.65	0.85	1.06	1.31	**1yr**	0.91	1.23	1.50	1.84	2.25	2.74	3.0
2yr	0.39	0.61	0.76	1.00	1.25	1.56	**2yr**	1.08	1.46	1.79	2.21	2.71	3.32	3.7
5yr	0.46	0.71	0.90	1.20	1.53	1.94	**5yr**	1.32	1.79	2.24	2.77	3.41	4.18	4.7
10yr	0.51	0.80	1.01	1.38	1.79	2.28	**10yr**	1.54	2.09	2.65	3.29	4.06	4.98	5.6
25yr	0.59	0.94	1.19	1.65	2.20	2.84	**25yr**	1.90	2.57	3.31	4.15	5.13	6.28	7.1
50yr	0.66	1.07	1.37	1.91	2.58	3.36	**50yr**	2.22	3.00	3.93	4.93	6.11	7.50	8.6
100yr	0.75	1.21	1.56	2.22	3.02	3.97	**100yr**	2.61	3.51	4.66	5.88	7.29	8.95	10.
200yr	0.85	1.39	1.80	2.58	3.55	4.69	**200yr**	3.06	4.11	5.53	6.99	8.70	10.70	12.
500yr	1.02	1.67	2.18	3.15	4.41	5.88	**500yr**	3.81	5.06	6.95	8.82	11.01	13.56	15.

Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48h
1yr	0.26	0.40	0.49	0.65	0.80	1.09	**1yr**	0.69	1.07	1.34	1.67	2.08	2.45	2.7
2yr	0.38	0.59	0.73	0.98	1.21	1.45	**2yr**	1.05	1.42	1.65	2.09	2.64	3.23	3.6
5yr	0.43	0.66	0.82	1.13	1.43	1.70	**5yr**	1.24	1.66	1.93	2.44	3.07	3.95	4.4
10yr	0.47	0.73	0.90	1.26	1.63	1.90	**10yr**	1.41	1.85	2.17	2.73	3.45	4.45	5.1
25yr	0.54	0.82	1.02	1.45	1.91	2.19	**25yr**	1.65	2.15	2.51	3.16	4.02	5.33	6.2
50yr	0.59	0.90	1.12	1.62	2.18	2.45	**50yr**	1.88	2.40	2.83	3.55	4.53	6.12	7.1
100yr	0.66	1.00	1.25	1.81	2.48	2.76	**100yr**	2.14	2.70	3.18	3.97	5.11	7.04	8.3
200yr	0.74	1.11	1.41	2.04	2.85	3.11	**200yr**	2.46	3.04	3.59	4.46	5.76	8.11	9.7
500yr	0.86	1.29	1.66	2.41	3.42	3.64	**500yr**	2.95	3.56	4.25	5.21	6.79	9.83	11.

Upper Confidence Limits



Renewal C-25-06

Putnam County Department of Health
Division of Environmental Health Service

APPROVED TO PLACE FILL ONLY

In accordance with applicable Rules and Regulations of the Putnam County Health Department.

Signature & Title PE SPHE

10/25/23
Date

ROY FREDRIKSEN, PE
Consulting Engineer
Design Planning Construction

950
NY 10541

Phone (518) 928-0266

(PRELIMINARY DESIGN FOR FILL PLACEMENT ONLY)
SSTS DESIGN PLAN
(PUTNAM BROOK-LOT 2)

NICOLE STERN
888 ROUTE 6
MAHOPAC, NY 10541

SUGAR BUSH COURT
OWN of CARMEL, NY

Date: 3/18/22
REV 8/20/22
REV 9/26/22

STATE OF NEW YORK * LICENSED PROFESSIONAL ENGINEER * ROY A. FREDRIKSEN 60505

PUTNAM COUNTY DEPARTMENT OF HEALTH
DIVISIONOF ENVIRONMENTAL HEALTH SERVICES

APPLICATION TO CONSTRUCT A WATER WELL

Please print or type — PCHD Permit # C-25-06

Well Location	**Street Address:** SUGARBUSH CT **Town/Village:** CARMEL **Tax Map #** Map 75.13 Block 1 Lot(s) 74		
Well Owner:	**Name:** Nicole STERN	**Address:** 888 RTE 6, MAHOPAC	**Phone #** 914-490-2365
Use of Well 1- Primary 2-Secondary	✓ Residential; ___ Business; ___ Industrial	___ Public Supply; ___ Farm; ___ Institutional	___ Irrigation; ___ Test/Monitoring
Amount of Use	**Yield Sought** 5 gpm	**# People Served** 4	**Est. of Daily Usage** 400 gal.
Reason for Drilling	___ Replace Existing Supply; ✓ New Supply (new dwelling)	___ Test/Observation; ___ Deepen Existing Well	___ Additional Supply
Detailed Reason for Drilling	NEW House		
Well Type	✓ Drilled	___ Driven; ___ Gravel	___ Other

Is well site subject to flooding? ..... Yes ___ No ✓
Is well located in a realty subdivision? ..... Yes ✓ No ___
Name of subdivision PUTNAM BROOK **Lot No.** 2
Water Well Contractor: TBD **Address:** —
Is Public Water Supply available on site? ..... Yes ___ No ✓
Name of Public Water Supply: — **Town/Village** —
Distance to property from nearest water main: —
Proposed well location & sources of contamination to be provided on separate sheet/plan.

Date: 4/28/21 **Applicant Signature:** Roy G. Fredericks

PERMIT TO CONSTRUCT A WATER WELL

This permit to construct one water well as set forth above, is granted under provisions of Article 10 of the Putnam County Sanitary Code and Subpart 5-2 of Part 5 of the New York State Sanitary Code and provided that within thirty (30) days of the completion of water well construction, the applicant or their designated representative shall: 1) Pump the well until the water is clear. 2) Disinfect the well in accordance with the requirements of the Putnam County Health Department. 3) Submit a Well Completion Report on a form provided by the Putnam County Health Department. 4) The well driller shall abide by all conditions of the permit. 5) During all well drilling operations the well driller shall take appropriate action to assure that any and all water and waste products from such well drilling operations be contained on this property and in such a manner as not to degrade or otherwise contaminate surface or groundwater.

Additional Permit Requirements: _____

APPROVED FOR CONSTRUCTION: This approval expires two years from the date issued unless construction of the well has been completed and inspected by the PCDOH and is revocable for cause or may be amended or modified when considered necessary by the Commissioner of Health. Any revision or alteration of the approved plan requires a new permit. Well to be constructed by a water well driller licensed by Putnam County.

Date of Issue: 10/25/23 Permit Issuing Official: _____
Date of Expiration: 10/25/25 Title: SPHE
Permit is Non-Transferable

White copy – HD file; Yellow copy – Building Inspector: Pink copy – Owner; Orange copy – Well Driller

Form WP-97 Rev. 1/16

7/6/21
$500

PUTNAM COUNTY DEPARTMENT OF HEALTH
DIVISION OF ENVIRONMENTAL HEALTH SERVICES

CONSTRUCTION PERMIT FOR SEWAGE TREATMENT SYSTEM

PERMIT # C-25-06

Located at SUGARBUSH COURT Town or Village CARMEL

Subdivision name PUTNAM BROOK Subd. Lot # 2 Tax Map 75.13 Block 1 Lot 74

Date Subdivision Approved 1/25/96 Renewal _____ Revision _____

Owner/Applicant Name NICOLE STERN Date of Previous Approval _____

Mailing Address 888 ROUTE 6, MAHOPAC, NY 10541 Zip 10541

Amount of Fee Enclosed Paid $500

Building Type COLONIAL Lot Area 1.49A No. of Bedrooms 3 Design Flow GPD 450

Fill Section Only ✓ **Depth** 3FT **Volume** 900 CY
PCHD NOTIFICATION IS REQUIRED WHEN FILL IS COMPLETED

Separate Sewerage System to consist of 1000 gallon septic tank and 3FT ROCK FILL

Other Requirements: 1FT. DEEP CURTAIN DRAIN

To be constructed by TBD Address _____

Water Supply: _____ Public Supply From _____ Address _____

or: ✓ Private Supply Drilled by TBD Address _____

I represent that I am wholly and completely responsible for the design and location of the proposed system(s) and that the separate sewage treatment system described above will be constructed as shown on the approved amendment thereto and in accordance with the standards, rules and regulations of the Putnam County Department of Health, and that on completion thereof a "Certificate of Construction Compliance" satisfactory to the Public Health Director will be submitted to the Department, and a written guarantee will be furnished the owner, his successors, heirs or assigns by the builder, that said builder will place in good operating condition any part of said sewage treatment system during the period of two (2) years immediately following the date of the issuance of the approval of the Certificate of Construction Compliance of the original system or any repairs thereto.

Signed: _____ P.E. _____ R.A. _____ Date 6/20/22

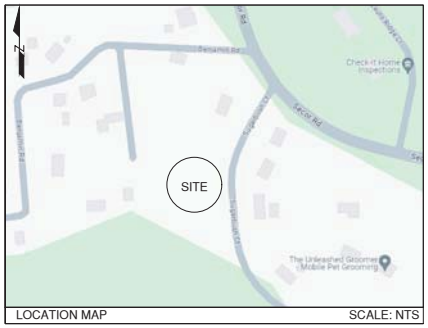
Address PO Box 950 MAHOPAC NY 10541 License # 50505

APPROVED FOR CONSTRUCTION: This approval expires two years from the date issued unless construction of the sewage treatment system has been completed and inspected by the PCHD and is revocable for cause or may be amended or modified when considered necessary by the Public Health Director. Any revision or alteration of the approved plan requires a new permit. Approved for discharge of domestic sanitary sewage only.

By: _____ Title: SPHE Date: 10/25/23

White copy - HD File; Yellow copy - Building Inspector; Pink copy - Owner; Orange copy - Design Professional

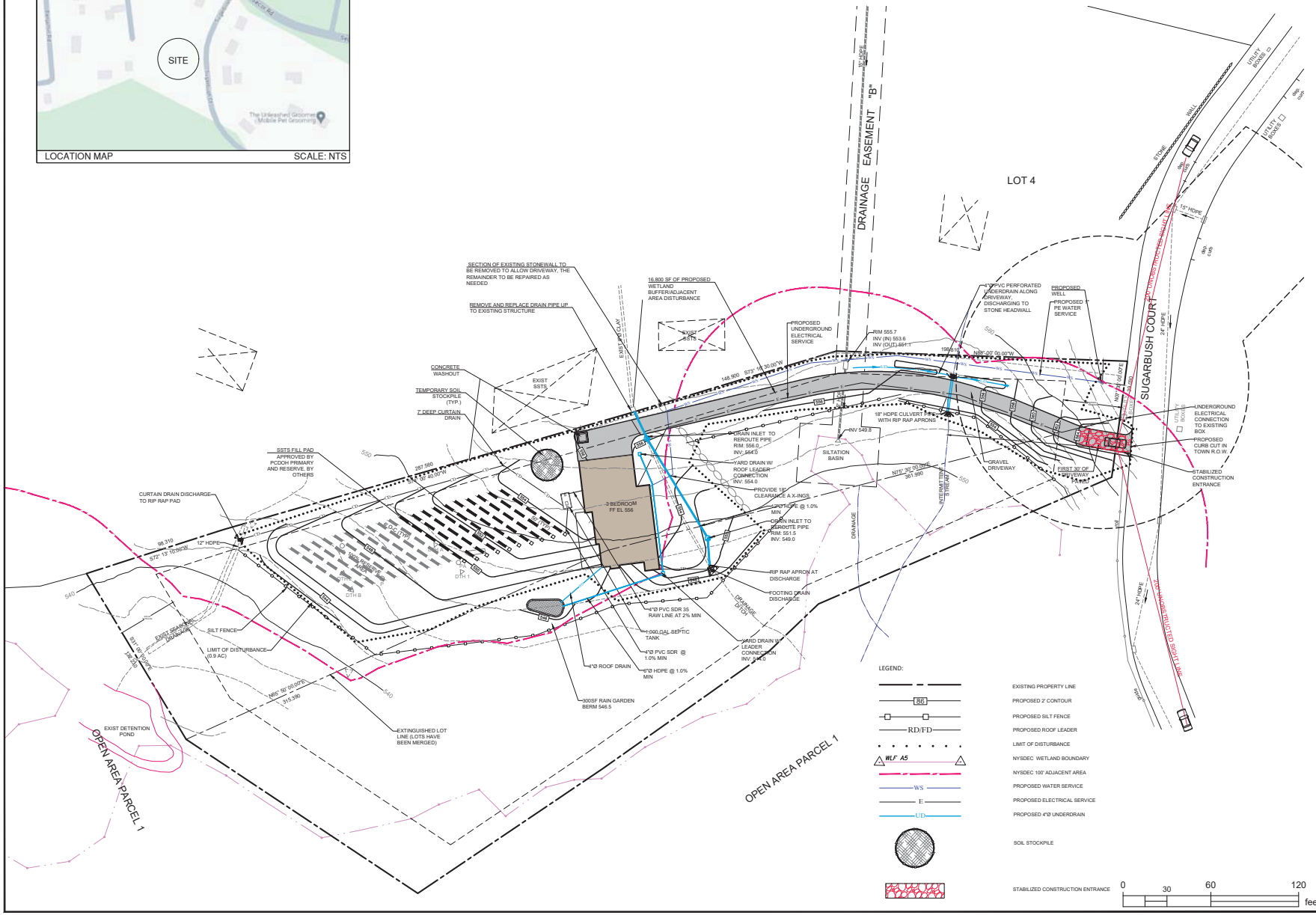
Form CP-97



LOCATION MAP SCALE: NTS

NYSDEC WETLAND NOTES:

1. THE NYSDEC WETLAND BOUNDARY SHOWN HEREON IS BASED ON A PLAN PREPARED BY ROY FREDRICKON, PE. THIS PLAN SHOWED THE WETLAND VALIDATION BLOCK SIGNED BY NYSDEC ON JANUARY 26, 2021.
2. ALL MATERIAL AND EQUIPMENT STORAGE SHALL OCCUR OUTSIDE OF THE 100' WETLAND BUFFER.
3. ALL FUELING OPERATIONS SHALL OCCUR OUTSIDE OF THE 100' WETLAND BUFFER.
4. EQUIPMENT SHALL BE PARKED ON 6MIL POLY SHEETS OUTSIDE OF THE WETLAND BUFFER.
5. NO SOIL EROSION CONTROL MEASURES SHALL BE REMOVED AND THE AREA PERMANENTLY STABILIZED UNTIL THEIR IRRESPECTIVE UP-GRADIENT DRAINAGE AREAS HAVE BEEN PERMANENTLY STABILIZED.
6. ALL FILL BROUGHT TO THE SITE MUST BE CERTIFIED PER NYSDEC REGULATIONS AND MANIFESTS/CERTIFICATION OF THE FILL MATERIAL BEING DELIVERED SHOULD BE PROVIDED.



NO.	REVISION	DATE
-	---	--/--/--
-	---	--/--/--

Dig Safely. New York Call 811 before you dig

SCALE: 1" = 30'

Owner
Nicholas Piqueras
17 Dixon Rd
Carmel NY 10538

Site Data

SITE ADDRESS	10 Sugarbush Court Mahopac, NY 10541
LOT SIZE:	2.49 Acres
TAX MAP:	75.13-1-74
ZONING:	R

HILDENBRAND ENGINEERING, PLLC
208 CREAMERY ROAD
HOPEWELL JUNCTION, NY
845.208.8994
Brian@HildenEng.com

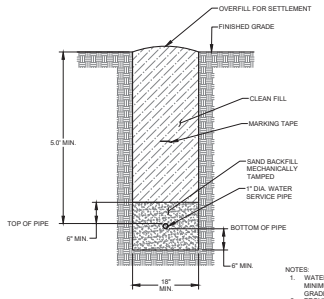
10 SUGARBUSH COURT
TOWN OF CARMEL
PUTNAM COUNTY

TITLE:
Site Plan

Seal

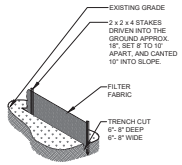
BRIAN HILDENBRAND, P.E.
LIC# 092374

Scale:	As Shown
Date:	January 13, 2024
Drawn By:	
Checked By:	BJH
Project No.:	
Sheet No.:	1 of 4
Dwg. No.:	C-100



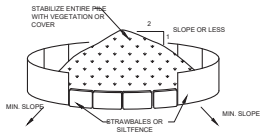
NOTES:
1. WATER SERVICE SHALL BE BURIED A MINIMUM OF 60" (5.0') BELOW FINISHED GRADE TO PREVENT FREEZING.
2. PROVIDE 24" WIDE TRENCH WIDTH IF EXCAVATED IN ROCK.
3. WATER SERVICE SHALL BE SEPARATED VERTICALLY A MINIMUM OF 18" (1.5') OR HORIZONTALLY A MINIMUM OF 10.0' AT ANY CROSSING.

WATER SERVICE TRENCH
SCALE: N.T.S.



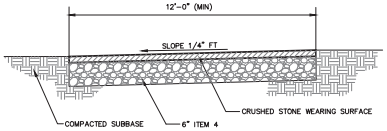
NOTE: AFTER FOLDING FABRIC EDGE, BACKFILL TRENCH WITH ORIGINAL SOIL AND BUTTRESS THE SPLAY WITH MULCH OR LEAF LITTER.

SILT FENCE DETAIL
SCALE: N.T.S.

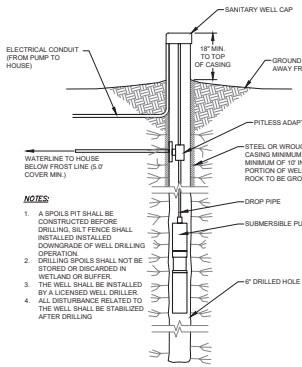


INSTALLATION NOTES:
1. AREA CHOSEN FOR STOCKPILING OPERATIONS SHALL BE DRY AND STABLE.
2. MAXIMUM SLOPE OF STOCKPILE SHALL BE 1:2.
3. UPON COMPLETION OF SOIL STOCKPILING, EACH PILE SHALL BE SURROUNDED WITH EITHER SILT FENCING OR STRAWBALES, THEN STABILIZED WITH VEGETATION OR COVERED.
4. SEE SPECIFICATIONS FOR INSTALLATION OF SILTFENCE.

SOIL STOCKPILING DETAIL
SCALE: N.T.S.

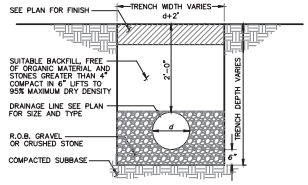


RESIDENTIAL DRIVEWAY DETAIL
SCALE: N.T.S.

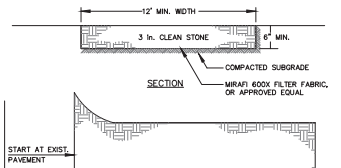


NOTES:
1. A SPOILS PIT SHALL BE CONSTRUCTED BEFORE DRILLING. SILT FENCE SHALL INSTALLED INSTALLED DOWNGRADE OF WELL DRILLING OPERATION.
2. DRILLING SPOILS SHALL NOT BE STORED OR DISCARDED IN WETLAND OR BUFFER.
3. THE WELL SHALL BE INSTALLED BY A LICENSED WELL DRILLER.
4. ALL DISTURBANCE RELATED TO THE WELL SHALL BE STABILIZED AFTER DRILLING

DRILLED WELL DETAIL
SCALE: N.T.S.

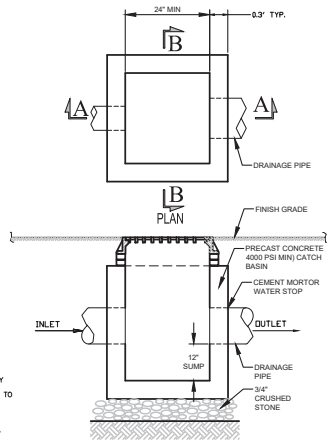


DRAINAGE TRENCH DETAIL
SCALE: N.T.S.

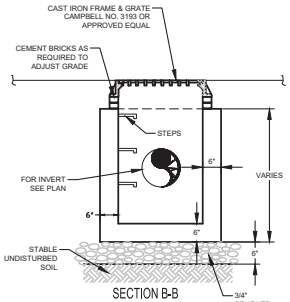


INSTALLATION NOTES
1. STONE SIZE – USE 3" STONE
2. LENGTH – AS REQUIRED, BUT NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY.)
3. THICKNESS – NOT LESS THAN SIX (6) INCHES.
4. WIDTH – 10 FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCUR.
5. FILTER CLOTH – WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE. FILTER CLOTH WILL NOT BE REQUIRED ON A SINGLE FAMILY RESIDENCE LOT.
6. SURFACE WATER – ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE – THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT OF WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHT OF WAY MUST BE REMOVED IMMEDIATELY.
8. WASHING – WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT OF WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER

STABILIZED CONSTRUCTION ENTRANCE DETAIL
SCALE: N.T.S.



NOTES:
1. BACKFILL AROUND CATCH BASIN TO BE COMPACTED IN MAX 8" LIFTS.
2. YARD DRAIN CONSTRUCTION TO BE CAPABLE OF WITHSTANDING H-20 LOADINGS.



YARD DRAIN INLET
SCALE: N.T.S.

CONSTRUCTION SEQUENCING

THE TOTAL DISTURBANCE OF THE PROPOSED PROJECT IS 0.90 ACRES. THE PROPOSED PROJECT WILL BE COMPLETED IN A SINGLE PHASE. THE CONSTRUCTION SEQUENCING IS OUTLINED ON THE ACCOMPANYING PLANS AND IS PROVIDED BELOW. THE CONSTRUCTION SEQUENCING IS AS FOLLOWS:

1. ALL DRIVEWAY WORK SHALL BE PROGRESSED IN INCREMENTS OF 75' TO 100' AS TO NOT EXPOSE TOO MUCH DISTURBANCE.
2. THE CONTRACTOR SHALL FLAG THE LIMITS OF DISTURBANCE PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. BRIGHT ORANGE CONSTRUCTION FENCING SHALL BE USED TO DEMARCATE THE LIMITS OF DISTURBANCE TO ENSURE OVER CLEARING DOES NOT OCCUR.
3. FOR EACH DRIVEWAY SECTION, REMOVE TREES, STUMPS, AND VEGETATION WITHIN THE DISTURBANCE LIMITS IN ACCORDANCE WITH THE PROJECT PLANS. ALL STUMPS SHALL BE STOCKPILED FOR REMOVAL FROM SITE. STUMP BURIAL IS PROHIBITED
4. FOR DRIVEWAY, REMOVE ORGANIC AND COMPRESSIBLE SOILS FROM WORK AREA. INSTALL COMPACTED BASE OF 3'-4" RIP RAP STONE.
5. INSTALL DRIVEWAY PIPE CROSSINGS. DO NOT TRACK/WHEEL EQUIPMENT THROUGH STREAM OR SOFT AREAS.
6. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES (E.G., STABILIZED CONSTRUCTION ENTRANCES, SILT FENCING, ETC.) SHALL BE INSTALLED AS SHOWN ON THE PROJECT PLANS. TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CONSTRUCTED, STABILIZED, AND FUNCTIONAL BEFORE SITE DISTURBANCE BEGINS WITHIN THEIR TRIBUTARY AREAS.
7. STABILIZED DRIVEWAY WILL BE USED AS A HAUL ROAD FOR SITE DEVELOPMENT.
8. STAKE OUT THE LOCATIONS OF THE LIMITS OF DISTURBANCE, PROPOSED STORMWATER MANAGEMENT FACILITIES, AND IMPROVEMENTS (E.G., HOUSE, SEPTIC, ETC.)
9. ROUGH GRADE THE HOUSE SITE. PLACE SURPLUS MATERIAL IN THE TEMPORARY SOIL STOCKPILE LOCATIONS SHOWN ON THE PROJECT PLANS.
10. CONSTRUCT THE HOUSE FOUNDATION.
11. CONSTRUCT ALL SITE UTILITIES AND UTILITY SERVICE CONNECTIONS AS SHOWN ON THE PROJECT PLANS. THIS INCLUDES THE STORMWATER MITIGATION SYSTEMS.
12. FINISH GRADING AND STABILIZE ALL DISTURBED AREAS. ALL EROSION AND SEDIMENT CONTROL MEASURES MUST BE LEFT IN PLACE TO PREVENT SEDIMENT FROM ENTERING THE TREATMENT PRACTICES. THE CONTRACTOR SHALL CLEAN ALL CATCH BASINS, MANHOLES, AND DRAINAGE LINES OF ANY ACCUMULATED SILT AND SEDIMENT PRIOR TO FINALIZING THE SWALE AREA.
13. REMOVE ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES. IMMEDIATELY STABILIZE THE AREAS DISTURBED DURING THEIR REMOVAL. ESTABLISH PERMANENT VEGETATIVE COVER AND INSTALL ALL LANDSCAPING AND WETLAND MITIGATION PLANTINGS.

EROSION AND SEDIMENT CONTROL PLAN

THIS SWPPP AND ACCOMPANYING PROJECT PLANS IDENTIFY BOTH TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL MEASURES, WHICH HAVE BEEN DESIGNED IN ACCORDANCE WITH THE NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL, LATEST REVISION. TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED DURING CONSTRUCTION TO MINIMIZE SOIL EROSION AND CONTROL SEDIMENT TRANSPORT OFF-SITE. PERMANENT EROSION AND SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED AFTER CONSTRUCTION TO CONTROL THE QUALITY AND QUANTITY OF STORMWATER RUNOFF FROM THE DEVELOPED SITE.

EROSION AND SEDIMENT CONTROL MEASURES

TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES TO BE UTILIZED DURING CONSTRUCTION GENERALLY INCLUDE THE FOLLOWING:

1. STABILIZED CONSTRUCTION ENTRANCE - PRIOR TO CONSTRUCTION, STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED TO REDUCE THE TRACKING OF SEDIMENT ONTO PUBLIC ROADWAYS. CONSTRUCTION TRAFFIC MUST ENTER AND EXIT THE SITE AT THE STABILIZED CONSTRUCTION ENTRANCE. THE ENTRANCE SHALL BE MAINTAINED IN GOOD CONDITION, WHICH WILL CONTROL TRACKING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY OR STREETS. WHEN NECESSARY, THE PLACEMENT OF ADDITIONAL AGGREGATE ATOP THE FILTER FABRIC SHALL BE DONE TO ASSURE THE MINIMUM THICKNESS IS MAINTAINED. ALL SEDIMENTS AND SOILS SPILLED, DROPPED, OR WASHED ONTO THE PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH SUBSTANTIAL RAINFALL EVENT.
2. DUST CONTROL - WATER TRUCKS SHALL BE USED, AS NEEDED, DURING CONSTRUCTION TO REDUCE DUST GENERATED ON THE SITE. DUST CONTROL MUST BE PROVIDED BY THE GENERAL CONTRACTOR TO A DEGREE THAT IS ACCEPTABLE TO THE OWNER/OPERATOR, AND IN COMPLIANCE WITH THE APPLICABLE LOCAL AND STATE DUST CONTROL REQUIREMENTS.
3. TEMPORARY SOIL STOCKPILE - MATERIALS, SUCH AS TOPSOIL, SHALL BE TEMPORARILY STOCKPILED (IF NECESSARY) ON THE SITE DURING THE CONSTRUCTION PROCESS. STOCKPILES SHALL BE LOCATED IN AN AREA AWAY FROM STORM DRAINAGE, WATER BODIES AND/OR COURSES, AND SHALL BE PROPERLY PROTECTED FROM EROSION BY A SURROUNDING SILT FENCE BARRIER OR HAY BALES WHEN LOCATED ON PAVED AREAS.
4. SILT FENCING - PRIOR TO THE INITIATION OF AND DURING CONSTRUCTION ACTIVITIES, SILT FENCING SHALL BE ESTABLISHED ALONG THE PERIMETER OF ALL AREAS TO BE DISTURBED AS A RESULT OF THE CONSTRUCTION WHICH LIE UP GRADIENT OF WATER COURSES OR ADJACENT PROPERTIES. THESE BARRIERS MAY EXTEND INTO NON-IMPACT AREAS TO ENSURE ADEQUATE PROTECTION OF ADJACENT LANDS. CLEARING AND GRUBBING SHALL BE PERFORMED ONLY AS NECESSARY FOR THE INSTALLATION OF THE SEDIMENT CONTROL BARRIER. TO ENSURE EFFECTIVENESS OF THE SILT FENCING, DAILY INSPECTIONS AND INSPECTIONS IMMEDIATELY AFTER SIGNIFICANT STORM EVENTS SHALL BE PERFORMED BY SITE PERSONNEL. MAINTENANCE OF THE FENCE SHALL BE PERFORMED AS NEEDED.
5. TEMPORARY SEEDING - WITHIN SEVEN DAYS AFTER CONSTRUCTION ACTIVITY CEASES ON ANY PARTICULAR AREA OF THE SITE, ALL DISTURBED AREAS WHERE THERE SHALL NOT BE CONSTRUCTION FOR LONGER THAN 14 DAYS SHALL BE TEMPORARILY SEEDED AND MULCHED TO MINIMIZE EROSION AND SEDIMENT LOSS.
6. TEMPORARY SEDIMENT BASIN - A TEMPORARY SEDIMENT BASIN SHALL BE CONSTRUCTED TO INTERCEPT SEDIMENT LADEN RUNOFF, REDUCE THE AMOUNT OF SEDIMENT LEAVING THE DISTURBED AREAS, AND PROTECT DRAINAGE WAYS, PROPERTIES, AND RIGHTS-OF-WAY. PROJECTS THAT HAVE PROPOSED STORMWATER PONDS CAN BE USED AS TEMPORARY SEDIMENT BASINS DURING CONSTRUCTION. TEMPORARY SEDIMENT BASINS SHALL BE INSPECTED AT LEAST EVERY SEVEN CALENDAR DAYS. ALL DAMAGES CAUSED BY SOIL EROSION AND CONSTRUCTION EQUIPMENT SHALL BE REPAIRED UPON DISCOVERY. ACCUMULATED SEDIMENT SHALL BE REMOVED FROM THE SEDIMENT BASIN/TRAP WHEN IT REACHES 50 PERCENT OF THE DESIGN CAPACITY AND SHALL NOT EXCEED 50 PERCENT. SEDIMENT SHALL NOT BE PLACED DOWNSTREAM FROM THE EMBANKMENT, ADJACENT TO A STREAM, OR FLOODPLAIN.
7. DEWATERING - DEWATERING, IF REQUIRED, SHALL NOT BE DISCHARGED DIRECTLY INTO WETLANDS, WATER COURSES, WATER BODIES, AND STORM SEWER SYSTEMS. PROPER METHODS AND DEVICES SHALL BE UTILIZED TO THE EXTENT PERMITTED BY LAW, SUCH AS PUMPING WATER INTO TEMPORARY SEDIMENT BASINS. PROVIDING SURGE PROTECTION AT THE INLET AND OUTLET OF PUMPS, FLOATING THE INTAKE OF THE PUMP, OR OTHER METHODS TO MINIMIZE AND RETAIN THE SUSPENDED SOLIDS.

PERMANENT EROSION AND SEDIMENT CONTROL MEASURES TO BE UTILIZED AFTER CONSTRUCTION GENERALLY INCLUDE THE FOLLOWING:

1. ESTABLISHMENT OF PERMANENT VEGETATION - DISTURBED AREAS THAT ARE NOT COVERED BY IMPERVIOUS SURFACES SHALL BE SEEDED IN ACCORDANCE WITH THE ACCOMPANYING PLANS. THE TYPE OF SEED, MULCH, AND MAINTENANCE MEASURES SHALL BE FOLLOWED. ALL AREAS AT FINAL GRADE SHALL BE SEEDED AND MULCHED WITHIN SEVEN (7) DAYS AFTER COMPLETION OF THE MAJOR CONSTRUCTION ACTIVITY. ALL SEEDED AREAS SHALL BE PROTECTED WITH MULCH AND/OR HAY. FINAL SITE STABILIZATION IS ACHIEVED WHEN ALL SOIL-DISTURBING ACTIVITIES AT THE SITE HAS BEEN COMPLETED AND A UNIFORM, PERENNIAL VEGETATIVE COVER WITH A DENSITY OF 80 PERCENT HAS BEEN ESTABLISHED OR EQUIVALENT STABILIZATION MEASURES (SUCH AS THE USE OF MULCHES OR GEOTEXTILES) HAVE BEEN EMPLOYED ON ALL UNPAVED AREAS AND AREAS NOT COVERED BY PERMANENT STRUCTURES.
2. FINAL SEEDING AND PLANTING - FINAL SEEDING AND PLANTING SHALL BE INSTALLED AS SHOWN ON THE ACCOMPANYING PLANS. FINAL SEEDING AND PLANTING WILL HELP MINIMIZE EROSION AND SEDIMENT LOSS.
3. ROCK OUTLET PROTECTION - ROCK OUTLET PROTECTION SHALL BE INSTALLED AT THE LOCATIONS AS SHOWN ON THE ACCOMPANYING PLANS. THE INSTALLATION OF ROCK OUTLET PROTECTION WILL REDUCE THE DEPTH, VELOCITY, AND ENERGY OF WATER, SUCH THAT THE FLOW WILL NOT ERODE THE RECEIVING WATER COURSE OR WATER BODY.

SPECIFIC EROSION AND SEDIMENT CONTROL MEASURES, INSPECTION FREQUENCY, AND REMEDIATION PROCEDURES ARE PROVIDED IN THE SUBSEQUENT SECTIONS AND ON THE ACCOMPANYING PROJECT PLANS.

POLLUTION PREVENTION CONTROLS

GOOD HOUSEKEEPING PRACTICES ARE DESIGNED TO MAINTAIN A CLEAN AND ORDERLY WORK ENVIRONMENT. GOOD HOUSEKEEPING MEASURES SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PROCESS BY THOSE PARTIES INVOLVED WITH THE DIRECT CARE AND DEVELOPMENT OF THE SITE. THE FOLLOWING MEASURES SHOULD BE IMPLEMENTED TO CONTROL THE POSSIBLE EXPOSURE OF HARMFUL SUBSTANCES AND MATERIALS TO STORMWATER RUNOFF:

1. MATERIAL RESULTING FROM THE CLEARING AND GRUBBING OPERATION SHALL BE STOCKPILED AWAY FROM STORM DRAINAGE, WATER BODIES AND/OR WATERCOURSES AND SURROUNDED WITH ADEQUATE EROSION AND SEDIMENT CONTROL MEASURES. SOIL STOCKPILE LOCATIONS SHALL BE EXPOSED NO LONGER THAN 14 DAYS BEFORE SEEDING.
2. EQUIPMENT MAINTENANCE AREAS SHALL BE PROTECTED FROM STORMWATER FLOWS AND SHALL BE SUPPLIED WITH APPROPRIATE WASTE RECEPTACLES FOR SPENT CHEMICALS, SOLVENTS, OILS, GREASES, GASOLINE, AND ANY POLLUTANTS THAT MIGHT CONTAMINATE THE SURROUNDING HABITAT AND/OR WATER SUPPLY. EQUIPMENT WASH-DOWN ZONES SHALL BE LOCATED WITHIN AREAS DRAINING TO SEDIMENT CONTROL DEVICES.
3. THE USE OF DETERGENTS FOR LARGE-SCALE (I.E., VEHICLES, BUILDINGS, PAVEMENT SURFACES, ETC.) WASHING IS PROHIBITED.
4. MATERIAL STORAGE LOCATIONS AND FACILITIES (I.E., COVERED STORAGE AREAS, STORAGE SHEDS, ETC.) SHALL BE LOCATED ONSITE AND SHALL BE STORED ACCORDING TO THE MANUFACTURER'S STANDARDS IN A DEDICATED STAGING AREA. CHEMICALS, PAINTS, SOLVENTS, FERTILIZERS, AND OTHER TOXIC MATERIAL MUST BE STORED IN WATERPROOF CONTAINERS. RUNOFF CONTAINING SUCH MATERIALS MUST BE COLLECTED, REMOVED FROM THE SITE, TREATED AND DISPOSED AT AN APPROVED SOLID WASTE OR CHEMICAL DISPOSAL FACILITY.
5. HAZARDOUS SPILLS SHALL BE IMMEDIATELY CONTAINED TO PREVENT POLLUTANTS FROM ENTERING THE SURROUNDING HABITAT AND/OR WATER SUPPLY. SPILL KITS SHALL BE PROVIDED ONSITE AND SHALL BE DISPLAYED IN A PROMINENT LOCATION FOR EASE OF ACCESS AND USE. SPILLS GREATER THAN FIVE (5) GALLONS SHALL BE REPORTED TO THE NYSDEC RESPONSE UNIT AT 1-800-457-7362. IN ADDITION, A RECORD OF THE INCIDENT(S) AND/OR NOTIFICATIONS SHALL BE DOCUMENTED AND ATTACHED TO THE SWPPP.
6. PORTABLE SANITARY WASTE FACILITIES SHALL BE PROVIDED ONSITE FOR WORKERS AND SHALL BE PROPERLY MAINTAINED.
7. DUMPSTERS AND/OR DEBRIS CONTAINERS SHALL BE LOCATED ONSITE AND SHALL BE OF ADEQUATE SIZE TO MANAGE RESPECTIVE MATERIALS. REGULAR COLLECTION AND DISPOSAL OF WASTES SHALL OCCUR AS REQUIRED.
8. TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE LOCATED A MINIMUM OF 50 FEET FROM STORM DRAIN INLETS, OPEN DRAINAGE FACILITIES, AND WATERCOURSES. EACH FACILITY SHOULD BE LOCATED AWAY FROM CONSTRUCTION TRAFFIC OR ACCESS AREAS TO PREVENT DISTURBANCE OR TRACKING. A SIGN SHOULD BE INSTALLED ADJACENT TO EACH WASHOUT FACILITY TO INFORM CONCRETE EQUIPMENT OPERATORS TO UTILIZE THE PROPER FACILITIES. WHEN TEMPORARY CONCRETE WASHOUT FACILITIES ARE NO LONGER REQUIRED FOR THE WORK, THE HARDENED CONCRETE SHALL BE REMOVED AND DISPOSED OF. MATERIALS USED TO CONSTRUCT THE TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE REMOVED AND DISPOSED OF. HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCE CAUSED BY THE REMOVAL OF THE TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE BACKFILLED AND/OR REPAIRED, SEEDED, AND MULCHED FOR FINAL STABILIZATION.
9. NON-STORMWATER COMPONENTS OF SITE DISCHARGE MUST BE CLEAN WATER. WATER USED FOR CONSTRUCTION, WHICH DISCHARGES FROM THE SITE, MUST ORIGINATE FROM A PUBLIC WATER SUPPLY OR PRIVATE WELL APPROVED BY THE HEALTH DEPARTMENT. WATER USED FOR CONSTRUCTION THAT DOES NOT ORIGINATE FROM AN APPROVED PUBLIC SUPPLY MUST NOT DISCHARGE FROM THE SITE. IT CAN BE RETAINED IN THE PONDS UNTIL IT INFILTRATES AND EVAPORATES.

NO.	REVISION	DATE
-	---	--/--/--
-	---	--/--/--

Dig Safely. New York Call 811 before you dig

LEGEND:

SCALE: 1" = 30'

Owner
Nicholas Piqueras
17 Dixon Rd
Carmel NY 10538

Site Data

SITE ADDRESS	10 Sugarbush Court Mahopac, NY 10541
LOT SIZE:	2.49 Acres
TAX MAP:	75.13-1-74
ZONING:	R

HILDENBRAND ENGINEERING, PLLC
208 CREAMERY ROAD
HOPEWELL JUNCTION, NY
845.208.6994
Brian@HildenEng.com

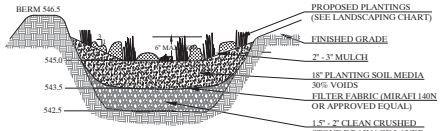
10 SUGARBUSH COURT
TOWN OF CARMEL
PUTNAM COUNTY

TITLE:
DETAILS

Seal

BRIAN HILDENBRAND, P.E.
LIC# 092374

Scale:	As Shown
Date:	January 13, 2024
Drawn By:	
Checked By:	BJH
Project No.:	
Sheet No.:	2 of 4
Dwg. No.:	D-100

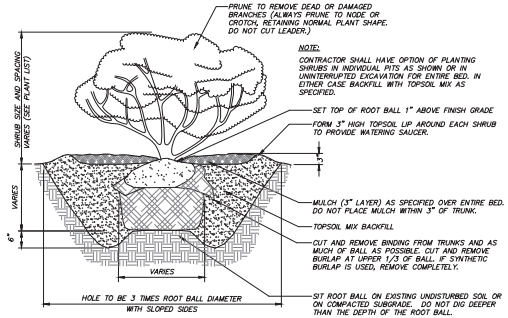


NOTES:
1. PLANTING SOIL MEDIA SHOULD CONSIST IF 50%-70% SAND (LESS THAN 5% CLAY CONTENT), 50%-30% TOPSOIL WITH AN AVERAGE OF 5% ORGANIC MATTER (COMPOST OR PEAT).
2. THE PLANTING SOIL MEDIA SOIL SHOULD BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS AND OTHER OBJECTS LARGER THAN 2 INCHES IN DIAMETER. THE SOIL SHOULD BE VISIBLY FREE OF NOXIOUS WEEDS.
3. THE SOIL SHOULD HAVE A pH RANGE OF 5.2 TO 7.0 AND AN ORGANIC CONTENT OF 1.5%-4.0%
4. THE MULCH LAYER SHOULD BE STANDARD LANDSCAPE STYLE, SINGLE OR DOUBLE, SHREDDED HARDWOOD MULCH OR CHIPS. THE MULCH LAYER SHOULD BE WELL AGED (STOCKPILED OR STORED FOR AT LEAST 12 MONTHS). THE MULCH LAYER SHOULD BE UNIFORM IN COLOR AND FREE OF WEED SEEDS, SOIL, ROOTS, GRASS CLIPPINGS, ETC.

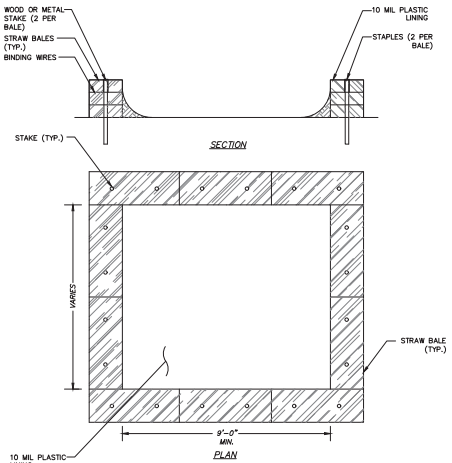
RAIN GARDEN DETAIL
SCALE: N.T.S.

RAIN GARDEN PLANT LIST

INITIALS	QTY.	BOTANICAL NAME	COMMON NAME	SIZE
BUSHES				
CA	6	Clethra alnifolia	Sweet Pepperbush	2.5-3 FT.
CASIB	6	Cornus sericea 'Cardinal'	Red Osier Dogwood	3.5-4 FT.
IV	3	Ilex verticillata	Winterberry	3.5-4 FT.
PERENNIALS AND GROUND COVERS				
CORL	18	Chelone obliqua	Turtlehead	1 GAL.
LC	18	Lobelia cardinalis	Cardinal Flower	1 GAL.
VER	18	Iris versicolor	Blue Flag Iris	1 GAL.
YC	18	Tiarella cordifolia	Foamflower	1 GAL.

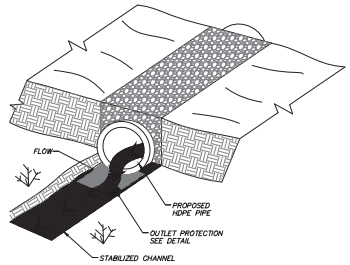


SHRUB PLANTING DETAIL
(N.T.S.)

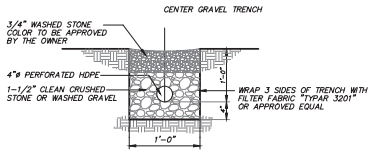


NOTES
1. TEMPORARY CONCRETE WASHOUT TYPE ABOVE GRADE WILL BE CONSTRUCTED AS SHOWN ABOVE, WITH RECOMMENDED MINIMUM LENGTH AND MINIMUM WIDTH OF 10 FT.
2. THE WASHOUT WILL BE MINIMUM OF 50 FT FROM STORM DRAIN INLETS.
3. PLASTIC LINING WILL BE FREE OF HOLES, TEARS, OR OTHER DEFECTS THAT COMPROMISE THE IMPERMEABILITY OF THE MATERIAL.

CONCRETE WASHOUT DETAIL
SCALE: N.T.S.

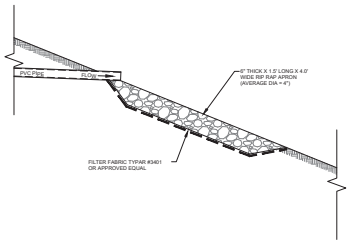


PIPE CULVERT DETAIL
SCALE: N.T.S.

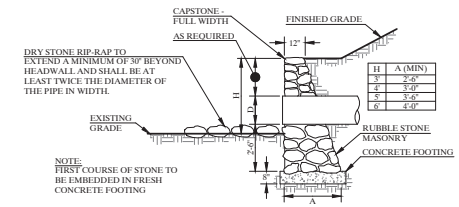


LINEAR GRAVEL DRAIN DETAIL
SCALE: N.T.S.

GENERAL SITE EROSION CONTROL INSPECTION AND MAINTENANCE TABLE			
MAINTENANCE ITEM	FREQUENCY	DESCRIPTION OF INSPECTION PARAMETERS	DESCRIPTION OF REMEDY PROCEDURES
SITE STRUCTURES & INFILTRATION CHAMBERS	ANNUAL & AFTER MAJOR STORMS	-ACCUMULATED SEDIMENT IN CATCH BASIN SUMPS -ACCUMULATED DEBRIS AND LITTER -DAMAGE OR FATIGUE OF STORM STRUCTURES OR ASSOC. COMPONENTS -ACCUMULATION OF POLLUTANTS, INCLUDING OILS OR GREASE, IN CATCH BASIN SUMPS	-REMOVE -REMOVE -REPAIR AND/OR REPLACE, AS NECESSARY -REMOVE POLLUTANTS FROM CATCH BASINS. REMOVE AND/OR REPAIR POLLUTANT SOURCE
PAVEMENT	BIANNUAL/ANNUAL	-ACCUMULATED SEDIMENT IN PAVED AREAS -ACCUMULATED DEBRIS AND LITTER	-REMOVE (SWEEP MIN 2 TIMES/YEAR) -REMOVE
EMBANKMENTS	ANNUAL	-DIFFERENTIAL SETTLEMENT OF EMBANKMENTS -EMBANKMENT EROSION -ANIMAL BURROWS -CRACKING, BULGING, OR SLIDING OF EMBANKMENT	-STABILIZE AND RESTORE TO ORIGINAL SPECIFICATIONS -STABILIZE AND RESTORE TO ORIGINAL SPECIFICATIONS -REMOVE -STABILIZE AND RESTORE TO ORIGINAL SPECIFICATIONS
LAWN AND LANDSCAPED AREAS	ANNUAL	-VEGETATION: 80% COVERAGE + LESS THAN 15% INVASIVE PLANT SPECIES -UNAUTHORIZED PLANTINGS -UNDESIRABLE VEGETATIVE GROWTH -ACCUMULATED DEBRIS AND LITTER	-RESTORE TO ORIGINAL SPECIFICATIONS AS PER PLANTING PLAN -REMOVE -MOW A MIN. OF 3 TIMES A YEAR. MAY INCREASE FOR AESTHETIC REASONS. -REMOVE
WINTER MAINTENANCE	MONTHLY	-ACCUMULATION OF SNOW AND ICE ON CATCH BASINS, INLET AND OUTLET STRUCTURES, AND END SECTIONS -STOCK PILED SNOW NEAR INLETS AND OUTLETS -REMAINING DEICING MATERIALS	-REMOVE -REMOVE -REMOVE IN EARLY SPRING BY SWEEPING



OUTLET PROTECTION DETAIL
SCALE: N.T.S.



H	A (MIN)
3'	2'-0"
4'	3'-0"
5'	3'-6"
6'	4'-0"

STONE HEADWALL DETAIL
SCALE: N.T.S.

NO.	REVISION	DATE
-	---	--/--/--
-	---	--/--/--

Dig Safely. New York Call 811 before you dig

Owner
Nicholas Piqueras
17 Dixon Rd
Carmel NY 10538

Site Data

SITE ADDRESS	10 Sugarbush Court Mahopac, NY 10541
LOT SIZE:	2.49 Acres
TAX MAP:	75.13-1-74
ZONING:	R

HILDENBRAND ENGINEERING, PLLC
208 CREAMERY ROAD
HOPEWELL JUNCTION, NY
845.208.8994
Brian@HildenEng.com

10 SUGARBUSH COURT
TOWN OF CARMEL
PUTNAM COUNTY

TITLE:
DETAILS

Seal

BRIAN HILDENBRAND, P.E.
LIC# 092374

Scale:	As Shown
Date:	January 13, 2024
Drawn By:	
Checked By:	BJH
Project No.:	
Sheet No.:	3 of 4
Dwg. No.:	D-200

INVASIVE PLANT REMOVAL

The invasive plants will be removed by hand with cutting tools and digging to remove root mass. As discussed in detail below, several of these plants must be disposed of offsite to prevent spread of remnant seed and vegetative re-growth of rhizomes. Limited use of herbicide may be required for plant species that are less likely to be successfully eradicated by hand-removal alone. The determination as to whether and when to use herbicide and its application in the field would be made by the project ecologist in consultation with the licensed landscape professional who would conduct the application. The landscape professional must be licensed in the application of all herbicides used.

The predominant non-native, invasive plants found onsite and to be removed during the wetland and wetland buffer enhancement activities are listed below. For each target species a brief description is provided along with details on preferred removal techniques, alternative removal techniques, and a recommended schedule of removal activities.

TARGET SPECIES: HERBACEOUS PLANTS

Japanese Barberry (Berberis thunbergii)

Description: a multi-branched dense shrub that can grow to 2.5 m (8 ft) in height. Shiny green to burgundy leaves are alternate along its thorny stems. Solitary yellow flowers bloom from March to April, and the fruit is a round or elliptical red berry. Japanese barberry is a popular landscape shrub that has escaped into many natural areas, and can grow in dense thickets in the understory of woods and forests. It is a prolific seed producer, and numerous birds eat and subsequently disperse the seeds.

Preferred Removal Strategy: Pulling by band or weed wrench, or mowing/cutting

Hand pulling can effectively control small populations of Japanese barberry, since it can be done during most of the year and plants pull up easily in most forested habitats. To avoid injury from the sharp spines, heavy gloves and long-sleeved shirt are recommended. Barberry breaks bud early in the spring, thus it is easy to see in springtime before other deciduous plants leaf out. If plants have fruit present, they should be bagged and disposed of to prevent seed dispersal. Care should be taken to minimize soil disturbance. If lacking berries, uprooted shrubs can be piled and left as cover for small animals. For larger shrubs, a weed wrench provides the necessary leverage to pull up the plant by its roots and also minimizes contact with the thorny stems.

Repeated mowing or cutting will control the spread of Japanese barberry but will not eradicate it. Stems should be cut at least once per growing season as close to ground level as possible. Hand cutting of established clumps is difficult and time consuming due to the prolific thorns.

Alternate Removal Strategy: Herbicides

Japanese barberry breaks bud earlier in the spring than most woody species. Thus, it is possible to selectively spray its young leaves before other woody species have produced leaves. For such early season treatments, triclopyr is usually more effective than glyphosate. Wait until significant leaf expansion to ensure sufficient absorption of triclopyr. From mid summer to fall, both glyphosate and triclopyr are effective when applied as foliar sprays or as cut stump treatments.

Foliar spray:

BRUSH-B-GON [triclopyr (8%)]:

4 fl. oz./gal

Cut-stump treatment: Undiluted

Multiflora Rose (Rosa multiflora)

Description: a large, dense shrub that has escaped from ornamental and conservation plantings to become a serious invasive plant problem across the eastern half of the U.S. It invades natural areas, pastures, and light gaps in forests. Multiflora rose spreads quickly and may grow 1 to 2 feet per week to form impenetrable thickets of thorny stems.

Preferred Removal Strategy: Cutting or grubbing

Cutting method is appropriate for small initial populations and for environmentally sensitive areas where herbicides cannot be used. Repeated cutting will control the spread of multiflora rose, but will not eradicate it. Stems should be cut at least once per growing season as close to ground level as possible. Hand cutting of established clumps is difficult and time consuming due to the long arching stems and prolific thorns.

Pulling, grubbing, or removing individual plants is effective when plants are small. Use a digging tool to remove the entire plant. Special care should be taken to ensure that all roots are removed to prevent their resprouting. If plants develop from severed roots these should be removed as well.

Alternate Removal Strategy: Herbicides

Multiflora rose is susceptible to both glyphosate and triclopyr. Triclopyr can be applied starting in spring before or during flowering. Glyphosate is most effective when applied after flowering

(early summer) until early fall. Cut-stump treatments with both herbicides also provide control, but cutting stumps in established thickets is very difficult because of the nwnerous thorny branches.

BRUSH-B-GON [triclopyr (8%)]:

Foliar spray: 4 fl. oz./gal

Cut-stump treatment: Undiluted

HABITAT ENHANCEMENT/ AUGMENTATION OF NATIVE SPECIES

The primary objective of the revegetation effort will be to create a foundation for long term stability of a productive wetland ecology. The initial planting must address erosion control issues while providing an environment which gives an advantage to the establishment of native species.

Both woody plants and herbaceous species appropriate for the site conditions will be specified. There is an opportunity to collect desirable species from areas of the project which will be excavated and /or regraded prior to site demolition. The project ecologist will be on site to direct collection activities. All collected plant material must be replanted immediately or stored in appropriate conditions to maintain its viability.

Additional plant material will be required to supplement the collected material and to introduce natives species not currently found on the project site. Herbaceous plant material will be specified in a variety of sizes for each species; in small containers and plugs. Depending on the species, the vegetation will be planted at 6" to 2' –0" on–center to provide uniform cover of the enhancement area within the first year of growth. Woody plant materials will be specified in a variety of types and sizes; containerized plant and live stakes. Planting of all herbaceous materials will take place in the spring. Containerized trees and shrubs will take place either spring or fall. Live stakes of shrubs will be planted during the shrub's dormant season.

Topsoil

Any existing topsoil which exhibits the presence of invasive species should not be reused within the enhancement area. If additional topsoil is required will be brought in from an approved source and free of any undesirable materials. Topsoil placed in the wetland enhancement areas should not be rolled or compacted. If the topsoil is rolled or compacted with smooth–wheeled equipment that results in a smooth, planar surface for the topsoil, the surface must then be scarified prior to planting.

Watering

Newly planted vegetation in the enhancement areas should be monitored for up to 5 years. Irrigation is important during the first growing season for plant establishment. During the first 3 to 5 years trees and shrubs should be irrigated during the dry periods and mulchs to retain moisture. Native grasses and wildflowers need no supplemental irrigation.

Pest control

Generally, native plants do not require the use of insecticides or fungicides. However, if pesticides are required, pesticides labeled for aquatic use will be used. Label directions for application, usage and disposal will be followed. Fencing and or bird mesh will be installed and maintained for a minimum of five years to deter grazing by wildlife.

Maintenance Practices

The pruning of native trees and shrubs is not required. Native grasses will benefit from a once yearly high mowing or string line trimming. Consistent and on–going monitoring and maintenance will be critical to identify and mitigate problems in the post–construction period. A monitoring period will be required to ensure the success of the initial enhancement plantings in taking hold and occupying the growing space. During this period subsequent invasive plant removal will likely occur.

Successful "filling" of the growing space by the enhancement plant can itself help prevent re colonization by invasive plant species. Annual monitoring and all subsequent removal activities will be overseen by the project ecologist on all occasions. The techniques employed to remove invasive plants, and the decision to use herbicide, will be re–evaluated annually. Based on annual monitoring and an assessment of invasive plant presence, the techniques will be adjusted as necessary to maximize invasive plant removal while minimizing negative effects to the site's wetlands and existing native flora/fauna. The project ecologist will provide a letter report to the Town Planning Department documenting the monitoring and maintenance activities that occur each year. This report will provide photographs of the enhancement areas, details on plant survival, and cover estimates for any re–colonization of invasive plants.

New England Conservation/Wildlife Mix

Botanical Name	Common Name	Indicator
Elymus virginicus	Virginia Wild Rye	FACW-
Schizachyrium scoparium	Little Bluestem	FACU
Andropogon gerardii	Big Bluestem	FAC
Festuca rubra	Red Fescue	FACU
Sorghastrum nutans	Indian Grass	UPL
Panicum virgatum	Switch Grass	FAC
Chamaecrista fasciculata	Partridge Pea	FACU
Desmodium canadense	Showy Tick Trefoil	FAC
Asclepias tuberosa	Butterfly Milkweed	NI
Bidens frondosa	Beggar Ticks	FACW
Eupatorium purpureum (Eutrochium maculatum)	Purple Joe Pye Weed	FAC
Rudbeckia hirta	Black Eyed Susan	FACU-
Aster pilosus (Symphyotrichum pilosum)	Heath (or Hairy) Aster	UPL
Solidago juncea	Early Goldenrod	

PRICE PER LB. $39.50 MIN. QUANITY 2 LBS. TOTAL: $79.00 APPLY: 25 LBS/ACRE .1750 sq ft/lb

The New England Conservation/Wildlife Mix provides a permanent cover of grasses, wildflowers, and legumes. For both good erosion control and wildlife habitat value. The mix is designed to be a no maintenance seeding, and is appropriate for cut and fill slopes, detention basin side slopes, and disturbed areas adjacent to commercial and residential projects.

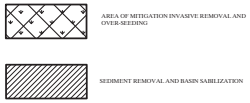
New England Wetland Plants, Inc. may modify seed mixes at any time depending upon seed availability. The design criteria and ecological function of the mix will remain unchanged. Price is $/bulk pound, FOB warehouse, Plus SH and applicable taxes.

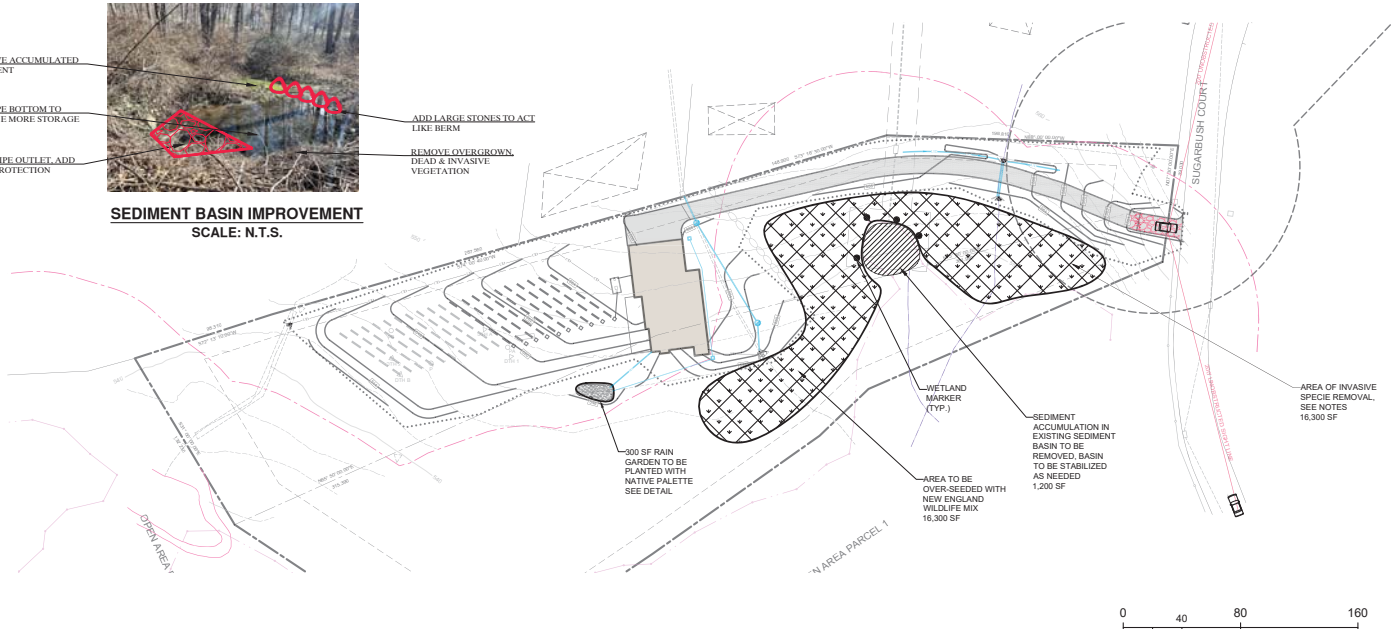
WETLAND MITIGATION SUMMARY	
ON-SITE WETLAND	5,900 S.F.
WETLAND DISURBANCE	0 S.F.
WETLAND BUFFER DISTURBANCE	16,800 S.F.
ON-SITE MITIGATION	
INVASIVE SPECIES REMOVAL	16,800 SF MIN.*
RAIN GARDEN PLANTINGS	300 S.F.
OVER-SEEDING	16,800 S.F.
TOTAL =	17,100 S.F.

* ALL INVASIVE SPECIES WITHIN THE PROJECT DISTURBANCE (39,000 SF) WILL BE REMOVED DURING CONSTRUCTION.

SEDIMENT BASIN IMPROVEMENT
SCALE: N.T.S.

WETLAND MARKER
SCALE: N.T.S.





NO.	REVISION	DATE
-	---	--/--/--
-	---	--/--/--

Dig Safely. New York Call 811 before you dig

Owner

Nicholas Piqueras
17 Dixon Rd
Carmel NY 10538

Site Data

SITE ADDRESS	10 Sugarbush Court Mahopac, NY 10541
LOT SIZE:	2.49 Acres
TAX MAP:	75.13-1-74
ZONING:	R

HILDENBRAND ENGINEERING, PLLC
208 CREAMERY ROAD
HOPEWELL JUNCTION, NY
845.208.8994
Brian@HildenEng.com

10 SUGARBUSH COURT
TOWN OF CARMEL
PUTNAM COUNTY

TITLE:

WETLAND MITIGATION PLAN

Seal

BRIAN HILDENBRAND, P.E.
LIC# 092374

Scale:	As Shown
Date:	January 13, 2024
Drawn By:	
Checked By:	BJH
Project No.:	
Sheet No.:	4 of 4
Dwg. No.:	W-100

Anne Margolis and Shannon Ramsaywak
9 Averill Drive
Mahopac, NY 10541

04/01/2024

Robert Laga, Chairman of the Environmental Conservation Board & Board Members
Town of Carmel
60 McAlpin Avenue
Mahopac, NY 10541

Re: Additional information requested for ECB application located at 9 Averill Drive, Mahopac, NY 10541, Tax Map # 64.12-2-19.

The following items were addressed after the initial board meeting:

- Items added and clearly marked on the NEW map:
  - Size of new deck – 1188 sqft
  - 100' buffer
  - Fueling plan to occur outside buffer zone
  - Location of mini excavator stored outside buffer on 6 mil plastic sheet
  - Soil stockpile area outside buffer
  - Spill kit and spill kit location outside buffer
  - Dimensions of deck

- Additional documents submitted:
  - Rain garden calculations
  - Silt fence detail

Sincerely,

Anne Margolis & Shannon Ramsaywak

Margolis Residence

9 Averill Drive, Mahopac, NY, 10541

Rain Garden Calculations

Proposed 3/13/2024: Rain Garden for replacement deck

RAIN GARDEN CALCULATIONS

- TOTAL DRAINAGE AREA: 1198 SQ FT
- DISTANCE TO GARDEN: LESS THAN 20 FEET
- SOIL TYPE: PAXTON COMPLEX PnB
- GARDEN DEPTH: 12"
- CALCULATION:
  - P = 3.1 in [RAINFALL # @90%]
  - RV = 0.05 + 0.009(100) = .95
  - A = 1198 SQ FT [AREA OF DRAINAGE]
  - WQV = WATER QUALITY VOLUME

$$WQV = \frac{(P)(RV)(A)}{12} = \frac{(3.1)(.95)(1198)}{12} = 294 \text{ CU FT}$$

  - ARG = 200 SQ FT [RAIN GARDEN AREA]
  - DSM = 1.5 FT [SOIL MEDIA DEPTH]
  - PSM = 0.20 [SOIL MEDIA POROSITY]
  - VSM = SOIL MEDIA VOLUME

$$VSM = (ARG)(DSM)(PSM) = (200 \text{ SQ FT})(1.5 \text{ FT})(0.20) = 60 \text{ CU FT}$$

  - DDL = 1.0 FT [DRAINAGE LAYER DEPTH]
  - PDL = .40 [DRAINAGE LAYER POROSITY]
  - VDL = DRAINAGE LAYER VOLUME

$$VDL = (ARG)(DDL)(PDL) = (200 \text{ SQ FT})(1.0 \text{ FT})(0.4) = 80 \text{ CU FT}$$

  - PD = 1.0 FT [PONDING DEPTH]

$$\mathbf{WQV \leq VSM+VDL+(PDxARG) = 294 < 60+80+(1x200) = 294 < 340}$$

THEREFORE, THE RAIN GARDEN AREA OF 200 SQ FT IS SUFFICIENT.

ALL UNDERGROUND PIPING WILL BE 6" PVC.

Margolis Residence

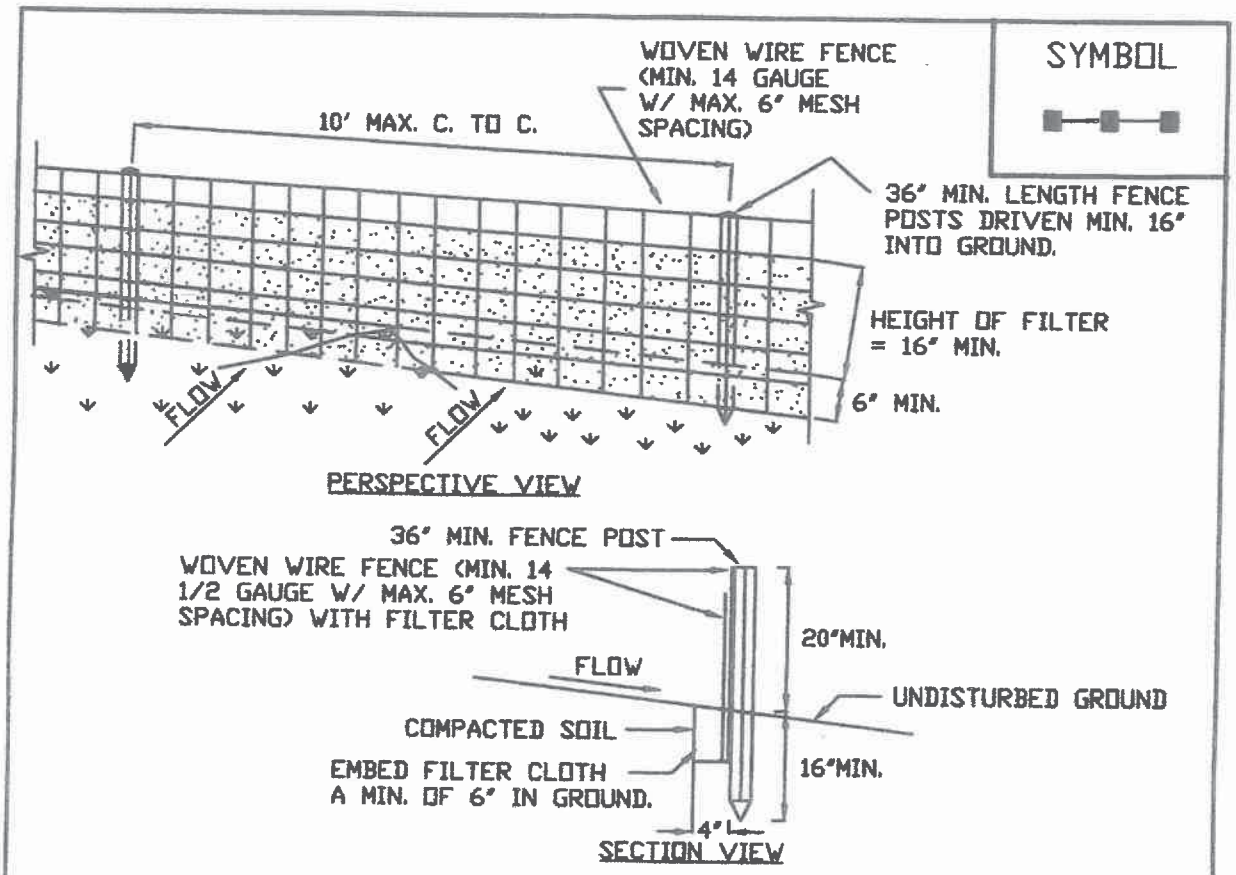
9 Averill Drive, Mahopac, NY, 10541

Rain Garden Calculations

PLANT LIST

SYMBOL	SPECIES NAME	COMMON NAME	NO. OF PLANTS
Aa	Ansaema atrorubens	Jack in-the-pulpit	54
Ca	Campanuia amencana	Tall bellflower	75
Iv	Iris virginica-shreve	Wild blue flag iris	35
		Total Plants Needed:	169

Figure 5A.8
Silt Fence

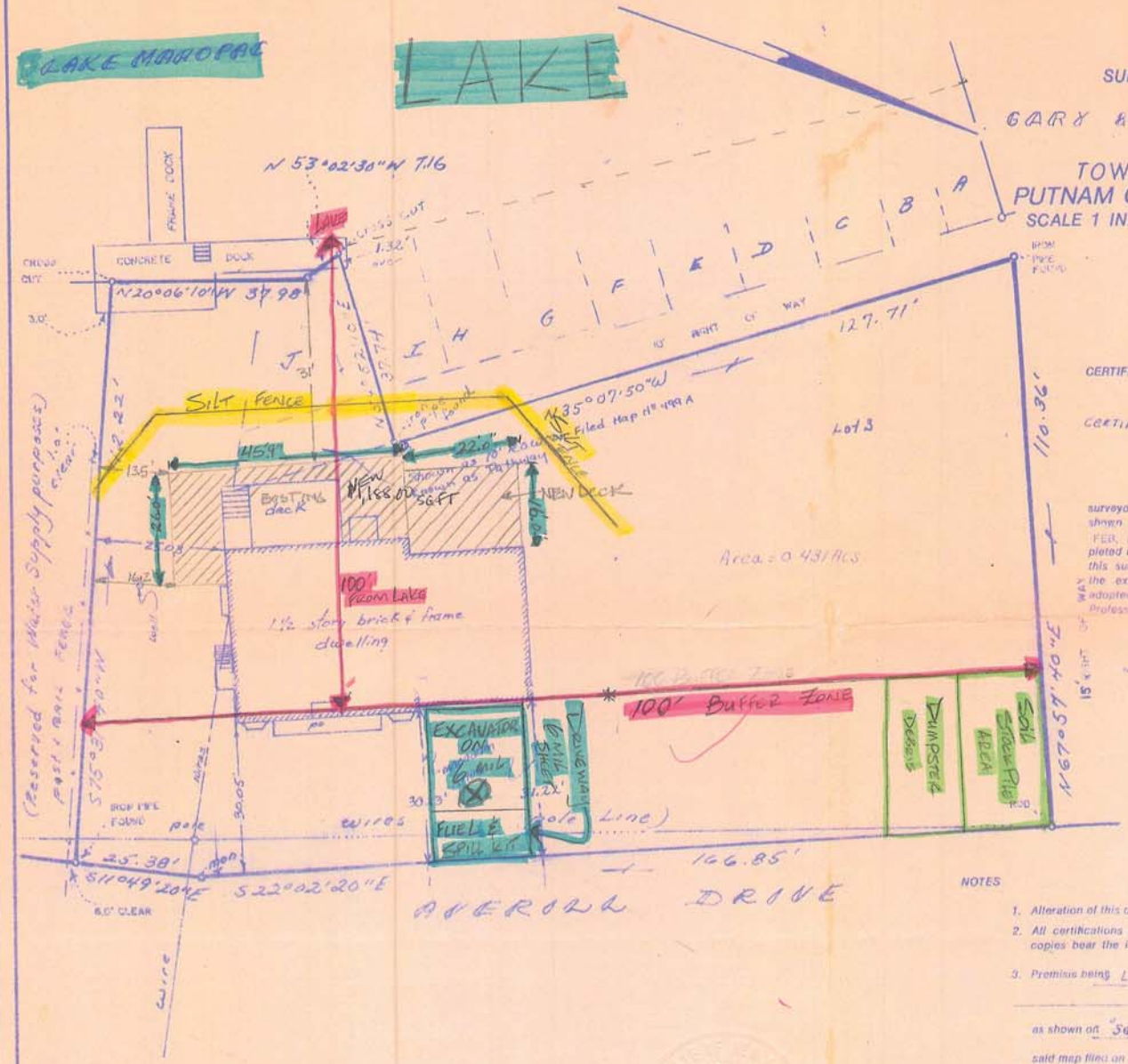


CONSTRUCTION SPECIFICATIONS

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. POSTS SHALL BE STEEL EITHER "T" OR "U" TYPE OR HARDWOOD.
2. FILTER CLOTH TO BE TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION. FENCE SHALL BE WOVEN WIRE, 6" MAXIMUM MESH OPENING.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY SIX INCHES AND FOLDED. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI 100X, STABILINKA T140N, OR APPROVED EQUIVALENT.
4. PREFABRICATED UNITS SHALL BE GEOFAB, ENVIROFENCE, OR APPROVED EQUIVALENT.
5. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

ADAPTED FROM DETAILS PROVIDED BY: USDA – NRCS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE	SILT FENCE

TITLE No. MR 1 299P



SURVEY OF PROPERTY
PREPARED FOR
GARY & SHEILA MARGOLIS
SITUATE IN THE
TOWN OF CARMEL
PUTNAM COUNTY, NEW YORK.
SCALE 1 IN. = 20 FT. 1977.

CERTIFIED TO: The Title Guarantee Co.

CERTIFY TO GARY & SHEILA MARGOLIS

I, RICHARD H. GORR the surveyor who made this map, certify that the survey shown hereon was completed by me on FEB. 3, 19 87 that this map was completed by me on FEB. 14, 19 87 and that this survey has been prepared in accordance with the existing Code of Practice for Land Surveys adopted by The New York State Association of Professional Land Surveyors.

MAP REVISED OCTOBER 6, 1988

RICHARD H. GORR

by Richard H. Gorr
P.L.S. N.Y.S. Lic. No. 40513

NOTES

1. Alteration of this document, except by a licensed Land Surveyor, is illegal.
2. All certifications are valid for this map and copies thereof only if the said map or copies bear the impressed seal of the surveyor whose signature appears hereon.
3. Premises being Lot 3 & Lots J, I, H G, and portion of 10' Right of Way

as shown on "Sec A, Lake Mahopac Heights"

said map filed on June 3, 1949

in the Putnam County Clerk's Office as Map No. 499A

4. See Liber 538, Page 487 488 for easements

RICHARD H. GORR & ASSOC.
PROFESSIONAL LAND SURVEYORS
&
PROFESSIONAL ENGINEERS

REFER TO JOB No. 87-204 T.M.