Gabriel E. Senor, P.C.

Engineers Planners Surveyors

90 N. Central Ave.
Hartsdale, NY 10530
Tel. (914) 422-0070
Fax (914) 422-3009
info@gesenor.com

LETTER OF TRANSMITTAL

DATE: July 25, 2022

TO: **Valerie B. Desimone**
Planning Board Secretary
Town of North Castle

RE: **9 Barnard Rd. Section 108.03, Block 3, Lot 54**
GENTILE
Continuation Of Planning Board Site Plan Review

Please find the following items enclosed:

- **Site Development Application Package**
- **Preliminary Site Plan Completeness Review Form**
- **Gross Land Coverage Calculations Worksheet**
- **Floor Area Calculation Worksheet**
- **Analytical Soil Testing Report**
- **Site Plan**
- **Drainage Report**
- **Response to Consulting Engineer**
- **Landscape Plan**
- **Architectural Plan of Shed**
- **Wall Certification**

Stephen Anderson
Project Manager
914-422-0070
steve@gesenor.com; info@gesenor.com

Gabriel E Senor, PC
Engineers Planners Surveyors
90 N Central Park Avenue
Hartsdale, NY 10530
***Tel*: (914) 422-0070**
***Fax*: (914) 422-3009**
***E-Mail*: info@gesenor.com**

July 25, 2022

Alan R. Kaufman, AICP
Director of Planning
Town of North Castle
17 Bedford Rd.
Armonk, NY 10504

Re: 9 Barnard Rd. / Section 108.03 – Block 3 – Lot 54
Continuation for Planning Board Site Development Plan Approval

Dear Mr. Kaufman,

This letter accompanies a continuation for Planning Board site plan review for proposed legalization of improvements of the property at 9 Barnard Rd. Additional information has been provided as the result of the Planning Board site visit and Consulting Engineer review.

To summarize, the property is located in Zoning District R-1A with a total land area of 51,406 sq.ft. reduced to 50,656 sq.ft. for slope deduction for coverage and floor area calculations. The improvements on the property includes the following items:

- Legalization of an addition on an existing shed.
- Legalization of the existing wall at front westerly side of the property.
- Drainage improvements.

Thank you for your consideration.

Very Truly Yours,

Stephen Anderson
Project Manager

TOWN OF NORTH CASTLE

WESTCHESTER COUNTY
17 Bedford Road
Armonk, New York 10504-1898

PLANNING DEPARTMENT
Adam R. Kaufman, AICP
Director of Planning

Telephone: (914) 273-3542
Fax: (914) 273-3554
www.northcastleny.com

Application for Site Development Plan Approval

Application Name

SITE PLAN SHED ADDITION & STONE RETAINING WALL
JOSEPH GENTILE

TOWN OF NORTH CASTLE
WESTCHESTER COUNTY
17 Bedford Road
Armonk, New York 10504-1898

PLANNING DEPARTMENT
Adam R. Kaufman, AICP
Director of Planning

Telephone: (914) 273-3542
Fax: (914) 273-3554
www.northcastleny.com

Important General Information

- Prior to submitting an application, the "Notice to Applicants" should be reviewed.

- To appear before the Planning Board, all required application materials shall be submitted not later than **12:00 P.M., Monday, fourteen (14) days** prior to the date of the Planning Board meeting at which the application is scheduled to be heard or as otherwise noted by the Planning Board Secretary. Continuing Business can be submitted 12 days prior to the Next Planning Board meeting by the close of business. Except where noted.

  If all required application materials, including the pertinent application fee and escrow monies are not submitted by that deadline, the application shall be automatically removed from the agenda.

  At the discretion of the Planning Board Chairman, the application may be rescheduled, if appropriate, for the next available Planning Board meeting or the application may be removed from future agendas altogether. Without prior authorization from the Planning Board, application submissions shall not be accepted at Planning Board meetings.

- At the time of submission, all required application materials shall be submitted. **Piecemeal** submissions **shall not** be accepted. Substitution of previously submitted materials shall not be permitted.

- All submissions shall be dated, with revision dates identified on new submissions.

- All submissions shall be accompanied by a cover letter describing the project and/or any changes as compared to previous submissions.

- For distribution purposes and mailing to the Planning Board Members and others (as required), multiple copies of application materials shall be collated into separate sets, each containing one copy of every submitted document. All application materials shall be submitted in a form that fits into a **12" x 17" envelope.** Plans shall be **folded** and **rubber banded** as necessary.

- To be considered complete for Planning Board hearing purposes, an application package shall contain the information identified in Parts IV and V of this application form.

- For purposes of completing this application form, all responses provided shall be printed, except as otherwise specified.

TOWN OF NORTH CASTLE
WESTCHESTER COUNTY
17 Bedford Road
Armonk, New York 10504-1898

PLANNING DEPARTMENT
Adam R. Kaufman, AICP
Director of Planning

Telephone: (914) 273-3542
Fax: (914) 273-3554
www.northcastleny.com

AT THE TIME OF SUBMISSION TO THE PLANNING DEPARTMENT PLEASE MAKE SURE THE FOLLOWING IS PROVIDED

- ✓ SUBMISSION OF A SINGLE PDF FILE (PLANS, APPLICATION FORM, OTHER PAPERWORK) ON A DISK, THUMBDRIVE OR EMAIL
- ✓ COVER LETTER DESCRIBING THE PROJECT OR CHANGES TO THE PROJECT
- ✓ ALL PLANS ARE SIGNED AND SEALED BY A LICENSED NYS PROFESSIONAL
- ✓ ALL PLANS SHALL BE COLLATED AND FOLDED INTO 8 INDIVIDUAL SETS

TOWN OF NORTH CASTLE
WESTCHESTER COUNTY
17 Bedford Road
Armonk, New York 10504-1898

PLANNING DEPARTMENT
Adam R. Kaufman, AICP
Director of Planning

Telephone: (914) 273-3542
Fax: (914) 273-3554
www.northcastleny.com

NOTICE TO APPLICANTS

In the Town of North Castle, the Planning Board is responsible for the review and approval of all applications concerning site plans, subdivisions and lot line changes; some applications concerning special use permits, wetlands permits and tree removal permits; and the environmental review of those applications over which it has jurisdiction. The Planning Board may also have an advisory role in connection with some applications before the Town Board, such as those involving other categories of special use permits and zoning amendments.

The Planning Board is composed of five volunteer members – all residents of North Castle – who are appointed by the Town Board for five-year terms. As part of the review of some applications, the Planning Board is assisted on an as-needed basis by other lay boards of the Town, such as the Conservation Board (CB), the Zoning Board of Appeals (ZBA), the Open Space Committee and the Architectural Review Board (ARB). As part of the review of most applications, the Planning Board is also assisted by the Director of Planning, the Town Engineer, the Town Attorney and other special consultants when required.

FEES:

If you submit an application for Planning Board review, you will be required to reimburse the Town for the cost of professional review services, including legal and engineering services, incurred in connection with the review of your application. The charges for professional planning review services have been $120/hour. If other types of professional consultant review services are required, those charges will be in accord with fees usually charged for such services and pursuant to a contractual agreement between the Town and such professional.

At the time of submission of an application, the Planning Board will require the establishment of an escrow account from which withdrawals shall be made to reimburse the Town for the cost of consultant fees and professional staff services.

ESCROW ACCOUNT:

Escrow Accounts are established for each application. Monies will be deducted from the account for professional review services rendered. Monthly escrow disbursement summaries will be mailed for your reference regarding your project. When the balance in such escrow account is reduced to one-third (1/3) of its initial amount, a letter will be mailed to the applicant and the applicant shall deposit additional funds into such account to restore its balance to the amount of the initial deposit. Additional information on these requirements is provided in the North Castle Town Code (see Sections 355-79B and 275-36.C).

TOWN OF NORTH CASTLE

WESTCHESTER COUNTY
17 Bedford Road
Armonk, New York 10504-1898

PLANNING DEPARTMENT
Adam R. Kaufman, AICP
Director of Planning

Telephone: (914) 273-3542
Fax: (914) 273-3554
www.northcastleny.com

PROCEDURE:

Prior to submitting an application to the Planning Board for review and approval, prospective applicants should schedule an appointment with the Planning Board Secretary at (914) 273-3542 for a consultation with the Town Planner and the Town Engineer. When the appointment is made, a verbal description of the proposal should be provided to the Planning Board Secretary. The Town of North Castle is providing the services of the Director of Planning and the Town Engineer for ***initial*** consultation at no cost to the applicant so that it is possible to conduct the application review as efficiently as possible for the benefit of the applicant as well as the Planning Board.

After meeting with the Town Planner and Town Engineer, prospective applicants should prepare one complete set of application documents and plans. This set will be reviewed for completeness by the Town Planner. If determined to be incomplete, the Planning Department will submit a checklist indicating which items have not been adequately addressed. If determined to be complete, the checklist will be initialed and the Applicant should submit the remainder of the required application packages.

Once the checklist has been initialed and all application packages have been submitted, the Planning Board Secretary will schedule the application for the first available opening on the Planning Board's meeting agenda. However, if the required application material packages, including the pertinent application fee are not received at the Planning Board office by 12:00 PM, Monday, 14 days prior to the date of the Planning Board meeting at which you are scheduled to appear (or otherwise scheduled by the Planning Board Secretary), your application will be automatically removed from the agenda. At the discretion of the Planning Board Chairman, your application may be rescheduled, if appropriate, for the next available Planning Board meeting or the application may be removed from future agendas altogether. Additional requirements pertinent to each type of application are provided on the individual application forms, which you should carefully review prior to submitting your application.

When an application is deemed complete and submitted for review, it will be forwarded to the Planning Board Members and its professional advisors in advance of the meeting to allow adequate time for review, preparation of written reports and site inspections as necessary. Your application may also be forwarded to other boards and staff of the Town as well as to agencies outside of the Town, if required. Compliance with State Environmental Quality Review (SEQR) procedures is also required as part of the processing of all applications.

At your first appearance before the Planning Board, the Applicant will describe the project and the Planning Board will discuss any preliminary issues. The Planning Board discussion may be continued at future meetings, or if the Planning Board review has progressed sufficiently, the Application may be scheduled for a public hearing (if one is required) The public hearing may occur at a single Planning Board meeting, or it may be adjourned and continued at another Planning Board meeting. Because the nature and complexity of each application varies

TOWN OF NORTH CASTLE
WESTCHESTER COUNTY
17 Bedford Road
Armonk, New York 10504-1898

PLANNING DEPARTMENT
Adam R. Kaufman, AICP
Director of Planning

Telephone: (914) 273-3542
Fax: (914) 273-3554
www.northcastleny.com

considerably, it is not possible to predict in advance the length of time needed to secure Planning Board approval. There are certain steps that you can take, however, to expedite the review process. These include, but are not limited to, the following:

- Be thoroughly familiar with the requirements pertinent to your application. Carefully review relevant provisions of the North Castle Town Code and the application form for your particular type of application. Be sure to check on what other types of approvals may be required in addition to that of the Planning Board. Approvals by other Town boards or departments as well as agencies outside of the Town may be required before you will be allowed to proceed with your project.

- Make sure that your application materials are accurately prepared and contain all required information. The information that we initially request is required, so make sure that your submission is complete. If supplementary information is requested as the review process continues, make sure that it is submitted in a timely fashion so the Planning Board can continue to move your application along.

- Follow up to make sure that your application materials are being submitted on time, or deliver them to the Planning office yourself.

- Attend the Planning Board meeting at which your application will be discussed and be on time for the meeting. If you cannot appear personally, make sure that your representative will be there and is thoroughly familiar with your application.

If the Application is approved by the Planning Board, a resolution of approval will be adopted by the Planning Board. It is the Applicant's responsibility to address any and all conditions of approval. Permits from the Building Department cannot be issued until all conditions have been addressed and the plans have been signed by the Planning Board Chair and the Town Engineer.

ON LINE AGENDAS & PLANNING DEPARTMENT MEMORANDA CAN BE REVIEWED AT

WWW.NORTHCASTLENY.COM

TOWN OF NORTH CASTLE
WESTCHESTER COUNTY
17 Bedford Road
Armonk, New York 10504-1898

PLANNING DEPARTMENT
Adam R. Kaufman, AICP
Director of Planning

Telephone: (914) 273-3542
Fax: (914) 273-3554
www.northcastleny.com

INFORMATION REGARDING PUBLIC HEARINGS

1. The North Castle Assessor's Office shall prepare a list of neighbors to be notified for the neighbor notifications and public hearings - **A minimum of one week's notice is required** . The fee is $50.00 which includes the list of neighbors and two sets of labels for mailing. The Assessor's Office may be reached Monday – Friday from 8:30 a.m.– 4:30 p.m. at 273-3324. You may also e-mail your request to assessor@northcastleny.com

   When requesting your list please reference the list of application types below so that you can tell the Assessor's office how many feet on all sides of the property to create the list for.

   Subdivisions - All lots zoned R-10, R-5 and R-2F shall notice all neighbors within 200 feet from all sides of their property. All other zoning districts shall notice neighbors within 500 feet from all sides of their property. Public hearing notice must be published in the newspaper.

   Special Use Permit for Structures over 800 sq ft. & Accessory Apartment - All Zoning Districts shall notice all neighbors within 250 feet from all sides of their property. Public hearing notice must be published in the newspaper.

   Site Plan, Non Residential - All Zoning Districts shall notice all neighbors within 250 feet from all sides of their property. Public hearing notice must be published in the newspaper.

   Site Plan, Residential/ Neighbor Notification – All zoning districts R-3/4A or smaller shall notice all neighbors within 250' from all sides of their property. All zoning districts zoned R-1A or larger shall notice all neighbors within 500' from all sides of the property. No public hearing required, no publication in the newspaper required.

   Wetlands Permit - All Zoning Districts shall notice all abutting property owners. Public hearing notice must be published in the newspaper.

2. The Director of Planning will prepare a Public Notice. The applicant and or professional will review, sign, date and return to the Planning Department Secretary. If there are any changes necessary, please edit and return for corrections. The corrections will be made and emailed back to the applicant who will forward it to the Journal Newspaper, when applicable.

   If notification to the newspaper is not required, please continue to #3.

TOWN OF NORTH CASTLE

WESTCHESTER COUNTY
17 Bedford Road
Armonk, New York 10504-1898

PLANNING DEPARTMENT
Adam R. Kaufman, AICP
Director of Planning

Telephone: (914) 273-3542
Fax: (914) 273-3554
www.northcastleny.com

You may email your public notice to legals@lohud.com. Please request an affidavit of publication which must be submitted to the Planning Board secretary prior to the public hearing. The Journal News requires three days prior notice before 12 noon, not counting weekends and holidays, for ad placement. Make sure the notice placement of the ad in the Greater Westchester Area. This notice cannot be published any sooner than 20 days prior to the meeting and must be published no less than 10 days prior to the meeting.

If you have any questions regarding your publication you may call 888-516-9220:
Email Address: legals@lohud.com

It is suggested that you purchase the newspaper for your records the day the notice is published.

3. Send out the Public Hearing Notice/ Neighbor Notification by First Class Mail. Notice shall be mailed by the applicant in official envelopes provided by the North Castle Planning Department; the list of noticed neighbors will be prepared by the Assessor's Office. This must be sent out no less than 10 days prior to the meeting and no more than 20 days prior to the meeting date. A Certificate of Mailing (PS Form 3817 or 3877) shall be filled out and post marked by the Post Office on the day of mailing. Neighbor Notifications – no publication in the newspaper required.

4. The Friday before the meeting or no later than 12:00 p.m. the day of the meeting the following **must** be submitted.

- List of Neighbors prepared by the Assessor's Office
- Certificate of Mailing – PS form 3817 or 3877 post marked by the US Post Office
- Affidavit of publication from the Newspaper (only if published in the newspaper)

UNITED STATES POSTAL SERVICE®

Firm Mailing Book For Accountable Mail

Name and Address of Sender

Check type of mail or service

- ☐ Adult Signature Required
- ☐ Adult Signature Restricted Delivery
- ☐ Certified Mail
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery (COD)
- ☐ Insured Mail
- ☐ Priority Mail
- ☐ Priority Mail Express
- ☐ Registered Mail
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation
- ☐ Signature Confirmation Restricted Delivery

Affix Stamp Here
(if issued as an international certificate of mailing or for additional copies of this receipt).
Postmark with Date of Receipt.

	USPS Tracking/Article Number	Addressee (Name, Street, City, State, & ZIP Code™)	Postage	(Extra Service) Fee	Handling Charge	Actual Value if Registered	Insured Value	Due Sender if COD	ASR Fee	ASRD Fee	RD Fee	RR Fee	SC Fee	SCRD Fee	SH Fee
1.															
2.															
3.															
4.															
5.															
6.															
7.															
8.															

Handling Charge - if Registered and over $50,000 in value
Adult Signature Required
Adult Signature Restricted Delivery
Restricted Delivery
Return Receipt
Signature Confirmation
Signature Confirmation Restricted Delivery
Special Handling

Total Number of Pieces Listed by Sender	Total Number of Pieces Received at Post Office	Postmaster, Per *(Name of receiving employee)*

Complete in Ink

Privacy Notice: For more information on USPS privacy policies, visit *usps.com/privacypolicy*.

TOWN OF NORTH CASTLE

WESTCHESTER COUNTY
17 Bedford Road
Armonk, New York 10504-1898

PLANNING DEPARTMENT
Adam R. Kaufman, AICP
Director of Planning

Telephone: (914) 273-3542
Fax: (914) 273-3554
www.northcastleny.com

APPLICATIONS REQUIRING PLANNING BOARD APPROVAL
SCHEDULE OF APPLICATION FEES

Type of Application	Application Fee
* Site Development Plan	$200.00
Each proposed Parking Space	$10
Special Use Permit (each)	$200 (each)
Preliminary Subdivision Plat	$300 1st Lot $200 (each additional lot)
Final Subdivision Plat	$250 1st Lot $100 (each additional lot)
Tree Removal Permit	$75
Wetlands Permit	$50 (each)
Short Environmental Assessment Form	$50
Long Environmental Assessment Form	$100
Recreation Fee	$10,000 Each Additional Lot
Discussion Fee	$200.00

Prior to submission of a sketch or preliminary subdivision Plat, an applicant or an applicant's representative wishes to discuss a subdivision proposal to the Planning Board, a discussion fee of $200.00 shall be submitted for each informal appearance before the board.

Any amendment to previously approved applications requires new application forms and Fes

TOWN OF NORTH CASTLE
WESTCHESTER COUNTY
17 Bedford Road
Armonk, New York 10504-1898

PLANNING DEPARTMENT
Adam R. Kaufman, AICP
Director of Planning

Telephone: (914) 273-3542
Fax: (914) 273-3554
www.northcastleny.com

PLANNING BOARD SCHEDULE OF ESCROW ACCOUNT DEPOSITS

Type of Application Deposit*	Amount of Initial Escrow Account
Concept Study	$500.00
Site Plan Waiver for Change of Use	$500.00
Site Development Plan for:	
Multifamily Developments	$3,000.00 plus $100.00 per proposed dwelling unit
Commercial Developments	$3,000.00 plus $50.00 for each required parking space
* 1 or 2 Family Projects	$2,000.00
Special Use Permit	$2,000.00 plus $50.00 for each required parking space
Subdivision:	
Lot Line Change resulting in no new lots	$1,500.00
All Others	$3,000.00 plus $200.00 per proposed new lot in excess of two (2)
Preparation or Review of Environmental Impact Statement	$15,000.00

* If a proposed action involves multiple approvals, a single escrow account will be established. The total amount of the initial deposit shall be the sum of the individual amounts indicated. When the balance in such escrow account is reduced to one-third (1/3) of its initial amount, the applicant shall deposit additional funds into such account to restore its balance to the amount of the initial deposit.

Applicant Signature

Date: 6/24/21

I. IDENTIFICATION OF PROPERTY OWNER, APPLICANT AND PROFESSIONAL REPRESENTATIVES

Name of Property Owner: JOSEPH GENTILE

Mailing Address: 9 BARNARD ROAD ARMONK NY 10504

Telephone: 914 755-0900 Fax: _____ e-mail JGENTILE72@ICLOUD.COM JGENTILE72@GMAIL.COM

Name of Applicant (if different): _____

Address of Applicant: _____

Telephone: _____ Fax: _____ e-mail _____

Interest of Applicant, if other than Property Owner:

_____

Is the Applicant (if different from the property owner) a Contract Vendee?

Yes ☐ No ☑

If yes, please submit affidavit sating such. If no, application cannot be reviewed by Planning Board

Name of Professional Preparing Site Plan:
ELIOT SENOR - GABRIEL E. SENOR PC

Address: 90 N. CENTRAL AVENUE, HARTSDALE NY 10530

Telephone: 914 422-0070 Fax: _____ e-mail ELIOT@GESENOR.COM

Name of Other Professional: _____

Address: _____

Telephone: _____ Fax: _____ e-mail _____

Name of Attorney (if any): MARCO E. FAVA, ESQ

Address: 1889 PALMER AVENUE

Telephone: 914 630-0201 Fax: 914 834-4590 e-mail MARCO.FAVA@FAVALAW.NET

Applicant Acknowledgement

By making this application, the undersigned Applicant agrees to permit Town officials and their designated representatives to conduct on-site inspections in connection with the review of this application.

The Applicant also agrees to pay all expenses for the cost of professional review services required for this application.

It is further acknowledged by the Applicant that all bills for the professional review services shall be mailed to the Applicant, unless the Town is notified in writing by the Applicant at the time of initial submission of the application that such mailings should be sent to a designated representative instead.

Signature of Applicant: _____ Date: 6/24/21

Signature of Property Owner: _____ Date: 6/24/21

MUST HAVE BOTH SIGNATURES

II. IDENTIFICATION OF SUBJECT PROPERTY

Street Address: 9 BARNARD ROAD

Location (in relation to nearest intersecting street):

500 feet (north, south, east or west) of NICHOLS ROAD

Abutting Street(s): _____

Tax Map Designation (NEW): Section 108.03 Block 3 Lot 54

Tax Map Designation (OLD): Section 2/16/17 Block _____ Lot 17

Zoning District: R-1A Total Land Area 1.18 ACRES

Land Area in North Castle Only (if different) _____

Fire District(s) # 2 School District(s) BYRAM HILLS

Is any portion of subject property abutting or located within five hundred (500) feet of the following:

The boundary of any city, town or village?
No ✓ Yes (adjacent) _____ Yes (within 500 feet) _____
If yes, please identify name(s): _____

The boundary of any existing or proposed County or State park or any other recreation area?
No ____ Yes (adjacent) _____ Yes (within 500 feet) ✓ JOHNSTON PARK TOWN PARK (NICHOLS RD)

The right-of-way of any existing or proposed County or State parkway, thruway, expressway, road or highway?
No ✓ Yes (adjacent) _____ Yes (within 500 feet) _____

The existing or proposed right-of-way of any stream or drainage channel owned by the County or for which the County has established channel lines?
No ✓ Yes (adjacent) _____ Yes (within 500 feet) _____

The existing or proposed boundary of any county or State owned land on which a public building or institution is situated?
No ✓ Yes (adjacent) _____ Yes (within 500 feet) _____

The boundary of a farm operation located in an agricultural district?
No ✓ Yes (adjacent) _____ Yes (within 500 feet) _____

Does the Property Owner or Applicant have an interest in any abutting property?
No ✓ Yes _____

If yes, please identify the tax map designation of that property:

_____

III. DESCRIPTION OF PROPOSED DEVELOPMENT

Proposed Use: ADDITION TO SHED & STONE RETAINING WALL

Gross Floor Area: Existing _____ S.F. Proposed _____ S.F.

Proposed Floor Area Breakdown:

Retail N/A S.F.; Office N/A S.F.;

Industrial N/A S.F.; Institutional N/A S.F.;

Other Nonresidential _____ S.F.; Residential _____ S.F.;

Number of Dwelling Units: 1 FAMILY

Number of Parking Spaces: Existing _____ Required _____ Proposed _____ N/A

Number of Loading Spaces: Existing _____ Required _____ Proposed _____ N/A

Earthwork Balance: Cut _____ C.Y. Fill _____ C.Y. N/A

Will Development on the subject property involve any of the following:

Areas of special flood hazard? No ✓ Yes _____
(If yes, application for a Development Permit pursuant to Chapter 177 of the North Castle Town Code may also be required)

Trees with a diameter at breast height (DBH) of 8" or greater?

No ✓ Yes _____
(If yes, application for a Tree Removal Permit pursuant to Chapter 308 of the North Castle Town Code may also be required.)

Town-regulated wetlands? No ✓ Yes _____
(If yes, application for a Town Wetlands Permit pursuant to Chapter 340 of the North Castle Town Code may also be required.)

State-regulated wetlands? No ✓ Yes _____
(If yes, application for a State Wetlands Permit may also be required.)

V. INFORMATION TO BE INCLUDED ON SITE DEVELOPMENT PLAN

The following checklist is provided to enable the Applicant to determine if he/she has provided enough information on the site development plan for the Planning Board to review his/her proposal. Applicants are advised to review ARTICLE VIII, Site Development Plan of the North Castle Town Code for a complete enumeration of pertinent requirements and standards prior to making application for site development plan approval.

The application for site development plan approval will not be accepted for Planning Board review unless all items identified below are supplied and **so indicated with a check mark in the blank line provided.** If a particular item is not relevant to the subject property or the development proposal, **the letters "NA" should be entered instead**. In addition, the project will not be scheduled on a Planning Board agenda until the Applicant receives an initialed "site plan checklist" from the Planning Department.

The information to be included on a site development plan shall include:

Legal Data:

✓ Name of the application or other identifying title.

✓ Name and address of the Property Owner and the Applicant, (if different).

✓ Name, address and telephone number of the architect, engineer or other legally qualified professional who prepared the plan.

✓ Names and locations of all owners of record of properties abutting and directly across any and all adjoining streets from the subject property, including the tax map designation of the subject property and abutting and adjoining properties, as shown on the latest tax records.

✓ Existing zoning, fire, school, special district and municipal boundaries.

✓ Size of the property to be developed, as well as property boundaries showing dimensions and bearings as determined by a current survey; dimensions of yards along all property lines; name and width of existing streets; and lines of existing lots, reservations, easements and areas dedicated to public use.

NA Reference to the location and conditions of any covenants, easements or deed restrictions that cover all or any part of the property, as well as identification of the document where such covenants, easements or deed restrictions are legally established.

✓ Schedule of minimum zoning requirements, as well as the plan's proposed compliance with those requirements, including lot area, frontage, lot width, lot depth, lot coverage, yards, off-street parking, off-street loading and other pertinent requirements.

✓ Locator map, at a convenient scale, showing the Applicant's entire property in relation to surrounding properties, streets, etc., within five hundred (500) feet of the site.

✓ North arrow, written and graphic scales, and the date of the original plan and all revisions, with notation identifying the revisions.

✓ A signature block for Planning Board endorsement of approval.

Existing Conditions Data:

✓ Location of existing use and design of buildings, identifying first floor elevation, and other structures.

✓ Location of existing parking and truck loading areas, with access and egress drives thereto.

✓ Location of existing facilities for water supply, sanitary sewage disposal, storm water drainage, and gas and electric service, with pipe sizes, grades, rim and inverts, direction of flow, etc. indicated.

✓ Location of all other existing site improvements, including pavement, walks, curbing, retaining walls and fences.

N/A Location, size and design of existing signs.

N/A Location, type, direction, power and time of use of existing outdoor lighting.

✓ Location of existing outdoor storage, if any. (SHED)

✓ Existing topographical contours with a vertical interval of two (2) feet or less.

✓ Location of existing floodplains, wetlands, slopes of 15% or greater, wooded areas, landscaped areas, single trees with a DBH of 8" or greater, rock outcrops, stone walls and any other significant existing natural or cultural features.

Proposed Development Data:

N/A Proposed location of lots, streets, and public areas, and property to be affected by proposed easements, deed restrictions and covenants.

N/A Proposed location, use and architectural design of all buildings, including proposed floor elevations and the proposed division of buildings into units of separate occupancy.

N/A Proposed means of vehicular and pedestrian access to and egress from the site onto adjacent streets.

N/A Proposed sight distance at all points of vehicular access.

N/A Proposed number of employees for which buildings are designed

N/A Proposed streets, with profiles indicating grading and cross-sections showing the width of the roadway; the location and width of sidewalks; and the location and size of utility lines.

N/A Proposed location and design of any pedestrian circulation on the site and off-street parking and loading areas, including handicapped parking and ramps, and including details of construction, surface materials, pavement markings and directional signage.

N/A Proposed location and design of facilities for water supply, sanitary sewage disposal, storm water drainage, and gas and electric service, with pipe sizes, grades, rim and inverts, direction of flow, etc. indicated.

✓ Proposed location of all structures and other uses of land, such as walks, retaining walls, fences, designated open space and/or recreation areas and including details of design and construction.

N/A Location, size and design of all proposed signs.

N/A Location, type, direction, power and time of use of proposed outdoor lighting.

N/A Location and design of proposed outdoor garbage enclosure.

N/A Location of proposed outdoor storage, if any.

✓ Location of proposed landscaping and buffer screening areas, including the type (scientific and common names), size and amount of plantings.

N/A Type of power to be used for any manufacturing

N/A Type of wastes or by-products to be produced and disposal method

N/A In multi-family districts, floor plans, elevations and cross sections

✓ The proposed location, size, design and use of all temporary structures and storage areas to be used during the course of construction.

✓ Proposed grade elevations, clearly indicating how such grades will meet existing grades of adjacent properties or the street.

✓ Proposed soil erosion and sedimentation control measures.

N/A For all proposed site development plans containing land within an area of special flood hazard, the data required to ensure compliance with Chapter 177 of the North Castle Town Code.

N/A For all proposed site development plans involving clearing or removal of trees with a DBH of 8" or greater, the data required to ensure compliance with Chapter 308 of the North Castle Town Code.

N/A For all proposed site development plans involving disturbance to Town-regulated wetlands, the data required to ensure compliance with Chapter 340 of the North Castle Town Code.

Short Environmental Assessment Form
Part 1 - Project Information

Instructions for Completing

Part 1 - Project Information. The applicant or project sponsor is responsible for the completion of Part 1. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification. Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information.

Complete all items in Part 1. You may also provide any additional information which you believe will be needed by or useful to the lead agency; attach additional pages as necessary to supplement any item.

Part 1 - Project and Sponsor Information

Name of Action or Project:
SITE PLAN PREPARED FOR JOSEPH GENTILE

Project Location (describe, and attach a location map):
9 BARNARD ROAD

Brief Description of Proposed Action:
SITE PLAN
SHED ADDITION PROPOSED STONE RETAINING WALL
DRAINAGE IMPROVEMENTS

Name of Applicant or Sponsor:	Telephone: 914-755-0900
JOSEPH GENTILE	E-Mail: JGENTILE@ICLOUD.COM JGENTILE@GMAIL.COM

Address:
9 BARNARD

City/PO:	State:	Zip Code:
ARMONK	NY	10504

	NO	YES
1. Does the proposed action only involve the legislative adoption of a plan, local law, ordinance, administrative rule, or regulation? If Yes, attach a narrative description of the intent of the proposed action and the environmental resources that may be affected in the municipality and proceed to Part 2. If no, continue to question 2.	☑	☐
2. Does the proposed action require a permit, approval or funding from any other governmental Agency? If Yes, list agency(s) name and permit or approval:	☑	☐

3.a. Total acreage of the site of the proposed action? 1.18 acres
b. Total acreage to be physically disturbed? 0.10 acres
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? 1.18 acres

4. Check all land uses that occur on, adjoining and near the proposed action.
☐ Urban ☐ Rural (non-agriculture) ☐ Industrial ☐ Commercial ☒ Residential (suburban)
☐ Forest ☐ Agriculture ☐ Aquatic ☐ Other (specify): _____
☐ Parkland

	NO	YES	N/A
5. Is the proposed action, a. A permitted use under the zoning regulations?	☐	☑	☐
b. Consistent with the adopted comprehensive plan?	☐	☑	☐
6. Is the proposed action consistent with the predominant character of the existing built or natural landscape?	NO ☐	YES ☑	
7. Is the site of the proposed action located in, or does it adjoin, a state listed Critical Environmental Area? If Yes, identify: _____	NO ☑	YES ☐	
8. a. Will the proposed action result in a substantial increase in traffic above present levels?	NO ☑	YES ☐	
b. Are public transportation service(s) available at or near the site of the proposed action?	☑	☐	
c. Are any pedestrian accommodations or bicycle routes available on or near site of the proposed action?	☑	☐	
9. Does the proposed action meet or exceed the state energy code requirements? If the proposed action will exceed requirements, describe design features and technologies:	NO ☑	YES ☐	
10. Will the proposed action connect to an existing public/private water supply? If No, describe method for providing potable water: CONSTRUCTION OF WALL	NO ☑	YES ☐	
11. Will the proposed action connect to existing wastewater utilities? If No, describe method for providing wastewater treatment: CONSTRUCTION OF WALL	NO ☑	YES ☐	
12. a. Does the site contain a structure that is listed on either the State or National Register of Historic Places?	NO ☑	YES ☐	
b. Is the proposed action located in an archeological sensitive area?	☑	☐	
13. a. Does any portion of the site of the proposed action, or lands adjoining the proposed action, contain wetlands or other waterbodies regulated by a federal, state or local agency?	NO ☑	YES ☐	
b. Would the proposed action physically alter, or encroach into, any existing wetland or waterbody? If Yes, identify the wetland or waterbody and extent of alterations in square feet or acres: _____	☑	☐	
14. Identify the typical habitat types that occur on, or are likely to be found on the project site. Check all that apply: ☐ Shoreline ☐ Forest ☐ Agricultural/grasslands ☐ Early mid-successional ☐ Wetland ☐ Urban ☒ Suburban			
15. Does the site of the proposed action contain any species of animal, or associated habitats, listed by the State or Federal government as threatened or endangered?	NO ☑	YES ☐	
16. Is the project site located in the 100 year flood plain?	NO ☑	YES ☐	
17. Will the proposed action create storm water discharge, either from point or non-point sources? If Yes, a. Will storm water discharges flow to adjacent properties? ☐ NO ☐ YES	NO ☑	YES ☐	
b. Will storm water discharges be directed to established conveyance systems (runoff and storm drains)? If Yes, briefly describe: ☐ NO ☐ YES			

	NO	YES
18. Does the proposed action include construction or other activities that result in the impoundment of water or other liquids (e.g. retention pond, waste lagoon, dam)? If Yes, explain purpose and size: _____	☑	☐
19. Has the site of the proposed action or an adjoining property been the location of an active or closed solid waste management facility? If Yes, describe: _____	☑	☐
20. Has the site of the proposed action or an adjoining property been the subject of remediation (ongoing or completed) for hazardous waste? If Yes, describe: _____	☑	☐

I AFFIRM THAT THE INFORMATION PROVIDED ABOVE IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE

Applicant/sponsor name: STEPHEN ANDERSON GABRIEL E SENOR PE Date: 6/25/21

Signature: Stephen A Anderson

PRINT FORM

Town of North Castle Planning Department
17 Bedford Road Armonk, New York 10504
(914) 273-3542 (914) 273-3554 (fax)

PRELIMINARY SITE PLAN COMPLETENESS REVIEW FORM

This form represents the standard requirements for a completeness review for all preliminary site plans. Failure to provide all of the information requested will result in a determination that the site plan application is incomplete. The review of the site plan for completeness will be based on the requirements of the Town of North Castle Town Code.

Project Name on Plan:
SITE PLAN - SHED ADDITION AND STONE RETAINING WALL
☒ Initial Submittal ☐ Revised Preliminary JOSEPH GENTILE

Street Location:
9 BARNARD ROAD

Zoning District: R-1A Property Acreage: 1.18 Tax Map Parcel ID: 108.03-3-54

Date: JUNE 28, 2021

DEPARTMENTAL USE ONLY

Date Filed: _____ Staff Name: _____

Preliminary Plan Completeness Review Checklist
Items marked with a "☒" are complete, items left blank "☐" are incomplete and must be completed, "NA" means not applicable.

☐1. A complete application for site development plan approval form

☐2. Plan prepared by a registered architect or professional engineer

☐3. Map showing the applicant's entire property and adjacent properties and streets

☐4. A locator map at a convenient scale

☐5. The proposed location, use and design of all buildings and structures

☐6. Proposed division of buildings into units of separate occupancy, detailed breakdowns of all proposed floor space by type of use and floor level

☐7. Existing topography and proposed grade elevations

☐8. Location of drives

☐9. Location of any outdoor storage

☐10. Location of all existing and proposed site improvements, including drains, culverts, retaining walls and fences

☐11. Description of method of water supply and sewage disposal and location of such facilities

☐12. Location, design and size of all signs

☐13. Location and design of lighting, power and communication facilities

☐14. In an industrial district, specific uses proposed, number of employees for which buildings are designed, type of power to be used for any manufacturing process, type of wastes or by-products to be produced by any manufacturing process and proposed method of disposal of such wastes or by-products

☐15. In a multifamily district, floor plans of each dwelling unit shall be shown, and elevations and cross sections also may be required

☐16. The name and address of the applicant, property owner(s) if other than the applicant and of the planner, engineer, architect, surveyor and/or other professionals engaged to work.

☐17. Submission of a Zoning Conformance Table depicting the plan's compliance with the minimum requirements of the Zoning District

☐18. If a tree removal permit is being sought, submission of a plan depicting the location and graphical removal status of all Town-regulated trees within the proposed area of disturbance. In addition, the tree plan shall be accompanied by a tree inventory includes a unique ID number, the species, size, health condition and removal status of each tree.

☐19. If a wetlands permit is being sought, identification of the wetland and the 100-foot wetland buffer.

More information about the items required herein can be obtained from the North Castle Planning Department. A copy of the Town Code can be obtained from Town Clerk or on the North Castle homepage: http://www.northcastleny.com

_____ On this date, all items necessary for a technical review of the proposed site plan have been submitted and constitute a COMPLETE APPLICATION.

TOWN OF NORTH CASTLE

WESTCHESTER COUNTY
17 Bedford Road
Armonk, New York 10504-1898

PLANNING DEPARTMENT
Adam R. Kaufman, AICP
Director of Planning

Telephone: (914) 273-3542
Fax: (914) 273-3554
www.northcastleny.com

GROSS LAND COVERAGE CALCULATIONS WORKSHEET

Application Name or Identifying Title: JOSEPH GENTILE Date: 6-25-21

Tax Map Designation or Proposed Lot No.: 108.03-3-54

Gross Lot Coverage

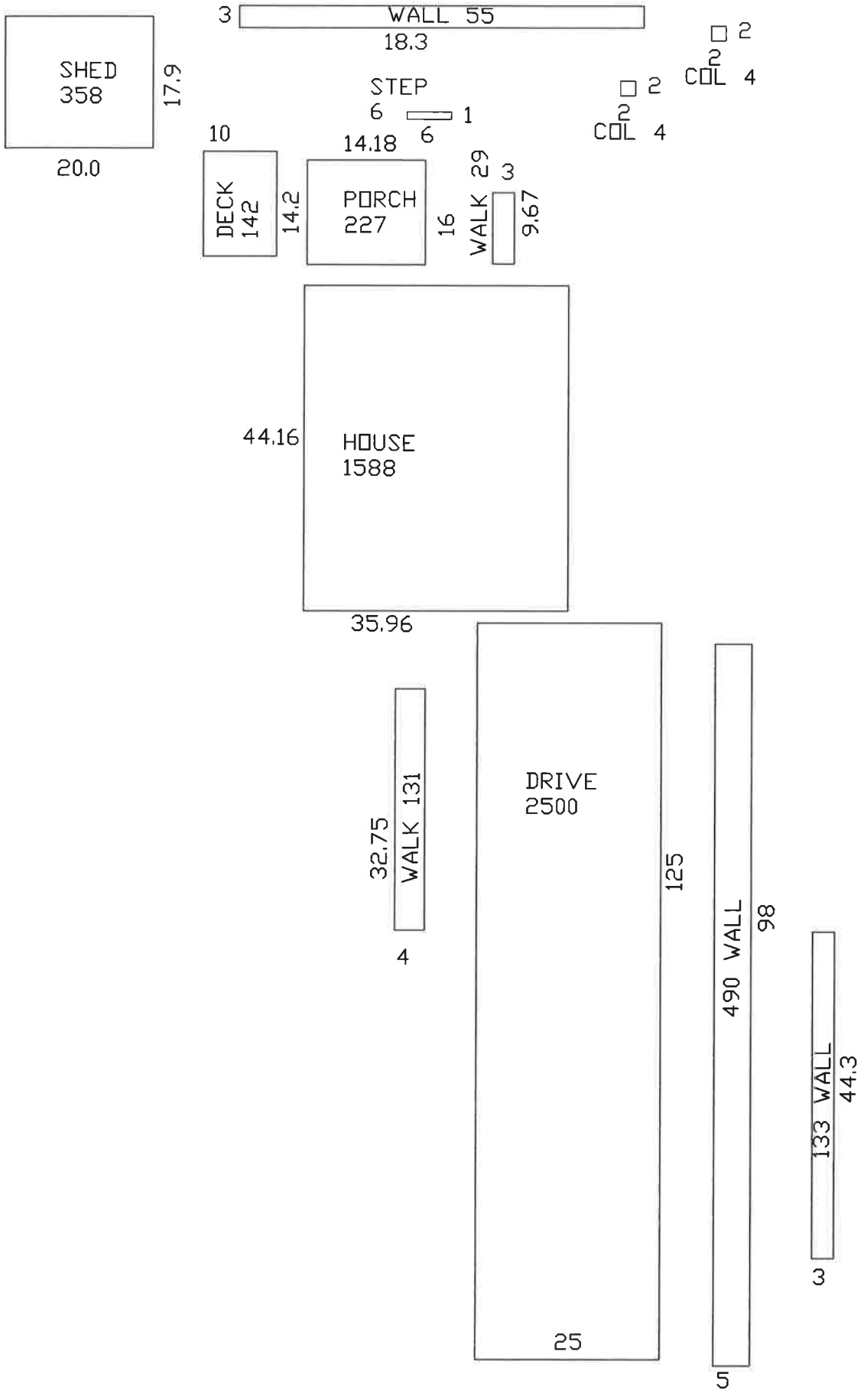
1.	Total lot Area (Net Lot Area for Lots Created After 12/13/06):	51406 50656 (SLOPE REDUCTION
2.	**Maximum** permitted gross land coverage (per Section 355-26.C(1)(a)):	9988
3.	**BONUS** maximum gross land cover (per Section 355-26.C(1)(b)):	
	Distance principal home is beyond minimum front yard setback 51 x 10 =	510
4.	**TOTAL Maximum Permitted gross land coverage** = Sum of lines 2 and 3	10498
5.	Amount of lot area covered by **principal building:** 1588 existing + _____ proposed =	1588
6.	Amount of lot area covered by **accessory buildings:** 358 existing + _____ proposed =	358
7.	Amount of lot area covered by **decks:** 142 existing + _____ proposed =	142
8.	Amount of lot area covered by **porches:** 227 existing + _____ proposed =	227
9.	Amount of lot area covered by **driveway, parking areas and walkways:** 2660 existing + _____ proposed =	2660
10.	Amount of lot area covered by **terraces:** 0 existing + _____ proposed =	0
11.	Amount of lot area covered by **tennis court, pool and mechanical equip:** _____ existing + _____ proposed =	
12.	Amount of lot area covered by **all other structures:** 559 existing + 133 proposed =	692
13.	Proposed **gross land coverage:** Total of Lines 5 – 12 =	5667

If Line 13 is less than or equal to Line 4, your proposal **complies** with the Town's maximum gross land coverage regulations and the project may proceed to the Residential Project Review Committee for review. If Line 13 is greater than Line 4 your proposal does not comply with the Town's regulations.

Signature and Seal of Professional Preparing Worksheet

STATE OF NEW YORK ELIOT SENOR No. 081627 LICENSED PROFESSIONAL ENGINEER

6/25/21
Date


SHED
358
17.9
20.0
3
WALL 55
18.3
2
2
COL 4
STEP
6
1
6
2
2
COL 4
10
14.18
DECK
142
14.2
PORCH
227
16
WALK 29
3
9.67
44.16
HOUSE
1588
35.96
32.75
WALK 131
4
DRIVE
2500
125
490 WALL
98
133 WALL
44.3
3
25
5

TOWN OF NORTH CASTLE
WESTCHESTER COUNTY
17 Bedford Road
Armonk, New York 10504-1898

PLANNING DEPARTMENT
Adam R. Kaufman, AICP
Director of Planning

Telephone: (914) 273-3542
Fax: (914) 273-3554
www.northcastleny.com

FLOOR AREA CALCULATIONS WORKSHEET

Application Name or Identifying Title: JOSEPH GENTILE Date: 6-25-21

Tax Map Designation or Proposed Lot No.: 108.03-3-54

Floor Area

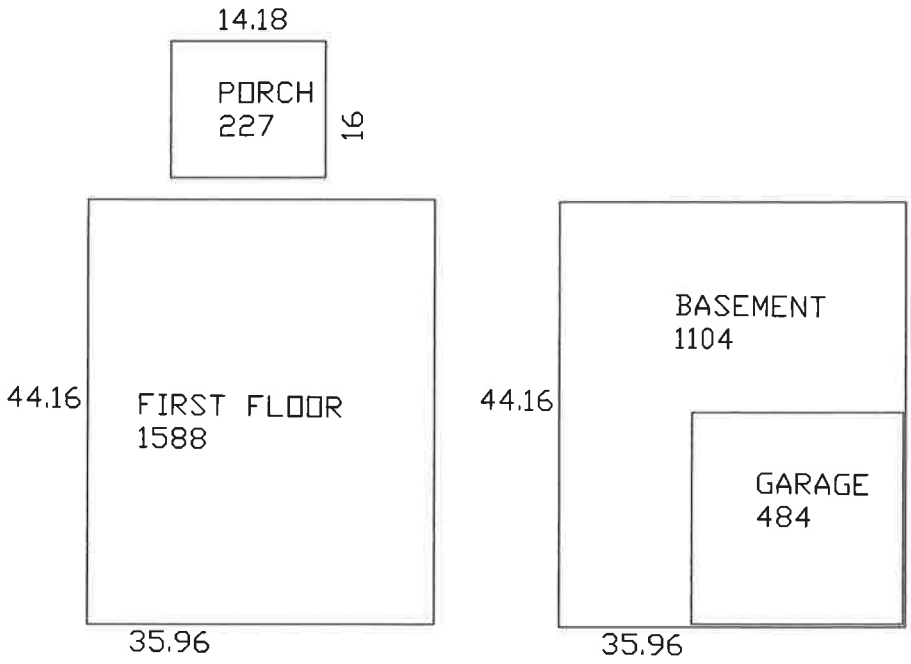
1.	Total Lot Area (Net Lot Area for Lots Created After 12/13/06):	51406 50656 (SLOPE REDUCTION)
2.	**Maximum** permitted floor area (per Section 355-26.B(4)):	8153
3.	Amount of floor area contained within first floor: 1588 existing + _____ proposed =	1588
4.	Amount of floor area contained within second floor: 0 existing + _____ proposed =	0
5.	Amount of floor area contained within garage: 484 existing + _____ proposed =	484
6.	Amount of floor area contained within porches capable of being enclosed: 227 existing + _____ proposed =	227
7.	Amount of floor area contained within basement (if applicable – see definition): 1104 existing + _____ proposed =	1104
8.	Amount of floor area contained within attic (if applicable – see definition): 0 existing + _____ proposed =	0
9.	Amount of floor area contained within all accessory buildings: 358 existing + _____ proposed =	358
10.	Proposed **floor area:** Total of Lines 3 – 9 =	3761

If Line 10 is less than or equal to Line 2, your proposal **complies** with the Town's maximum floor area regulations and the project may proceed to the Residential Project Review Committee for review. If Line 10 is greater than Line 2 your proposal does not comply with the Town's regulations.

Signature and Seal of Professional Preparing Worksheet

STATE OF NEW YORK ELIOT SHOR No. 081627 LICENSED PROFESSIONAL ENGINEER

6/25/21
Date


14.18
PORCH
227
16
44.16
FIRST FLOOR
1588
35.96
BASEMENT
1104
44.16
GARAGE
484
35.96

STERLING
Sterling Environmental Engineering, P.C.

March 19, 2021

Mr. Joe Gentile
9 Barnard Road
Armonk, New York 10504

Via Email (jgentile72@gmail.com)

Subject: Gentile Residence
9 Barnard Road, Armonk, NY 10504
STERLING File #26009

Dear Mr. Gentile,

Attached please find analytical results for a representative soil sample obtained at the subject address. Also attached is a figure by EMSL Analytical, Inc. indicating the sample location. We understand approximately 300 cubic yards (CY) of soil was delivered to the property for placement during construction of a retaining wall. The analytical results confirm that the soil conforms to the General Fill Use criteria presented in 6 NYCRR 360.13(f), with reported concentrations below the Protection of Public Health Residential Land Use Values and Protection of Groundwater Values expressed at 6 NYCRR 375-6.8(b). Accordingly, the soils fully comply with the testing requirements of §161-1 of the Town of North Castle code.

We note that the §161-1(A)(3) requirement to provide a certification by a professional engineer only applies to fill quantities in excess of 1,000 CY. Notwithstanding, I have reviewed the data provided to me and hereby certify the soil conforms to the General Fill criteria of 6 NYCRR 360.13 and is acceptable for use on residential property.

Please contact me should you have any questions or comments.

Very truly yours,

STERLING ENVIRONMENTAL ENGINEERING, P.C.

Mark P. Millspaugh, P.E.
President
Mark.Millspaugh@sterlingenvironmental.com

MPM/bc
Email/First Class Mail
Attachments

S:\Sterling\Projects\2006 Projects\All About Recycling - Yonkers NY - 26009\Correspondence\2021\2021-03-19_Gentile Letter.docx

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone: (856) 303-2500 Fax: (856) 858-4571 Email: EnvChemistry2@emsl.com

Attn: **Charles Copple** 10/6/2020
Applied Technology Services, Inc.
481 Main Street
Suite 503
New Rochelle, NY 10801
Phone: (914) 654-0080
Fax: (914) 654-1332

The following analytical report covers the analysis performed on samples submitted to EMSL Analytical, Inc. on 9/18/2020. The results are tabulated on the attached data pages for the following client designated project:

9 Bernard

The reference number for these samples is EMSL Order #012010263. Please use this reference when calling about these samples. If you have any questions, please do not hesitate to contact me at (856) 303-2500.

Approved By:

Phillip Worby, Environmental Chemistry
Laboratory Director

The test results contained within this report meet the requirements of NELAP and/or the specific certification program that is applicable, unless otherwise noted.
NELAP Certifications: NJ 03036, NY 10872, PA 68-00367, CA ELAP 1877

The MS recovery for Antimony and Lead fell outside control limits low. All other QC results met criteria.
The LCS/RSD recoveries for Thallium was outside the control limits (high), therefore the reported result may be biased high.

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone/Fax: (856) 303-2500 / (856) 858-4571
http://www.EMSL.com EnvChemistry2@emsl.com

EMSL Order:	012010263
CustomerID:	APPL53
CustomerPO:	
ProjectID:	

Attn: **Charles Copple**
Applied Technology Services, Inc.
481 Main Street
Suite 503
New Rochelle, NY 10801

Phone: (914) 654-0080
Fax: (914) 654-1332
Received: 09/18/20 9:30 AM

Project: 9 Bernard

Analytical Results

Client Sample Description 01 Front ***Collected:*** 9/15/2020 4:25:00 PM ***Lab ID:*** *012010263-0001*

Method	*Parameter*	*Result*	*RL*	*Units*	*Prep Date & Analyst*		*Analysis Date & Analyst*	
GCMS-SVOA								
3546/8270E	1,2,4-Trichlorobenzene	ND	180	µg/Kg	9/28/2020	AB	09/28/20 0:00	AC
3546/8270E	1,2-Dichlorobenzene	ND	180	µg/Kg	9/28/2020	AB	09/28/20 0:00	AC
3546/8270E	1,3-Dichlorobenzene	ND	180	µg/Kg	9/28/2020	AB	09/28/20 0:00	AC
3546/8270E	1,4-Dichlorobenzene	ND	180	µg/Kg	9/28/2020	AB	09/28/20 0:00	AC
3546/8270E	2,4,6-Trichlorophenol	ND	180	µg/Kg	9/28/2020	AB	09/28/20 0:00	AC
3546/8270E	2,4-Dichlorophenol	ND	180	µg/Kg	9/28/2020	AB	09/28/20 0:00	AC
3546/8270E	2,4-Dimethylphenol	ND	180	µg/Kg	9/28/2020	AB	09/28/20 0:00	AC
3546/8270E	2,4-Dinitrophenol	ND	180	µg/Kg	9/28/2020	AB	09/28/20 0:00	AC
3546/8270E	2,4-Dinitrotoluene	ND	180	µg/Kg	9/28/2020	AB	09/28/20 0:00	AC
3546/8270E	2,6-Dinitrotoluene	ND	360	µg/Kg	9/28/2020	AB	09/28/20 0:00	AC
3546/8270E	2-Chloronaphthalene	ND	180	µg/Kg	9/28/2020	AB	09/28/20 0:00	AC
3546/8270E	2-Chlorophenol	ND	180	µg/Kg	9/28/2020	AB	09/28/20 0:00	AC
3546/8270E	2-Nitrophenol	ND	180	µg/Kg	9/28/2020	AB	09/28/20 0:00	AC
3546/8270E	3,3'-Dichlorobenzidine	ND	180	µg/Kg	9/28/2020	AB	09/28/20 0:00	AC
3546/8270E	4,6-Dinitro-2-methylphenol	ND	360	µg/Kg	9/28/2020	AB	09/28/20 0:00	AC
3546/8270E	4-Bromophenyl-phenylether	ND	180	µg/Kg	9/28/2020	AB	09/28/20 0:00	AC
3546/8270E	4-Chloro-3-methylphenol	ND	180	µg/Kg	9/28/2020	AB	09/28/20 0:00	AC
3546/8270E	4-Chlorophenyl-phenylether	ND	180	µg/Kg	9/28/2020	AB	09/28/20 0:00	AC
3546/8270E	4-Nitrophenol	ND	180	µg/Kg	9/28/2020	AB	09/28/20 0:00	AC
3546/8270E	Acenaphthene	ND	18	µg/Kg	9/28/2020	AB	09/28/20 0:00	AC
3546/8270E	Acenaphthylene	ND	18	µg/Kg	9/28/2020	AB	09/28/20 0:00	AC
3546/8270E	Anthracene	ND	18	µg/Kg	9/28/2020	AB	09/28/20 0:00	AC
3546/8270E	Benzidine	ND	180	µg/Kg	9/28/2020	AB	09/28/20 0:00	AC
3546/8270E	Benzo(a)anthracene	20	18	µg/Kg	9/28/2020	AB	09/28/20 0:00	AC
3546/8270E	Benzo(a)pyrene	27	18	µg/Kg	9/28/2020	AB	09/28/20 0:00	AC
3546/8270E	Benzo(b)fluoranthene	32	18	µg/Kg	9/28/2020	AB	09/28/20 0:00	AC
3546/8270E	Benzo(g,h,i)perylene	ND	18	µg/Kg	9/28/2020	AB	09/28/20 0:00	AC
3546/8270E	Benzo(k)fluoranthene	ND	18	µg/Kg	9/28/2020	AB	09/28/20 0:00	AC
3546/8270E	Bis(2-chloroethoxy)methane	ND	180	µg/Kg	9/28/2020	AB	09/28/20 0:00	AC
3546/8270E	Bis(2-chloroethyl)ether	ND	180	µg/Kg	9/28/2020	AB	09/28/20 0:00	AC
3546/8270E	Bis(2-chloroisopropyl)ether	ND	180	µg/Kg	9/28/2020	AB	09/28/20 0:00	AC
3546/8270E	Bis(2-ethylhexyl)phthalate	ND	530	µg/Kg	9/28/2020	AB	09/28/20 0:00	AC
3546/8270E	Butylbenzylphthalate	ND	180	µg/Kg	9/28/2020	AB	09/28/20 0:00	AC
3546/8270E	Chrysene	19	18	µg/Kg	9/28/2020	AB	09/28/20 0:00	AC
3546/8270E	Di-n-butylphthalate	ND	180	µg/Kg	9/28/2020	AB	09/28/20 0:00	AC

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone/Fax: (856) 303-2500 / (856) 858-4571
http://www.EMSL.com EnvChemistry2@emsl.com

EMSL Order:	012010263
CustomerID:	APPL53
CustomerPO:	
ProjectID:	

Attn: **Charles Copple**
Applied Technology Services, Inc.
481 Main Street
Suite 503
New Rochelle, NY 10801

Phone: (914) 654-0080
Fax: (914) 654-1332
Received: 09/18/20 9:30 AM

Project: **9 Bernard**

Analytical Results

Client Sample Description 01 Front ***Collected:*** 9/15/2020 4:25:00 PM ***Lab ID:*** *012010263-0001*

Method	*Parameter*	*Result*	*RL*	*Units*	*Prep Date & Analyst*		*Analysis Date & Analyst*	
GCMS-SVOA								
3546/8270E	Di-n-octylphthalate	ND	180	µg/Kg	9/28/2020	AB	09/28/20 0:00	AC
3546/8270E	Dibenz(a,h)anthracene	ND	18	µg/Kg	9/28/2020	AB	09/28/20 0:00	AC
3546/8270E	Diethylphthalate	ND	180	µg/Kg	9/28/2020	AB	09/28/20 0:00	AC
3546/8270E	Dimethylphthalate	ND	180	µg/Kg	9/28/2020	AB	09/28/20 0:00	AC
3546/8270E	Fluoranthene	33	18	µg/Kg	9/28/2020	AB	09/28/20 0:00	AC
3546/8270E	Fluorene	ND	18	µg/Kg	9/28/2020	AB	09/28/20 0:00	AC
3546/8270E	Hexachlorobenzene	ND	180	µg/Kg	9/28/2020	AB	09/28/20 0:00	AC
3546/8270E	Hexachlorobutadiene	ND	180	µg/Kg	9/28/2020	AB	09/28/20 0:00	AC
3546/8270E	Hexachlorocyclopentadiene	ND	180	µg/Kg	9/28/2020	AB	09/28/20 0:00	AC
3546/8270E	Hexachloroethane	ND	180	µg/Kg	9/28/2020	AB	09/28/20 0:00	AC
3546/8270E	Indeno(1,2,3-cd)pyrene	22	18	µg/Kg	9/28/2020	AB	09/28/20 0:00	AC
3546/8270E	Isophorone	ND	180	µg/Kg	9/28/2020	AB	09/28/20 0:00	AC
3546/8270E	N-Nitroso-dl-n-propylamine	ND	180	µg/Kg	9/28/2020	AB	09/28/20 0:00	AC
3546/8270E	N-Nitrosodimethylamine	ND	180	µg/Kg	9/28/2020	AB	09/28/20 0:00	AC
3546/8270E	N-Nitrosodiphenylamine	ND	180	µg/Kg	9/28/2020	AB	09/28/20 0:00	AC
3546/8270E	Naphthalene	ND	18	µg/Kg	9/28/2020	AB	09/28/20 0:00	AC
3546/8270E	Nitrobenzene	ND	180	µg/Kg	9/28/2020	AB	09/28/20 0:00	AC
3546/8270E	Pentachlorophenol	ND	180	µg/Kg	9/28/2020	AB	09/28/20 0:00	AC
3546/8270E	Phenanthrene	ND	18	µg/Kg	9/28/2020	AB	09/28/20 0:00	AC
3546/8270E	Phenol	ND	180	µg/Kg	9/28/2020	AB	09/28/20 0:00	AC
3546/8270E	Pyrene	29	18	µg/Kg	9/28/2020	AB	09/28/20 0:00	AC
8270D Library Search-Semivolatiles	See Attached		N/A		9/28/2020	AB	09/28/20 0:00	AC
GCMS-VOA								
8260D	1,1,1,2-Tetrachloroethane	ND	5.4	µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	1,1,1-Trichloroethane	ND	5.4	µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	1,1,2,2-Tetrachloroethane	ND	5.4	µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	1,1,2-Trichloroethane	ND	5.4	µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	1,1,2-Trichloro-1,2,2-trifluoroethane	ND	5.4	µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	1,1-Dichloroethane	ND	5.4	µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	1,1-Dichloroethene	ND	5.4	µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	1,1-Dichloropropene	ND	5.4	µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	1,2,3-Trichlorobenzene	ND	5.4	µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	1,2,3-Trichloropropane	ND	5.4	µg/Kg	9/28/2020	WF	09/29/20 0:00	WF

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone/Fax: (856) 303-2500 / (856) 858-4571
http://www.EMSL.com EnvChemistry2@emsl.com

EMSL Order:	012010263
CustomerID:	APPL53
CustomerPO:	
ProjectID:	

Attn: **Charles Copple**
Applied Technology Services, Inc.
481 Main Street
Suite 503
New Rochelle, NY 10801

Phone: (914) 654-0080
Fax: (914) 654-1332
Received: 09/18/20 9:30 AM

Project: 9 Bernard

Analytical Results

Client Sample Description 01 Front ***Collected:*** 9/15/2020 4:25:00 PM ***Lab ID:*** *012010263-0001*

Method	*Parameter*	*Result*	*RL Units*	*Prep Date & Analyst*		*Analysis Date & Analyst*	
GCMS-VOA							
8260D	1,2,4-Trichlorobenzene	ND	5.4 µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	1,2,4-Trimethylbenzene	ND	5.4 µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	1,2-Dibromo-3-chloropropane	ND	11 µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	1,2-Dibromoethane	ND	5.4 µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	1,2-Dichlorobenzene	ND	5.4 µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	1,2-Dichloroethane	ND	5.4 µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	1,2-Dichloropropane	ND	5.4 µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	1,3,5-Trimethylbenzene	ND	5.4 µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	1,3-Dichlorobenzene	ND	5.4 µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	1,3-Dichloropropane	ND	5.4 µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	1,4-Dichlorobenzene	ND	5.4 µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	2,2-Dichloropropane	ND	5.4 µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	2-Butanone	ND	11 µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	2-Chloroethyl Vinyl Ether	ND	11 µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	2-Chlorotoluene	ND	5.4 µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	2-Hexanone	ND	11 µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	4-Chlorotoluene	ND	5.4 µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	4-Isopropyltoluene	ND	5.4 µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	4-Methyl-2-pentanone	ND	11 µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	Acetone	ND	11 µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	Acetonitrile	ND	54 µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	Acrolein	ND	22 µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	Acrylonitrile	ND	11 µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	Benzene	ND	5.4 µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	Bromobenzene	ND	5.4 µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	Bromochloromethane	ND	5.4 µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	Bromodichloromethane	ND	5.4 µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	Bromoform	ND	5.4 µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	Bromomethane	ND	5.4 µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	Carbon Disulfide	ND	5.4 µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	Carbon Tetrachloride	ND	5.4 µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	Chlorobenzene	ND	5.4 µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	Chloroethane	ND	5.4 µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	Chloroform	ND	5.4 µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	Chloromethane	ND	5.4 µg/Kg	9/28/2020	WF	09/29/20 0:00	WF

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone/Fax: (856) 303-2500 / (856) 858-4571
http://www.EMSL.com EnvChemistry2@emsl.com

EMSL Order:	012010263
CustomerID:	APPL53
CustomerPO:	
ProjectID:	

Attn: **Charles Copple**
Applied Technology Services, Inc.
481 Main Street
Suite 503
New Rochelle, NY 10801

Phone: (914) 654-0080
Fax: (914) 654-1332
Received: 09/18/20 9:30 AM

Project: **9 Bernard**

Analytical Results

Client Sample Description 01 Front ***Collected:*** 9/15/2020 4:25:00 PM ***Lab ID:*** *012010263-0001*

Method	*Parameter*	*Result*	*RL*	*Units*	*Prep Date & Analyst*		*Analysis Date & Analyst*	
GCMS-VOA								
8260D	Cis-1,2-dichloroethene	ND	5.4	µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	Cis-1,3-dichloropropene	ND	5.4	µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	Dibromochloromethane	ND	5.4	µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	Dibromomethane	ND	5.4	µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	Dichlorodifluoromethane	ND	5.4	µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	Ethylbenzene	ND	5.4	µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	Hexachlorobutadiene	ND	5.4	µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	Hexachloroethane	ND	5.4	µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	Isopropylbenzene	ND	5.4	µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	m&p-xylenes	ND	11	µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	o-xylene	ND	5.4	µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	Methyl-tert butyl ether	ND	5.4	µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	N-butylbenzene	ND	5.4	µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	Methylene Chloride	ND	5.4	µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	N-propylbenzene	ND	5.4	µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	Naphthalene	ND	5.4	µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	Sec-butylbenzene	ND	5.4	µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	Styrene	ND	5.4	µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	tert-Butyl Alcohol	ND	22	µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	Tert-butylbenzene	ND	5.4	µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	Tetrachloroethene	ND	5.4	µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	Tetrahydrofuran	ND	11	µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	Toluene	ND	5.4	µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	Trans-1,2-dichloroethene	ND	5.4	µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	Trans-1,3-dichloropropene	ND	5.4	µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	Trans-1,4-dichloro-2-butene	ND	5.4	µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	Trichloroethene	ND	5.4	µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	Trichlorofluoromethane	ND	5.4	µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	Vinyl Acetate	ND	11	µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260D	Vinyl Chloride	ND	5.4	µg/Kg	9/28/2020	WF	09/29/20 0:00	WF
8260C Library Search-Volatiles	See Attached		N/A		9/28/2020	WF	09/29/20 0:00	WF
GC-SVOA								
3540C/8082A	Aroclor-1016	ND	52	µg/Kg	9/24/2020	AB	09/25/20 0:00	EH
3540C/8082A	Aroclor-1221	ND	52	µg/Kg	9/24/2020	AB	09/25/20 0:00	EH

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone/Fax: (856) 303-2500 / (856) 858-4571
http://www.EMSL.com EnvChemistry2@emsl.com

EMSL Order: 012010263
CustomerID: APPL53
CustomerPO:
ProjectID:

Attn: **Charles Copple**
Applied Technology Services, Inc.
481 Main Street
Suite 503
New Rochelle, NY 10801

Phone: (914) 654-0080
Fax: (914) 654-1332
Received: 09/18/20 9:30 AM

Project: 9 Bernard

Analytical Results

Client Sample Description 01 Front ***Collected:*** 9/15/2020 4:25:00 PM ***Lab ID:*** *012010263-0001*

Method	*Parameter*	*Result*	*RL Units*	*Prep Date & Analyst*		*Analysis Date & Analyst*	
GC-SVOA							
3540C/8082A	Aroclor-1232	ND	52 µg/Kg	9/24/2020	AB	09/25/20 0:00	EH
3540C/8082A	Aroclor-1242	ND	52 µg/Kg	9/24/2020	AB	09/25/20 0:00	EH
3540C/8082A	Aroclor-1248	ND	52 µg/Kg	9/24/2020	AB	09/25/20 0:00	EH
3540C/8082A	Aroclor-1254	ND	52 µg/Kg	9/24/2020	AB	09/25/20 0:00	EH
3540C/8082A	Aroclor-1260	ND	52 µg/Kg	9/24/2020	AB	09/25/20 0:00	EH
3540C/8082A	Aroclor-1262	ND	52 µg/Kg	9/24/2020	AB	09/25/20 0:00	EH
3540C/8082A	Aroclor-1268	ND	52 µg/Kg	9/24/2020	AB	09/25/20 0:00	EH
8081A	Alpha-BHC	ND	3.6 µg/Kg	9/29/2020	AB	09/30/20 0:00	TL
8081A	Gamma-BHC	ND	3.6 µg/Kg	9/29/2020	AB	09/30/20 0:00	TL
8081A	Heptachlor	ND	3.6 µg/Kg	9/29/2020	AB	09/30/20 0:00	TL
8081A	Aldrin	ND	3.6 µg/Kg	9/29/2020	AB	09/30/20 0:00	TL
8081A	Beta-BHC	ND	3.6 µg/Kg	9/29/2020	AB	09/30/20 0:00	TL
8081A	Delta-BHC	ND	3.6 µg/Kg	9/29/2020	AB	09/30/20 0:00	TL
8081A	Heptachlor Epoxide	ND	3.6 µg/Kg	9/29/2020	AB	09/30/20 0:00	TL
8081A	Endosulfan II	ND	3.6 µg/Kg	9/29/2020	AB	09/30/20 0:00	TL
8081A	Endosulfan I	ND	3.6 µg/Kg	9/29/2020	AB	09/30/20 0:00	TL
8081A	Gamma-chlordane	3.9	3.6 µg/Kg	9/29/2020	AB	09/30/20 0:00	TL
8081A	Alpha-chlordane	4.8	3.6 µg/Kg	9/29/2020	AB	09/30/20 0:00	TL
8081A	4,4'-DDE	ND	3.6 µg/Kg	9/29/2020	AB	09/30/20 0:00	TL
8081A	Dieldrin	ND	3.6 µg/Kg	9/29/2020	AB	09/30/20 0:00	TL
8081A	Endrin	ND	3.6 µg/Kg	9/29/2020	AB	09/30/20 0:00	TL
8081A	4,4'-DDD	ND	3.6 µg/Kg	9/29/2020	AB	09/30/20 0:00	TL
8081A	4,4'-DDT	ND	3.6 µg/Kg	9/29/2020	AB	09/30/20 0:00	TL
8081A	Endrin Aldehyde	ND	3.6 µg/Kg	9/29/2020	AB	09/30/20 0:00	TL
8081A	Endosulfan Sulfate	ND	3.6 µg/Kg	9/29/2020	AB	09/30/20 0:00	TL
8081A	Methoxychlor	ND	3.6 µg/Kg	9/29/2020	AB	09/30/20 0:00	TL
8081A	Endrin Ketone	ND	3.6 µg/Kg	9/29/2020	AB	09/30/20 0:00	TL
8081A	Tech Chlordane	31	14 µg/Kg	9/29/2020	AB	09/30/20 0:00	TL
8081A	Toxaphene	ND	36 µg/Kg	9/29/2020	AB	09/30/20 0:00	TL
METALS							
Mercury by EPA 7471B	Mercury	0.055	0.049 mg/Kg	9/28/2020	SW	09/28/20 12:40	SW
3050B/6010D	Antimony	3.3	2.0 mg/Kg	9/24/2020	AM	09/25/20 18:41	BE
3050B/6010D	Arsenic	9.7	2.0 mg/Kg	9/24/2020	AM	09/25/20 18:41	BE
3050B/6010D	Beryllium	ND	0.39 mg/Kg	9/24/2020	AM	09/25/20 18:41	BE

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone/Fax: (856) 303-2500 / (856) 858-4571
http://www.EMSL.com EnvChemistry2@emsl.com

EMSL Order:	012010263
CustomerID:	APPL53
CustomerPO:	
ProjectID:	

Attn: **Charles Copple**
Applied Technology Services, Inc.
481 Main Street
Suite 503
New Rochelle, NY 10801

Phone: (914) 654-0080
Fax: (914) 654-1332
Received: 09/18/20 9:30 AM

Project: 9 Bernard

Analytical Results

Client Sample Description 01 Front ***Collected:*** 9/15/2020 4:25:00 PM ***Lab ID:*** *012010263-0001*

Method	*Parameter*	*Result*	*RL Units*	*Prep Date & Analyst*		*Analysis Date & Analyst*	
METALS							
3050B/6010D	Cadmium	ND	0.39 mg/Kg	9/24/2020	AM	09/25/20 18:41	BE
3050B/6010D	Chromium	30	0.99 mg/Kg	9/24/2020	AM	09/25/20 18:41	BE
3050B/6010D	Copper	25	2.0 mg/Kg	9/24/2020	AM	09/25/20 18:41	BE
3050B/6010D	Lead	79	0.99 mg/Kg	9/24/2020	AM	09/25/20 18:41	BE
3050B/6010D	Nickel	18	2.0 mg/Kg	9/24/2020	AM	09/25/20 18:41	BE
3050B/6010D	Selenium	ND	2.0 mg/Kg	9/24/2020	AM	09/25/20 18:41	BE
3050B/6010D	Silver	ND	0.99 mg/Kg	9/24/2020	AM	09/25/20 18:41	BE
3050B/6010D	Thallium	31	1.8 mg/Kg	9/24/2020	AM	09/28/20 18:43	BE
3050B/6010D	Zinc	86	1.8 mg/Kg	9/24/2020	AM	09/28/20 18:43	BE
WET							
SM 2540G	Total Solids	93	N/A %	9/29/2020	AS	09/29/20 0:00	AS
9010B/9014	Total Cyanide	ND	0.53 mg/Kg	9/22/2020	MM	09/22/20 0:00	MM
9065	Phenolics	ND	2.7 mg/Kg	10/5/2020	MM	10/05/20 0:00	MM

Definitions:
MDL - method detection limit
J - Result was below the reporting limit, but at or above the MDL
ND - indicates that the analyte was not detected at the reporting limit
RL - Reporting Limit (Analytical)
D - Dilution Sample required a dilution which was used to calculate final results

EMSL Analytical Inc.

VOLATILE TENTATIVELY IDENTIFIED COMPOUNDS

		Customer Sample#:	01 Front
Lab Name:	EMSL ANALYTICAL		
EMSL Sample ID:	**012010263-0001**	**Project:**	
Lab File ID:	R03922.D	**Sample Matrix:**	Soils
Instrument ID:	VOA MSD-R	**Sampling Date:**	9/15/2020
Analyst:	WRF	**Analysis Date**	9/29/2020 12:49:00 AM
GC Column:	RTX-624 SIL MS (0.25 mm)	**Level (low/med):**	LOW
Sample wt/vol:	5 G	**Nominal Amount:**	5 G
Dilution Factor:	1	**Method:**	SW846 8260D
Sample Container:	Jar (SW-846 5035)	**Moisture(%)**	7
Heated Purge (Y/N):	Y		
Compounds Found:	1		

CAS NO	COMPOUND NAME	RT	EST. CONC. (µg/Kg)	Q
	No Compounds Found			

Qualifier Definitions
U = Undetected
B = Compound detected in method blank
E = Estimated value
J = Estimated Concentration. Detected below Practical Quantitation Level
D = Dilution

EMSL Analytical Inc.

SEMIVOLATILE TENTATIVELY IDENTIFIED COMPOUNDS

		Customer Sample#:	01 Front
Lab Name:	EMSL Analytical Inc.		
EMSL Sample ID:	012010263-0001	**Project:**	
Lab File ID:	C031836.D	**Sample Matrix:**	Soils
Instrument ID:	SVOA MSD-C	**Sampling Date:**	9/15/2020
Analyst:	ac	**Date Extracted:**	9/28/2020
GC Column:	Rxi-5SilMS (0.25 mm)	**Analysis Date**	9/28/2020 2:26:00 PM
Level (low/med):	LOW	**Sample wt/vol:**	30.15 G
% Moisture:	7	**Dilution Factor:**	1
PH:		**Conc. Extract Volume:**	1000 (ml)
GPC Cleanup(Y/N):	N	**Injection Volume:**	1 (ul)
Method:	SW846 8270-D BNA		
Compounds Found:	4		

CAS NO	COMPOUND NAME	RT	EST. CONC. (µg/Kg)	Q
	aldol condensation	3.02	990	J
000099-98-9	1,4-Benzenediamine, N,N-dimethyl-	6.17	220	J
000126-86-3	2,4,7,9-Tetramethyl-5-decyn-4,7-diol	6.33	160	J
	Alkane: Straight-Chain	12.48	210	J

Qualifier Definitions
U = Undetected
B = Compound detected in method blank
E = Estimated value
J = Estimated Concentration.
D = Dilution

Appendix 5
Allowable Constituent Levels for Imported Fill or Soil
Subdivision 5.4(e)

Source: This table is derived from soil cleanup objective (SCO) tables in 6 NYCRR 375. Table 375-6.8(a) is the source for unrestricted use and Table 375-6.8(b) is the source for restricted use.

Note: For constituents not included in this table, refer to the contaminant for supplemental soil cleanup objectives (SSCOs) in the Commissioner Policy on ***Soil Cleanup Guidance***. If an SSCO is not provided for a constituent, contact the DER PM to determine a site-specific level.

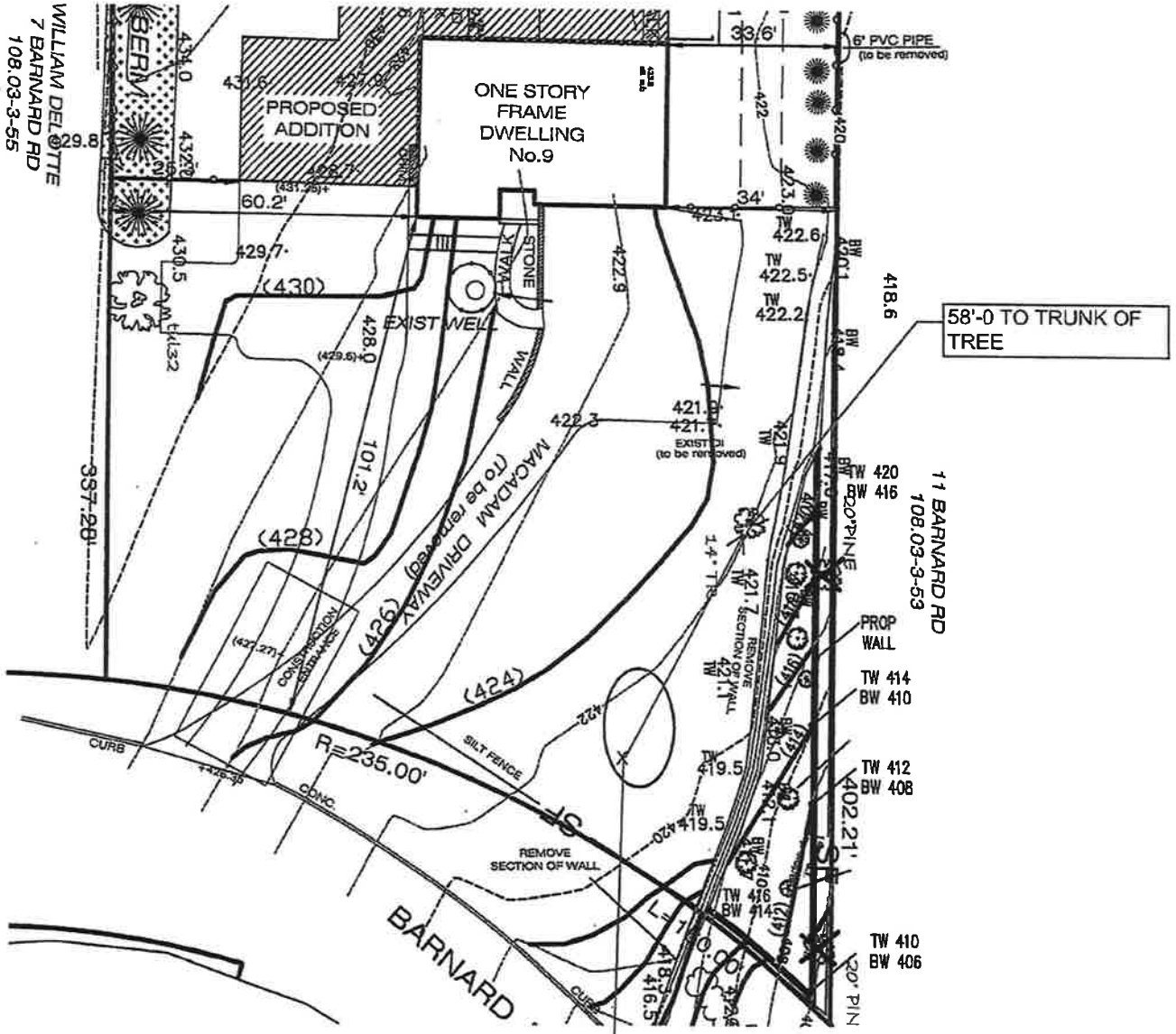
Constituent	Unrestricted Use	Residential Use	Restricted Residential Use	Commercial or Industrial Use	If Ecological Resources are Present
Metals					
Arsenic	13	16	16	16	13
Barium	350	350	400	400	433
Beryllium	7.2	14	47	47	10
Cadmium	2.5	2.5	4.3	7.5	4
Chromium, Hexavalent[1]	1 [3]	19	19	19	1 [3]
Chromium, Trivalent[1]	30	36	180	1500	41
Copper	50	270	270	270	50
Cyanide	27	27	27	27	NS
Lead	63	400	400	450	63
Manganese	1600	2000	2000	2000	1600
Mercury (total)	0.18	0.73	0.73	0.73	0.18
Nickel	30	130	130	130	30
Selenium	3.9	4	4	4	3.9
Silver	2	8.3	8.3	8.3	2
Zinc	109	2200	2480	2480	109
PCBs/Pesticides					
2,4,5-TP Acid (Silvex)	3.8	3.8	3.8	3.8	NS
4,4'-DDE	0.0033 [3]	1.8	8.9	17	0.0033 [3]
4,4'-DDT	0.0033 [3]	1.7	7.9	47	0.0033 [3]
4,4'-DDD	0.0033 [3]	2.6	13	14	0.0033 [3]
Aldrin	0.005	0.019	0.097	0.19	0.14
Alpha-BHC	0.02	0.02	0.02	0.02	0.04 [4]
Beta-BHC	0.036	0.072	0.09	0.09	0.6
Chlordane (alpha)	0.094	0.91	2.9	2.9	1.3
Delta-BHC	0.04	0.25	0.25	0.25	0.04 [4]
Dibenzofuran	7	14	59	210	NS
Dieldrin	0.005	0.039	0.1	0.1	0.006
Endosulfan I	2.4[2]	4.8	24	102	NS
Endosulfan II	2.4[2]	4.8	24	102	NS
Endosulfan sulfate	2.4[2]	4.8	24	200	NS
Endrin	0.014	0.06	0.06	0.06	0.014
Heptachlor	0.042	0.38	0.38	0.38	0.14
Lindane	0.1	0.1	0.1	0.1	6
Polychlorinated biphenyls	0.1	1	1	1	1

Constituent	Unrestricted Use	Residential Use	Restricted Residential Use	Commercial or Industrial Use	If Ecological Resources are Present
Semi-volatile Organic Compounds					
Acenaphthene	20	98	98	98	20
Acenaphthylene	100	100	100	107	NS
Anthracene	100	100	100	500	NS
Benzo(a)anthracene	1	1	1	1	NS
Benzo(a)pyrene	1	1	1	1	2.6
Benzo(b)fluoranthene	1	1	1	1.7	NS
Benzo(g,h,i)perylene	100	100	100	500	NS
Benzo(k)fluoranthene	0.8	1	1.7	1.7	NS
Chrysene	1	1	1	1	NS
Dibenz(a,h)anthracene	0.33 [3]	0.33 [3]	0.33 [3]	0.56	NS
Fluoranthene	100	100	100	500	NS
Fluorene	30	100	100	386	30
Indeno(1,2,3-cd)pyrene	0.5	0.5	0.5	5.6	NS
m-Cresol(s)	0.33 [3]	0.33 [3]	0.33 [3]	0.33 [3]	NS
Naphthalene	12	12	12	12	NS
o-Cresol(s)	0.33 [3]	0.33 [3]	0.33 [3]	0.33 [3]	NS
p-Cresol(s)	0.33	0.33	0.33	0.33	NS
Pentachlorophenol	0.8 [3]	0.8 [3]	0.8 [3]	0.8 [3]	0.8 [3]
Phenanthrene	100	100	100	500	NS
Phenol	0.33 [3]	0.33 [3]	0.33 [3]	0.33 [3]	30
Pyrene	100	100	100	500	NS
Volatile Organic Compounds					
1,1,1-Trichloroethane	0.68	0.68	0.68	0.68	NS
1,1-Dichloroethane	0.27	0.27	0.27	0.27	NS
1,1-Dichloroethene	0.33	0.33	0.33	0.33	NS
1,2-Dichlorobenzene	1.1	1.1	1.1	1.1	NS
1,2-Dichloroethane	0.02	0.02	0.02	0.02	10
1,2-Dichloroethene(cis)	0.25	0.25	0.25	0.25	NS
1,2-Dichloroethene(trans)	0.19	0.19	0.19	0.19	NS
1,3-Dichlorobenzene	2.4	2.4	2.4	2.4	NS
1,4-Dichlorobenzene	1.8	1.8	1.8	1.8	20
1,4-Dioxane	0.1 [3]	0.1 [3]	0.1 [3]	0.1 [3]	0.1
Acetone	0.05	0.05	0.05	0.05	2.2
Benzene	0.06	0.06	0.06	0.06	70
Butylbenzene	12	12	12	12	NS
Carbon tetrachloride	0.76	0.76	0.76	0.76	NS
Chlorobenzene	1.1	1.1	1.1	1.1	40
Chloroform	0.37	0.37	0.37	0.37	12
Ethylbenzene	1	1	1	1	NS
Hexachlorobenzene	0.33 [3]	0.33 [3]	1.2	3.2	NS
Methyl ethyl ketone	0.12	0.12	0.12	0.12	100
Methyl tert-butyl ether	0.93	0.93	0.93	0.93	NS
Methylene chloride	0.05	0.05	0.05	0.05	12

Volatile Organic Compounds (continued)					
Propylbenzene-n	3.9	3.9	3.9	3.9	NS
Sec-Butylbenzene	11	11	11	11	NS
Tert-Butylbenzene	5.9	5.9	5.9	5.9	NS
Tetrachloroethene	1.3	1.3	1.3	1.3	2
Toluene	0.7	0.7	0.7	0.7	36
Trichloroethene	0.47	0.47	0.47	0.47	2
Trimethylbenzene-1,2,4	3.6	3.6	3.6	3.6	NS
Trimethylbenzene-1,3,5	8.4	8.4	8.4	8.4	NS
Vinyl chloride	0.02	0.02	0.02	0.02	NS
Xylene (mixed)	0.26	1.6	1.6	1.6	0.26

All concentrations are in parts per million (ppm)
NS = Not Specified

Footnotes:
[1] The SCO for Hexavalent or Trivalent Chromium is considered to be met if the analysis for the total species of this contaminant is below the specific SCO for Hexavalent Chromium.
[2] The SCO is the sum of endosulfan I, endosulfan II and endosulfan sulfate.
[3] For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the Track 1 SCO value.
[4] This SCO is derived from data on mixed isomers of BHC.



TEST PIT LOCATION PLAN
SAMPLE # 01-FRONT
COLLECTED - 9 SEPTEMBER 2020

APPLIED TECHNOLOGY SERVICES, INC.
481 MAIN STREET - SUITE 503
NEW ROCHELLE, NY 10801
PROJECT # E20420

JOB NUMBER: 184-21

NICHOLS RD
TOWN OF NORTH CASTLE
108.03-3-50

RONALD & AURORA BANASZEK
11 BARNARD RD
108.03-3-53

N01°28'30"E

402.21'

6" PVC PIPE TO BE REMOVED

CHICKEN COOP TO BE RELOCATED

28" Red Maple

16" Dead Tree

142.87'

EXIST BERM

ROBERT & PENNY RAMANO
8 PALMER PLACE
108.03-3-50

25' SIDE YARD

40' REAR YARD

33.6'

34'

COLUMN (TYP.)

EXIST DI (TO BE REMOVED)

WALK

ONE STORY FRAME DWELLING No.9
EL 329.6

ENCL. PORCH

WOOD DECK

STONE WALK

WALL

EXIST WELL

50'

MACADAM DRIVEWAY

101.2'

FRONT YARD

R=235.00'

L=160.00'

CONC.

CURB

BARNARD ROAD

N/F SANTOS
8 BARNARD RD
108.03-3-62

ORNAMENTAL POND

FISH POND with rubber liner

RIP-RAP

N88°31'30"W

S01°28'30"W

337.28'

ADDITION

FRAME SHED

12.8'

13.7'

60.2'

25' SIDE YARD

EXIST BERM 3' HIGH

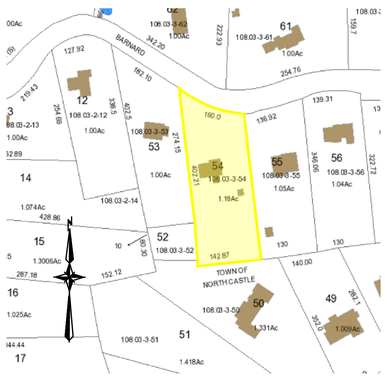
SHED IS LESS THAN 800 S.F. PERMIITTED
SIDE YARD IS 12.5'
12.8' SHOWN

WILLIAM DELOTTE
7 BARNARD RD
108.03-3-55

N/F GAGLIARDI
6 BARNARD ROAD
108.03-3-61

oak14 oak26 spr10 row wil24 app14-14 map20 dog8-6 map14 tul32

VICINITY MAP



NOTES:
1. TOPOGRAPHICAL INFORMATION PERFORMED BY GABRIEL E. SENOR PC. DATUM NAVD 88

ALL SPECIFICATIONS, MATERIALS AND METHODS OF CONSTRUCTION TO BE IN ACCORDANCE WITH THE TOWN CONSTRUCTION STANDARDS ORDINANCE AND WITH THE REQUIREMENTS OF THE PLANNING BOARD RESOLUTION OF APPROVAL DATED , 2021

PLANNING BOARD CHAIRMAN — DATE

OWNER — DATE

JOSEPH M. CERMELE, P.E. — DATE
KELLARD SESSIONS CONSULTING
CONSULTING TOWN ENGINEER

LEGEND

- UTILITY POLE
- SIGN POST
- HYDRANT
- WATER VALVE
- GAS VALVE
- LIGHT POLE
- GUY WIRES
- TELE. MANHOLE
- SILT FENCE
- SEWER MANHOLE
- WATER MANHOLE
- ELECTRIC MANHOLE
- DRAIN MANHOLE
- MANHOLE
- ELECTRIC BOX
- 102 EXISTING GRADE
- (102) PROPOSED GRADE
- 14 TREE SIZE
- TREE TO BE REMOVED

NO	DATE	DESC	BY
1	JULY 21, 2022		SGA

REVISIONS

SITE PLAN
SHED ADDITION AND STONE RETAINING WALL
EXISTING CONDITIONS

PREPARED FOR:
JOSEPH GENTILE
STREET: 9 BARNARD RD

TOWN OF NORTH CASTLE

TAX LOT 108.03-3-54

WESTCHESTER COUNTY, NEW YORK

GABRIEL E. SENOR, P.C.
CONSULTING ENGINEERS • LAND SURVEYORS
90 NORTH CENTRAL AVE., HARTSDALE, NEW YORK, 10530
(914) 422-0070 FAX 422-3003

STATE OF NEW YORK · ELIOT SENOR · LICENSED PROFESSIONAL ENGINEER · 081628

SCALE: 1" = 15'
DATE: JUNE 20, 2021
DRAWN BY: SGA | CHECKED BY: ES.

S-1

P:\DWG Drawings\184-\184-21_2021.dwg, 7/25/2022 11:03:08 AM, steve

JOB NUMBER: 184-21

NICHOLS RD
TOWN OF NORTH CASTLE
108.03-3-50

N01°28'30"E

142.87'

12.5'+ MIN

CHICKEN COOP TO BE RELOCATED

CHICKEN COOP RELOCATION

25' SIDE YARD

40' REAR YARD

EXIST BERM

ROBERT & PENNY RAMANO
8 PALMER PLACE
108.03-3-50

6" PVC PIPE TO BE REMOVED

RONALD & AURORA BANASZEK
11 BARNARD RD
108.03-3-53

SEE PLANTING PLAN
BY WALTER G. NESTLER P.C.
FOR LANDSCAPING

EXIST WELL
PER WCHD
RECORDS

402.21'

33.6'

34'

COLUMN (TYP.)

ONE STORY
FRAME
DWELLING
No.9
EL 329.6

ENCL. PORCH

WOOD DECK

WALK

STONE WALK

EXIST DI (TO BE REMOVED)

6" hdpe rigid pipe typ

6" hdpe rigid

Inv 422.25

PROP WQ DI (SOLID GRATE) R 423.8 I 422.0

(18) 180HD CULTEC bot.421.3

Nyloplast Inspection Port 'typ'

DEEP TEST PIT 5 FT DEEP BROKEN ROCK el 418.3

PERC TEST 30MIN/3" DROP

EXIST WELL

50'

100'

MACADAM DRIVEWAY

101.2'

50' FRONT YARD

R=235.00'

L=160.00'

LIMITS OF DISTURBANCE 2300 S.F.

LIMITS OF DISTURBANCE 2100 S.F.

SILT FENCE

Gross Swale

Prop Forsythia

28" Red Maple

22" White Pine

9" Black Cherry

26" Norway Spruce

9" Black Cherry

10" Hemlock

16" Dead Tree

REMOVE SECTION OF WALL
Clear rock materials and apply 6" of topsoil. Place permanent seeding

BARNARD ROAD

CURB

CONC.

N/F SANTOS
8 BARNARD RD
108.03-3-62

N/F GAGLIARDI
6 BARNARD ROAD
108.03-3-61

ORNAMENTAL POND

FISH POND with rubber liner

RIP-RAP

CHIM.

ADDITION

FRAME SHED

60.2'

13.7'

12.8'

25' SIDE YARD

ADDITION

N88°31'30"W

S01°28'30"W

337.28'

EXIST BERM 3' HIGH

SHED IS LESS THAN 800 S.F. PERMIITTED
SIDE YARD IS 12.5'
12.8' SHOWN

WILLIAM DELOTTE
7 BARNARD RD
108.03-3-55

spr10 row

wil24

app14-14

map20

dogg-6

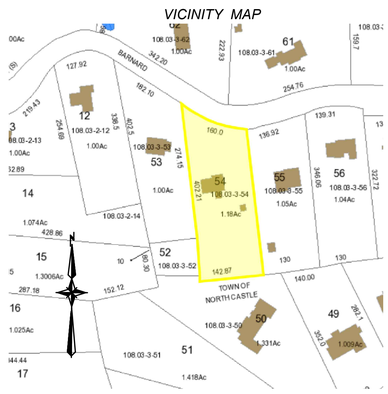
map14

tul32

oak14

oak26

VICINITY MAP



ZONING R-1A

LOT AREA	1 ACRE	1.2 ACRES
FRONTAGE	125	160
WIDTH	125	142.87
DEPTH	150	338.28+
FRONT	50	101.2
SIDE	25	25.3
REAR	40	184.1
BUILD HEIGHT	30	25
BLDG COVERAGE	12%	3.5%

APPROXIMATELY 450 CUBIC YARDS USED FOR FILL BEHIND WALL IN FRONT YARD. REAR YARD WAS REGRADED AND BERM ADDED. APPROXIMATELY 350 PLACED IN REAR YARD AND BERM.

NOTES:
1. TOPOGRAPHICAL INFORMATION PERFORMED BY GABRIEL E. SENOR PC. DATUM NAVD 88

ALL SPECIFICATIONS, MATERIALS AND METHODS OF CONSTRUCTION TO BE IN ACCORDANCE WITH THE TOWN CONSTRUCTION STANDARDS ORDINANCE AND WITH THE REQUIREMENTS OF THE PLANNING BOARD RESOLUTION OF APPROVAL DATED , 2021

PLANNING BOARD CHAIRMAN

OWNER

JOSEPH M. CERMELE, P.E.
KELLARD SESSIONS CONSULTING
CONSULTING TOWN ENGINEER

LEGEND

- UTILITY POLE
- SIGN POST
- HYDRANT
- WATER VALVE
- GAS VALVE
- LIGHT POLE
- GUY WIRES
- TELE. MANHOLE
- SF——SF——SF— SILT FENCE
- (S) SEWER MANHOLE
- (W) WATER MANHOLE
- (E) ELECTRIC MANHOLE
- (D) DRAIN MANHOLE
- (M) MANHOLE
- ELECTRIC BOX
- 102 EXISTING GRADE
- (102) PROPOSED GRADE
- 14TREE SIZE
- TREE TO BE REMOVED

NO	DATE	DESC	BY
1	JULY 21, 2022		SGA
REVISIONS			

SITE PLAN
SHED ADDITION AND
STONE RETAINING WALL

PROPOSED CONDITIONS

PREPARED FOR:
JOSEPH GENTILE
STREET: 9 BARNARD RD

TOWN OF NORTH CASTLE

TAX LOT 108.03-3-54

WESTCHESTER COUNTY, NEW YORK

GABRIEL E. SENOR, P.C.
CONSULTING ENGINEERS • LAND SURVEYORS
30 NORTH CENTRAL AVE., HARTSDALE, NEW YORK, 10530
(914) 422-0090 FAX 422-3009

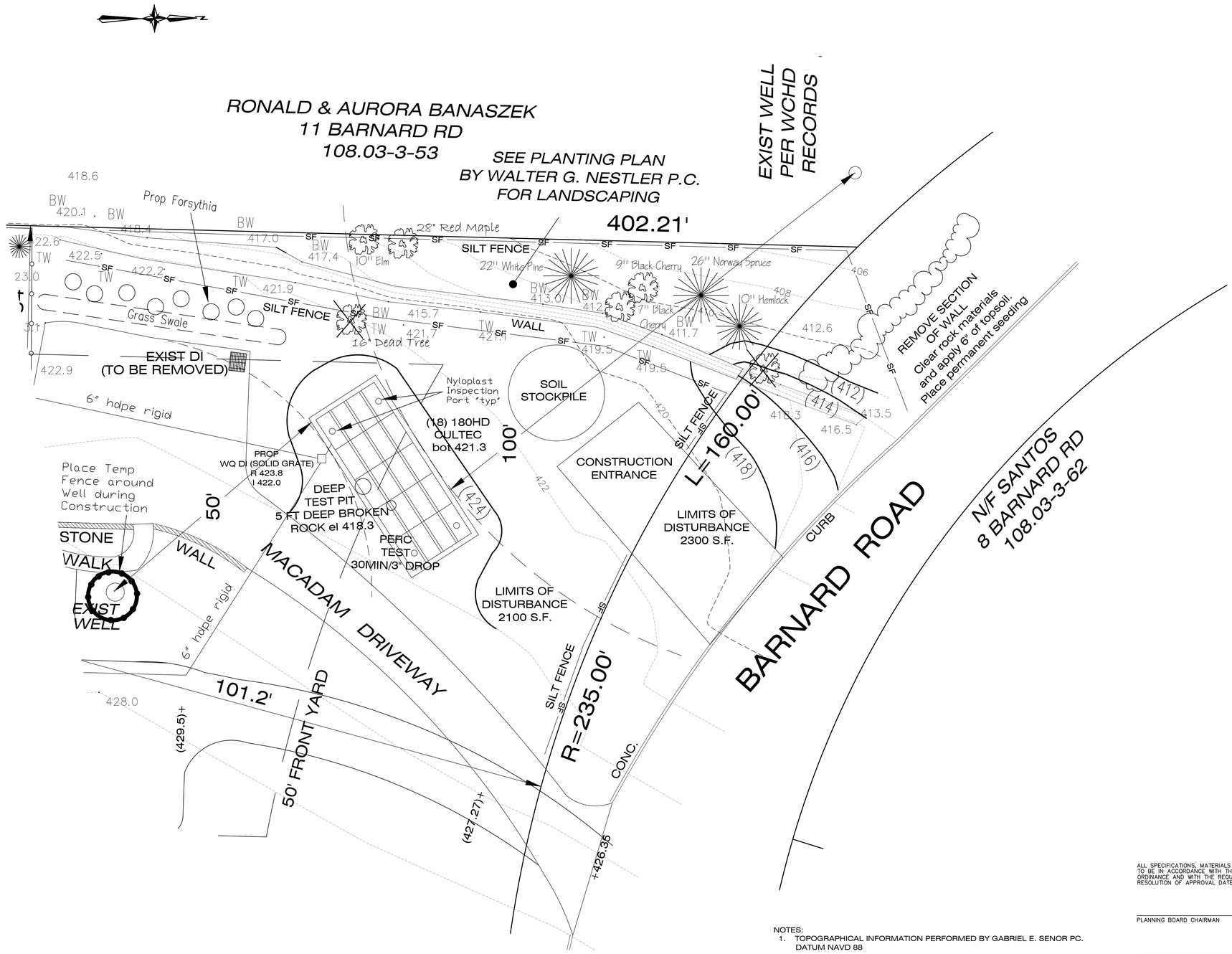
STATE OF NEW YORK
ELIOT SENOR
LICENSED PROFESSIONAL ENGINEER
081626

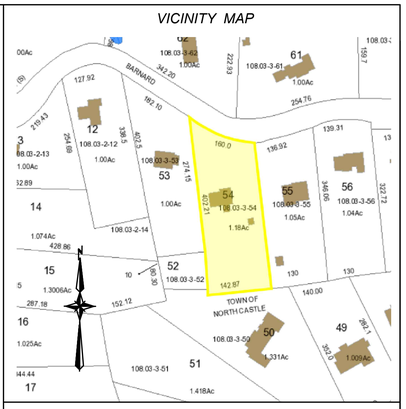
SCALE: 1" = 15'
DATE: JUNE 20, 2021
DRAWN BY: SGA
CHECKED BY: ES.

S-2

P:\DWG Drawings\184-1\184-21_2021.dwg, 7/25/2022 11:04:56 AM, steve

JOB NUMBER: 184-21





LEGEND

- UTILITY POLE
- SIGN POST
- HYDRANT
- WATER VALVE
- GAS VALVE
- LIGHT POLE
- GUY WIRES
- TELE. MANHOLE
- SF——SF——SF— SILT FENCE
- (S) SEWER MANHOLE
- (W) WATER MANHOLE
- (E) ELECTRIC MANHOLE
- (D) DRAIN MANHOLE
- (M) MANHOLE
- ELECTRIC BOX
- 102 EXISTING GRADE (102)
- PROPOSED GRADE
- 14 TREE SIZE
- TREE TO BE REMOVED

NOTES:
1. TOPOGRAPHICAL INFORMATION PERFORMED BY GABRIEL E. SENOR PC. DATUM NAVD 88

ALL SPECIFICATIONS, MATERIALS AND METHODS OF CONSTRUCTION TO BE IN ACCORDANCE WITH THE TOWN CONSTRUCTION STANDARDS ORDINANCE AND WITH THE REQUIREMENTS OF THE PLANNING BOARD RESOLUTION OF APPROVAL DATED , 2021

PLANNING BOARD CHAIRMAN

OWNER

JOSEPH M. CERMELE, P.E.
KELLARD SESSIONS CONSULTING
CONSULTING TOWN ENGINEER

1	JULY 21, 2022		SGA
NO	DATE	DESC	BY
REVISIONS			

SITE PLAN
SHED ADDITION AND
STONE RETAINING WALL

PROPOSED CONDITIONS

PREPARED FOR:
JOSEPH GENTILE
STREET: 9 BARNARD RD

TOWN OF NORTH CASTLE

TAX LOT 108.03-3-54

WESTCHESTER COUNTY, NEW YORK

GABRIEL E. SENOR, P.C.
CONSULTING ENGINEERS • LAND SURVEYORS
30 NORTH CENTRAL AVE., HARTSDALE, NEW YORK, 10530
(914) 422-0070 FAX 422-3003

STATE OF NEW YORK ELIOT SENOR 091636 LICENSED PROFESSIONAL ENGINEER

SCALE: 1" = 10'	
DATE: JUNE 20, 2021	
DRAWN BY: SGA	CHECKED BY: ES.

S-3

JOB NUMBER: 184-21

GENERAL NOTES

1. Gabriel E. Senor, P.C. is not responsible for construction supervision unless retained under separate contract.
2. Gabriel E. Senor, P.C. must be notified prior to backfilling any storm water system for inspection if The Engineering Dept. will require a final letter of certification from the design engineer for the storm water approval, site work and drainage installation.
3. Any changes made to these plans shall be approved by Gabriel E. Senor, P.C. Any changes must be filed and approved by the appropriate Department as amendments.
4. Gabriel E. Senor, P.C. is not responsible for damages if changes are made and not approved as in item 1 above.
5. All conditions, locations, dimensions and elevations shall be verified by the Contractor or Owner and must report all discrepancies to the Design Engineer prior to the start of construction.
6. All work and materials shall comply with all applicable codes including, but not limited to the following: NYS Building Code, Local Zoning Code, ACI and AISC.
7. The Contractor is responsible for all construction means and methods to implement the designs shown.
8. Safety during construction is the responsibility of the Contractor and shall conform to all Local, State and Federal Agencies' requirements.
9. The Contractor shall apply for and receive all necessary permits to perform the work shown on these plans prior to the start of construction.
10. Final grading shall be sloped away from the building and foundations.
11. Unless noted, all drainage piping on this plan is to be 6" Rigid HDPE ASTM F810-07 or better.
12. This storm water design plan is not designed to accept footing drains. Refer to Architectural plans for footing drain design. Do not connect footing drains or sump pumps to this surface water drainage system.
13. If the drainage system is to be built in a filled area, the fill should be well drained material with a settling period of one to three months prior to the system installation. Additional percolations are required after the settling period and the system design will be revised as necessary.
14. Proposed Silt Fence to be installed along existing and proposed contours.
15. Orange Construction Fence to be installed along the limits of the proposed disturbance limits line.
16. Roof leaders to be connected to the drainage system with 6" rigid HDPE pipe at 2% min. slope or as shown.
17. The Contractor and all Sub-Contractors must submit a "Contractor Certification Statement" as per section 294-8 of the NYSDEC "Stormwater Pollution Prevention Plan" manual prior to the start of construction.
18. If imported fill material is required, it shall be certified in writing by a New York State licensed Professional Engineer as non-contaminated, clean fill suitable for the intended use. Percolation tests shall be performed by the Design Engineer to demonstrate that the stormwater management practice will draw down the entire water quality volume within 48 hours. The results of the percolation test (s) shall be submitted to the Village/ town or City Engineer for review and approval.
19. All proposed temporary seeding mixture shall be in accordance with the New York State Standards and Specifications for Urban Erosion Control, dated August 2005.
20. New sewer laterals are required for all new construction. Laterals must be extra heavy cast iron or ductile iron pipe or as directed by Municipal Engineer.
21. Connection permits are is required from the Department of Public Works for Sewer, Water, and Storm Water System overflows.
22. All trenches is Village/Town or City Right of Way must be backfilled with controlled density fill (k-crete) or as directed by Municipal Engineer.
23. A street opening permit must be obtained from the Village/Town or City for all work in the Right of Way and an inspection performed prior to back filling and final approvals.
24. Replace or re-lay stone curb as directed by Town/Village Engineer
25. A non-conversion agreement for the basement in Special Flood Hazard Zone must be signed and filed prior to the issuance of a C. of O. for properties subjected to flooding.
26. Curb cut permit is required from the Department of Public Works. Curb cut maximum width is 18 feet.
27. The contractor shall schedule with the Village a rough grading inspection prior to any framing of a building above the first floor braced decking. Excess soils of significance shall be removed and disposed of upon completion of the rough grading.
28. The structures for the storm water management system shall be installed at the earliest date possible when the structure's roof is complete. The contractor shall consult with the Village and schedule this work upon completion and inspection of the rough grading activities.
29. The contractor shall secure a Street Opening Permit with the Village for all work to take place on the right of way including construction of a new driveway apron, and installation of new service laterals.
30. If necessary, the Contractor shall secure a Tree Removal Permit with the Village prior to the commencement of construction activities.
31. Contractor required to provide Dig Safe NY ticket prior to issuance of permits.

EROSION CONTROL NOTES

INSTALLATION & MAINTENANCE OF EROSION CONTROL

CONSTRUCTION SCHEDULE

NOTIFY APPROPRIATE MUNICIPAL AGENCY HAVING JURISDICTION AT LEAST 5 DAYS PRIOR TO START.

EROSION CONTROL MEASURES

1. Install all erosion control measures prior to start of construction.
2. Call for inspection from the appropriate Municipal Agency having jurisdiction at least 2 Days prior to finish.

INSPECTION BY MUNICIPALITY

MAINTENANCE (TO BE PERFORMED DURING ALL PHASES OF CONSTRUCTION)

1 After any rain causing runoff, Contractor to inspect silt fences, etc. and remove any excessive sediment and inspect stockpiles and correct and problems with seed establishment.
2 Inspections shall be documented in writing and submitted to the appropriate Municipal Agency having jurisdiction.

STOCK PILING OF EXCAVATED MATERIAL

1 Strip Topsoil and Stockpile.
2 Stockpile Excavation Subgrade.
3 Seed piles with 1 lb. total annual rye or remove from site within two days.

INSPECTION BY MUNICIPALITY

FINAL GRADING

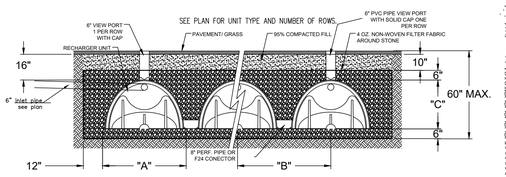
1 Remove unneeded subgrade from site.
2 Call for inspection from the appropriate Municipal Agency having jurisdiction at least 2 days prior to finish.

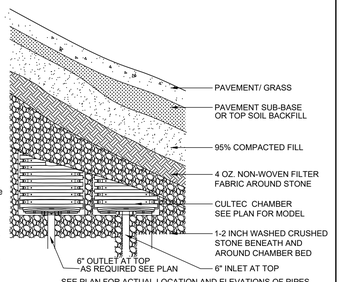
INSPECTION BY MUNICIPALITY

LANDSCAPING

1 Spread topsoil evenly over areas to be seeded. Hand rake level.
2 Broadcast 1 25lb. bag of Jonathan Green "Fastgrow" mix or equal over areas to be seeded.

CULTEC CHAMBERS





GENERAL NOTES

Maintain 10 ft. clearance to buildings and private property lines.

This system is only designed to receive runoff from the new additional impervious surfaces.

Do not connect footing drains to this system . Install separate system for the footing drains and sump pumps.

Recharger unit by Cultec, Inc. of Brookfield, ct.
refer to Cultec, Inc.'s current recommended installation guidelines.

Use recharger 330HD heavy duty for traffic and/or H20 applications.

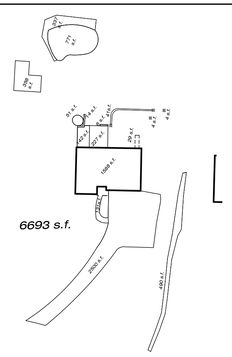
Recharger 330HD heavy duty units are marked with a color stripe formed into the part along the length of the chamber.

All recharger chambers must be installed in accordance with all applicable local, state and federal regulations.

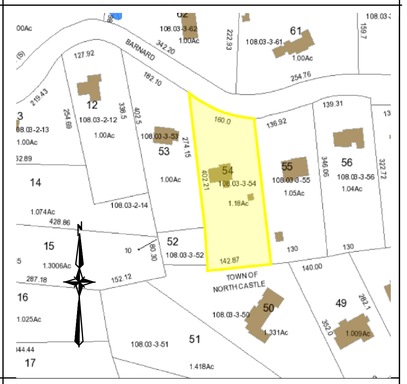
Unit	A	B	C
Contractor 100	36"	40"	12.5"
Recharger 180HD	36"	39"	20.5"
Recharger 330XLHD	52"	58"	30.5"

IMPERVIOUS SURFACE FOR DRAINAGE CALCULATIONS

EXISTING & PROPOSED



VICINITY MAP

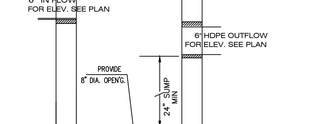


SOIL STOCKPILING (SS)

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 (THIS MANUAL) FOR INSTALLATION OF SILTFENCE.

CONSTRUCTION ENTRANCE DETAIL



SILT FENCE (SF)

INSTALLATION NOTES

1. EXCAVATE A 4 INCH * 4 INCH TRENCH ALONG THE LOWER PERIMETER OF THE SITE.
2. UNROLL A SECTION AT A TIME AND POSITION WALL OF THE TRENCH (NET SIDE AWAY FROM THE POSTS AGAINST THE BACK (DOWNSTREAM) DIRECTION OF FLOW).
3. DRIVE THE POST INTO THE GROUND UNTIL THE FROM THE TRENCH BOTTOM. NETTING IS APPROXIMATELY 2 INCHES
4. LAY THE TOE-IN FLAP OF FABRIC ONTO THE BACKFILL THE TRENCH AND TAMP THE SOIL. UNDISTURBED BOTTOM OF THE TRENCH.
STEEPER SLOPES REQUIRE AN INTERCEPT TRENCH.
5. JOIN SECTIONS AS SHOWN ABOVE.

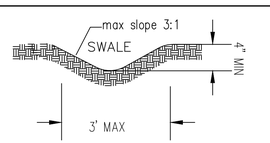
SOIL PROPERTIES

PnC—Paxton fine sandy loam, 8 to 15 percent slopes

Description of Paxton
Setting
  Landform: Ground moraines, drumlins, hills
  Landform position (two-dimensional): Backslope
  Landform position (three-dimensional): Side slope
  Down-slope shape: Linear, convex
  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: 8 to 15 percent
  Depth to restrictive feature: 20 to 39 inches to densic material
  Natural 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
  Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)
  Available water storage in profile: Low (about 4.1 inches)
Interpretive groups
  Land capability classification (irrigated): None specified
  Land capability classification (nonirrigated): 3e
  Hydrologic Soil Group: C
  Hydric soil rating: No
Minor Components
Charlton
  Percent of map unit: 7 percent
  Landform: Hills
  Landform position (two-dimensional): Backslope
  Landform position (three-dimensional): Side slope
  Down-slope shape: Convex
  Across-slope shape: Convex
  Hydric soil rating: No
Woodbridge
  Percent of map unit: 6 percent
  Landform: Hills, ground moraines, drumlins
  Landform position (two-dimensional): Footslope, summit, backslope
  Landform position (three-dimensional): Side slope
  Down-slope shape: Concave
  Across-slope shape: Linear
  Hydric soil rating: No
Ridgebury
  Percent of map unit: 2 percent
  Landform: Depressions, drainageways, drumlins, hills, ground moraines
  Landform position (two-dimensional): Toeslope, footslope
  Landform position (three-dimensional): Base slope, head slope
  Down-slope shape: Concave, linear
  Across-slope shape: Concave, linear
  Hydric soil rating: Yes

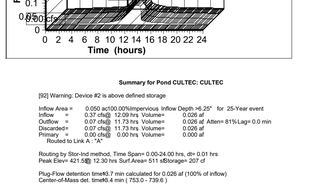
WATER QUALITY STRUCTURE (WQ) 18"X18"

SWALE



DRAINAGE CALCULATIONS 25 YEAR STORM

PRE-DEVELOPMENT LAWN @ IMERVIOUS SURFACES 5.10 CFS



Summary for Subcatchment PRE: PRE-DEVELOPMENT

Runoff = 5.10 cfs@ 12.18 hrs Volume= 0.404 af Depth>4.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
NRCC 24-hr C 25-Year Rainfall=6.49"

Area (sf)	CN	Description
44,713	79	Woods/grass comb., Fair, HSG C
* 6,693	98	
51,406	79	Weighted Average
44,713		86.98% Pervious Area
6,693		13.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.5	24	0.0800	0.16		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
4.3	38	0.0520	0.15		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
3.4	38	0.0000	0.18		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
0.0	7	0.0900	4.83		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.1	13	0.0700	4.26		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.0	14	0.0700	5.37		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.2	41	0.0500	3.60		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.0	22	0.2200	7.55		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
10.5	197	Total			

POST-DEVELOPMENT LAWN

Summary for Subcatchment POST: POST

Runoff = 4.77 cfs@ 12.18 hrs Volume= 0.377 af Depth>4.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
NRCC 24-hr C 25-Year Rainfall=6.49"

Area (sf)	CN	Description
44,580	79	Woods/grass comb., Fair, HSG C
* 4,653	98	
49,233	79	Weighted Average
44,580		90.55% Pervious Area
4,653		9.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.5	24	0.0800	0.16		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
4.3	38	0.0520	0.15		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
3.4	38	0.0000	0.18		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
0.0	7	0.0900	4.83		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.1	13	0.0700	4.26		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.0	14	0.0700	5.37		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.2	41	0.0500	3.60		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.0	22	0.2200	7.55		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
10.5	197	Total			

ROOF AREA INTO SYSYTEM

Summary for Subcatchment ROOF: ROOF

[49] Hint: Tc<2dt may require smaller dt

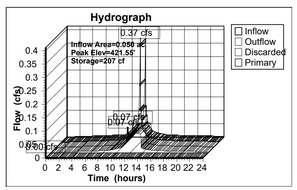
Runoff = 0.37 cfs@ 12.09 hrs Volume= 0.026 af Depth>6.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
NRCC 24-hr C 25-Year Rainfall=6.49"

Area (sf)	CN	Description
2,173	98	Roofs, HSG C
2,173		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	25	0.5000	3.95		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"

CULTEC SYSTEM



Summary for Pond CULTEC: CULTEC

[92] Warning: Device #2 is above defined storage

Inflow Area = 0.050 ac100.00%Impervious Inflow Depth >6.25" for 25-Year event
Inflow = 0.37 cfs@ 12.09 hrs Volume= 0.026 af
Outflow = 0.07 cfs@ 11.73 hrs Volume= 0.026 af Atten= 81%Lag= 0.0 min
Discarded= 0.07 cfs@ 11.73 hrs Volume= 0.026 af
Primary = 0.00 cfs@ 0.00 hrs Volume= 0.000 af
Routed to Link A : "A"

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 421.58@ 12.30 hrs Surf.Area= 511 sfStorage= 207 cf

Plug-Flow detention time=3.7 min calculated for 0.026 af (100% of inflow)
Center-of-Mass det. time=0.4 min (753.0 - 739.6)

Volume	Invert	Avail.Storage	Storage Description
#1A	420.80'	374 cf	**14.75W x 34.65'L x 2.71'H Field A** 1,384 cf Overall 449 cf Embedded= 935 cf x 40.0% Voids
#2A	421.30'	449 cf	**Cultec R-150i** 20 Inside #1 Effective Size= 33.6"W x 20.0"H => 3.44 sf x 6.33'L = 21.8 cf Overall Size= 36.0"W x 20.5"H x 7.33'L with 1.00' Overlap Row Length Adjustment= +1.00' x 3.44 sf x 4 rows
#3	423.00'	1 cf	**6.50'D x 1.50'H Vertical Cone/Cylinder** Impervious
		824 cf	Total Available Storage

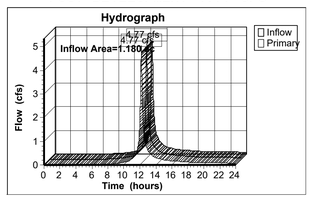
Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	420.80'	**6.000 in/hr Exfiltration over Surface area**
#2	Primary	424.50'	**6.0" Horiz. Pop Up Emitter X 4.00** 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.07 cfs@ 11.73 hrsHW=420.84' (Free Discharge)
1=Exfiltration (Exfiltration Controls 0.07 cfs)

Primary OutFlow Max=0.00 cfs@ 0.00 hrsHW=420.80' (Free Discharge)
2=Pop Up Emitter (Controls 0.00 cfs)

POST-DEVELOPMENT 4.77 CFS



Summary for Link A: "A"

Inflow Area = 1.180 ac 13.28%Impervious Inflow Depth >3.84" for 25-Year event
Inflow = 4.77 cfs@ 12.18 hrs Volume= 0.377 af
Primary = 4.77 cfs@ 12.18 hrs Volume= 0.377 af Atten= 0%Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

LEGEND

- UTILITY POLE
- SIGN POST
- HYDRANT
- WATER VALVE
- GAS VALVE
- LIGHT POLE
- GUY WIRES
- TELE. MANHOLE
- SF——SF——SF— SILT FENCE
- SEWER MANHOLE
- WATER MANHOLE
- ELECTRIC MANHOLE
- DRAIN MANHOLE
- MANHOLE
- ELECTRIC BOX
- 102 EXISTING GRADE
- <102> PROPOSED GRADE
- 14TREE 8" SIZE TREE TO BE REMOVED

ALL SPECIFICATIONS, MATERIALS AND METHODS OF CONSTRUCTION TO BE IN ACCORDANCE WITH THE TOWN CONSTRUCTION STANDARDS ORDINANCE AND WITH THE REQUIREMENTS OF THE PLANNING BOARD RESOLUTION OF APPROVAL DATED , 2021

PLANNING BOARD CHAIRMAN

OWNER

JOSEPH M. CERMELE, P.E.
KELLARD SESSIONS CONSULTING
CONSULTING TOWN ENGINEER

NO	DATE	DESC	BY
1	JULY 21, 2022		SGA

REVISIONS

SITE PLAN SHED ADDITION AND STONE RETAINING WALL

DETAIL SHEET

PREPARED FOR:
JOSEPH GENTILE
STREET: 9 BARNARD RD

TOWN OF NORTH CASTLE

TAX LOT 108.03-3-54

WESTCHESTER COUNTY, NEW YORK

GABRIEL E. SENOR, P.C.
CONSULTING ENGINEERS • LAND SURVEYORS
30 NORTH CENTRAL AVE., HARTSDALE, NEW YORK, 10530
(914) 422-0075 FAX 422-3009

STATE OF NEW YORK ELIOT SENOR LICENSED PROFESSIONAL ENGINEER 091078

SCALE: as shown	
DATE: JUNE 20, 2021	
DRAWN BY: SGA	CHECKED BY: ES.

D-1

P:\DWG Drawings\184-1\184-21_2021.dwg, 7/25/2022 11:09:57 AM, steve

Drainage Calculations
9 Barnard Road
Town of North Castle, New York

Eliot Senor P.E. & L.S.
July 22, 2022

The analysis was performed utilizing the Soil Conservation Service (SCS) TR-20 and TR-55 methodologies. Rainfall intensity was utilized for 25 Year and 100 storm event at 6.49" and 9.28" respectively for a 24 hour rainfall in Westchester County. The development is the construction of a shed and wall. Excess surface stormwater generated by the impervious surfaces of the building which currently is not connected to any storm system shall be stored in a drainage structure to be constructed on-site.

Pre-Development 25 & 100 Year Storm

The Soil Conservation Service's TR-20 method (a more accurate and precise calculation methodology than TR-55) as incorporated in the HydroCAD software was used to determine the pre-development and post-development runoff rates of the property.

Post-Development 25 &100 Year Storm

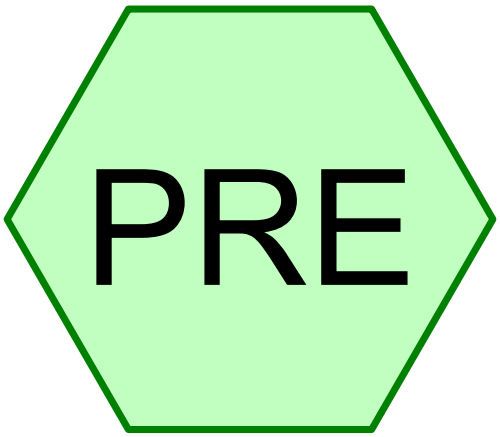
Runoff is to be mitigated by a system of 180 Cultecs which will be connected to the roof leader system of the entire house.

Currently there is Drain inlet which has a point discharge to the neighbor to the west. This will be removed. A Grass swale will be constructed, and plantings will be paced in the area between the driveway and the property line to prevent sheet flow to the neighboring property.

Table Stormwater Runoff

Design Storm (yr)	Total Pre-development Peak Runoff (cfs)	Total Post-Development Peak Runoff (cfs) basin
25	5.10	4.77
100	8.14	7.68

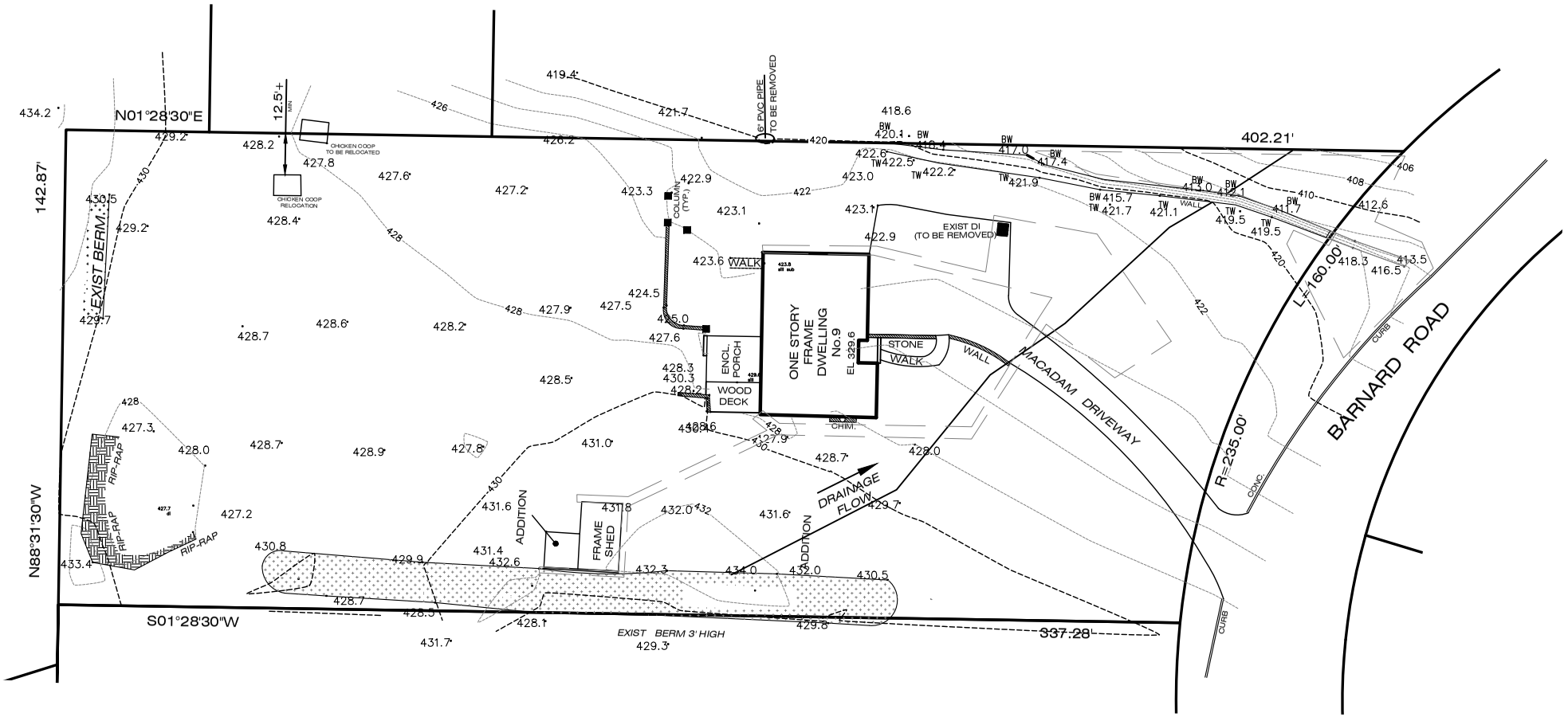
Given the Post Development basin routing runoff rates for the selected storms shown peak runoff has no net increase of those of the Pre Development condition. It is concluded that the proposed design satisfactorily meets the Town regulation of no net increase in the rate of offsite storm water discharge.



PRE-DEVELOPMENT

Subcat Reach Pond Link

Routing Diagram for 9 BARNARD
Prepared by {enter your company name here}, Printed 7/22/2022



EXISTING DRAINAGE

Summary for Subcatchment PRE: PRE-DEVELOPMENT

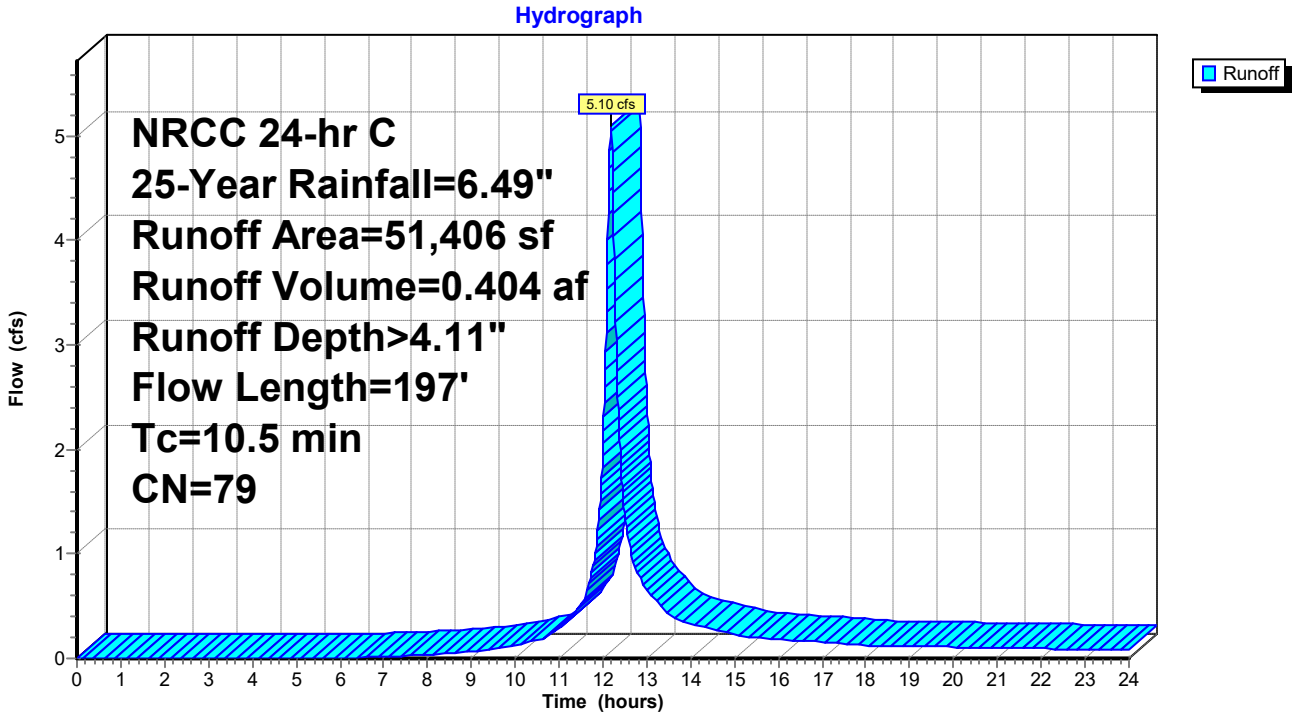
Runoff = 5.10 cfs @ 12.18 hrs, Volume= 0.404 af, Depth> 4.11"
Routed to nonexistent node Entire Pre

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
NRCC 24-hr C 25-Year Rainfall=6.49"

	Area (sf)	CN	Description
	44,713	76	Woods/grass comb., Fair, HSG C
*	6,693	98	
	51,406	79	Weighted Average
	44,713		86.98% Pervious Area
	6,693		13.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.5	24	0.0800	0.16		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
4.3	38	0.0520	0.15		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
3.4	38	0.0900	0.18		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
0.0	7	0.0900	4.83		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.1	13	0.0700	4.26		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.0	14	0.0700	5.37		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.2	41	0.0500	3.60		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.0	22	0.3300	9.25		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
10.5	197	Total			

Subcatchment PRE: PRE-DEVELOPMENT



Hydrograph for Subcatchment PRE: PRE-DEVELOPMENT

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.04	0.00	0.00
1.00	0.08	0.00	0.00
1.50	0.12	0.00	0.00
2.00	0.16	0.00	0.00
2.50	0.20	0.00	0.00
3.00	0.25	0.00	0.00
3.50	0.29	0.00	0.00
4.00	0.34	0.00	0.00
4.50	0.39	0.00	0.00
5.00	0.45	0.00	0.00
5.50	0.50	0.00	0.00
6.00	0.56	0.00	0.00
6.50	0.62	0.00	0.01
7.00	0.69	0.01	0.02
7.50	0.76	0.02	0.03
8.00	0.84	0.03	0.04
8.50	0.93	0.05	0.05
9.00	1.03	0.08	0.06
9.50	1.14	0.11	0.09
10.00	1.28	0.17	0.13
10.50	1.45	0.23	0.17
11.00	1.67	0.34	0.28
11.50	2.03	0.54	0.52
12.00	3.09	1.26	**2.06**
12.50	4.46	2.34	**1.37**
13.00	4.82	2.64	0.67
13.50	5.04	2.84	0.43
14.00	5.21	2.98	0.33
14.50	5.35	3.10	0.28
15.00	5.46	3.20	0.23
15.50	5.56	3.29	0.20
16.00	5.65	3.37	0.18
16.50	5.73	3.44	0.17
17.00	5.80	3.51	0.16
17.50	5.87	3.57	0.14
18.00	5.93	3.62	0.13
18.50	5.99	3.67	0.12
19.00	6.04	3.72	0.11
19.50	6.10	3.77	0.11
20.00	6.15	3.81	0.11
20.50	6.20	3.86	0.10
21.00	6.24	3.90	0.10
21.50	6.29	3.94	0.10
22.00	6.33	3.98	0.09
22.50	6.37	4.02	0.09
23.00	6.41	4.05	0.09
23.50	6.45	4.09	0.08
24.00	**6.49**	**4.12**	0.08

Summary for Subcatchment PRE: PRE-DEVELOPMENT

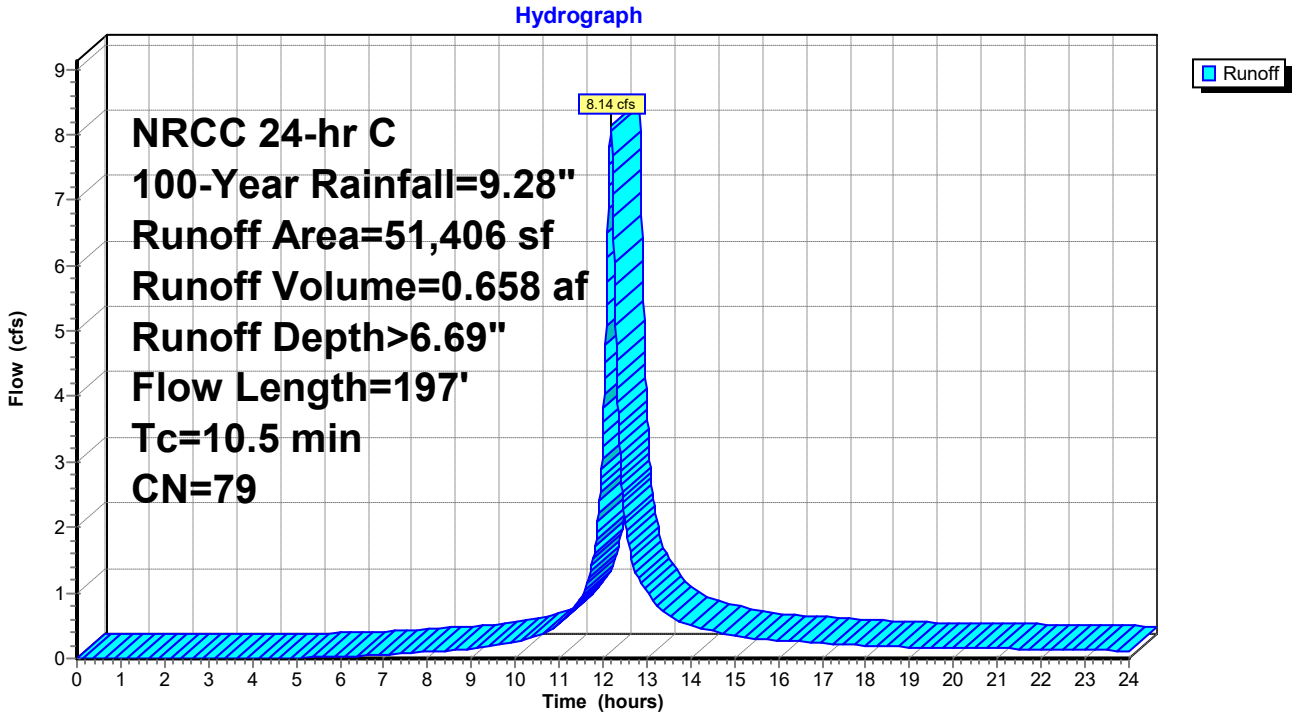
Runoff = 8.14 cfs @ 12.18 hrs, Volume= 0.658 af, Depth> 6.69"
Routed to nonexistent node Entire Pre

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
NRCC 24-hr C 100-Year Rainfall=9.28"

	Area (sf)	CN	Description
	44,713	76	Woods/grass comb., Fair, HSG C
*	6,693	98	
	51,406	79	Weighted Average
	44,713		86.98% Pervious Area
	6,693		13.02% Impervious Area

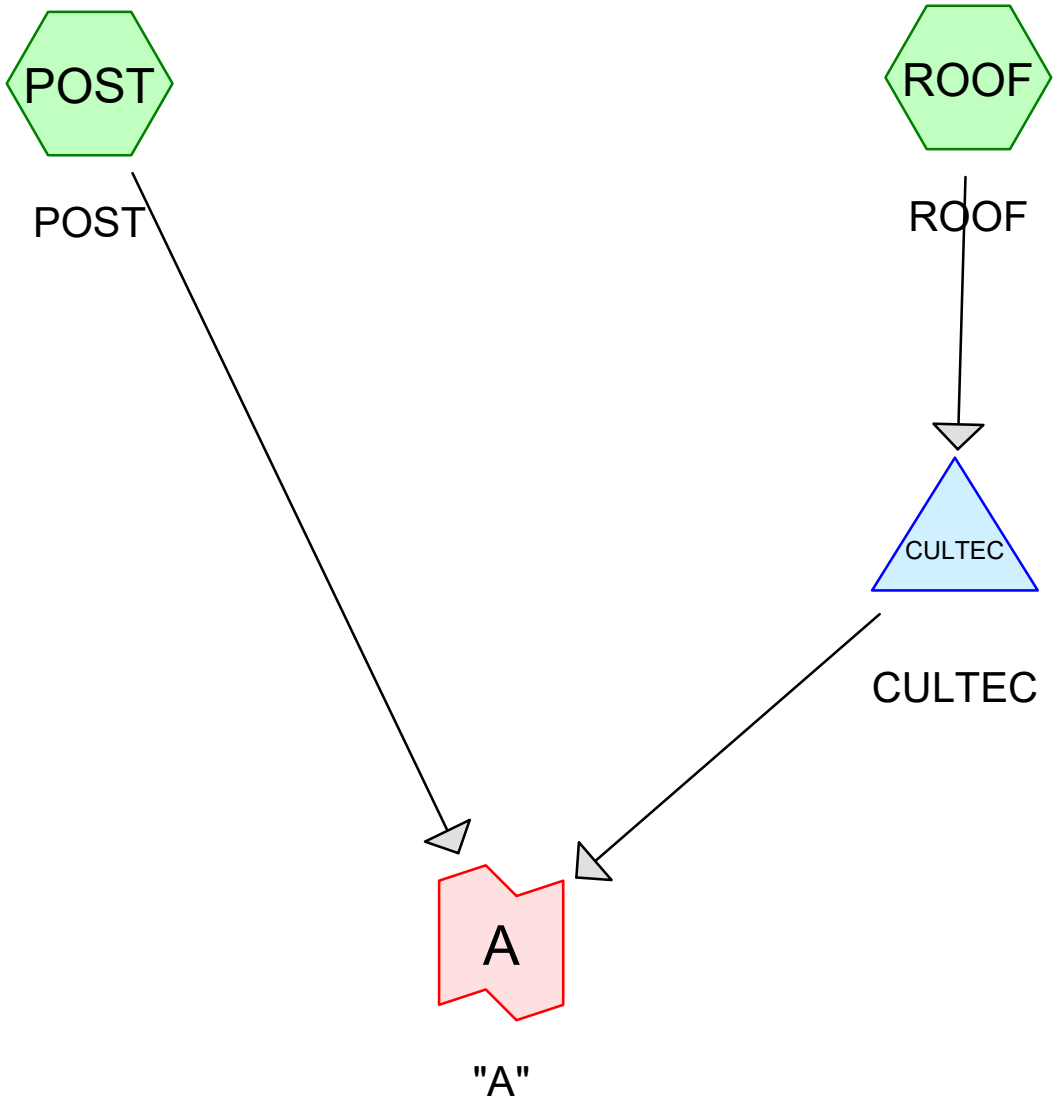
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.5	24	0.0800	0.16		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
4.3	38	0.0520	0.15		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
3.4	38	0.0900	0.18		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
0.0	7	0.0900	4.83		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.1	13	0.0700	4.26		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.0	14	0.0700	5.37		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.2	41	0.0500	3.60		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.0	22	0.3300	9.25		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
10.5	197	Total			

Subcatchment PRE: PRE-DEVELOPMENT



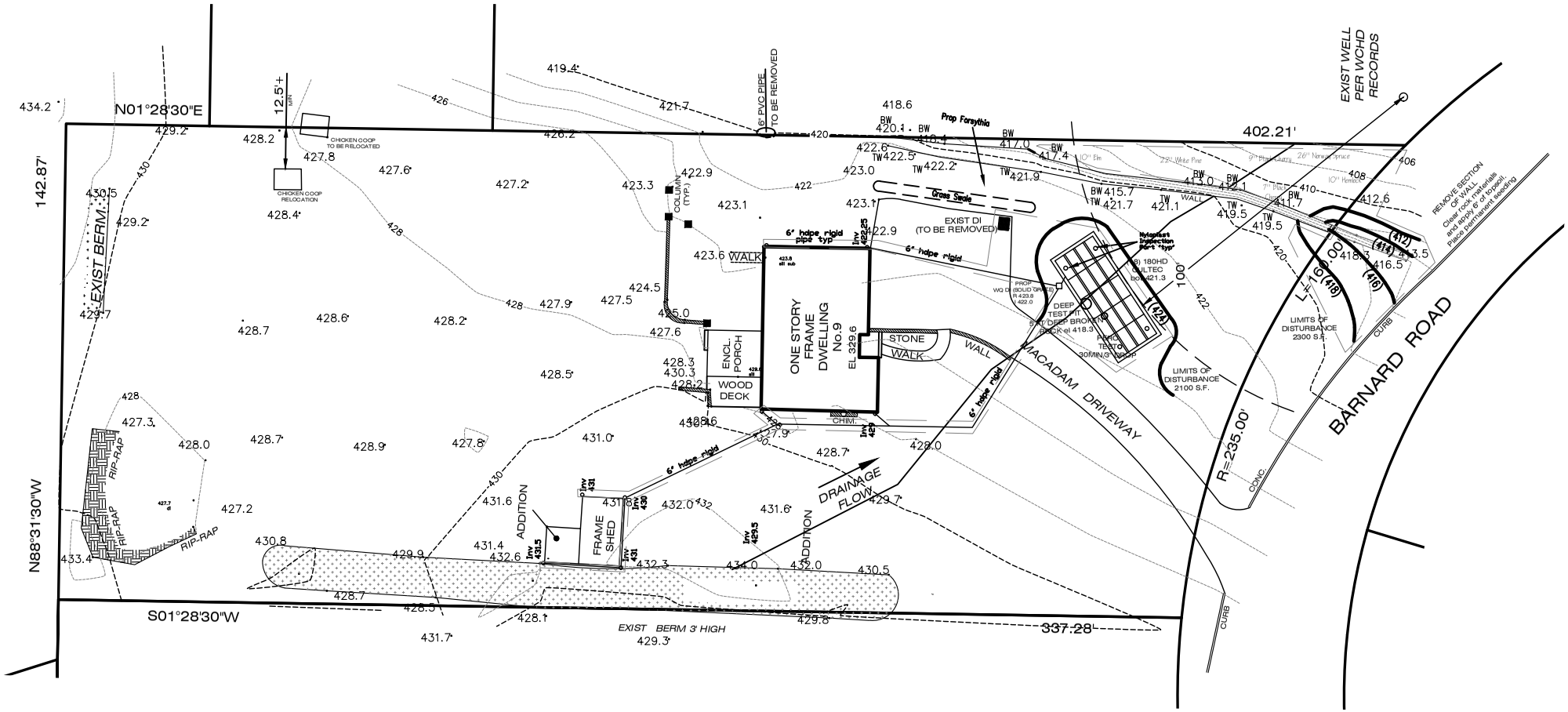
Hydrograph for Subcatchment PRE: PRE-DEVELOPMENT

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.05	0.00	0.00
1.00	0.11	0.00	0.00
1.50	0.17	0.00	0.00
2.00	0.23	0.00	0.00
2.50	0.29	0.00	0.00
3.00	0.35	0.00	0.00
3.50	0.42	0.00	0.00
4.00	0.49	0.00	0.00
4.50	0.56	0.00	0.00
5.00	0.64	0.00	0.01
5.50	0.72	0.01	0.02
6.00	0.80	0.02	0.03
6.50	0.88	0.04	0.04
7.00	0.98	0.06	0.06
7.50	1.09	0.10	0.08
8.00	1.21	0.14	0.10
8.50	1.33	0.19	0.12
9.00	1.47	0.25	0.15
9.50	1.63	0.32	0.20
10.00	1.83	0.43	0.26
10.50	2.07	0.56	0.33
11.00	2.39	0.77	0.53
11.50	2.90	1.12	0.92
12.00	4.42	2.31	**3.42**
12.50	6.38	4.02	**2.12**
13.00	6.89	4.48	1.02
13.50	7.21	4.78	0.66
14.00	7.45	5.00	0.50
14.50	7.65	5.18	0.42
15.00	7.81	5.33	0.35
15.50	7.95	5.46	0.30
16.00	8.07	5.58	0.28
16.50	8.19	5.69	0.26
17.00	8.30	5.79	0.24
17.50	8.40	5.88	0.21
18.00	8.48	5.96	0.19
18.50	8.56	6.04	0.18
19.00	8.64	6.11	0.17
19.50	8.72	6.18	0.17
20.00	8.79	6.25	0.16
20.50	8.86	6.31	0.16
21.00	8.93	6.38	0.15
21.50	8.99	6.44	0.14
22.00	9.05	6.50	0.14
22.50	9.11	6.55	0.13
23.00	9.17	6.61	0.13
23.50	9.23	6.66	0.12
24.00	**9.28**	**6.71**	0.12



Subcat Reach Pond Link

Routing Diagram for 9 BARNARD
Prepared by {enter your company name here}, Printed 7/22/2022
HydroCAD® 10.10-6a s/n 01594 © 2020 HydroCAD Software Solutions LLC



P:\DWG Drawings\184-\184-21_2021.dwg, 7/22/2022 3:51:32 PM, steve

Summary for Subcatchment POST: POST

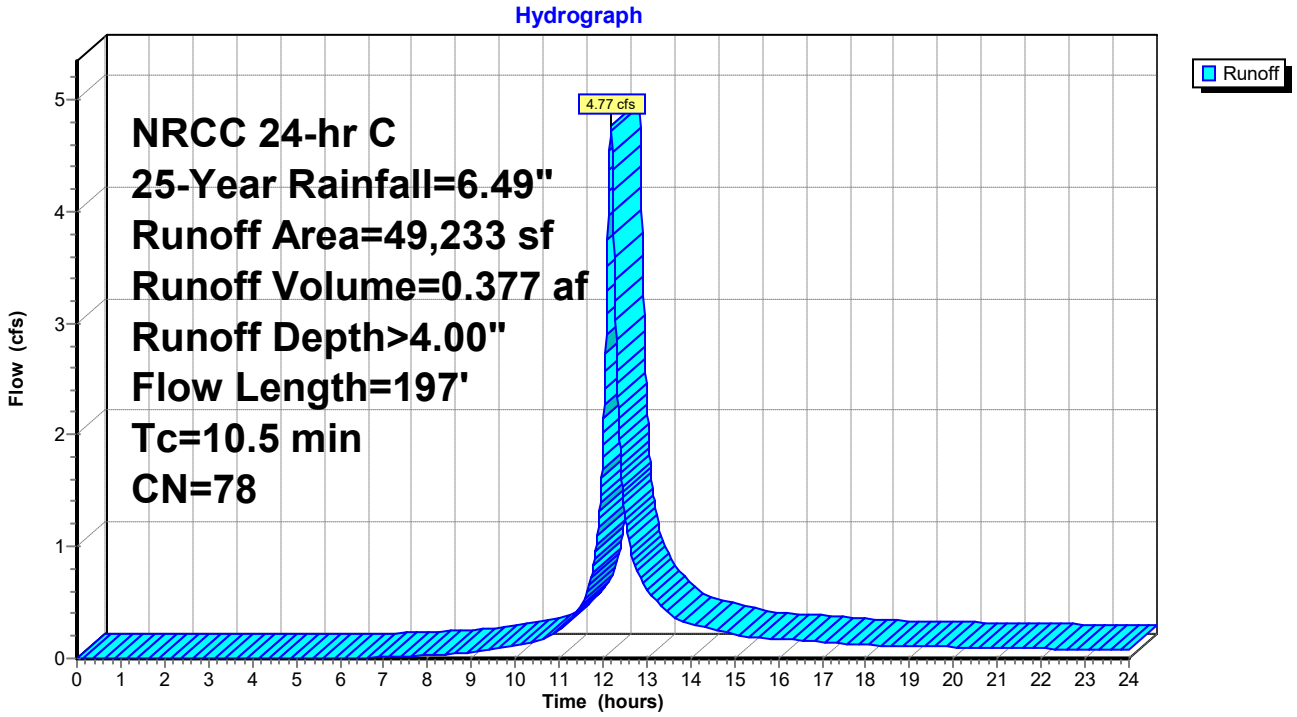
Runoff = 4.77 cfs @ 12.18 hrs, Volume= 0.377 af, Depth> 4.00"
Routed to Link A : "A"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
NRCC 24-hr C 25-Year Rainfall=6.49"

	Area (sf)	CN	Description
	44,580	76	Woods/grass comb., Fair, HSG C
*	4,653	98	
	49,233	78	Weighted Average
	44,580		90.55% Pervious Area
	4,653		9.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.5	24	0.0800	0.16		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
4.3	38	0.0520	0.15		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
3.4	38	0.0900	0.18		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
0.0	7	0.0900	4.83		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.1	13	0.0700	4.26		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.0	14	0.0700	5.37		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.2	41	0.0500	3.60		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.0	22	0.2200	7.55		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
10.5	197	Total			

Subcatchment POST: POST



Hydrograph for Subcatchment POST: POST

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.04	0.00	0.00
1.00	0.08	0.00	0.00
1.50	0.12	0.00	0.00
2.00	0.16	0.00	0.00
2.50	0.20	0.00	0.00
3.00	0.25	0.00	0.00
3.50	0.29	0.00	0.00
4.00	0.34	0.00	0.00
4.50	0.39	0.00	0.00
5.00	0.45	0.00	0.00
5.50	0.50	0.00	0.00
6.00	0.56	0.00	0.00
6.50	0.62	0.00	0.00
7.00	0.69	0.01	0.01
7.50	0.76	0.01	0.02
8.00	0.84	0.03	0.03
8.50	0.93	0.04	0.04
9.00	1.03	0.07	0.06
9.50	1.14	0.10	0.08
10.00	1.28	0.15	0.11
10.50	1.45	0.21	0.15
11.00	1.67	0.31	0.26
11.50	2.03	0.50	0.47
12.00	3.09	1.19	**1.91**
12.50	4.46	2.26	**1.29**
13.00	4.82	2.56	0.63
13.50	5.04	2.75	0.41
14.00	5.21	2.89	0.31
14.50	5.35	3.01	0.26
15.00	5.46	3.11	0.22
15.50	5.56	3.19	0.19
16.00	5.65	3.27	0.17
16.50	5.73	3.34	0.16
17.00	5.80	3.41	0.15
17.50	5.87	3.47	0.13
18.00	5.93	3.52	0.12
18.50	5.99	3.57	0.11
19.00	6.04	3.62	0.11
19.50	6.10	3.66	0.11
20.00	6.15	3.71	0.10
20.50	6.20	3.75	0.10
21.00	6.24	3.79	0.10
21.50	6.29	3.84	0.09
22.00	6.33	3.87	0.09
22.50	6.37	3.91	0.08
23.00	6.41	3.95	0.08
23.50	6.45	3.98	0.08
24.00	**6.49**	**4.01**	0.07

Summary for Subcatchment ROOF: ROOF

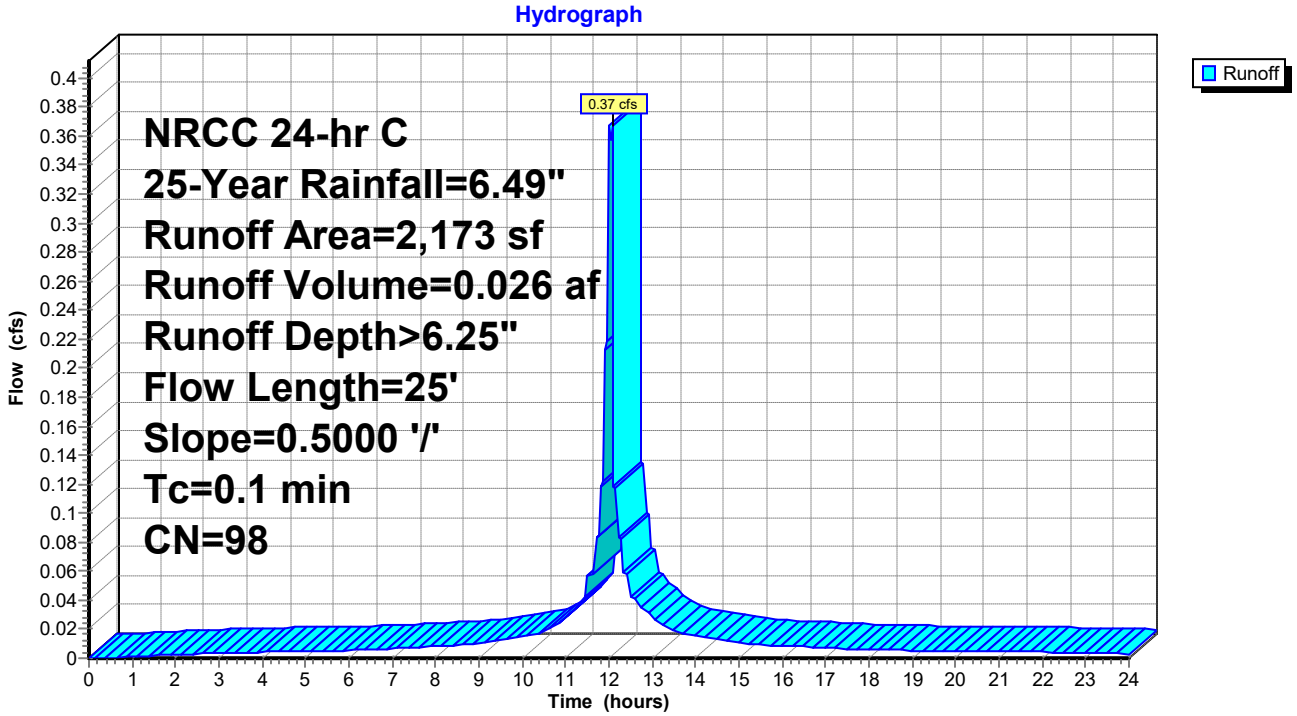
Runoff = 0.37 cfs @ 12.09 hrs, Volume= 0.026 af, Depth> 6.25"
Routed to Pond CULTEC : CULTEC

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
NRCC 24-hr C 25-Year Rainfall=6.49"

Area (sf)	CN	Description
2,173	98	Roofs, HSG C
2,173		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	25	0.5000	3.95		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"

Subcatchment ROOF: ROOF



Hydrograph for Subcatchment ROOF: ROOF

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.04	0.00	0.00
1.00	0.08	0.00	0.00
1.50	0.12	0.02	0.00
2.00	0.16	0.04	0.00
2.50	0.20	0.07	0.00
3.00	0.25	0.10	0.00
3.50	0.29	0.14	0.00
4.00	0.34	0.18	0.00
4.50	0.39	0.22	0.00
5.00	0.45	0.27	0.00
5.50	0.50	0.32	0.01
6.00	0.56	0.37	0.01
6.50	0.62	0.43	0.01
7.00	0.69	0.49	0.01
7.50	0.76	0.56	0.01
8.00	0.84	0.64	0.01
8.50	0.93	0.73	0.01
9.00	1.03	0.82	0.01
9.50	1.14	0.93	0.01
10.00	1.28	1.07	0.01
10.50	1.45	1.23	0.02
11.00	1.67	1.45	0.03
11.50	2.03	1.81	0.05
12.00	3.09	2.86	**0.27**
12.50	4.46	4.22	**0.05**
13.00	4.82	4.58	0.03
13.50	5.04	4.81	0.02
14.00	5.21	4.97	0.02
14.50	5.35	5.11	0.01
15.00	5.46	5.22	0.01
15.50	5.56	5.32	0.01
16.00	5.65	5.41	0.01
16.50	5.73	5.49	0.01
17.00	5.80	5.57	0.01
17.50	5.87	5.63	0.01
18.00	5.93	5.70	0.01
18.50	5.99	5.75	0.01
19.00	6.04	5.81	0.01
19.50	6.10	5.86	0.01
20.00	6.15	5.91	0.01
20.50	6.20	5.96	0.00
21.00	6.24	6.00	0.00
21.50	6.29	6.05	0.00
22.00	6.33	6.09	0.00
22.50	6.37	6.14	0.00
23.00	6.41	6.18	0.00
23.50	6.45	6.21	0.00
24.00	**6.49**	**6.25**	0.00

Summary for Pond CULTEC: CULTEC

Inflow Area = 0.050 ac,100.00% Impervious, Inflow Depth > 6.25" for 25-Year event
Inflow = 0.37 cfs @ 12.09 hrs, Volume= 0.026 af
Outflow = 0.07 cfs @ 11.73 hrs, Volume= 0.026 af, Atten= 81%, Lag= 0.0 min
Discarded = 0.07 cfs @ 11.73 hrs, Volume= 0.026 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Link A : "A"

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 421.55' @ 12.30 hrs Surf.Area= 511 sf Storage= 207 cf

Plug-Flow detention time= 13.7 min calculated for 0.026 af (100% of inflow)
Center-of-Mass det. time= 13.4 min (753.0 - 739.6)

Volume	Invert	Avail.Storage	Storage Description
#1A	420.80'	374 cf	**14.75'W x 34.65'L x 2.71'H Field A** 1,384 cf Overall - 449 cf Embedded = 935 cf x 40.0% Voids
#2A	421.30'	449 cf	**Cultec R-180** x 20 Inside #1 Effective Size= 33.6"W x 20.0"H => 3.44 sf x 6.33'L = 21.8 cf Overall Size= 36.0"W x 20.5"H x 7.33'L with 1.00' Overlap Row Length Adjustment= +1.00' x 3.44 sf x 4 rows
#3	423.00'	1 cf	**0.50'D x 1.50'H Vertical Cone/Cylinder** x 4 -Impervious
		824 cf	Total Available Storage

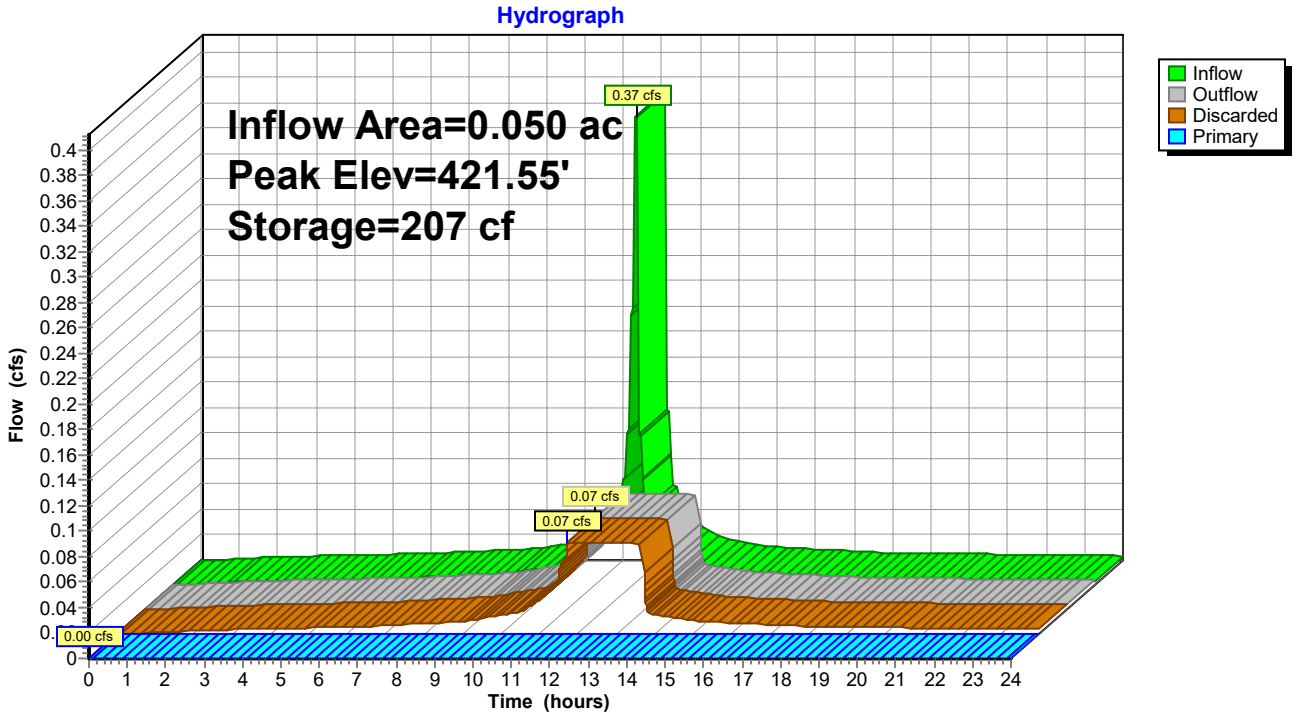
Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	420.80'	**6.000 in/hr Exfiltration over Surface area**
#2	Primary	424.50'	**6.0" Horiz. Pop Up Emitter X 4.00** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.07 cfs @ 11.73 hrs HW=420.84' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.07 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=420.80' (Free Discharge)
↑—**2=Pop Up Emitter** (Controls 0.00 cfs)

Pond CULTEC: CULTEC



Hydrograph for Pond CULTEC: CULTEC

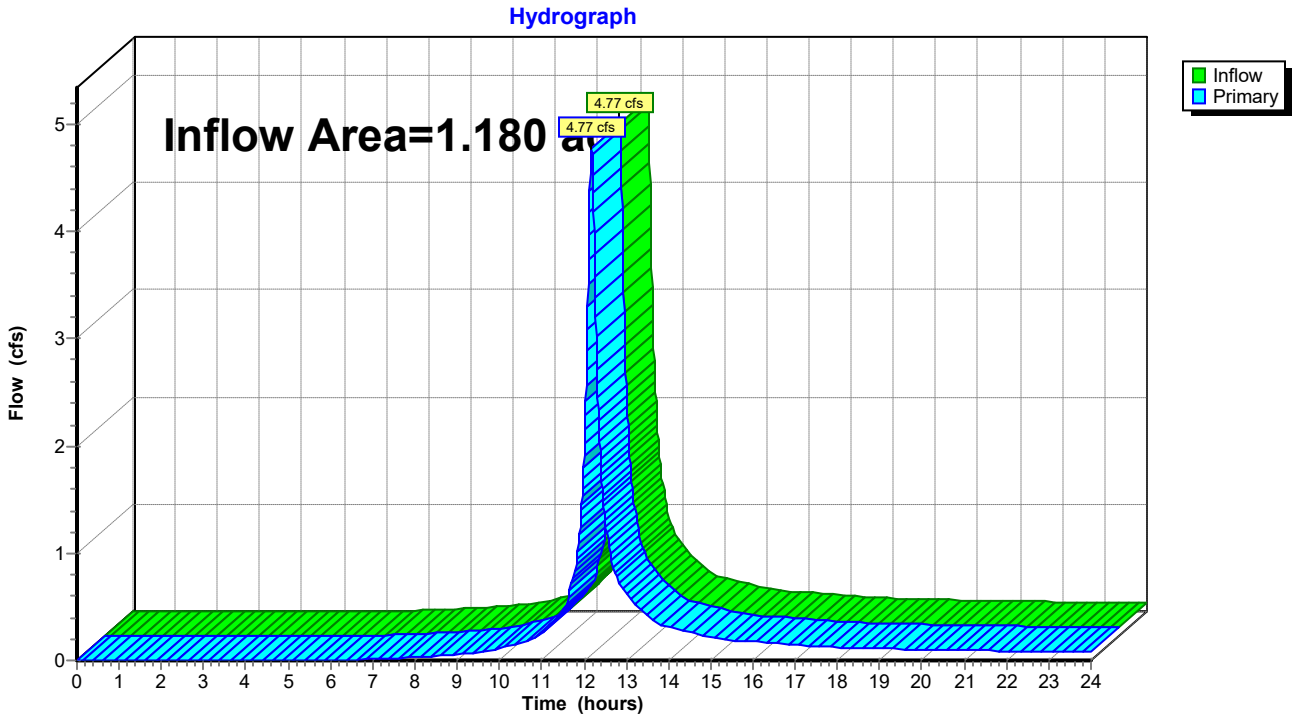
Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	420.80	0.00	0.00	**0.00**
0.50	0.00	0	420.80	0.00	0.00	0.00
1.00	0.00	0	420.80	0.00	0.00	0.00
1.50	0.00	0	420.80	0.00	0.00	0.00
2.00	0.00	0	420.80	0.00	0.00	0.00
2.50	0.00	0	420.80	0.00	0.00	0.00
3.00	0.00	0	420.80	0.00	0.00	0.00
3.50	0.00	0	420.80	0.00	0.00	0.00
4.00	0.00	0	420.80	0.00	0.00	0.00
4.50	0.00	0	420.80	0.00	0.00	0.00
5.00	0.00	1	420.80	0.00	0.00	0.00
5.50	0.01	1	420.80	0.01	0.01	0.00
6.00	0.01	1	420.80	0.01	0.01	0.00
6.50	0.01	1	420.80	0.01	0.01	0.00
7.00	0.01	1	420.80	0.01	0.01	0.00
7.50	0.01	1	420.80	0.01	0.01	0.00
8.00	0.01	1	420.80	0.01	0.01	0.00
8.50	0.01	1	420.80	0.01	0.01	0.00
9.00	0.01	1	420.81	0.01	0.01	0.00
9.50	0.01	1	420.81	0.01	0.01	0.00
10.00	0.01	2	420.81	0.01	0.01	0.00
10.50	0.02	2	420.81	0.02	0.02	0.00
11.00	0.03	3	420.81	0.03	0.03	0.00
11.50	0.05	5	420.82	**0.04**	**0.04**	0.00
12.00	**0.27**	**79**	**421.19**	**0.07**	**0.07**	0.00
12.50	**0.05**	**198**	**421.53**	0.07	0.07	0.00
13.00	0.03	135	421.38	0.07	0.07	0.00
13.50	0.02	49	421.04	0.07	0.07	0.00
14.00	0.02	2	420.81	0.02	0.02	0.00
14.50	0.01	1	420.81	0.01	0.01	0.00
15.00	0.01	1	420.81	0.01	0.01	0.00
15.50	0.01	1	420.80	0.01	0.01	0.00
16.00	0.01	1	420.80	0.01	0.01	0.00
16.50	0.01	1	420.80	0.01	0.01	0.00
17.00	0.01	1	420.80	0.01	0.01	0.00
17.50	0.01	1	420.80	0.01	0.01	0.00
18.00	0.01	1	420.80	0.01	0.01	0.00
18.50	0.01	1	420.80	0.01	0.01	0.00
19.00	0.01	1	420.80	0.01	0.01	0.00
19.50	0.01	1	420.80	0.01	0.01	0.00
20.00	0.01	1	420.80	0.01	0.01	0.00
20.50	0.00	1	420.80	0.00	0.00	0.00
21.00	0.00	0	420.80	0.00	0.00	0.00
21.50	0.00	0	420.80	0.00	0.00	0.00
22.00	0.00	0	420.80	0.00	0.00	0.00
22.50	0.00	0	420.80	0.00	0.00	0.00
23.00	0.00	0	420.80	0.00	0.00	0.00
23.50	0.00	0	420.80	0.00	0.00	0.00
24.00	0.00	0	420.80	0.00	0.00	0.00

Summary for Link A: "A"

Inflow Area = 1.180 ac, 13.28% Impervious, Inflow Depth > 3.84" for 25-Year event
Inflow = 4.77 cfs @ 12.18 hrs, Volume= 0.377 af
Primary = 4.77 cfs @ 12.18 hrs, Volume= 0.377 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link A: "A"



Hydrograph for Link A: "A"

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00
0.50	0.00	0.00	0.00
1.00	0.00	0.00	0.00
1.50	0.00	0.00	0.00
2.00	0.00	0.00	0.00
2.50	0.00	0.00	0.00
3.00	0.00	0.00	0.00
3.50	0.00	0.00	0.00
4.00	0.00	0.00	0.00
4.50	0.00	0.00	0.00
5.00	0.00	0.00	0.00
5.50	0.00	0.00	0.00
6.00	0.00	0.00	0.00
6.50	0.00	0.00	0.00
7.00	0.01	0.00	0.01
7.50	0.02	0.00	0.02
8.00	0.03	0.00	0.03
8.50	0.04	0.00	0.04
9.00	0.06	0.00	0.06
9.50	0.08	0.00	0.08
10.00	0.11	0.00	0.11
10.50	0.15	0.00	0.15
11.00	0.26	0.00	0.26
11.50	0.47	0.00	0.47
12.00	**1.91**	0.00	**1.91**
12.50	**1.29**	0.00	**1.29**
13.00	0.63	0.00	0.63
13.50	0.41	0.00	0.41
14.00	0.31	0.00	0.31
14.50	0.26	0.00	0.26
15.00	0.22	0.00	0.22
15.50	0.19	0.00	0.19
16.00	0.17	0.00	0.17
16.50	0.16	0.00	0.16
17.00	0.15	0.00	0.15
17.50	0.13	0.00	0.13
18.00	0.12	0.00	0.12
18.50	0.11	0.00	0.11
19.00	0.11	0.00	0.11
19.50	0.11	0.00	0.11
20.00	0.10	0.00	0.10
20.50	0.10	0.00	0.10
21.00	0.10	0.00	0.10
21.50	0.09	0.00	0.09
22.00	0.09	0.00	0.09
22.50	0.08	0.00	0.08
23.00	0.08	0.00	0.08
23.50	0.08	0.00	0.08
24.00	0.07	0.00	0.07

Summary for Subcatchment POST: POST

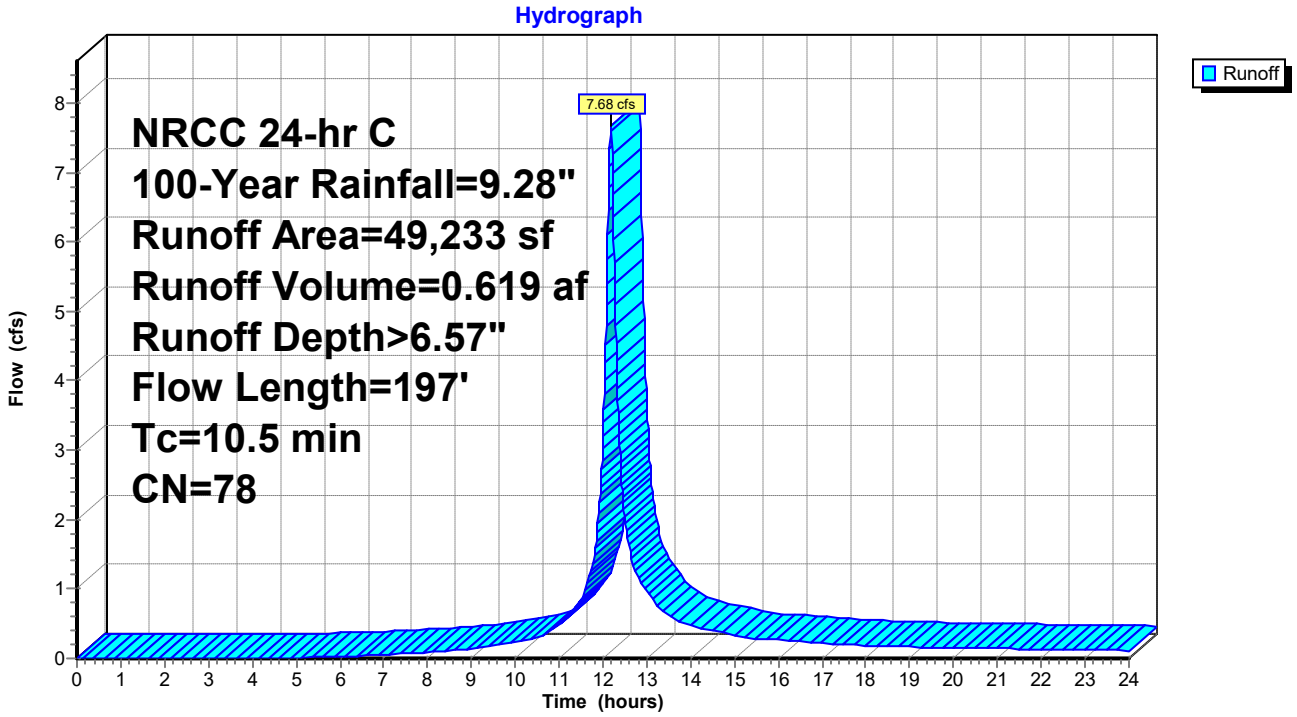
Runoff = 7.68 cfs @ 12.18 hrs, Volume= 0.619 af, Depth> 6.57"
Routed to Link A : "A"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
NRCC 24-hr C 100-Year Rainfall=9.28"

	Area (sf)	CN	Description
	44,580	76	Woods/grass comb., Fair, HSG C
*	4,653	98	
	49,233	78	Weighted Average
	44,580		90.55% Pervious Area
	4,653		9.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.5	24	0.0800	0.16		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
4.3	38	0.0520	0.15		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
3.4	38	0.0900	0.18		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
0.0	7	0.0900	4.83		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.1	13	0.0700	4.26		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.0	14	0.0700	5.37		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.2	41	0.0500	3.60		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.0	22	0.2200	7.55		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
10.5	197	Total			

Subcatchment POST: POST



Hydrograph for Subcatchment POST: POST

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.05	0.00	0.00
1.00	0.11	0.00	0.00
1.50	0.17	0.00	0.00
2.00	0.23	0.00	0.00
2.50	0.29	0.00	0.00
3.00	0.35	0.00	0.00
3.50	0.42	0.00	0.00
4.00	0.49	0.00	0.00
4.50	0.56	0.00	0.00
5.00	0.64	0.00	0.01
5.50	0.72	0.01	0.01
6.00	0.80	0.02	0.02
6.50	0.88	0.03	0.04
7.00	0.98	0.05	0.05
7.50	1.09	0.08	0.07
8.00	1.21	0.12	0.09
8.50	1.33	0.16	0.11
9.00	1.47	0.22	0.13
9.50	1.63	0.29	0.18
10.00	1.83	0.39	0.24
10.50	2.07	0.52	0.31
11.00	2.39	0.72	0.49
11.50	2.90	1.06	0.85
12.00	4.42	2.23	**3.21**
12.50	6.38	3.91	**2.01**
13.00	6.89	4.37	0.97
13.50	7.21	4.67	0.63
14.00	7.45	4.88	0.47
14.50	7.65	5.06	0.40
15.00	7.81	5.21	0.33
15.50	7.95	5.34	0.29
16.00	8.07	5.46	0.27
16.50	8.19	5.57	0.24
17.00	8.30	5.67	0.22
17.50	8.40	5.76	0.20
18.00	8.48	5.84	0.18
18.50	8.56	5.91	0.17
19.00	8.64	5.99	0.16
19.50	8.72	6.06	0.16
20.00	8.79	6.13	0.15
20.50	8.86	6.19	0.15
21.00	8.93	6.25	0.14
21.50	8.99	6.31	0.14
22.00	9.05	6.37	0.13
22.50	9.11	6.43	0.13
23.00	9.17	6.48	0.12
23.50	9.23	6.54	0.12
24.00	**9.28**	**6.58**	0.11

Summary for Subcatchment ROOF: ROOF

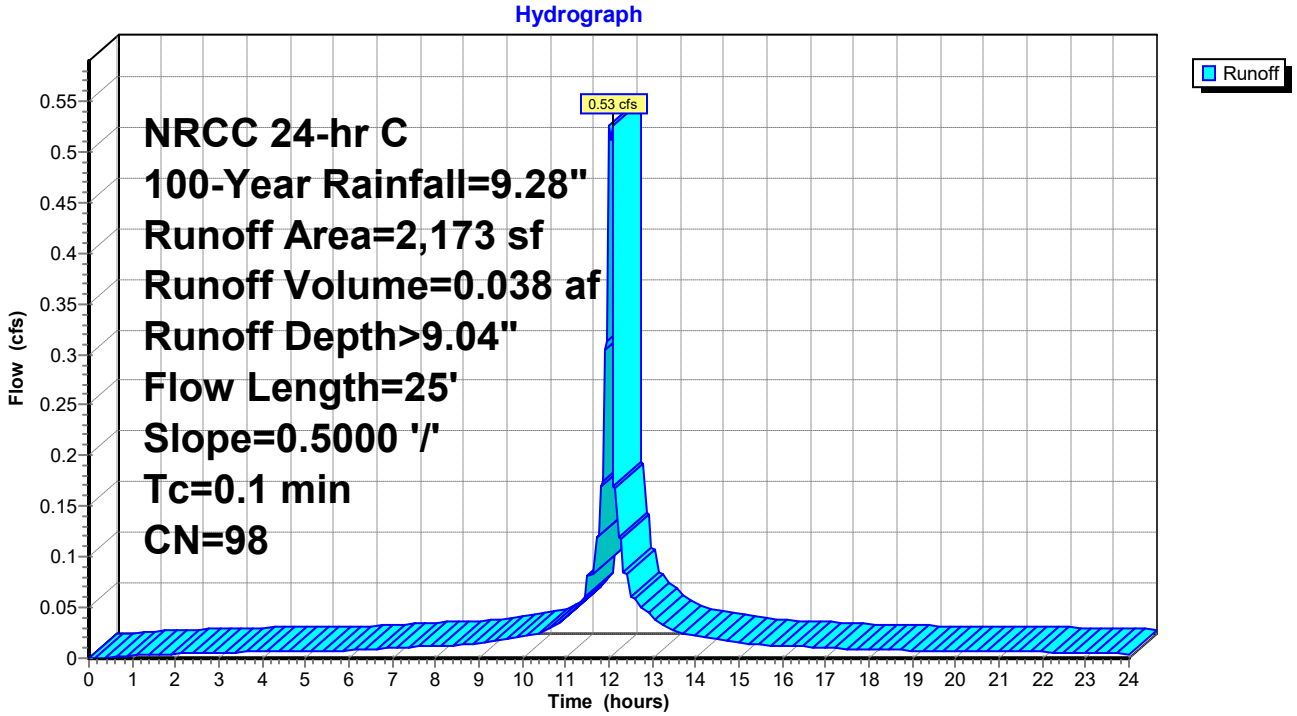
Runoff = 0.53 cfs @ 12.09 hrs, Volume= 0.038 af, Depth> 9.04"
Routed to Pond CULTEC : CULTEC

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
NRCC 24-hr C 100-Year Rainfall=9.28"

Area (sf)	CN	Description
2,173	98	Roofs, HSG C
2,173		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	25	0.5000	3.95		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"

Subcatchment ROOF: ROOF



Hydrograph for Subcatchment ROOF: ROOF

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.05	0.00	0.00
1.00	0.11	0.02	0.00
1.50	0.17	0.05	0.00
2.00	0.23	0.09	0.00
2.50	0.29	0.14	0.01
3.00	0.35	0.19	0.01
3.50	0.42	0.25	0.01
4.00	0.49	0.31	0.01
4.50	0.56	0.38	0.01
5.00	0.64	0.45	0.01
5.50	0.72	0.52	0.01
6.00	0.80	0.59	0.01
6.50	0.88	0.68	0.01
7.00	0.98	0.77	0.01
7.50	1.09	0.88	0.01
8.00	1.21	0.99	0.01
8.50	1.33	1.12	0.01
9.00	1.47	1.25	0.01
9.50	1.63	1.41	0.02
10.00	1.83	1.61	0.02
10.50	2.07	1.84	0.03
11.00	2.39	2.16	0.04
11.50	2.90	2.67	0.07
12.00	4.42	4.18	**0.38**
12.50	6.38	6.14	**0.07**
13.00	6.89	6.65	0.04
13.50	7.21	6.97	0.03
14.00	7.45	7.21	0.02
14.50	7.65	7.41	0.02
15.00	7.81	7.57	0.01
15.50	7.95	7.71	0.01
16.00	8.07	7.83	0.01
16.50	8.19	7.95	0.01
17.00	8.30	8.06	0.01
17.50	8.40	8.16	0.01
18.00	8.48	8.24	0.01
18.50	8.56	8.32	0.01
19.00	8.64	8.40	0.01
19.50	8.72	8.48	0.01
20.00	8.79	8.55	0.01
20.50	8.86	8.62	0.01
21.00	8.93	8.69	0.01
21.50	8.99	8.75	0.01
22.00	9.05	8.81	0.01
22.50	9.11	8.87	0.01
23.00	9.17	8.93	0.01
23.50	9.23	8.99	0.01
24.00	**9.28**	**9.04**	0.00

Summary for Pond CULTEC: CULTEC

Inflow Area = 0.050 ac,100.00% Impervious, Inflow Depth > 9.04" for 100-Year event
Inflow = 0.53 cfs @ 12.09 hrs, Volume= 0.038 af
Outflow = 0.07 cfs @ 11.53 hrs, Volume= 0.038 af, Atten= 87%, Lag= 0.0 min
Discarded = 0.07 cfs @ 11.53 hrs, Volume= 0.038 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Link A : "A"

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 421.97' @ 12.50 hrs Surf.Area= 511 sf Storage= 378 cf

Plug-Flow detention time= 27.9 min calculated for 0.038 af (100% of inflow)
Center-of-Mass det. time= 27.7 min (762.4 - 734.7)

Volume	Invert	Avail.Storage	Storage Description
#1A	420.80'	374 cf	**14.75'W x 34.65'L x 2.71'H Field A** 1,384 cf Overall - 449 cf Embedded = 935 cf x 40.0% Voids
#2A	421.30'	449 cf	**Cultec R-180** x 20 Inside #1 Effective Size= 33.6"W x 20.0"H => 3.44 sf x 6.33'L = 21.8 cf Overall Size= 36.0"W x 20.5"H x 7.33'L with 1.00' Overlap Row Length Adjustment= +1.00' x 3.44 sf x 4 rows
#3	423.00'	1 cf	**0.50'D x 1.50'H Vertical Cone/Cylinder** x 4 -Impervious
		824 cf	Total Available Storage

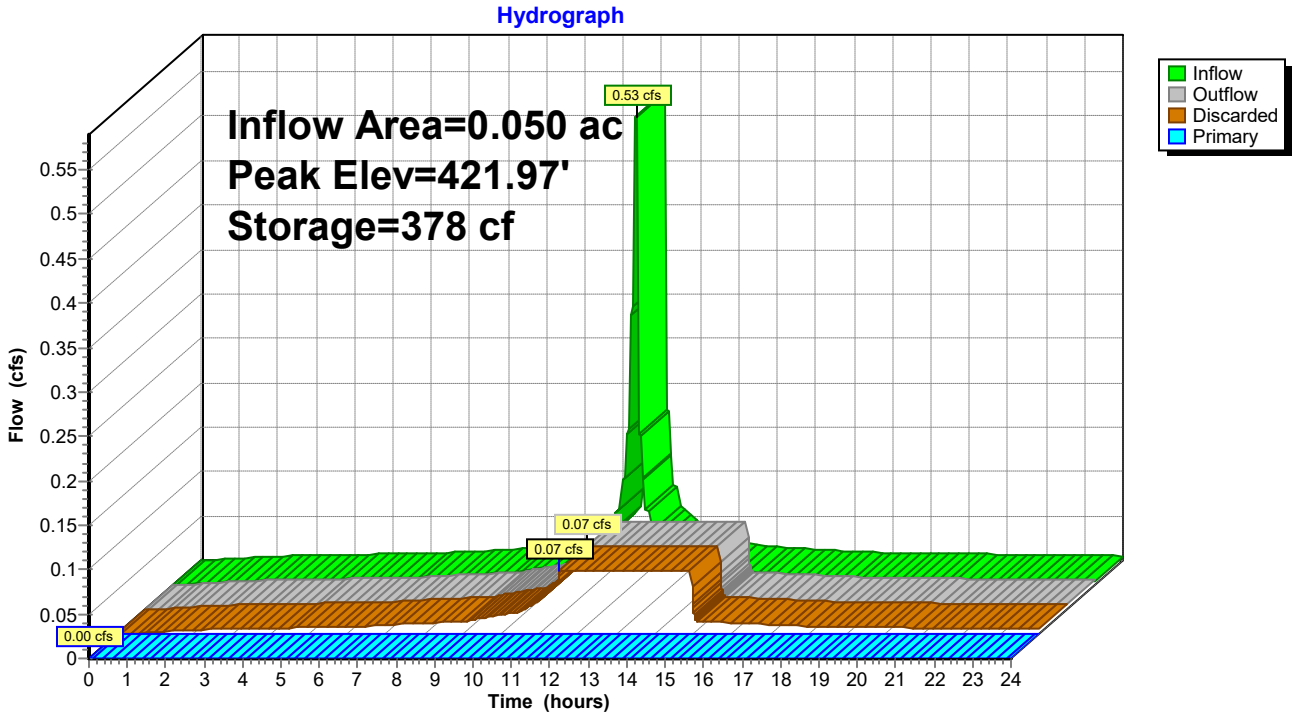
Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	420.80'	**6.000 in/hr Exfiltration over Surface area**
#2	Primary	424.50'	**6.0" Horiz. Pop Up Emitter X 4.00** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.07 cfs @ 11.53 hrs HW=420.84' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.07 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=420.80' (Free Discharge)
↑—**2=Pop Up Emitter** (Controls 0.00 cfs)

Pond CULTEC: CULTEC



Hydrograph for Pond CULTEC: CULTEC

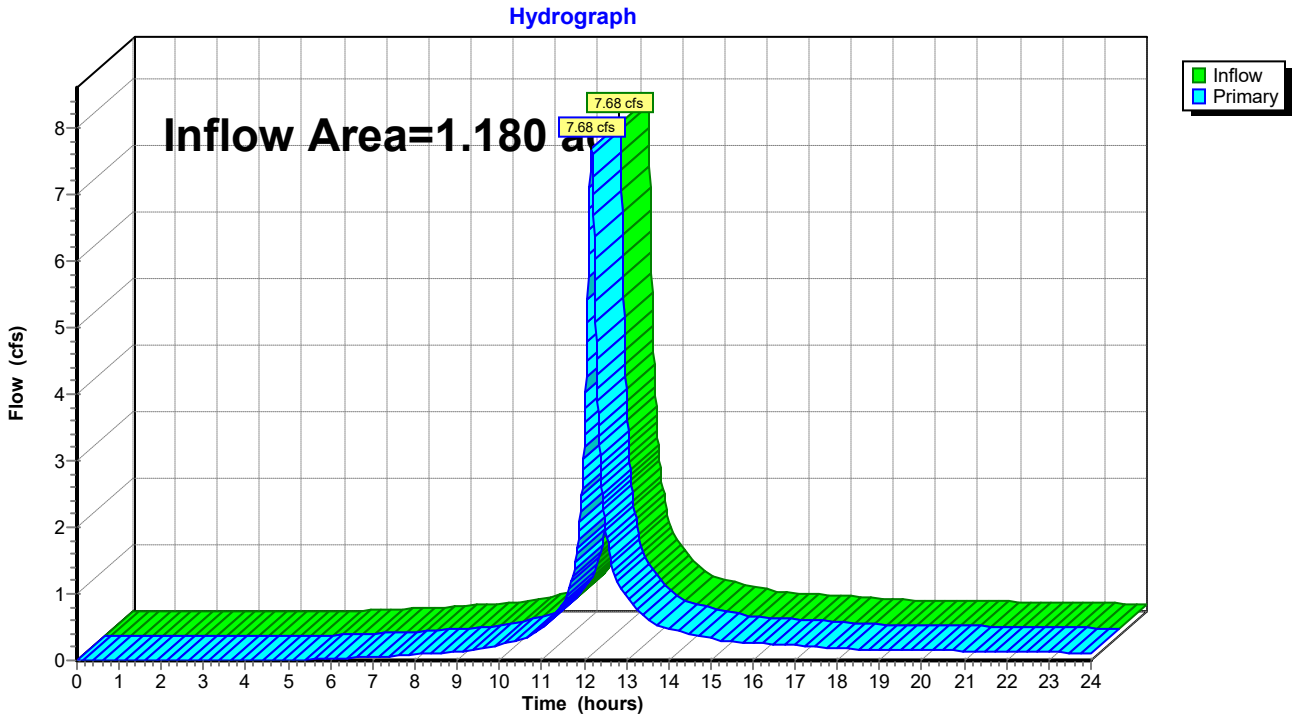
Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	420.80	0.00	0.00	**0.00**
0.50	0.00	0	420.80	0.00	0.00	0.00
1.00	0.00	0	420.80	0.00	0.00	0.00
1.50	0.00	0	420.80	0.00	0.00	0.00
2.00	0.00	0	420.80	0.00	0.00	0.00
2.50	0.01	1	420.80	0.01	0.01	0.00
3.00	0.01	1	420.80	0.01	0.01	0.00
3.50	0.01	1	420.80	0.01	0.01	0.00
4.00	0.01	1	420.80	0.01	0.01	0.00
4.50	0.01	1	420.80	0.01	0.01	0.00
5.00	0.01	1	420.80	0.01	0.01	0.00
5.50	0.01	1	420.80	0.01	0.01	0.00
6.00	0.01	1	420.80	0.01	0.01	0.00
6.50	0.01	1	420.80	0.01	0.01	0.00
7.00	0.01	1	420.81	0.01	0.01	0.00
7.50	0.01	1	420.81	0.01	0.01	0.00
8.00	0.01	1	420.81	0.01	0.01	0.00
8.50	0.01	1	420.81	0.01	0.01	0.00
9.00	0.01	2	420.81	0.01	0.01	0.00
9.50	0.02	2	420.81	0.02	0.02	0.00
10.00	0.02	2	420.81	0.02	0.02	0.00
10.50	0.03	3	420.81	0.02	0.02	0.00
11.00	0.04	4	420.82	0.04	0.04	0.00
11.50	0.07	7	420.83	**0.06**	**0.06**	0.00
12.00	**0.38**	153	421.42	**0.07**	**0.07**	0.00
12.50	**0.07**	**378**	**421.97**	0.07	0.07	0.00
13.00	0.04	343	421.89	0.07	0.07	0.00
13.50	0.03	275	421.72	0.07	0.07	0.00
14.00	0.02	189	421.51	0.07	0.07	0.00
14.50	0.02	97	421.28	0.07	0.07	0.00
15.00	0.01	3	420.81	0.03	0.03	0.00
15.50	0.01	1	420.81	0.01	0.01	0.00
16.00	0.01	1	420.81	0.01	0.01	0.00
16.50	0.01	1	420.81	0.01	0.01	0.00
17.00	0.01	1	420.81	0.01	0.01	0.00
17.50	0.01	1	420.80	0.01	0.01	0.00
18.00	0.01	1	420.80	0.01	0.01	0.00
18.50	0.01	1	420.80	0.01	0.01	0.00
19.00	0.01	1	420.80	0.01	0.01	0.00
19.50	0.01	1	420.80	0.01	0.01	0.00
20.00	0.01	1	420.80	0.01	0.01	0.00
20.50	0.01	1	420.80	0.01	0.01	0.00
21.00	0.01	1	420.80	0.01	0.01	0.00
21.50	0.01	1	420.80	0.01	0.01	0.00
22.00	0.01	1	420.80	0.01	0.01	0.00
22.50	0.01	1	420.80	0.01	0.01	0.00
23.00	0.01	1	420.80	0.01	0.01	0.00
23.50	0.01	1	420.80	0.01	0.01	0.00
24.00	0.00	1	420.80	0.00	0.00	0.00

Summary for Link A: "A"

Inflow Area = 1.180 ac, 13.28% Impervious, Inflow Depth > 6.29" for 100-Year event
Inflow = 7.68 cfs @ 12.18 hrs, Volume= 0.619 af
Primary = 7.68 cfs @ 12.18 hrs, Volume= 0.619 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link A: "A"



Hydrograph for Link A: "A"

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00	**0.00**	0.00
0.50	0.00	0.00	0.00
1.00	0.00	0.00	0.00
1.50	0.00	0.00	0.00
2.00	0.00	0.00	0.00
2.50	0.00	0.00	0.00
3.00	0.00	0.00	0.00
3.50	0.00	0.00	0.00
4.00	0.00	0.00	0.00
4.50	0.00	0.00	0.00
5.00	0.01	0.00	0.01
5.50	0.01	0.00	0.01
6.00	0.02	0.00	0.02
6.50	0.04	0.00	0.04
7.00	0.05	0.00	0.05
7.50	0.07	0.00	0.07
8.00	0.09	0.00	0.09
8.50	0.11	0.00	0.11
9.00	0.13	0.00	0.13
9.50	0.18	0.00	0.18
10.00	0.24	0.00	0.24
10.50	0.31	0.00	0.31
11.00	0.49	0.00	0.49
11.50	0.85	0.00	0.85
12.00	**3.21**	0.00	**3.21**
12.50	**2.01**	0.00	**2.01**
13.00	0.97	0.00	0.97
13.50	0.63	0.00	0.63
14.00	0.47	0.00	0.47
14.50	0.40	0.00	0.40
15.00	0.33	0.00	0.33
15.50	0.29	0.00	0.29
16.00	0.27	0.00	0.27
16.50	0.24	0.00	0.24
17.00	0.22	0.00	0.22
17.50	0.20	0.00	0.20
18.00	0.18	0.00	0.18
18.50	0.17	0.00	0.17
19.00	0.16	0.00	0.16
19.50	0.16	0.00	0.16
20.00	0.15	0.00	0.15
20.50	0.15	0.00	0.15
21.00	0.14	0.00	0.14
21.50	0.14	0.00	0.14
22.00	0.13	0.00	0.13
22.50	0.13	0.00	0.13
23.00	0.12	0.00	0.12
23.50	0.12	0.00	0.12
24.00	0.11	0.00	0.11

Gabriel E. Senor, P.C.

Engineers Planners Surveyors
90 N Central Park Avenue
Hartsdale, NY 10530
***Tel*: (914) 422-0070**
***Fax*: (914) 422-3009**
***E-Mail*: Eliot@gesenor.com**

MEMORANDUM

TO: Town of North Castle
FROM: Eliot Senor P.E. L.S.
SUBJECT: 9 Barnard Road

DATE: July 25, 2022

GENERAL COMMENTS

1. The plan shall demonstrate that all required setbacks to the septic, well and stormwater facilities meet minimum WCHD requirements. We note that the domestic well serving the adjacent property to the east is relatively close to the common property line. This well should be survey located and illustrated on the plan to demonstrate that the required separation distance between the well and stormwater management system can be maintained.

   Plan development has Health Department Approval. Well information shown as per Health Department records.

2. The applicant has provided building elevations and floor plans of the existing shed to be legalized for the Planning Board's consideration.

   Noted.

3. The applicant has provided a Landscaping Plan for consideration by the Planning Board. The Site Plan shall depict all Town-regulated trees proposed to be removed or protected within and ten (10) feet beyond the proposed limit of disturbance. It appears that, at a minimum, additional tree removal is required for the proposed lower retaining wall. We note that in addition to the two (2), 20-inch pine trees illustrated on the plan, that there exists a relatively dense vegetated buffer between the adjoining lots. This buffer will require clearing in order to construct the retaining wall. The plan proposes to replant this area with a mix of dwarf junipers and boxwoods. We would recommend that the Planning Board consider requiring a more robust screening plan.

   A landscape plan has been prepared by a landscape architect based upon suggestion by Planning Board. Proposed lower wall no longer being considered.

4. The plan illustrates an existing stone retaining wall along the eastern property line at the front of the site. This wall was constructed without prior approval and exceeds six (6) feet in height. This office is not aware of any prior design or construction certification nor was this office able to inspect its construction. Portions of the wall had been constructed within the Town right-of-way and are now proposed to be removed and the area restored. We offer the following comment relative to the wall:

- The limits of the wall to be removed within the Town right-of-way are illustrated on the plan. The plan shall also illustrate and detail the means to restore this area.

Restoration noted on plan. Sediment and Soil Stockpile measures shown.

- As previously requested, the applicant shall provide an estimate of the quantity of fill imported to the site to construct and backfill the wall. As part of this estimate and based on a field visit attended by this office and the Building Inspector during the prior application, it appeared that fill was also imported to regrade a portion of the rear yard. This assumption was supported by review of available Westchester County GIS data and the buried "feet" of existing trees in the rear yard. This added material should be included in any cut/fill calculation.

Approximately 450 cubic yards of fill has been placed behind the wall. The rear yard was regraded and a planting berm was added. It is estimated to be approximately 350 cubic yards.

- The Stone Wall Detail illustrates a tiered retaining wall with a maximum height of four (4) feet. The existing retaining wall is not dimensioned on the detail. However, based on field visits, the wall reaches heights of approximately eight (8) feet. The lower tiered wall does not dimension the footing width or depth of crushed stone backfill. The retaining wall design and detail shall be updated accordingly. When the original wall was first constructed, and as part of the prior application, the applicant was required to provide a design certification by a New York State Licensed Professional Engineer demonstrating that the wall, as constructed, is stable, has been adequately sized to provide appropriate factors of safety for sliding, overturning and bearing, and has been constructed in accordance with the design and detail. Said certification was not received by this office. It is not clear why the lower retaining wall is required or being proposed at this time. We assume that the plan to construct a second tier with a maximum height of four (4) feet is to eliminate the need to provide the above certification. However, the proposed retaining wall plan will require clearing of whatever vegetated buffer remains along the property line. The Planning Board should consider whether this is appropriate or if the wall should remain as is and the certification be provided.

The construction of the lower wall is no longer under consideration. It was suggested at the Planning Board site visit that the existing wall will remain. A letter of certification It to the construction and stability has been provided with this submission.

- The existing retaining wall had been constructed immediately adjacent to several trees, compromising the root zone and structure. As previously noted, their long-term survival was

questionable. We note that there is at least one dead tree in the immediate vicinity of the retaining wall (assumed to be the 14" tree illustrated on the plan). This should be confirmed by the applicant. We would recommend that the dead tree be shown to be removed. The Planning Board should discuss whether additional plantings are appropriate.

See Landscape Plan provided.

The plan illustrates a temporary construction access above the existing retaining wall for construction of the infiltration system. The plan must be revised to illustrate how the area of the lower wall will be accessed for construction and what measures will be used to protect the downgradient property from being disturbed. It is not clear how the proposed lower wall can be constructed as proposed without some level of disturbance to the adjoining property.

Erosion control measures have been provided,

5. As part of the prior application, the Building Department had required soil sampling to insure the import material was clean and complied with applicable NYSDEC Part 360 regulations. An analysis and report, prepared by Sterling Environmental Engineering, P.C., was provided. We the following preliminary comments:

- The report should be sealed by a NYS Licensed Professional Engineer.

- The report should include a summary table that lists the concentrations of all detected compounds vs. the allowable limits for Unrestricted Use and Residential use for review by the Building Inspector and consideration by the Planning Board.

- There does not appear to be analytics provided for PCBs/Pesticides.

- The Planning Board should discuss whether the report should be reviewed further by the Town's hydrogeologic consultant.

Revised report to be provided prior to meeting.

6. The plan proposes an infiltration system to collect and mitigate stormwater runoff generated from the existing residence and shed. The existing roof leader connection that discharges off site is proposed to be removed. This office previously witnessed soil testing in the vicinity of the practice to demonstrate that suitable soils exist. We note, however, that the depth to rock, as noted on the plan, is approximately five (5) feet. As such, it does not appear that the required 3 ft minimum separation will be provided by the design. The infiltration system layout shall be adjusted accordingly. We would also recommend that an additional inspection port be shown the unit to which the storm piping is connected.

Storm system has been updated for proper 3 ft. separation.

7. The plan proposes to remove the existing drain inlet located within the driveway, which currently discharges to the adjoining property. The plan, however, does not illustrate how runoff from the driveway will be collected or conveyed. Without the inlet, it appears that stormwater runoff will continue to sheet flow toward the adjoining property. The applicant should review this layout and consider an alternative to collect and mitigate this flow. We note that should this drain inlet be connected to the infiltration system, the WCHD minimum required setback to a drilled well is 100 feet.

The existing drain will be removed along with the point discharge. To prevent sheet flow a grass swale will be constructed and additional plantings of Forsythia will be planted.

8. Drawing S-2 appears to have been named incorrectly and should be revised to "Proposed Conditions".

Drawing S-2 has been revised to "Proposed Conditions"

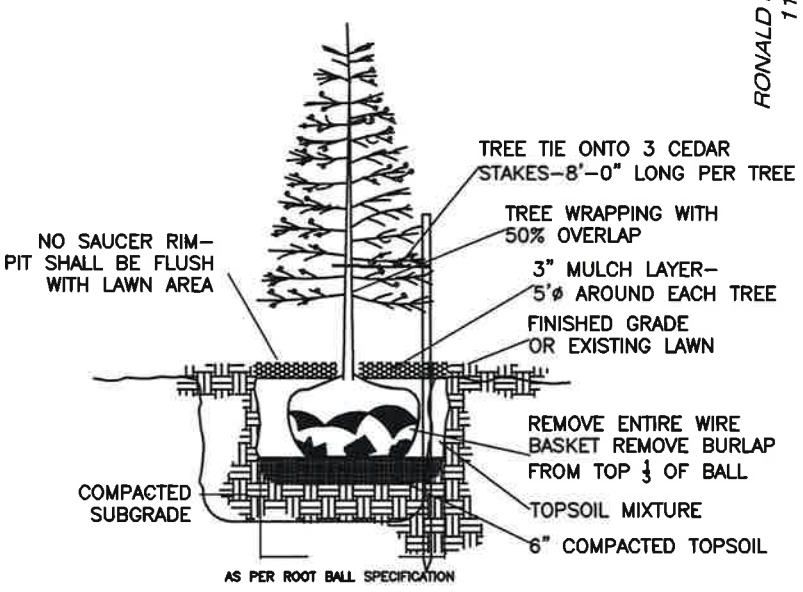
LEGEND:

PROPERTY LINE

EXISTING TREE (evergreen)

EXISTING TREE (deciduous)

PROPOSED EVERGREEN TREE



EVERGREEN TREE PLANTING

Not To Scale

Trees Specified/Characteristics

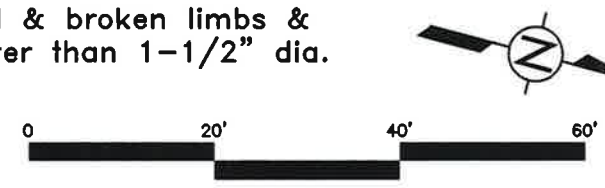
- Native Species / Indiginous Species
- Deer Resistant / Tolorant

Remove Existing Invasive Vines

Ampelopsis brevipedunculata	Porcelain Berry
Lonicera japonica	Honeysuckle
Celastrus scandens	American bittersweet
Toxicodendron radicans	Poison Ivy

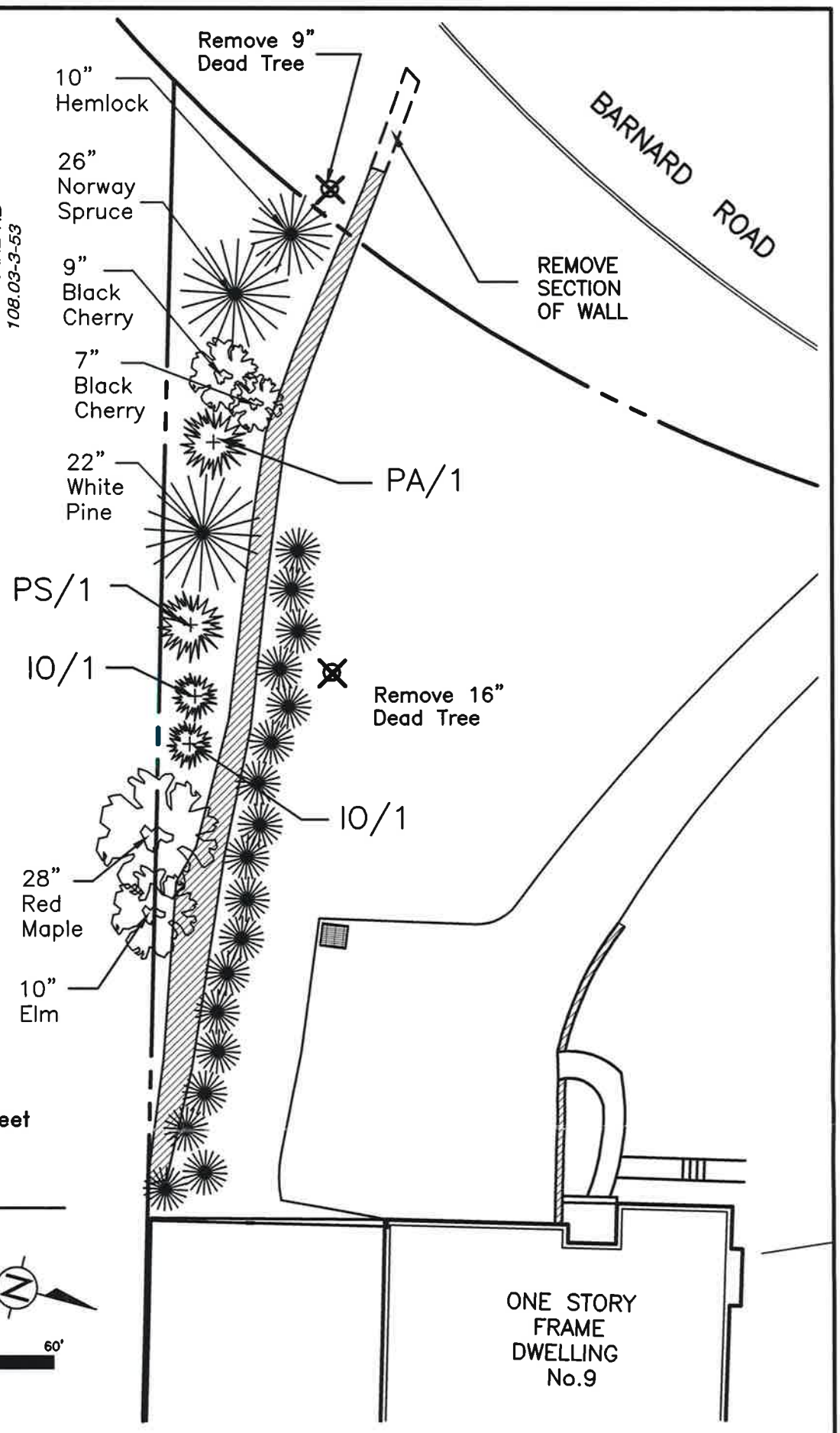
Existing Trees Recommendations

- Removal all dead trees
- Prune all dead & broken limbs & branches greater than 1–1/2" dia.



SCALE: 1" = 20'–0"

RONALD & AURORA BANASZEK
11 BARNARD RD
108.03-3-53



PROPOSED PLANT LIST

Sym.	Quant.	Botanical Name	Common Name	Size	Spacing	Remarks
IO	2	Ilex opaca	AMERICAN HOLLY	10'–12'	12' min.	Low branched & full to grade
PA	1	Pieca abies	NORWAY SPRUCE	20'–22'	16" min.	Low branched & full to grade
PS	1	Pinus strobus	EASTERN WHITE PINE	20'–22'	16" min.	Low branched & full to grade

PLANTING NOTES

1. PROTECT ALL EXISTING VEGETATION TO BE PROTECTED FROM DAMAGE DURING ALL PHASES OF CONSTRUCTION
2. PRIOR TO PLANTING ALL UTILITIES ARE TO LOCATED & MARKED ON SITE
3. IT IS THE INTENT OF THIS CONTRACT TO AVOID ANY DISTURBANCE TO EXISTINIG VEGETATION ON THE SITE OTHER THAN THOSE SPECIFICALLY DESIGNATED FOR REMOVAL. ADJUSTMENTS SHALL BE MADE IN THE FIELD THE DIRECTION OF THE LANDSCAPE ARCHITECT
4. ALL PLANT MATERIAL SHALL BE NURSERY GROWN UNLESS OTHERWISE NOTED
5. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE LOCATION OF MECHANICAL EQUIPMENT AND UTILITIES EXISTING OR PROPOSED IN THE AREAS TO BE PLANTED AND SHALL, WHERE NECESSARY, RELOCATE PLANTS AT THE DIRECTION OF THE LANDSCAPE ARCHITECT
6. QUANTITIES GIVEN IN THE PLANT LIST ARE FOR REFERENCE ONLY. THE CONTRACTOR SHALL VERIFY ALL QUANTITIES SHOWN ON THE LIST AND SHALL BE RESPONSIBLE FOR FURNISHING ALL MATERIALS REQUIRED TO COMPLETE THE PLANS
7. THE CONTRACTOR SHALL VERIFY ALL GRADES, DIMENSIONS, & EXISTING CONDITIONS AND REPORT ANY DISCREPANCIES TO THE LANDSCAPE ARCHITECT
8. LOCATIONS OF NEW PLANTS SHALL BE STAKED AND/OR PLACED BY THE CONTRACTOR AND APPROVED BY THE LANDSCAPE ARCHITECT BEFORE PROCEEDING WITH THE WORK
9. ALL PLANTS SHALL BE SUBJECT TO THE LANDSCAPE ARCHITECT'S INSPECTION & APPROVAL AT THE NURSERY AND AT THE SITE BEFORE ANG PLANTING WORK IS BEGUN
10. ALL BEDS AND TREE SAUCERS AND OTHER AREAS NOTED SHALL RECEIVE THREE (3) INCHES OF APPROVED MULCH (SHREDDED CEDAR BARK)
11. CONTRACTOR SHALL GUARANTEE ALL PLANT MATERIAL FOR ONE YEAR FROM THE OF LANDSCAPE ARCHITECT'S FINAL WRITTEN APPROVAL AND AS NOTERD IN SPECIFICATIONS
12. CONTRACTOR TO COORDINATE PLANTING, SEEDING, AND TREE WORK WITH OTHER TRADES
13. CONTRACTOR RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED
14. CONTRACTOR RESPONSIBLE FOR RESTORING ALL AREAS DISTURBED DUE TO PLANTING OPERATIONS

WALTER G. NESTLER P.C.
LANDSCAPE ARCHITECT ASLA
ISA CERTIFIED ARBORIST

511 BOLTON AVENUE
BRONX, NEW YORK 10473–2901
VOICE & FAX: (718) 842–5356
e–mail: wgnestler@aol.com

REGISTERED LANDSCAPE ARCHITECT
WALTER G. NESTLER
893-1
STATE OF NEW YORK

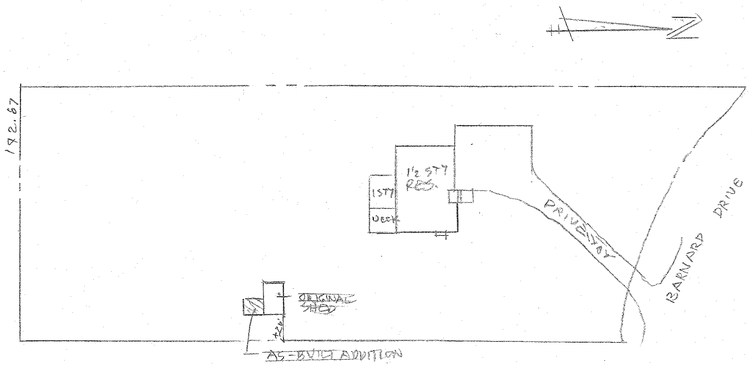
PLANTING PLAN

GENTILE RESIDENCE

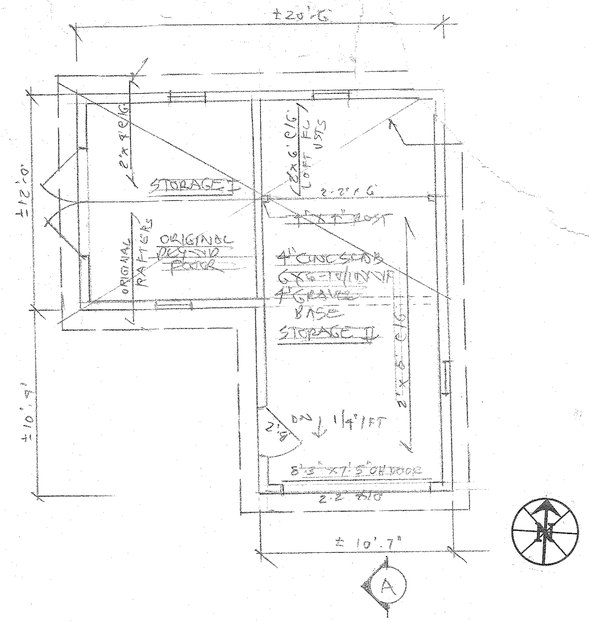
9 BARNARD ROAD
ARMONK, NEW YORK 10504

Property ID# 108.03–3–54
Zoning: R–1A

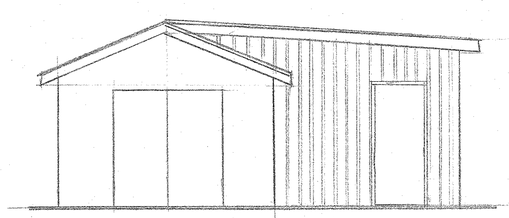
October 19, 2021
Sheet: 1 of 1



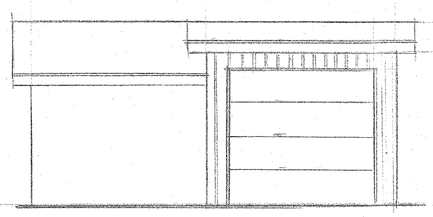
SITE PLAN SCALE: 1"=30'



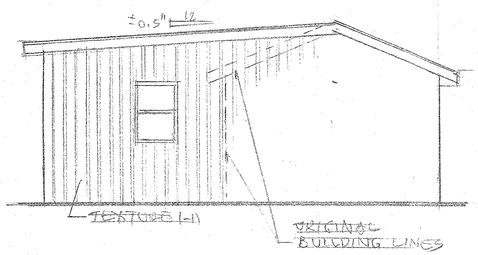
FIRST FLOOR PLAN SCALE: 1/4"=1'-0"



WEST

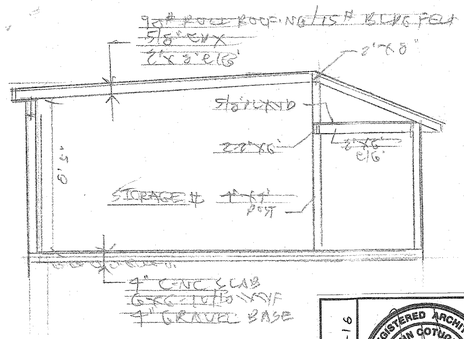


SOUTH



EAST

EXTERIOR ELEVATIONS SCALE 1/4"=1'-0"



SECTION A SCALE 1/4"=1'-0"

DATE 10-23-16

REGISTERED ARCHITECT JOHN COTUGNO No. 014911 STATE OF NEW YORK

PROJECT
AS BUILT ADDITION TO SHED
MR JOSEPH GENTILE
9 BARNARD DRIVE (ARMONK)
TOWN OF NORTH CASTLE NY

John Cotugno Architect, P.C.
90 N Central Ave Hartsdale N.Y. 10530
tel. 914 589 2521

SHEET E-1

Gabriel E. Senor, P.C.
Engineers Planners Surveyors
90 N Central Park Avenue
Hartsdale, NY 10530
***Tel*: (914) 422-0070**
***Fax*: (914) 422-3009**
***E-Mail*: info@gesenor.com**

July 25, 2022

Robert Melillo
Building Inspector
Town of North Castle
17 Bedford Rd.
Armonk, NY 10504

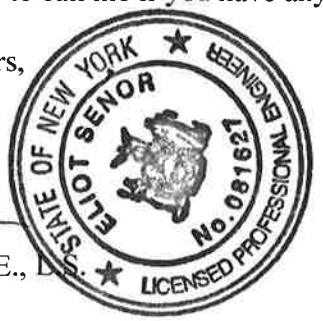
Re: Retaining wall inspection.
9 Barnard Road
Armonk, New York 10504

Dear Inspector Melillo:

I inspected the stone retaining wall at the referenced premises on January 16, 2019. I found the wall to be properly constructed and in sound condition. There was also no visual evidence of failure.

Please feel free to call me if you have any questions.

Very truly yours,



Eliot Senor, P.E., L.S.