

AGENDA PACKET

FEBUARY 28, 2023 MEETING

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TOWN OF LEWISBORO
Westchester County, New York



Planning Board
79 Bouton Road
South Salem, New York 10590

Tel: (914) 763-5592
Fax: (914) 875-9148
Email: planning@lewisborogov.com

AGENDA

Tuesday, February 28, 2023

Courtroom at 79 Bouton Road

Meeting will start at 7:30 p.m. and end at or before 11:00 p.m.

I. EXTENSION OF TIME REQUESTS

Cal #08-14PB, Cal# 95-14WP, Cal# 20-14SW

Goldens Bridge Village Center, NYS Route 22, Goldens Bridge, NY 10526; Sheet 4, Block 11126, Lot 07 (Stephen Cipes, owner of record) – The Planning Board Resolution for Site Development Plan Approval, Wetland Activity Permit Approval and Town Stormwater Permit granted on January 21, 2020 for modifications to the existing shopping center expired January 21, 2022.

Cal #04-19PB, Cal #17-19WP, Cal #06-19SW

Pound Ridge Stone, 2 West Road, South Salem, NY 10590; Sheet 49B, Block 9831, Lot 1 (Two West Road LLC, owner of record) – The Planning Board Resolution for a Negative Declaration of Significance, Site Development Plan Approval, Special Use Permit Approval, Town Wetland Activity Permit Approval and Town Stormwater Permit Approval granted on August 17, 2021 for site upgrades including additional parking and storage areas expired February 17, 2023.

II. PUBLIC HEARINGS

Cal #06-22PB, Cal #05-22WP, Cal #03-22SW

Waccabuc Country Club Snack Bar, 18 Perch Bay Road, Waccabuc, NY 10597; Sheet 25A, Block 10813, Lot 1 & 0 Tarry-A-Bit Lane, Waccabuc, NY 10597; Sheet 25, Block 11155, Lot 148 (Waccabuc Country Club Co., owner of record for both lots) - Application for beachfront improvements including renovation of the boathouse, construction of a pavilion, replacement of the snack bar, and installation of accessible parking and walkways.

Cal #02-20PB

Mandia Residences, 65 Old Bedford Road, Goldens Bridge, NY 10526; Sheet 4A, Block 11112, Lot 2 (Town of Lewisboro, owner of record) - The Planning Board Resolution for Site Development Plan Approval, Special Use Permit Approval and Town Stormwater Permit Approval granted on June 19, 2020 included a construction performance bond for the four apartments and a request for a partial bond release has been submitted.

III. DECISION

Cal #10-17PB, Cal #19-22SW

Mercedes Benz of Goldens Bridge, 321 Main Street, Goldens Bridge, NY 10526; Sheet 4E, Block 11135, Lots 1, 2, 3, 4, 5, 6, 7 & 9 and Sheet 4E, Block 11137, Lot 42 (Celebrity Westchester Realty, LLC., owner of record for the nine lots) – Based on the applicant's January 17, 2023 request for an amendment of the Approving Site Development Plan Approval and Town Stormwater Permit Approval Resolution (dated March 17, 2020) and Amended Resolution (dated January 17, 2023) for installation of a water treatment system.

IV. SUBDIVISION

Cal #15-22PB

Vandervoort/Rising Starr Subdivision, 93 Silver Spring Rd, Wilton, CT 06897; Sheet 48, Block 10057, Lots 14, 19, 84 & 134 (SJK, LLC & PVK, LLC, owners of record) - Application for a subdivision.

V. SITE DEVELOPMENT PLAN REVIEW

Cal #18-22PB

Bichon LLC, 876 Route 35, Cross River, NY 10518; Sheet 20, Block 10801, Lot 2 (Bichon LLC – owner of record) – Application for a change of use from residential to commercial (professional office and outdoor storage of containers).

VI. WETLAND PERMIT REVIEW

Cal #34-22WP, Cal #01-21WV

Maple Tree Farm, 400 Smith Ridge Road, South Salem, NY 10590; Sheet 24, Block 9831, Lot 49B (Maple Tree Farm, LLC, owner of record) - Application for remediation of wetlands.

Cal #39-22WP

Morrissey Residence, 10 Hoyt Street, South Salem, NY 10590; Sheet 36C, Block 11172, Lot 5 (Susan Morrissey, owner of record) - Application for sunroom/porch, terrace and walkway.

Cal #42-22WP and Cal #21-22SW

Simpkins Residence, 120 Mill River Road, South Salem, NY 10590; Sheet 45, Block 10299, Lot 86 (Nancy Simpkins, owner of record) – Application for an addition.

Cal #01-23WP

Vitiello residence, 43 Conant Valley Road, Pound Ridge, NY 10576; Sheet 49, Block 9827, Lot 100 (Linda & Michael Vitiello – owners of record) – Application for driveway improvements.

Cal #02-23WP

Ritacco Pool, 37 Gideon Reynolds Road, Cross River, NY 10518; Sheet 16, Block 10533, Lot 423 (George & Eileen Ritacco, owners of record) – Application for a pool.

VII. WETLAND VIOLATION

Cal #01-23WV

VIII. DISCUSSION

Cal #06-17PB

Wolf Conservation Center, Buck Run, South Salem, NY 10590; Sheet 21, Block 10803, Lots 3, 65, 67, 81, 82, 83, 86 & 88 (Wolf Conservation Center, owner of record) - Application for a Subdivision and Special Use Permit associated with a private nature preserve.

IX. SCHEDULE A POST-CONSTRUCTION SITE VISIT

Cal #10-15 PB, Cal #20-17WP, Cal #5-17SW

Lewisboro Commons (Wilder Balter), 100 Beekman Lane, Goldens Bridge, NY 10526; Sheet 5, Block 10776, Lots 19, 20 & 21 (Lewisboro Commons Housing Development Fund Co., Inc., owner of record)

X. MINUTES OF January 17, 2023.

XI. NEXT MEETING DATE: March 21, 2023.

XII. ADJOURN MEETING.

Ciorsdan Conran

From: Nancy Tuccillo <nancytuccillo@aol.com>
Sent: Monday, January 23, 2023 1:33 PM
To: Ciorsdan Conran
Subject: Re: Permit renewal

Hi Ciorsdan,

We are hereby requesting an extension of the existing permit for the development of the north lot at the North County shopping center in Goldens Bridge.

Kindly let us know if this meets with your approval.

With best regards,

Nancy Tuccillo
(914) 769-3141

> On Jan 23, 2023, at 10:34 AM, Ciorsdan Conran <Planning@lewisborogov.onmicrosoft.com> wrote:
>
> Hi Nancy- Know that there has not been an approval for housing in the proposed north building. Please review the attached Planning Board Resolution which excluding the EV chargers is the most recent approval from the Planning Board.
>
> Ciorsdan
>
> -----Original Message-----
> From: Nancy Tuccillo <nancytuccillo@aol.com>
> Sent: Friday, January 20, 2023 2:39 PM
> To: Ciorsdan Conran <planning@lewisborogov.com>
> Subject: Permit renewal
>
> Hi Ciorsdan,
>
> This is to formally request an extension of our building permit for the north lot of the North County Shopping Center in Goldens Bridge. We are proceeding with our original plan, which was to build apartments in that area of the shopping center. We are currently in the middle of doing engineering on the property to determine septic capacity, and plan to proceed thereafter.
>
> If you have any questions, please do not hesitate to call me at 914-769-3141.
>
> Very sincerely, yours,
>
> Nancy Tuccillo
> (914) 769-3141
> <Goldens Bridge Village Centre_Request_Extension_granted 021522.pdf>
> <NorthCountyShoppingCenter_Res stamped 012220.pdf>

This approval is set to expire on 2/17/23

Re: Cal# 4-19PB, #17-19WP, #6-19SW
Pound Ridge Stone
2 West Road, South Salem
Sheet 49B, Block 9831, Lot 1

From: David Moorman <prstone1@optonline.net>
Sent: Wednesday, February 8, 2023 11:07 AM
To: Ciorsdan Conran <Planning@lewisborogov.onmicrosoft.com>
Subject: Re: Request for extension

To the Planning Board -

Request for a 90-day extension——I have been working on the following paperwork:

- DOT response hasn't been active,
- the wetland mitigation bond is in production, but some questions has arisen and haven't been answered yet ,
- the Engineering and Inspection check is ready to be cut,
- mylars are ready,
- I will try to get permit from town stormwater and wetland inspector.



Thank you,

David Moorman
Pound Ridge Stone and Landscaping
2 West Rd
South Salem NY 10590

MEMORANDUM

TO: Chairperson Janet Andersen and
Members of Lewisboro Planning Board

CC: Ciorsdan Conran
Judson Siebert, Esq.
Kevin Kelly, Building Inspector

FROM: Jan K. Johannessen, AICP 
Joseph M. Cermele, P.E., CFM 
Town Consulting Professionals

DATE: February 24, 2023

RE: Waccabuc Beach Club Improvements
Waccabuc Country Club
Perch Bay Road
Sheet 25A, Block 10813, Lot 1
Sheet 25, Block 11155, Lot 148

PROJECT DESCRIPTION

The subject property consists of ±9.1 acres of land and is located off of Perch Bay Road within the R-4A Zoning District. The property is owned by the Waccabuc County Club, has frontage on Lake Waccabuc, and is developed with various recreational buildings and amenities to support its private membership. The property obtains access from Perch Bay Road and contains parking areas, a public water well and septic system. The applicant is proposing to renovate the existing boathouse, construct a covered pavilion, replace the existing docks, demolish an existing building, install an outdoor seating area, construct a new snack bar and construct driveways, walkways, handicap access, a new septic system, and stormwater management facilities. The subject property consists of two (2) parcels that are proposed to be merged.

SEQRA

The proposed action has been preliminarily identified as an Unlisted Action pursuant to the State Environmental Quality Review Act (SEQRA). The Planning Board has established itself as the Lead Agency and is conducting a coordinated SEQRA review. Prior to taking action on this pending application, the Planning Board must issue a determination of significance.

REQUIRED APPROVALS/REFERRALS

1. Site Development Plan Approval, a Town Stormwater Permit, and a Wetland Activity Permit is required from the Planning Board; a public hearing is underway.
2. It is our understanding that the applicant obtained approval and variances from the Zoning Board of Appeals, as required.
3. The proposed action was referred to and received approved by the Architecture and Community Appearance Review Council (ACARC).
4. A Floodplain Development Permit will be required from the Building Inspector.
5. The applicant is proposing new impervious surfaces within the 100-foot limiting distance of the lake and a variance from the New York City Department of Environmental Protection (NYCDEP) is required.
6. The proposed septic system will require approval from the Westchester County Department of Health (WCHD). It is noted that the existing well operates as a public water supply.
7. The subject property is located within the NYC East of Hudson Watershed and proposed land disturbance equals one (1) acre. Coverage under New York State Department of Environmental Conservation (NYSDEC) SPDES General Permit for Stormwater Discharges from Construction Activity (GP-0-20-001) will be required.
8. The application was referred to the Westchester County Planning Board in accordance with Section 239-m of the General Municipal Law, and a letter was received on May 20, 2022.

COMMENTS

1. The application has been referred to the Fire Department for review; we await their response.
2. Approval of the Stormwater Pollution Prevention Plan (SWPPP) and variance from the NYCDEP is pending.
3. The applicant should advise of the status of the WCHD approval for the septic system.

In order to expedite the review of subsequent submissions, the applicant should provide annotated responses to each of the comments outlined herein.

Chairperson Janet Andersen
February 24, 2023
Page 3 of 3

PLANS REVIEWED, PREPARED BY INSITE ENGINEERING, DATED FEBRUARY 7, 2023:

- Overall Plan (OP-1)
- Existing Conditions & Removals Plan (EX-1)
- Layout & Landscape Plan (SP-1)
- Grading & Utilities Plan (SP-2)
- Erosion & Sediment Control Plan (SP-3)
- Lighting Plan (LP-1)
- Site Plan (D-1)
- Site Details (D-2, D-3)
- Parking Assessment (PA-1)

DOCUMENTS REVIEWED:

- Letter, prepared by Zach Pearson, P.E., dated February 7, 2023
- Stormwater Pollution Prevention Plan, prepared by Insite Engineering, dated February 7, 2023

JKJ/dc

https://kellardsessionsconsulti.sharepoint.com/sites/Kellard/Municipal/Lewisboro/Correspondence/2023-02-24_LWPB_Waccabuc CC - Perch Bay Road Beach Club_Review Memo.docx

RECEIVED BY
FEB 24 2023

Town Clerk
Town of Lewisboro

**RESOLUTION
TOWN OF LEWISBORO
ZONING BOARD OF APPEALS
IN THE MATTER OF THE APPLICATION OF**

Waccabuc Country Club/Beach

**ARTICLE III §220-9.E
ARTICLE IV §220-23.D.11
ARTICLE IV §220-23.E/Table 220 Attachment 1
ARTICLE IV §220-23.D.11
ARTICLE VII §220-56.D
CAL. NO. 02-23-BZ**

INTRODUCED BY: Board Member Rendo

SECONDED BY: Board Member Casper

DATE OF CONSIDERATION/ADOPTION: January 25, 2023

WHEREAS, Michael Fuller Sirignano, Esq., as the applicant (Waccabuc Country Club Co, owner of record) has made application to the Lewisboro Zoning Board of Appeals (the "ZBA"), on the subject premises located at, 18 Perch Bay Road, Waccabuc, NY, Tax Map as Sheet 025A, Block 10813, Lot 001, and (00) Tarry-A-Bit Road, Waccabuc, NY, Tax Map as Sheet 0025, Block 11155 Lot 148, ("the properties"), for the following variances of the Waccabuc Country Club, which is an existing non-conforming use, proposes expansion of the existing non-confirming use which will require review and approval by the ZBA. *Per Article III §220-9.E: Extension of Non-Conforming Use* of the Town of Lewisboro Zoning Code. The new snack bar proposed is 1,100 square feet of floor area. The Town Code allows a maximum of 600 square feet. Based on this code section, the applicant is requesting a variance of 500 square feet. *Per Article IV §220-23.D.11: Accessory Building Floor Area* of the Town of Lewisboro Zoning Code. The expansion of the boathouse does not impact current rear yard setback. The existing boathouse projects over the property line 1.4-feet. This condition will remain and require a 50-foot variance from the rear yard setback, plus 1.4-foot projection. The proposed covered pavilion will not increase the current rear yard setback which will remain at 9.1-feet. This will require a 40.9-foot variance from the required rear yard setback. The proposed snack bar will be located 37.4-feet from the rear property line, which is 0.4-feet closer than the existing snack bar. This will require a 12.6-foot variance from the required rear yard setback. *Per Article IV §220-23.E/Table 220 Attachment 1: Rear Yard Setback* of the Town of Lewisboro Zoning Code. As noted above, the proposed project is an expansion of the current non-conforming use. While additional building area has been added, as well as numerous site features to accommodate accessible access, the use of the property remains the same. Furthermore, the applicants use of 1 parking space for every 3 members of the country club yields 130 required spaces which is more than the calculated or functional occupancy of the property when proposed improvements are complete. While the applicant currently identifies 53 parking spaces onsite, the majority of these parking spaces do not meet the

requirements of the Town Code. Based on the continuation of the sites historical use, we recommend the ZBA consider a variance of 120 spaces. This variance is based on the eight (8) parallel spaces that meet Town Code, as well as the two (2) compliant handicap spaces. *Per Article VII §220-56.D: Parking* of the Town of Lewisboro Zoning Code.

WHEREAS, this application for an area variance constitutes a Type II action under 6 NYCRR Part 617, and therefore, requires no further review under the State Environmental Quality Review Act (SEQRA), and

WHEREAS, a public hearing at the Town Offices, 79 Bouton Road, South Salem, New York in this matter on January 25, 2023, and a site walk was conducted on January 21, 2023 to consider the application, after which a vote was taken with regard to the variances as set forth above, and

WHEREAS, The Lewisboro Zoning Board of Appeals has given careful consideration to the facts presented in the application at the public hearing based upon the criteria set forth in Section 267-b(3)(b) of the Town Law of the State of New York, and finds as follows:

1. The properties are an approximate 6.07-acres parcel and a 3.0-acres parcel in the 4-AC, Four Acre Residential District owned by Waccabuc Country Club Co. The Waccabuc Country Club, which is an existing non-conforming use, and is improved with a recreational beach facility, consisting of a boathouse and snack bar on Lake Waccabuc. The applicant, Waccabuc Country Club Co. wishes to have an expansion of the existing non-confirming use, *Per Article III §220-9.E: Extension of Non-Conforming Use* of the Town of Lewisboro Zoning Code. The new snack bar as proposed is 1,100 square feet of floor area whereas 600 square feet is allowed *Per Article IV §220-23.D.11: Accessory Building Floor Area* of the Town of Lewisboro Zoning Code the applicant sought a variance of 500 square feet. The expansion of the boathouse does not impact the current rear yard setback. The existing boathouse projects over the property line 1.4-feet. This condition will remain and require a 50-foot variance from the rear yard setback, plus 1.4-foot projection, the applicant sought a variance of 50' plus a 1.4 'projection from the rear yard setback. The proposed covered pavilion will not increase the current rear yard setback which will remain at 9.1-feet. This will require a 40.9-foot variance from the required rear yard setback., the applicant sought a variance of 40.9' from the rear yard setback. The proposed snack bar will be located 37.4-feet from the rear property line, which is 0.4-feet closer than the existing snack bar. This will require a 12.6-foot variance from the required rear yard setback. *Per Article IV §220-23.E/Table 220 Attachment 1: Rear Yard Setback* of the Town of Lewisboro Zoning Code, the applicant sought a variance of 12.6' from the rear yard setback. As noted above, the proposed project is an expansion of the current non-conforming use. While additional building area has been added, as well as numerous site features to accommodate accessible access, the use of the property remains the same. Furthermore, the applicants' use of 1 parking space for every 3 members of the country club yields 130 required spaces which is more than the calculated or functional occupancy of the property when proposed improvements are

complete. While the applicant currently identifies 53 parking spaces onsite, the majority of these parking spaces do not meet the requirements of the Town Code. Based on the continuation of the site's historical use, we recommend the ZBA consider a variance of 120 spaces. This variance is based on the eight (8) parallel spaces that meet Town Code, as well as the two (2) compliant handicap spaces. The ZBA hereby determines that the minimum area variance necessary in this application is 53 parking spaces, the applicant sought relief of 120 spaces.

2. There will be no undesirable change in the character of the neighborhood or detriment to nearby properties.
3. There is no practical alternative to the variances requested.
4. The Board found that the variances are not substantial.
5. There will not be an adverse effect or impact to the physical or environmental conditions of the neighborhood.
6. The Board found that the difficulty was partially self-created.

WHEREAS, pursuant to Section 267-b(3)(c), the ZBA hereby determines that the expansion of the existing non-confirming use, is approved Per Article III §220-9.E: Extension of Non-Conforming Use of the Town of Lewisboro Zoning Code.

WHEREAS, pursuant to Section 267-b(3)(c), the ZBA hereby determines that the minimum area variance necessary in this application is 500 square feet from the maximum 600 square feet allowed, Per Article IV §220-23.D.11: of Lewisboro Zoning Code, thereby permitting the construction of the 1.100 square foot snack bar.

WHEREAS, pursuant to Section 267-b(3)(c), the ZBA hereby determines that the minimum variance necessary for the boathouse in this application is 50' plus 1.4-foot projection over the property line/shoreline, from the required 50' rear yard setback, *Per Article IV §220-23.E/Table 220 Attachment 1: Rear Yard Setback* of the Town of Lewisboro Zoning Code, thereby permitting the boathouse to project 1.4' over the rear yard setback.

WHEREAS, pursuant to Section 267-b(3)(c), the ZBA hereby determines that the minimum variance necessary in this application for the covered pavilion is 40.9' from the 50' rear yard setback allowed, *Per Article IV §220-23.E/Table 220 Attachment 1: Rear Yard Setback* of the Town of Lewisboro Zoning Code, thereby permitting the construction of the covered pavilion 9.1' from the rear yard setback.

WHEREAS, pursuant to Section 267-b(3)(c), the ZBA hereby determines that the minimum variance necessary in this application for the proposed snack bar is 12.6' from the rear property line whereas 50' is allowed, *Per Article IV §220-23.E/Table 220 Attachment 1: Rear Yard Setback* of the Town of Lewisboro Zoning Code, thereby permitting the construction of the proposed snack bar 37.4' from the rear yard setback.

WHEREAS, pursuant to Section 267-b(3)(c), the ZBA hereby determines that the 130 required parking spaces is more than the calculated or functional occupancy of the property when

proposed improvements are complete, whereas with 53 parking spaces onsite, with the majority of these parking spaces not meeting the requirements *Per Article VII §220-56.D: Parking* of the Town of Lewisboro Zoning Code, based on the continuation of the site's historical use, thereby permitting a variance of relief of 120 parking spaces, this variance is based on the eight (8) parallel spaces that meet Town Code, as well as the two (2) compliant handicap parking spaces, this is based on the proposed plan as presented.

NOW, THEREFORE BE IT RESOLVED, that the Lewisboro Zoning Board of Appeals hereby grants a variance the expansion of the existing non-confirming use, as approved *Per Article III §220-9.E: Extension of Non-Conforming Use* of the Town of Lewisboro Zoning Code.

NOW, THEREFORE BE IT RESOLVED, that the Lewisboro Zoning Board of Appeals hereby grants an area variance of 500 square feet from the maximum 600 square feet allowed, thereby permitting the construction of the 1,100 square foot snack bar, *Per Article IV §220-23.D.11: of Lewisboro Zoning Code*,

NOW, THEREFORE BE IT RESOLVED, that the Lewisboro Zoning Board of Appeals hereby grants a variance of 50' from the rear yard setback plus 1.4' projection over the property line/shoreline, from the required 50' rear yard setback, thereby permitting the boathouse to project 1.4' over the rear yard property line/shore line, *Per Article IV §220-23.E/Table 220 Attachment 1: Rear Yard Setback* of the Town of Lewisboro Zoning Code,

NOW, THEREFORE BE IT RESOLVED, that the Lewisboro Zoning Board of Appeals hereby grants a variance of 40.9' from the allowed 50' rear yard setback, thereby permitting the construction of the covered pavilion 9.1' from the rear yard lot line, *Per Article IV §220-23.E/Table 220 Attachment 1: Rear Yard Setback* of the Town of Lewisboro Zoning Code

NOW, THEREFORE BE IT RESOLVED, that the Lewisboro Zoning Board of Appeals hereby grants a variance of 12.6' from the allowed 50' rear yard lot line, thereby permitting the construction of the snack bar 37.4' from the rear yard lot line, *Per Article IV §220-23.E/Table 220 Attachment 1: Rear Yard Setback* of the Town of Lewisboro Zoning Code

NOW, THEREFORE BE IT RESOLVED, that the Lewisboro Zoning Board of Appeals hereby grants a variance of relief of 120 parking spaces thereby permitting 53 parking spaces, eight (8) parallel parking spaces and two (2) compliant handicap parking spaces as presented at the meeting, *Per Article VII §220-56.D: Parking* of the Town of Lewisboro Zoning Code,

VOTE:

Chair Price	-	In Favor
Board Member Mandelker	-	In Favor
Board Member Casper	-	In Favor
Board Member Infield	-	In Favor
Board Member Rendo	-	In Favor

VOTE: Resolution carried by a vote of 5 to 0.



Robin Price, Jr. Chair

Dated in South Salem, New York

This 27 day of February 2023

STATE OF NEW YORK


)

COUNTY OF WESTCHESTER

) ss.:

I, Donna Orban, Secretary of the Zoning Board of Appeals, do hereby certify that the above is an excerpt/summary/fair representation of the Resolution adopted by the Zoning Board of Appeals of the Town of Lewisboro at a meeting of said Board on January 25, 2022.

Dated: February 24, 2023



Donna Orban

Secretary Zoning Board of Appeals



January 24, 2023

Mr. Zac Pearson, P.E.
Sr. Associate/ Project Engineer
Insite Engineering, P.C.
3 Garrett Place
Carmel, New York 10512

Via email: zpearson@insite-eng.com

Rohit T. Aggarwala
Commissioner

Paul V. Rush, P.E.
Deputy Commissioner
Bureau of Water Supply
prush@dep.nyc.gov

465 Columbus Avenue
Valhalla, NY 10595
T: (845) 340-7800
F: (845) 334-7175

Re: Waccabuc Country Club-Beach Club Improvements - **Variance**
Perch Bay Road
Town of Lewisboro
Tax Map ID: 32.4-3-13&14
Cross River Reservoir Drainage Basin
DEP Log # 2022-CR-0297-VA.1

Dear Mr. Pearson:

The New York City Department of Environmental Protection (DEP) has reviewed the last submission regarding the above referenced project. Please be advised that the following comments should be addressed satisfactorily in order to provide a final determination

1. Based on the proposed design, the new and redeveloped impervious areas from Drainage Area 1.1S is routed to the proposed P-1 Pond. The starting elevation per the Hydrocad model is at 480 ft and the groundwater elevation per the soil testing observed was at 485. As such, it appears that the pond would be continuously bleeding out and there won't be any storage available for the incoming flow. Therefore, demonstrate how the requirement for 24 hours extended detention of the Channel Protection Volume (CP) is achieved as mentioned in the report and in the previous response letter. Please run the model for more than 24hours by setting the permanent pool elevation at or above the groundwater elevation and note that storage cannot be assumed below the groundwater elevation. Please revise.
2. Response #8 from your last submission must be corrected in the variance report based on how the above comment is addressed.
3. Provide backup from Hydrocad to demonstrate that how the higher storms (10 & 100-yr) are attenuated with the existing high groundwater condition at the proposed pond(P-1) location.
4. The inflow pipe to the pond must be extended to reach the actual forebay. The inlet point to the forebay should be stabilized to ensure non-erosive conditions

exist for at least the 2-year storm event. Also, a non-erosive rip rap channel must be provided to the micropool from the forebay.

5. The outlet from the pond should be connected to the micropool and not to the forebay to avoid short-circuiting. Also, see that the maintenance access extends to the micropool for ease of maintenance as shown in the Design Manual.
6. Include the pond drain elevation(C) for the micro pool detention pond on the plans. Using a sump pump to fully dewater the pond in the event of future maintenance shall be noted on the pond detail.
7. Locate level spreader B on the plan. No level spreader is shown at ES9B, inflow point to the P-1 Pond. Explain why a level spreader is chosen at the inflow point instead of a Rock Outlet Protection(ROP). Also, an ROP for the cistern overflow shall be included on the plans as requested in the previous comment letter.
8. A significant amount of flow enters the level spreader A at ES2 from sides and therefore a uniform flow distribution will not be possible as mentioned in the Blue Book. Revise the orientation of the pipe outlet so that these lateral flows are avoided.
9. Provide the velocity of the flow at ES9A in the 100 yr storm. This is not provided in the Hydrocad and as such requested for in the pipe sizing calculations in the last comment letter but nor provided.
10. Provide a call-out for the aquatic bench on the enlarged pond plan. The aquatic bench as it appears on the landscape plan should be located around the forebay and micropool separately as shown in the Design Manual. Indicate whether these plants are suitable enough to withstand the groundwater conditions in the proposed area of the pond.
11. Based on the detail provided for the temporary sediment trap and the groundwater elevation shown on the profile, explain what storage will be available in order to use it as temporary erosion control practice.
12. Identify the specific 13 trees utilized for the reduction of impervious surfaces drainage area 1.2S.
13. The WQv and the RRV shown in the RRV calculation in Appendix A for the cistern does not match with what is provided in the Hydrocad. The numbers should be consistent with Table 2.2.1.

14. Provide a reference for the recommend water demand per plant as used in Table 2.2.2. In addition, the area to be irrigated per Table 2.2.2. must be called out on the plan.
15. Demonstrate that the pump provided on the plans in relation to cistern is sized enough to meet the irrigation needs.

If you have any questions, I may be reached at (914)749-5357 or mzachariah@dep.nyc.gov.

Sincerely,

Mariyam Zachariah

Mariyam Zachariah
Associate Project Manager
EOH Project Review Group
Regulatory and Engineering Programs

C: Peter Hall, Club Member, peterjhall@gmail.com
John Assumma, General Manager, jdassumma@optonline.net
Town of Lewisboro Planning Board - planning@lewisborogov.com
Jan Johannessen, Town Planner, jjohannessen@kelses.com
Matthew Giannetta, CPSWQ, DEP - mgiannetta@dep.nyc.gov
Danny Shedlo, P.E. DEP - DSshedlo@dep.nyc.gov



February 7, 2023

Town of Lewisboro Planning Board
Janet Andersen, Planning Board Chair
79 Bouton Road
South Salem, NY 10590

RE: Beach Club Improvements Project
Waccabuc Country Club
Perch Bay Road
Waccabuc, NY
TM# Block 11155, Lot 148, Sheet 25 and Block 10813, Lot 01, Sheet 25A

Chair Anderson and Members of the Board:

Please find enclosed the following plans provided in support of an application for site development plan, wetland permit and stormwater permit approvals for the above referenced project:

- Site Plan Set (9 Sheets Total), last revised February 7, 2023.
- Stormwater Pollution Prevention Plan, dated February 7, 2023.
- Figure PA-1 Parking Assessment (formerly PS-1 Parking Study), last revised February 7, 2023.

Since we last met with the Board on October 18, 2022, we received a denial / referral letter from the Building Inspector and have met with the Zoning Board of Appeals at their January 25, 2023 meeting. The ZBA granted the necessary setback variances for the Boathouse, the Pavillion and the floor area and setback variances for the Snackbar. In addition, the ZBA approved the Special Permit for the Beach Club for the current project, and a parking variance to permit up to 53 cars to park at the site.

Drawing OP-1 has been updated to note the variances granted by the ZBA and Figure PA-1 has been updated to note the variance granted by the ZBA for the parking at the site.

Since our last appearance before the board, the project has been submitted to the Westchester County Department of Health (WCDOH) for their review of the onsite wastewater treatment system (OWTS) and the New York City Department of Environmental Protection (NYCDEP) for the impervious surface variance. We have recently received comments from the NYCDEP on the technical aspects of variance and the enclosed plans are inclusive of our most recent responses to the outstanding items.

We look forward to meeting with the Board at the February 28, 2023 meeting. At that time, we will respectfully request that the Board consider closing the public hearing and voting on conditional site plan approval for the project.

Should you have any questions or comments regarding this information, please feel free to contact our office.

Very truly yours,

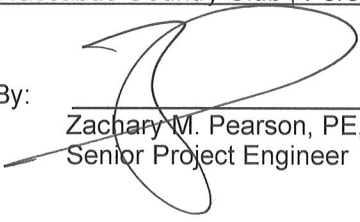
INSITE ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.

Town of Lewisboro Building Department
Town of Lewisboro Planning Board
RE: Beach Club Improvements Project
Waccabuc Country Club , Perch Bay Road, Waccabuc, NY

Page 2 of 2

February 7, 2023

By:



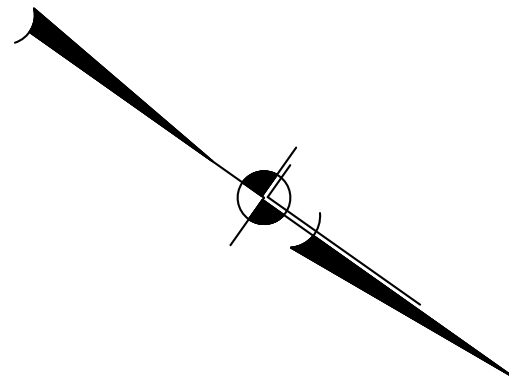
Zachary M. Pearson, PE, Sr. Associate
Senior Project Engineer

ZMP/dlm

Enclosures

cc: Mr. Peter Hall, via email
Mr. John Assumma, via email
Mr. Michael Sirignano, Esq., via email
Mr. John M. Doyle, AIA, Doyle Coffin Architecture LLC, via email
Mr. Jan Johannessen, via email

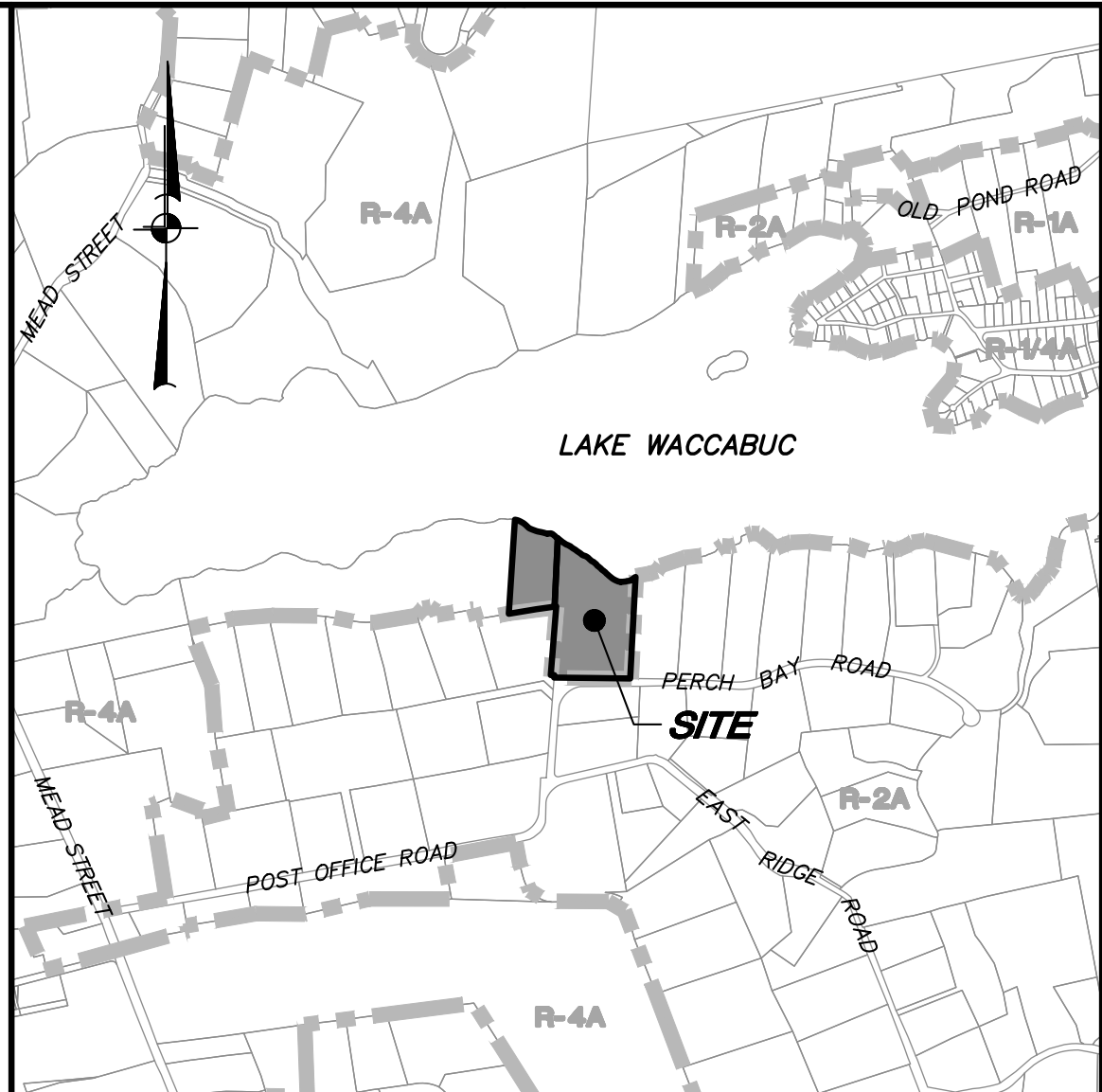
Insite File No. 20228.100



	R4-A ZONE REQUIREMENTS		
	REQUIRED/ PERMITTED	EXISTING	PROPOSED
Minimum Lot Size:	4 AC	9.1 AC	9.1 AC
Minimum Front Yard:			
From street center line	75'	600'	573'
From front lot line	50'	576'	550'
Minimum Side Yard:	50'	29'	218'
Minimum Rear Yard:	50'	0' *	0' **
Maximum Building Height:	2.5 stories/ 35'	2.5 stories/ 35'	2.5 stories/ 35'
Maximum Building Coverage:	6%	0.5%	1.1%

* Bathhouse - Pre-existing concrete deck is 0.3' over property line per survey.
** Bathhouse - Pre-existing porch overhang is 1.4' over property line per architectural drawings.
*** Bathhouse Pavilion is proposed to be located 9.1' from the rear property line (40.9' variance required). Proposed Snack Bar is to be located 37.4' from the rear property line (12.6' variance required).

PARKING TABLE		
Parking Requirements: For Golf or Country Club per Section 220-56 of Town of Lewisboro Zoning Code		
1 space per 3 members x 390 members (*)	=	130 spaces
1 space per each 3 seats of max. capacity (**)	=	0 spaces
Total spaces required	=	130 spaces
(*) Waccabuc Country Club current membership is 390 members. (**) Meeting and dining room seats provided at main club site, not at Beach Club.		
Parking Provided on site ****:		
	=	53 spaces (***)
(***) Parking variance granted for 77 spaces by Town of Lewisboro ZBA on 1-25-2023.		
****) Existing on site parking has historically proven sufficient for typical uses at the site. When additional event parking is needed, it is provided at the main club and members/guests are shuttled to/from the site via club vans. Parking provided on site is seasonal. The parking areas are gravel and partially grass and pavement markings are not provided. This drawing provides a general representation of parking at site.		

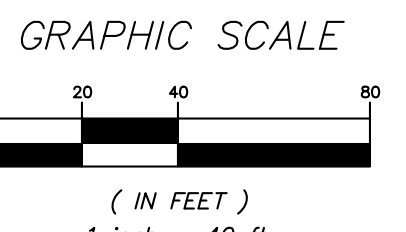
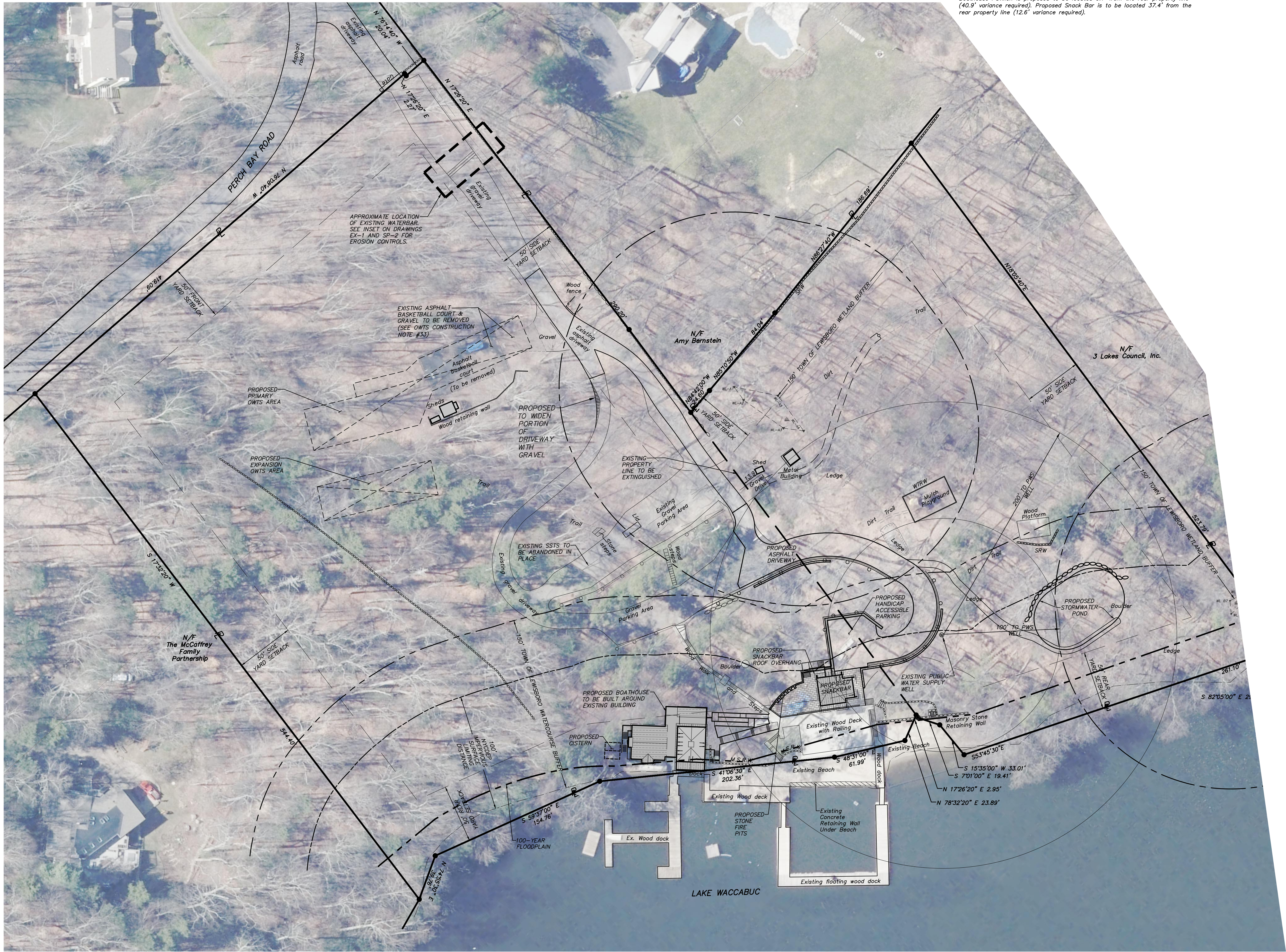


OWNER/APPLICANT:
WACCABUC COUNTRY CLUB
90 MEAD STREET
WACCABUC, NY 10597

SITE DATA:
Zone: R-4A (4 Acre Residential)
Total Acreage: 9.1 AC±
Tax Map No.: 1. Sheet 25A-Block 10813-Lot 01
2. Sheet 25-Block 148-Lot 25

- GENERAL NOTES:**
- Property lines, existing conditions and topography as shown hereon based off of survey mapping prepared by Bunney Associates Land Surveyors completed 2007 and 4-4-2012, and by Insite Engineering, Surveying & Landscape Architecture P.C., completed 7-28-2018, 6-7-2021 and 5-17-2022.
 - Topography shown hereon (outside property lines) taken from both the Westchester County 2" contour, 1" = 100 scale GIS dataset dated April 2004 (elevations reference the North American Vertical Datum of 1988, NAVD 88).
 - Wetlands A shown hereon delineated by James Bates of Ecological Analysis on April 21, 2021, and survey located by Insite Engineering, Surveying & Landscape Architecture, P.C. on June 7, 2021. Wetlands B shown hereon delineated by James Bates of Ecological Analysis on May 11, 2022, and survey located by Insite Engineering, Surveying & Landscape Architecture, P.C. on May 11, 2022.
 - Proposed features are labeled as such. All other features are existing.
 - Based on a watercourse walk conducted with Miryam Zachariah of NYCDP on April 26, 2021, there are no NYCDP watercourses on the project site.
 - It is the applicant's intent to merge the 2 parcels into one lot as part of this project.
 - Disturbance limits shall be staked in the field prior to construction.
 - All walls equal to or greater than four (4) feet in height shall be designed by a NYS Licensed Professional Engineer.
 - Construction of all walls equal to or greater than four (4) feet in height shall be certified by the Design Professional prior to the issuance of a Certificate of Occupancy/Completion.

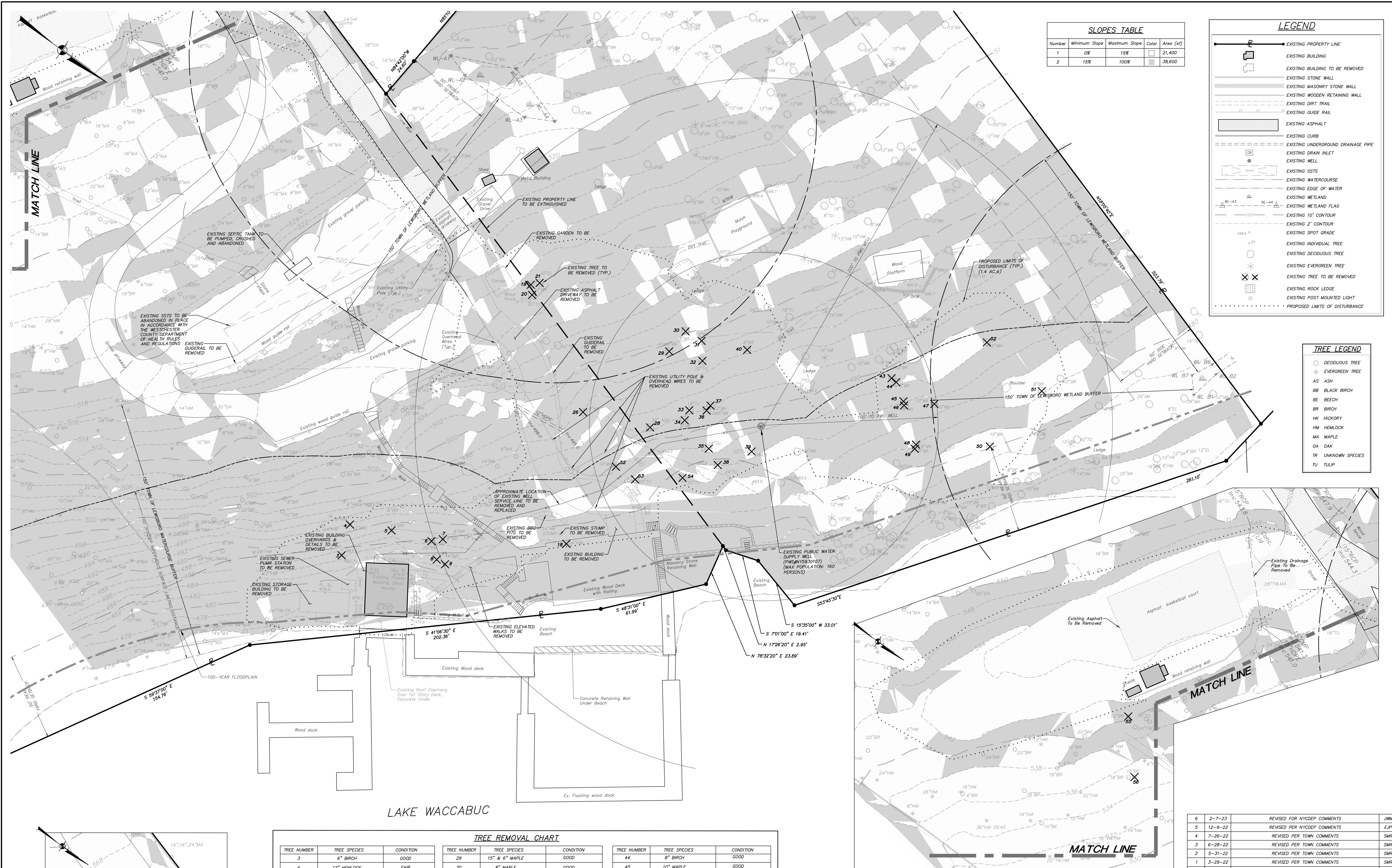
LEGEND	
	EXISTING PROPERTY LINE
	EXISTING BUILDING
	EXISTING BUILDING TO BE REMOVED
	EXISTING STONE WALL
	EXISTING MASONRY STONE WALL
	EXISTING WOODEN RETAINING WALL
	EXISTING DIRT TRAIL
	EXISTING GUIDE RAIL
	EXISTING WATERCOURSE
	EXISTING EDGE OF WATER
	EXISTING WETLAND
	EXISTING WETLAND FLAG
	EXISTING ROCK LEDGE
	PROPOSED 150' WATERCOURSE BUFFER
	PROPOSED 100' IMPERVIOUS LIMITING DISTANCE



ALTERATION OF THIS DOCUMENT, UNLESS UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, IS A VIOLATION OF SECTION 2209 OF ARTICLE 145 OF THE EDUCATION LAW.

TOWN ENGINEER'S CERTIFICATION	
Reviewed for compliance with the Planning Board Resolution dated _____	
Joseph Cerreto, P.E. Kellard Sessions Consulting Town Consulting Engineer	Date _____
PLANNING BOARD APPROVAL	
Approved by the Resolution of the Lewisboro Planning Board.	
Chair _____	Date _____
Administrator _____	Date _____
OWNER'S / APPLICANT'S CERTIFICATIONS	
The undersigned is the owner(s) of the property shown hereon, is familiar with this drawing and its contents, and hereby approves the same for filing.	
Waccabuc Country Club 90 Mead Street Waccabuc, NY 10597	Date _____

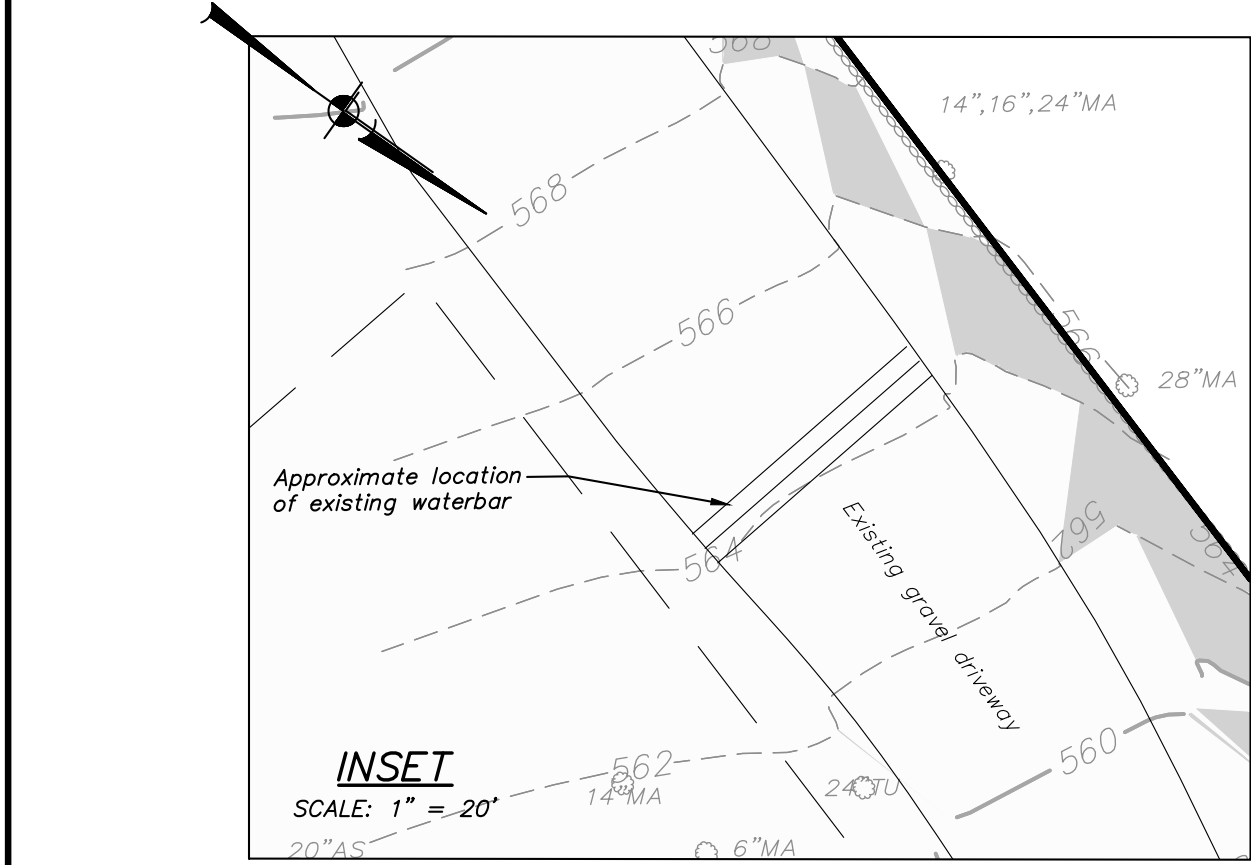
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8	12-22-22	ZBA SUBMISSION	MEU
7	12-9-22	REVISED PER NYCDP COMMENTS	EJP
6	11-7-22	REVISED FOR BUILDING INSPECTOR	MEU
5	10-20-22	REVISED PER TOWN COMMENTS	MEU
4	7-26-22	REVISED PER TOWN COMMENTS	SMR
3	6-28-22	REVISED PER TOWN COMMENTS	SMR
2	5-31-22	REVISED PER TOWN COMMENTS	SMR
1	3-29-22	REVISED PER TOWN COMMENTS	SMR
NO.	DATE	REVISION	BY
INSITE ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C. 3 Garrett Place Carmel, NY 10512 (845) 225-9690 (845) 225-9717 fax www.insite-eng.com			
PROJECT: WACCABUC COUNTRY CLUB BEACH CLUB IMPROVEMENTS 90 MEAD ST., WACCABUC, TOWN OF LEWISBORO, WESTCHESTER CNTY, NY			
DRAWING: OVERALL PLAN			
PROJECT NUMBER	20228.100	PROJECT MANAGER	Z.M.P.
DATE	2-8-22	DRAWN BY	E.R.A.
SCALE	1" = 40'	CHECKED BY	D.L.M.
DRAWING NO.	OP-1		
SHEET	1		
	9		



SLOPES TABLE				
Number	Minimum Slope	Maximum Slope	Color	Area (sf)
1	0%	15%		21,400
2	15%	100%		38,600

LEGEND	
	EXISTING PROPERTY LINE
	EXISTING BUILDING
	EXISTING BUILDING TO BE REMOVED
	EXISTING STONE WALL
	EXISTING MASONRY STONE WALL
	EXISTING WOODEN RETAINING WALL
	EXISTING DIRT TRAIL
	EXISTING GUIDE RAIL
	EXISTING ASPHALT
	EXISTING CURB
	EXISTING UNDERGROUND DRAINAGE PIPE
	EXISTING DRAIN INLET
	EXISTING WELL
	EXISTING SSIS
	EXISTING WATERCOURSE
	EXISTING EDGE OF WATER
	EXISTING WETLAND
	EXISTING WETLAND FLAG
	EXISTING 10' CONTOUR
	EXISTING 2' CONTOUR
	EXISTING SPOT GRADE
	EXISTING INDIVIDUAL TREE
	EXISTING DECIDUOUS TREE
	EXISTING EVERGREEN TREE
	EXISTING TREE TO BE REMOVED
	EXISTING ROCK LEDGE
	EXISTING POST MOUNTED LIGHT
	PROPOSED LIMITS OF DISTURBANCE

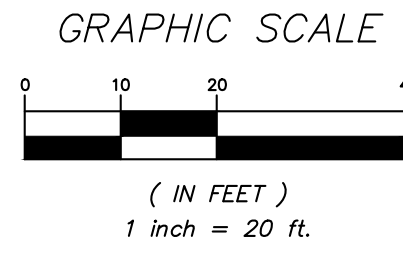
TREE LEGEND	
	DECIDUOUS TREE
	EVERGREEN TREE
	ASH
	BLACK BIRCH
	BEECH
	BIRCH
	HICKORY
	HEMLOCK
	MAPLE
	OAK
	UNKNOWN SPECIES
	TULIP



LAKE WACCABUC

TREE REMOVAL CHART

TREE NUMBER	TREE SPECIES	CONDITION	TREE NUMBER	TREE SPECIES	CONDITION	TREE NUMBER	TREE SPECIES	CONDITION
3	6" BIRCH	GOOD	29	15" & 6" MAPLE	GOOD	44	8" BIRCH	GOOD
4	12" HEMLOCK	FAIR	30	8" MAPLE	GOOD	45	10" MAPLE	GOOD
5	22" BIRCH	GOOD	31	12" MAPLE	GOOD	46	10" MAPLE	GOOD
6	28" HEMLOCK	FAIR	32	20" TULIP	GOOD	47	10" MAPLE	GOOD
7	6" BIRCH	FAIR	33	18" TULIP	FAIR	48	8" MAPLE	GOOD
8	26" HEMLOCK	FAIR	34	8" BIRCH	GOOD	49	8" MAPLE	GOOD
9	14" BIRCH	GOOD	35	18" TULIP	POOR	50	10" BLACK BIRCH	GOOD
18	24" HEMLOCK	FAIR	36	10" & 16" MAPLE	POOR	51	8" BIRCH	GOOD
19	10" BIRCH	GOOD	37	12" MAPLE	POOR	52	10" MAPLE	FAIR
20	20" TULIP	GOOD	38	24" TULIP	FAIR	53	20" TULIP	POOR
21	30" ELM	GOOD	39	22" TULIP	FAIR	54	20" TULIP	POOR
26	8" MAPLE	GOOD	40	8" BIRCH	POOR	55	12" BIRCH	FAIR
28	36" ASH	GOOD	43	10" BIRCH	GOOD	56	16" BEECH	POOR
						57	10" MAPLE	POOR
						Trees to be Removed: 40 (611' Cal.)		



TOWN ENGINEER'S CERTIFICATION

Reviewed for compliance with the Planning Board Resolution dated _____

Joseph Cernia, P.E.
Kellard Sessions Consulting
Town Consulting Engineer

Date _____

PLANNING BOARD APPROVAL

Approved by the Resolution of the Lewisboro Planning Board.

Chair _____ Date _____

Administrator _____ Date _____

OWNER'S / APPLICANT'S CERTIFICATIONS

The undersigned is the owner(s) of the property shown herein, is familiar with this drawing and its contents, and hereby approves the same for filing.

Waccabuc Country Club
92 Mead Street
Waccabuc, NY 10597

6	2-7-23	REVISED FOR NYDCP COMMENTS	JMM
5	12-9-22	REVISED PER NYDCP COMMENTS	EJP
4	7-26-22	REVISED PER TOWN COMMENTS	SMR
3	6-28-22	REVISED PER TOWN COMMENTS	SMR
2	5-31-22	REVISED PER TOWN COMMENTS	SMR
1	3-29-22	REVISED PER TOWN COMMENTS	SMR
NO.	DATE	REVISION	BY

INSITE
ENGINEERING, SURVEYING &
LANDSCAPE ARCHITECTURE, P.C.

PROJECT:
**WACCABUC COUNTRY CLUB
BEACH CLUB IMPROVEMENTS**

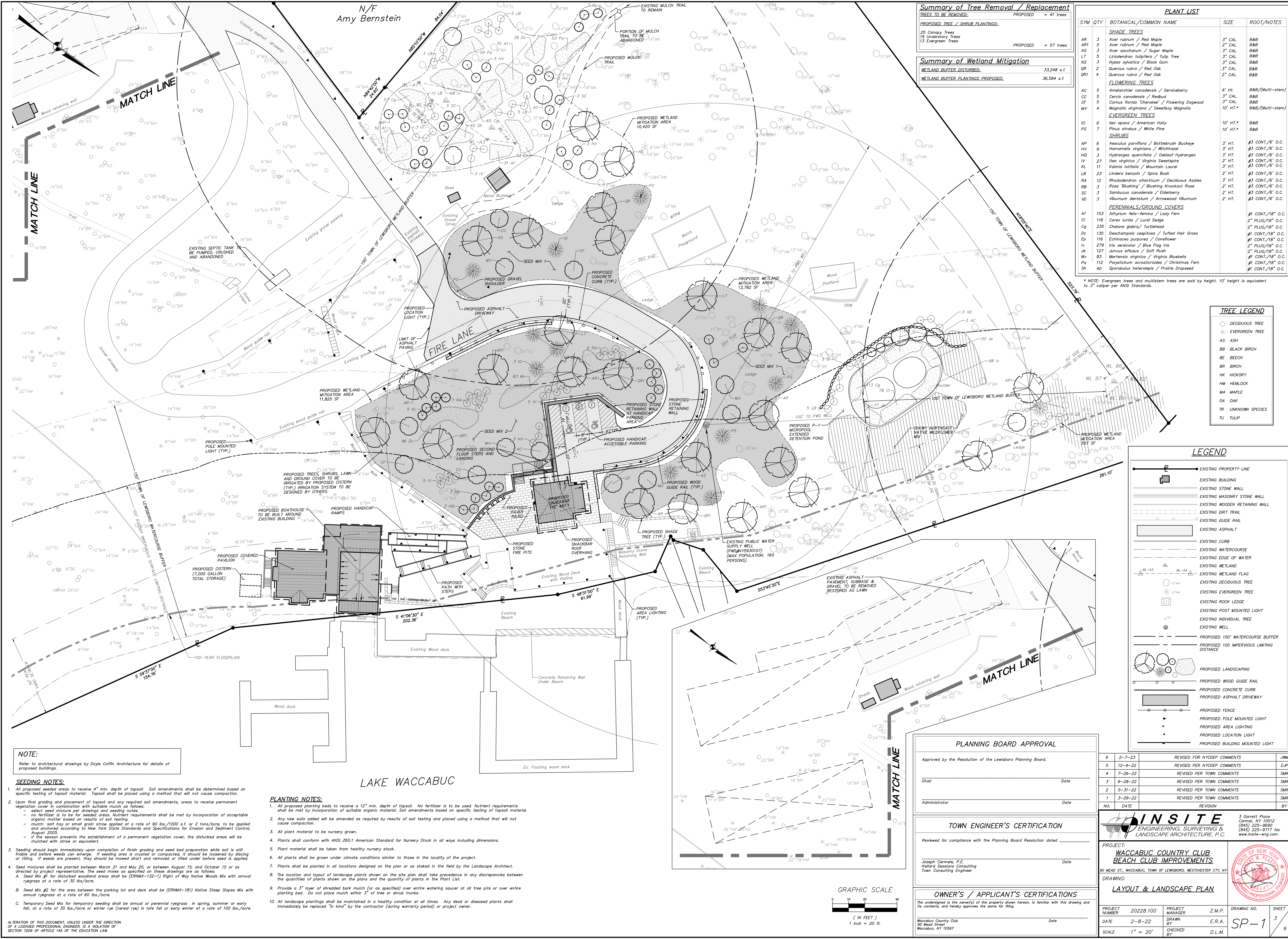
90 MEAD ST., WACCABUC, TOWN OF LEWISBORO, WESTCHESTER CTY, NY

DRAWING:
**EXISTING CONDITIONS &
REMOVALS PLAN**

PROJECT NUMBER 20228.100 PROJECT MANAGER Z.M.P. DRAWING NO. SHEET
DATE 2-8-22 DRAWN BY E.R.A. EX-1 2
SCALE 1" = 20' CHECKED BY D.L.M. 9

3 Garrett Place
Carmel, NY 10512
(845) 225-9690
(845) 225-9717 fax
www.insite-eng.com

ALTERATION OF THIS DOCUMENT, UNLESS UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, IS A VIOLATION OF SECTION 2209 OF ARTICLE 145 OF THE EDUCATION LAW.



Summary of Tree Removal / Replacement		
TREES TO BE REMOVED:		
PROPOSED TREE / SHRUB PLANTINGS:		
25 Canopy Trees		
19 Understory Trees		
13 Evergreen Trees		
	PROPOSED	= 57 trees

Summary of Wetland Mitigation		
WETLAND BUFFER DISTURBED:		
WETLAND BUFFER PLANTINGS PROPOSED:	33,248 s.f.	
	36,584 s.f.	

PLANT LIST				
SYM	QTY	BOTANICAL/Common Name	SIZE	ROOT/NOTES
SHADE TREES				
AR	3	Acer rubrum / Red Maple	3" CAL	B&B
ARI	5	Acer rubrum / Red Maple	2" CAL	B&B
AS	3	Acer saccharum / Sugar Maple	3" CAL	B&B
LT	5	Liriodendron tulipifera / Tulip Tree	3" CAL	B&B
NS	3	Nyssa sylvatica / Black Gum	3" CAL	B&B
OR	2	Quercus rubra / Red Oak	3" CAL	B&B
ORI	4	Quercus rubra / Red Oak	2" CAL	B&B
FLOWERING TREES				
AC	5	Amelanchier canadensis / Serviceberry	6" HT.	B&B/(Multi-stem)
CC	5	Cercis canadensis / Redbud	3" CAL	B&B
CF	5	Cornus florida / Cherokee / Flowering Dogwood	3" CAL	B&B
MV	4	Magnolia virginiana / Sweetbay Magnolia	10' HT.*	B&B/(Multi-stem)
EVERGREEN TREES				
IO	6	Ilex opaca / American Holly	10' HT.*	B&B
PS	7	Pinus strobus / White Pine	10' HT.*	B&B
SHRUBS				
AP	6	Aesculus parviflora / Bottlebrush Buckeye	3" HT.	#3 CONT./6' O.G.
HV	9	Hamamelis virginiana / Witchhazel	3" HT.	#3 CONT./6' O.G.
HD	3	Hydrangea quercifolia / Oakleaf Hydrangea	3" HT.	#3 CONT./6' O.G.
IV	27	Itea virginica / Virginia Sweetgale	2" HT.	#3 CONT./6' O.G.
KL	11	Kalmia latifolia / Mountain Laurel	3" HT.	#3 CONT./6' O.G.
LB	23	Lindera benzoin / Spice Bush	2" HT.	#3 CONT./6' O.G.
RA	12	Rhododendron atlanticum / Deciduous Azalea	3" HT.	#3 CONT./6' O.G.
RB	3	Rosa 'Blushing' / Blushing Knockout Rose	2" HT.	#3 CONT./6' O.G.
SC	3	Sambucus canadensis / Elderberry	2" HT.	#3 CONT./6' O.G.
VD	3	Viburnum dentatum / Arrowwood Viburnum	2" HT.	#3 CONT./6' O.G.
PERENNIALS/GROUND COVERS				
AI	153	Athyrium filix-femina / Lady Fern		#1 CONT./18" O.G.
CI	118	Carex lurida / Lurid Sedge		2" PLUG/18" O.G.
Cg	235	Chelone glabra / Turtlehead		2" PLUG/18" O.G.
De	135	Deschampsia cespitosa / Tufted Hair Grass		#1 CONT./18" O.G.
Ep	116	Echinacea purpurea / Coneflower		#1 CONT./18" O.G.
Iv	279	Iris versicolor / Blue Flag Iris		2" PLUG/18" O.G.
Je	127	Juncus effusus / Soft Rush		2" PLUG/18" O.G.
Mv	83	Mertensia virginica / Virginia Bluebells		#1 CONT./18" O.G.
Pa	112	Polystichum acrostichoides / Christmas Fern		#1 CONT./18" O.G.
Sh	40	Sporobolus heterolepis / Prairie Dropseed		#1 CONT./18" O.G.

* NOTE: Evergreen trees and multistem trees are sold by height. 10' height is equivalent to 3" caliper per ANSI Standards.

TREE LEGEND	
○	DECIDUOUS TREE
✱	EVERGREEN TREE
AS	ASH
BB	BLACK BIRCH
BE	BEECH
BR	BIRCH
HK	HICKORY
HM	HEMLOCK
MA	MAPLE
OA	OAK
TR	UNKNOWN SPECIES
TU	TULIP

LEGEND	
	EXISTING PROPERTY LINE
	EXISTING BUILDING
	EXISTING STONE WALL
	EXISTING MASONRY STONE WALL
	EXISTING WOODEN RETAINING WALL
	EXISTING DIRT TRAIL
	EXISTING GUIDE RAIL
	EXISTING ASPHALT
	EXISTING CURB
	EXISTING WATERCOURSE
	EXISTING EDGE OF WATER
	EXISTING WETLAND
	EXISTING WETLAND FLAG
	EXISTING DECIDUOUS TREE
	EXISTING EVERGREEN TREE
	EXISTING ROCK LEDGE
	EXISTING POST MOUNTED LIGHT
	EXISTING INDIVIDUAL TREE
	EXISTING WELL
	PROPOSED 150' WATERCOURSE BUFFER
	PROPOSED 100' IMPERVIOUS LIMITING DISTANCE
	PROPOSED LANDSCAPING
	PROPOSED WOOD GUIDE RAIL
	PROPOSED CONCRETE CURB
	PROPOSED ASPHALT DRIVEWAY
	PROPOSED FENCE
	PROPOSED POLE MOUNTED LIGHT
	PROPOSED AREA LIGHTING
	PROPOSED LOCATION LIGHT
	PROPOSED BUILDING MOUNTED LIGHT

NOTE:
Refer to architectural drawings by Doyle Coffin Architecture for details of proposed buildings.

- SEEDING NOTES:**
- All proposed seeded areas to receive 4" min. depth of topsoil. Soil amendments shall be determined based on specific testing of topsoil material. Topsoil shall be placed using a method that will not cause compaction.
 - Upon final grading and placement of topsoil and any required soil amendments, areas to receive permanent vegetation cover in combination with suitable mulch as follows:
 - select seed mixture per drawings and seeding notes.
 - no fertilizer is to be for seeded areas. Nutrient requirements shall be met by incorporation of acceptable organic matter based on results of soil testing.
 - mulch: salt hay or small grain straw applied at a rate of 90 lbs./1000 s.f. or 2 tons/acre, to be applied and anchored according to New York State Standards and Specifications for Erosion and Sediment Control, August 2005.
 - if the season prevents the establishment of a permanent vegetation cover, the disturbed areas will be mulched with straw or equivalent.
 - Seeding should begin immediately upon completion of finish grading and seed bed preparation while soil is still friable and before weeds can emerge. If seeding area is crusted or compacted, it should be loosened by disking or tilling. If weeds are present, they should be mowed short and removed or killed under before seed is applied.
 - Seed mixtures shall be planted between March 21 and May 20, or between August 15, and October 15 or as directed by project representative. The seed mixes as specified on these drawings are as follows:
 - A. Seed Mix #1 for disturbed woodland areas shall be (ERNMX-132-1) Right of Way Native Woods Mix with annual ryegrass at a rate of 30 lbs./acre.
 - B. Seed Mix #2 for the area between the parking lot and deck shall be (ERNMX-181) Native Seed Slopes Mix with annual ryegrass at a rate of 60 lbs./acre.
 - C. Temporary Seed Mix for temporary seeding shall be annual or perennial ryegrass in spring, summer or early fall, at a rate of 30 lbs./acre or winter rye (cereal rye) in late fall or early winter at a rate of 100 lbs./acre.

- PLANTING NOTES:**
- All proposed planting beds to receive a 12" min. depth of topsoil. No fertilizer is to be used. Nutrient requirements shall be met by incorporation of suitable organic material. Soil amendments based on specific testing of topsoil material.
 - Any new soils added will be amended as required by results of soil testing and placed using a method that will not cause compaction.
 - All plant material to be nursery grown.
 - Plants shall conform with ANSI Z60.1 American Standard for Nursery Stock in all ways including dimensions.
 - Plant material shall be taken from healthy nursery stock.
 - All plants shall be grown under climate conditions similar to those in the locality of the project.
 - Plants shall be planted in all locations designed on the plan or as staked in the field by the Landscape Architect.
 - The location and layout of landscape plants shown on the site plan shall take precedence in any discrepancies between the quantities of plants shown on the plans and the quantity of plants in the Plant List.
 - Provide a 3" layer of shredded bark mulch (or as specified) over entire watering saucer at all tree pits or over entire planting bed. Do not place mulch within 3" of tree or shrub trunks.
 - All landscape plantings shall be maintained in a healthy condition at all times. Any dead or diseased plants shall immediately be replaced "in kind" by the contractor (during warranty period) or project owner.

LAKE WACCABUC

PLANNING BOARD APPROVAL

Approved by the Resolution of the Lewisboro Planning Board.

Chair _____ Date _____

Administrator _____ Date _____

TOWN ENGINEER'S CERTIFICATION

Reviewed for compliance with the Planning Board Resolution dated _____

Joseph Cerniele, P.E.
Kellard Sessions Consulting
Town Consulting Engineer

Date _____

OWNER'S / APPLICANT'S CERTIFICATIONS

The undersigned is the owner(s) of the property shown herein, is familiar with this drawing and its contents, and hereby approves the same for filing.

Waccabuc Country Club
90 Mead Street
Waccabuc, NY 10597

Date _____

6	2-7-23	REVISED FOR NYCDPE COMMENTS	JMM
5	12-9-22	REVISED PER NYCDPE COMMENTS	EJP
4	7-26-22	REVISED PER TOWN COMMENTS	SMR
3	6-28-22	REVISED PER TOWN COMMENTS	SMR
2	5-31-22	REVISED PER TOWN COMMENTS	SMR
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NO.	DATE	REVISION	BY

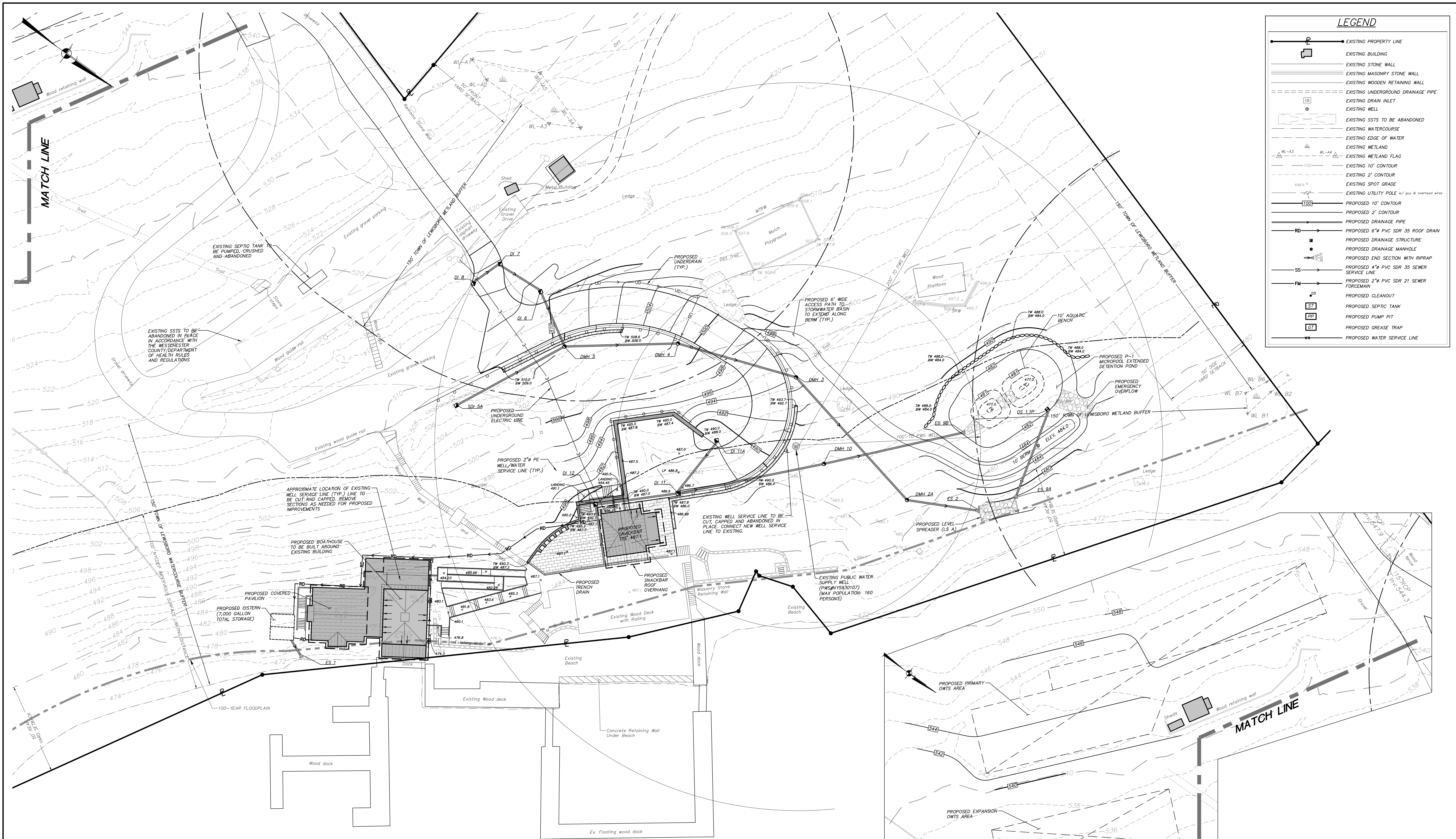
INSITE
ENGINEERING, SURVEYING &
LANDSCAPE ARCHITECTURE, P.C.

PROJECT:
**WACCABUC COUNTRY CLUB
BEACH CLUB IMPROVEMENTS**

90 Mead St., WACCABUC, TOWN OF LEWISBORO, WESTCHESTER CTY, NY

DRAWING:
LAYOUT & LANDSCAPE PLAN

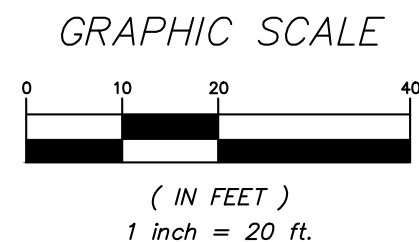
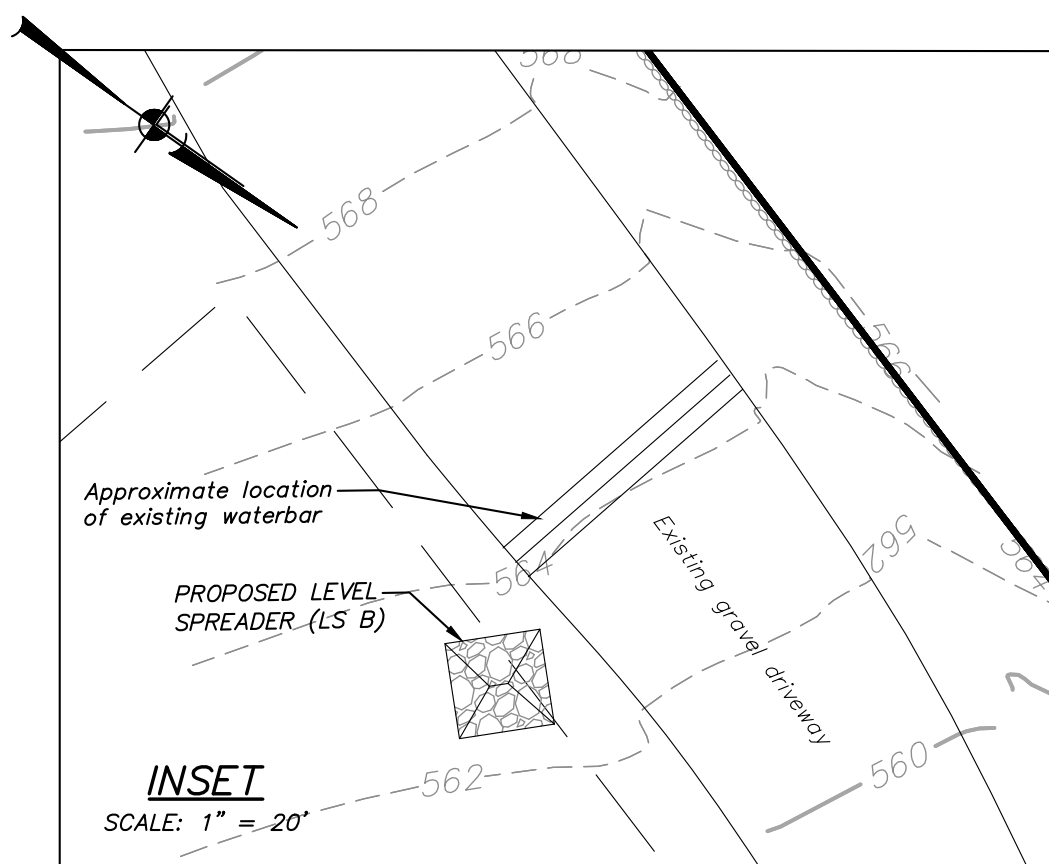
PROJECT NUMBER	20228.100	PROJECT MANAGER	Z.M.P.	DRAWING NO.	SHEET
DATE	2-8-22	DRAWN BY	E.R.A.	SP-1	3
SCALE	1" = 20'	CHECKED BY	D.L.M.		9



LEGEND	
	EXISTING PROPERTY LINE
	EXISTING BUILDING
	EXISTING STONE WALL
	EXISTING MASONRY STONE WALL
	EXISTING WOODEN RETAINING WALL
	EXISTING UNDERGROUND DRAINAGE PIPE
	EXISTING DRAIN INLET
	EXISTING WELL
	EXISTING SSTS TO BE ABANDONED
	EXISTING WATERCOURSE
	EXISTING EDGE OF WATER
	EXISTING WETLAND
	EXISTING WETLAND FLAG
	EXISTING 10' CONTOUR
	EXISTING 2' CONTOUR
	EXISTING SPOT GRADE
	EXISTING UTILITY POLE w/ guy & overhead wires
	PROPOSED 10' CONTOUR
	PROPOSED 2' CONTOUR
	PROPOSED DRAINAGE PIPE
	PROPOSED 6" PVC SDR 35 ROOF DRAIN
	PROPOSED DRAINAGE STRUCTURE
	PROPOSED DRAINAGE MANHOLE
	PROPOSED END SECTION WITH RIPRAP
	PROPOSED 4" PVC SDR 35 SEWER SERVICE LINE
	PROPOSED 2" PVC SDR 21 SEWER FORECULVERT
	PROPOSED CLEANTOUT
	PROPOSED SEPTIC TANK
	PROPOSED PUMP PIT
	PROPOSED GREASE TRAP
	PROPOSED WATER SERVICE LINE

PROPOSED DRAINAGE TABLE					
STRUCTURE	RIM	INV.	PIPE	LENGTH	SLOPE
DI 12	487.0	484.1	12" HDPE	46 F.	1.1%
DI 11	486.9	484.6 / 483.3		82 F.	1.1%
DMH 10	485.6	482.4	12" HDPE	68 F.	1.0%
ES 9B	-	481.7			
DI 11A	488.5	485.6	8" HDPE	36 F.	5.6%
DI 11	486.9	483.6			
TD 12A	487.0	485.1	8" HDPE	33 F.	3.0%
DI 12	487.0	484.1			
OS 1.1P	483.0	476.5	12" HDPE	50 F.	1.0%
ES 9A	-	476.0			
DI 8	515.0	511.8	12" HDPE	17 F.	2.9%
DI 7	515.7	511.3	12" HDPE	26 F.	15.4%
DI 6	510.5	507.3	12" HDPE	32 F.	13.4%
DMH 5	506.2	503.0 / 501.7	15" HDPE	63 F.	8.6%
DMH 4	501.6	498.2		68 F.	10.4%
DMH 3	494.5	491.1	15" HDPE	91 F.	14.6%
DMH 2A	481.2	477.8		46 F.	3.9%
ES 2	-	476.0			
SDI 5A	505.8	502.4	15" HDPE	67 F.	1.0%
DMH 5	506.2	501.7			
OISTERN	-	475.3	8" HDPE	11 F.	34.5%
ES 1	-	471.5			

LAKE WACCABUC



PLANNING BOARD APPROVAL

Approved by the Resolution of the Lewisboro Planning Board.

Chair _____ Date _____

Administrator _____ Date _____

TOWN ENGINEER'S CERTIFICATION

Reviewed for compliance with the Planning Board Resolution dated _____

Joseph Cernale, P.E.
Kellard Sessions Consulting
Town Consulting Engineer

Date _____

OWNER'S / APPLICANT'S CERTIFICATIONS

The undersigned is the owner(s) of the property shown herein, is familiar with this drawing and its contents, and hereby approves the same for filing.

Waccabuc Country Club
92 Mead Street
Waccabuc, NY 10597

Date _____

6	2-7-23	REVISED FOR NYDEP COMMENTS	JMM
5	12-9-22	REVISED PER NYDEP COMMENTS	EJP
4	7-26-22	REVISED PER TOWN COMMENTS	SMR
3	6-28-22	REVISED PER TOWN COMMENTS	SMR
2	5-31-22	REVISED PER TOWN COMMENTS	SMR
1	3-29-22	REVISED PER TOWN COMMENTS	SMR
NO.	DATE	REVISION	BY

INSITE
ENGINEERING, SURVEYING &
LANDSCAPE ARCHITECTURE, P.C.

PROJECT:
**WACCABUC COUNTRY CLUB
BEACH CLUB IMPROVEMENTS**

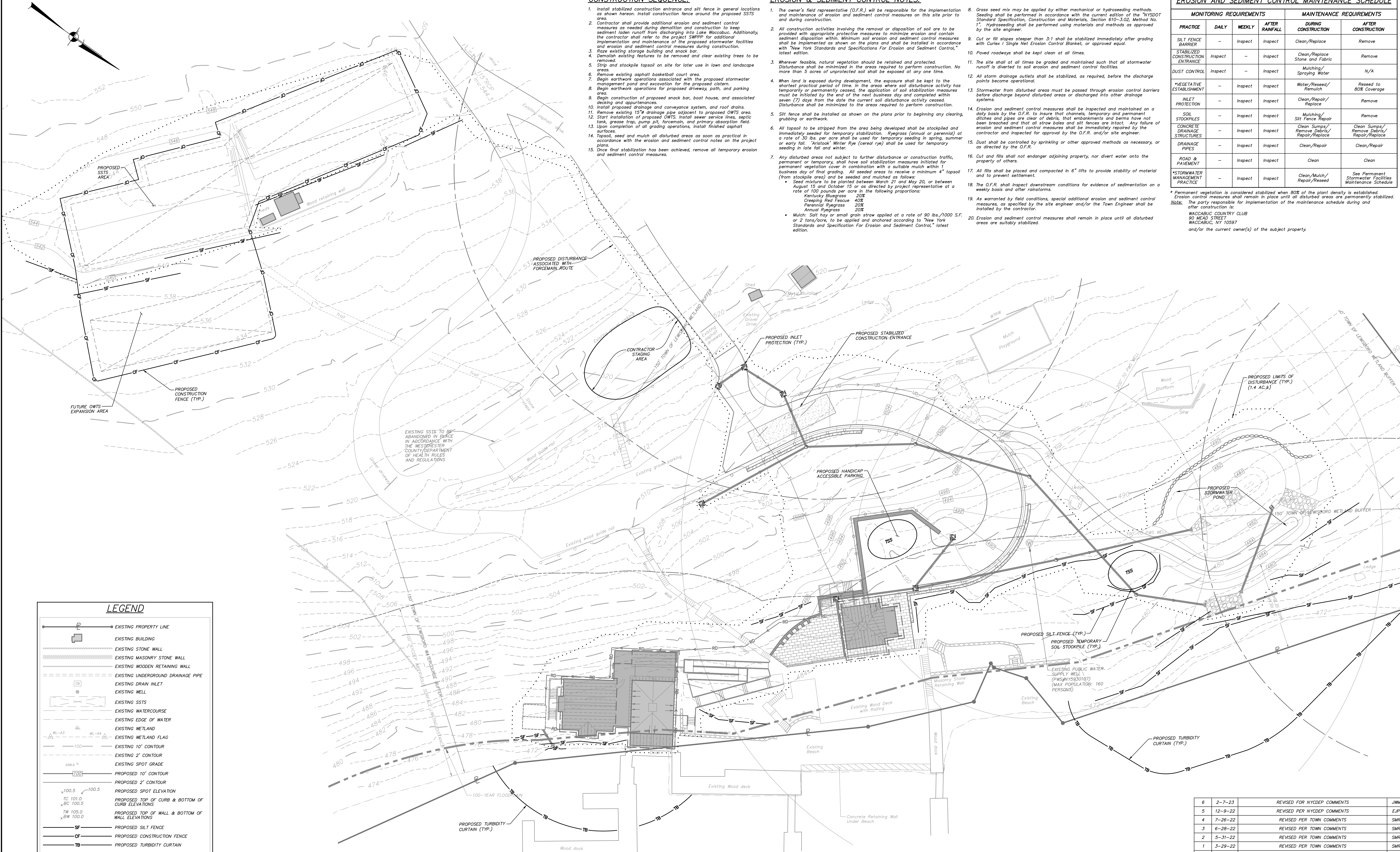
92 MEAD ST., WACCABUC, TOWN OF LEWISBORO, WESTCHESTER CTY, NY

DRAWING:
GRADING & UTILITIES PLAN

PROJECT NUMBER	20228.100	PROJECT MANAGER	Z.M.P.	DRAWING NO.	SHEET
DATE	2-8-22	DRAWN BY	E.R.A.	SP-2	4
SCALE	1" = 20'	CHECKED BY	D.L.M.		9

3 Garrett Place
Carmel, NY 10512
(845) 225-9690
(845) 225-9717 fax
www.insite-eng.com

STATE OF NEW YORK
JULY 15 2022
REGISTERED PROFESSIONAL ENGINEER



CONSTRUCTION SEQUENCE:

1. Install stabilized construction entrance and silt fence in general locations as shown hereon. Install construction fence around the proposed SSTS area.
2. Contractor shall provide additional erosion and sediment control measures as needed during demolition and construction to keep sediment laden runoff from discharging into Lake Waccabuc. Additionally, the contractor shall refer to the project SWPPP for additional implementation and maintenance of the proposed stormwater facilities and erosion and sediment control measures during construction.
3. Place existing storage building and snack bar.
4. Demolish existing features to be removed and clear existing trees to be removed.
5. Strip and stockpile topsoil on site for later use in lawn and landscape areas.
6. Remove existing asphalt basketball court area.
7. Begin earthwork operations associated with the proposed stormwater management pond and excavation for the proposed cistern.
8. Begin earthwork operations for proposed driveway, path, and parking area.
9. Begin construction of proposed snack bar, boat house, and associated decking and appurtenances.
10. Install proposed drainage and conveyance system, and roof drains.
11. Remove existing 15" drainage pipe adjacent to proposed OWTS area.
12. Start installation of proposed OWTS. Install sewer service lines, septic tank, grease trap, pump pit, forcemain, and primary absorption field.
13. Upon completion of all grading operations, install finished asphalt surfaces.
14. Topsoil, seed and mulch all disturbed areas as soon as practical in accordance with the erosion and sediment control notes on the project plans.
15. Once final stabilization has been achieved, remove all temporary erosion and sediment control measures.

EROSION & SEDIMENT CONTROL NOTES:

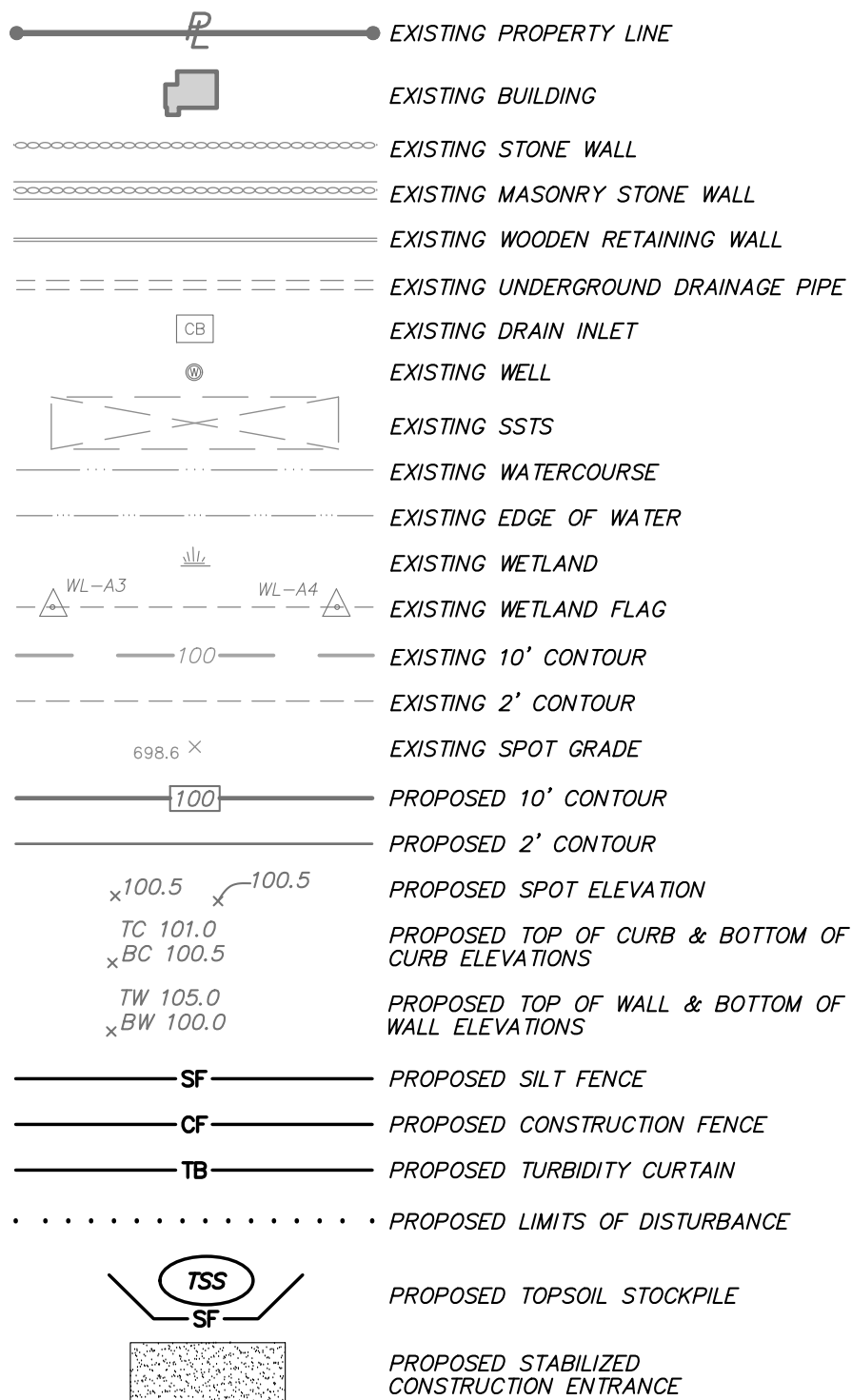
1. The owner's field representative (O.F.R.) will be responsible for the implementation and maintenance of erosion and sediment control measures on this site prior to and during construction.
2. All construction activities involving the removal or disposition of soil are to be provided with appropriate protective measures to minimize erosion and contain sediment disposition within. Minimum soil erosion and sediment control measures shall be implemented as shown on the plans and shall be installed in accordance with "New York Standards and Specifications For Erosion and Sediment Control," latest edition.
3. Wherever feasible, natural vegetation should be retained and protected. Disturbance shall be minimized in the areas required to perform construction. No more than 5 acres of unprotected soil shall be exposed at any one time.
4. When land is exposed during development, the exposure shall be kept to the shortest practical period of time. In the areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven (7) days from the date the current soil disturbance activity ceased. Disturbance shall be minimized to the areas required to perform construction.
5. Silt fence shall be installed as shown on the plans prior to beginning any clearing, grubbing or earthwork.
6. All topsoil to be stripped from the area being developed shall be stockpiled and immediately seeded for temporary stabilization. Ryegrass (annual or perennial) at a rate of 30 lbs. per acre shall be used for temporary seeding in spring, summer or early fall. "Aristocrat" Winter Rye (cereal rye) shall be used for temporary seeding in late fall and winter.
7. Any disturbed areas not subject to further disturbance or construction traffic, permanent or temporary, shall have soil stabilization measures initiated for permanent vegetation cover in combination with a suitable mulch within 1 business day of final grading. All seeded areas to receive a minimum 4" topsoil (from stockpile area) and be seeded and mulched as follows:
 - Seed mixture to be planted between March 21 and May 20, or between August 15 and October 15 or as directed by project representative at a rate of 100 pounds per acre in the following proportions:
 - Kentucky Bluegrass 20%
 - Crested Red Fescue 40%
 - Perennial Ryegrass 20%
 - Annual Ryegrass 20%
 - Mulch: Salt hay or small grain straw applied at a rate of 90 lbs./1000 S.F. or 2 tons/acre, to be applied and anchored according to "New York Standards and Specifications For Erosion and Sediment Control," latest edition.
8. Grass seed mix may be applied by either mechanical or hydroseeding methods. Seeding shall be performed in accordance with the current edition of the "NYSDOT Standard Specification, Construction and Materials, Section 610-3.02, Method No. 1". Hydroseeding shall be performed using materials and methods as approved by the site engineer.
9. Cut or fill slopes steeper than 3:1 shall be stabilized immediately after grading with Curlex 1 Single Net Erosion Control Blanket, or approved equal.
10. Paved roadways shall be kept clean at all times.
11. The site shall at all times be graded and maintained such that all stormwater runoff is diverted to soil erosion and sediment control facilities.
12. All storm drainage outlets shall be stabilized, as required, before the discharge points become operational.
13. Stormwater from disturbed areas must be passed through erosion control barriers before discharge beyond disturbed areas or discharged into other drainage systems.
14. Erosion and sediment control measures shall be inspected and maintained on a daily basis by the O.F.R. to ensure that channels, temporary and permanent ditches and pipes are clear of debris, that embankments and berms have not been breached and that all straw bales and silt fences are intact. Any failure of erosion and sediment control measures shall be immediately repaired by the contractor and inspected for approval by the O.F.R. and/or site engineer.
15. Dust shall be controlled by sprinkling or other approved methods as necessary, or as directed by the O.F.R.
16. Cut and fills shall not endanger adjoining property, nor divert water onto the property of others.
17. All fills shall be placed and compacted in 6" lifts to provide stability of material and to prevent settlement.
18. The O.F.R. shall inspect downstream conditions for evidence of sedimentation on a weekly basis and after rainstorms.
19. As warranted by field conditions, special additional erosion and sediment control measures, as specified by the site engineer and/or the Town Engineer shall be installed by the contractor.
20. Erosion and sediment control measures shall remain in place until all disturbed areas are suitably stabilized.

EROSION AND SEDIMENT CONTROL MAINTENANCE SCHEDULE

MONITORING REQUIREMENTS				MAINTENANCE REQUIREMENTS	
PRACTICE	DAILY	WEEKLY	AFTER RAINFALL	DURING CONSTRUCTION	AFTER CONSTRUCTION
SILT FENCE BARRIER	—	Inspect	Inspect	Clean/Replace	Remove
STABILIZED CONSTRUCTION ENTRANCE	Inspect	—	Inspect	Clean/Replace Stone and Fabric	Remove
DUST CONTROL	Inspect	—	Inspect	Mulching/Spraying Water	N/A
*VEGETATIVE ESTABLISHMENT	—	Inspect	Inspect	Water/Reseed/Remove	Reseed to 80% Coverage
INLET PROTECTION	—	Inspect	Inspect	Clean/Repair/Replace	Remove
SOIL STOCKPILES	—	Inspect	Inspect	Mulching/Silt Fence Repair	Remove
CONCRETE DRAINAGE STRUCTURES	—	Inspect	Inspect	Clean Sumps/Remove Debris/Repair/Replace	Clean Sumps/Repair/Replace
DRAINAGE PIPES	—	Inspect	Inspect	Clean/Repair	Clean/Repair
ROAD & PAVEMENT	—	Inspect	Inspect	Clean	Clean
*STORMWATER MANAGEMENT PRACTICE	—	Inspect	Inspect	Clean/Mulch/Repair/Reseed	See Permanent Stormwater Facility Maintenance Schedule

* Permanent vegetation is considered stabilized when 80% of the plant density is established. Erosion control measures shall remain in place until all disturbed areas are permanently stabilized. Notes: The party responsible for implementation of the maintenance schedule during and after construction is: WACCABUC COUNTRY CLUB 92 MEAD STREET WACCABUC, NY 10597 and/or the current owner(s) of the subject property.

LEGEND

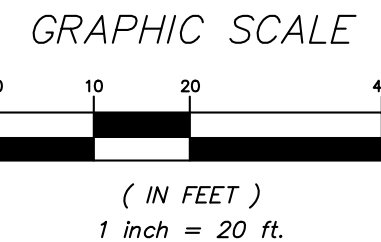


EARTHWORK TABLE		
CUT (CY)	FILL (CY)	TOTAL (CY)
-1,800	200	-1,600 (CUT)

EARTHWORK TABLE (WITHIN 100-YEAR FLOODPLAIN)		
CUT (CY)	FILL (CY)	TOTAL (CY)
-0.5	0.5	0.0

EARTHWORK NOTES:

1. All earthwork calculations are based on the difference between the existing grades and proposed finished grades. Any excavation within the proposed building footprint has not been considered in these calculations.
2. Estimated earthwork volumes are approximate and do not account for swell or compaction.
3. The use/quantity of select fill materials for road sub-base, pipe embedments, subsurface stormwater management practices, any structural fill, etc. are not accounted for in these calculations.
4. The calculations contained herein do not consider the soil characteristics of the cut/fill soils and their suitability for use as a general and/or select fill. Compaction testing shall be performed during construction in accordance with the project specifications. Should the in-situ soils not be able to meet compaction prior to rendering the in-situ material unsuitable, the project geotechnical engineer shall recommend corrective measures such as amending or mixing the soil.
5. The depth to ledge rock and or impacts associated with rock excavation have not been considered in these calculations.
6. All Cuts and Fill Volumes have been rounded to the nearest 100 Cubic Yards.
7. All excess and unsuitable material shall be disposed of off site at the expense of the contractor in accordance with the project specifications.
8. Volumes provided in the Earthwork Table are for permitting purposes only. Contractor shall be responsible for calculating material quantities for construction.
9. The proposed grading and installation of proposed level spreader (LS A) within the FEMA 100-year Floodplain results in no net loss of flood storage within the FEMA 100-year Floodplain.



TOWN ENGINEER'S CERTIFICATION

Reviewed for compliance with the Planning Board Resolution dated _____

Date _____

PLANNING BOARD APPROVAL

Approved by the Resolution of the Lewisboro Planning Board.

Chair _____

Date _____

Administrator _____

Date _____

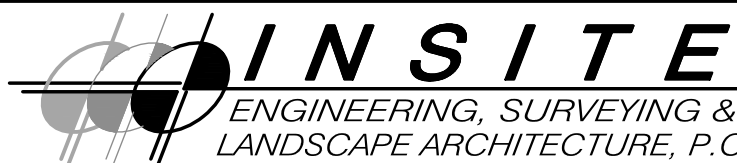
OWNER'S / APPLICANT'S CERTIFICATIONS

The undersigned is the owner(s) of the property shown hereon, is familiar with this drawing and its contents, and hereby approves the same for filing.

Waccabuc Country Club
92 Mead Street
Waccabuc, NY 10597

Date _____

6	2-7-23	REVISED FOR NYDEP COMMENTS	JWM
5	12-9-22	REVISED PER NYDEP COMMENTS	EJP
4	7-26-22	REVISED PER TOWN COMMENTS	SMR
3	6-28-22	REVISED PER TOWN COMMENTS	SMR
2	5-31-22	REVISED PER TOWN COMMENTS	SMR
1	3-29-22	REVISED PER TOWN COMMENTS	SMR
NO.	DATE	REVISION	BY



PROJECT: WACCABUC COUNTRY CLUB BEACH CLUB IMPROVEMENTS
90 MEAD ST., WACCABUC, TOWN OF LEWISBORO, WESTCHESTER CTY, NY

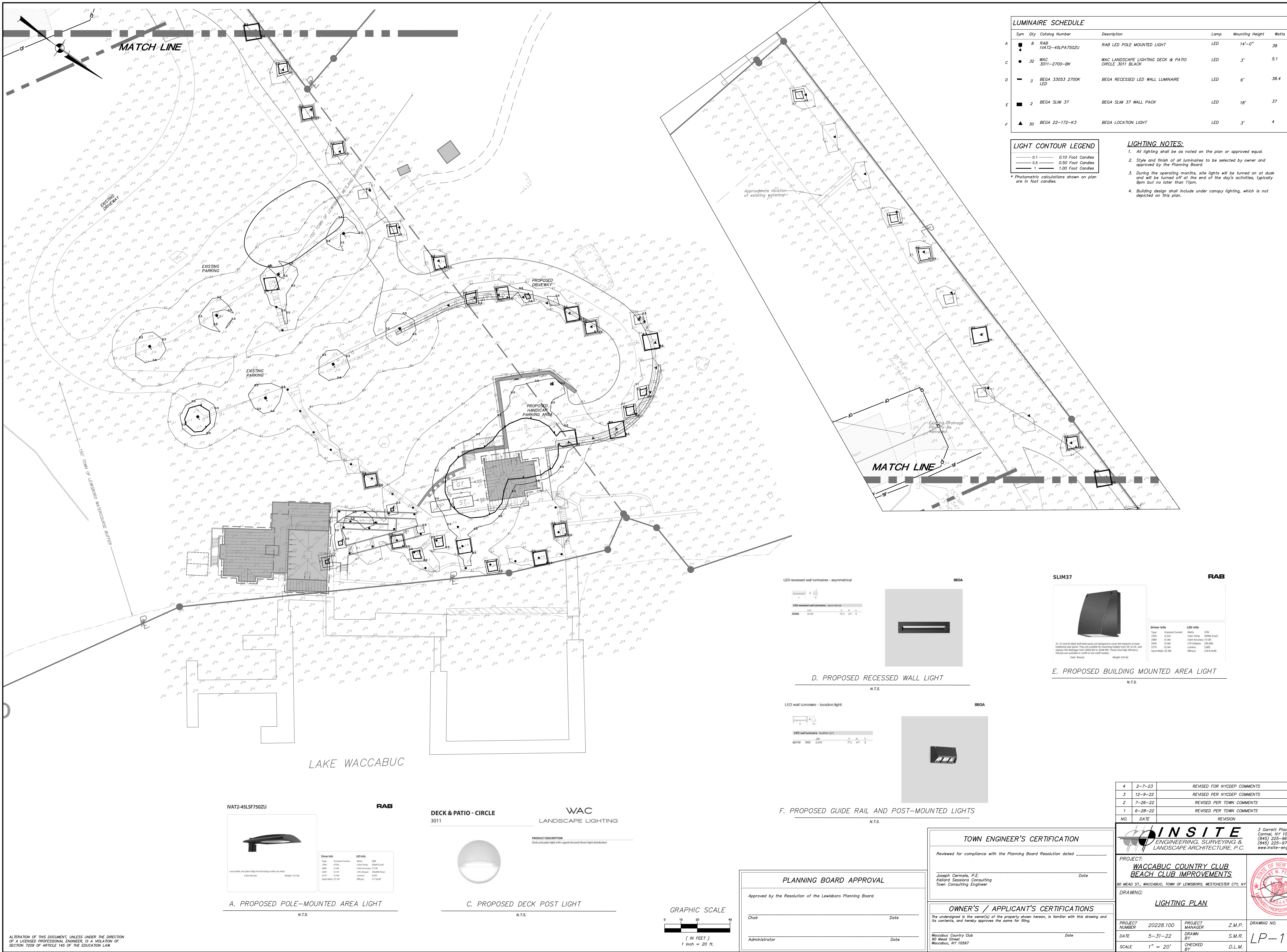
DRAWING: EROSION & SEDIMENT CONTROL PLAN

PROJECT NUMBER	20228.100	PROJECT MANAGER	Z.M.P.
DATE	2-8-22	DRAWN BY	E.R.A.
SCALE	1" = 20'	CHECKED BY	D.L.M.

3 Garrett Place
Carmel, NY 10512
(845) 225-9690
(845) 225-9717 fax
www.insite-eng.com



DRAWING NO. SHEET
SP-3 5
9



ALTERATION OF THIS DOCUMENT, UNLESS UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, IS A VIOLATION OF SECTION 2209 OF ARTICLE 145 OF THE EDUCATION LAW.

NO.	DATE	REVISION	BY
4	2-7-23	REVISED FOR NYDEP COMMENTS	JWM
3	12-9-22	REVISED PER NYDEP COMMENTS	EJP
2	7-26-22	REVISED PER TOWN COMMENTS	SMR
1	6-28-22	REVISED PER TOWN COMMENTS	SMR

TOWN ENGINEER'S CERTIFICATION

Reviewed for compliance with the Planning Board Resolution dated _____ Date _____

OWNER'S / APPLICANT'S CERTIFICATIONS

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Waccabuc Country Club
92 Mead Street
Waccabuc, NY 10597

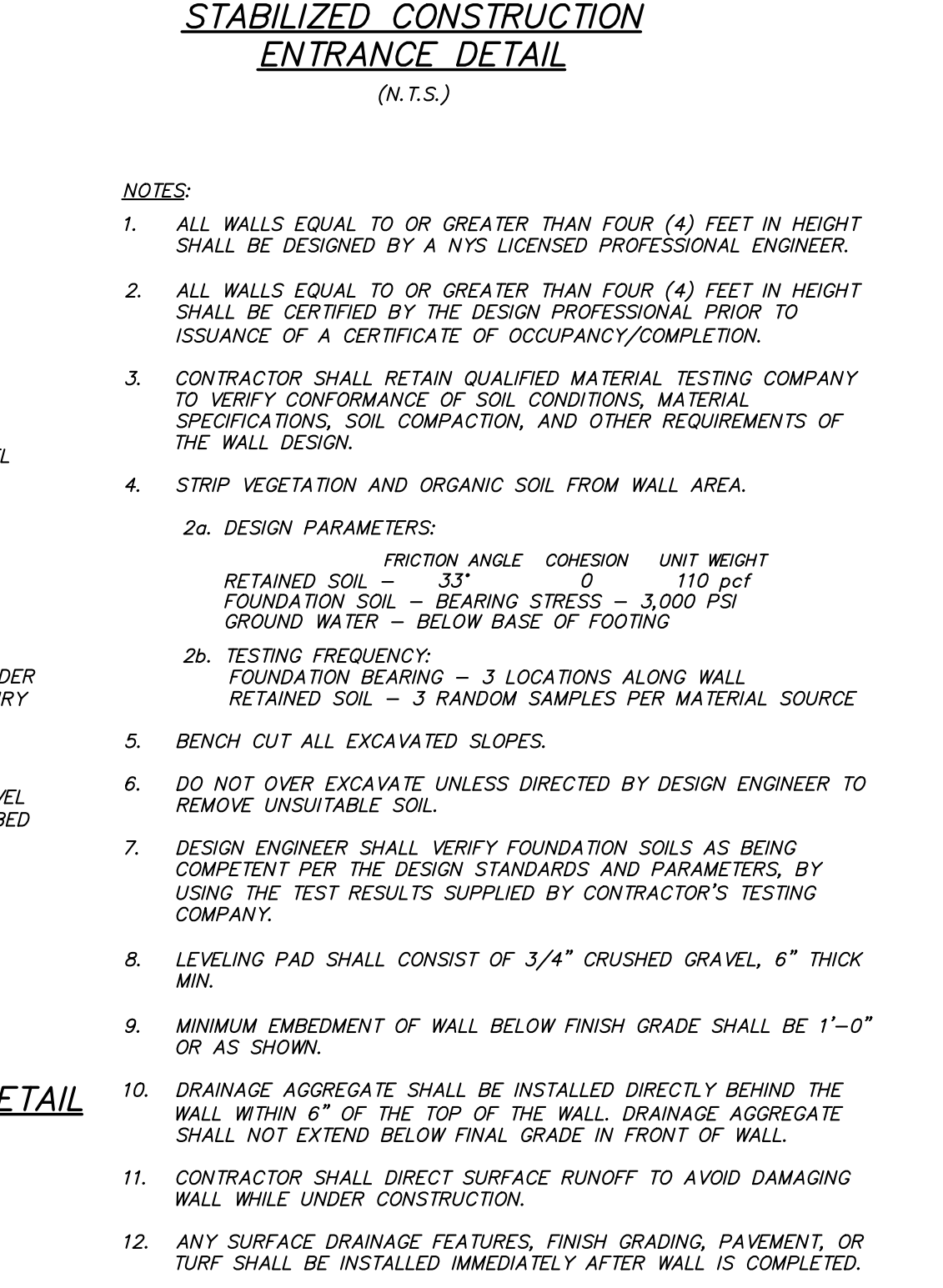
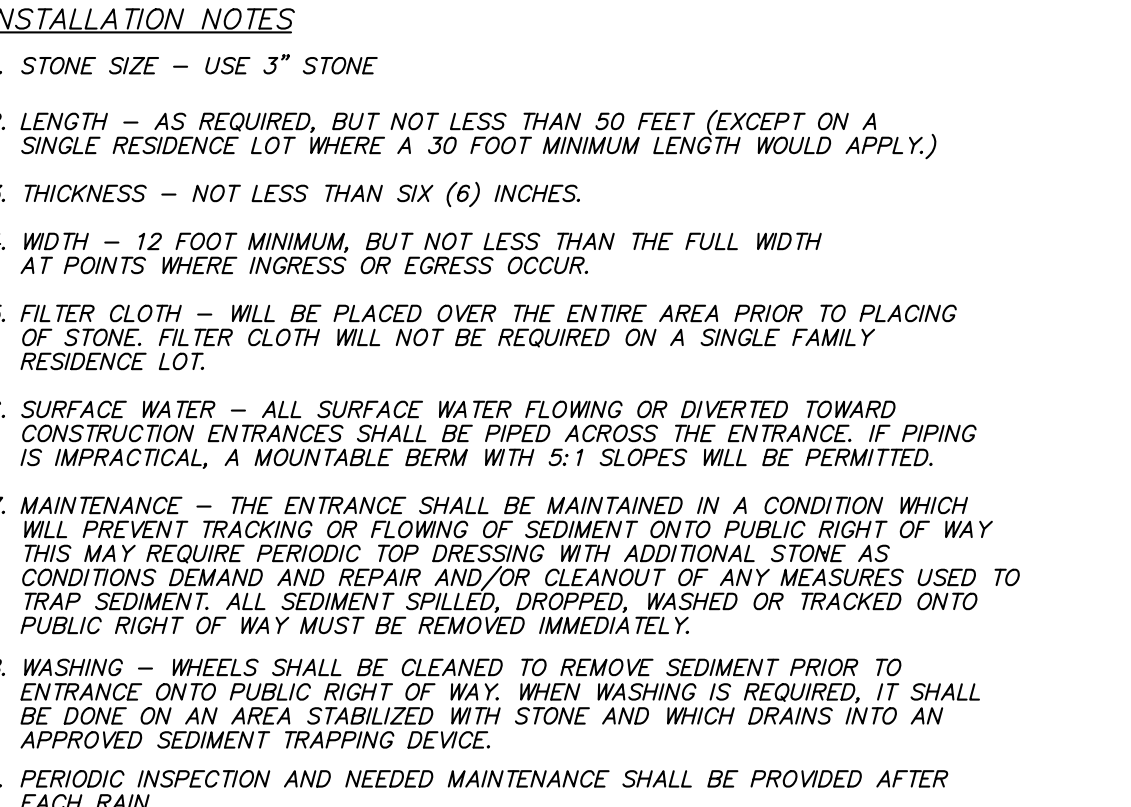
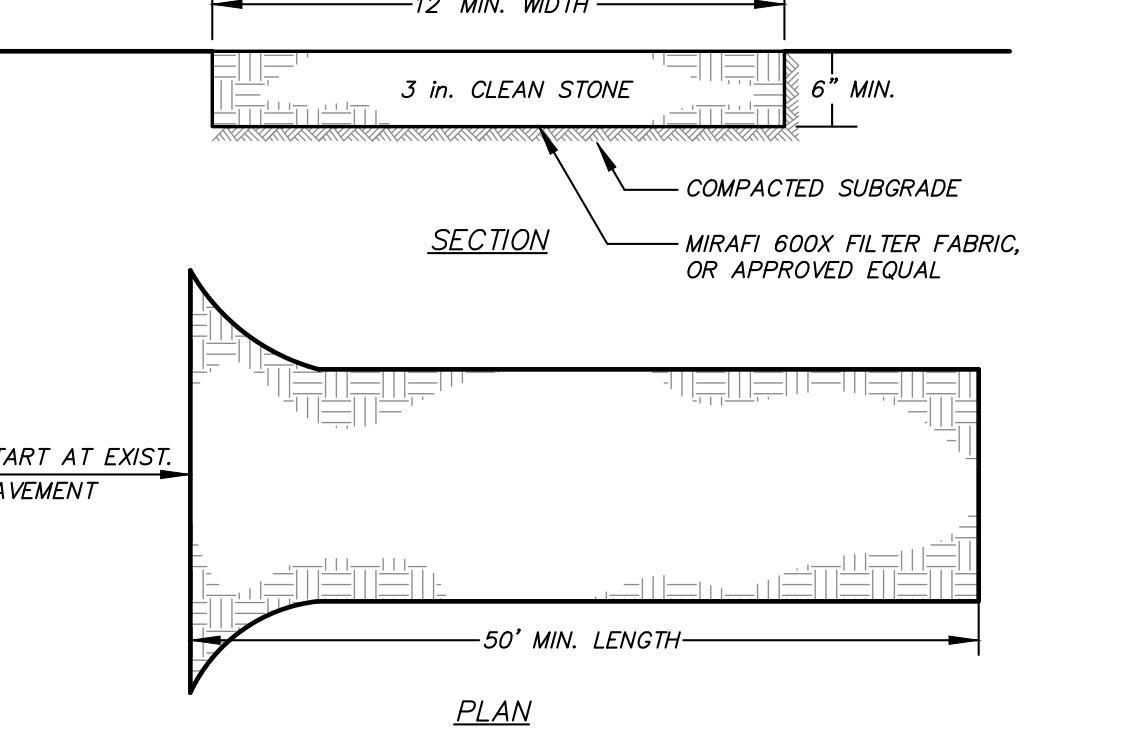
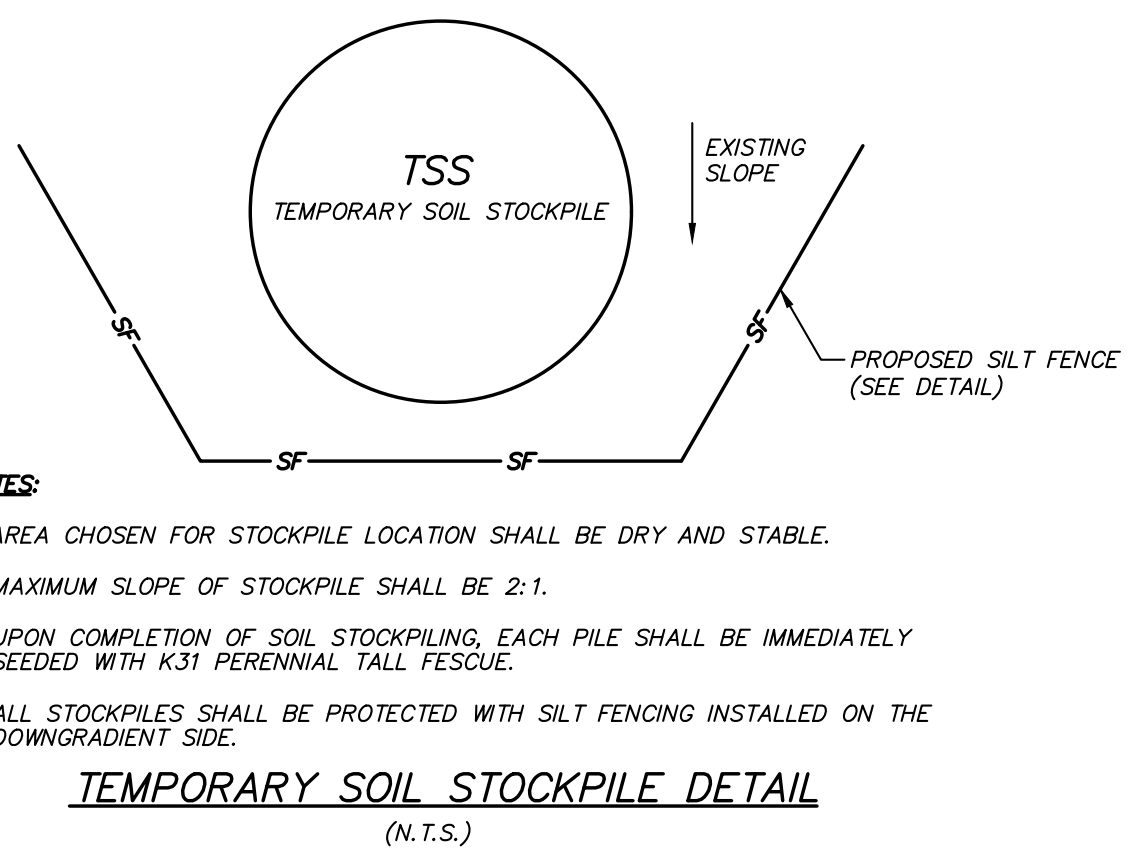
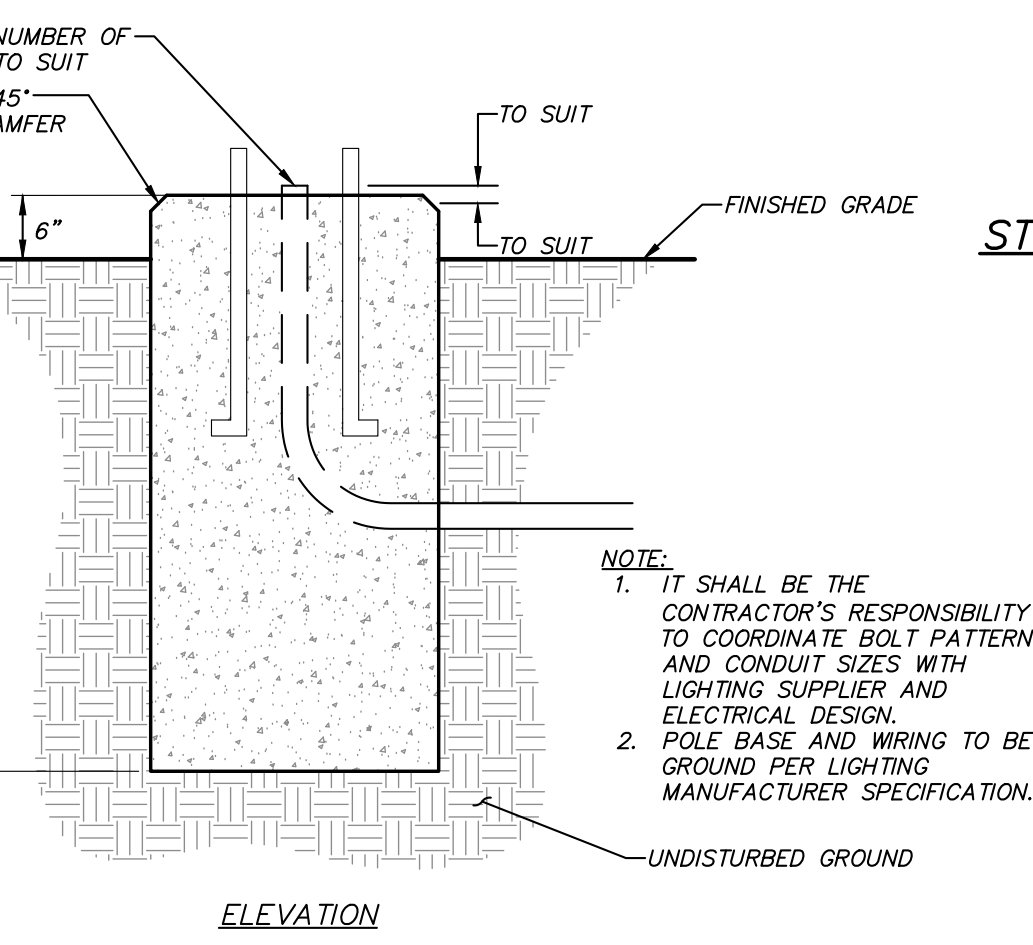
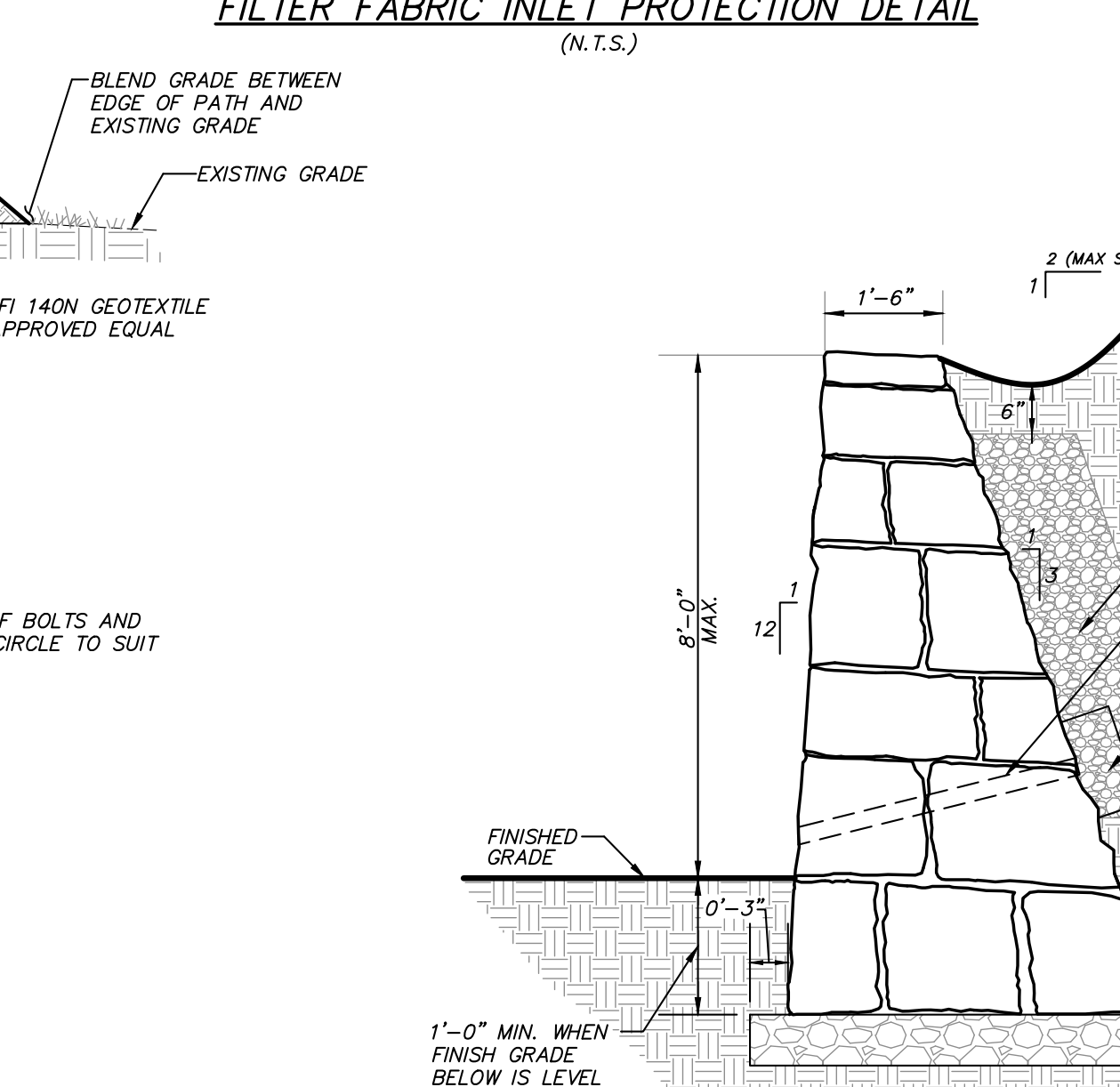
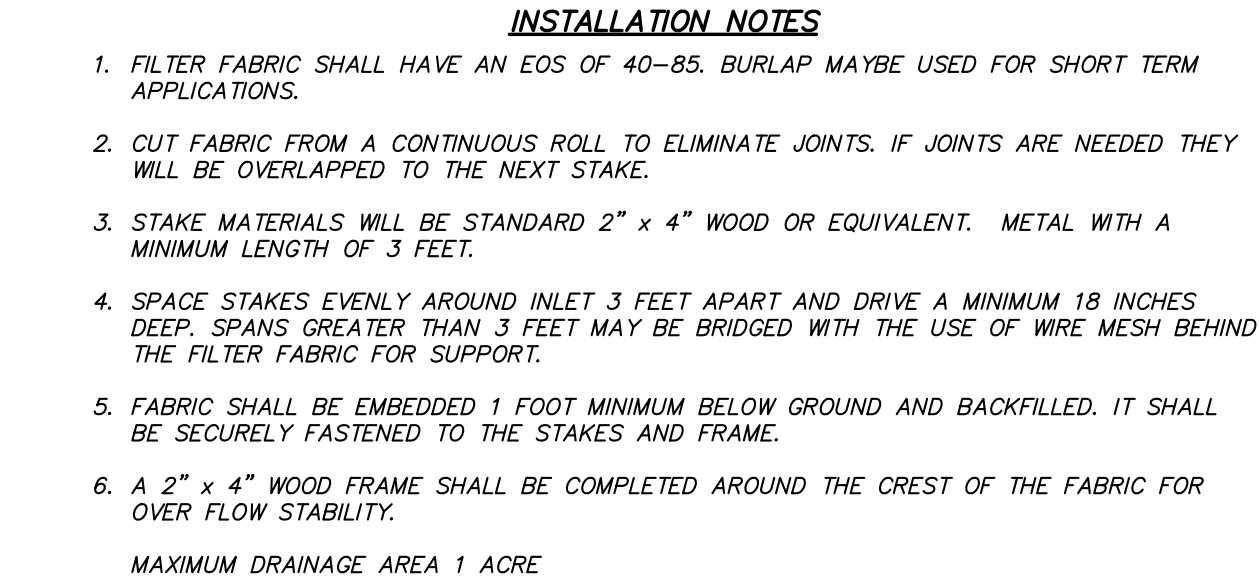
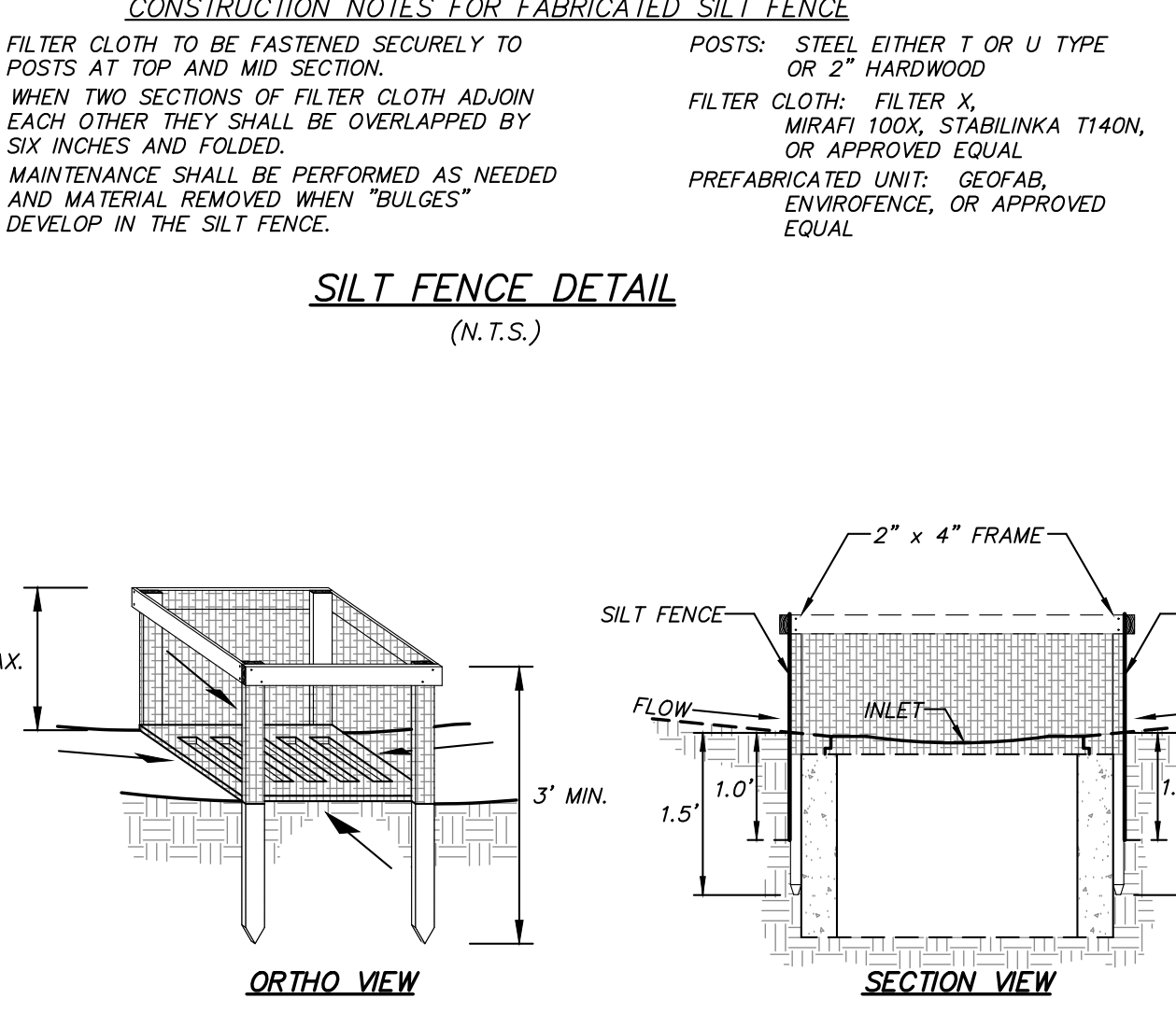
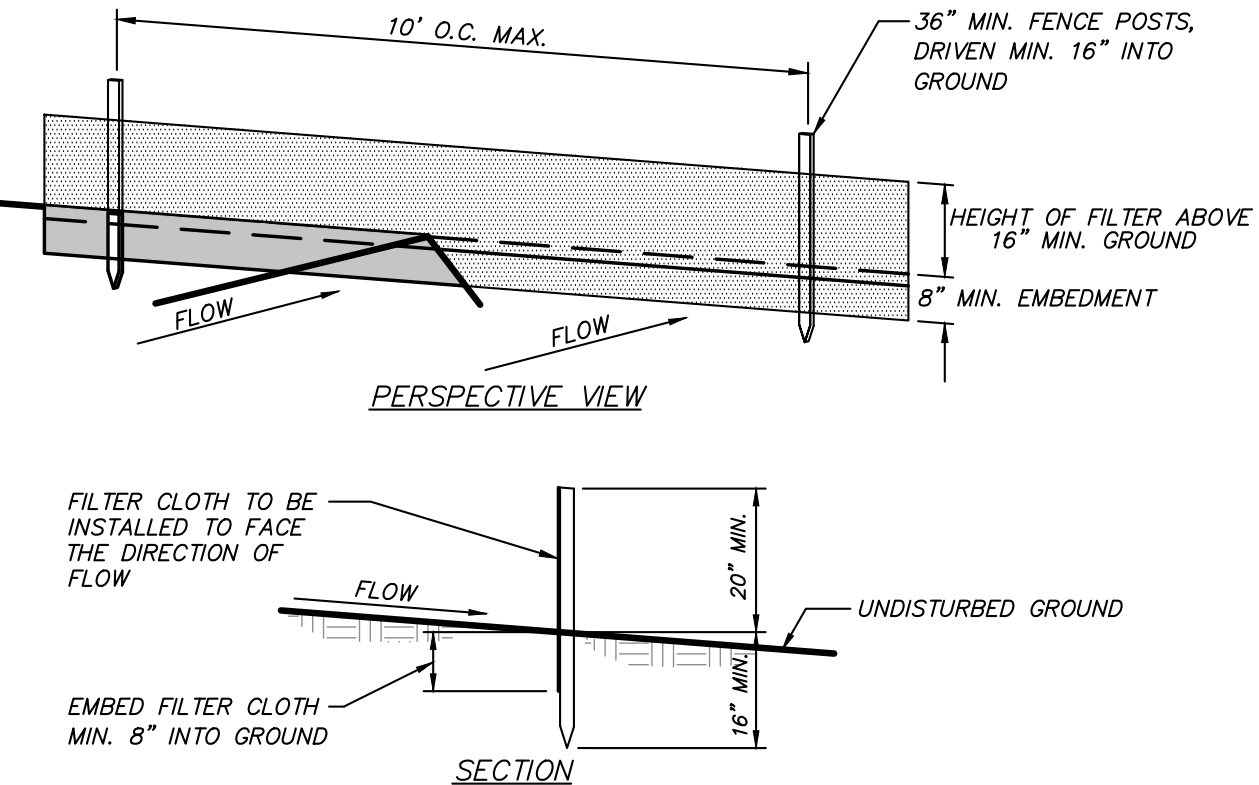
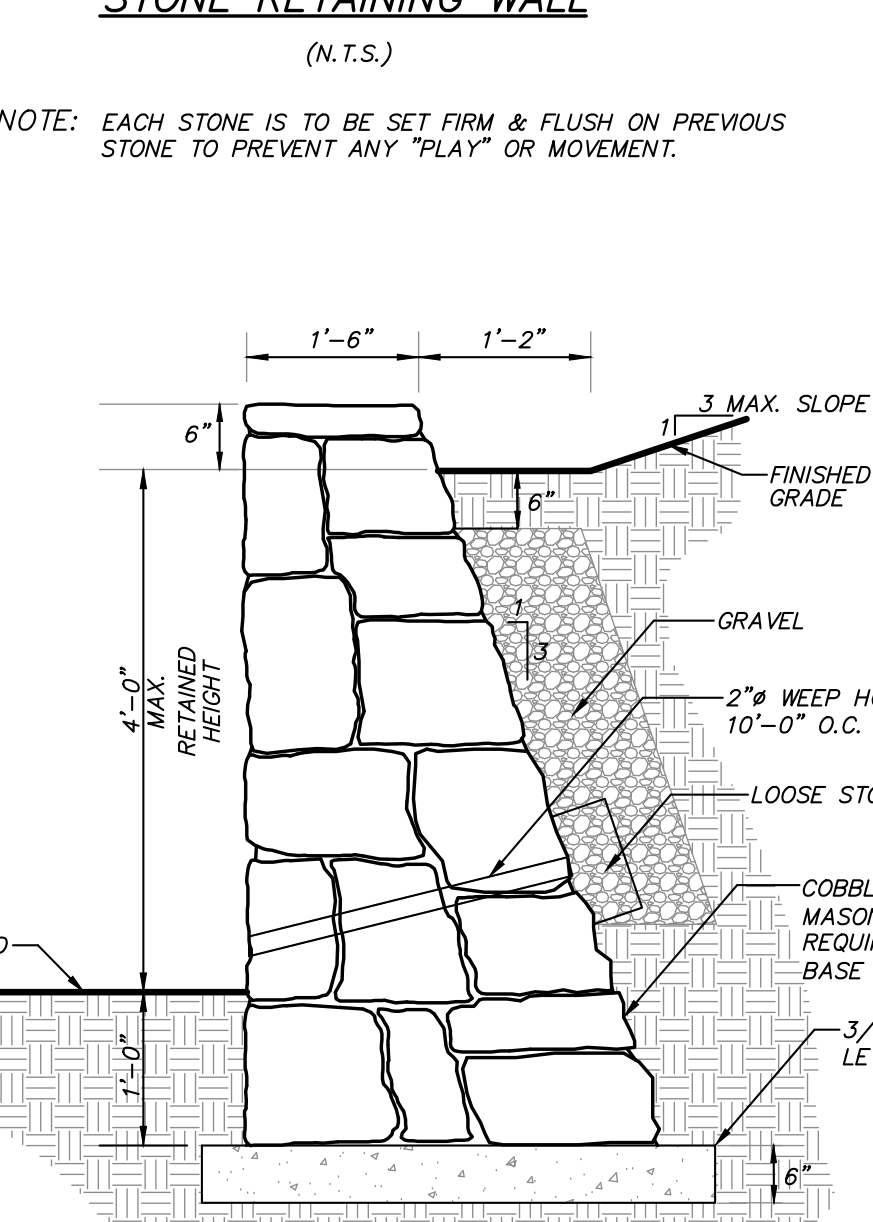
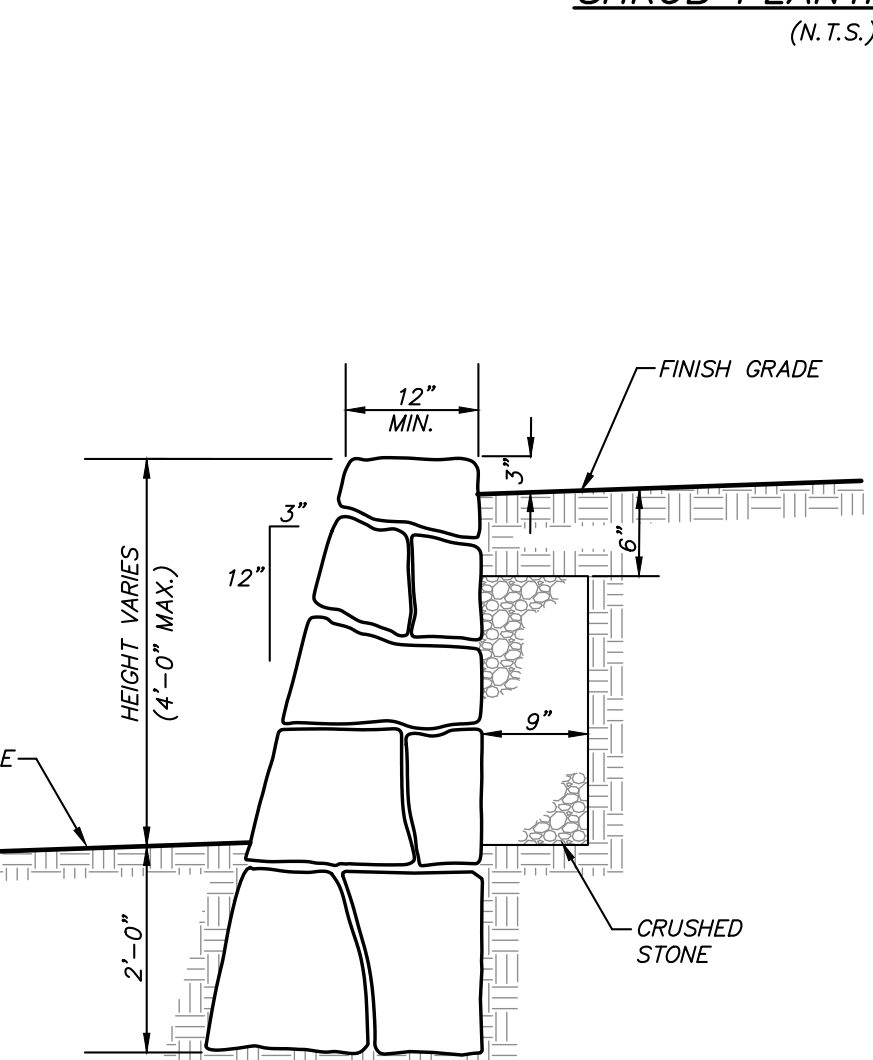
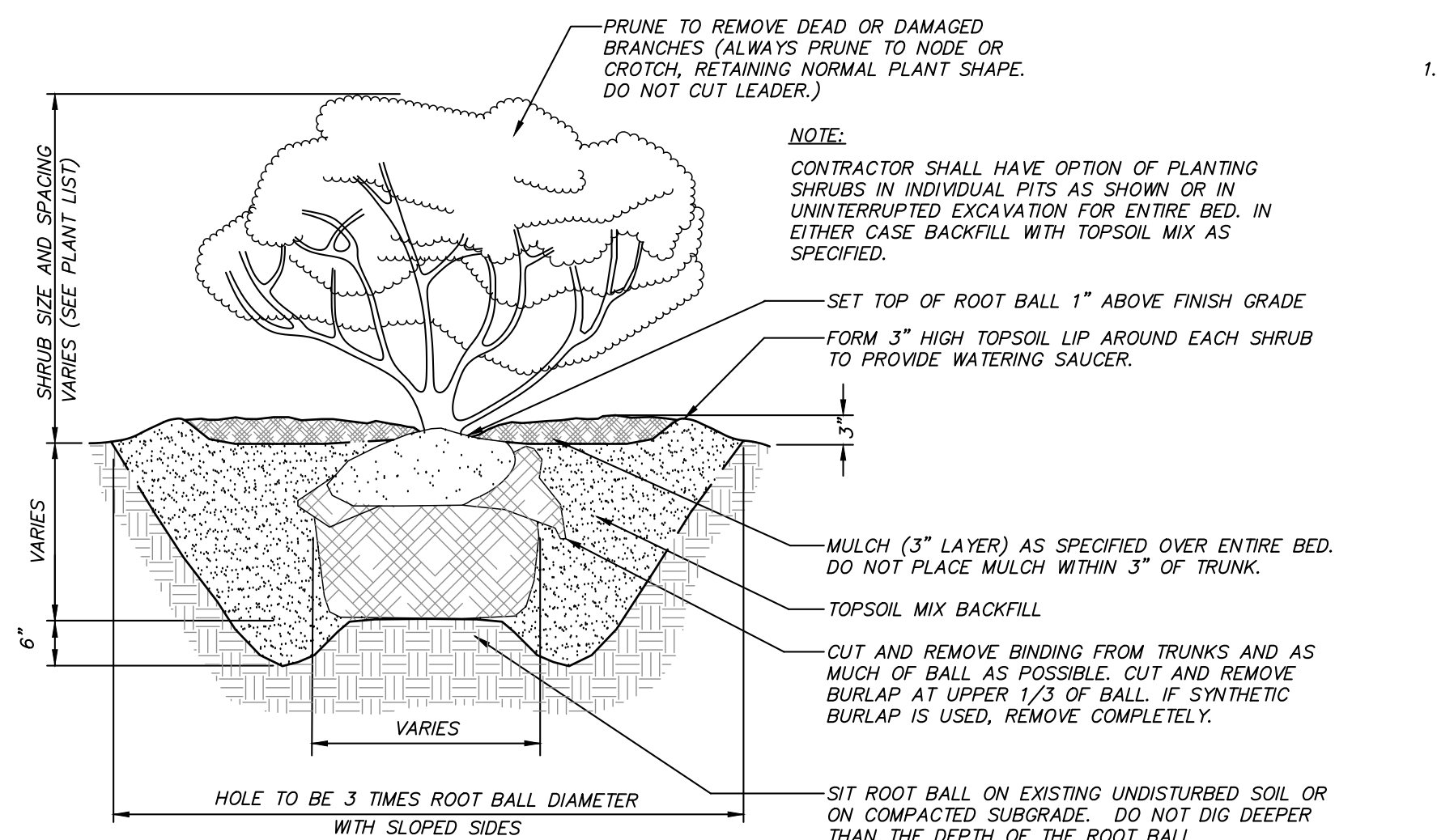
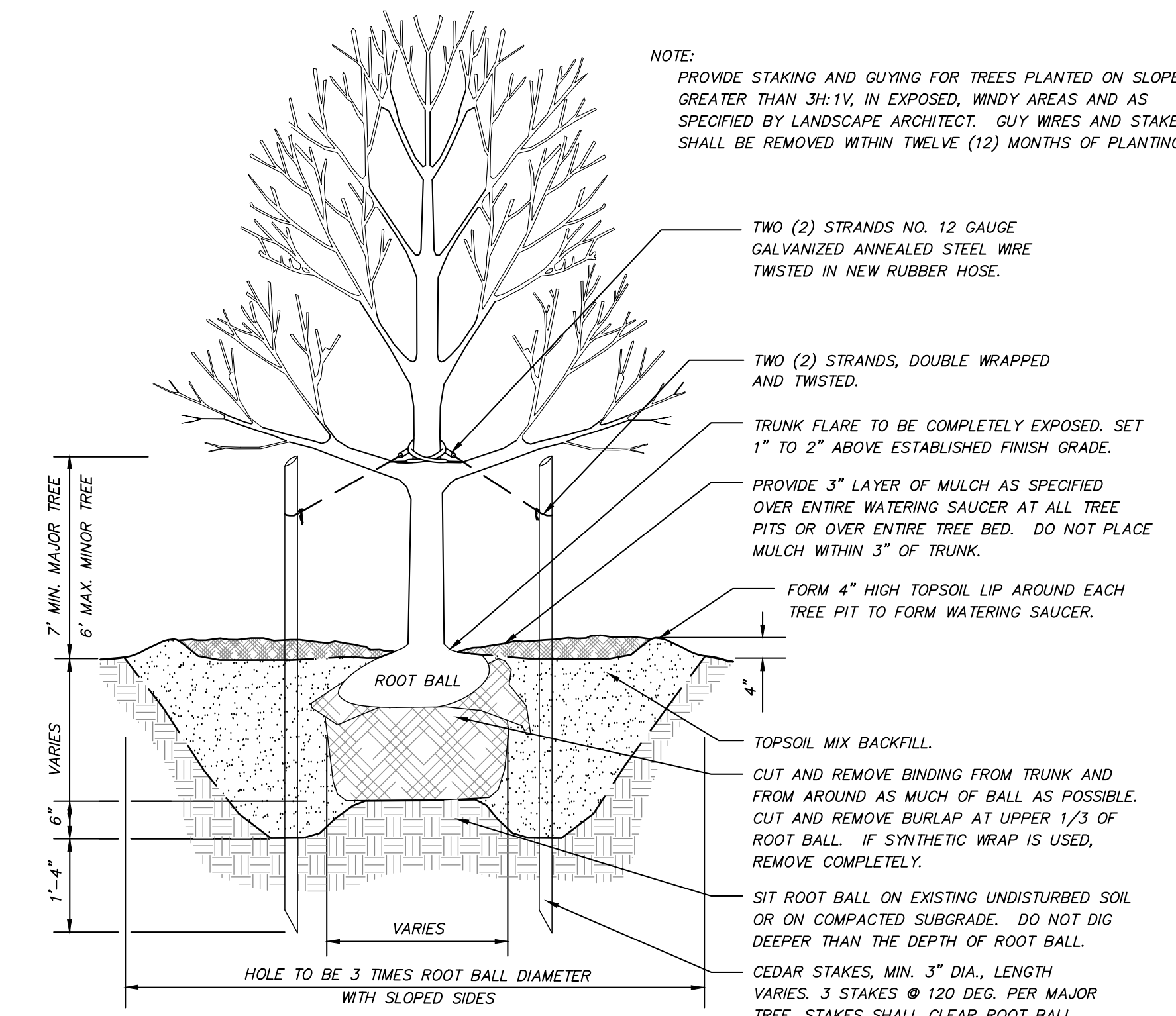
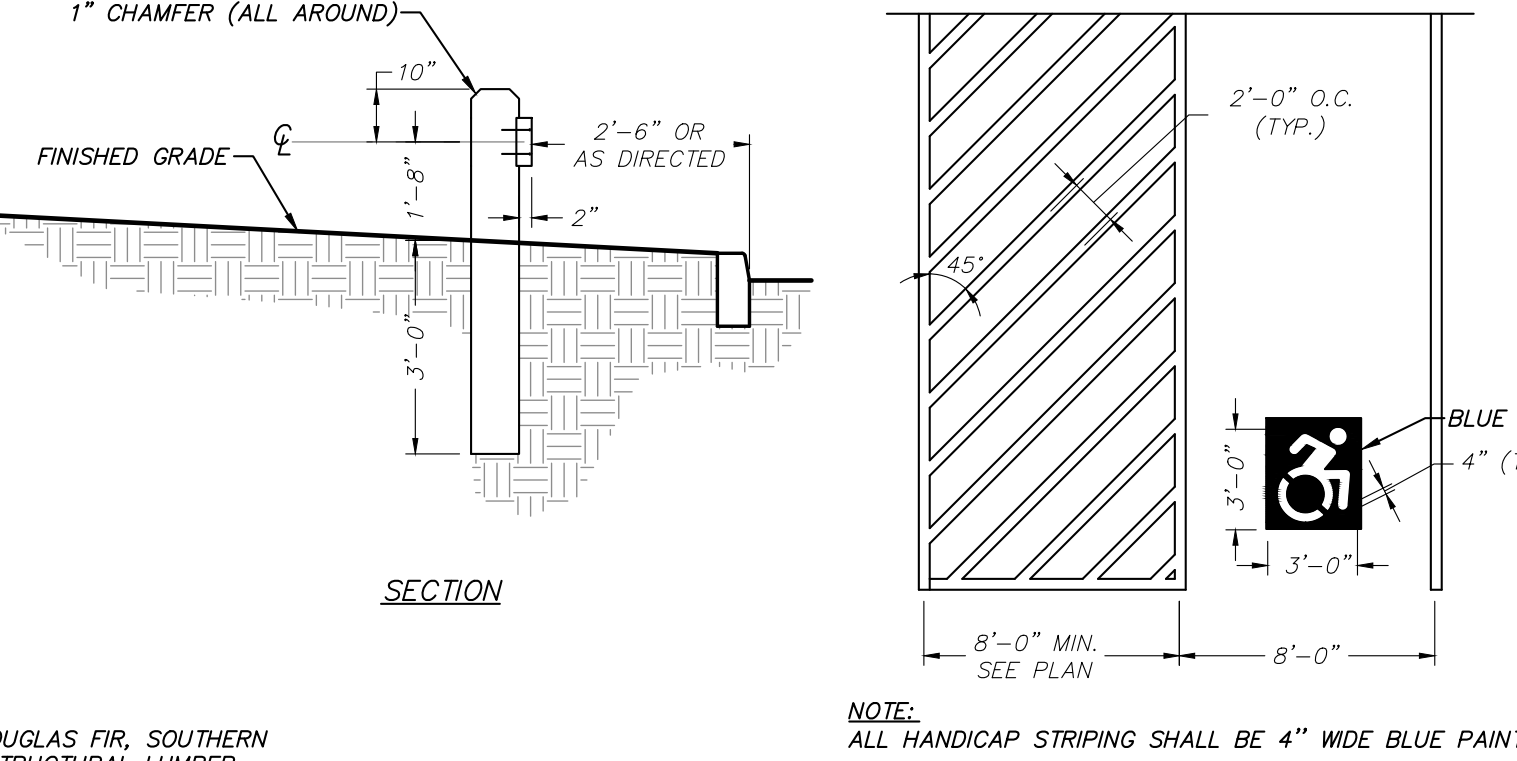
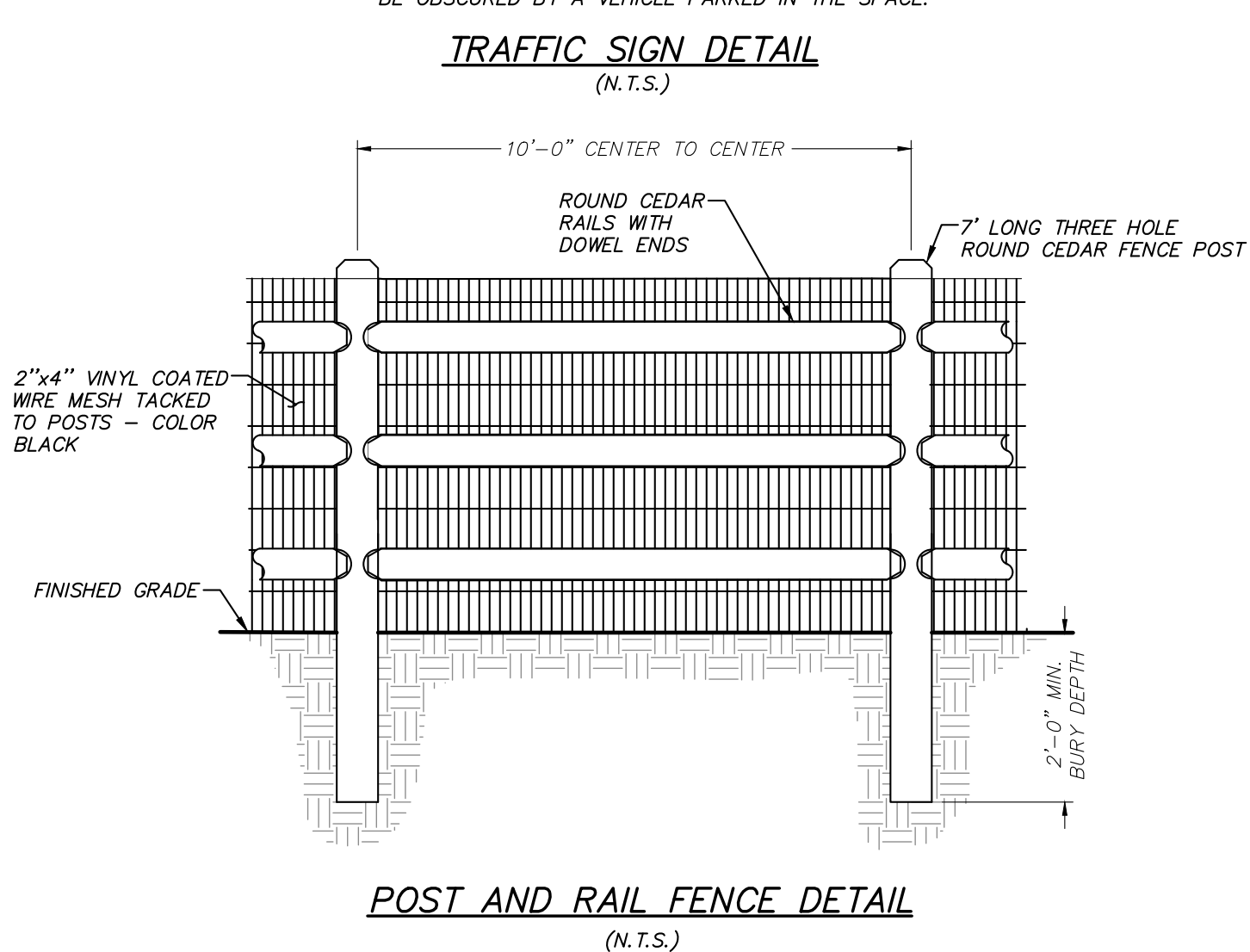
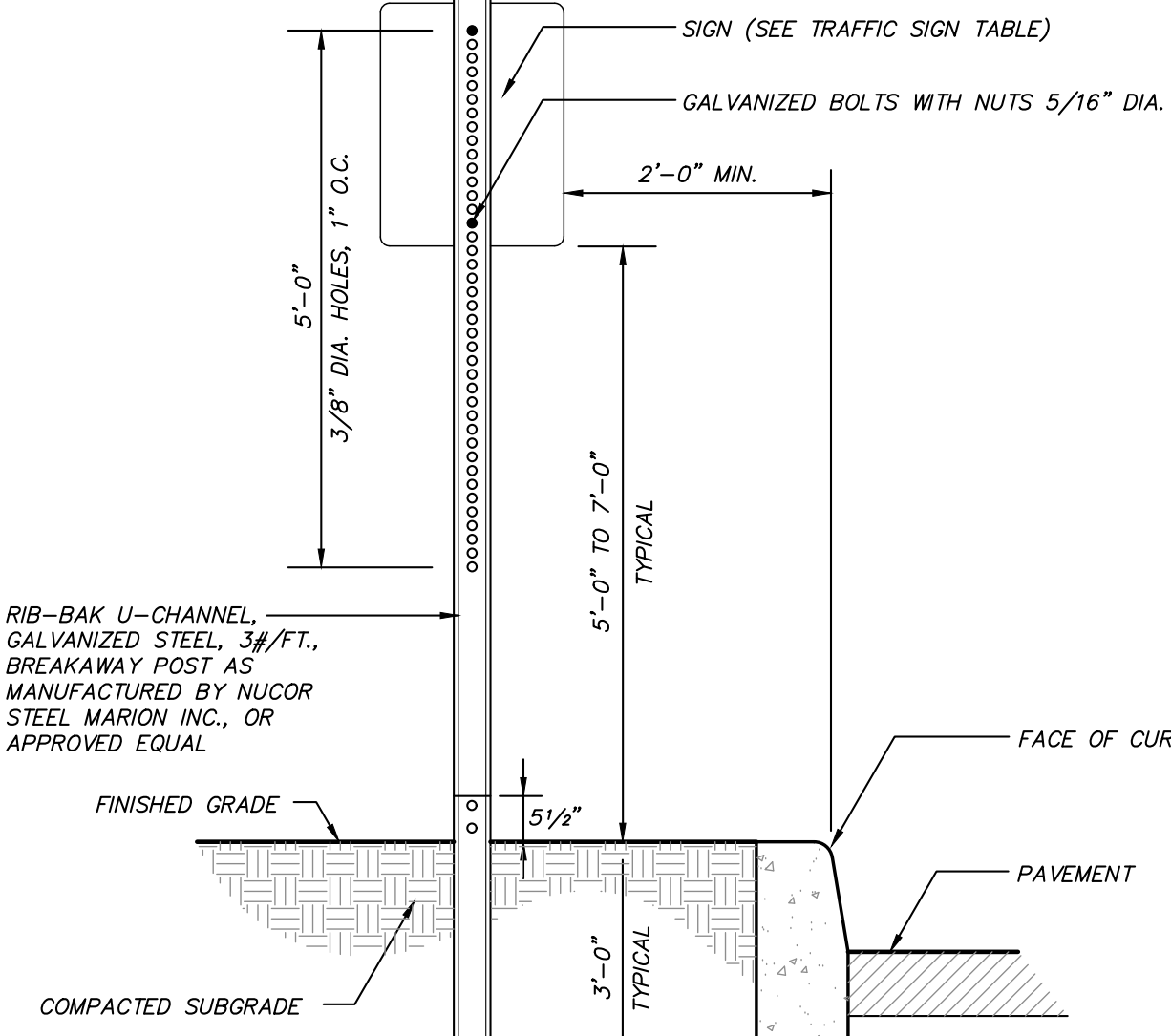
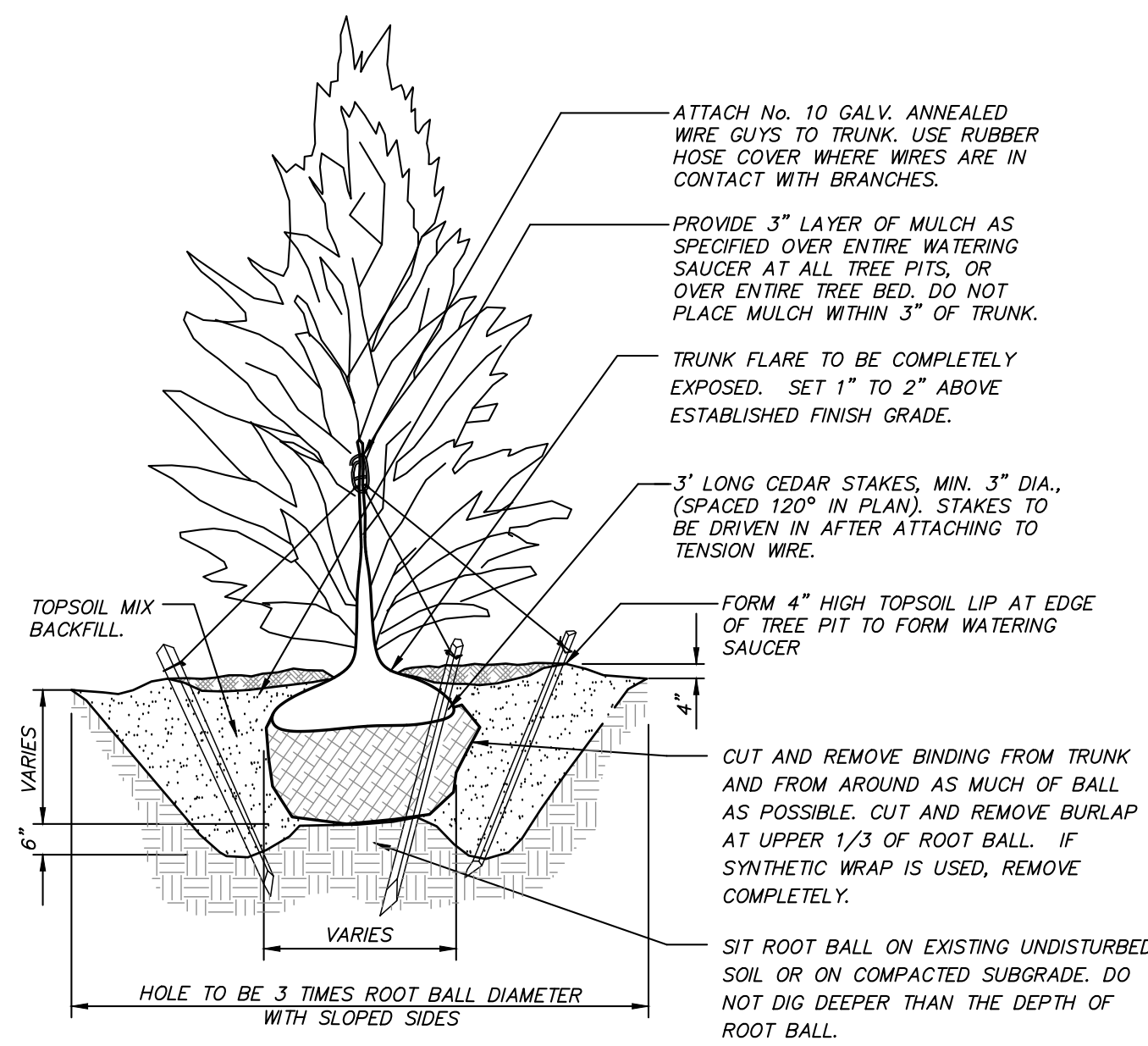
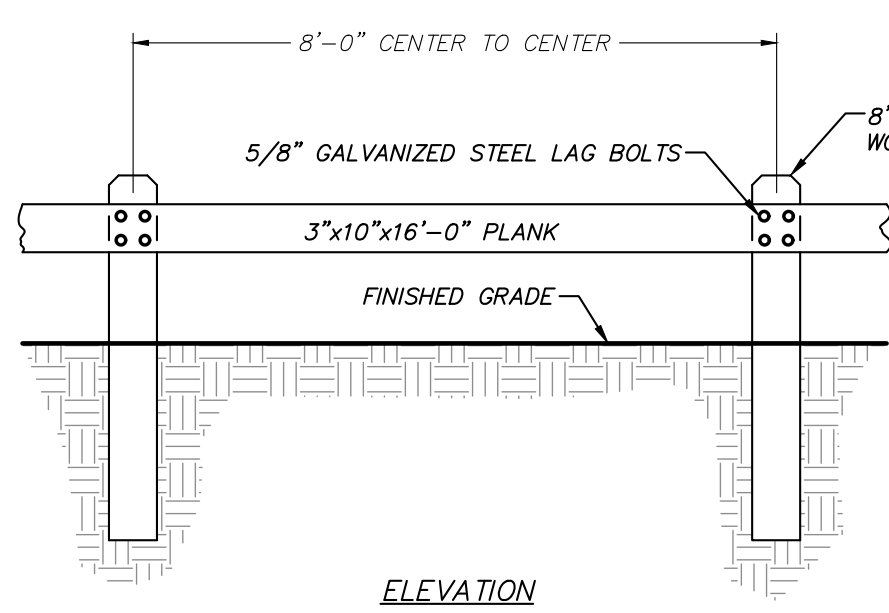
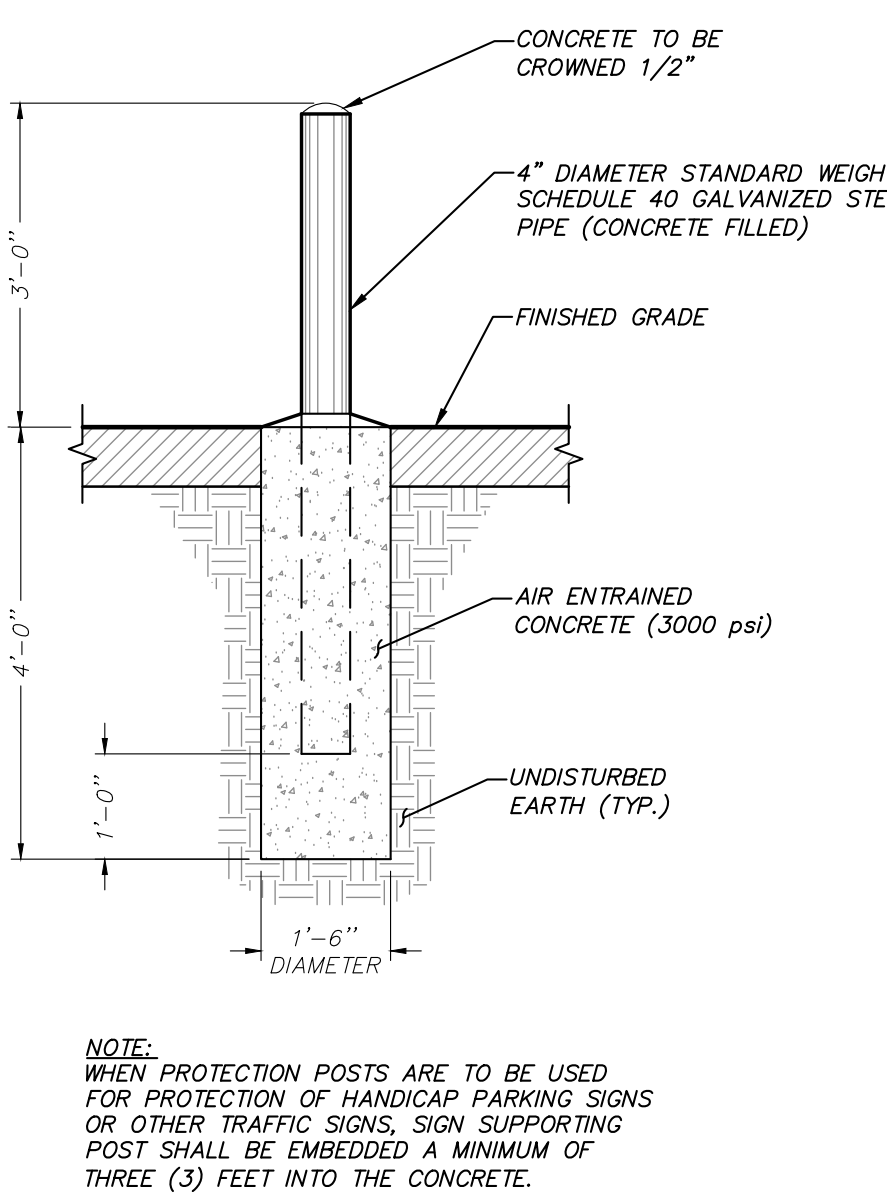
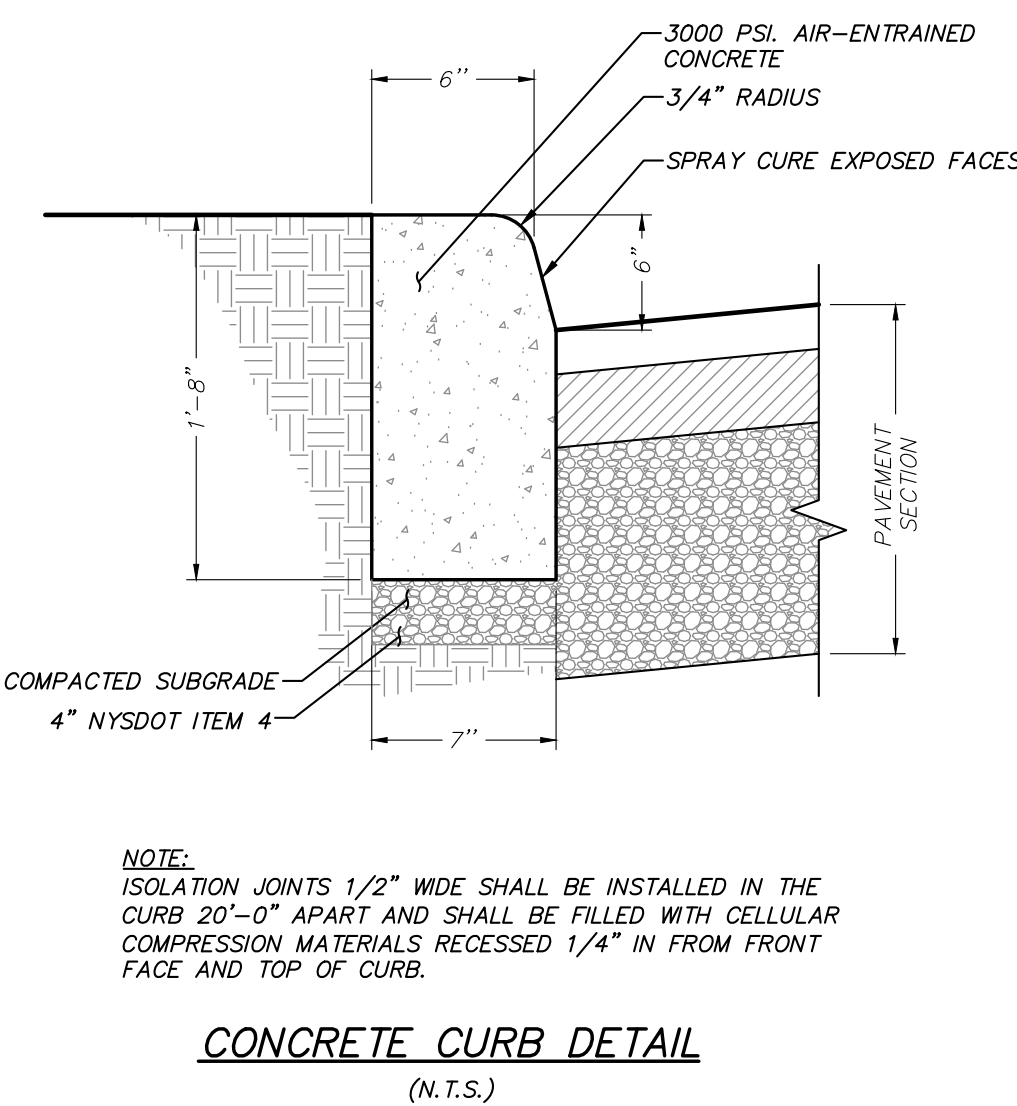
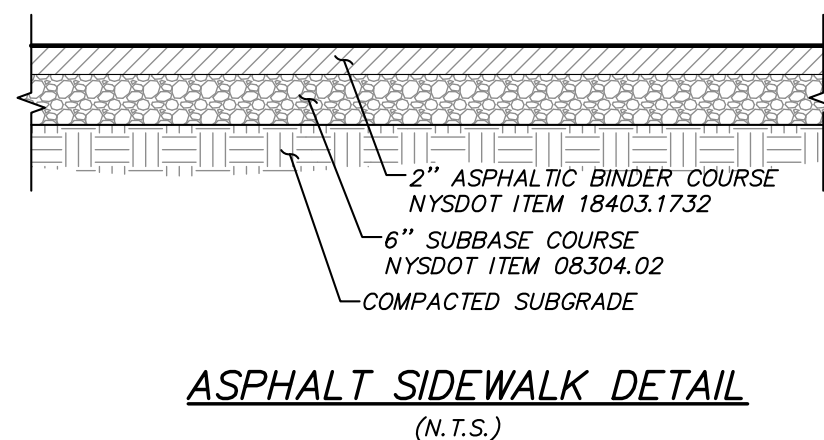
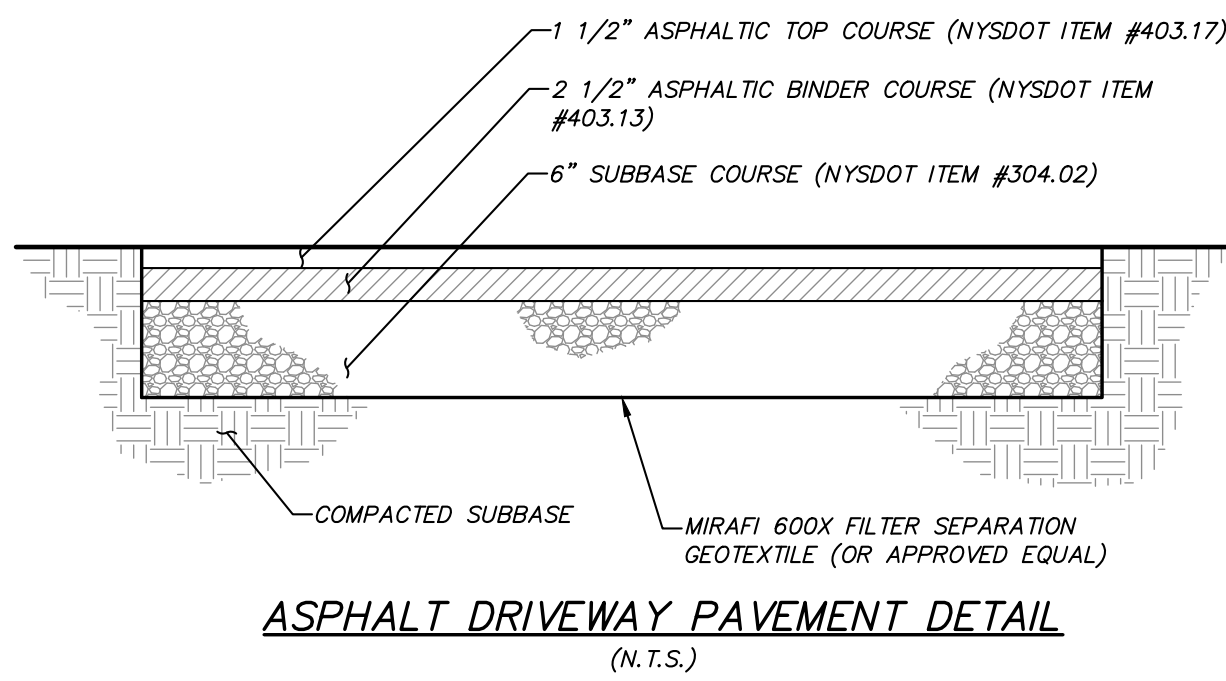
INSITE ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.

PROJECT: WACCABUC COUNTRY CLUB BEACH CLUB IMPROVEMENTS
90 MEAD ST., WACCABUC, TOWN OF LEWISBORO, WESTCHESTER CNTY, NY

DRAWING: LIGHTING PLAN

PROJECT NUMBER	DATE	SCALE	PROJECT MANAGER	DRAWN BY	CHECKED BY	Z.M.P.	S.M.R.	D.L.M.
20228.100	5-31-22	1" = 20'	J.M.P.	SMR	D.L.M.			

DRAWING NO. LP-1 SHEET 6 OF 9



6	2-7-23	REVISED FOR NYCDEP COMMENTS	JMM
5	12-9-22	REVISED PER NYCDEP COMMENTS	EJP
4	7-26-22	REVISED PER TOWN COMMENTS	SMR
3	6-28-22	REVISED PER TOWN COMMENTS	SMR
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1	3-29-22	REVISED PER TOWN COMMENTS	SMR
NO.	DATE	REVISION	BY

PROJECT: WACCABUC COUNTRY CLUB BEACH CLUB IMPROVEMENTS

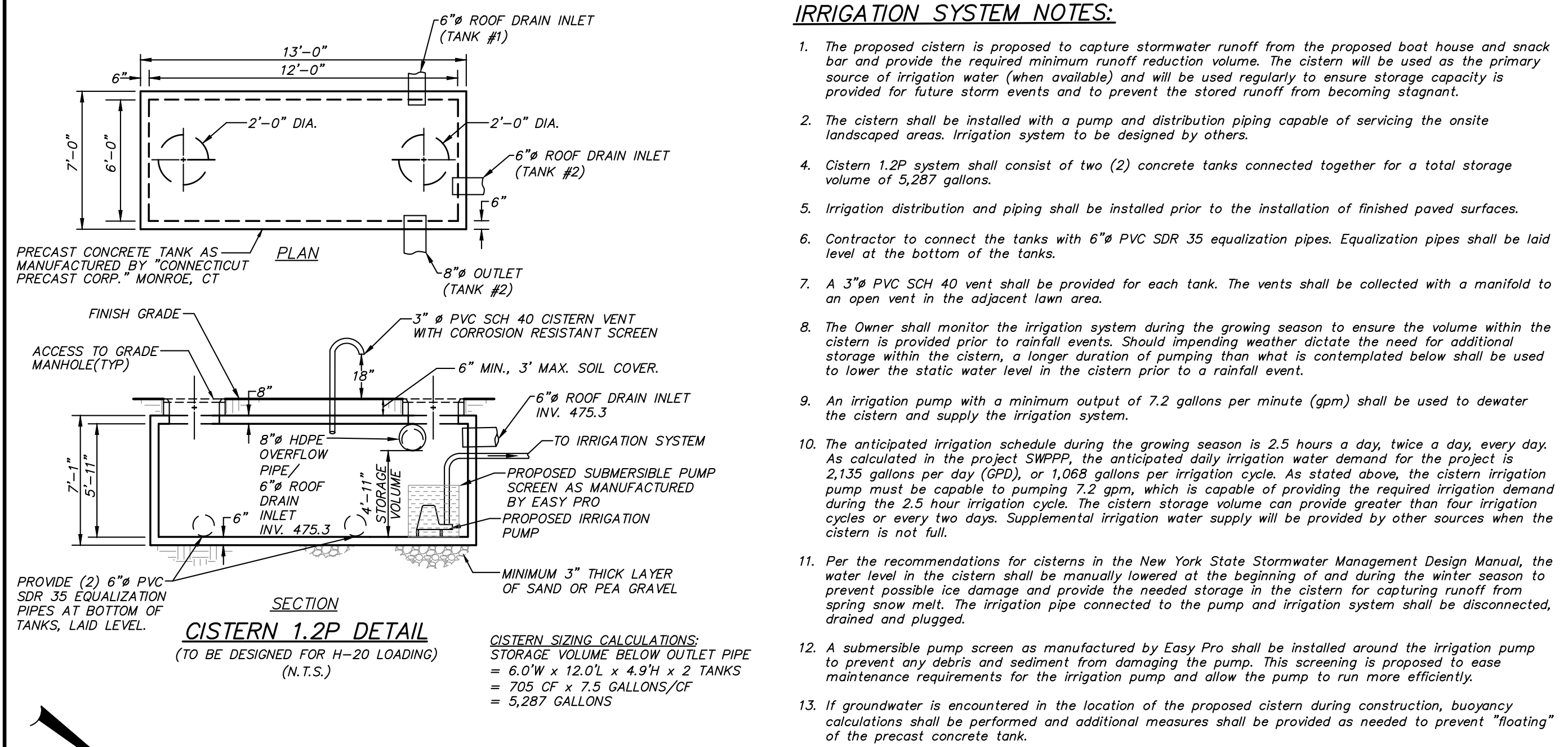
90 MEAD ST., WACCABUC, TOWN OF LEWISBORO, WESTCHESTER CTY, NY

DRAWING: SITE DETAILS

PROJECT NUMBER: 20228.100
DATE: 2-8-22
SCALE: AS SHOWN

PROJECT MANAGER: Z.M.P.
DRAWN BY: E.R.A.
CHECKED BY: D.L.M.

DRAWING NO. 7
SHEET 9



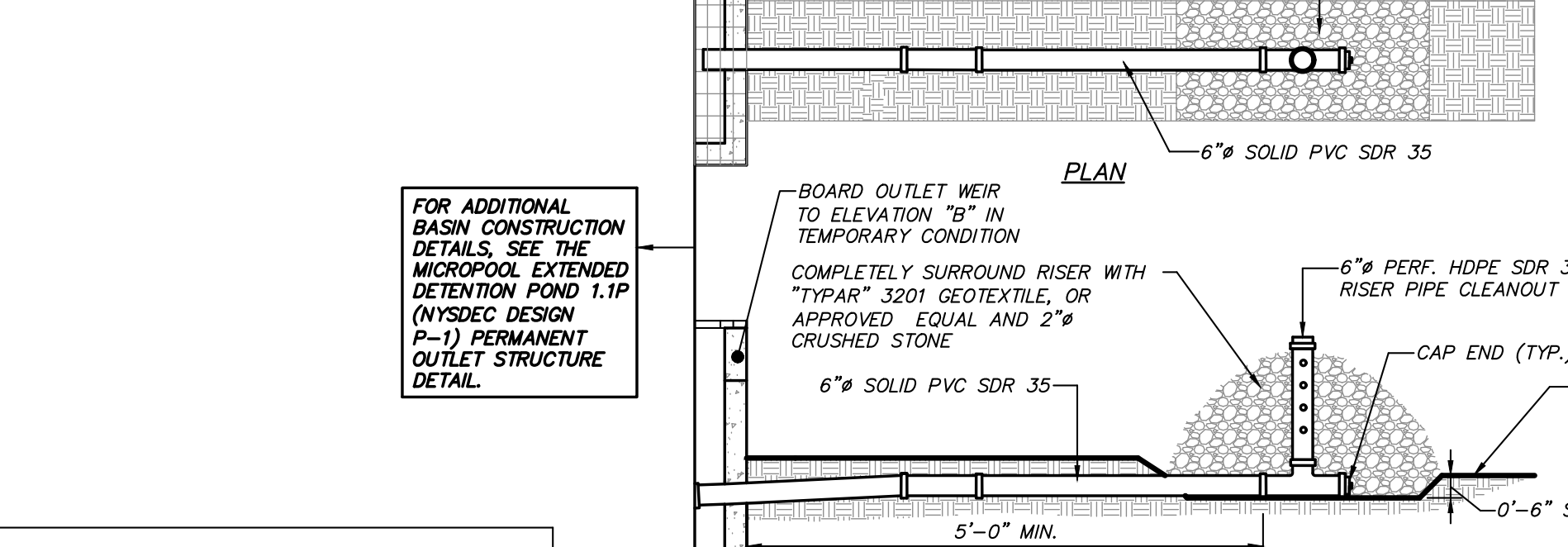
IRRIGATION SYSTEM NOTES:

- The proposed system is proposed to capture stormwater runoff from the proposed boat house and snack bar and provide the required minimum runoff reduction volume. The system will be used as the primary source of irrigation water (when available) and will be used regularly to ensure storage capacity is provided for future storm events and to prevent the stored runoff from becoming stagnant.
- The system shall be installed with a pump and distribution piping capable of servicing the onsite landscaped areas. Irrigation system to be designed by others.
- Cistern 1.2P system shall consist of two (2) concrete tanks connected together for a total storage volume of 5,287 gallons.
- Irrigation distribution and piping shall be installed prior to the installation of finished paved surfaces.
- Contractor to connect the tanks with 6" PVC SDR 35 equalization pipes. Equalization pipes shall be laid level at the bottom of the tanks.
- A 3" PVC SDR 40 vent shall be provided for each tank. The vents shall be collected with a manifold to an open vent in the adjacent lawn area.
- The Owner shall monitor the irrigation system during the growing season to ensure the volume within the cistern is provided prior to irrigation events. Should impending weather dictate the need for additional storage within the cistern, a longer duration of pumping than what is contemplated below shall be used to lower the static water level in the cistern prior to a rainfall event.
- An irrigation pump with a minimum output of 7.2 gallons per minute (gpm) shall be used to dewater the cistern and supply the irrigation system.
- The anticipated irrigation schedule during the growing season is 2.5 hours a day, twice a day, every day. As calculated in the project SWPPP, the anticipated daily irrigation water demand for the project is 2,135 gallons per day (GPD), or 1,068 gallons per irrigation cycle. As stated above, the cistern irrigation pump must be capable of pumping 7.2 gpm, which is capable of providing the required irrigation demand during the 2.5 hour irrigation cycle. The cistern storage volume can provide greater than four irrigation cycles or every two days. Supplemental irrigation water supply will be provided by other sources when the cistern is not full.
- Per the recommendations for cisterns in the New York State Stormwater Management Design Manual, the water level in the cistern shall be manually lowered at the beginning of and during the winter season to prevent possible ice damage and provide the needed storage in the cistern for capturing runoff from spring snow melt. The irrigation pipe connected to the pump and irrigation system shall be disconnected, drained and plugged.
- A submersible pump screen as manufactured by Easy Pro shall be installed around the irrigation pump to prevent any debris and sediment from damaging the pump. This screening is proposed to ease maintenance requirements for the irrigation pump and allow the pump to run more efficiently.
- If groundwater is encountered in the location of the proposed cistern during construction, buoyancy calculations shall be performed and additional measures shall be provided as needed to prevent "floating" of the precast concrete tank.

PERMANENT STORMWATER FACILITIES MAINTENANCE SCHEDULE					
PRACTICE/FACILITY	MONTHLY	AFTER MAJOR STORM EVENTS	BI-ANNUALLY	YEARLY	EVERY 5 TO 10 YEARS
STORMWATER POND	Inspect first few months after construction for erosion, slumping & repair immediately	Inspect for erosion, slumping, eroding soils on the basin berm & embankments, & sources of erosion, & slumping and/or repair immediately	Mow berm and exterior embankments. Remove debris & litter from basin & outlet structures	Inspect and maintain all safety elements including maintenance access, safety/aquatic bench	Inspect for & remove accumulated sediment or when 50% full of General Permit
CISTERN	Inspect tanks and irrigation pump and provide maintenance as required	-	-	Inspect for & remove accumulated sediment	-

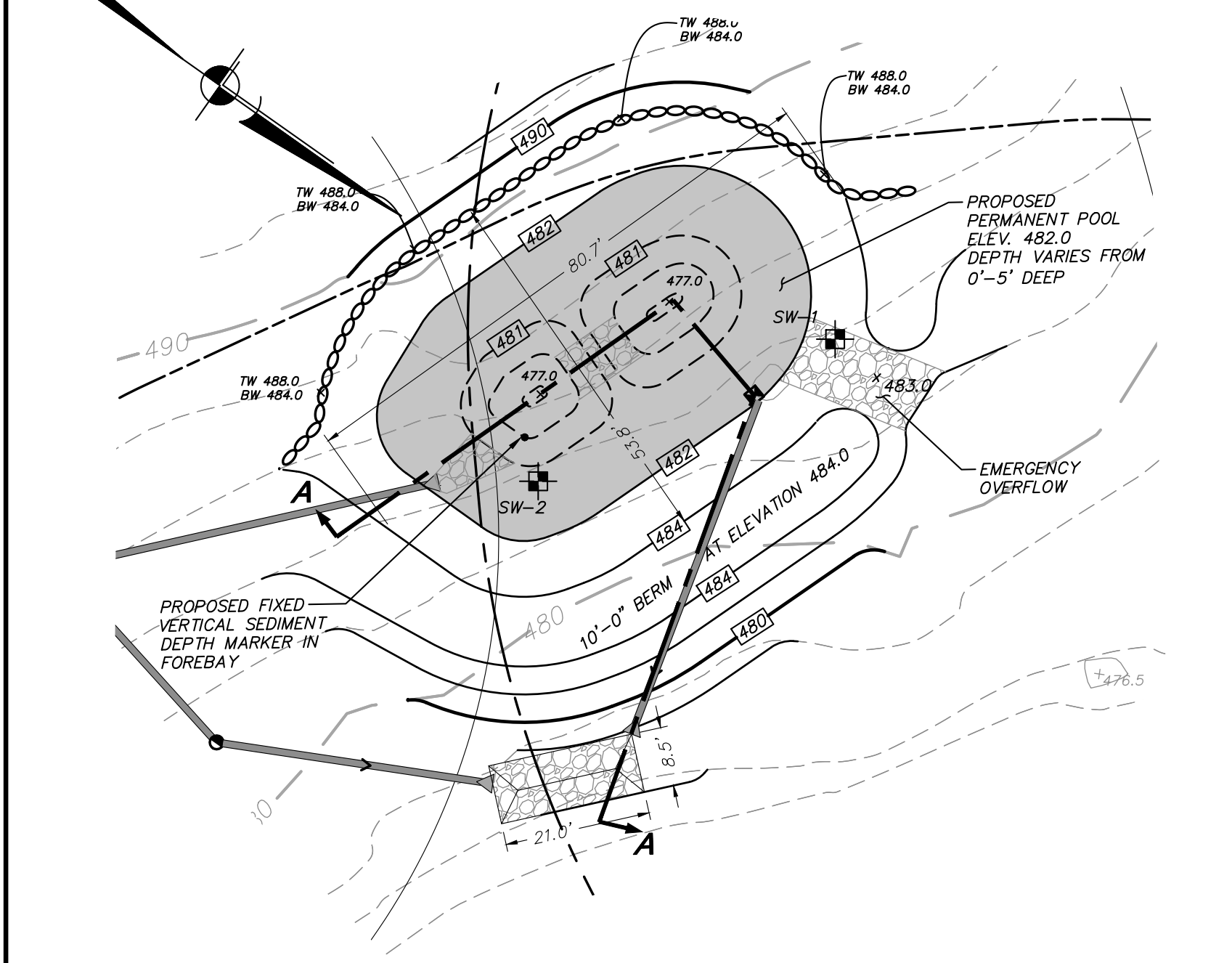
Note: The party responsible for implementation of the maintenance schedule during and after construction is:

WACCABUC COUNTRY CLUB
90 MEAD STREET
WACCABUC, NY 10597



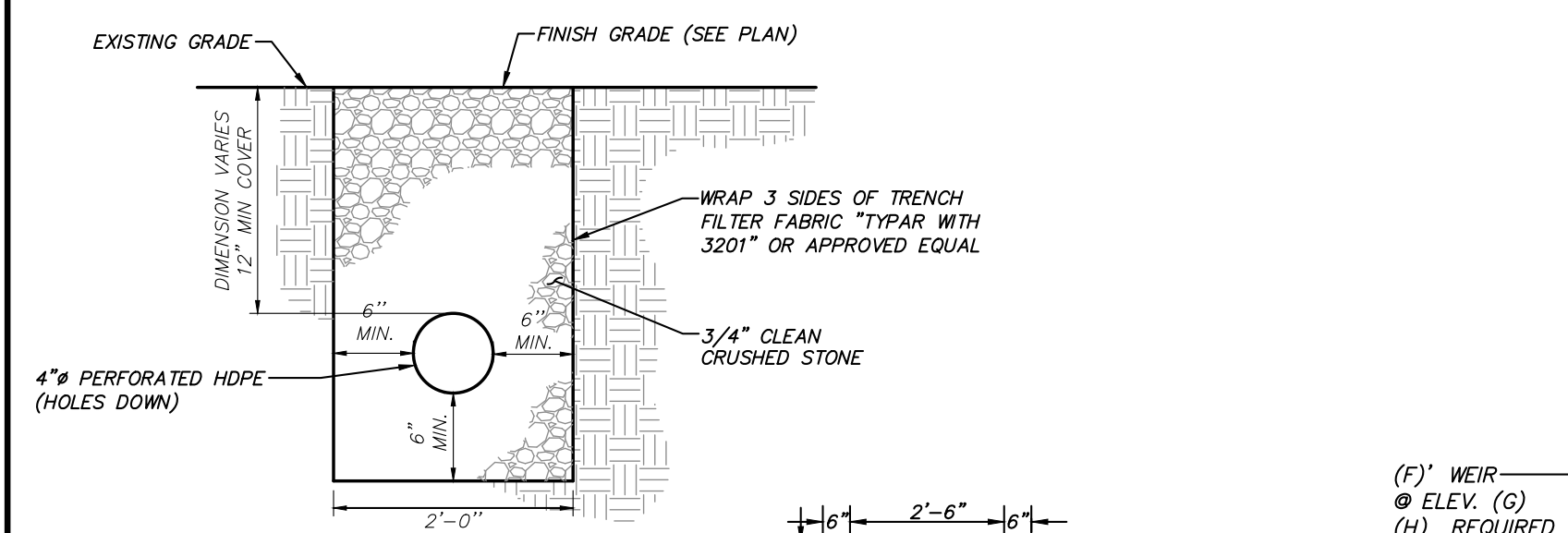
TEMPORARY SEDIMENT TRAP NOTES

- THE MICROPOOL EXTENDED DETENTION POND IS PROPOSED TO BE UTILIZED AS TEMPORARY SEDIMENT BASINS DURING CONSTRUCTION.
- AFTER THE CONTRIBUTING AREAS TO THE BASIN HAVE BEEN PERMANENTLY STABILIZED, THE FOLLOWING SHALL BE ACCOMPLISHED:
FOR MICROPOOL EXTENDED DETENTION POND:
A. CLEAN BASIN AND OUTLET STRUCTURE AND REMOVE 6" PERFORATED VERTICAL RISER PIPE, CRUSHED STONE AND FILTER FABRIC.
B. ADD THREADED CAP WITH ORIFICE AT DISCHARGE END OF 6" SOLID PVC SDR 35 PIPES PER DETAIL.
C. REPLACE THE PERFORATED PIPE AND CRUSHED STONE. DO NOT REPLACE FILTER FABRIC.
D. ESTABLISH THE FINAL VEGETATION IN THE BASIN IN ACCORDANCE PER PROJECT PLANS.
- FOLLOW: * WHEN INITIALLY USED AS THE TEMPORARY SEDIMENT BASIN DOWATERING DEVICE THE RISER SHALL BE WRAPPED WITH TYPAR 3201 GEOTEXTILE OR APPROVED EQUAL AND SURROUNDED WITH 2" STONE. THE TOP OF THE RISER SHALL BE SET AT THE SAME ELEVATION AS THE WEIR AS SHOWN IN THE STORMWATER BASIN OUTLET STRUCTURE DETAILS.



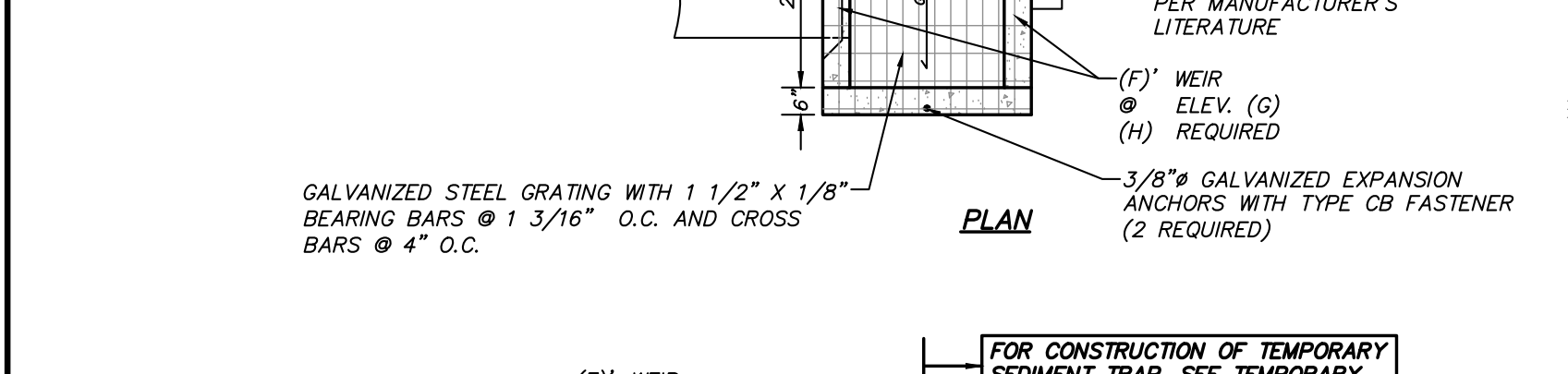
ENLARGED MICROPOOL EXTENDED DETENTION POND PLAN

SCALE: 1" = 20'



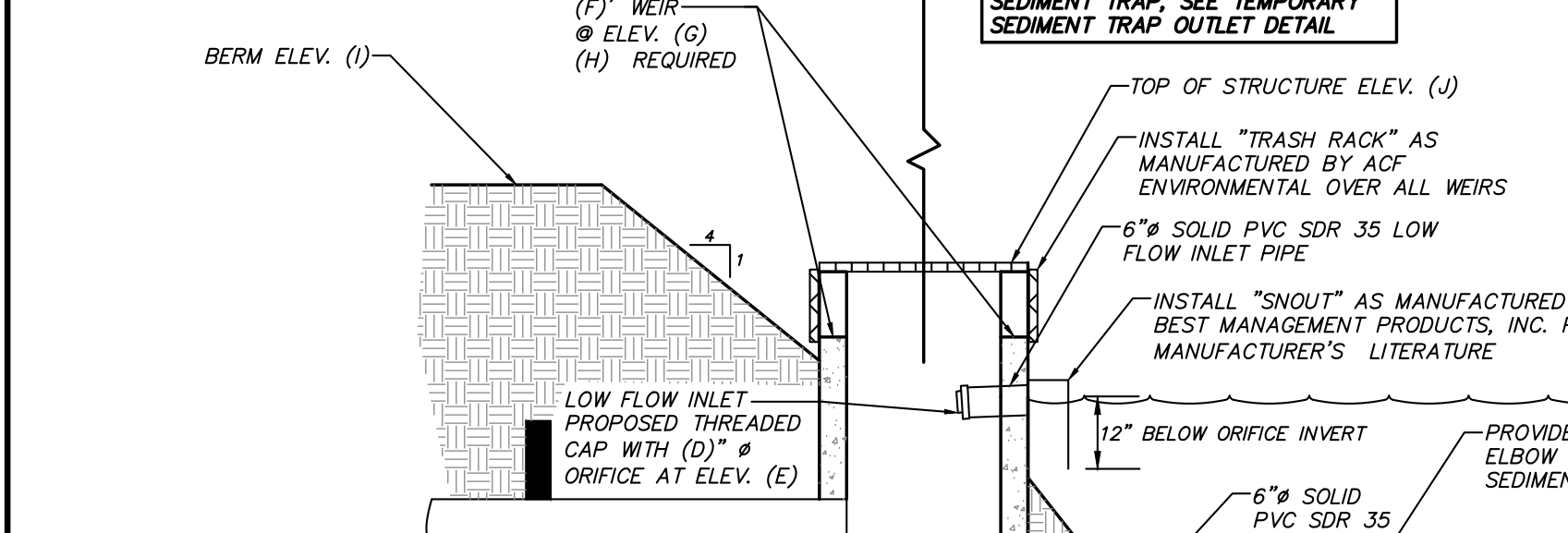
UNDERDRAIN DETAIL

(N.T.S.)



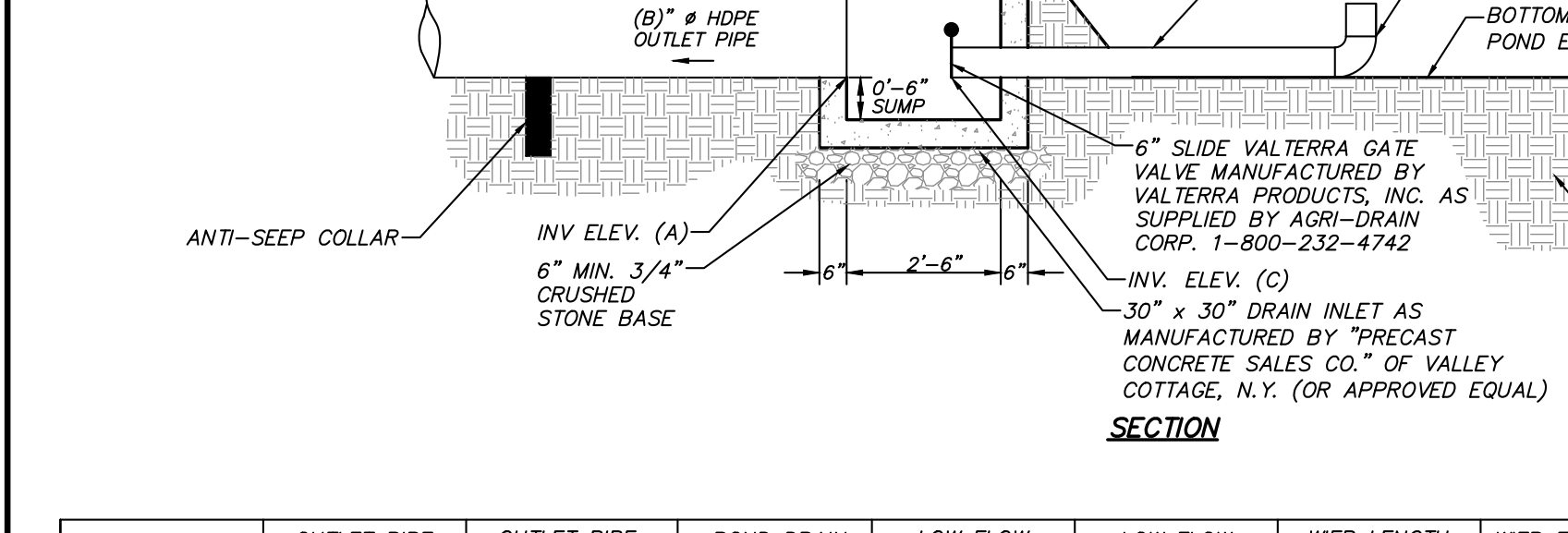
POND SECTION A-A PROFILE

SCALE: HORIZ. 1" = 20'
VER. 1" = 10'



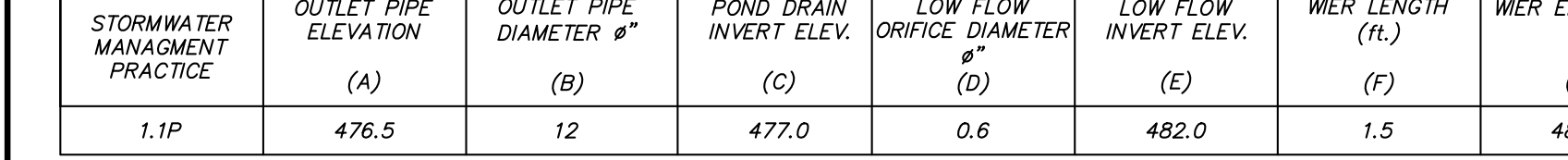
DRAINAGE MANHOLE DETAIL

(N.T.S.)



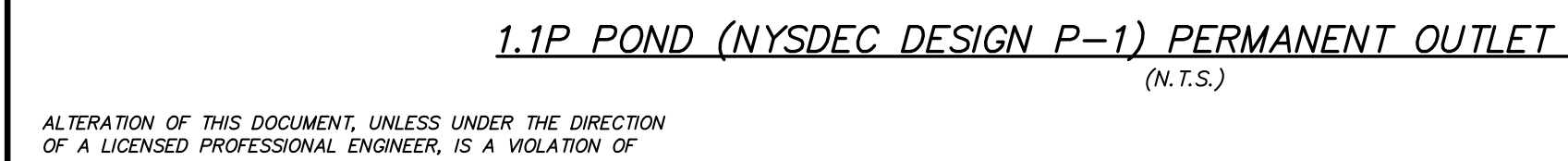
ROCK OUTLET PROTECTION DETAIL

(N.T.S.)



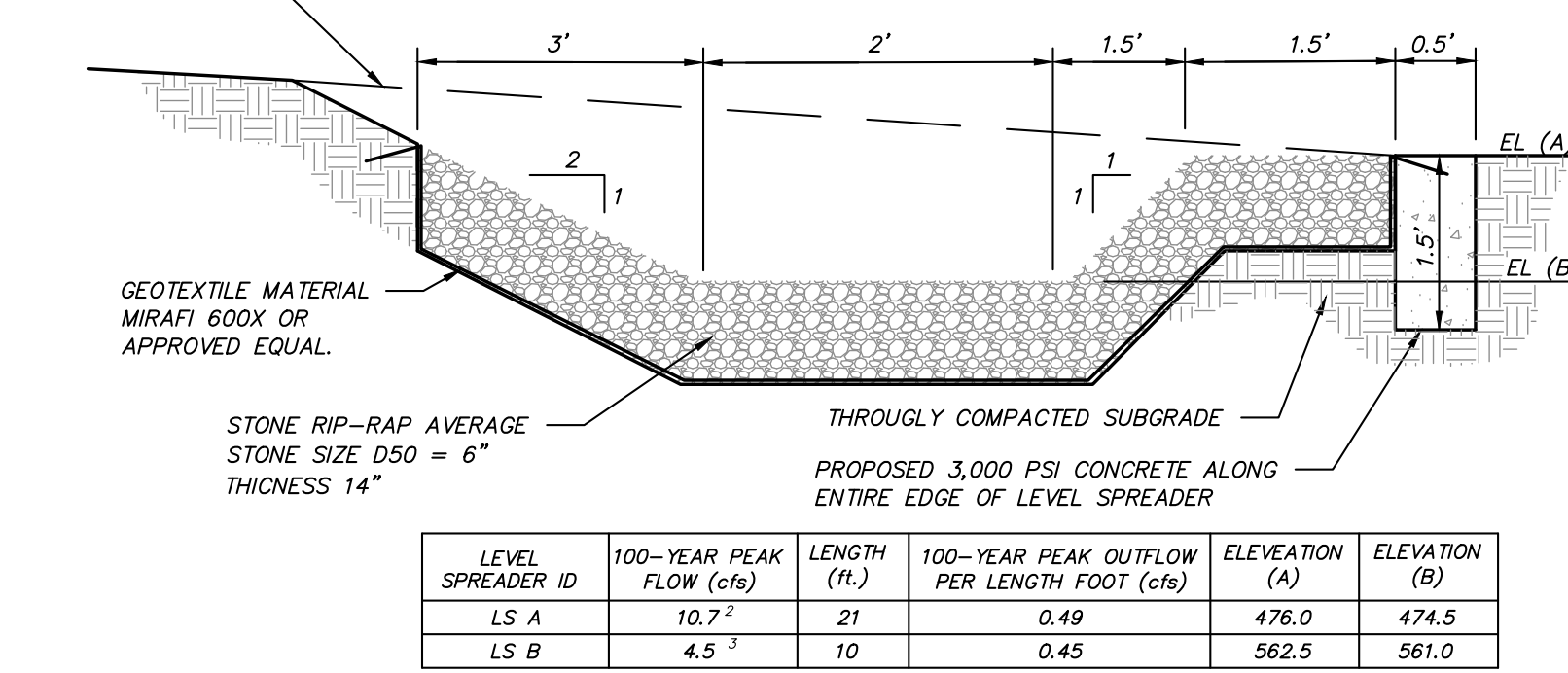
END SECTION DETAIL

(N.T.S.)



EMERGENCY OVERFLOW SPILLWAY DETAIL

(N.T.S.)

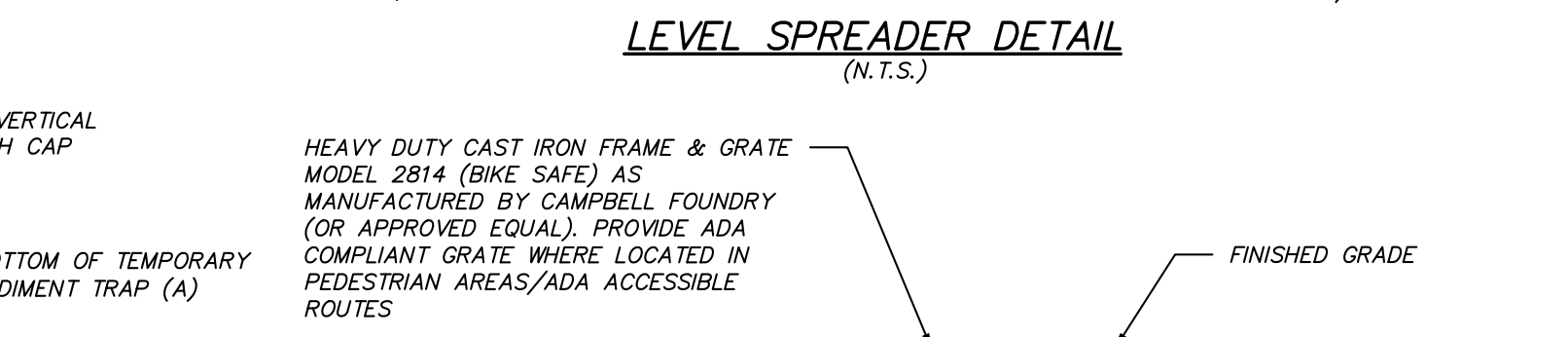


LEVEL SPREADER DETAIL

(N.T.S.)

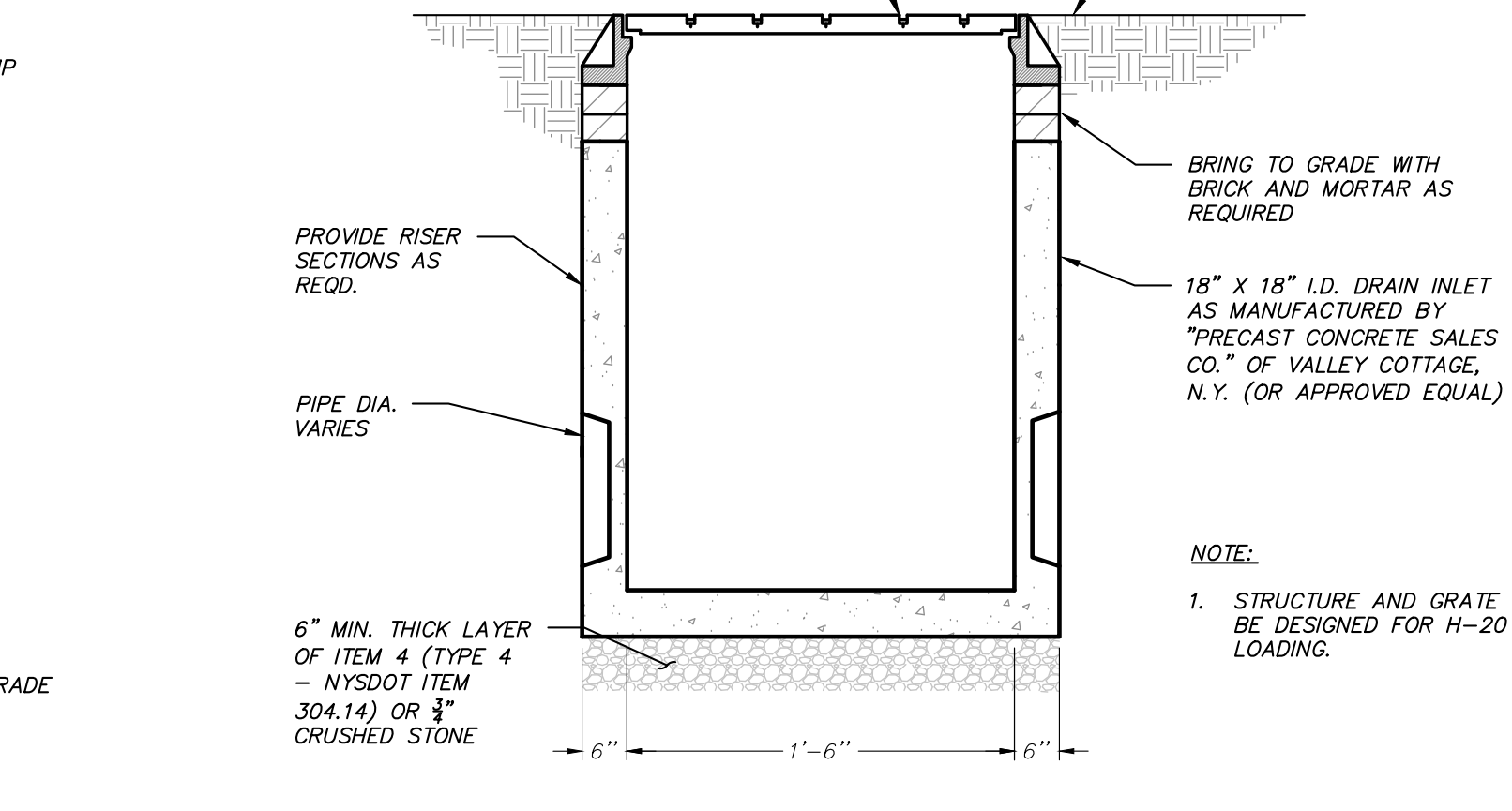
LEVEL SPREADER ID	100-YEAR PEAK FLOW (cfs)	LENGTH (ft)	100-YEAR PEAK FLOW PER LENGTH FOOT (cfs/ft)	ELEVATION (ft)	ELEVATION (ft)
LS A	10.77	21	0.49	476.0	474.5
LS B	4.5	10	0.45	562.5	561.0

- THE LEVEL SPREADERS HAVE BEEN SIZED TO PROVIDE LESS THAN 0.5 CFS PER LINEAR FOOT IN ACCORDANCE WITH THE "NEW YORK STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL", LATEST EDITION.
- THE 100-YEAR PEAK FLOW FOR THE LEVEL SPREADER WAS TAKEN FROM THE POST-DEVELOPMENT COMPUTER DATA CONTAINED IN APPENDIX C OF THE PROJECT STORMWATER POLLUTION PREVENTION PLAN.
- THE 100-YEAR PEAK FLOW FOR THE LEVEL SPREADER WAS CALCULATED BASED ON A CONTRIBUTING AREA OF 0.3 ACRES, TIME OF CONCENTRATION OF 10 MINUTES AND RAINFALL INTENSITY OF 7.50 IN./HR.



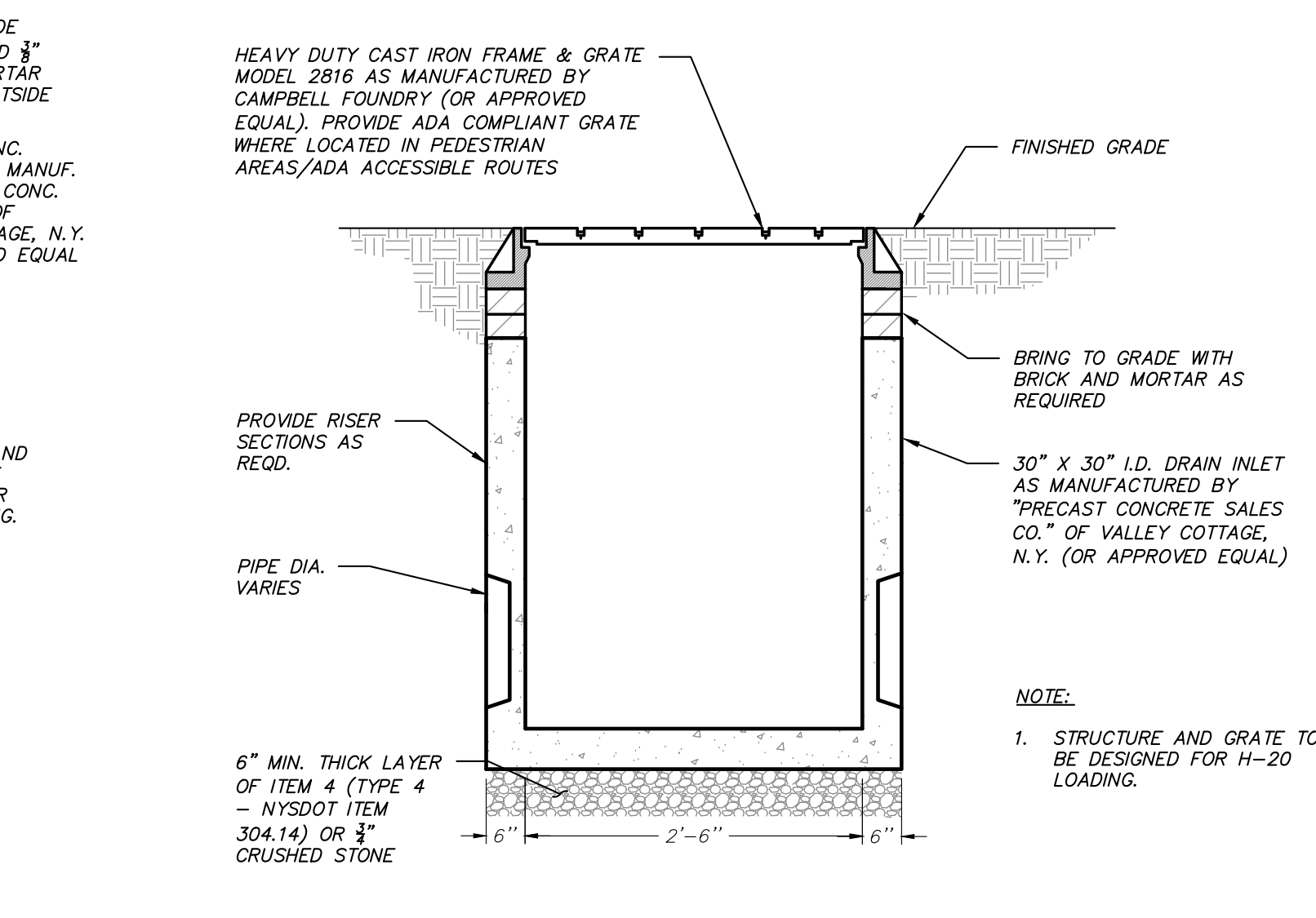
18" x 18" DRAIN INLET DETAIL

(N.T.S.)



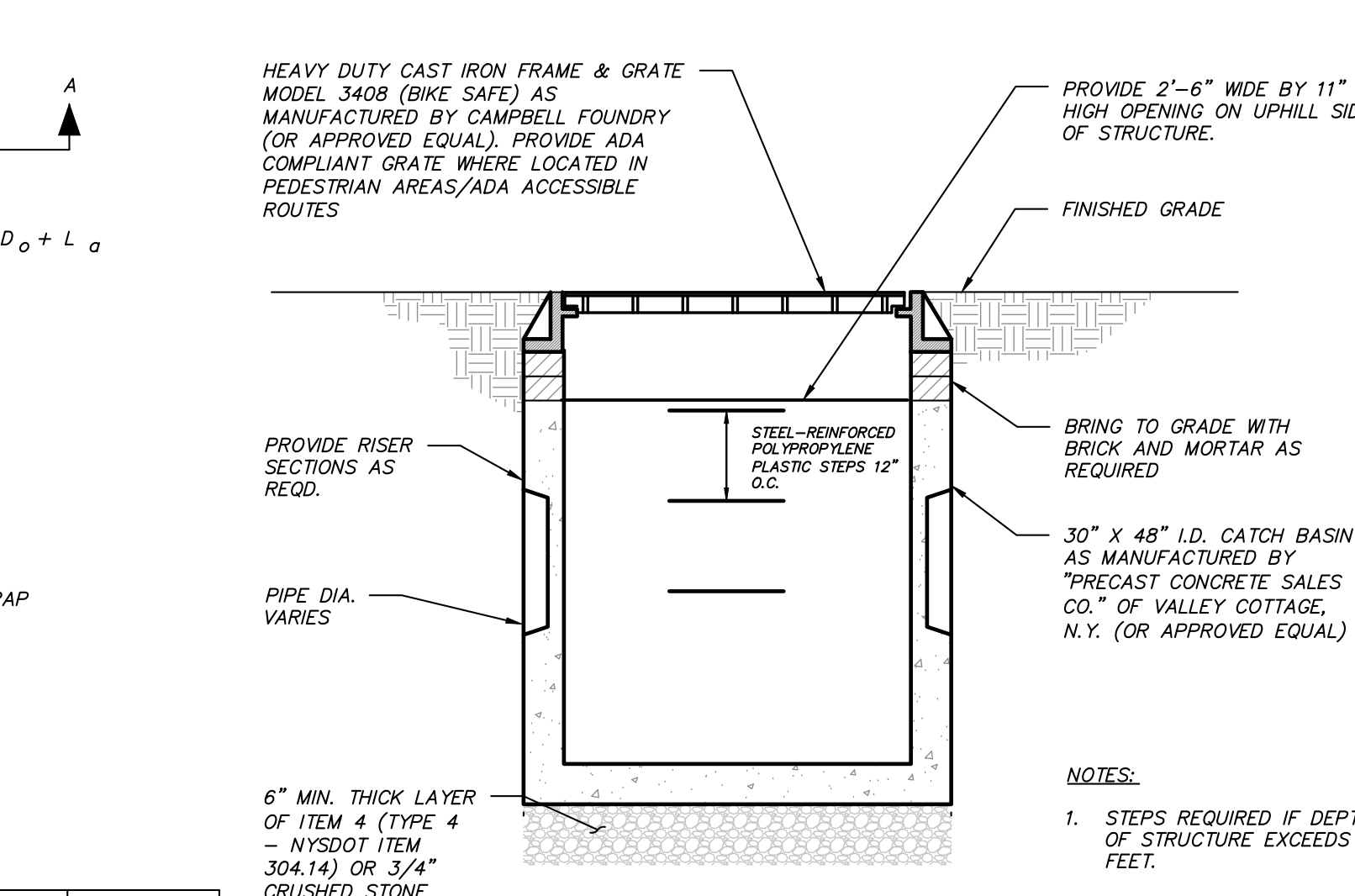
30" x 30" DRAIN INLET DETAIL

(N.T.S.)



DRAINAGE LINE TRENCH DETAIL

(N.T.S.)



SIDE DRAIN INLET DETAIL

(N.T.S.)

- STEPS REQUIRED IF DEPTH OF STRUCTURE EXCEEDS 4 FEET.
- STRUCTURE AND GRATE TO BE DESIGNED FOR H-20 LOADING.

REQUIRED SWPPP CONTENTS PER GP-0-20-001:

1. Pursuant to the NYSDEC "SPDES General Permit for Stormwater Discharges from Construction Activity" (GP-0-20-001), all Stormwater Pollution Prevention Plan's (SWPPP) shall include erosion and sediment control practices designed in accordance with the most current version of the technical standards, "New York Standards and Specifications for Erosion and Sediment Control". Where erosion and sediment control practices are not designed in accordance with the technical standard, the owner or operator must demonstrate equivalence to the technical standard. The following list of required SWPPP components is provided in accordance with Part III.B.1.a-i of General Permit.

Background Information: The subject project consists of the redevelopment of the existing Beach Club portion of Waccabuc Country Club including modifications to the existing concession stand and boat house and construction of a covered deck, access driveway, handicap accessible parking area and associated improvements.

- Site map / construction drawing: These plans serve to satisfy this SWPPP requirement.
- Description of the soils present at the site. Onsite soils located within the proposed limits of disturbance consist of Cherted-Charlton Complex (Ccd), and Easton Fine Sandy Loam (Pdc), as identified on the Soil Conservation Service Web Soil Survey. These soil types belong to the Hydrologic Soil Groups "A" and "B".
- Construction phasing plan / sequence of operations: The Construction Sequence and phasing found on these plans provide the required phasing. A Construction Sequence and Erosion and Sediment Control Notes and Details provided herein outline a general sequence of operations for the proposed project. In general all erosion and sediment control practices shall be installed prior to commencement with land disturbing activities, and areas of disturbance shall be limited to the shortest period of time as practicable.
- Description of erosion and sediment control practices: This plan, and details / notes shown herein serve to satisfy this SWPPP requirement.
- Temporary and permanent soil stabilization plan: The Sedimentation and Erosion Control Notes and Details provided herein identify temporary and permanent stabilization measures to be employed with respect to specific elements of the project, and at the various stages of development.
- Site map / construction drawing: This plan serves to satisfy this SWPPP requirement.
- The dimensions, material specifications, installation details, and operation and maintenance requirements for all erosion and sediment control practices: The details, Erosion and Sediment Control Notes, and Erosion and Sediment Control Maintenance Schedule serve to satisfy this SWPPP requirement.
- An inspection schedule: Inspections are to be performed twice weekly and by a qualified professional as required by the General Permit GP-0-15-002. In addition the NYSDEC Trained Contractor shall perform additional inspections as cited in the Sedimentation and Erosion Control Notes.
- A description of pollution prevention measures that will be used to control litter, construction chemicals and construction debris: In general, all construction litter/debris shall be collected and removed from the site. The general contractor shall supply either waste barrels or dumpsters for proper waste disposal. Any construction chemicals utilized during construction shall either be removed from site daily by the contractor or stored in a structurally sound and weatherproof building. No hazardous waste shall be stored on site, and shall ultimately be disposed of in accordance with all federal, state and local regulations. Material Safety Data Sheets (MSDS), general contractor for all construction chemicals utilized onsite. Finally, temporary sanitary facilities (portable toilets) shall be provided onsite during the entire length of construction, and inspected weekly for evidence of leaking holding tanks.
- A description and location of any stormwater discharges associated with industrial activity other than construction at the site. There are no known industrial stormwater discharges present or proposed at the site.
- Identification of any elements of the design that are not in accordance with the technical standard, "New York Standards and Specifications for Erosion and Sediment Control". All proposed elements of this SWPPP have been designed in accordance with the "New York Standards and Specifications for Erosion and Sediment Control".
- Pursuant to the NYSDEC "SPDES General Permit for Stormwater Discharges from Construction Activity" (GP-0-20-001), all construction projects needing post-construction stormwater management practices shall prepare a SWPPP that also includes practices designed in accordance with the most current version of the technical standard, "New York State Stormwater Management Design Manual" ("Design Manual"). Where post-construction stormwater management practices are not designed in accordance with the technical standard, the owner or operator must demonstrate equivalence to the technical standard. The following list of SWPPP components is provided in accordance with Part III.B.2.a-i and III.B.3:
- Identification of all post-construction stormwater management practices to be constructed as part of the project: This plan, and details/notes shown herein serve to satisfy this SWPPP requirement.
- A site map/construction drawing(s) showing the specific location and size of each post-construction stormwater management practice: This plan, and details/notes shown herein serve to satisfy this SWPPP requirement.
- A Stormwater Modeling and Analysis Report including pre-development conditions, post-development conditions, the results of the stormwater modeling, a summary table demonstrating that each practice has been designed in accordance with the sizing criteria, identification of any design criteria that are not required, and the required analysis is provided in the report titled Stormwater Pollution Prevention Plan for Waccabuc Country Club - Beach Club Improvements.
- Soil testing results and locations: This SWPPP requirement is provided in the report titled Stormwater Pollution Prevention Plan for Waccabuc Country Club - Beach Club Improvements.
- Infiltration testing results: This SWPPP requirement is provided in the report titled Stormwater Pollution Prevention Plan for Waccabuc Country Club - Beach Club Improvements.
- An operations and maintenance plan that includes inspection and maintenance schedules and actions to ensure continuous and effective operation of each post-construction stormwater management practice. The plan shall identify the entity that will be responsible for the long term operation and maintenance of each practice. The Permanent Stormwater Facilities Maintenance Schedule provided on these plans serves to satisfy this requirement.
- Enhanced Phosphorus Removal Standards - Beginning on September 30, 2008, all construction projects identified in Table 2 of Appendix B of the technical standard, "New York State Stormwater Management Design Manual" ("Design Manual") shall prepare a SWPPP that includes post-construction stormwater management practices designed in accordance with the Enhanced Phosphorus Removal Standards included in the most current version of the technical standard, "New York Stormwater Management Design Manual". As a minimum, the post-construction stormwater management practice component of the SWPPP shall include items 2.a - 2.i above. The permanent stormwater practices for this project have been sized according to chapter 10 of the Design Manual Enhanced Phosphorus Removal Standards. Please see 2.a - 2.i above.

6 2-7-23 REVISED FOR NYDEC COMMENTS JMM

5 12-9-22 REVISED PER NYDEC COMMENTS EJP

4 7-26-22 REVISED PER TOWN COMMENTS SMR

3 6-28-22 REVISED PER TOWN COMMENTS SMR

2 5-31-22 REVISED PER TOWN COMMENTS SMR

1 3-29-22 REVISED PER TOWN COMMENTS SMR

NO.	DATE	REVISION	BY
6	2-7-23	REVISED FOR NYDEC COMMENTS	JMM
5	12-9-22	REVISED PER NYDEC COMMENTS	EJP
4	7-26-22	REVISED PER TOWN COMMENTS	SMR
3	6-28-22	REVISED PER TOWN COMMENTS	SMR
2	5-31-22	REVISED PER TOWN COMMENTS	SMR
1	3-29-22	REVISED PER TOWN COMMENTS	SMR

TOWN ENGINEER'S CERTIFICATION

Reviewed for compliance with the Planning Board Resolution dated _____ Date _____

Joseph Cermele, P.E.
Kellard Sessions Consulting
Town Consulting Engineer

PLANNING BOARD APPROVAL

Approved by the Resolution of the Lewisboro Planning Board.

Chair _____ Date _____

Administrator _____ Date _____

OWNER'S / APPLICANT'S CERTIFICATIONS

The undersigned is the owner(s) of the property shown herein, is familiar with this drawing and its contents, and hereby approves the same for filing.

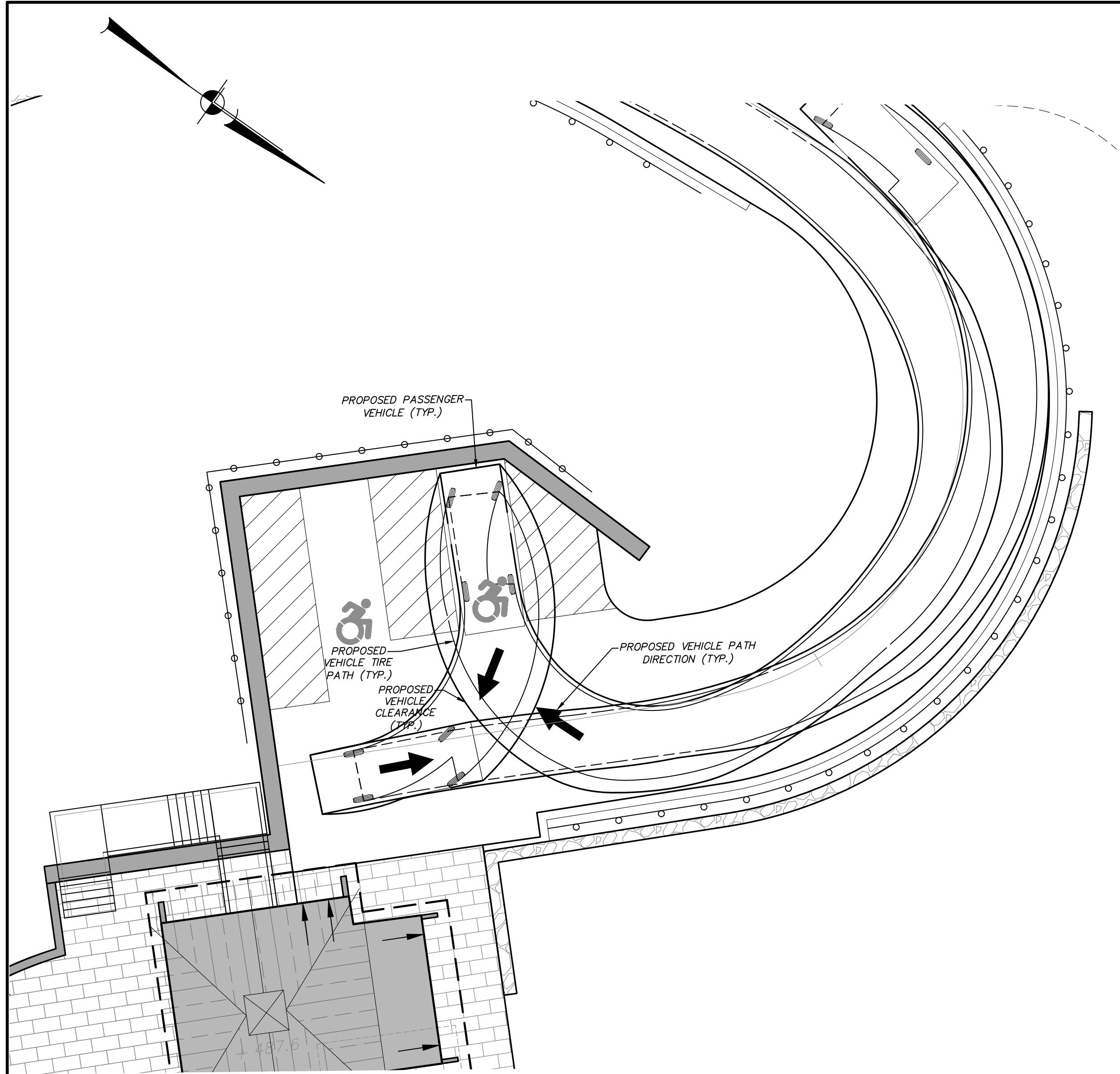
Waccabuc Country Club
90 Mead Street
Waccabuc, NY 10597

PROJECT: WACCABUC COUNTRY CLUB BEACH CLUB IMPROVEMENTS

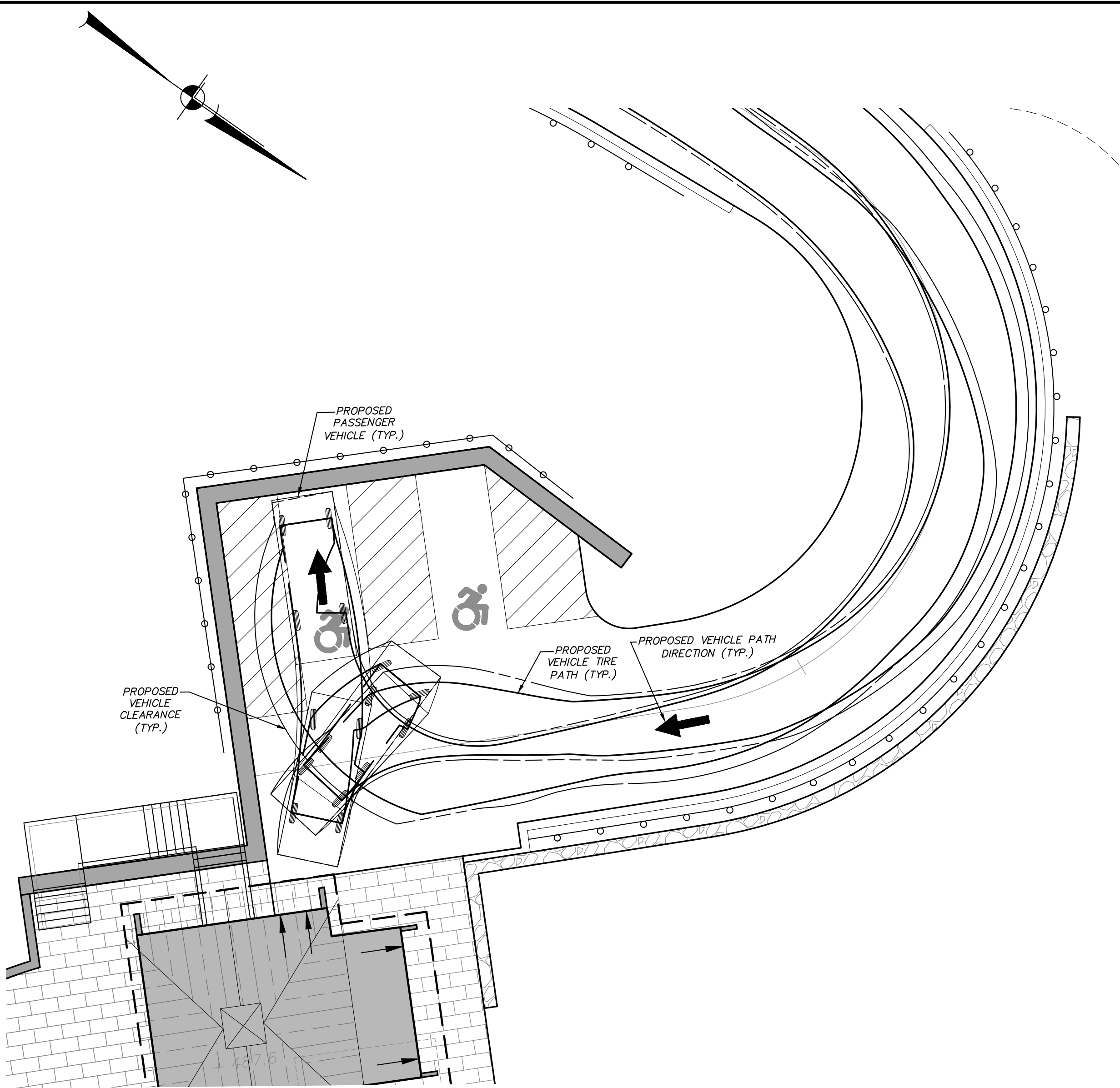
90 MEAD ST., WACCABUC, TOWN OF LEWISBORO, WESTCHESTER CITY, NY

DRAWING: SITE DETAILS

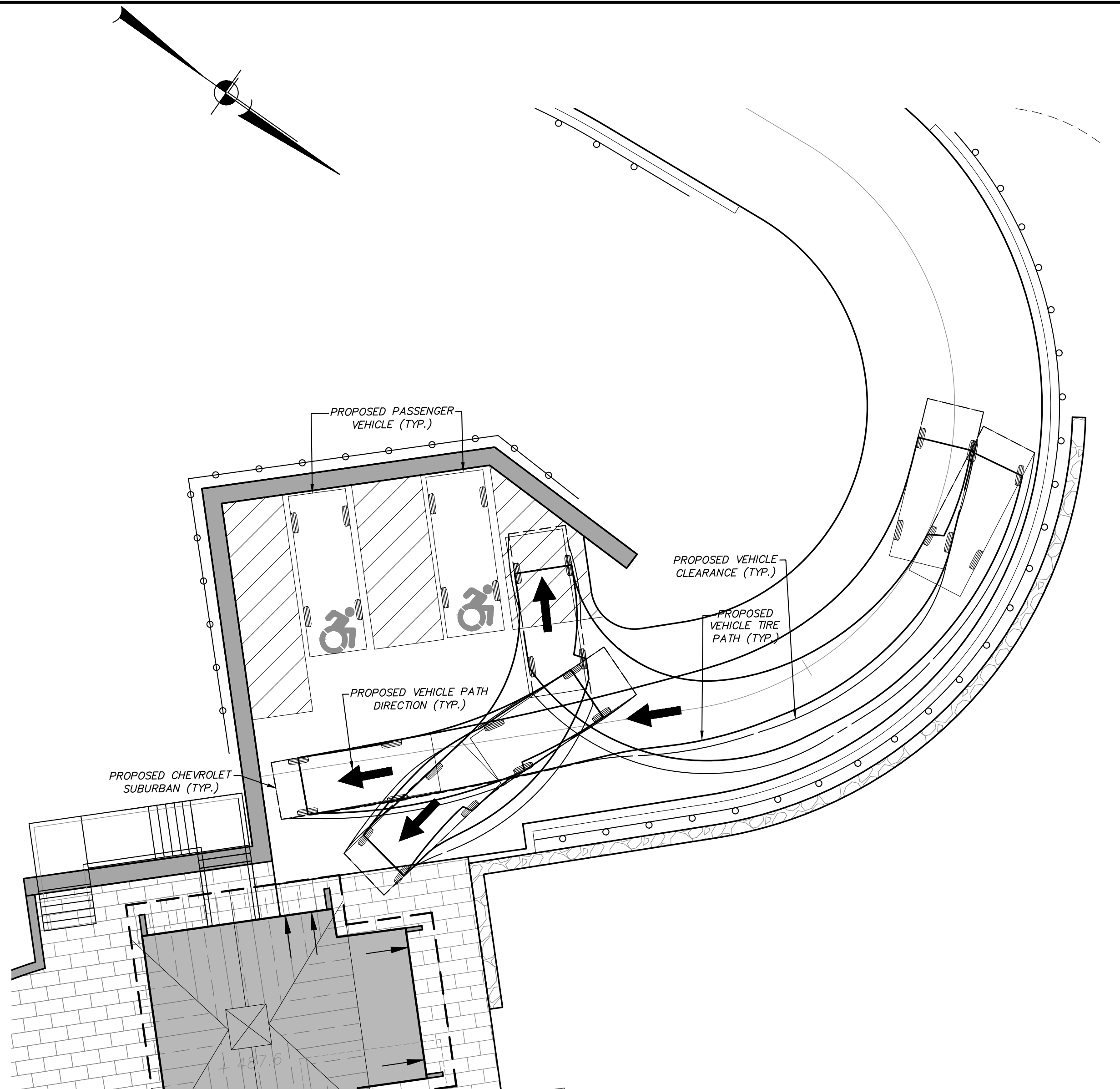
PROJECT NUMBER	20228.100	PROJECT MANAGER	Z.M.P.	DRAWING NO.	SHEET
DATE	2-8-22	DRAWN BY	E.R.A.	D-2	8
SCALE	AS SHOWN	CHECKED BY	D.L.M.		9



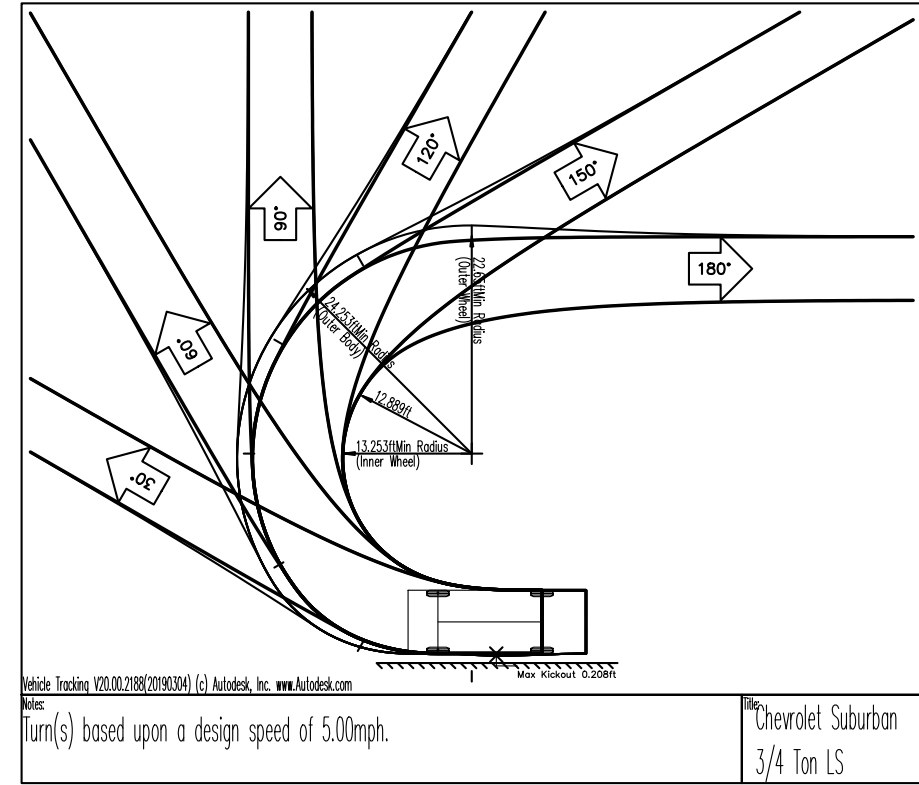
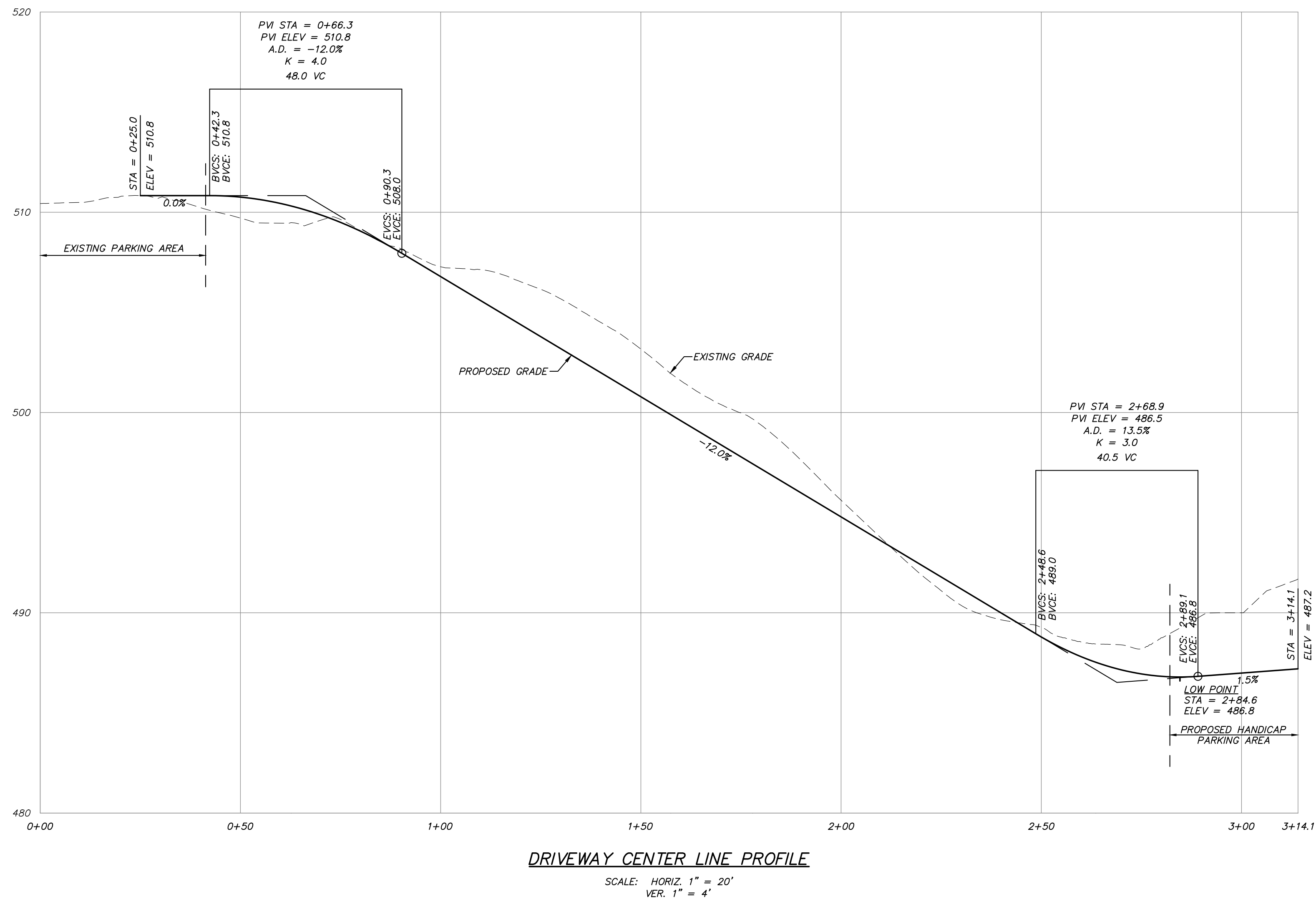
1. PASSENGER VEHICLE TURNING STUDY WITH PASSENGER CAR
SCALE: 1" = 10'



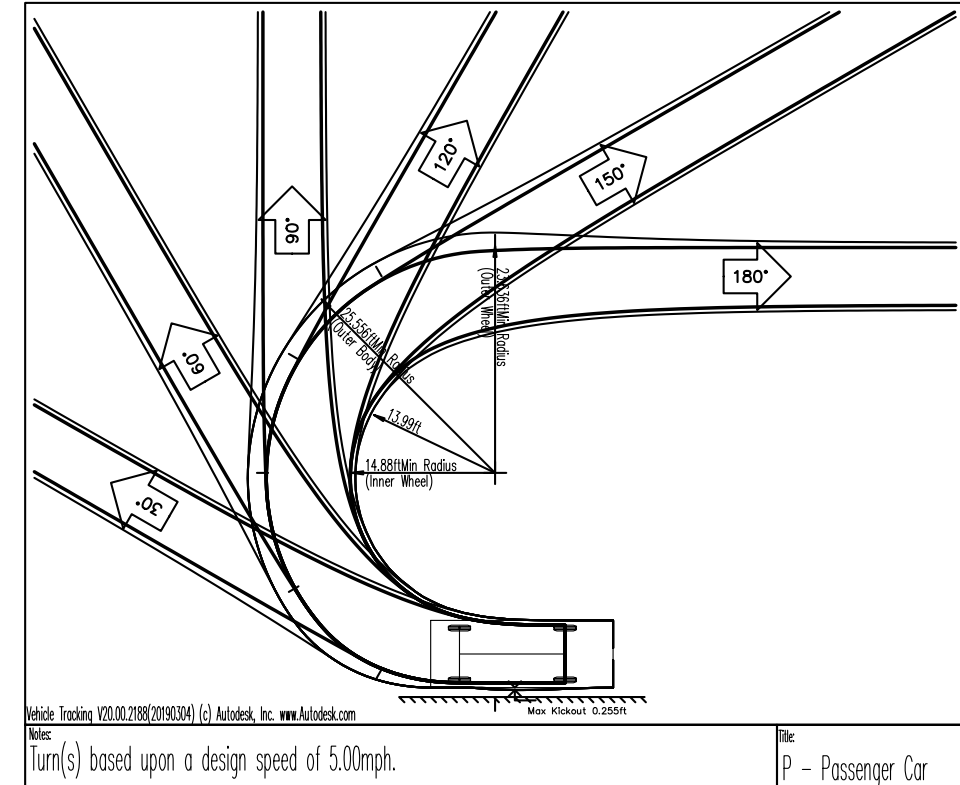
2. PASSENGER VEHICLE TURNING STUDY WITH PASSENGER CAR
SCALE: 1" = 10'



3. PASSENGER VEHICLE TURNING STUDY WITH CHEVROLET SUBURBAN
SCALE: 1" = 10'



CHEVROLET SUBURBAN TEMPLATE

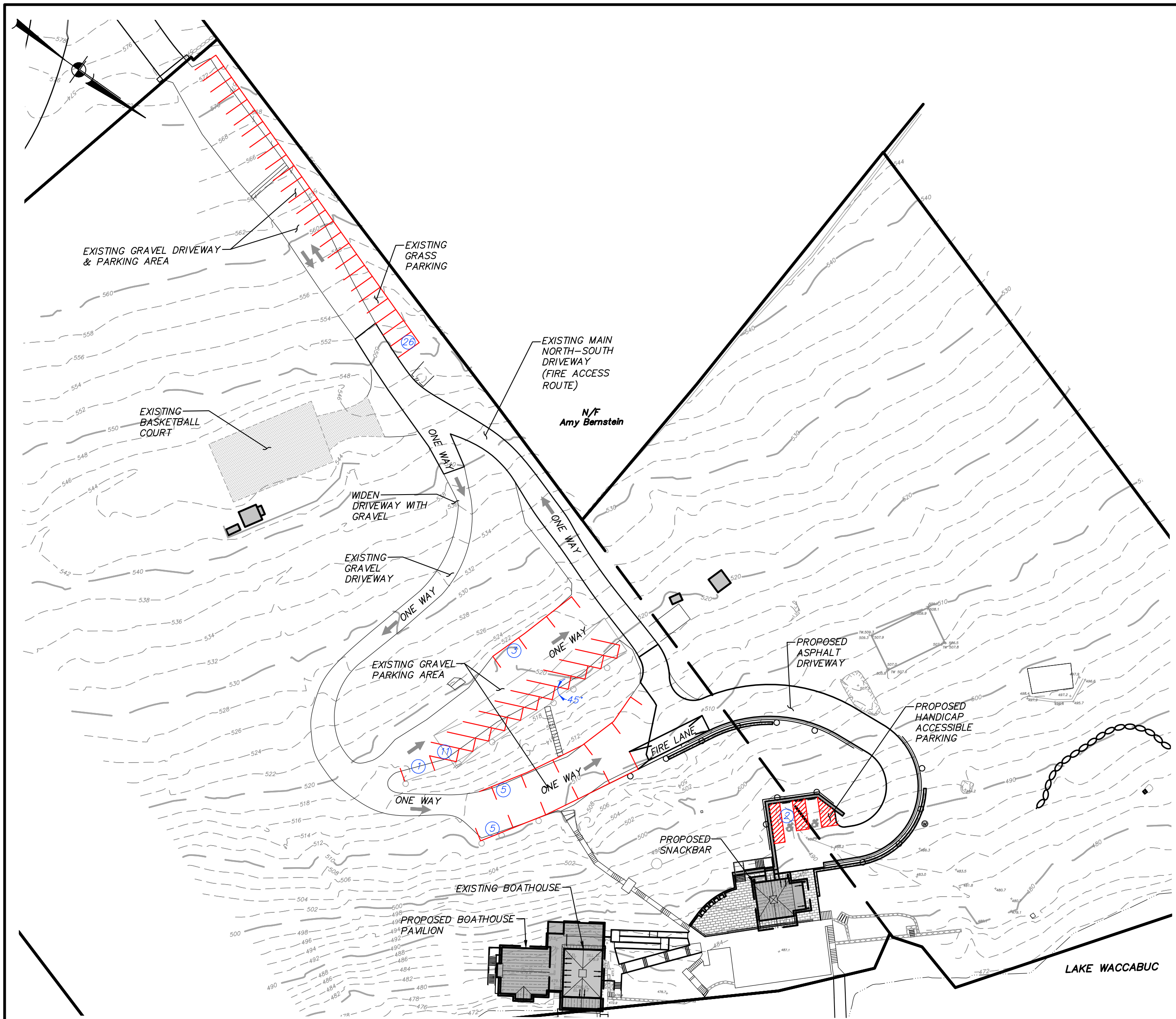


PASSENGER VEHICLE TEMPLATE

PLANNING BOARD APPROVAL	
Approved by the Resolution of the Lewisboro Planning Board.	
Chair	Date
Administrator	Date
TOWN ENGINEER'S CERTIFICATION	
Reviewed for compliance with the Planning Board Resolution dated	
Joseph Cernello, P.E. Kellard Sessions Consulting Town Consulting Engineer	Date
OWNER'S / APPLICANT'S CERTIFICATIONS	
The undersigned is the owner(s) of the property shown hereon, is familiar with this drawing and its contents, and hereby approves the same for filing.	
Waccabuc Country Club 90 Mead Street Waccabuc, NY 10997	Date

5	2-7-23	REVISED FOR NYCDEP COMMENTS	JMM
4	12-9-22	REVISED PER NYCDEP COMMENTS	EJP
3	7-26-22	REVISED PER TOWN COMMENTS	SMR
2	6-28-22	REVISED PER TOWN COMMENTS	SMR
1	5-31-22	REVISED PER TOWN COMMENTS	SMR
NO.	DATE	REVISION	BY

INSITE ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.		3 Garrett Place Carmel, NY 10512 (845) 225-9690 (845) 225-9717 fax www.insite-eng.com	
PROJECT: WACCABUC COUNTRY CLUB BEACH CLUB IMPROVEMENTS			
90 MEAD ST., WACCABUC, TOWN OF LEWISBORO, WESTCHESTER CTY, NY			
DRAWING: DETAILS			
PROJECT NUMBER	20228.100	PROJECT MANAGER	Z.M.P.
DATE	3-29-22	DRAWN BY	S.M.R.
SCALE	AS SHOWN	CHECKED BY	D.L.M.
DRAWING NO.	SHEET		
D-3	9		



PARKING TABLE

Parking Requirements:

For Golf or Country Club per Section 220-56 of Town of Lewisboro Zoning Code

1 space per 3 members x 390 members (*)	= 130 spaces
1 space per each 3 seats of max. capacity (**)	= 0 spaces
Total spaces required	= 130 spaces

(*) Waccabuc Country Club current membership is 390 members.

(**) Meeting and dining room seats provided at main club site, not at Beach Club.

Parking Provided on site ***:

= 53 spaces (***)

(***) Parking variance granted for 77 spaces by Town of Lewisboro ZBA on 1-25-2023.

(****) Existing on site parking has historically proven sufficient for typical uses at the site. When additional event parking is needed, it is provided at the main club and members/guests are shuttled to/from the site via club vans. Parking provided on site is seasonal. The parking areas are gravel and partially grass and pavement markings are not provided. This drawing provides a general representation of parking at site.

5	2-7-23	PLANNING BOARD SUBMISSION	MEU
4	11-7-22	REVISED FOR BUILDING INSPECTOR	SMR
3	10-20-22	REVISED PER TOWN COMMENTS	MEU
2	9-27-22	REVISED PER TOWN COMMENTS	MEU
1	5-31-22	REVISED PER TOWN COMMENTS	SMR
NO.	DATE	REVISION	BY



PROJECT:
**WACCABUC COUNTRY CLUB
BEACH CLUB IMPROVEMENTS**

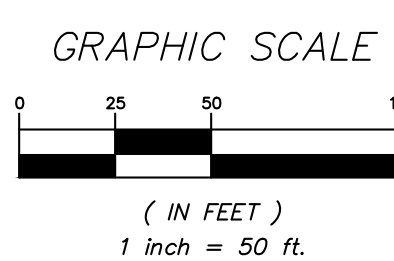
90 MEAD ST., WACCABUC, TOWN OF LEWISBORO, WESTCHESTER CTY, NY

DRAWING:
PARKING ASSESSMENT

PROJECT NUMBER	20228.100	PROJECT MANAGER	Z.M.P.
DATE	3-29-22	DRAWN BY	S.M.R.
SCALE	1" = 50'	CHECKED BY	D.L.M.



DRAWING NO.	SHEET
PA-1	1/1



ALTERATION OF THIS DOCUMENT, UNLESS UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, IS A VIOLATION OF SECTION 7209 OF ARTICLE 145 OF THE EDUCATION LAW.



STORMWATER POLLUTION PREVENTION PLAN

For

**Waccabuc Country Club – Beach Club Improvements
Town of Lewisboro, New York**

February 7, 2023

Applicant Information:

Waccabuc Country Club
90 Mead Street
Waccabuc, New York 10597

Note: This report in conjunction with the project plans make up the complete Stormwater Pollution Prevention Plan.

Prepared by:
Insite Engineering, Surveying & Landscape Architecture, P.C.
3 Garrett Place
Carmel, New York 10512

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APPENDICES

Appendix A	RR _v Calculations
Appendix B	Pre-Development Computer Data
Appendix C	Post-Development Computer Data
Appendix D	NYSDEC SPDES for Construction Activities Construction Site Log Book
Appendix E	Project and Owner Information
Appendix F	NYSDEC Stormwater/Wetland Pond Construction and Maintenance Checklist
Appendix G	Pipe Sizing Calculations
Appendix H	Draft NYSDEC Notice of Intent and MS4 SWPPP Acceptance Form
Appendix I	Temporary Sediment Trap Sizing Calculations
Appendix J	Draft Stormwater Maintenance Agreement
Appendix K	Rock Outlet Protection Sizing

FIGURES

Figure 1:	Location Map
Figure 2:	Pre-Development Drainage Map
Figure 3:	Post-Development Drainage Map
Figure 4:	Impervious Redevelopment Plan
Figure 5:	Testing Plan

1.0 INTRODUCTION

1.1 Project Description

The subject project is located on two (2) parcels totaling $9.1 \pm$ acres on Perch Bay Road in the Town of Lewisboro. The parcels and their surroundings are delineated on the attached Location Map (Figure 1). The parcels are designated as Tax Map Number 32.4-3-13 and 32.4-3-14 and are located in the R-4A zoning district. The subject parcels are currently developed as the Beach Club portion of Waccabuc Country Club with a concession stand, boat house, storage building with associated decking, parking areas and appurtenances. The project is located in the Amawalk Watershed.

The subject project consists of the redevelopment of existing impervious areas and new impervious surfaces. The existing concession stand and boat house are proposed to be modified. The project also proposes to construct a covered deck, access driveway, handicap accessible parking area and associated appurtenances. The proposed new and redeveloped impervious areas will be treated in a stormwater pond and a cistern.

1.2 Existing Site Conditions (Pre-Development)

The subject property consists of two adjoining parcels located on the north side of Perch Bay Road in the Town of Lewisboro. The subject parcels are currently developed as a the Beach Club portion of Waccabuc Country Club with a concession stand, boat house, storage building with associated decking, parking areas and appurtenances. The existing ground cover on the site is characterized as mostly wooded with lawn and impervious surfaces. The parcels front Lake Waccabuc to the north. The site generally drains from south to north towards Lake Waccabuc.

This analysis included in the project SWPPP utilized one Design Line (Design Line 1) to assess the stormwater runoff and any potential impacts from the proposed development to the existing downstream natural resource, Lake Waccabuc. Design Line 1 is located along a portion of the shoreline of Lake Waccabuc on the north side of the project site. The Pre-Development Drainage Map (Figure 2) shows the location of Design Line 1. The contributing area to Design Line 1 is identified as subcatchment Pre 1.

The hydrologic soils groups for the project consists of "B" and "C". The designations of the onsite soils located within the proposed limits of disturbance consist of Chatfield-Charlton Complex (CsD), and Paxton Fine Sandy Loam (PoC) as identified on the Soil Conservation Service Web Soil Survey. The soils boundaries are shown on Figure 2 and 3 of this report.

1.3 Proposed Site Conditions (Post Development)

As previously stated, the project includes the construction of a new impervious areas and redevelopment of existing impervious areas. The project proposed to modify the existing concession stand and boat house as well as construct a covered deck, access driveway, handicap accessible parking area and associated appurtenances. The proposed new and redeveloped impervious areas across the project site will be treated in a stormwater pond and a cistern. The cistern will be used to irrigate the proposed landscaping in the area of the proposed improvements.

The areas of redevelopment will be treated in accordance with Chapter 9, Redevelopment, of the New York State Stormwater Management Design Manual (Design Manual).

Treatment of stormwater runoff for all newly created impervious surfaces will meet the sizing requirements of Chapter 4 and 10 of the Design Manual. This will result in new SMP's designed to capture and treat runoff from the impervious surfaces. Stormwater treatment for the new impervious surfaces will be accomplished with several different practices including a P-1 Micropool Extended Detention Pond and a cistern. The pond and cistern have been sized to capture and treat the Runoff Reduction Volume and Water Quality Volume from the new and redeveloped areas.

The developed / redeveloped subcatchments in the post-development conditions tributary to the Design Line that require treatment are shown as subcatchment 1.1S and 1.2S in Figure 3 of this report. The untreated / undeveloped portion of the contributing area to the Design Line is shown as subcatchment 1.0S.

2.0 STORMWATER MANAGEMENT

The proposed stormwater management system for the Beach Club Improvements project has been designed to meet the requirements of local, regional, and state stormwater ordinances and guidelines, including but not limited to those of the Town of Lewisboro and the NYSDEC. Specifically, the following codes / regulations have been used to design this SWPPP:

- *NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activities, General Permit GP-0-20-001 (GP-0-20-001).*

Since the subject project proposes the disturbance of more than 1 acre, coverage under the New York State Department of Environmental Conservation (NYSDEC) SPDES General Permit for Stormwater Discharges from Construction Activities (GP-0-20-001) is required.

In order to meet the requirements set forth by GP-0-20-001, and the latest edition of the NYSDEC *New York State Stormwater Management Design Manual* (Design Manual), including the requirements listed in Chapter 9: *Redevelopment* (Chapter 9) and Chapter 10: *Enhanced Phosphorus Removal Standards* (Chapter 10) was referenced for the design of the proposed stormwater collection, conveyance and treatment system.

The Design Manual specifies five design criteria that are discussed in detail below. They are Runoff Reduction Volume (RR_v), Water Quality Volume (WQ_v), Stream Channel Protection Volume (CP_v), Overbank Flood Control (Q_f), and Extreme Storm Control (Q_p). The first two requirements relate to treating water quality, while the later pertain to stormwater quantity (peak flow) attenuation.

To address stormwater quantity requirements of the NYSDEC, the "HydroCAD" Stormwater Modeling System," by HydroCAD Software Solutions LLC in Tamworth, New Hampshire, was used to model and assess the peak stormwater flows for the subject project. HydroCAD is a computer aided design program for modeling the hydrology and hydraulics of stormwater runoff. It is based primarily on hydrology techniques developed by the United States Department of Agriculture, Soil Conservation Service (USDA, SCS) TR-20 method combined with standard hydraulic calculations. For details on the input data for the subcatchments and design storms, refer to Appendices B through C and for the supporting data relative to the soils breakdown within the overall contributing area shown in the HydroCAD analysis, see Appendix B and C of this report:

The input requirements for the HydroCAD computer program are as follows:

Subcatchments (contributing watershed/sub-watersheds)

- Design storm rainfall in inches
- CN (runoff curve number) values which are based on soil type and land use/ground cover
- Tc (time of concentration) flow path information

Stormwater Pond

- Surface area at appropriate elevations
- Flood elevation
- Outlet structure information

The following is a general description of the input data used to calculate the pre- and post-development stormwater runoff values. For detailed information for each subcatchment and pond, see Appendices B&C. The precipitation values for the 1-Year, 10-Year, 100-Year 24-hour design storm events and rainfall distribution curves utilized for this report were obtained from the information provided by Northeast Regional Climate Center(NRCC) and the Natural Resources Conservation Service(NRCS) which is available online at www.precip.eas.cornell.edu. The values provided for all design storms analyzed are listed below.

Design Storm	24-Hour Rainfall
1-Year	2.82"
10-Year	5.07"
100-Year	9.02"

The CN (runoff curve number) values utilized in this report were referenced from the USDA, SCS publication *Urban Hydrology for Small Watersheds*.

2.1 Chapter 10: Enhanced Phosphorus Removal Standards

As noted above, the New York City East of Hudson Watershed has been identified in the SPDES General Permit GP-0-20-001 as a watershed requiring compliance with the Enhanced Phosphorus Removal Standards when post-construction stormwater management practices are proposed. Chapter 10 establishes four goals to meet sizing performance standards:

- Goal 1: Reducing Runoff Volumes
- Goal 2: Effective Bypass Treatment
- Goal 3: Achieving Effluent Concentrations for Particulate Phosphorus
- Goal 4: Achieving Effluent Concentrations for Dissolved Phosphorus

In order to achieve the first goal, the site design shall, "assess the feasibility of hydrological source controls and reduce the total water quality volume by source control, implementation of green infrastructure, or standard SMP's with RR_v capacity, according to the process defined in Chapters 3 and 4 of the Design Manual. Each plan must include a rationale for acceptance and rejection of the various controls." A discussion on RR_v can be found in section 2.2 below. Based upon the results of onsite soil testing, the soils onsite in select areas are not suitable for infiltration. Therefore, the use of a cistern (classified as a GIP with RR_v capacity) has been maximized, to treat the stormwater runoff from the proposed impervious surfaces and satisfy RR_v minimum requirements. As such, Goal 1 has been achieved in this SWPPP.

Goal 2 cites that proposed stormwater management practices should achieve less than 15% effective treatment bypass of the long-term runoff volume. Chapter 10 further notes this goal is satisfied by capturing and treating the 1-year 24-hour design storm. The NYSDEC stormwater quality treatment practices proposed for this have been designed in accordance with Chapter 10 by utilizing the 1-yr, 24-hour design storm to generate the WQ_v / RR_v. As such, Goal 2 has been achieved in this SWPPP.

Achieving effluent concentrations for particulate phosphorus, Goal 3, is satisfied by achieving an 80% net removal of particulate phosphorus for a median influent concentration of 0.5mg/l. Chapter 10 states that through designing proposed SMP's in accordance with Section 10.4 this goal will be achieved. The proposed stormwater pond has been designed in accordance with Section 10.4.1 of Chapter 10 thus satisfying the requirements of this goal.

Goal 4, achieving effluent concentration for dissolved phosphorus, is achieved by obtaining a 60% net removal of dissolved phosphorus given a median influent concentration of 0.15mg/l. As with Goal 3, Goal 4 is achieved by designing the proposed SMP's in accordance with Section 10.4 of Chapter 10. As noted above the proposed stormwater pond has been designed in accordance with section 10.4.1 of Chapter 10 thus satisfying the requirements of this goal.

2.2 NYSDEC Runoff Reduction Volume (RR_v)

The Runoff Reduction Volume (RR_v) criterion is intended to replicate pre-development hydrology by maintaining preconstruction infiltration, peak flow runoff, discharge volume, as well as minimizing concentrated stormwater flow. As stated in Chapter 4 of the Design Manual, RR_v may be treated with standard stormwater management practices (SMP's) sized in accordance with the Chapter 4/6

requirements, or with green infrastructure practices (GIP's) sized in accordance with the requirements set forth for each practice in Chapter 5. This requirement has been achieved on the subject project providing a cistern designed as a GIP. Runoff reduction is achieved when runoff from a percentage of the impervious area on the site is captured, routed through a SMP or a GIP, infiltrated to the ground, reused, reduced by evapotranspiration, and eventually removed from the stormwater discharge from the site. Through this implementation, the design of the cistern as a GIP equal to 100% of the WQ_v , the RR_v requirements will be achieved.

Section 4.3 of the Design Manual states for sites that do not achieve runoff reduction to pre-construction condition must, at a minimum reduce a percentage of the runoff from impervious areas to be constructed on the site a minimum RR_v . The following equation can be used to determine the minimum runoff reduction volume:

$$\text{The minimum runoff reduction volume shall be } RR_{v\text{minimum}} = \frac{(P)(R_v)(A_i)}{12}$$

Where,

- S = Hydrologic Soil Group (HSG) Specific Reduction Factor
- A_{ic} = Total Area of New Impervious Cover
- A_i = Impervious cover targeted for Runoff Reduction
- = (S)(A_{ic})
- R_v = 0.95

For detailed calculations of the runoff reduction for the proposed cistern, see Appendix A. Listed in Table 2.2.1 below is a summary of the NYSDEC compliant GIPs, and satisfaction of the NYSDEC RR_v requirements.

The project proposes thirteen (13) new trees of 2-inch caliper or greater within close proximity to the proposed new impervious surfaces. In accordance with Chapter 5, an area reduction of 100 sf of new impervious area per new tree was used in the RR_v calculations in Appendix A and the table below. A separate HydroCAD model is provided in Appendix A to equate the volume reduction associated with the thirteen (13) new trees or 1,300 sf of impervious area reduction. As shown in Appendix A, the runoff volume associated with 1,300 sf of impervious surface is 280 c.f., therefore the proposed tree plantings within close proximity to the new impervious surfaces provide 280 c.f. of RR_v .

Table 2.2.1 Runoff Reduction Volume Summary

Subcatchment	RR_v Required = WQ_v (c.f.) From Table 2.3.1	RR_v Minimum (c.f.) Calculated in Appendix A	NYSDEC Practice Designation	Stormwater Management Practice ID	Storage Volume Provided below System Outlet (c.f.) (See Appendix C)	RR_v Provided (c.f.)	Total RR_v Provided (c.f.)
Design Line	2,008	848	Cistern	1.2P	705	705	985
			Tree Planting	-	-	280	

As shown in the table above the RR_v provided is greater than the RR_v Minimum and RR_v Required, therefore the RR_v requirement has been met for the subject project.

The cistern is proposed to provide a portion of the non-potable irrigation water demand for the onsite landscaping. An irrigation system, designed by others, will be connected to the pump within the cistern to irrigate the onsite landscaping. The daily irrigation water demand for the proposed onsite landscaping is 2,135 gallons per day, or 4,270 gallons every two days, which exceeds the RR_v minimum. This will allow the cistern to provide a storage volume greater than the RR_v minimum between storm events in accordance with the Design Manual. Irrigation is proposed for the site landscaping including the proposed onsite trees, evergreens, shrubs, and ground cover plantings. A water demand of 10 gallons per day for every 1" in diameter of tree/evergreen tree is anticipated and 5 gallons per day per shrub. For

the ground cover areas, the recommended irrigation demand is 2.5-inch per week, which equates to 0.23 gallons per day per square foot of area. The anticipated daily water demand for the site landscaping is calculated below. As shown in the calculations below, the storage volume in the cistern exceeds the RRV minimum required for the cistern.

Cistern Sizing = 705 cf x 7.5 gallons/cf = 5,287 gallon cistern

RR_v minimum (minus credit from Tree Planting) = 568 cf x 7.5 gallons/cf = 4,260 gallons

Table 2.2.2 Daily Irrigation Water Demand Summary

Landscaping	Tree Caliper	Quantity	Water Demand per Plant (gpd)	Water Demand (gpd)
Shade/Flowering Trees	3"	21	30	630
	2"	12	20	240
Evergreen Trees	2"	12	20	240
Shrubs	-	44	5	220
Ground Cover / Lawn	-	3,500	0.23 GPD/SF	805
Total				2,135

2.3 NYSDEC Water Quality Volume (WQ_v)

For new impervious surfaces and as required by Chapter 10, the WQ_v shall be the runoff volume from the 1-year, 24-hour storm event generated by the subcatchment. As permitted by Chapter 9 of the Design Manual, the portions of the existing impervious surfaces being redeveloped with impervious surfaces will only require 25% of the WQ_v to be treated. Subcatchments 1.1S and 1.2S include redevelopment of existing impervious surfaces and the creation of new impervious surfaces within the same subcatchment. Appendix C has broken subcatchment 1.1S and 1.2S into two nodes so the redeveloped impervious surfaces contained within the subcatchment can be accounted for separately and the 25% reduction allowed by Chapter 9 applied. The calculation for the WQ_v for the areas of redevelopment are shown in the table below.

Table 2.3.1 - Water Quality Volume Calculation for Redevelopment

Subcatchments	WQ _v ¹ New Impervious Surface (c.f.)	Full WQ _v ² Redeveloped Impervious Surface (c.f.)	25% WQ _v ³ Redevelopment Calculation (c.f.)	WQ _v Initial ⁴ (c.f.)
1.1S	1,441	259	65	1,506
1.2S	388	453	114	502

¹ Refer to Appendix C for the stormwater runoff volume from the 1-year, 24-hour storm event for the areas of new impervious surfaces within the subcatchment.

² Refer to Appendix C for the stormwater runoff volume from the 1-year, 24-hour storm event for the existing impervious areas proposed to be redeveloped within the subcatchment.

³ In accordance with Chapter 9 of the Design Manual, only 25% of the WQ_v from the existing impervious surfaces to be redeveloped requires treatment. The 25% reduction has been accounted for in the volumes provided.

⁴ The volumes provided are the sum of the stormwater runoff volume from the new impervious surfaces and 25% of the runoff volume from the existing impervious surfaces to be redeveloped. These volumes are used in the sizing calculations for the SMP's.

The stormwater pond and cistern has been sized in accordance with Chapter 5 and 6 of the Design Manual, as they have been sized to store the entire water quality volume (WQ_v) from the proposed improvements. The subject project is located in the New York City Watershed, which is listed as a phosphorus-limited watershed per the NYSDEC regulations. Therefore the stormwater management practices have been designed in general accordance with the Enhanced Phosphorus Removal

Supplement (Chapter 10) of the Design Manual. As outlined in Chapter 10, the treatment volume for the WQv is the runoff volume produced during the 1-year 24-hour design storm as calculated in Table 2.3.1 above. The cistern shall be used to irrigate the proposed landscaping in the area of the proposed Beach Club improvements.

The P-1 Micropool Extended Detention Pond has been sized in accordance with Chapter 6 of the Design Manual as shown in the table below. The pond has been sized to store a minimum of 20% of the WQv in the permanent pool and a maximum of 80% in extended detention. A forebay is provided at the pipe inflow to the pond and has been sized to provide greater than 10% of the WQv. The provided volume for the P-1 Pond can be verified in the stage storage tables contained in Appendix C. A P-1 Micropool Extended Detention Pond was chosen due to the overall contributing area to the proposed pond.

Table 2.1.3 P-1 Micropool Extended Detention Pond Summary

Design Elements	Required	Provided	Remarks
Pond Location	Not within Jurisdictional Waters	Outside of Jurisdictional Waters	See Project Plans
Forebay Volume	10% of WQv (151 cubic feet)	34% of WQv (510 cubic feet)	See Appendix C
Forebay Depth	4' Min. – 6' Max.	4' Provided	See Project Plans
WQv Storage	20% Min. within Permanent Pool (301 cubic feet)	100%+ within Permanent Pool (2,420 cubic feet)	See Appendix C
Minimum Length to Width Ratio	1.5 : 1	Greater than 1.5 : 1	See Project Plans
Minimum Surface Area to Drainage Area Ratio	1 : 100	1 : 15	See Project Plans
Benches at Water Level	Aquatic Bench	Aquatic Bench	See Project Plans
Landscaping	Pond and Buffer Plantings Required	Pond and Buffer Plantings Provided	See Project Plans

It should be noted that the stormwater pond and cistern have been sized to treat 100% of the water quality volume to meet the requirements set forth in the Design Manual. By meeting the Water Quality Volume requirements through employment of the pond and cistern, the water quality objectives of the NYSDEC has been met.

2.4 NYSDEC Stream Channel Protection Volume, CP_v

The Stream Channel Protection (CP_v) criterion is intended to protect stream channels from erosion and is accomplished by the 24-hour extended detention of the center-of-mass of the 1-year, 24-hour storm event or by fully infiltrating the stormwater runoff from the 1-year, 24-hour storm event. As permitted by Chapter 9, Section 9.2 of the Design Manual, for areas of redevelopment activities, the CP_v criterion is not required if the peak flow for the project site in the post-development condition is less than the pre-development condition for the 1-year 24-hour storm event. As shown in Table 2.5.1 below, the project proposes a decrease in the peak flow from the pre to post-development condition for the 1-year, 24-hour storm event. It should be noted, the proposed P-1 Pond has been designed to provide 24-hour extended detention of the 1-year, 24-hour storm event from the tributary area. As shown in the HydroCAD model in Appendix C, the pond 1.1P provides greater than 1,440 minutes (24-hours) center-of-mass detention time during the 1-year, 24-hour storm event.

2.5 NYSDEC Overbank Flood Control, Q_p , and Extreme Flood Control, Q_f

The Overbank Flood Control (Q_p) requirement is intended to prevent an increase in the frequency and magnitude of out-of-bank flooding events generated by urban development. Overbank control requires storage to attenuate the post-development 10-year, 24-hour peak discharge to pre-development rates. The Extreme Flood Control (Q_f) requirement is intended to prevent the increased risk of flood damage from large storm events, maintain the boundaries of the pre-development 100-year flood plain,

and protect the physical integrity of stormwater management practice. Extreme flood control requires storage to attenuate the post-development 100-year, 24-hour peak discharge to pre-development rates. As shown in Table 2.5.1 attenuation for both the 10-year and 100-year 24-hour storms has been provided thus satisfying the Q_p and Q_r requirements.

Table 2.5.1– Existing and Proposed Conditions Peak Flows

24-HOUR DESIGN STORM PEAK FLOWS (c.f.s.)						
	1-YEAR		10-YEAR (Overbank Flood Control)		100-YEAR (Extreme Flood Control)	
	Pre	Post	Pre	Post	Pre	Post
Design Line 1	3.09	2.97	13.07	12.85	32.90	32.39

As shown in the above table the peak flows from the contributing areas to Design Line 1 in the post development condition has been mitigated to below the existing condition levels, thus meeting the general requirements of the NYSDEC.

As requested by the NYCDEP, the following table includes a summary of the runoff volumes in the pre and post-development condition to Design Line 1 for the 1-year, 10-year, and 100-year, 24-hour storm event.

Table 2.5.2– Existing and Proposed Conditions Runoff Volumes

24-HOUR DESIGN STORM RUNOFF VOLUME (a.f.)						
	1-YEAR		10-YEAR		100-YEAR	
	Pre	Post	Pre	Post	Pre	Post
Design Line 1	0.494	0.517	1.777	1.816	4.701	4.762

3.0 STORMWATER CONVEYANCE SYSTEM

The project proposes to install a new stormwater collection and conveyance system to convey the stormwater runoff from the redeveloped areas to the proposed stormwater management practices. The proposed stormwater collection and conveyance system for the project consists of precast concrete drainage structures and HDPE drainage piping. The proposed stormwater conveyance system has been sized utilizing the Rational Method and is a standard method used by engineers to develop flow rates for sizing collection systems. The Rational Method calculates flows based on a one-hour design storm. The proposed collection system has been sized to convey, at a minimum, the 100-year design storm. Sizing calculations for the proposed stormwater conveyance piping are provided in Appendix G.

4.0 EROSION AND SEDIMENT CONTROL

Erosion and sediment control should be accomplished by four basic principles: diversion of clean water, containment of sediment, treatment of dirty water, and stabilization of disturbed areas. Diversion of clean water should be accomplished with swales. This diverted water should be safely conveyed around the construction area as necessary and discharged downstream of the disturbed areas. Sediment should be contained with the use of silt fence at the toe of disturbed slopes. Disturbed areas should be permanently stabilized within 7 days of final grading to limit the required length of time that the temporary facilities must be utilized. The owner will be responsible for the maintenance of the temporary erosion control facilities. Refer to the Project Drawings for further information implementation of the Erosion Control Plan and Construction Sequence.

4.1 Temporary Erosion and Sediment Control Facilities

Temporary erosion and sediment control facilities should be installed and maintained as required to reduce the impacts to off-site properties. The owner will be required to provide maintenance for the

temporary erosion and sediment control facilities. In general, the following temporary methods and materials should be used to control erosion and sedimentation from the project site:

- Stabilized Construction Entrance
- Silt Fence Barriers
- Storm Drain Inlet Protection
- Temporary Soil Stabilization
- Temporary Sediment Trap

All temporary erosion control measures shall be maintained in accordance with the Erosion & Sediment Control Maintenance Schedule contained on the Project Drawings, and as discussed below.

A stabilized construction entrance should be installed at the site entrance as shown on the project plans. The design drawings will include details to guide the contractor in the construction of this entrance. The intent of the stabilized construction entrance is to prevent the "tracking" of soil from the site. Dust control should be accomplished with water sprinkling trucks if required. During dry periods, sprinkler trucks should wet all exposed earth surfaces as required to prevent the transport of air-borne particles to adjoining areas.

Siltation barriers constructed of geosynthetic filter cloth should be installed at the toe of all disturbed slopes. The intent of these barriers is to contain silt and sediment at the source and inhibit its transport by stormwater runoff. The siltation barriers will also help reduce the rate of runoff by creating filters through which the stormwater must pass. During construction, the siltation barriers shall be inspected weekly and after a rainfall event and shall be cleaned/replaced when needed.

Storm drain inlet protection in the form of filter fabric inlet protection will be installed around all proposed inlets. The filter fabric inlet protection will serve to filter stormwater runoff before it enters the collection system. Throughout construction the concrete drainage structures, associated piping and inlet protections shall be inspected weekly and after a rainfall event. These items shall be cleaned, repaired and/or replaced when needed.

When land is exposed during development, the exposure shall be kept to the shortest practical period, but in no case more than 7 days. Temporary grass seed and mulch shall be applied to any construction area idle for two weeks. The temporary seeding and mulching shall be performed in accordance with the seeding notes illustrated on the project drawings. Disturbance shall be minimized in the areas required to perform construction. Upon completion of final grading topsoil, permanent seeding and mulch shall be applied in accordance with the project drawings.

The P-1 Micropool Extended Detention Pond will act as temporary sediment trap during construction of the site. The stormwater runoff from disturbed areas will be directed to the sediment trap. The sediment trap will be sized in accordance with the New York State Standards and Specifications for Erosion and Sediment Control. Sizing calculations for the temporary sediment trap are provided in Appendix I.

The stormwater runoff will be managed by the temporary erosion and sediment control facilities during construction. As discussed in the construction sequences provided the project plans the stabilized construction entrance shall be installed at the site entrance and silt fence shall be installed along the down hill perimeter of where soil disturbing activities will occur containing sediment laden stormwater runoff on-site.

4.2 Permanent Erosion and Sediment Control Facilities

Permanent erosion and sediment control will be accomplished by diverting stormwater runoff from steep slopes, controlling/reducing stormwater runoff velocities and volumes, and vegetative and structural surface stabilization. All of the permanent facilities are relatively maintenance free and only require periodic inspections. The owner will provide maintenance for all the permanent erosion and sediment control facilities.

Rock outlet protection will be provided at the discharge end of all piped drainage systems, and will be sized in accordance with the Blue Book. The purpose of the rock outlet protection is to reduce the depth, velocity, and energy of water, such that the flow will not erode the receiving downstream reach. The rock outlet protection shall be inspected for evidence of scour beneath the riprap and/or for any dislodged stones. Inspections of the rock outlet protection shall be performed during the inspections of the post-construction SMP's for the project.

Other than paved surfaces, disturbed surfaces will be stabilized with vegetation within 10 days of final grading. Permanent seed mix and mulch shall be applied to idle areas to minimize the amount of exposed soil. Permanent seed mixtures are proposed for the project and illustrated on project drawings. Application rates for the seed and mulch are provided on the project drawings. The vegetation will control stormwater runoff by preventing soil erosion, reducing runoff volume and velocities, and providing a filter medium. Permanent seeding should optimally be undertaken in the spring from March 21st through May 20th and in late summer from August 15th to October 15th.

5.0 IMPLEMENTATION AND MAINTENANCE

5.1 Construction Phase

Details associated with the implementation and maintenance of the proposed stormwater facilities and erosion control measures during construction are shown on the project drawings. Soil disturbance for the subject project shall not exceed five acres at any given time. The erosion control plan will include associated details and notes to aid the contractor in implementing the plan. Construction is anticipated to begin in the fall of 2022, and anticipated to be completed by the spring of 2023.

During construction, a Site Log Book, Appendix D, is required to be kept per NYSDEC SPDES General Permit GP-0-20-001. Erosion and sediment control inspections are required to be conducted as necessary under coverage of the permit (minimum twice a week) and an updated logbook and a copy of the SWPPP is required to be kept on site for the duration of the construction activities. The Construction Site Log Book is an appendix taken from the *New York Standards and Specifications for Erosion and Sediment Control* (Blue Book).

In addition to the proposed erosion and sediment control facilities, the following good housekeeping best management practices shall be implemented to mitigate potential pollution during the construction phase of the project. The general contractor overseeing the day-to-day site operation shall be responsible for the good housekeeping best management practices included in the following general categories:

- Material Handling and Waste Management
- Establishment of Building Material Staging Areas
- Establishment of Washout Areas
- Proper Equipment Fueling and Maintenance Practices
- Spill Prevention and Control Plan

All construction waste materials shall be collected and removed from the site regularly by the general contractor. The general contractor shall supply waste barrels for proper disposal of waste materials. All personnel working on the site shall be instructed of the proper procedures for construction waste disposal.

Although it is not anticipated any hazardous waste materials will be utilized during construction, any hazardous waste materials shall be disposed of in accordance with federal, state, and local regulations. No hazardous waste shall be disposed of on-site. Hazardous waste materials shall be stored in appropriate and clearly marked containers and segregated from the other non-waste materials. All hazardous waste shall be stored in a structurally sound and sealed shipping containers located in the staging areas. Material safety data sheets, material inventory, and emergency contact numbers will be maintained in the office trailer. All personnel working on the site shall be instructed of the proper procedures for hazardous waste disposal.

Temporary sanitary facilities (portable toilets) shall be provided on site during the entire length of construction. The sanitary facilities shall be located in the project staging area, or in an alternate area away from the construction activities on the site. The portable toilets shall be inspected weekly for evidence of leaking holding tanks.

All recyclables, including wood pallets, cardboard boxes, and all other recyclable construction scraps shall be disposed of in a designated recycling barrel provided by the contractor and removed from the site regularly. All personnel working on the site shall be instructed of the proper procedures for construction waste recycling.

All construction equipment and maintenance materials shall be stored in a construction staging area. Silt fence shall be installed down gradient of the construction staging area. Shipping containers shall be utilized to store hand tools, small parts, and other construction materials, not taken off site daily. Construction waste barrels, recycling barrels and if necessary hazardous waste containers shall be located within the limits of the construction staging area.

Throughout the construction of the project, several types of vehicles and equipment will be used on-site. Fueling of the equipment shall occur within the limits of the construction staging area. Fuel will be delivered to the site as needed, by the general contractor, or a party chosen by the general contractor. Only minor vehicle equipment maintenance shall occur on-site, all major maintenance shall be performed off-site. All equipment fluids generated from minor maintenance activities shall be disposed of into designated drums and stored in accordance with the hazardous waste storage as previously discussed.

The designated temporary concrete washout areas shall be constructed in accordance with the detail in the general locations as shown on the project plans. The temporary concrete washout areas shall be lined with plastic sheeting as specified on the detail free of holes or tears. Should the liner rip or tear at any time it shall be replaced immediately. All concrete mixer trucks and chutes shall be washed in the designated concrete wash areas. All personnel working on the site including concrete equipment operators shall be instructed of the locations and proper procedures for concrete washout. When the temporary concrete washout areas are no longer needed the hardened concrete and materials used to construct the washout area shall be broken up and removed from the site and disposed of in a landfill.

Vehicles and equipment shall be inspected on each day of use. Any leak discovered shall be repaired immediately. All leaking equipment unable to be repaired shall be removed from the site. Ample supplies of absorbent, spill-cleanup materials, and spill kits shall be located in the construction staging area. All spills shall be cleaned up immediately upon discovery. Spent absorbent materials and rags shall be hauled off-site immediately after the spill is cleaned for disposal at a local landfill. All personnel working on the site shall be instructed of the proper procedures for spill prevention and control. Any spill large enough to discharge to surface water will be immediately reported to the local fire / police departments, NYCDEP, and the National Response Center 1-800-424-8802.

Vegetation should be inspected every 30 days and after every major storm event until established, after which inspections should take place on a quarterly basis and after every large storm event. Damaged areas should be immediately re-seeded and re-mulched.

5.2 Soil Restoration

Soil Restoration is required to be applied across areas of the development site where soils have been disturbed and will be vegetated. The purpose is to recover the original properties and porosity of the soil compacted during construction activity. Soil Restoration is applied in the cleanup, restoration, and landscaping phase of construction followed by the permanent establishment of an appropriate, deep-rooted groundcover to help maintain the restored soil structure. Soil restoration includes mechanical decompaction and compost amendment. The table below describes various soil disturbance activities related to land development, soil types and the requirements for soil restoration for each activity as identified in the Design Manual. Restoration is applied across areas of a development site where soils have been compacted and will be vegetated according to the criteria defined in the following table:

Soil Restoration Requirements ^{1, 2,4}			
(Onsite soils within the limit of disturbance belong to Hydrologic Soil Groups (HSG) B & C)			
Type of Soil Disturbance	Soil Restoration Requirement		Comments/Examples
No soil disturbance	Restoration not permitted		Preservation of Natural Features
Minimal soil disturbance	Restoration not required		Clearing and grubbing
Areas where topsoil is stripped only - no change in grade	HSG A & B	HSG C&D	Protect area from any ongoing construction activities.
	Apply 6 inches of topsoil	Aerate ³ and apply 6 inches of topsoil	
Areas of cut or fill	HSG A &B	HSG C&D	
	Aerate ¹ and apply 6 inches of topsoil	Apply full Soil Restoration ²	
Heavy traffic areas on site (especially in a zone 5-25 feet around buildings but not within a 5-foot perimeter around foundation walls)	Apply full Soil Restoration (decompaction and compost Enhancement ⁶)		
Areas where Runoff Reduction and/or Infiltration practices are applied	Restoration not required, but may be applied to enhance the reduction specified for appropriate practices.		Keep construction equipment from crossing these areas. To protect newly installed practice from any ongoing construction activities construct a single phase operation fence area
Redevelopment projects	Soil Restoration is required on redevelopment projects in areas where existing impervious area will be converted to pervious area.		

1. Aeration includes the use of machines such as tractor-drawn implements with coulters making a narrow slit in the soil, a roller with many spikes making indentations in the soil, or prongs which function like a mini-subsoiler.
2. Per "Deep Ripping and De-compaction, DEC 2008".
3. Aeration includes the use of machines such as tractor-drawn implements with coulters making a narrow slit in the soil, a roller with many spikes making indentations in the soil, or prongs which function like a mini-subsoiler.
4. During periods of relatively low to moderate subsoil moisture, the disturbed soils are returned to rough grade and the following Soil Restoration steps applied:
 - 5.1. Apply 3 inches of compost over subsoil.
 - 5.2. Till compost into subsoil to a depth of at least 12 inches using a cat-mounted ripper, tractor-mounted disc, or tiller, mixing, and circulating air and compost into subsoils.
 - 5.3. Rock-pick until uplifted stone/rock materials of four inches and larger size area cleaned off the site.
 - 5.4. Apply topsoil to a depth of 6 inches.
 - 5.5. Vegetate as required by seeding notes located on the project drawings.
 - 5.6. Tilling should not be performed within the drip line of any existing trees or over any utility installations that are within 24 inches of the surface.
6. Compost shall be aged, from plant derived materials, free of viable weed seeds, have no visible free water or dust produced when handling, pass through a half inch screen and have a pH suitable to grow desired plants.

After soil restoration is completed an inspector should be able to push a 3/8" metal bar twelve inches into the soil with just body weight. Following decompaction/soil restoration activities, the following maintenance is anticipated during the first year:

- Initial inspections for the first six months (once after each storm greater than a half-inch).
- Reseeding to repair bare or eroding areas to assure grass stabilization.

- Water once every three days for first month, and then provide a half inch of water per week during first year. Irrigation plan may be adjusted according to the rain event.
- Fertilization may be needed in the fall after the first growing season to increase plant vigor.

In order to ensure the soil remains decompacted the following ongoing maintenance is recommended:

- Planting the appropriate ground cover with deep roots to maintain the soil structure.
- Keeping the site free of vehicular and foot traffic or other weight loads. Consider pedestrian footpaths (sometimes it may be necessary to de-thatch the turf every few years).

5.3 Long Term Maintenance Plan

The stormwater facilities for the subject project have been designed to minimize the required maintenance. This section discusses the minimum maintenance requirements to insure long-term performance of the stormwater facilities. Initially the stormwater facilities will require an increased maintenance and inspection schedule until all portions of the site are stable. Generally the stormwater facilities consist of either collection and conveyance components or treatment components.

The stormwater collection and conveyance system is composed of HDPE drainage pipe and precast concrete drainage structures. The owner will assume the maintenance responsibilities for the drainage system. Minimal maintenance is typically required for these facilities. All pipes should be checked for debris and blockages and cleaned as required. All drain inlet sumps shall be cleaned to removed deposited sediment. During the cleaning process, the pipes should be inspected for structural integrity and overall condition; repairs and/or replacement should be made as required.

Additionally, the stormwater management practices including the stormwater pond and cistern shall be checked for deposited sediment as well. Inspection and maintenance requirements for the proposed stormwater management practices per the Design Manual are provided in Appendix F of this report and on the project plans.

APPENDIX A
RR_v Calculation

RRv Calculation Worksheet - Design Line

Project: Waccabuc Country Club - Beach Club Improvements
 Project #: 20228.100
 Date: 2/7/2023



1. *RRv Initial* = Water Quality Volume (WQv) 0.046 ac-ft = 2,008 c.f.
 (refer to Table 2.3.1 for Water Quality Volume)

2. *RRv Minimum* = $[(P)(Rv)(S)(Aic)] / 12$ where...
 P = Rainfall (in.) = 2.82 in.
 Rv = 0.05 + 0.009 (100%) = 0.95
 S = Hydrologic Soil Group Specific Reduction Factor = 0.40
 [HSG A = 0.55] [HSG B = 0.40] [HSG C = 0.30] [HSG D = 0.20]
 Aic = Total area of new impervious cover = 0.22 Acres
 RRv Minimum = 848 c.f.

3. *RRv Required* = *RRv Initial* - Green Infrastructure Practice (GIP) with Area Reduction

GIP with Area Reduction Applied in Project

5.3.1 Conservation of Natural Area N/A
 5.3.2 Sheet Flow to Riparian Buffers or Filter Strips N/A
 5.3.4 Tree Planting / Tree Box 280 c.f.
 5.3.5 Disconnection of Rooftop Runoff -
 5.3.6 Stream Daylighting N/A

RRv Required (=WQv-RRv by area)(Refer to HydroCAD output in this Appendix) = 1,728 c.f.

4. *RRv Provided*

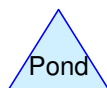
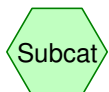
GIP with Volume Reduction Applied in Project	WQv Treated (c.f.)	% of WQv Applied to <i>RRv Provided</i>	<i>RRv Provided</i> (c.f.)
5.3.3 Vegetated Open Swales [HSG A / B = 20%] [HSG C / D = 10%] {Modified HSG C - D = 15% - 12%}		20% 10%	0 0
5.3.7 Rain Garden [No underdrains / Good Soils = 100%] [With underdrains / Poor Soils = 40%]		40%	0
5.3.8 Green Roof [RRv provided equals volume provided in Green Roof]		100%	0
5.3.9 Stormwater Planters [Infiltration Planters = 100%] [Flow Through HSG C = 45%] [Flow Through HSG D = 30%]		45%	0
5.3.10 Rain Tank / Cisterns	705	100%	705
5.3.11 Porous Pavement		100%	0
Infiltration Practice (Standard SMP)		100%	0
Bioretention Practice (Standard SMP) [Without Underdrains HSG A/B = 80%] [With Underdrains HSG C/D = 40%]		40%	0
Dry Swale (Open Channel Practice) (Standard SMP) [HSG A/B = 40%] [HSG C/D = 20%]		20%	0
<i>RRv Provided</i> =			705

5. Summary

RRv Initial = 2,008 c.f.
RRv Required = 1,728 c.f.
RRv Minimum = 848 c.f.
RRv Provided = 985 c.f.
 WQv Required for Downstream SMP = 743 c.f. (= *RRv Required* - *RRv Provided*)

Is *RRv Provided* greater than or equal to *RRv Minimum*? Yes

APPENDIX B
Pre Development Computer Data



Routing Diagram for Pre-Development

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Pre-Development

NY-Waccabuc 24-hr S0P 1-yr Rainfall=2.82"

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Page 2

Summary for Subcatchment PRE:

Runoff = 3.09 cfs @ 12.42 hrs, Volume= 0.494 af, Depth= 0.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Waccabuc 24-hr S0P 1-yr Rainfall=2.82"

Area (ac)	CN	Description
8.200	70	Woods, Good, HSG C
* 0.250	98	Paved parking
* 0.300	96	Gravel surface
2.300	55	Woods, Good, HSG B
11.050	68	Weighted Average
10.800		97.74% Pervious Area
0.250		2.26% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.4	100	0.0500	0.12		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.40"
6.9	550	0.0700	1.32		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
0.1	23	0.0400	4.06		Shallow Concentrated Flow, Paved Kv= 20.3 fps
0.5	51	0.1000	1.58		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
7.8	811	0.1200	1.73		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
29.7	1,535	Total			

Pre-Development

NY-Waccabuc 24-hr SOP 10-yr Rainfall=5.07"

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Summary for Subcatchment PRE:

Runoff = 13.07 cfs @ 12.38 hrs, Volume= 1.777 af, Depth= 1.93"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Waccabuc 24-hr SOP 10-yr Rainfall=5.07"

Area (ac)	CN	Description
8.200	70	Woods, Good, HSG C
* 0.250	98	Paved parking
* 0.300	96	Gravel surface
2.300	55	Woods, Good, HSG B
11.050	68	Weighted Average
10.800		97.74% Pervious Area
0.250		2.26% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.4	100	0.0500	0.12		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.40"
6.9	550	0.0700	1.32		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
0.1	23	0.0400	4.06		Shallow Concentrated Flow, Paved Kv= 20.3 fps
0.5	51	0.1000	1.58		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
7.8	811	0.1200	1.73		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
29.7	1,535	Total			

Pre-Development

NY-Waccabuc 24-hr SOP 100-yr Rainfall=9.02"

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Summary for Subcatchment PRE:

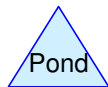
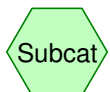
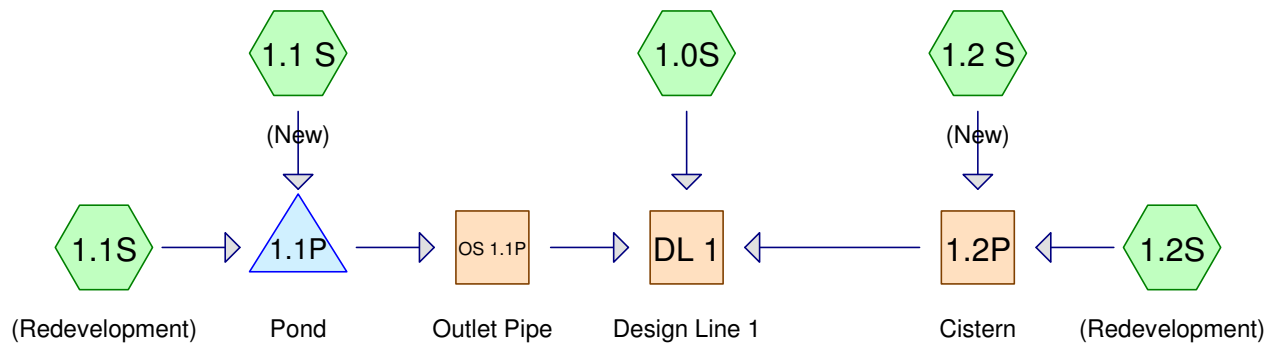
Runoff = 32.90 cfs @ 12.37 hrs, Volume= 4.701 af, Depth= 5.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Waccabuc 24-hr SOP 100-yr Rainfall=9.02"

Area (ac)	CN	Description
8.200	70	Woods, Good, HSG C
* 0.250	98	Paved parking
* 0.300	96	Gravel surface
2.300	55	Woods, Good, HSG B
11.050	68	Weighted Average
10.800		97.74% Pervious Area
0.250		2.26% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.4	100	0.0500	0.12		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.40"
6.9	550	0.0700	1.32		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
0.1	23	0.0400	4.06		Shallow Concentrated Flow, Paved Kv= 20.3 fps
0.5	51	0.1000	1.58		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
7.8	811	0.1200	1.73		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
29.7	1,535	Total			

APPENDIX C
Post Development Computer Data



Routing Diagram for Post-Development

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Post-Development

NY-Waccabuc 24-hr S0P 1-yr Rainfall=2.82"

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Page 2

Summary for Subcatchment 1.0S:

Runoff = 2.93 cfs @ 12.42 hrs, Volume= 20,433 cf, Depth= 0.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Waccabuc 24-hr S0P 1-yr Rainfall=2.82"

Area (ac)	CN	Description
7.800	70	Woods, Good, HSG C
* 0.220	98	Paved parking
0.310	96	Gravel surface, HSG C
2.120	55	Woods, Good, HSG B
0.050	61	>75% Grass cover, Good, HSG B
10.500	68	Weighted Average
10.280		97.90% Pervious Area
0.220		2.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.4	100	0.0500	0.12		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.40"
6.9	550	0.0700	1.32		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
0.1	23	0.0400	4.06		Shallow Concentrated Flow, Paved Kv= 20.3 fps
0.5	51	0.1000	1.58		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
5.4	565	0.1200	1.73		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
0.0	32	0.1340	16.61	13.04	Pipe Channel, 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
0.2	268	0.1460	21.79	26.74	Pipe Channel, 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012
2.3	20	0.2000	0.15		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.40"
29.8	1,609	Total			

Post-Development

NY-Waccabuc 24-hr S0P 1-yr Rainfall=2.82"

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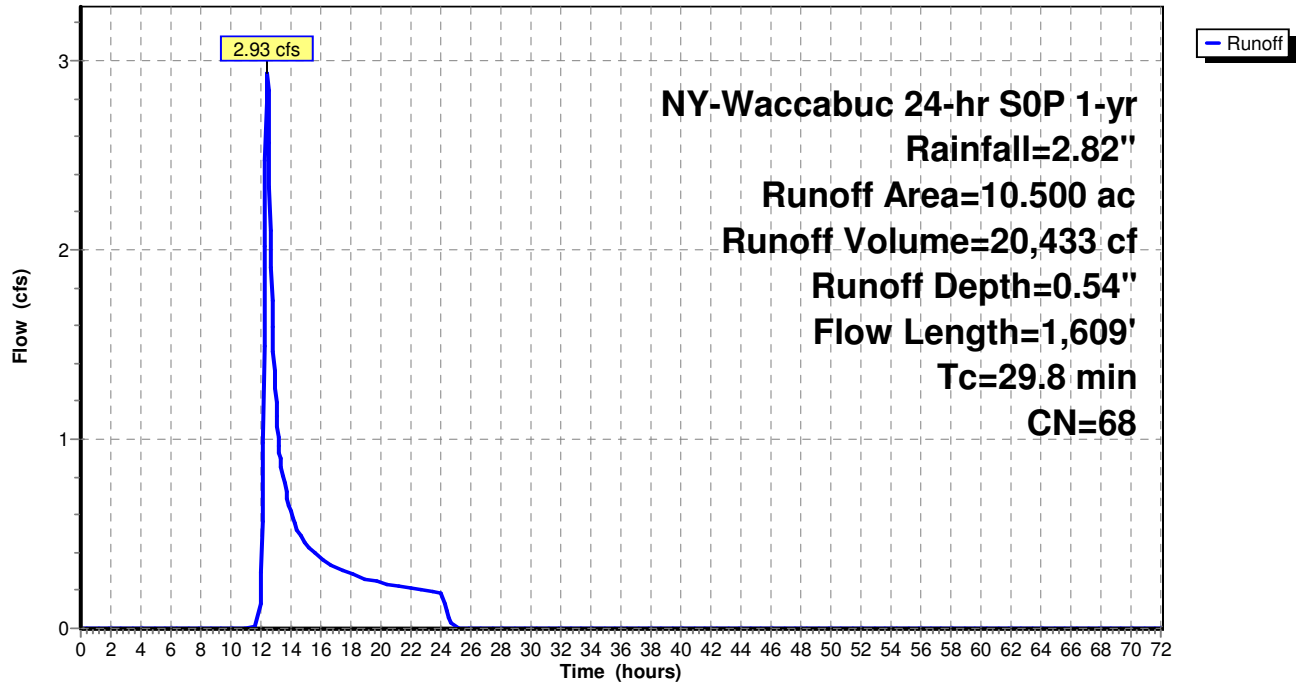
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Subcatchment 1.0S:

Hydrograph



Post-Development

NY-Waccabuc 24-hr S0P 1-yr Rainfall=2.82"

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Summary for Subcatchment 1.1 S: (New)

Runoff = 0.50 cfs @ 12.04 hrs, Volume= 1,441 cf, Depth= 0.90"

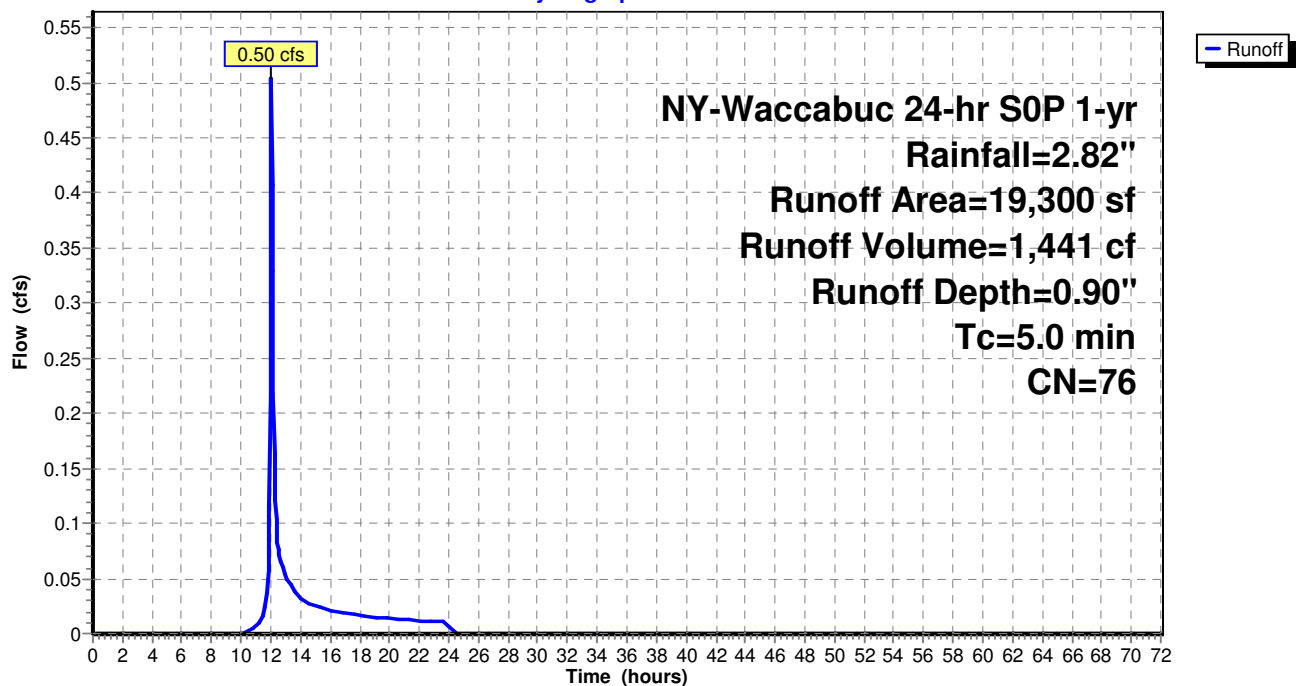
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Waccabuc 24-hr S0P 1-yr Rainfall=2.82"

Area (sf)	CN	Description
7,700	98	Paved parking, HSG B
11,600	61	>75% Grass cover, Good, HSG B
19,300	76	Weighted Average
11,600		60.10% Pervious Area
7,700		39.90% Impervious Area

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

Subcatchment 1.1 S: (New)

Hydrograph



Post-Development

NY-Waccabuc 24-hr S0P 1-yr Rainfall=2.82"

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Summary for Subcatchment 1.1S: (Redevelopment)

Runoff = 0.09 cfs @ 12.03 hrs, Volume= 259 cf, Depth= 2.59"

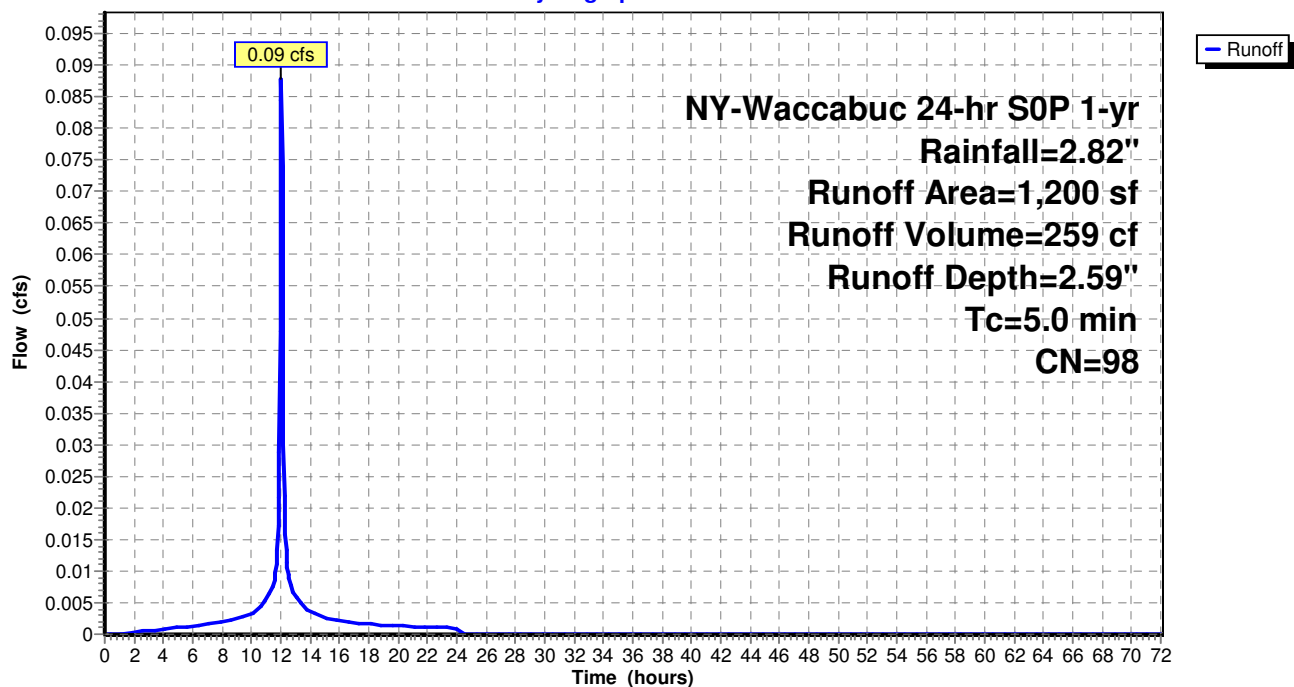
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Waccabuc 24-hr S0P 1-yr Rainfall=2.82"

Area (sf)	CN	Description
1,200	98	Paved parking, HSG B
1,200		100.00% Impervious Area

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

Subcatchment 1.1S: (Redevelopment)

Hydrograph



Post-Development

NY-Waccabuc 24-hr S0P 1-yr Rainfall=2.82"

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Summary for Subcatchment 1.2 S: (New)

Runoff = 0.13 cfs @ 12.03 hrs, Volume= 388 cf, Depth= 2.59"

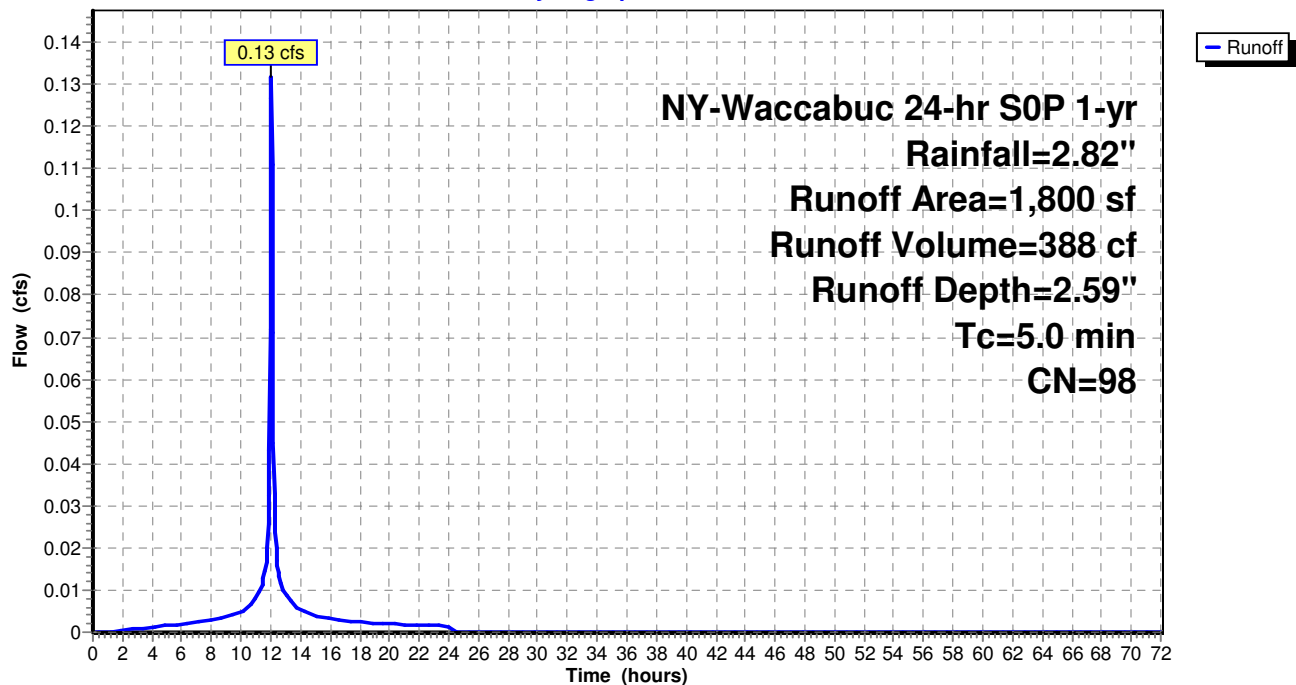
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Waccabuc 24-hr S0P 1-yr Rainfall=2.82"

Area (sf)	CN	Description
1,800	98	Paved parking, HSG B
1,800		100.00% Impervious Area

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

Subcatchment 1.2 S: (New)

Hydrograph



Post-Development

NY-Waccabuc 24-hr S0P 1-yr Rainfall=2.82"

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Summary for Subcatchment 1.2S: (Redevelopment)

Runoff = 0.15 cfs @ 12.03 hrs, Volume= 453 cf, Depth= 2.59"

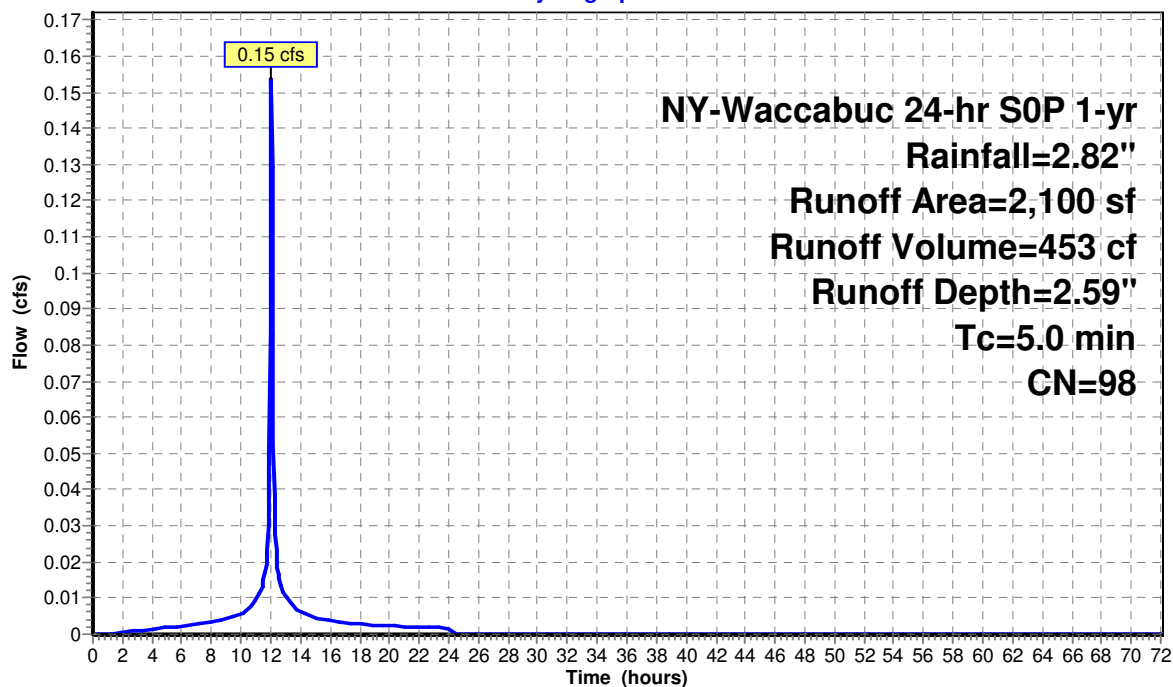
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Waccabuc 24-hr S0P 1-yr Rainfall=2.82"

Area (sf)	CN	Description
2,100	98	Paved parking, HSG B
2,100		100.00% Impervious Area

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

Subcatchment 1.2S: (Redevelopment)

Hydrograph



Runoff

Post-Development

NY-Waccabuc 24-hr S0P 1-yr Rainfall=2.82"

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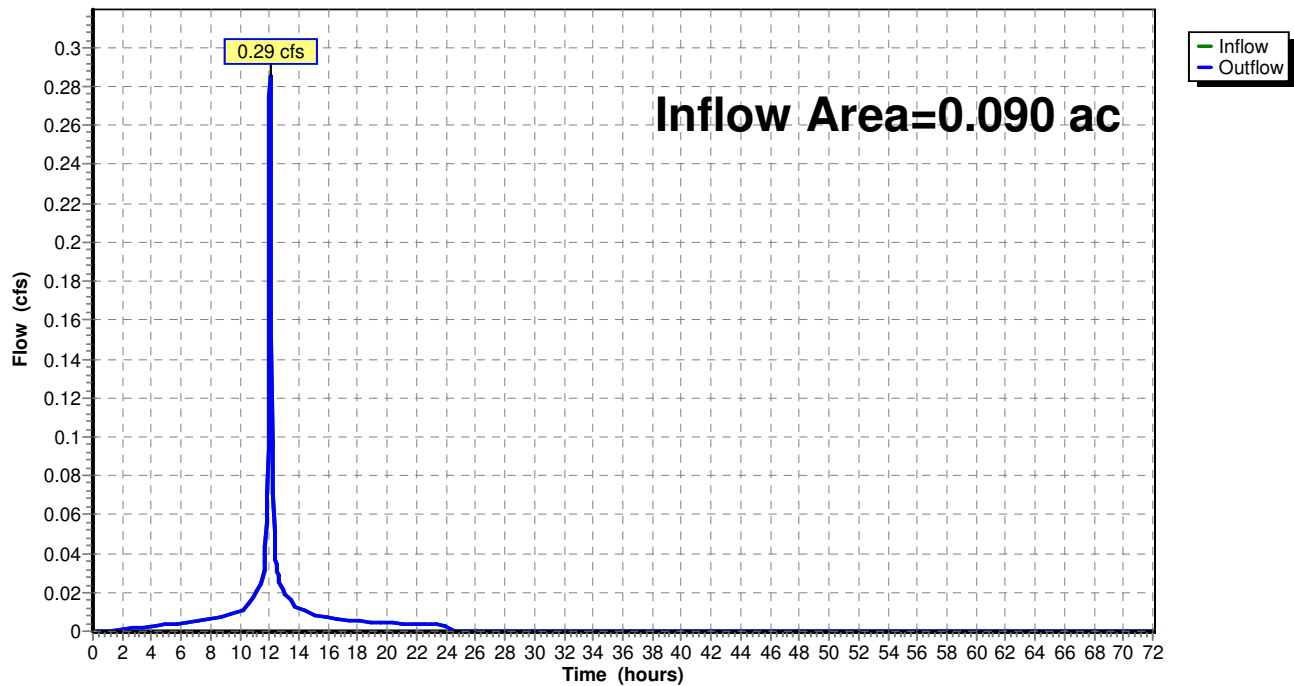
Summary for Reach 1.2P: Cistern

Inflow Area = 0.090 ac, 100.00% Impervious, Inflow Depth = 2.59" for 1-yr event
Inflow = 0.29 cfs @ 12.03 hrs, Volume= 841 cf
Outflow = 0.29 cfs @ 12.03 hrs, Volume= 841 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Reach 1.2P: Cistern

Hydrograph



Post-Development

NY-Waccabuc 24-hr SOP 1-yr Rainfall=2.82"

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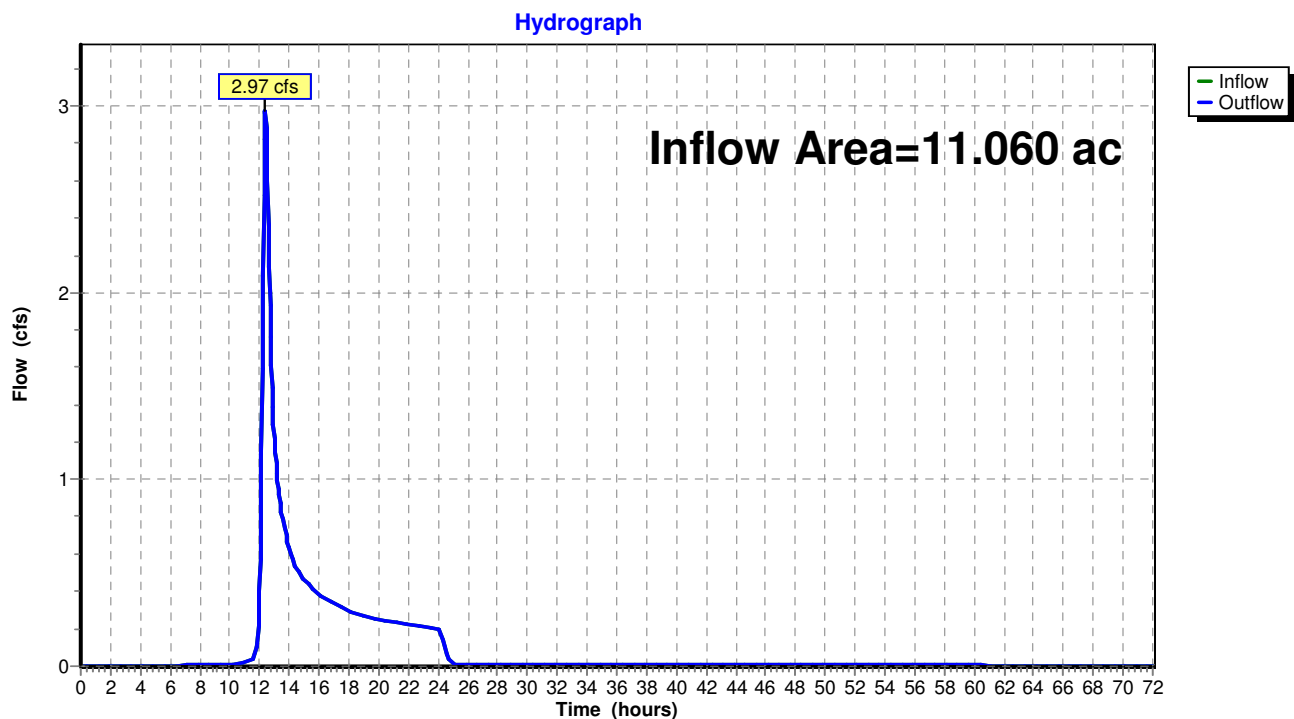
Page 9

Summary for Reach DL 1: Design Line 1

Inflow Area = 11.060 ac, 4.65% Impervious, Inflow Depth > 0.56" for 1-yr event
Inflow = 2.97 cfs @ 12.42 hrs, Volume= 22,518 cf
Outflow = 2.97 cfs @ 12.42 hrs, Volume= 22,518 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Reach DL 1: Design Line 1



Post-Development

NY-Waccabuc 24-hr SOP 1-yr Rainfall=2.82"

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Summary for Reach OS 1.1P: Outlet Pipe

Inflow Area = 0.471 ac, 43.41% Impervious, Inflow Depth > 0.73" for 1-yr event
Inflow = 0.01 cfs @ 24.06 hrs, Volume= 1,243 cf
Outflow = 0.01 cfs @ 24.07 hrs, Volume= 1,243 cf, Atten= 0%, Lag= 0.7 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Max. Velocity= 0.95 fps, Min. Travel Time= 0.9 min

Avg. Velocity= 0.85 fps, Avg. Travel Time= 1.0 min

Peak Storage= 0 cf @ 24.07 hrs

Average Depth at Peak Storage= 0.03'

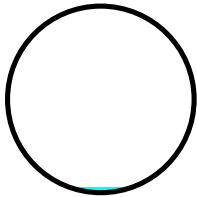
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 3.86 cfs

12.0" Round Pipe

n= 0.012

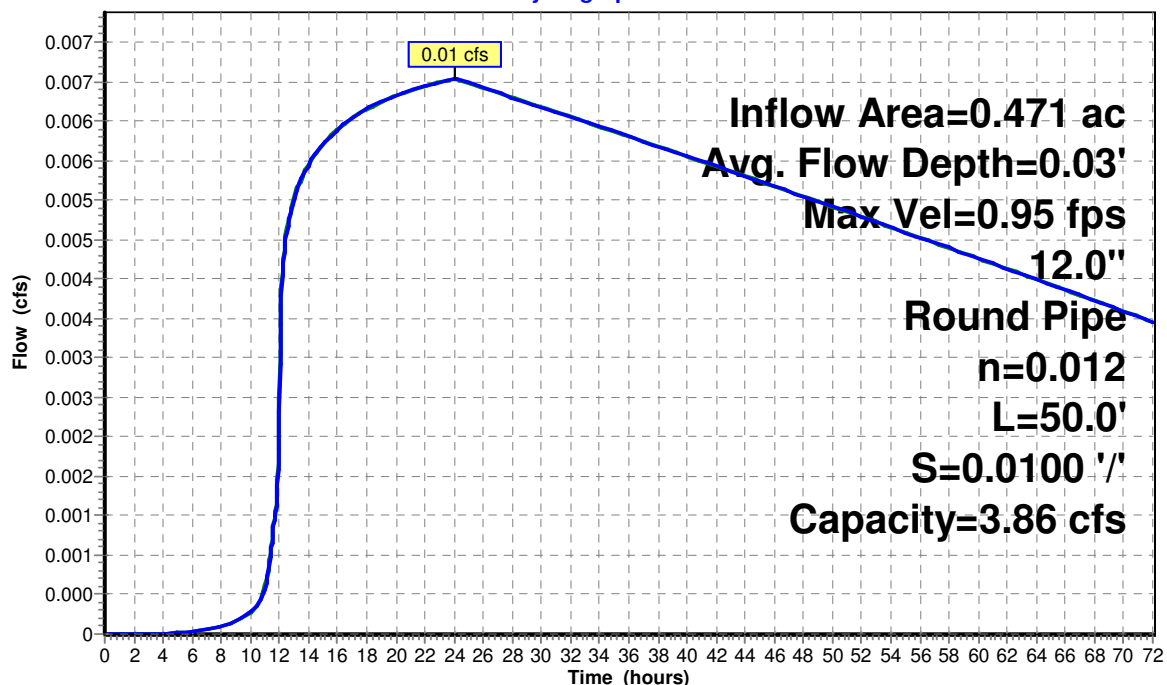
Length= 50.0' Slope= 0.0100 '/

Inlet Invert= 476.50', Outlet Invert= 476.00'



Reach OS 1.1P: Outlet Pipe

Hydrograph



Post-Development

NY-Waccabuc 24-hr S0P 1-yr Rainfall=2.82"

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Stage-Area-Storage for Reach OS 1.1P: Outlet Pipe

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)	Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
476.50	0.0	0	477.02	0.4	21
476.51	0.0	0	477.03	0.4	21
476.52	0.0	0	477.04	0.4	22
476.53	0.0	0	477.05	0.4	22
476.54	0.0	1	477.06	0.5	23
476.55	0.0	1	477.07	0.5	23
476.56	0.0	1	477.08	0.5	24
476.57	0.0	1	477.09	0.5	24
476.58	0.0	1	477.10	0.5	25
476.59	0.0	2	477.11	0.5	25
476.60	0.0	2	477.12	0.5	26
476.61	0.0	2	477.13	0.5	26
476.62	0.1	3	477.14	0.5	27
476.63	0.1	3	477.15	0.5	27
476.64	0.1	3	477.16	0.5	27
476.65	0.1	4	477.17	0.6	28
476.66	0.1	4	477.18	0.6	28
476.67	0.1	4	477.19	0.6	29
476.68	0.1	5	477.20	0.6	29
476.69	0.1	5	477.21	0.6	30
476.70	0.1	6	477.22	0.6	30
476.71	0.1	6	477.23	0.6	31
476.72	0.1	6	477.24	0.6	31
476.73	0.1	7	477.25	0.6	32
476.74	0.1	7	477.26	0.6	32
476.75	0.2	8	477.27	0.6	32
476.76	0.2	8	477.28	0.7	33
476.77	0.2	9	477.29	0.7	33
476.78	0.2	9	477.30	0.7	34
476.79	0.2	9	477.31	0.7	34
476.80	0.2	10	477.32	0.7	34
476.81	0.2	10	477.33	0.7	35
476.82	0.2	11	477.34	0.7	35
476.83	0.2	11	477.35	0.7	36
476.84	0.2	12	477.36	0.7	36
476.85	0.2	12	477.37	0.7	36
476.86	0.3	13	477.38	0.7	37
476.87	0.3	13	477.39	0.7	37
476.88	0.3	14	477.40	0.7	37
476.89	0.3	14	477.41	0.8	38
476.90	0.3	15	477.42	0.8	38
476.91	0.3	15	477.43	0.8	38
476.92	0.3	16	477.44	0.8	38
476.93	0.3	16	477.45	0.8	39
476.94	0.3	17	477.46	0.8	39
476.95	0.3	17	477.47	0.8	39
476.96	0.4	18	477.48	0.8	39
476.97	0.4	18	477.49	0.8	39
476.98	0.4	19	477.50	0.8	39
476.99	0.4	19			
477.00	0.4	20			
477.01	0.4	20			

Post-Development

NY-Waccabuc 24-hr S0P 1-yr Rainfall=2.82"

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Summary for Pond 1.1P: Pond

Inflow Area = 0.471 ac, 43.41% Impervious, Inflow Depth = 0.99" for 1-yr event
Inflow = 0.59 cfs @ 12.04 hrs, Volume= 1,700 cf
Outflow = 0.01 cfs @ 24.06 hrs, Volume= 1,243 cf, Atten= 99%, Lag= 721.0 min
Primary = 0.01 cfs @ 24.06 hrs, Volume= 1,243 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Starting Elev= 482.00' Surf.Area= 2,200 sf Storage= 2,420 cf

Peak Elev= 482.58' @ 24.06 hrs Surf.Area= 2,664 sf Storage= 3,830 cf (1,410 cf above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)

Center-of-Mass det. time= 1,497.1 min (2,363.2 - 866.1)

Volume	Invert	Avail.Storage	Storage Description
#1	477.00'	8,420 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
477.00	20	0	0
479.00	200	220	220
481.00	600	800	1,020
482.00	2,200	1,400	2,420
484.00	3,800	6,000	8,420

Device	Routing	Invert	Outlet Devices
#1	Primary	482.00'	0.6" Vert. Orifice/Grate C= 0.600
#2	Primary	482.70'	1.5' long x 0.5' breadth Broad-Crested Rectangular Weir X 4.00
			Head (feet) 0.20 0.40 0.60 0.80 1.00
			Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.01 cfs @ 24.06 hrs HW=482.58' TW=476.53' (Dynamic Tailwater)

1=Orifice/Grate (Orifice Controls 0.01 cfs @ 3.59 fps)

2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Post-Development

NY-Waccabuc 24-hr S0P 1-yr Rainfall=2.82"

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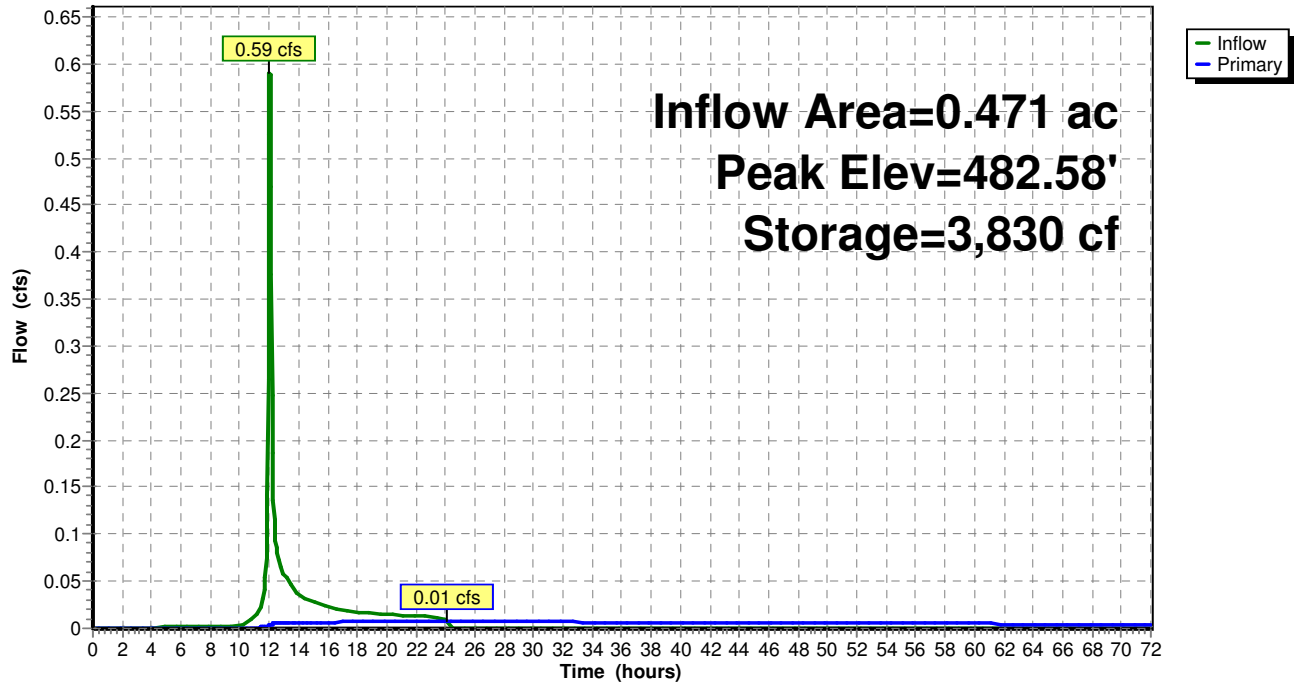
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Pond 1.1P: Pond

Hydrograph



Post-Development

NY-Waccabuc 24-hr S0P 1-yr Rainfall=2.82"

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Stage-Area-Storage for Pond 1.1P: Pond

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
477.00	20	0	482.20	2,360	2,876
477.10	29	2	482.30	2,440	3,116
477.20	38	6	482.40	2,520	3,364
477.30	47	10	482.50	2,600	3,620
477.40	56	15	482.60	2,680	3,884
477.50	65	21	482.70	2,760	4,156
477.60	74	28	482.80	2,840	4,436
477.70	83	36	482.90	2,920	4,724
477.80	92	45	483.00	3,000	5,020
477.90	101	54	483.10	3,080	5,324
478.00	110	65	483.20	3,160	5,636
478.10	119	76	483.30	3,240	5,956
478.20	128	89	483.40	3,320	6,284
478.30	137	102	483.50	3,400	6,620
478.40	146	116	483.60	3,480	6,964
478.50	155	131	483.70	3,560	7,316
478.60	164	147	483.80	3,640	7,676
478.70	173	164	483.90	3,720	8,044
478.80	182	182	484.00	3,800	8,420
478.90	191	200			
479.00	200	220			
479.10	220	241			
479.20	240	264			
479.30	260	289			
479.40	280	316			
479.50	300	345			
479.60	320	376			
479.70	340	409			
479.80	360	444			
479.90	380	481			
480.00	400	520			
480.10	420	561			
480.20	440	604			
480.30	460	649			
480.40	480	696			
480.50	500	745			
480.60	520	796			
480.70	540	849			
480.80	560	904			
480.90	580	961			
481.00	600	1,020			
481.10	760	1,088			
481.20	920	1,172			
481.30	1,080	1,272			
481.40	1,240	1,388			
481.50	1,400	1,520			
481.60	1,560	1,668			
481.70	1,720	1,832			
481.80	1,880	2,012			
481.90	2,040	2,208			
482.00	2,200	2,420			
482.10	2,280	2,644			

Post-Development

NY-Waccabuc 24-hr S0P 10-yr Rainfall=5.07"

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Summary for Subcatchment 1.0S:

Runoff = 12.40 cfs @ 12.38 hrs, Volume= 73,546 cf, Depth= 1.93"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Waccabuc 24-hr S0P 10-yr Rainfall=5.07"

Area (ac)	CN	Description
7.800	70	Woods, Good, HSG C
* 0.220	98	Paved parking
0.310	96	Gravel surface, HSG C
2.120	55	Woods, Good, HSG B
0.050	61	>75% Grass cover, Good, HSG B
10.500	68	Weighted Average
10.280		97.90% Pervious Area
0.220		2.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.4	100	0.0500	0.12		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.40"
6.9	550	0.0700	1.32		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
0.1	23	0.0400	4.06		Shallow Concentrated Flow, Paved Kv= 20.3 fps
0.5	51	0.1000	1.58		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
5.4	565	0.1200	1.73		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
0.0	32	0.1340	16.61	13.04	Pipe Channel, 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
0.2	268	0.1460	21.79	26.74	Pipe Channel, 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012
2.3	20	0.2000	0.15		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.40"
29.8	1,609	Total			

Post-Development

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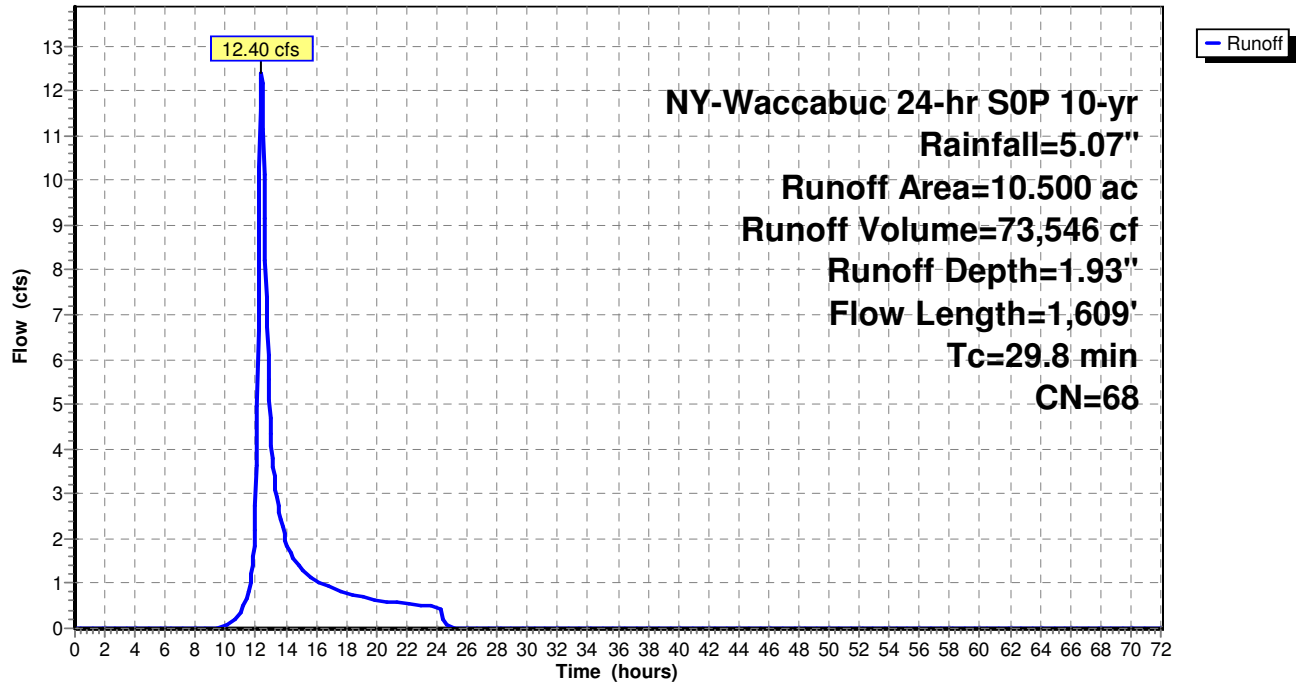
NY-Waccabuc 24-hr SOP 10-yr Rainfall=5.07"

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Subcatchment 1.0S:

Hydrograph



Post-Development

NY-Waccabuc 24-hr S0P 10-yr Rainfall=5.07"

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Summary for Subcatchment 1.1 S: (New)

Runoff = 1.38 cfs @ 12.04 hrs, Volume= 4,171 cf, Depth= 2.59"

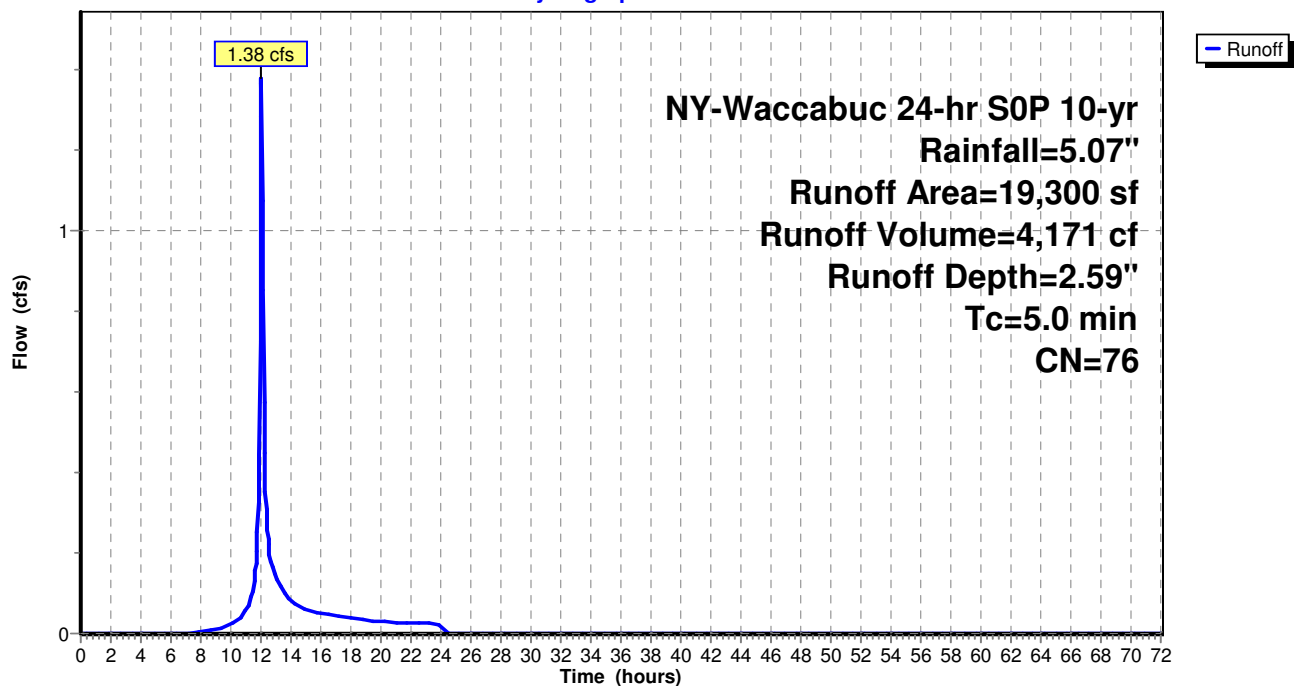
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Waccabuc 24-hr S0P 10-yr Rainfall=5.07"

Area (sf)	CN	Description
7,700	98	Paved parking, HSG B
11,600	61	>75% Grass cover, Good, HSG B
19,300	76	Weighted Average
11,600		60.10% Pervious Area
7,700		39.90% Impervious Area

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

Subcatchment 1.1 S: (New)

Hydrograph



Post-Development

NY-Waccabuc 24-hr S0P 10-yr Rainfall=5.07"

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Summary for Subcatchment 1.1S: (Redevelopment)

Runoff = 0.14 cfs @ 12.03 hrs, Volume= 483 cf, Depth= 4.83"

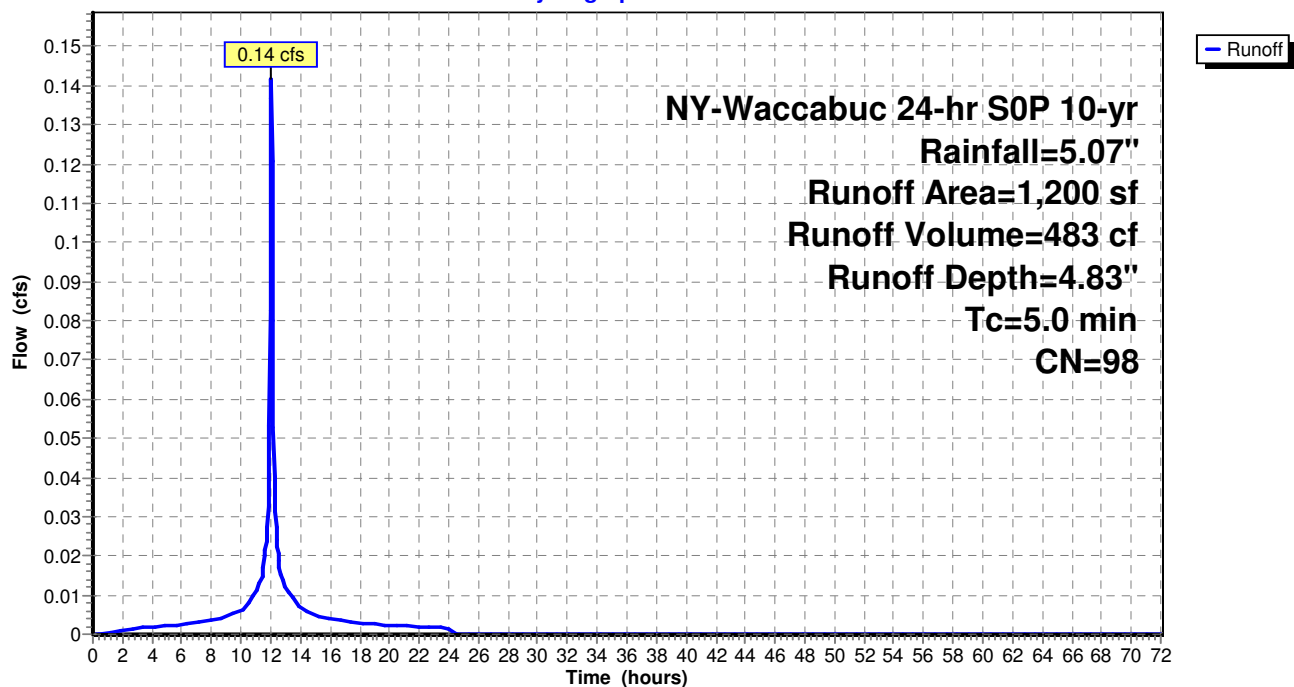
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Waccabuc 24-hr S0P 10-yr Rainfall=5.07"

Area (sf)	CN	Description
1,200	98	Paved parking, HSG B
1,200		100.00% Impervious Area

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

Subcatchment 1.1S: (Redevelopment)

Hydrograph



Post-Development

NY-Waccabuc 24-hr S0P 10-yr Rainfall=5.07"

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Summary for Subcatchment 1.2 S: (New)

Runoff = 0.21 cfs @ 12.03 hrs, Volume= 725 cf, Depth= 4.83"

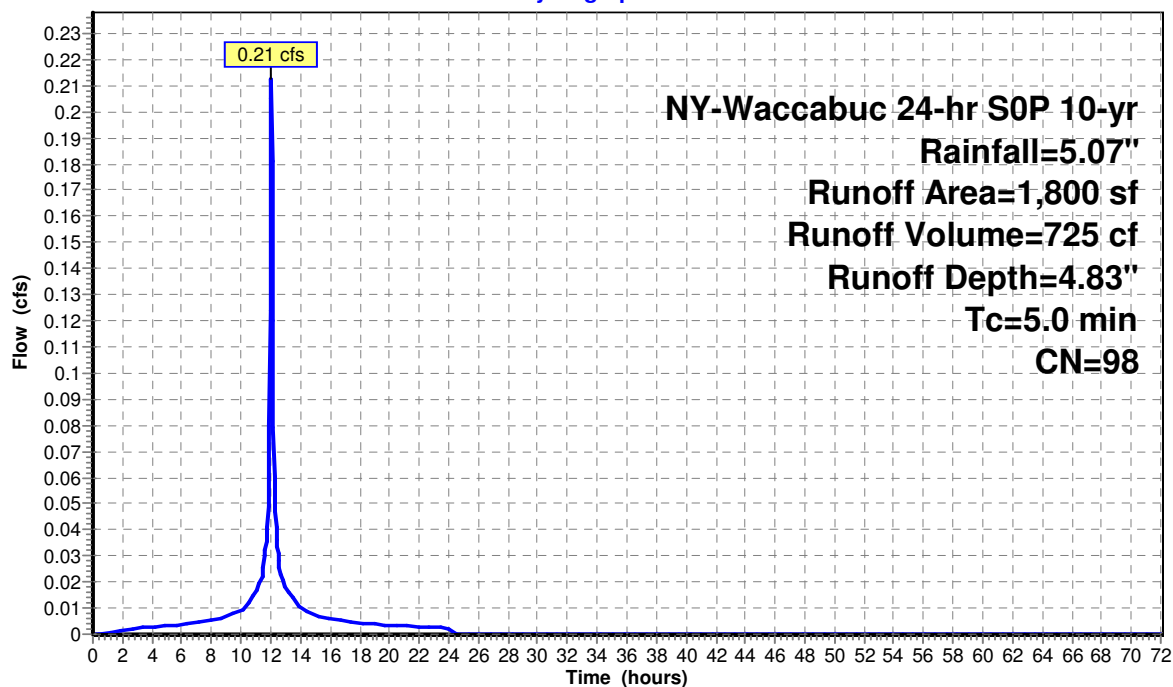
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Waccabuc 24-hr S0P 10-yr Rainfall=5.07"

Area (sf)	CN	Description
1,800	98	Paved parking, HSG B
1,800		100.00% Impervious Area

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

Subcatchment 1.2 S: (New)

Hydrograph



Post-Development

NY-Waccabuc 24-hr S0P 10-yr Rainfall=5.07"

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Summary for Subcatchment 1.2S: (Redevelopment)

Runoff = 0.25 cfs @ 12.03 hrs, Volume= 846 cf, Depth= 4.83"

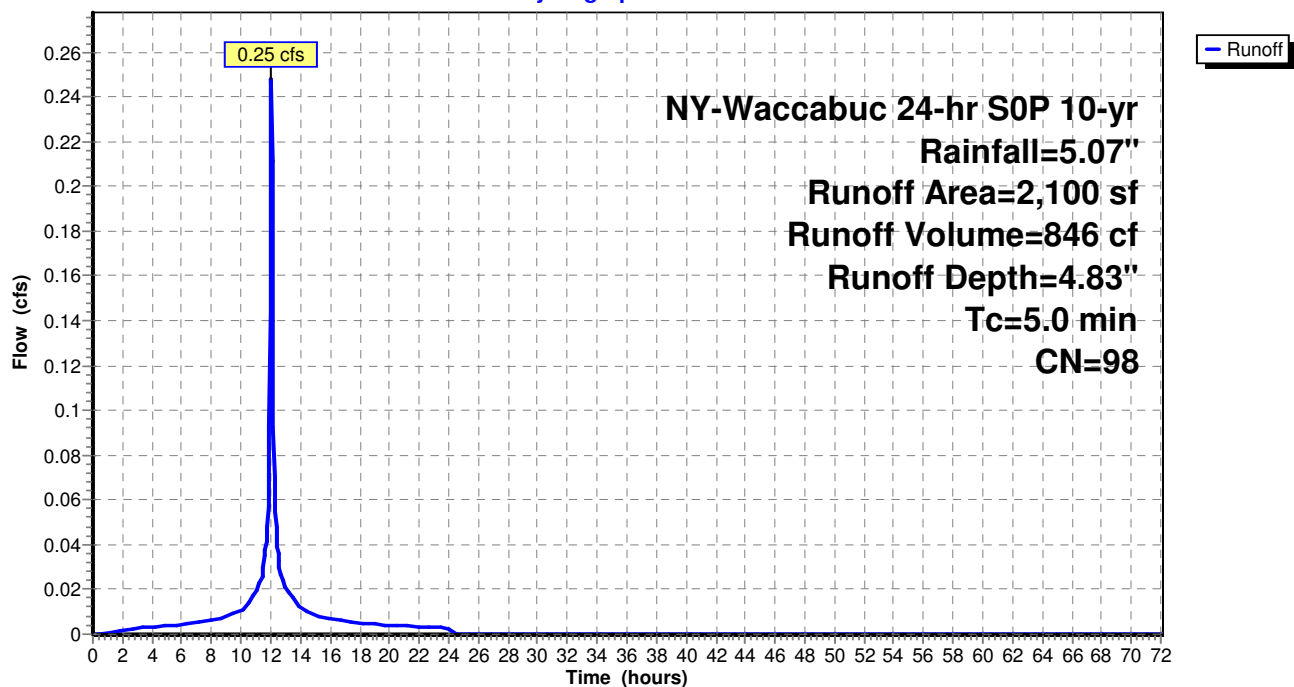
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Waccabuc 24-hr S0P 10-yr Rainfall=5.07"

Area (sf)	CN	Description
2,100	98	Paved parking, HSG B
2,100		100.00% Impervious Area

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

Subcatchment 1.2S: (Redevelopment)

Hydrograph



Post-Development

NY-Waccabuc 24-hr S0P 10-yr Rainfall=5.07"

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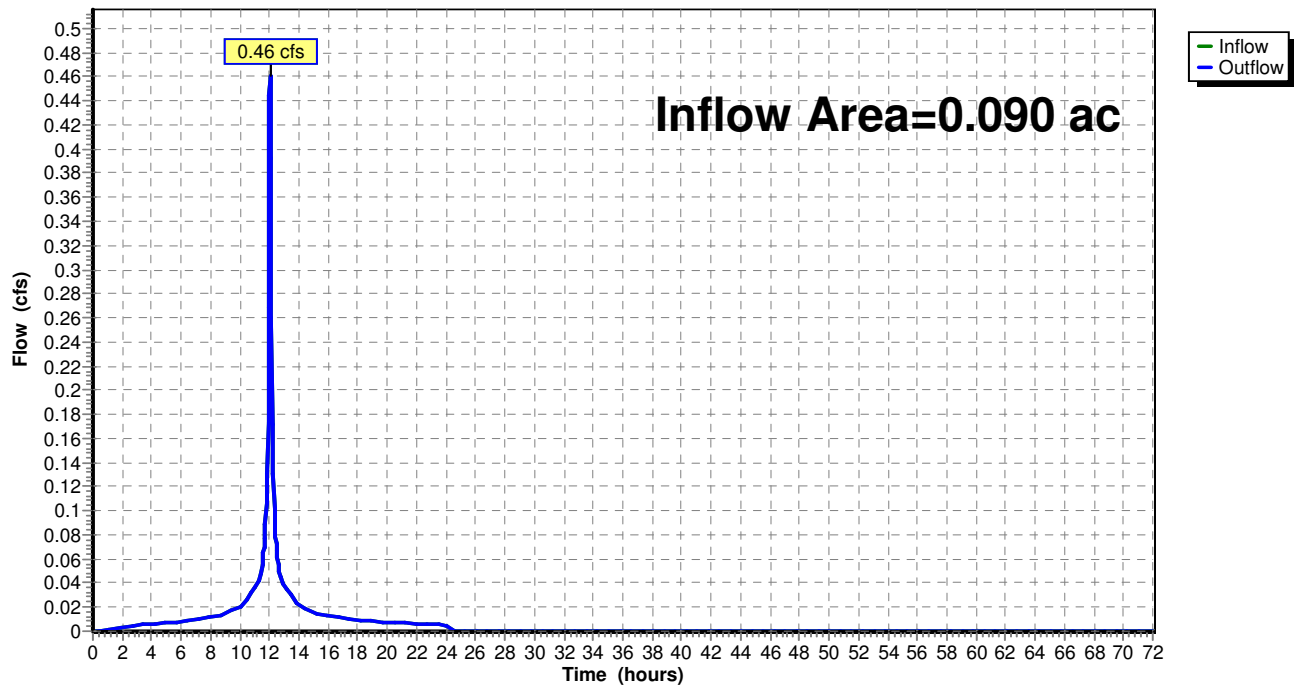
Summary for Reach 1.2P: Cistern

Inflow Area = 0.090 ac, 100.00% Impervious, Inflow Depth = 4.83" for 10-yr event
Inflow = 0.46 cfs @ 12.03 hrs, Volume= 1,571 cf
Outflow = 0.46 cfs @ 12.03 hrs, Volume= 1,571 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Reach 1.2P: Cistern

Hydrograph



Post-Development

NY-Waccabuc 24-hr S0P 10-yr Rainfall=5.07"

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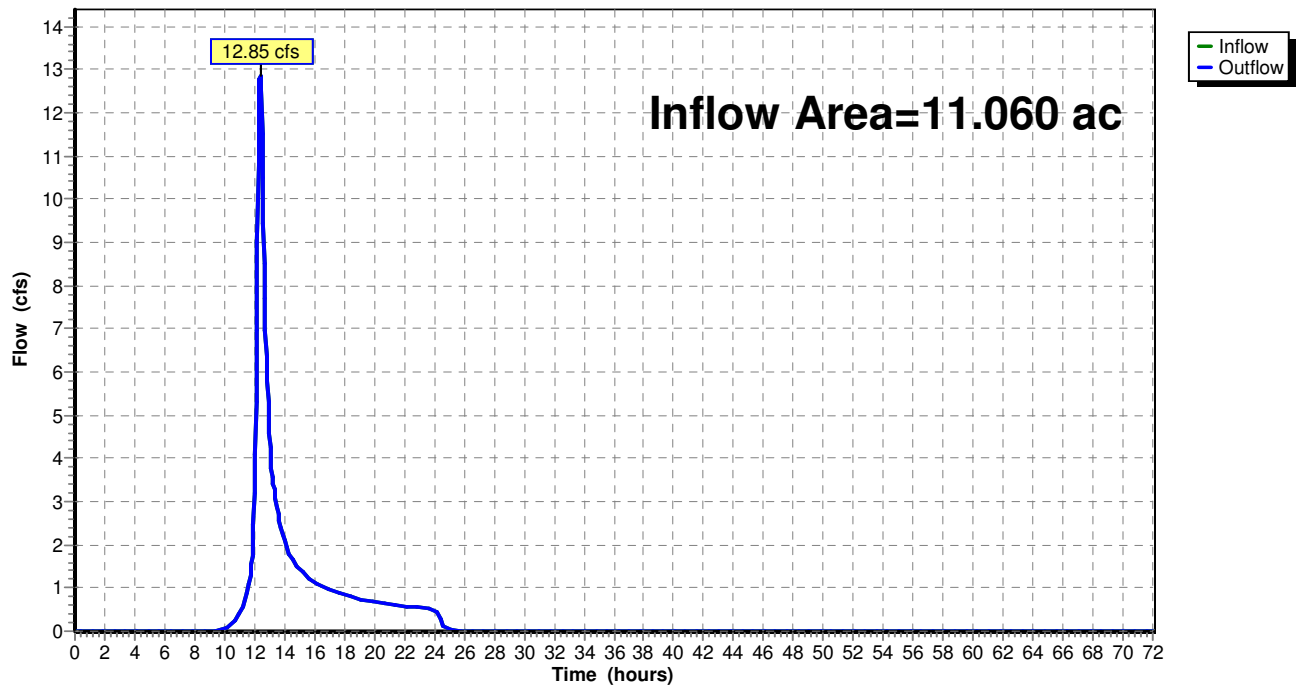
Summary for Reach DL 1: Design Line 1

Inflow Area = 11.060 ac, 4.65% Impervious, Inflow Depth > 1.97" for 10-yr event
Inflow = 12.85 cfs @ 12.38 hrs, Volume= 79,112 cf
Outflow = 12.85 cfs @ 12.38 hrs, Volume= 79,112 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Reach DL 1: Design Line 1

Hydrograph



Post-Development

NY-Waccabuc 24-hr SOP 10-yr Rainfall=5.07"

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Summary for Reach OS 1.1P: Outlet Pipe

Inflow Area = 0.471 ac, 43.41% Impervious, Inflow Depth > 2.34" for 10-yr event
Inflow = 0.40 cfs @ 12.30 hrs, Volume= 3,996 cf
Outflow = 0.40 cfs @ 12.31 hrs, Volume= 3,996 cf, Atten= 1%, Lag= 0.4 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Max. Velocity= 3.17 fps, Min. Travel Time= 0.3 min

Avg. Velocity= 1.02 fps, Avg. Travel Time= 0.8 min

Peak Storage= 6 cf @ 12.31 hrs

Average Depth at Peak Storage= 0.22'

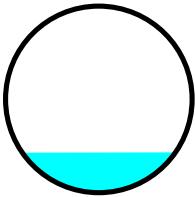
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 3.86 cfs

12.0" Round Pipe

n= 0.012

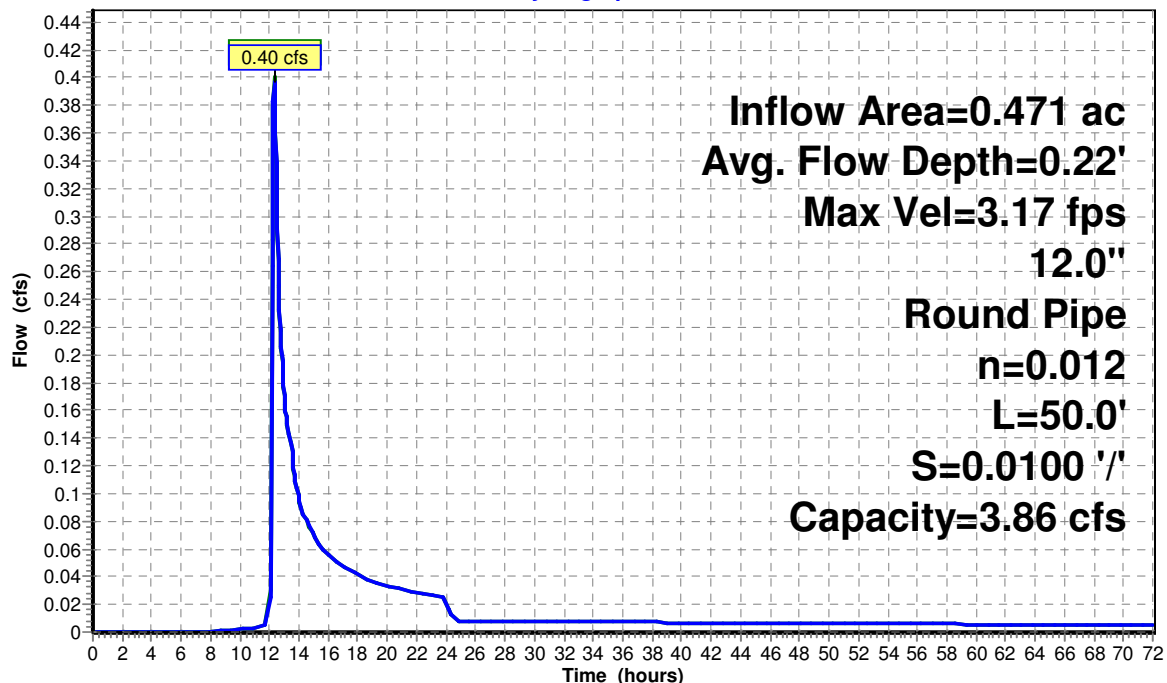
Length= 50.0' Slope= 0.0100 '/'

Inlet Invert= 476.50', Outlet Invert= 476.00'



Reach OS 1.1P: Outlet Pipe

Hydrograph



Post-Development

NY-Waccabuc 24-hr S0P 10-yr Rainfall=5.07"

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Stage-Area-Storage for Reach OS 1.1P: Outlet Pipe

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)	Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
476.50	0.0	0	477.02	0.4	21
476.51	0.0	0	477.03	0.4	21
476.52	0.0	0	477.04	0.4	22
476.53	0.0	0	477.05	0.4	22
476.54	0.0	1	477.06	0.5	23
476.55	0.0	1	477.07	0.5	23
476.56	0.0	1	477.08	0.5	24
476.57	0.0	1	477.09	0.5	24
476.58	0.0	1	477.10	0.5	25
476.59	0.0	2	477.11	0.5	25
476.60	0.0	2	477.12	0.5	26
476.61	0.0	2	477.13	0.5	26
476.62	0.1	3	477.14	0.5	27
476.63	0.1	3	477.15	0.5	27
476.64	0.1	3	477.16	0.5	27
476.65	0.1	4	477.17	0.6	28
476.66	0.1	4	477.18	0.6	28
476.67	0.1	4	477.19	0.6	29
476.68	0.1	5	477.20	0.6	29
476.69	0.1	5	477.21	0.6	30
476.70	0.1	6	477.22	0.6	30
476.71	0.1	6	477.23	0.6	31
476.72	0.1	6	477.24	0.6	31
476.73	0.1	7	477.25	0.6	32
476.74	0.1	7	477.26	0.6	32
476.75	0.2	8	477.27	0.6	32
476.76	0.2	8	477.28	0.7	33
476.77	0.2	9	477.29	0.7	33
476.78	0.2	9	477.30	0.7	34
476.79	0.2	9	477.31	0.7	34
476.80	0.2	10	477.32	0.7	34
476.81	0.2	10	477.33	0.7	35
476.82	0.2	11	477.34	0.7	35
476.83	0.2	11	477.35	0.7	36
476.84	0.2	12	477.36	0.7	36
476.85	0.2	12	477.37	0.7	36
476.86	0.3	13	477.38	0.7	37
476.87	0.3	13	477.39	0.7	37
476.88	0.3	14	477.40	0.7	37
476.89	0.3	14	477.41	0.8	38
476.90	0.3	15	477.42	0.8	38
476.91	0.3	15	477.43	0.8	38
476.92	0.3	16	477.44	0.8	38
476.93	0.3	16	477.45	0.8	39
476.94	0.3	17	477.46	0.8	39
476.95	0.3	17	477.47	0.8	39
476.96	0.4	18	477.48	0.8	39
476.97	0.4	18	477.49	0.8	39
476.98	0.4	19	477.50	0.8	39
476.99	0.4	19			
477.00	0.4	20			
477.01	0.4	20			

Post-Development

NY-Waccabuc 24-hr SOP 10-yr Rainfall=5.07"

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Summary for Pond 1.1P: Pond

Inflow Area = 0.471 ac, 43.41% Impervious, Inflow Depth = 2.72" for 10-yr event
Inflow = 1.52 cfs @ 12.03 hrs, Volume= 4,654 cf
Outflow = 0.40 cfs @ 12.30 hrs, Volume= 3,996 cf, Atten= 74%, Lag= 16.1 min
Primary = 0.40 cfs @ 12.30 hrs, Volume= 3,996 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Starting Elev= 482.00' Surf.Area= 2,200 sf Storage= 2,420 cf

Peak Elev= 482.78' @ 12.30 hrs Surf.Area= 2,825 sf Storage= 4,384 cf (1,964 cf above start)

Plug-Flow detention time= 1,645.3 min calculated for 1,576 cf (34% of inflow)

Center-of-Mass det. time= 603.4 min (1,439.0 - 835.6)

Volume	Invert	Avail.Storage	Storage Description
#1	477.00'	8,420 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
477.00	20	0	0
479.00	200	220	220
481.00	600	800	1,020
482.00	2,200	1,400	2,420
484.00	3,800	6,000	8,420

Device	Routing	Invert	Outlet Devices
#1	Primary	482.00'	0.6" Vert. Orifice/Grate C= 0.600
#2	Primary	482.70'	1.5' long x 0.5' breadth Broad-Crested Rectangular Weir X 4.00
			Head (feet) 0.20 0.40 0.60 0.80 1.00
			Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.40 cfs @ 12.30 hrs HW=482.78' TW=476.72' (Dynamic Tailwater)

1=Orifice/Grate (Orifice Controls 0.01 cfs @ 4.19 fps)

2=Broad-Crested Rectangular Weir (Weir Controls 0.39 cfs @ 0.80 fps)

Post-Development

NY-Waccabuc 24-hr SOP 10-yr Rainfall=5.07"

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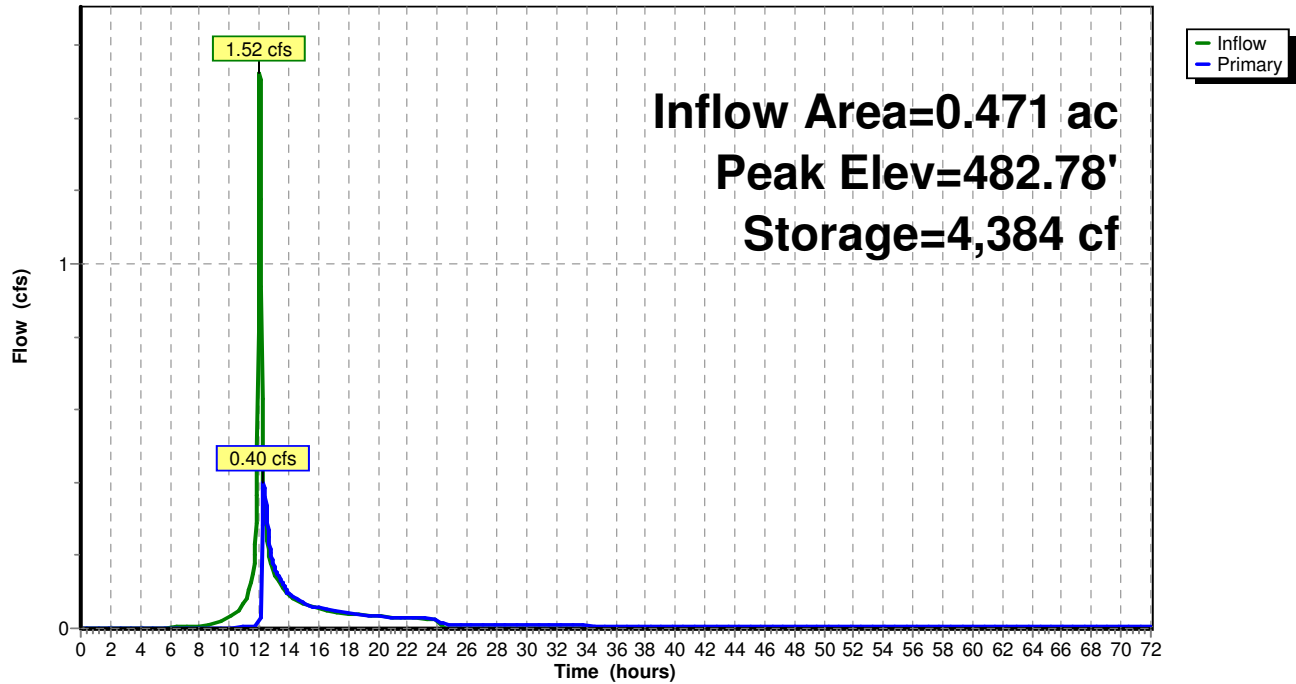
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Pond 1.1P: Pond

Hydrograph



Post-Development

NY-Waccabuc 24-hr S0P 10-yr Rainfall=5.07"

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Stage-Area-Storage for Pond 1.1P: Pond

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
477.00	20	0	482.20	2,360	2,876
477.10	29	2	482.30	2,440	3,116
477.20	38	6	482.40	2,520	3,364
477.30	47	10	482.50	2,600	3,620
477.40	56	15	482.60	2,680	3,884
477.50	65	21	482.70	2,760	4,156
477.60	74	28	482.80	2,840	4,436
477.70	83	36	482.90	2,920	4,724
477.80	92	45	483.00	3,000	5,020
477.90	101	54	483.10	3,080	5,324
478.00	110	65	483.20	3,160	5,636
478.10	119	76	483.30	3,240	5,956
478.20	128	89	483.40	3,320	6,284
478.30	137	102	483.50	3,400	6,620
478.40	146	116	483.60	3,480	6,964
478.50	155	131	483.70	3,560	7,316
478.60	164	147	483.80	3,640	7,676
478.70	173	164	483.90	3,720	8,044
478.80	182	182	484.00	3,800	8,420
478.90	191	200			
479.00	200	220			
479.10	220	241			
479.20	240	264			
479.30	260	289			
479.40	280	316			
479.50	300	345			
479.60	320	376			
479.70	340	409			
479.80	360	444			
479.90	380	481			
480.00	400	520			
480.10	420	561			
480.20	440	604			
480.30	460	649			
480.40	480	696			
480.50	500	745			
480.60	520	796			
480.70	540	849			
480.80	560	904			
480.90	580	961			
481.00	600	1,020			
481.10	760	1,088			
481.20	920	1,172			
481.30	1,080	1,272			
481.40	1,240	1,388			
481.50	1,400	1,520			
481.60	1,560	1,668			
481.70	1,720	1,832			
481.80	1,880	2,012			
481.90	2,040	2,208			
482.00	2,200	2,420			
482.10	2,280	2,644			

Post-Development

NY-Waccabuc 24-hr S0P 100-yr Rainfall=9.02"

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Summary for Subcatchment 1.0S:

Runoff = 31.23 cfs @ 12.37 hrs, Volume= 194,581 cf, Depth= 5.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Waccabuc 24-hr S0P 100-yr Rainfall=9.02"

Area (ac)	CN	Description
7.800	70	Woods, Good, HSG C
* 0.220	98	Paved parking
0.310	96	Gravel surface, HSG C
2.120	55	Woods, Good, HSG B
0.050	61	>75% Grass cover, Good, HSG B
10.500	68	Weighted Average
10.280		97.90% Pervious Area
0.220		2.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.4	100	0.0500	0.12		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.40"
6.9	550	0.0700	1.32		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
0.1	23	0.0400	4.06		Shallow Concentrated Flow, Paved Kv= 20.3 fps
0.5	51	0.1000	1.58		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
5.4	565	0.1200	1.73		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
0.0	32	0.1340	16.61	13.04	Pipe Channel, 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
0.2	268	0.1460	21.79	26.74	Pipe Channel, 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012
2.3	20	0.2000	0.15		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.40"
29.8	1,609	Total			

Post-Development

NY-Waccabuc 24-hr S0P 100-yr Rainfall=9.02"

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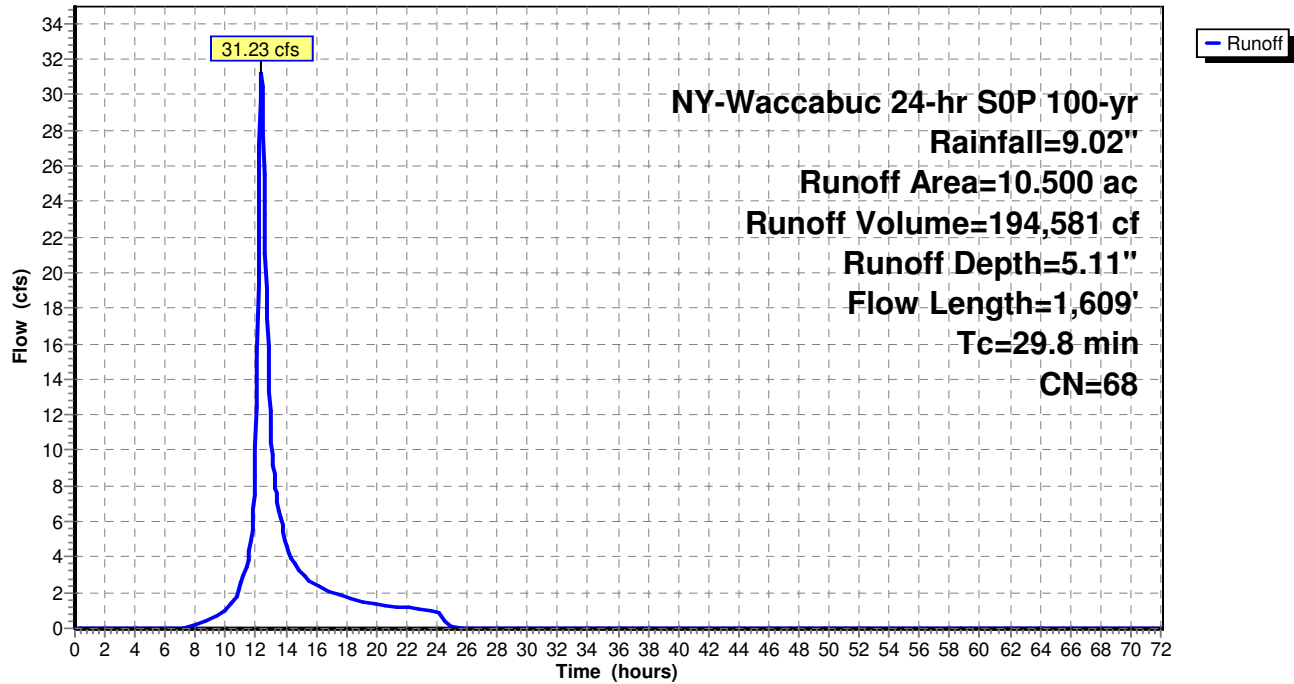
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Subcatchment 1.0S:

Hydrograph



Post-Development

NY-Waccabuc 24-hr S0P 100-yr Rainfall=9.02"

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Summary for Subcatchment 1.1 S: (New)

Runoff = 2.76 cfs @ 12.03 hrs, Volume= 9,802 cf, Depth= 6.09"

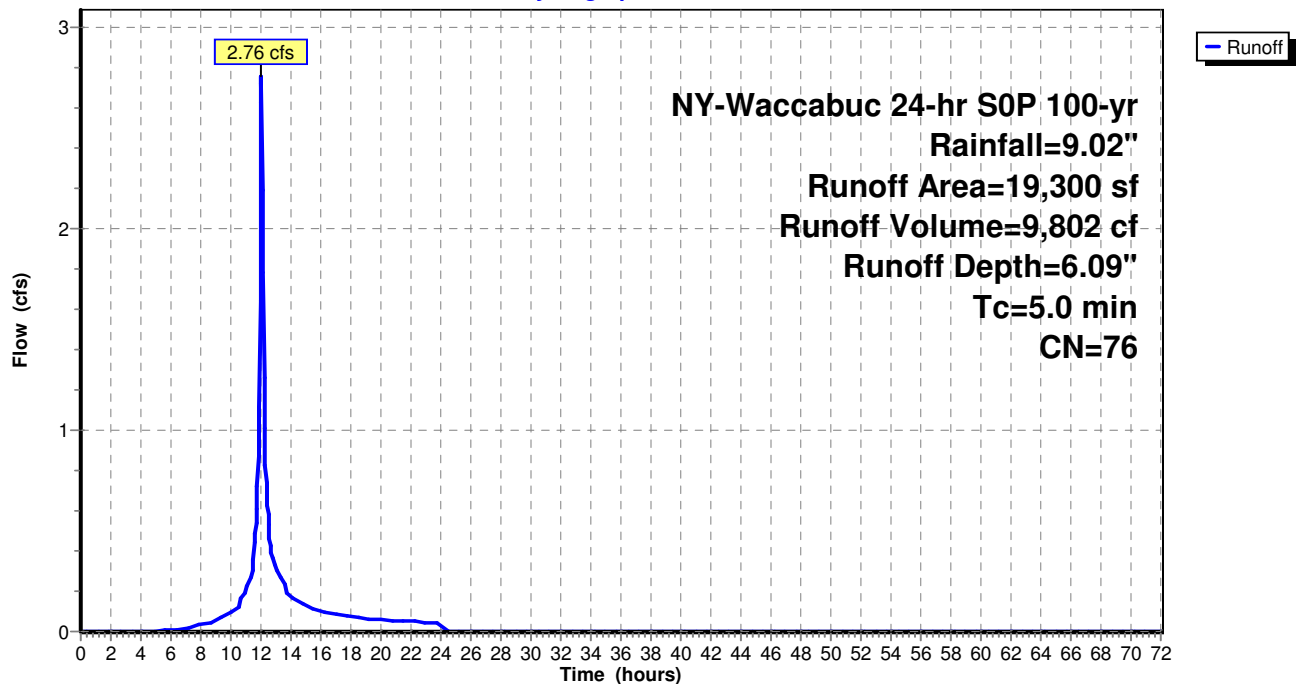
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Waccabuc 24-hr S0P 100-yr Rainfall=9.02"

Area (sf)	CN	Description
7,700	98	Paved parking, HSG B
11,600	61	>75% Grass cover, Good, HSG B
19,300	76	Weighted Average
11,600		60.10% Pervious Area
7,700		39.90% Impervious Area

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

Subcatchment 1.1 S: (New)

Hydrograph



Post-Development

NY-Waccabuc 24-hr SOP 100-yr Rainfall=9.02"

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Summary for Subcatchment 1.1S: (Redevelopment)

Runoff = 0.22 cfs @ 12.03 hrs, Volume= 878 cf, Depth= 8.78"

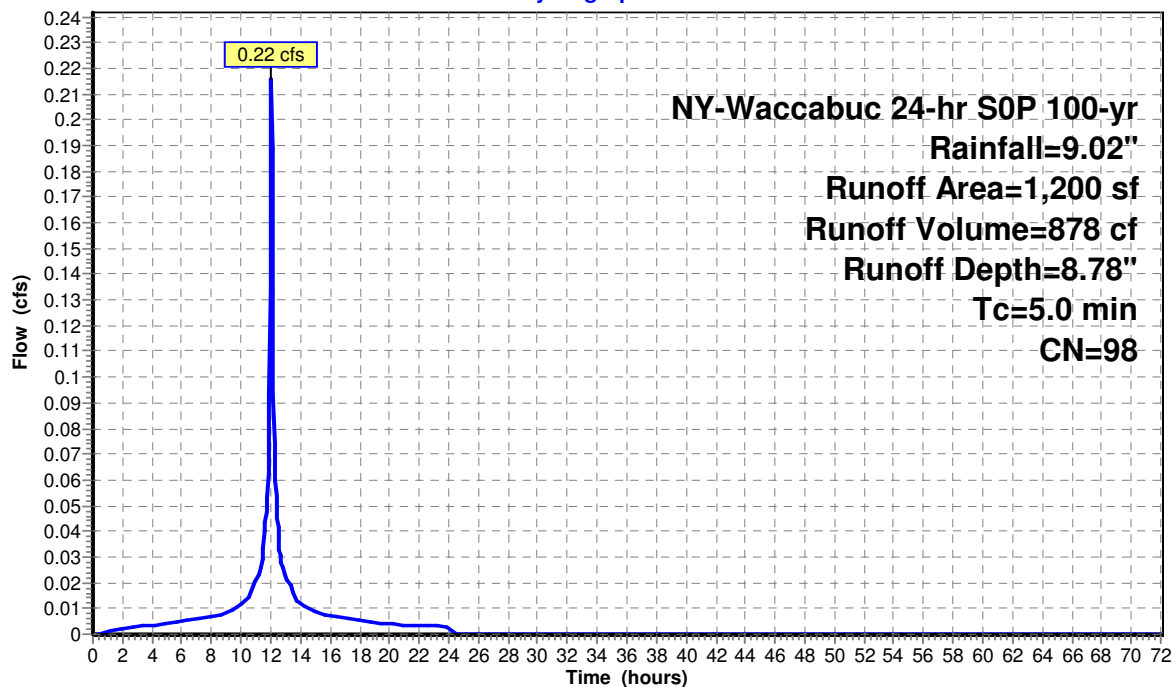
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Waccabuc 24-hr SOP 100-yr Rainfall=9.02"

Area (sf)	CN	Description
1,200	98	Paved parking, HSG B
1,200		100.00% Impervious Area

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

Subcatchment 1.1S: (Redevelopment)

Hydrograph



Post-Development

NY-Waccabuc 24-hr S0P 100-yr Rainfall=9.02"

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Summary for Subcatchment 1.2 S: (New)

Runoff = 0.32 cfs @ 12.03 hrs, Volume= 1,317 cf, Depth= 8.78"

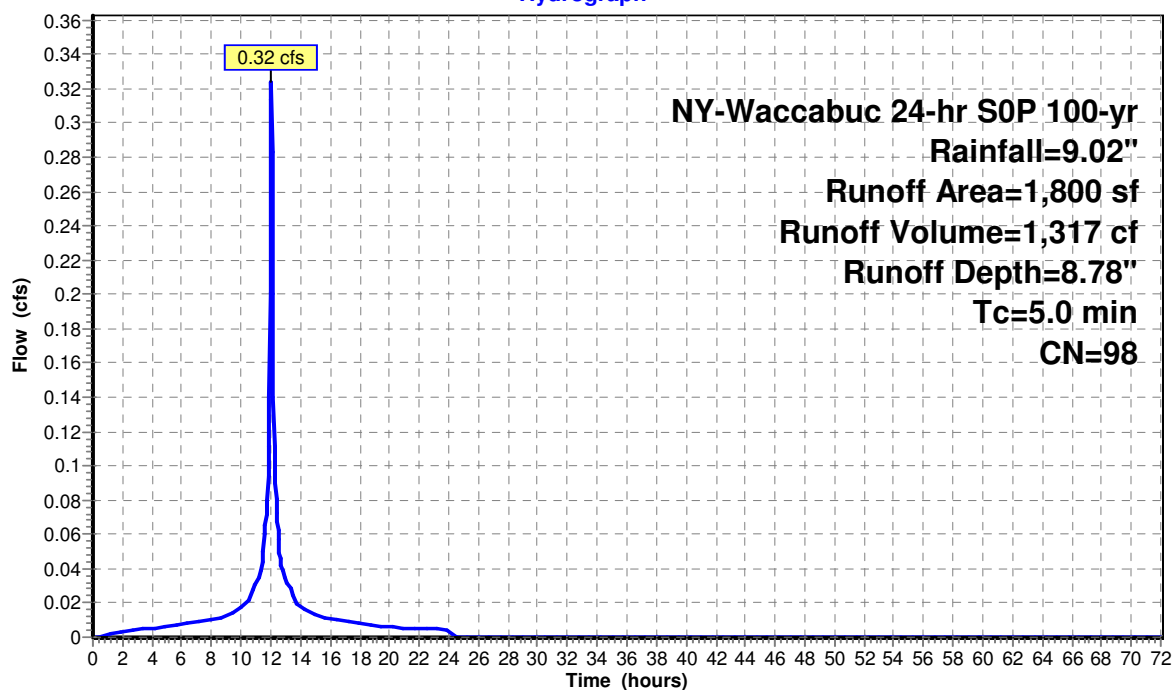
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Waccabuc 24-hr S0P 100-yr Rainfall=9.02"

Area (sf)	CN	Description
1,800	98	Paved parking, HSG B
1,800		100.00% Impervious Area

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

Subcatchment 1.2 S: (New)

Hydrograph



Post-Development

NY-Waccabuc 24-hr SOP 100-yr Rainfall=9.02"

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Summary for Subcatchment 1.2S: (Redevelopment)

Runoff = 0.38 cfs @ 12.03 hrs, Volume= 1,536 cf, Depth= 8.78"

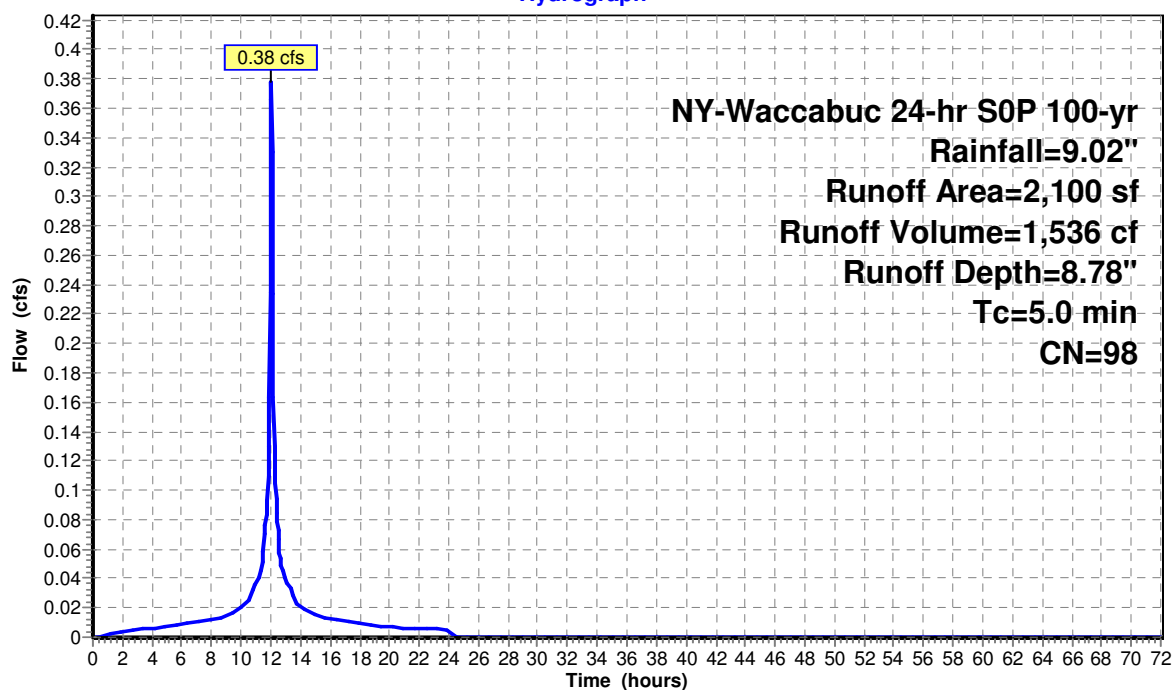
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
NY-Waccabuc 24-hr SOP 100-yr Rainfall=9.02"

Area (sf)	CN	Description
2,100	98	Paved parking, HSG B
2,100		100.00% Impervious Area

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

Subcatchment 1.2S: (Redevelopment)

Hydrograph



Post-Development

NY-Waccabuc 24-hr S0P 100-yr Rainfall=9.02"

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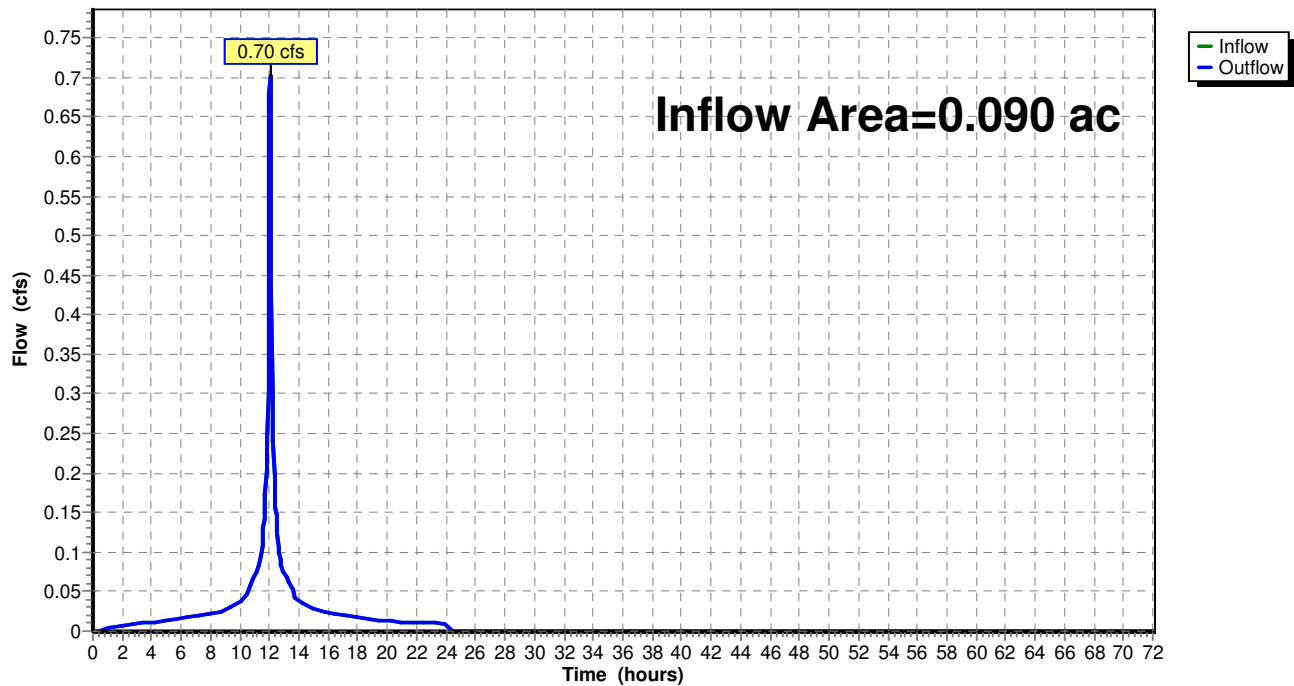
Summary for Reach 1.2P: Cistern

Inflow Area = 0.090 ac, 100.00% Impervious, Inflow Depth = 8.78" for 100-yr event
Inflow = 0.70 cfs @ 12.03 hrs, Volume= 2,853 cf
Outflow = 0.70 cfs @ 12.03 hrs, Volume= 2,853 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Reach 1.2P: Cistern

Hydrograph



Post-Development

NY-Waccabuc 24-hr S0P 100-yr Rainfall=9.02"

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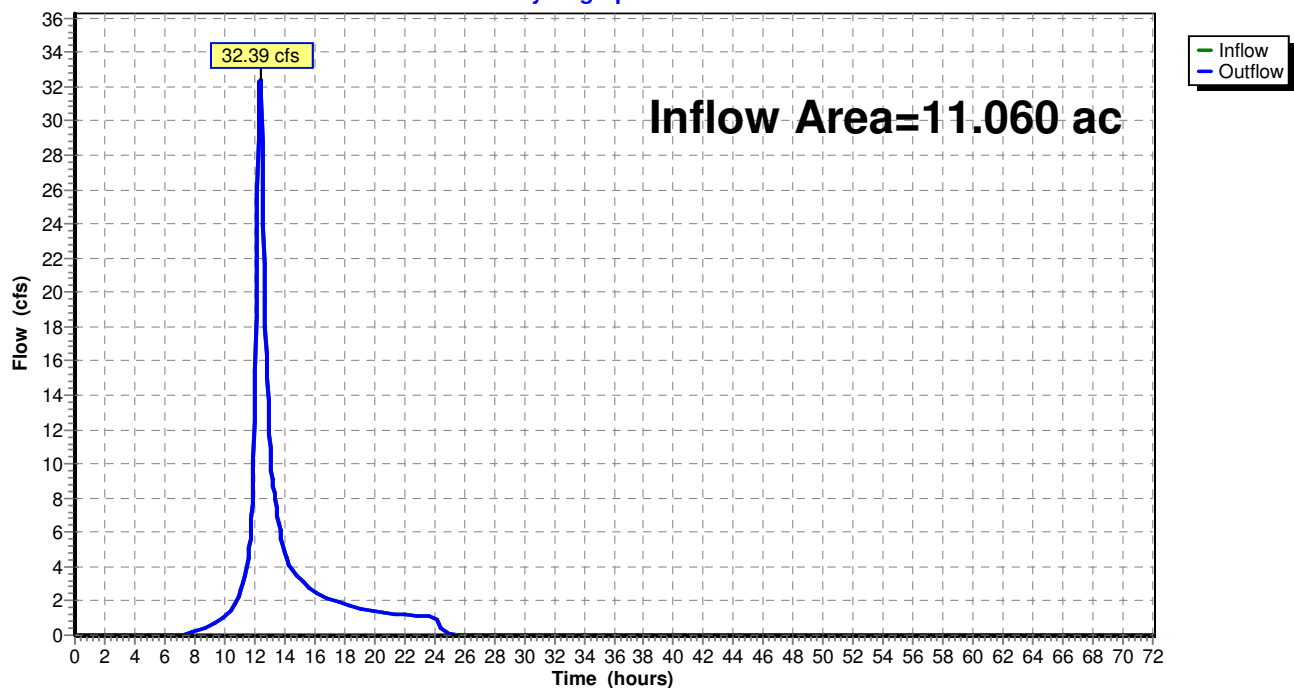
Summary for Reach DL 1: Design Line 1

Inflow Area = 11.060 ac, 4.65% Impervious, Inflow Depth > 5.17" for 100-yr event
Inflow = 32.39 cfs @ 12.37 hrs, Volume= 207,453 cf
Outflow = 32.39 cfs @ 12.37 hrs, Volume= 207,453 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Reach DL 1: Design Line 1

Hydrograph



Post-Development

NY-Waccabuc 24-hr SOP 100-yr Rainfall=9.02"

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Summary for Reach OS 1.1P: Outlet Pipe

Inflow Area = 0.471 ac, 43.41% Impervious, Inflow Depth > 5.86" for 100-yr event
Inflow = 2.54 cfs @ 12.09 hrs, Volume= 10,018 cf
Outflow = 2.55 cfs @ 12.10 hrs, Volume= 10,018 cf, Atten= 0%, Lag= 0.1 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Max. Velocity= 5.25 fps, Min. Travel Time= 0.2 min

Avg. Velocity= 1.12 fps, Avg. Travel Time= 0.7 min

Peak Storage= 24 cf @ 12.10 hrs

Average Depth at Peak Storage= 0.59'

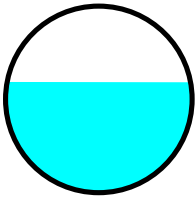
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 3.86 cfs

12.0" Round Pipe

n= 0.012

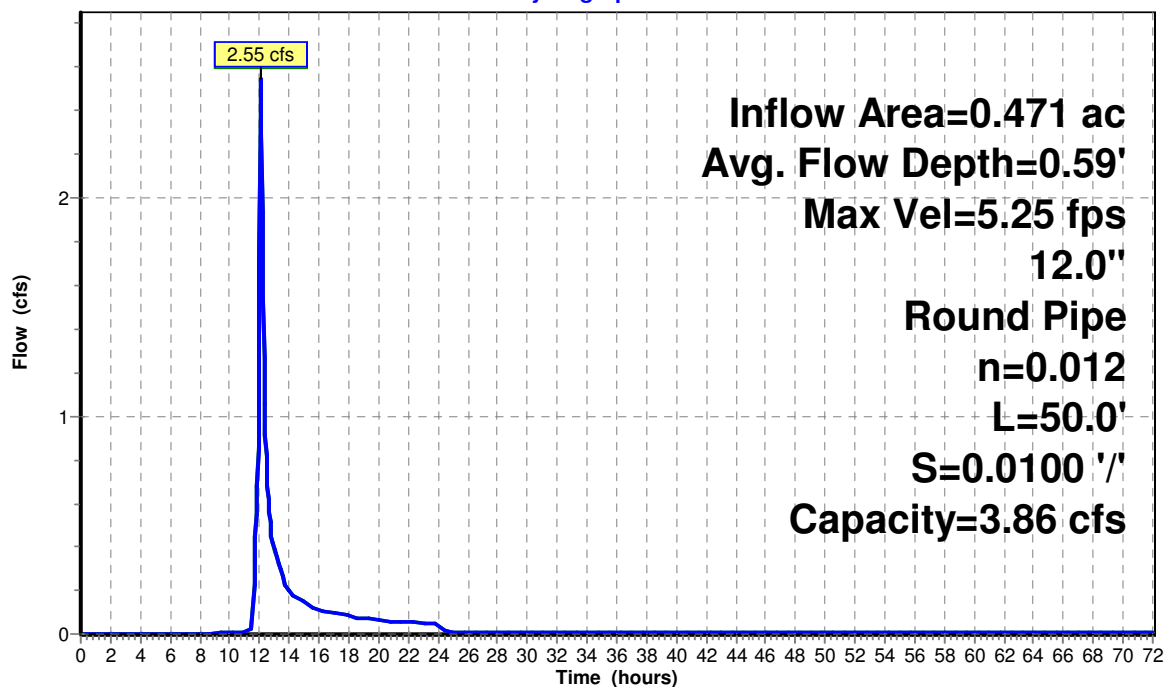
Length= 50.0' Slope= 0.0100 '/'

Inlet Invert= 476.50', Outlet Invert= 476.00'



Reach OS 1.1P: Outlet Pipe

Hydrograph



Post-Development

NY-Waccabuc 24-hr S0P 100-yr Rainfall=9.02"

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Stage-Area-Storage for Reach OS 1.1P: Outlet Pipe

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)	Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
476.50	0.0	0	477.02	0.4	21
476.51	0.0	0	477.03	0.4	21
476.52	0.0	0	477.04	0.4	22
476.53	0.0	0	477.05	0.4	22
476.54	0.0	1	477.06	0.5	23
476.55	0.0	1	477.07	0.5	23
476.56	0.0	1	477.08	0.5	24
476.57	0.0	1	477.09	0.5	24
476.58	0.0	1	477.10	0.5	25
476.59	0.0	2	477.11	0.5	25
476.60	0.0	2	477.12	0.5	26
476.61	0.0	2	477.13	0.5	26
476.62	0.1	3	477.14	0.5	27
476.63	0.1	3	477.15	0.5	27
476.64	0.1	3	477.16	0.5	27
476.65	0.1	4	477.17	0.6	28
476.66	0.1	4	477.18	0.6	28
476.67	0.1	4	477.19	0.6	29
476.68	0.1	5	477.20	0.6	29
476.69	0.1	5	477.21	0.6	30
476.70	0.1	6	477.22	0.6	30
476.71	0.1	6	477.23	0.6	31
476.72	0.1	6	477.24	0.6	31
476.73	0.1	7	477.25	0.6	32
476.74	0.1	7	477.26	0.6	32
476.75	0.2	8	477.27	0.6	32
476.76	0.2	8	477.28	0.7	33
476.77	0.2	9	477.29	0.7	33
476.78	0.2	9	477.30	0.7	34
476.79	0.2	9	477.31	0.7	34
476.80	0.2	10	477.32	0.7	34
476.81	0.2	10	477.33	0.7	35
476.82	0.2	11	477.34	0.7	35
476.83	0.2	11	477.35	0.7	36
476.84	0.2	12	477.36	0.7	36
476.85	0.2	12	477.37	0.7	36
476.86	0.3	13	477.38	0.7	37
476.87	0.3	13	477.39	0.7	37
476.88	0.3	14	477.40	0.7	37
476.89	0.3	14	477.41	0.8	38
476.90	0.3	15	477.42	0.8	38
476.91	0.3	15	477.43	0.8	38
476.92	0.3	16	477.44	0.8	38
476.93	0.3	16	477.45	0.8	39
476.94	0.3	17	477.46	0.8	39
476.95	0.3	17	477.47	0.8	39
476.96	0.4	18	477.48	0.8	39
476.97	0.4	18	477.49	0.8	39
476.98	0.4	19	477.50	0.8	39
476.99	0.4	19			
477.00	0.4	20			
477.01	0.4	20			

Post-Development

NY-Waccabuc 24-hr SOP 100-yr Rainfall=9.02"

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Summary for Pond 1.1P: Pond

Inflow Area = 0.471 ac, 43.41% Impervious, Inflow Depth = 6.25" for 100-yr event
Inflow = 2.97 cfs @ 12.03 hrs, Volume= 10,679 cf
Outflow = 2.54 cfs @ 12.09 hrs, Volume= 10,018 cf, Atten= 14%, Lag= 3.7 min
Primary = 2.54 cfs @ 12.09 hrs, Volume= 10,018 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Starting Elev= 482.00' Surf.Area= 2,200 sf Storage= 2,420 cf

Peak Elev= 482.98' @ 12.09 hrs Surf.Area= 2,984 sf Storage= 4,960 cf (2,540 cf above start)

Plug-Flow detention time= 478.0 min calculated for 7,598 cf (71% of inflow)

Center-of-Mass det. time= 259.9 min (1,069.2 - 809.3)

Volume	Invert	Avail.Storage	Storage Description
#1	477.00'	8,420 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
477.00	20	0	0
479.00	200	220	220
481.00	600	800	1,020
482.00	2,200	1,400	2,420
484.00	3,800	6,000	8,420

Device	Routing	Invert	Outlet Devices
#1	Primary	482.00'	0.6" Vert. Orifice/Grate C= 0.600
#2	Primary	482.70'	1.5' long x 0.5' breadth Broad-Crested Rectangular Weir X 4.00
			Head (feet) 0.20 0.40 0.60 0.80 1.00
			Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=2.52 cfs @ 12.09 hrs HW=482.98' TW=477.09' (Dynamic Tailwater)

1=Orifice/Grate (Orifice Controls 0.01 cfs @ 4.70 fps)

2=Broad-Crested Rectangular Weir (Weir Controls 2.51 cfs @ 1.50 fps)

Post-Development

NY-Waccabuc 24-hr S0P 100-yr Rainfall=9.02"

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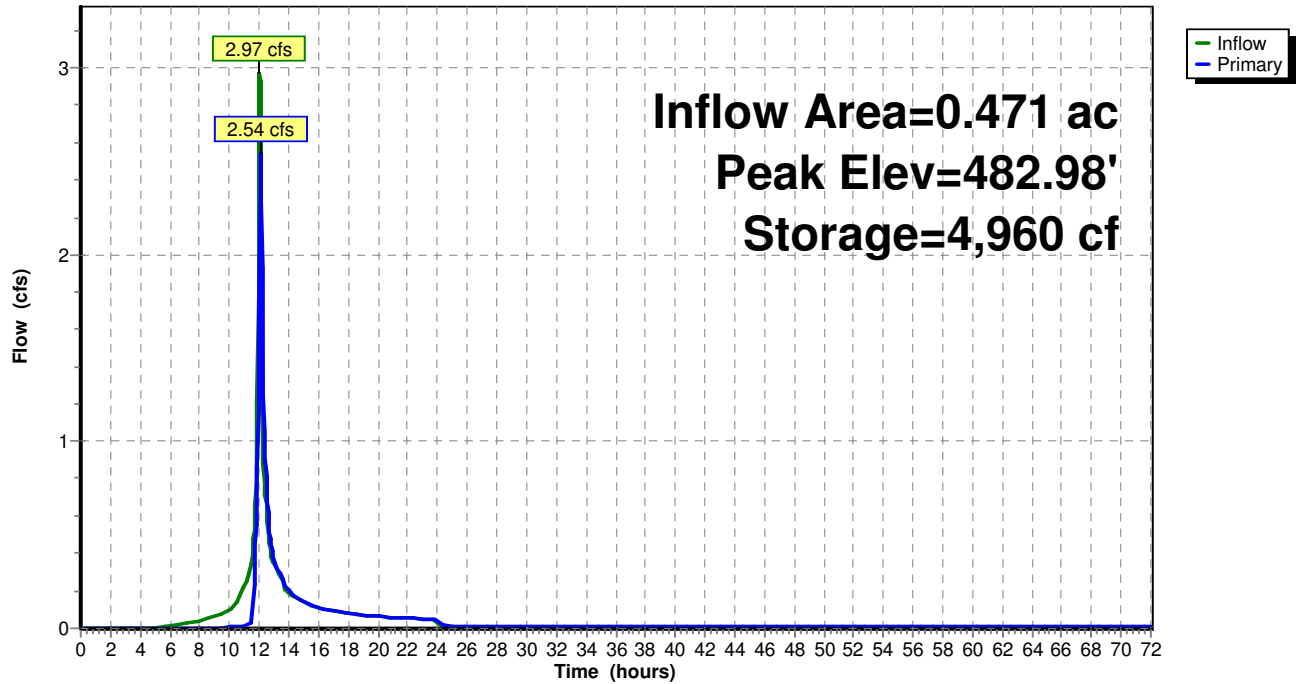
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Pond 1.1P: Pond

Hydrograph



Post-Development

NY-Waccabuc 24-hr S0P 100-yr Rainfall=9.02"

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Stage-Area-Storage for Pond 1.1P: Pond

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
477.00	20	0	482.20	2,360	2,876
477.10	29	2	482.30	2,440	3,116
477.20	38	6	482.40	2,520	3,364
477.30	47	10	482.50	2,600	3,620
477.40	56	15	482.60	2,680	3,884
477.50	65	21	482.70	2,760	4,156
477.60	74	28	482.80	2,840	4,436
477.70	83	36	482.90	2,920	4,724
477.80	92	45	483.00	3,000	5,020
477.90	101	54	483.10	3,080	5,324
478.00	110	65	483.20	3,160	5,636
478.10	119	76	483.30	3,240	5,956
478.20	128	89	483.40	3,320	6,284
478.30	137	102	483.50	3,400	6,620
478.40	146	116	483.60	3,480	6,964
478.50	155	131	483.70	3,560	7,316
478.60	164	147	483.80	3,640	7,676
478.70	173	164	483.90	3,720	8,044
478.80	182	182	484.00	3,800	8,420
478.90	191	200			
479.00	200	220			
479.10	220	241			
479.20	240	264			
479.30	260	289			
479.40	280	316			
479.50	300	345			
479.60	320	376			
479.70	340	409			
479.80	360	444			
479.90	380	481			
480.00	400	520			
480.10	420	561			
480.20	440	604			
480.30	460	649			
480.40	480	696			
480.50	500	745			
480.60	520	796			
480.70	540	849			
480.80	560	904			
480.90	580	961			
481.00	600	1,020			
481.10	760	1,088			
481.20	920	1,172			
481.30	1,080	1,272			
481.40	1,240	1,388			
481.50	1,400	1,520			
481.60	1,560	1,668			
481.70	1,720	1,832			
481.80	1,880	2,012			
481.90	2,040	2,208			
482.00	2,200	2,420			
482.10	2,280	2,644			

APPENDIX D
NYSDEC SPDES for Construction Activities Construction Site Log Book

APPENDIX F
CONSTRUCTION SITE INSPECTION
AND MAINTENANCE LOG BOOK

**STATE POLLUTANT DISCHARGE ELIMINATION SYSTEM FOR CONSTRUCTION
ACTIVITIES**

SAMPLE CONSTRUCTION SITE LOG BOOK

Table of Contents

- I. Pre-Construction Meeting Documents
 - a. Preamble to Site Assessment and Inspections
 - b. Pre-Construction Site Assessment Checklist

- II. Construction Duration Inspections
 - a. Directions
 - b. Modification to the SWPPP

I. PRE-CONSTRUCTION MEETING DOCUMENTS

Project Name _____
Permit No. _____ **Date of Authorization** _____
Name of Operator _____
Prime Contractor _____

a. Preamble to Site Assessment and Inspections

The Following Information To Be Read By All Person's Involved in The Construction of Stormwater Related Activities:

The Operator agrees to have a qualified inspector¹ conduct an assessment of the site prior to the commencement of construction² and certify in this inspection report that the appropriate erosion and sediment controls described in the SWPPP have been adequately installed or implemented to ensure overall preparedness of the site for the commencement of construction.

Prior to the commencement of construction, the Operator shall certify in this site logbook that the SWPPP has been prepared in accordance with the State's standards and meets all Federal, State and local erosion and sediment control requirements. A preconstruction meeting should be held to review all of the SWPPP requirements with construction personnel.

When construction starts, site inspections shall be conducted by the qualified inspector at least every 7 calendar days. The Operator shall maintain a record of all inspection reports in this site logbook. The site logbook shall be maintained on site and be made available to the permitting authorities upon request.

Prior to filing the Notice of Termination or the end of permit term, the Operator shall have a qualified inspector perform a final site inspection. The qualified inspector shall certify that the site has undergone final stabilization³ using either vegetative or structural stabilization methods and that all temporary erosion and sediment controls (such as silt fencing) not needed for long-term erosion control have been removed. In addition, the Operator must identify and certify that all permanent structures described in the SWPPP have been constructed and provide the owner(s) with an operation and maintenance plan that ensures the structure(s) continuously functions as designed.

1 Refer to "Qualified Inspector" inspection requirements in the current SPDES General Permit for Stormwater Discharges from Construction Activity for complete list of inspection requirements.

2 "Commencement of construction" means the initial removal of vegetation and disturbance of soils associated with clearing, grading or excavating activities or other construction activities.

3 "Final stabilization" means that all soil-disturbing activities at the site have been completed and a uniform, perennial vegetative cover with a density of eighty (80) percent has been established or equivalent stabilization measures (such as the use of mulches or geotextiles) have been employed on all unpaved areas and areas not covered by permanent structures.

b. Pre-construction Site Assessment Checklist**(NOTE: Provide comments below as necessary)****1. Notice of Intent, SWPPP, and Contractors Certification:****Yes No NA**

- ☐ ☐ ☐ Has a Notice of Intent been filed with the NYS Department of Conservation?
- ☐ ☐ ☐ Is the SWPPP on-site? Where? _____
- ☐ ☐ ☐ Is the Plan current? What is the latest revision date? _____
- ☐ ☐ ☐ Is a copy of the NOI (with brief description) onsite? Where? _____
- ☐ ☐ ☐ Have all contractors involved with stormwater related activities signed a contractor's certification?

2. Resource Protection**Yes No NA**

- ☐ ☐ ☐ Are construction limits clearly flagged or fenced?
- ☐ ☐ ☐ Important trees and associated rooting zones, on-site septic system absorption fields, existing vegetated areas suitable for filter strips, especially in perimeter areas, have been flagged for protection.
- ☐ ☐ ☐ Creek crossings installed prior to land-disturbing activity, including clearing and blasting.

3. Surface Water Protection**Yes No NA**

- ☐ ☐ ☐ Clean stormwater runoff has been diverted from areas to be disturbed.
- ☐ ☐ ☐ Bodies of water located either on site or in the vicinity of the site have been identified and protected.
- ☐ ☐ ☐ Appropriate practices to protect on-site or downstream surface water are installed.
- ☐ ☐ ☐ Are clearing and grading operations divided into areas <5 acres?

4. Stabilized Construction Access**Yes No NA**

- ☐ ☐ ☐ A temporary construction entrance to capture mud and debris from construction vehicles before they enter the public highway has been installed.
- ☐ ☐ ☐ Other access areas (entrances, construction routes, equipment parking areas) are stabilized immediately as work takes place with gravel or other cover.
- ☐ ☐ ☐ Sediment tracked onto public streets is removed or cleaned on a regular basis.

5. Sediment Controls**Yes No NA**

- ☐ ☐ ☐ Silt fence material and installation comply with the standard drawing and specifications.
- ☐ ☐ ☐ Silt fences are installed at appropriate spacing intervals
- ☐ ☐ ☐ Sediment/detention basin was installed as first land disturbing activity.
- ☐ ☐ ☐ Sediment traps and barriers are installed.

6. Pollution Prevention for Waste and Hazardous Materials**Yes No NA**

- ☐ ☐ ☐ The Operator or designated representative has been assigned to implement the spill prevention avoidance and response plan.
- ☐ ☐ ☐ The plan is contained in the SWPPP on page _____
- ☐ ☐ ☐ Appropriate materials to control spills are onsite. Where? _____

II. CONSTRUCTION DURATION INSPECTIONS

a. Directions:

Inspection Forms will be filled out during the entire construction phase of the project.

Required Elements:

- 1) On a site map, indicate the extent of all disturbed site areas and drainage pathways. Indicate site areas that are expected to undergo initial disturbance or significant site work within the next 14-day period;
- 2) Indicate on a site map all areas of the site that have undergone temporary or permanent stabilization;
- 3) Indicate all disturbed site areas that have not undergone active site work during the previous 14-day period;
- 4) Inspect all sediment control practices and record the approximate degree of sediment accumulation as a percentage of sediment storage volume (for example, 10 percent, 20 percent, 50 percent);
- 5) Inspect all erosion and sediment control practices and record all maintenance requirements such as verifying the integrity of barrier or diversion systems (earthen berms or silt fencing) and containment systems (sediment basins and sediment traps). Identify any evidence of rill or gully erosion occurring on slopes and any loss of stabilizing vegetation or seeding/mulching. Document any excessive deposition of sediment or ponding water along barrier or diversion systems. Record the depth of sediment within containment structures, any erosion near outlet and overflow structures, and verify the ability of rock filters around perforated riser pipes to pass water; and
- 6) Immediately report to the Operator any deficiencies that are identified with the implementation of the SWPPP.

SITE PLAN/SKETCH

Inspector (print name)

Date of Inspection

Qualified Inspector (print name)

Qualified Inspector Signature

The above signed acknowledges that, to the best of his/her knowledge, all information provided on the forms is accurate and complete.

Maintaining Water Quality**Yes No NA**

- ☐ ☐ ☐ Is there an increase in turbidity causing a substantial visible contrast to natural conditions at the outfalls?
- ☐ ☐ ☐ Is there residue from oil and floating substances, visible oil film, or globules or grease at the outfalls?
- ☐ ☐ ☐ All disturbance is within the limits of the approved plans.
- ☐ ☐ ☐ Have receiving lake/bay, stream, and/or wetland been impacted by silt from project?

Housekeeping

1. General Site Conditions

Yes No NA

- ☐ ☐ ☐ Is construction site litter, debris and spoils appropriately managed?
- ☐ ☐ ☐ Are facilities and equipment necessary for implementation of erosion and sediment control in working order and/or properly maintained?
- ☐ ☐ ☐ Is construction impacting the adjacent property?
- ☐ ☐ ☐ Is dust adequately controlled?

2. Temporary Stream Crossing

Yes No NA

- ☐ ☐ ☐ Maximum diameter pipes necessary to span creek without dredging are installed.
- ☐ ☐ ☐ Installed non-woven geotextile fabric beneath approaches.
- ☐ ☐ ☐ Is fill composed of aggregate (no earth or soil)?
- ☐ ☐ ☐ Rock on approaches is clean enough to remove mud from vehicles & prevent sediment from entering stream during high flow.

3. Stabilized Construction Access

Yes No NA

- ☐ ☐ ☐ Stone is clean enough to effectively remove mud from vehicles.
- ☐ ☐ ☐ Installed per standards and specifications?
- ☐ ☐ ☐ Does all traffic use the stabilized entrance to enter and leave site?
- ☐ ☐ ☐ Is adequate drainage provided to prevent ponding at entrance?

Runoff Control Practices

1. Excavation Dewatering

Yes No NA

- ☐ ☐ ☐ Upstream and downstream berms (sandbags, inflatable dams, etc.) are installed per plan.
- ☐ ☐ ☐ Clean water from upstream pool is being pumped to the downstream pool.
- ☐ ☐ ☐ Sediment laden water from work area is being discharged to a silt-trapping device.
- ☐ ☐ ☐ Constructed upstream berm with one-foot minimum freeboard.

Runoff Control Practices (continued)

2. Flow Spreader

Yes No NA

- ☐ ☐ ☐ Installed per plan.
- ☐ ☐ ☐ Constructed on undisturbed soil, not on fill, receiving only clear, non-sediment laden flow.
- ☐ ☐ ☐ Flow sheets out of level spreader without erosion on downstream edge.

3. Interceptor Dikes and Swales

Yes No NA

- ☐ ☐ ☐ Installed per plan with minimum side slopes 2H:1V or flatter.
- ☐ ☐ ☐ Stabilized by geotextile fabric, seed, or mulch with no erosion occurring.
- ☐ ☐ ☐ Sediment-laden runoff directed to sediment trapping structure

4. Stone Check Dam

Yes No NA

- ☐ ☐ ☐ Is channel stable? (flow is not eroding soil underneath or around the structure).
- ☐ ☐ ☐ Check is in good condition (rocks in place and no permanent pools behind the structure).
- ☐ ☐ ☐ Has accumulated sediment been removed?.

5. Rock Outlet Protection

Yes No NA

- ☐ ☐ ☐ Installed per plan.
- ☐ ☐ ☐ Installed concurrently with pipe installation.

Soil Stabilization

1. Topsoil and Spoil Stockpiles

Yes No NA

- ☐ ☐ ☐ Stockpiles are stabilized with vegetation and/or mulch.
- ☐ ☐ ☐ Sediment control is installed at the toe of the slope.

2. Revegetation

Yes No NA

- ☐ ☐ ☐ Temporary seedings and mulch have been applied to idle areas.
- ☐ ☐ ☐ 4 inches minimum of topsoil has been applied under permanent seedings

Sediment Control Practices

1. Silt Fence and Linear Barriers

Yes No NA

- ☐ ☐ ☐ Installed on Contour, 10 feet from toe of slope (not across conveyance channels).
- ☐ ☐ ☐ Joints constructed by wrapping the two ends together for continuous support.
- ☐ ☐ ☐ Fabric buried 6 inches minimum.
- ☐ ☐ ☐ Posts are stable, fabric is tight and without rips or frayed areas.

Sediment accumulation is ____% of design capacity.

Sediment Control Practices (continued)

2. Storm Drain Inlet Protection (Use for Stone & Block; Filter Fabric; Curb; or, Excavated; Filter Sock or Manufactured practices)

Yes No NA

- ☐ ☐ ☐ Installed concrete blocks lengthwise so open ends face outward, not upward.
- ☐ ☐ ☐ Placed wire screen between No. 3 crushed stone and concrete blocks.
- ☐ ☐ ☐ Drainage area is 1 acre or less.
- ☐ ☐ ☐ Excavated area is 900 cubic feet.
- ☐ ☐ ☐ Excavated side slopes should be 2:1.
- ☐ ☐ ☐ 2" x 4" frame is constructed and structurally sound.
- ☐ ☐ ☐ Posts 3-foot maximum spacing between posts.
- ☐ ☐ ☐ Fabric is embedded 1 to 1.5 feet below ground and secured to frame/posts with staples at max 8-inch spacing.
- ☐ ☐ ☐ Posts are stable, fabric is tight and without rips or frayed areas.
- ☐ ☐ ☐ Manufactured insert fabric is free of tears and punctures.
- ☐ ☐ ☐ Filter Sock is not torn or flattened and fill material is contained within the mesh sock.

Sediment accumulation ____% of design capacity.

3. Temporary Sediment Trap

Yes No NA

- ☐ ☐ ☐ Outlet structure is constructed per the approved plan or drawing.
- ☐ ☐ ☐ Geotextile fabric has been placed beneath rock fill.
- ☐ ☐ ☐ Sediment trap slopes and disturbed areas are stabilized.

Sediment accumulation is ____% of design capacity.

4. Temporary Sediment Basin

Yes No NA

- ☐ ☐ ☐ Basin and outlet structure constructed per the approved plan.
- ☐ ☐ ☐ Basin side slopes are stabilized with seed/mulch.
- ☐ ☐ ☐ Drainage structure flushed and basin surface restored upon removal of sediment basin facility.
- ☐ ☐ ☐ Sediment basin dewatering pool is dewatering at appropriate rate.

Sediment accumulation is ____% of design capacity.

Note: Not all erosion and sediment control practices are included in this listing. Add additional pages to this list as required by site specific design. All practices shall be maintained in accordance with their respective standards.

Construction inspection checklists for post-development stormwater management practices can be found in Appendix F of the New York Stormwater Management Design Manual.

CONSTRUCTION DURATION INSPECTIONS

b. Modifications to the SWPPP (To be completed as described below)

The Operator shall amend the SWPPP whenever:

1. There is a significant change in design, construction, operation, or maintenance which may have a significant effect on the potential for the discharge of pollutants to the waters of the United States and which has not otherwise been addressed in the SWPPP; or
2. The SWPPP proves to be ineffective in:
 - a. Eliminating or significantly minimizing pollutants from sources identified in the SWPPP and as required by this permit; or
 - b. Achieving the general objectives of controlling pollutants in stormwater discharges from permitted construction activity; and
3. Additionally, the SWPPP shall be amended to identify any new contractor or subcontractor that will implement any measure of the SWPPP.

Modification & Reason:This image shows a full page of blank, lined paper. It features approximately 20 evenly spaced horizontal black lines across its entire width, providing a guide for handwriting or typing. The paper itself is a clean, off-white color.

APPENDIX E
Project and Owner Information

Site Data:

Waccabuc Country Club – Beach Club
90 Mead Street
Waccabuc, New York 10597
Area: 9.1 acres ±

Owner/Applicant Information:

Waccabuc Country Club
90 Mead Street
Waccabuc, New York 10597

Parties Responsible for Implementation of the Short and Long Term Maintenance Plan:

Waccabuc Country Club
90 Mead Street
Waccabuc, New York 10597

and or the current owner(s) of the subject property.

Qualified Professional Responsible for Inspection of the Stormwater Pollution Prevention Plan:

Insite Engineering, Surveying & Landscape Architecture, P.C.
3 Garrett Place
Carmel, New York 10512
845-225-9690

APPENDIX F

NYSDEC Stormwater/Wetland Pond Construction and Maintenance Checklist

Stormwater/Wetland Pond Construction Inspection Checklist

Project:

Location:

Site Status:

Date:

Time:

Inspector:

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
Pre-Construction/Materials and Equipment		
Pre-construction meeting		
Pipe and appurtenances on-site prior to construction and dimensions checked		
1. Material (including protective coating, if specified)		
2. Diameter		
3. Dimensions of metal riser or pre-cast concrete outlet structure		
4. Required dimensions between water control structures (orifices, weirs, etc.) are in accordance with approved plans		
5. Barrel stub for prefabricated pipe structures at proper angle for design barrel slope		
6. Number and dimensions of prefabricated anti-seep collars		
7. Watertight connectors and gaskets		
8. Outlet drain valve		
Project benchmark near pond site		
Equipment for temporary de-watering		

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
2. Subgrade Preparation		
Area beneath embankment stripped of all vegetation, topsoil, and organic matter		
3. Pipe Spillway Installation		
Method of installation detailed on plans		
A. Bed preparation		
Installation trench excavated with specified side slopes		
Stable, uniform, dry subgrade of relatively impervious material (If subgrade is wet, contractor shall have defined steps before proceeding with installation)		
Invert at proper elevation and grade		
B. Pipe placement		
Metal / plastic pipe		
1. Watertight connectors and gaskets properly installed		
2. Anti-seep collars properly spaced and having watertight connections to pipe		
3. Backfill placed and tamped by hand under “haunches” of pipe		
4. Remaining backfill placed in max. 8 inch lifts using small power tamping equipment until 2 feet cover over pipe is reached		

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
3. Pipe Spillway Installation		
Concrete pipe		
1. Pipe set on blocks or concrete slab for pouring of low cradle		
2. Pipe installed with rubber gasket joints with no spalling in gasket interface area		
3. Excavation for lower half of anti-seep collar(s) with reinforcing steel set		
4. Entire area where anti-seep collar(s) will come in contact with pipe coated with mastic or other approved waterproof sealant		
5. Low cradle and bottom half of anti-seep collar installed as monolithic pour and of an approved mix		
6. Upper half of anti-seep collar(s) formed with reinforcing steel set		
7. Concrete for collar of an approved mix and vibrated into place (protected from freezing while curing, if necessary)		
8. Forms stripped and collar inspected for honeycomb prior to backfilling. Parge if necessary.		
C. Backfilling		
Fill placed in maximum 8 inch lifts		
Backfill taken minimum 2 feet above top of anti-seep collar elevation before traversing with heavy equipment		

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
4. Riser / Outlet Structure Installation		
Riser located within embankment		
A. Metal riser		
Riser base excavated or formed on stable subgrade to design dimensions		
Set on blocks to design elevations and plumbed		
Reinforcing bars placed at right angles and projecting into sides of riser		
Concrete poured so as to fill inside of riser to invert of barrel		
B. Pre-cast concrete structure		
Dry and stable subgrade		
Riser base set to design elevation		
If more than one section, no spalling in gasket interface area; gasket or approved caulking material placed securely		
Watertight and structurally sound collar or gasket joint where structure connects to pipe spillway		
C. Poured concrete structure		
Footing excavated or formed on stable subgrade, to design dimensions with reinforcing steel set		
Structure formed to design dimensions, with reinforcing steel set as per plan		
Concrete of an approved mix and vibrated into place (protected from freezing while curing, if necessary)		
Forms stripped & inspected for "honeycomb" prior to backfilling; parge if necessary		

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
5. Embankment Construction		
Fill material		
Compaction		
Embankment		
1. Fill placed in specified lifts and compacted with appropriate equipment		
2. Constructed to design cross-section, side slopes and top width		
3. Constructed to design elevation plus allowance for settlement		
6. Impounded Area Construction		
Excavated / graded to design contours and side slopes		
Inlet pipes have adequate outfall protection		
Forebay(s)		
Pond benches		
7. Earth Emergency Spillway Construction		
Spillway located in cut or structurally stabilized with riprap, gabions, concrete, etc.		
Excavated to proper cross-section, side slopes and bottom width		
Entrance channel, crest, and exit channel constructed to design grades and elevations		

CONSTRUCTION SEQUENCE	SATISFACTORY / UNSATISFACTORY	COMMENTS
8. Outlet Protection		
A. End section		
Securely in place and properly backfilled		
B. Endwall		
Footing excavated or formed on stable subgrade, to design dimensions and reinforcing steel set, if specified		
Endwall formed to design dimensions with reinforcing steel set as per plan		
Concrete of an approved mix and vibrated into place (protected from freezing, if necessary)		
Forms stripped and structure inspected for “honeycomb” prior to backfilling; parge if necessary		
C. Riprap apron / channel		
Apron / channel excavated to design cross-section with proper transition to existing ground		
Filter fabric in place		
Stone sized as per plan and uniformly placed at the thickness specified		
9. Vegetative Stabilization		
Approved seed mixture or sod		
Proper surface preparation and required soil amendments		
Excelsior mat or other stabilization, as per plan		

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
10. Miscellaneous		
Drain for ponds having a permanent pool		
Trash rack / anti-vortex device secured to outlet structure		
Trash protection for low flow pipes, orifices, etc.		
Fencing (when required)		
Access road		
Set aside for clean-out maintenance		
11. Stormwater Wetlands		
Adequate water balance		
Variety of depth zones present		
Approved pondscaping plan in place Reinforcement budget for additional plantings		
Plants and materials ordered 6 months prior to construction		
Construction planned to allow for adequate planting and establishment of plant community (April-June planting window)		
Wetland buffer area preserved to maximum extent possible		

Comments:

Actions to be Taken:

Stormwater Pond/Wetland Operation, Maintenance and Management Inspection Checklist

Project _____
 Location: _____
 Site Status: _____

 Date: _____
 Time: _____

 Inspector: _____

Maintenance Item	Satisfactory/ Unsatisfactory	Comments
1. Embankment and emergency spillway (Annual, After Major Storms)		
1. Vegetation and ground cover adequate		
2. Embankment erosion		
3. Animal burrows		
4. Unauthorized planting		
5. Cracking, bulging, or sliding of dam		
a. Upstream face		
b. Downstream face		
c. At or beyond toe		
downstream		
upstream		
d. Emergency spillway		
6. Pond, toe & chimney drains clear and functioning		
7. Seeps/leaks on downstream face		
8. Slope protection or riprap failure		
9. Vertical/horizontal alignment of top of dam "As-Built"		

Maintenance Item	Satisfactory/ Unsatisfactory	Comments
10. Emergency spillway clear of obstructions and debris		
11. Other (specify)		
2. Riser and principal spillway (Annual)		
Type: Reinforced concrete _____ Corrugated pipe _____ Masonry _____		
1. Low flow orifice obstructed		
2. Low flow trash rack. a. Debris removal necessary		
b. Corrosion control		
3. Weir trash rack maintenance a. Debris removal necessary		
b. corrosion control		
4. Excessive sediment accumulation insider riser		
5. Concrete/masonry condition riser and barrels a. cracks or displacement		
b. Minor spalling (<1")		
c. Major spalling (rebars exposed)		
d. Joint failures		
e. Water tightness		
6. Metal pipe condition		
7. Control valve a. Operational/exercised		
b. Chained and locked		
8. Pond drain valve a. Operational/exercised		
b. Chained and locked		
9. Outfall channels functioning		
10. Other (specify)		

Maintenance Item	Satisfactory/ Unsatisfactory	Comments
3. Permanent Pool (Wet Ponds) (monthly)		
1. Undesirable vegetative growth		
2. Floating or floatable debris removal required		
3. Visible pollution		
4. Shoreline problem		
5. Other (specify)		
4. Sediment Forebays		
1. Sedimentation noted		
2. Sediment cleanout when depth < 50% design depth		
5. Dry Pond Areas		
1. Vegetation adequate		
2. Undesirable vegetative growth		
3. Undesirable woody vegetation		
4. Low flow channels clear of obstructions		
5. Standing water or wet spots		
6. Sediment and / or trash accumulation		
7. Other (specify)		
6. Condition of Outfalls (Annual , After Major Storms)		
1. Riprap failures		
2. Slope erosion		
3. Storm drain pipes		
4. Endwalls / Headwalls		
5. Other (specify)		
7. Other (Monthly)		
1. Encroachment on pond, wetland or easement area		

Maintenance Item	Satisfactory/ Unsatisfactory	Comments
2. Complaints from residents		
3. Aesthetics		
a. Grass growing required		
b. Graffiti removal needed		
c. Other (specify)		
4. Conditions of maintenance access routes.		
5. Signs of hydrocarbon build-up		
6. Any public hazards (specify)		
8. Wetland Vegetation (Annual)		
1. Vegetation healthy and growing Wetland maintaining 50% surface area coverage of wetland plants after the second growing season. (If unsatisfactory, reinforcement plantings needed)		
2. Dominant wetland plants: Survival of desired wetland plant species Distribution according to landscaping plan?		
3. Evidence of invasive species		
4. Maintenance of adequate water depths for desired wetland plant species		
5. Harvesting of emergent plantings needed		
6. Have sediment accumulations reduced pool volume significantly or are plants “choked” with sediment		
7. Eutrophication level of the wetland.		
8. Other (specify)		

Comments:

Actions to be Taken:

APPENDIX G
Pipe Sizing Calculations



DRAINAGE SYSTEM CALCULATIONS
Design Storm: 100-Year

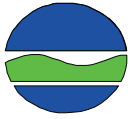
PROJECT: Waccabuc CC - Beach Club Improvements
JOB NUMBER: 20228.100
BY: EJP DATE: 6-28-2022

STRUCTURE		IMPERVIOUS AREA			PERVIOUS AREA			CA	TIME OF CONC. (min.)			I	Q (cfs)		PIPE DESIGN				
FROM	TO	A (ac.)	C	CA	A (ac.)	C	CA		INLET	PIPE	TOTAL		DESIGN	CAP.	V(ft/s)	n	s (%)	L (ft)	DIA (in)
DI 12	DI 11	0.04	0.9	0.04	0.01	0.3	0.00	0.04	6	-	6	9.2	0.4	1.4	3.3	0.012	1.1	46	8
DI 11	DMH 10	0.16	0.9	0.14	0.05	0.3	0.02	0.22	6	-	6	9.2	2.0	4.0	5.2	0.012	1.1	82	12
DMH 10	ES 9B	0.00	0.9	0.00	0.00	0.3	0.00	0.22	6	-	6	9.2	2.0	3.9	5.0	0.012	1.0	68	12
DI 11A	DI 11	0.00	0.9	0.00	0.08	0.3	0.02	0.02	6	-	6	9.2	0.2	3.1	4.9	0.012	5.6	36	8
OS 1.1P	ES 9A	PIPE SIZED IN HYDROCAD																	
DI 8	DI 7	0.09	0.9	0.08	0.00	0.3	0.00	0.08	6	-	6	9.2	0.7	6.6	5.6	0.012	2.9	17	12
DI 7	DI 6	0.03	0.9	0.03	0.10	0.3	0.03	0.14	6	-	6	9.2	1.3	15.2	11.8	0.012	15.4	26	12
DI 6	DMH 5	0.00	0.9	0.00	0.11	0.3	0.03	0.17	6	-	6	9.2	1.6	14.1	11.9	0.012	13.4	32	12
DMH 5	DMH 4	0.00	0.9	0.00	0.00	0.3	0.00	0.98	6	-	6	9.2	9.0	16.6	13.8	0.012	5.6	63	15
DMH 4	DMH 3	0.00	0.9	0.00	0.00	0.3	0.00	0.98	10	-	10	7.5	7.4	22.6	16.5	0.012	10.4	68	15
DMH 3	DMH 2A	0.00	0.9	0.00	0.00	0.3	0.00	0.98	10	-	10	7.5	7.4	26.7	18.6	0.012	14.6	91	15
DMH 2A	ES 2	0.00	0.9	0.00	0.00	0.3	0.00	0.98	10	-	10	7.5	7.4	13.8	11.5	0.012	3.9	46	15
SDI 5A	DMH 5	0.80	0.9	0.72	0.30	0.3	0.09	0.81	10	-	10	7.5	6.1	7.0	6.4	0.012	1.0	67	15

APPENDIX H

Draft NYSDEC Notice of Intent and MS4 SWPPP Acceptance Form

NOTICE OF INTENT



New York State Department of Environmental Conservation

Division of Water

625 Broadway, 4th Floor

Albany, New York 12233-3505

NYR
(for DEC use only)

Stormwater Discharges Associated with Construction Activity Under State Pollutant Discharge Elimination System (SPDES) General Permit # GP-0-20-001

All sections must be completed unless otherwise noted. Failure to complete all items may result in this form being returned to you, thereby delaying your coverage under this General Permit. Applicants must read and understand the conditions of the permit and prepare a Stormwater Pollution Prevention Plan prior to submitting this NOI. Applicants are responsible for identifying and obtaining other DEC permits that may be required.

-IMPORTANT-

RETURN THIS FORM TO THE ADDRESS ABOVE

OWNER/OPERATOR MUST SIGN FORM

Owner/Operator Information

Owner/Operator (Company Name/Private Owner Name/Municipality Name)

W a c c a b u c C o u n t r y C l u b

Owner/Operator Contact Person Last Name (NOT CONSULTANT)

A s s u m m a

Owner/Operator Contact Person First Name

J o h n

Owner/Operator Mailing Address

9 0 M e a d S t r e e t

City

W a c c a b u c

State

N Y

Zip

1 0 5 9 7 -

Phone (Owner/Operator)

9 1 4 - 7 6 3 - 3 1 4 4

Fax (Owner/Operator)

 - -

Email (Owner/Operator)

j d a s s u m m a @ o p t o n l i n e . n e t

FED TAX ID

 - (not required for individuals)

Project Site Information

Project/Site Name

W a c c a b u c C C B e a c h C l u b I m p r o v e m e n t s

Street Address (NOT P.O. BOX)

2 0 P e r c h B a y R o a d

Side of Street

☒ North ☐ South ☐ East ☐ West

City/Town/Village (THAT ISSUES BUILDING PERMIT)

T o w n o f L e w i s b o r o

State

N Y

Zip

1 0 5 9 7 -

County

W e s t c h e s t e r

DEC Region

3

Name of Nearest Cross Street

P o s t O f f i c e R o a d

Distance to Nearest Cross Street (Feet)

6 5 5

Project In Relation to Cross Street

☒ North ☐ South ☐ East ☐ West

Tax Map Numbers

Section-Block-Parcel

3 2 . 4 - 3 - 1 4

Tax Map Numbers

3 2 . 4 - 3 - 1 3

1. Provide the Geographic Coordinates for the project site in NYTM Units. To do this you **must** go to the NYSDEC Stormwater Interactive Map on the DEC website at:

www.dec.ny.gov/imsmaps/stormwater/viewer.htm

Zoom into your Project Location such that you can accurately click on the centroid of your site. Once you have located your project site, go to the tool boxes on the top and choose "i"(identify). Then click on the center of your site and a new window containing the X, Y coordinates in UTM will pop up. Transcribe these coordinates into the boxes below. For problems with the interactive map use the help function.

X Coordinates (Easting)

6 1 8 3 9 6

Y Coordinates (Northing)

4 5 7 2 5 6 9

2. What is the nature of this construction project?

- ☐ New Construction
- ☒ Redevelopment with increase in impervious area
- ☐ Redevelopment with no increase in impervious area

3. Select the predominant land use for both pre and post development conditions.

SELECT ONLY ONE CHOICE FOR EACH

**Pre-Development
Existing Land Use**

- ☐ FOREST
☐ PASTURE/OPEN LAND
☐ CULTIVATED LAND
☐ SINGLE FAMILY HOME
☐ SINGLE FAMILY SUBDIVISION
☐ TOWN HOME RESIDENTIAL
☐ MULTIFAMILY RESIDENTIAL
☐ INSTITUTIONAL/SCHOOL
☐ INDUSTRIAL
☐ COMMERCIAL
☐ ROAD/HIGHWAY
☐ RECREATIONAL/SPORTS FIELD
☐ BIKE PATH/TRAIL
☐ LINEAR UTILITY
☐ PARKING LOT
☒ OTHER

B e a c h C l u b

**Post-Development
Future Land Use**

- ☐ SINGLE FAMILY HOME
☐ SINGLE FAMILY SUBDIVISION
☐ TOWN HOME RESIDENTIAL
☐ MULTIFAMILY RESIDENTIAL
☐ INSTITUTIONAL/SCHOOL
☐ INDUSTRIAL
☐ COMMERCIAL
☐ MUNICIPAL
☐ ROAD/HIGHWAY
☐ RECREATIONAL/SPORTS FIELD
☐ BIKE PATH/TRAIL
☐ LINEAR UTILITY (water, sewer, gas, etc.)
☐ PARKING LOT
☐ CLEARING/GRADING ONLY
☐ DEMOLITION, NO REDEVELOPMENT
☐ WELL DRILLING ACTIVITY *(Oil, Gas, etc.)
☒ OTHER

Number of Lots

--	--	--

B e a c h C l u b

***Note:** for gas well drilling, non-high volume hydraulic fractured wells only

4. In accordance with the larger common plan of development or sale, enter the total project site area; the total area to be disturbed; existing impervious area to be disturbed (for redevelopment activities); and the future impervious area constructed within the disturbed area. (Round to the nearest tenth of an acre.)

Total Site Area	Total Area To Be Disturbed	Existing Impervious Area To Be Disturbed	Future Impervious Area Within Disturbed Area
<input type="text" value="9"/> <input type="text" value="1"/>	<input type="text" value="1"/> <input type="text" value="4"/>	<input type="text" value="0"/> <input type="text" value="2"/>	<input type="text" value="0"/> <input type="text" value="3"/>

5. Do you plan to disturb more than 5 acres of soil at any one time? **Yes** ☒ **No**

6. Indicate the percentage of each Hydrologic Soil Group (HSG) at the site.

A	B	C	D
<input type="text" value="0"/> %	<input type="text" value="5"/> <input type="text" value="0"/> %	<input type="text" value="5"/> <input type="text" value="0"/> %	<input type="text" value="0"/> %

7. Is this a phased project? ☐ **Yes** ☒ **No**

8. Enter the planned start and end dates of the disturbance activities.

Start Date	End Date
<input type="text" value="0"/> <input type="text" value="3"/> / <input type="text" value="0"/> <input type="text" value="1"/> / <input type="text" value="2"/> <input type="text" value="0"/> <input type="text" value="2"/> <input type="text" value="3"/>	- <input type="text" value="1"/> <input type="text" value="0"/> / <input type="text" value="3"/> <input type="text" value="0"/> / <input type="text" value="2"/> <input type="text" value="0"/> <input type="text" value="2"/> <input type="text" value="3"/>

Name

[illegible][illegible]

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[illegible]☐ Yes

☐ No

☒ Yes☐ No

☒ Yes

☐ No☐ Yes☒ No

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☐ **Yes**

☒ No

15. Does the site runoff enter a separate storm sewer system (including roadside drains, swales, ditches, culverts, etc)? ☐ Yes ☒ No ☐ Unknown

- [illegible]

17. Does any runoff from the site enter a sewer classified as a Combined Sewer? ☐ Yes ☒ No ☐ Unknown

18. Will future use of this site be an agricultural property as defined by the NYS Agriculture and Markets Law? ☐ Yes ☒ No

19. Is this property owned by a state authority, state agency, federal government or local government? ☐ Yes ☒ No

20. Is this a remediation project being done under a Department approved work plan? (i.e. CERCLA, RCRA, Voluntary Cleanup Agreement, etc.) ☐ Yes ☒ No

21. Has the required Erosion and Sediment Control component of the SWPPP been developed in conformance with the current NYS Standards and Specifications for Erosion and Sediment Control (aka Blue Book)? ☒ Yes ☐ No

22. Does this construction activity require the development of a SWPPP that includes the post-construction stormwater management practice component (i.e. Runoff Reduction, Water Quality and Quantity Control practices/techniques)? ☒ Yes ☐ No
- If No, skip questions 23 and 27-39.**

23. Has the post-construction stormwater management practice component of the SWPPP been developed in conformance with the current NYS Stormwater Management Design Manual? ☒ Yes ☐ No

24. The Stormwater Pollution Prevention Plan (SWPPP) was prepared by:

✓ Professional Engineer (P.E.)

Soil and Water Conservation District (SWCD)

Registered Landscape Architect (R.L.A)

Certified Professional in Erosion and Sediment Control (CPESC)

Owner/Operator

Other

[illegible]

SWPPP Preparer

[illegible]

Contact Name (Last, Space, First)

[illegible]

Mailing Address

[illegible]

City

[illegible]

State Zip

N	Y	1	0	5	1	2	-				
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Phone

8	4	5	-	2	2	5	-	9	6	9	0
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Fax

8	4	5	-	2	2	5	-	9	7	1	7
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Email

z	p	e	a	r	s	o	n	@	i	n	s	i	t	e	-	e	n	g	.	c	o	m
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[illegible]

SWPPP Preparer Certification

I hereby certify that the Stormwater Pollution Prevention Plan (SWPPP) for this project has been prepared in accordance with the terms and conditions of the GP-0-20-001. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of this permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

First Name

[illegible]

MI

M

Last Name

P	e	a	r	s	o	n	,	P	.	E	.								
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Signature

Date _____

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Post-construction Stormwater Management Practice (SMP) Requirements

Important: Completion of Questions 27-39 is not required if response to Question 22 is No.

27. Identify all site planning practices that were used to prepare the final site plan/layout for the project.

- ☐ Preservation of Undisturbed Areas
- ☐ Preservation of Buffers
- ☒ Reduction of Clearing and Grading
- ☐ Locating Development in Less Sensitive Areas
- ☐ Roadway Reduction
- ☐ Sidewalk Reduction
- ☒ Driveway Reduction
- ☐ Cul-de-sac Reduction
- ☐ Building Footprint Reduction
- ☒ Parking Reduction

- 27a. Indicate which of the following soil restoration criteria was used to address the requirements in Section 5.1.6("Soil Restoration") of the Design Manual (2010 version).

- ☒ All disturbed areas will be restored in accordance with the Soil Restoration requirements in Table 5.3 of the Design Manual (see page 5-22).
- ☐ Compacted areas were considered as impervious cover when calculating the **WQv Required**, and the compacted areas were assigned a post-construction Hydrologic Soil Group (HSG) designation that is one level less permeable than existing conditions for the hydrology analysis.

28. Provide the total Water Quality Volume (WQv) required for this project (based on final site plan/layout).

Total WQv Required

. acre-feet

29. Identify the RR techniques (Area Reduction), RR techniques (Volume Reduction) and Standard SMPs with RRv Capacity in Table 1 (See Page 9) that were used to reduce the Total WQv Required(#28).

Also, provide in Table 1 the total impervious area that contributes runoff to each technique/practice selected. For the Area Reduction Techniques, provide the total contributing area (includes pervious area) and, if applicable, the total impervious area that contributes runoff to the technique/practice.

Note: Redevelopment projects shall use Tables 1 and 2 to identify the SMPs used to treat and/or reduce the WQv required. If runoff reduction techniques will not be used to reduce the required WQv, skip to question 33a after identifying the SMPs.

Table 1 - Runoff Reduction (RR) Techniques
and Standard Stormwater Management
Practices (SMPs)

RR Techniques (Area Reduction)	Total Contributing Area (acres)		Total Contributing Impervious Area (acres)	
Conservation of Natural Areas (RR-1) ...	<input type="text"/>	<input type="text"/>	and/or	<input type="text"/>
Sheetflow to Riparian Buffers/Filters Strips (RR-2)	<input type="text"/>	<input type="text"/>	and/or	<input type="text"/>
✓ Tree Planting/Tree Pit (RR-3)	<input type="text"/>	<input type="text"/>	and/or	<input type="text"/>
Disconnection of Rooftop Runoff (RR-4) ..	<input type="text"/>	<input type="text"/>	and/or	<input type="text"/>
RR Techniques (Volume Reduction)				
Vegetated Swale (RR-5)	<input type="text"/>	<input type="text"/>		<input type="text"/>
Rain Garden (RR-6)	<input type="text"/>	<input type="text"/>		<input type="text"/>
Stormwater Planter (RR-7)	<input type="text"/>	<input type="text"/>		<input type="text"/>
✓ Rain Barrel/Cistern (RR-8)	<input type="text"/>	<input type="text"/>	0	0 9 0
Porous Pavement (RR-9)	<input type="text"/>	<input type="text"/>		<input type="text"/>
Green Roof (RR-10)	<input type="text"/>	<input type="text"/>		<input type="text"/>
Standard SMPs with RRv Capacity				
Infiltration Trench (I-1)	<input type="text"/>	<input type="text"/>		<input type="text"/>
Infiltration Basin (I-2)	<input type="text"/>	<input type="text"/>		<input type="text"/>
Dry Well (I-3)	<input type="text"/>	<input type="text"/>		<input type="text"/>
Underground Infiltration System (I-4)	<input type="text"/>	<input type="text"/>		<input type="text"/>
Bioretention (F-5)	<input type="text"/>	<input type="text"/>		<input type="text"/>
Dry Swale (O-1)	<input type="text"/>	<input type="text"/>		<input type="text"/>
Standard SMPs				
✓ Micropool Extended Detention (P-1)	<input type="text"/>	<input type="text"/>	0	2 0 4
Wet Pond (P-2)	<input type="text"/>	<input type="text"/>		<input type="text"/>
Wet Extended Detention (P-3)	<input type="text"/>	<input type="text"/>		<input type="text"/>
Multiple Pond System (P-4)	<input type="text"/>	<input type="text"/>		<input type="text"/>
Pocket Pond (P-5)	<input type="text"/>	<input type="text"/>		<input type="text"/>
Surface Sand Filter (F-1)	<input type="text"/>	<input type="text"/>		<input type="text"/>
Underground Sand Filter (F-2)	<input type="text"/>	<input type="text"/>		<input type="text"/>
Perimeter Sand Filter (F-3)	<input type="text"/>	<input type="text"/>		<input type="text"/>
Organic Filter (F-4)	<input type="text"/>	<input type="text"/>		<input type="text"/>
Shallow Wetland (W-1)	<input type="text"/>	<input type="text"/>		<input type="text"/>
Extended Detention Wetland (W-2)	<input type="text"/>	<input type="text"/>		<input type="text"/>
Pond/Wetland System (W-3)	<input type="text"/>	<input type="text"/>		<input type="text"/>
Pocket Wetland (W-4)	<input type="text"/>	<input type="text"/>		<input type="text"/>
Wet Swale (O-2)	<input type="text"/>	<input type="text"/>		<input type="text"/>

Table 2 - Alternative SMPs (DO NOT INCLUDE PRACTICES BEING USED FOR PRETREATMENT ONLY)		Total Contributing Impervious Area (acres)					
<input type="radio"/> Hydrodynamic							
<input type="radio"/> Wet Vault							
<input type="radio"/> Media Filter							
<input type="radio"/> Other							

Provide the name and manufacturer of the Alternative SMPs (i.e. proprietary practice(s)) being used for WQv treatment.

Name

Manufacturer

Note: Redevelopment projects which do not use RR techniques, shall use questions 28, 29, 33 and 33a to provide SMPs used, total WQv required and total WQv provided for the project.

[illegible][illegible]

30. Indicate the Total RRv provided by the RR techniques (Area/Volume Reduction) and Standard SMPs with RRv capacity identified in question 29.

		0
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.

0	2	3
---	---	---

acre-feet

If Yes, go to question 36.
If No, go to question 32.

		0
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.

0	1	9
---	---	---

acre-feet

If No, sizing criteria has not been met, so NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

33. Identify the Standard SMPs in Table 1 and, if applicable, the Alternative SMPs in Table 2 that were used to treat the remaining total WQv (=Total WQv Required in 28 - Total RRv Provided in 30).

Also, provide in Table 1 and 2 the total impervious area that contributes runoff to each practice selected.

Note: Use Tables 1 and 2 to identify the SMPs used on Redevelopment projects.

- 33a. Indicate the Total WQv provided (i.e. WQv treated) by the SMPs identified in question #33 and Standard SMPs with RRv Capacity identified in question 29.

WQv Provided

0 . 0 2 3 **acre-feet**

Note: For the standard SMPs with RRv capacity, the WQv provided by each practice = the WQv calculated using the contributing drainage area to the practice - RRv provided by the practice. (See Table 3.5 in Design Manual)

34. Provide the sum of the Total RRv provided (#30) and the WQv provided (#33a).

0 . 0 4 6

35. Is the sum of the RRv provided (#30) and the WQv provided (#33a) greater than or equal to the total WQv required (#28)? ☒ **Yes** ☐ **No**

If Yes, go to question 36.

If No, sizing criteria has not been met, so NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

36. Provide the total Channel Protection Storage Volume (CPv) required and provided or select waiver (36a), if applicable.

CPv Required

0 . 0 5 8 **acre-feet**

CPv Provided

0 . 0 5 8 **acre-feet**

- 36a. The need to provide channel protection has been waived because:

- ☐ Site discharges directly to tidal waters or a fifth order or larger stream.
- ☐ Reduction of the total CPv is achieved on site through runoff reduction techniques or infiltration systems.

37. Provide the Overbank Flood (Qp) and Extreme Flood (Qf) control criteria or select waiver (37a), if applicable.

Total Overbank Flood Control Criteria (Qp)

Pre-Development

1 3 . 0 7 **CFS**

Post-development

1 2 . 8 5 **CFS**

Total Extreme Flood Control Criteria (Qf)

Pre-Development

3 2 . 9 0 **CFS**

Post-development

3 2 . 3 9 **CFS**

37a. The need to meet the Qp and Qf criteria has been waived because:

- ☐ Site discharges directly to tidal waters or a fifth order or larger stream.
- ☐ Downstream analysis reveals that the Qp and Qf controls are not required

- ☒ Yes ☐ No

If Yes, Identify the entity responsible for the long term
Operation and Maintenance

[illegible]

39. Use this space to summarize the specific site limitations and justification for not reducing 100% of WQv required(#28). (See question 32a)
This space can also be used for other pertinent project information.

40. Identify other DEC permits, existing and new, that are required for this project/facility.

Air Pollution Control

Coastal Erosion

Hazardous Waste

Long Island Wells

Mined Land Reclamation

Solid Waste

Navigable Waters Protection / Article 15

Water Quality Certificate

Dam Safety

Water Supply

Freshwater Wetlands/Article 24

Tidal Wetlands

Wild, Scenic and Recreational Rivers

Stream Bed or Bank Protection / Article 15

Endangered or Threatened Species (Incidental Take Permit)

Individual SPDES

SPDES Multi-Sector GP	N	Y	R					
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[illegible]

☒ None

41. Does this project require a US Army Corps of Engineers Wetland Permit? ☐ ☐ ☐ ☐ ☐ ☐

☐ Yes ☒ No

If Yes, Indicate Size of Impact.					
					.

42. Is this project subject to the requirements of a regulated, traditional land use control MS4?
(If No, skip question 43)

☒ **Yes** ☐ **No**

43. Has the "MS4 SWPPP Acceptance" form been signed by the principal executive officer or ranking elected official and submitted along with this NOI?

☒ Yes ☐ No

44. If this NOI is being submitted for the purpose of continuing or transferring coverage under a general permit for stormwater runoff from construction activities, please indicate the former SPDES number assigned.

N	N	D				
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N	Y	R					
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Owner/Operator Certification

I have read or been advised of the permit conditions and believe that I understand them. I also understand that, under the terms of the permit, there may be reporting requirements. I hereby certify that this document and the corresponding documents were prepared under my direction or supervision. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I further understand that coverage under the general permit will be identified in the acknowledgment that I will receive as a result of submitting this NOI and can be as long as sixty (60) business days as provided for in the general permit. I also understand that, by submitting this NOI, I am acknowledging that the SWPPP has been developed and will be implemented as the first element of construction, and agreeing to comply with all the terms and conditions of the general permit for which this NOI is being submitted.

Print First Name

J	o	h	n																
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MI

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Print Last Name

A	s	s	u	m	m	a													
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Owner/Operator Signature

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Date

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Department of
Environmental
Conservation

NYS Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505

MS4 Stormwater Pollution Prevention Plan (SWPPP) Acceptance Form

for

Construction Activities Seeking Authorization Under SPDES General Permit

*(NOTE: Attach Completed Form to Notice Of Intent and Submit to Address Above)

I. Project Owner/Operator Information

1. Owner/Operator Name: Waccabuc Country Club

2. Contact Person: John Assumma

3. Street Address: 90 Mead Street

4. City/State/Zip: Waccabuc, New York 10597

II. Project Site Information

5. Project/Site Name: Waccabuc Country Club - Beach Club Improvements

6. Street Address: 20 Perch Bay Road

7. City/State/Zip: Waccabuc, New York 10597

III. Stormwater Pollution Prevention Plan (SWPPP) Review and Acceptance Information

8. SWPPP Reviewed by:

9. Title/Position:

10. Date Final SWPPP Reviewed and Accepted:

IV. Regulated MS4 Information

11. Name of MS4: Town of Lewisboro

12. MS4 SPDES Permit Identification Number: NYR20A _____

13. Contact Person:

14. Street Address:

15. City/State/Zip:

16. Telephone Number:

MS4 SWPPP Acceptance Form - continued

V. Certification Statement - MS4 Official (principal executive officer or ranking elected official) or Duly Authorized Representative

I hereby certify that the final Stormwater Pollution Prevention Plan (SWPPP) for the construction project identified in question 5 has been reviewed and meets the substantive requirements in the SPDES General Permit For Stormwater Discharges from Municipal Separate Storm Sewer Systems (MS4s).
Note: The MS4, through the acceptance of the SWPPP, assumes no responsibility for the accuracy and adequacy of the design included in the SWPPP. In addition, review and acceptance of the SWPPP by the MS4 does not relieve the owner/operator or their SWPPP preparer of responsibility or liability for errors or omissions in the plan.

Printed Name:

Title/Position:

Signature:

Date:

VI. Additional Information

APPENDIX I

Temporary Sediment Trap Sizing Calculations

3,600 CF minimum of storage required for each acre of contributing area

Sediment Trap #	Contributing Area (Acres)	Minimum Volume Required (cf)	Volume Provided (cf)
A	0.5	1,800	2,016

APPENDIX J

Draft Stormwater Maintenance Agreement

**DECLARATION OF COVENANTS, CONDITIONS, AND RESTRICTIONS FOR
DREW REALTY LLC**

DECLARATION made as of the ____ day of _____, 2023, by Waccabuc Country Club with an address at 90 Mead Street, Waccabuc, NY 10597 (hereinafter referred to as the “Declarant”).

W I T N E S S E T H:

WHEREAS, Declarant is the owner of all that certain lot, piece or parcel of land situate, lying and being in the Town of Lewisboro, County of Westchester and State of New York, being designated as Section 32.4, Block 3 and Lot 13 & 14 as described in a deed recorded in the Westchester County Clerk’s office as document control number _____ attached hereto as Exhibit 1 (the “Property”); and

WHEREAS, the Watershed Regulations require Declarant to prepare a Stormwater Pollution Prevention Plan (“SWPPP”) and submit the SWPPP to the New York City Department of Environmental Protection (“DEP”) for its review and approval so that stormwater generated by precipitation during and after soil disturbing activities and runoff from newly created impervious surfaces is captured and treated, thus reducing or eliminating a pollution discharge; and

WHEREAS, Declarant has submitted a SWPPP application to DEP for the Property described above, Waccabuc Country Club – Beach Club, and received an approval from DEP for such SWPPP, dated _____, such SWPPP approval and the maintenance obligations being attached hereto as Exhibit 2; and

WHEREAS, Declarant desires to declare the following covenants, conditions and restrictions to govern the future development, use and maintenance of any lots that are part of the Property that may be conveyed to future owners, including the Declarant’s respective heirs, successors, and assigns, and to subject any deed of conveyance of any such lots to this Declaration, by reference thereto, to the covenants, conditions and restrictions described herein,

NOW, THEREFORE, Declarant hereby declares that the Property shall be held, sold, conveyed, transferred and occupied subject to the following covenants, conditions, and restrictions which are for the benefit of the City of New York as well as for the owners of the Property and which shall be perpetual so long as the provisions of the SWPPP continue to be required by the Watershed Regulations, shall run with the Property and be binding on the Declarant, its heirs, successors and assigns and be binding upon each successive owner of any Property parcel or lot described in the subdivision plan and the heirs, successors and assigns of each subsequent party having or acquiring any right, title or interest in the Property or any part thereof.

1. Declarant hereby acknowledges, covenants, warrants, and represents that it shall install and maintain any and all erosion and sediment controls and stormwater management practices on the Property in accordance with the SWPPP approved by DEP, dated _____, and any and all amendments to the SWPPP that may be required and that DEP may approve.

2. Declarant's installation and maintenance of the erosion and sediment controls and stormwater management practices shall be for the benefit of the City of New York as well as for the owners of the Property.
3. Declarant's obligation to install and maintain any and all erosion and sediment controls and stormwater management practices on the Property in accordance with the DEP-approved SWPPP and any and all amendments to the SWPPP that DEP may approve shall be perpetual so long as the provisions of the SWPPP continue to be required by the Watershed Regulations.
4. Declarant hereby acknowledges, covenants and warrants that this Property shall be subject to the maintenance obligations set forth and described in the SWPPP, with respect to any stormwater management practices or treatment of runoff located on areas commonly owned by multiple property owners or a homeowners' association in the subdivision.
5. Declarant hereby covenants, warrants, and represents that any lease, mortgage, subdivision, or other transfer of the Property, or any interest therein, shall be subject to the restrictive covenants contained herein pertaining to the installation and maintenance of erosion and sediment control and stormwater management practices, and any deed, mortgage, or other instrument of conveyance shall be subject to and, specifically refer to, the attached SWPPP approval and shall specifically state that the interest thereby conveyed is subject to the covenants and restrictions contained herein and therein.
6. These covenants, conditions and restrictions shall be recorded at the Office of the County Clerk, shall run with the land and shall apply to, inure to the benefit of, and bind the Declarant and all subsequent heirs, executors, administrators, successors and assigns.

IN WITNESS WHEREOF, Declarant has executed this document on the date first above written.

Signature

STATE OF NEW YORK)

)

COUNTY OF _____)

On _____, 20__, before me, the undersigned, a Notary Public in and for said State, personally appeared _____, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his/her capacity, and that by his/her capacity, and that by his/her signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

Notary Public

Exhibit 1

Exhibit 2

PERMANENT STORMWATER FACILITIES MAINTENANCE SCHEDULE

PRACTICE/FACILITY	MONTHLY	AFTER MAJOR STORM EVENTS	BI-ANNUALLY	YEARLY	EVERY 5 to 10 YEARS
STORMWATER POND	Inspect first few months after construction for eroding soils & slumpage & repair immediately	Inspect orifices, inlets & outlets for clogging, eroding soils on the basin berm & embankments, & sources of erosion; & stabilize and/or repair immediately.	Mow berm and exterior embankments Remove debris & litter from basin & outlet structures	Inspect and maintain all safety elements including maintenance access, safety/aquatic bench,	Inspect for & remove accumulated sediment or when 50% full
CISTERN	Inspect tanks and irrigation pump and provide maintenance as required	—	—	Inspect for & remove accumulated sediment	—

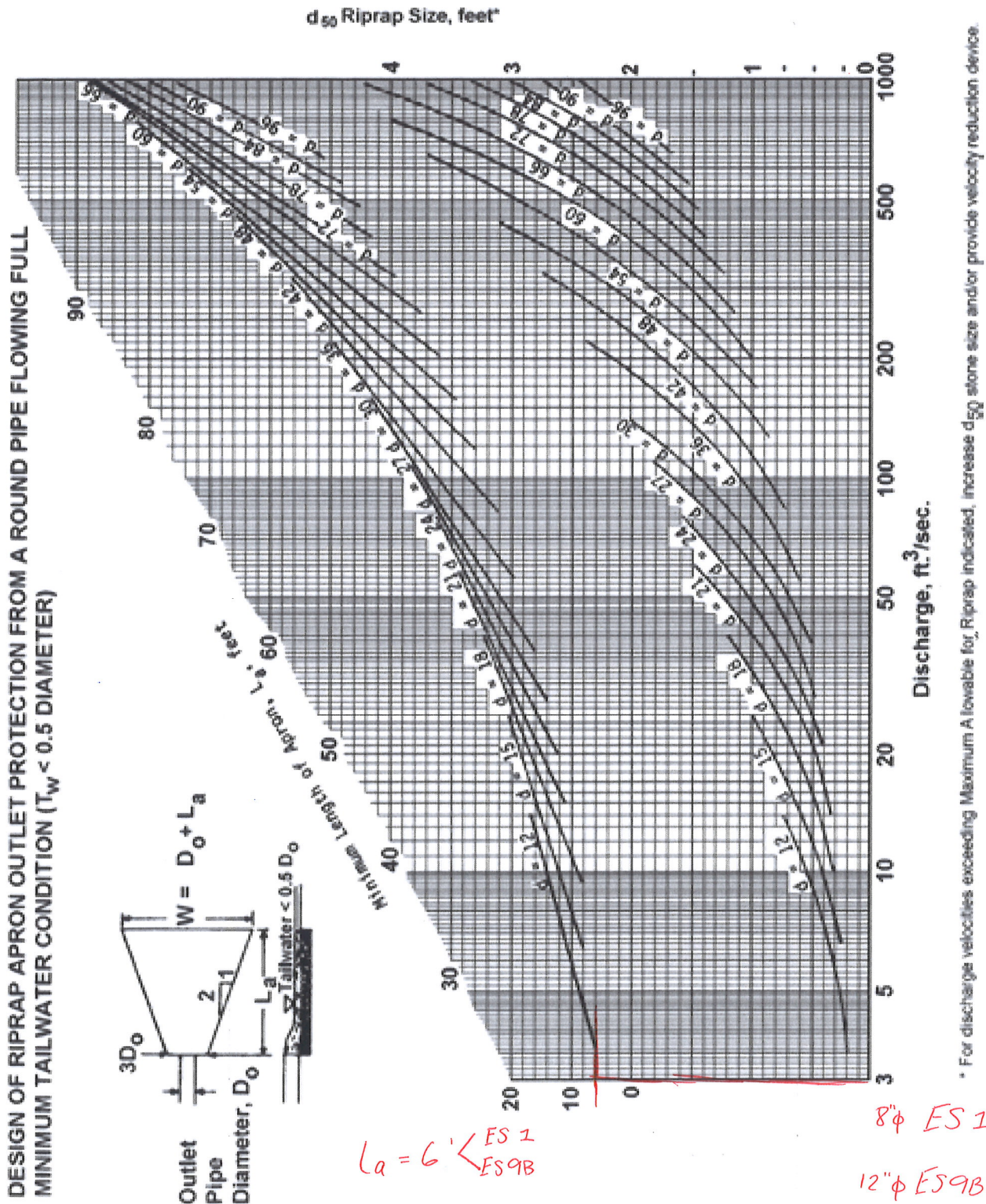
Note: The party responsible for implementation of the maintenance schedule during and after construction is:

WACCABUC COUNTRY CLUB
90 MEAD STREET
WACCABUC, NY 10597

APPENDIX K
Rock Outlet Protection Sizing

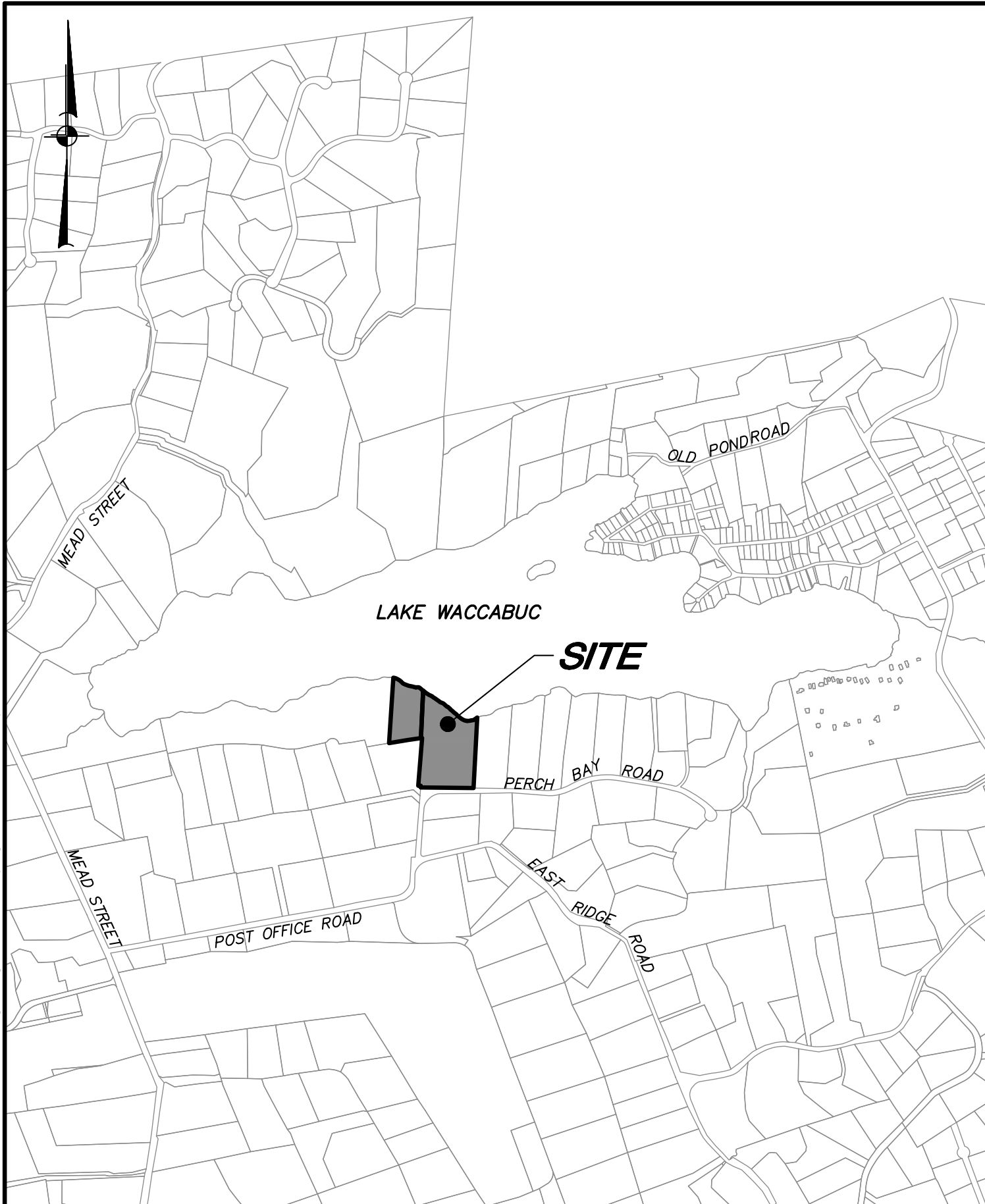
Figure 3.16

Outlet Protection Design—Minimum Tailwater Condition Chart
(Design of Outlet Protection from a Round Pipe Flowing Full,
Minimum Tailwater Condition: $T_w < 0.5D_o$) (USDA - NRCS)



FIGURES

Z:\E\20228100 Waccabuc CC-Beach Club\Stormwater\Figures\Figure - 1 Location Map.dwg, 2/4/2022 12:45:01 PM, ependleton, 1:1



PROJECT: WACCABUC COUNTRY CLUB
BEACH HOUSE IMPROVEMENTS

144 SARLES STREET, TOWN OF BEDFORD, WESTCHESTER CO., NY

DRAWING:

LOCATION MAP

PREPARED BY:

INSITE
ENGINEERING, SURVEYING &
LANDSCAPE ARCHITECTURE, P.C.
3 Garrett Place • Carmel, New York 10512
Phone (845) 225-9690 • Fax (845) 225-9717
www.insite-eng.com

DATE: 2-8-22

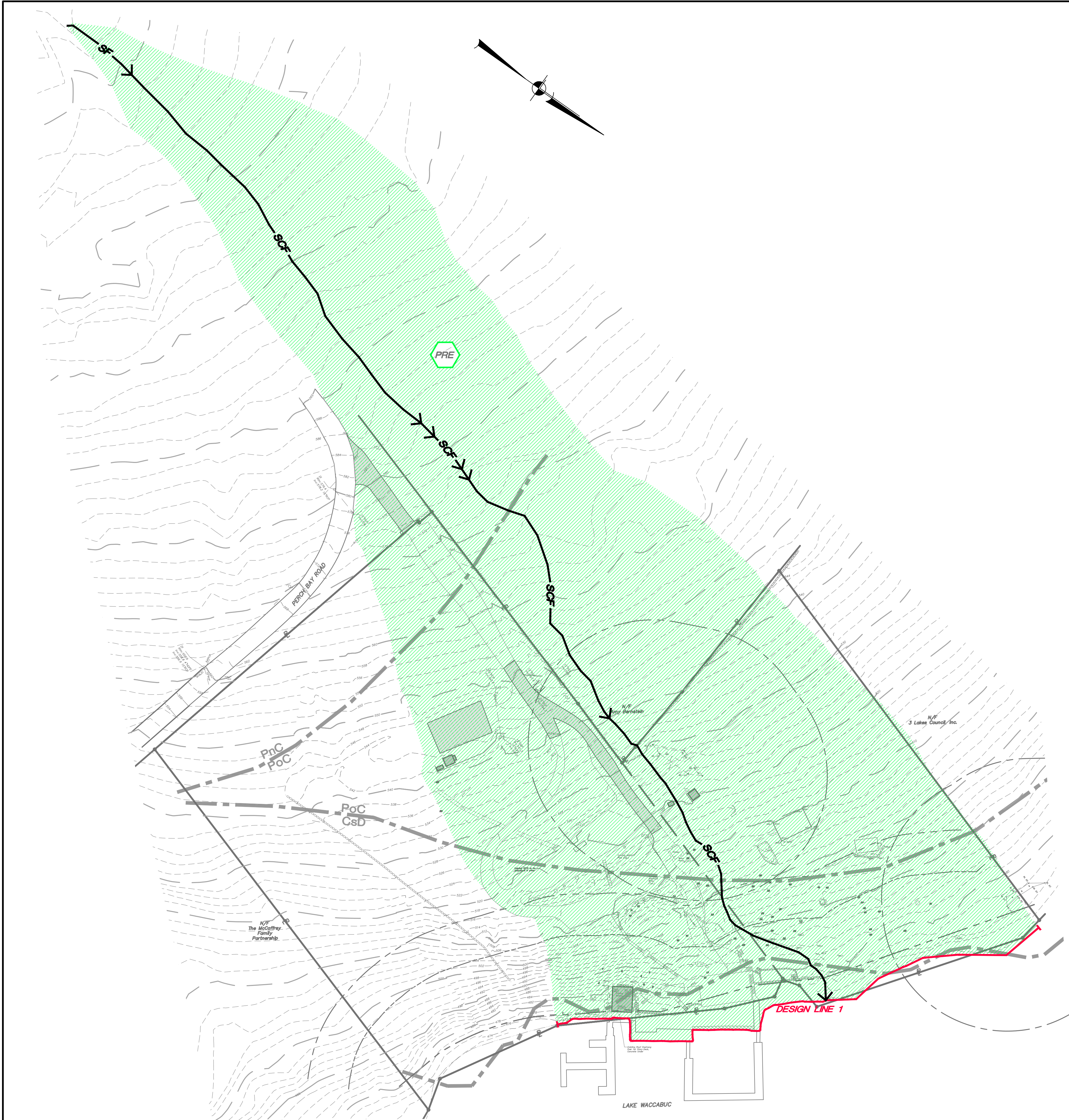
SCALE: 1" = 1000'

PROJECT NO.: 20228.100

FIGURE:

1

Z:\16\2022\2022\Waccabuc CC Beach Club Stormwater\Figures\Figure 2 Pre.dwg, 9/13/2022 9:47:02 AM, regeneration, 11

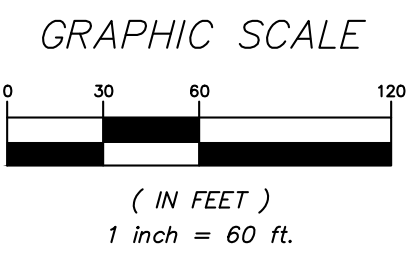


LEGEND

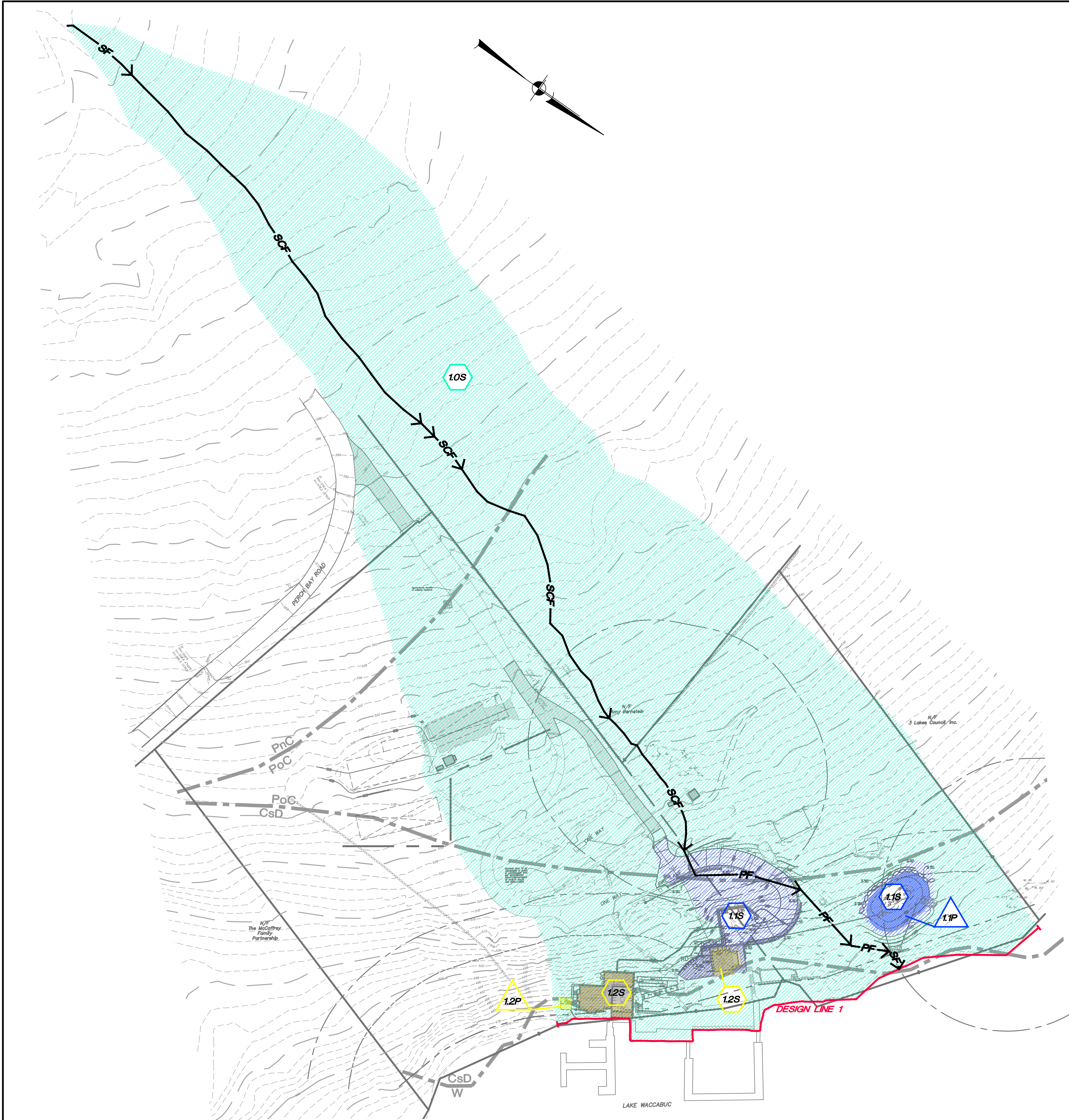
	SUBCATCHMENT
	TIME OF CONCENTRATION SHEET FLOW
	TIME OF CONCENTRATION SHALLOW CONCENTRATED FLOW
	DESIGN LINE
	SUBCATCHMENT CONTRIBUTING AREA

SOILS LEGEND		
SOILS	DESCRIPTION	HYDROLOGICAL GROUP
CsD PnC PoC	Chatfield-Charlton complex, hilly, very rocky	B
	Paxton fine sandy loam, 8% to 15% slopes	C
	Paxton fine sandy loam, 8% to 15% slopes, very stony	C
NRCS Soil Boundary Line		

ALTERATION OF THIS DOCUMENT, UNLESS UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, IS A VIOLATION OF SECTION 7209 OF ARTICLE 145 OF THE EDUCATION LAW.



NO.	DATE	REVISION	BY
INSITE ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C. 3 Garrett Place Carmel, NY 10512 (845) 225-9690 (845) 225-9717 fax www.insite-eng.com			
PROJECT: WACCABUC COUNTRY CLUB BEACH CLUB IMPROVEMENTS			
90 MEAD ST., WACCABUC, TOWN OF LEWISBORO, WESTCHESTER CTY, NY			
DRAWING: PRE-DEVELOPMENT DRAINAGE MAP			
PROJECT NUMBER	20228.100	PROJECT MANAGER	Z.M.P.
DATE	2-8-22	DRAWN BY	J.L.T.
SCALE	1" = 60'	CHECKED BY	E.J.P.
DRAWING NO.			FIG-2



LEGEND

	SUBCATCHMENT
	STORMWATER MANAGEMENT PRACTICE
	TIME OF CONCENTRATION SHEET FLOW
	TIME OF CONCENTRATION SHALLOW CONCENTRATED FLOW
	TIME OF CONCENTRATION PIPE FLOW
	DESIGN LINE
	SUBCATCHMENT CONTRIBUTING AREA
	STORMWATER MANAGEMENT / GREEN INFRASTRUCTURE PRACTICE AREA

SOILS LEGEND

SOILS	DESCRIPTION	HYDROLOGICAL GROUP
CsD	Chatfield-Charlton complex, hilly, very rocky	B
PnC	Paxton fine sandy loam, 8% to 15% slopes	C
PoC	Paxton fine sandy loam, 8% to 15% slopes, very stony	C

NRCS Soil Boundary Line

AREA TABLE

SUBCATCHMENT	TOTAL AREA
1.0S	10.5 AC.
1.1S	20,500 S.F.
1.2S	3,900 S.F.

5	2-7-23	REVISED PER NYCDEP COMMENTS	EJP
4	12-9-22	REVISED PER NYCDEP COMMENTS	EJP
3	6-28-22	REVISED PER TOWN COMMENTS	EJP
2	5-31-22	REVISED PER TOWN COMMENTS	EJP
1	3-29-22	REVISED PER TOWN COMMENTS	EJP
NO.	DATE	REVISION	BY

INSITE
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LANDSCAPE ARCHITECTURE, P.C.

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Carmel, NY 10512
(845) 225-9690
(845) 225-9717 fax
www.insite-eng.com

PROJECT:
**WACCABUC COUNTRY CLUB
BEACH CLUB IMPROVEMENTS**

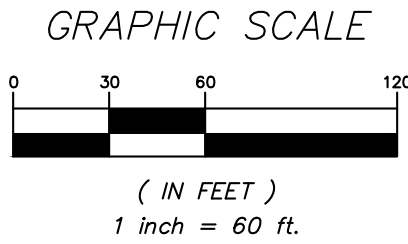
90 MEAD ST., WACCABUC, TOWN OF LEWISBORO, WESTCHESTER CITY, NY

DRAWING:
**POST-DEVELOPMENT
DRAINAGE MAP**

PROJECT NUMBER	20228.100	PROJECT MANAGER	Z.M.P.
DATE	2-8-22	DRAWN BY	J.L.T.
SCALE	1" = 60'	CHECKED BY	E.J.P.

DRAWING NO.

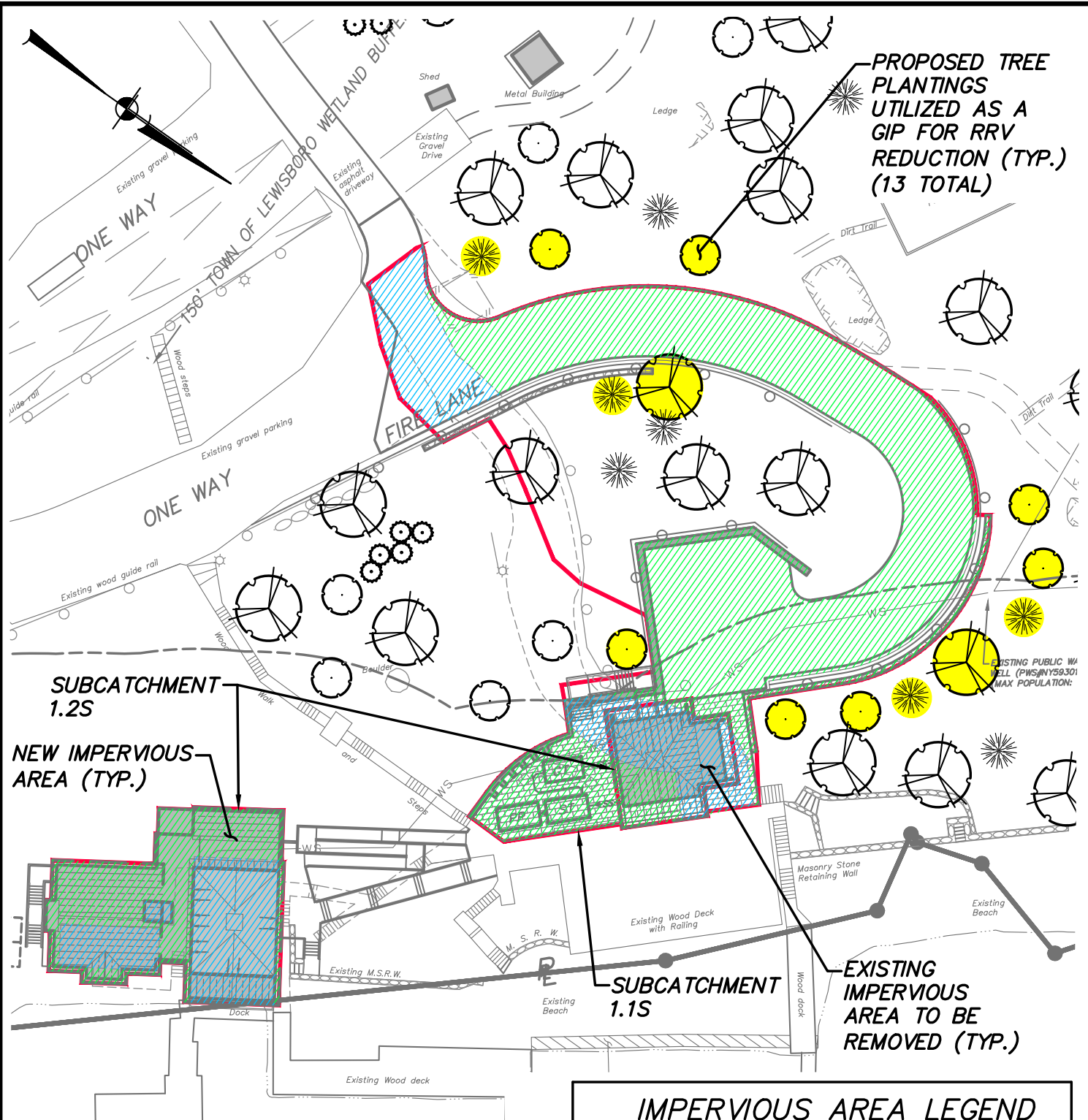
FIG-3



ALTERATION OF THIS DOCUMENT, UNLESS UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, IS A VIOLATION OF SECTION 7209 OF ARTICLE 145 OF THE EDUCATION LAW.

Z:\16\20228100 Waccabuc CC Beach Club Stormwater\Figures\Figure 3 Post Map.dwg, 2/7/2023, 6:50:36 AM, ejs@insite.com, 11

Z:\E\20228100 Waccabuc CC-Beach Club\Stormwater\Figures\Figure 4 - Impervious Areas.dwg, 2/3/2023 6:49:34 AM, ependleton, 1:1



IMPERVIOUS AREA TABLE

SUBCATCHMENT	NEW IMPERVIOUS (SF)	REDEVELOPED IMPERVIOUS (SF)	TOTAL IMPERVIOUS (SF)
1.1S	7,700	1,200	8,900
1.2S	1,800	2,100	3,900

IMPERVIOUS AREA LEGEND

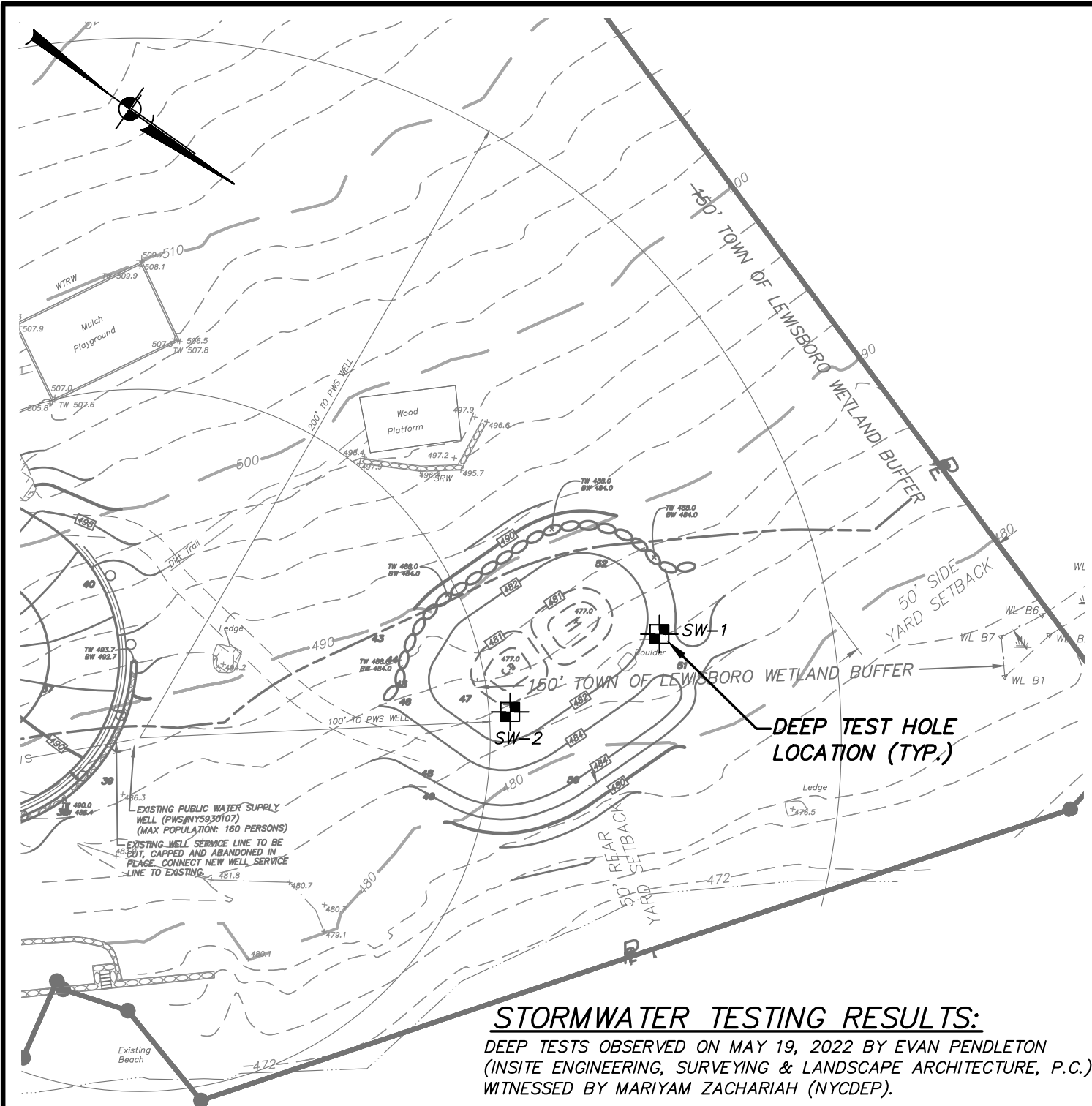
	NEW IMPERVIOUS AREA
	EXISTING IMPERVIOUS AREA TO BE REDEVELOPED

PROJECT: **WACCABUC COUNTRY CLUB BEACH CLUB IMPROVEMENTS**
90 MEAD ST., WACCABUC, (T) LEWISBORO, WESTCHESTER COUNTY, NY
DRAWING: **IMPERVIOUS REDEVELOPMENT PLAN**

PREPARED BY:

INSITE
ENGINEERING, SURVEYING &
LANDSCAPE ARCHITECTURE, P.C.
3 Garrett Place • Carmel, New York 10512
Phone (845) 225-9690 • Fax (845) 225-9717
www.insite-eng.com

DATE: 2-7-23
SCALE: 1" = 40'
PROJECT NO.: 20228.100
FIGURE: 4



STORMWATER TESTING RESULTS:

NOTE: NO MOTTLING OR ROCK ENCOUNTERED IN ANY OF THE TEST HOLES

PROJECT: WACCABUC COUNTRY CLUB
BEACH CLUB IMPROVEMENTS



INSITE
ENGINEERING, SURVEYING &
LANDSCAPE ARCHITECTURE, P.C.

SCALE: $1'' = 40'$

PROJECT NO.: 20228.100

FIGURE:

5

Ciorsdan Conran

Subject: Mandia stamped PB Res 061620.pdf
Attachments: CO011-17-22 012351.pdf; Mandia bond escrow 041221.pdf; Mandia stamped PB Res 061620.pdf

From: Bruce Mandia <bcj75@gmail.com>
Sent: Thursday, November 17, 2022 3:57 PM
To: Ciorsdan Conran <Planning@lewisborogov.onmicrosoft.com>
Subject: Re: Mandia stamped PB Res 061620.pdf

Dear Ciorsdan,
Please release 90% of the funds deposited with the town regarding the renovation of 65 Old Bedford Rd.
Thank you,
Bruce Mandia
Sent from my iPhone

Condition #6

In accordance with Section 220-46G of the Zoning Code, the applicant shall supply a performance bond, or other form of security, to guarantee completion of project infrastructure in a sum approved by the Town Engineer based on a cost estimate to be prepared by the applicant's design engineer. The form of the bond or performance security shall be acceptable to the Planning Board Attorney. The delivery and acceptance of this security does not relieve the applicant of the obligation to complete the project infrastructure. Said bond or performance security shall provide for project infrastructure to be completed within twenty-four (24) months of commencement of work and for the retention by the Town of 10% of the originally fixed amount for a period of one(1) year after the Certificate of Occupancy has been issued.

TOWN OF LEWISBORO
Westchester County, New York



Planning Board
79 Bouton Road
South Salem, New York 10590

Tel: (914) 763-5592
Fax: (914) 875-9148
Email: planning@lewisborogov.com

December 22, 2022

VIA EMAIL AND HAND DELIVERY

Honorable Tony Gonçalves, Supervisor and
Members of the Town Board
Town of Lewisboro
11 Main Street
South Salem, New York 10590

Re: Mandia Residences
65 Old Bedford Road
Cal. #02-20 PB
Authorization to Approve Release of Partial Performance Security

Dear Supervisor Gonçalves and Members of the Town Board:

I submit this letter, on behalf of the Planning Board, in connection with a request by 65 Old Bedford Road, LLC for the partial release of a performance security held by the Town guaranteeing completion of infrastructure associated with the above-referenced project. Specifically, I request that the Town Board authorize the Planning Board to conduct a public hearing and act upon this request.

The performance security is in the form of a cash deposit held by the Town in the sum of \$46,351.00. This security was submitted to the Town in accordance with a condition of the Planning Board's Site Development Plan Approval for this project (the conversion of the former Goldens Bridge Community House into a multi-family dwelling). This approval is set forth in a Resolution adopted by the Planning Board on June 19, 2020, which states, in part:

. . . the applicant shall supply a performance bond, or other form of security, to guarantee completion of project infrastructure in a sum approved by the Town Engineer based on a cost estimate to be prepared by the applicant's design engineer. The form of the bond or performance security shall be acceptable to the Planning Board Attorney. The delivery and acceptance of this security does not relieve the applicant

Honorable Tony Goncalves, Supervisor and
Members of the Town Board
December 22, 2022
Page 2

of the obligation to complete the project infrastructure. Said bond or performance security shall provide for project infrastructure to be completed within twenty-four (24) months of commencement of work and for the retention by the Town of 10% of the originally fixed amount for a period of one (1) year after the Certificate of Occupancy has been issued.

A Certificate of Occupancy for the multi-family residence has been issued. Consequently, the return of 90% of this deposit (equaling \$41,715.90) is sought.

The Planning Board seeks authorization from the Town Board to hear and decide this request because of the nature and purpose of this security.

Respectfully submitted,

A handwritten signature in cursive script that reads "Janet Andersen" followed by a small "cc" superscript.

Janet Andersen, Chair

cc: Gregory Folchetti, Esq.
Planning Board Members
Ms. Ciorsdan Conran
Jan Johannessen, AICP, Kellard Sessions
Judson K. Siebert, Esq.

RESOLUTION ADOPTED BY THE TOWN BOARD
OF THE TOWN OF LEWISBORO
AT A MEETING HELD ON JANUARY 9, 2023

RESOLVED, that the Town Board of the Town of Lewisboro does authorize the Planning Board to consider and act upon 65 Old Bedford Road, LLC's request for partial release of performance bond for guarantee of completion of project infrastructure.

STATE OF NEW YORK
COUNTY OF WESTCHESTER

I, JANET L. DONOHUE, Town Clerk of the Town of Lewisboro, County of Westchester, State of New York, do hereby certify that I have compared the preceding copy of a Resolution adopted by the Town Board of the Town of Lewisboro at a meeting held on the 9th day of January, 2023, to the original thereof, and that the same is a true and exact copy of said original and of the whole thereof.

Town Clerk

Dated at South Salem, New York
this 10th day of January, 2023

TOWN OF LEWISBORO
NOTICE OF PUBLIC HEARING

NOTICE IS HEREBY GIVEN that the Planning Board of the Town of Lewisboro, Westchester County, New York will convene a Public Hearing on Tuesday, February 28, 2023 at 7:30 p.m., or soon thereafter at the Town Offices at 79 Bouton Road, South Salem, New York, regarding the following:

Cal #02-20PB

Request for partial release of a performance security posted by 65 Old Bedford Road, LLC; 65 Old Bedford Road, Goldens Bridge, NY 10526; Sheet 4A, Block 11112, Lot 2 (65 Old Bedford Road, LLC; owner of record) established to guarantee the completion of infrastructure associated with the renovation of an existing building into a multi-family dwelling (four (4), 1-bedroom apartments). The subject property consists of approx. 0.72 acres and is located in a Special Character Two-Family Residential (SCR-2F) Zoning District.

A copy of materials pertaining to the requested partial release of the performance security may be inspected at the office of the Planning Board Administrator, 79 Bouton Road, South Salem, New York during regular Planning Board hours. Persons wishing to object to this request should file a notice of objection with the Planning Board together with a statement of the grounds of objection prior to the closing of the Public Hearing. All interested parties are encouraged to attend the Public Hearing and all will be provided an opportunity to be heard.

PLANNING BOARD
TOWN OF LEWISBORO
By: Janet Andersen
Chair

Dated: January 19, 2023

The Town of Lewisboro is committed to equal access for all citizens. Anyone needing accommodations to attend or participate in this meeting is encouraged to notify the Administrator to the Planning Board in advance.

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