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**TOWN OF NEWBURGH  
PLANNING BOARD  
TECHNICAL REVIEW COMMENTS**

**PROJECT: THE POLO CLUB SENIOR HOUSING-FSEIS**  
**PROJECT NO.: 18-12**  
**PROJECT LOCATION: SECTION 39, BLOCK 1, LOT 1 & 2.12**  
**REVIEW DATE: 30 OCTOBER 2020**  
**MEETING DATE: 5 NOVEMBER 2020**  
**PROJECT REPRESENTATIVE: ENGINEERING & SURVEYING PROPERTIES**

1. Project Summary should identify that the two tax lots identified will be combined into a single tax lot upon approval of the project.
2. In 1.1 it proposed action should identify the Town's definition of "Senior Citizens".
3. Comment #4 should identify the Orange County Agricultural District that the Gardnertown Farms is part of. Applicants are offering a mitigation measure incorporating the fact that the neighboring property is an agricultural property protected by the NYS Right to Farm Laws.
4. #2.2 Landscaping memo from Karen Arent has been provided to address responses to landscaping comments.
5. Confirmation regarding the access across WPA's property for construction of the wetland mitigation area should be provided. The comment response #34 identifies a recent meeting with representatives of WPA. Access agreements should be provided.
6. In response to Comment #36 the infiltration test results should be provided in the SWPPP.
7. Response #38 identifies that no fencing is proposed around stormwater management facilities. The Planning Board's opinion regarding safety fences at stormwater management facilities should be addressed. Stormwater management facilities identify relatively steep grades to the facilities. Aquatic benches and safety benches should be incorporated into the design for the Planning Board to consider not providing fencing.
8. In response to traffic comment #8 any recent correspondence with NYSDOT should be provided in the FSEIS.

9. Response Comment #10 in the Traffic Section should identify all proposed traffic mitigation measures rather than deferring the improvements to the Highway Work Permit process.
10. Documentation for the response from the Town's Water Operator to Comment #39 should be provided in the FSEIS. Testing of the hydrant in the vicinity of Jeanne Drive should be performed and provided in the FSEIS.
11. Page 21 second paragraph identifies "the treated waste water being discharged into the on site stream will be much cleaner than which is being discharged from nearby septic systems." Septic systems are not designed to discharge to surface water. This sentence should be removed and/or modified as appropriate.
12. In response to Sanitary Sewer Comment #2 the Applicant should address whether the proposed Treatment Plant will be equipped with an emergency generator to assure treatment during power outages.
13. The response identifies that the force main would be within the NYSDOT right of way and not on private property, however the third bullet item on page 24 identifies the need for easements. The Route 300 force main would not require private easements. The response identifies the process for obtaining NYSDOT approval for installation of utilities within the states right of way. The identified process is written in the narrative as being hurdles to approval while they are in fact typical review process approvals for projects within State Highway right of ways.
14. The Narrative identifies that maintaining the force main would be the responsibility of the Town of Newburgh, however under the current proposal the force main would be privately owned and not owned or operated by the Town of Newburgh.
15. Page 26 once again identifies discharge from residential septic systems. Page 26 also reiterates that the Sewage Treatment Plant will be privately owned with no obligation on the municipality contrary to the operation and maintenance statements made previous.
16. Page 26 identifies the Wastewater Treatment Plant is expected to cost \$1.3 million plus engineering and review fees. This statement does not include costs associated in the previous discussion regarding bonding of the project. The Planning Board should evaluate the costs identified, engineers analysis included in Appendix E identifies a force main cost of approximately \$1.6 million. The cost estimate should be updated to correspond to the \$2.568 million identified in the narrative report. The Planning Board requested a detailed cost estimate for each of the proposals while only a summary conclusion of the costs has been provided.
17. Sewer response #42 regarding the design BOD of 250 milligrams per liter identifies a website and consultation with Earthtech. The response from Earthtech should be included in the report and the referenced should be included as an Appendix. Currently the residential projects in the Roseton Hills Sewer District have sample / monitoring data which identifies greater than 250 milligrams per liter influent. This data should be evaluated as a typical residential project in the Town of Newburgh in regard to design of the sanitary sewer treatment system.
18. Appendix B-2 does not contain the MHE review letter.

19. The 8 inch sanitary sewer force main appears to be very large based on an average daily flow of 37,150 gallons. Sizing of the force main should be further discussed in the document.
20. Section 4 Conclusions of the sanitary sewer report contains information regarding decentralized sewer systems. This information seems to be regarding private on-site residential systems, not a packaged plant serving 242 units. The sources identify reuse of water and other “community benefits” including green infrastructure. This discussion appears to be misplaced in the Sanitary Sewer report regarding the force main. A detailed cost estimate should be provided for the force main alternative as well as the on-site sanitary sewer treatment alternative. Planning Board and several commenters requested this financial analysis.

Respectfully submitted,

***McGoey, Hauser and Edsall  
Consulting Engineers, D.P.C.***

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Patrick J. Hines  
Principal

PJH/kbw



November 3, 2020

Mr. John Ewasutyn  
Town of Newburgh Planning Board  
21 Hudson Valley Professional Plaza  
Newburgh, NY 12550

RE: SDEIS and FSEIS for The Polo Club, Town of Newburgh, NY; CM Project #117-002.12, Town Project #2018-12

Dear Mr. Ewasutyn:

Creighton Manning Engineering, LLP (CM) is in receipt of the SDEIS dated June 1, 2020 and the FSEIS dated October 15, 2020. Upon reviewing these documents, we offer the following comments:

1. The Site Plan references 242 proposed units. The traffic study prepared by Maser bases its analysis on 246 units so the results will be marginally conservative; however, the analysis is based on ITE data for the Peak Hour of the Generator, which could be a different time than the typical morning and afternoon peaks of Route 300. The study is conservative in that 138 trips in the AM peak hour and 165 trips in the PM peak hour were considered, where ITE's data suggests the project will generate 112 AM trips and 132 PM trips during the peak hour of adjacent street traffic.
2. CM agrees with Maser's recommendation to add signal backplates at the three signalized intersections of Route 300 (Route 32, Gardnertown Road, and Route 52); however, this is subject to the capacity of the poles being available to accommodate the additional wind loads and weight.
3. CM agrees with Maser's growth factor of 1% per year to account for general background growth when forecasting 2022 traffic volumes.
4. CM agrees with Maser's trip distribution anticipating that a majority of site-generated trips will be arriving from/departing to the south on NYS Route 300 because of the junction of Interstate-87, Interstate-84.
5. CM concurs that the increase in delays and adjustment in signal timings will mitigate project impacts at Rt 300/Rt 32. Negligible (<1 second) to minor (<3 seconds) changes in delay are expected at the magnet school and Plattekill Turnpike intersections.
6. At the Rt 300/Gardnertown Road intersection, signal timing changes will address increases in delays; however, there will continue to be increases in demand for left turns at this intersection. Current operations indicate that southbound through traffic is delayed when a left turn vehicle is yielding to oncoming traffic, while a northbound vehicle has some shoulder to drive around the northbound left turn vehicle. A left turn lane warrant should be conducted to determine if left turn lanes are warranted.
7. At the Route 300/Route 52 intersection, an 8-second increase in overall delay is protected during the AM peak hour and a 6-second decrease in overall delay during the PM peak hour with the proposed signal timing adjustments. This intersection has long been a restriction with the heavy volumes on the Route 300 approaches, and lack of left turn lanes on the Route 52 approaches. Long queues and delays will continue at this intersection without



improvements. The need for improvements at this intersection was identified as part of the Marketplace/The Loop development and the 2006 version of the Polo Club, where fair-share contributions were suggested to be applied to this intersection. There are challenges with ROW at this intersection and collaboration with NYSDOT, the applicant(s) of this and other projects, the Town, and possibly adjoining land owners is likely necessary.

8. The site driveway is projected to operate at LOS D during the AM peak hour and LOS F during the PM peak hour, improving to LOS E with the completion of a northbound right turn lane. The egress lane of the project is about 20 feet, which will allow for two vehicles to exit, right turners having a better/lower delay than left turners. Based on the exiting volumes, a traffic signal will not be warranted and stop sign control is the appropriate traffic control.
9. Regarding the responses to the traffic comments on the SEIS, we generally concur with the responses; however, in several responses, final determination of improvements is deferred to NYSDOT as part of the highway work permit process. We agree that NYSDOT has the final say for work in the right-of-way, but would request direction from the Board's attorney on what level of determination is necessary in order to complete SEQR.

If you have any questions about the above comments, please don't hesitate to contact me at 518-689-1834 or [kwersted@cmellp.com](mailto:kwersted@cmellp.com).

Respectfully,  
Creighton Manning Engineering, LLP



Kenneth Wersted, PE, PTOE  
Associate

C: Pat Hines – MHE  
Dominic Cordisco – PB Attorney  
Jerry Canfield – Code Enforcement  
Jim Osborne- Town Engineer  
Karen Arent – Landscape Architect

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# KALA

Karen Arent Landscape Architect

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## Memorandum

**To:** Chairman John Ewasutyn and the Town of Newburgh Planning Board

**From:** Karen Arent, Landscape Architect

**Date:** October 29, 2020

**Subject:** The Polo Club Landscape Plans, Latest Revision Dated September 29, 2020

**Town Project Number:** 2020-01

**Consultant:** Engineering Properties

**Cc:** Pat Hines, Dominick Cordisco, Gerald Canfield, Jay Samuelson, Scott Manley

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## COMMENTS:

The plans were modified and partially address previous comments. Some of the comments not adequately addressed include:

1. Trees are more diverse but the plan is still dominated by River Birch (69 proposed) and Pin Oaks (64 proposed). We suggest diversifying with 1-2 more tree species such as those listed in Cornell University's *Recommended Urban Trees: Site Assessment and Tree Selection for Stress Tolerance*. Cornell University recommends plant diversity for ecological health and to prevent mass die-off in the case of a disease.
2. Pin Oaks proposed on the islands should be placed a minimum of 30' on center along the boulevard rather than the sparse 60' on center as proposed. In constrained places, trees do not tend to grow to full size, so more trees planted closer together will help ensure shaded streets and a pleasing aesthetic.
3. Sweetgums do not do well in this area and people tend to dislike the spiky fruits, therefore another plant should be used. Please consider a disease resistant variety of American Elm, such as 'Princeton' or another Cornell Recommended Tree in place of the Round Lobed Sweetgum. The American Elm is a species that has been proven tolerant of the conditions proposed and referenced in Cornell University's *Recommended Urban Trees: Site Assessment and Tree Selection for Stress Tolerance*. Please choose a columnar tree hardier to the area in the place of the Columnar Sweetgum.

Comments for The Polo Club  
Dated October 29, 2020 continued

4. Street trees proposed along Route 300 are planted 60' on center and not 40' as specified in original comments 20 and 22. This is fine due to the extensive proposed screening in the background.
5. From past inspection experience, plantings tend not to do well in the recessed entrance areas of the buildings. Astilbe is finicky and all that were planted at a previous inspection died. Please consider choosing a tougher plant.
6. Please show thick, layered plantings so that the planting is lush and full. In front of Building 9, few plants are shown or large plants are shown without anything close to or under them. For example, two Leatherleaf Viburnums are shown without shrubs or groundcovers nearby. Pack these areas with groundcovers, similar to the planting proposed in the median. Add smaller shrubs closer to the Viburnums. This will help soften and create an aesthetically pleasing landscape along the façade.
7. There are large gaps in screening of commercial uses on the north property line between buildings 10 and 11, and 11 and 21 per original comment 23. The consultant should add vegetation to provide immediate screening. Additional vegetation could include thick growing large shrubs, pioneer species of trees that grow quickly and die when shaded, additional evergreen trees, etc. A thick, dense, layered screen planting should be proposed.
8. Please adjust plant label size as it is difficult to read. The size of the plant is not necessary on plant labels, just the plant list.

**The Polo Club**  
**Final Supplemental Environmental Impact**  
**Statement (FSEIS)**

**Town of Newburgh**  
**Orange County, New York**

**Lead Agency:**  
Town of Newburgh Planning Board  
308 Gardnertown Road  
Newburgh, NY 12550

**Contact Person:**  
John Ewasutyn – Planning Board Chairman  
(845) 564-7804

**Project Consultant and Contact Person:**  
Ross Winglovitz, P.E.  
Engineering Properties, PC  
71 Clinton Street  
Montgomery, New York 12549  
(845) 457-7727

Date of Submission: October 15, 2020

Date of Acceptance:

**PROJECT CONSULTANTS**

Engineer: Ross Winglovitz, P.E.  
Engineering Properties, PC  
71 Clinton Street  
Montgomery, NY

Traffic Engineer: Phil Grealy, PhD., P.E.  
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Valhalla, NY 10595

Legal: Jayne Weinberg, Esq.  
Daly & Weinberg, PLLC  
56 Far Horizons Drive  
Newburgh, NY 12550

Environmental Consultant: Peter Torgersen  
Environmental Sciences  
110 Town Line Road  
Pearl River, NY 10965

Landscape Architect: Chad Wade, R.L.A.  
Landarch Studios, PLLC  
363 N. Montgomery Street  
Newburgh, NY 12550

Geotechnical Consultant: Geotechnical Consultant  
24 Worlds Fair Drive, Suite B  
Somerset, NJ 08873

Sanitary Sewer Consultant: Berger Engineering and Surveying PLLC  
100 Fulton Avenue  
Poughkeepsie, NY 12603

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### Appendices:

#### Appendix A:

- Public Hearing Transcript, August 6, 2020
- Public Hearing Transcript, August 20, 2020

#### Appendix B:

- Karen Arent, Landscape Architect, Planning Board Consultant's Review Letter dated June 11, 2020
- Pat Hines, Engineer, Planning Board Consultant's Review Letter dated September 11, 2020

#### Appendix C:

- Landscaping Plans PP-1 to PP-10, last revised September 29, 2020

#### Appendix D:

- Stormwater Pollution Prevention Plan narrative, dated May 2020, last revised September 2020

#### Appendix E:

- Preliminary Discharge Effluent Limits from NYSDEC Water Quality Engineer, Aparna Roy, via email on April 1, 2020
- Engineer's Report for a Sanitary Forcemain to Serve the Polo Club, dated October 12, 2020

## Introduction

This Final Supplemental Environmental Impact Statement (FSEIS) has been prepared in accordance with the requirements of the New York State Environmental Conservation Law, Article 8, Section 8-0109, State Environmental Quality Review (SEQR) Act and Title 6, Part 617 of the New York Code Rules and Regulations pertaining thereto. It examines the impacts associated with the development of a 242-unit multifamily apartment complex, with 27 of the units being designated for seniors.

The purpose of this FSEIS is to respond to comments made, both orally and in writing, on the Supplemental Draft Environmental Impact Statement (SDEIS) during the public hearing and comment period. Commentators included the public, the Planning Board members and their consultants. This FSEIS incorporates by reference all information contained in the SDEIS, unless specifically amended, revised and/or replaced. The SDEIS and appendices are available on the Town of Newburgh and Engineering and Surveying Properties' websites.

Following circulation of this FSEIS and publication of the Notice of Completion in the Environmental Notice Bulletin (ENB), a Findings Statement can be adopted and the SEQRA process concluded. The Findings Statement considers the relevant environmental impacts presented in the SDEIS and FSEIS and certifies that the requirements of SEQRA have been met. Once the Findings Statement has been adopted, the Town Board can take action on the proposed applications.

This FSEIS is organized under the following section headings:

- **Section 1.0, Project Summary**, provides information on the history of the project and proposed site plan; and
- **Section 2.0, Public Comments and Responses**, is a comprehensive compilation of all comments received during the public hearing and comment period along with the applicant's responses thereto.

## **1.0 Project Summary**

The Polo Club is a proposed residential development on two parcels of land (Section 39, Block 1, Lots 1 and 2.12), in the Town of Newburgh, Orange County, New York, totaling 36.23 acres. As proposed, the Polo Club will contain 242 garden apartments and a recreational complex. The property is currently vacant and all structures previously existing on the site, including three storage sheds, a storage garage and an abandoned house, have been removed.

### **1.1 Project History**

On or about February 6, 2006 the project sponsor, Spruce Creek, LLC, filed an application for site plan approval with the Town of Newburgh Planning Board requesting permission to build 126 townhomes. On May 18, 2006, the Planning Board declared its intent to become Lead Agency, under the New York State Environmental Quality Review Act ("SEQR") and issued a Positive Declaration on July 6, 2006. Draft and Final Environmental Impact Statements were prepared between February 2006 and August 2008. Preliminary approval was granted on September 4, 2008. The plan was amended in 2009 to include a total of 138 three-bedroom townhouses in 26 buildings. An amended findings statement was adopted on September 1, 2011 and the project was approved for 138 townhouses in 26 buildings.

The applicant is currently before the Board seeking to amend the site plan to a garden apartment complex that includes 242 rental units in 21 buildings, a clubhouse and recreation area. Of the 242 apartments, 215 will be available for rent to the general public and 27 will be restricted for use by senior citizens. On May 6, 2019, on referral from the Planning Board, the applicant submitted a letter to the Town Board seeking a density bonus to include senior units within the Polo Club project as permitted by the Town Code in the R-3 District. On June 24, 2019, the Town Board voted to send a letter to the Planning Board instructing them to move forward with the review of the Polo Club project with the senior units included. On December 20, 2019, the Planning Board re-circulated its intent for designation of Lead Agency, issued a Positive Declaration and classified the project as a Type 1 Action. The applicants were directed to prepare a Supplemental Draft Environmental Impact Statement ("SDEIS").



After review and revision, the SDEIS was deemed complete by the Planning Board on June 18, 2020. The SDEIS was then distributed to all interested and involved agencies, and copies were placed at the Town of Newburgh Town Hall and the Newburgh Free Library for the public's review. Electronic copies of the documents were made available online at [www.townofnewburgh.org](http://www.townofnewburgh.org) and [www.engineeringpropertiespc.com](http://www.engineeringpropertiespc.com).

On August 6, 2020, in accordance with the Governor's Executive Orders issued in response to the COVID-19 pandemic, the Planning Board held a public hearing via Zoom during which the public was given an opportunity to ask questions and provide comment on the site plan and the SDEIS. At the conclusion of the public hearing, it was determined that given recent power outages from a tropical storm, the public hearing was to be held open until the August 20, 2020 Planning Board meeting. At the August 20<sup>th</sup> meeting, the public was given an additional opportunity to ask questions and provide comment on the site plan and the SDEIS. At the conclusion of that meeting, the public hearing was closed but the comment period remained open until 10 days after the posting of the minutes for both public hearings. At its September 17, 2020 meeting, the Planning Board voted to close the public comment period and directed the Applicant to prepare this FSEIS.

This FSEIS responds to comments made at both public hearings and submitted in writing through September 17, 2020. The transcripts for both public hearings are included in Appendix A of this FSEIS. The written comments received are included in Appendix B.

## **1.2 Proposed Action**

As provided above, the proposed project is located in the Town of Newburgh, Orange County, NY. Specifically, the site is located north of Gardnertown Farms Road and south of Jeanne Drive on the east side of Route 300. The project is located in the Town's R-3 zoning district, which permits six units per acre. The project is seeking a senior density bonus, which allows up to nine units per usable acre. A minimum of one-third of the additional units must be designated for senior housing.

The applicant is proposing to develop 242 garden apartments, of which 215 will be available to the general public and 27 will be restricted to senior citizens. The project will be serviced by municipal water. The applicant studied two alternatives for sanitary sewer treatment, an on-site private sewage treatment plant and a sanitary forcemain to be located in the NYS Route 300 right of way which would convey effluent to the existing Town of Newburgh collection system.

Access to the site will be provided via a boulevard entrance from NYS Route 300. An emergency access drive will be provided to/from Route 300 near the southern property line. The emergency access road will be paved and an access control keyed lock will be installed to prevent regular use. There will be one primary internal loop road providing circulation through the project site. Pedestrian access through the site will be provided via 5-foot sidewalks.

The garden apartment complex will be owned by a single entity that will be responsible for all maintenance on site. As shown on the site plan, there are three construction phases and it is anticipated that construction will take between one and two years. Depending on market demand, weather conditions and completion of the required infrastructure, the phasing and/or timing of the construction may vary.

## 2.0 Public Comment and Responses

This section provides a comprehensive list of all questions and comments received during the public review process, whether made orally at the Public Hearings held on August 6th and 20th, 2020 or submitted in writing, as well as responses to same.

The Planning Board received both oral and written comments during the public hearings on the Polo Club SDEIS. Oral comments appear as part of the official transcript of the public hearings held on August 6, 2020 and August 20, 2020 and are included in Appendix A of this FSEIS.

One letter, a technical review letter, dated September 11, 2020, from the Planning Board's engineer, McGoey, Hauser and Edsall was received by during the public comment period, which remained open until September 17, 2020. Prior to the public hearings, a technical review letter dated June 11, 2020 had been submitted by the Town's landscape consultant, Karen Ardent, the responses to which are addressed in the FSEIS. Copies of these review letters are included in Appendix B of this FSEIS.

To facilitate the readers' understanding of where specific comments are addressed, handwritten notations have been added to the original source documents in Appendices A and B, cross referencing the original comment with the corresponding comment and response number in the FSEIS. The public comments are numbered in the order in which they were received, beginning with comments made at the August 6th public hearing and followed by comments made at the August 20th public hearing. The Planning Board's consultants review comments follow the public comments.

Comments have been grouped by topic and are organized and referenced by the relevant section number in the SDEIS. Where appropriate, some of the comments are summarized or paraphrased. When comments were repeated, all commentators are referenced.

The list below constitutes the complete list of all comments received by the Planning Board during the public comment periods:

Public Hearing Transcripts:

- Public Hearing Transcript August 6, 2020.
- Public Hearing Transcript August 20, 2020.

Written Comments from the Town of Newburgh Planning Board's Consultants:

- Letter from Karen Arent, KALA, Landscape Architect, Planning Board's Landscape Consultant, dated June 11, 2020
- Letter from Patrick Hines, McGoey, Hauser and Edsall Consulting Engineers, PC, Planning Board's Engineers, dated September 11, 2020.

## **2.1 General Comments**

**Comment #3, Public Hearing Comment, August 6, 2020, Bill Denker, Gardnertown Farm, Newburgh.** We've owned Gardnertown Farms and Polo Club for 30 years and I am concerned with the name they are using.

**Response #3:** The applicant has referred to this project as the "Polo Club" since its inception and believes it would cause confusion if the applicant were to change the name of the project at this time. However, as a proposed mitigation measure, if the site plan application is approved by the Planning Board, the applicant will commit to the project not being named or marketed as the Polo Club during and/or post construction.

**Comment #4: Public Hearing Comment, August 6, 2020, Bill Denker, Gardnertown Farm, Newburgh.** Being so close to us, we deal with horses daily and there are smells and dust and we have horse shows and PA systems. I don't want someone to come up four years from now and say you can no longer do that for this reason.

**Response #4:** As Gardnertown Farms is part of an Agricultural District, Mr. Denker's right to farm is protected by New York State law, (NYS Agric. & Mkts Sec. 300, *et seq.*), which protects farmers operating in agricultural districts from private nuisance claims. In addition, as a proposed mitigation measure, all prospective tenants for apartments will be advised of the adjacent agricultural use and all leases will contain such notification.

## **2.2 Landscaping Plan**

**NOTE:** The Landscaping Planting Plan has been revised based on the following comments/responses and is included as Appendix C.

**Comment #15:** *Karen Arent letter dated June 11, 2020.* Sixty-three Pin Oaks are specified. No other hardwood species or large growing shade trees are specified. There should be diversity for both ecological and longevity concerns. Trees should be native and hardy.

**Response #15:** A variety of species that have been proven tolerant of the conditions proposed and referenced in Cornell University's Recommended Urban Trees: Site Assessment and Tree Selection for Stress Tolerance have been supplemented into the Planting Plan to provide ecological diversity ensure longevity.

**Comment #16:** *Karen Arent letter dated June 11, 2020.* Wherever there is less than 40' of existing wood area to remain along Route 300, dense screening should be proposed.

**Response #16:** The proposed landscaping along Route 300 has been updated to include supplemental plantings which include a variety of shrub species to provide understory and more immediate screening while the larger evergreen and deciduous trees mature and provide more substantial screening.

**Comment #17:** *Karen Arent letter dated June 11, 2020.* A staggered single row of White Pines are shown spaced over 20' apart and Red Cedar Junipers are spaced approximately 10' apart. It will take quite a long time before screening is achieved. The consultant should add vegetation to provide more immediate screening. Additional vegetation could include thick growing large shrubs, pioneer species of trees that grow quickly and die when shaded, additional evergreen trees, etc. A thick, dense, layered screen planting should be proposed.

**Response #17:** The areas meant to provide screening have been updated to include supplemental plantings which include a variety of species to provide immediate screening while the larger evergreen and deciduous trees mature and provide more substantial screening.

**Comment #18:** *Karen Arent letter dated June 11, 2020.* Additional large growing deciduous trees should be proposed to shade parking areas. At least one tree per every 10 spaces must be proposed.

**Response #18:** Smaller trees have been maintained in locations where larger street trees will interfere with the proposed lighting. In locations that light fixtures are not proposed a variety of species that have been proven tolerant of the conditions proposed and referenced in Cornell University's *Recommended Urban Trees: Site Assessment and Tree Selection for Stress Tolerance* have been proposed.

**Comment #19:** *Karen Arent letter dated June 11, 2020.* Show large shade trees between parking aisles instead of Dogwoods.

**Response #19:** Smaller trees have been maintained in locations where larger street trees will interfere with the proposed lighting. In locations that light fixtures are not proposed the previously proposed Dogwoods have been replaced with a variety of species that have been proven tolerant of the conditions proposed and referenced in Cornell University's *Recommended Urban Trees: Site Assessment and Tree Selection for Stress Tolerance*.

**Comment #20:** *Karen Arent letter dated June 11, 2020.* Many small trees are shown along edges of the road. It would be great to see larger growing street trees and more street trees. On subdivisions, street trees must be shown every 40' to help soften the streetscape and provide environmental and ecological benefits. This development should follow a similar large tree placement.

**Response #20:** Smaller trees have been maintained in locations where larger street trees will interfere with the proposed lighting. In locations that light fixtures are not proposed a variety of species that have been proven tolerant of the conditions proposed and referenced in Cornell University's *Recommended Urban Trees: Site Assessment and Tree Selection for Stress Tolerance* have been proposed.

**Comment #21:** *Karen Arent letter dated June 11, 2020.* Dogwoods are shown 20' to 25' from the façade of the building. It would be great to see two larger growing trees or if small trees are desired, a robust, hardy trio of trees would make more of an immediate impact than just two small trees. It would be great to use large growing trees to grow over and shade asphalt areas to reduce the heat of this heavily paved and roofed landscape.

**Response #21:** Smaller trees have been maintained in locations where larger street trees will interfere with the proposed lighting. In locations that light fixtures are not proposed a variety of species that have been proven tolerant of the conditions proposed and referenced in Cornell University's *Recommended Urban Trees: Site Assessment and Tree Selection for Stress Tolerance* have been proposed.

**Comment #22:** *Karen Arent letter dated June 11, 2020.* In addition to screening along Route 300, street trees should be proposed at least every 40'. If space doesn't allow for street trees and screen planting, show smaller deciduous trees. Approximately one street tree for every 40 linear feet of road should be proposed.

**Response #22:** Street trees have been added along Route 300 at the recommended spacing. Based upon the limits of disturbance, existing trees will remain along much of Route 300.

**Comment #23:** *Karen Arent letter dated June 11, 2020.* Provide some screen planting between the commercial uses on the north property line.

**Response #23:** Screening along the businesses adjacent to the northern property line has been proposed to the greatest extent practicable based upon the Civil Drawings. The areas meant to provide screening have been updated to include supplemental plantings which include a variety of species to provide immediate screening while the larger evergreen and deciduous trees mature and provide more substantial screening.

**Comment #24:** *Karen Arent letter dated June 11, 2020.* A planting area of only 2 – 3' is shown in front of gravel along large sections of the facades of the buildings. In my opinion, a thicker planting area should be shown to allow softening of the buildings.

**Response #24:** The eighteen (18) inch gravel treatment proposed along the foundation is highly recommended to prevent the plants from being planted too close to the building foundation. It also provides a number of beneficial aspects for the maintenance of the building. Plantings have been proposed to fit the area based upon the Civil Drawings. Additionally, there are proposed windows that prevent the installation of larger shrubs.

**Comment #25:** *Karen Arent letter dated June 11, 2020.* Please show thick, layered plantings in front of the buildings so that the planting is lush and full. In some locations, few plants are shown or large plants are shown without anything close to or under them. For example, two Leatherleaf Viburnums are shown without shrubs or groundcovers nearby. Pack these areas with groundcovers, similar to the planting proposed in the median. Add smaller shrubs closer to the Viburnums. This will help soften and create an aesthetically pleasing landscape along the façade.

**Response #25:** Additional low growing plantings have been proposed in addition to the previously proposed large shrub plantings in order to provide a more lush and full planting plan.

**Comment #26:** *Karen Arent letter dated June 11, 2020.* At the end of buildings and between sidewalks near the entrances to buildings, there are no plants and just black areas. Please show planting in all spaces where pavement or buildings are not proposed.



**Response #26:** Acknowledged, the Planting Plan has been updated accordingly.

**Comment #27:** *Karen Arent letter dated June 11, 2020.* Dogwoods are shown in wide parking islands between garages. Dogwoods are not particularly hardy in this area and even the disease resistant varieties suffer from anthracnose. Please choose a tougher, more urban tolerant tree for these locations.

**Response #27:** The previously proposed Dogwoods have been replaced with a variety of species that have been proven tolerant of the conditions proposed and referenced in Cornell University's *Recommended Urban Trees: Site Assessment and Tree Selection for Stress Tolerance*.

**Comment #28:** *Karen Arent letter dated June 11, 2020.* Mugo Pines suffer from a particular caterpillar and must be sprayed to remain robust and healthy. Please consider a shrub that requires less maintenance.

**Response #28:** Mugo Pines have been removed for the proposed planting plan and replaced with a different evergreen shrub.

**Comment #29:** *Karen Arent letter dated June 11, 2020.* Please consider planting along the rear façade to help provide the feeling of privacy between units.

**Response #29:** Personal experience has proved that access to the rear patio space for each unit from outside is desirable for many of the future tenants. Those units that directly adjoin a parking area have been updated with supplemental planting.

**Comment #30:** *Karen Arent letter dated June 11, 2020.* Trees should be shown between the buildings and the stormwater management areas to help the site blend better with the existing natural environment, to provide wildlife habitat, shade buildings,

replace some of the many trees that will be removed, etc. The whole site need more large growing trees, whether along the roads, parking areas, between and behind buildings, etc.

**Response #30:** Trees have been added to the Planting Plan in accordance with the recommendation.

**Comment #31:** *Karen Arent letter dated June 11, 2020.* The symbol SyrKim (likely Miss Kim Lilac) is shown on the plan but is not on the plant list.

**Response #31:** The Plant Schedule has been updated to include all the species proposed throughout the Planting Plan.

### **2.3 Surface Water**

**Comment #6:** *Public Hearing Comment, August 6, 2020, John Corbett, 9 Gargoyle Lane.* NYS Route 300 is set up so all the water flow that comes down comes to the Gargoyle side from Jeanne Drive on down. Are they going to do anything to fix that problem?

**Response #6:** The stormwater from the site flows east away from NYS Route 300 and will have no impact on the street right-of-way or downstream properties.

**Comment #34:** *Pat Hines letter dated September 11, 2020.* In response to previous comments, the Applicant has identified that access to the wetland mitigation construction area would be from adjoining properties. Information pertaining to this access and any impacts regarding this should be further identified. Information pertaining to how the project will be constructed if access from adjoining properties cannot be gained should be further clarified.

**Response #34:** The Applicant met recently with a representative of WPA Acquisition Corp. ("WPA") which owns the parcels east of the Polo Club property, Town of Newburgh SBL 34-2-101 and 102. WPA's President, Paul Gekakis, has agreed to allow

access across his company's adjoining properties in order for the Applicant and/or his assigns to construct wetlands mitigation on the east end of the Polo Club property. There are no anticipated environmental impacts associated with the crossing of WPA's properties in order to access the proposed wetlands mitigation area.

**Comment #35:** *Pat Hines letter dated September 11, 2020.* Status of the SDEIS has been updated to include information from the NYS Office of Parks, Recreation and Historic Preservation including a 29 May 2020 No Impact Letter, which has been incorporated into the SWPPP as an attachment.

**Response #35:** Comment noted. No response required.

**Comment #36:** *Pat Hines letter dated September 11, 2020.* A map should be provided in the SWPPP identifying the location of all permeability and deep test holes. A discussion should be incorporated into the plan identifying depths of test holes in relationship to final grading of the infiltration basins.

**Response #36:** An additional figure (F-5 Infiltration Testing Locations) has been included in the revised SWPPP. The SWPPP narrative has been revised to discuss the infiltration testing as well as the relationship of groundwater encountered in the excavated testpits to the final finish grade of the infiltration basin. The revised SWPPP narrative is included as Appendix D.

**Comment #37:** *Pat Hines letter dated September 11, 2020.* The SWPPP narrative identifies a 5 inch per hour rate. The model of the infiltration basin identifies 14.5 inches per hour. The text in the report identifies greater than 5 inches per hour. The model and report should be checked with the soil testing which has been performed.

**Response #37:** The SWPPP narrative has been updated to discuss the actual infiltration testing results and clarifies that the infiltration rate utilized in the model is the average of the rates observed during the specific onsite testing.

**Comment #38:** *Pat Hines letter dated September 11, 2020.* Plans and SWPPP should identify whether safety fencing will be provided for all Stormwater Management Facilities which contain standing water during any portion of the model storm events.

**Response #38:** There is no fencing proposed around the stormwater facilities.

## **2.4 Transportation and Traffic**

**Comment #5:** *Public Hearing Comment, August 6, 2020, Yvonne Philips, 1593 Route 300.* I am concerned about the traffic that will be coming into the area.

**Response #5:** As shown on Table No.1 of the Traffic Impact Study, the project is expected to generate approximately 39 entering and 99 exiting vehicles during the peak AM one-hour period and 97 entering and 68 exiting vehicles during the peak PM one-hour period. The report Figures No. 10 and 11 indicate the distribution of those trips onto the Route 300 corridor. Access related improvements will be subject to the Highway Work Permit (HWP) from the New York State Department of Transportation (NYSDOT) such as a right turn lane northbound on Route 300. Other improvements, for example traffic signal upgrades including possible communication modems, actuation, and timing improvements at adjacent intersections such as Route 300 and Gardnertown Road and Route 300 and Route 32, will be addressed in the HWP.

**Comment #7:** *Public Hearing Comment, August 6, 2020, John Corbett, 9 Gargoyle Lane.* Is there going to be an entrance lane put in on the northside so that it doesn't impact traffic?

**Response #7:** The site will be constructed to consist of one entering and one exiting lane. On Route 300 there will not be an acceleration lane since this is not permitted by NYSDOT. Shoulder widening and replacement, as well as the construction of a northbound right turn lane, will be constructed as part of the entrance construction. Any

other improvements will be determined under the NYSDOT Highway Work Permit process.

**Comment #8:** *Public Hearing Comment, August 6, 2020, John Corbett, 9 Gargoyle Lane.* Have they done a traffic study lately?

**Response #8:** An updated traffic study for the current development was completed in December 2019. This study included new traffic counts, updated traffic data from NYSDOT, and was reviewed by the Town's consultant. The study included an evaluation of background traffic growth as well as traffic from other pending projects in the Town as well as the traffic from the proposed residential development.

**Comment #9:** *Public Hearing Comment, August 6, 2020, John Corbett, 9 Gargoyle Lane.* Are they going to put a traffic light at Jeanne Drive or what are they going to do so that we are able, as residents, to get in and out of our driveways?

**Response #9:** There is currently no proposal to install a traffic signal at Jeanne Drive. The final determination on offsite improvements will be determined by NYSDOT as part of the NYSDOT Highway Work Permit.

**Comment #10:** *Public Hearing Comment, August 6, 2020, Stephanie DeLuca, Planning Board Member.* I am concerned about the capacity on Route 300 being rather large.

**Response #10:** The Route 300 corridor currently along the site frontage has in excess of 900 to 1,200 vehicles per hour during the AM and PM peak one-hour periods, respectively. The project will be adding between 138 and 165 vehicles in these periods. Access related improvements will be completed including a right turn lane to minimize impact on through traffic on the corridor. As summarized in Table No. 2, certain intersections such as Route 32 and 300 and Route 300 and Gardnertown Road were found to experience some drops in Levels of Service as a result of background traffic increases

and/or increases in traffic from the Polo Club development. Certain traffic signal upgrades including signal timing modifications, provision of communication modems to allow remote access and adjustments by NYSDOT have been identified and will be completed as directed by NYSDOT as part of the Highway Work Permit process. Note that the intersection of Route 52 and Route 300 has been previously identified in other studies to experience long delays during the PM peak hour. The traffic from the Polo Club is not expected to significantly change the conditions, however, this location is also a likely candidate for the installation of a communications modem and the need will be addressed as part of the NYSDOT Highway Work Permit process.

**Comment #11: *Public Hearing Comment, August 6, 2020, Ken Mennerich, Planning Board Member.*** The summary statement indicates that there's no difference between the build and no build scenarios. The only thing that is being proposed is some traffic modifications on 300, 32 and 300, Route 300 and Gardnertown Road and the Route 300 and Rout 52 intersections and that was to reduce wait times. I would like to see more detail on that because it is not intuitive for someone that lives in the area and travels these roads.

**Response #11:** See Response 10.

## **2.5 Utilities**

### Water Supply:

**Comment #39: *Pat Hines letter dated September 11, 2020.*** The flow characteristic data in the Potable Water report identifies testing performed 6 July 1996. It is requested the Applicants evaluate this testing in coordination with the Water Department to confirm that the flows and pressures utilized in their report are still valid based on bringing the Delaware Aqueduct Plant online since 1996.

**Response #39:** Based on a field test performed by the Town's water department at a hydrant on Jeanne Drive just east of NYS Route 300 on August 12, 2010 the normal operating static pressure at the hydrant was 48 psi with a residual pressure of 42 psi at a

flow of 1,280 gpm. According to John Egitto, operator of the Town of Newburgh's Water Treatment Plants, during a phone call on October 9, 2020, the hydraulic pressures in the water system were not affected when the Delaware Aqueduct Plant came online in 2013.

Sanitary Sewer

**Comment #32:** *Pat Hines letter dated September 11, 2020.* The Applicant's representatives are requested to further evaluate the sanitary sewer treatment and discharge proposed. A further discussion on the discharge limits should be provided to clarify the intermittent stream standard design parameters. Information pertaining to average daily stream flow should be incorporated into the report. Information regarding the NYSDEC stream stats can be utilized.

**Response #32:** An Intermittent Stream is defined by the NYSDEC, as

1. Any stream that periodically goes dry at any point downstream of the proposed point of discharge, or
2. Any stream segment below the proposed point of discharge in which the minimum average 7-day, 10-year discharge (MA7CD10) stream flow is less than 0.1 cubic feet per second as estimated by methods other than continuous daily flow measurements.

*New York State Design Standards for Intermediate Sized Wastewater Treatment System, March 5, 2014, Section B.6.d Treatment Considerations and Effluent Limits, p. B-23 ("NYS Design Standards")*

Furthermore, "discharge to an intermittent stream typically requires more stringent effluent limitations." NYS Design Standards, p. B-23.

The Preliminary Discharge Effluent Limits for the proposed sewage treatment plant at Polo Club were provided by a NYSDEC Water Quality Engineer, Aparna Roy, via email on April 1, 2020 (attached as Appendix E) and are designed specifically for an intermittent stream, which is the NYC DEC categorization of the proposed discharge

point, an unnamed stream located in the eastern portion of the project site. The Preliminary Discharge Effluent Limits as follows:

Parameter	Discharge Limit (per liter of effluent discharged)
BOD	5 mg/L, daily max
Dissolved Oxygen	7 mg/L, daily mx
Suspended Solids	10 mg/L, daily max
Settleable solids	0.1 ml/L, daily max
Ammonia as NH <sub>3</sub>	1.48 mg/L summer, 2.18 mg/L winter*, daily max or average
Chlorine Residual	0.03 mg/L, daily max
pH	6.5– 8.5, range
Coliform	200/400 per 100 ml, 7 consecutive day geometric mean (with disinfecting/without disinfecting)

*\*The Ammonia limits specified above are slightly lower than those included in Table B-4B Typical Effluent Limits for Intermittent Streams, page B-23, NYS Design Standards.*

In accordance with *NYS Design Standards*, an applicant seeking to discharge effluent from an onsite sewage treatment plant into an intermittent stream will only be issued a SPDES permit if it can be established that the treatment system as designed is capable of meeting the proposed effluent limitations. The sewage treatment plant proposed for the Polo Club has been designed to meet or exceed the proposed effluent limits with tertiary treatment, disinfection and aeration. A sampling manhole will be located after the aeration system to allow the operator to take samples for required testing. The treated wastewater being discharged into the onsite stream will be much cleaner than which is being discharged from nearby septic systems.

According to USGS "StreamStats", 50% of the time the flow in the stream at the discharge location exceeds 0.295 cubic feet per second. However, with regard to daily flow rates, stream flow statistics are not relevant to intermittent stream flow discharge limits as the limits are designed specifically for streams that are periodically dry and are not based on a percentage of flow within the stream.



**Comment #1: *Public Hearing Comment August 6, 2020, Bill Feder, 29 Rockwood Drive.*** When the permit standard for an intermittent stream is a percentage of or relates to the existing stream flow and there is no flow, what are the standards used for the permit?

**Response #1:** Intermittent stream effluent limits are not based on a percentage of existing stream flow. Intermittent stream effluent limits are set with the consideration that the stream below the discharge point will periodically have very little flow or go dry.

**Comment #2: *Public Hearing Comment August 6, 2020, Bill Feder, 29 Rockwood Drive.*** If the plant fails, the sewage will not be completely treated and will be discharged into an empty swale with no water dilution.

**Response #2:** The plant will be monitored daily by a licensed plant operator to ensure compliance with the discharge requirements. Should a problem occur, operator staff are trained in operating the plant and can make the necessary adjustment to the operation to ensure compliance. Should a mechanical failure occur the plant is equipped with redundant systems to ensure that it can continue to operate while repairs are made. The proposed plant will not have a by-pass or overflow weir, devices common in large municipal sewage treatment plants. Rather, the proposed treatment plant equipment consists of closed process vessels without by-passes. The primary treatment is a large, buried settling tank. The discharge from the primary tank will flow via gravity in a solid pipe to the secondary treatment unit (the SBR). The SBR is a buried large fiberglass enclosed tank. Discharge from the secondary treatment will be via pumps. The secondary treated water will be pumped to tertiary filtration treatment units. The filtration units are closed pressure vessels with the water passing through media prior flowing to disinfection.

**Comment #12: *Public Hearing Comment August 6, 2020, Planning Board Member Frank Galli.*** What is the cost to hook up a sewer line/trunk line up Union Avenue? What is the cost difference between the sewer plant and the trunk line, between the

maintenance of the plant or just hooking up to a trunk line and then there is no maintenance? The Applicant should provide a cost benefit analysis between the two alternatives.

**Response #12:**

Forcemain: An alternate method for treating effluent studied in the SDEIS is to pump the sewage through a an 8" sanitary sewer forcemain, to be constructed within the right of way in NYS Route 300, which would connect to the existing Town of Newburgh sewer system located in the area of Union Avenue and NYS Route 300.

The sanitary forcemain would include an additional 5,400 linear feet of forcemain offsite, an onsite pump station, flow meter, one or more air release manholes and reconstruction of the DOT ROW and/or shoulder. The construction costs associated with the sanitary forcemain are estimated to be approximately \$1.6 million.

In addition to the construction costs above, since the project is not located a Town of Newburgh sewer district, the applicant would be required to purchase sewer capacity from the Town through an outside user agreement. The current cost of purchasing sewer capacity is \$4,000 per unit, or an additional cost of \$968,000 (\$4,000 x 242 units).

Perhaps as important as the cost of the forcemain, is the fact that it is uncertain that 1) the applicant could secure the necessary approvals and permits and 2) obtain them within a reasonable time frame. It is estimated that it will take the applicant a minimum of between 1.5 to 2 years to obtain the required permits and approvals.

- First, the applicant would be required to get the Town Board's permission to connect to the existing sewer system. At this time, it is unclear if the Town would issue such permission since it is dealing with other landowners in the area who want sewer and are either proposing their own private forcemains or extending the sewer trunk line down NYS Route 300. A proposed extension to the Crossroads Sewer Trunk line has been in consideration for over 10 years now and the resolution of such proposal is not within sight.

- Once the local approvals are in place, the applicant could then apply to the DOT to construct/install the forcemain along NYS Route 300. The applicant's traffic consultant contacted NYSDOT in August 2020 to discuss the potential project and was advised of the following:
  - NYSDOT does not typically allow water, sewer, or gas to be installed under the travel lanes and preferable outside of the shoulder area, if the Right of Way is sufficient for such utilities. If the Right of Way does not permit, the applicant will be required to reconstruct the shoulder area after the utility is installed, to DOT specifications.
  - In the areas of the project site where the forcemain would be constructed, additional measures are required including the dedication of the land, which is an involved process and requires approval from the NYS Attorney General's office. This step alone typically takes between 9 and 12 months and under current conditions, could take as long as 15 months.
  - In those areas where the proposed forcemain crosses private property owned by others, the applicant would be required to obtain appropriate easements. The applicant attempted to obtain these easements previously during the permitting of the Driscoll/Polo Club application. While 4 easements were obtained, several other landowners were not amenable and even requests made by then Supervisor Wayne Booth went unheeded. As the applicant does not have the right of eminent domain, which can only be exercised by the municipality, inability to obtain all necessary easements would prohibit this process from moving forward.
  - Since the proposed forcemain would service an individual user, DOT would require a Use & Occupancy permit that allows the utility to function within the State Right-of-Way. The Use & Occupancy permit is processed through the NYSDOT Regional Real Estate Division and the Attorney General's office. The Use & Occupancy permit would also determine the user fee for occupying the State Right of Way, the cost of which is yet undetermined.

- Due to the traffic volumes along Route 300, a detailed Work Zone Traffic Control Plan would be submitted for approval, which would maintain traffic during the installation of the forcemain. The applicant would be required to pay for the additional police/DOT personnel required to maintain safety in this busy corridor.
- A PERM32 NYSDOT utility permit would be required as well as a PERM 33 Non-Utility permit, which is necessitated to conduct work within the State highway.
- All proposed work and repairs to the Right of Way would be required to be bonded.

In conclusion, the sanitary forcemain alternative is estimated to cost approximately \$2,568,000 plus DOT user fees, expenses relating to easements (attorneys, etc.), bonding and engineering and reviewing fees. In addition, the applicant would be required to pay for the ongoing maintenance and expenses related to the pump station. Maintaining the forcemain, which includes frequent cleaning remove solids and grease buildup, would be the responsibility of the Town of Newburgh and the costs of such maintenance would be the responsibility of the Town's taxpayers.

On Site Sewage Treatment Plant: The proposed sewage treatment plant, the applicant's preferred alternative, will be a newly constructed facility that is designed to the Ten States Standard, the same rigorous design standard that municipal wastewater treatment systems are required to meet. The Ten States Standard requires that the effluent be treated to a higher level in order to minimize to the greatest extent practicable any environmental impact.

As more fully discussed in Section 3.3 and Appendix D of the SDEIS, the proposed sewage treatment plant will include a buried primary settling tank for the removal of grit, solids and fat, oil and grease. The secondary treatment takes place in a sequencing batch reactor with extended aeration and activated sludge treatment. The third or tertiary treatment takes place in a third tank which contains a media filtration system. Finally, prior to discharge, the water from the tertiary system flows through an ultraviolet

radiation system and then into a tank with aerators which increases the dissolved oxygen content to permit minimums or greater. The water that is ultimately discharged into the intermittent stream is cleaner than water which is discharged every day from residential septic systems, and in many ways cleaner than the water that is discharged into the Hudson River by the City of Newburgh Wastewater Treatment Plant.

The sewage treatment plant will be privately owned with no obligation on the municipality to take it over if the plant fails. Unlike other sewage treatment plants in the area that were mentioned during the public hearing process, at Polo Club there will be no sewage treatment corporation and all financial obligations for the sewage treatment plant will be responsibility of the apartment complex owner and/or its mortgagee. Consequently, the Town and its residents will not have any financial obligation to take over or to remediate this privately owned facility.

The sewage treatment plant will require a NYS DEC SPDES permit. It generally takes approximately 4 to 9 months for DEC to review and issue the SPDES permit, assuming all permit requirements are met.

The wastewater treatment plant is expected to cost \$1,300,000 to construct plus engineering and review fees.

In conclusion, after extensive study, the applicant is proposing to pursue the sewage treatment plant alternative for the following reasons:

1. The environmental impact of the sewage treatment plant will be minimal given the requirement that the plant meet the Ten States Standard. The resulting effluent discharged to the intermittent stream will be as clean or cleaner than if the effluent is treated and discharged by the City of Newburgh sewage treatment plant.
2. The cost to construct the forcemain is more than twice the cost to construct the sewage treatment plant and this estimate does not include the additional DOT user fees and other fees outlined above.

3. The concerns that the plant will fail and the Town will be required to take it over are erroneous. The sewage treatment plant will be owned by a single entity which will be solely responsible for all costs and expenses relating to upkeep and maintenance of the sewage treatment plant. This situation is materially different from other plants in the area that are run by Transportation Corporations which require the Town to act in the event the plant fails.

The uncertainty of obtaining the approvals required for the forcemain may jeopardize the viability of the project. While it is fairly certain that if the sewage treatment plant is designed to meet DEC standards, the agency will issue the requisite SPDES permit. Alternatively, with respect to the forcemain, the numerous discretionary agency approvals and time required to pursue those approvals could result in the project losing the financial opportunities presently available including favorable interest rates and liquidity in the marketplace.

**Comment #13: *Public Hearing Comment August 20, 2020, Bill Feder, 29 Rockwood Drive.*** With respect to the cost analysis, in addition to the actual purchase of the plant and installation, all operation and maintenance costs should be included including chemicals/disposal, cost to operate on a daily basis, maintenance and repairs.

**Response #13:** The estimated monthly cost to operate the wastewater treatment plant is \$4,000.00 of which Chemicals is 5%, Disposal of Sludge is 15%, Energy is 10%, Maintenance is 15%, Personnel is 35% and Interest is 20%.

**Comment #14: *Public Hearing Comment August 20, 2020, Bill Feder, 29 Rockwood Drive.*** What's the life expectancy of the plant and what will happen at that point. Would it be upgraded or would the Town wind up assuming operation because the applicant doesn't continue with their responsibility.

**Response #14:** The tanks have 35 to 50-year life expectancies. Pumps and mechanical equipment have shorter life expectancies. The mechanical equipment will be repaired or replaced as needed. The sewage treatment plant will be owned by a single entity which

will be solely responsible for all costs and expenses relating to upkeep and maintenance of the sewage treatment plant. This situation is materially different from other plants in the area that are run by Transportation Corporations which require the Town to act in the event the plant fails.

**Comment #40:** *Pat Hines letter dated September 11, 2020.* The Sanitary Sewer Treatment Plant report identifies preliminary effluent limits from DEC dated April 1, 2020. Information pertaining to the DEC and the discharge rates should be identified.

**Response #40:** The Preliminary Discharge Effluent Limits for the proposed sewage treatment plant at Polo Club were provided by a NYSDEC Water Quality Engineer, Aparna Roy, via email on April 1, 2020, which has been included in Appendix E of this FSEIS. The daily discharge rate (design flow) submitted to the NYSDEC for their preliminary effluent limits was 37,150 gallons per day. Intermittent effluent limits are not based on discharge rates.

**Comment #41:** *Pat Hines letter dated September 11, 2020.* The information identifies a chlorine residual, however the design report identifies the use of ultraviolet treatment for disinfection.

**Response #41:** The Preliminary NYSDEC Effluents Limits always include a Daily Maximum Total Residual Chlorine whether or not this parameter is required. In this case, as the plant will include ultraviolet treatment for disinfection, there will be no chlorine residual.

**Comment #42:** *Pat Hines letter dated September 11, 2020.* The Earth Tech report included in the Waste Water Treatment Plant design identifies BOD at 250 ml per liter in the influent. Based on the use of water saving fixtures, this office has seen BOD's in the range of 300 – 400 for influent.

**Response #42:** An influent BOD of 250 mg/l is typical for untreated domestic wastewater. Values of 300 – 400 mg/l are generally seen in commercial and municipal flows which include restaurants and other high load producer as per:

- o Characteristics of Residential Wastewater

<https://www.app4water.com/characteristics-of-residential-wastewater/>

- o Consultation with Earth Tek Environmental Clean Water Solutions



# THE POLO CLUB

## Appendix A

### PH Transcripts



THE POLO CLUB

**Appendix A1  
Polo Club Public Hearing  
Transcript  
August 6 2020**



1  
2 STATE OF NEW YORK : COUNTY OF ORANGE  
3 TOWN OF NEWBURGH PLANNING BOARD

4 -----X  
5 In the Matter of:

6 POLO CLUB  
7 (18-12)

8 Route 300 and Jeanne Drive  
9 Section 39; Block 1; Lot 1 and 2.12  
10 R-3 Zone  
11 -----X

12 PUBLIC HEARING  
13 SDEIS

14 Date: August 6, 2020  
15 Time: 7:35 p.m.

16 Place: Town of Newburgh  
17 Town Hall  
18 1496 Route 300  
19 Newburgh, New York 12550

20 BOARD MEMBERS: JOHN P. EWASUTYN, Chair  
21 FRANK S. GALLI  
22 CLIFFORD C. BROWNE  
23 KENNETH MENNERICH  
24 STEPHANIE DELUCA  
25 DAVID DOMINICK

ALSO PRESENT: DOMINIC CORDISCO, ESQ., Board Counsel  
PAT HINES, P.E., Town Engineer  
GERRY CANFIELD, Code Enforcement

APPLICANT'S REPRESENTATIVE: ROSS WINGLOVITZ

Reported by: Kari L. Reed

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MICHELLE L. CONERO  
3 Francis Street  
Newburgh, New York 12550  
(845) 541-4163

## 1 Proceedings

2 CHAIR EWASUTYN: Our seventh item of  
3 business this evening is a public hearing for the  
4 SDEIS for the Polo Club, which is located on Route  
5 300 and Jeanne Drive, in an R-3 Zone. Engineering  
6 Properties will be discussing the project tonight.  
7 I'm going to turn the meeting over to Dominic  
8 Cordisco, Planning Board Attorney.

9 MR. CORDISCO: Thank you. Just give me  
10 one moment, please.

11 At this point I have started the audio  
12 on the Zoom meeting. And, once again, this is a  
13 hybrid meeting tonight, that there is a public  
14 portion for items that are not public hearings,  
15 which are being held here at Town Hall, and there  
16 is also a public hearing on the Polo Club  
17 Supplemental Draft Environmental Impact Statement,  
18 which, in accordance with the Governor's Executive  
19 orders, is being done solely remotely. So at that  
20 point, if I may, I'm going to read the Public  
21 Hearing Notice that Mr. Mennerich would normally  
22 be reading to the public.

23 CHAIR EWASUTYN: Thank you, please,  
24 Dominic.

25 MR. CORDISCO: Notice of Acceptance of

## Proceedings

1  
2 Draft supplemental Environmental Impact Statement  
3 as adequate for public and agency review, and  
4 Notice of Public Hearing. Please take notice that  
5 the Planning Board of the Town of Newburgh, Orange  
6 County, New York, will hold a public hearing on  
7 the site plan and Supplemental Draft Environmental  
8 Impact Statement pursuant to SEQRA for the  
9 application of the proposed Polo Club multi-family  
10 with senior housing bonus project. The public  
11 hearing will be held on the sixth day of August,  
12 2020, at the Town of Newburgh Town Hall, at which  
13 time all interested persons will be given an  
14 opportunity to be heard regarding the contents of  
15 the Supplemental Draft Environmental Impact  
16 Statement and the proposed plan. Due to public  
17 health and safety concerns related to COVID-19,  
18 the Planning Board will not be meeting in person.  
19 In accordance with the Governor's Executive Order  
20 202.15, the public may attend the August 6th  
21 Planning Board meeting via videoconference only,  
22 and a transcript will be posted on the Town's  
23 website at a later date. The public will have the  
24 opportunity to see and hear the meeting live and  
25 provide comments either during the public hearing

Proceedings

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portion of the meeting or by mail or email up to ten days following the closing of the public hearing. Written comments may be mailed to the address above, or preferably sent by mail, by email, to [planningboard@townofnewburgh.org](mailto:planningboard@townofnewburgh.org). Members of the public wishing to speak at the public hearing must do so via Zoom or by telephone. To use Zoom, the Zoom app must first be downloaded and installed on smartphones, tablets or computers. And the Zoom link is included as well as the meeting ID and password, as well as the telephone number.

The Polo Club multifamily housing with senior housing bonus, Planning Board Project number 2018-12, is located off of New York State Route 300, south of Jeanne Drive in the Town of Newburgh, on property designated on the Town's tax maps as Section 39, Block 1, Lots 1 and 2.12. The project is a proposed 242 multifamily apartment complex, with 27 of the units being designated for seniors. The project proposes two alternatives for sanitary sewer treatment, including an on-site sewage treatment plant for conveyance of the sanitary effluent to the existing Town of Newburgh

1 Proceedings

2 collection system. Water supply will be provided  
3 by the Town of Newburgh municipal water system.  
4 The project is located in the Town's R-3 zoning  
5 district, which permits six units per acre. The  
6 project is seeking a senior density bonus, which  
7 allows up to nine units per usable acre. A  
8 minimum of one-third of the additional units must  
9 be designated for senior housing.

10 Copies of the Supplemental Draft  
11 Environmental Statement and site plans can be  
12 viewed online at the Town's website or at  
13 [www.eppc.com](http://www.eppc.com), or at the office of the Planning  
14 Board or at the Newburgh Free Library.

15 At this point I will be turning the  
16 mute off for participants who are here by Zoom.  
17 We ask that the participants identify themselves  
18 for the record.

19 You should know that this is not a  
20 question and answer session. All questions and  
21 comments that you may have are being recorded, and  
22 everything will be responded to in a Final  
23 Environmental Impact Statement, which will be  
24 considered by the Planning Board at later time.  
25 If you agree with a comment that someone else made

1 Proceedings

2 previously, please say so rather than repeating  
3 the comment.

4 By order of the Town of Newburgh  
5 Planning Board.

6 So with that, Mr. Chairman, if it's all  
7 right I would like to start to turn -- there are  
8 several participants here, I'm not sure if they  
9 all wish to speak, but I would like to start  
10 opening it up to the public at this time.

11 CHAIR EWASUTYN: Is there anyone here  
12 that would like to speak?

13 (No response.)

14 CHAIR EWASUTYN: Okay, let the record  
15 show that there is no one here that would like to  
16 speak. At this point we'll turn the meeting over  
17 to Engineering Properties & Surveying.

18 MR. CORDISCO: Mr. Chairman, I'm  
19 talking about on Zoom.

20 CHAIR EWASUTYN: Oh, I'm sorry, I'm  
21 sorry.

22 MR. CORDISCO: I have not unmuted the  
23 people on Zoom yet.

24 MR. HINES: Do we want to have the  
25 applicant do a presentation before they speak?



1 Proceedings

2 CHAIR EWASUTYN: Normally we would.

3 MR. CORDISCO: But the problem is that  
4 they wouldn't be able to see it.

5 MR. HINES: They'll hear it.

6 MR. CORDISCO: That's correct. Nor may  
7 they not hear it if they're across the room.

8 MR. HINES: Yeah.

9 CHAIR EWASUTYN: Okay.

10 MR. CORDISCO: All right, at this point  
11 there's an individual identified as Bill Dencker.  
12 I am asking you to unmute. Mr. Dencker, if you  
13 would like to speak, now would be your  
14 opportunity.

15 (No response.)

16 MR. CORDISCO: Moving on, there's an  
17 individual named Jeffrey Dobrinsky.

18 (No response.)

19 MR. CORDISCO: There are several other  
20 people that are here. So, with that said,  
21 Mr. Bill Feder is being asked to be unmuted.

22 I'm sorry, we cannot hear you.

23 MR. HINES: I have an email from  
24 Mr. Feder.

25 MR. CORDISCO: Okay. I understand

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that, but we're not actually able to hear him at this time.

MR. GALLI: Do you want to read it?

MR. FEDER: Probably not. John, can you hear me, John Ward?

MR. CORDISCO: Actually, we can hear you now, Mr. Feder.

MR. FEDER: Oh, thank you very much. Thank you very much. I'd like to -- it's Bill Feder, 29 Rockwood Drive. And I'd like to talk about the options for the wastewater treatment.

The existing -- with the plant that's proposed, the existing stream for discharge is not much more than a dry swale in the area of this property. I was out there just this afternoon, and looking for, at least what I could see from Jeanne Drive, there's no water course at the beginning of this stream or creek or whatever they may want to call it. I even went all the way down to Gardnertown Road by Abbott Mills there where the stream empties out, and it's not much more than a trickle at this point. And the applicant knows, is aware of this being an intermittent stream because in the EIS his discharge said we'll

## Proceedings

1  
2 comply with the intermittent stream requirements.  
3 That's all well and good, but when there's no flow  
4 at all, we have no dilution for what's coming into  
5 the stream. And some of the requirements in the  
6 SPDES application are comparative, they're not  
7 absolute, they're not limited, such as phosphorous  
8 is one milligram per liter I think it is, it may  
9 be less than that. But others, total dissolved  
10 solids are no more than 500 parts per million in  
11 excess of the background of the stream that it's  
12 feeding. Well, we have no stream, so what limit.

13 Same with temperature, water

14 temperature. They have to maintain one or two  
15 #1 degrees plus or minus the stream that's flowing.  
16 well, there is no stream. What numbers do we use?  
17 If the plant fails then we potentially have, maybe  
18 #2 not raw sewage, but not completely treated sewage  
19 going down an empty swale with no water dilution  
20 at all.

21 There's growing evidence in the area  
22 too with other similar SPDES operations, two right  
23 in the northern part of the Town of Newburgh, that  
24 are discharging directly into streams that feed  
25 Orange Lake that are seemingly contributing to the

## Proceedings

1  
2 alga growth in Orange Lake. Another in New  
3 Windsor which feeds Browns Pond has been  
4 questionable from -- by the City of Newburgh,  
5 investigation by the City of Newburgh and  
6 Riverkeeper. That letter is on file and hopefully  
7 the Town was copied on that back earlier this  
8 year.

9           So with that I'd just like to put in a  
10 plug to dig a trench for four or five thousand  
11 feet, whatever it is, pay the cost upfront and not  
12 have to worry about long term maintenance of this  
13 thing, operational costs, chemical disposal,  
14 potential failures, whatever else. If the  
15 applicant really cares about the future of the  
16 environmental quality of the streams in town, I  
17 think they should consider the direct connect.

18           So I said my piece. I'm really  
19 discontent that the rest of the meeting was muted.  
20 That's not fair to shut out the public, and I  
21 think more should be said about that. Thank you,  
22 have a good night.

23           MR. CORDISCO: Thank you, Mr. Feder.

24           MR. FEDER: I don't know if anybody --

25           MR. CORDISCO: All right. So there's

1 Proceedings

2 also someone here with the name Robert's iPhone.

3 MR. GEIGER: No questions or comments  
4 from me. Thank you.

5 MR. CORDISCO: Could you please  
6 identify yourself?

7 MR. GEIGER: My name is Robert Geiger.

8 MR. CORDISCO: Thank you very much.

9 There is also a T. Danker. Hello?

10 MR. DENCKER: Yes, hi. This is Bill  
11 Dencker. I had a little difficulty getting on.  
12 From Gardnertown Farm and Polo in Newburgh. Can  
13 you hear me?

14 MR. CORDISCO: Yes.

15 MR. DENCKER: Can you hear me all  
16 right?

17 MR. CORDISCO: Yes, we can,  
18 Mr. Dencker, yes, thank you.

19 MR. DENCKER: I had a couple of  
20 (#3) comments about the project. We've been here, I  
21 don't know, 42 years, and we have Gardnertown Polo  
22 for 30 years. And it's concerning to me the name  
23 that they're using. As a polo club I'm not happy  
24 with it at all. After establishing a club that's  
25 nationally known for 30 years, as you could

1 Proceedings

2 understand. So I just want to make that point  
3 because I think that's important.

4 And I think I'm a little concerned  
5 about it being so close to us, and we deal with  
6 **#4** horses daily, and, you know, there's smells and  
7 dust and we have horse shows and PA systems. So I  
8 don't want someone to come up, you know, four  
9 years from now, oh, you can no longer do that for  
10 this reason, because we've done it here for 42  
11 years.

12 And that's, that's the points that I  
13 would want to place.

14 MR. CORDISCO: Thank you, Mr. Dencker.

15 Once again, there's a Jeffrey Dobrinsky  
16 that is here.

17 MR. DOBRINSKY: This is Mr. Jeff  
18 Dobrinsky. I have no comments.

19 MR. CORDISCO: Thank you.

20 There's someone identified as Yvonne.

21 MS. PHILLIPS: Hi. Yvonne. I live  
22 **#5** directly across the street from where the  
23 development will be. I'm just concerned about the  
24 traffic that will be coming into the area.

25 MR. CORDISCO: Ma'am, would you mind

1 Proceedings

2 providing your last name for the record, please?

3 MS. PHILLIPS: My name is Yvonne  
4 Phillips. I'm at 1593 Route 300.

5 MR. CORDISCO: Thank you. Do you have  
6 any additional comments, ma'am?

7 MS. PHILLIPS: That's it for now.

8 MR. CORDISCO: Thank you.

9 In addition there are two people that  
10 have called in solely by phone, so I'd like to  
11 unmute them now as well. There's someone that  
12 called --

13 MR. CORBETT: Hello.

14 MR. CORDISCO: -- with a telephone  
15 number 2489. Could you please identify yourself  
16 if you'd like to speak?

17 MR. CORBETT: Yeah. That's me, it  
18 would be John Corbett at 9 Gargoyle Lane, directly  
19 across from the complex they want to put in.

20 MR. CORDISCO: Okay, Mr. Corbett. If  
21 you --

22 MR. CORBETT: Hello?

23 MR. CORDISCO: Yes, thank you, we can  
24 hear you. If you would like to provide your  
25 comments, you may do so now.

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## Proceedings

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MR. CORBETT: Okay. My comment is that

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the state road that's out there is set up so all

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the water flow that comes down comes to the

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Gargoyle side from Jeanne Drive on down. The road

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was improperly put when the town turned it over to

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the state and the state done nothing about it. I

8

don't know if they're going to do anything to kind

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of fix that problem a little bit, because there is

10

no crown in the road.

11

Also, is there going to be an entrance

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lane put in on the north side so that it doesn't

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impact traffic anymore than it is? Traffic is

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terrible here as it is. Have they done a traffic

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study lately? And also, at one time they were

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talking about putting a traffic light in. Is that

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still under investigation to put one at Jeanne

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Drive, or what are they going to do so that we're

19

able, as residents in this area, to get in and out

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of our driveway, whether it be we go to the left

21

or the right.

22

MR. CORDISCO: Thank you, sir. Do you

23

have any additional comments?

24

MR. CORBETT: Nothing else at the

25

moment that I can come up with, you know. My



1 Proceedings

2 biggest concern is the traffic.

3 MR. CORDISCO: Thank you, sir.

4 with that we'll be moving on to the  
5 last person that has attended, and that is also a  
6 person by telephone, with the numbers 2138. would  
7 you please identify yourself for the record?

8 MR. DENCKER: 2138, that would be my  
9 house line. I called up on two different lines.

10 MR. CORDISCO: Ah. Understood. Thank  
11 you, Mr. Dencker.

12 MR. DENCKER: Yeah, thank you.

13 MR. CORDISCO: With that said, it is  
14 now 7:51, Mr. Chairman. Everyone who has attended  
15 by Zoom has been given the opportunity to speak.

16 CHAIR EWASUTYN: Dominic, I'm not sure  
17 of this, do we now turn to the Planning Board  
18 members if they have any comments or --

19 MR. CORDISCO: You most certainly may.  
20 We also discussed the fact that the power outage  
21 has affected various different things, including  
22 here.

23 CHAIR EWASUTYN: Why don't we take the  
24 Planning Board members first and then we'll talk  
25 about the August 20th extension.

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MR. CORDISCO: Certainly.

CHAIR EWASUTYN: Okay? That way we kind of did a full circle from A to B.

MR. CORDISCO: Understood. But for the purpose, I just want to mention one thing, for the purposes of the people that are attending via Zoom, we are not set up here to broadcast the meeting fully for the public to participate in. So the public cannot see what is occurring in the room, nor may they be able to hear. I will certainly leave it on unmuted at this point, but it's not the intention of this Zoom meeting to provide a full public access to this meeting. The purpose of this Zoom meeting was solely to allow for the public to provide their comments on the Supplemental Draft Environmental Impact Statement, and that was being done to make sure that we were fully in compliance with the Governor's Executive Order. That said, I just want to be clear for everyone, because if you're not able to hear the Town Board, the Town Planning Board members' comments, it is not -- it was not designed to be a portion of this meeting.

CHAIR EWASUTYN: Thank you.

1 Proceedings

2 Stephanie DeLuca, do you have any  
3 comments at this point?

4 MS. DeLUCA: Well, on the -- two of the  
5 public members had mentioned two of the factors  
6 #10 that I was most concerned about, one being the  
7 environmental and one also the traffic. From the  
8 very beginning I was concerned about the capacity  
9 on that road being rather -- just rather large.  
10 And just, I've just been very concerned about  
11 that, and also the environmental conditions. And  
12 so I just wanted to echo that as well.

13 CHAIR EWASUTYN: Okay.  
14 Dave Dominick?

15 MR. DOMINICK: Just taking off of  
16 Mr. Feder's comments with the trench and the  
17 wastewater, any comment on that and the sewage?

18 MR. WINGLOVITZ: In response to his  
19 comments?

20 MR. DOMINICK: Yes.

21 MR. WINGLOVITZ: We'll provide a --  
22 we'll provide a full written response to that in  
23 the EIS. But the DEC has specific standards in  
24 consideration of that flow, and they're called  
25 intermittent stream standards for that reason.

## Proceedings

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2 And it's the highest quality tertiary treatment is  
3 required for the treatment plant. So it's treated  
4 once, twice, and then a third time it's filtered  
5 before it's discharged, and then it's also  
6 potentially oxygenated, depending on what the  
7 requirements are. That will be fully vetted as we  
8 go through the DEC's detailed review process. So  
9 they have issued a draft SPDES permit for us so  
10 that we can at least get the design parameters for  
11 the plant down at this point.

12 MR. DOMINICK: Thank you.

13 CHAIR EWASUTYN: Cliff Browne.

14 MR. BROWNE: I believe all the comments  
15 that were addressed by the public have already  
16 been involved or a good part of the environmental  
17 study that will be in place, and at this point I'm  
18 okay with going forward with what we have there.

19 CHAIR EWASUTYN: Okay.

20 Ken Mennerich.

21 MR. MENNERICH: Concerning traffic, in  
22 #11 the summary, the summary statement indicates that  
23 really there's no difference between the build and  
24 not build. And the only thing that's being  
25 proposed is some traffic modifications on 300, 32

## 1 Proceedings

2 and 300 -- Route 300 and Gardnertown, and the  
3 Route 300 and Route 52 intersection. And that was  
4 to reduce wait times. I guess in the final report  
5 I would like to see more detail on that, because  
6 it just is not intuitive for somebody that lives  
7 in this area and travels these roads in the  
8 conclusion.

9 CHAIR EWASUTYN: Frank Galli.

10 #12 MR. GALLI: I just have a concern with  
11 the sewer treatment plant. And I know this  
12 project has been around a long time, and we have  
13 discussed different options. And we keep coming  
14 back to the sewer treatment plant, and I'm sure it  
15 all have to do with costs. But bringing up what  
16 Bill Feder just said about the -- it has to get  
17 discharged into a stream that doesn't exist. I  
18 mean, there's other options out there. I don't  
19 know what the cost is to hook up to a sewer line  
20 or run a sewer trunk line up Union Avenue, you  
21 know, the road up there. I don't know what the  
22 cost difference is between the sewer plant and  
23 that type of thing, between the maintenance or  
24 just hooking up to a sewer trunk line and then  
25 there's no maintenance as far as compared to a

1 Proceedings

2 sewer treatment plant. And that's my only  
3 concern, if it's been looked at really well and  
4 the cost has been put down on paper and the cost  
5 difference, and I'm sure it has, but it's maybe  
6 something you might want to consider, you know.  
7 We're in the 21st century here, so sewer treatment  
8 plants, I don't know, a sewer out front that you  
9 can really run a line up and stuff, so.

10 MR. HINES: Frank, you're looking for a  
11 cost-benefit analysis between the two  
12 alternatives?

13 MR. GALLI: Yes.

14 MR. HINES: To be included in the FEIS?

15 MR. GALLI: Yeah.

16 CHAIR EWASUTYN: Gerry Canfield, do you  
17 have anything to add?

18 MR. CANFIELD: Nothing additional.

19 CHAIR EWASUTYN: Okay. At this point  
20 we'll turn the meeting back over to Dominic  
21 Cordisco. Dominic.

22 MR. CORDISCO: Thank you, Mr. Chairman.  
23 One of the difficulties tonight is due to the  
24 power outages that have affected us after Tropical  
25 storm Isaias. There is no internet service here

## 1 Proceedings

2 at Town Hall, so one of the things that we've had  
3 to do is run the meeting off of my cell phone,  
4 which is a somewhat limiting factor. There's also  
5 existing outages that are continuing through the  
6 Town. Ken Worstead had sent me a copy of the  
7 current outages, and there is a number of  
8 neighborhoods that are still without power at this  
9 time. And since this was a public hearing  
10 intended for people within the Town of Newburgh,  
11 and it was being solely virtually, it is  
12 conceivable that there are people that were not  
13 able to participate simply because they either  
14 didn't have power or, like us here at Town Hall,  
15 we have power but we have no internet service. So  
16 as a result my recommendation would be that this  
17 public hearing be held open for and carried over  
18 to the Board's next Planning Board meeting, which  
19 would be on August 20th.

20 CHAIR EWASUTYN: Thank you.

21 Can I have a motion from the Planning  
22 Board to extend the written comment and public  
23 hearing to the 20th of August?

24 MR. GALLI: So moved. To keep it open,  
25 right?

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CHAIR EWASUTYN: Yes.

MR. CORDISCO: Yes. To clarify that, this would be to keep the public hearing portion open.

MR. GALLI: Yes.

MR. CORDISCO: But public comment, written public comment would be accepted as per SEQR regulations for up to ten days following the closure of the public hearing, whenever that may be.

MR. GALLI: So moved.

MR. MENNERICH: Second.

MR. DOMINICK: I second that.

CHAIR EWASUTYN: I have a motion by Frank Galli, I have a second by Ken Mennerich. I'll ask for a roll call vote starting with Stephanie DeLuca.

MS. DeLUCA: Aye.

MR. DOMINICK: Aye.

MR. GALLI: Aye.

MR. MENNERICH: Aye.

CHAIR EWASUTYN: Aye.

MR. BROWNE: Aye.

CHAIR EWASUTYN: The motion carries.



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Are we finished with this for now?

MR. CORDISCO: That's it for now.

CHAIR EWASUTYN: Ross, thank you.

MR. WINGLOVITZ: Thank you very much.

CHAIR EWASUTYN: Pat, Ross asked me  
outside of the meeting, did you have written  
comments? He didn't receive them.

MR. HINES: We will be providing those  
to him within the time frames, but we wanted to  
get a handle on the public input as well. But we  
will be providing written comments prior to the  
closing of the public comment period.

CHAIR EWASUTYN: Thank you.

Ross?

MR. WINGLOVITZ: Okay.

(Time noted: 8:00 p.m.)

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C E R T I F I C A T E

STATE OF NEW YORK            )  
  ) SS:  
COUNTY OF ORANGE            )

I, KARI L. REED, a Shorthand Reporter  
(Stenotype) and Notary Public with and for the  
State of New York, do hereby certify:

I reported the proceedings in the  
within-entitled matter and that the within  
transcript is a true record of such  
proceedings.

I further certify that I am not  
related, by blood or marriage, to any of the  
parties in this matter and that I am in no way  
interested in the outcome of this matter.

IN WITNESS WHEREOF, I have hereunto set  
my hand this 23rd day of August, 2020.

*Kari Reed*  
\_\_\_\_\_  
KARI L. REED

THE POLO CLUB

**Appendix A2**  
**Polo Club Public Hearing**  
**Transcript**  
**August 20 2020**



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STATE OF NEW YORK : COUNTY OF ORANGE  
TOWN OF NEWBURGH PLANNING BOARD

----- X

In the Matter of

POLO CLUB  
(2018-12)

Route 300 & Jeanne Drive  
Section 39; Block 1; Lots 1 & 2.12  
R-3 Zone

----- X

CONTINUATION OF PUBLIC HEARING

Date: August 20, 2020  
Time: 7:09 p.m.  
Place: Town of Newburgh  
Town Hall  
1496 Route 300  
Newburgh, NY 12550

BOARD MEMBERS: JOHN P. EWASUTYN, Chairman  
FRANK S. GALLI  
CLIFFORD C. BROWNE  
STEPHANIE DeLUCA  
DAVID DOMINICK  
JOHN A. WARD

ALSO PRESENT: DOMINIC CORDISCO, ESQ.  
PATRICK HINES  
GERALD CANFIELD

APPLICANT'S REPRESENTATIVE: ROSS WINGLOVITZ, JAYNE  
WEINBERG & DAVID WEINBERG

----- X

MICHELLE L. CONERO  
3 Francis Street  
Newburgh, New York 12550  
(845) 541-4163

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POLO CLUB

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CHAIRMAN EWASUTYN: Our next item is the Polo Club. It's a continuation of a public hearing on an SDEIS. It's located on Route 300 and Jeanne Drive in an R-3 Zone. It's being represented by Engineering & Surveying Properties.

At this point we'll turn the meeting over to Dominic Cordisco, Planning Board Attorney.

MR. CORDISCO: Thank you, Mr. Chairman. I've begun the Zoom meeting for the public hearing portion of tonight's meeting. There are two attendees on the Zoom meeting. If it's all right with the Board, I would like to re-read the public hearing notice.

CHAIRMAN EWASUTYN: Go ahead.

MR. CORDISCO: This is the notice of acceptance of the Draft Supplemental Environmental Impact Statement as adequate for public and agency review and notice of public hearing. Tonight I should note that this is a continuation of the previously opened public hearing and this is the public hearing notice.

Please take notice that the Planning

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POLO CLUB

Board of the Town of Newburgh, Orange County, New York will hold a public hearing on the site plan and the Supplemental Draft Environmental Impact Statement pursuant to 6NYCRR Part 617 (SEQRA) for the application of the proposed Polo Club multi-family senior housing bonus project. The public hearing will be held on the 6th day of August 2020 and then yet again on Thursday, August 20th, which is tonight, at the Town of Newburgh Town Hall at which time all interested persons will be given an opportunity to be heard regarding the contents of the Supplemental Draft Environmental Impact Statement and the proposed site plan. Due to public health and safety concerns relating to COVID-19, the Planning Board will not be holding the public hearing in person. In accordance with the Governor's Executive Order 202.15, the public may attend the Planning Board hearing via videoconference only, and a transcript will be posted on the Town's website at a later date. The public will have the opportunity to see and hear the meeting live and provide comments either during the public hearing portion of the meeting or by mail or e-mail

1 within ten days following the close of the public  
2 hearing. Written comments may be mailed to the  
3 address above or preferably sent by e-mail to  
4 [planningboard@townofnewburgh.org](mailto:planningboard@townofnewburgh.org). Members of the  
5 public wishing to speak at the public hearing  
6 must do so via Zoom or by telephone. To use  
7 Zoom, the Zoom app must first be downloaded and  
8 installed on smart phones, tablets or computers  
9 from [zoom.us](http://zoom.us), and the meeting info for tonight's  
10 meeting is included. And then the hearing notice  
11 goes on that the public -- the Polo Club multi-  
12 family housing with senior housing bonus, project  
13 number 2018-12, is located off of New York State  
14 Route 300, south of Jeanne Drive, in the Town of  
15 Newburgh on property designated on the Town's tax  
16 map as Section 39, Block 1, Lots 1 and 2.12. The  
17 project is a proposed 246 multi-family apartment  
18 complex with 27 of the units being designated for  
19 seniors. The project proposes two alternatives  
20 for sanitary sewer treatment including an on-site  
21 sewage treatment plant or conveyance of the  
22 sanitary effluent to the existing Town of  
23 Newburgh collection system. Water supply will be  
24 provided by the Town of Newburgh municipal water  
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POLO CLUB

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system. The project is located in the Town's R-3 Zoning District which permits 6 units per acre. The project is seeking a senior density bonus which allows up to 9 units per usable acre. A minimum of one-third of the additional units must be designated for senior housing. Copies of the Supplemental Draft Environmental Impact Statement and site plan can be viewed online at townofnewburgh.org, or at eppc.com, or at the office of the Planning Board or the Newburgh Free Library. By order of the Town of Newburgh Planning Board.

With that said, I believe that we have two attendees on Zoom, and so with the Board's permission I'll unmute them now.

Mr. Fetter.

MR. FETTER: Yes. Good evening. How are you?

MR. CORDISCO: Good, thank you.

MR. FETTER: Pursuant to the last meeting, I couldn't hear the comments from the Board but I believe there was a cost analysis requested of the applicant weighing wastewater treatment plant versus the connection to the



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municipal waste system. I just want to make sure that, you know, in addition to the actual purchase of the plant and installation, that all operation and maintenance costs are included in that, including chemicals/disposal, cost to operate on a daily basis, maintenance and repairs. In addition, what's the life expectancy of the plant and what will happen at that point. Would it be upgraded or would the Town wind up assuming operation because the applicant doesn't continue with their responsibility. That's happened a few times that I'm aware of over the years in the Town. We're now operating sewer/wastewater treatment plants that were originally private. Just food for thought.

#14

In addition, I don't think the Board is mandated -- I don't know this for legal reasons. For legal cause, I don't think the Board is mandated to consider cost when looking at some sort of reparation for potential environmental damage.

I think that's all I have to say. I'm glad we at least got to hear this part of the meeting. Thank you. Good night.

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MR. CORDISCO: Thank you.

There's an additional person attending the meeting who hasn't identified themselves.

They can unmute now if you'd like to speak.

MR. WARD: Hello. It's John. I'm sorry.

MR. CORDISCO: Thank you, John. I appreciate that. I did not recognize the name.

MR. WARD: I'm sorry.

MR. CORDISCO: No, no. It's not your fault. Thank you very much.

CHAIRMAN EWASUTYN: Questions or comments from Planning Board Members? Frank.

MR. GALLI: Did they do the cost analysis that we asked for?

MR. WINGLOVITZ: Not yet. That will be done as part of the response to the comments.

MR. GALLI: Okay. That's the only question I have.

CHAIRMAN EWASUTYN: Stephanie?

MS. DeLUCA: No.

CHAIRMAN EWASUTYN: No comment.

Cliff Browne?

MR. BROWNE: Nothing additional. I

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expect to see a volume of information. We'll see.

CHAIRMAN EWASUTYN: Dave Dominick?

MR. DOMINICK: Nothing additional.

CHAIRMAN EWASUTYN: Jerry Canfield?

MR. CANFIELD: I have nothing additional.

CHAIRMAN EWASUTYN: Pat Hines?

MR. HINES: My office will be providing written comments within the timeframe for the applicant to address. We will be including the issues that we heard from the public as well as technical comments that my office has on various parts of the SDEIS.

CHAIRMAN EWASUTYN: David, do you have anything to add?

MR. WEINBERG: No.

CHAIRMAN EWASUTYN: Jayne?

MS. WEINBERG: No.

CHAIRMAN EWASUTYN: Dominic?

MR. CORDISCO: At this point, Mr. Chairman, you may want to consider closing the public hearing subject to the receipt of additional written comments. As per the public hearing notice, comments would be received up to

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ten days following the posting of the minutes. That will be the minutes for both meetings since this was a two-day public hearing. Written comments can be submitted either by e-mail or sent by mail to the Town Hall. That in connection with Mr. Hines providing technical comments on behalf of the Board would close out the public comment period on the Supplemental Draft Environmental Impact Statement.

It is not the end of the process, however. Looking ahead, the applicant would be responsible for preparing an initial draft of the Final Supplemental Environmental Impact Statement. That would be a response to comments along with any additional technical information or the cost analysis that's been requested, and anything else that would be needed in order for the Board to ultimately evaluate the environmental impacts associated with the project.

CHAIRMAN EWASUTYN: Would someone move for a motion to close the public hearing on the --

MR. BROWNE: So moved.

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MR. DOMINICK: Second.

CHAIRMAN EWASUTYN: Subject to the conditions in the outline that was presented by Planning Board Attorney Dominic Cordisco.

I have a motion by Cliff Browne. I have a second by Dave Dominick. Any discussion of the motion?

(No response.)

CHAIRMAN EWASUTYN: I'll ask for a roll call vote starting with Frank Galli.

MR. GALLI: Aye.

MS. DeLUCA: Aye.

MR. BROWNE: Aye.

MR. DOMINICK: Aye.

CHAIRMAN EWASUTYN: Aye.

MR. CORDISCO: Thank you all. That ends tonight's Zoom portion of the meeting, so I'll turn that off now.

(Time noted: 7:18 p.m.)

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C E R T I F I C A T I O N

I, MICHELLE CONERO, a Notary Public  
for and within the State of New York, do hereby  
certify:

That hereinbefore set forth is a  
true record of the proceedings.

I further certify that I am not  
related to any of the parties to this proceeding by  
blood or by marriage and that I am in no way  
interested in the outcome of this matter.

IN WITNESS WHEREOF, I have hereunto  
set my hand this 27th day of August 2020.

*Michelle Conero*

---

MICHELLE CONERO

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THE POLO CLUB

## Appendix B

# Written Comments





THE POLO CLUB

# Appendix B1

**Kala Review Letter  
June 11 2020**



# KALA

Karen Arent Landscape Architect

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## Memorandum

**To:** Chairman John Ewasutyn and the Town of Newburgh Planning Board

**From:** Karen Arent, Landscape Architect

**Date:** June 11, 2020

**Subject:** The Polo Club Landscape Plans dated May 15, 2020

**Town Project Number:** 2018-12

**Consultant:** Engineering Properties

**Cc:** Pat Hines, Dominick Cordisco, Gerald Canfield, Ross Winglovitz, Scott Manley

## COMMENTS:

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- # 15 1. Sixty-three Pin Oaks are specified. No other hardwood species or large growing shade trees are specified. There should be diversity for both ecological and longevity concerns. Trees should be native and hardy.
- # 16 2. Wherever there is less than 40' of existing wood area to remain along Route 300, dense screening should be proposed.
- # 17 3. A staggard single row of White Pines are shown spaced over 20' apart and Red Cedar Junipers are spaced approximately 10' apart. It will take quite a long time before screening is achieved. The consultant should add vegetation to provide more immediate screening. Additional vegetation could include thick growing large shrubs, pioneer species of trees that grow quickly and die when shaded, additional evergreen trees, etc. A thick, dense, layered screen planting should be proposed.
- # 18 4. Additional large growing deciduous trees should be proposed to shade parking areas. At least one tree per every 10 spaces must be proposed.
- # 19 5. Show large shade trees between parking aisles instead of Dogwoods.
- # 20 6. Many small trees are shown along edges of the road. It would be great to see larger growing street trees and more street trees. On subdivisions, street trees must be shown every 40' to help soften the streetscape and provide environmental and ecological benefits. This development should follow a similar large tree placement.
- # 21 7. Dogwoods are shown 20-25' from the façade of the building. It would be great to see two larger growing trees or if small trees are desired, a robust, hardy trio of trees would make more of an immediate impact than just two small trees. It

---

12 Old Minisink Trail, Goshen, New York 10924

Phone (845) 294-9958, Fax (845) 294-6546, Email: KALA@hvc.rr.com

Comments for The Polo Club  
Dated June 11, 2020 continued

- would be great to use large growing trees that grow over and shade asphalt areas to reduce the heat of this heavily paved and roofed landscape.
- # 22 8. In addition to screening along Route 300, street trees should be proposed at least every 40'. If space doesn't allow for street trees and screen planting, show smaller deciduous trees. Approximately one street tree for every 40 linear feet of road should be proposed.
- # 23 9. Provide some screen planting between the commercial uses on the north property line.
- # 24 10. A planting area of only 2-3' is shown in front of gravel along large sections of the facades of the buildings. In my opinion, a thicker planting area should be shown to allow softening of the buildings.
- # 25 11. Please show thick, layered plantings in fronts of the buildings so that the planting is lush and full. In some locations, few plants are shown or large plants are shown without anything close to or under them. For example, two Leatherleaf Viburnums are shown without shrubs or groundcovers nearby. Pack these areas with groundcovers, similar to the planting proposed in the median. Add smaller shrubs closer to the Viburnums. This will help soften and create an aesthetically pleasing landscape along the façade.
- # 26 12. At the end of buildings and between sidewalks near the entrances to buildings, there are no plants and just black areas. Please show planting in all spaces where pavement or buildings are not proposed.
- # 27 13. Dogwoods are shown in wide parking islands between garages. Dogwoods are not particularly hardy in this area and even the disease resistant varieties suffer from anthracnose. Please choose a tougher, more urban tolerant trees for these locations.
- # 28 14. Mugo Pines suffer from a particular caterpillar and must be sprayed to remain robust and healthy. Please consider a shrub that requires less maintenance.
- # 29 15. Please consider planting along the rear façade to help provide the feeling of privacy between units.
- # 30 16. Trees should be shown between the buildings and the storm water management areas to help the site blend better with the existing natural environment, to provide wildlife habitat, shade buildings, replace some of the many trees that will be removed, etc. The whole site needs more large growing trees, whether along the roads, parking areas, between and behind buildings, etc.
- # 31 17. The symbol SyrKim (likely Miss Kim Lilac) is shown on the plan but not the plant list.

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## Appendix B2

# McGoey Hauser Review Letter Sept 11 2020



THE POLO CLUB

# Appendix C

## Landscaping Plans

**E**NGINEERING  
& SURVEYING  
**P**ROPERTIES  
*Achieving Successful Results  
with Innovative Designs*

# THE POLO CLUB

**Please See Attached  
Plan Set**



# THE POLO CLUB

## Appendix D

### SWPPP



# STORMWATER POLLUTION PREVENTION PLAN

**FOR**

**THE POLO CLUB**

**NYS ROUTE 300**

**TOWN OF NEWBURGH  
ORANGE COUNTY, NEW YORK**

**PREPARED BY**  
**ENGINEERING  
& SURVEYING  
PROPERTIES**  
*Achieving Successful Results  
with Innovative Designs*  
**71 Clinton Street  
Montgomery, NY 12549**

**MAY 2020  
Revised SEPTEMBER 2020**



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## 1.0 INTRODUCTION

Engineering & Surveying Properties, PC (EP) prepared this report summarizing the impact of the proposed development of the property, known as The Polo Club will have on downstream properties and receiving wetlands.

### 1.1 PURPOSE

The purpose of the Stormwater Pollution Prevention Plan (SWPPP) is to:

- a. Maintain existing drainage patterns as much as possible and continue the conveyance of upland watershed runoff;
- b. Mitigate increases in stormwater runoff resulting from the proposed development without adversely affecting downstream conditions;
- c. Mitigate potential stormwater impacts, and prevent soil erosion and sedimentation resulting from stormwater runoff.

### 1.2 SCOPE

The scope of the SWPPP for The Polo Club project described herein is as follows:

- a) Describe and estimate existing stormwater runoff conditions;
- b) Describe and estimate proposed stormwater runoff conditions;
- c) Describe and evaluate stormwater management facilities planned as part of the proposed development.

## 2.0 PROJECT DESCRIPTION

The project site is ±36.23 acre located in the Town of Newburgh in Orange County, New York. The parcel is identified as Town of Newburgh Section 39 Block 1 Lots 1 and 2.12. The parcel is located on New York State Route 300. The parcel is currently a wooded site with the Gidneytown Brook running along the Eastern portion of the site. A site location map is attached as Figure 1.

As proposed, the project includes the development of the woodland into 242 multi-family units with 27 units being dedicated for Senior Housing. Disturbance of the property will be kept to the minimum extent possible in order to construct approximately 5,300 linear feet of roadway, proposed dwelling units and associated recreational facilities, utilities, and storm water management features. This disturbance will include a 0.27 acre wetland disturbance which will result in a wetland mitigation area of 0.54 acres on the northeastern

corner of the site. The applicant will be seeking permission from one or more the neighboring properties located on Jeanne Drive to provide access to the wetland mitigation area from the northeast to minimize disturbance of existing wetland during the construction of the mitigation area.

### **3.0 TOPOGRAPHY AND SOILS**

The watershed largely consists of a generally flat area. Information assembled by the U.S. Department of Agriculture Soil Conservation Service printed in the Soil Survey of Orange County identifies a large presence of Erie extremely stony soils (ESB), Bath-Nassau channery silt loams (BnB), Bath-Nassau channery silt loams (BnC), Mardin gravelly silt loam (MdB) and Swartswood and Mardin soils (SXC). For the purpose of this analysis, the USDA Natural Resources Conservation Service Web Soil Survey was utilized to determine the soils located within the project watershed. The results of this web soil survey have been included in Appendix 2. The results indicate that the watershed consists of approximately 34.5% "C" soils and 65.5% "D" soils. These percentages were used to calculate weighted Curve numbers (CN) for all off site soils in the CN Calculations sheets located in Appendix 3.

### **4.0 ARCHAEOLOGY**

On-site archaeological Phase 1A & 1B investigations were completed in September 2006 for the original SEQR analysis. However, those reports were never submitted to the New York State Office of Parks, Recreation and Historic Preservation (NYSOPRHP) Cultural Resource Information System (CRIS). Copies of the original Phase 1A & 1B archaeology reports which recommended no further investigation or studies was submitted to OPRHP in May of 2020. A letter of confirmation from OPRHP confirming no further testing and no presence of any significant historical or archaeological artifacts on site has been received and is included in appendix 13.

### **5.0 METHODOLOGY**

The methodology utilized for this analysis is based upon the U.S.D.A. Soil Conservation Service's Technical Release No. 20 and Technical Release No. 55, as utilized by the software entitled Hydrology Studio.

Hydrology Studio is a Microsoft Windows based program for analyzing the hydrology and hydraulics of stormwater runoff. It utilizes the latest techniques to predict the stormwater flows from any given storm event.

Hydrology Studio has the capability of computing hydrographs (representing discharge rates characteristic of specific watershed conditions, precipitation and geologic factors), combining hydrographs, and routing flows through pipes, streams and ponds. A drainage model can consist of four different components - subareas, combinations, reaches and reservoirs.

A subarea consists of a relatively homogeneous area of land, which produces a volume and rate of runoff unique to that watershed. A subarea combination is the hydrologic addition of two subareas in order to determine the peak runoff at a design point. A reach is a channelized conveyance structure which routes the runoff from one point to another. A reservoir consists of a natural or man-made impoundment which temporarily stores stormwater runoff and that empties in a manner determined by various hydraulic structures located at its outlet.

This SWPPP is based upon the New York State Stormwater Management Design Manual published by the New York State Department of Environmental Conservation (NYSDEC) last revised January 2015. Criteria set forth by this manual, requires analysis and determination of the required Water Quality Volume ( $WQ_v$ ), to provide extended detention of the 1-year storm event for Stream Channel Protection ( $Cp_v$ ), to control the peak discharge of the 10-year storm event also known as Overbank Flood Protection Criteria ( $Qp$ ), and to control the peak discharge and safely pass the 100-year storm event otherwise known as Extreme Flood Control Criteria ( $Qf$ ).

Rainfall information utilized by the Hydrology software was compiled using the Extreme Precipitation Table from Northeast Regional Climate Center, made available through the Cornell Educational website. Tables can be found in Appendix 2.

The SWPPP for the project was developed utilizing the "five step" process for Stormwater Site Planning and Practice Selection. The five steps consist of site planning, determination of the water quality treatment volume, runoff reduction volumes applied through the use of "green technologies", application of standard stormwater management practices (SMP's) for remaining water quality volumes, and application of volume and

peak rate control methods as required. Each of the five “steps” is further discussed in detail within this report.

## **6.0 STORMWATER MANAGEMENT PLANNING**

### **6.1 INITIAL SITE PLANNING**

Initial site planning included the development of a map showing existing natural resources and drainage patterns.

A survey map was created utilizing actual site visits and a boundary and topography survey taken from an actual field survey as prepared by Engineering & Surveying Properties, PC. This existing condition map is included as Figure 2 in Appendix 1.

#### **6.1.1 EXISTING CONDITIONS**

The existing watershed within the site and areas contributory to the site's discharge location were found to contain two distinct drainage areas with a general design point. A design point represents the point at which stormwater, generated within a watershed, will exit via either sheet flow along a linear boundary or as a point discharge. The wetlands located on site collect runoff via sheet flow. Wetland “B” collects into a stream that runs through the eastern portion of the property. The stream ultimately flows to the neighboring property to the south (Tax Map ID: 39-1-78.1). Figure 2 in Appendix 1 identifies the subareas and its corresponding design point. The characteristics of the existing subarea of this watershed is detailed in Table 1 below.

The subarea was delineated and a contributory area, a curve number (CN) and time of concentration (Tc) was determined for the subarea. Calculations for the CN's and Tc's are included in Appendices 3 and 4, respectively. It should be noted that the total contributory area includes off-site areas where appropriate and therefore, the total drainage area size will differ from the project development area.

**TABLE 1: EXISTING DRAINAGE AREA CHARACTERISTICS**

<b>DRAINAGE AREA DESIGNATION</b>	<b>DRAINAGE AREA SIZE (Ac.)</b>	<b>CN</b>	<b>Tc (min)</b>
EX-A	28.71	77	28.80
EX-B	37.27	81	44.40
Total:	65.98		

The watershed responses to the 1-, 10- and 100-year 24-hour storm events were computed and evaluated at the design points. The peak rates of runoff for the design points are presented in Table 8. Stormwater computations are attached at the end of this report in Appendices 7, 8 and 9.

**6.1.2 PROPOSED CONDITIONS**

For this analysis, the existing watershed was broken down into a post-development network consisting of seven (7) subareas and five (5) stormwater management facilities. The proposed facilities consist of water quality basins with no quantity controls, infiltration basins with required pretreatment facilities and a micropool extended detention pond in accordance with the New York State Stormwater Design Manual (January 2015). The water quality basins will be utilized to collect and treat runoff from small areas of proposed development prior to being discharged from the site. The infiltration basins and micropool extended detention pond will collect runoff from larger areas of the development to provide water quality treatment as well as reducing the peak discharge rate off the project site. The infiltration basins will promote recharge of the runoff rather than a direct discharge.

Proposed drainage sub-area PR-A1 and PR-B1 includes the “bypass” areas which are the areas of the drainage basin that do not initiate within or traverse across the proposed improvements with the exception of the emergency entrance, sewer treatment access drive and sewer treatment plant area. These areas consist of two noncontiguous sub-areas connected through means of a bypass culvert, which are modeled as a single sub-area

as they terminate at the single design point. Drainage sub-area PR-A2 and PR-A4 includes the completed improvements included as part of Phase I of development for the site. Phase 1A will include the access road entering the site up to wetland "A" which will then turn into an access road which leads through a small portion of subareas PR-B2 & PR-B3 to the Sewer Treatment Plant located at the southeast corner of the proposed development bordering Wetland "B". A drainage swale will direct access road runoff to the water quality basin A4 during Phase 1A, as well as a temporary drainage swale leading to pond A2 pre-treatment forebay. During Phase 1B, the runoff from the proposed improvements within area PR-A2 and PR-A3 will be collected and conveyed through a network of underground pipes to the pre-treatment forebay and then to an infiltration area to attenuate the difference in peak discharge rates and recharge the groundwater. This phase of development also includes the construction of stormwater management facility designed as a water quality basin A3 to treat the runoff generated by the two proposed senior housing buildings and single 10-unit multifamily building, and its associated site improvements

Subareas PR-B2 and PR-B3 are included within phase 2. Phase 2A will include the construction of a micropool extended detention pond (B2) and an infiltration basin (B3) with both containing forebays for pretreatment. These facilities will collect and treat the runoff through a network of underground pipes leading to the forebays and then to the treatment facility. Phase 2A includes the construction of (4) 10-unit & (2) 16-unit multifamily apartment buildings along with (2) 8-bay storage garages located between the two 16-unit buildings. Phase 2B will include the completion of remaining improvements located east of Wetland "A". The buildings within phase 2B will include (4) 10-unit, (2) 12-unit and (1) 16-unit building(s).

The subareas under the proposed development are identified in Figure 3. The characteristics of each proposed subarea is detailed in Table 2 below. It should be noted that the total contributory area includes off-site area and



therefore, the total drainage area size will be larger than the project development area.

**TABLE 2: PROPOSED DRAINAGE AREA CHARACTERISTICS**

<b>DRAINAGE AREA DESIGNATION</b>	<b>DRAINAGE AREA SIZE (Ac.)</b>	<b>CN</b>	<b>Tc (min)</b>
PR-A1	16.02	81	21.60
PR-A2	5.90	89	22.80
PR-A3	1.81	83	15.60
PR-A4	0.53	93	5.40
PR-B1	31.50	82	44.40
PR-B2	2.84	89	12.60
PR-B3	7.38	88	17.40
<b>TOTAL:</b>	<b>65.98</b>		

**6.2 WATER QUALITY VOLUME**

The second step of the stormwater site planning process is determination of the required water quality treatment volume (WQ<sub>v</sub>). WQ<sub>v</sub> is calculated using the 90% Rule as defined by NYSDEC Stormwater Management Design Manual. The 90% Rule is defined as:

$$WQ_v = [(P)(R_v)(A)] / 12$$

Where: P is the 90% Rainfall Event Number  
 R<sub>v</sub> is equal to 0.05 + 0.009 \* I  
 I is the Impervious Cover in percent  
 A is the subarea total acreage

The WQ<sub>v</sub> was calculated for the entire watershed and includes the seven (7) subareas for which the proposed project will create new impervious coverage. WQ<sub>v</sub> calculations can be found in Appendix 5 and the results of those calculations are shown below in table 3.

**TABLE 3: REQUIRED WATER QUALITY VOLUME**

<b>DESIGN POINT</b>	<b>WQ<sub>v</sub> (Ac-ft)</b>
DP-A	1.093
DP-B	2.081

### 6.3 RUNOFF REDUCTION VOLUME

Step three of the stormwater site planning process is the incorporation of “green infrastructure technologies” and standard SMP’s with runoff reduction volume (RR<sub>v</sub>) capacity. The intended result of RR<sub>v</sub>, is to treat 100% of the WQ<sub>v</sub> and replicate pre-development hydrology, however if unattainable, provide the minimum RR<sub>v</sub> required and provide additional treatment for the remaining WQ<sub>v</sub>. Each of the following green technologies and standard SMP’s with RR<sub>v</sub> capacity were analyzed for implementation along with an explanation of how they are used or unable to be used on this project. The location of the green technologies used can be seen in Figure 4.

#### Green Technologies

- Conservation of Natural Areas
  - Portions of the subarea PR-B1 includes Wetland “B” which will be protected. This area has been accounted for in the conservation of natural areas. Additionally, the areas immediately surrounding these areas of wetlands have been accounted for as areas tributary to the conservation of natural areas.
- Sheet flow to Riparian Buffers / Filter Areas
  - As previously stated, the areas immediately adjacent to the federal wetlands have been accounted for as tributary areas to the conservation of natural areas. As such, these areas can not also be utilized as sheet flow to riparian buffers.
- Vegetated Open Swales
  - Due to limitations in the size and slope of the site and the use of sub-surface stormwater conveyance, swales are not practicable.
- Tree Planting / Tree Box
  - The site design proposes a landscaping plan however this landscaping will be utilized for aesthetic purposes only and will not be designed to incorporate stormwater quality treatment.
- Disconnection of Rooftop runoff

- Due to a lack of filter strips or grassed areas uphill of the stormwater conveyance paths, the rooftop runoff from the proposed building will be directed to catch basins.
- Stream Daylighting
  - There are no culverted/piped streams on-site therefore this technology is not applicable to this project.
- Rain Gardens
  - Due to the fact that most of the tributary drainage areas consist of areas greater than 1,000 sq.ft., rain gardens could not be utilized as a green technology on this project.
- Green Roof
  - As all the areas of the proposed development, including all new rooftop areas, have been accounted for in other green technologies, the implementation of this practice is not proposed.
- Stormwater Planters
  - Stormwater planters are suitable for small runoff areas such as rooftops or plaza and courtyards. Stormwater planters work very well within urban redevelopment projects with appropriate soils. This project is utilizing other technologies for treatment of rooftop runoff; therefore, the green technology of stormwater planters was not implemented.
- Rain Tanks/Cistern
  - Rain Tanks and cisterns are well-suited to treat rooftop runoff, however as previously stated, the proposed rooftop far exceeds the maximum area limitations. Therefore; this area will be accounted for in other practices.
- Porous Pavement
  - Porous pavement was not considered as areas eligible for porous pavement have already been considered under a different runoff reduction practice.
- Soil Restoration

- Soil restoration measures must be applied to all areas of disturbance that will be re-established as non-impervious cover to recover the original properties and porosity of the soil to the greatest extent practical. Soil restoration techniques and requirements are discussed further in Section 6.6 of this report.

#### Standard SMP's with RR<sub>v</sub> Capacity

- Infiltration Practice
  - Extensive on-site soil testing was performed including deep test pits and standard infiltration percolation testing. The on-site soil testing consisted of test pit excavation to a depth necessary to determine groundwater elevations. Infiltration testing was also performed at the proposed elevation of the bottom surface of the proposed infiltration basins in accordance with NYSDEC guidelines. Proposed infiltration Basin A2 has a proposed bottom elevation of 396.0 which ranges from existing grade to an ±3.0' cut. Groundwater was encountered at various depths across this facility with the maximum elevation of any evidence of groundwater (or seasonal high groundwater) was found at elevation 392.9. Proposed infiltration Based B3 has a proposed bottom elevation of 384.0 which ranges from existing grade to an ±6.5' cut. Groundwater was encountered at various depths across this facility with the maximum elevation of any evidence of groundwater (or seasonal high groundwater) was found at elevation 381.0. The utilization of infiltration systems are proposed as stormwater management facilities. An average of the infiltration rates obtained from onsite testing for each facility has been used for design. The use of infiltration facilities will provide significant RR<sub>v</sub> for reduction of the WQ<sub>v</sub>.
- Bio-Retention Practice
  - A bio-retention facility was not implemented on this site due to RR<sub>v</sub> credit limitations set forth by the NYSDEC manual relative to on-site

soils. The use of other filtering practices such as infiltration basins are being utilized.

- Dry Swale (Open Channel Practice)
  - Dry swales were not utilized for this project as all areas of proposed development have been accounted for in other green technologies.

The RR<sub>v</sub> for each of the green technologies used has been calculated for each design point. The total RR<sub>v</sub> was calculated and compared to the WQ<sub>v</sub> for the design point. The minimum RR<sub>v</sub> is based upon the hydrological soil group (HSG) classification within the watershed and is defined a Specific Reduction Factor (S). The reduction factors for each HSG are shown below in Table 4.

**TABLE 4: SPECIFIC REDUCTION FACTOR (S)\***

HSG	S
A	0.55
B	0.40
C	0.30
D	0.20

\* Watersheds with multiple HSG's shall utilize a weighted average

RR<sub>v MIN</sub> was calculated for each watershed in accordance with the following formula:

$$RR_{v MIN} = [(P)(0.95)(S)(I)] / 12$$

The total calculated RR<sub>v</sub> provided is compared to the RR<sub>v MIN</sub> to ensure that the green technologies proposed are providing the minimum reduction of the WQ<sub>v</sub> as required. The RR<sub>v MIN</sub> and the total RR<sub>v</sub> provided along with the revised WQ<sub>v</sub> are shown below in Table 5. The revised WQ<sub>v</sub> is calculated using the 90% rule as previously noted in Section 6.2, however, the contributory area and impervious area are reduced through the application of green technologies that have been utilized. The calculations for the required and adjusted water quality volumes along with the runoff reduction volumes calculations are shown in Appendix 5.

**TABLE 5: RUNOFF REDUCTION VOLUMES & REVISED WQV**

<b>DESIGN POINT</b>	<b>RR<sub>v</sub> MIN</b>	<b>Total RR<sub>v</sub> (Provided)</b>	<b>Revised WQ<sub>v</sub>*</b>
DP-A	0.301	0.390	0.659
DP-B	0.582	2.876	0.000

**6.4 APPLICATION OF STANDARD SMP'S FOR THE REVISED WQV**

The RR<sub>v</sub> does reduce the required WQ<sub>v</sub> treatment for Design Point B, however it does not completely eliminate the need to provide treatment through standard stormwater management practices for Design Point A. Continuing with the stormwater site planning process, step four is to ensure treatment for the remaining WQ<sub>v</sub> is provided. Additional WQ<sub>v</sub> treatment is provided within the proposed stormwater management practices A2, B2 and B3, as shown below in Table 6. Additional WQ<sub>v</sub> is provided within the Infiltration Basin and forebay of pond A2, and Wet Ponds A3 & A4. Supporting calculations are provided in Appendix 5.

**TABLE 6: WQV PROVIDED IN STANDARD SMP'S**

<b>DESIGN POINT</b>	<b>Revised WQ<sub>v</sub> (Ac-ft)</b>	<b>WQ<sub>v</sub> Provided (Ac-ft)</b>
DP-A	0.659	0.676
DP-B	0.000	0.205

**6.5 VOLUME AND PEAK RATE CONTROL**

The fifth and final step of the stormwater site planning process is to apply volume and peak rate control as necessary through the use of standard stormwater management practices. In preparing the SWPPP, it was determined that multiple on-site stormwater facilities (Infiltration Basin & Wet ponds) will be utilized to mitigate the potential increase in peak stormwater runoff rates from the proposed site improvements.

The proposed stormwater facilities are designed as water quality basins, Infiltration Basins and a Micropool Extended Detention Pond, all of which have been designed in accordance with NYSDEC Phase II stormwater guidelines. Alternative options such as Wet Extended Detention and Wetland Ponds were considered but

not utilized because it is the design engineer's professional opinion that the facilities will operate efficiently as designed.

The on-site stormwater management facilities that have been designed as an Infiltration Basin (I-2) is proposed to mitigate any increase in peak runoff from the site improvements tributary to it. The following NYSDEC infiltration basin design criteria were achieved:

- The basin was designed utilizing a minimum infiltration rate in accordance with the on-site infiltration tests that were performed.
- Soils testing demonstrated a separation from groundwater table of more than three (3) feet. Soils testing information is provided in Appendix 2.
- As the average of the infiltration rates resulting from the onsite testing were found to be greater than 5"/hr, 100% of the WQ<sub>v</sub> is treated through the implementation of a forebay. Calculations for the forebay is provided in Appendix 5. The forebay has been designed to provide 100% of the water quality volume required.
- The infiltration basin will not be utilized as a sediment control device. The forebay must be installed prior to site disturbance and utilized as a sediment trap to protect the infiltration pond area from siltation.
- Any outlet structure will be located within the embankment for maintenance access and safety.

The on-site stormwater management facility designed as a Micropool Extended Detention Pond (P-1) which is designed to provide Water Quality (WQ<sub>v</sub>), Channel Protection, Overbank Flood Protection, and Extreme Flood Protection. The following NYSDEC Wet Pond design criteria were achieved:

- A minimum of 100% of the WQ<sub>v</sub>.
- 4:1 (h:v) pond side slopes are utilized therefore eliminating the need for safety benches.
- A minimum Surface Area: Drainage Area of 1:100 has been provided.

**6.5.1 CHANNEL PROTECTION VOLUME**

The required volume control consists of Channel Protection Volume (Cpv) which is designed to protect downstream channels from erosion. The Cpv is achieved through providing extended detention of the 1-year storm event for a period of 24 hours. Ponds that do not meet the 24-hour extended detention period will utilize the minimum 3" orifice as required by the regulations. The Cpv detention time is shown in Table 7 below and the calculated results are shown in Appendix 5. The proposed Infiltration Basin will be capable of detaining the entire Cpv stormwater runoff through infiltration, thus complying with these requirements.

TABLE 7: CPV EXTENDED DETENTION

<b>FACILITY</b>	<b>Discharge (cfs)</b>	<b>Cpv ED Time (hrs)</b>
Pond A4	1.757	24
Pond A4	0.800	24

**6.5.2 PEAK RATE CONTROL**

The peak discharge rate is controlled utilizing the storage volume available in the stormwater ponds and controlling discharge through an outlet structure. The watershed responses to the 1-, 10- and 100-year; 24-hour storm events were computed and evaluated at the aforementioned design point. The peak rates of runoff realized at the design point is presented in the table below. Stormwater computations are attached in the appendices.

The total peak runoff rates at the design point for the existing condition as well as the final proposed condition have been calculated and shown below in Table 8. The peak runoff rates have been reduced in the proposed conditions during the 1-, 10- and 100-year design storms for all drainage areas on site.



**TABLE 8: SUMMARY OF RESULTS AT THE DESIGN POINTS**

Criteria		Design Point A	Design Point B
<b>1 – YEAR (Cpv)</b>	Existing (cfs)	14.99	21.36
	Proposed (cfs)	12.85	18.53
	Reduction (cfs)	-2.14	-2.83
	Reduction (%)	- 14.2%	-13.2%
<b>10 – YEAR (Qp)</b>	Existing (cfs)	46.88	58.63
	Proposed (cfs)	37.27	53.88
	Reduction (cfs)	-9.61	-4.75
	Reduction (%)	-20.5%	-8.1%
<b>100 – YEAR (Qf)</b>	Existing (cfs)	109.3	128.1
	Proposed (cfs)	106.7	125.2
	Reduction (cfs)	-2.60	-2.90
	Reduction (%)	-2.4%	-2.3%

Since the runoff rates have been proven to decrease in the post-development condition, there will be no adverse impact to the downstream receiving waters. Therefore, the SWPPP designed for The Polo Club will accomplish the intent of its design.

**6.6 SOIL RESTORATION**

Soil restoration is intended to recover the original properties and porosity of the soil to the greatest extent practicable. Soil restoration measures shall be applied to any disturbed area within the project prior to establishment of permanent vegetation and installation of landscaping. Any proposed impervious areas do not require soil restoration measures. Soil restoration measures such as tilling allows for compacted soil to gather oxygen and create temporary and even permanent air voids and when combined with the incorporation of organic material, greatly improves the soils characteristics to temporarily store water and subsequent runoff reduction through infiltration and evapotranspiration.

Various soil disturbance activities related to construction of land development within various soil types and the associated minimum required soil restoration techniques are shown in Table 9.

**TABLE 9: SOIL RESTORATION REQUIREMENTS**

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 Areas from any ongoing construction activities.
	Apply 6" of topsoil	Aerate* and apply 6" of topsoil	
Areas of cut or fill	HSG A & B	HSG C & D	
	Aerate* and apply 6" of topsoil	Apply full Soil Restoration**	
Heavy traffic areas on site (especially in a zone 5'-25' around buildings, but not within the 5' perimeter around the foundation walls)	Apply full Soil Restoration** (de-compaction and compost enhancement)		
Areas where Runoff Reduction and/or Infiltration Practices are applied.	Restoration not required, but maybe applied to enhance the reduction specified for appropriate practices		Keep construction equipment from crossings 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		

\* 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.

\*\* Per "Deep Ripping and De-compaction Guidelines", NYSDEC 2008

## **7.0 EROSION AND SEDIMENT CONTROL MEASURES**

Soil erosion and sediment control measures have been detailed on the plans and outlined herein. The following are general measures that should be implemented:

- a. Damage to surface waters resulting from erosion and sedimentation shall be minimized by stabilizing disturbed areas and by removing sediment from construction site discharges.
- b. Following the completion of construction activities in any portion of the site, permanent vegetation shall be re-established on all exposed soils within 14 days. Also, in areas where construction will temporarily cease for 21 days or more, the site shall be stabilized within 7 days of the last construction activity. After completion of final rough grading, topsoil shall be spread to a depth of 6 inches or more and tested for nutrient and soil composition. The topsoil shall be amended as necessary to encourage successful growth of proposed vegetation.
- c. Temporary erosion control measures, silt fences, temporary sediment basin, and rip-rap protection shall be installed prior to ground disturbance for grading and construction. Care shall be taken to ensure that the infiltration basin is not cut to final grade during the construction and shall only be cut to final grade upon stabilization of all future pervious areas.
- d. Site preparation activities shall be planned to minimize the area and duration of soil disturbance. The project will be built in sections limiting the amount of disturbance at any one time, however it has been determined that there will be an extensive amount of earthwork required, resulting in greater than five acres of disturbance at one time. The proposed plan results in the movement of large amounts of material within a single phase where some can be relocated within that specific phase however the stockpiling of this material in another phase or phases for use as fill material in a subsequent phase(s) will be required. The plans approved for construction contain a detailed "Construction Phasing Plan" which depicts the limits of grading within each phase along with the required earth cut and fill locations (including stockpile locations if necessary). In

addition, any additional site specific erosion control measures required are shown on the approved plans for construction. In accordance with the NYSDEC GP-0-20-001 permit a waiver will be applied for to the local MS4 to permit earth disturbance greater than five-acres at any one time. The following additional requirements shall be met upon receipt of such waiver:

- The required site inspections by the qualified inspector shall occur two (2) times every seven (7) days with a minimum of two (2) full days between inspections.
- In areas where disturbance has temporarily or permanently ceased, stabilization shall be implemented within seven (7) days from the ceasing of soil disturbance activity.
- At the time that the project site demonstrates the amount of earth disturbance activities is under the five-acre threshold, and as directed by the qualified inspector and approved by the MS4 representative, then the following requirements shall apply:
  - e. Permanent traffic corridors shall be established and “routes of convenience” shall be avoided. Off-site sediment tracking shall be minimized through regularly scheduled sweeping and good housekeeping of construction vehicles. Permitted traffic shall utilize stabilized construction entrances consistent with NYSDEC approved details.
  - f. A qualified professional shall inspect and log the erosion and sediment control measures once every seven days once earth disturbance has commenced and continue until the site has achieved final stabilization in accordance with the requirements. During times of possible inactivity (i.e. winter months), upon the site being temporarily stabilized, the professional shall perform inspections monthly. The professional shall make recommendations to the operator on how to maintain the integrity and function of all temporary erosion control measures throughout the duration of the development process. Any deficiencies in the measures shall be corrected as soon as possible by the operator.

- g. An up to date Construction Site Log Book which includes this SWPPP for The Polo Club shall be maintained on site at all times during construction. The Construction Site Log Book shall also include the items found in the most recent version of the New York Standards and Specifications for Erosion and Sediment Control.

In particular, the following measures will be implemented:

- a. **Pre-Construction Installation:** Prior to any disturbance on site, silt fence shall be installed in accordance with the approved plans in the area of the first phase. Prior to commencement of any subsequent phase, silt fence shall be installed in the proper phase in accordance with the approved plans. Siltation barriers shall be maintained in good condition and reinforced, extended, repaired or replaced as necessary. Limits of disturbance are to be demarcated in the field utilizing orange construction fence.
- b. **Stone Diaphragms:** Until such time as final site stabilization is completed, the stone diaphragm shown on the plans at the edge of pavement along the forebay shall receive treatment with stone as to effectively trap sediment and minimize its release off-site.
- c. In no case shall erodible materials be stockpiled within 25 feet of any ditch, stream or other surface water body.
- d. **Permanent vegetative cover:** Immediately following the completion of construction activity in any portion of the site, permanent vegetation shall be established on all exposed soils by properly seeding at a coverage rate as noted on the approved plans and covered with straw. Water shall be applied to newly seeded areas as needed until grass cover is well established.
- e. Washouts shall be immediately repaired, reseeded and protected from further erosion. All accumulated sediment shall be removed and contained in appropriate spoil areas. To effectively control wind erosion, water shall be applied to all exposed soils as necessary

## **8.0 LONG TERM MAINTENANCE OF WATER QUALITY FEATURES**

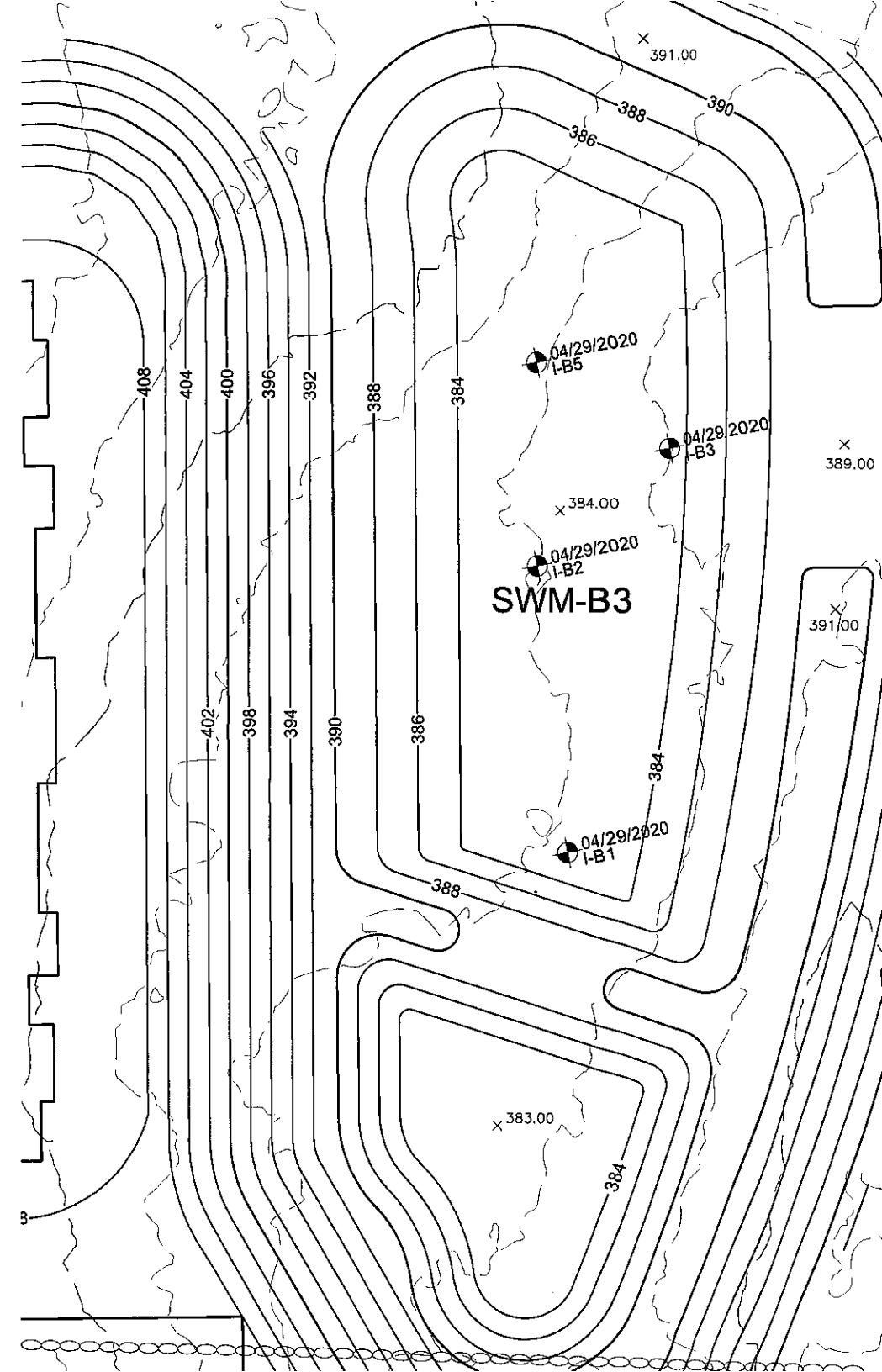
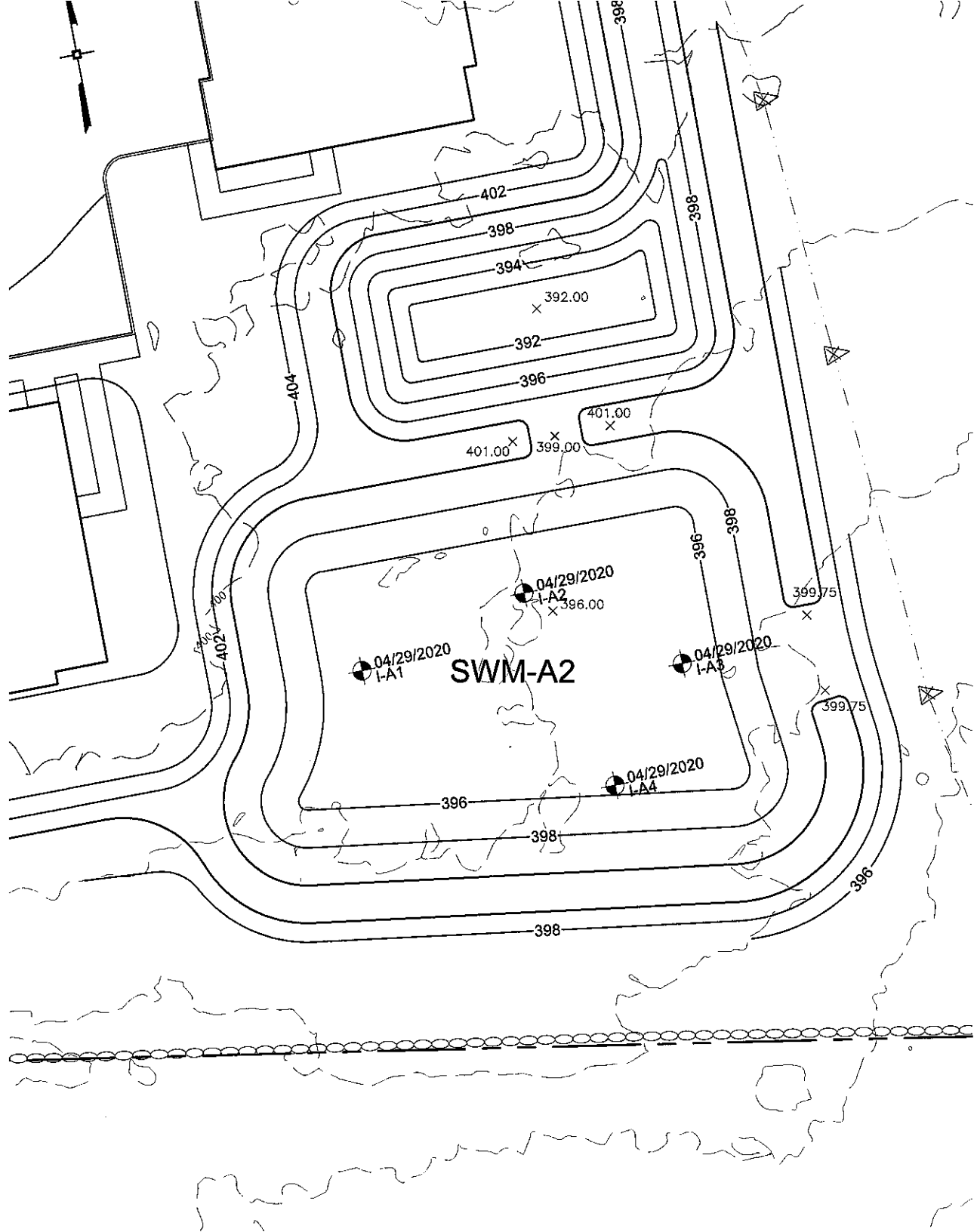
Upon completion of the project, each of the stormwater facilities shall be owned and maintained by the property owner. The property owner shall be responsible to ensure that the facilities operate and function as designed through proper maintenance as follows.

- a. Regular inspection and maintenance of the proposed facilities is required to ensure its long term water quality and quantity reduction functions.
- b. All stormwater facilities and roadways with associated infrastructure are proposed to be located within lands to be owned by the property owner.
- c. All side slopes within the Infiltration Basins and Wet Pond Facilities are a minimum of 4:1, to allow for maintenance.
- d. Catch Basins:
  - i. Basins shall be inspected for accumulated sediment and trash every 6 months.
  - ii. Accumulated sediment and trash shall be removed from basins annually, or at more frequent interval, if needed.
- e. Infiltration Basin
  - i. The grass within the pond should be mowed at least 3 times per growing season, limiting the grass to a height of no more than 12"
  - ii. Sediment removal should be done at least every five years.
- f. Forebay & Wet Pond maintenance requirements.
  - i. Sediment removal in the forebay shall occur every five to six years or after 50% of total forebay capacity has been lost.

## **9.0 SUMMARY OF FINDINGS AND CONCLUSIONS**

Based on the analysis of the pre-development and post-development stormwater conditions, and the implementation of stormwater quality and sediment and erosion control measures, the potential stormwater impacts of The Polo Club project will be mitigated to the greatest extent practical.

- a. Prevent increases in flooding and flood damage through the reduction of the rate of runoff from all areas.
- b. Reduce the erosion potential from the development through the reduction of the rate of runoff from the project site and through the implementation of the soil and erosion control measures outlined on the project plans and as highlighted herein.
- c. Decreases non-point source pollution and water quality degradation through the use of “green technologies” including conservation of natural areas.
- d. Those portions of the site which do not direct runoff into a stormwater management practice, will sheet flow through proposed lawn areas and through existing vegetative cover prior to discharging from the site.
- e. All criteria set forth in the New York State Stormwater Management Design Manual have been met.
- f. Post-development peak discharge rates will be reduced below pre-development peak discharge rates or their impacts minimized.
- g. Sediment and erosion control measures are designed to minimize erosion loss and downstream sediment deposits.





# THE POLO CLUB

## Appendix E

### Wastewater

THE POLO CLUB

# Appendix E1

## Discharge Limits



**Michele Zerfas**

---

**From:** Joseph Berger <bergereng@gmail.com>  
**Sent:** Wednesday, April 01, 2020 10:11 AM  
**To:** Michele Zerfas  
**Subject:** Fwd: FW: Polo Club, Town of Newburgh Draft SPDES

----- Forwarded message -----

**From:** Ross Winglovitz <Ross@ep-pc.com>  
**Date:** Wed, Apr 1, 2020 at 9:47 AM  
**Subject:** FW: Polo Club, Town of Newburgh Draft SPDES  
**To:** bergereng@gmail.com <bergereng@gmail.com>  
**CC:** David Weinberg <david.meadowcreek@gmail.com>, Jay Samuelson <Jay@ep-pc.com>

Joe: See the below draft limits for our STP discharge. Hope all is well.

Ross Winglovitz, PE

Engineering & Surveying Properties, PC

[www.EngineeringPropertiesPC.com](http://www.EngineeringPropertiesPC.com)

[Ross@ep-pc.com](mailto:Ross@ep-pc.com)

**From:** Roy, Aparna (DEC) <aparna.roy@dec.ny.gov>  
**Sent:** Wednesday, April 1, 2020 9:33 AM  
**To:** Ross Winglovitz <Ross@ep-pc.com>  
**Subject:** RE: Polo Club, Town of Newburgh Draft SPDES

Hi Ross, our water quality engineer provided the following preliminary limits:

BOD = 5 mg/l

DO = 7 mg/l

Suspended solids = 10 mg/l

Settleable solids = 0.1 ml/l

Ammonia as NH<sub>3</sub> = 1.48 mg/l summer, 2.18 mg/l winter

Chlorine Residual = 0.03 mg/l

pH = 6.5 -8.5

Coliform = 200/400

**FYI: CO Water Quality engineers are no longer reviewing requests for preliminary effluent limits.**

Thanks

Aparna

**From:** Roy, Aparna (DEC) <[aparna.roy@dec.ny.gov](mailto:aparna.roy@dec.ny.gov)>  
**Sent:** Tuesday, February 18, 2020 10:32 AM  
**To:** Ross Winglovitz <[Ross@ep-pc.com](mailto:Ross@ep-pc.com)>  
**Subject:** RE: Polo Club, Town of Newburgh Draft SPDES

Ross, I forwarded your request to CO for WQ review. I will let you know when I receive a response from them.  
Thanks

Aparna

**From:** Ross Winglovitz <[Ross@ep-pc.com](mailto:Ross@ep-pc.com)>  
**Sent:** Tuesday, February 18, 2020 10:19 AM  
**To:** Roy, Aparna (DEC) <[aparna.roy@dec.ny.gov](mailto:aparna.roy@dec.ny.gov)>  
**Subject:** FW: Polo Club, Town of Newburgh Draft SPDES

*ATTENTION: This email came from an external source. Do not open attachments or click on links from unknown senders or unexpected emails.*

Aparna: I had sent this request and follow several weeks ago and just recently heard that Arthur did retire. Can you please help me with this request?

Thanks

Ross Winglovitz, PE

Engineering & Surveying Properties, PC

[www.EngineeringPropertiesPC.com](http://www.EngineeringPropertiesPC.com)

[Ross@ep-pc.com](mailto:Ross@ep-pc.com)

**From:** Ross Winglovitz

**Sent:** Friday, February 14, 2020 3:07 PM

**To:** Crawford, Arthur H (DEC) <[arthur.crawford@dec.ny.gov](mailto:arthur.crawford@dec.ny.gov)>

**Subject:** RE: Polo Club, Town of Newburgh Draft SPDES

Arthur: Hopefully you did not retire and leave me hanging 😊.

Thanks

Ross Winglovitz, PE

Engineering & Surveying Properties, PC

[www.EngineeringPropertiesPC.com](http://www.EngineeringPropertiesPC.com)

[Ross@ep-pc.com](mailto:Ross@ep-pc.com)

**From:** Ross Winglovitz

**Sent:** Wednesday, February 12, 2020 8:20 AM

**To:** Crawford, Arthur H (DEC) <[arthur.crawford@dec.ny.gov](mailto:arthur.crawford@dec.ny.gov)>

**Subject:** RE: Polo Club, Town of Newburgh Draft SPDES

Arthur: Hope all is well. I am just following up on this.

Thanks

Ross

Ross Winglovitz, PE

Engineering & Surveying Properties, PC

[www.EngineeringPropertiesPC.com](http://www.EngineeringPropertiesPC.com)

[Ross@ep-pc.com](mailto:Ross@ep-pc.com)

**From:** Ross Winglovitz

**Sent:** Friday, February 7, 2020 1:34 PM

**To:** Crawford, Arthur H (DEC) <[arthur.crawford@dec.ny.gov](mailto:arthur.crawford@dec.ny.gov)>

**Subject:** Polo Club, Town of Newburgh Draft SPDES

Arthur:

We are working on a project in the Town of Newburgh that will require a Sewer Treatment Plant. Attached is the plan showing the STP location (0-100) along with the discharge location (Sewer Treatment Plant Discharge Location). The design flow is 37,150 GPD of domestic wastewater (water-sewer estimate). I am assuming intermittent stream standards, who do I need to get in touch with to get draft discharge limits.

Thanks

Ross

Ross Winglovitz, PE

Engineering & Surveying Properties, PC

[www.EngineeringPropertiesPC.com](http://www.EngineeringPropertiesPC.com)

[Ross@ep-pc.com](mailto:Ross@ep-pc.com)

THE POLO CLUB

## Appendix E2

# Sanitary Forcemain



# ENGINEER'S REPORT

FOR A

**SANITARY FORCEMAIN**

**TO SERVE**

**THE POLO CLUB**

ROUTE 300

TOWN OF NEWBURGH  
ORANGE COUNTY, NEW YORK  
TAX PARCELS: 39-1-1 & 39-1-2.12

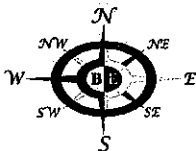


*Joseph Paul Berger*

Date: October 12, 2020

Prepared for:  
Spruce Creek LLC  
56 Far Horizons Drive  
Newburgh NY 12550

Prepared by:



BERGER ENGINEERING AND SURVEYING PLLC  
100 FULTON AVENUE  
POUGHKEEPSIE NY 12603

10/12/20



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1.0 INTRODUCTION	2
2.0 SITE DESCRIPTION	2
3.0 SANITARY SEWER FORCEMAIN	2
4.0 CONCLUSION	3

APPENDIX A FORCEMAIN LOCATION MAP  
SHEET F3.3C  
ENTITLED SEWER SYSTEM ALTERNATIVE LAYOUT  
Dated 04/28/20  
Prepared by Engineering & Surveying Properties

## 1.0 INTRODUCTION

The Project Site consists of two parcels (SBL 39-1-1 & 2.12) containing 36.23 acres of land. The proposed project scope includes 242 multi-family units. Along with the apartments, there is an entry road and emergency access drive to NYS Route 300. All buildings will be connected to new town water mains and sewer mains which will be installed and maintained by the project sponsor.

Currently the project is not located within a Town of Newburgh sewer district. This report is to address providing a sanitary sewer forcemain from the project to connect to the existing Town Sanitary Sewer.

## 2.0 SITE DESCRIPTION

The proposed project site is approximately 36.23 acres in size and is located in the Town of Newburgh, Orange County, New York. The project site is a rectangular shaped plot of land that extends east from NYS Route 300. The project involves the approval of 242 multi-family units consisting of 100 one-bedroom and 142 two-bedroom apartments. These units will be constructed within 21 apartment buildings. The site will also have a clubhouse with pool, access roads and public utility infrastructure.

The site's entrance will be from NYS Route 300 which lies directly east of the project site. On the south, the property abuts Gardnertown Farms which is a horse stabling and riding facility. To the east of the site is undeveloped commercial property and to the north of the site lies Jeanne Drive with several developed commercial properties.

The site contains 1080 linear feet of an unnamed tributary of the Quassaic Creek, Class C, Non-protected. This small unnamed stream runs from north to south and starts and ends outside of the project boundary.

## 3.0 SANITARY SEWER FORCEMAIN

As proposed, the Polo Club will generate an average daily flow of 37,150 gallons per day of sanitary sewer and peak hourly flow of 103.2 gallons per minute or 4.0 times the average daily demand.

The project will include approximately 3,385 linear feet of 8" SDR-35 sewer main and 21 sewer manholes. The site will flow by gravity to a proposed pump station which will pump the waste through a 5400 lf -8" sanitary forcemain run along Rt 300 to discharge into an existing sanitary manhole.

The forcemain will consist of:

- 8-inch sanitary sewer force main
- pump station
- a flow meter
- clean out manholes
- At least one air release manhole.
- Restoration of road surfaces as well as shoulder pavement

The estimated cost for a sanitary forcemain is \$1,600,000.00

Noted issues with a sanitary forcemain include:

The dissolved oxygen content of the wastewater is often depleted in the wet-well of the lift station, and its subsequent passage through the force main results in the discharge of septic wastewater, which not only lacks oxygen but often contains sulfides. This condition often produces a smell at the air release manholes and at pump stations.

Frequent cleaning and maintenance of force mains is required to remove solids and grease buildup.

Forcemain require pump stations that require routine maintenance and repair.

Location of forcemain along state highway will may repair and maintenance difficult which will add to the cost.

#### 4.0 CONCLUSION

A proposed sanitary forcemain will provide the means to convey sanitary waste from the proposed project to an existing sanitary sewer however the cost to do so is more than what a wastewater treatment plant would cost. The following are listed benefits of constructing a decentralized sewer plant over connecting via a forcemain to an larger municipal sewer plant

**According to :**  
*Water Environment Research Foundation.*

*Traditional centralized wastewater treatment systems are increasingly demonstrating environmental, economic and social limitations that can't continue to be ignored. These energy-intensive and chemical-dependent systems are giving way to more sustainable approaches, with decentralization being a key component. Decentralization takes into account basic principles of design in nature. "Traditional" wastewater systems circumvent natural patterns, sacrificing resiliency and efficiency for speed and size. Decentralized wastewater treatment disperses the resource closer to its source and minimizes surface discharges. Simply put, it is a way to "get back to nature" while using 21st century technologies and management.*

*Nature operates with patterns and principles that we can adapt to our treatment of water. Natural systems:*

- *create order from the ground up with modular units of design*
- *are multi-functional in their formation*
- *adapt and adjust to changing conditions*
- *are cyclic and recycling, using and reusing water and other resources*
- *create beauty and abundance with NO waste.*

#### **BENEFITS OF DECENTRALIZED SYSTEMS**

*Decentralized water and wastewater infrastructure creates the following benefits:*

*Lower costs for water supply: Costly water supply enhancements can be avoided through onsite water use efficiencies, wastewater reuse, and rainwater harvesting. Impacts of droughts can be moderated.*

*Lower costs of maintaining existing infrastructure: Flow rates in existing water and sewer systems can be reduced through decentralized efficiencies and reuse in office buildings and infill developments.*

*Lower costs for new infrastructure: New*

*developments can be accommodated with targeted smallscale infrastructure that is cheaper than centralized infrastructure.*

*Greater resilience: Small-scale treatment units are more resilient than centralized systems in hurricanes and floods, and less vulnerable to accidents and terrorism.*

*Ecological restoration: Decentralized systems can reduce the discharge of pollutants and replenish aquifers, restore streamflows and habitats.*

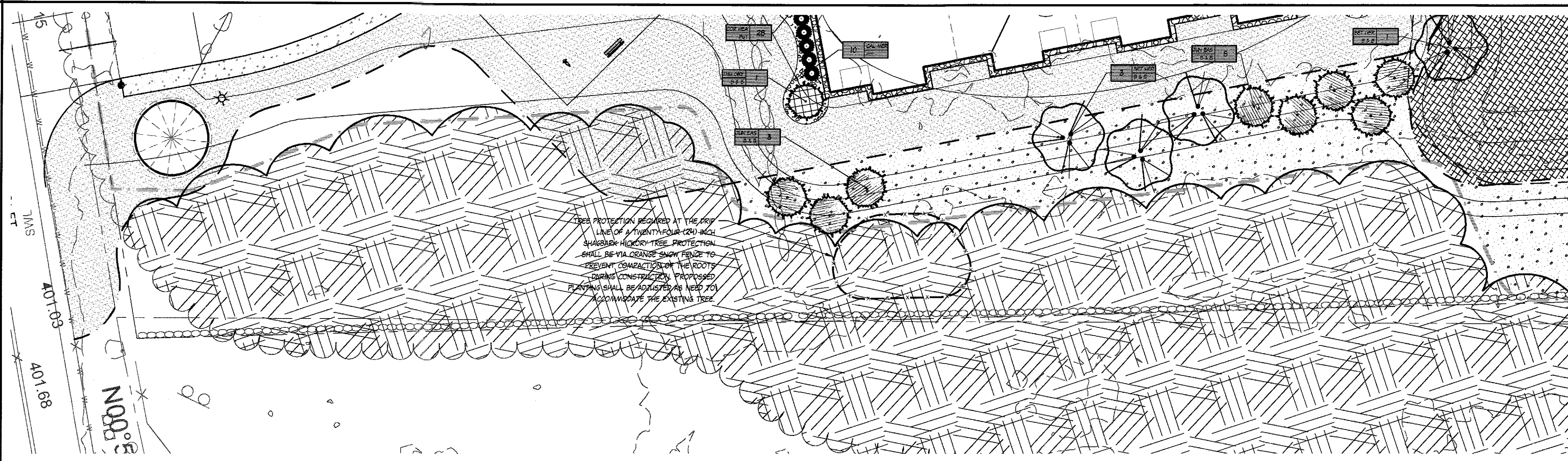
*Resource efficiencies: Small-scale treatment units can save on energy costs and recycle nutrients into landscaping and agriculture.*

*Community benefits: Green infrastructure has been shown to improve air quality, preserve open space, and create local jobs.*

*Private financing: Small-scale treatment units on individual properties can be financed privately, thereby saving money for municipalities.*

The forcemain cost approximately \$ 1,600,000 while a wastewater treatment plant would cost approximately \$1,200,000.



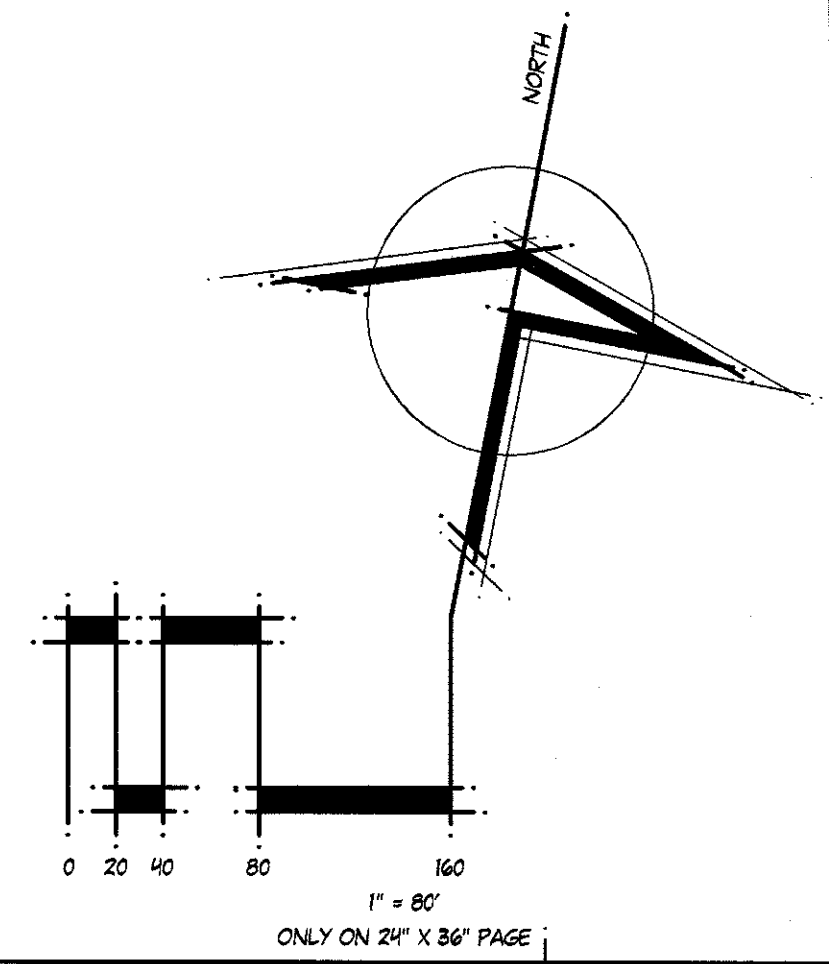
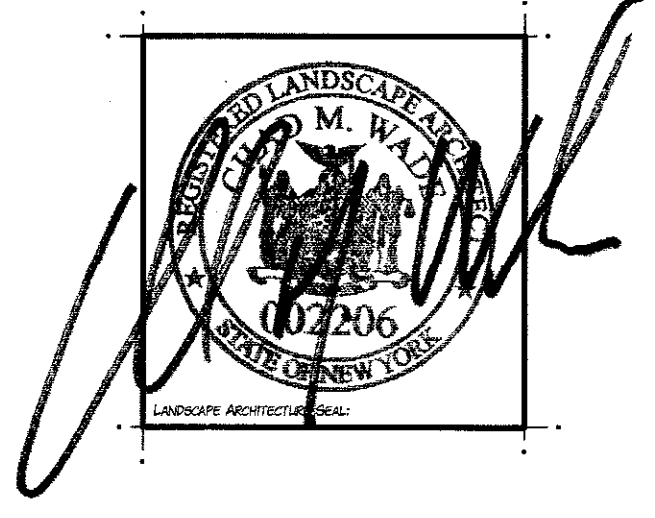


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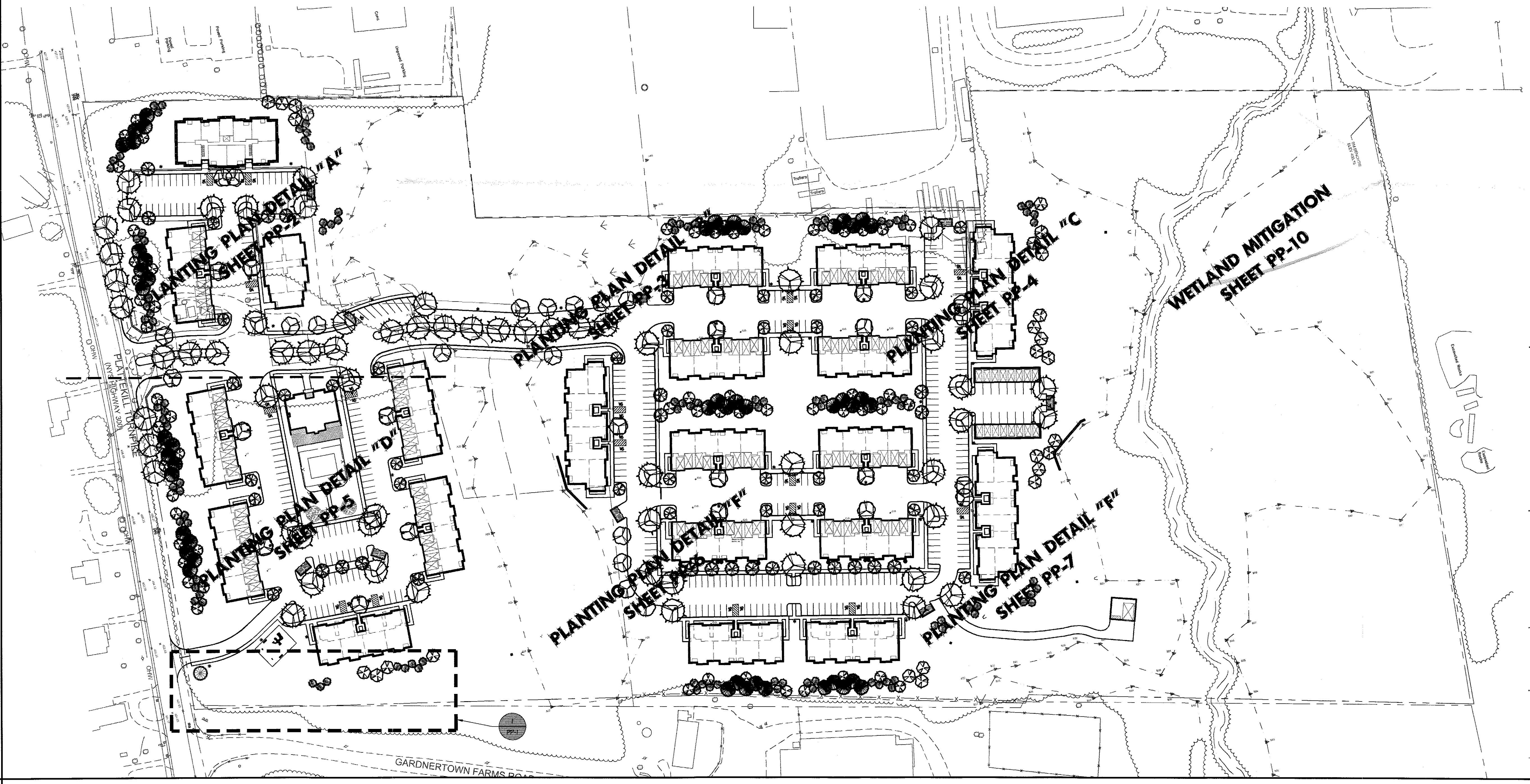
- SYMBOL DESCRIPTION**
- GE-101 EXISTING CONDITIONS ARE BASED OFF SURVEY DATA PROVIDED TO LANDARCH STUDIOS, P.L.L.C. FROM ENGINEERING AND SURVEYING PROPERTIES PC, 71 CLINTON STREET, MONTGOMERY, NEW YORK 12548.
  - GE-102 PROPOSED CONDITIONS ARE BASED OFF CIVIL DATA PROVIDED TO LANDARCH STUDIOS, P.L.L.C. FROM ENGINEERING AND SURVEYING PROPERTIES PC, 71 CLINTON STREET, MONTGOMERY, NEW YORK 12548. THE RESPECTIVE CIVIL DRAWINGS SHALL BE REFERENCE FOR RELATED ITEMS.

**SHEET INDEX**

SHEET	DESCRIPTION
PP-1	PLANTING PLAN KEY
PP-2	DETAIL PLANTING PLAN "A"
PP-3	PLANTING PLAN DETAIL "B"
PP-4	PLANTING PLAN DETAIL "C"
PP-5	PLANTING PLAN DETAIL "D"
PP-6	PLANTING PLAN DETAIL "E"
PP-7	PLANTING PLAN DETAIL "F"
PP-8	PLANTING PLAN DETAILS
PP-9	PLANTING PLAN NOTES
PP-10	WETLAND MITIGATION PLAN



**1 PLANTING PLAN DETAIL "G"** SCALE: 1" = 20'



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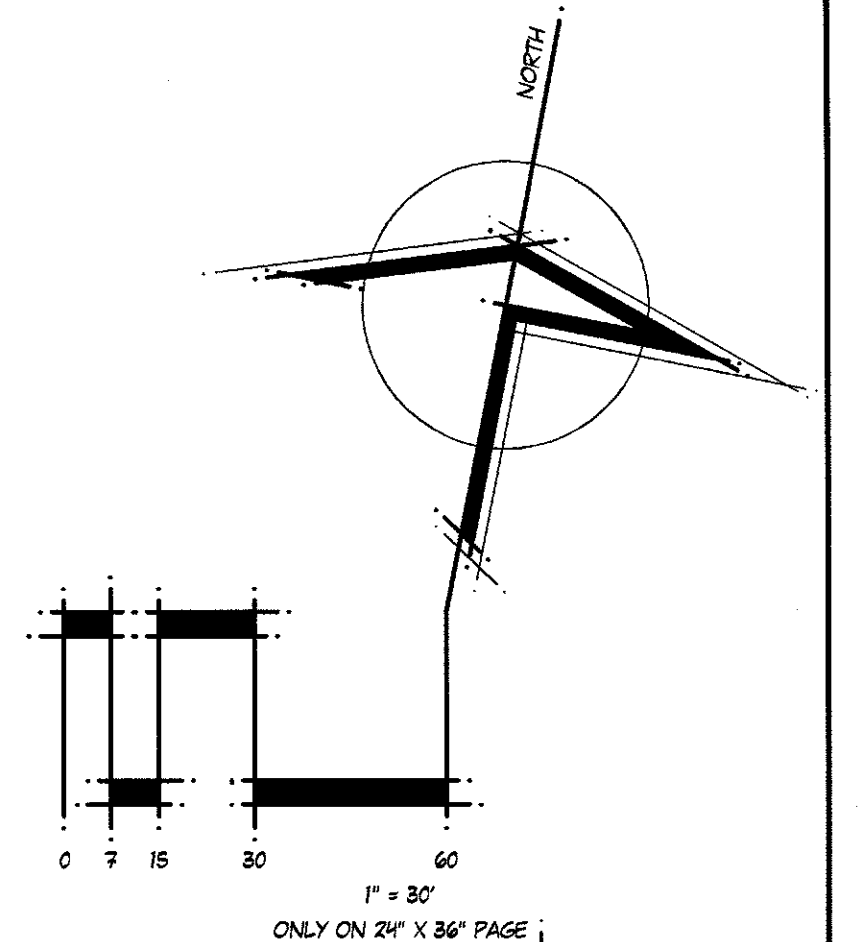
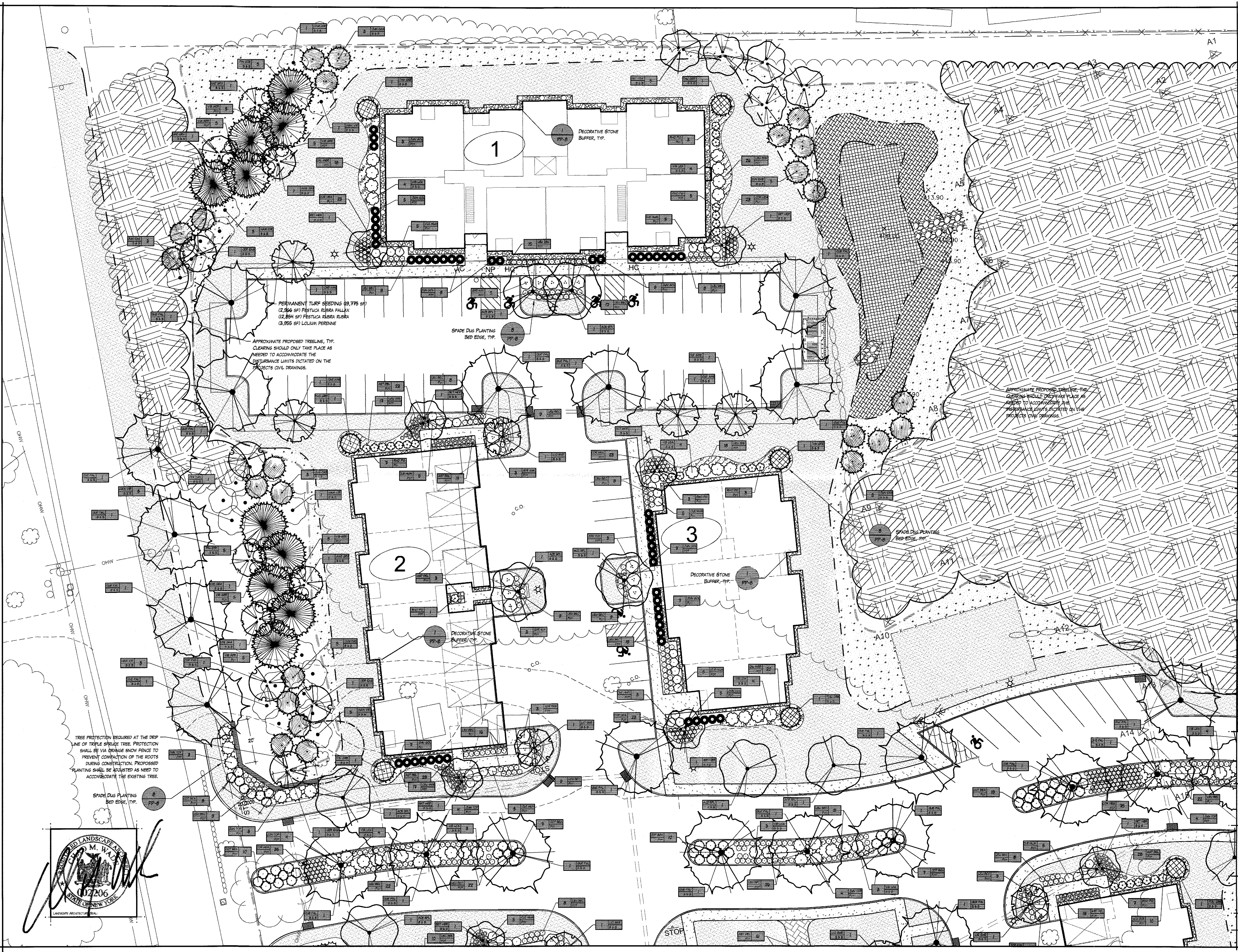
**THE POLO CLUB  
TOWN OF NEWBURGH**

PROJECT TITLE:  
MEADOW CREEK DEVELOPMENT, LLC  
56 FAR HORIZONS DRIVE  
NEWBURGH, NEW YORK 12550

PROJECT SPONSOR:

PLANTING PLAN KEY	
SHEET TITLE: OVERALL PLANTING PLAN.DWG	SHEET NO. <b>PP-1</b>
PROJECT NUMBER: 2020.01	DRAWN/CHECKED BY: C.M.W. / C.M.W.





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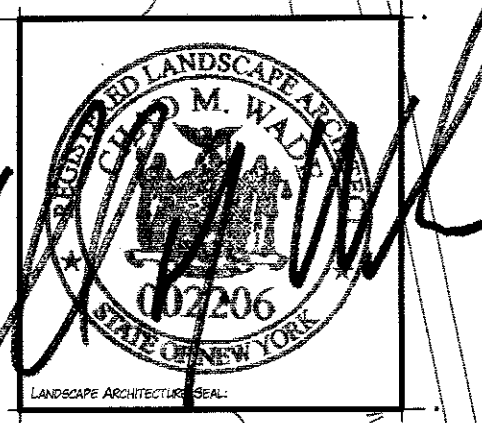
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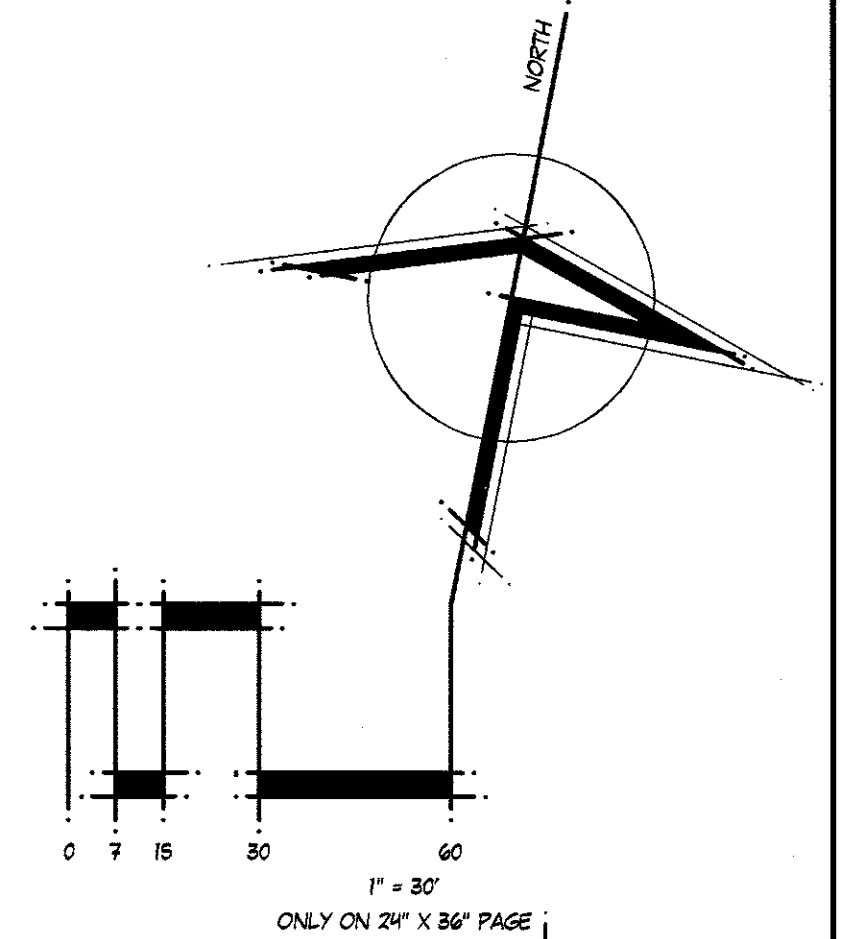
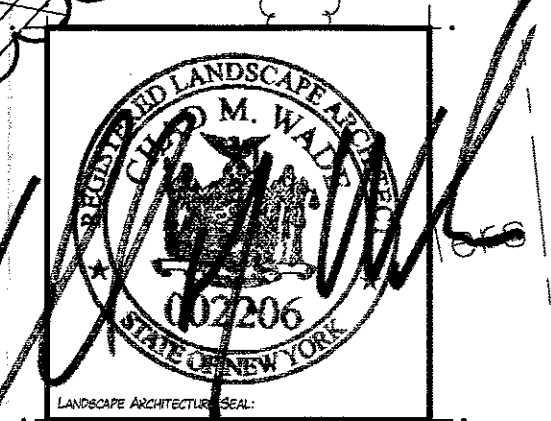
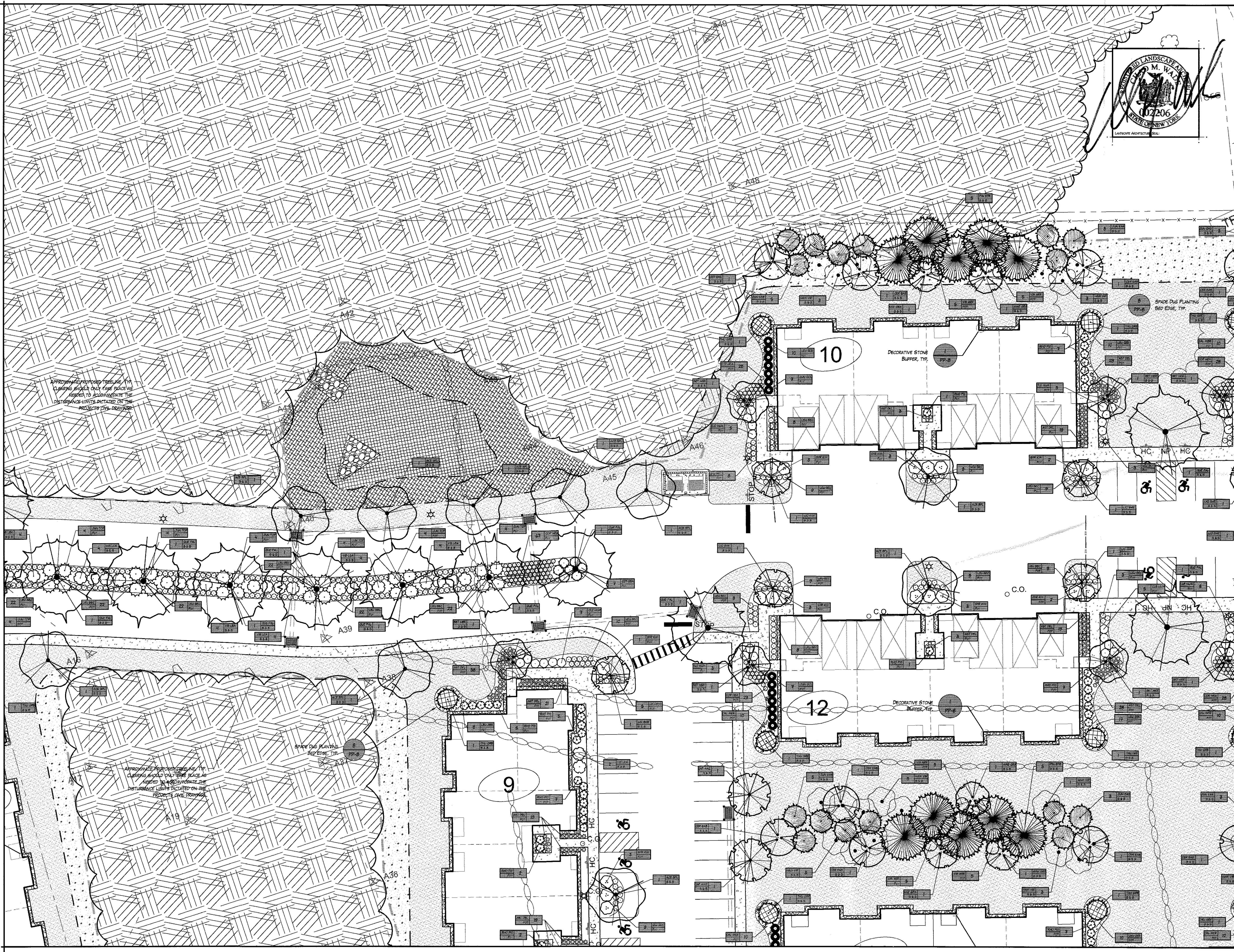
**PLANTING PLAN  
PLANTING DETAIL "A"**

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CAD REPRESENTS: OVERALL PLANTING PLAN/DWG  
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**THE POLO CLUB  
 TOWN OF NEWBURGH**

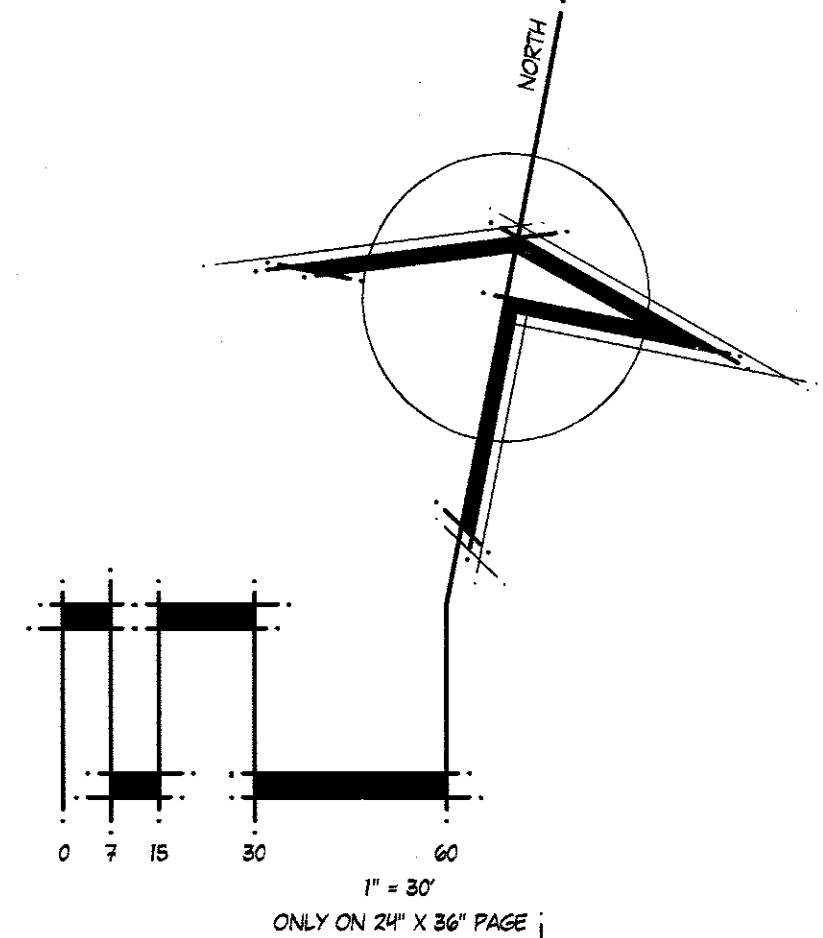
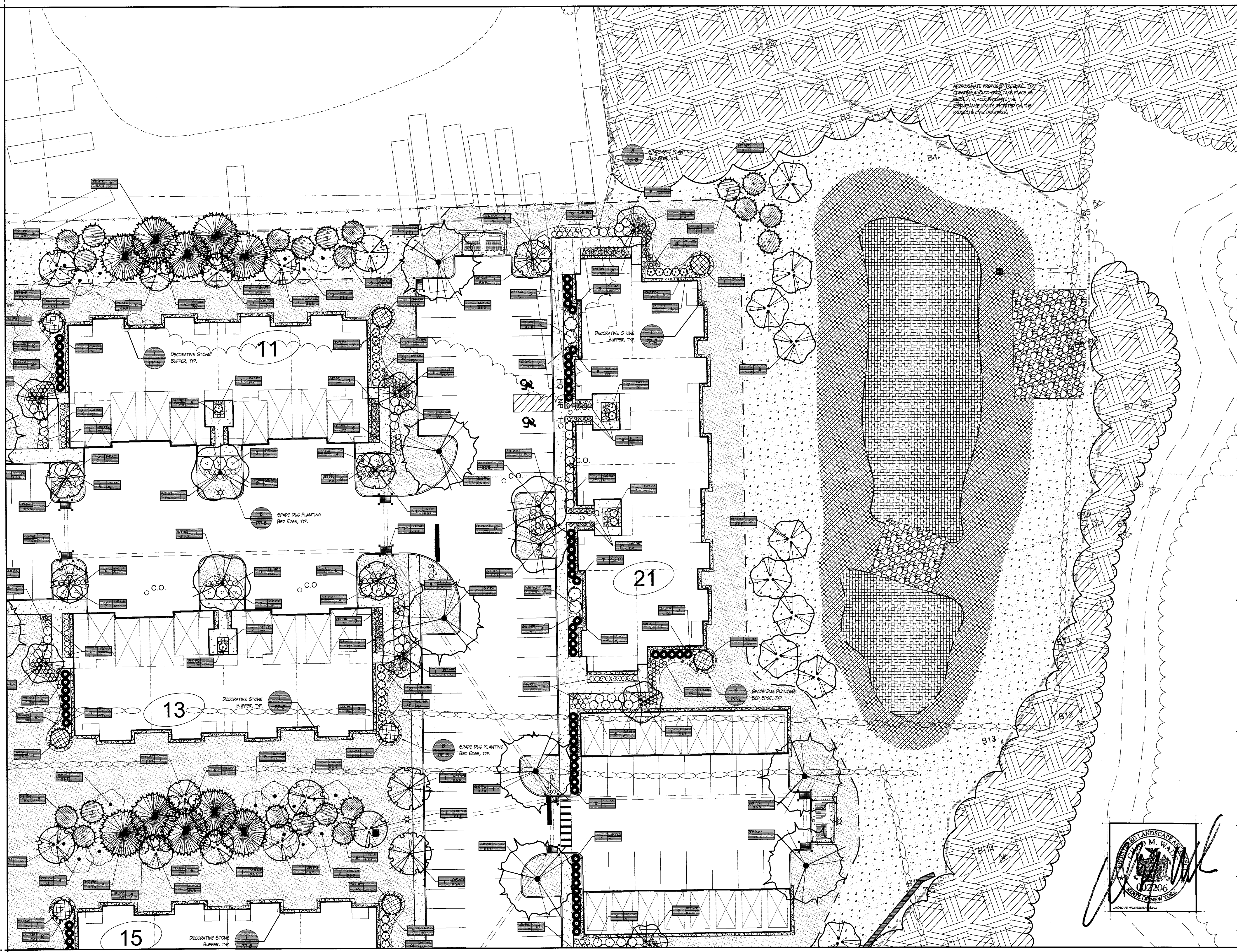
PROJECT TITLE:  
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**PLANTING PLAN  
 DETAIL "B"**

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 CAD REFERENCE: OVERALL PLANTING PLAN DWG  
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**PP-3**





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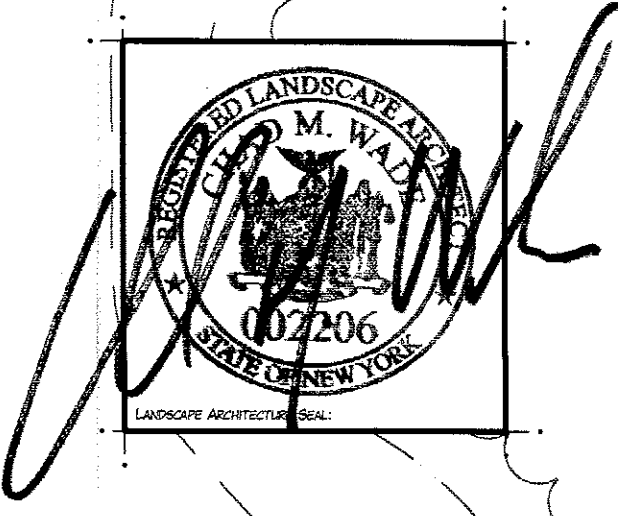
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**PLANTING PLAN  
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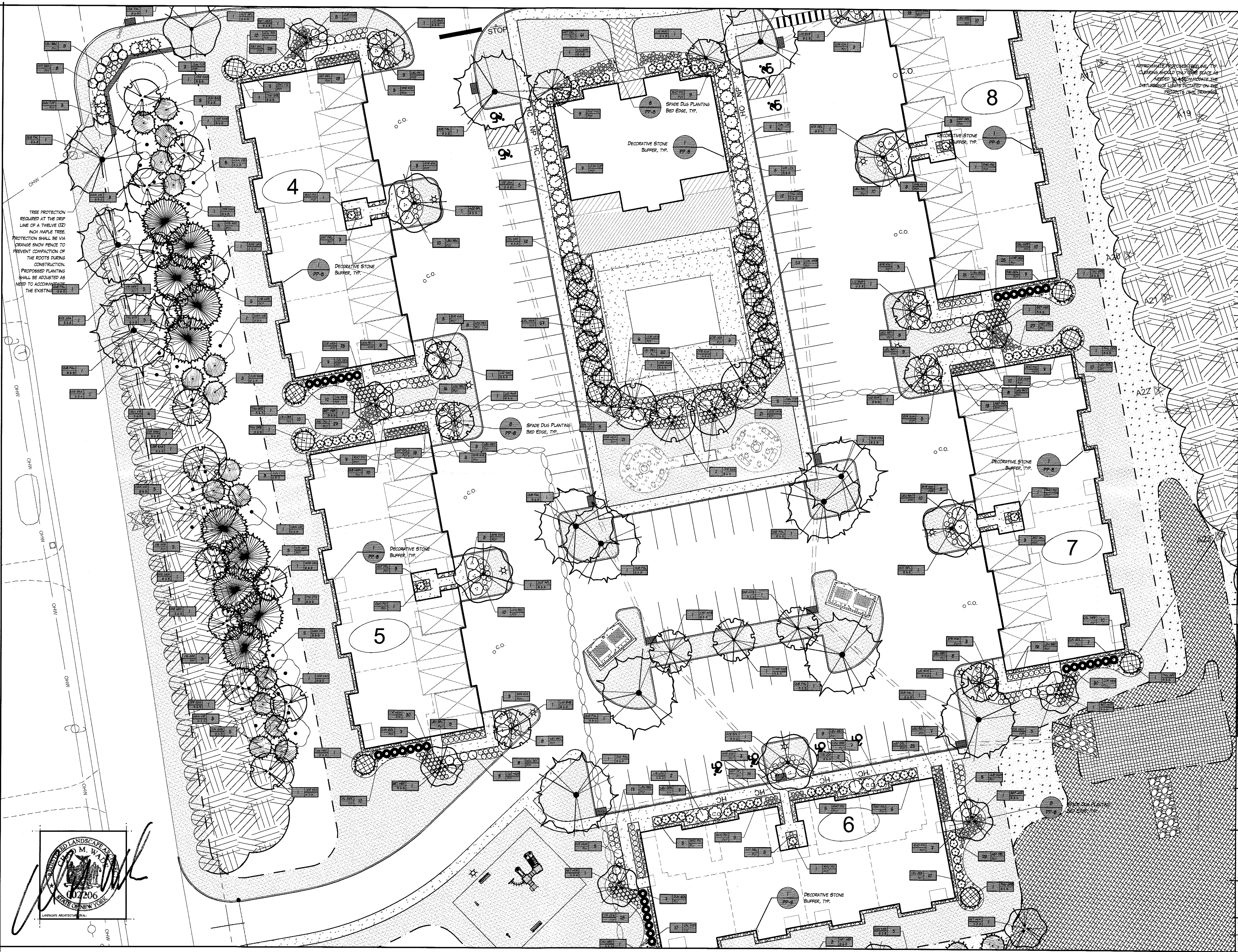
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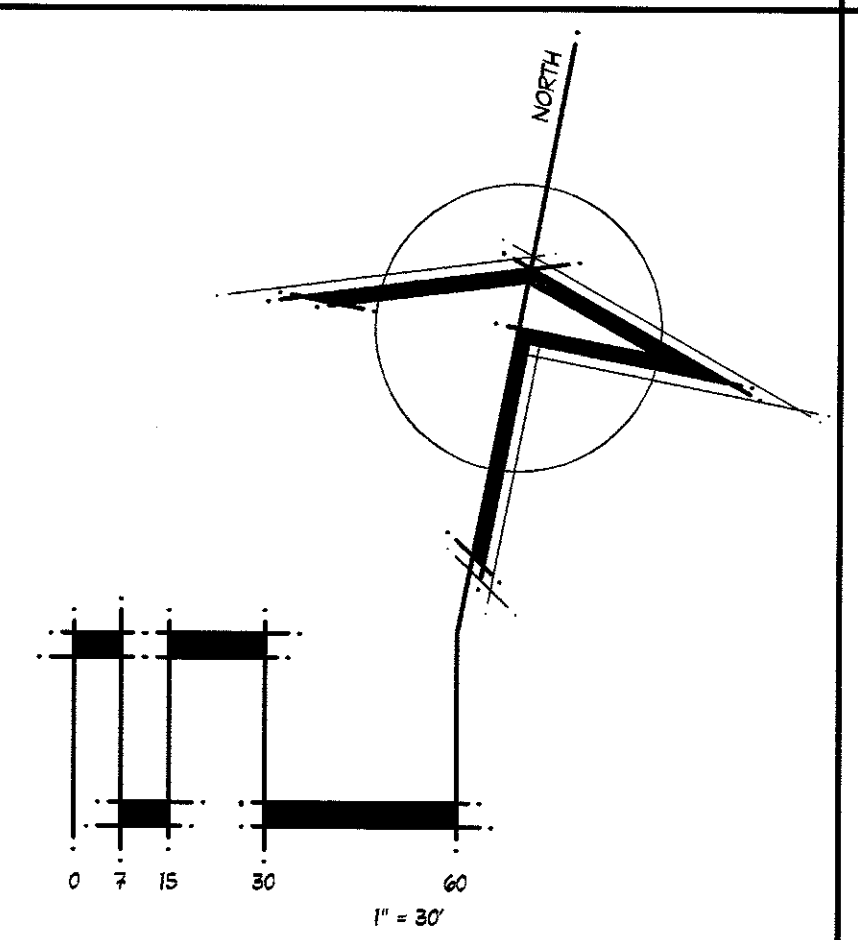
SHEET NO.:  
PP-4







TREE PROTECTION REQUIRED AT THE DROP LINE OF A TWELVE (12) INCH MAPLE TREE. PROTECTION SHALL BE VIA GRANITE SNOW PINE TO PREVENT COMPACTION OF THE ROOTS DURING CONSTRUCTION. PROPOSED PLANTINGS SHALL BE ADJUSTED AS NEEDED TO ACCOMMODATE THE EXISTING



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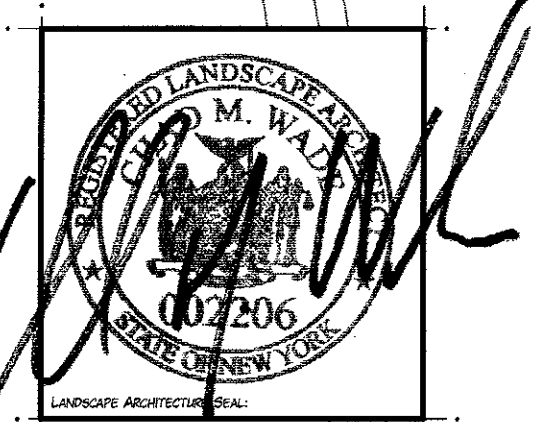
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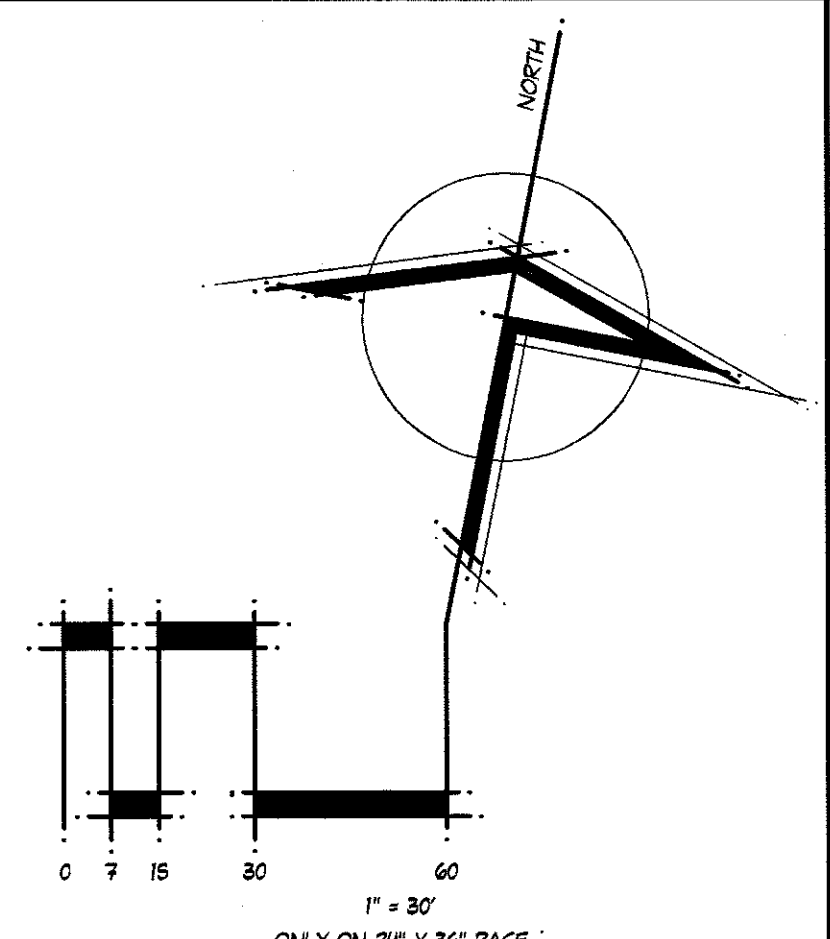
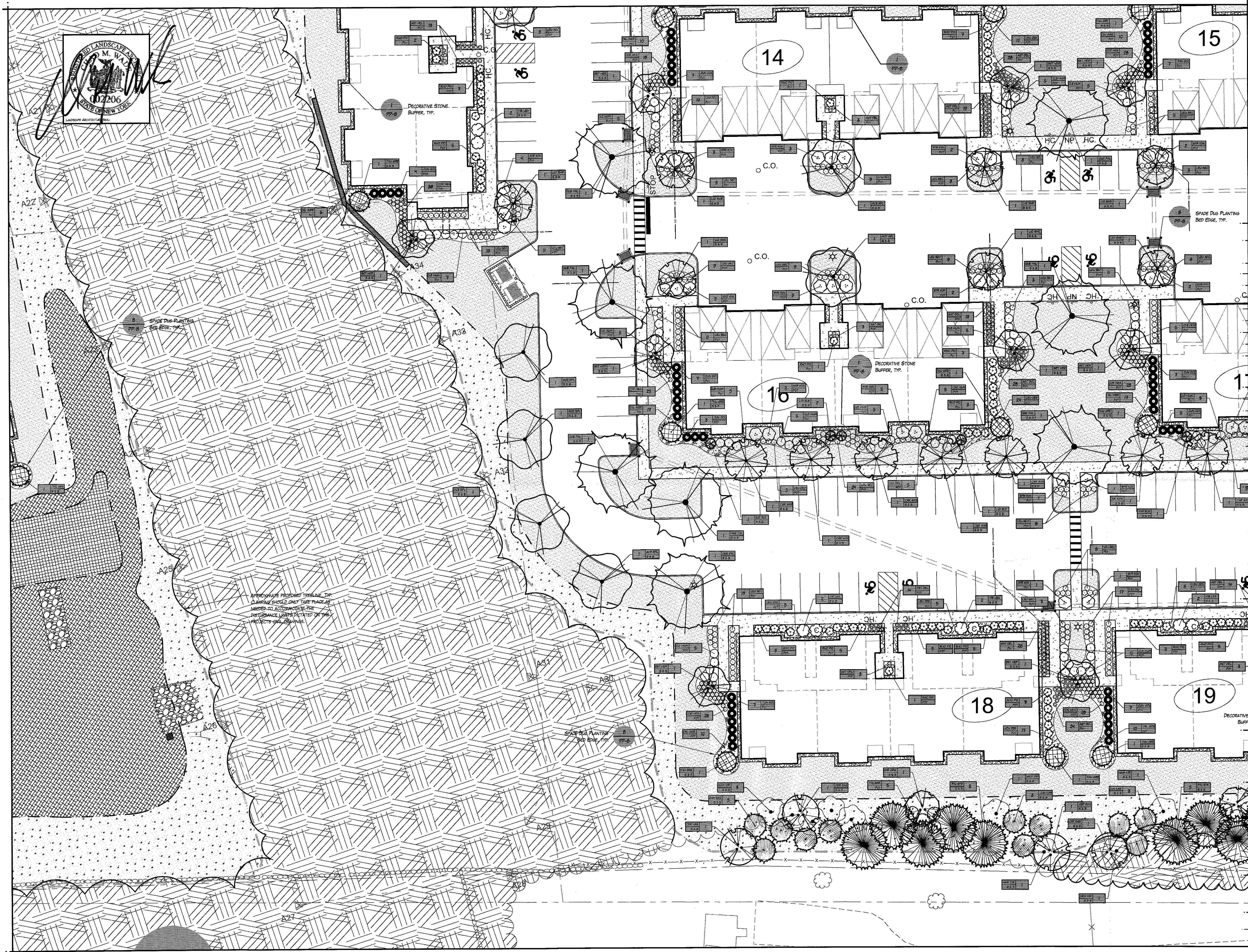
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**PLANTING PLAN  
DETAIL "D"**

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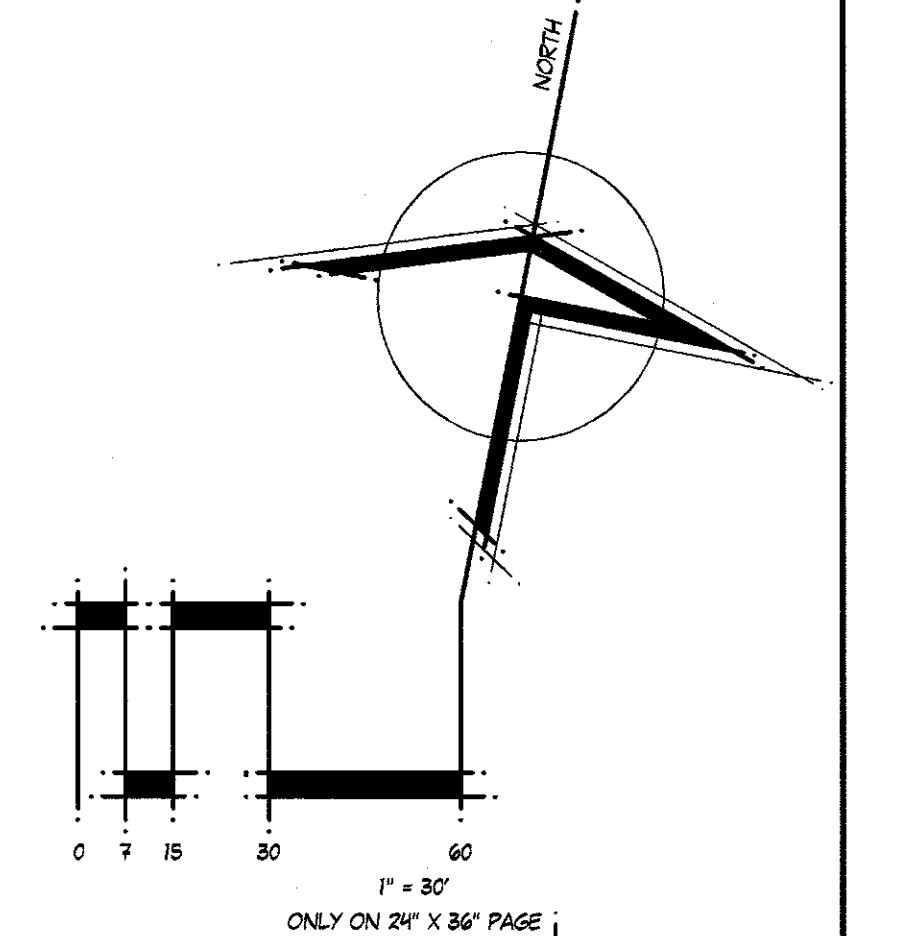
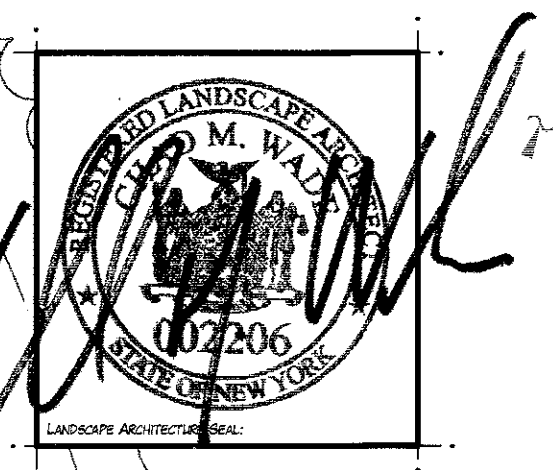
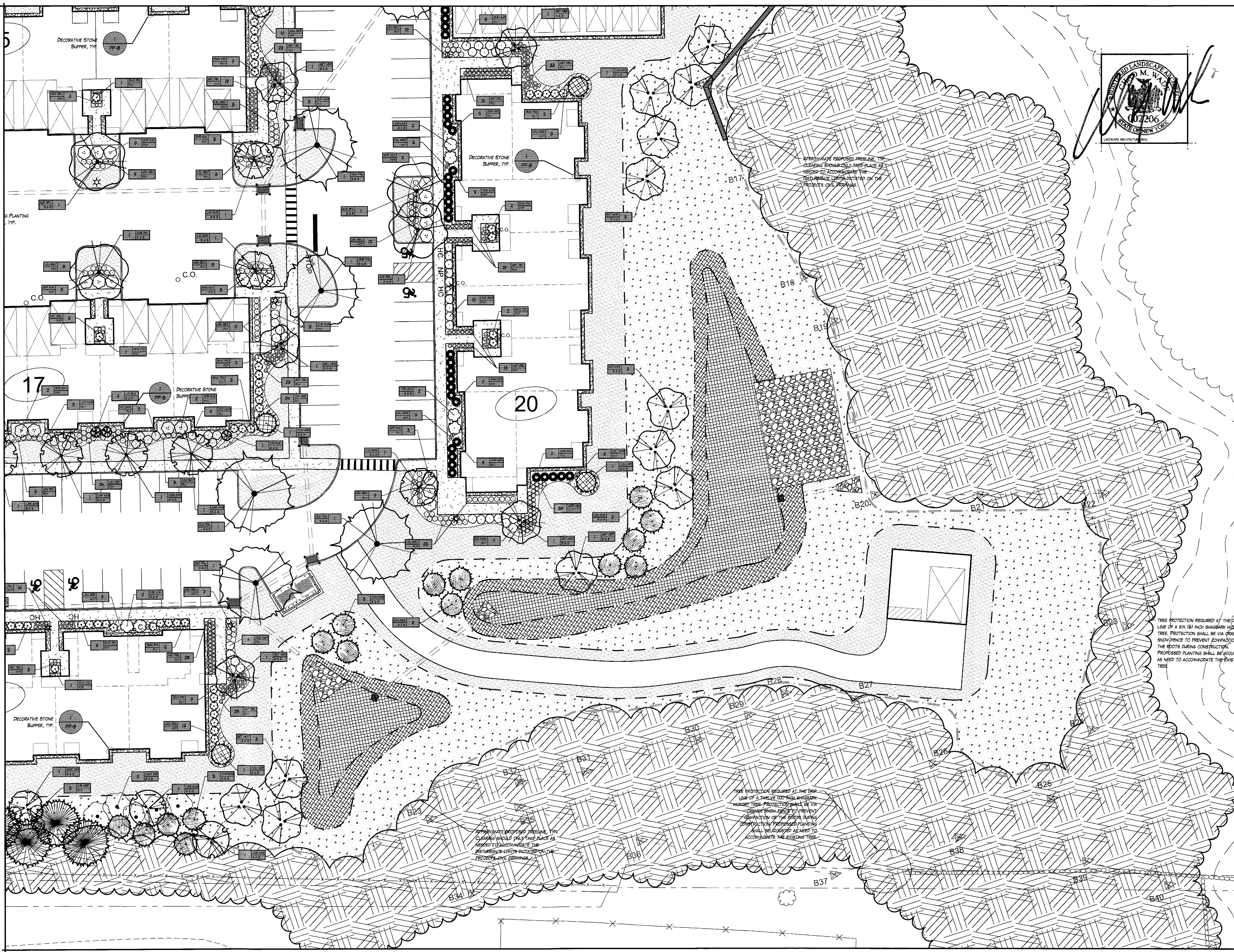
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**THE POLO CLUB  
TOWN OF NEWBURGH**

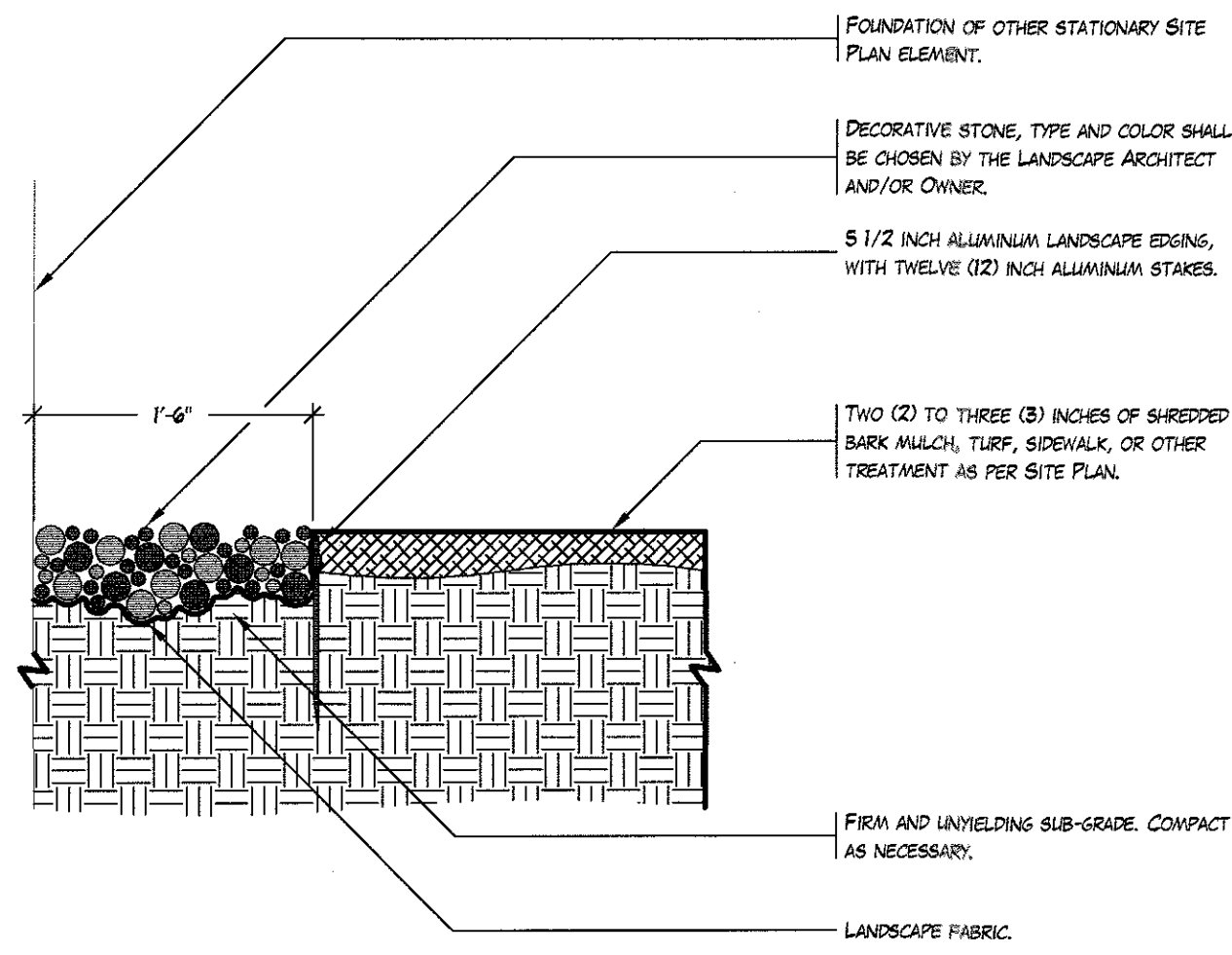
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NEWBURGH, NEW YORK 12550

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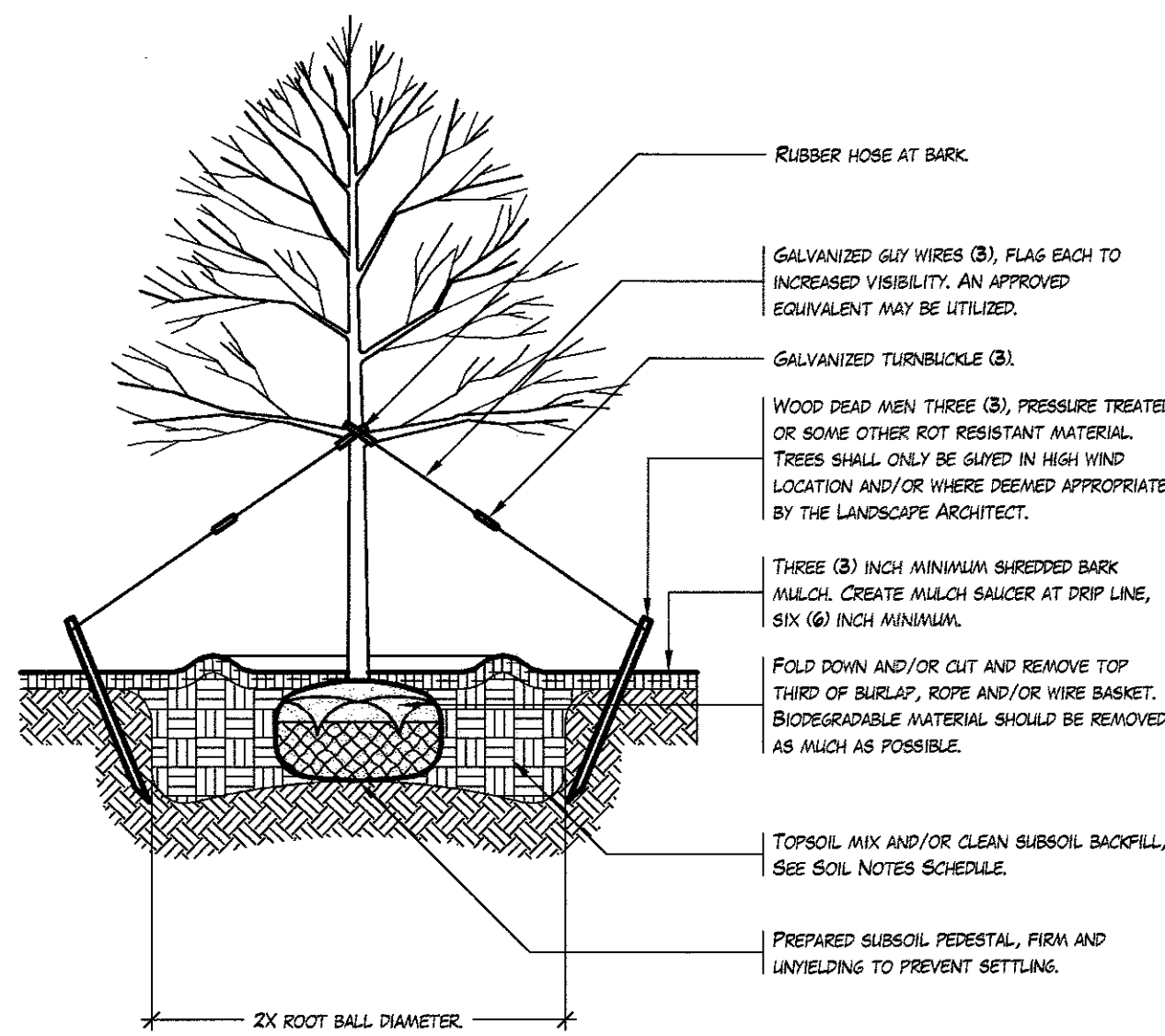
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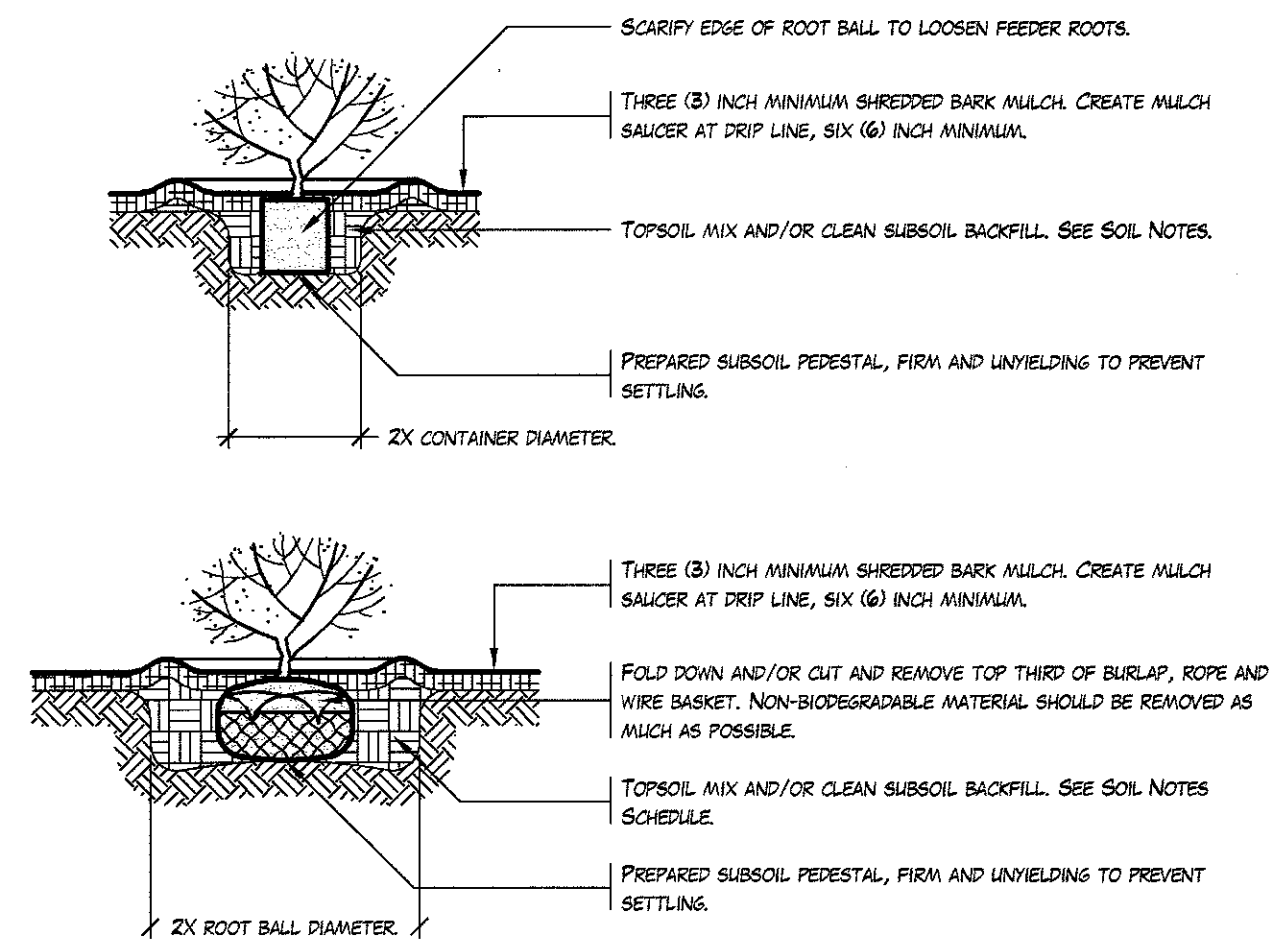
**1** STONE BUFFER

SCALE: 1" = 1'-0"



**4** DECIDUOUS TREE PLANTING AND GUYING

SCALE: 3/8" = 1'-0"



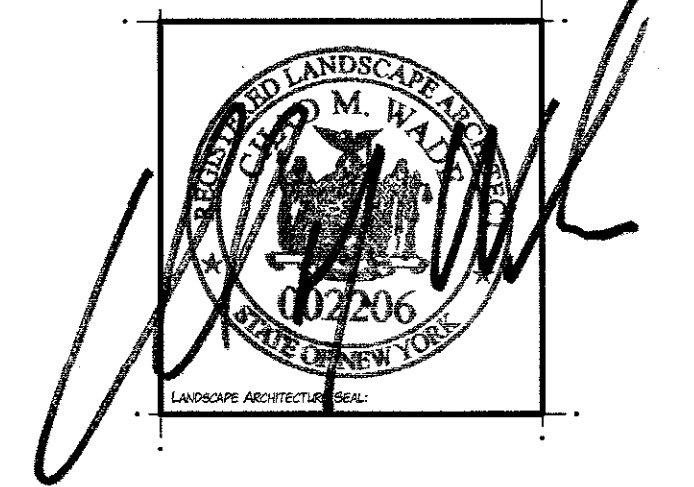
**6** CONTAINER AND B&B SHRUB PLANTING

SCALE: 3/8" = 1'-0"



Know what's below.  
Call before you dig.

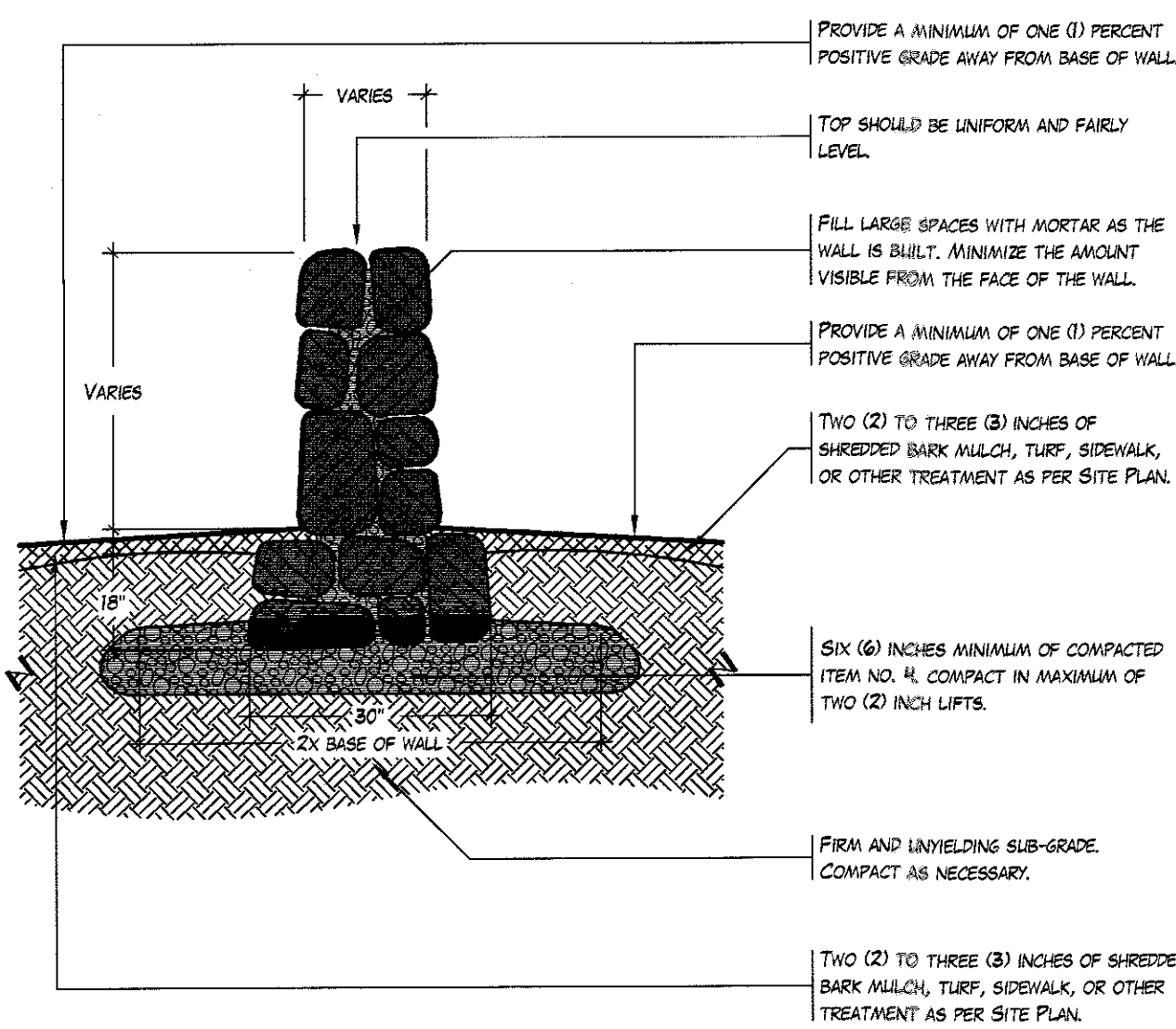
NOTIFY 811 AT LEAST FORTY-EIGHT (48) HOURS, EXCLUDING THE DAY OF THE NOTIFICATION, BEFORE ANY GROUND DISTURBANCE AND HAVE THE UNDERGROUND UTILITIES MARKED OUT. WAIT FOR THE AFFECTED UTILITY OPERATORS TO RESPOND, AND THEN CONFIRM THE UTILITIES HAVE BEEN ACCURATELY LOCATED. RESPECT THE IDENTIFIED LOCATIONS AND DIG ACCORDINGLY, TAKING PRECAUTIONS, ESPECIALLY WITHIN THE KNOWN TOLERANCE ZONE. IN THE EVENT MARK CUTS CANNOT BE MAINTAINED AND/OR GROUND DISTURBANCE CONTINUES LONGER THAN TEN (10) DAYS, NOTIFY 811 AND REQUEST A RE-MARK.



DRAWING STATUS	ISSUE DATE
THIS SHEET IS PART OF THE PLAN SET ISSUED FOR	OCTOBER 8, 2020
CONCEPT APPROVAL	OF
PRELIMINARY APPROVAL	OF
FINAL APPROVAL	OF
PLANNING BOARD APPROVAL	OF
ZONING BOARD OF APPEALS APPROVAL	OF
BIDDING	OF
CONSTRUCTION	OF
OTHER	OF

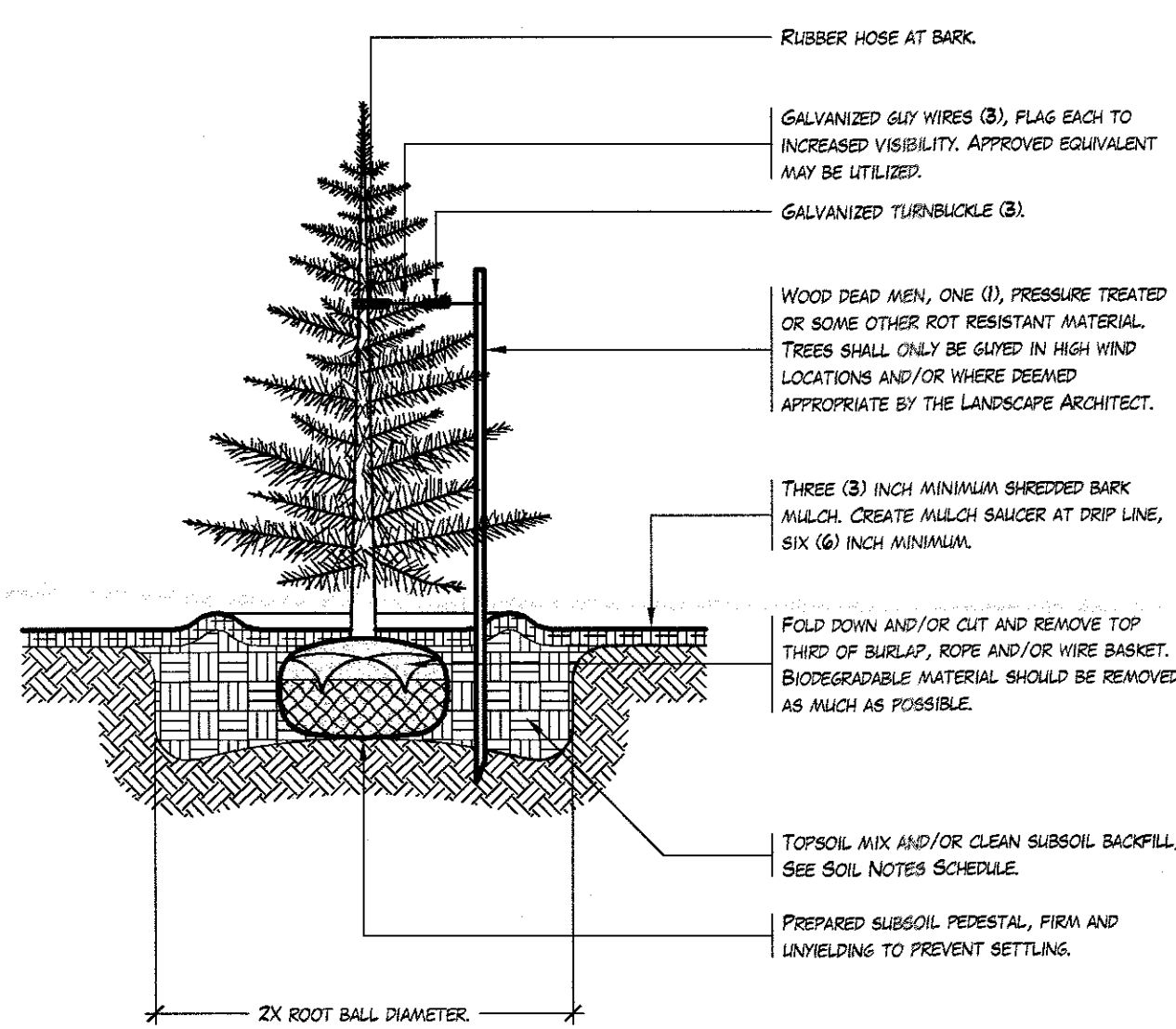
THIS PLAN SET HAS BEEN ISSUED SPECIFICALLY FOR THE APPROVAL OR ACTION NOTED ABOVE AND SHALL NOT BE USED FOR ANY OTHER PURPOSE. THIS SHEET SHALL BE CONSIDERED INVALID UNLESS ACCOMPANIED BY ALL SHEETS IN THE DENOTED PLAN SETS.

DATE	DESCRIPTION
09/29/2020	FB CONSULTANT COMMENTS
05/15/2020	DATE OF ORIGIN



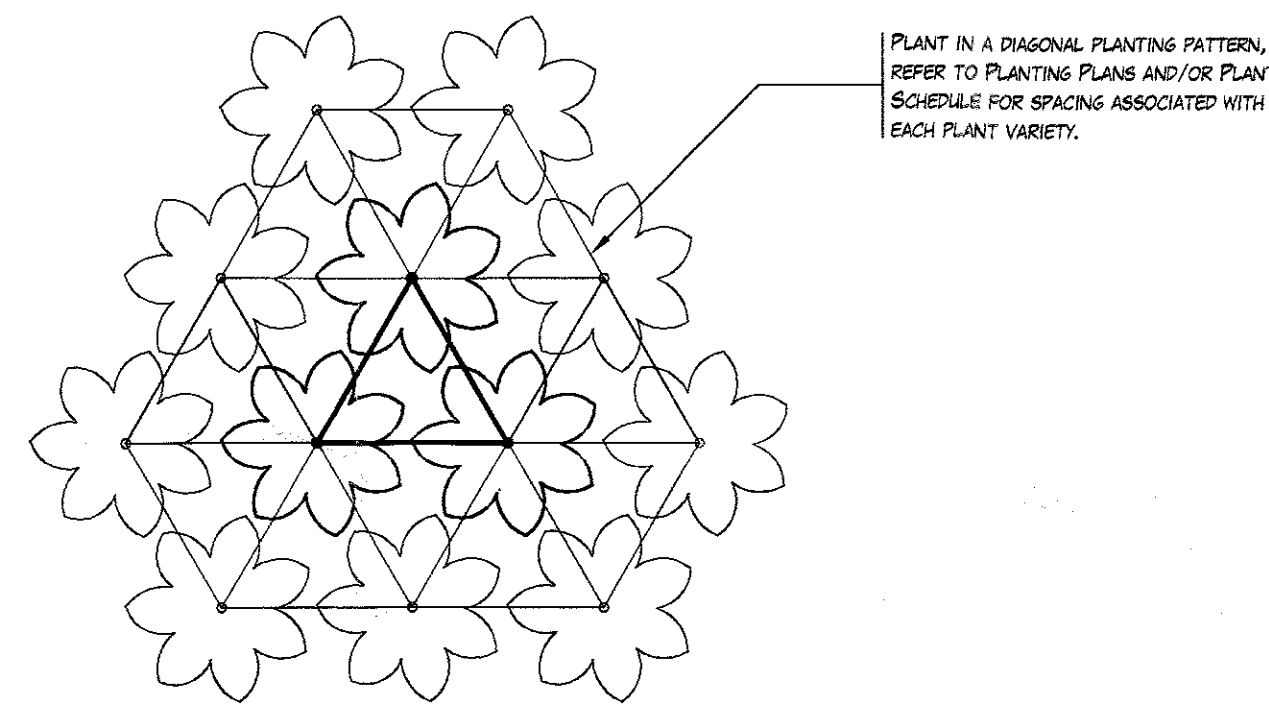
**2** INTERNALLY MORTARED STONE WALL/COLUMN

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



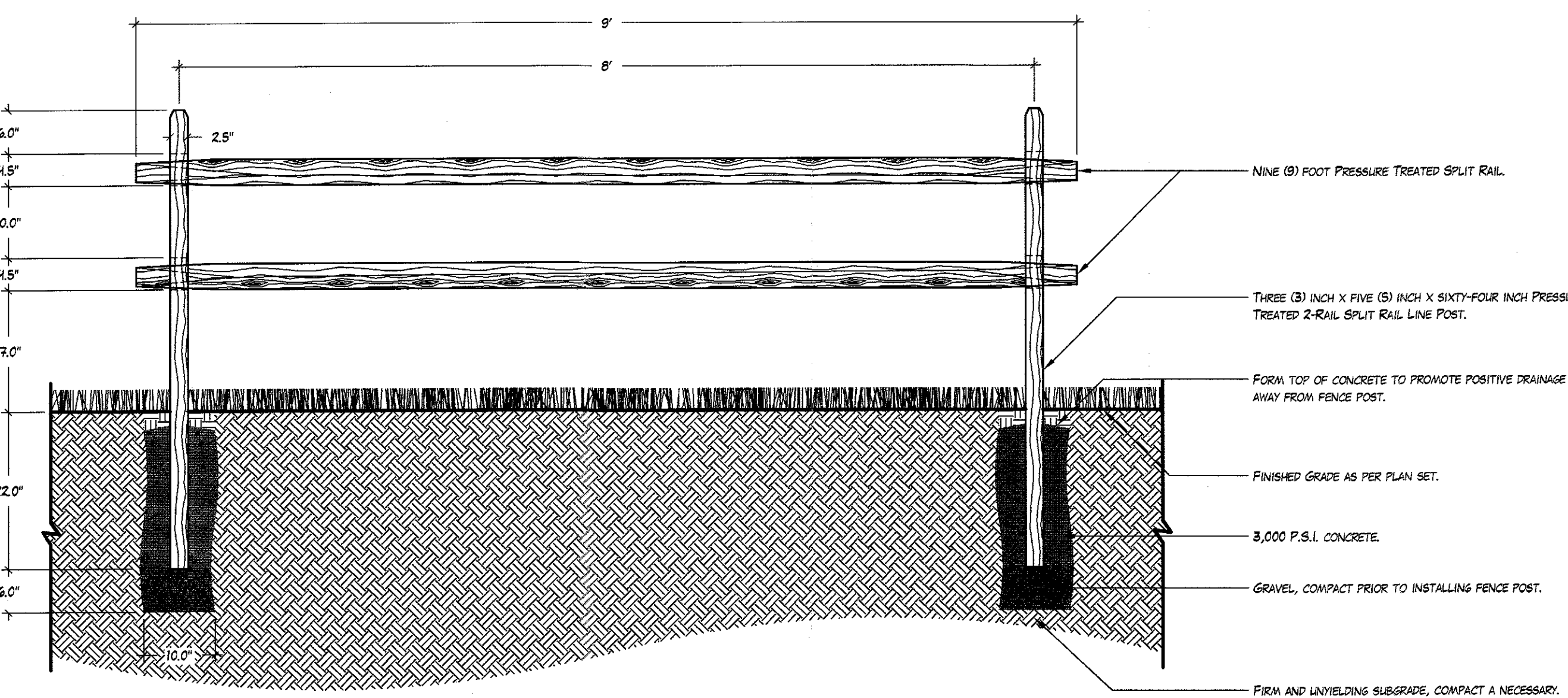
**5** EVERGREEN TREE PLANTING AND GUYING

SCALE: 3/8" = 1'-0"



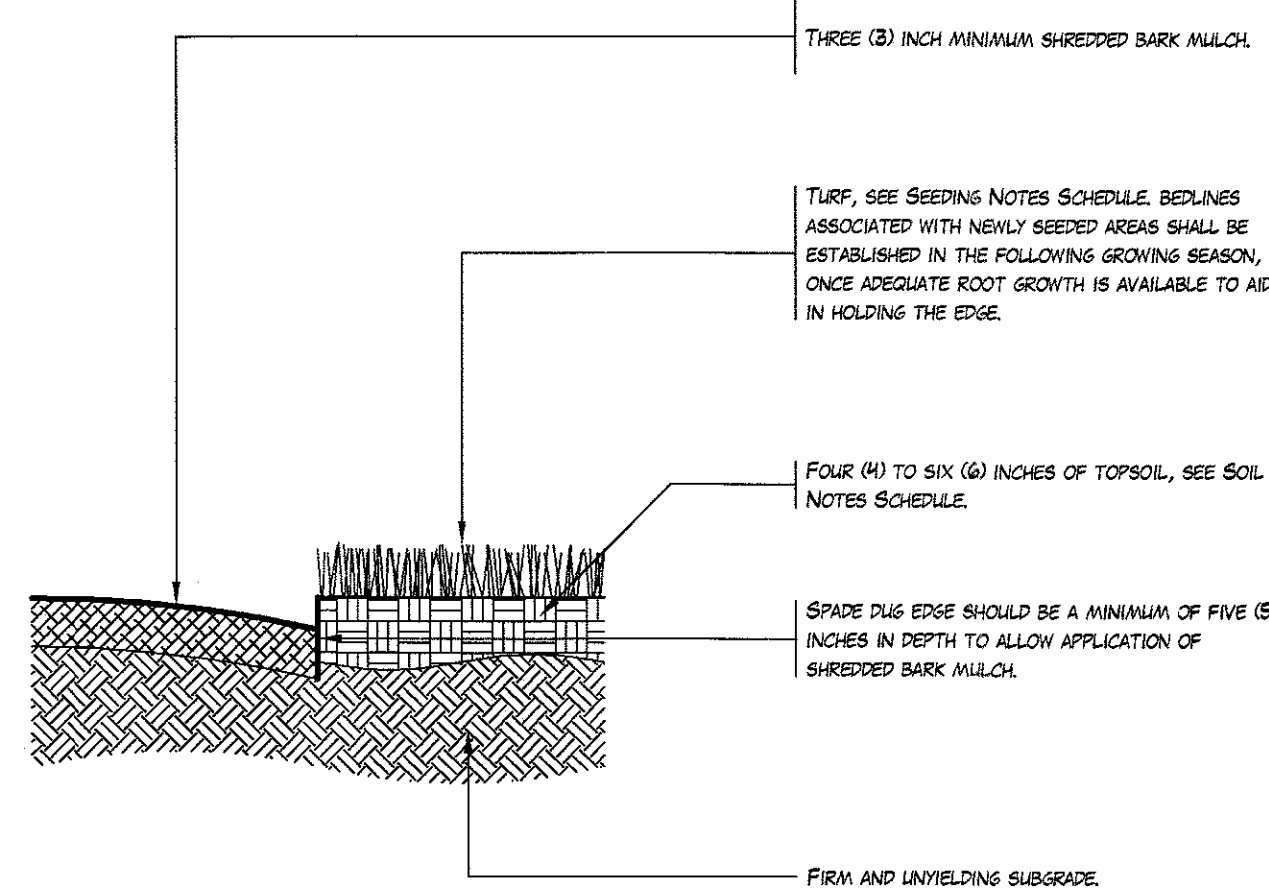
**7** PLANT SPACING

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



**3** TWO RAIL SPLIT RAIL FENCE

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



**8** SPADE DUG PLANTING BED EDGE

SCALE: 1" = 1'-0"



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VIEW US: WWW.LANDARCHSTUDIOS.COM  
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**THE POLO CLUB  
TOWN OF NEWBURGH**  
PROJECT TITLE:  
MEADOW CREEK DEVELOPMENT, LLC  
56 FAR HORIZONS DRIVE  
NEWBURGH, NEW YORK 12550  
PROJECT SPONSOR:

**PLANTING PLAN  
DETAILS AND NOTES**  
SHEET TITLE:  
CAD REFERENCE: OVERALL PLANTING PLAN.DWG  
PROJECT NUMBER: 2020.01  
DRAWN/CHECKED BY: C.M.W. / C.M.W.  
SHEET NO.: PP-8



# PLANTING NOTES:

Table with columns: SYMBOL, DESCRIPTION, DETAIL. Contains planting notes PN-101 through PN-109 regarding field conditions, material specifications, and site requirements.

# MAINTENANCE NOTES:

Table with columns: SYMBOL, DESCRIPTION. Contains maintenance notes MN-101 through MN-109 regarding plant care, watering, and pruning schedules.

# SEEDING SCHEDULE:

Table with columns: SYMBOL, DESCRIPTION, QTY, COMMON NAME, BOTANICAL NAME, CONTAINER, SIZE, SPACING, MATURE HEIGHT, MATURE WIDTH, DETAIL. Lists seeding mixes (ER, ERW, ERN) and individual plant species with their quantities and specifications.

# SOIL NOTES:

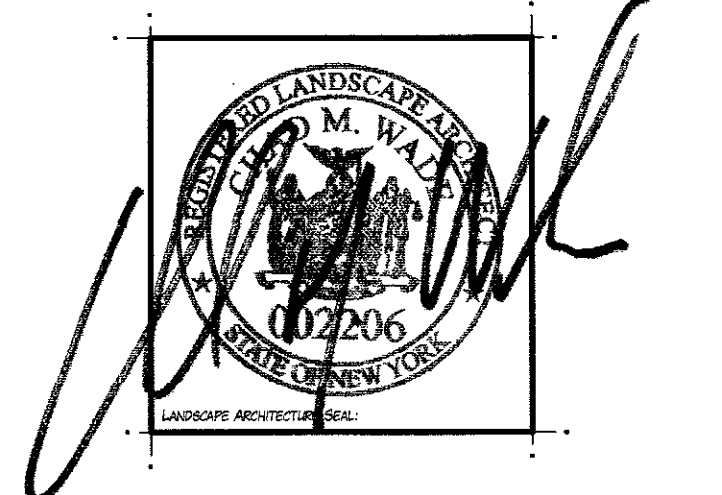
Table with columns: SYMBOL, DESCRIPTION. Contains soil notes SN-101 through SN-104 regarding topsoil requirements and stormwater planting specifications.

# SEEDING NOTES:

Table with columns: SYMBOL, DESCRIPTION. Contains seeding notes SE-101 through SE-106 regarding soil preparation and seeding rates for various areas.

# PLANT SCHEDULE:

Main plant schedule table with columns: COMMON NAME, BOTANICAL NAME, CONTAINER, SIZE, SPACING, MATURE HEIGHT, MATURE WIDTH, DETAIL. Lists various plants like Acer, Betula, Carpinus, etc. with their respective specifications.



Drawing status table with columns: DRAWING STATUS, SHEET NO., and DATE. Lists stages like CONCEPT APPROVAL, PRELIMINARY APPROVAL, etc.

THIS PLAN SET HAS BEEN ISSUED SPECIFICALLY FOR THE APPROVAL OR ACTION NOTED ABOVE AND SHALL NOT BE USED FOR ANY OTHER PURPOSE...

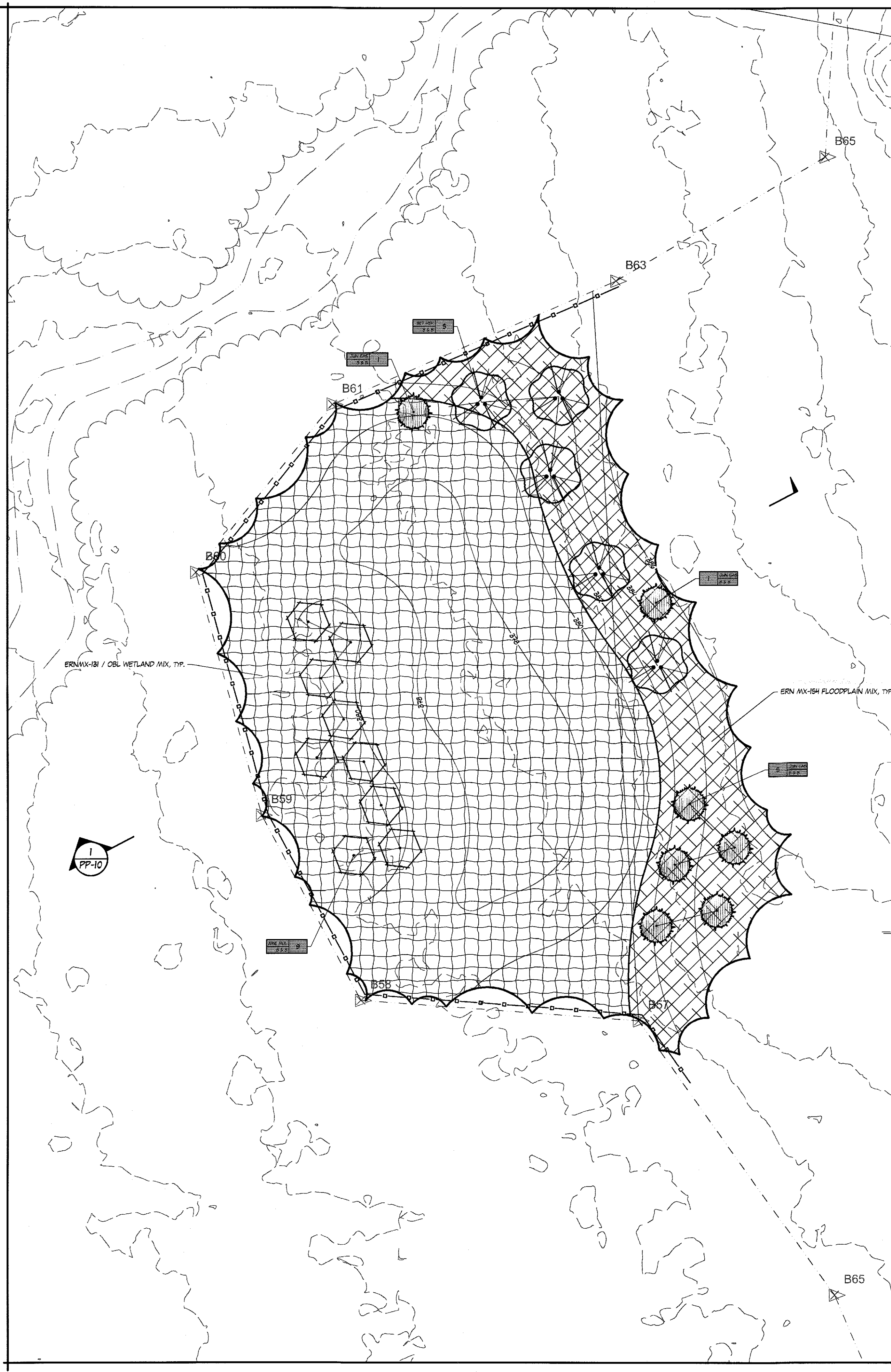


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Project information section including THE POLO CLUB TOWN OF NEWBURGH, MEADOW CREEK DEVELOPMENT, LLC, and planting plan details.





**PLANT SCHEDULE:**

DECIDUOUS TREES	QTY	COMMON NAME	BOTANICAL NAME	CONTAINER	SIZE	SPACING	MATURE HEIGHT	MATURE WIDTH	DETAIL
BET HER	5	HERITAGE RIVER BIRCH MULTI-TRUNK VARIETY	BETULA NIGRA 'HERITAGE'	B & B	14 TO 16' HEIGHT	PER PLAN	40 TO 70'	40 TO 70'	2/PP-8
EVERGREEN TREES	QTY <th>COMMON NAME</th> <th>BOTANICAL NAME</th> <th>CONTAINER</th> <th>SIZE</th> <th>SPACING</th> <th>MATURE HEIGHT</th> <th>MATURE WIDTH</th> <th>DETAIL</th>	COMMON NAME	BOTANICAL NAME	CONTAINER	SIZE	SPACING	MATURE HEIGHT	MATURE WIDTH	DETAIL
JUN EAS	7	EASTERN RED CEDAR	JUNIPERUS VIRGINIANA	B & B	5' TO 7' HEIGHT	PER PLAN	30 TO 65'	6 TO 25'	3/PP-8
DECIDUOUS SHRUBS	QTY <th>COMMON NAME</th> <th>BOTANICAL NAME</th> <th>CONTAINER</th> <th>SIZE</th> <th>SPACING</th> <th>MATURE HEIGHT</th> <th>MATURE WIDTH</th> <th>DETAIL</th>	COMMON NAME	BOTANICAL NAME	CONTAINER	SIZE	SPACING	MATURE HEIGHT	MATURE WIDTH	DETAIL
AME HILL	9	SHADBLOW SERVICEBERRY MULTITRUNK	AMELANCHIER CANADENSIS	B & B	6' TO 10' HEIGHT	PER PLAN	25 TO 30'	15 TO 20'	4/PP-8

**SEEDING SCHEDULE:**

**ER N MIX-154 FLOODPLAIN MIX** 7,256 SF  
 APPLY AT A RATE OF TWENTY (20) LBS. PER ACRE WITH A COVER CROP OF GRAIN RYE AT THIRTY (30) LBS. PER ACRE. PERCENTAGES ARE BASED UPON THE SEED MIX, AS OF SEPTEMBER 2018, DEVELOPED BY ERNST CONSERVATION SEEDS, INC., 8894 MERZER PIKE, MEADVILLE PENNSYLVANIA 16355. PLEASE NOTE, SPECIES PERCENTAGES ARE APPROXIMATE AND MAY BE ROUNDED TO THE NEXT WHOLE NUMBER.

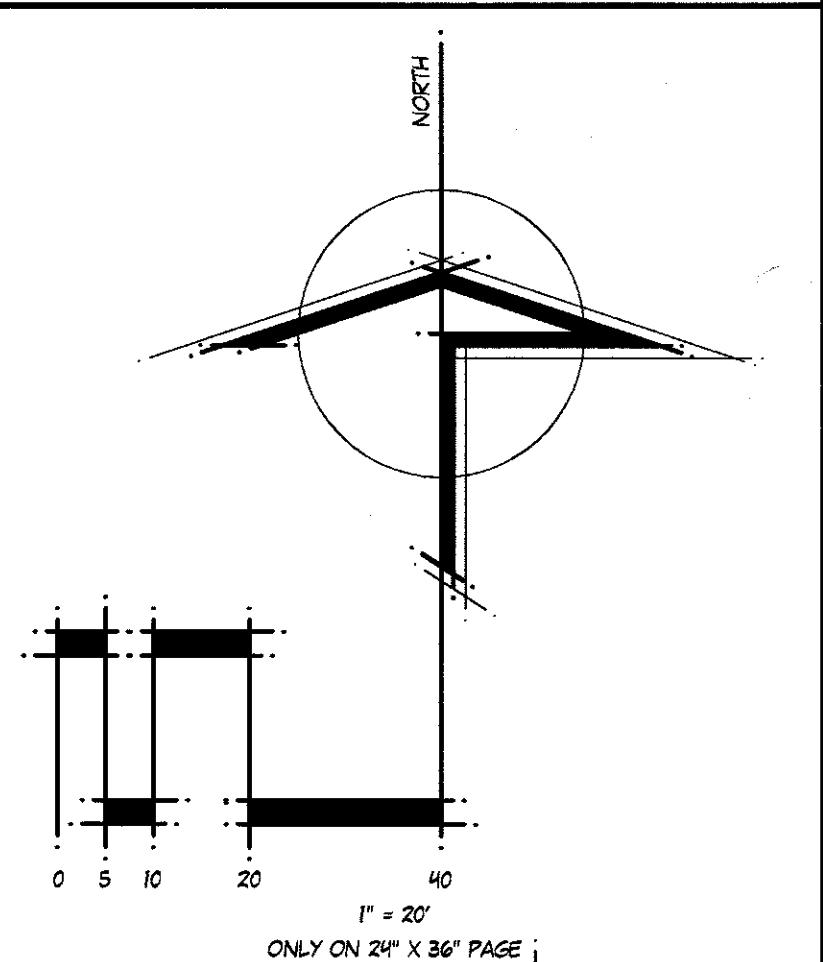
ANDROPOGON GERARDII / BIG BLUE STEM  
 ASCLEPIAS INCARNATA / SWAMP MILKWORT  
 ASTER NOVAE-ANGLIAE / NEW ENGLAND ASTER  
 CAREX LURIDA / LURID SEDGE  
 CAREX SCOPARIA / BROOM SEDGE  
 CAREX VULPINOIDEA / BROWN FOX SEDGE  
 DESMODIUM PANICULATUM / NARROW-LEAF TICK TROPEL  
 ELYMUS RIPARIUS / RIVERBANK RYE  
 ELIPATORUM FISTULOSUM / JOE PYE WEEED  
 ELIPATORUM PERULATUM / COMMON BONESSET  
 HELENIUM AUTUMNALE / SNEEZEWEED  
 JUNCUS EFFUSUS / SOFT RUSH  
 MIMULUS RINSENSIS / MONKEYFLOWER  
 MONARDA FISTULOSA / BERGAMOT  
 PANICUM CLAUDEANUM 'TIGSA' / TIGSA DEER TONGUE  
 PANICUM VIRGATUM 'SHAWNEE' / SHAWNEE SWITCH GRASS  
 VERBENA HASTATA / BLUE VERVAIN  
 VERONICA NOVEBORACENSIS / COMMON BLOODWED

**ER N MIX-181 / OBL WETLAND MIX** 19,988 SF  
 APPLY AT A RATE OF TWENTY (20) LBS. PER ACRE. PERCENTAGES ARE BASED UPON THE SEED MIX, AS OF SEPTEMBER 2018, DEVELOPED BY ERNST CONSERVATION SEEDS, INC., 8894 MERZER PIKE, MEADVILLE PENNSYLVANIA 16355. PLEASE NOTE, SPECIES PERCENTAGES ARE APPROXIMATE AND MAY BE ROUNDED TO THE NEXT WHOLE NUMBER.

ALISHA SUBCORDATUM / WATER PLANTAIN  
 ASCLEPIAS INCARNATA / SWAMP MILKWORT  
 ASTER FLAVUS / PURPLESTEM ASTER  
 ASTER LUMBELLATUS / FLAT-TOPPED ASTER  
 CAREX LUPULINA / HOP SEDGE  
 CAREX LURIDA / LURID SEDGE  
 CAREX SCOPARIA / BROOM SEDGE  
 CAREX VULPINOIDEA / BROWN FOX SEDGE  
 CHELONE GLABRA / WHITE TURTLE-HEAD  
 ELIPATORUM MACULATUM / JOE PYE WEEED  
 ELIPATORUM PERULATUM / COMMON BONESSET  
 IRIS VERSICOLOR / BLUE FLAG  
 JUNCUS EFFUSUS / SOFT RUSH  
 LUDWIGIA ALTERNIFOLIA / SEEDBOX  
 MIMULUS RINSENSIS / MONKEYFLOWER  
 ONOCLEA SENSIBILIS / SENSITIVE FERN  
 SCORPUS OPPOSITIFOLIUS / WOOD GRASS  
 SCORPUS VALIDUS / GREAT BULLRUSH  
 SOLIDAGO PATULA / SWAMP GOLDENROD  
 SPARGANIUM AMERICANUM / EASTERN BUR REED  
 SPARGANIUM SUPERCILIOSUM / COMMON BUR REED  
 VERBENA HASTATA / BLUE VERVAIN

**WETLAND MITIGATION NOTES:**

- WM-101** OWNER, CONTRACTOR, AND ANY SUBCONTRACTORS SHALL ADHERE TO THE CONDITIONS OF THE U.S. ARMY CORPS OF ENGINEERS NATIONWIDE PERMIT EFFECTIVE MARCH 19, 2017, AND N.Y.S. DISTRICT CONDITIONS DATED MARCH 21, 2017, AND ANY APPENDIX.
- WM-102** THE DURATION OF CONSTRUCTION SHALL BE MINIMIZED TO THE MAXIMUM EXTENT PRACTICABLE RELATED TO A DISTURBANCE WITHIN THE EXISTING WETLAND BOUNDARY AND STREAM CORRIDORS, AS APPLICABLE.
- WM-103** EROSION AND SEDIMENT CONTROL PRACTICES AND POLLUTION PREVENTION MEASURES, COLLECTIVELY KNOWN AS BEST MANAGEMENT PRACTICES ("BMPs"), SHALL BE INSTALLED PRIOR TO ANY GROUND DISTURBANCE. INSTALLATION SHALL BE IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLANS, SWPPP, IF APPLICABLE, AND THE LATEST EDITION OF THE NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL.
- WM-104** LOW GROUND PRESSURE CONSTRUCTION EQUIPMENT SHALL BE REQUIRED FOR ALL WORK ASSOCIATED WITH WETLAND MITIGATION, INCLUDING ALL NECESSARY ACCESS ROADS. IN THE EVENT LOW GROUND PRESSURE EQUIPMENT IS NOT PRACTICABLE, TRADITIONAL CONSTRUCTION EQUIPMENT MAY BE USED IN CONJUNCTION WITH TIMBER MATS IN AN EFFORT TO MINIMIZE COMPACTION. TIMBER MATS TREATED WITH PENTACHLOROPHENOL OR CREOSOTE SHALL NOT BE USED.
- WM-105** REFUELS OF CONSTRUCTION EQUIPMENT MUST TAKE PLACE AT LEAST 300 FEET AWAY FROM WETLAND BOUNDARIES AND WATERCOURSES.
- WM-106** TOPSOIL SHALL BE STRIPPED AND STOCKPILED FOR USE IN THE FINAL GRADING. SUBSOIL SHALL BE EXCAVATED, AND APPROPRIATELY DISCARDED OFFSITE, TO A MINIMUM DEPTH OF TWELVE (12) INCHES BELOW THE FINISHED GRADE. THE SUBSOIL SHALL BE ROUGH GRADED USING LOW GROUND PRESSURE CONSTRUCTION EQUIPMENT.
- WM-107** WETLAND TOPSOIL SHALL BE PLACED OVER THE PREPARED SUBSOIL SURFACE USING LOW GROUND PRESSURE CONSTRUCTION EQUIPMENT. THE WETLAND TOPSOIL WILL BE UNIFORMLY GRADED TO A MINIMUM THICKNESS OF TWELVE (12) INCHES.
- WM-108** MICROTOPOGRAPHY WITHIN THE WETLAND TOPSOIL LAYER SHALL BE GRADED INTO THE FINISHED SURFACE AS SPECIFIED ON THE GRADING PLAN. THE SURFACE OF THE PLACED WETLAND TOPSOIL WILL BE CONTOURED USING A LOW GROUND PRESSURE CONSTRUCTION EXCAVATOR EQUIPPED WITH A FINISH BUCKET. THE FINISH WETLAND SURFACE WILL BE FORMED BY CREATING PITS AND MOUNDS RANGING IN HEIGHT OF SIX (6) INCHES BELOW THE FINAL GRADE AND DEPTH OF SIX (6) INCHES ABOVE THE FINAL GRADE, RESPECTIVELY. THE PEAKS OF EACH MICROTOPOGRAPHY MOUND SHALL BE SPACED APPROXIMATELY TWENTY (20) FEET APART ON CENTER.
- WM-109** WOODY DEBRIS (E.G., LOGS AND BRANCHES) GENERATED DURING CLEARING AND GRUBBING WORK SHALL BE SCATTERED THROUGHOUT THE WETLAND MITIGATION AREA AT A RATE OF FIFTY (50) UNITS EACH OF LOGS AND BRANCHES DISTRIBUTED EVENLY PER ACRE OF WETLAND MITIGATION AREA TO ADD STRUCTURE, ADDITIONAL MICROTOPOGRAPHY, AND A LONG-TERM SOURCE OF REGENERATING ORGANIC MATERIAL. LOGS SHALL MEAN WOODY DEBRIS TWELVE (12) TO THIRTY-SIX (36) INCHES IN DIAMETER AND EIGHT (8) TO TWENTY (20) FEET IN LENGTH. BRANCHES SHALL MEAN WOODY DEBRIS TWO (2) TO TWELVE (12) INCHES IN DIAMETER AND MINIMUM EIGHT (8) FEET IN LENGTH. IT IS PREFERRED THAT BRANCHES RETAIN SMALLER OFFSHOOTS AND LEAVES WHERE POSSIBLE.
- WM-110** THE ORANGE COUNTY SOIL SURVEY INDICATES THAT THE MITIGATION AREA IS COMPRISED CHIEFLY OF ERE EXTREMELY STONY SOILS, GENTLY SLOPING (ESB). THIS SOIL TYPE IS WELL SUITED FOR WETLAND MITIGATION SINCE, (1) ESB SOILS ARE HYDROLOGIC SOILS GROUP "D", (2) ARE CLASSIFIED AS SOMEWHAT POORLY DRAINED SLT LOAM, (3) THE DEPTH TO WATER TABLE IS SIX (6) TO EIGHTEEN (18) INCHES, PERCHED ABOVE THE FRAGIPAN DURING SPRINGS AND OTHER WET PERIODS, (4) PERMEABILITY IN ESB SOILS IS MODERATELY LOW IN MOST CASES. LOW PERMEABILITY RESULTS IN WET SOILS FOR PROLONGED PERIODS.

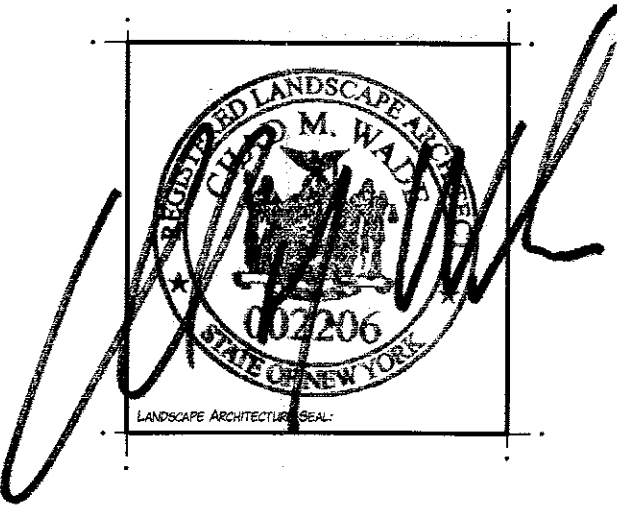


**DRAWING STATUS** DATE: OCTOBER 8, 2020

THIS SHEET IS PART OF THE PLAN SET ISSUED FOR	SHEET NO.
CONCEPT APPROVAL	OF
PRELIMINARY APPROVAL	OF
FINAL APPROVAL	OF
PLANNING BOARD APPROVAL	10 OF 10
ZONING BOARD OF APPEALS APPROVAL	OF
BIDDING	OF
CONSTRUCTION	OF
OTHER	OF

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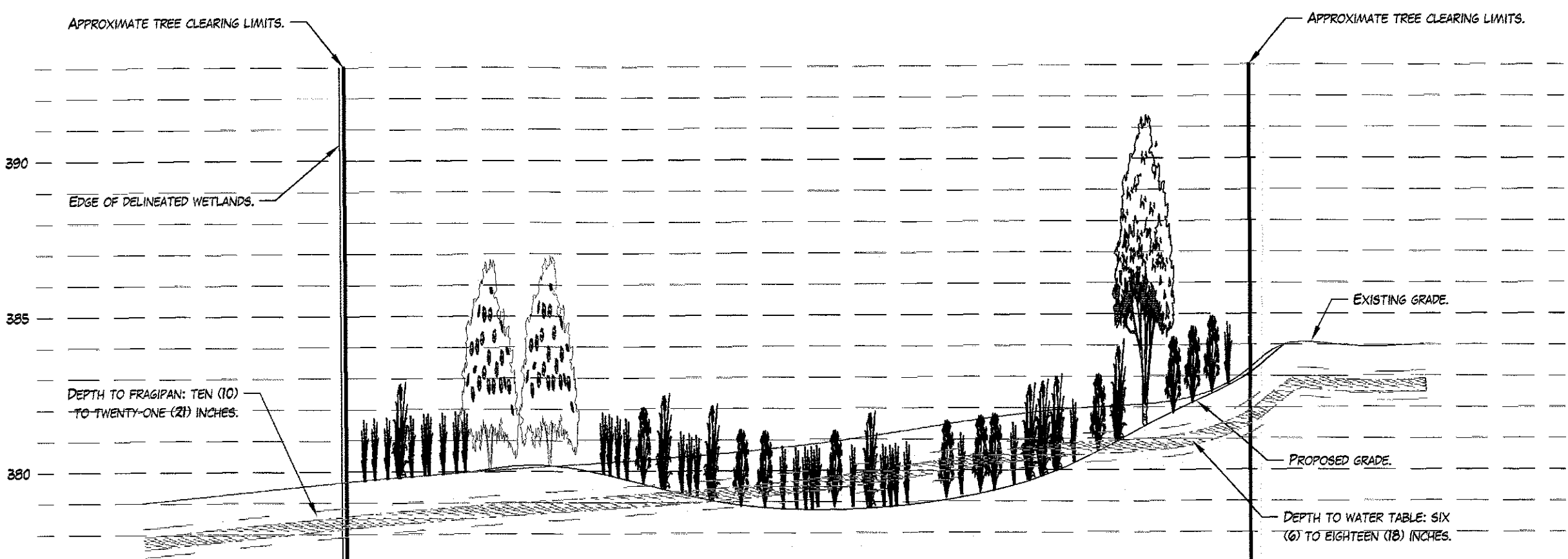
DATE	DESCRIPTION
09/29/2020	PS CONSULTANT COMMENTS
09/30/2020	DATE OF ORIGIN



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**1 WETLAND MITIGATION CROSS-SECTION A-A**

**THE POLO CLUB**  
**TOWN OF NEWBURGH**  
 PROJECT TITLE: MEADOW CREEK DEVELOPMENT, LLC  
 56 FAR HORIZONS DRIVE  
 NEWBURGH, NEW YORK 12550  
 PROJECT SPONSOR:  
 SHEET TITLE: WETLAND MITIGATION PLAN  
 SHEET NO.: PP-10  
 HORIZONTAL SCALE: 1" = 20', VERTICAL SCALE: 1" = 5'