

NY OFFICE

845.357.4411 Tel. 74 Lafayette Avenue Suite 501 845.357.1896 Fax Suffern, NY 10901

201.750.3527 Tel.

NJ OFFICE

22 Paris Avenue Suite 105 Rockleigh, NJ 07647

April 1, 2021

Village of Nyack **Planning Board** North Broadway Nyack, N.Y. 10960

The area of concern incorporates a fraction of the total Lot area. 0.8 acres of the 38 total acres in Nyack, the delineation to the property limits were provided as to analyze the site as a complete Drainage Area, although the majority of the land will remain undisturbed.

Attn: Don Yacopino- Construction Code Official

Re: Site Plan Review

Oak Hill Cemetery – Community Mausoleum

140 North Highland Avenue

NYK 0176

Drainage Review Comment 1) Contour interval used was 10 ft. Although this office may provide the image of 2 ft contour interval as background, it is of this writer opinion that the delineated areas will not significantly change the model ; therefore have no significant impact on the drainage design.

Dear Members of the Board,

I am in receipt of a submission with regard to the above captioned project consisting of the following:

- 1. Engineering Plans entitled "Community Mausoleum, Site Plan, Oak Hill Cemetery, prepared by Atlantic Consulting and Engineering, last revised 2-15-21, sheets – T- 1.0, EX-S, DA-X, DA-PRO, C-1, C-1.1, C-2, C-2.1, C-2.1, C-3, C-3.1, C-3.2, C-4, C-5: last revised 12-11-19 sheets - S-001, S-100, S-101, S-102, S-103, last revised 10-14-21 sheets AP-L, AP-L2.
- 2. Stormwater Pollution Prevention Plan prepared by Atlantic Consulting and Engineering, last dated 2-15-21.
- 3. Geophysical Investigation Survey prepared by Geod Corp, dated 6-12-13, sheet 1 of 1.

The applicant is proposing a new 4,200 SF, 1 story Community Mausoleum in Oak Hill Cemetery.

I offer the following review comments of the re-submission.

Drainage review comments:

- 1. The drainage watersheds should not be delineated on mapping with a contour interval greater than 50 feet. Rockland County Planning has mapping available with a contour interval of two feet.
- 2. The watershed delineations should be based on topography and not necessarily property lines/municipal boundaries. Acknowledged, although disturbed area of this re-development activity is within the confines of the property
- lines, having no impact on abutting neighbors.

 3. The drainage area for Subarea 25 in the hydrologic model is the same for existing and proposed conditions of 16.5 acres. Portions of this subarea are being diverted to the channel on North Highland Avenue, which is a known flooding area. Impacts of this diversion should be clearly demonstrated Noted: Shall be addressed although 0 The proposed conditions subarea delineation appears to have two additional subareas added for proposed.
- conditions. There is an additional subarea 5S included in the proposed conditions hydrologic model. This should be coordinated. Acknowledged: This will be addressed.
- 5. Rims and inverts should be added for catch basins, stormwater planters, diversion swale and infiltration trench.

Acknowledged, please see sheet C-1.1 Partial Site Plan Drainage and Grading for Rims and inverts provided. Additional Elevations and Proposed Finished Grade spot elevation will be provided.

Dennis Rocks, P.E., C.F.M

Acknowledged, please see Appendix C pg. 111 of SWPPP, Water Quality Volume Calculation,
Although only 75% of the total WQv is required to be treated, the provided storage treats 100% of BE# NYK0176
the WQv. Please note additional storage capacity of new proposed storm sewer and catch basins.

- 6. There appears to be only a nominal amount of storage available for stormwater runoff. Based on a building footprint of 108' x 36' feet and six stormwater planters, only 0.3 inches of rainfall runoff can be stored in the proposed mitigation.
- 7. The hydrologic model should also include the 100-year, 24-hour rainfall event Please see Comparison Table Attached.
- 8. The infiltration trench for stormwater is less than ten feet from the septic system leaching fields, which does not meet code requirements. **Noted: This will be addressed to conform to setback regulations**
- 9. The location of the proposed diversion swale shall be clearly shown and a detail provided. It appears to traverse existing gravesites. *Noted: This will be clarified.*
- 10. Provide a narrative and executive summary for the hydrologic model explaining methodology and selection of subareas. *Please see narrative on page 9 of SWPPP Section 4.0 Stormwater*
- 11. We will review the revised SWPPP when the drainage comments noted above are addressed and the SWPP is updated accordingly.
- 12. A Stormwater Maintenance Agreement shall be executed with the Village. Acknowledged.

Noted: See Sheet C-1.1 for 2 foot contour intervals at disturbed areas, as well as spot elevations from field survey. This writer determined that the exercise of providing 2 ft. contour interval for the entire site was unnecessary since the disturbance is only a fraction (0.8 acres) of the total lot (38 acres)

Site Plan review comments:

- 13. Though it is helpful to include a plan with aerial photography, the basis of the design of a site plan shall be a topographic survey with 2-foot contours. This topographic information is readily available through the Rockland County Planning. The source and datum of the topographic information shall be provided. Sheet C-3.2 is noted as the Mausoleum Grading Plan but existing topographic information and proposed grading is not clearly shown. A Grading Plan shall be developed clearly presenting existing topography, contour lines and proposed grades.
- 14. The ADA access shall be fully designed per ADA regulations and spot elevations noted. Details of the ramp shall be provided. **Noted: Ramp is designed per ADA regulations, additional spot elevations and details provided.**
- 15. There are substantial retaining walls proposed. Signed, stamped structural calculations will be required to be submitted to the building department. Certification from an engineer will be required to be submitted to the building department noting the retaining walls were built in accordance with the approved structural plans and calculations. Noted: Structural Engineer may provide and certify as required for the building dept.
- 16. The septic review and approval are within the jurisdiction of the Rockland County Department of Health. Acknowledged
- 17. Sheet C-3.1 indicates the extent of the proposed gas, water and electric utility extensions. The Erosion Control Plan shall incorporate all disturbed areas into the plan. *Noted: Silt fence will be provided in this area on sheet C-3.1*
- 18. Sheet C-3.2 notes "possible additional off-road parking". The response letter indicates additional parking is not needed and not proposed. Kindly clarify. *Noted and will be clarified.*
- 19. The location of the concrete wash out area shall be shown on the plan; the note provided on sheet C-4 in not clear. A detail shall be provided. **Noted: See Sheet C-3 provided as Attachment to this response.**
- 20. Proposed signage shall be show Acknowledged, although no signage has been proposed for this re-devel., Please clarify TBD
- 21. All construction details shall be provided.

Noted: Pertinent details provided and use of 2016 Blue Book details where applicable were used, additional details to include Catch Basin, ADA Ramp Details, Stormwater infiltration detail (more detailed) shall be provided during the construction stage.

Sincerely,

Eve Mancuso, PE, CME

Partner

BROOKER ENGINEERING, PLLC

P:\VILLAGES\NYK Village of Nyack\NYK0176 Mauseleum, Oak Hill Cemetery\Rev 2.docx

APPENDIX C (SECTION OF) WATER QUALITY VOLUME CALCULATION.

Atlantic Consulting and Engineering

525 John Street • Second Floor Bridgeport, CT 06604

(203) 333-9465 (203) 336-1769 FAX Note: Calculation considers Total Contributing surface

area in Orangetown. Sheet No. 1 of 1

Complete

Project: Oak Hill Cemetery - Proposed Mausoleum

 140 North Highland Ave.
 Date:
 9/23/20

 Nyack, NY
 Revised:
 11/23/20

 Revised:
 2/12/21

Subject: Water Quality Volume Calc

New York Stormwater Management Design Manual Methodology

d By: SDU

Drainage Checked

Area: Contributing Disturbed Area By:

Step 1: Calculate Water Quality Volume, (WQv)

Step 1: Calculate Water Quality Volume, (WQv) using the 90% Rule: (Table 4.1 New York Stormwater Sizing Criterial)

WQv(acre-feet) =(P x Rv x A) / 12

Where:

Rv = Runoff Coefficient for Impervious Cover = 0.05+0.009(I)

%I = Percent of Site in Impervious Cover (14.6 Percent)

P = (Inch)= 90 Percent Rainfall event number (See Figure 4.1)2

A = Site Area or Tributary Drainage Area (Acres) Total Contributing surface Area used

Design Parameters				Water Quality
P (in)	A (acre)	Rv	%I	Volume
				(Acre. Ft.)
1.5	0.7635	0.1814	14.600	0.01731

WQv = 0.01731 acre-ft or 754.02 Cu.Ft.

Considering the site a redevelopment per Chapter 9 - Sect. 9.2.1.B(III) of NYSWMDM 2015

The plan proposes the use of alternative SMPs to treat 75% of the WQv from the disturbed, impervious area as well as additional runoff from tributary areas not within the disturbed, impervious area

Volume Required to Store On-Site for Cleaning: (0.75 x 754.02 = 565.52 Cu.ft.)

565.52 cu.ft. 0.0130 acre-ft.

*NOTE:Volume provided by each Stormwater planter = (4' x 4' x 4')0.40 = 25.6 cu.ft. x # of planters (4) = 1024 cu.ft.

Volume provided by 140 If of underground infiltration pipe detention = 444.1 cu.ft.

Volume provided by (2) - 40 If underground pipe detention = 259.0 cu.ft. (for a total of 220 l.f. of trench)

102.4 + 444.1 + 259.0 Cu. ft. = 805.5 cu.ft. > 754 cu.ft. (100% WQv) therefore WQv standard is met.

4 UNITS 4' x 4' x 4' STORMWATER PLANTER CONNECTED BY 12" SLOTTED ADS N-12 STORM SEWER PIPE ENCASED IN 28" wide X 30" deep GRAVEL BED 220 L.F. LONG WILL PROVIDE STORAGE FOR THE WATER QUALITY VOLUME (FIRST FLUSH) ONLY. PEAK FLOW ATTENUATION IS NOT YET INCLUDED IN THIS CALCULATION / COUNT.

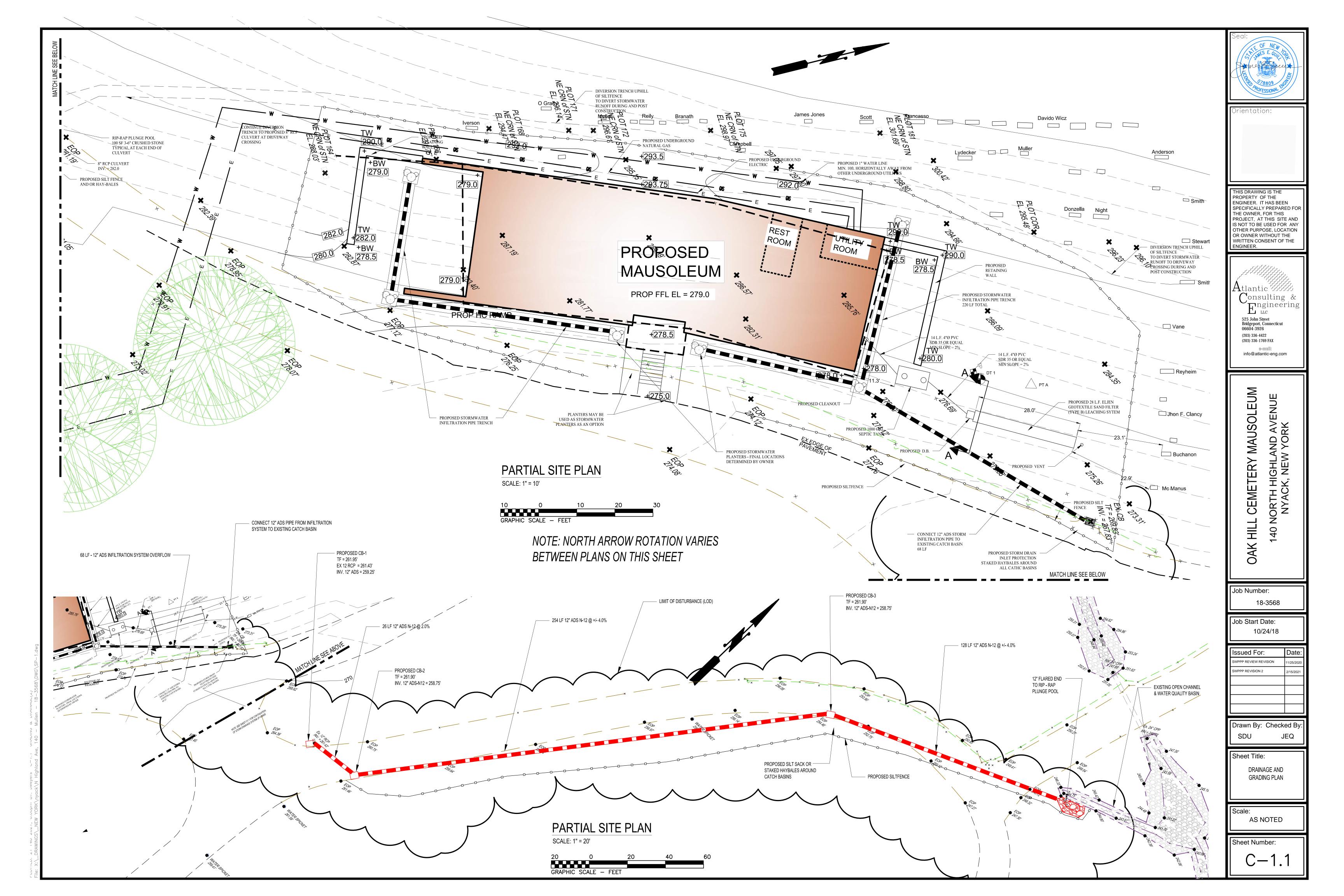
RRv (acre-feet)=Reduction of the total WQv by application of green infrastructure techniques and SMPs to replicate pre-development hydrology.

100% of the total Water Quality Volume has been provided by use of the Underground Infiltration ADS (Advanced Drainage System) Pipe Storage and Detention System as a Standard SMP (Stormwater Management Practice) and Green Infrastructure technique by use of Stormwater Planters.

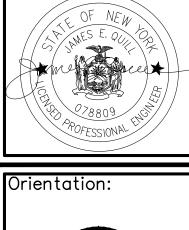
Comparison Table of Peak Flow Rates and Volume Between PRE & POST Development

STORM LINK/POC FLOW/VOLUME **EXISTING PROPOSED EVENT** Δ Δ (%) 8.65 7.43 -1.22 -14.1 LINK 1 $q (ft^3/s)$ 1 Year Storm (A) -9.7 $v (ft^3)$ 52712 47575 -5137 $q (ft^3/s)$ 13.28 -1.7 -12.8 LINK 1 11.58 2 Year Storm (A) 79199 -6443 v (ft³) 72756 -8.1 19.05 $q (ft^3/s)$ 21.69 -2.64 -12.2 LINK 1 5 Year Storm (A) v (ft³) 127610 119320 -8290 -6.5 $q (ft^3/s)$ 29.09 26.34 -2.75 -9.5 LINK 1 10 Year Storm (A) v (ft³) 170754 -9576 161178 -5.6 $q (ft^3/s)$ LINK 1 39.71 36.29 -3.42 -8.6 25 Year Storm (A) $v (ft^3)$ 222550 -4.7 233622 -11072 $q (ft^3/s)$ 47.83 43.94 -3.89 -8.1 LINK 1 50 Year Storm (A) -12018 $v (ft^3)$ 282405 270387 -4.3 $q (ft^3/s)$ 52.24 -7.7 56.62 -4.38 100 Year LINK 1 Storm (A) $v (ft^3)$ 335584 322688 -12896 -3.8

As shown in the above comparison table, there is a decrease in peak run-off (cfs) and volume (C.F.) for the Type III - 24-Hour storm events used in the analysis. (1-year through 100-year storm frequencies)







THIS DRAWING IS THE PROPERTY OF THE ENGINEER. IT HAS BEEN SPECIFICALLY PREPARED FOR ΓHE OWNER, FOR THIS PROJECT, AT THIS SITE AND IS NOT TO BE USED FOR ANY OTHER PURPOSE, LOCATION OR OWNER WITHOUT THE WRITTEN CONSENT OF THE ENGINEER.

-¶tlantic '∀√√√√. Consulting & ngineering LLC LLC

525 John Street Bridgeport, Connecticut 06604-3926 (203) 336-4422 (203) 336-1769 FAX e-mail:

info@atlantic-eng.com

MAUSOLEUM CEMETERY ORTH HIGH NYACK, NE

Job Number:

OAK HILL

140

Job Start Date: 10/24/18

18-3568

Issued For:	Date:
EXISTING SITE FEATURES	2/15/2021
PLANNED STAGING AREA	2/22/2021

Drawn By: Checked By SDU JEQ

Sheet Title:

EXISTING CONDITIONS SURVEY

1"=80'

Sheet Number:

GRAPHIC SCALE — FEET

1. SITE DRIVES TAKEN FROM AERIAL PHOTOGRAPHY PROVIDED BY GOOGLE . IMAGE DATE 04/19/2016; WITH THE EXCEPTION OF EDGE OF PAVEMENT LOCATIONS FIELD SURVEYED BY FULLER ENGINEERING & LAND SURVEYING, LLC WITH IN THE PROJECT'S LIMIT OF DISTURBANCE. 2. PERIMETER BOUNDARY SURVEY OF OAK HILL CEMETERY SECTION 59.84 - BLOCK 1 -

LOT 44 TOWN OF ORANGETOWN, SECTION 65.08 - BLOCK 1 - LOT 1 ROCKLAND COUNTY - NEW YORK, BY JAMES E. DRUMM LAND SURVEYOR 22 STEEP HILL ROAD NANUET, NEW YORK 10954 (845) 357-0211 JIMDRUMM@DRUMMSURVEY.COM; SCALE; DATE: JAN. 20, 2015.
3. EXISTING UTILITIES AND SITE FEATURES IN THIS PROJECTS AREA OF DISTURBANCE WERE FIELD SURVEYED BY FULLER ENGINEERING & LAND SURVEYING, LLC, JANUARY

2021. DATUM REFERENCES NAD 1988, AND N.G.V.D. 88.

LEGEND



EXISTING DECIDUOUS TREE

EXISTING CONIFEROUS TREE

EXISTING DRAINAGE SWALE

EXISTING STORM SEWER PIPE

EXISTING WATER SPICKET OR SPRINKLER HEAD

EXISTING ROCK OR LEDGE

CHAIN LINK FENCE

EXISTING CATCH BASIN

。 C.O. EXISTING CLEANOUT EXISTING TRENCH DRAIN

EXISTING YARD DRAIN

— GAS — GAS — EXISTING GAS SERVICE — w — w — EXISTING WATER SERVICE

EXISTING FIRE HYDRANT

EXISTING WATER GATE VALVE

EXISTING WATER CONTROL VALVE EXISTING WATER METER PIT

EXISTING CEMETERY PLOTS

EXISTING UTILITY POLE EXISTING OVERHEAD T/E/C WIRE

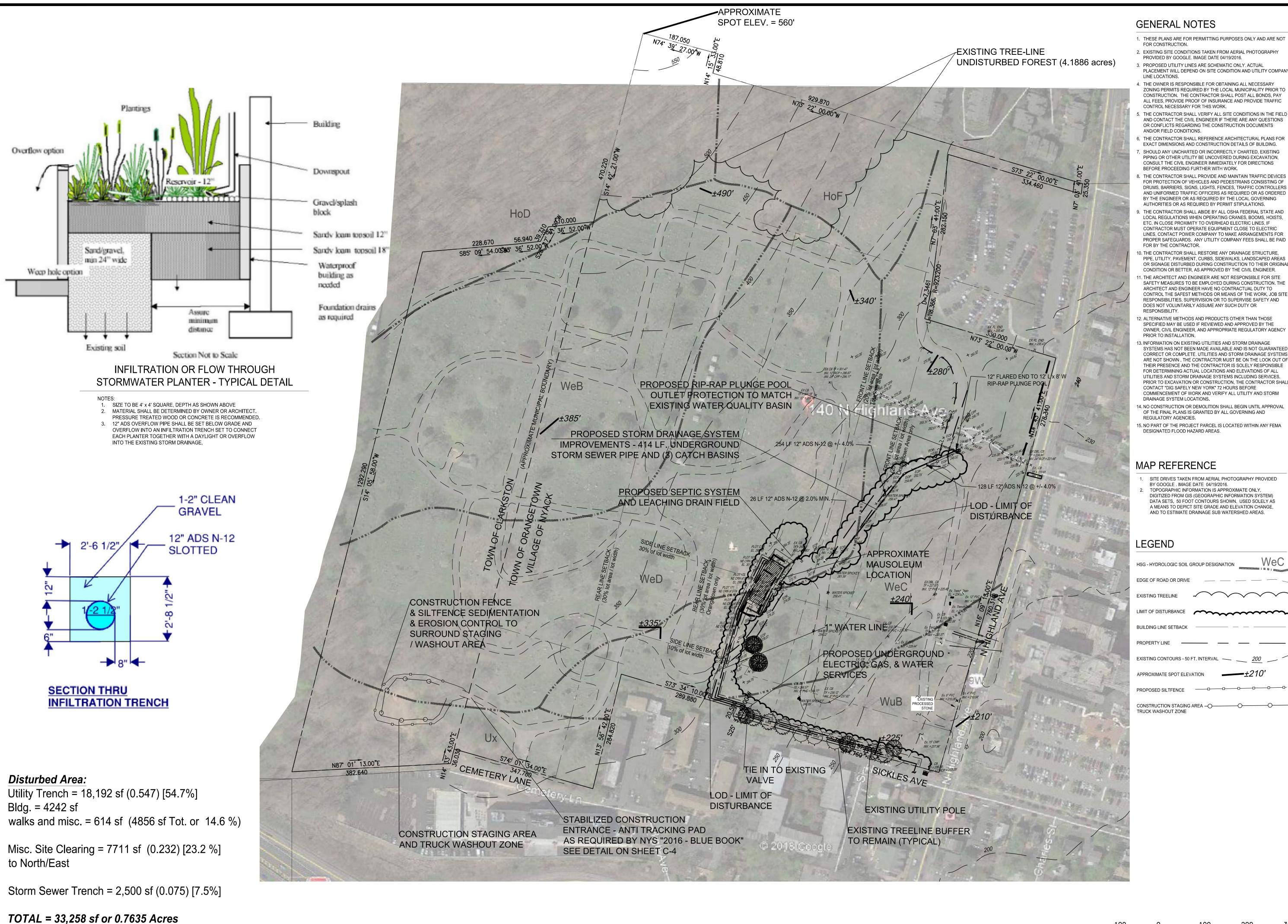
EXISTING HEADSTONES

SPOT ELEVATION

EXISTING TREELINE TO REMAIN



CONSTRUCTION STAGING AREA & TRUCK WASHOUT ZONE



GENERAL NOTES

- 1. THESE PLANS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT FOR CONSTRUCTION.
- 2. EXISTING SITE CONDITIONS TAKEN FROM AERIAL PHOTOGRAPHY PROVIDED BY GOOGLE. IMAGE DATE 04/19/2016.
- 3. PROPOSED UTILITY LINES ARE SCHEMATIC ONLY. ACTUAL
- 4. THE OWNER IS RESPONSIBLE FOR OBTAINING ALL NECESSARY ZONING PERMITS REQUIRED BY THE LOCAL MUNICIPALITY PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL POST ALL BONDS, PAY ALL FEES, PROVIDE PROOF OF INSURANCE AND PROVIDE TRAFFIC
- THE CONTRACTOR SHALL VERIFY ALL SITE CONDITIONS IN THE FIELD AND CONTACT THE CIVIL ENGINEER IF THERE ARE ANY QUESTIONS OR CONFLICTS REGARDING THE CONSTRUCTION DOCUMENTS
- AND/OR FIELD CONDITIONS. 3. THE CONTRACTOR SHALL REFERENCE ARCHITECTURAL PLANS FOR EXACT DIMENSIONS AND CONSTRUCTION DETAILS OF BUILDING. SHOULD ANY UNCHARTED OR INCORRECTLY CHARTED, EXISTING
- BEFORE PROCEEDING FURTHER WITH WORK. . THE CONTRACTOR SHALL PROVIDE AND MAINTAIN TRAFFIC DEVICES FOR PROTECTION OF VEHICLES AND PEDESTRIANS CONSISTING OF DRUMS, BARRIERS, SIGNS, LIGHTS, FENCES, TRAFFIC CONTROLLERS AND UNIFORMED TRAFFIC OFFICERS AS REQUIRED OR AS ORDERED
- AUTHORITIES OR AS REQUIRED BY PERMIT STIPULATIONS. THE CONTRACTOR SHALL ABIDE BY ALL OSHA FEDERAL STATE AND LOCAL REGULATIONS WHEN OPERATING CRANES, BOOMS, HOISTS, ETC. IN CLOSE PROXIMITY TO OVERHEAD ELECTRIC LINES. IF CONTRACTOR MUST OPERATE EQUIPMENT CLOSE TO ELECTRIC LINES, CONTACT POWER COMPANY TO MAKE ARRANGEMENTS FOR PROPER SAFEGUARDS. ANY UTILITY COMPANY FEES SHALL BE PAID
- 10. THE CONTRACTOR SHALL RESTORE ANY DRAINAGE STRUCTURE, PIPE, UTILITY, PAVEMENT, CURBS, SIDEWALKS, LANDSCAPED AREAS OR SIGNAGE DISTURBED DURING CONSTRUCTION TO THEIR ORIGINAL CONDITION OR BETTER, AS APPROVED BY THE CIVIL ENGINEER.
- . THE ARCHITECT AND ENGINEER ARE NOT RESPONSIBLE FOR SITE SAFETY MEASURES TO BE EMPLOYED DURING CONSTRUCTION. THE ARCHITECT AND ENGINEER HAVE NO CONTRACTUAL DUTY TO CONTROL THE SAFEST METHODS OR MEANS OF THE WORK, JOB SITE RESPONSIBILITIES, SUPERVISION OR TO SUPERVISE SAFETY AND DOES NOT VOLUNTARILY ASSUME ANY SUCH DUTY OR
- 2. ALTERNATIVE METHODS AND PRODUCTS OTHER THAN THOSE SPECIFIED MAY BE USED IF REVIEWED AND APPROVED BY THE OWNER, CIVIL ENGINEER, AND APPROPRIATE REGULATORY AGENCY PRIOR TO INSTALLATION.
- SYSTEMS HAS NOT BEEN MADE AVAILABLE AND IS NOT GUARANTEED CORRECT OR COMPLETE, UTILITIES AND STORM DRAINAGE SYSTEMS ARE NOT SHOWN. THE CONTRACTOR MUST BE ON THE LOOK OUT OF THEIR PRESENCE AND THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING ACTUAL LOCATIONS AND ELEVATIONS OF ALL UTILITIES AND STORM DRAINAGE SYSTEMS INCLUDING SERVICES. PRIOR TO EXCAVATION OR CONSTRUCTION, THE CONTRACTOR SHALL CONTACT "DIG SAFELY NEW YORK" 72 HOURS BEFORE COMMENCEMENT OF WORK AND VERIFY ALL UTILITY AND STORM
- 14. NO CONSTRUCTION OR DEMOLITION SHALL BEGIN UNTIL APPROVAL OF THE FINAL PLANS IS GRANTED BY ALL GOVERNING AND REGULATORY AGENCIES.
- 15. NO PART OF THE PROJECT PARCEL IS LOCATED WITHIN ANY FEMA

MAP REFERENCE

SITE DRIVES TAKEN FROM AERIAL PHOTOGRAPHY PROVIDED BY GOOGLE IMAGE DATE 04/19/2016. DIGITIZED FROM GIS (GEOGRAPHIC INFORMATION SYSTEM) A MEANS TO DEPICT SITE GRADE AND ELEVATION CHANGE,

HSG - HYDROLOGIC SOIL GROUP DESIGNATION

Orientation:

PROPERTY OF THE

ENGINEER. IT HAS BEEN

THE OWNER, FOR THIS

SPECIFICALLY PREPARED FOI

PROJECT, AT THIS SITE AND

OTHER PURPOSE, LOCATION

OR OWNER WITHOUT THE

WRITTEN CONSENT OF THE

onsulting &

LLC LLC

Bridgeport, Connecticut

info@atlantic-eng.com

525 John Street

(203) 336-4422

(203) 336-1769 FAX

ngineering

S NOT TO BE USED FOR ANY

18-3568

10/24/18

Issued For:	Date:
SUBMISSION	10/04/19
SWPPP & ZONING	10/14/20
SWPPP REVIEW REVISION	11/25/2020
SWPPP REVISION 2	2/15/2021
STAGING AREA & E.S.C MEASURES	2/22/2021

Drawn By: Checked By

Sheet Title: **OVERALL** SITE PLAN

1"=100'

Sheet Number:

C-3

GRAPHIC SCALE - FEET