

ZONING INFORMATION

130 Euclid Avenue
Hastings, NY 10706

Section 4.20
Block: 12
Lot: 14

ZONING DISTRICT: R-10

GENERAL LOT DIMENSIONS	REQUIRED	EXISTING	PROPOSED	COMPLIANCE
LOT AREA	10,000 SF	15,175 SF	NO CHANGE	COMPLIES
YARDS	REQUIRED	EXISTING	PROPOSED	COMPLIANCE
FRONT	30'	30.1'	30.1' (to Bsmt. fndtn. wall) 28.9' (to prop. 1F overhang)	COMPLIES VARIANCE REQ'D
REAR	30'	34.9'	35.3'	COMPLIES
LEAST SIDE	12'	6.8'	14.0'	COMPLIES
TOTAL, BOTH SIDES	30'	33.8'	30'	COMPLIES
BUILDING HEIGHT	ALLOWED	EXISTING	PROPOSED	COMPLIANCE
STORIES	2 1/2 STORIES	1 STORY	1 STORY	COMPLIES
FEET	35'	26.7'	29.8'	COMPLIES
COVERAGE	ALLOWED	EXISTING	PROPOSED	COMPLIANCE
BUILDING COVERAGE	3,793.8 SF (25%)	1,888.4 SF (12.4%)	2,435.6 SF (16.1%)	COMPLIES
HOUSE		1,733.7 SF	2,435.6 SF	
SUNROOM		154.7 SF	N/A	
DEVELOPMENTAL COVERAGE	5,311.3 SF (35%)	3,705.5 SF (24.4%)	3,927.9 SF (25.9%)	COMPLIES
BUILDING		1,888.4 SF	2,435.6 SF	
DRIVEWAY		582.7 SF	555.5 SF	
STONE PATIOS, STAIRS, WALKS		1,078.0 SF	732.7 SF	
STONE & TIMBER RET. WALLS		156.4 SF	204.1 SF	

STEEP SLOPES INFORMATION

130 Euclid Avenue
Hastings, NY 10706

Section: 4.20
Block: 12
Lot: 14

ZONING DISTRICT: R-10

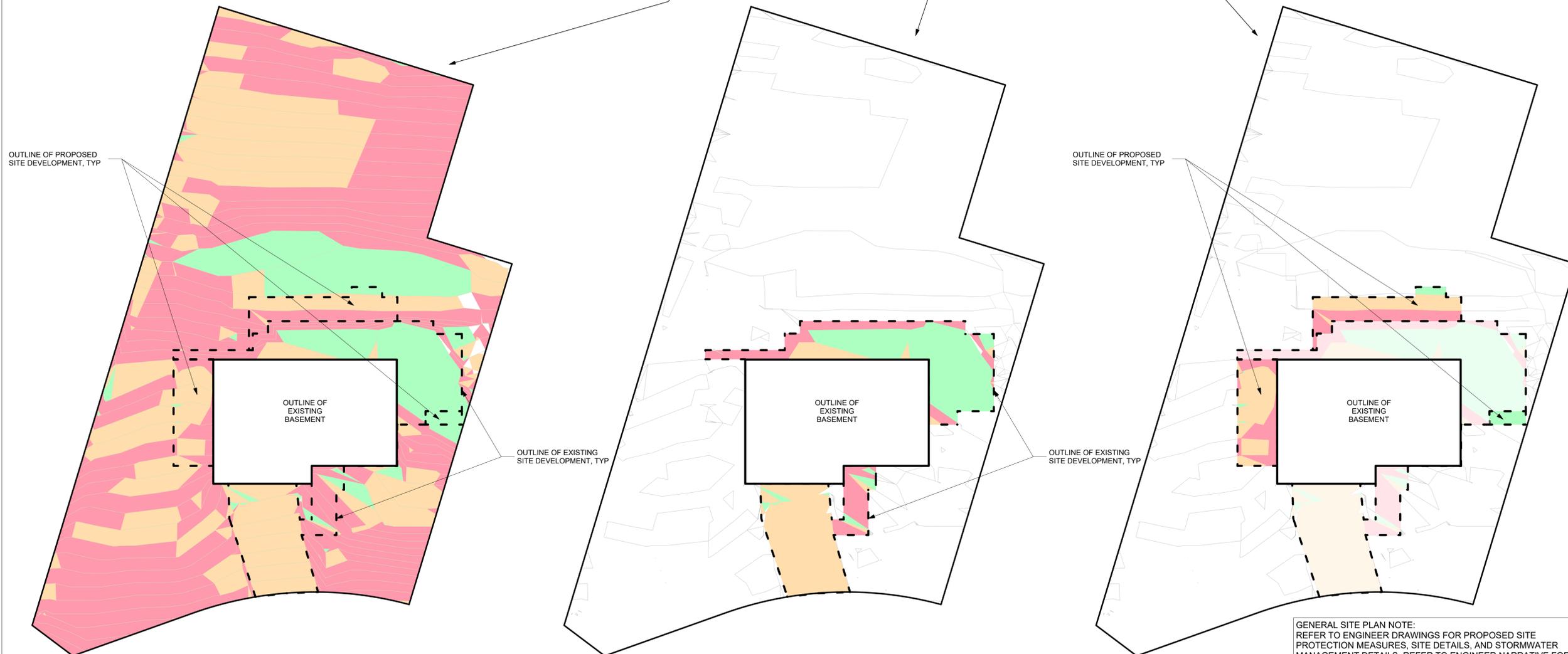
STEEP SLOPES CATEGORY	TOTAL SITE SQUARE FOOTAGE	ALLOWABLE DEVELOPED	EXISTING DEVELOPED	PROPOSED DEVELOPED	COMPLIANCE
0% - 15%	1,668.80 SF	x 1.00 = 1,668.80 SF	664.05 SF	723.12 SF (43%)	COMPLIES
16% - 25%	4,598.50 SF	x 0.35 = 1,609.48 SF	685.40 SF	1,069.55 SF (23%)	COMPLIES
26% - 100%	7,248.43 SF	x 0.25 = 1,812.11 SF	356.55 SF	619.06 SF (9%)	COMPLIES
TOTAL	13,515.73 SF	5,090.39 SF	1,706.00 SF	2,411.73 SF	COMPLIES

DRAWING INDEX

NO.	SHEET	ISSUE DATE	REV. DATE
A-001.00	ZONING TABLE & STEEP SLOPES PLAN	7/18/19	
A-002.01	EXISTING & PROPOSED SITE PLANS	7/18/19	8/29/19
A-101.00	DEMOLITION & CONSTRUCTION PLANS	7/18/19	
A-501.00	EXTG/PROP WEST & NORTH ELEVATIONS	7/18/19	
A-502.00	EXTG/PROP SOUTH & EAST ELEVATIONS	7/18/19	
C-1	STORMWATER MANAGEMENT PLAN	7/16/19	8/28/19
C-2	STORMWATER DETAILS	7/16/19	8/28/19

NYS CODE COMPLIANCE

- This design is in compliance with requirements of 2015 Intl Energy Conservation Code, the 2017 New York State Supplement to the Energy Conservation Code, the 2015 Intl Residential Code and the 2016 New York State Uniform Code Supplement.
- Contractor shall perform all work in accordance with applicable codes listed above



1 Site Plan (showing all slope categories)
Scale: 1:180

2 Site Plan (showing slope categories for extg. site development)
Scale: 1:180

3 Site Plan (showing slope categories for prop. site development)
Scale: 1:180

GENERAL SITE PLAN NOTE:
REFER TO ENGINEER DRAWINGS FOR PROPOSED SITE PROTECTION MEASURES, SITE DETAILS, AND STORMWATER MANAGEMENT DETAILS. REFER TO ENGINEER NARRATIVE FOR DESCRIPTION OF PROPOSED STEEP SLOPES PROTECTIONS.

NO.	REVISIONS	DATE

NO.	ISSUE	DATE
1	PLANNING BOARD #1	7/18/19

Michael Lewis Architects PC
145 Palisade St. Suite #307
Dobbs Ferry, NY 10522
tel 914-231-7700, fax 914-231-7701
info@mlarchitect.com
www.mlarchitect.com

PROJECT:
Modifications to 130 Euclid Ave.
130 Euclid Ave
Hastings-on-Hudson, NY
10706

DRAWING TITLE:
Zoning Table & Steep Slopes Plans

FILE NAME:	
DRAWN BY:	BDS
SCALE:	1" = 15'-0"
DATE:	7/18/19
PROJECT ID:	1856A
DRAWING NUMBER	A-001.00

CONSTRUCTION PLAN LEGEND

-  EXISTING STONE WALL TO REMAIN
-  EXISTING MASONRY WALL TO REMAIN
-  EXISTING EXTERIOR FRAME WALL TO REMAIN
-  EXISTING INTERIOR FRAME WALL TO REMAIN
-  NEW MASONRY WALL
-  NEW C.I.P. CONCRETE WALL
-  NEW EXTERIOR FRAME WALL
-  NEW INTERIOR FRAME WALL
-  OBJECTS ABOVE
-  WINDOW ID
-  DOOR ID
-  WALL TYPE ID
-  BUILDING SECTION KEY
-  EXTERIOR ELEVATION KEY
-  DETAIL KEY
-  INTERIOR ELEVATION KEY

NOTE: ALL DIMENSIONS ARE TO BE VERIFIED IN FIELD (VIF) PRIOR TO CONSTRUCTION

DEMOLITION PLAN LEGEND

-  EXISTING STONE WALL TO REMAIN
-  EXISTING MASONRY WALL TO REMAIN
-  EXISTING EXTERIOR FRAME WALL TO REMAIN
-  EXISTING INTERIOR FRAME WALL TO REMAIN
-  EXISTING EXTERIOR WALL TO BE REMOVED
-  EXISTING INTERIOR WALL TO BE REMOVED
-  EXISTING OBJECT TO BE REMOVED

NOTE: ALL DEMOLITION TO BE APPROVED BY ARCHITECT IN FIELD PRIOR TO START OF WORK.

NO. REVISIONS DATE

NO.	REVISIONS	DATE

NO. ISSUE DATE

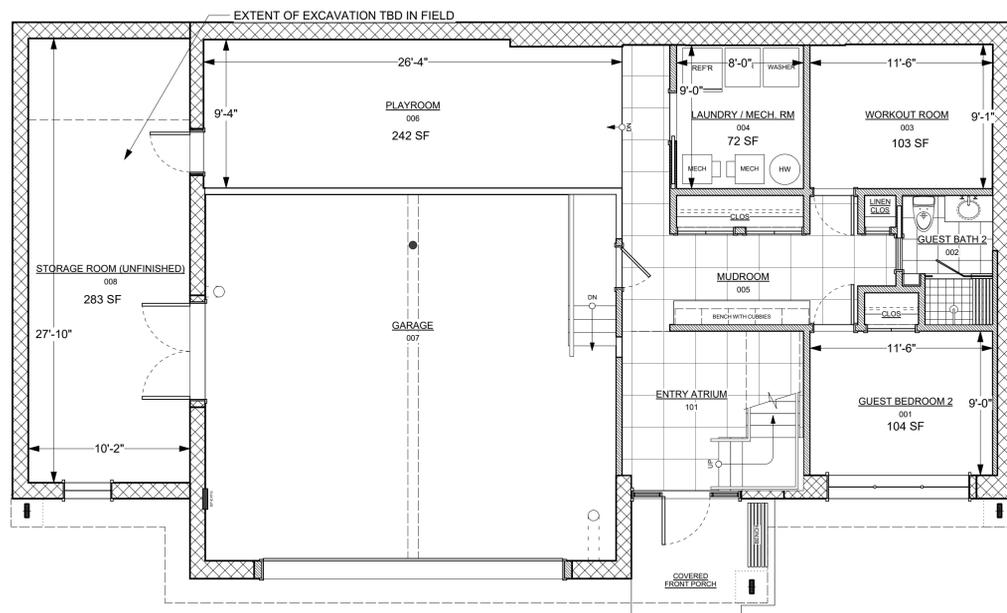
NO.	ISSUE	DATE
1	PLANNING BOARD #1	7/18/19

Michael Lewis Architects PC
 145 Palisade St. Suite #307
 Dobbs Ferry, NY 10522
 tel 914-231-7700, fax 914-231-7701
 info@mlarchitect.com
 www.mlarchitect.com

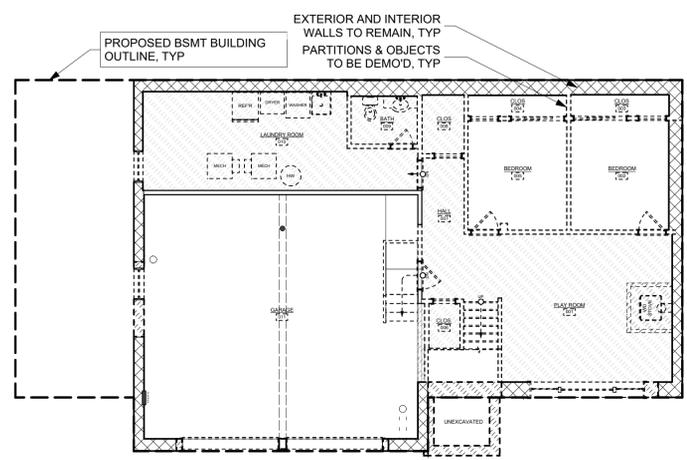
PROJECT:
 Modifications to 130 Euclid Ave.
 130 Euclid Ave
 Hastings-on-Hudson, NY
 10706

DRAWING TITLE:
 Demo & Construction Plans

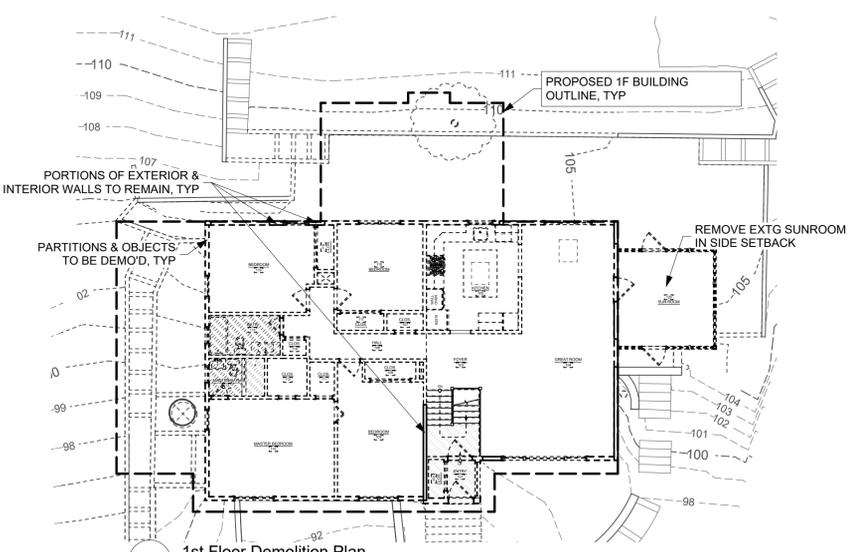
FILE NAME:	
DRAWN BY:	BDS
SCALE:	As Noted
DATE:	7/18/19
PROJECT ID:	1856A
DRAWING NUMBER	A-101.00



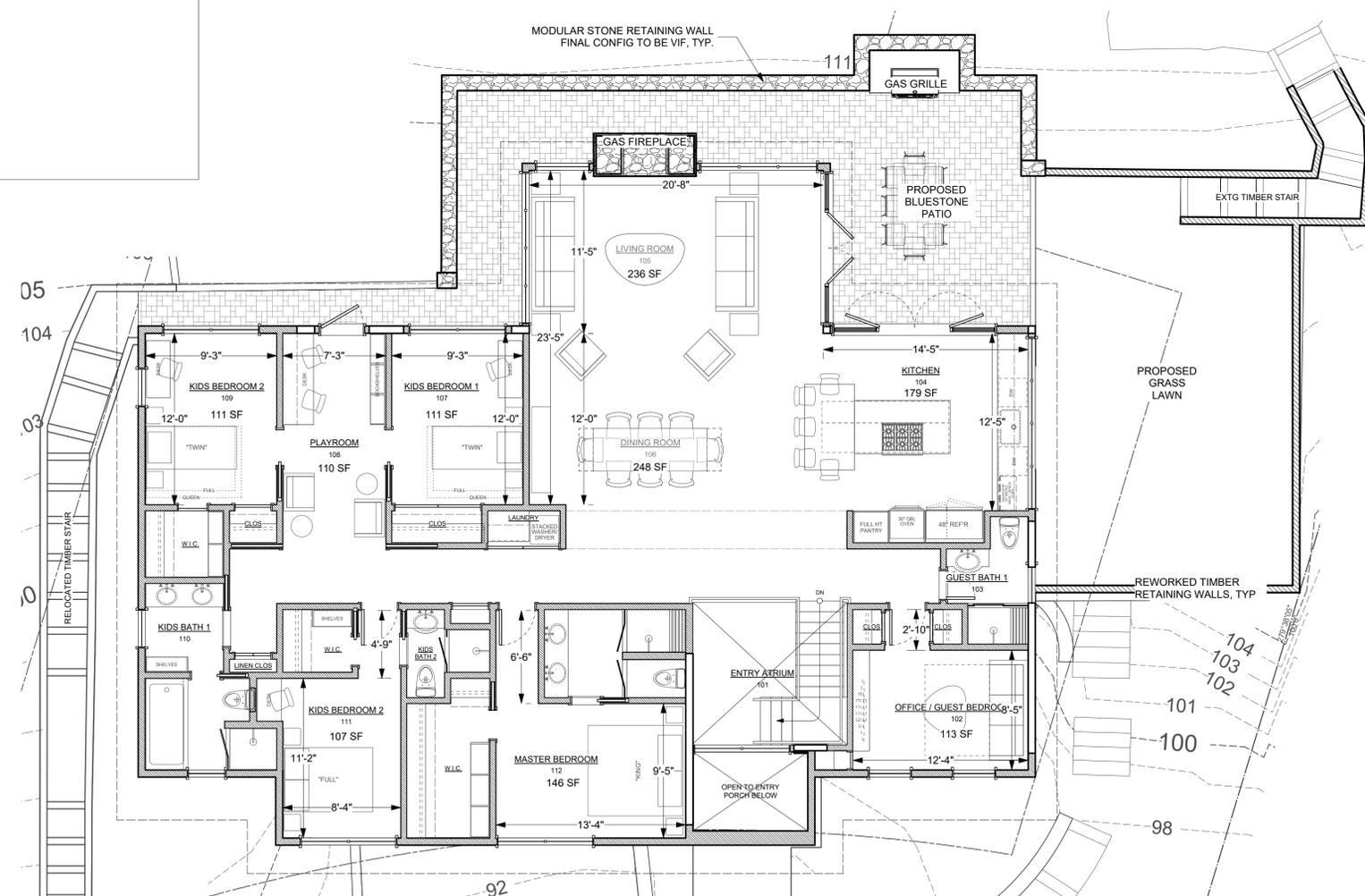
1 Basement Construction Plan
 Scale: 3/16" = 1'-0"



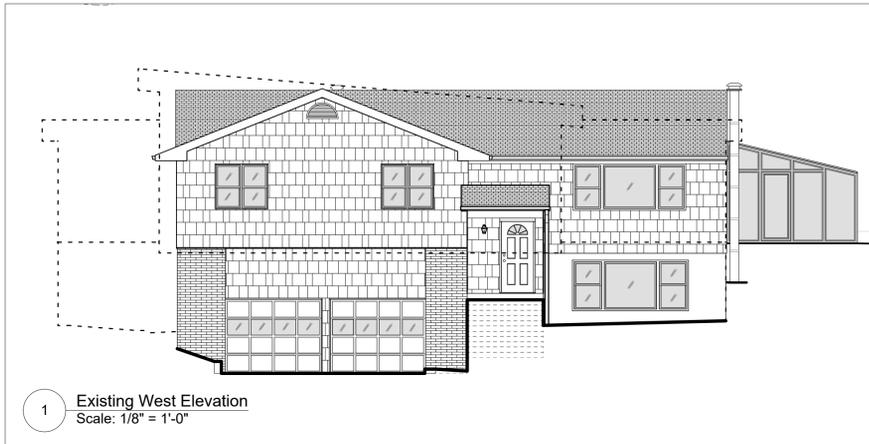
2 Basement Demolition Plan
 Scale: 1/8" = 1'-0"



3 1st Floor Demolition Plan
 Scale: 3/32" = 1'-0"



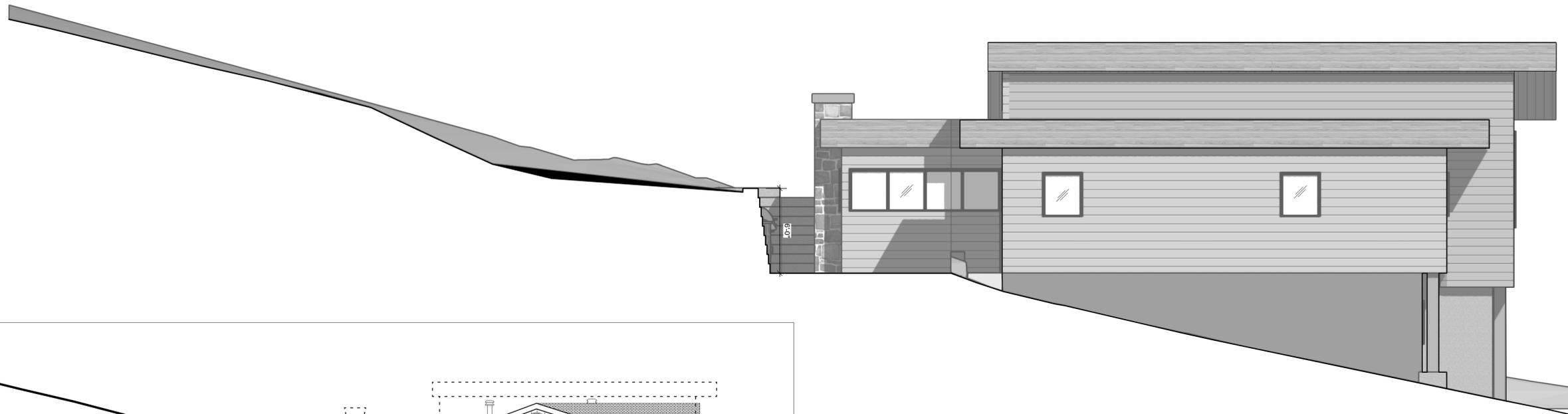
4 1st Floor Construction Plan
 Scale: 3/16" = 1'-0"



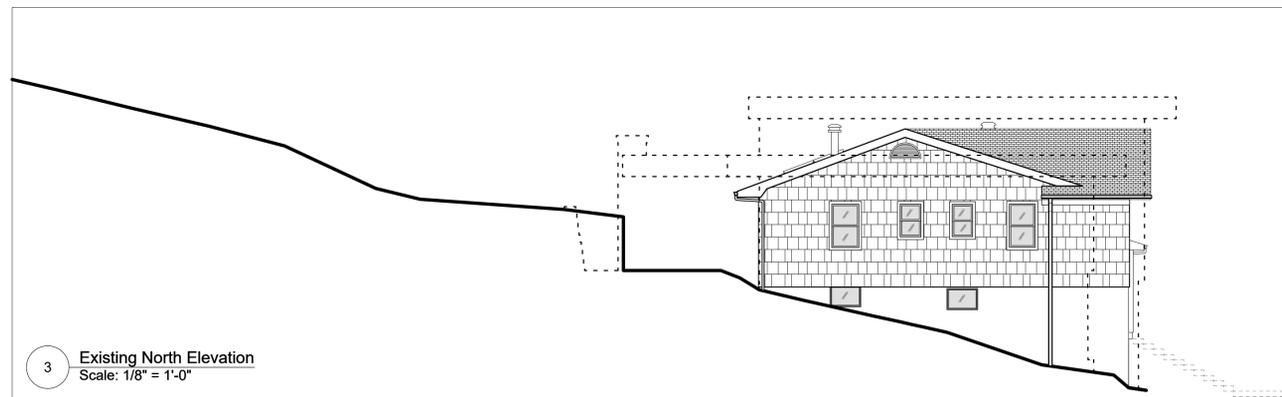
1 Existing West Elevation
Scale: 1/8" = 1'-0"



2 Proposed West Elevation
Scale: 1/4" = 1'-0"



4 Proposed North Elevation
Scale: 1/4" = 1'-0"



3 Existing North Elevation
Scale: 1/8" = 1'-0"

NO.	REVISIONS	DATE
-----	-----------	------

NO.	ISSUE	DATE
-----	-------	------

1	PLANNING BOARD #1	7/18/19
---	--------------------------	---------

Michael Lewis Architects PC

145 Palisade St. Suite #307
Dobbs Ferry, NY 10522
tel 914-231-7700, fax 914-231-7701
info@mlarchitect.com
www.mlarchitect.com

PROJECT:

Modifications to 130 Euclid Ave.

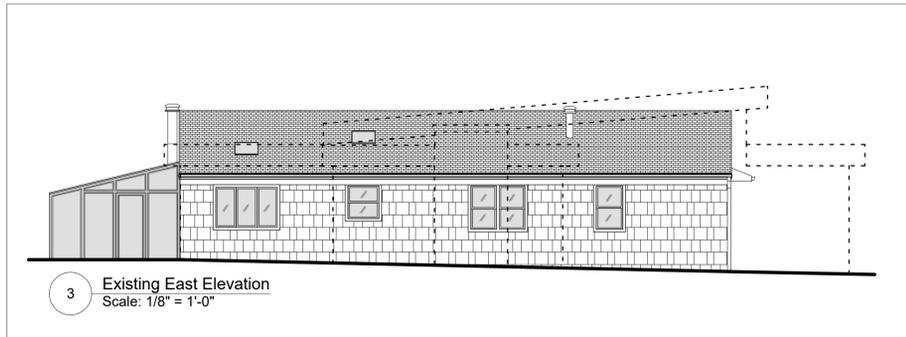
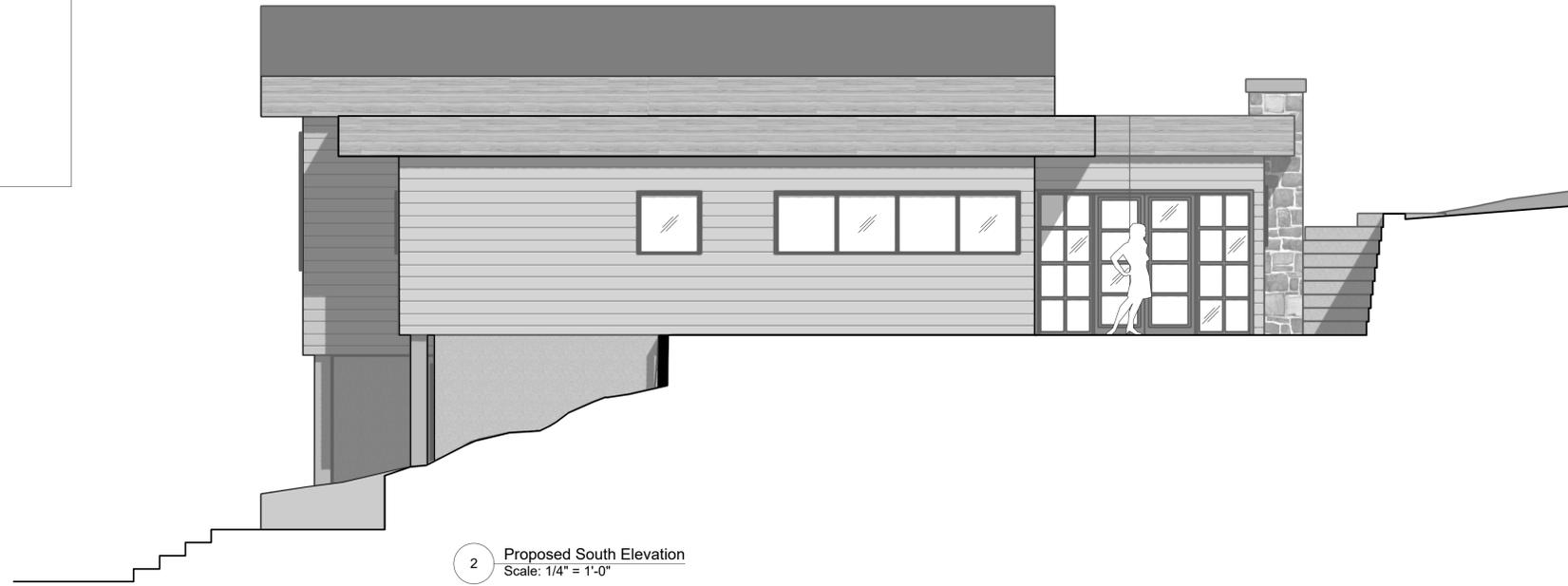
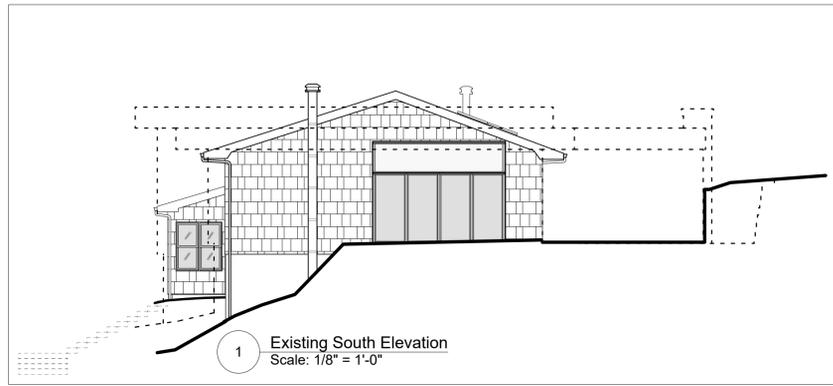
130 Euclid Ave
Hastings-on-Hudson, NY
10706

DRAWING TITLE:

Extg/Prop. West & North Elevs.

FILE NAME:

DRAWN BY:	BDS	DRAWING NUMBER
SCALE:	As Noted	A-501.00
DATE:	7/18/19	
PROJECT ID:	1856A	



NO.	REVISIONS	DATE

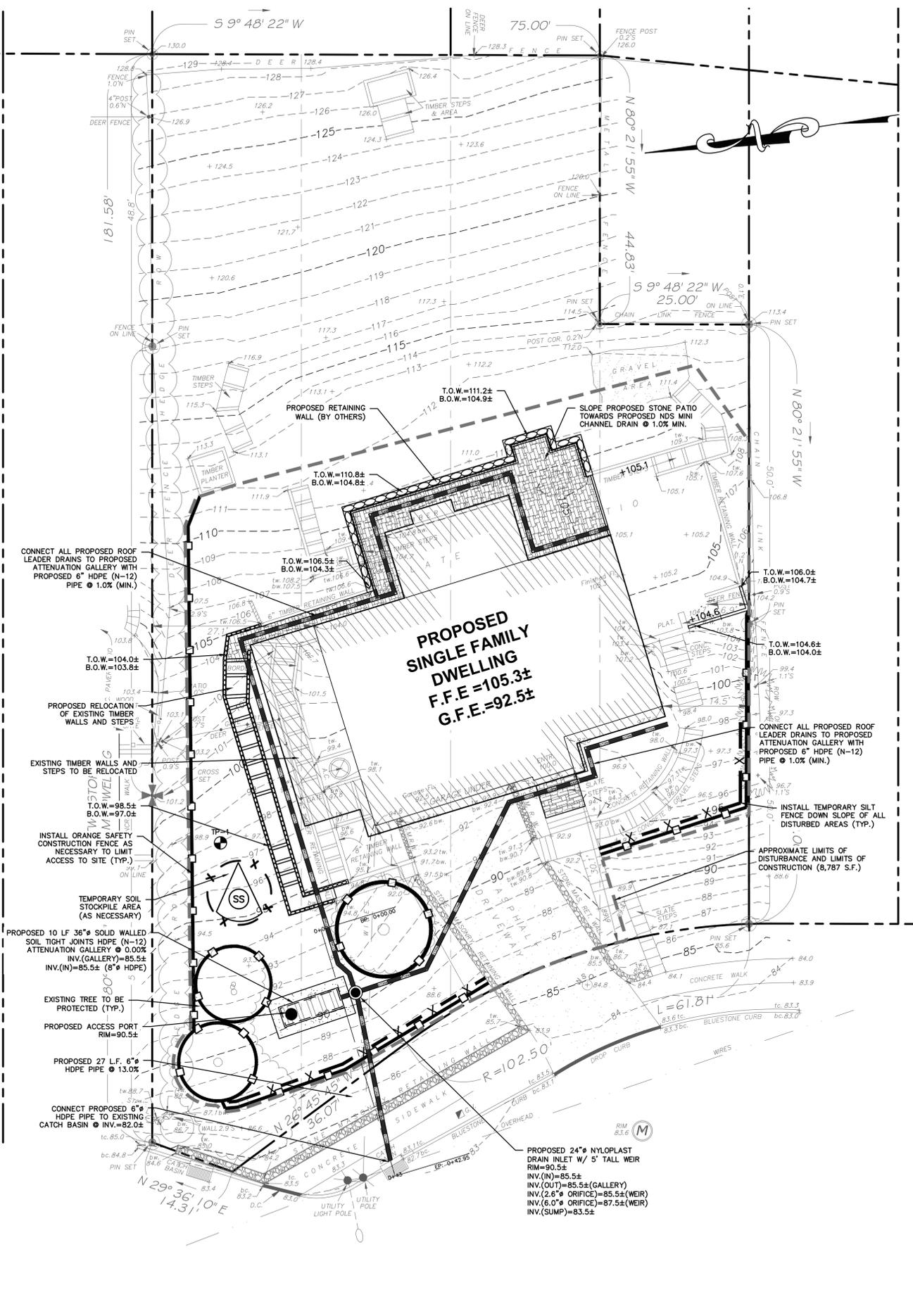
NO.	ISSUE	DATE
1	PLANNING BOARD #1	7/18/19

Michael Lewis Architects PC
 145 Palisade St. Suite #307
 Dobbs Ferry, NY 10522
 tel 914-231-7700, fax 914-231-7701
 info@mlarchitect.com
 www.mlarchitect.com

PROJECT:
 Modifications to 130 Euclid Ave.
 130 Euclid Ave
 Hastings-on-Hudson, NY
 10706

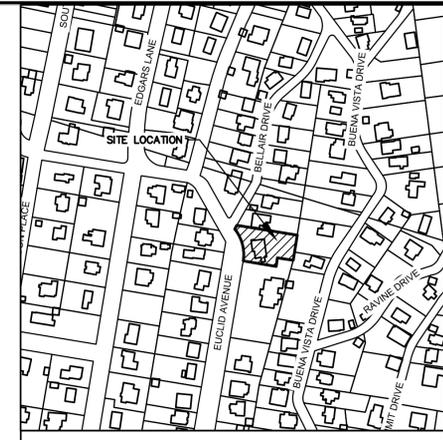
DRAWING TITLE:
 Extg/Prop. South & East Elevs.

FILE NAME:	
DRAWN BY: BDS	DRAWING NUMBER
SCALE: As Noted	A-502.00
DATE: 7/18/19	
PROJECT ID: 1856A	



LEGEND

- PROPERTY LINE
- PROPOSED WALKWAY/PATIO
- PROPOSED STONE MASONRY WALL
- PROPOSED SPOT GRADE +105.1
- PROPOSED STORM PIPE
- PROPOSED CHANNEL DRAIN
- TEMPORARY SILT FENCE
- TEMPORARY CONSTRUCTION FENCE
- TEMPORARY SOIL STOCKPILE AREA
- PROPOSED LIMIT OF DISTURBANCE
- TEST PIT LOCATION

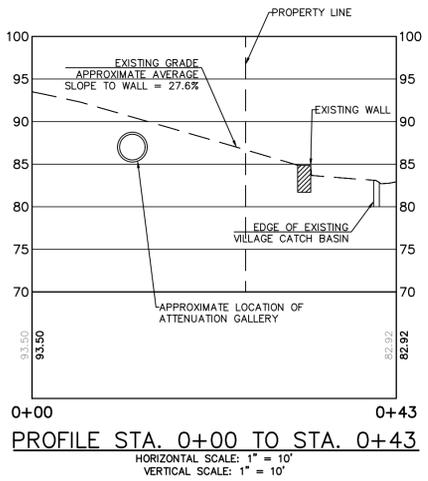


GENERAL NOTES:

1. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR THE SUPERVISION OF THE CONSTRUCTION.
2. NO CHANGES SHALL BE MADE TO THESE PLANS EXCEPT AS PER NYS LAW CHAPTER 987.
3. ALL WORK AND MATERIALS SHALL COMPLY WITH ALL APPLICABLE CODES, INCLUDING BUT NOT LIMITED TO A.C.I. ASS. ZONING, AND THE NEW YORK STATE BUILDING CODE.
4. ALL CONDITIONS, LOCATIONS AND DIMENSIONS SHALL BE FIELD VERIFIED AND THE ENGINEER SHALL BE IMMEDIATELY NOTIFIED OF ANY DISCREPANCIES.
5. ALL CHANGES MADE TO THE PLANS SHALL BE APPROVED BY THE ENGINEER AND ANY SUCH CHANGES SHALL BE FILED AS AMENDMENTS TO THE ORIGINAL BUILDING PERMIT.
6. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING HIS BEST SKILL AND ATTENTION. HE SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
7. THE CONTRACTOR SHALL BE RESPONSIBLE TO THE OWNER FOR THE ACTS AND OMISSIONS OF HIS EMPLOYEES, SUBCONTRACTORS AND THEIR AGENTS AND EMPLOYEES, AND OTHER PERSONS PERFORMING ANY OF THE WORK UNDER A CONTACT WITH THE CONTRACTOR.
8. SAFETY DURING CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL CONFORM TO ALL LOCAL, STATE AND FEDERAL AGENCIES IN EFFECT DURING THE PERIOD OF CONSTRUCTION.
9. THE CONTRACTOR AND HIS SUBCONTRACTORS SHALL MAKE APPLICATION TO RECEIVE ALL NECESSARY PERMITS TO PERFORM THE WORK UNDER CONTRACT. THE CONTRACTOR AND HIS SUBCONTRACTORS SHALL BE LICENSED TO DO ALL WORK AS REQUIRED BY THE LOCAL, COUNTY, AND STATE AGENCIES WHICH MAY HAVE JURISDICTION OVER THOSE TRADES, AND SHALL PRESENT THE OWNER WITH COPIES OF ALL LICENSES AND INSURANCE CERTIFICATES.
10. FINAL GRADING AROUND THE BUILDING AREA SHALL SLOPE AWAY FROM THE STRUCTURE.
11. ALL WRITTEN DIMENSIONS ON THE DRAWINGS SHALL TAKE PRECEDENCE OVER ANY SCALED DIMENSIONS.
12. ADJOINING PUBLIC AND PRIVATE PROPERTY SHALL BE PROTECTED FROM DAMAGE DURING CONSTRUCTION, REMODELING AND DEMOLITION WORK. PROTECTION MUST BE PROVIDED FOR FOUNDATIONS, PARTY WALLS, CHIMNEYS, SKYLIGHTS AND ROOFS. PROVISIONS SHALL BE MADE TO CONTROL WATER RUNOFF AND EROSION DURING CONSTRUCTION OR DEMOLITION ACTIVITIES. THE PERSON MAKING OR CAUSING AN EXCAVATION TO BE MADE SHALL PROVIDE WRITTEN NOTICE TO THE OWNERS OF THE ADJOINING BUILDING THAT THE EXCAVATION IS TO BE MADE AND THAT THE ADJOINING BUILDING SHOULD BE PROTECTED. SAID NOTIFICATION SHALL BE DELIVERED NOT LESS THAN 10 DAYS PRIOR TO THE SCHEDULED STARTING DATE OF THE EXCAVATION.
13. OWNER SHALL INSURE THAT THE INSURANCE PROVIDED BY THE CONTRACTOR HIRED TO PERFORM THE WORK SHALL BE ENDORSED TO NAME HUDSON ENGINEERING & CONSULTING, P.C., AND ANY DIRECTORS, OFFICERS, EMPLOYEES, SUBSIDIARIES, AND AFFILIATES, AS ADDITIONAL INSURED ON ALL POLICIES AND HOLD HARMLESS DOCUMENTS, AND SHALL STIPULATE THAT THIS INSURANCE IS PRIMARY, AND THAT ANY OTHER INSURANCE OR SELF-INSURANCE MAINTAINED BY HUDSON ENGINEERING & CONSULTING, P.C., SHALL BE EXCESS ONLY AND SHALL NOT BE CALLED UPON TO CONTRIBUTE WITH THIS INSURANCE. ISO ADDITIONAL INSURED ENDORSEMENT FORM NUMBER CG2010 1185 UNDER GL. COPIES OF THE INSURANCE POLICIES SHALL BE SUBMITTED TO HUDSON ENGINEERING & CONSULTING, P.C. FOR APPROVAL PRIOR TO THE SIGNING OF THE CONTRACT.
14. INDUSTRIAL CODE RULE 75.3: THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES 72 HOURS PRIOR TO THE START OF HIS OPERATIONS AND SHALL COMPLY WITH ALL THE LATEST INDUSTRIAL CODE RULE 75.3 REGULATIONS.

INSTALLATION & MAINTENANCE OF EROSION CONTROL:

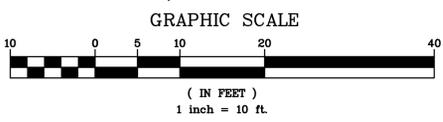
- CONSTRUCTION SCHEDULE**
NOTIFY APPROPRIATE MUNICIPAL AGENCY HAVING JURISDICTION AT LEAST 5 DAYS PRIOR TO START.
- EROSION CONTROL MEASURES**
INSTALL ALL EROSION CONTROL MEASURES PRIOR TO START OF CONSTRUCTION. CALL FOR INSPECTION FROM THE APPROPRIATE MUNICIPAL AGENCY HAVING JURISDICTION AT LEAST 2 DAYS PRIOR TO FINISH.
- INSPECTION BY MUNICIPALITY**
MAINTENANCE (TO BE PERFORMED DURING ALL PHASES OF CONSTRUCTION)
- AFTER ANY RAIN CAUSING RUNOFF, CONTRACTOR TO INSPECT HAYBALES, ETC. AND REMOVE ANY EXCESSIVE SEDIMENT AND INSPECT STOCKPILES AND CORRECT ANY PROBLEMS WITH SEED ESTABLISHMENT.
INSPECTIONS SHALL BE DOCUMENTED IN WRITING AND SUBMITTED TO THE APPROPRIATE MUNICIPAL AGENCY HAVING JURISDICTION.
- INSPECTION BY MUNICIPALITY - FINAL GRADING**
REMOVE UNNEEDED SUBGRADE FROM SITE.
CALL FOR INSPECTION FROM THE APPROPRIATE MUNICIPAL AGENCY HAVING JURISDICTION AT LEAST 2 DAYS PRIOR TO FINISH.
- INSPECTION BY MUNICIPALITY - LANDSCAPING**
SPREAD TOPSOIL EVENLY OVER AREAS TO BE SEED. HAND RAKE LEVEL.
BROADCAST 1.25 LB. BAG OF JONATHAN GREEN "FASTGROW" MIX OR EQUAL OVER AREA TO BE SEED. APPLY STRAW MULCH AND WATER WITHIN 2 DAYS OF COMPLETION OF TOPSOILING. CALL FOR INSPECTION FROM THE APPROPRIATE MUNICIPAL AGENCY HAVING JURISDICTION AT LEAST 2 DAYS PRIOR TO FINISH.
- INSPECTION BY MUNICIPALITY - FINAL LANDSCAPING**
GRASS ESTABLISHED.
CALL FOR INSPECTION FROM THE APPROPRIATE MUNICIPAL AGENCY HAVING JURISDICTION AT LEAST 2 DAYS PRIOR TO FINISH.
- INSPECTION BY MUNICIPALITY - FINAL INSPECTION**
ALL EROSION CONTROL MEASURES REMOVED AND GRASS ESTABLISHED.
CALL FOR INSPECTION FROM THE APPROPRIATE MUNICIPAL AGENCY HAVING JURISDICTION AT LEAST 2 DAYS PRIOR TO FINISH.



TEST HOLE DATA:

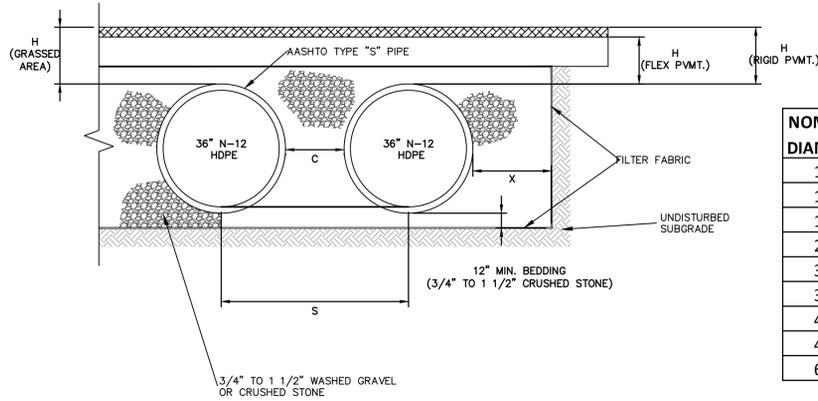
- TEST HOLE #1
DEPTH - 96"
0-6" TOPSOIL
6-32" LIGHT BROWN LOAM
32-40" BLACKISH-BROWN LOAM
40-96" BROWN SILTY LOAM
NO GROUNDWATER
NO LEDGE ROCK
PERC. = 7.2" INCHES/HOUR

130 EUCLID AVENUE STORMWATER MANAGEMENT PLAN BASED UPON EXISTING INFORMATION PROVIDED BY LINK LAND SURVEYORS PC, DATED JANUARY 28, 2019



REVISIONS 1. REVISIONS 2. REVISIONS	PROJECT: PROPOSED SINGLE FAMILY DWELLING 130 EUCLID AVENUE VILLAGE OF HASTINGS-ON-HUDSON WESTCHESTER COUNTY - NEW YORK	
	STORMWATER MANAGEMENT PLAN HUDSON ENGINEERING CONSULTING, P.C. 45 Knollwood Road - Suite 201 Elmsford, New York 10523 T: 914-909-0420 F: 914-560-2086 © 2019	
Date: 07/16/19 Scale: 1" = 10' Designed By: U.A. Checked By: M.S. Sheet No. 2		C-1

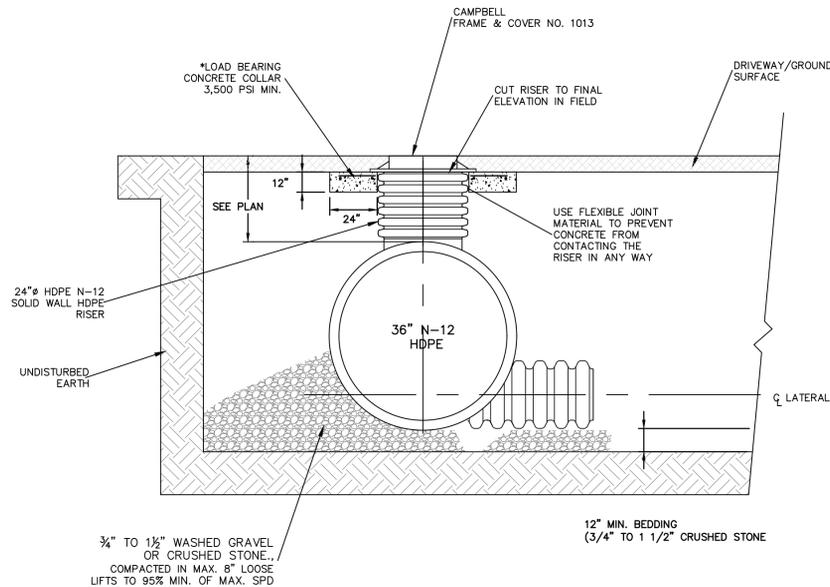
ANY ALTERATIONS OR REVISIONS OF THESE PLANS, UNLESS DONE BY OR UNDER THE DIRECTION OF THE NYS LICENSED AND REGISTERED ENGINEER THAT PREPARED THEM, IS A VIOLATION OF THE NYS EDUCATION LAW.



ATTENUATION GALLERY SECTION

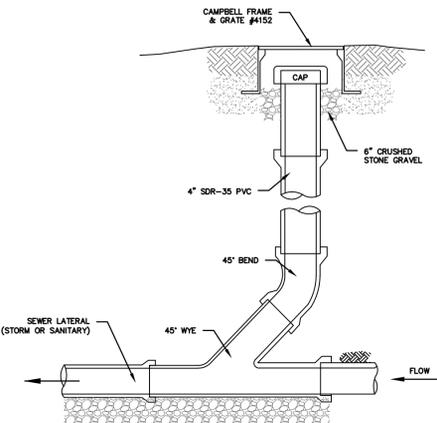
- NOTES:**
- ALL REFERENCES TO CLASS I OR II MATERIAL ARE PER ASTM D2321 "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST EDITION.
 - THE ATTENUATION GALLERY SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, LATEST EDITION AND THE MANUFACTURER'S PUBLISHED INSTALLATION GUIDELINES.
 - MEASURES SHOULD BE TAKEN TO PREVENT THE MIGRATION OF NATIVE FINES INTO THE BACKFILL MATERIAL, WHEN REQUIRED. SEE ASTM D2321.
 - FILTER FABRIC:** A GEOTEXTILE FABRIC SHALL BE USED AS SPECIFIED BY THE ENGINEER TO PREVENT THE MIGRATION OF FINES FROM THE NATIVE SOIL INTO THE SELECT BACKFILL MATERIAL.
 - FOUNDATION:** WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER, AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
 - BEDDING:** SUITABLE MATERIAL SHALL BE 3/4" TO 1 1/2" WASHED GRAVEL OR CRUSHED STONE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER, UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 12" MINIMUM.
 - INITIAL BACKFILL:** SUITABLE MATERIAL SHALL BE 3/4" TO 1 1/2" WASHED GRAVEL OR CRUSHED STONE. IN THE PIPE ZONE EXTENDING NOT LESS THAN 8" ABOVE CROWN OF PIPE, THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.
 - MINIMUM COVER:** MINIMUM COVER OVER ALL ATTENUATION GALLERIES IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" FROM TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOATATION, FOR TRAFFIC APPLICATIONS, MINIMUM COVER IS 12" UP TO 36" DIAMETER PIPE AND 24" OF COVER FOR 42" - 60" DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT.
 - ALL PIPE STUBS, ORIFICE PLATES, FITTINGS, BENDS, TEES, ETC. SHALL BE MANUFACTURED AT THE FACTORY.

NOMINAL DIAMETER	NOMINAL O.D.	TYPICAL SPACING "C"	TYPICAL SPACING "S"	TYPICAL SIDE WALL "X"	H (NON-TRAFFIC)	H (TRAFFIC)
12"	14.5"	11"	25.4"	8"	12"	12"
15"	18"	12"	28.9"	8"	12"	12"
18"	21"	17"	33.9"	9"	12"	12"
24"	28"	13"	40.7"	10"	12"	12"
30"	36"	18"	53.1"	18"	12"	12"
36"	42"	22"	63"	18"	12"	12"
42"	48"	24"	71.9"	18"	12"	24"
48"	54"	25"	78.5"	18"	12"	24"
60"	67"	24"	90"	18"	12"	24"



ACCESS MANHOLE STRUCTURE

- * LOAD BEARING CONCRETE COLLAR SHALL BE CONSTRUCTED IN TRAFFIC AREAS SUCH THAT THE LIVE LOAD IS TRANSMITTED TO THE SURROUNDING SOIL AND NOT DIRECTLY TO THE RISER.

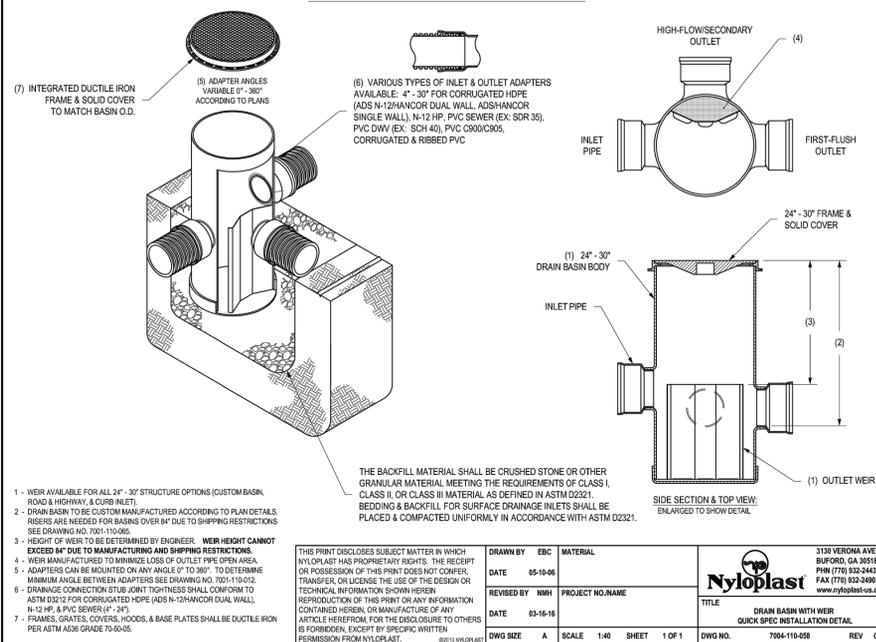


- NOTES (SANITARY SEWER SERVICES):**
- ALL SANITARY SEWER SERVICES TO BE 4" SCH. 40 @ 1.0% MINIMUM.
 - IN ACCORDANCE WITH THE NYS RESIDENTIAL BUILDING CODE, THE FOLLOWING REQUIREMENTS APPLY:
 - CLEANOUTS SHALL BE INSTALLED NOT MORE THAN 100 FEET APART IN HORIZONTAL DRAINAGE LINES (P3005.2.2).
 - CLEANOUTS SHALL BE INSTALLED AT EACH CHANGE OF DIRECTION OF THE DRAINAGE SYSTEM GREATER THAN 45 DEGREES.
 - CLEANOUTS SHALL BE INSTALLED SO THAT THE CLEANOUT OPENS TO ALLOW CLEANING IN THE DIRECTION OF THE FLOW OF THE DRAINAGE LINE (P3005.2.8).
- NOTES (STORM SEWER):**
- REFER TO PLAN FOR SPECIFIC PIPE SIZING AND SLOPE SPECIFICATIONS; HOWEVER, IN GENERAL, ALL STORM SEWER SERVICES TO BE 6" SCH. 40 @ 1.0% MINIMUM.
 - CLEANOUTS SHALL BE PLACED BEFORE SIGNIFICANT PIPE BEND LOCATIONS (I.E., JUNCTIONS, 90-DEGREE BENDS, ETC.) UNLESS A ROOF LEADER DOWNSPOUT CONNECTION IS PROPOSED.

SEWER CLEANOUT DETAIL (GRAVITY)
(STORM OR SANITARY)

ANY ALTERATIONS OR REVISIONS OF THESE PLANS, UNLESS DONE BY OR UNDER THE DIRECTION OF THE NYS LICENSED AND REGISTERED ENGINEER THAT PREPARED THEM, IS A VIOLATION OF THE NYS EDUCATION LAW.

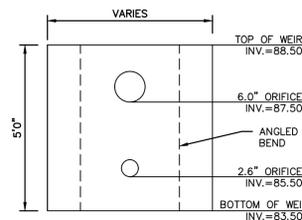
NYLOPLAST DRAIN BASIN WITH WEIR



- WEIR AVAILABLE FOR ALL 24" x 30" STRUCTURE OPTIONS (CUSTOM BASIN, ROAD & HIGHWAY & CURB INLET).
- DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 8' DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-15-065.
- HEIGHT OF WEIR TO BE DETERMINED BY ENGINEER. WEIR HEIGHT CANNOT EXCEED 8' DUE TO MANUFACTURING AND SHIPPING RESTRICTIONS.
- WEIR MANUFACTURED TO MINIMIZE LOSS OF OUTLET PIPE OPEN AREA.
- ADAPTERS CAN BE MOUNTED ON ANY ANGLE UP TO 30°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-15-052.
- DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D2252 FOR CORRUGATED HOPE (ADS N-12/HANCOR DUAL WALL) N-12 HP & PVC SEWER (4" - 24").
- FRAMES, GRATES, COVERS, HOODS, & BASE PLATES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-60-15.

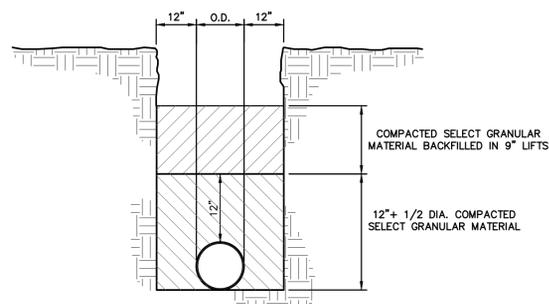
THIS PRINT DISCLOSES SUBJECT MATTER IN WHICH NYLOPLAST HAS PROPRIETARY RIGHTS. THE RECEIPT OR POSSESSION OF THIS PRINT DOES NOT CONFER, TRANSFER, OR LICENSE THE USE OF THE DESIGN OR TECHNICAL INFORMATION SHOWN HEREIN. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN, OR MANUFACTURE OF ANY ARTICLE HEREFROM, FOR THE DISCLOSURE TO OTHERS IS FORBIDDEN, EXCEPT BY EXPRESS WRITTEN PERMISSION FROM NYLOPLAST.

DATE	05-10-06	DRAWN BY	EBG	MATERIAL		3120 VERONA AVE BURLINGTON, MA 01803 PH: (781) 852-2443 FAX: (781) 852-2490 www.nyloplast-us.com
DATE	03-16-16	REVISION BY	NWH	PROJECT NO.		
DWG SIZE	A	SCALE	1:40	SHEET	1 OF 1	
DWG NO.	7004-110-058	REV	G	TITLE	DRAIN BASIN WITH WEIR QUICK SPEC INSTALLATION DETAIL	

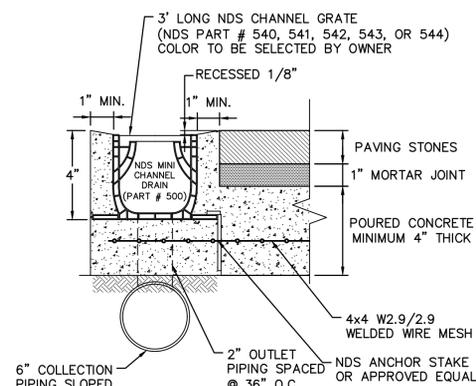


NOTE:
NYLOPLAST BASIN TO BE MANUFACTURED BY ADS.

WEIR LAYOUT

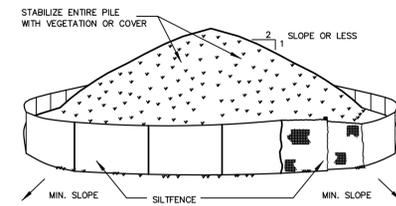


TRENCH BEDDING



NDS MINI CHANNEL DRAIN

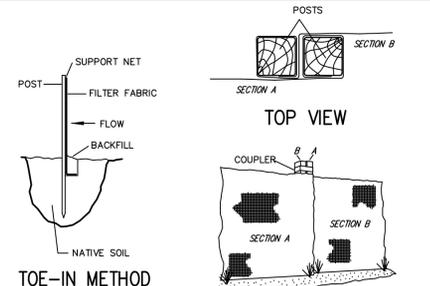
SOIL STOCKPILING



INSTALLATION NOTES

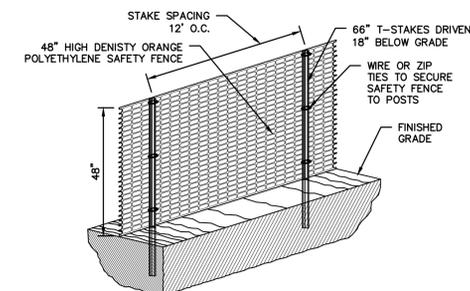
- AREA CHOSEN FOR STOCKPILING OPERATIONS SHALL BE DRY AND STABLE.
- SOILS OR FILL TO BE STOCKPILED ON SITE DURING CUTTING AND FILLING ACTIVITIES SHOULD BE LOCATED ON LEVEL PORTIONS OF THE SITE WITH A MINIMUM OF 50-75 FOOT SETBACKS FROM TEMPORARY DRAINAGE SWALES.
- MAXIMUM SLOPE OF STOCKPILE SHALL BE 1:2.
- UPON COMPLETION OF SOIL STOCKPILING, EACH PILE SHALL BE SURROUNDED WITH EITHER SILT FENCING OR STRAWBALES, THEN STABILIZED WITH VEGETATION OR COVERED.
- STOCKPILES REMAINING IN PLACE FOR MORE THAN A WEEK SHOULD BE SEEDED AND MULCHED OR COVERED WITH GEOTEXTILE FABRIC SURROUNDED BY SILT FENCE.
- SEE SPECIFICATIONS (THIS MANUAL) FOR INSTALLATION OF SILT FENCE.

SILT FENCE



JOINING SECTIONS OF FENCING

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



CONSTRUCTION FENCE

<p>REVISIONS</p> <p>NO. DATE DESCRIPTION</p> <p>1 07/16/19 REVISIONS</p>	<p>PROJECT:</p> <p>PROPOSED SINGLE FAMILY DWELLING 130 EUCLID AVENUE VILLAGE OF HASTINGS-ON-HUDSON WESTCHESTER COUNTY - NEW YORK</p>	<p>STATE OF NEW YORK</p> <p>MICHAEL P. STERN</p> <p>REGISTERED PROFESSIONAL ENGINEER</p> <p>NO. 80651</p>
<p>DATE: 07/16/19</p> <p>SCALE: 1" = 10'</p> <p>DESIGNED BY: U.A.</p> <p>CHECKED BY: M.S.</p> <p>SHEET NO. 2</p>	<p>DETAILS</p> <p>HUDSON</p> <p>ENGINEERING</p> <p>CONSULTING, P.C.</p> <p>45 Knollwood Road - Suite 201 Elmwood, New York 10523</p> <p>T: 914-809-0420 F: 914-560-2086</p> <p>© 2019</p>	<p>HEC</p>

STORMWATER MANAGEMENT PLAN & DRAINAGE ANALYSIS

**130 Euclid Avenue
Village of Hastings-on-Hudson - New York**

**July 16, 2019
Revised August 28, 2019**



Hudson Engineering & Consulting, P.C.

45 Knollwood Road - Suite 201

Elmsford, NY 10523

(914) 909-0420

**STORMWATER MANAGEMENT
PLAN & DRAINAGE ANALYSIS
130 Euclid Avenue
Village of Hastings-on-Hudson - New York**

INTRODUCTION

This Stormwater Management Plan presents the proposed Best Management Practices (BMPs) to control erosion and sedimentation and manage stormwater during and upon construction of proposed dwelling, retaining walls and walkways at 130 Euclid Avenue in the Village of Hastings-on-Hudson, Westchester County, New York.

This Plan consists of this narrative and a plan set entitled: “Proposed Dwelling, 130 Euclid Avenue, Village of Hastings-on-Hudson, Westchester County - New York”, all as prepared by Hudson Engineering and Consulting, P.C., Elmsford, New York, latest date August 28, 2019. The design is in accordance with the Village of Hastings-on-Hudson requirements. The approximate area of the limits of disturbance is 0.20-acres. Since the project disturbance is less than one acre the New York State Department of Environmental Conservation [NYSDEC] stormwater regulations are not applicable.

METHODOLOGY

The stormwater analysis was developed utilizing the Soil Conservation Service (SCS) TR-20, 24-hour Type III storm events (HydroCad®) to assist with the design of the mitigating practices. The “Curve Number” (CN) value determination is based on soil type, vegetation and land use. The design is in accordance with the Village of Hastings-on-Hudson’s stormwater regulations. The CN and T_c data are input into the computer model. The project site was modeled for the 100-year Type III – 24-hour storm event.

PRE-DESIGN INVESTIGATIVE ANALYSIS

A pre-design investigative analysis was performed including percolation and deep tests in the location shown on the plans.

Percolation tests were completed as follows: a 36-inch deep percolation test hole was excavated from grade with an approximate diameter of 8-inches. 4-inch diameter pipes were inserted into the percolation holes and backfilled around. The holes were pre-soaked for 24 hours prior to running the tests. Tests were run until a 3-inch drop in water level as measured or 30 minutes had elapsed, whichever came first. Percolation tests were performed in the vicinity of the potential stormwater mitigation practice [TP-1] until a constant rate was achieved, the result as follows:

- TP-1: A percolation rate of 8.33-minutes per inch (7.2-inch per hour) was observed. This location was not utilized in the design.

One (1) deep test hole was excavated and labeled TP-1 as shown on the plans.

- TP-1 was excavated to a depth of 96-inches. The test revealed topsoil to a depth of 6-inches, light brown loam to a depth of 32-inches, blackish-brown loam to a depth of 40-inches and brown silty loam to the invert. No groundwater or ledge rock was encountered.

PRE-DEVELOPED CONDITION

In the pre-developed condition, the site is characterized as sloping from east to west. The soil classification, based upon Westchester County Soils Mapping is Urban land-Paxton, 15 to 25 percent slopes. The site vegetation can be characterized as lawn and landscaped.

In the pre-developed condition the site is modeled as one watershed, Watershed 1. Watershed 1 contains a tributary area of approximately 15,175 square feet, which includes 10,841 square feet of pervious area, in the form of lawn and landscaping and 4,334 square feet of impervious in the form of the existing dwelling, driveway, retaining walls and walkways. The weighted Curve Number (CN) value is calculated as 85 and the Time of Concentration (Tc) is calculated as 1.7 minutes. The runoff flows overland in a westerly direction and exits at the front of the property onto Euclid Avenue.

Pre-Developed Stormwater Runoff Rates
(cubic feet per second)

Storm Event	1 Year	10 Year	25 Year	100 Year
DP-1	0.68	1.61	2.15	3.23

POST-DEVELOPED CONDITION

In the post-developed condition the site is modeled as two watersheds, Watershed 1 and 1A.

Watershed 1 contains a tributary area of approximately 12,335 square feet, which includes 10,625 square feet of pervious area, in the form of lawn and landscaping and 1,710 square feet of impervious area in the form of existing and proposed walkways, driveway and retaining walls. The weighted Curve Number

(CN) value is calculated as 82 and the Time of Concentration (Tc) is calculated as 3.7 minutes. The runoff flows overland in a westerly direction and exits at the front of the property onto Euclid Avenue.

Watershed 1A contains a tributary area of approximately 2,840 square feet, which consists entirely of impervious area in the form of the proposed rear dwelling and rear patio. The weighted Curve Number (CN) value is calculated as 98 and the Time of Concentration (Tc) is direct entry, 1.0 minute. The stormwater runoff from this tributary area is conveyed via a comprehensive drainage system to a 10 linear foot, 36-inch diameter attenuation gallery. The gallery outlets via a nyloplast structure equipped with a two-stage reduced diameter orifice weir for controlled release of the stormwater to an existing catch basin on Euclid Avenue. The system is designed to attenuate the stormwater runoff volume up to the 100-year storm event from the watershed.

Post-Developed Stormwater Runoff Rates
(cubic feet per second)

Storm Event	1 Year	10 Year	25 Year	100 Year
DP-1	0.60	1.46	1.94	2.93

The proposed design, as described, minimizes disturbance of steep slopes on the property to the maximum extent possible and prevents, to the maximum extent practical, adverse impacts to the site and neighboring properties

EROSION AND SEDIMENT CONTROL COMPONENTS

The primary aim of the soil and sediment control measures is to reduce soil erosion from areas stripped of vegetation during and after construction and to prevent silt from reaching the off-site drainage structures and downstream properties. The Sediment and Erosion Control Components are an integral component of the construction sequencing and will be implemented to control sedimentation and re-establish vegetation.

Planned erosion and sedimentation control practices during construction include the installation, inspection and maintenance of the inlet protection, soil stockpile areas, diversion swales and silt fencing. General land grading practices, including land stabilization and construction sequencing are also integrated into the Sediment and Erosion Control Plan. Dust control is not expected to be a problem due to the relatively limited area of exposure, the undisturbed perimeter

of trees around the project area and the relatively short time of exposure. Should excessive dust be generated, it will be controlled by sprinkling.

All proposed soil erosion and sediment control practices have been designed in accordance with the following publications:

- New York State standards and Specifications for Urban Erosion and Sediment Control, August 2005
- New York State General Permit for Stormwater Discharges, GP-0-10-002 (General permit).
- “Reducing the Impacts of Stormwater Runoff from New Development”, as published by the New York State Department of Environmental Conservation (NYSDEC), second edition, April, 1993.

The proposed soil erosion and sediment control devices include the planned erosion control practices outlined below. Maintenance procedures for each erosion control practice have also been outlined below.

- **SILT FENCE**

Silt fence (geo-textile filter cloth) shall be placed in locations depicted on the approved plans. The purpose of the silt fence is to reduce the velocity of sediment laden stormwater from small drainage areas and to intercept the transported sediment load. In general, silt fence shall be used at the toe of slopes or intermediately within slopes where obvious channel concentration of stormwater is not present.

Maintenance

Silt fencing shall be inspected at a minimum of once per week and prior to and within 24 hours following a rain event ½” or greater. Inspections shall include ensuring that the fence material is tightly secured to the woven wire and the wire is secured to the wood posts. In addition, overlapping filter fabric shall be secured and the fabric shall be maintained a minimum of six (6) inches below grade. In the event that any “bulges” develop in the fence, that section of fence shall be replaced within 24 hours with new fence section. Any sediment build-up against the fence shall be removed within 24 hours and deposited on-site a minimum of 100 feet outside of any wetland or watercourse.

The installation of silt fencing will be maintained or replaced until the fencing is no longer necessary. Once the site is stabilized, all silt fences shall be removed. The immediate area occupied by the silt fence will be shaped to an acceptable grade and stabilized.

- **TREE PROTECTION**

All significant trees to be preserved located within the limits of disturbance and on the perimeter of the disturbance limits shall be protected from harm by erecting a 3' high (minimum) snow fence completely surrounding the tree. Snow fence should extend to the drip-line of the tree to be preserved. Trees designated to be protected shall be identified during the staking of the limits of disturbance for each construction phase.

Maintenance

The snow fence shall be inspected daily to ensure that the perimeter of the fence remains at the drip-line of the tree to be preserved. Any damaged portions of the fence shall be repaired or replaced within 24 hours. Care shall also be taken to ensure that no construction equipment is driven or parked within the drip-line of the tree to be preserved.

- **SOIL/SHOT ROCK STOCKPILING**

All soil and shot rock stripped from the construction area during grubbing and mass grading shall be stockpiled in locations shown on the plans, but in no case shall they be placed within 100' of a wetland or watercourse. The stockpiled soils shall be re-used during finish-grading to provide a suitable growing medium for plant establishment. Soil stockpiles shall be protected from erosion by vegetating the stockpile with rapidly –germinating grass seed (during the May 1st – October 30th) planting season or covering the stockpile with tarpaulin the remainder of the year. Install silt fence around toe of slope.

Maintenance

Sediment controls (silt fence) surrounding the stockpiles shall be inspected according to the recommended maintenance outline above. *All stockpiles shall be inspected for signs of erosion or problems with seed establishment weekly or tarpaulin and prior to and within 24 hours following a rain event ½" or greater.*

- **GENERAL LAND GRADING**

The intent of the Erosion & Sediment Control Plan is to control disturbed areas such that soils are protected from erosion by temporary methods and, ultimately, by permanent vegetation. Where practicable, all cut and fill slopes shall be kept to a maximum slope of 2:1. In the event that a slope must exceed a 2:1 slope, it will be stabilized with stone riprap. On fill slopes, all material will be placed in layers not to exceed 12 inches in depth and adequately compacted. Diversion swales shall be constructed on the top of all fill embankments to divert any overland flows away from the fill slopes.

- **SURFACE STABILIZATION**

All disturbed areas will be protected from erosion with the use of vegetative measures (i.e., grass seed mix, sod) hydromulch netting or hay. When activities temporarily cease during construction, soil stockpiles and exposed soil should be stabilized by seed, mulch or other appropriate measures within 7 days after construction activity has ceased, or 24 hours prior to a rain event $\frac{1}{2}$ " or greater.

All seeded areas will be re-seeded areas as necessary and mulched according to the site plan to maintain a vigorous, dense vegetative cover,

Erosion control barriers (silt fencing) shall be placed around exposed areas during construction. Where exposed areas are immediately uphill from a wetland or watercourse, the erosion control barrier will consist of double rows of silt fencing. Any areas stripped of vegetation during construction will be vegetated and/or mulch, but in no case more than 14 days to prevent erosion of the exposed soils. And topsoil removed during construction will be temporarily stockpiled for future use in grading and landscaping.

As mentioned above, temporary vegetation will be established to protect exposed soil areas during construction. If growing conditions are not suitable for the temporary vegetation, mulch will be used to the satisfaction of the Town Engineer. Materials that may be used for mulching include straw, hay, salt hay, wood fiber, synthetic soil stabilizers, mulch netting, sod or hydromulch. In site areas where significant erosion potential exists (steep slopes) and where specifically directed by the Town's representative, Curlex Excelsior erosion control blankets (manufactured by American Excelsior, or approved equal) shall be installed. A permanent vegetative cover will be established upon completion of construction of those areas that have been brought to finish-grade and to remain undisturbed.

- **Temporary Stabilization (May 1st through October 31st planting season)**

The following seeding application should be used depending on the time of year.

- Spring/summer or early fall, seed the area with ryegrass (annual or perennial) at 30 lbs. per acre (Approximately 0.7 lb/1000 sq. ft. or use 1 lb/1000 sq. ft.).
- Late fall or early winter, seed Certified 'Aroostook' winter rye (cereal rye) at 100 lbs. per acre (2.5 lbs/1000 sq. ft.).

- **Permanent Stabilization (May 1st through October 31st planting season)**

1. Provide minimum of four (4) inches topsoil for all new lawn areas. Top dress all existing disturbed lawn areas with two (2) inches of topsoil.
2. Grass seed shall be evenly sown by mechanical seeder at a rate of 3.0-4.0 pounds per 1,000 square feet.
3. Fine rake, roll and water to a depth of one inch all seeded areas.
4. Apply air-dried hay or straw mulch to provide 90% coverage of surface (approximately 90 lbs. per 1,000 sf). Use small grain straw where mulch is maintained for more than three months
5. Contractor shall provide, at his own expense, protection against trespassing and other damage to lawn areas.
6. Lawn seed mix shall include:
 - a. General Recreation areas and lawns:
 - 65% Kentucky Bluegrass blend
 - 20% Perennial Rye
 - 15% Fine fescue

Sod may be used as an alternate to seeding in select areas.

Slow release fertilizers will be applied by hand to horticultural plantings as part of regular horticultural maintenance program and shall be limited to a single spring application.

CONSTRUCTION PRACTICES TO MINIMIZE STORMWATER CONTAMINATION

Adequate measures shall be taken to minimize contaminant particles arising from the discharge of solid materials, including building materials, grading operations, and the reclamation and placement of pavement, during project construction, including but not limited to:

- Building materials, garbage, and debris shall be cleaned up daily and deposited into dumpsters, which will be periodically removed from the site and appropriately disposed of.
- Dump trucks hauling material from the construction site will be covered with a tarpaulin.
- The paved street adjacent to the site entrance will be swept daily to remove excess mud, dirt, or rock tracked from the site.

- Petroleum products will be stored in tightly sealed containers that are clearly labeled.
- All vehicles on site will be monitored for leaks and receive regular preventive maintenance to reduce the chance of leakage.
- All spills will be cleaned up immediately upon discovery. Spills large enough to reach the storm system will be reported to the National Response Center at 1-800-424-8802.
- Materials and equipment necessary for spill cleanup will be kept in the temporary material storage trailer onsite. Equipment will include, but not be limited to, brooms, dust pans, mops, rags, gloves, goggles, kitty litter, sand, saw dust, and plastic and metal trash containers.
- All paint containers and curing compounds will be tightly sealed and stored when not required for use. Excess paint will not be discharged to the storm system, but will be properly disposed according to the manufacturer's instructions.
- Sanitary waste will be collected from portable units a minimum of two times a week to avoid overfilling.
- Any asphalt substances used on-site will be applied according to the manufacturer's recommendation.
- Fertilizers will be stored in a covered shed and partially used bags will be transferred to a sealable bin to avoid spills and will be applied only in the minimum amounts recommended by the manufacturer and worked into the soil to limit exposure to stormwater.
- No disturbed area shall be left un-stabilized for longer than 14 days during the growing season.
- When erosion is likely to be a problem, grubbing operations shall be scheduled and performed such that grading operations and permanent erosion control features can follow within 24 hours thereafter.
- As work progresses, patch seeding shall be done as required on areas previously treated to maintain or establish protective cover.
- Drainage pipes and swales/ditches shall generally be constructed in a sequence from outlet to inlet in order to stabilize outlet areas and ditches before water is directed to the new installation or any portion thereof, unless conditions unique to the location warrant an alternative method.

STORMWATER MANAGEMENT FACILITIES MAINTENANCE PROGRAM

The following maintenance plan has been developed to maintain the proper function of all drainage and erosion and sediment control facilities:

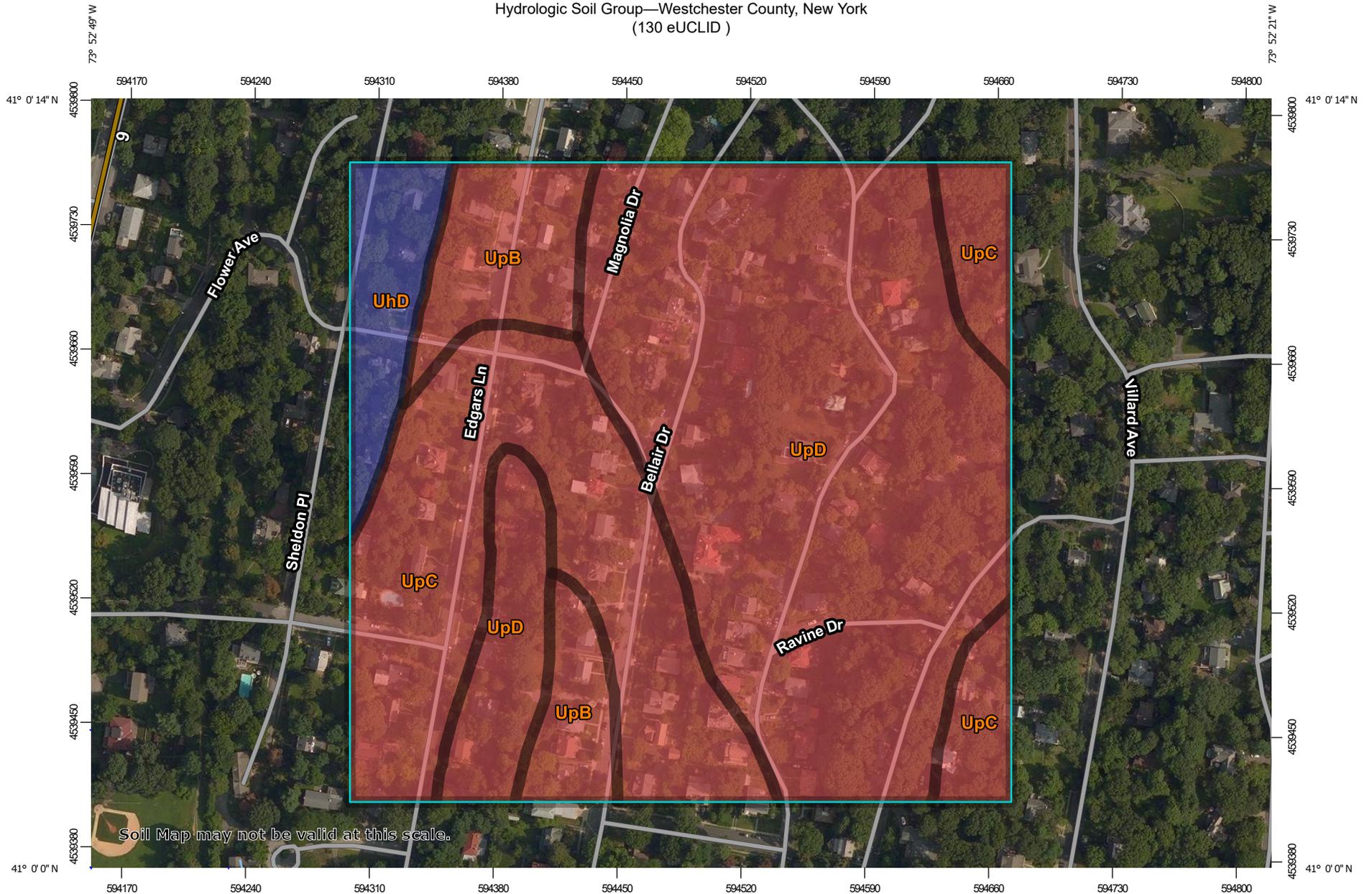
- Minimize the use of road salt for maintenance of driveway areas.
- Drainage inlets shall be vacuum swept twice a year, at the conclusion of the landscape season in the fall and at the conclusion of the sand and de-icing season in the spring. Inspect exfiltration/attenuation gallery for sediment and remove same if found.

The permanent maintenance program will be managed by the future homeowners upon completion of construction and acceptance of the improvements.

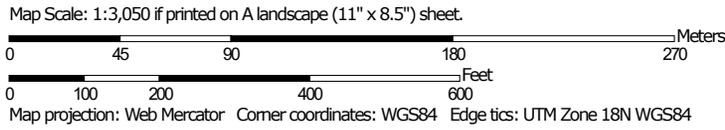
CONCLUSION

The stormwater management plan proposed meets all the requirements set forth by the Village of Hastings-on-Hudson. Design modification requirements that may occur during the approval process will be performed and submitted for review to the Village of Hastings-on-Hudson.

Hydrologic Soil Group—Westchester County, New York
(130 eUCLID)



Soil Map may not be valid at this scale.



MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

Soil Rating Polygons

 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Lines

 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Points

 A
 A/D
 B
 B/D

 C
 C/D
 D
 Not rated or not available

Water Features

 Streams and Canals

Transportation

 Rails
 Interstate Highways
 US Routes
 Major Roads
 Local Roads

Background

 Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Westchester County, New York
 Survey Area Data: Version 14, Sep 3, 2018

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

Date(s) aerial images were photographed: Jul 21, 2014—Aug 27, 2014

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

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
UhD	Urban land-Charlton complex, 15 to 25 percent slopes	B	1.8	5.3%
UpB	Urban land-Paxton complex, 3 to 8 percent slopes	D	3.3	9.9%
UpC	Urban land-Paxton complex, 8 to 15 percent slopes	D	10.1	30.3%
UpD	Urban land-Paxton complex, 15 to 25 percent slopes	D	18.2	54.4%
Totals for Area of Interest			33.4	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

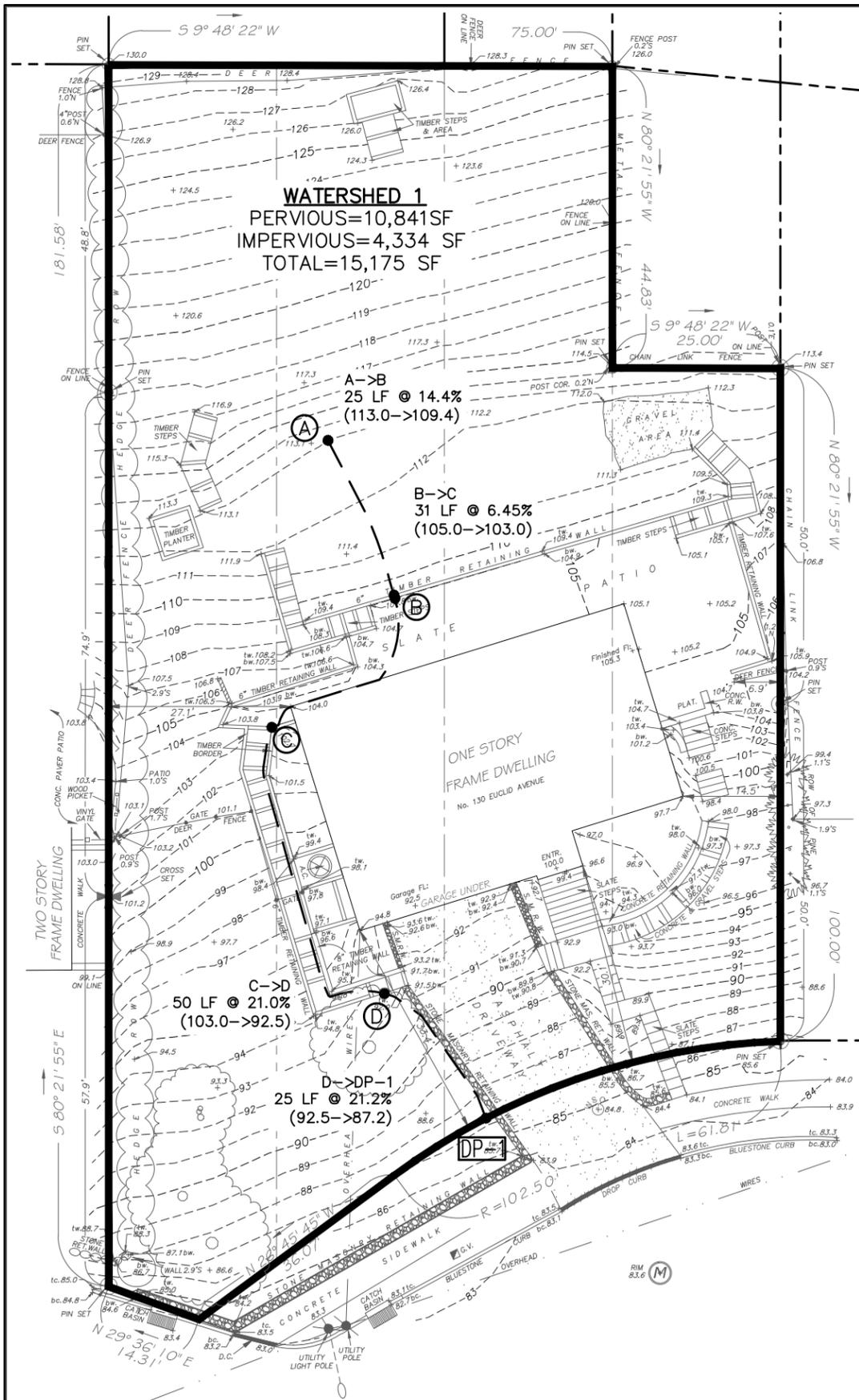
If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

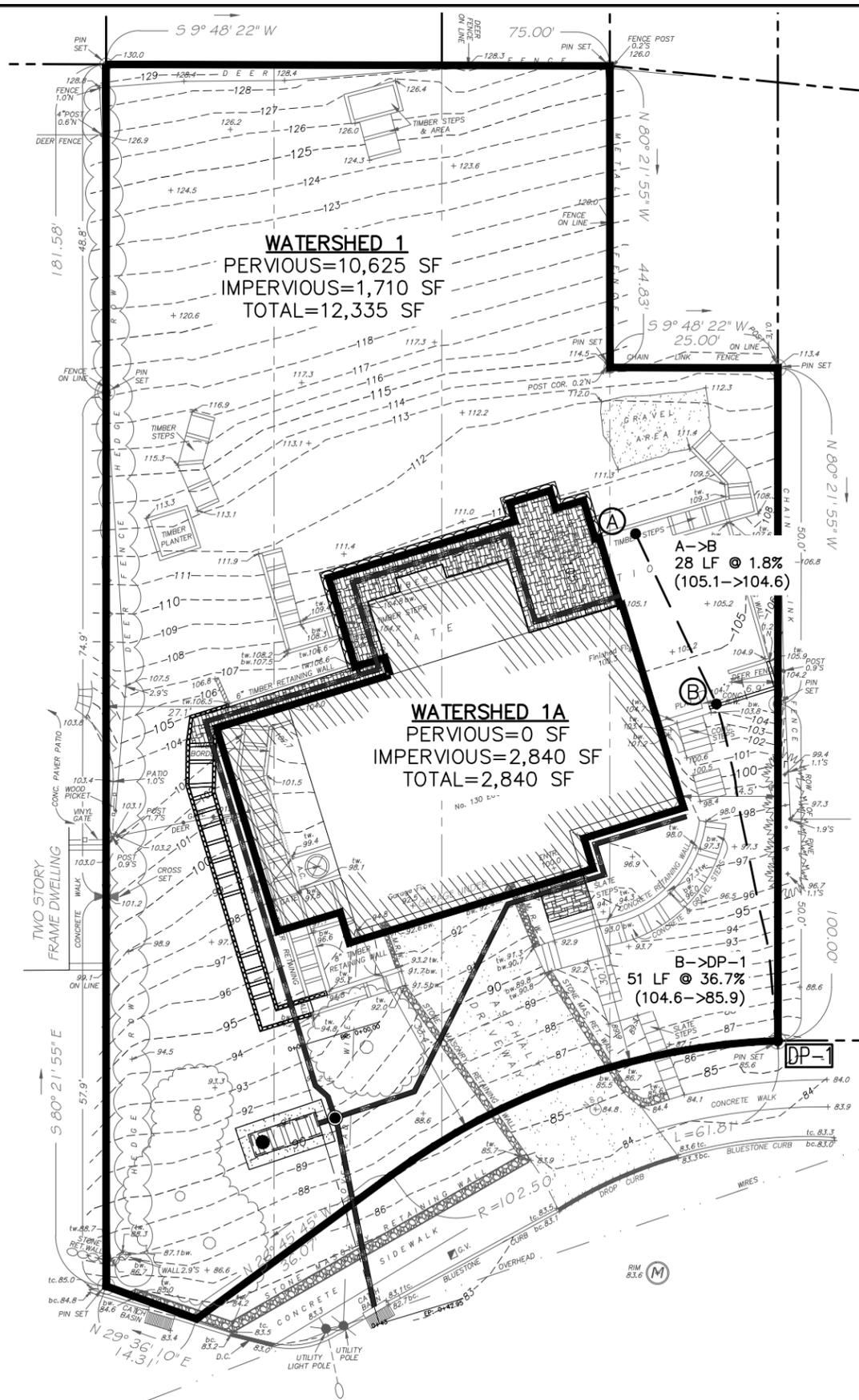
Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher



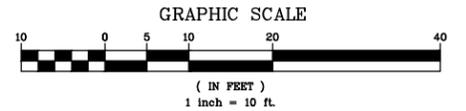
WATERSHED MAP - EXISTING



WATERSHED MAP - PROPOSED

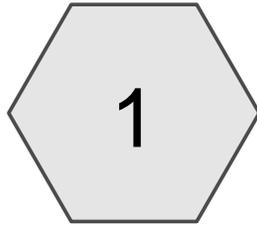


130 EUCLID AVENUE WATERSHED MAPS
 BASED UPON EXISTING INFORMATION
 PROVIDED BY MICHAEL LEWIS
 ARCHITECTS PC, DATED JUNE 28, 2019

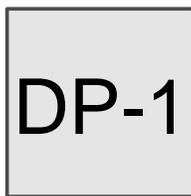


ANY ALTERATIONS OR REVISIONS OF THESE PLANS, UNLESS DONE BY OR UNDER THE DIRECTION OF THE NYS LICENSED AND REGISTERED ENGINEER THAT PREPARED THEM, IS A VIOLATION OF THE NYS EDUCATION LAW.

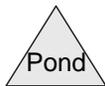
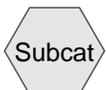
Date	07/16/19
	Sheet
Scale	1" = 10'
	1
Designed By	I.A.
	Checked By
M.S.	
PROJECT: PROPOSED SINGLE FAMILY DWELLING 130 EUCLID AVENUE VILLAGE OF HASTINGS-ON-HUDSON WESTCHESTER COUNTY - NEW YORK	
WATERSHED MAPS	
	 45 Knollwood Road - Suite 201 Elmsford, New York 10523 T 914-909-9420 F 914-560-2086 © 2019
	Date: 07/16/19 Scale: 1" = 10' Designed By: I.A. Checked By: M.S. Sheet No.
WS-1	



Watershed 1



DP-1



Existing Condition

Prepared by Hudson Engineering & Consulting

HydroCAD® 10.00-13 s/n 02549 © 2014 HydroCAD Software Solutions LLC

Page 2

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
10,841	80	>75% Grass cover, Good, HSG D (1)
584	98	Existing Driveway (1)
1,877	98	Existing Dwelling (1)
925	98	Existing Rear Patio w/ steps (1)
257	98	Existing Retaining Walls (1)
499	98	Existing Walkways and Steps (1)
140	96	Gravel surface (1)
52	98	Rear Planter/Step Areas (1)

Existing Condition

Type III 24-hr 1-Year Rainfall=2.81"

Prepared by Hudson Engineering & Consulting

HydroCAD® 10.00-13 s/n 02549 © 2014 HydroCAD Software Solutions LLC

Page 3

Summary for Subcatchment 1: Watershed 1

Runoff = 0.68 cfs @ 12.03 hrs, Volume= 1,808 cf, Depth= 1.43"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Year Rainfall=2.81"

Area (sf)	CN	Description
* 1,877	98	Existing Dwelling
* 925	98	Existing Rear Patio w/ steps
* 499	98	Existing Walkways and Steps
* 584	98	Existing Driveway
* 257	98	Existing Retaining Walls
* 52	98	Rear Planter/Step Areas
10,841	80	>75% Grass cover, Good, HSG D
* 140	96	Gravel surface
15,175	85	Weighted Average
10,981		72.36% Pervious Area
4,194		27.64% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.4	25	0.1440	0.30		Sheet Flow, A-B Grass: Short n= 0.150 P2= 3.50"
0.1	31	0.0645	5.16		Shallow Concentrated Flow, B-C Paved Kv= 20.3 fps
0.1	50	0.2100	9.30		Shallow Concentrated Flow, C-D Paved Kv= 20.3 fps
0.1	25	0.2120	3.22		Shallow Concentrated Flow, D-DP1 Short Grass Pasture Kv= 7.0 fps
1.7	131	Total			

Summary for Reach DP-1: DP-1

Inflow Area = 15,175 sf, 27.64% Impervious, Inflow Depth = 1.43" for 1-Year event

Inflow = 0.68 cfs @ 12.03 hrs, Volume= 1,808 cf

Outflow = 0.68 cfs @ 12.03 hrs, Volume= 1,808 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Existing Condition

Type III 24-hr 10-Year Rainfall=5.06"

Prepared by Hudson Engineering & Consulting

HydroCAD® 10.00-13 s/n 02549 © 2014 HydroCAD Software Solutions LLC

Page 4

Summary for Subcatchment 1: Watershed 1

Runoff = 1.61 cfs @ 12.03 hrs, Volume= 4,329 cf, Depth= 3.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=5.06"

Area (sf)	CN	Description
* 1,877	98	Existing Dwelling
* 925	98	Existing Rear Patio w/ steps
* 499	98	Existing Walkways and Steps
* 584	98	Existing Driveway
* 257	98	Existing Retaining Walls
* 52	98	Rear Planter/Step Areas
10,841	80	>75% Grass cover, Good, HSG D
* 140	96	Gravel surface
15,175	85	Weighted Average
10,981		72.36% Pervious Area
4,194		27.64% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.4	25	0.1440	0.30		Sheet Flow, A-B Grass: Short n= 0.150 P2= 3.50"
0.1	31	0.0645	5.16		Shallow Concentrated Flow, B-C Paved Kv= 20.3 fps
0.1	50	0.2100	9.30		Shallow Concentrated Flow, C-D Paved Kv= 20.3 fps
0.1	25	0.2120	3.22		Shallow Concentrated Flow, D-DP1 Short Grass Pasture Kv= 7.0 fps
1.7	131	Total			

Summary for Reach DP-1: DP-1

Inflow Area = 15,175 sf, 27.64% Impervious, Inflow Depth = 3.42" for 10-Year event

Inflow = 1.61 cfs @ 12.03 hrs, Volume= 4,329 cf

Outflow = 1.61 cfs @ 12.03 hrs, Volume= 4,329 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Existing Condition

Type III 24-hr 25-Year Rainfall=6.33"

Prepared by Hudson Engineering & Consulting

HydroCAD® 10.00-13 s/n 02549 © 2014 HydroCAD Software Solutions LLC

Page 5

Summary for Subcatchment 1: Watershed 1

Runoff = 2.15 cfs @ 12.03 hrs, Volume= 5,836 cf, Depth= 4.61"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.33"

Area (sf)	CN	Description
* 1,877	98	Existing Dwelling
* 925	98	Existing Rear Patio w/ steps
* 499	98	Existing Walkways and Steps
* 584	98	Existing Driveway
* 257	98	Existing Retaining Walls
* 52	98	Rear Planter/Step Areas
10,841	80	>75% Grass cover, Good, HSG D
* 140	96	Gravel surface
15,175	85	Weighted Average
10,981		72.36% Pervious Area
4,194		27.64% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.4	25	0.1440	0.30		Sheet Flow, A-B Grass: Short n= 0.150 P2= 3.50"
0.1	31	0.0645	5.16		Shallow Concentrated Flow, B-C Paved Kv= 20.3 fps
0.1	50	0.2100	9.30		Shallow Concentrated Flow, C-D Paved Kv= 20.3 fps
0.1	25	0.2120	3.22		Shallow Concentrated Flow, D-DP1 Short Grass Pasture Kv= 7.0 fps
1.7	131	Total			

Summary for Reach DP-1: DP-1

Inflow Area = 15,175 sf, 27.64% Impervious, Inflow Depth = 4.61" for 25-Year event

Inflow = 2.15 cfs @ 12.03 hrs, Volume= 5,836 cf

Outflow = 2.15 cfs @ 12.03 hrs, Volume= 5,836 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Existing Condition

Type III 24-hr 100-Year Rainfall=8.90"

Prepared by Hudson Engineering & Consulting

HydroCAD® 10.00-13 s/n 02549 © 2014 HydroCAD Software Solutions LLC

Page 6

Summary for Subcatchment 1: Watershed 1

Runoff = 3.23 cfs @ 12.02 hrs, Volume= 8,959 cf, Depth= 7.08"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=8.90"

Area (sf)	CN	Description
* 1,877	98	Existing Dwelling
* 925	98	Existing Rear Patio w/ steps
* 499	98	Existing Walkways and Steps
* 584	98	Existing Driveway
* 257	98	Existing Retaining Walls
* 52	98	Rear Planter/Step Areas
10,841	80	>75% Grass cover, Good, HSG D
* 140	96	Gravel surface
15,175	85	Weighted Average
10,981		72.36% Pervious Area
4,194		27.64% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.4	25	0.1440	0.30		Sheet Flow, A-B Grass: Short n= 0.150 P2= 3.50"
0.1	31	0.0645	5.16		Shallow Concentrated Flow, B-C Paved Kv= 20.3 fps
0.1	50	0.2100	9.30		Shallow Concentrated Flow, C-D Paved Kv= 20.3 fps
0.1	25	0.2120	3.22		Shallow Concentrated Flow, D-DP1 Short Grass Pasture Kv= 7.0 fps
1.7	131	Total			

Summary for Reach DP-1: DP-1

Inflow Area = 15,175 sf, 27.64% Impervious, Inflow Depth = 7.08" for 100-Year event

Inflow = 3.23 cfs @ 12.02 hrs, Volume= 8,959 cf

Outflow = 3.23 cfs @ 12.02 hrs, Volume= 8,959 cf, Atten= 0%, Lag= 0.0 min

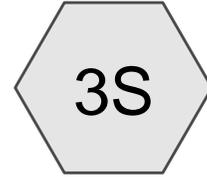
Routing by Stor-Ind+Trans method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs



Watershed 1



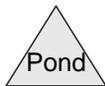
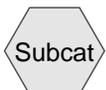
DP-1



Watershed 1A



10 L.F. 36-Inch
Diameter Solid Walled
HDPE Pipe



Proposed Condition - 2019-08-19

Prepared by Hudson Engineering & Consulting

HydroCAD® 10.00-13 s/n 02549 © 2014 HydroCAD Software Solutions LLC

Page 2

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
10,625	80	>75% Grass cover, Good, HSG D (2S)
584	98	Existing Driveway (2S)
145	98	Existing Retaining Walls (2S)
418	98	Existing Walkways and Steps (2S)
140	96	Gravel Surface (2S)
488	98	Portion of Proposed Rear Patio (2S, 3S)
2,405	98	Proposed Dwelling (3S)
141	98	Proposed Retaining Walls (2S)
177	98	Proposed Steps and Walkways (2S)
52	98	Rear Planter (2S)

Summary for Subcatchment 2S: Watershed 1

Runoff = 0.44 cfs @ 12.06 hrs, Volume= 1,266 cf, Depth= 1.23"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Type III 24-hr 1-Year Rainfall=2.81"

Area (sf)	CN	Description
* 141	98	Proposed Retaining Walls
* 177	98	Proposed Steps and Walkways
* 53	98	Portion of Proposed Rear Patio
* 418	98	Existing Walkways and Steps
* 584	98	Existing Driveway
* 145	98	Existing Retaining Walls
* 52	98	Rear Planter
* 140	96	Gravel Surface
10,625	80	>75% Grass cover, Good, HSG D
12,335	82	Weighted Average
10,765		87.27% Pervious Area
1,570		12.73% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.5	28	0.0180	0.13		Sheet Flow, A-B Grass: Short n= 0.150 P2= 3.50"
0.2	51	0.3670	4.24		Shallow Concentrated Flow, B-C Short Grass Pasture Kv= 7.0 fps
3.7	79	Total			

Summary for Subcatchment 3S: Watershed 1A

Runoff = 0.21 cfs @ 12.01 hrs, Volume= 610 cf, Depth= 2.58"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Type III 24-hr 1-Year Rainfall=2.81"

Area (sf)	CN	Description
* 2,405	98	Proposed Dwelling
* 435	98	Portion of Proposed Rear Patio
2,840	98	Weighted Average
2,840		100.00% Impervious Area

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

Proposed Condition - 2019-08-19

Type III 24-hr 1-Year Rainfall=2.81"

Prepared by Hudson Engineering & Consulting

HydroCAD® 10.00-13 s/n 02549 © 2014 HydroCAD Software Solutions LLC

Summary for Reach 4R: DP-1

Inflow Area = 15,175 sf, 29.06% Impervious, Inflow Depth = 1.48" for 1-Year event
Inflow = 0.60 cfs @ 12.06 hrs, Volume= 1,876 cf
Outflow = 0.60 cfs @ 12.06 hrs, Volume= 1,876 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Summary for Pond 5P: 10 L.F. 36-Inch Diameter Solid Walled HDPE Pipe

Inflow Area = 2,840 sf, 100.00% Impervious, Inflow Depth = 2.58" for 1-Year event
Inflow = 0.21 cfs @ 12.01 hrs, Volume= 610 cf
Outflow = 0.16 cfs @ 12.06 hrs, Volume= 610 cf, Atten= 22%, Lag= 2.6 min
Primary = 0.16 cfs @ 12.06 hrs, Volume= 610 cf

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 88.10' @ 12.06 hrs Surf.Area= 29 sf Storage= 24 cf

Plug-Flow detention time= 1.0 min calculated for 610 cf (100% of inflow)

Center-of-Mass det. time= 1.0 min (755.6 - 754.6)

Volume	Invert	Avail.Storage	Storage Description
#1	87.00'	71 cf	36.0" Round Pipe Storage L= 10.0'

Device	Routing	Invert	Outlet Devices
#1	Primary	87.00'	2.5" Vert. Orifice/Grate C= 0.600
#2	Primary	89.00'	6.0" Vert. Orifice/Grate C= 0.600

Primary OutFlow Max=0.16 cfs @ 12.06 hrs HW=88.10' (Free Discharge)

1=Orifice/Grate (Orifice Controls 0.16 cfs @ 4.81 fps)

2=Orifice/Grate (Controls 0.00 cfs)

Summary for Subcatchment 2S: Watershed 1

Runoff = 1.13 cfs @ 12.06 hrs, Volume= 3,220 cf, Depth= 3.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Type III 24-hr 10-Year Rainfall=5.06"

Area (sf)	CN	Description
* 141	98	Proposed Retaining Walls
* 177	98	Proposed Steps and Walkways
* 53	98	Portion of Proposed Rear Patio
* 418	98	Existing Walkways and Steps
* 584	98	Existing Driveway
* 145	98	Existing Retaining Walls
* 52	98	Rear Planter
* 140	96	Gravel Surface
10,625	80	>75% Grass cover, Good, HSG D
12,335	82	Weighted Average
10,765		87.27% Pervious Area
1,570		12.73% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.5	28	0.0180	0.13		Sheet Flow, A-B Grass: Short n= 0.150 P2= 3.50"
0.2	51	0.3670	4.24		Shallow Concentrated Flow, B-C Short Grass Pasture Kv= 7.0 fps
3.7	79	Total			

Summary for Subcatchment 3S: Watershed 1A

Runoff = 0.38 cfs @ 12.01 hrs, Volume= 1,141 cf, Depth= 4.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Type III 24-hr 10-Year Rainfall=5.06"

Area (sf)	CN	Description
* 2,405	98	Proposed Dwelling
* 435	98	Portion of Proposed Rear Patio
2,840	98	Weighted Average
2,840		100.00% Impervious Area

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

Proposed Condition - 2019-08-19

Type III 24-hr 10-Year Rainfall=5.06"

Prepared by Hudson Engineering & Consulting

HydroCAD® 10.00-13 s/n 02549 © 2014 HydroCAD Software Solutions LLC

Summary for Reach 4R: DP-1

Inflow Area = 15,175 sf, 29.06% Impervious, Inflow Depth = 3.45" for 10-Year event
Inflow = 1.46 cfs @ 12.05 hrs, Volume= 4,362 cf
Outflow = 1.46 cfs @ 12.05 hrs, Volume= 4,362 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Summary for Pond 5P: 10 L.F. 36-Inch Diameter Solid Walled HDPE Pipe

Inflow Area = 2,840 sf, 100.00% Impervious, Inflow Depth = 4.82" for 10-Year event
Inflow = 0.38 cfs @ 12.01 hrs, Volume= 1,141 cf
Outflow = 0.35 cfs @ 12.04 hrs, Volume= 1,141 cf, Atten= 8%, Lag= 1.3 min
Primary = 0.35 cfs @ 12.04 hrs, Volume= 1,141 cf

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 89.20' @ 12.04 hrs Surf.Area= 27 sf Storage= 56 cf

Plug-Flow detention time= 1.4 min calculated for 1,141 cf (100% of inflow)

Center-of-Mass det. time= 1.4 min (744.6 - 743.2)

Volume	Invert	Avail.Storage	Storage Description
#1	87.00'	71 cf	36.0" Round Pipe Storage L= 10.0'

Device	Routing	Invert	Outlet Devices
#1	Primary	87.00'	2.5" Vert. Orifice/Grate C= 0.600
#2	Primary	89.00'	6.0" Vert. Orifice/Grate C= 0.600

Primary OutFlow Max=0.35 cfs @ 12.04 hrs HW=89.20' (Free Discharge)

1=Orifice/Grate (Orifice Controls 0.24 cfs @ 6.97 fps)

2=Orifice/Grate (Orifice Controls 0.11 cfs @ 1.52 fps)

Summary for Subcatchment 2S: Watershed 1

Runoff = 1.53 cfs @ 12.05 hrs, Volume= 4,412 cf, Depth= 4.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Type III 24-hr 25-Year Rainfall=6.33"

Area (sf)	CN	Description
* 141	98	Proposed Retaining Walls
* 177	98	Proposed Steps and Walkways
* 53	98	Portion of Proposed Rear Patio
* 418	98	Existing Walkways and Steps
* 584	98	Existing Driveway
* 145	98	Existing Retaining Walls
* 52	98	Rear Planter
* 140	96	Gravel Surface
10,625	80	>75% Grass cover, Good, HSG D
12,335	82	Weighted Average
10,765		87.27% Pervious Area
1,570		12.73% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.5	28	0.0180	0.13		Sheet Flow, A-B Grass: Short n= 0.150 P2= 3.50"
0.2	51	0.3670	4.24		Shallow Concentrated Flow, B-C Short Grass Pasture Kv= 7.0 fps
3.7	79	Total			

Summary for Subcatchment 3S: Watershed 1A

Runoff = 0.48 cfs @ 12.01 hrs, Volume= 1,442 cf, Depth= 6.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Type III 24-hr 25-Year Rainfall=6.33"

Area (sf)	CN	Description
* 2,405	98	Proposed Dwelling
* 435	98	Portion of Proposed Rear Patio
2,840	98	Weighted Average
2,840		100.00% Impervious Area

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

Proposed Condition - 2019-08-19

Type III 24-hr 25-Year Rainfall=6.33"

Prepared by Hudson Engineering & Consulting

HydroCAD® 10.00-13 s/n 02549 © 2014 HydroCAD Software Solutions LLC

Summary for Reach 4R: DP-1

Inflow Area = 15,175 sf, 29.06% Impervious, Inflow Depth = 4.63" for 25-Year event
Inflow = 1.94 cfs @ 12.05 hrs, Volume= 5,853 cf
Outflow = 1.94 cfs @ 12.05 hrs, Volume= 5,853 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Summary for Pond 5P: 10 L.F. 36-Inch Diameter Solid Walled HDPE Pipe

Inflow Area = 2,840 sf, 100.00% Impervious, Inflow Depth = 6.09" for 25-Year event
Inflow = 0.48 cfs @ 12.01 hrs, Volume= 1,442 cf
Outflow = 0.48 cfs @ 12.02 hrs, Volume= 1,442 cf, Atten= 1%, Lag= 0.4 min
Primary = 0.48 cfs @ 12.02 hrs, Volume= 1,442 cf

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Peak Elev= 89.30' @ 12.02 hrs Surf.Area= 25 sf Storage= 58 cf

Plug-Flow detention time= 1.4 min calculated for 1,442 cf (100% of inflow)

Center-of-Mass det. time= 1.4 min (741.1 - 739.7)

Volume	Invert	Avail.Storage	Storage Description
#1	87.00'	71 cf	36.0" Round Pipe Storage L= 10.0'

Device	Routing	Invert	Outlet Devices
#1	Primary	87.00'	2.5" Vert. Orifice/Grate C= 0.600
#2	Primary	89.00'	6.0" Vert. Orifice/Grate C= 0.600

Primary OutFlow Max=0.48 cfs @ 12.02 hrs HW=89.30' (Free Discharge)

1=Orifice/Grate (Orifice Controls 0.24 cfs @ 7.14 fps)

2=Orifice/Grate (Orifice Controls 0.23 cfs @ 1.88 fps)

Summary for Subcatchment 2S: Watershed 1

Runoff = 2.35 cfs @ 12.05 hrs, Volume= 6,906 cf, Depth= 6.72"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Type III 24-hr 100-Year Rainfall=8.90"

Area (sf)	CN	Description
* 141	98	Proposed Retaining Walls
* 177	98	Proposed Steps and Walkways
* 53	98	Portion of Proposed Rear Patio
* 418	98	Existing Walkways and Steps
* 584	98	Existing Driveway
* 145	98	Existing Retaining Walls
* 52	98	Rear Planter
* 140	96	Gravel Surface
10,625	80	>75% Grass cover, Good, HSG D
12,335	82	Weighted Average
10,765		87.27% Pervious Area
1,570		12.73% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.5	28	0.0180	0.13		Sheet Flow, A-B Grass: Short n= 0.150 P2= 3.50"
0.2	51	0.3670	4.24		Shallow Concentrated Flow, B-C Short Grass Pasture Kv= 7.0 fps
3.7	79	Total			

Summary for Subcatchment 3S: Watershed 1A

Runoff = 0.68 cfs @ 12.01 hrs, Volume= 2,049 cf, Depth= 8.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Type III 24-hr 100-Year Rainfall=8.90"

Area (sf)	CN	Description
* 2,405	98	Proposed Dwelling
* 435	98	Portion of Proposed Rear Patio
2,840	98	Weighted Average
2,840		100.00% Impervious Area

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

Summary for Reach 4R: DP-1

Inflow Area = 15,175 sf, 29.06% Impervious, Inflow Depth = 7.08" for 100-Year event
 Inflow = 2.93 cfs @ 12.05 hrs, Volume= 8,955 cf
 Outflow = 2.93 cfs @ 12.05 hrs, Volume= 8,955 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Summary for Pond 5P: 10 L.F. 36-Inch Diameter Solid Walled HDPE Pipe

Inflow Area = 2,840 sf, 100.00% Impervious, Inflow Depth = 8.66" for 100-Year event
 Inflow = 0.68 cfs @ 12.01 hrs, Volume= 2,049 cf
 Outflow = 0.67 cfs @ 12.02 hrs, Volume= 2,049 cf, Atten= 1%, Lag= 0.3 min
 Primary = 0.67 cfs @ 12.02 hrs, Volume= 2,049 cf

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Peak Elev= 89.45' @ 12.02 hrs Surf.Area= 23 sf Storage= 62 cf

Plug-Flow detention time= 1.4 min calculated for 2,049 cf (100% of inflow)
 Center-of-Mass det. time= 1.4 min (736.7 - 735.3)

Volume	Invert	Avail.Storage	Storage Description
#1	87.00'	71 cf	36.0" Round Pipe Storage L= 10.0'

Device	Routing	Invert	Outlet Devices
#1	Primary	87.00'	2.5" Vert. Orifice/Grate C= 0.600
#2	Primary	89.00'	6.0" Vert. Orifice/Grate C= 0.600

Primary OutFlow Max=0.67 cfs @ 12.02 hrs HW=89.45' (Free Discharge)
 1=Orifice/Grate (Orifice Controls 0.25 cfs @ 7.37 fps)
 2=Orifice/Grate (Orifice Controls 0.42 cfs @ 2.28 fps)



SITE ADDRESS: 130 Euclid Avenue

TOWN/VILLAGE: Hastings-on-Hudson

DATE: June 08, 2019 TIME: 11:00 AM

WEATHER: Sunny TEMP. 65° F

WITNESSED BY: Michael Frugis

DEEP TEST HOLE DATA SHEET – STORMWATER MANAGEMENT SYSTEM

DEPTH	HOLE NO. <u>1</u>	HOLE NO. _____	HOLE NO. _____	HOLE NO. _____
G.L.	0-6" Topsoil			
6"	6-32" Light			
12"	Brown Loam			
18"				
24"				
30"	32-40" Blackish-			
36"	Brown Loam			
42"	40-96" Brown			
48"	Silty Loam			
54"				
60"				
66"				
72"				
78"				
84"				
90"				
96"	No Ledge			
102"	No GW			
108"				

- Indicate level at which Ground Water (GW), Mottling and/or Ledge Rock is encountered.
- Indicate level for which water level rises after being encountered.

EXCAVATION PERFORMED BY: _____



HUDSON
ENGINEERING
&
CONSULTING, P.C.

August 28, 2019

James J. Hahn, P.E.
President
James J. Hahn Engineering, P.C.
Putnam Business Park
1689 Route 22
Brewster, NY 10509

Re: Site Plan Review
130 Euclid Avenue
Owner – Michael Berger & Jonna Rosenberg
Village of Hastings-on-Hudson, NY

Dear Mr. Hahn:

On behalf of the applicant, our office has reviewed your Memorandum dated August 20, 2019, and offers the following responses:

Comment Letter:

- 1.) A steep slopes application, as completed by Michael Lewis Architects PC is included in this submission package.
- 2.) A detention system is proposed as, per DEC standards, infiltrations system within slopes of 15 percent or greater are not permitted (per Section 6.3.1 of the NYSDEC manual) due to the higher potential for “bleeding” of runoff collected in the system onto the surface as opposed to infiltration underground as designed. The slopes in the site in the area of a potential system average approximately 27.6% slopes, nearly double the limit set by DEC.

Approximate calculations for a theoretical infiltration system collecting the proposed watershed is included in this submission. The elevation at the property line 10-feet away was utilized as the top of the system to avoid potential bleeding. The design only accounts for the 25-year storm event (as opposed to the 100-year used for the attenuation gallery) and conservatively utilizes a percolation rate of 6-inches per hour (approximately 7”/hr was measured in a test further up gradient). The system as calculated would require 6 Cultec 330XL units (“Sketch A”). Test holes in the area would need to be at least 12.5’ in depth to provide proper cover at all times as well as the minimum 3’ separation from any groundwater or ledge rock (refer to “Sketch B”). Infiltration rates measured would need to be a minimum of 6-inches per



James J. Hahn, P.E.
President
August 28, 2019
Page 2 of 2

hour. Shallower depth to potential ledge rock/groundwater or slower infiltration rates would result in additional and/or shallower units.

In turn, a bigger footprint would result in a greater depth being required. The Planning Board specifically requested we protect existing trees to the maximum extent possible. An infiltration system would very likely result in excavating the roots in close vicinity to any potential system as shown in the attached sketch. The system would also require more disturbances to steep slope areas contrary to the purview of work in steep slopes.

Thus, a closed detention system is the most practical stormwater measure that can be utilized and minimize disturbance or potential system failure.

- 3.) Comment noted. Future testing will strictly follow NYSDEC standards. An infiltration is not proposed to be utilized.
- 4.) A nyloplast basin is proposed as a control structure on sheet C-1 and detailed on sheet C-2.
- 5.) The mini channel drain detail refers to the drains abutting the rear walls to collect patio runoff.
- 6.) Comment noted. The verbiage has been revised.

We respectfully request that you review the enclosed submittal. If you should have any additional questions or comments, please do not hesitate to contact our office at (914) 909-0420, or via email at Ubadah@hudsonec.com.

Thank you.

A handwritten signature in black ink, appearing to read 'Ubadah Abdullah', is written in a cursive style.

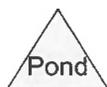
Sincerely,
Ubadah Abdullah, E.I.T.



Watershed 1A



6 CUItec 330XL Units



Proposed Condition

Type III 24-hr 25-Year Rainfall=6.33"

Prepared by Hudson Engineering & Consulting

HydroCAD® 10.00-13 s/n 02549 © 2014 HydroCAD Software Solutions LLC

Summary for Subcatchment 2S: Watershed 1A

Runoff = 0.48 cfs @ 12.01 hrs, Volume= 1,442 cf, Depth= 6.09"

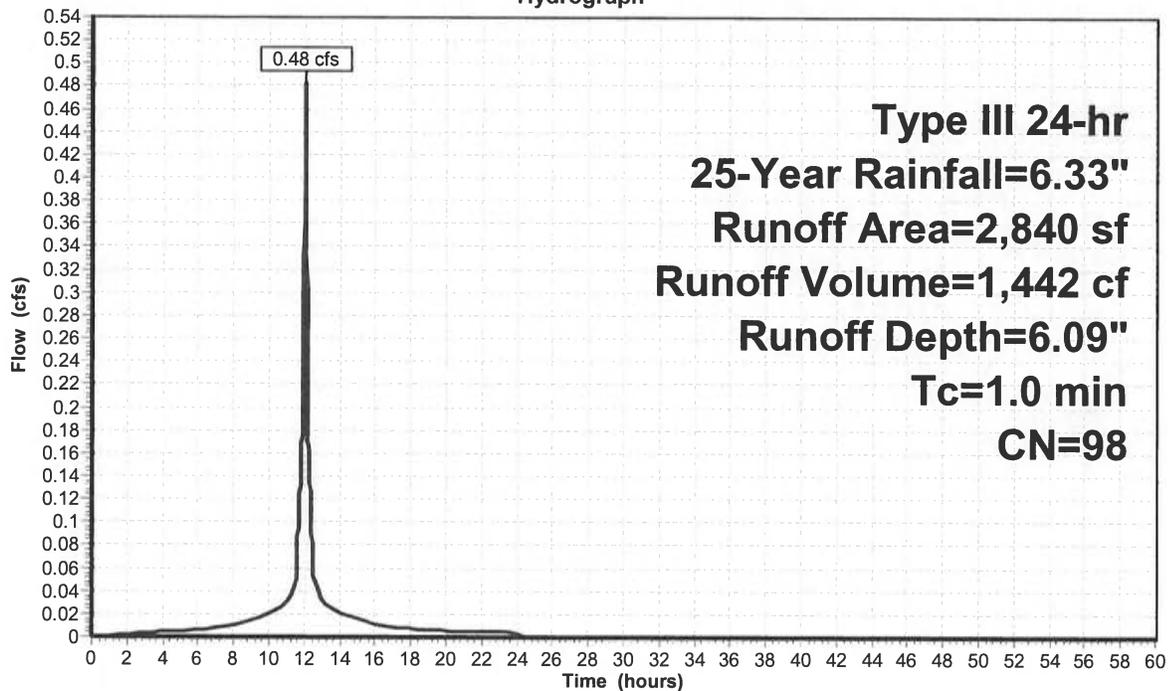
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.33"

	Area (sf)	CN	Description
*	2,405	98	Proposed Dwelling
*	435	98	Portion of Proposed Rear Patio
	2,840	98	Weighted Average
	2,840		100.00% Impervious Area

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

Subcatchment 2S: Watershed 1A

Hydrograph



Proposed Condition

Type III 24-hr 25-Year Rainfall=6.33"

Prepared by Hudson Engineering & Consulting

HydroCAD® 10.00-13 s/n 02549 © 2014 HydroCAD Software Solutions LLC

Page 3

Summary for Pond 3P: 6 CULtec 330XL Units

Inflow Area = 2,840 sf, 100.00% Impervious, Inflow Depth = 6.09" for 25-Year event
 Inflow = 0.48 cfs @ 12.01 hrs, Volume= 1,442 cf
 Outflow = 0.04 cfs @ 11.25 hrs, Volume= 1,442 cf, Atten= 92%, Lag= 0.0 min
 Discarded = 0.04 cfs @ 11.25 hrs, Volume= 1,442 cf

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Peak Elev= 2.99' @ 12.81 hrs Surf.Area= 274 sf Storage= 480 cf

Plug-Flow detention time= 83.7 min calculated for 1,441 cf (100% of inflow)
 Center-of-Mass det. time= 83.7 min (823.4 - 739.7)

Volume	Invert	Avail.Storage	Storage Description
#1A	0.00'	149 cf	11.17'W x 24.50'L x 3.04'H Field A 832 cf Overall - 335 cf Embedded = 497 cf x 30.0% Voids
#2A	0.50'	335 cf	Cultec R-330XLHD x 6 Inside #1 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 2 rows
		484 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	6.000 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.04 cfs @ 11.25 hrs HW=0.03' (Free Discharge)
 ↳ **1=Exfiltration** (Exfiltration Controls 0.04 cfs)

Proposed Condition

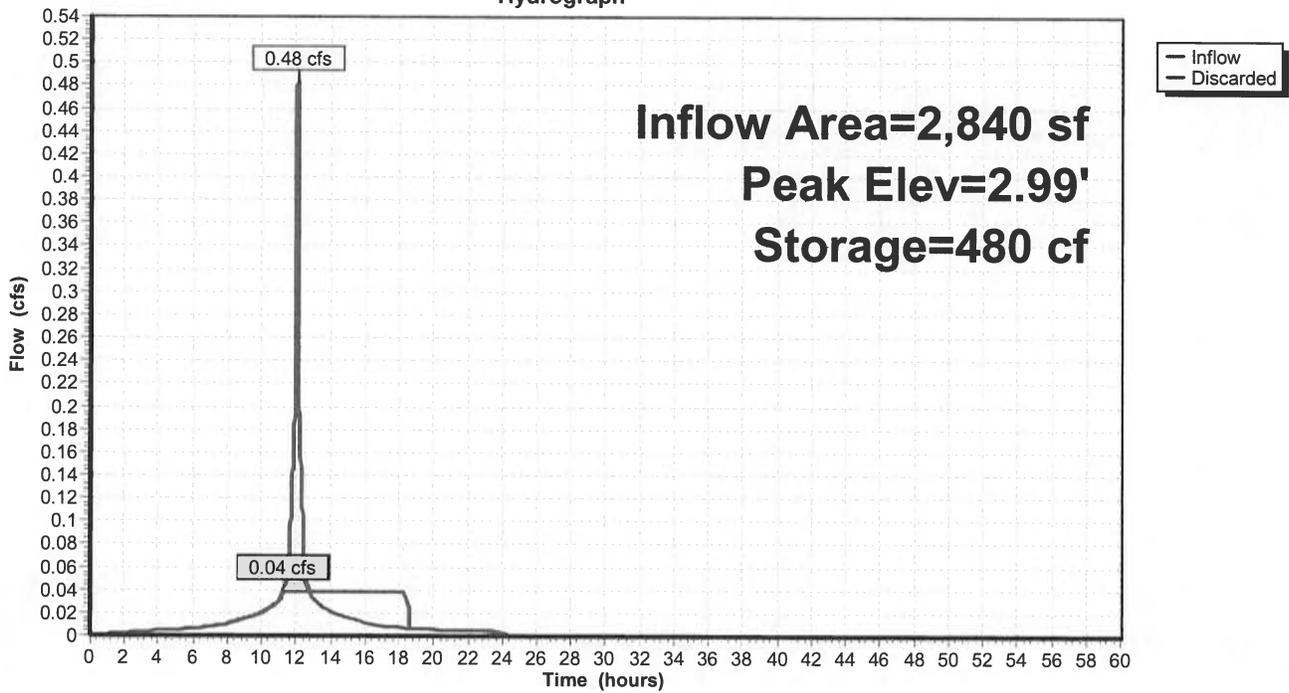
Type III 24-hr 25-Year Rainfall=6.33"

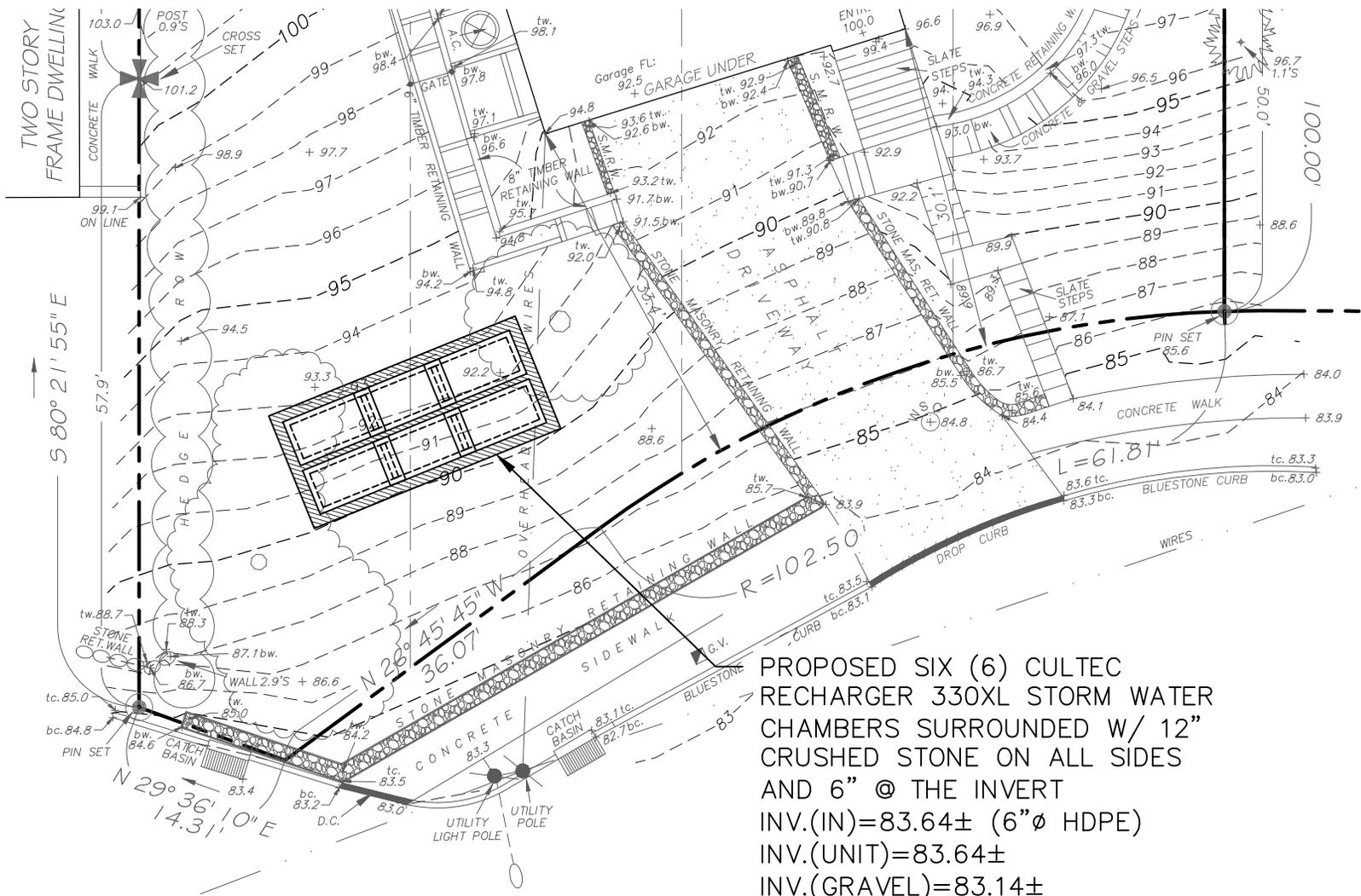
Prepared by Hudson Engineering & Consulting

HydroCAD® 10.00-13 s/n 02549 © 2014 HydroCAD Software Solutions LLC

Pond 3P: 6 CUItec 330XL Units

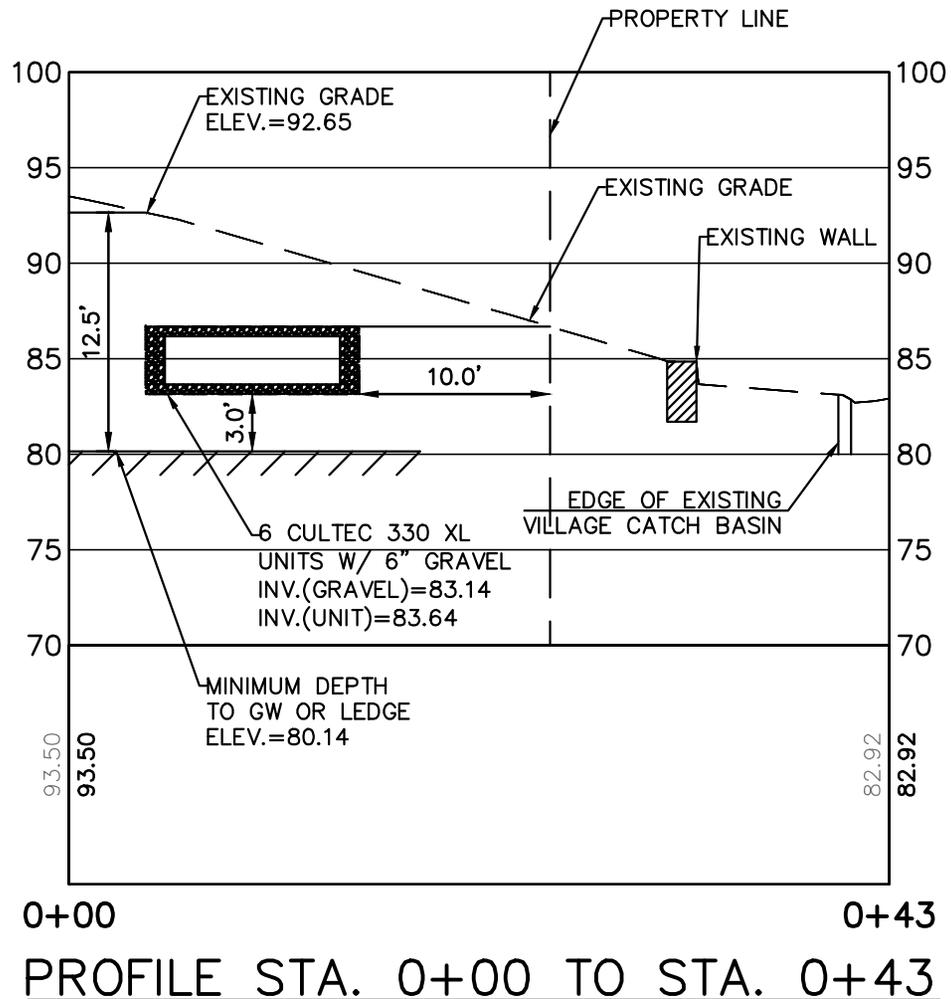
Hydrograph





PROPOSED SIX (6) CULTEC RECHARGER 330XL STORM WATER CHAMBERS SURROUNDED W/ 12" CRUSHED STONE ON ALL SIDES AND 6" @ THE INVERT
 INV.(IN)=83.64± (6"Ø HDPE)
 INV.(UNIT)=83.64±
 INV.(GRAVEL)=83.14±

SKETCH A – INFILTRATION SYSTEM
 1"=15'



PROFILE STA. 0+00 TO STA. 0+43
 HORIZONTAL SCALE: 1" = 10'
 VERTICAL SCALE: 1" = 10'

SKETCH B
INFILTRATION SYSTEM PROFILE

M I C H A E L L E W I S A R C H I T E C T S P C

145 Palisade St • Suite 307 • Dobbs Ferry, NY 10522 • V: 914.231.7700 • Fx: 914.231.7701 • info@mlarchitect.com

To: The Planning Board
Village of Hastings-on-Hudson
Hastings-on-Hudson, NY

Date: August 29, 2019

Re: 130 Euclid Avenue Steep Slopes Narrative

Dear Board Members,

Our clients, Janna Rosenberg and Michael Berger, have been planning a relocation to the Village for some time. They, along with their three young children, are looking forward to becoming members of the community in which Janna grew up, and settling into their renovated home immediately adjacent to that of Janna's parents, Gary and Denise Rosenberg. This property consists almost entirely of steep slopes, with grades ranging from 15% to 25%.

In designing the proposed renovations, we have endeavored to meet high standards with regard to minimizing the impact to the steeply sloped areas:

First, in order to reduce earthwork and steep slope disturbance we have incorporated almost entirely the existing foundation walls and footings into the project, with only small additions and changes to the existing building footprint on the site. (With steep slopes virtually surrounding the existing developed area, it would not be feasible to expand it without impacting them.)

Second, where it is necessary to excavate into the steep slopes, we are proposing use of retaining walls to minimize the area impacted and to provide for a stable land-form configuration.

Third, we have collaborated with Hudson Engineering and Consulting PC to take advantage of their expertise in upgrading the storm water management and erosion and sediment control for the property. The proposed performance with regard to stormwater and runoff on this steep site should be a significant improvement. Please see the report, *Stormwater Management Plan & Drainage Analysis*, along with the drawings that HEC has prepared as part of this submission.

It is worth noting that as part of the project a non-recorded green-house structure will be removed with the area it covers, 160 SF, restored to flat lawn. This is the only level area on the property.

We believe that the proposed work will pose no adverse effects to the physical or environmental conditions of the property, and that it will in fact improve storm runoff performance and represent a positive addition to the neighborhood.

Thank you very much for your time and attention to the project.

Sincerely,



Michael B. Lewis
AIA, LEED AP

Cc: Janna Rosenberg and Michael Berger, Owners

VILLAGE OF HASTINGS-ON-HUDSON
Steep Slopes Application Checklist



Code Section	Code Section Provisions	Indicate how the provisions are addressed*
§ 249-7(1)	A detailed site plan of the property showing, at a scale of not less than 10 feet equals one inch, the applicant's entire property, the adjacent properties, and existing streets and showing the following information: (a) The location of all existing and proposed structures and paved surfaces on the applicant's property and any existing septic systems and wells on such property; (b) The location of the proposed area of disturbance on the applicant's property and its relation to neighboring properties' structures, roads, watercourses and wetlands; (c) The location on the applicant's property of all existing watercourses, wetlands, marshes, wooded areas, rock outcrops, single trees with a diameter of eight inches or more measured three feet above the base of the trunk, and all other significant existing land features; and (d) The existing grades on the applicant's property with contour lines at two-foot intervals and proposed grades within the area of the proposed construction or alteration.	Existing and proposed structures and paved surfaces on the applicant's property have been shown on A-002. Neighboring properties' structures, existing grades, retaining walls, and slope categories have also been shown on A-002 and A-001.
§ 249-7(2)	A landscaping plan for the applicant's property, indicating proposed paved areas, storm drainage facilities, retaining walls and ground cover, as well as the location of trees and ornamental shrubs.	Existing and proposed landscaping has been provided on A-002.
§ 249-7(3)	Architectural plans, elevations, sections of the structures and related improvements.	Architectural drawings provided.
§ 249-7(4)	A statement prepared by a licensed architect, registered landscape architect or engineer describing: (a) The methods to be used in overcoming foundation and other structural problems created by slope conditions, in preserving the natural watershed and in preventing soil erosion; (b) The methods to be used to eliminate or mitigate water runoff on all adjacent properties and any other property that will be naturally affected by increased water runoff; and (c) The methods used to minimize the impact of changes in topography on adjacent and nearby properties through landscaping, retaining walls and terracing of gardens	(Refer to attached letter from Michael Lewis Architects for a complete accounting of these items.)
§ 249-7(5)	A plan submitted under the seal of a licensed professional engineer showing and certifying the following: (a) All existing and proposed natural and artificial drainage courses and other features for the control of drainage, erosion and water. (b) The calculated volume of water runoff from the slope(s) and from the lot in question, as unimproved. (c) The calculated volume of water runoff from the slope(s) and from the lot in question, as improved. (d) The existence, location and capacity of all natural and artificial drainage courses and facilities within 500 feet of the lot which are or will be used to carry or contain the water runoff from the slope(s) and the lot.	(Refer to Stormwater Narrative from Hudson Engineering and Consulting, PC)
§ 249-7(6)	A statement made under the seal of a licensed professional engineer certifying that: (a) The proposed activity will disturb the steep slope area to the minimum extent possible; and (b) The proposed mitigation measure will prevent, to the maximum extent practical, the adverse effect of any disturbance of the steep slope area on the environment and any neighboring properties.	(Refer to Stormwater Narrative from Hudson Engineering and Consulting, PC)
§ 249-7(7)	Proof that all adjacent property owners have been notified of the steep slope application and of the Planning Board meeting at which it will be considered. Notice shall be provided in accordance with § 295-143C, except that only adjacent property owners need be notified.	Proper mailings have been sent and receipts provided on 8/1/19 to the Village.
§ 249-7(8)	The Planning Board may, at its discretion, waive any of the requirements of Subsection A except Subsection A(7). Indicate if any waivers are being requested	No waivers requested.

*Indicate by notes such as, "see Note/Detail on Dwg #___", "See PE certification/note in the attached letter", or "NA", etc. where "NA" stands for "Not applicable".


8.29.19
Michael Lewis
Principal Architect
 Signature Date Name Title

LETTER OF TRANSMITTAL

To: William O’Reilly, Planning Board Chairperson
and
Charles Minozzi, Building Inspector
Village of Hastings On Hudson, NY

Date: August 29th, 2019

Project: Modifications to 130 Euclid Avenue

The following materials are enclosed:

Quant.	Description	Date	Item No.	Notes
4	Response to Hahn memo (by Hudson Engineering & Consulting PC); 8 pages	8/28/19		
4	Steep Slopes Application Checklist and Steep Slopes Narrative; 2 Sheets each	8/29/19		1 original, 3 copies
4	Sets of revised Architectural and Engineering Drawings; 7 Sheets each	8/29/19		All Signed and Sealed
4	Revised Engineering Stormwater Narrative; 37 pages	8/28/19		

Delivered By Hand

The materials listed above are submitted for Building Department review and for the Planning Board Meeting on September 19th, 2019.

Cc: Michael Berger + Janna Rosenberg, Owners

Michael Stein, PE, Hudson Engineering & Consulting, PC, Consulting Engineers