NATHANIEL J. HOLT, PE

dan@holtengineering.net

October 5, 2021

Town of North Castle
Planning Board
17 Bedford Road
Armonk, NY 10504

Attn: Christopher Carthy, Chairman

RE: Hugh Harris
9 Sterling Road North
Application for Site Plan and Wetland Permit Approval

Dear Chairman Carthy and Members of the Planning Board:

We last appeared before your Board on August 3, 2020 to continue our discussion to obtain Site Plan Approval and a Wetland Permit for the above referenced application after which we were referred to the Conservation Board for recommendation and comment. Subsequently, we made the necessary application and due in part to the impact of COVID on meeting dates as well as several appearances during which time we presented revised plans to obtain a positive recommendation from the Board. As indicated in the Conservation Board's correspondence to you, in a 4-2 vote the Board denied a positive recommendation for a wetland permit.

As noted in their correspondence we appeared before the Conservation Board and presented revised plans to address its concerns on five separate occasions. Each revision was directed at addressing specific comments or concerns of the Board. Each change resulted in decreasing the size of the pool and pool patio which subsequently reduced the intrusion into the already (previously) disturbed wetland buffer. Each submission always contained an extensive wetland planting/mitigation plan designed to both protect the wetland/wetland buffer but also to improve its overall health.

In the Conservation Board's correspondence to you they listed its position as follows:

- *It was stated that the existing septic system is being relocated to facilitate the construction of the proposed swimming pool, while avoiding the need of a sideyard setback variance.*

  This is comment is inaccurate. The proposed swimming pool could have easily been in the area in which the proposed septic system will be built. That is: no side yard variance would be necessary or required. In fact, from the outset it was planned to locate the pool in the area that is now where the septic system will be. The reason is twofold:

1. Initially it was intended to construct the pool in the area in which the septic system ultimately received approval from the Health Department. However, when it was discovered that the existing septic system was in failure did the change occur.;

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540 N.W. University Boulevard, Suite 105 ⬥Port Saint Lucie, FL 34986 ⬥PHONE: (772) 204-9550 ⬥FAX: (772) 204-9553

2. The soils in the area of the approved septic system were investigated and the testing observed by the Health Department. In fact, this is the only area which suitable soils were found. (Clearly, the new system could not be in an area where the septic system was already failing, in the wetlands themselves or within limiting distances to domestic water supply or impervious areas.) Logically locating the pool in the same area in which the existing septic system will be abandoned makes the most sense.

- *It was stated that the Westchester County Department of Health "has the inability to approve such projects" (septics in the wetland buffer).*

  Another inaccurate statement, but in fairness could be attributed to misinformation given to the Board. First of all, the rule that the Board was referring to is directed towards new applications. Secondly, the permit issued to Mr. Harris does not a meet the criteria of a "new permit" – the house and property exists therefore it is not a "new permit"; finally, the Health Department has issued a Remediation Permit to Mr. Harris. Essentially a remediation permit works within the regulations to create a functioning system while acknowledging that circumstances may require that some relaxation of the "Rules and Regulations" are allowed/necessary. The Board voted before a copy of the permit could be provided as proof.

The Conservation Board noted that the majority felt that the "proposed pool is a non-essential amenity" which would be located entirely within the wetland buffer. What the Board did not report is that they contacted a former Chairman of the Conservation Board, John Fava asking if locating pools entirely within the buffer would set a precedent. Mr. Fava advised the Board that it would not be a precedent.

Subsequently Mr Harris retained the services of Mary Jaehnig to prepare a Wetland Functional Analysis – a copy of that analysis is attached herein. The conclusions drawn by Ms. Jaehnig are clearly explained. Each category is given a "score" based upon established criteria when preparing such an analysis. Suffice it to say the section of the wetland on the Harris site is not of high quality and provides little benefit to water quality; but could be improved by some of the mitigative measures outlined within the report.

In consideration of the above discussions above and particularly Mary Jaehnig's Functional Wetland Analysis, Mr. Harris has directed me to return to your so that we can schedule a Public Hearing on the Wetland Permit, addressing the Gross Land Coverage issues and Site Plan Approval.

Very truly yours,

Nathaniel J. Holt, PE
Holt Engineering & Consulting, PA

PFIZER – JÄHNIG
ENVIRONMENTAL CONSULTING

September 28, 2021
Wetland Functional Assessment
9 Sterling Road North
Armonk, New York

Setting:
The northwestern portion of the property located at 9 Sterling Road North is a locally regulated wetland as shown by the flagging of Evans Associates on September 18, 2019. The wetland is located on a hillside and is a headwater to a tributary to the Byram River. An intermittent watercourse is contained within the wetland and originates just northwest of the existing dwelling.

The watercourse and wetland is located on the lower flank of a slope that starts near Route 22, approximately 2000 feet to the east and ends 1000 feet to the west as the flow enters the Byram River tributary. The hillside wetland is fed by both subsoil seepage and stormwater runoff from Sterling Road North.

Wetland Description:
The wetland is scrub/shrub (open with a shrub and diverse groundcover) and becomes forested in the southwestern corner and along the northern property line. Minor rills are located on the hillside. The forested wetland supports red maple, ash spp., birch spp., with spicebush, arrowwood vibernum and winterberry in the shrub story. The scrub/shrub portion supports silky dogwood, highbush blueberry, shrub willow, sensitive fern, lurid sedge, foxtail sedge, asters, jewelweed, brambles, blue vervain, and rush spp., and dead trees. Invasive species such as phragmites, multiflora rose, Japanese barberry, wild grape, bitter dock, and purple loosestrife have taken hold on the edges and within the wetland.

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MaryJaehnigSoils@gmail.com

The wetland soil is relatively thin sandy loam and developed in glacial till over bedrock. The moderate slopes result in active changes to surface flow and rill development.

Wetland Buffer Description:
The wetland buffer has been disturbed during earlier site development. Soils have been regraded with areas of compacted fill. The vegetation present is a mix of early colonizer and mostly invasive species as groundcover. The invasive vegetation noted on the disturbed soils include bitter dock, purple loosestrife, goldenrod spp., creeping thistle, wild grape, multiflora rose, and phragmites. The buffer area is open and vulnerable to the spread of the invasive species.

Wetland Functions and Values:
The functional assessment uses 'A Rapid Procedure for Assessing Wetland Functional Capacity' by Dennis W. Magee and Garrett G. Hollands', 1998, based on Hydrogeomorphic (HGM) Classification.

The class for this wetland is a small slope wetland connected downstream to other systems. Features were noted and inventoried in the wetland to determine the value of each function.

1) Modification of Groundwater Discharge.
High Value, due to observed outlet, intersection of water table with topography despite component of stormwater road runoff.

2)Modification of Groundwater Recharge.
Low to no value, lacks capacity for long term storage of water necessary for significant recharge, fast transit time, no underlying glacial stratified drift deposits.

3)Storm and Flood Storage.
Low, Vegetation provides roughness which slows down runoff but water passes relatively quickly through the slope to downstream receiving waters.

4)Modification of Streamflow.
Moderate, the wetland is a source of groundwater discharge as well as surface runoff to downstream systems and helps provide stable base flow during dry times.

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5)Modification of Water Quality.
Low, residence time is low, long term storage is low, modification to water by physical and chemical treatment of solids is therefore low.

6)Export of Detritus.
Moderate, the wetland flushes detritus due to short residence time. This function is modified lower due to small size and moderate vegetation density.

7)Contribution to Abundance and Diversity of Wetland Vegetation.
Low, due to unpredictable hydrology, small size, introduction of invasives.

8)Contribution to Abundance and Diversity of Wetland Fauna.
Low, lack of open water, disturbed buffer plant community, lack of predictable hydrology.

Conclusions:
The highest values of the wetland involve discharge of groundwater to the surface and regulation of the base line flow of downstream watercourses. Export of detritus is also high and the detritus produced and carried downstream provides nutrients to benthic communities off site.

The degradation of the buffer and resulting invasive species with lack of shrub and tree layers is hurting the values for wetland flora and fauna. The compacted buffer fill also adds additional runoff to the wetland. Untreated road runoff enters the wetland during storm events.

A comprehensive planting plan to introduce native species in tree, shrub and ground layers would enhance the wildlife potential of both buffer and wetland, slow velocity of surface runoff to lessen erosion in the wetland and buffer. A restoration planting plan should include removal of some invasives, particularly the phragmites, in the buffer and wetland.

Submitted by,

Mary Jaehnig

soil scientist

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VICINITY MAP
1" = 2,000'±

PROPERTY DATA

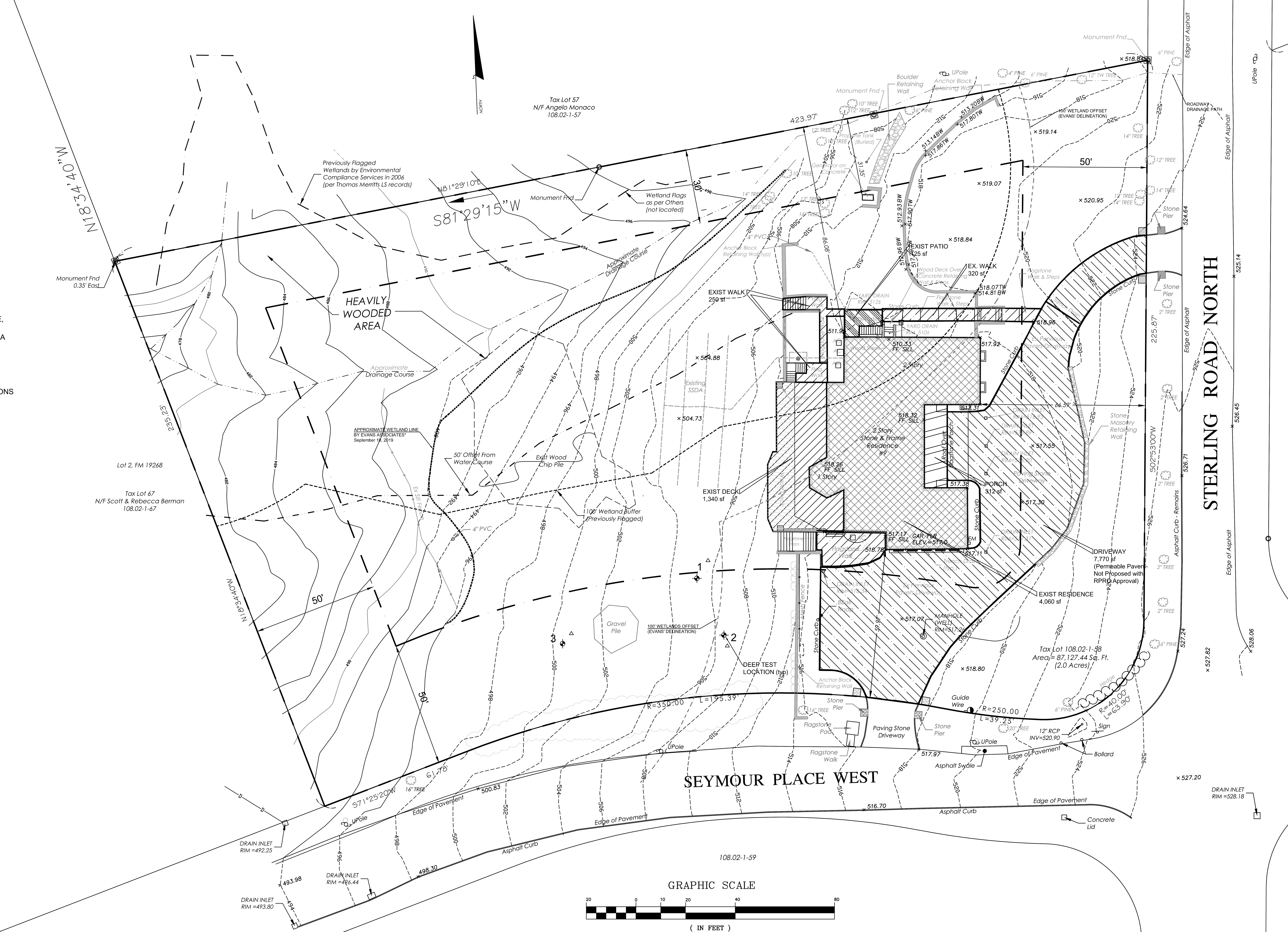
1. PROPERTY OWNER: HUGH HARRIS
   9 STERLING ROAD N
   ARMONK, NEW YORK 10504

2. TAX MAP DESIGNATION: 108.02-1-58

3. ZONING DISTRICT R-2A SINGLE FAMILY RESIDENTIAL 2 ACRE

GENERAL NOTES

1. SITE TOPOGRAPHY FROM A SURVEY PREPARED BY STEPHEN HOPPE, LS DATED FEBRUARY 28, 2018. SURVEY UPDATED BY TC MERRITTS ENTITLED "TOPOGRAPHIC SURVEY PREPARED FOR HUGH AND VIOLETTA HARRIS" DATED AUGUST 20, 2019.
2. EROSION CONTROLS MUST BE PROPERLY INSTALLED, MAINTAINED AND INSPECTED AROUND THE WORK SITE.
4. CONSTRUCTION ENTRANCES MUST BE PROPERLY MAINTAINED SO THAT NO DEBRIS OR DIRT IS DEPOSITED ON THE STREET.
5. EXPOSED AREAS MUST BE STABILIZED AS SOON AS LAND ALTERATIONS ARE COMPLETED.
6. ANY UNDERGROUND PIPING OR STRUCTURES MUST BE INSPECTED PRIOR TO BACKFILLING
7. 24 HOUR NOTICE IS REQUIRED FOR ANY INSPECTION.
8. PRIOR TO THE START OF ANY EXCAVATION OPERATIONS THE CONTRACTOR SHALL CALL "DIG SAFELY NEW YORK" AT 1-800-962-7962 OR 811.9. WETLANDS ASSOCIATED WITH PARCEL 108.02-1-57 FROM TC MERRITTS RECORD SURVEY.
10. ADDITIONAL WETLAND INFORMATION BASED UPON A SKETCH PREPARED BY EVANS ASSOCIATES


Tax Lot 57
N/F Angelo Monaco
108.02-1-57
NORTH
423.97'
N18°34'40"W
S81°29'15"W
N81°29'10"E
Monument Fnd
Monument Fnd 0.35' East
Previously Flagged Wetlands by Environmental Compliance Services in 2006 (per Thomas Merritts LS records)
Wetland Flags as per Others (not located)
HEAVILY WOODED AREA
Approximate Drainage Course
APPROXIMATE WETLAND LINE BY EVANS ASSOCIATES* September 18, 2019
50' Offset From Water Course
Exist Wood Chip Pile
100' Wetland Buffer (Previously Flagged)
4" PVC
Ex Silt Fence
Existing SSDA
× 504.88
× 504.73
235.23'
Lot 2, FM 19268
Tax Lot 67
N/F Scott & Rebecca Berman
108.02-1-67
50'
30'
EXIST WALK 250 sf
EXIST DECK 1,340 sf
Anchor Block Retaining Wall (typ)
Propane Tank (Buried)
Generator on Concrete
31.35'
86.08'
Boulder Retaining Wall
UPole
Anchor Block Retaining Wall
100' WETLAND OFFSET (EVANS' DELINEATION)
× 519.14
× 519.07
× 520.95
× 518.84
EXIST PATIO 125 sf
EX. WALK 320 sf
Wood Deck Over Concrete Retaining Wall & Steps
Flagstone Walk & Steps
YARD DRAIN RIM=512±
YARD DRAIN RIM=510±
518.07TW
514.81 BW
513.20BW
517.80TW
513.14BW
517.86TW
512.93 BW
517.90 TW
512.96 BW
× 518.84
511.96
510.33 FF SILL
517.92
518.96
2 Story
518.32 FF SILL
2 Story Stone & Frame Residence #9
518.26 FF SILL 1 Story
Roof Over Flagstone Porch
517.31
517.38
PORCH 312 sf
× 517.55
× 517.30
66.59'
DRAIN INLET RIM=516.93
DRAIN INLET RIM=516.89
DRAIN INLET RIM=516.90
DRAIN INLET RIM=517.31
Paving Stone Driveway
Ex Pervious Pavers Driveway
Stone Curb
Trench Drain
517.17 FF SILL
GAR FLR ELEV.=517.0
517.11
516.78
Flagstone Walk
Flagstone Steps
DRAIN INLET RIM=516.34
BBall Hoop
Stone Masonry Retaining Wall
DRIVEWAY 7,770 sf (Permeable Pavers-Not Proposed with RPRC Approval)
EXIST RESIDENCE 4,060 sf
× 517.07
MANHOLE (WELL) RIM=517.26
59.97'
Tax Lot 108.02-1-58
Area = 87,127.44 Sq. Ft. (2.0 Acres)
× 518.80
Guide Wire
R=250.00
L=39.25'
R=40.00'
L=63.90'
Hedge
6" PINE
20" TREE
12" RCP INV=520.90
Sign
Bollard
UPole
Asphalt Swale
517.97
Stone Pier
Flagstone Pad
Flagstone Walk
Anchor Block Retaining Wall
16" TREE
R=350.00
L=195.39'
Gravel Pile
100' WETLANDS OFFSET (EVANS' DELINEATION)
DEEP TEST LOCATION (typ)
1
2
3
S71°25'20"W
61.78'
16" TREE
500.83
Edge of Pavement
Asphalt Curb
SEYMOUR PLACE WEST
516.70
Concrete Lid
DRAIN INLET RIM =492.25
DRAIN INLET RIM =496.44
DRAIN INLET RIM =493.80
493.98
498.30
108.02-1-59
STERLING ROAD NORTH
S02°53'00"W
225.87'
Edge of Asphalt
ROADWAY DRAINAGE PATH
Stone Pier
Asphalt Curb - Remains
524.64
525.14
526.45
526.71
527.24
527.82
528.06
× 527.20
DRAIN INLET RIM =528.18
× 518.84

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

490 x	EXISTING SPOT GRADE
	PROPERTY LINE
TP 1	DEEP TEST PIT
*	TREE TO BE REMOVED
490	EXIST CONTOUR
	PROP CONTOUR

SHEET: 1 of 6

5
4 October 10, 2021 Resubmission to Planning Bd
3 May 5, 2021 Clarified Pool Wall
2 May 25, 2020 Septic Added
1 April 6, 2020 Misc.
Original Date: March 13, 2020
Project Number: HAR-4

Nathaniel J. Holt, P.E.
STATE OF NEW YORK NATHANIEL HOLT 074128 LICENSED PROFESSIONAL ENGINEER
Date:

NATHANIEL J. HOLT, P.E.
592 ROUTE 22
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EXISTING CONDITIONS PLAN

PROPOSED IN-GROUND POOL
for
HARRIS
9 STERLING ROAD NORTH, ARMONK, NY

GENERAL NOTES

1. SITE TOPOGRAPHY FROM A SURVEY PREPARED BY STEPHEN HOPPE, LS DATED FEBRUARY 28, 2018. SURVEY UPDATED BY TC MERRITTS ENTITLED "TOPOGRAPHIC SURVEY PREPARED FOR HIGH AND VIOLETTA HARRIS" DATED AUGUST 20, 2019.
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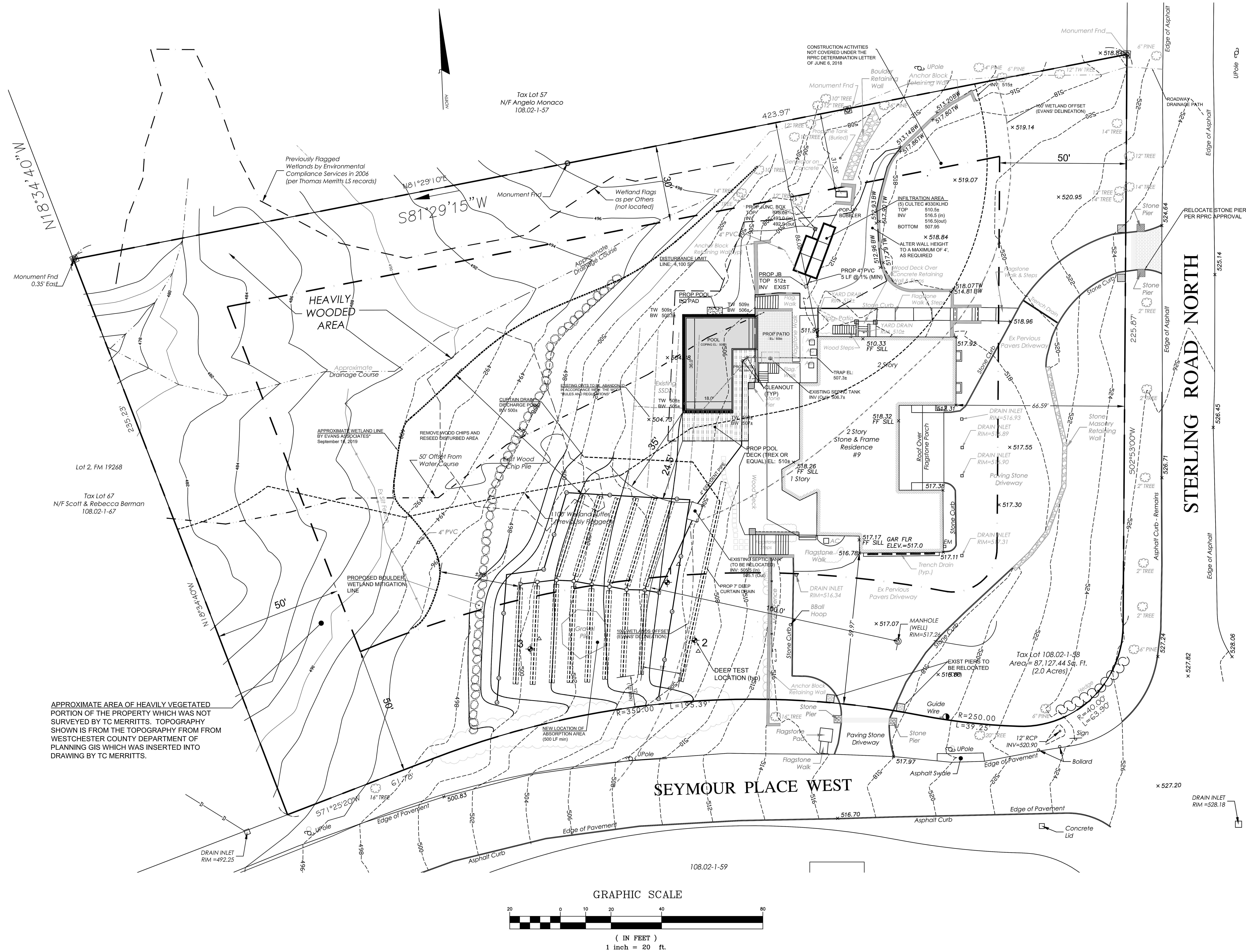
10. ADDITIONAL WETLAND INFORMATION BASED UPON A SITE WALK AND SKETCH PREPARED BY EVANS ASSOCIATES

GROSS LAND COVERAGE CALCULATIONS WORKSHEET

APPLICATION NAME: HUGH HARRIS
TAX MAP DESIGNATION: 108.02-1-58

GROSS LOT COVERAGE	ORIGINAL[1]	RPRC APPROVAL[2]	CURRENT[3]	PROPOSED
1. TOTAL LOT AREA	87,120 sf	87,120 sf	87,120 sf	87,120 sf
2. MAXIMUM PERMITTED GROSS LAND COVERAGE	13,270 sf	13,270 sf	13,270 sf	NA
3. BONUS MAXIMUM GROSS LAND COVER Distance principal home is beyond minimum front yard setback 16.5 ft x 10 =	165 sf	165 sf	165 sf	165 sf
4. TOTAL MAXIMUM PERMITTED GROSS LAND COVERAGE	13,435 sf	13,435 sf	13,435 sf	13,435 sf
5. AMOUNT OF LOT AREA COVERED BY PRINCIPAL BUILDING 4,060 sf (EXISTING) + 0 sf (PROPOSED)	4,060 sf	4,060 sf	4,060 sf	4,060 sf
6. AMOUNT OF LOT AREA COVERED BY ACCESSORY BLDGS 0 sf (ORIGINAL) + 0 sf	0 sf	0 sf	0 sf	0 sf
7. AMOUNT OF LOT AREA COVERED BY DECKS 728 sf (ORIGINAL)	728 sf	1,041 sf	1,340 sf	1,830 sf
8. AMOUNT OF LOT AREA COVERED BY PORCHES 171 sf (ORIGINAL)	171 sf	312 sf	312 sf	312 sf
9. AMOUNT OF LOT AREA COVERED BY DRIVEWAY, PARKING AREAS AND WALKWAYS 5,266 sf (ORIGINAL)	5,266 sf	7,113 sf	8,590 sf	8,590 sf
10. AMOUNT OF LOT AREA COVERED BY TERRACES/PATIOS 0 sf (ORIGINAL)	0 sf	278 sf	130 sf	420 sf
11. AMOUNT OF LOT AREA COVERED BY TENNIS COURT, POOL & MECHANICAL EQUIP 0 sf (ORIGINAL)	0 sf	0 sf	0 sf	672 sf
12. AMOUNT OF LOT AREA COVERED BY ALL OTHER STRUC. 0 sf (ORIGINAL)	0 sf	0 sf	0 sf	0 sf
13. PROPOSED GROSS LAND COVERAGE:Total of Lines 5-12:	10,225 sf	12,804 sf	14,432 sf	15,584 sf

[1] AREAS FROM GROSS LAND COVERAGE CALCULATIONS WORKSHEET, DATED MAY 10, 2018
[2] PROPOSED AREAS SHOWN ON GROSS LAND COVERAGE CALCULATIONS WORKSHEET, DATED MAY 10, 2018
[3] AREAS FROM "AS-BUILT" SURVEY PREPARED BY TC MERRITTS DATED OCTOBER 3, 2019



LEGEND

490 x — EXISTING SPOT GRADE
PROPERTY LINE
TP 1 — DEEP TEST PIT
* — TREE TO BE REMOVED
490 — EXIST CONTOUR
PROP CONTOUR

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SHEET: 2 of 6

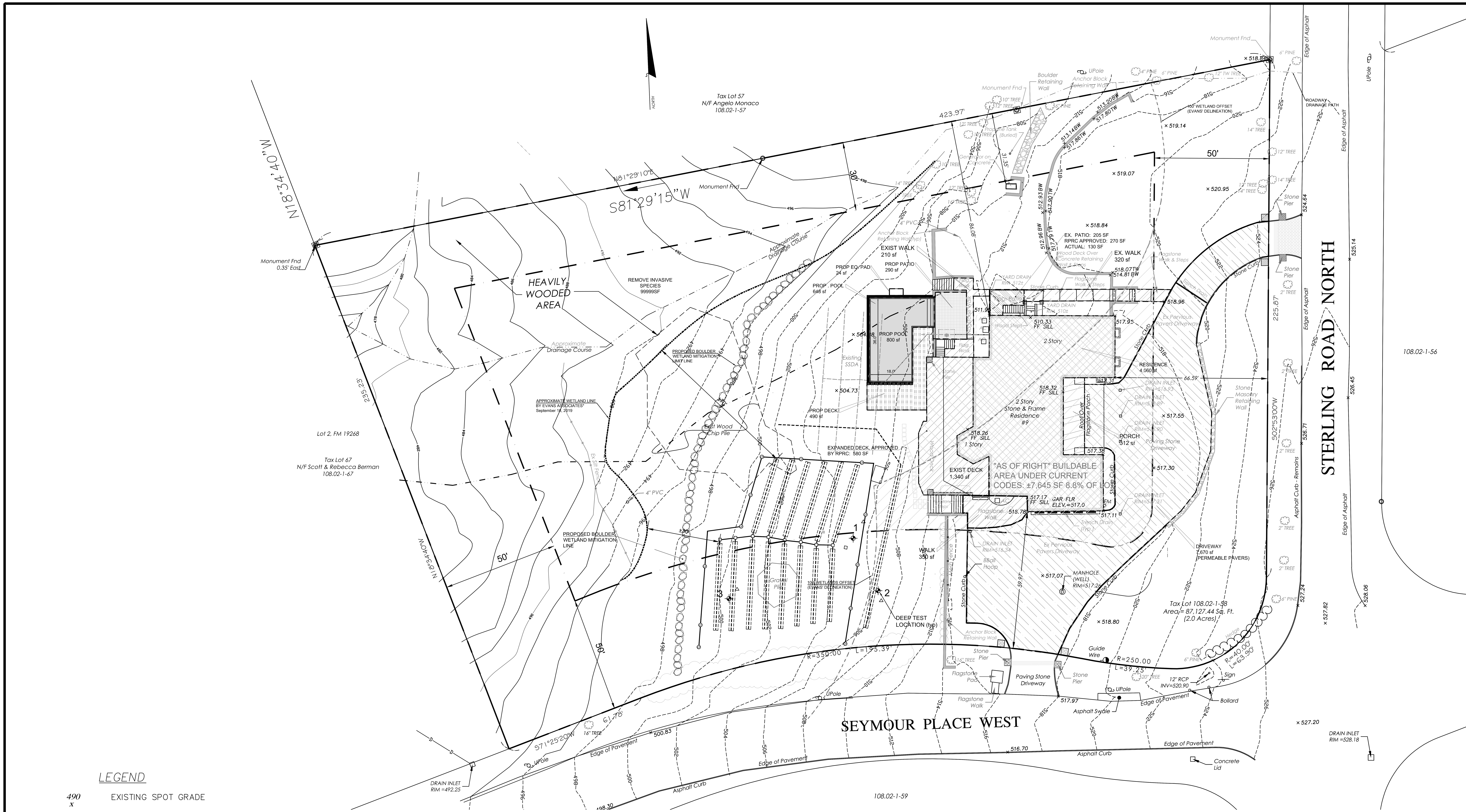
5 —
4 — October 10, 2021, 2021 Resubmssion to Planning Bd
3 — May 5, 2021 Clarified Pool Wall
2 — May 25, 2020 Septic Added
1 — April 6, 2020 Misc.
Original Date: March 13, 2020
Project Number: HAR-4

Nathaniel J. Holt, P.E. Date: ______

NATHANIEL J. HOLT, P.E.
592 ROUTE 22
PAWLING, NEW YORK 12564
(914) 760-1800

SITE PLAN W/ APPROVED SSDS

PROPOSED IN-GROUND POOL for HARRIS
9 STERLING ROAD NORTH, ARMONK, NY



LEGEND

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GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

APPROVED BY THE TOWN OF NORTH CASTLE PLANNING BOARD
RESOLUTION DATED: ____________________

CHRISTOPHER CARTHY, CHAIRMAN
TOWN OF NORTH CASTLE PLANNING BOARD

____________________ DATE: ____________

ENGINEERING PLANS REVIEWED FOR CONFORMANCE TO THE RESOLUTION:

____________________ DATE: ____________
JOSEPH M. CERMELE, PE
KELLARD SESSIONS, CONSULTING
CONSULTING TOWN ENGINEERS

SHEET: 3 of 6

5
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PROPOSED COVERAGE PLAN

PROPOSED IN-GROUND POOL for HARRIS
9 STERLING ROAD NORTH, ARMONK, NY

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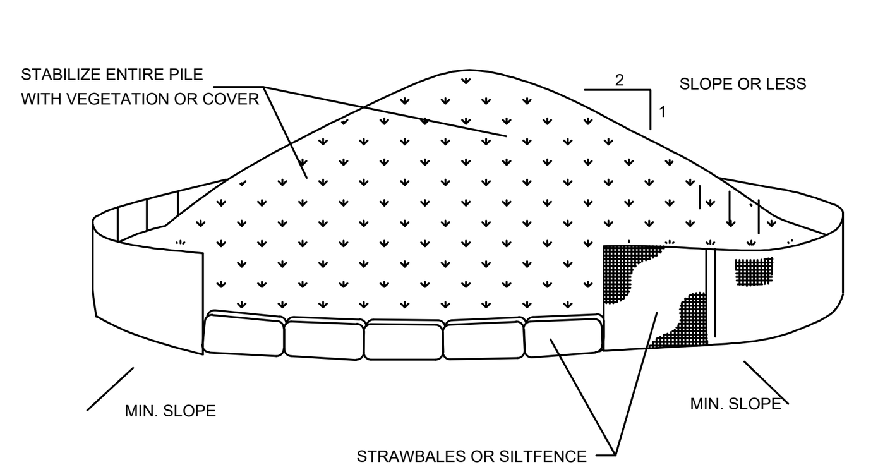
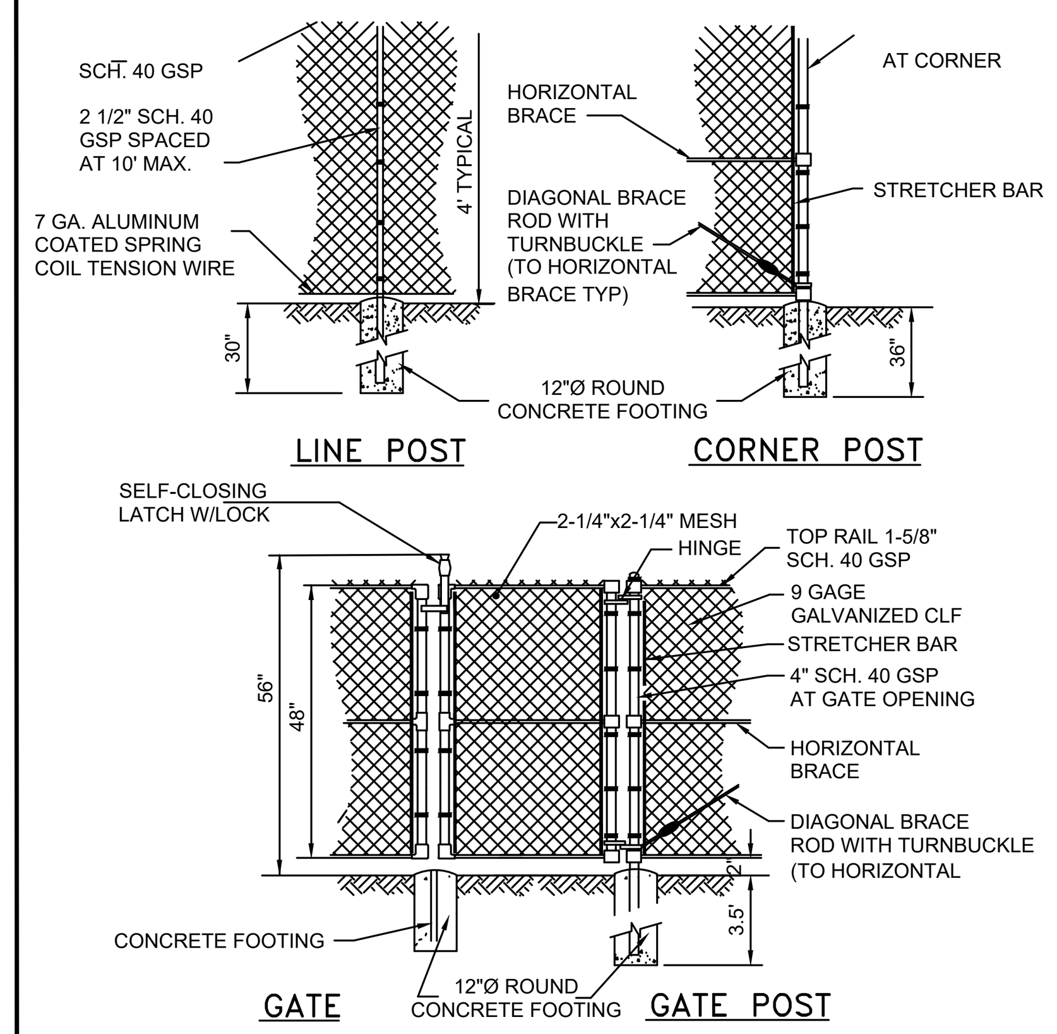
SOIL STOCKPILING DETAIL
NTS



NOTES

1. AREA CHOSEN FOR STOCKPILING OPERATIONS SHALL BE DRY AND STABLE.
2. MAXIMUM SLOPE OF STOCKPILE SHALL BE 1:2.
3. UPON COMPLETION OF SOIL STOCKPILING, EACH PILE SHALL BE SURROUNDED WITH EITHER SILT FENCING OR STRAWBALES, THEN STABILIZED WITH VEGETATION OR COVERED.
4. SOIL STOCKPILES SHALL BE LOCATED A MINIMUM OF 100' FROM WETLANDS AND WATERCOURSES.

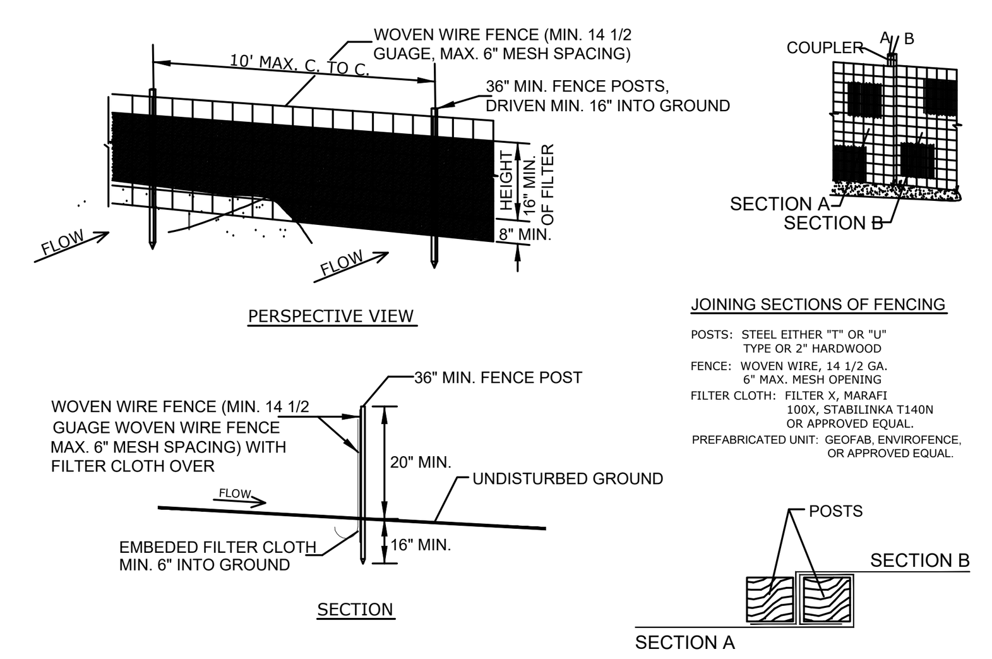
CHAIN LINK FENCE DETAIL


SCH. 40 GSP
2 1/2" SCH. 40
GSP SPACED
AT 10' MAX.
7 GA. ALUMINUM
COATED SPRING
COIL TENSION WIRE
4' TYPICAL
30"
HORIZONTAL
BRACE
DIAGONAL BRACE
ROD WITH
TURNBUCKLE
(TO HORIZONTAL
BRACE TYP)
AT CORNER
STRETCHER BAR
36"
12"Ø ROUND
CONCRETE FOOTING
LINE POST
CORNER POST
SELF-CLOSING
LATCH W/LOCK
2-1/4"x2-1/4" MESH
HINGE
TOP RAIL 1-5/8"
SCH. 40 GSP
9 GAGE
GALVANIZED CLF
STRETCHER BAR
4" SCH. 40 GSP
AT GATE OPENING
HORIZONTAL
BRACE
DIAGONAL BRACE
ROD WITH TURNBUCKLE
(TO HORIZONTAL
56"
48"
2"
3.5'
CONCRETE FOOTING
12"Ø ROUND
CONCRETE FOOTING
GATE
GATE POST

NOTES:

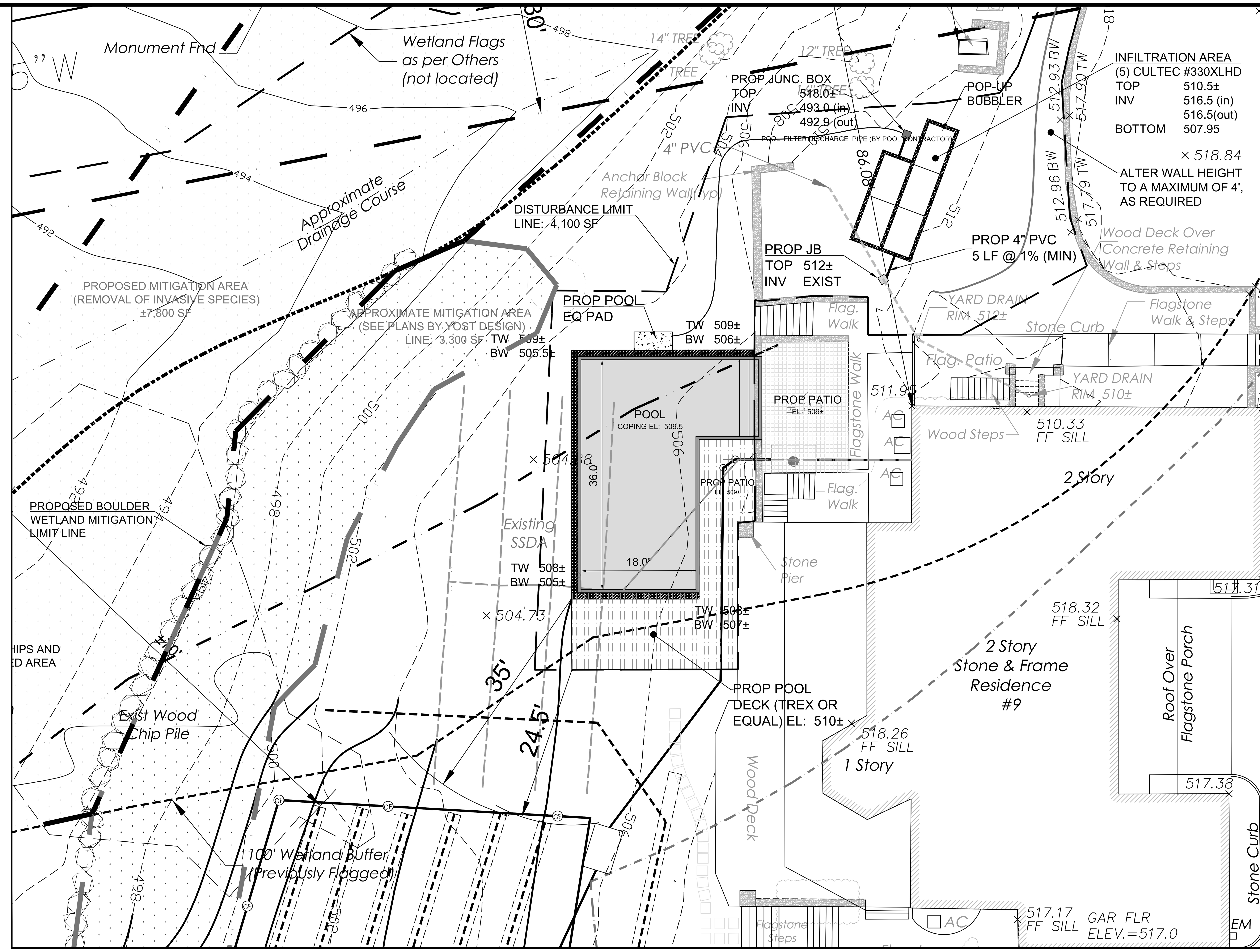
1. GALVANIZED STEEL WOVEN WIRE FABRIC SHALL BE STRETCHED TAUT WITH STRETCHER BARS AND STRAPS. FASTENED TOP & BOTTOM AT LINE POSTS WITH GALVANIZED PIG RING TIES.
2. FENCE TO BE MINIMUM HEIGHT OF 48".
3. THE GATE(S) SHALL BE SELF CLOSING.
3. ALL MATERIAL SHALL BE BLACK IN COLOR.
4. FENCE AND GATE SHALL COMPLY WITH ALL APPLICABLE NYS BUILDING CODE REQUIREMENTS AND SPECIFICALLY SECTION R326.4.2 OF THE 2020 RESIDENTIAL CODE OF NEW YORK STATE

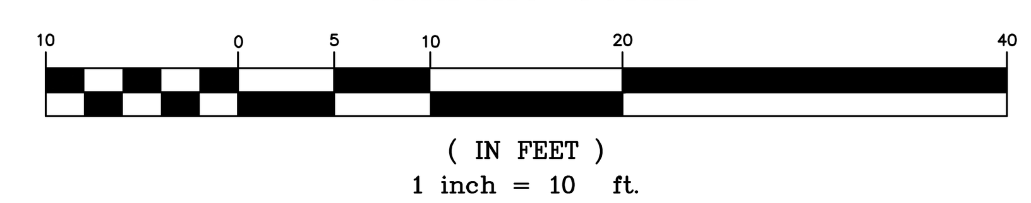
SILT FENCE DETAIL
NTS


WOVEN WIRE FENCE (MIN. 14 1/2
GUAGE, MAX. 6" MESH SPACING)
10' MAX. C. TO C.
36" MIN. FENCE POSTS,
DRIVEN MIN. 16" INTO GROUND
HEIGHT
16" MIN.
OF FILTER
8" MIN.
FLOW
FLOW
PERSPECTIVE VIEW
COUPLER
A
B
SECTION A
SECTION B
JOINING SECTIONS OF FENCING
POSTS: STEEL EITHER "T" OR "U" TYPE OR 2" HARDWOOD
FENCE: WOVEN WIRE, 14 1/2 GA. 6" MAX. MESH OPENING
FILTER CLOTH: FILTER X, MARAFI 100X, STABILINKA T140N OR APPROVED EQUAL.
PREFABRICATED UNIT: GEOFAB, ENVIROFENCE, OR APPROVED EQUAL.
36" MIN. FENCE POST
WOVEN WIRE FENCE (MIN. 14 1/2
GUAGE WOVEN WIRE FENCE
MAX. 6" MESH SPACING) WITH
FILTER CLOTH OVER
20" MIN.
UNDISTURBED GROUND
FLOW
EMBEDED FILTER CLOTH
MIN. 6" INTO GROUND
16" MIN.
SECTION
POSTS
SECTION B
SECTION A
TOP VIEW

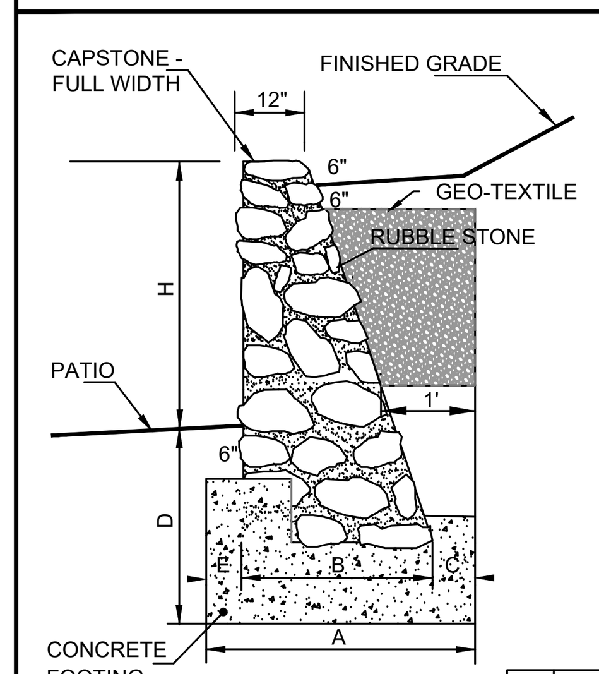
CONSTRUCTION NOTES FOR FABRICATED SILT FENCE

1. WOVEN WIRE FENCE TO BE SECURELY FASTENED TO FENCE POSTS WITH WIRE TIES OR STAPLES.
2. FILTER CLOTH TO BE SECURELY FASTENED TO WOVEN WIRE FENCE WITH TIES SPACES EVERY 24" AT TOP OF MID SECTION
3. WHEN TWO SECTIONS OF FILTER CLOTH JOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIXE INCHES AND FOLDED UNDER.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND ACCUMULATED DEBRIS REMOVED WHEN "BULGES" DEVELOP IN THE FENCE


Monument Fnd
Wetland Flags
as per Others
(not located)
14" TREE
12" TREE
TREE
496
498
494
492
Approximate
Drainage Course
PROPOSED MITIGATION AREA
(REMOVAL OF INVASIVE SPECIES)
±7,800 SF
APPROXIMATE MITIGATION AREA
(SEE PLANS BY YOST DESIGN)
LINE: 3,300 SF
DISTURBANCE LIMIT
LINE: 4,100 SF
PROP POOL
EQ PAD
TW 509±
BW 505.5±
TW 509±
BW 506±
PROP JUNC. BOX
TOP 518.0±
INV 493.0 (in)
492.9 (out)
4" PVC
POOL FILTER DISCHARGE PIPE (BY POOL CONTRACTOR)
Anchor Block
Retaining Wall (typ)
POP-UP
BUBBLER
INFILTRATION AREA
(5) CULTEC #330XLHD
TOP 510.5±
INV 516.5 (in)
516.5(out)
BOTTOM 507.95
× 518.84
ALTER WALL HEIGHT
TO A MAXIMUM OF 4',
AS REQUIRED
512.93 BW
517.90 TW
512.96 BW
517.79 TW
80.98
PROP 4" PVC
5 LF @ 1% (MIN)
PROP JB
TOP 512±
INV EXIST
Wood Deck Over
Concrete Retaining
Wall & Steps
YARD DRAIN
RIM 512±
Flag.
Walk
Stone Curb
Flagstone
Walk & Steps
Flag. Patio
YARD DRAIN
RIM 510±
POOL
COPING EL: 509.5
36.0'
18.0'
PROP PATIO
EL: 509±
PROP PATIO
EL: 509±
Flagstone Walk
511.95
AC
AC
AC
Wood Steps
510.33
FF SILL
2 Story
× 504.88
Existing
SSDA
TW 508±
BW 505±
× 504.73
TW 508±
BW 507±
Stone
Pier
PROPOSED BOULDER
WETLAND MITIGATION
LIMIT LINE
HIPS AND
ED AREA
500
502
506
508
512
35'
24.5'
Exist Wood
Chip Pile
PROP POOL
DECK (TREX OR
EQUAL) EL: 510±
518.26
FF SILL
1 Story
518.32
FF SILL
2 Story
Stone & Frame
Residence
#9
Roof Over
Flagstone Porch
517.31
517.38
Stone Curb
100' Wetland Buffer
(Previously Flagged)
Wood Deck
Flagstone
Steps
AC
517.17
FF SILL
GAR FLR
ELEV.=517.0
EM

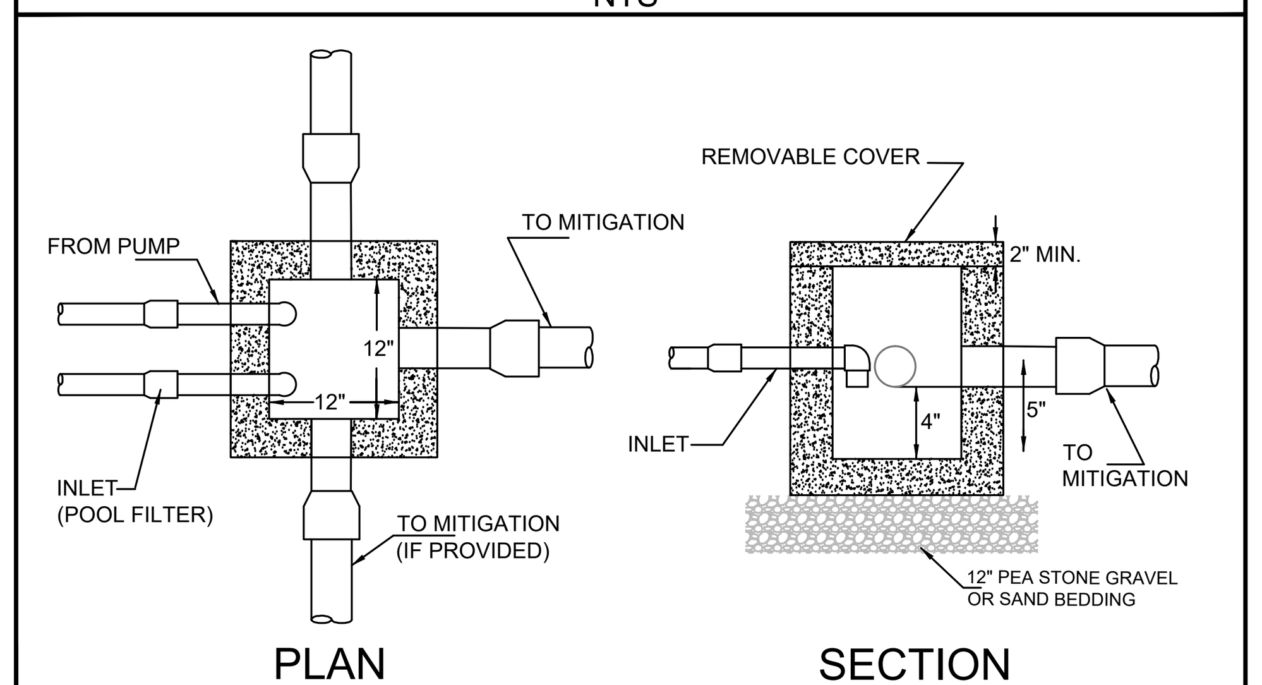


RUBBLE STONE WALL DETAIL
N.T.S.

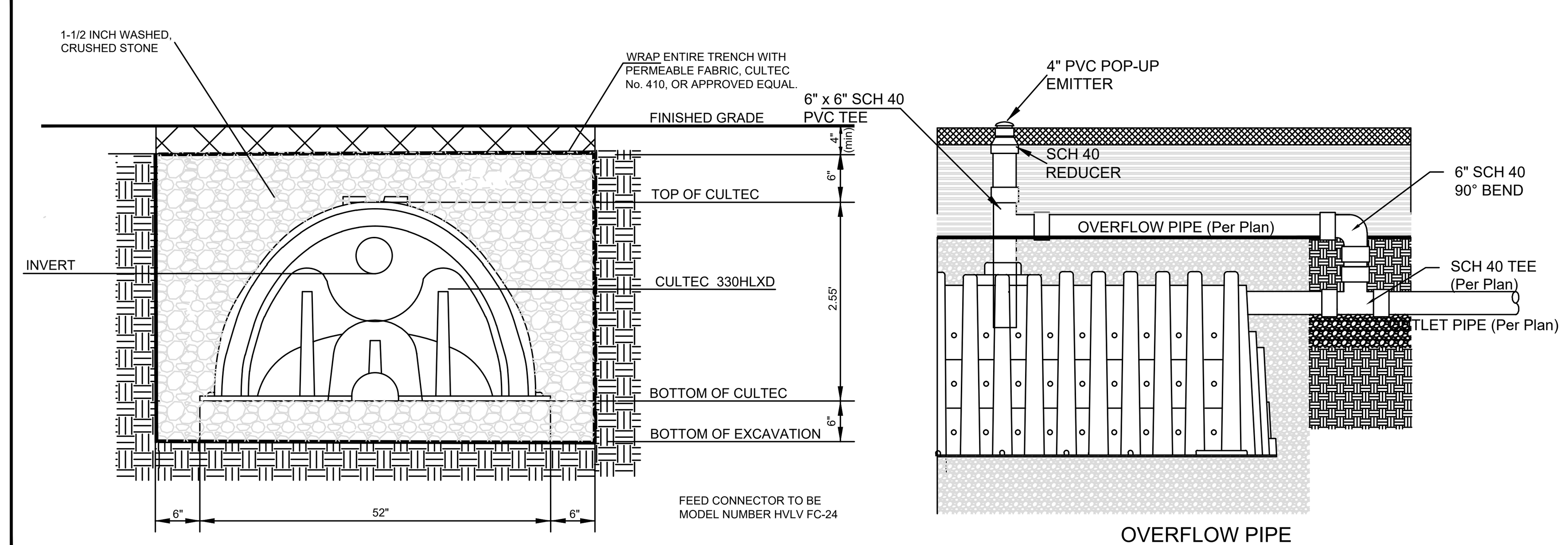


H(ft)	A	B	C	D	E
1	1'-0"	1'-5"	4"	2'-0"	3"
2	2'-3"	1'-8"	4"	2'-0"	3"
3	2'-8"	1'-10"	7"	3'-0"	3"
4	3'-0"	2'-2"	7"	3'-0"	3"

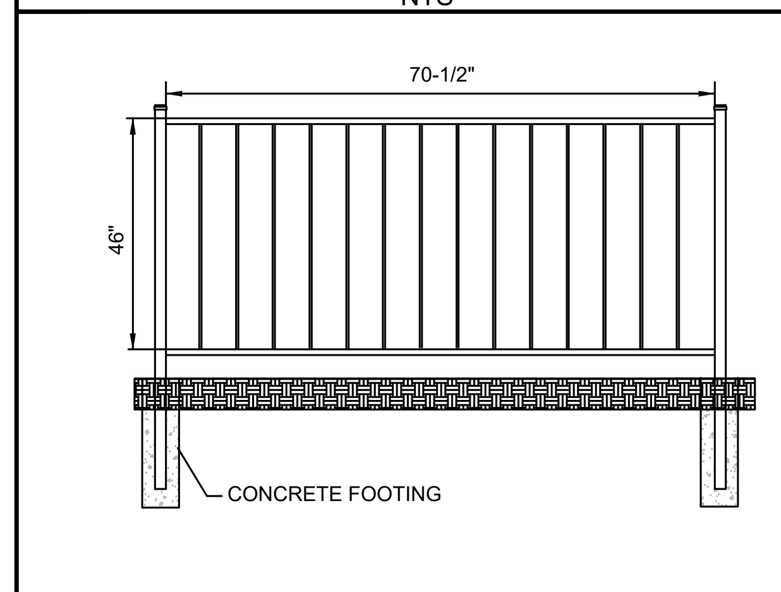
JUNCTION BOX DETAIL
NTS



INFILTRATION UNIT
NTS


1-1/2 INCH WASHED,
CRUSHED STONE
WRAP ENTIRE TRENCH WITH
PERMEABLE FABRIC, CULTEC
No. 410, OR APPROVED EQUAL.
FINISHED GRADE
6" x 6" SCH 40
PVC TEE
4" (min)
6"
TOP OF CULTEC
INVERT
CULTEC 330HLXD
2.55'
BOTTOM OF CULTEC
6"
BOTTOM OF EXCAVATION
6"
52"
6"
FEED CONNECTOR TO BE
MODEL NUMBER HVLV FC-24
4" PVC POP-UP
EMITTER
SCH 40
REDUCER
OVERFLOW PIPE (Per Plan)
6" SCH 40
90° BEND
SCH 40 TEE
(Per Plan)
OUTLET PIPE (Per Plan)
OVERFLOW PIPE

ALUMINIUM POOL FENCE (ALTERNATE)
NTS



1. FENCE TO BE OVATION MODEL AS MANUFACTURED BY JERITH MANUFACTURING, CO OR EQUAL
2. COLOR TO BE BLACK
3. DEPTH OF FOOTING TO BE AT FROST LINE
4. FENCE AND GATE(S) SHALL COMPLY WITH ALL APPLICABLE NYS BUILDING CODE REQUIREMENTS

STORMWATER ANALYSIS

REQUIRED: CAPTURE 25 YR STORM EVENT (6") OVER INCREASE IN IMPERVIOUS AREA

EXISTING CONDITIONS

PROPERTY AREA: 87,120 SF

SOIL TYPE: WdB -WOODBRIDGE

PERVIOUS AREAS (HSG = C/D)

LAWN-POOR (RCN 73) 4,585 sf = 0.11 ac

PROPOSED CONDITIONS

DECK (TREX) (60% IMP)	500 sf = 0.011 ac (0.007 ac Net)
POOL (NOT INCLUDED IN RUNOFF)	765 sf = 0.018 ac
LAWN (RCN 75)	3,520 sf = 0.081 ac
TOTAL	4,785 sf = 0.110 ac

RUNOFF CURVE NUMBER

DECK	0.007 ac x 98 = 0.686	
LAWN	0.081 ac x 75 = 6.075	
	0.088	6.761 = 76.8, **SAY 77**

RUNOFF VOLUME

THE INCREASE IN RUNOFF VOLUME DUE TO THE INCREASE IN IMPERVIOUS AREA IS:

(3.67" - 3.3") / 12 x 4,585 sf = 141 cf

WINTERIZATION DRAWDOWN

POOL VOLUME: 765 sf x 0.5ft = 382.5 cf

POOL DRAWDOWN VOLUME CONTROLS

PROPOSED MITIGATION

ONE CULTEC UNIT (MODEL 330XLHD) HAS THE CAPACITY OF 11.32 cf/ft. THEREFORE:

382.5 cf /11.32 cf/lf = 33.8 lf = 5 Units;

VOLUME PROVIDED: 440 cf

**NO ALLOWANCE TAKEN FOR PERCOLATION, UPON TESTING, THE DESIGN WILL BE MODIFIED AS MAY BE NECESSARY
NO PROPOSED MITIGATION FOR POOL DECK AND PATIO - OFFSET BY INSTALLATION OF PERMEABLE PAVEMENT DRIVEWAY)

APPROVED BY THE TOWN OF NORTH CASTLE PLANNING BOARD
RESOLUTION DATED: ____________________

CHRISTOPHER CARTHY, CHAIRMAN
TOWN OF NORTH CASTLE PLANNING BOARD

____________________ DATE: ____________

ENGINEERING PLANS REVIEWED FOR CONFORMANCE TO THE RESOLUTION:

____________________ DATE: ____________
JOSEPH M. CERMELE, PE
KELLARD SESSIONS, CONSULTING
CONSULTING TOWN ENGINEERS

SHEET: 4 of 6

5	
4	October 10, 2021, 2021 Resubmssion to Planning Bd
3	May 5, 2021 Clarified Pool Wall
2	May 25, 2020 Septic Added
1	April 6, 2020 Misc.

Original Date: March 13, 2020
Project Number: HAR-4

STATE OF NEW YORK · NATHANIEL HOLT · 074128 · LICENSED PROFESSIONAL ENGINEER

Nathaniel J. Holt, P.E. [illegible]
Date:

NATHANIEL J. HOLT, P.E.
592 ROUTE 22
PAWLING, NEW YORK 12564
(914) 760-1800

DETAILS

PROPOSED IN-GROUND POOL
for
HARRIS
9 STERLING ROAD NORTH, ARMONK, NY

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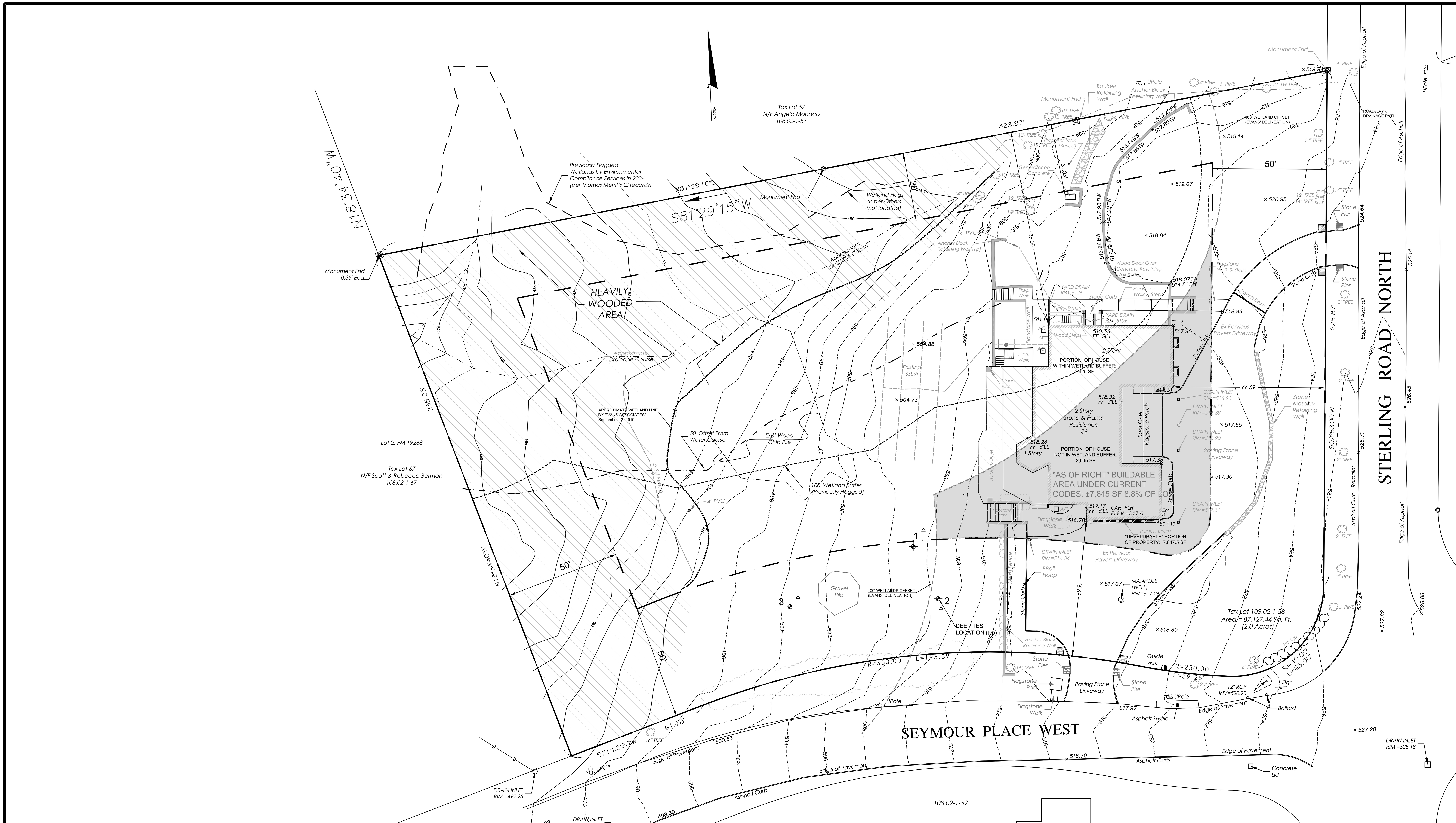


GRAPHIC SCALE

(IN FEET)
1 inch = 20 ft.

490 x EXISTING SPOT GRADE
PROPERTY LINE
TP 1 DEEP TEST PIT
* TREE TO BE REMOVED
490 EXIST CONTOUR
PROP CONTOUR

SHEET: 5 of 6

5	
4	October 10, 2021, 2021 Resubmssion to Planning Bd
3	May 5, 2021 Clarified Pool Wall
2	May 25, 2020 Septic Added
1	April 6, 2020 Misc.

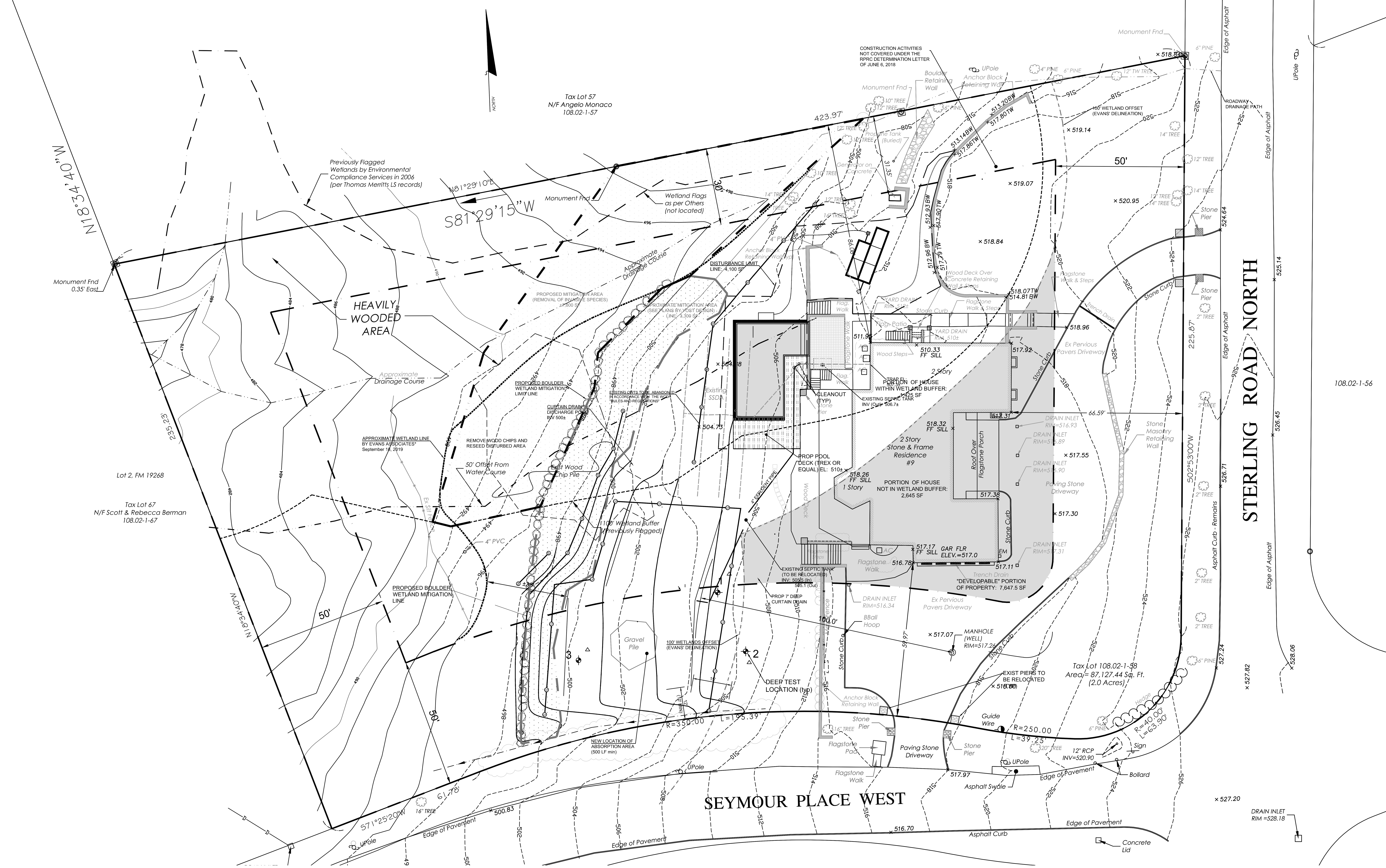
Original Date: March 13, 2020
Project Number: HAR-4

Nathaniel J. Holt, P.E.
Date:

NATHANIEL J. HOLT, P.E.
592 ROUTE 22
PAWLING, NEW YORK 12564
(914) 760-1800

CONSTRAINTS MAP

PROPOSED IN-GROUND POOL
for
HARRIS
9 STERLING ROAD NORTH, ARMONK, NY



LEGEND

490 x	EXISTING SPOT GRADE
———	PROPERTY LINE
TP 1	DEEP TEST PIT
*	TREE TO BE REMOVED
490	EXIST CONTOUR
———	PROP CONTOUR

GRAPHIC SCALE

20 0 10 10 20 40

(IN FEET)
1 inch = 20 ft.

APPROVED BY THE TOWN OF NORTH CASTLE
PLANNING BOARD
RESOLUTION DATED: ____________________

CHRISTOPHER CARTHY, CHAIRMAN
TOWN OF NORTH CASTLE PLANNING BOARD

______________________ DATE: ___________

ENGINEERING PLANS REVIEWED FOR
CONFORMANCE TO THE RESOLUTION:

______________________ DATE:___________
JOSEPH M. CERMELE, PE
KELLARD SESSIONS, CONSULTING
CONSULTING TOWN ENGINEERS

SHEET: 6 of 6

5
4 October 10, 2021, 2021 Resubmission to Planning Bd
3 May 5, 2021 Clarified Pool Wall
2 May 25, 2020 Septic Added
1 April 6, 2020 Misc.
Original Date: March 13, 2020
Project Number: HAR-4

Nathaniel J. Holt, P.E.
Date: ______

NATHANIEL J. HOLT, P.E.
592 ROUTE 22
PAWLING, NEW YORK 12564
(914) 760-1800

WETLAND/WETLAND MITIGATION PLAN

PROPOSED IN-GROUND POOL
for
HARRIS
9 STERLING ROAD NORTH, ARMONK, NY

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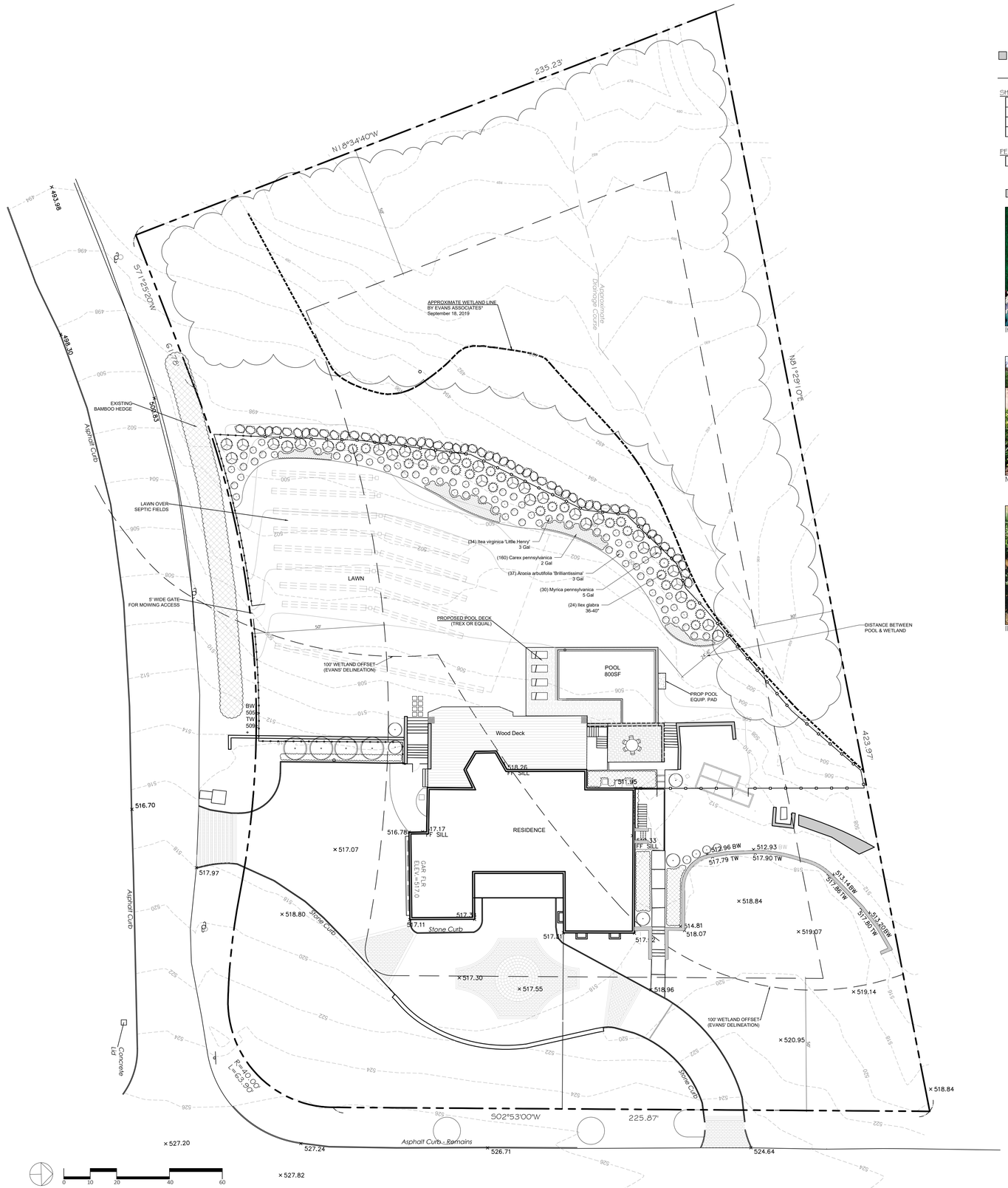


TO SCALE WHEN PLOTTED ON 24x36

PROGRESS SET NOT FOR CONSTRUCTION

PLANTING SCHEDULE

QTY	BOTANICAL NAME	COMMON NAME	SIZE	COMMENTS
SHRUBS				
37	Aronia arbutifolia 'Brilliantissima'	Red Chokeberry	3 Gallon	
24	Ilex glabra	Inkberry	36-40"	
34	Itea virginica 'Little Henry'	Virginia Sweetspire	3 Gallon	
30	Myrica pennsylvanica	Northern Bayberry	5 Gallon	
PERENNIALS				
160	Carex pennsylvanica	Pennsylvania Sedge	2 Gallon	18" o.c.

PROPOSED PLANTING IMAGES

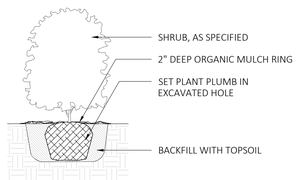
Itea virginica 'Little Henry'

Aronia arbutifolia 'Brilliantissima'

Myrica pennsylvanica

Carex pennsylvanica

Ilex glabra



NOTES:

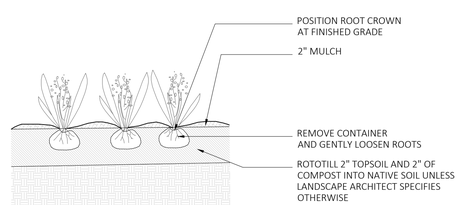
1. FOR B & B PLANT MATERIAL, REMOVE ALL TWINE AND ROLL BACK BURLAP FROM TOP 1/2 OF BALL. IF ANY MATERIALS USED TO BIND THE ROOTBALL ARE NON-BIODEGRADEABLE, REMOVE COMPLETELY INCLUDING WIRE BASKET.

2. FOR CONTAINER GROWN PLANT MATERIAL, REMOVE CONTAINER. TO HELP PREVEN LOOSENING OF SOIL AND SCARIFY BALL TO HELP PREVENT GIRDLING ROOTS.

3. SATURATE SOIL WITHIN SIX (6) HOURS OF PLANTING, AND WATER AS NECESSARY UNTIL IRRIGATION INSTALLED.

4. NO MULCH OR SOIL SHOULD BE PLACED AGAINST THE PLANT'S TRUNK.

1 L-701 SHRUB PLANTING
SCALE: 1/2"=1'



2 L-701 GROUNDCOVER PLANTING
SCALE:1/2"=1'

PLANTING NOTES

1. PLANT MATERIAL SHALL BE FURNISHED AND INSTALLED AS INDICATED; INCLUDING ALL LABOR, MATERIALS, PLANTS, EQUIPMENT, INCIDENTALS, AND CLEAN-UP.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PLANTING AT CORRECT GRADES AND ALIGNMENT. LAYOUT TO BE APPROVED BY LA PRIOR TO INSTALLATION.

3. PLANTS SHALL BE TYPICAL OF THEIR SPECIES AND VARIETY; HAVE NORMAL GROWTH HABITS; WELL DEVELOPED BRANCHES, DENSELY FOLIATED, VIGOROUS ROOT SYSTEMS AND BE FREE FROM DEFECTS AND INJURIES.

4. CONTRACTOR SHALL REPORT ANY SOIL OR DRAINAGE CONDITIONS CONSIDERED DETRIMENTAL TO THE GROWTH OF PLANT MATERIAL.

5. ALL PLANT MATERIAL SHALL BE GUARANTEED BY THE CONTRACTOR TO BE IN VIGOROUS GROWING CONDITION. PROVISIONS SHALL BE MADE FOR A GROWTH GUARANTEE OF AT LEAST ONE YEAR FROM THE DATE OF ACCEPTANCE FOR TREES AND SHRUBS. REPLACEMENTS SHALL BE MADE AT THE BEGINNING OF THE FIRST SUCCEEDING PLANTING SEASON. ALL REPLACEMENTS SHALL HAVE A GUARANTEE EQUAL TO THAT STATED ABOVE.

6. INSOFAR AS IT IS PRACTICABLE, PLANT MATERIAL SHALL BE PLANTED ON THE DAY OF DELIVERY. IN THE EVENT THIS IS NOT POSSIBLE, THE CONTRACTOR SHALL PROTECT, IRRIGATE & CARE FOR STOCK NOT PLANTED.

7. QUALITY AND SIZE OF PLANTS, SPREAD OF ROOTS, AND SIZE OF BALLS SHALL BE IN ACCORDANCE WITH ANSI 260 (REV. 1980) "AMERICAN STANDARD FOR NURSERY STOCK" AS PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, INC.

8. ALL PLANTS SHALL BE PLANTED IN AMENDED TOP SOIL THAT IS THOROUGHLY WATERED AND TAMPED AS BACK FILLING PROGRESSES. PLANTING MIX TO BE AS SHOWN ON PLANTING DETAILS. LARGE PLANTING AREAS TO INCORPORATE FERTILIZER AND SOIL CONDITIONERS AS STATED IN PLANTING SPECIFICATIONS.

9. PLANTS SHALL NOT BE BOUND WITH WIRE OR ROPE AT ANY TIME SO AS TO DAMAGE THE BARK OR BREAK BRANCHES. PLANTS SHALL BE HANDLED FROM THE BOTTOM OF THE BALL ONLY.

10. PLANTING OPERATIONS SHALL BE PERFORMED DURING PERIODS WITHIN THE PLANTING SEASON WHEN WEATHER AND SOIL CONDITIONS ARE SUITABLE AND IN ACCORDANCE WITH ACCEPTED LOCAL PRACTICE. PLANTS SHALL NOT BE INSTALLED IN TOPSOIL THAT IS IN A MUDDY OR FROZEN CONDITION.

11. NO PLANT, EXCEPT GROUND COVERS, SHALL BE PLANTED LESS THAN TWO FEET FROM EXISTING STRUCTURES AND SIDEWALKS.

12. SET ALL PLANTS PLUMB AND STRAIGHT. SET AT SUCH LEVEL THAT A NORMAL OR NATURAL RELATIONSHIP TO THE CROWN OF THE PLANT WITH THE GROUND SURFACE WILL BE ESTABLISHED. LOCATE PLANT IN THE CENTER OF THE PIT.

13. ALL INJURED ROOTS SHALL BE PRUNED UTILIZING CLEAN, SHARP TOOLS TO MAKE CLEAN ENDS BEFORE PLANTING.

14. EACH TREE AND SHRUB SHALL BE PRUNED IN ACCORDANCE WITH STANDARD HORTICULTURAL PRACTICE TO PRESERVE NATURAL CHARACTER OF PLANT. PRUNING SHALL BE DONE WITH CLEAN, SHARP TOOLS.

16. ALL PLANTING BEDS SHALL BE MULCHED WITH 2" LAYER OF DOUBLE SHREDDED HARDWOOD BARK MULCH.

17. ALL DISTURBED AREAS AND NEW PLANTING BEDS TO BE TREATED WITH 4" TOP SOIL & SEEDED IN ACCORDANCE WITH PERMANENT STABILIZATION METHODS.

18. NO HERBICIDES SHALL BE USED WITHIN THE WETLAND BUFFER.

19. ALL PLANTS PLANTED WITHIN WETLAND BUFFER ARE TO BE INSTALLED BY HAND.

YOST DESIGN
LANDSCAPE ARCHITECTURE
178 elizabeth st
pearl river, ny 10965
p 845.365.4595 | f 914.361.4473
yostdesign.com

SURVEYOR:

HARRIS RESIDENCE

9 STERLING ROAD NORTH
ARMONK, NY 10504

DATE: JULY 14, 2021
DRAWN BY: AVM
JOB NO: 040518
SCALE: 1" =20'
FILENAME: 2021_0721 Harris

REVISIONS:
12/20/2021
4/12/2021
7/22/2021

REGISTERED LANDSCAPE ARCHITECT
BLYTHE YOST
002369
STATE OF NEW YORK

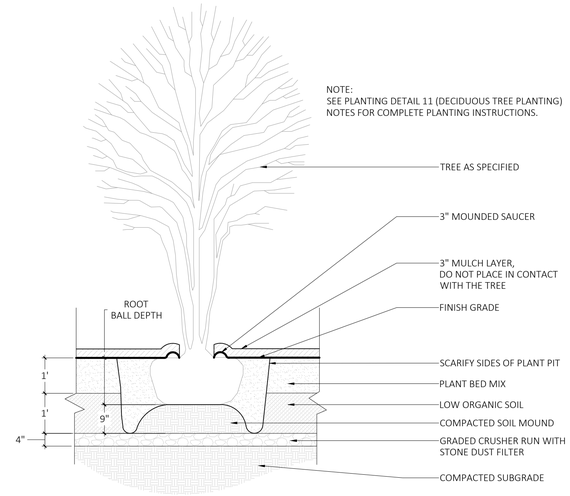
Blythe M Yost ASLA | Registered Landscape Architect
NYS # 002369

PLANTING PLAN

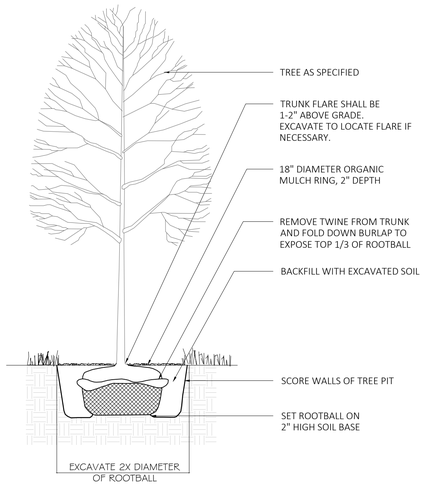
SHEET NO.

L-701

SHEET: 1 of 2



1 L-801 MULTISTEM TREE PLANTING
SCALE: 1/2"=1'



2 L-801 DECIDUOUS TREE PLANTING
SCALE: 1/4"=1'

NOTES:

1. SET TREE PLUMB.

2. DO NOT STAKE UNLESS DIRECTED TO DO SO BY LANDSCAPE ARCHITECT

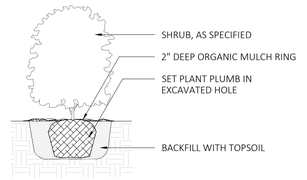
3. REMOVE COMPLETELY ANY NON-BIODEGRADABLE MATERIALS BINDING THE ROOTBALL.

4. REMOVE WIRE BASKET COMPLETELY IF ROOTBALL WILL BARE. OTHERWISE, CLIP AND PEEL BACK WIRE BASKET AT LEAST ONE THIRD OF THE WAY FROM THE TOP OF THE ROOTBALL.

5. SATURATE SOIL WITHIN SIX (6) HOURS OF PLANTING AND WATER AS NECESSARY UNTIL IRRIGATION IS INSTALLED.

6. DO NOT ADD ANY SOIL AMENDMENTS OTHER THAN COMPOST UNLESS DIRECTED TO BY LANDSCAPE ARCHITECT.

7. DO NOT ADD ANY SOIL OR MULCH AGAINST TRUNK OF TREE. IF ROOT FLARE IS NOT EXPOSED, REMOVE SOIL AND EXPOSE.



3 L-801 SHRUB PLANTING
SCALE: 1/2"=1'

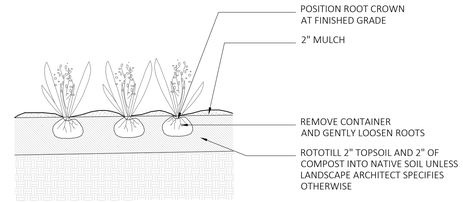
NOTES:

1. FOR B & B PLANT MATERIAL, REMOVE ALL TWINE AND ROLL BACK BURLAP FROM TOP 1/2 OF BALL. IF ANY MATERIALS USED TO BIND THE ROOTBALL ARE NON-BIODEGRADEABLE, REMOVE COMPLETELY INCLUDING WIRE BASKET.

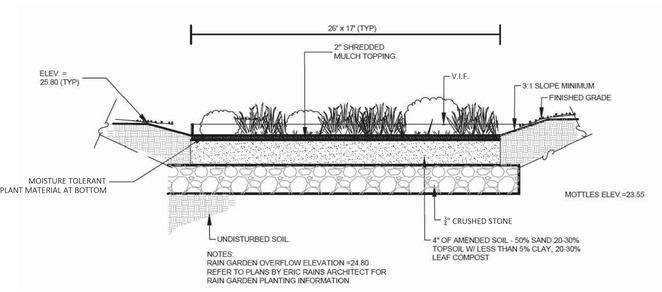
2. FOR CONTAINER GROWN PLANT MATERIAL, REMOVE CONTAINER. TO HELP PREVEN LOOSENING OF SOIL AND SCARIFY BALL TO HELP PREVENT GIRDLING ROOTS.

3. SATURATE SOIL WITHIN SIX (6) HOURS OF PLANTING, AND WATER AS NECESSARY UNTIL IRRIGATION INSTALLED.

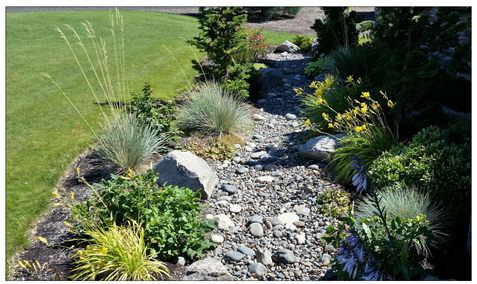
4. NO MULCH OR SOIL SHOULD BE PLACED AGAINST THE PLANT'S TRUNK.



4 L-801 GROUNDCOVER PLANTING
SCALE:1/2"=1'



5 L-801 RAIN GARDEN
SCALE: 1"=1'



6 L-801 DRY RIVER BED IMAGES
SCALE:

YOST DESIGN
LANDSCAPE ARCHITECTURE
178 elizabeth st
pearl river, ny 10965
p 845.365.4595 | f 914.361.4473
yostdesign.com
Blythe M Yost ASLA | Registered Landscape Architect

SURVEYOR:

HARRIS RESIDENCE

9 STERLING ROAD NORTH
ARMONK, NY 10504

DATE: NOVEMBER 4, 2020
DRAWN BY: AVM
JOB NO: 040518
SCALE: VARIES
FILENAME: 2021_0721 Harris

REVISIONS:
04/12/2021

REGISTERED LANDSCAPE ARCHITECT
BLYTHE YOST
002369
STATE OF NEW YORK

Blythe M Yost ASLA | Registered Landscape Architect

DETAILS SHEET

SHEET NO.

L-801