

SITE DATA:

OWNER / DEVELOPER: 593 NORTH STATE RD. LLC.
PROJECT LOCATION: OSSINING, NY, 10510
EXISTING TOWN ZONING: GB, GENERAL BUSINESS
PROPOSED USE: SECTION 90.11, BLOCK 1, LOT 36
TOWN TAX MAP DATA: 0.697 ACRES (30,368 SF)
SITE AREA : PUBLIC SEWERS
SEWAGE FACILITIES: PUBLIC WATER FACILITIES
WATER FACILITIES:

ZONING SCHEDULE:			
ZONING DISTRICT: GB, GENERAL BUSINESS			
DIMENSIONAL REGULATIONS:	REQUIRED	PROVIDED	VARIANCE REQUIRED
MINIMUM SIZE OF LOT:			
MINIMUM LOT AREA:	20,000 SF.	30,368 SF.	NONE
MINIMUM LOT WIDTH:	100 FT.	201 FT.	NONE
MINIMUM LOT DEPTH:	130 FT.	132 FT.	NONE
MINIMUM YARD DIMENSIONS:			
PRINCIPAL BUILDING:			
FRONT YARD SETBACK:	30 FT.	55.2 FT.	NONE
REAR YARD SETBACK:	0, 30 FT. (1)	67.8 FT.	NONE
ONE SIDE YARD SETBACK:	0, 30 FT. (1)	22.6 FT.	NONE
COMBINED SIDE YARD SETBACK:	---	---	NONE
ACCESSORY BUILDINGS:			
FRONT YARD SETBACK:	30 FT.	---	NONE
REAR YARD SETBACK:	30 FT. (1)	---	NONE
ONE SIDE YARD SETBACK:	30 FT. (1)	---	NONE
COMBINED SIDE YARD SETBACK:	---	---	NONE
MAXIMUM % OF LOT TO BE OCCUPIED:			
TOTAL BUILDING COVERAGE:	30% OF LOT AREA	5.6 % OF LOT AREA	NONE
MAXIMUM HEIGHT:			
PRINCIPAL BUILDING - FEET:	35 FT.	35 FT. MAX	NONE
PRINCIPAL BUILDING - STORIES:	2	2	NONE
ACCESSORY BUILDING - FEET:	35 FT.	---	NONE
ACCESSORY BUILDING - STORIES:	2	---	NONE

ZONING REGULATION NOTES:
1. SETBACK SHALL BE 30 FT. ALONG ANY RESIDENCE DISTRICT BOUNDARY, 0 FT. OTHERWISE.

PARKING SCHEDULE	
REQUIRED PARKING:	1 SPACE PER 200 SF RETAIL FLOOR AREA 1 SPACE PER 300 SF OFFICE FLOOR AREA
RETAIL SPACE:	1691 S.F. @ 1 SPACES/200 S.F. = 9 SPACES
OFFICE SPACE:	1691 S.F. @ 1 SPACES/300 S.F. = 6 SPACES TOTAL = 15 SPACES
PROVIDED PARKING:	2 GARAGE 13 STANDARD 1 HANDICAP
TOTAL PROVIDED PARKING:	16 SPACES
PARKING VARIANCE REQUIRED:	0 SPACES

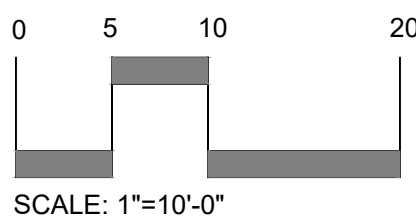
- NOTES:**
- THE EXISTING TWO STORY BUILDING SHALL BE USED AS A COMBINATION OFFICE AND SHOW ROOM FOR THE PROPOSED PLUMBING BUSINESS. THE FIRST BOTTOM FLOOR SHALL BE USED FOR THE SHOW ROOM AND STORAGE SPACE, AND THE SECOND FLOOR SHALL BE USED AS OFFICE SPACE.
 - SITE IS TRIBUTARY TO POCAHONTO RIVER
 - THERE SHALL BE NO OUTDOOR STORAGE OF ANY MATERIALS ON THE LOT.
 - THERE SHALL BE NO OUTDOOR PARKING OF ANY CONSTRUCTION EQUIPMENT ON THE LOT
 - ALL LIGHTING SHOWN ON THIS PLAN SHALL BE DIRECTED AND/OR SHIELDED SO AS TO PRECLUDE OBJECTIONABLE GLARE FROM BEING OBSERVABLE FROM ADJOINING STREETS AND PROPERTIES.
 - ALL VEGETATION SHOWN ON THIS PLAN SHALL BE MAINTAINED IN A HEALTHY AND VIGOROUS GROWING CONDITION THROUGHOUT THE DURATION OF THE PROPOSED USE OF THE SITE. ALL VEGETATION NOT SO MAINTAINED SHALL BE REPLACED WITH NEW COMPARABLE VEGETATION AT THE BEGINNING OF THE NEXT GROWING SEASON.

Gareth Hougham, Chairman
Town of Ossining Planning Board

Date: _____

LEGEND

- EXISTING GRADING
- EXISTING SPOT GRADE
- PROPOSED GRADING
- PROPERTY LINE / RIGHT OF WAY
- PROPOSED CURB
- 100' WETLAND BUFFER
- EXISTING WATER LINE
- EXISTING FIRE HYDRANT
- PROPOSED DRAINAGE LINE
- PROPOSED CATCH BASIN
- PROPOSED DRAINAGE MANHOLE
- PROPOSED LIMIT OF DISTURBANCE



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NOTE:
1. THIS IS NOT A SURVEY. ALL SURVEY INFORMATION SHOWN ON THIS PLAN HAS BEEN TAKEN FROM SURVEY MAP PREPARED BY JOSEPH LINK, DATED 3/17/18. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR ITS ACCURACY.

NOTE: UNAUTHORIZED ALTERATIONS OR ADDITIONS TO THIS DRAWING IS A VIOLATION OF SECTION 7209 (2)(f) OF THE NEW YORK STATE EDUCATION LAW.

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Civil Engineers • Land Planners
251-F Underhill Avenue, Yorktown Heights, NY 10598
(914) 962-4488 - Fax: (914) 962-7386
www.sitedesignconsultants.com

JOSEPH C. KUHN, E.C.
No. 64431

Revisions:	No.	Date	Comments
1	5/2/18	Plan Revisions	
2	5/25/18	Town Comments	
3	6/11/18	Town Comments	
4	8/29/18	Town Comments	
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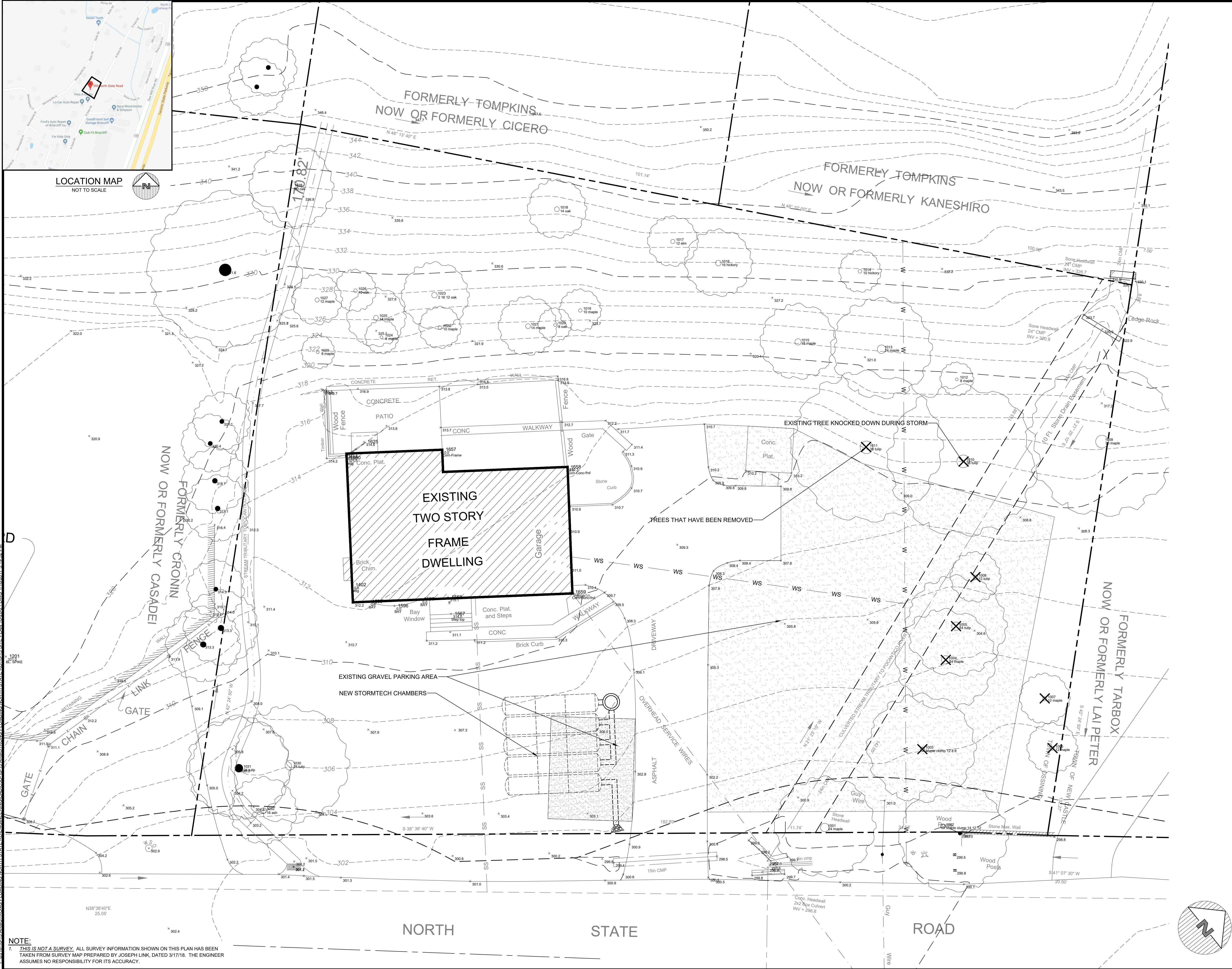
SCALE: 1" = 10'

DRAWN BY: TK

DATE: 3/21/18

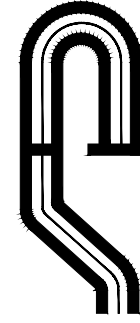
AMENDED SITE PARKING PLAN
PREPARED FOR
ARMSTRONG PLUMBING LLC
593 NORTH STATE ROAD
Town of Ossining
Westchester County, NY

Sheet 1 of 11



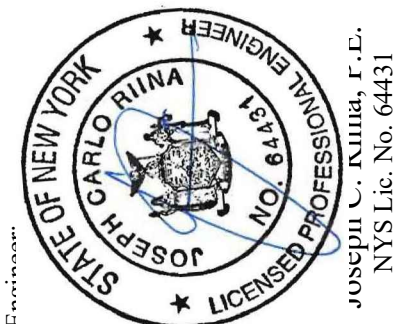
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	9		

SCALE: 1" = 10'

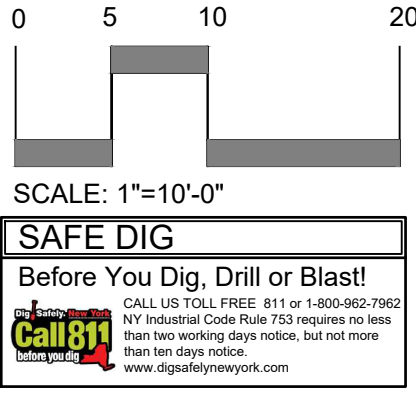
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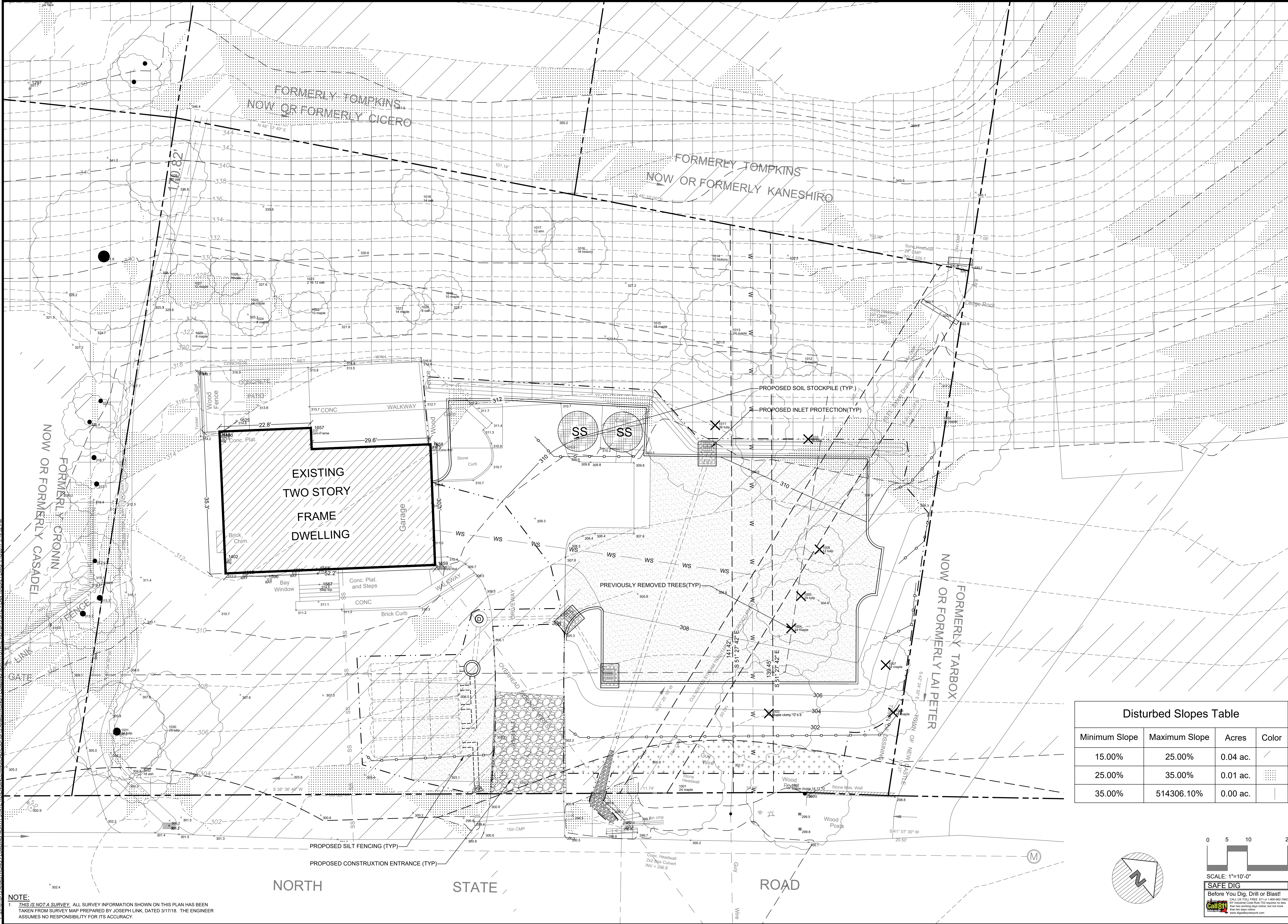
DATE: 3/21/18

CURRENT SITE CONDITIONS

AMENDED SITE PARKING PLAN
PREPARED FOR
ARMSTRONG PLUMBING LLC
593 NORTH STATE ROAD
Town of Ossining, Westchester County, NY

Sheet 2 of 11





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Disturbed Slopes Table			
Minimum Slope	Maximum Slope	Acres	Color
15.00%	25.00%	0.04 ac.	
25.00%	35.00%	0.01 ac.	
35.00%	514306.10%	0.00 ac.	

0 5 10 20
SCALE: 1"=10'-0"

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STATE OF NEW YORK
JOSEPH A. LINK
LICENSED PROFESSIONAL ENGINEER
NYS Lic. No. 64431

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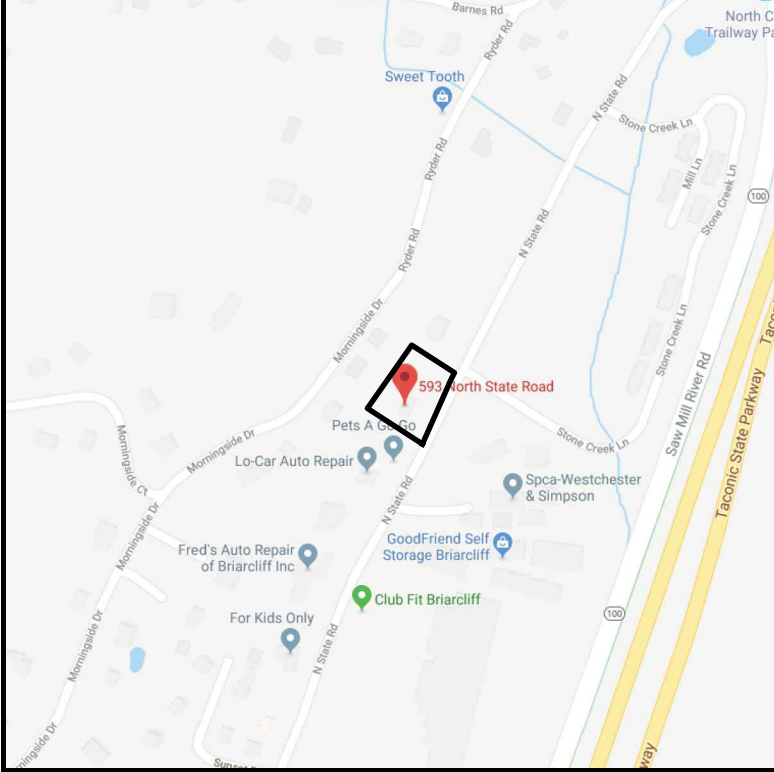
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DATE: 3/21/18

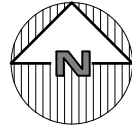
E&SC PLAN

AMENDED SITE PARKING PLAN
PREPARED FOR
ARMSTRONG PLUMBING LLC
593 NORTH STATE ROAD
Town of Ossining
Westchester County, NY

Sheet 3 of 11



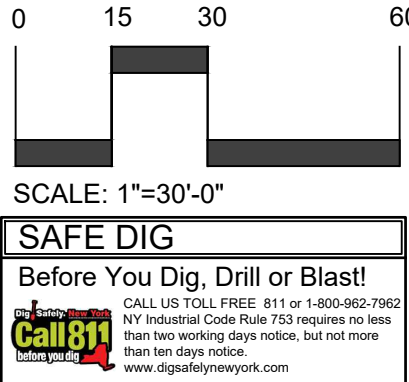
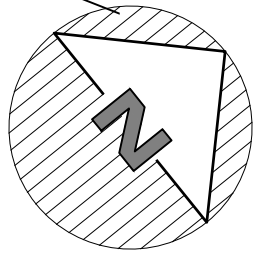
LOCATION MAP
NOT TO SCALE



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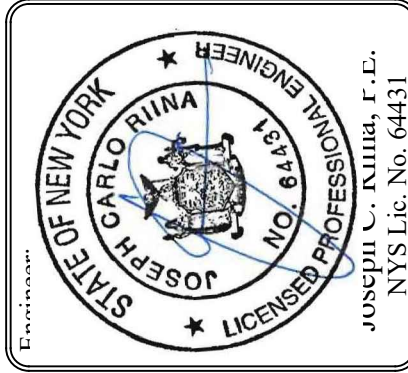
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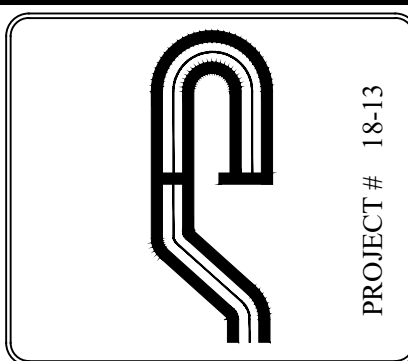
SCALE: 1" = 10'	DRAWN BY: TK	DATE: 3/21/18
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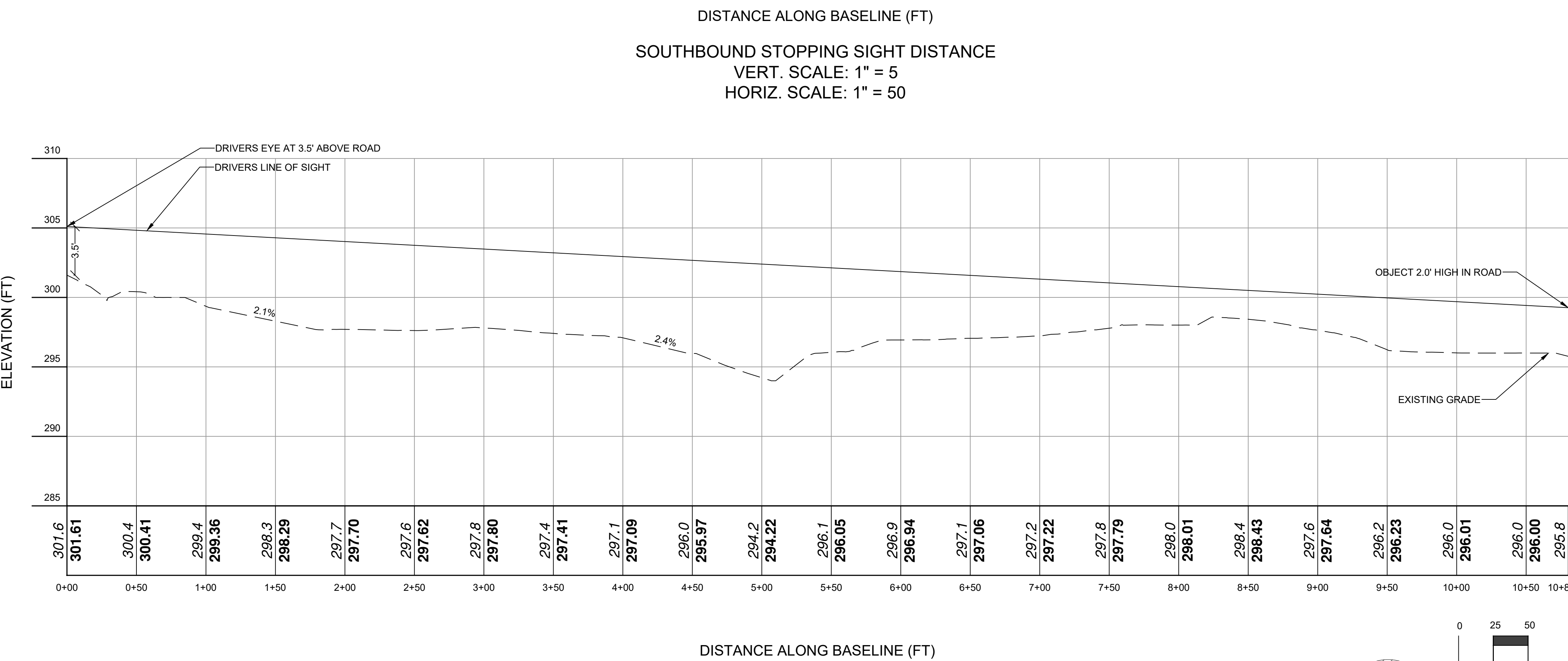
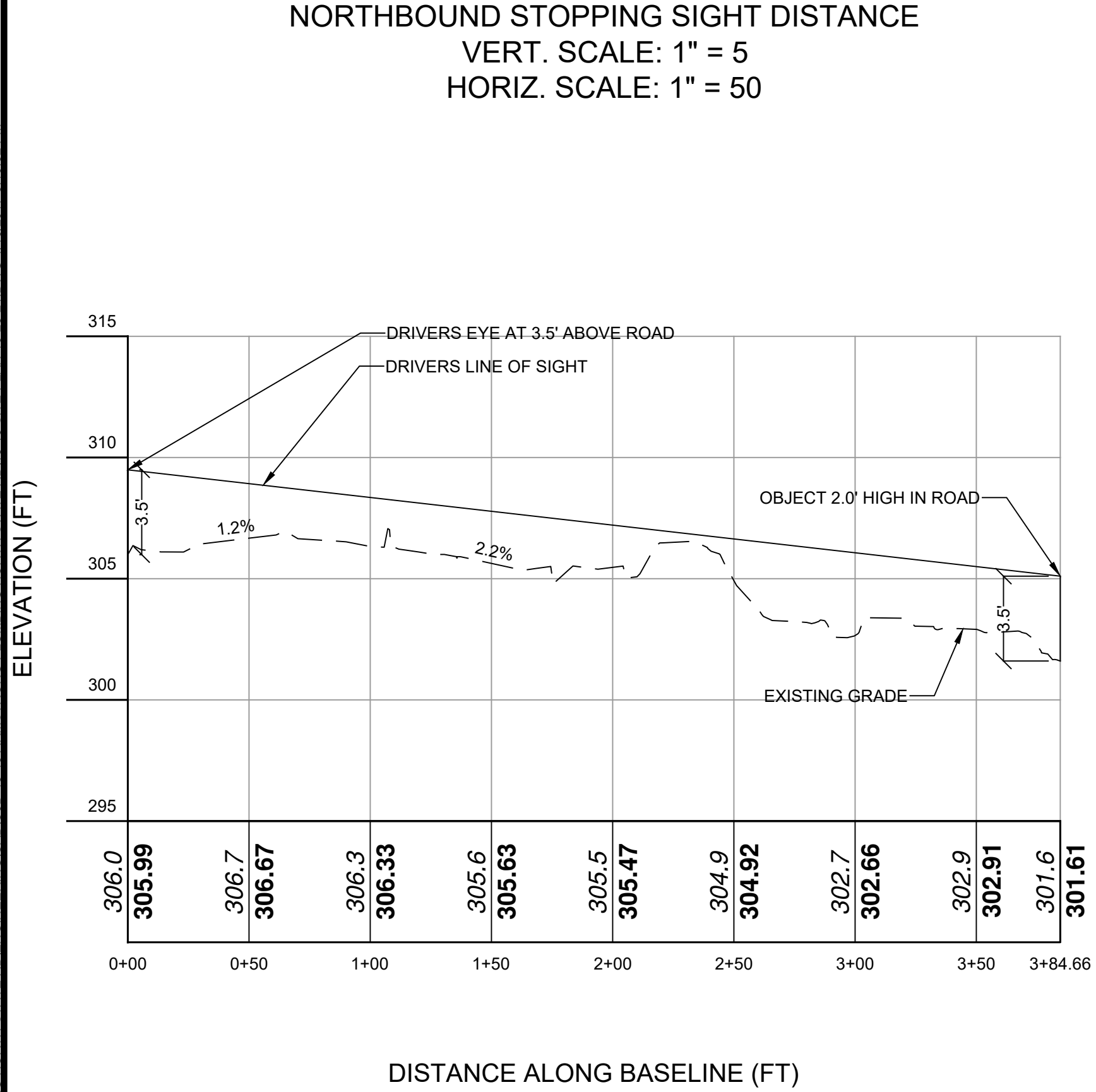
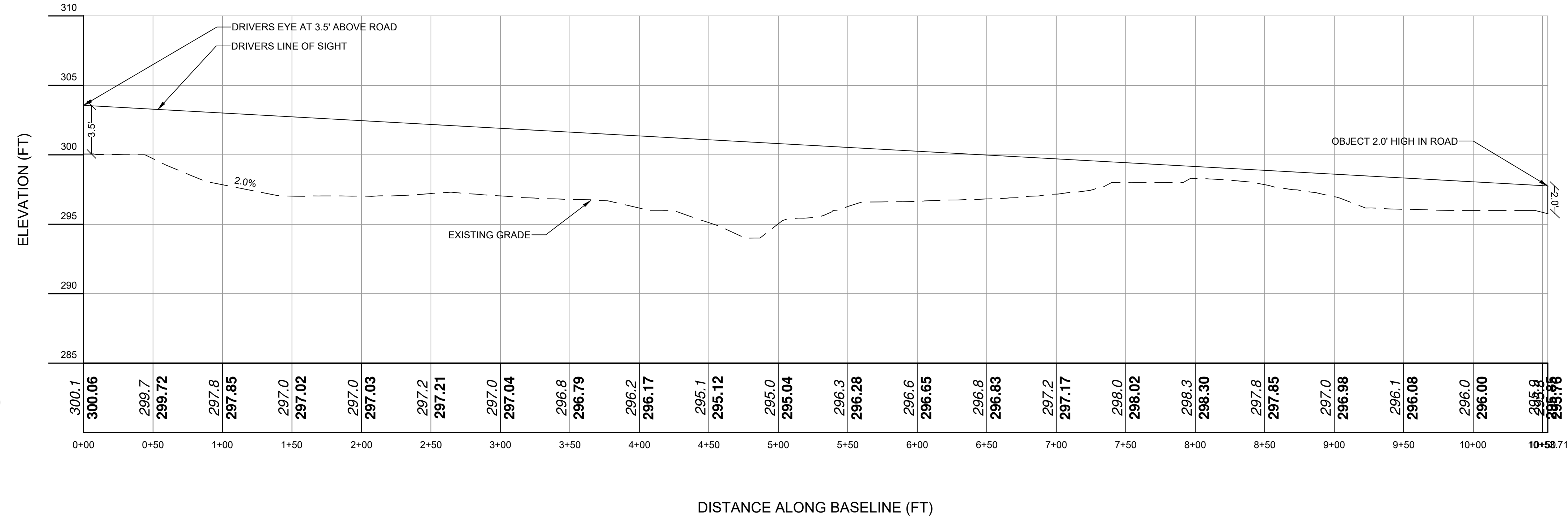
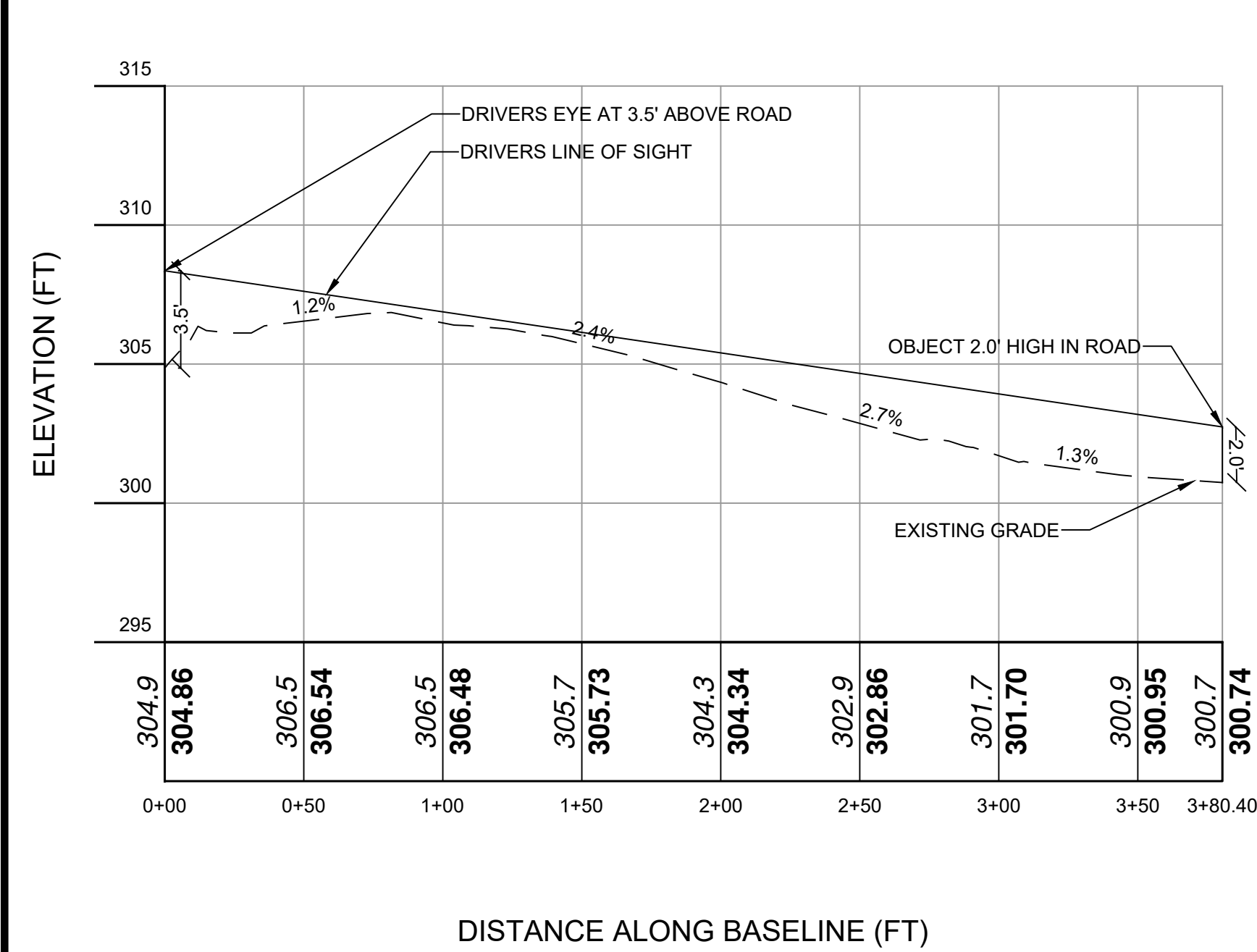
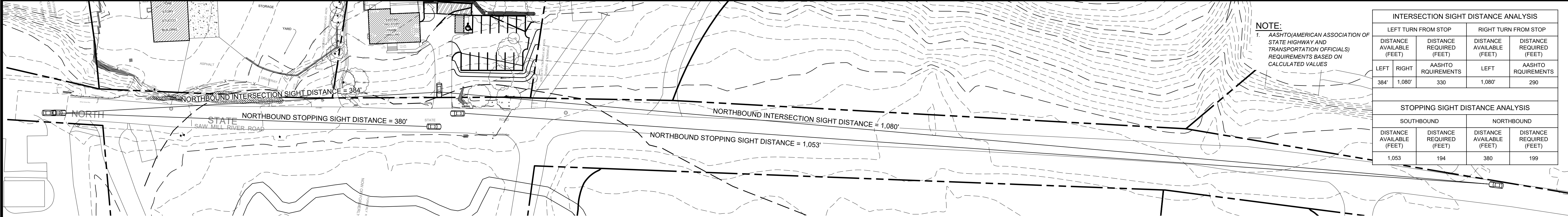
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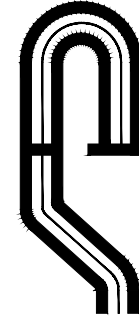
AREA MAP

AMENDED SITE PARKING PLAN
PREPARED FOR
**ARMSTRONG PLUMBING
LLC**
593 NORTH STATE ROAD
Town of Ossining
Westchester County, NY



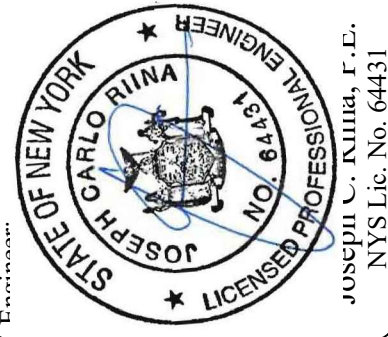
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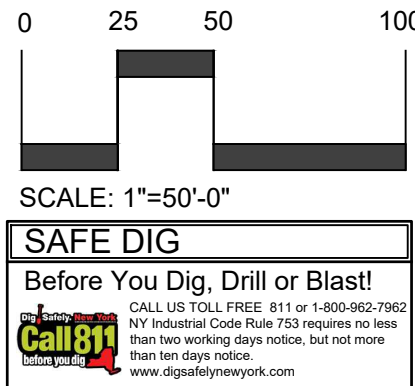
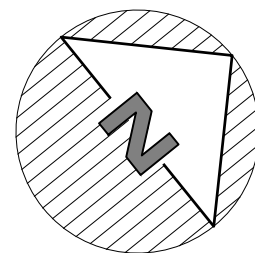
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SCALE: 1" = 50'	DRAWN BY: TK	DATE: 3/21/18
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SIGHT DISTANCE

AMENDED SITE PARKING PLAN
PREPARED FOR
ARMSTRONG PLUMBING LLC
593 NORTH STATE ROAD
Town of Ossining
Westchester County, NY

Sheet 5 of 11

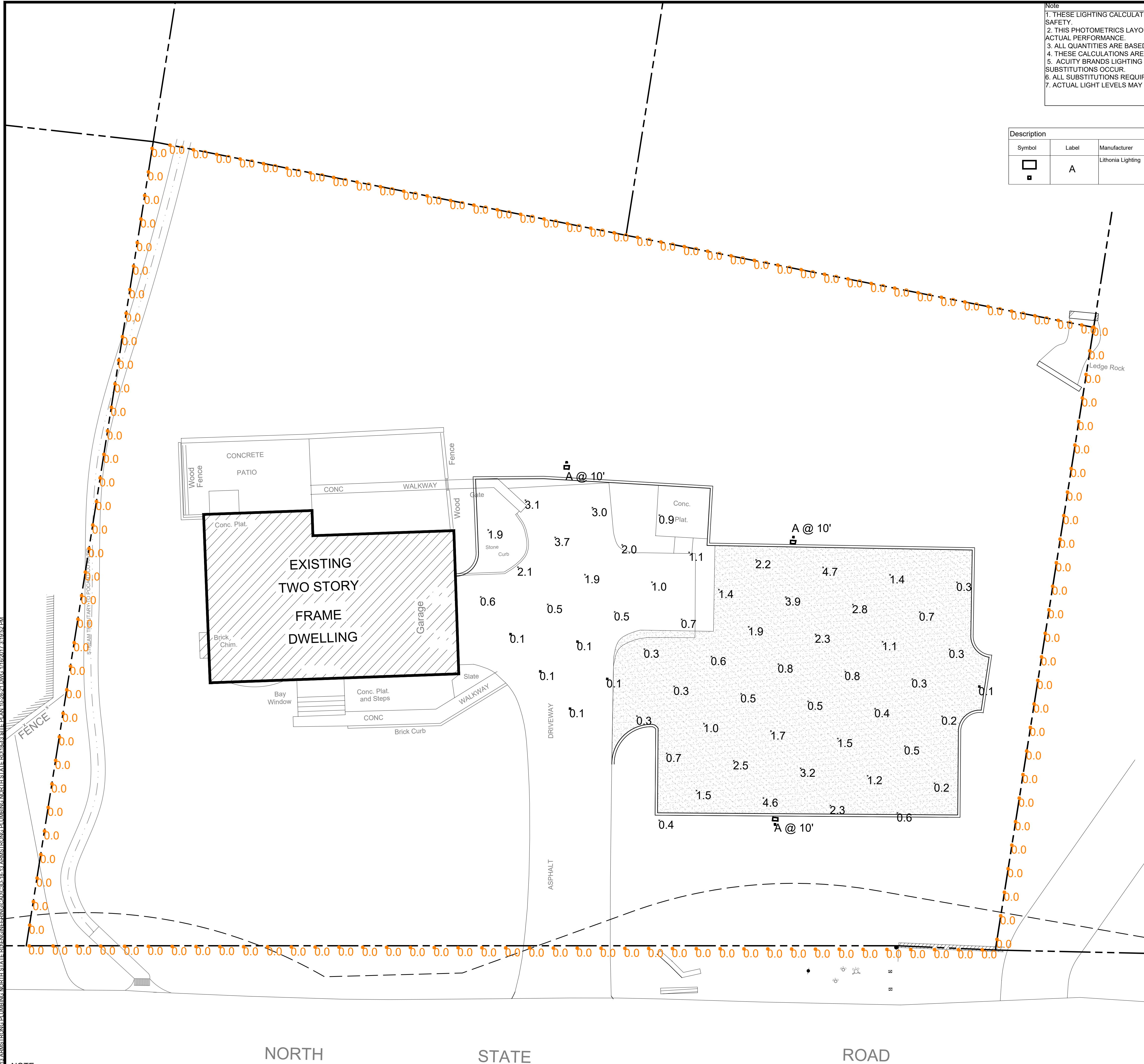


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Note:
1. THESE LIGHTING CALCULATIONS ARE NOT A SUBSTITUTE FOR INDEPENDENT ENGINEERING ANALYSIS OF LIGHTING SUITABILITY AND SAFETY.
2. THIS PHOTOMETRICS LAYOUT WAS CALCULATED USING SPECIFIC CRITERIA, ANY DEVIATION FROM STATED PARAMETERS WILL AFFECT ACTUAL PERFORMANCE.
3. ALL QUANTITIES ARE BASED ON FIXTURES SHOWN IN THE LIGHTING CALCULATIONS ONLY.
4. THESE CALCULATIONS ARE BASED ON LISTED FIXTURES ONLY. SUBSTITUTION OF THESE FIXTURES VOIDS ALL CALCULATIONS.
5. ACUITY BRANDS LIGHTING RESERVES THE RIGHT TO WITHDRAW THESE COPYRIGHTED LIGHTING PLANS FROM PUBLIC RECORD IF SUBSTITUTIONS OCCUR.
6. ALL SUBSTITUTIONS REQUIRE NEW CALCULATIONS BASED ON THE FIXTURES SUPPLIED.
7. ACTUAL LIGHT LEVELS MAY VARY DUE TO ACTUAL FIXTURE LOCATIONS AND FIELD CONDITIONS.

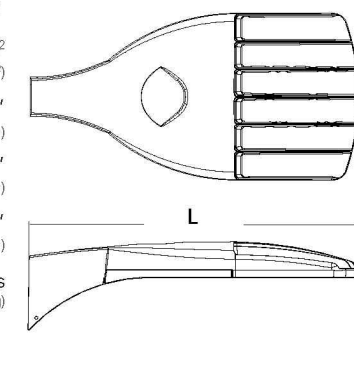
Description	Symbol	Label	Manufacturer	Catalog Number	Description	Lamp	Number Lamps	Filename	Lumens Per Lamp	Light Loss Factor	Wattage
		A	Lithonia Lighting	DSX0 LED P1 30K T4M MVOLT HS	DSX0 LED P1 30K T4M MVOLT with houseshield	LED	1	DSX0_LED_P1_30K_T4M_MVOLT_HS.ies	3322	0.9	38

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Property Line	+	0.0 fc	0.0 fc	0.0 fc	N/A	N/A
Proposed Parking	+	1.3 fc	4.7 fc	0.1 fc	47.0:1	13.0:1



Specifications

EPA: 0.95 ft² (0.09 m²)
Length: 26" (660 mm)
Width: 13" (330 mm)
Height: 7" (178 mm)
Weight (max): 16 lbs (7.3 kg)



Rating Number	DSX0 LED P1 30K T4M ** NLTAIR2 PIRN E
Notes	*Confirm Voltage - **Confirm Pole Shape - ***C
Type	A

Capable Luminaire

This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and system-level interoperability.

- All configurations of this luminaire meet the Acuity Brands' specification for chromatic consistency.
- This luminaire is A+ Certified when ordered with DTL® controls marked by a shaded background. DTL DLL equipped luminaires meet the A+ specification for luminaire to photocell interoperability.
- This luminaire is part of an A+ Certified solution for ROAM® or XPoint™ Wireless control networks, providing out-of-the-box control compatibility with simple commissioning, when ordered with drivers and control options marked by a shaded background.

To learn more about A+, visit www.acuitybrands.com/aplus.
1. See ordering tree for details.
2. A+ Certified Solutions for ROAM require the order of one ROAM node per luminaire. Sold Separately.
[Link to Roam](#); [Link to DTL DLL](#)

A+ Capable options indicated by this color background.

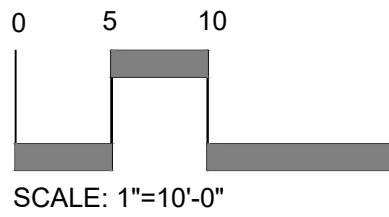
Ordering Information				EXAMPLE: DSX0 LED P6 40K T3M MVOLT SPA DDBX0			
Series	LEDs	Color temperature	Distribution	Voltage	Mounting		
DSX0 LED	Forward optics	30K 4000K	T15 Type I short	TSS Type V short	MVOLT	Shipped included	
	P1 P4 P7	40K 4000K	T25 Type I short	TSM Type V medium	120V	SPA Square pole mounting	
	P2 P5	50K 5000K	T35 Type I medium	TSW Type V wide	208V	SPA Square pole mounting	
	P3 P6	AMBRC Amber phosphor cornered	T35 Type II short	BLC Backlight control	240V	WBA Wall bracket	
	Rated optics		T3M Type II medium	LECO Left corner cutoff	277V	SRMBA Square pole universal mounting adapter	
	P10 P12		T4M Type III medium	RECO Right corner cutoff	347V	SRMBA Square pole universal mounting adapter	
	P11 P13		T5M Type V very short	RECO Right corner cutoff	480V	Shipped separately	
						KMA8 DDBX0 U	Must arm mounting bracket adapter (specify first)

NLTAIR2 PIRN		HIS		***	
Control options		Other options		Finish	
Shipped installed		Shipped installed		Shipped installed	
NLTAIR2 NLTAIR2 sensor only (control ordered separately)		NLTAIR2 NLTAIR2 sensor only (control ordered separately)		NLTAIR2 NLTAIR2 sensor only (control ordered separately)	
NLTAIR2 NLTAIR2 sensor only (control ordered separately)		NLTAIR2 NLTAIR2 sensor only (control ordered separately)		NLTAIR2 NLTAIR2 sensor only (control ordered separately)	
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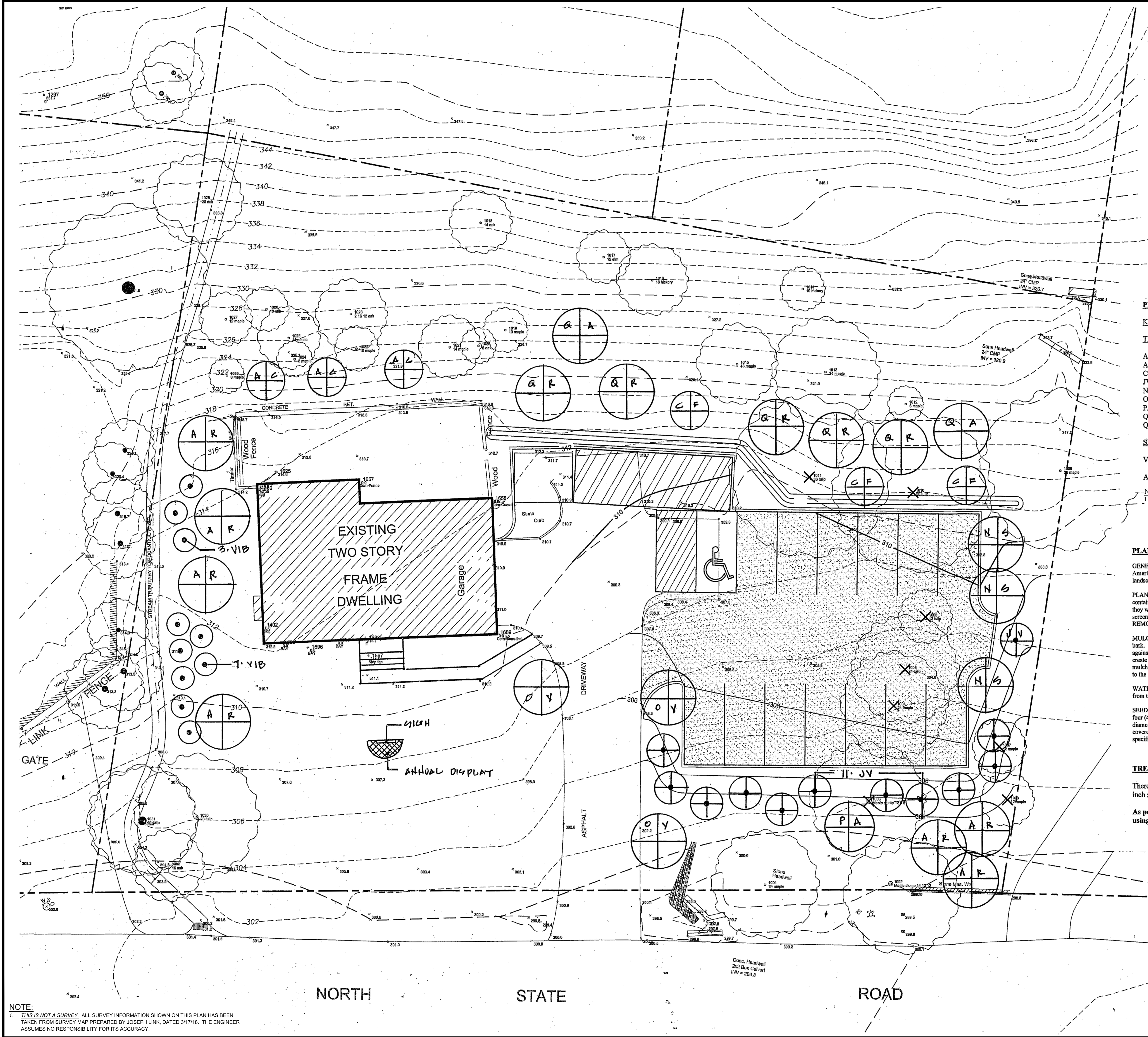
NOTES:

- ALL LIGHTING SHOWN ON THIS PLAN SHALL BE DIRECTED AND/OR SHIELDED SO AS TO PRECLUDE OBJECTIONABLE GLARE FROM BEING OBSERVABLE FROM ADJOINING STREETS AND PROPERTIES.
- THE OUTDOOR LIGHTS SHALL BE LED AND SHALL NOT BE INCANDESCENT OR HALOGEN
- THE OUTDOOR LIGHTS SHALL BE ON MOTION SENSORS FROM DUSK UNTIL DAWN AND SHALL NOT BE ON UNLESS MOTION ACTIVATED.
- THE COLOR TEMPERATURE OF THE OUTDOOR LIGHTING SHALL BE LESS THAN OR EQUAL TO 3,000 DEGREES KELVIN.



SCALE: 1"=10'-0"

SAFE DIG
Before You Dig, Drill or Blast!
Call 811
Call 811 to locate underground utilities before you dig, drill or blast. It's the law in many states and it's the safe way to dig. Call 811 at least 48 hours before you dig. Call 811 at least 24 hours before you dig. Call 811 at least 12 hours before you dig. Call 811 at least 6 hours before you dig. Call 811 at least 3 hours before you dig. Call 811 at least 1 hour before you dig. Call 811 at least 30 minutes before you dig. Call 811 at least 15 minutes before you dig. Call 811 at least 5 minutes before you dig. Call 811 at least 1 minute before you dig. Call 811 at least 30 seconds before you dig. Call 811 at least 15 seconds before you dig. Call 811 at least 5 seconds before you dig. Call 811 at least 1 second before you dig. Call 811 at least 30 milliseconds before you dig. Call 811 at least 15 milliseconds before you dig. Call 811 at least 5 milliseconds before you dig. Call 811 at least 1 millisecond before you dig. Call 811 at least 300 microseconds before you dig. 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SEASONAL MAINTENANCE SCHEDULE:

SPRING: Spring clean-up shall begin as soon as ground is no longer frozen. Leaves in planting beds, shall be removed. Organic cedar mulch shall be replenished to a maximum depth of 2" in all planting beds in April as needed.

Lawn mowing shall start as soon as grass reaches a height of 3" and continued to be mowed and maintained at a height of 2 1/2" until frost.

SUMMER: Lawn mowing shall continue as noted above. A mulching mower shall be used.

FALL: Lawn mowing shall continue as noted above. A mulching mower shall be used to mulch leaves into lawn bed. Only leaves in large abundance shall be removed. Leaves can remain in planting beds over winter.

WINTER: Due to the "Low Maintenance" design of this plan. No winter maintenance is required.

PLANT SCHEDULE

KEY	QUAN.	BOTANICAL / COMMON NAME	SIZE
TREES			
AR	7	Acer rubrum - Red Swamp Maple	4"-41/2" Cal.
AC	3	Amelanchier canadensis - Shadblow	6'-7' HT.
CF	3	Cornus florida - Flowering Dogwood	3"-31/2" Cal.
JV	12	Juniperus virginiana - Eastern Red Cedar	6'-7' HT.
NS	3	Nyssa sylvatica - Tupelo	3"-31/2" Cal.
OV	3	Ostrya virginiana - American Hop Hornbeam	3"-31/2" Cal.
PA	1	Picea glauca - White Spruce	8'-9' HT.
QR	5	Quercus rubra - Red Oak	4"- 41/2" Cal.
QA	2	Quercus alba - White Oak	4"- 41/2" Cal.
SHRUBS:			
VIB	10	Viburnum dentatum (balled and burlapped)	30"-36" HT.

ALL THE ABOVE PLANTS ARE NATIVE TO NEW YORK STATE.

NOTE:

1. The Viburnum Dentatum may be replaced with either Winterberry (Ilex Verticillata) or Spice Bush (Lindera Benzoin)

PLANTING SPECIFICATIONS:

GENERAL: All plants, trees and shrubs, shall meet the specifications for "plant material" as per the American Horticultural Society. All plants shall be guaranteed for three full years from the time the landscaping is formally accepted by the owner and the Town of Ossining.

PLANTING: All plants shall be planted in planting pits two times the diameter of the plant ball or container, and 12" deeper than the plant ball or container. The plants shall be planted at the same grade as they were in the nursery. Backfill for all planting pits shall be as follows: Two parts native soil, one part screened topsoil and one part compost. All Trees and shrubs are "balled and burlapped". REMOVE all String, wire, and other non- burlap material from top 1/4 of the root ball.

MULCHING: All planting beds shall be mulched with a maximum of three (3) inches of shredded cedar bark. All trees shall be mulched as follows: All trees shall be mulched with a 4' ring, and so no mulch is against the trunk of any new or existing tree. The mulch shall be 1/2" deep adjacent to the tree trunk, and create a 3"-4" deep dish on the outside ring. No "volcano" tree mulching is permitted. All shrubs shall be mulched so no mulch is against the base of any new or existing shrub. The mulch shall be 1/2" deep adjacent to the shrub base.

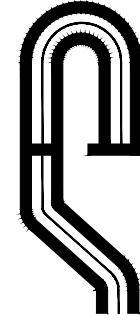
WATERING: The contractor shall water all planted material, until formal acceptance of the landscaping from the owner and the Town of Ossining.

SEEDING LAWN AREAS: All disturbed areas shall be seeded. Seeded areas shall have a minimum of four (4) inches of topsoil as a base. Seed bed shall be fine graded, with all stones and debris over 1" in diameter removed. Seed shall be spread at the rate of 10 pounds per 1000 square feet. Entire area shall be covered with "Penn-Mulch", at the rate of one bag per 700 S.F., and installed as per manufacturers specifications. Seed mix shall be "Northeast" mix by Pennington Seed Company.

TREE REPLACEMENT NOTE:

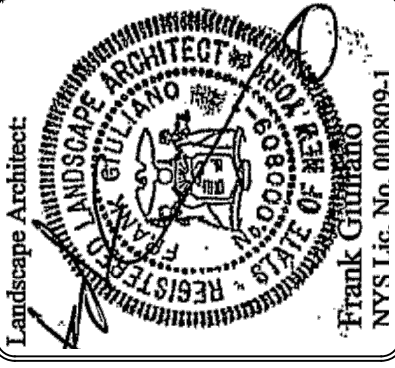
There will be 154 caliper inches of trees removed. As per Town code 50% caliper inch shall be replaced, hence; 77 caliper inches of trees are required to be replaced.

As per the PLANT SCHEDULE there will be 83 Caliper inches of trees replaced, using the minimum specified caliper for each tree.



PROJECT # 18-13

FRANK GIULIANO - LANDSCAPE ARCHITECT
8 PINE TREE DRIVE, KATONAH, NY 10556
914-954-4110 FGIARCH@AOL.COM



Landscape Architect: Frank Giuliano

Revisions:	No.	Date	Comments
	1	5/2/18	Plan Revisions
	2	5/25/18	Town Comments
	3	6/1/18	Town Comments
	4	8/29/18	Town Comments
	5	8/29/18	Amended Site Plan
	6	9/7/21	Amended Site Plan
	7	10/28/21	Town Comments
	8	11/18/21	Town Comments
	9		

SCALE: 1" = 10'

DRAWN BY: TK

DATE: 3/21/18

AMENDED SITE PARKING PLAN
PREPARED FOR

**ARMSTRONG PLUMBING
LLC**

593 NORTH STATE ROAD
Town of Ossining
Westchester County, NY

Sheet 7 of 11

CONSTRUCTION SEQUENCE

Recommended Sequence of Construction

Use of erosion and sediment control structures and practices are important for maintaining site stability under runoff and during daily construction activities. The Construction Sequence should be staged with erosion and sediment controls, as follows, with all controls in place and implemented prior to respective infrastructure construction. As construction proceeds, the controls should be monitored, maintained and replaced as needed. Additional controls may be required as needed to address unforeseen situations.

Refer to the Construction Drawings for all plans and details which relate to the Construction Sequence. This Sequence should be followed in conjunction with all Plans, Notes, and the Stormwater Pollution Prevention Plan. Prior to the commencement of work, the Owner and General Contractor shall read and understand the Sequence for Construction. The Sequence shall be discussed at the time of the Pre-construction Meeting.

During construction of the project, the Contractor is responsible to coordinate all required inspections with various agencies and the Project Engineer.

Construction Sequence

General Sequence: The general sequence applies to the start of all Phases of the project. The requirements in such shall be applied as appropriate in that phase and shall be assumed in place prior to the start of the work outlined in the sequence for each Phase.

- Prior to the beginning of any site work the major features of the construction must be field staked by a licensed surveyor. These include the building, limits of disturbance, utility lines, and Stormwater practices.
- Prior to the start of the project, an on-site pre-construction meeting will be held. This will be attended by the Project Owner, the Operator responsible for complying with the approved construction drawings including the Erosion and Sediment Control (E&SC) Plan and Details, the Design Engineer, the Engineer responsible for E&SC monitoring during construction, Town representatives from the Engineering Department and Code Enforcement.
- Cut and clear trees within the phase limits as necessary for the areas to be disturbed. Install tree protective measure at marked locations on E&SC Plan.
- Install all temporary erosion control measures as shown on the Erosion and Sediment Control Plan for the project's immediate disturbance areas. This shall include, but not limited to silt fence, stabilized construction entrances, diversion swales, sediment traps, construction fence, etc. This sequence must be followed to insure proper implementation of the Erosion and Sediment Control Plan (E&SC) and Stormwater Pollution Prevention Plan (SWPPP).
- Timbered trees and woodchips shall be temporarily stored in the stockpile and/or staging area if necessary before being removed off-site. Woodchips may be used for mulch to stabilize disturbed areas. Woodchip mulch shall be applied at a minimum rate of 500 lbs. per 1000 SF (2" thick minimum).
- Remove existing vegetative cover, cut and clear trees, grub, remove stumps and other surface features in the limit of construction only. Any disturbance that results from tree clearing and grubbing shall be immediately stabilized with woodchips mulch, hydro-mulch, or straw and seed. Timbered trees, wood chips, and stumps shall be removed off-site unless otherwise directed. As staked woodchips may be transported for use as stabilizing ground cover. Demolish and/or remove existing features, i.e.: fence, concrete slab, asphalt etc., and dispose of or stockpile as required by the Owner. All construction debris shall be properly disposed of in accordance with all Federal, State, and Local requirements.
- Once the tree removal operation is complete strip the topsoil within the limits of disturbance and place excavated topsoil within the identified stockpile locations. Any soils so deemed by the Design or Monitoring Engineer shall be stockpiled for future use as topsoil on the undisturbed area topsoil. Contractor shall take every precaution feasible to reduce the amount of disturbed/exposed soils during construction.
- Begin rough grading of driveways and adjacent areas. Slops in excess of 3H:1V shall not be left exposed and must be stabilized.
- Cut material shall first be moved to the fill locations required to complete the access drive and parking and bring the area to final grades. Excess material to be used toward infilling in Phase II shall be stockpiled. Blasted rock that is not suitable to remain on site shall be hauled away and properly disposed of.
- Begin installation of subsurface detention chambers within limits of disturbance.
- When the subsurface units are installed, the upstream drainage structure shall be blocked so as to not allow sediment laden water from reaching the subsurface chambers.
- Backfill as installation is complete and stabilize the area. If trenches are to be left open, place excavated material on the up-slope sides of the trench and protect and stabilize if it is to remain open for an extended period of seven (7) days or more.
- Upon completion of the subsurface chambers, begin installation of proposed Downstream Defender unit. Install storm sewer piping, catch basins and manholes, working downstream to upstream. During the installation of catch basins, install inlet protection as per E&SC Plan to assure that sediment laden water will not enter the storm system. Once the final grade above the system is achieved, put into place the final topsoil cover, seed mix, and erosion control blanket, or hydro-mulch.
- Once the infiltrator system has been installed, grade and install the base course for the driveways and parking areas.

Final Site Stabilization and Completion of New Construction:

- Upon completion of all Phases, the site shall be inspected by the Supervising Engineer and Town Inspector to determine completion of all work and permanent stabilization of the site.
- Any areas deemed incomplete or not properly stabilized shall be done so to the satisfaction to the Supervising Engineer and Town Inspector.
- Once the site is deemed adequately stable the temporary erosion and sediment control measures can be removed including the sediment traps. The area where the sediment trap was located shall be filled, top soiled, seeded and mulched in accordance with the specifications within this plan. At that time if deemed appropriate drainage structures upstream from the subsurface stormwater management systems shall be removed.

GENERAL EROSION CONTROL NOTES:

- Contractor shall be responsible for compliance with all sediment and erosion control practices. The sediment and erosion control practices are to be installed prior to any major soil disturbances and maintained until permanent protection is established. Road surface flows from the site shall be directed to a ditch or drainage pad or appropriate measures during adjacent road shoulder grading. The contractor is responsible for the maintenance of all soil erosion and sedimentation control devices throughout the course of construction.
- Disturbance of soil shall be minimized and erosion protection must be installed and operating at all times until tributary areas have been stabilized. When possible, flows should be stabilized before reaching inlet protection structure. Timely maintenance of sediment control structures is the responsibility of the contractor.
- All structures shall be maintained in good working order at all times. The sediment level in all sediment traps shall be closely monitored and sediment removed promptly when maximum levels are reached or as ordered by the engineer. All sediment control structures shall be inspected on a regular basis, and after each heavy rain to insure proper operation as designed. An inspection schedule shall be set forth prior to the start of construction.
- The locations and the installation times of the sediment capturing standards shall be as specified in these plans, as ordered by the engineer, and in accordance with the latest edition of the "New York standards and specifications for erosion and sediment control" (NYSSESC).
- All topsoil shall be placed in a stabilized stockpile for reuse on the site. All stockpile material required for final grading and stored on site shall be temporarily seeded and mulched within 7 days. Refer to soil stockpile details.
- Any disturbed areas that will be left exposed more than 7 days and not subject to construction traffic, shall immediately receive temporary seeding. Mulch shall be used if the season prevents the establishment of a temporary cover. Disturbed areas shall not be limed and fertilized prior to temporary seeding.
- All disturbed areas within 500 feet of an inhabited dwelling shall be wetted as necessary to provide dust control.
- The contractor shall keep the roadways within the project clear of soil and debris and is responsible for any street cleaning necessary during the course of the project.
- Sediment and erosion control structures shall be removed, and the area stabilized when the drainage area has been properly stabilized by permanent measures.
- All sediment and erosion control measures shall be installed in accordance with current edition of nyssec.
- All regraded areas must be stabilized appropriately prior to any rock blasting, cutting, and/or filling of soils. Special care should be taken during construction to insure stability during maintenance and integrity of control structures.
- Any slopes graded at 3:1 or greater shall be stabilized with erosion blankets to be staked into place in accordance with the manufacturers requirements. Erosion blankets may also be required at the discretion of town officials or project engineer. When stabilized blanket is utilized for channel stabilization, place all of the volume of seed mix prior to laying net, or as recommended by the manufacturer.
- To prevent heavy construction equipment and trucks from tracking soil off-site, construct a pervious crushed stone pad. Locale and construct pads as detailed in these plans.
- Contractor is responsible for controlling dust by sprinkling exposed soil areas periodically with water as required. Contractor to supply all equipment and water.
- Contractor shall be responsible for construction inspections as per NYSEEC GP-0-15-002 and Town of Ossining code.

OWNER / OPERATOR CERTIFICATION

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. Further, I hereby certify that the SWPPP meets all Federal, State, and local erosion and sediment control requirements. I am aware that false statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law."

Name (please print): _____

Title: _____

Date: _____

Address: _____

Phone: _____

E-mail: _____

Signature: _____

MAINTENANCE OF TEMPORARY EROSION AND SEDIMENT CONTROL STRUCTURES:

NYS DEC GP-0-15-002 exposure restrictions - states that any exposed earthwork shall be stabilized in accordance with the guidelines of this plan.

- Trees and vegetation shall be protected at all times as shown on the detail drawing and as directed by the engineer.
- Care should be taken so as not to channel concentrated runoff through the areas of construction activity on the site.
- Fill and site disturbances should not be created which causes water to pond off site or on adjacent properties.
- Runoff from land disturbances shall not be discharged or have the potential to discharge off site without first being intercepted by a control structure, such as a sediment trap or silt fence. Sediment shall be removed before exceeding 50% of the retention structure's capacity.
- For finished grading, adequate grade shall be provided so that water will not pond on lawns for more than 24 hours after rainfall, except in swale flow areas which may drain for as long as 48 hours after rainfall.
- All swales and other areas of concentrated flow shall be properly stabilized with temporary control measures to prevent erosion and sediment travel. Surface flows over cut and fill areas shall be stabilized at all times.
- All sites shall be stabilized with erosion control materials within 7 days of final grading.
- Temporary sediment trapping devices shall be removed from the site within 30 days of final stabilization.

MAINTENANCE SCHEDULE:

	DAILY	WEEKLY	MONTHLY	AFTER RAINFALL	NECESSARY TO MAINTAIN FUNCTION	AFTER APPROVAL OF INSPECTOR
SILT FENCE	---	----	INSP.	INSP.	CLEAN/ REPLACE	REMOVE
WHEEL CLEANER	CLEAN	----	----	----	REPLACE	REMOVE
INLET PROTECTION	---	INSP.	INSP.	CLEAN	REPLACE	REMOVE

MAINTENANCE OF PERMANENT CONTROL STRUCTURES DURING CONSTRUCTION: The stormwater management system and outlet structure shall be inspected on a regular basis and after every rainfall event. Sediment build up shall be removed from the inlet protection regularly to insure detention capacity and proper drainage. Outlet structure shall be free of obstructions. All piping and drain inlets shall be free of obstruction. Any sediment build up shall be removed.

MAINTENANCE OF CONTROLS AFTER CONSTRUCTION:

Controls (including respective outlet structures) should be inspected periodically for the first few months after construction and on an annual basis thereafter. They should also be inspected after major storm events.

DEBRIS AND LITTER REMOVAL:

Twice a year, inspect outlet structure and drain inlets for accumulated debris. Also, remove any accumulations during each mowing operation.

STRUCTURAL REPAIR/REPLACEMENT:

Outlet structure must be inspected twice a year for evidence of structural damage and repaired immediately.

Unstable areas tributary to the basin shall immediately be stabilized with vegetation or other appropriate erosion control measures.

SEDIMENT REMOVAL:

Sediment should be removed after it has reached a maximum depth of five inches above the stormwater management system floor.

TOPSOIL:

Existing topsoil will be removed and stored in piles sufficiently as to avoid mixing with other excavation. Stockpiles shall be surrounded by erosion control as outlined on these plans. The furnishing of new topsoil shall be of a better or equal to the following criteria (SS713.01 NYSDOT):

- The pH of the material shall be 5.5 to 7.6.
- The organic content shall not be less than 2% or more than 70%.
- Gradation:

SIEVE SIZE	% PASSING BY WGT.
2 INCH	100
1 INCH	85 TO 100
1/4 INCH	65 TO 100
NO. 200 MESH	20 TO 80

PERMANENT VEGETATIVE COVER:

- Site preparation:
 - Install erosion control measures.
 - Scarify compacted soil areas.
 - Lime as required to pH 6.5.
 - Fertilize with 10-6-4 - 4 lbs/1,000 S.F.
 - Incorporate amendments into soil with disc harrow.
- Seed mixtures for use on swales and cut and fill areas.

MIXTURE	LBS./ACRE
ALT. A	
KENTUCKY BLUE GRASS	20
CREeping RED FESCUE	28
RYE GRASS OR REDTOP	5
ALT. B	
CREeping RED FESCUE	20
REDTOP	2
TALL FESCUE/SMOOTH BLOOMGRASS	20
- SEEDING
 - Prepare seed bed by raking to remove stones, twigs, roots and other foreign material.
 - Apply soil amendments and integrate into soil.
 - Apply seed uniformly by cyclone seeder culti-packer or hydro-seeder at rate indicated.
 - Stabilize seeded areas in drainage swales.
 - Irrigate to fully saturate soil layer, but not to dislodge planting soil.
 - Seed between April 1st and May 15th or August 15th and October 15th.
 - Seeding may occur May 15th and August 15th if adequate irrigation is provided.

TEMPORARY VEGETATIVE COVER:

SITE PREPARATION:

- Install erosion control measures.
- Scarify areas of compacted soil.
- Fertilize with 10-10-10 at 400/acre.
- Lime as required to pH 6.5.

SEED SPECIES:

MIXTURE	LBS./ACRE
Rapidly germinating annual ryegrass (or approved equal)	20
Perennial ryegrass	20
Cereal oats	36

SEEDING:

Same as permanent vegetative cover

CONTRACTOR CERTIFICATION STATEMENT

Certification Statement - All contractors and subcontractors as identified in a SWPPP, by the Owner or Operator, in accordance with Part III.A.5 of the SPDES General Permit for Stormwater Runoff from Construction Activity, GP-0-15-002, dated January 12, 2015, Page 10 of 40, shall sign a copy of the following Certification Statement before undertaking any construction activity at the Site identified in the SWPPP:

"I hereby certify that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the Qualified Inspector during a site inspection. I also understand that the Owner or Operator must comply with the terms and conditions of the New York State Pollutant Discharge Elimination System ("SPDES") General Permit for Stormwater Discharge from Construction Activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings."

Individual Contractor: _____

Name and Title (please print): _____

Signature of Contractor: _____

Company / Contracting Firm: _____

Name of Company: _____

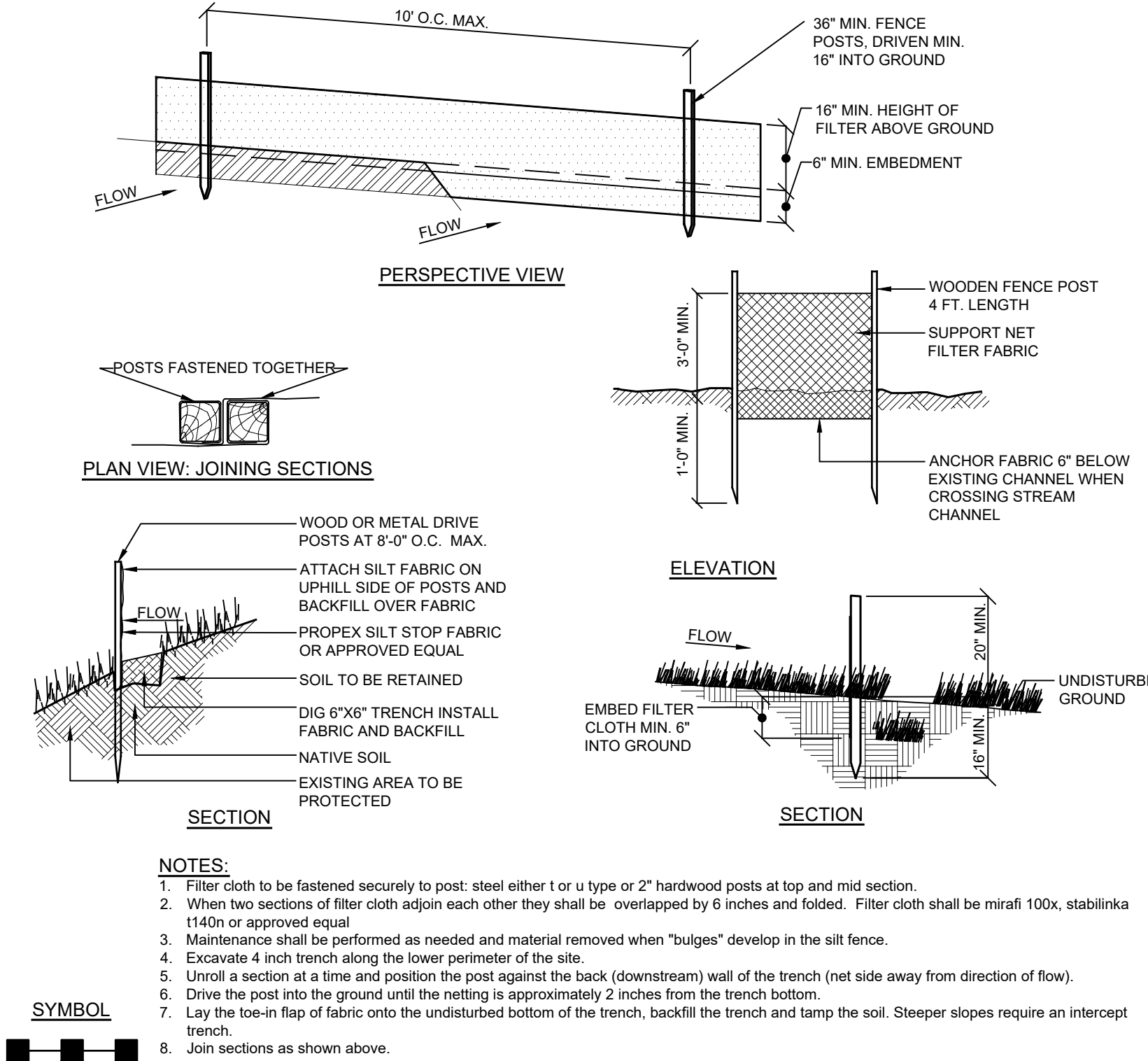
Address of Company: _____

Telephone Number / Cell Number: _____

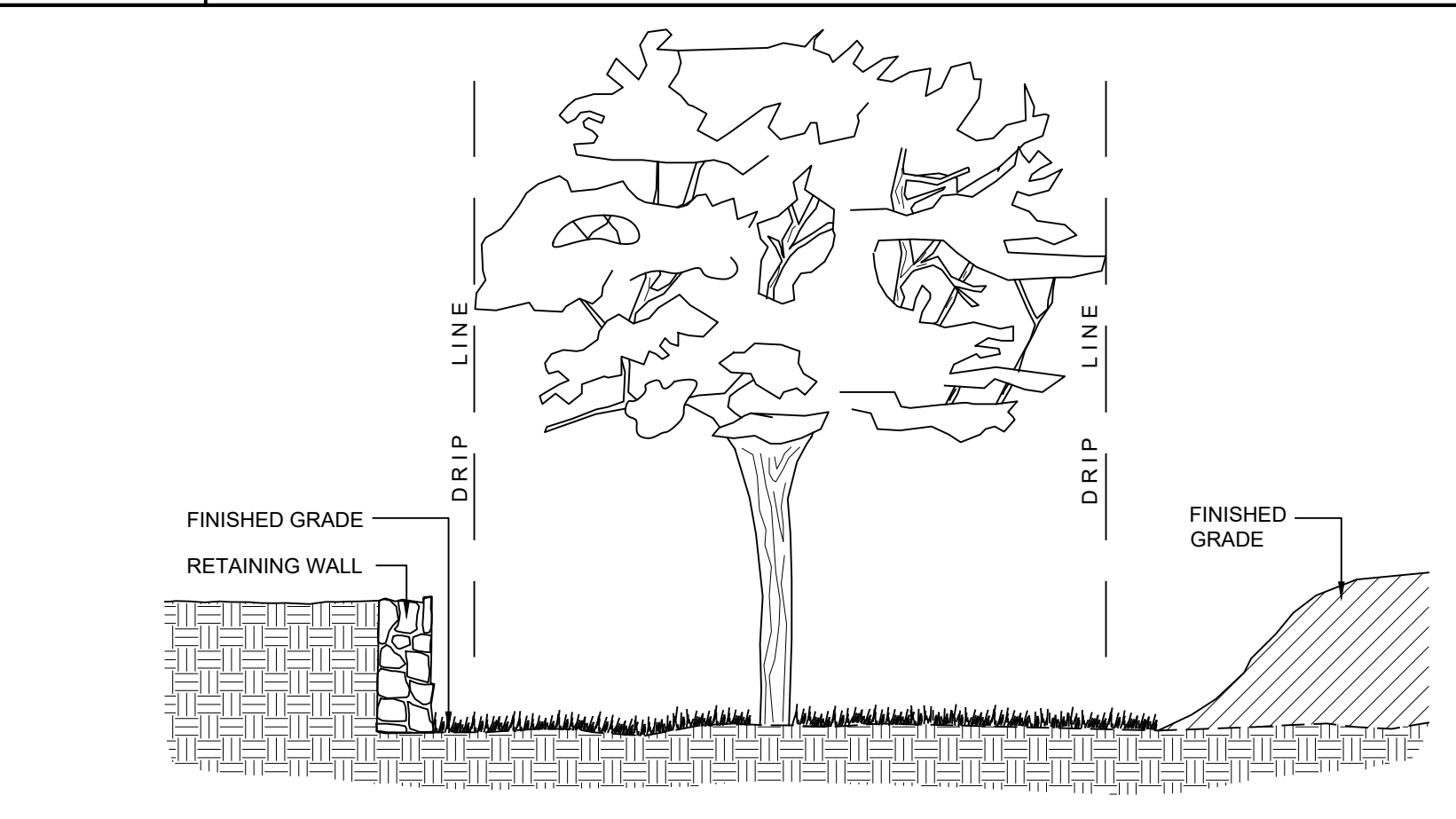
Site Information: _____

Address of Site: _____

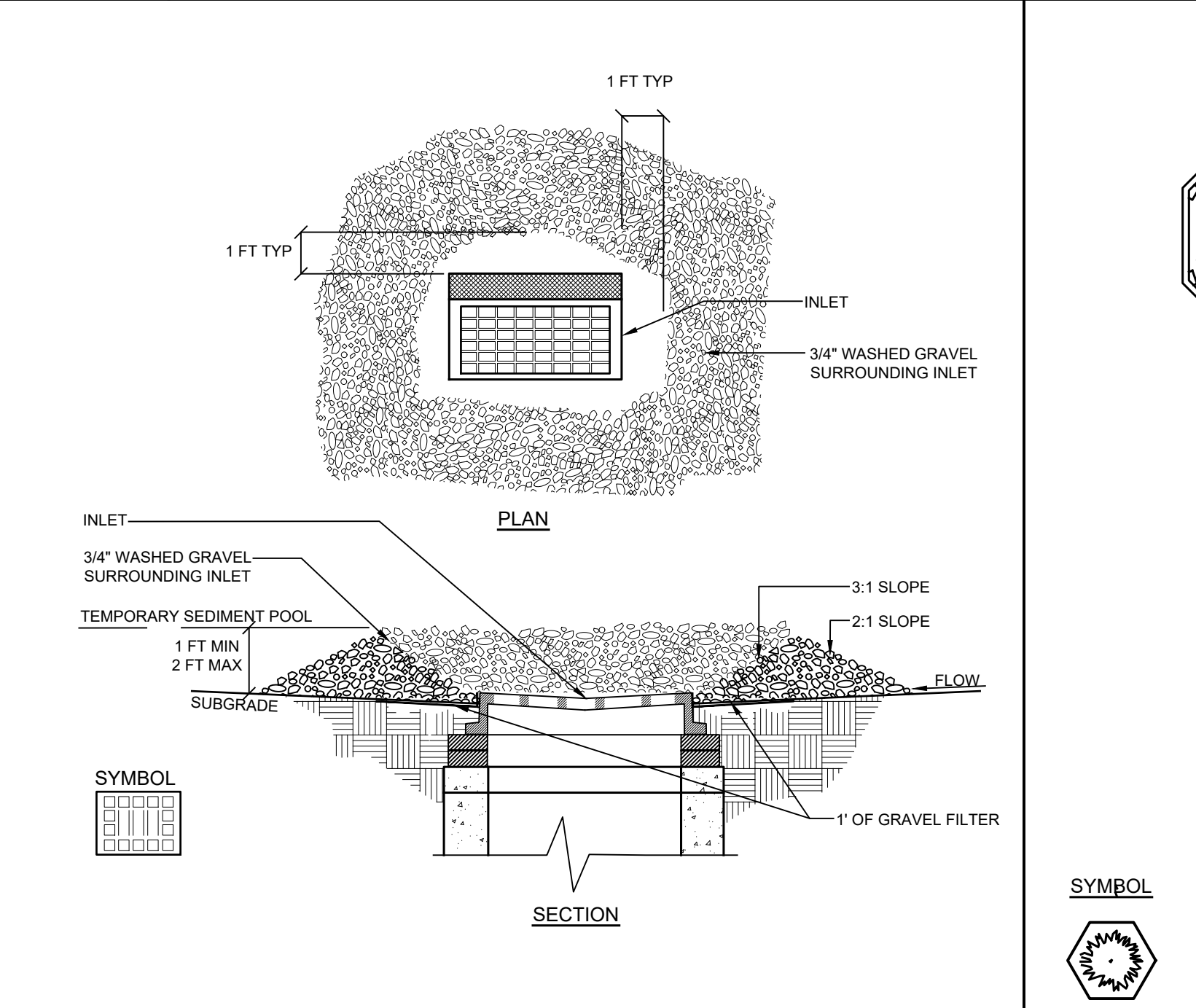
Today's Date: _____



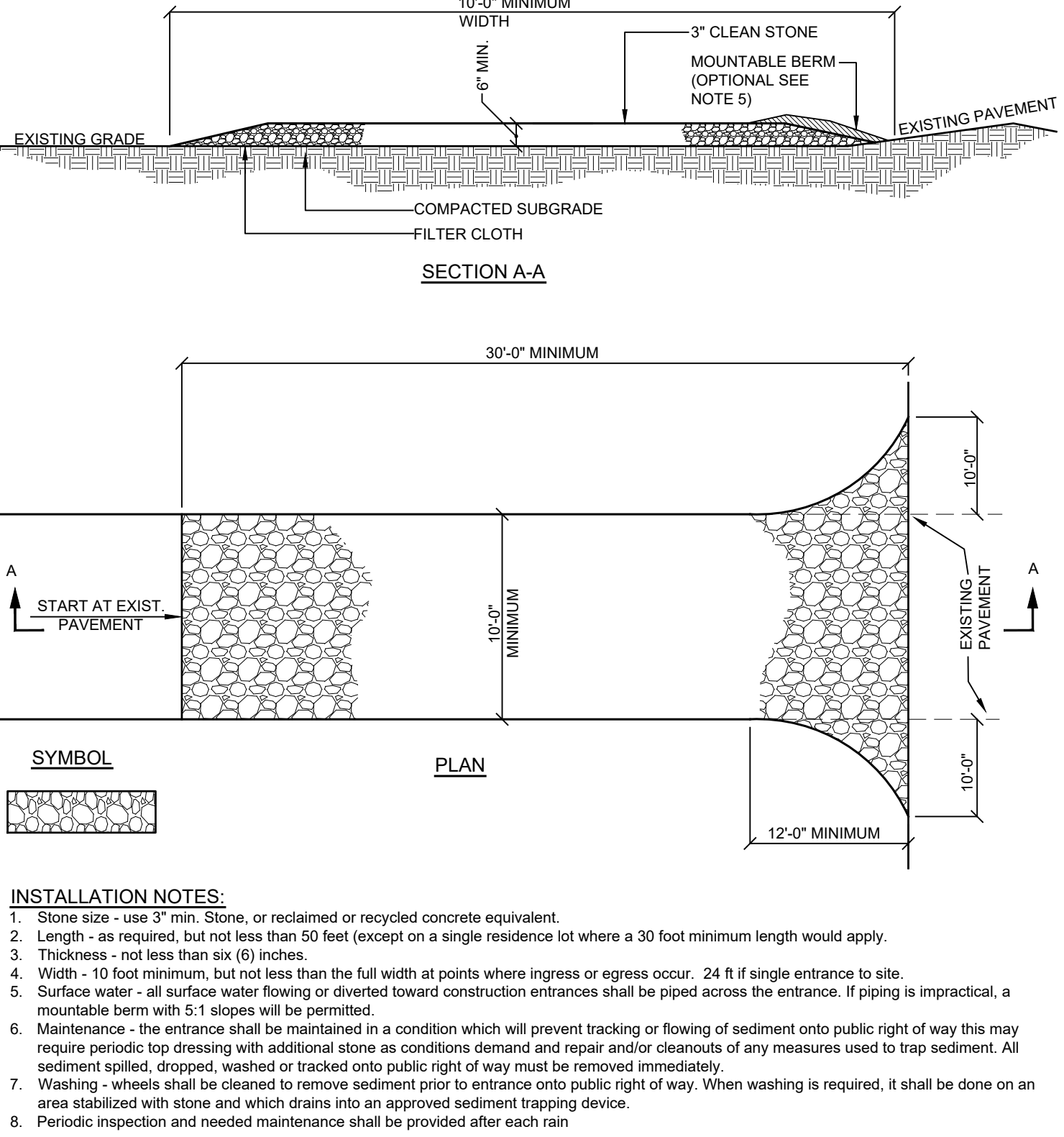
E-1 SILT FENCE DETAIL NOT TO SCALE



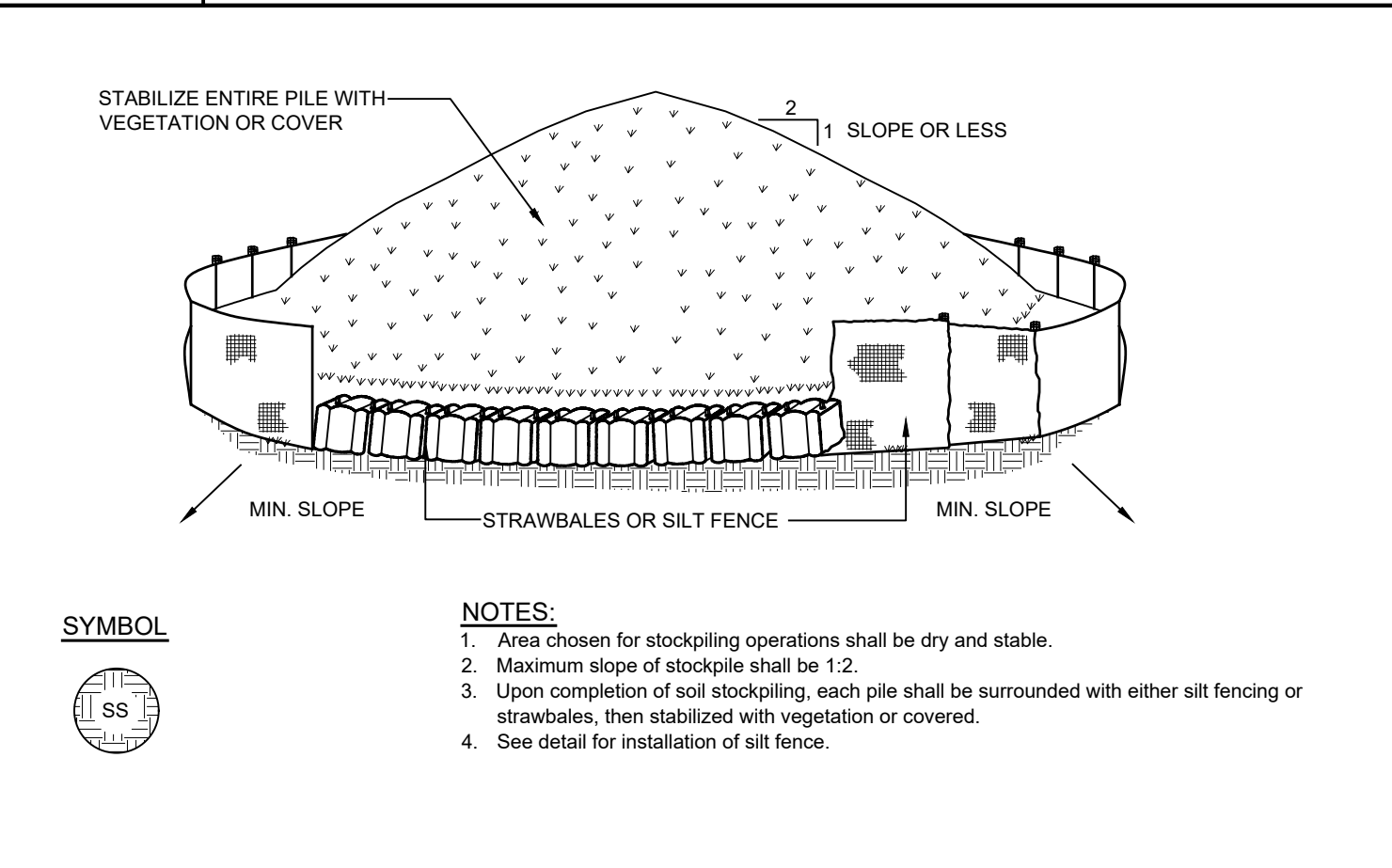
E-3 TREE PROTECTION PLAN FOR GRADE CHANGE DETAIL NOT TO SCALE



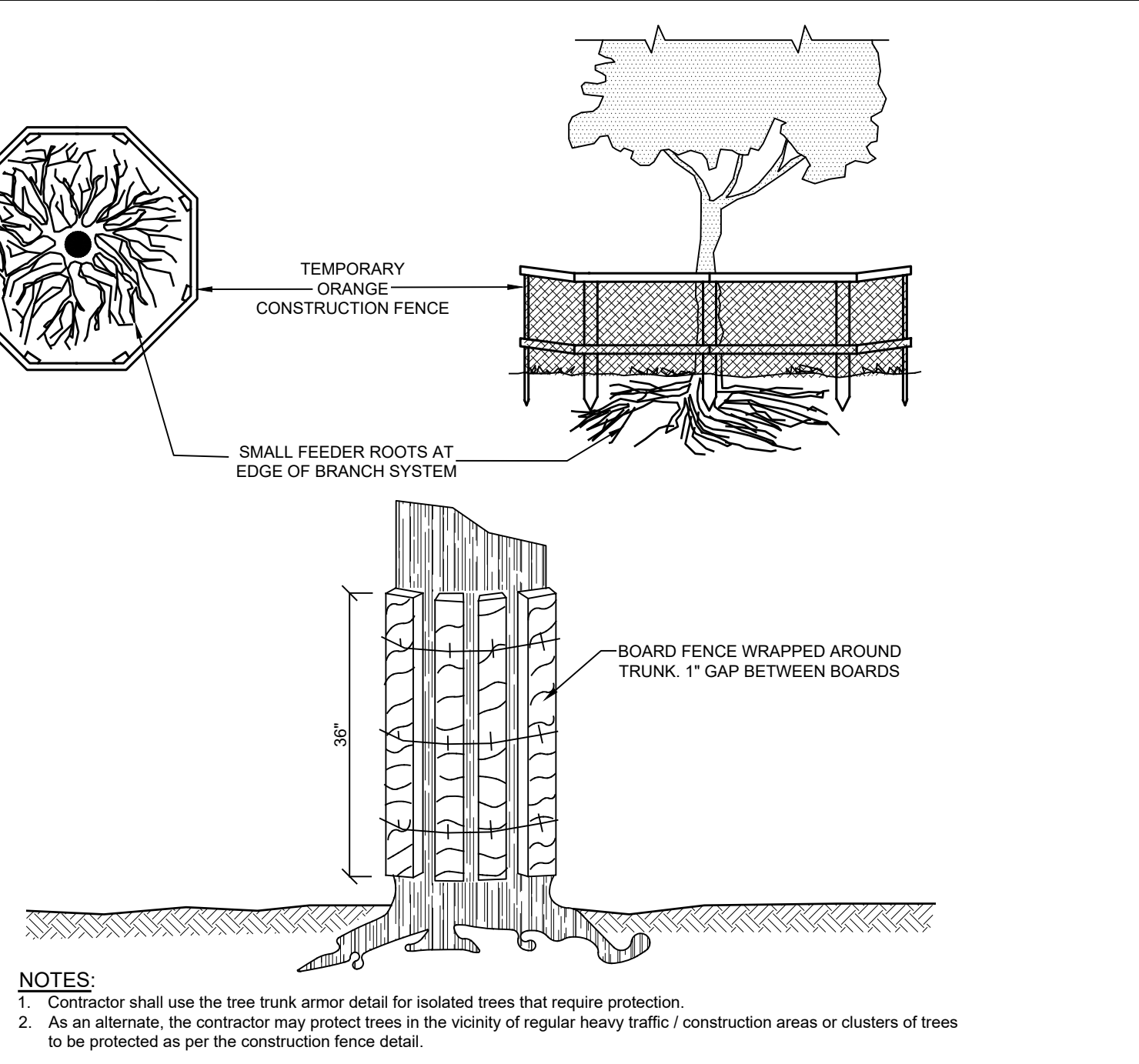
E-5 INLET PROTECTION DETAIL NOT TO SCALE



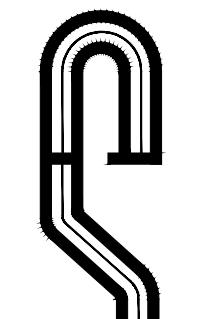
E-2 STABILIZED CONSTRUCTION ENTRANCE DETAIL NOT TO SCALE



E-4 SOIL STOCKPILE DETAIL NOT TO SCALE



E-6 TREE TRUNK ARMOR / TREE PROTECTION DETAIL NOT TO SCALE



PROJECT # 18-13

Site Design Consultants

Civil Engineers • Land Planners

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www.sitedesignconsultants.com

Engineer:

Joseph C. Riina, P.E.

NYS Lic. No. 64431

Revisions:	No.	Date	Comments:
	1	5/2/18	Plan Revisions
	2	5/25/18	Town Comments
	3	6/11/18	Town Comments
	4	8/29/18	Town Comments
	5	8/29/18	Town Comments
	6	8/29/18	Amended Site Plan
	7	9/27/21	Amended Site Plan
	8	10/28/21	Town Comments
	9	11/18/21	Town Comments

SCALE: NTS

DRAWN BY: TK

DATE: 3/21/18

E&SC DETAILS

AMENDED SITE PARKING PLAN PREPARED FOR

ARMSTRONG PLUMBING LLC

593 NORTH STATE ROAD

Town of Ossining

Westchester County, NY

Sheet 8 of 11

NOTES:

1. All design specifications for Stormtech SC-740 chambers shall be in accordance with the Stormtech design manual.
2. The installation of Stormtech SC-740 chambers shall be in accordance with the latest Stormtech installation instructions.
3. The contractor is advised to review and understand the installation instructions prior to beginning system installation. Call 1-888-892-2694 or visit www.stormtech.com to receive a copy of the latest Stormtech installation instructions.
4. Chambers shall meet the design requirements and load factors specified in Section 12.12 of the latest edition of the AASHTO LRFD bridge design specifications

SC-740 TECHNICAL SPECIFICATION

NTS

90.7" (2304 mm) ACTUAL LENGTH

85.4" (2169 mm) INSTALLED LENGTH

⇨ BUILD ROW IN THIS DIRECTION

START END

OVERLAP NEXT CHAMBER HERE (OVER SMALL CORRUGATION)

ACCEPTS 4" (100 mm) SCH 40 PVC PIPE FOR INSPECTION PORT FOR PIPE SIZES LARGER THAN 4" (100 mm) UP TO 10" (250 mm) USE INSERTA TEE CONNECTION CENTERED ON A CHAMBER CREST CORRUGATION

29.3" (744 mm)

45.9" (1166 mm)

12.2" (310 mm)

51.0" X 30.0" X 85.4" (1295 mm X 762 mm X 2169 mm)

45.9 CUBIC FEET (1.30 m³)

74.9 CUBIC FEET (2.12 m³)

75.0 lbs. (33.6 kg)

30.0" (762 mm)

51.0" (1295 mm)

NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)

CHAMBER STORAGE

MINIMUM INSTALLED STORAGE*

WEIGHT

*ASSUMES 6" (152 mm) STONE ABOVE, BELOW, AND BETWEEN CHAMBERS

STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"

STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"

A

B

C

PART #	STUB	A	B	C
SC740EPE06T / SC740EPE06TPC	6" (150 mm)	10.9" (277 mm)	18.5" (470 mm)	---
SC740EPE06B / SC740EPE06BPC	---	---	---	0.5" (13 mm)
SC740EPE08T / SC740EPE08TPC	8" (200 mm)	12.2" (310 mm)	16.5" (419 mm)	---
SC740EPE08B / SC740EPE08BPC	---	---	---	0.6" (15 mm)

ALL STUBS, EXCEPT FOR SC740EPE24B ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END OF CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

* FOR THE SC740EPE24B THE 24" (600 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 1.75" (44 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

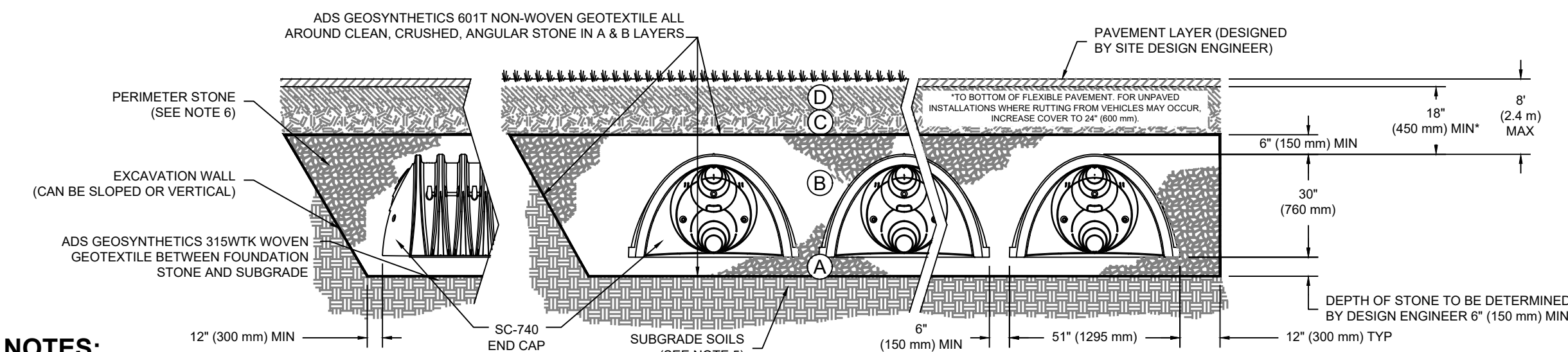
NOTE: ALL DIMENSIONS ARE NOMINAL

ACCEPTABLE FILL MATERIALS: STORMTECH SC-310 CHAMBER SYSTEMS

	MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145' A-1, A-2.4, A-3 OR AASHTO M33' 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 4" (100 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 LBS (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbf (89 kN).
B	EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE, NOMINAL SIZE DISTRIBUTION BETWEEN 3/4-2 INCH (20-50 mm)	AASHTO M33' 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE, NOMINAL SIZE DISTRIBUTION BETWEEN 3/4-2 INCH (20-50 mm)	AASHTO M33' 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. ^{1,2}

PLEASE NOTE:

1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR M4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. THE LISTED AASHTO REQUIREMENTS ARE FOR MATS ONLY. LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 150 MM (6 IN.) MAX. LIFTS. USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.



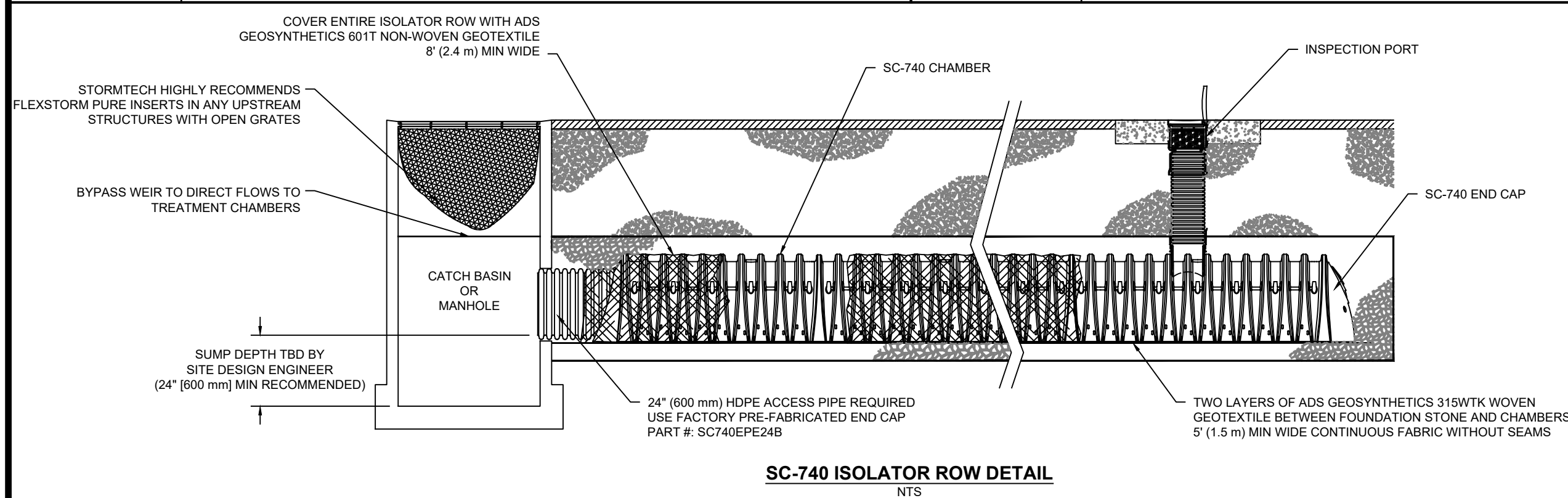
NOTES:

1. SC-310 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS", OR ASTM F2322 "STANDARD SPECIFICATION FOR POLYETHYLENE (PE) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. SC-310 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. MATERIALS LISTED ABOVE PROVIDES MATERIAL, LOCATIONS, DESCRIPTIONS, GRADATIONS, AND CONNECTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
4. THE "SITE DESIGN ENGINEER" REFERS TO THE ENGINEER RESPONSIBLE FOR THE DESIGN AND LAYOUT OF THE STORMTCH CHAMBERS FOR THIS PROJECT.
5. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
6. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
7. ONCE LAYER 'C' IS PLACED, ANY SOLI/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST MOVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.

SWM-1

STORMTECH SC-740 CHAMBER SYSTEM PLAN VIEW DETAIL

NOT TO SCALE



SWM-2

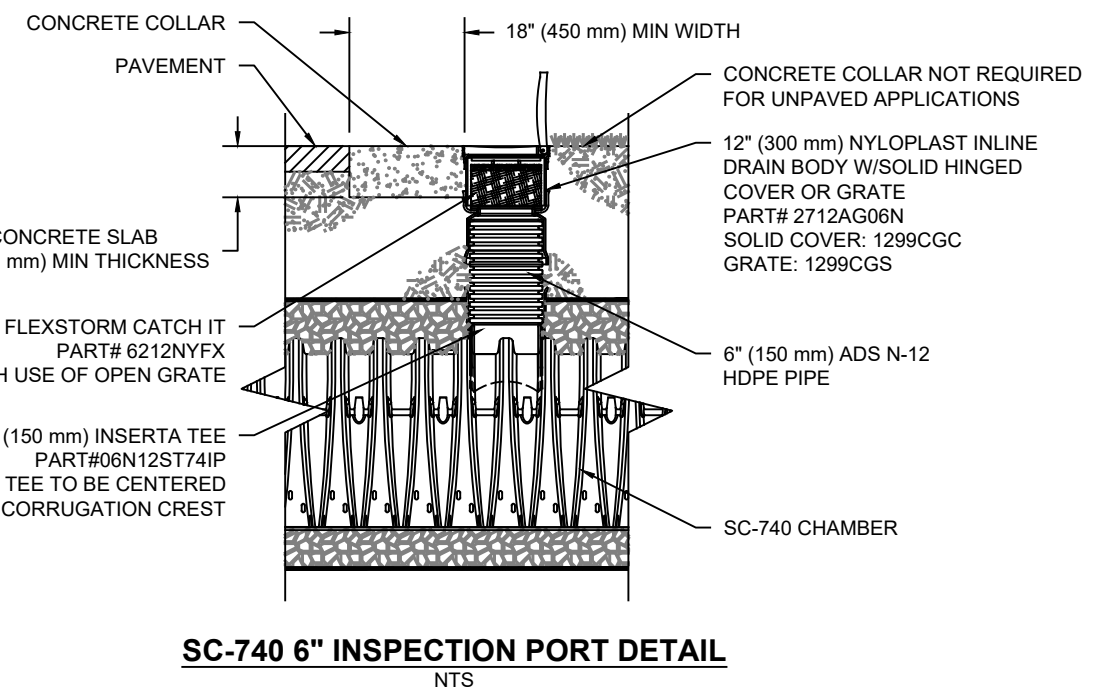
STORMTECH SC-740 CHAMBER DETAIL

NOT TO SCALE

SWM-3

STORMTECH SC-740 CROSS SECTION DETAIL

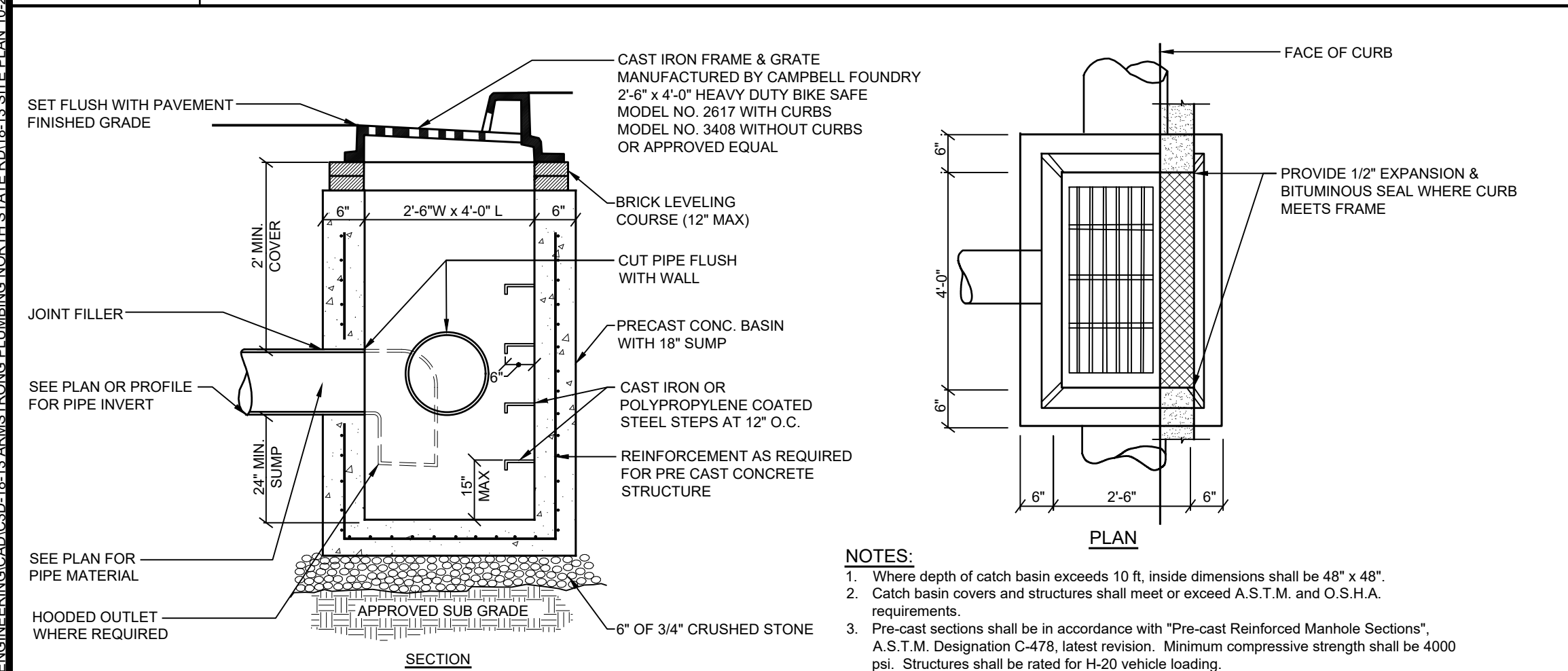
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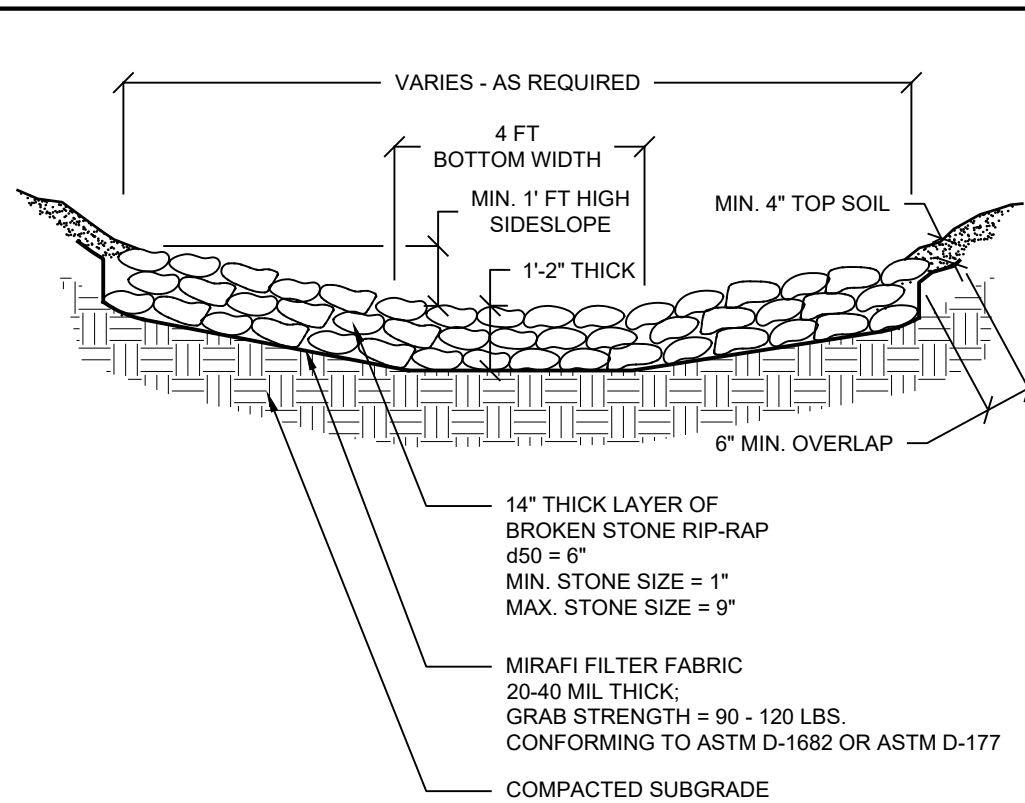
SWM-4

STORMTECH SC-740 CHAMBER DETENTION ISOLATOR ROW DETAIL

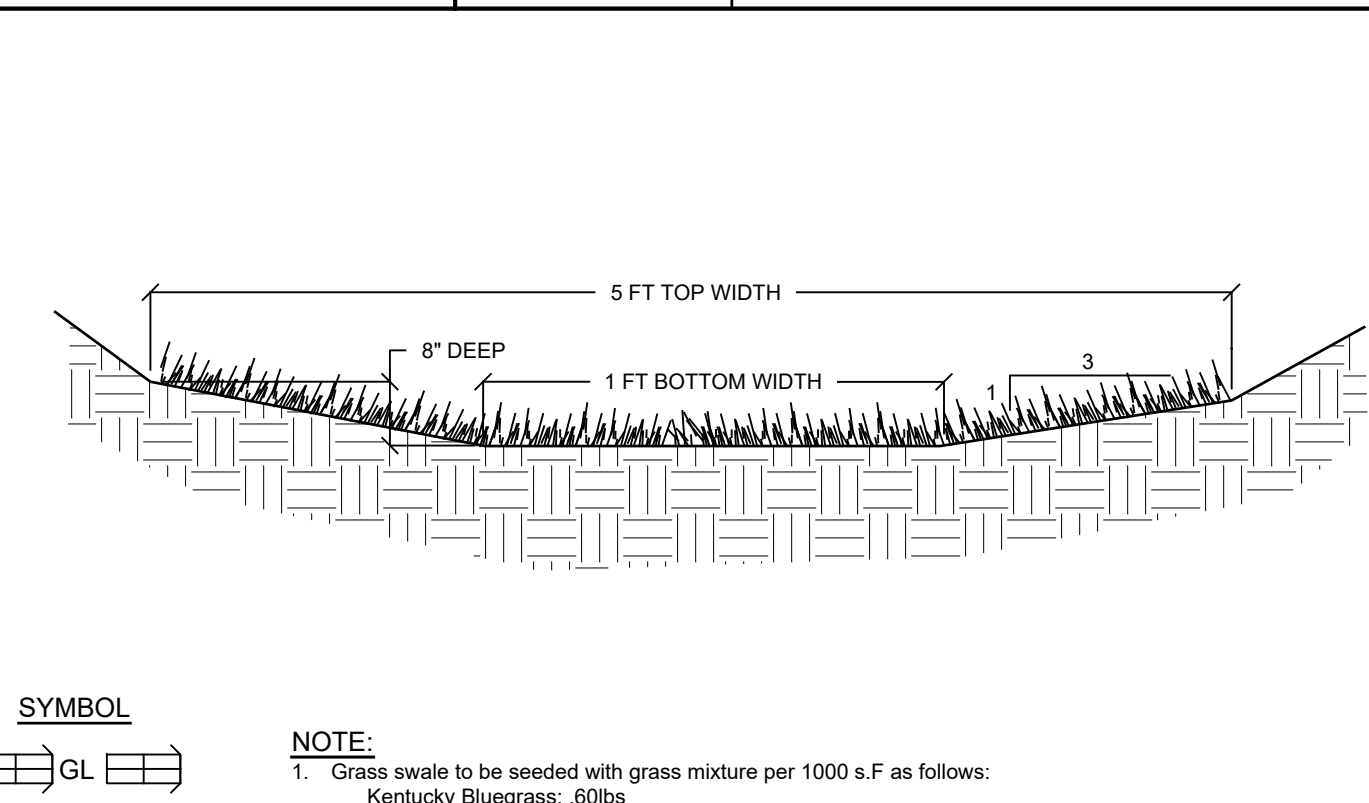
NOT TO SCALE



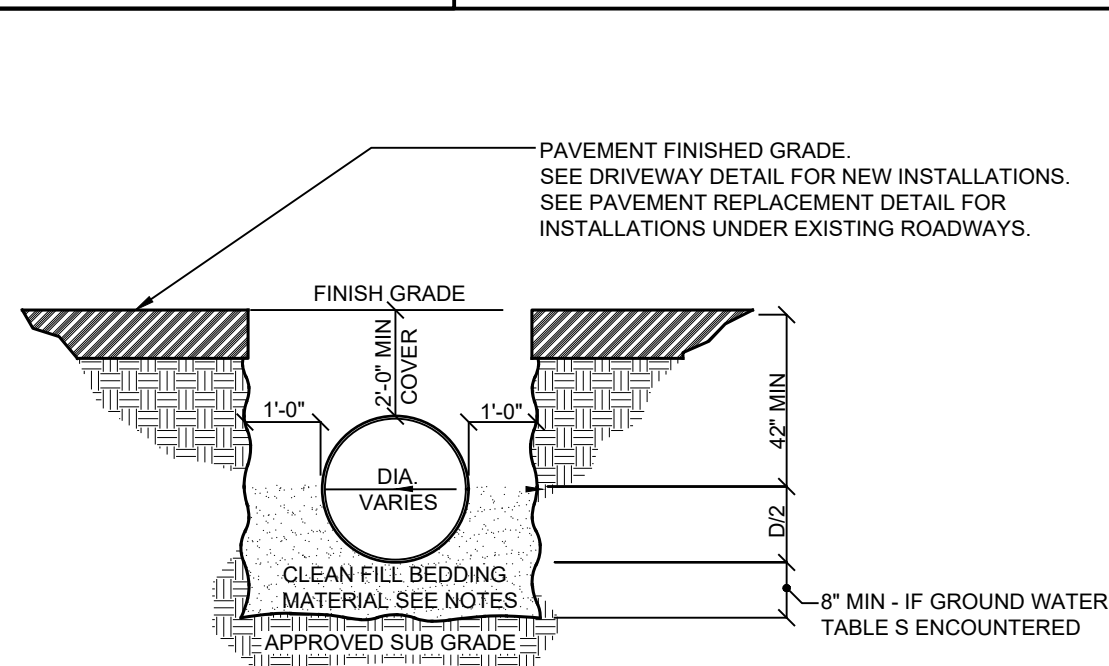
- NOTES:**
1. Where depth of catch basin exceeds 10 ft, inside dimensions shall be 48" x 48".
 2. Catch basin covers and structures shall meet or exceed A.S.T.M. and O.S.H.A. requirements.
 3. Pre-cast sections shall be in accordance with "Pre-cast Reinforced Manhole Sections", A.S.T.M. Designation C-478, latest revision. Minimum compressive strength shall be 4000 psi. Structures shall be rated for H-20 vehicle loading.



- NOTES:**
1. The foundation area shall be cleared of trees, stumps, soil, loose rock, or other objectionable materials.
 2. The cross section shall be excavated to the neat lines and grades shown on the plans. Over excavated areas shall be backfilled with moist soil compacted to the density of the surrounding material.
 3. Filter, bedding, and rock riprap shall be placed to line and grade in the manner specified.
 4. No abrupt deviations from design grade or horizontal alignment shall be permitted.
 5. Construction operations shall be done in such a manner that erosion, air and water pollution will be minimized and held within legal limits. All disturbed areas shall be vegetated or otherwise protected against soil erosion.



- NOTE:**
1. Grass swale to be seeded with grass mixture per 1000 s.f. as follows:
Kentucky Bluegrass: 20lbs
Creeping Red Fescue: 50 lbs
Perennial Ryegrass: 20lbs
 2. The foundation area shall be cleared of trees, stumps, soil, loose rock, or other objectionable materials.
 3. The cross section shall be excavated to the neat lines and grades shown on the plans. Over excavated areas shall be backfilled with moist soil compacted to the density of the surrounding material.
 4. No abrupt deviations from design grade or horizontal alignment shall be permitted.
 5. Construction operations shall be done in such a manner that erosion, air and water pollution will be minimized and held within legal limits. All disturbed areas shall be vegetated or otherwise protected against soil erosion.



- NOTES:**
1. Pipe shall be laid and connected in the bedding which shall consist of:
 - A. Compacted existing subsoil when laid above ground water or;
 - B. 3/4" crushed stone when laid below ground water.
 2. If subsoil is determined to be unsuitable by the Engineer, all unsuitable material shall be removed for at least 2'-6" below the pipe invert or twice the pipe diameter, whichever is greater, and replaced with compacted bedding material.

D-1

TYPICAL CATCH BASIN DETAIL

NOT TO SCALE

D-2

RIP-RAP OVERFLOW CHANNEL DETAIL

NOT TO SCALE

D-3

GRASS SWALE DETAIL

NOT TO SCALE

D-4

STORM PIPE BEDDING DETAIL

NOT TO SCALE

AMENDED SITE PARKING PLAN PREPARED FOR ARMSTRONG PLUMBING LLC 593 NORTH STATE ROAD Town of Ossining Westchester County, NY		Sheet 10 of 11																																				
<h1 style="margin: 0;">STORMWATER MANAGEMENT DETAILS</h1>																																						
SCALE: NTS	Revisions: <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 5px;"> <tr> <th style="width: 10%;">No.</th> <th style="width: 20%;">Date</th> <th style="width: 70%;">Comments</th> </tr> <tr><td>1</td><td>8/18/18</td><td>Plan Revisions</td></tr> <tr><td>2</td><td>8/25/18</td><td>Town Comments</td></tr> <tr><td>3</td><td>6/11/18</td><td>Town Comments</td></tr> <tr><td>4</td><td>7/6/18</td><td>Town Comments</td></tr> <tr><td>5</td><td>8/29/18</td><td>Town Comments</td></tr> <tr><td>6</td><td>8/23/21</td><td>Amended Site Plan</td></tr> <tr><td>7</td><td>9/27/21</td><td>Amended Site Plan</td></tr> <tr><td>8</td><td>11/18/21</td><td>Town Comments</td></tr> <tr><td>9</td><td>11/18/21</td><td>Town Comments</td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </table>	No.	Date	Comments	1	8/18/18	Plan Revisions	2	8/25/18	Town Comments	3	6/11/18	Town Comments	4	7/6/18	Town Comments	5	8/29/18	Town Comments	6	8/23/21	Amended Site Plan	7	9/27/21	Amended Site Plan	8	11/18/21	Town Comments	9	11/18/21	Town Comments							DATE: 3/21/18
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Site Design Consultants

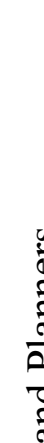
Civil Engineers • Land Planners

251-F Underhill Avenue, Yorktown Heights, NY 10598

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PROJECT # 18-13



Engineer: **Joseph C. Rima, P.E.**
NYS Lic. No. 64431

Operation

Introduction

The Downstream Defender® operates on simple fluid hydraulics. It is self-activating, has no moving parts, no external power requirement and is manufactured from durable non-corrosive components. No manual procedures are required to operate the unit and maintenance is limited to monitoring accumulations of stored pollutants and periodic clean-outs. The Downstream Defender® has been designed to allow for easy and safe access for inspection/monitoring and clean-out procedures. Entry into the unit or removal of the internal components is not necessary for maintenance, thus safety concerns related to confined-space-entry are avoided.

Pollutant Capture and Retention

The internal components of the Downstream Defender® have been designed to protect the oil/floatables and sediment storage volumes so that separator performance is not reduced as pollutants accumulate between clean-outs (Fig.2). The Downstream Defender® vessel remains wet between storm events. Oil and floatables are stored on the water surface in the outer annulus separate from the sediment storage volume in the sump of the unit providing the option for separate oil disposal, and accessories such as adsorbent pads. Since the oil/floatables and sediment storage volumes are isolated from the active separation region, the potential for re-suspension and washout of stored pollutants between clean-outs is minimized.

Wet Sump

The sump of the Downstream Defender® retains a standing water

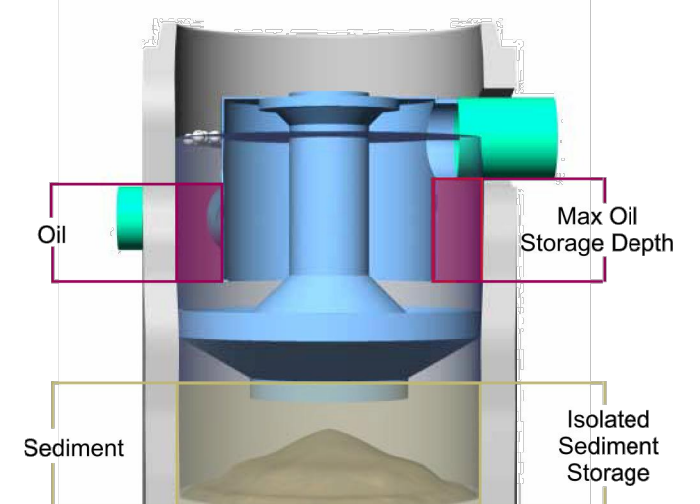


Fig.2 Pollutant storage volumes of the Downstream Defender®.

Hydro International (Stormwater), 94 Hutchins Drive, Portland ME 04102
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Fig.4



Fig.5



Fig.6

Inspection Procedures

- Set up any necessary safety equipment around the access port or grate of the Downstream Defender® as stipulated by local ordinances. Safety equipment should notify passing pedestrian and road traffic that work is being done.
- Remove the lids to the manhole (Fig. 4). NOTE: The 4-ft (1.2m) Downstream Defender® will only have one lid.
- Without entering the vessel, look down into the chamber to inspect the inside. Make note of any irregularities. See Fig.7 and 8 for typical inspection views.
- Without entering the vessel, use the pole with the skimmer net to remove floatables and loose debris from the outer annulus of the chamber.
- Using a sediment probe such as a Sludge Judge®, measure the depth of sediment that has collected in the sump of the vessel (Fig.5).
- On the Maintenance Log (see page 9), record the date, unit location, estimated volume of floatables and gross debris removed, and the depth of sediment measured. Also note any apparent irregularities such as damaged components or blockages.



Fig.7 View over center shaft into sediment storage zone.



Fig.8 View of outer annulus of floatables and oil collection zone.

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The Downstream Defender® allows for easy and safe inspection, monitoring and clean-out procedures. A commercially or municipally owned sump-vac is used to remove captured sediment and floatables. Access ports are located in the top of the manhole. On the 6-ft (1.8m), 8-ft (2.4m), 10-ft (3.0m) and 12-ft (3.7m) units, the floatables access port is above the outlet pipe between the concrete manhole wall and the dip plate. The sediment removal access ports for all Downstream Defender® models are located directly over the hollow center shaft.

Maintenance events may include Inspection, Oil & Floatables Removal, and Sediment Removal. Maintenance events do not require entry into the Downstream Defender®, nor do they require the internal components of the Downstream Defender® to be removed. In the case of inspection and floatables removal, a vactor truck is not required. However, a vactor truck is required if the maintenance event is to include oil removal and/or sediment removal.

Determining Your Maintenance Schedule

The frequency of cleanout is determined in the field after installation. During the first year of operation, the unit should be inspected every six months to determine the rate of sediment and floatables accumulation. A simple probe such as a Sludge Judge® can be used to determine the level of accumulated solids stored in the sump. This information can be recorded in the maintenance log (see page 9) to establish a routine maintenance schedule.

The vactor procedure, including both sediment and oil/floatables removal, for a 6-ft (1.8m) Downstream Defender® typically takes less than 30 minutes and removes a combined water/oil volume of about 500 gallons (1900 liters).

Table 1. Downstream Defender® Pollutant Storage Capacities and Max. Cleanout Depths.

Unit Diameter		Total Oil Storage		Oil Clean-out Depth		Total Sediment Storage		Sediment Clean-out Depth		Max. Liquid Volume Removed	
(ft)	(m)	(gal)	(L)	(in)	(cm)	(yd³)	(m³)	(in)	(cm)	(gal)	(L)
4	1.2	70	265	<16	<41	0.70	0.53	<18	<45	384	1,454
6	1.8	216	818	<23	<58	2.10	1.61	<24	<61	1,239	4,690
8	2.4	540	2,044	<33	<84	4.65	3.56	<30	<76	2,884	10,917
10	3.0	1,050	3,975	<42	<107	8.70	6.65	<36	<91	5,546	20,994
12	3.7	1,770	6,700	<49	<125	14.70	11.24	<42	<107	9,460	35,810

NOTES

- Refer to Downstream Defender® Clean-out Detail (Fig.2) for measurement of depths.
- Oil accumulation is typically less than sediment, however, removal of oil and sediment during the same service is recommended.
- Remove floatables first, then remove sediment storage volume.
- Sediment removal is not required unless sediment depths exceed 75% of maximum clean-out depths stated in Table 1.



Recommended Equipment

- Safety Equipment (traffic cones, etc.)
- Crow bar or other tool to remove grate or lid
- Pole with skimmer or net (if only floatables are being removed)
- Sediment probe (such as a Sludge Judge®)
- Vactor truck (6-inch/150mm diameter flexible hose recommended)
- Downstream Defender® Maintenance Log

Floatables and Sediment Clean Out Procedures

- Set up any necessary safety equipment around the access port or grate of the Downstream Defender® as stipulated by local ordinances. Safety equipment should notify passing pedestrian and road traffic that work is being done.
- Remove the lids to the manhole NOTE: The 4-ft (1.2m) Downstream Defender® will only have one lid.
- Without entering the vessel, look down into the chamber to inspect the inside. Make note of any irregularities.
- Using the Floatables Port for access, remove oil and floatables stored on the surface of the water with the vactor hose or the skimmer net (Fig.9, top).
- Using a sediment probe such as a Sludge Judge®, measure the depth of sediment that has collected in the sump of the vessel and record it in the Maintenance Log (Pg.9).
- Once all floatables have been removed, drop the vactor hose to the base of the sump via the Central Access Port. Vactor out the sediment and gross debris off the sump floor (Fig.6 and 9).

Maintenance at a Glance

Activity	Frequency
Inspection	- Regularly during first year of installation - Every 6 months after the first year of installation
Oil and Floatables Removal	- Once per year, with sediment removal - Following a spill in the drainage area
Sediment Removal	- Once per year or as needed - Following a spill in the drainage area

NOTE: For most cleanouts it is not necessary to remove the entire volume of liquid in the vessel. Only removing the first few inches of oils/floatables and the sediment storage volume is required.



Inspection Procedures

Inspection is a simple process that does not involve entry into the Downstream Defender®. Maintenance crews should be familiar with the Downstream Defender® and its components prior to inspection.

Scheduling

- It is important to inspect your Downstream Defender® every six months during the first year of operation to determine your site-specific rate of pollutant accumulation
- Typically, inspection may be conducted during any season of the year
- Sediment removal is not required unless sediment depths exceed 75% of maximum clean-out depths stated in Table 1
- Recommended Equipment
 - Safety Equipment and Personal Protective Equipment (traffic cones, work gloves, etc.)
 - Crow bar or other tool to remove grate or lid
 - Pole with skimmer or net
 - Sediment probe (such as a Sludge Judge®)
 - Trash bag for removed floatables
- Downstream Defender® Maintenance Log

PARTS LIST		
ITEM	DESCRIPTION	SIZE
1	PRECAST MANHOLE (BY HYDRO)	48"
2	MANHOLE LID, FRAME AND COVER	30"
3	INLET PIPE (BY ADS/OTHERS)	12"
4	OUTLET PIPE (BY ADS/OTHERS)	12"
4A	REDUCER/EXPANDER (NOT SHOWN FOR DETAIL)	18"x12"
5	PIPE COUPLING (BY ADS/OTHERS)	
6	LEDGER ANGLE	
7	SUPPORT FRAME	
8	DIP PLATE	
9	CENTER SHAFT & CONE	
10	BENCHING SKIRT	
11	MATERIALS & LABOR TO ACHIEVE FINAL GRADE (BY OTHERS)	

CAPACITIES

- PEAK TREATMENT FLOW: 3.0 CFS (85 US)
- SEDIMENT STORAGE CAPACITY: 0.70 YD³ (0.54 m³)
- OIL STORAGE CAPACITY: 70 GALLONS (265 LITERS)

ADDITIONAL DESIGN INFORMATION

- THE OUTLET PIPE STUB IS A ROTO-MOLDED PRODUCT WITH AN I.D. OF 12" THAT CANNOT BE MODIFIED. TO AVOID THE USE OF A REDUCER OR EXPANDER ON THE OUTLET A 12" OUTLET PIPE SHOULD BE USED IF POSSIBLE.
- ONLY SMALLER INLET PIPES MAY BE USED. THE INLET PIPE INVERT SHOULD BE PLACED ONE INLET PIPE DIAMETER BELOW THE OUTLET PIPE INVERT. THE I.D. OF THE INLET PIPE SHOULD BE PLACED TANGENT TO THE I.D. OF THE MANHOLE. HEADLOSS AT 3.0 CFS WITH A 12" INLET: 8" (203 mm). HEADLOSS WILL INCREASE WITH SMALLER INLET PIPES.
- SEDIMENT SHALL BE STORED IN A ZONE THAT IS ISOLATED FROM THE MAIN FLOW PATH AND PROTECTED FROM RE-ENTRAINMENT BY THE BENCHING SKIRT.

APPROVED BY:

SIGNED: _____ DATE: _____

TECHNICAL SERVICES
70 INWOOD ROAD, SUITE 3
ROCKY HILL, CT 06067
V: 866-892-2694
F: 866-328-8401

ARMSTRONG PLUMBING - NY
4' ONLINE DD - DETAILS

DATE: 05/25/2018 PROJECT: 91772
DRAWN: DWC SCALE: 1/4" = 1'
CHECKED: MRJ PAGE: 2 OF 3

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SIGNED: _____ DATE: _____

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ARMSTRONG PLUMBING - NY
4' ONLINE DD - PLAN VIEW

DATE: 05-27-2015 PROJECT: 91772
DRAWN: DWC SCALE: 1/4" = 1'
CHECKED: MRJ PAGE: 3 OF 3

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PROJECT # 18-13

Engineer: JOSEPH C. RINA, P.E.
NYS Lic. No. 64431

Revisions:	No.	Date	Comments
1	5/2/18	Plan Revisions	
2	5/25/18	Town Comments	
3	6/11/18	Town Comments	
4	8/29/18	Town Comments	
5	8/29/18	Town Comments	
6	8/23/21	Amended Site Plan	
7	9/27/21	Amended Site Plan	
8	10/28/21	Town Comments	
9	11/18/21	Town Comments	

SCALE: NTS
DRAWN BY: TK
DATE: 3/21/18

DOWNSIDE DEFENDER DETAILS

AMENDED SITE PARKING PLAN
PREPARED FOR
ARMSTRONG PLUMBING LLC
593 NORTH STATE ROAD
Town of Ossining
Westchester County, NY

Sheet 11 of 11

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