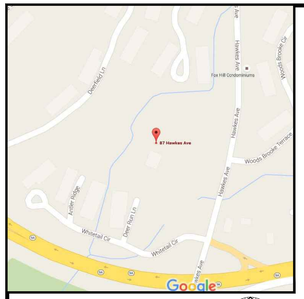
PARTH KNOLLS LLC.



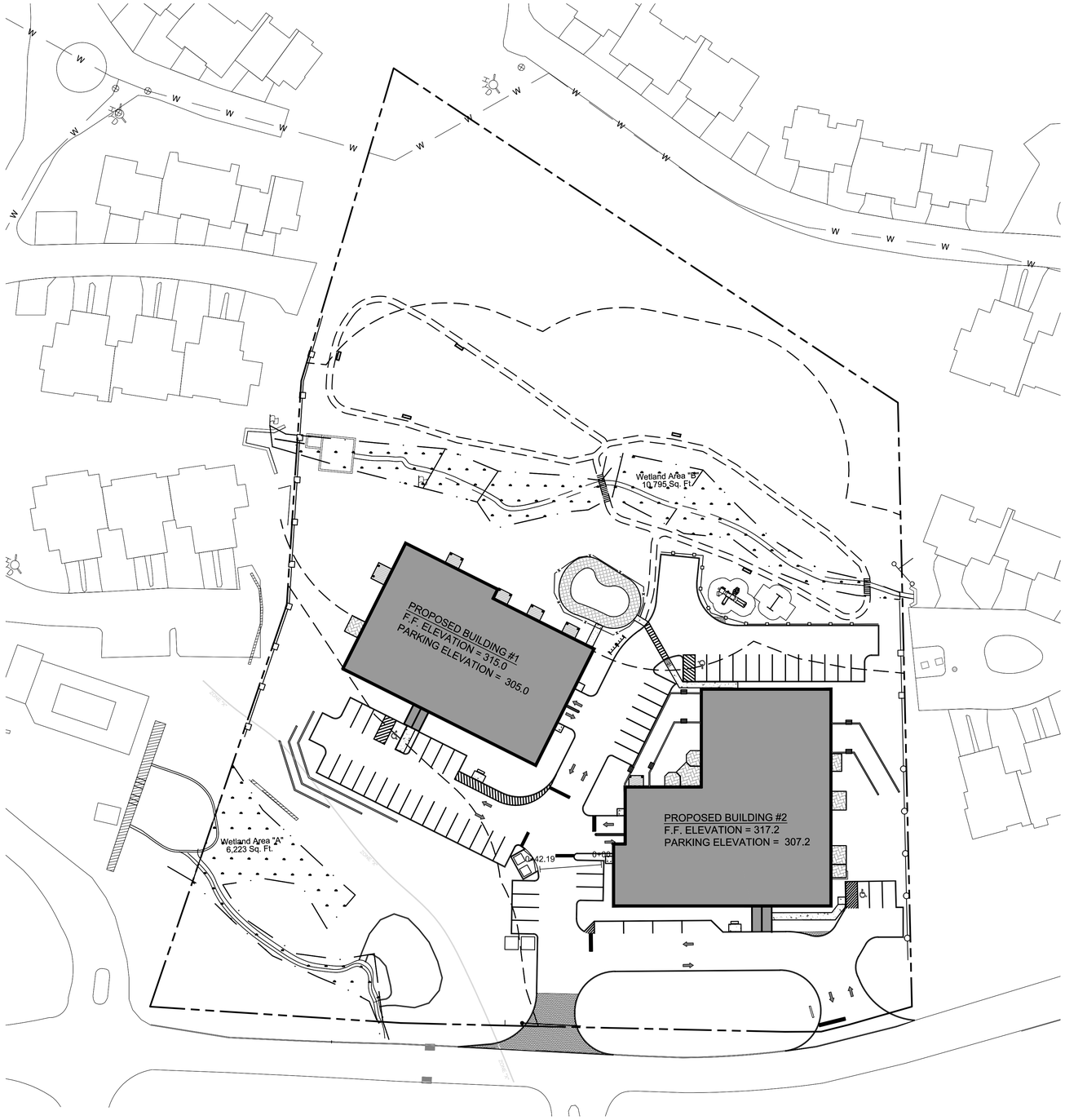
LOCATION MAP
NOT TO SCALE

SITE DATA:

OWNER/DEVELOPER:	PARTH KNOLLS LLC. 500 EXECUTIVE BLVD. #203 OSSINING, NY, 10562
PROJECT LOCATION:	87 HAWKES AVE. OSSINING, NY, 10562
EXISTING TOWN ZONING:	MF-I, MULTIFAMILY-INN
PROPOSED USE:	MF-I, MULTIFAMILY-INN
TOWN TAX MAP DATA:	SECTION 80.20, BLOCK 1, LOT 15
SITE AREA :	5.53 ACRES (240,751 SF)
SEWAGE FACILITIES:	PUBLIC SEWERS
WATER FACILITIES:	PUBLIC WATER FACILITIES

DRAWING INDEX:

SHEET NUMBER	DRAWING TITLE
T-1	TITLE SHEET
T-2	TITLE SHEET 2
C-101	SITE PLAN
C-102	EXISTING CONDITIONS PLAN
C-103	E&SC PLAN
C-104	UTILITY PLAN
C-105	WATERMAIN LOOP PLAN
C-106	GRADING PLAN
C-107	SIGHT DISTANCE PLAN
C-108	TREE PLAN
C-109	FIRE ACCESS PLAN
C-110	ENVIRONMENTAL CONSTRAINTS MAP
C-111	OPEN SPACE AND RECREATION PLAN
C-112	LIGHTING PLAN
C-301	UTILITY PROFILES
C-302	PROFILES
G-1	NOTES
G-2	E&SC NOTES
C-501	E&SC DETAILS
C-502	SITE DETAILS
C-503	WATERMAIN DETAILS
C-504	SANITARY SEWER DETAILS
C-505	DRAINAGE DETAILS
C-506	STORMWATER MANAGEMENT DETAILS
C-507	DOWNSTREAM DEFENDER DETAILS
C-508	CISTERN DETAILS
M-101	WETLAND BUFFER MITIGATION PLAN
M-102	BUFFER MITIGATION NOTES
L-101	LANDSCAPE PLAN
A-100	ZONING & CODE ANALYSIS
A-100A	SCHEMATIC BUILDING LAYOUT AND TABULATIONS
A-101	PROPOSED BUILDING #1 - BASEMENT FLOOR PLAN
A-102	PROPOSED BUILDING #1 - FIRST FLOOR PLAN
A-103	PROPOSED BUILDING #1 - SECOND FLOOR PLAN
A-104	PROPOSED BUILDING #1 - UPPER LEVEL FLOOR PLAN
A-105	PROPOSED BUILDING #1 - ROOF PLAN
A-106	PROPOSED BUILDING #1 - FRONT AND REAR ELEVATIONS
A-107	PROPOSED BUILDING #1 - LEFT AND RIGHT SIDE ELEVATIONS
A-201	PROPOSED BUILDING #2 - BASEMENT FLOOR PLAN
A-202	PROPOSED BUILDING #2 - FIRST FLOOR PLAN
A-203	PROPOSED BUILDING #2 - SECOND FLOOR PLAN
A-204	PROPOSED BUILDING #2 - UPPER LEVEL FLOOR PLAN
A-205	PROPOSED BUILDING #2 - ROOF PLAN
A-206	PROPOSED BUILDING #2 - FRONT AND REAR ELEVATIONS
A-207	PROPOSED BUILDING #2 - LEFT AND RIGHT SIDE ELEVATIONS



CIVIL ENGINEER:
SITE DESIGN CONSULTANTS
251-F UNDERHILL AVENUE
YORKTOWN HEIGHTS, NY 10598
P: 914 962 4488
F: 914 962 7386
jriina@sitedesignconsultants.com

SURVEYOR:
LINK LAND SURVEYORS
21 CLARK PLACE, SUITE 1B
MAHOPAC, NY 10541
P: 845-628-5857
F: 845-621-0013
www.linklandsurveyors.com

ENVIRONMENTAL CONSULTANT:
TIM MILLER ASSOCIATES INC.
10 NORTH STREET
COLD SPRING, NY 10516
P: 845-265-4400

TRAFFIC CONSULTANT:
TIM MILLER ASSOCIATES INC.
10 NORTH STREET
COLD SPRING, NY 10516
P: 845-265-4400

ARCHITECT:
ARQ.HT, LLC.
100 EXECUTIVE BLVD #205
OSSINING, NY 10562
P: 914-944-3377

0 20 40 80
SCALE: 1"=40'-0"

ZONING SCHEDULE:

ZONING DISTRICT:	MF-I, MULTI FAMILY RESIDENTIAL		
DIMENSIONAL REGULATIONS:	REQUIRED	PROVIDED	VARIANCE REQUIRED
MINIMUM SIZE OF LOT:			
MINIMUM LOT AREA:	40,000 SF.	240,751 SF.	NONE
MINIMUM LOT WIDTH:	150 FT.	522 FT.	NONE
MINIMUM LOT DEPTH:	150 FT.	414 FT.	NONE
MINIMUM YARD DIMENSIONS:			
PRINCIPAL BUILDING:			
FRONT YARD SETBACK:	50 FT.	68 FT.	NONE
REAR YARD SETBACK:	40 FT.	201 FT.	NONE
ONE SIDE YARD SETBACK:	50 FT.	50 FT.	NONE
COMBINED SIDE YARD SETBACK:	100 FT.	100 FT.	NONE
MAXIMUM % OF LOT TO BE OCCUPIED:			
LOT COVERAGE:	66% x 240,751 SF = 158,895 SF	73,894 SF	NONE
BUILDING COVERAGE:	20% x 240,751 SF = 48,151 SF	32,767 SF	NONE
MAXIMUM HEIGHT:			
PRINCIPAL BUILDING - FEET:	35 FEET	30 FEET	NONE
PRINCIPAL BUILDING - STORIES:	2 1/2	2 1/2	NONE

ZONING REGULATION NOTES:
1. AT LEAST 1/3 OF THE NET SITE AREA SHALL BE DEVOTED TO PERMANENT OPEN SPACE AND/OR FOR SITES SUITABLE FOR RECREATION AS REQUIRED BY NOTE 2. UNDEVELOPED PERMANENT OPEN SPACE SHALL BE PROVIDED AND GUARANTEED AT THE RATE OF 1,500 SQUARE FEET PER BEDROOM.
2. THERE SHALL BE PROVIDED ON THE SAME LOT A SUITABLY EQUIPPED AND LANDSCAPED CHILDREN'S PLAY AREA WITH A MINIMUM OF 400 SQUARE FEET FOR EACH DWELLING UNIT.
3. BUILDING COVERAGE SHALL BE NO MORE THAN 20% OF LOT AREA. 20% x 240,751 SF = 48,151 SF

PARKING SCHEDULE

PARKING REQUIRED: Two (2) spaces per dwelling unit pursuant to Zoning Section 200-29, Dwelling, Multifamily

Proposed Dwelling units. 53 apartments time (2) equals **106 spaces**

Indoor Parking	Breakdown	Total Parking
Building No. 1	Standard 25 Handicap 1 Total 26	26
Building No. 2	Standard 30 Handicap 1 Total 31	31
Outdoor Parking	**Breakdown**	
	Standard 55 Handicap 3 Total 58	58
Total Parking Provided		115

NOTES:
1. PARKING REGULATION IN CONFORMANCE WITH CHAPTERS 200-29 A(1),(2),(3)(a), C, D(1),(2)

Article VI.

Section 200.33 Affordable Housing {BMR}

Section 200.34 Required 10% of the number of Dwelling units
More than 5, but fewer than 10 acres 30%
Maximum permitted Density Bonus
Calculation Dwelling 41 Apartm 41
1/2 of the units received must be BMR
Density Bonus (x) 30%
Density Bonus Number of Dwelling units 12.3
Rounded Number of Dwelling units 12 12

Total number of units with density Bonus 53

1/2 of the Bonus Units received must be BMR 6

BMR units will be broken down as follows: 1 2 bedroom unit
5 1 bedroom units

General Description of Project

Number of Multifamily Units

Type	Non-BMR	BMR Units	Total Units	Bedrooms	Unit Ratio
One (1) B/R	31	9	40	40	75%
Two (2) B/R	10	3	13	26	25%
Total Dwelling Units	41	12	53	66	100%

Section 200.29

Parking & loading

2 for each dwelling unit plus 0.5 for each bedroom more than 2 bedrooms

	Regular Apts		BMR Apts	Total Parking
Dwelling Units	41		12	
Parking per Dwelling Unit	(x) 2	(x)	2	
Total Parking spaces required	82		24	106

Building Height Max

Stories	2 1/2
Feet	35'
Design	Colonial

DISTANCE BETWEEN BLDGS. (#200-16C(1) (B))
BUILDING HEIGHT X 2 = 30' X2= 60' PROVIDED 60.4'

BULK REGULATIONS (#200-22)

THE TOTAL NUMBER OF APARTMENTS ALLOWED PER SECTION 200-22;
BULK REGULATIONS
1. REQUIRED SQ FT PER DWELLING UNIT. 4,000 SF PLUS 1,500 SQ FT PER BEDROOM.
ONE (1) BEDROOM APARTMENTS 5,500
TWO (2) BEDROOM APARTMENTS 7,000

CALCULATION:
ONE (1) BEDROOM APARTMENTS
5,500SF X 31 = 170,500 SF 31
TWO (2) BEDROOM APARTMENTS
7,000 SF X 10= 70,000 SF 10
TOTAL APARTMENTS 41

TOTAL SF AREA REQUIRED 240,000 SF
TOTAL PROVIDED-SITE SF AREA: 240,751 SF

Article VI. Affordable Housing

See Sheet T for Calculation of the BMR Units and Compliance with this Section

Section 200-33 Required below -market-rate-unit component
No fewer than 10% of the total number of Units Shall be BMR Units
Number of BMR Units Provided 6
Number of BMR Units Required 5.3

Section 200-34 Residential Density bonus; Multifamily
More than 5 acres, but fewer than 10 30% Bonus

Section 200-35

Sub-Section A The BMR units shall be no less than 80% of the size of said market rate units and shall be reasonably distributed. Further, the BMR units shall provide a mix of unit types in the same proportion
Number of BMR Units Provided 6

See Sheet "T" The Breakdown of the BMR Units are:

for calculation of	One (1) Bedroom Units	3 Simplex & 2 Duplex Units	5
of Bonus Units	Two (2) Bedroom Units	I Simplex Unit	1
and break-down	Total BMR Units	See location in schedule below	6

Parth Knolls Apartment Tabulation

Building No.	Floor No	Apartment No.	Livable Sq Ft Area	One B/R Simplex	One B/R Duplex	Two B/R Simplex	BMR Unit	Simp 1 B/R	Dupl 1 B/R	Simp 2 B/R
One	1st fl.	101	1,013	1,013				1		
One	1st fl.	102	1,032	1,032				1		
One	1st fl.	103	1,095	1,095				1		
One	1st fl.	104	1,095	1,095				1		
One	1st fl.	105	1,099	1,099				1		
One	1st fl.	106	1,375			1,375				1
One	1st fl.	107	1,081	1,081				1		
One	1st fl.	108	1,007	1,007			BMR	1		
One	1st fl.	109	1,054	1,054				1		
One	1st fl.	110	1,218			1,218				1
								8		2
Two	1st fl.	111	1,263			1,263				1
Two	1st fl.	112	933	933				1		
Two	1st fl.	113	1,015	1,015				1		
Two	1st fl.	114	1,053			1,053	BMR			1
Two	1st fl.	115	1,459			1,459				1
Two	1st fl.	116	1,015	1,015				1		
Two	1st fl.	117	1,034	1,034				1		
Two	1st fl.	118	1,216			1,216				1
Two	1st fl.	119	1,200			1,200				1
Two	1st fl.	120	927	927				1		
Two	1st fl.	121	1,121	1,121				1		
Two	1st fl.	122	941	941				1		
Two	1st fl.	123	846	846			BMR	1		
								16	0	7
One	2nd fl	201	1,119		1,119				1	
One	2nd fl	202	1,119		1,119		BMR		1	
One	2nd fl	203	1,145			1,145				1
Page 1, Bal. forward page 2			28,475	16,308	2,238	9,929		16	2	8
Building No.	Floor No	Apartment No.	Livable Sq Ft Area	One B/R Simplex	One B/R Duplex	Two B/R Simplex	BMR Unit	Simp 1 B/R	Dupl 1 B/R	Simp 2 B/R
Balances forward from page 1			28,475	16,308	2,238	9,929		16	2	8
One	2nd fl	204	1,087	1,087				1		
One	2nd fl	205	1,276		1,276				1	
One	2nd fl	206	1,264		1,264				1	
One	2nd fl	207	1,087	1,087				1		
One	2nd fl	208	849	849			BMR	1		
One	2nd fl	209	1,109		1,109				1	
One	2nd fl	210	1,081	1,081				1		
One	2nd fl	211	1,109		1,109				1	
One	2nd fl	212	1,193	1,193				1		
One	2nd fl	213	1,043		1,043				1	
One	2nd fl	214	1,110	1,110				1		
								22	7	8
Two	2nd fl	215	1,264			1,264				1
Two	2nd fl	216	1,204		1,204				1	
Two	2nd fl	217	1,209		1,209		BMR		1	
Two	2nd fl	218	950	950				1		
Two	2nd fl	219	1,255			1,255				1
Two	2nd fl	220	1,038	1038				1		
Two	2nd fl	221	1,202		1,202				1	
Two	2nd fl	222	1,184		1,184				1	
Two	2nd fl	223	1,038	1,038				1		
Two	2nd fl	224	1,185		1,185				1	
Two	2nd fl	225	1,102			1,102				1
Two	2nd fl	226	1,375			1,375				1
Two	2nd fl	227	1,250		1,250				1	
Two	2nd fl	228	1,250	1250				1		
Two	2nd fl	229	1,196		1,196				1	
Two	2nd fl	230	1,138			1,138				1
Total Square Foot Areas			59,523	26,991	16,469	16,063		26	14	13
Break down of Apartment Type				26 Apts	14 Apts	13 Apts				
Average Sq ft size by Apartment Type				1,038 sf	1,176 sf	1,236 sf				
Section 200.35.A BMR Units must be no less than 80% of size of said market rate units				830 sf	941 sf	989 sf				
Section 200.35.B Minimum gross Floor Area				675 sf	675 sf	750 sf				
Section 200-22 Minimum requirements. 700 sf per for 1 or more bedrooms				700 sf	700 sf	700 sf				

Provided BMR Units					Break-down of BMR Units:
Bldg. # 1	1st Fl	Apt No.108	1,007 sf		1 B/R Simplex
Bldg. # 1	2nd Fl.	Apt No.202		1,119 sf	1 B/R Duplex
Bldg. # 1	2nd Fl	Apt No. 208	849 sf		1 B/R Simplex
Bldg. # 2	1st Fl	Apt No.123	846 sf		1 B/R Simplex
Bldg. # 2	1st Fl	Apt No.114		1,053 sf	2 B/R Simplex
Bldg. # 2	2nd Fl.	Apt No. 227		1,209 sf	1 B/R Duplex

87.Parth Knolls BMR Units-Rev.1.2.29.16 Page 2

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251-F Underhill Avenue, Yorktown Heights, NY 10598
(914) 962-4488 - Fax: (914) 962-7386
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PROJECT # 15-18

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

Revisions:

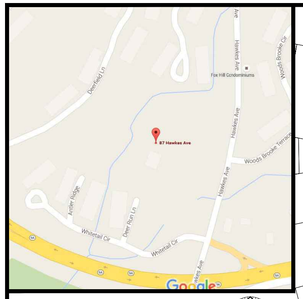
No.	Date	Comments:
1	11/9/15	Town Comments
2	12/7/15	Town Comments
3	1/25/16	Town Comments
4	3/7/16	Town Comments
5	4/6/16	Town Comments Building #2 Revisions Parking and Vestibule
6	5/23/16	Site Plan Revisions
7	8/3/16	Site Plan Revisions
8	9/7/16	

SCALE: NTS
DRAWN BY: TK
DATE: 9/25/15

TITLE SHEET 2

SITE PLAN
PREPARED FOR
PARTH KNOLLS LLC.
87 HAWKES AVENUE
Town of Ossining Westchester County, NY

Sheet T-2



LOCATION MAP
NOT TO SCALE

N

40.0'
REAR YARD SETBACK

PROPOSED BENCHES (TYP)
PROPOSED WOODCHIP WALKING PATH
PROPOSED SWING SET LOCATION
PROPOSED TIMBER GUARDRAIL
PROPOSED WOODEN WALKING BRIDGE
PROPOSED MONTGOMERY COVE PLAYGROUND LOCATION
PROPOSED FENCE AROUND POOL
PROPOSED CROSSWALK
PROPOSED POOL LOCATION
PROPOSED BIKE RACKS
EXISTING STONE STRUCTURE TO BE REMOVED
50.0' SIDE YARD SETBACK

PROPOSED WOODEN WALKING BRIDGE
PROPOSED POROUS PAVERS
PROPOSED SPLIT RAIL FENCE (TYP.)
PROPOSED 6' HIGH PRIVACY FENCE (TYP.)
50.0' SIDE YARD SETBACK

PROPOSED BUILDING #1
F.F. ELEVATION = 315.0
PARKING ELEVATION = 305.0

PROPOSED BUILDING #2
F.F. ELEVATION = 317.2
PARKING ELEVATION = 307.2

PROPOSED DECK (TYP.)
PROPOSED PATIO (TYP.)
PROPOSED COVERED WALK AND VESTIBULE
PROPOSED SPLIT RAIL FENCE (TYP.)
PROPOSED 118' LONG 4' RETAINING WALL (TYP.)
PROPOSED 89' LONG 4' RETAINING WALL (TYP.)
PROPOSED 62' LONG 5' RETAINING WALL (TYP.)

PROPOSED VESTIBULE AND COVERED WALKWAY
PROPOSED BUILDING 2 MAIL CENTER
PROPOSED MAIN ENTRANCE/EXIT
PROPOSED SIGN LOCATION
50.0' FRONT YARD SETBACK

PROPOSED POROUS PAVERS
PROPOSED BUILDING 1 MAIL CENTER
PROPOSED 6" CONC. CURB (TYP)
PROPOSED TRASH ENCLOSURE
PROPOSED 26' WIDE DRIVEWAY (TYP.)
PROPOSED GENERATOR FOR BLDG #2
PROPOSED GENERATOR FOR BLDG #1
PROPOSED AUTOMATIC GATE
PROPOSED STREAM DIVERSION

PROPOSED GRASSCRETE EMERGENCY ENTRANCE ONLY
PROPOSED STREAM SEDIMENTATION AREA EXPANSION

LEGEND

PROPERTY LINE / RIGHT OF WAY
PROPOSED CURB
EDGE OF WETLAND
100' WETLAND BUFFER
PROPOSED RETAINING WALLS

0 15 30 60
SCALE: 1"=30'-0"

N

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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 R. LINK, DATED 03/07/15, LAST REVISED 06/08/15. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR ITS ACCURACY.

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

F:\2015\15-18 BELDOTTI MANAGEMENT CORP\ENGINEERING\CAD\C3D\15-18 BELDOTTI MANAGEMENT CORP\15-18 SITE PLAN Z-15-16.DWG

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7	8/3/16	Site Plan Revisions
8	9/7/16	

SCALE: 1" = 30'
DRAWN BY: TK
DATE: 9/25/15

SITE PLAN

SITE PLAN
PREPARED FOR
PARTH KNOLLS LLC.
87 HAWKES AVENUE
Town of Ossining Westchester County, NY

Sheet C-101

NOTE:

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7	7/29/16	Site Plan Revisions
8	9/7/16	Site Plan Revisions

SCALE: 1" = 30'

DRAWN BY: TK

DATE: 9/25/15

EXISTING CONDITIONS PLAN

SITE PLAN
PREPARED FOR
PARTH KNOLLS LLC.
87 HAWKES AVENUE
Town of Ossining, Westchester County, NY

Sheet C-102

F:\2015\15-18 BELDOTTI MANAGEMENT CORP\ENGINEERING\CAD\CD-15-18 BELDOTTI MANAGEMENT CORP\15-18 SITE PLAN 7-15-16.DWG

PROPOSED BUILDING #1
F.F. ELEVATION = 315.0
PARKING ELEVATION = 305.0

PROPOSED BUILDING #2
F.F. ELEVATION = 317.2
PARKING ELEVATION = 307.2

PHASE II

PROPOSED TREE TO BE PROTECTED (TYP)
PROPOSED EROSION BLANKET (TYP)
PROPOSED SILT FENCE (TYP)
PROPOSED INLET PROTECTION (TYP)
PRPOSED SOIL STOCKPILE (TYP)
PROPOSED CONSTRUCTION DUMPSTER LOCATION
PROPOSED TREE TO BE RMEOVED (TYP)
PRPOSED LIMIT OF DISTURBANCE (TYP)

100' BUFFER AS PER OSSINING CODE #105-3(B)(1)

TREE #1653 BLEW DOWN DURING STORM ON 2/24/16

PROPOSED CONSTRUCTION ENTRANCE (TYP)

TW: 313.5 BW: 311.0
TW: 316.0 BW: 314.5
TW: 313.5 BW: 313.0
TW: 309.0 BW: 306.5
TW: 316.0 BW: 313.5
TW: 316.0 BW: 313.5
TW: 309.0 BW: 308.0
TW: 313.0 BW: 309.0
TW: 308.0 BW: 304.0
TW: 303.0 BW: 299.0

NOTE:
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NOTE:
1. CONSTRUCTION TRUCKS EXITING THE SITE BOUND FOR NYS ROUTE 9A NORTHBOUND (TOWARD PEEKSKILL) SHALL USE THE NYS ROUTE 134 INTERSECTION TO A ACCESS NYS ROUTE 9A NORTHBOUND UNTIL SUCH TIME AS NYS ROUTE 9A/NO LONGER HAS ANY POSTED HEIGHT RESTRICTION NORTHBOUND UNDER HAWKES AVENUE.

LEGEND

- EXISTING GRADING
- EXISTING SPOT GRADE
- PROPOSED GRADING
- PROPERTY LINE / RIGHT OF WAY
- EDGE OF WETLAND
- 100' WETLAND BUFFER
- PROPOSED FIRE HYDRANT
- PROPOSED DRAINAGE LINE
- PROPOSED CATCH BASIN
- PROPOSED DRAINAGE MANHOLE
- PROPOSED CRYSTAL STREAM STRUCTURE
- PROPOSED HEADWALL WITH RIP RAP
- PROPOSED SEWER SERVICE CONNECTION
- PROPOSED WATER MAIN
- PROPOSED WATER SERVICE CONNECTION
- PROPOSED SANITARY MANHOLE AND LINE
- PROPOSED BUILDING AND DRIVE
- PROPOSED SOIL STOCKPILES
- PROPOSED SILT FENCE
- PROPOSED CRUSHED STONE INLET PROTECTION
- PROPOSED STABILIZED CONSTRUCTION ENTRANCE
- PROPOSED LIMIT OF DISTURBANCE
- EXISTING TREE TO BE PROTECTED
- EXISTING TREE TO BE REMOVED

0 15 30 60
SCALE: 1"=30'-0"

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Revisions:

No.	Date	Comments:
1	10/1/15	Town Comments
2	12/7/15	Town Comments
3	1/25/16	Town Comments
4	3/7/16	Town Comments
5	4/6/16	Town Comments
6	5/23/16	Retaining Wall, Parking and Vestibule
7	7/29/16	Site Plan Revisions
8	9/7/16	Site Plan Revisions

SCALE: 1" = 30'
DRAWN BY: TK
DATE: 9/25/15

E&SC PLAN

SITE PLAN
PREPARED FOR
PARTH KNOLLS LLC.
87 HAWKES AVENUE
Town of Ossining Westchester County, NY

Sheet C-103

F:\2015\15-18 BELDOTTI MANAGEMENT CORP\ENGINEERING\CAD\C3D\15-18 BELDOTTI MANAGEMENT CORP\15-18 SITE PLAN 7-15-16.DWG

STORMWATER RIMS & INV.

Pipe	Upstream Structure	Rim	Downstream Structure	Rim	Length (ft)	Section Size (in)	Upstream Inv. Elev. (ft)	Downstream Inv. Elev. (ft)	Slope (%)
CB-1 TO CB-3	CB-1	316.13	CB-3	316.59	78.09	12	313.13	312.30	1.00
CB-2 TO CB-3	CB-2	316.42	CB-3	316.59	21.20	12	313.42	313.19	1.00
CB-3 TO CB-5	CB-3	316.59	CB-5	311.03	129.33	12	312.05	308.03	3.02
CB-4 TO CB-5	CB-4	311.14	CB-5	311.03	29.42	12	308.14	307.98	0.50
CB-5 TO CB-7	CB-5	311.03	CB-7	309.44	52.01	12	307.00	306.44	0.50
CB-6 TO CB-7	CB-6	308.77	CB-7	309.44	40.16	12	306.00	305.79	0.50
CB-7 TO CB-10	CB-7	309.44	CB-10	310.95	55.42	15	305.77	305.47	0.50
CB-8 TO CB-9	CB-8	312.12	CB-9	312.12	15.04	12	309.12	308.95	1.00
CB-9 TO CB-10	CB-9	312.12	CB-10	310.95	125.17	12	308.70	307.45	0.97
CB-10 TO DD	CB-10	310.95	DD	311.33	13.87	15	305.22	305.14	0.50
DD TO BYPASS 1	DD	311.33	BYPASS 1	311.66	13.25	15	306.14	306.05	0.50
BYPASS 1 TO SC-310 CHAMBERS	BYPASS 1	311.66	SC-310 CHAMBERS	306.94	9.56	12	305.05	305.00	0.50
BYPASS 1 TO Outlet 1	BYPASS 1	311.66	Outlet 1	---	48.71	15	305.84	305.34	1.00
CB-11 TO CB-12	CB-11	306.69	CB-12	306.68	21.03	12	303.41	303.29	0.50
CB-12 TO BYPASS 2	CB-12	306.68	BYPASS 2	306.73	15.42	12	303.04	302.95	0.50
BYPASS 2 TO CISTERN	BYPASS 2	306.73	CISTERN	303.14	9.58	12	301.95	301.9	0.50
BYPASS 2 TO DMH-1	BYPASS 2	306.73	DMH-1	304.99	66.9	12	302.45	302.95	1.00
DMH-1 TO Outlet 2	DMH-1	304.99	Outlet 2	---	82.99	12	301.49	301.14	1.00

SANITARY SEWER RIMS & INV.

Pipe	Upstream Structure	Rim	Downstream Structure	Rim	Length (ft)	Section Size (in)	Upstream Inv. Elev. (ft)	Downstream Inv. Elev. (ft)	Slope (%)
SMH-1 TO SMH-2	SMH-1	308.50	SMH-2	307.45	93.56	6	303.41	302.92	0.52
SMH-2 TO SMH-3	SMH-2	304.45	SMH-3	310.05	169.18	6	302.92	302.06	0.51
SMH-3 TO PUMPSTATION	SMH-3	310.00	PUMPSTATION	310.01	8.21	6	302.06	302.00	0.73

PROPOSED BUILDING #1
F.F. ELEVATION = 315.0
PARKING ELEVATION = 305.0

PROPOSED BUILDING #2
F.F. ELEVATION = 317.2
PARKING ELEVATION = 307.2

100' BUFFER AS PER OSSINING CODE #105-3(B)(1)

PROPOSED RAIN GARDEN
PROPOSED POROUS PAVERS
PROPOSED FOOTING DRAIN
PROPOSED RAINWATER HARVESTING CHAMBERS
PROPOSED FIRE HYDRANT
PROPOSED WATERMAIN TO BE ENCASED IN CONCRETE WHERE SEPARATION CANNOT BE MET
PROPOSED STANDPIPE FOR SEWER DD UNIT
BYPASS
PROPOSED HDPE END SECTION (TYP)
PROPOSED SUBSURFACE SC-310 INFILTRATION CHAMBERS INV. = 304.5
PROPOSED FOOTING DRAIN
PROPOSED ROOF DRAIN
PROPOSED 8" SEWER SERVICE CONNECTION
PUMPSTATION INVERT IN = 302.0 INV=302.0
ACCESS PAVERS LOCKED
SMH-3
APPOX. LOCATION OF EXISTING WATER MAIN
PROPOSED WATERMAIN
PROPOSED WATER SERVICE CONNECTION
PROPOSED WATER MAIN
PROPOSED FIRE HYDRANT

CB-1 CB-2 CB-3 CB-4 CB-5 CB-6 CB-7 CB-8 CB-9 CB-10 CB-11 CB-12
DMH-1 DMH-2 SMH-1 SMH-2

NOTE:
1. ***THIS IS NOT A SURVEY.*** ALL SURVEY INFORMATION SHOWN ON THIS PLAN HAS BEEN TAKEN FROM SURVEY MAP PREPARED BY JOSEPH R. LINK, DATED 03/07/15, LAST REVISED 06/08/15. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR ITS ACCURACY.

LEGEND

- EXISTING GRADING
- EXISTING SPOT GRADE
- PROPOSED GRADING
- PROPERTY LINE / RIGHT OF WAY
- PROPOSED CURB
- EDGE OF WETLAND
- 100' WETLAND BUFFER
- PROPOSED FIRE HYDRANT
- PROPOSED DRAINAGE LINE
- PROPOSED CATCH BASIN
- PROPOSED DRAINAGE MANHOLE
- PROPOSED CRYSTAL STREAM STRUCTURE
- PROPOSED HEADWALL WITH RIP RAP
- SS — PROPOSED SEWER SERVICE CONNECTION
- W — PROPOSED WATER MAIN
- WS — PROPOSED WATER SERVICE CONNECTION
- W — EXISTING WATER MAIN
- PROPOSED UTILITY CROSSING
- PROPOSED SANITARY MANHOLE AND LINE
- PROPOSED HOUSE AND DRIVE

0 15 30 60
SCALE: 1"=30'-0"

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

PROJECT # 15-18

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

Revisions:

No.	Date	Comments:
1	10/15	Town Comments
2	12/7/15	Town Comments
3	1/25/16	Town Comments
4	3/7/16	Town Comments
5	4/8/16	Town Comments
6	5/23/16	Building Footprint, Parking and Vestibule
7	7/29/16	Site Plan Revisions
8	9/7/16	Site Plan Revisions

SCALE: 1" = 30'
DRAWN BY: TK
DATE: 9/25/15

UTILITY PLAN

SITE PLAN
PREPARED FOR
PARTH KNOLLS LLC.
87 HAWKES AVENUE
Town of Ossining Westchester County, NY

Sheet C-104

NOTE:

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LEGEND

- EXISTING GRADING
- EXISTING SPOT GRADE
- PROPOSED GRADING
- PROPERTY LINE / RIGHT OF WAY
- PROPOSED CURB
- EDGE OF WETLAND
- 100' WETLAND BUFFER
- PROPOSED FIRE HYDRANT
- PROPOSED DRAINAGE LINE
- PROPOSED CATCH BASIN
- PROPOSED DRAINAGE MANHOLE
- PROPOSED CRYSTAL STREAM STRUCTURE
- PROPOSED HEADWALL WITH RIP RAP
- PROPOSED SEWER SERVICE CONNECTION
- PROPOSED WATER MAIN
- PROPOSED WATER SERVICE CONNECTION
- EXISTING WATER MAIN
- PROPOSED UTILITY CROSSING
- PROPOSED SANITARY MANHOLE AND LINE
- PROPOSED HOUSE AND DRIVE

SCALE: 1"=30'-0"

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PROJECT # 15-18

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

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5	4/8/16	Town Comments
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7	7/29/16	Site Plan Revisions
8	9/7/16	Site Plan Revisions

SCALE: 1" = 30'
DRAWN BY: TK
DATE: 9/25/15

WATERMAIN LOOP PLAN

SITE PLAN PREPARED FOR
PARTH KNOLLS LLC.
87 HAWKES AVENUE
Town of Ossining Westchester County, NY

Sheet C-105

PROPOSED BUILDING #1
F.F. ELEVATION = 315.0
PARKING ELEVATION = 305.0

PROPOSED BUILDING #2
F.F. ELEVATION = 317.2
PARKING ELEVATION = 307.2

TW: 309.0
BW: 306.5

TW: 316.0
BW: 313.5

TW: 316.0
BW: 313.5

TW: 309.0
BW: 308.0

TW: 313.0
BW: 309.0

TW: 308.0
BW: 304.0

TW: 303.0
BW: 299.0

TW: 313.5
BW: 311.0

TW: 316.0
BW: 314.5

TW: 313.5
BW: 313.0

NOTE:

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LEGEND

- EXISTING GRADING
- EXISTING SPOT GRADE
- PROPOSED GRADING
- PROPERTY LINE / RIGHT OF WAY
- PROPOSED ROAD CENTERLINE
- PROPOSED CURB
- EDGE OF WETLAND
- 100' WETLAND BUFFER
- PROPOSED HOUSE AND DRIVE

SCALE: 1"=30'-0"

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PROJECT # 15-18

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Revisions:

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7	7/29/16	Site Plan Revisions
8	9/7/16	Site Plan Revisions

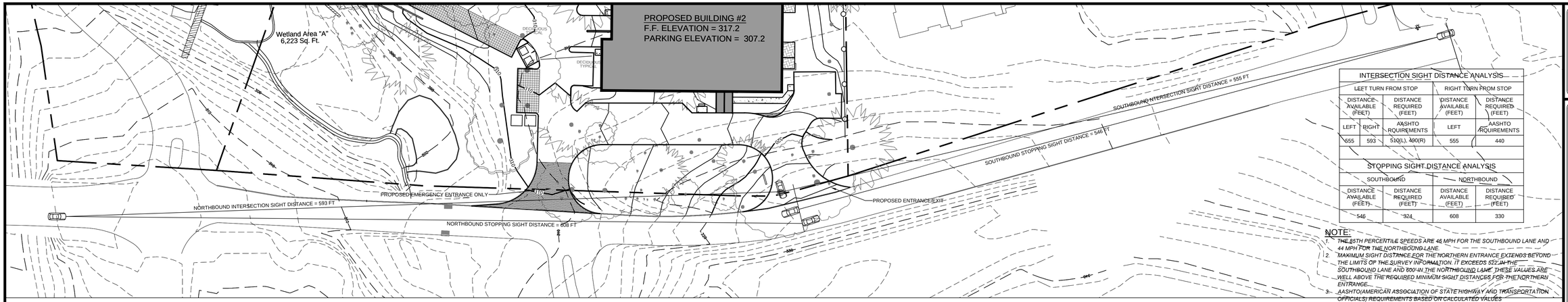
SCALE: 1" = 30'
DRAWN BY: TK
DATE: 9/25/15

GRADING PLAN

SITE PLAN
PREPARED FOR
PARTH KNOLLS LLC.
87 HAWKES AVENUE
Town of Ossining Westchester County, NY

Sheet C-106

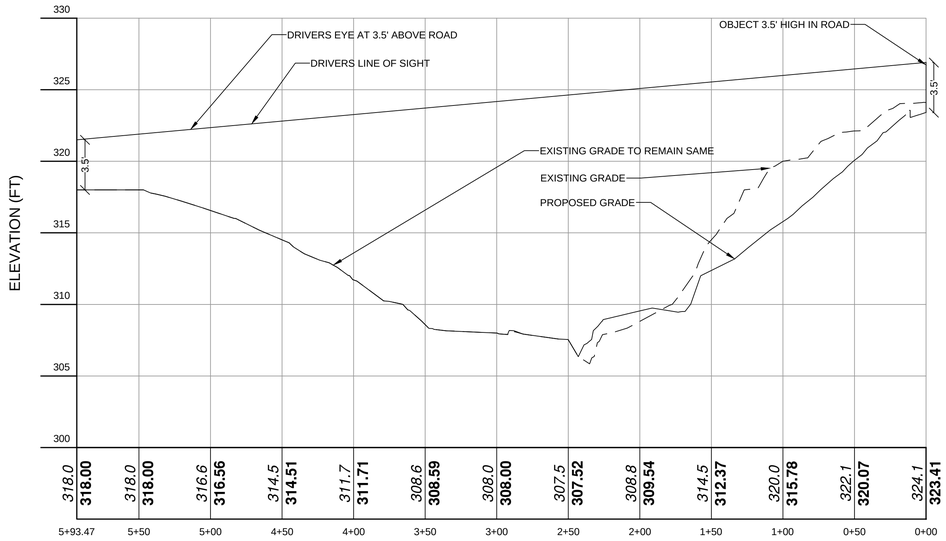
F:\2015\15-18 BELDOTTI MANAGEMENT CORP\ENGINEERING\CAD\C3D-15-18 BELDOTTI MANAGEMENT CORP\15-18 SITE PLAN 7-15-16.DWG



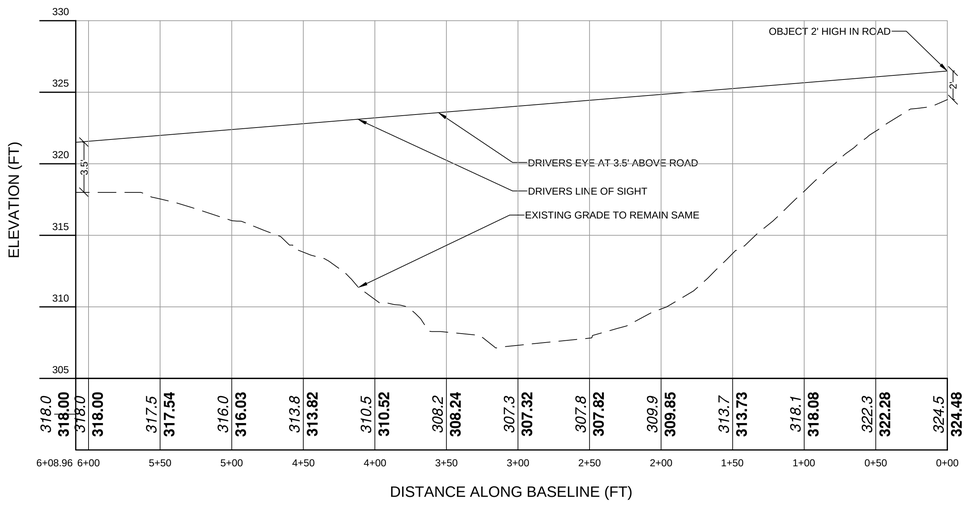
INTERSECTION SIGHT DISTANCE ANALYSIS					
LEFT TURN FROM STOP			RIGHT TURN FROM STOP		
DISTANCE AVAILABLE (FEET)	DISTANCE REQUIRED (FEET)		DISTANCE AVAILABLE (FEET)	DISTANCE REQUIRED (FEET)	
LEFT	RIGHT	AASHTO REQUIREMENTS	LEFT	AASHTO REQUIREMENTS	
555	593	510(L), 490(R)	555	440	

STOPPING SIGHT DISTANCE ANALYSIS			
SOUTHBOUND		NORTHBOUND	
DISTANCE AVAILABLE (FEET)	DISTANCE REQUIRED (FEET)	DISTANCE AVAILABLE (FEET)	DISTANCE REQUIRED (FEET)
546	324	608	330

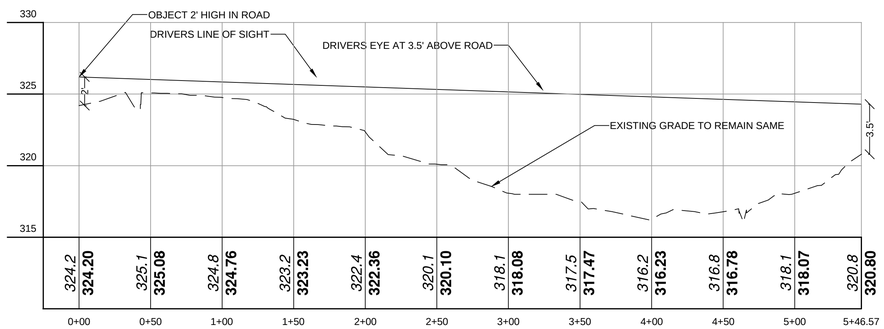
NOTE:
1. *THE 85TH PERCENTILE SPEEDS ARE 46 MPH FOR THE SOUTHBOUND LANE AND 44 MPH FOR THE NORTHBOUND LANE.*
2. *MAXIMUM SIGHT DISTANCE FOR THE NORTHERN ENTRANCE EXTENDS BEYOND THE LIMITS OF THE SURVEY INFORMATION. IT EXCEEDS 522' IN THE SOUTHBOUND LANE AND 600' IN THE NORTHBOUND LANE. THESE VALUES ARE WELL ABOVE THE REQUIRED MINIMUM SIGHT DISTANCES FOR THE NORTHERN ENTRANCE.*
3. *AASHTO(AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS) REQUIREMENTS BASED ON CALCULATED VALUES*



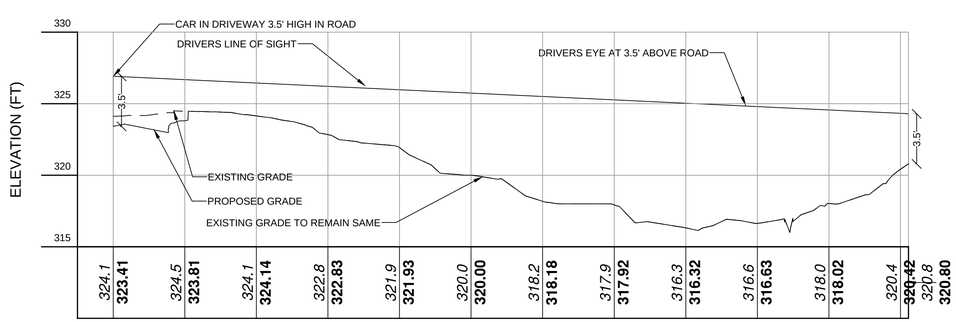
North Entrance Northbound Intersection Sight Distance
PROFILE SCALE:
HORIZ: 1"=50'
VERT: 1"=5'



North Entrance Northbound Stopping Sight Distance
PROFILE SCALE:
HORIZ: 1"=50'
VERT: 1"=5'



North Entrance Southbound Stopping Sight Distance
PROFILE SCALE:
HORIZ: 1"=50'
VERT: 1"=5'



Northern Entrance Southbound Intersection Sight Distance
PROFILE SCALE:
HORIZ: 1"=50'
VERT: 1"=5'

LEGEND

- 222 — EXISTING GRADING
- ×222.8 — EXISTING SPOT GRADE
- 200 — PROPOSED GRADING
- PROPERTY LINE / RIGHT OF WAY
- PROPOSED ROAD CENTERLINE
- PROPOSED CURB
- EDGE OF WETLAND
- 100' WETLAND BUFFER
- PROPOSED HOUSE AND DRIVE

0 15 30 60
SCALE: 1"=30'-0"

NOTE:
1. ***THIS IS NOT A SURVEY.*** ALL SURVEY INFORMATION SHOWN ON THIS PLAN HAS BEEN TAKEN FROM SURVEY MAP PREPARED BY JOSEPH R. LINK, DATED 03/07/15, LAST REVISED 06/08/15. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR ITS ACCURACY.

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PROJECT # 15-18

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

Revisions:

No.	Date	Comments:
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3	1/25/16	Town Comments
4	3/7/16	Town Comments
5	4/8/16	Town Comments
6	5/23/16	Building #2 Revised Parking and Vestibule
7	7/29/16	Site Plan Revisions
8	9/7/16	Site Plan Revisions

SCALE: 1" = 40'
DRAWN BY: TK
DATE: 9/25/15

SIGHT DISTANCE PLAN

SITE PLAN
PREPARED FOR
PARTH KNOLLS LLC.
87 HAWKES AVENUE
Town of Ossining Westchester County, NY

Sheet C-107

TREES EAST OF STREAM

Tag #	Species	DBH	Condition	During Construction
1700	Norway Maple	15	Fair,One sided leaning over road	To Be Removed
1699	Sugar Maple	32	Good healthy crown	To Be Removed
1698	Norway Maple	9	One sided leaning	To Be Removed
1697	Norway Maple	31	Good	To Be Removed
1696	Norway Maple	10	Fair, One sided leaning	To Be Removed
1695	Norway Maple	9	Fair, One sided leaning	To Be Removed
1694	Norway Maple	9	Fair, One sided	To Be Removed
1693	Black Cherry	13	Good, Tall spindly no lower branching	To Be Removed
1692	Norway Maple	11	Fair, Curved leaning	To Be Removed
1691	Twin Norway Maple	10 + 14	Good, Full Crown	To Be Removed
1690	Red Maple	26	Poor, Rotting trunk, Dead leader	To Be Removed
1689	Red Maple	42	Good, Three large leaders	To Be Removed
1688	Red Maple	32	Fair, Some rotting scars. Sparse canopy	To Be Removed
1687	Tulip Poplar	13	Fair, Straight 20' then leans	To Be Removed
1686	Norway Maple	12	Fair, One sided	To Be Removed
1685	Norway Spruce	33	Good, Lower branches all dead	To Remain
1684	Black Birch	15	Healthy but bad leaning	To Be Removed
1683	Black Birch	13	Healthy but bad leaning	To Be Removed
1682	Red Oak	11	Good	To Be Removed
1681	Norway Spruce	23	Good, Lower branches all dead	To Be Removed
1680	Norway Spruce	26	Good, Lower branches all dead	To Be Removed
1679	Eastern White Pine	35	Good	To Be Removed
1678	Eastern White Pine	29	Good	To Be Removed
1677	Sassafras Twin	14 + 12	Good	To Be Removed
1676	Norway Spruce	24	Fair, One sided bleeding	To Be Removed
1675	Black Cherry	10	Poor, Broken branches in crown	To Be Removed
1674	Black Cherry	9	Poor, Alive but uprooted	To Be Removed
1673	Gray Birch	12	Good, but leaning	To Be Removed
1672	Gray Birch Twin	9 + 11	Good, but leaning	To Be Removed
1671	Norway Spruce	25	Poor, dying	To Be Removed
1670	Norway Spruce	23	Dead mostly	To Be Removed
1669	Norway Spruce	25	Good, Covered in Poison Ivy	To Be Removed
1668	Norway Spruce	19	Fair, One sided covered in Poison Ivy	To Be Removed
1667	Norway Spruce	39	Good	To Be Removed
1666	Norway Spruce	25	Good	To Be Removed
1665	Norway Maple	11	Good	To Be Removed
1664	Norway Maple	27	Fair, Trunk rot, weakened crown	To Be Removed
1663	Norway Maple	24	Good	To Be Removed
1662	Norway Maple	31	Fair, Weakened crown	To Be Removed
1661	Norway Maple	26	Fair. Fire/Lightning damage, weak crown	To Be Removed
1660	Norway Maple	32	Good, But large dead leader should be pruned	To Be Removed
1658	London Plane Tree	33	Fair, Poor crown growth	To Be Removed
1657	Basswood	29	Good	To Be Removed
1656	Norway Maple	37	Good	To Be Removed
1655	Magnolia (Triple)	10 + 9+ 11	Good, but overshadowed by 1654	To Be Removed
1654	Norway Spruce	35	Good	To Be Removed
1653	Norway Spruce	25	Good, no lower branches	To Be Removed
1652	Norway Spruce	30	Fair	To Be Protected
1651	Norway Maple	18	Good	To Remain
1650	Red Maple	13	Good	To Remain
1649	Norway Maple	12	Poor, Dead leader, weak crown	To Be Removed
1648	Norway Maple	17	Good but bad leaner	To Remain
1647	Norway Maple	16	Good but bad leaner	To Remain
1646	Magnolia (Quad)	10, 4, 4, 3	Good	To Remain
1645	Norway Spruce	35	Poor, Choked by Poison Ivy	To Be Removed
Untagged	Norway Spruce	~30"	Fair, Poison Ivy, tree near parking area	To Be Protected
1644	Norway Spruce	~28	Fair	To Remain
1643	Norway Spruce	~22	Fair	To Remain
1642	Multi Trunk Taxa		Good	To Be Protected
1641	Norway Spruce	30	Good	To Be Removed
1640	Norway Spruce	32	Good	To Be Removed
1639	Norway Spruce	33	Good	To Be Removed
1638	Blue Spruce	19	Fair, One sided, Poison Ivy	To Be Removed
1637	Norway Spruce	28	Good	To Be Removed
1636	Eastern White Pine	40	Good	To Be Removed
1635	Eastern White Pine	28	Fair, One sided	To Be Removed
1634	Cedar (check SPP.)	25	Good	To Be Removed
1633	Apple	13	Gnarly Old Apple Tree	To Be Removed
1632	Triple Magnolia	9 + 11 + 13	Good	To Be Removed
1631	Twin Pear	12 + 12	Good, Needs Pruning	To Be Removed
1630	Eastern White Pine	15	Good, but viny	To Remain
1629	Twin Pignut Hickory	23 + 17	Good, but slight southern lean	To Be Protected
1628	Red Oak	11	Good	To Be Removed
1627	Norway Spruce	26	Good	To Be Protected
1626	Norway Spruce	22	Good	To Remain
1625	Norway Spruce	28	Good, but viny	To Be Protected
1624	Norway Spruce	22	Good	To Remain
1623	Norway Spruce	25	Good	To Be Removed
1622	Norway Spruce	24	Good	To Remain
1621	Ailanthus	16	Good but a garbage tree	To Be Removed
1620	Norway Spruce	24	Good, but viny	To Be Protected
1619	Norway Spruce	30	Good, but viny	To Be Removed
1618	Tulip Poplar	21	Good	To Be Removed

TREES WEST OF STREAM

Tag #	Species	DBH	Condition	During Construction
1600	Tulip poplar	32	Good	To Remain
1599	Red maple	19	Good	To Remain
1598	Red maple	224	Good	To Remain
1597	Red maple	36	Poor	To Be Removed
1596	Red maple	13	Good	To Remain
1595	Red maple	22	Poor	To Be Removed
1594	Tulip poplar	11	Fair	To Remain
1593	Red maple	21	Good	To Remain
1592	Red maple	18	Good	To Remain
1591	Pin Oak	30	Good but leaning	To Remain
1590	Pin Oak	24	Good but leaning	To Remain
1589	Beech	16	Good	To Remain
1588	Red maple	42	Good/Fair Craggy	To Remain
1587	Black birch	11	Fair	To Remain
1586	Triple Beech	21/15/9	Good	To Remain
1585	Red Oak	20	Good	To Remain
1584	Pignut hickory	24	Good	To Remain
1583	Beech	11	Good	To Remain
1582	Sugar maple	12	Good	To Remain
1581	Black birch	17	Good	To Remain
1580	Red Oak	23	Fair but leaning	To Remain
1579	Red Oak	11	Fair but tangled with adjacent tree	To Remain
1578	Norway maple	12	Good	To Remain
1577	Tulip poplar	26	Good but leaning	To Remain
1576	Beech	12	Good	To Remain
1575	Birch	20	Fair	To Remain
1574	Norway maple	10	Good	To Remain

LEGEND

- EXISTING GRADING
- EXISTING SPOT GRADE
- PROPOSED GRADING
- PROPERTY LINE / RIGHT OF WAY
- EDGE OF WETLAND
- 100' WETLAND BUFFER
- PROPOSED BUILDING AND DRIVE
- EXISTING TREE TO BE PROTECTED
- EXISTING TREE TO BE REMOVED

TREE #1659 BLEW DOWN DURING STORM ON 2/24/16

100' BUFFER AS PER OSSINING CODE #105-3(B)(1)

NOTE:

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SCALE: 1"=30'-0"

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PROJECT # 15-18

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

Revisions:

No.	Date	Comments:
1	11/19/15	Town Comments
2	12/7/15	Town Comments
3	1/25/16	Town Comments
4	3/7/16	Town Comments
5	4/6/16	Town Comments
6	5/23/16	Site Plan Revisions: Parking and Vestibule
7	7/29/16	Site Plan Revisions
8	9/7/16	

SCALE: 1" = 30'

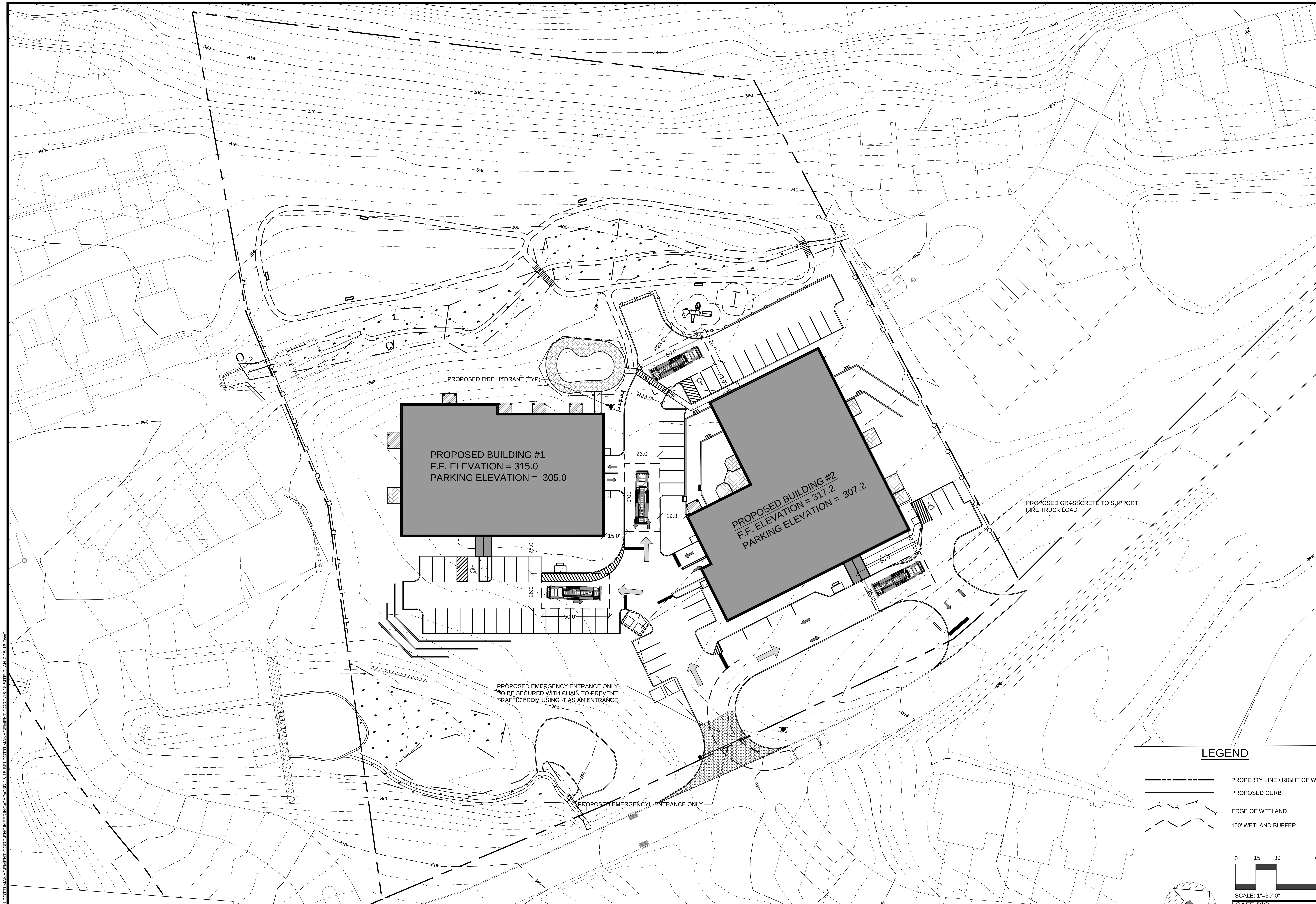
DRAWN BY: TK

DATE: 9/25/15

TREE PLAN

SITE PLAN
PREPARED FOR
PARTH KNOLLS LLC.
87 HAWKES AVENUE
Town of Ossining Westchester County, NY

Sheet C-108



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F:\2015\15-18 BELDOTTI MANAGEMENT CORP\ENGINEERING\CAD\CID-15-18 BELDOTTI MANAGEMENT CORP\15-18 SITE PLAN 7-15-16.DWG

PROJECT # 15-18

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

Revisions:

No.	Date	Comments:
1	12/7/15	Town Comments
2	12/7/15	Town Comments
3	1/25/16	Town Comments
4	3/7/16	Town Comments
5	4/8/16	Town Comments
6	5/23/16	Building 2 Revision - Parking and Vestibule
7	7/29/16	Site Plan Revisions
8	9/7/16	Site Plan Revisions

SCALE: 1" = 30'

DRAWN BY: TK

DATE: 9/25/15

FIRE ACCESS PLAN

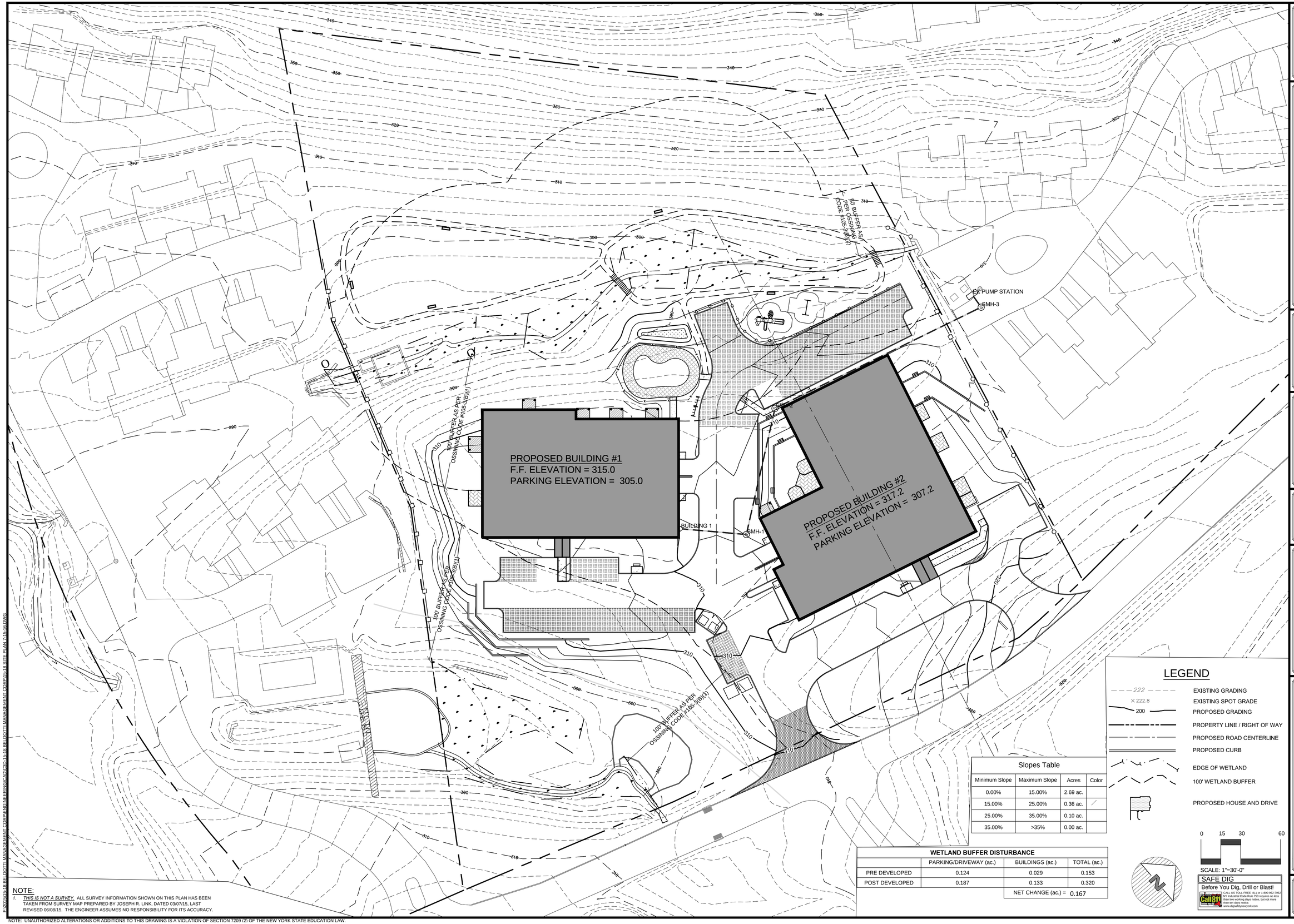
SITE PLAN
PREPARED FOR

PARTH KNOLLS LLC.

87 HAWKES AVENUE

Town of Ossining Westchester County, NY

Sheet C-109



NOTE:

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

F:\2015\15-18 BELDOTTI MANAGEMENT CORP\ENGINEERING\CAD\C3D-15-18 BELDOTTI MANAGEMENT CORP15-18 SITE PLAN 7-15-16.DWG

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PROJECT # 15-18

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7	7/29/16	Site Plan Revisions
8	9/7/16	Site Plan Revisions

SCALE: 1" = 30'
DRAWN BY: TK
DATE: 9/25/15

ENVIRONMENTAL CONTRAINTS MAP

SITE PLAN
PREPARED FOR
PARTH KNOLLS LLC.
87 HAWKES AVENUE
Town of Ossining Westchester County, NY

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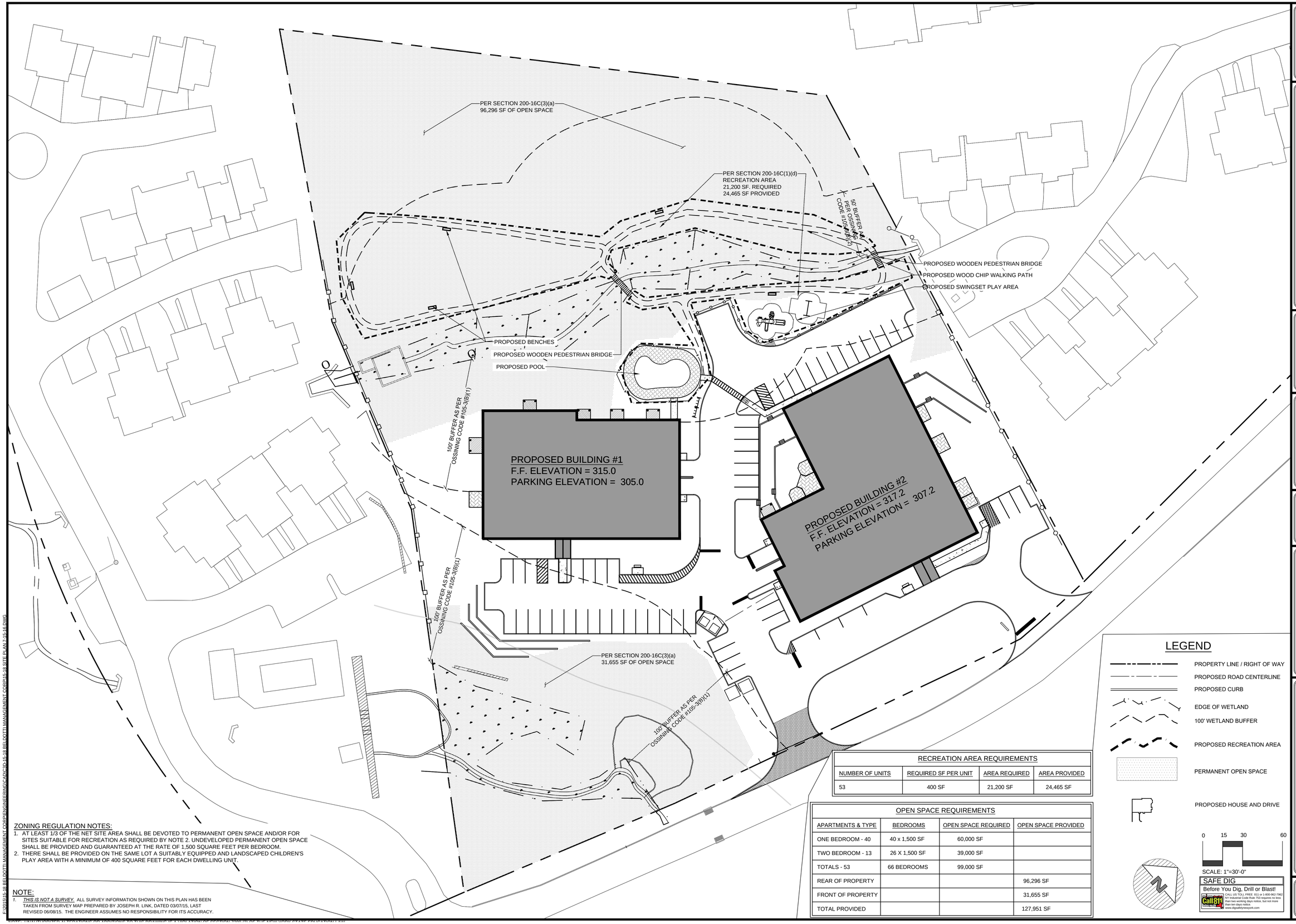
Sheet C-110



ZONING REGULATION NOTES:

1. AT LEAST 1/3 OF THE NET SITE AREA SHALL BE DEVOTED TO PERMANENT OPEN SPACE AND/OR FOR SITES SUITABLE FOR RECREATION AS REQUIRED BY NOTE 2. UNDEVELOPED PERMANENT OPEN SPACE SHALL BE PROVIDED AND GUARANTEED AT THE RATE OF 1,500 SQUARE FEET PER BEDROOM.
2. THERE SHALL BE PROVIDED ON THE SAME LOT A SUITABLY EQUIPPED AND LANDSCAPED CHILDREN'S PLAY AREA WITH A MINIMUM OF 400 SQUARE FEET FOR EACH DWELLING UNIT.

NOTE:

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RECREATION AREA REQUIREMENTS

NUMBER OF UNITS	REQUIRED SF PER UNIT	AREA REQUIRED	AREA PROVIDED
53	400 SF	21,200 SF	24,465 SF

OPEN SPACE REQUIREMENTS

APARTMENTS & TYPE	BEDROOMS	OPEN SPACE REQUIRED	OPEN SPACE PROVIDED
ONE BEDROOM - 40	40 x 1,500 SF	60,000 SF	
TWO BEDROOM - 13	26 X 1,500 SF	39,000 SF	
TOTALS - 53	66 BEDROOMS	99,000 SF	
REAR OF PROPERTY			96,296 SF
FRONT OF PROPERTY			31,655 SF
TOTAL PROVIDED			127,951 SF

LEGEND

- PROPERTY LINE / RIGHT OF WAY
- PROPOSED ROAD CENTERLINE
- PROPOSED CURB
- EDGE OF WETLAND
- 100' WETLAND BUFFER
- PROPOSED RECREATION AREA
- PERMANENT OPEN SPACE
- PROPOSED HOUSE AND DRIVE

0 15 30 60

SCALE: 1"=30'-0"

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PROJECT # 15-18

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

Revisions:

No.	Date	Comments:
1	10/1/15	Town Comments
2	12/7/15	Town Comments
3	1/25/16	Town Comments
4	3/7/16	Town Comments
5	4/6/16	Town Comments - Building #2 Footprint, Parking and Vestibule
6	5/23/16	Site Plan Revisions
7	7/29/16	Site Plan Revisions
8	9/7/16	

SCALE: 1" = 30'
DRAWN BY: TK
DATE: 9/25/15

OPEN SPACE AND RECREATION PLAN

SITE PLAN
PREPARED FOR
PARTH KNOLLS LLC.
87 HAWKES AVENUE
Town of Ossining Westchester County, NY

Sheet C-111

F:\2015\15-18 BELDOTTI MANAGEMENT CORP\ENGINEERING\CAD\C3D-15-18 BELDOTTI MANAGEMENT CORP\15-18 SITE PLAN 7-15-16.DWG

Notes:
1. These calculations are based on the listed fixtures only. Substitution of these fixtures will void all calculations.
2. Acuity Brands Lighting reserves the right to withdraw these copyrighted plans from the public record if substitutions occur.
3. ALL SUBSTITUTIONS REQUIRE NEW CALCULATIONS BASED ON THE FIXTURES SUPPLIED.
4. Luminaire near Pool area for security lighting only. Illumination will not meet NYS Sanitary Code for night swimming.

PROPOSED BUILDING #1
F.F. ELEVATION = 315.0
PARKING ELEVATION = 305.0

PROPOSED BUILDING #2
F.F. ELEVATION = 317.2
PARKING ELEVATION = 307.2

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LEGEND

PROPERTY LINE / RIGHT OF WAY
PROPOSED CURB
EDGE OF WETLAND
100' WETLAND BUFFER

SCALE: 1"=30'-0"

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PROJECT # 15-18

Engineer:
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Revisions:

No.	Date	Comments:
1	10/1/15	Town Comments
2	12/7/15	Town Comments
3	1/25/16	Town Comments

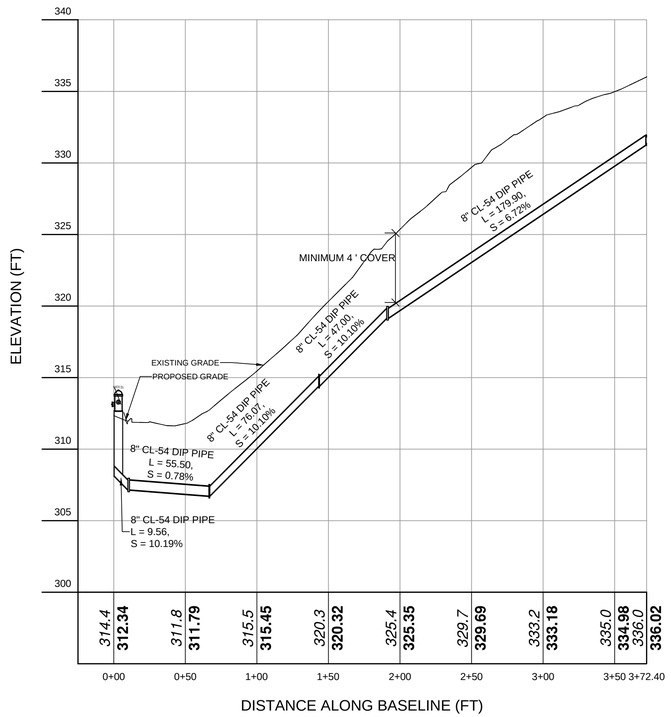
SCALE: 1" = 30'
DRAWN BY: TK
DATE: 9/25/15

LIGHTING PLAN

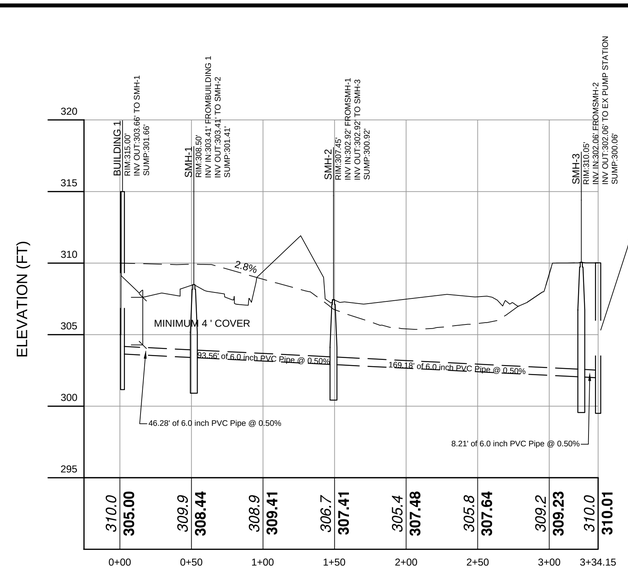
SITE PLAN
PREPARED FOR
PARTH KNOLLS LLC.
87 HAWKES AVENUE
Town of Ossining Westchester County, NY

Sheet C-112

F:\2015\15-18 BELDOTTI MANAGEMENT CORP\ENGINEERING\CAD\C3D-15-18 BELDOTTI MANAGEMENT CORP\15-18 SITE PLAN 7-15-16.DWG



WATERMAIN LOOP
PROFILE SCALE:
HORIZ: 1"=50'
VERT: 1"=5'



SEWER SERVICE
PROFILE SCALE:
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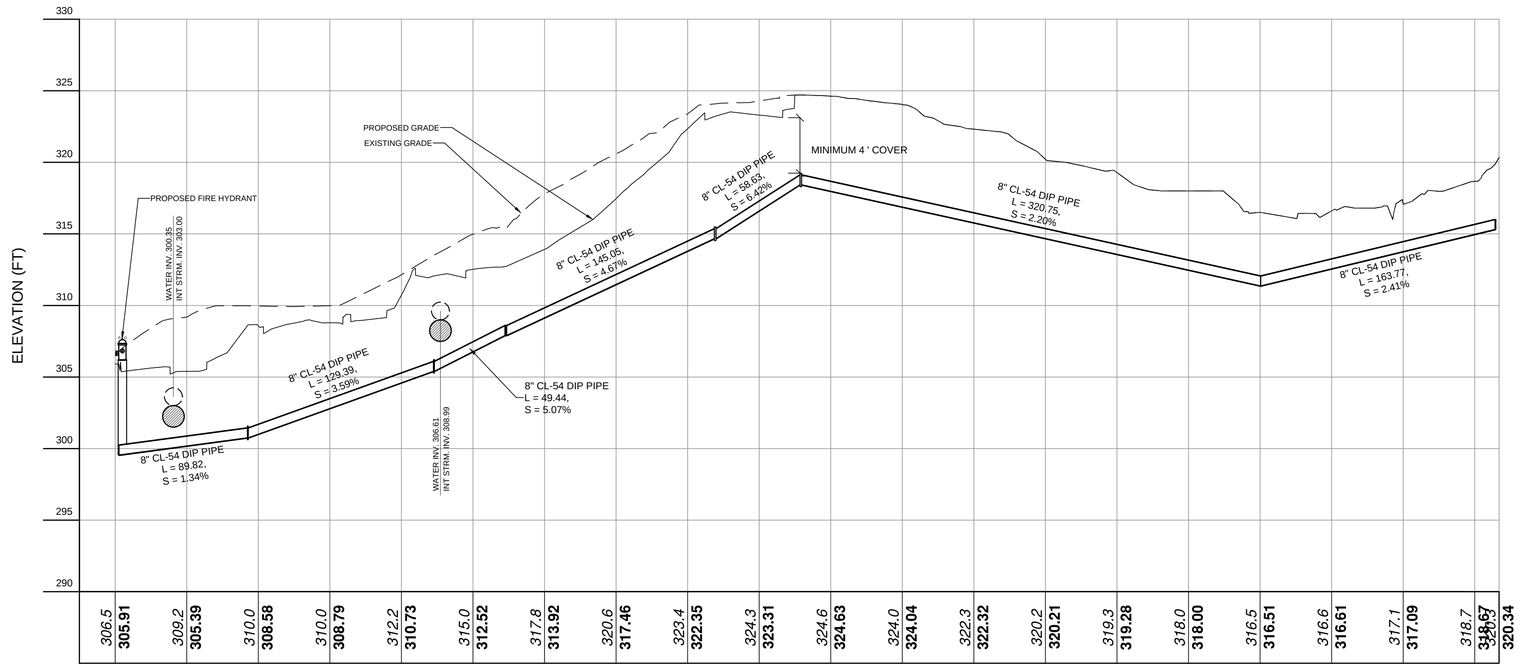

WATERMAIN
PROFILE SCALE:
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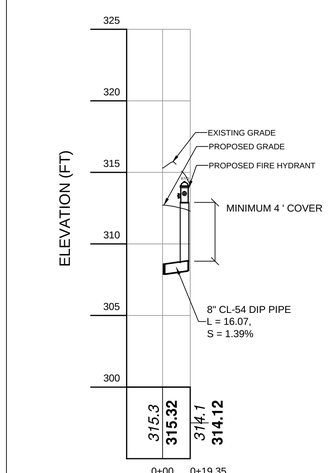
VERT: 1"=5'



Watermain 2
PROFILE SCALE:
HORIZ: 1"=50'
VERT: 1"=5'

E:\2015\15-18 BELLOTTI MANAGEMENT CORP\ENGINEERING\CADC\3D-15-18 BELLOTTI MANAGEMENT CORP15-18 SITE PLAN 7-15-16.DWG

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PROJECT # 15-18

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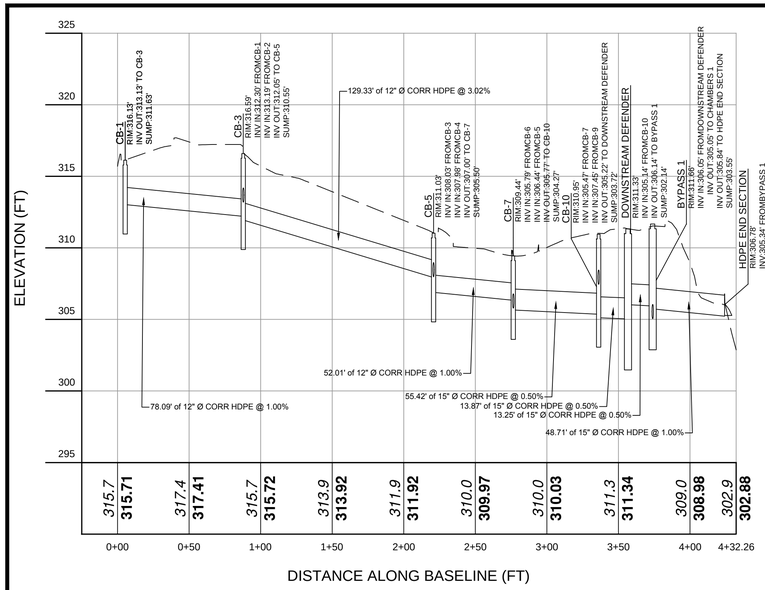
SCALE: NTS
DRAWN BY: TK
DATE: 9/25/15

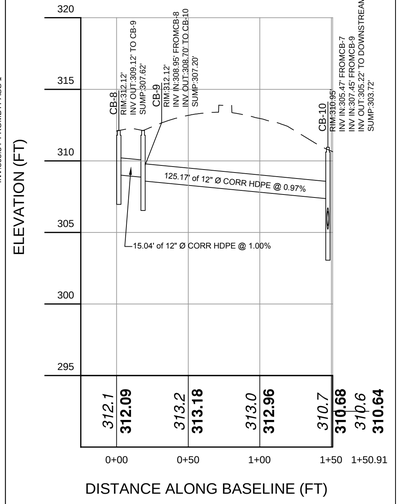
UTILITY PROFILES

SITE PLAN
PREPARED FOR
PARTH KNOLLS LLC.
87 HAWKES AVENUE
Town of Ossining Westchester County, NY

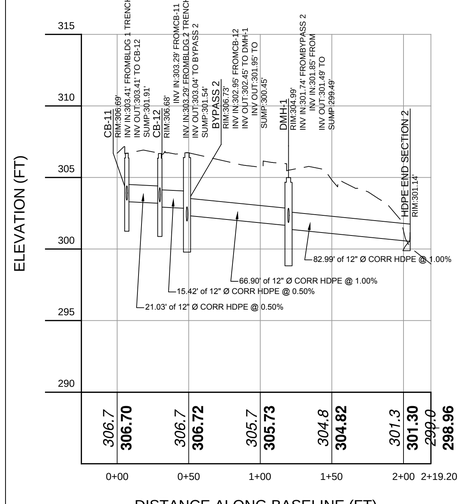
Sheet C-301



CB-1 TO OUTLET
PROFILE SCALE:
HORIZ: 1"=50'
VERT: 1"=5'



CB-8 TO CB-10
PROFILE SCALE:
HORIZ: 1"=50'
VERT: 1"=5'



CB-11 TO HDPE END SECTION 2
PROFILE SCALE:
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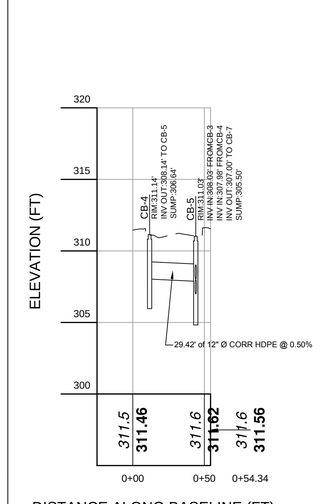
VERT: 1"=5'



CB-4 TO CB-5
PROFILE SCALE:
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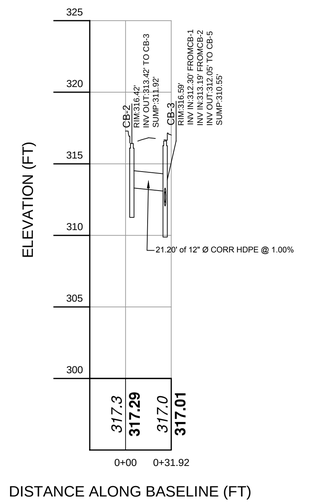

CB-3 TO CB-2
PROFILE SCALE:
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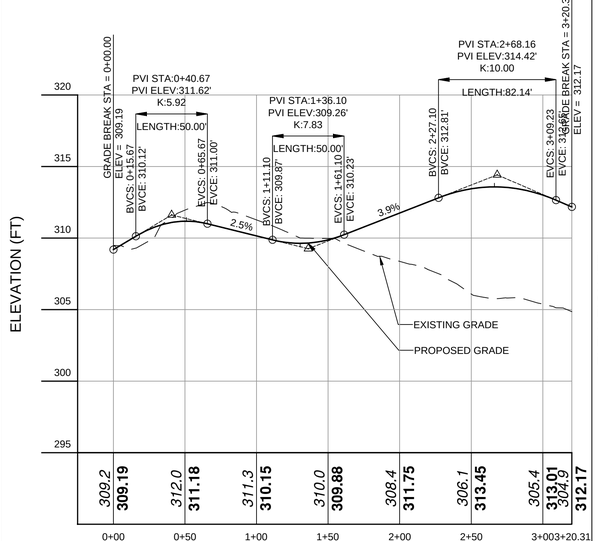
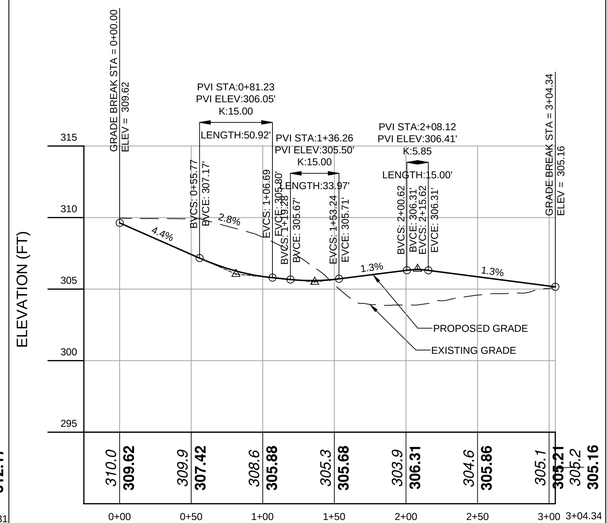
VERT: 1"=5'



Building 1 Driveway
PROFILE SCALE:
HORIZ: 1"=50'
VERT: 1"=5'



Driveway to Lower Parking
PROFILE SCALE:
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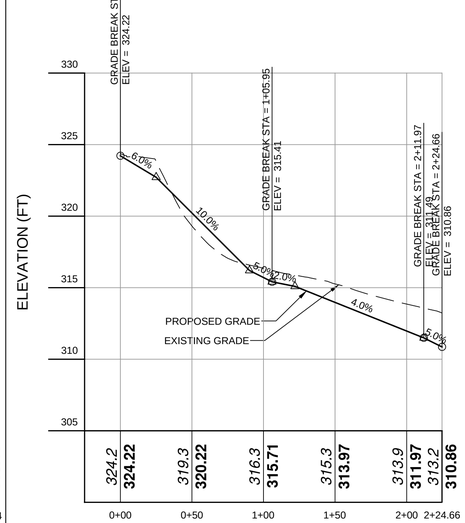
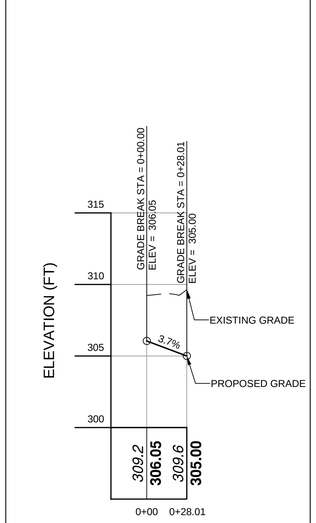
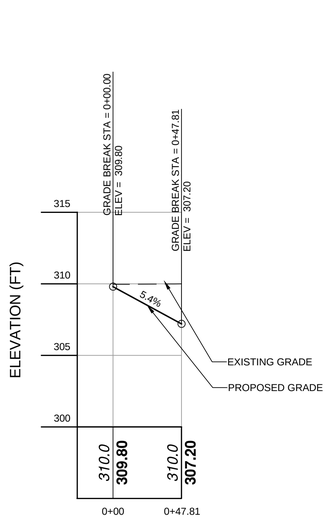
VERT: 1"=5'



Building 2 Driveway
PROFILE SCALE:
HORIZ: 1"=50'
VERT: 1"=5'



Building 1 Garage
PROFILE SCALE:
HORIZ: 1"=50'
VERT: 1"=5'



Building 2 Garage
PROFILE SCALE:
HORIZ: 1"=50'
VERT: 1"=5'

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PROJECT # 15-18

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NYS Lic. No. 64431

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SCALE: NTS
DRAWN BY: TK
DATE: 9/25/15

PROFILES

SITE PLAN
PREPARED FOR
PARTH KNOLLS LLC.
87 HAWKES AVENUE
Town of Ossining Westchester County, NY

Sheet C-302

GENERAL NOTES:

1. THE ENGINEER WHOSE SEAL APPEARS HEREON HAS NOT BEEN RETAINED FOR SUPERVISION OF CONSTRUCTION, SUBSEQUENTLY,HE IS NOT RESPONSIBLE FOR CONSTRUCTION AND THEREFORE ASSUMES NO RESPONSIBILITY FOR CONSTRUCTION PRACTICES, PROCEDURES, AND RESULTS THEREFROM.
2. THE ENGINEER SHALL NOT BE HELD RESPONSIBLE OR HELD ACCOUNTABLE FOR THE INTEGRITY OF ANY STRUCTURES CONSTRUCTED OR UNDER CONSTRUCTION PRIOR TO THE APPROVAL OF THE PLANS.
3. THE TOWN ENGINEER'S OFFICE AND WATER DISTRICT OFFICE IS TO BE NOTIFIED 24 HOURS BEFORE COMMENCING SITE CONSTRUCTION OR WATER MAIN CONNECTION.
4. ALL WORK IS TO BE IN ACCORDANCE WITH THE TOWN CODE OF PRACTICE AND SPECIFICATIONS.
5. ALL CONDITIONS, LOCATIONS, AND DIMENSIONS SHALL BE FIELD VERIFIED AND THE ENGINEER SHALL BE IMMEDIATELY NOTIFIED OF ANY DISCREPANCIES.
6. ALL CHANGES MADE TO THE PLANS SHALL BE APPROVED BY THE ENGINEER WHOSE SEALAPPEARS ON THESE DRAWINGS. ANY SUCH CHANGES SHALL BE FILED AS AMENDMENTS TO THE ORIGINAL BUILDING PERMIT.
7. ALL WRITTEN DIMENSIONS ON THE DRAWINGS SHALL TAKE PRECEDENCE OVER ANY SCALED DIMENSIONS.
8. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CALL IN A "CODE 53" PRIOR TO CONSTRUCTION FOR UNDERGROUND UTILITY LOCATIONS. 9. SUBSTRUCTURES AND THEIR ENCROACHMENTS BELOW GRADE, IF ANY, ARE NOT SHOWN.
9. ANY PROPOSED ELECTRIC AND/OR TELEPHONE SERVICE LINES ARE TO BE PLACED UNDERGROUND.
10. THE DESIGN ENGINEER DISCLAIMS ANY LIABILITY FOR DAMAGE OR LOSS INCURRED DURING OR AFTER CONSTRUCTION.
11. ALL CONDITIONS, LOCATIONS AND DIMENSIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR AND THE OWNER/ENGINEER NOTIFIED IN WRITING OF ANY DISCREPANCIES PRIOR TO THE START OF WORK. THE OWNER/ENGINEER WILL EVALUATE THE SITUATION AND MODIFY THE PLAN AS NECESSARY.

CONTRACTOR RESPONSIBILITIES:

1. ALL WORK ON THE PROJECT SHALL BE PERFORMED IN A WORKMAN LIKE MANNER AND SHALL BE IN ACCORDANCE WITH THE STANDARDS OF THE INDUSTRY. THE OWNER WILL BE THE SOLE JUDGE OF THE ACCEPTABILITY OF THE WORK. MATERIALS AND WORK DEEMED UNACCEPTABLE WILL BE REMOVED AND REDONE AT THE SOLE COST AND RESPONSIBILITY OF THE CONTRACTOR.
2. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT HIS WORK AND WILL BE HELD RESPONSIBLE FOR CONSEQUENTIAL DAMAGES DUE TO HIS ACTIVITIES. THE CONTRACTOR SHALL BE RESPONSIBLE TO THE OWNER FOR THE ACTS AND OMISSIONS OF HIS EMPLOYEE, AND THEIR AGENTS AND EMPLOYEES, AND ANY OTHER PERSONS PERFORMING ANY THE WORK UNDER A SEPARATE CONTRACT WITH THE CONTRACTOR.
3. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROPERLY SHORE EXISTING UTILITIES IF REQUIRED BY CONSTRUCTION.
4. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE THE BUILDING INSPECTOR IN ADVANCE OF HIS WORK OR AS THE INSPECTOR DEEMS APPROPRIATE.
5. ALL CONDITIONS, LOCATIONS AND DIMENSIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR AND THE OWNER/ENGINEER NOTIFIED IN WRITING OF ANY DISCREPANCIES PRIOR TO THE START OF WORK. THE OWNER/ENGINEER WILL EVALUATE THE SITUATION AND MODIFY THE PLAN AS NECESSARY.
6. ALL CHANGES MADE TO THIS PLAN SHALL BE APPROVED BY THE ENGINEER WHOSE SEAL APPEARS ON THESE DRAWINGS. ANY UNAUTHORIZED ALTERATION OR ADDITIONS TO THIS DRAWING IS A VIOLATION OF SECTION 7209 (2) OF THE NEW YORK STATE EDUCATION LAW.
7. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING HIS BEST SKILL AND ATTENTION. HE SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THIS CONTRACT.
8. THE CONTRACTOR SHALL BE RESPONSIBLE TO THE OWNER FOR THE ACTS AND OMISSIONS OF HIS EMPLOYEES, SUBCONTRACTORS, AND THEIR AGENTS AND EMPLOYEES, AND ANY OTHER PERSONS PERFORMING ANY OF THE WORK UNDER A CONTRACT WITH THE CONTRACTOR.
9. THE CONTRACTOR SHALL VERIFY ALL SUBSTRUCTURES ENCOUNTERED DURING CONSTRUCTION.
10. THE CONTRACTOR SHALL SECURE & PAY FOR A BUILDERS RISK POLICY TO COVER THE PERIOD OF CONSTRUCTION. THE ENGINEER & OWNER SHALL BE NAMED AS ADDITIONAL INSURED. ALL CONTRACTORS EMPLOYED AT THE SITE SHALL BE COVERED BY WORKMAN'S COMPENSATION.

GENERAL CONSTRUCTION NOTES:

1. BENCH MARKS USING U.S.G.S. DATUM SHALL BE OF SUCH ELEVATION THAT THE GROUND WILL SLOPE AWAY FROM IT IN ALL DIRECTIONS.
2. CONSTRUCTION ACTIVITY SHALL BE LIMITED FROM 8:00 A.M. TO 6 P.M., AND NO CONSTRUCTION ACTIVITY SHALL OCCUR ON SUNDAYS OR LEGAL NEW YORK STATE HOLIDAYS. WHERE BLASTING IS NECESSARY, IT SHALL OCCUR FROM MONDAY THROUGH FRIDAY BETWEEN THE HOURS OF 8:00 A.M. AND 6:00 P.M. NO BLASTING SHALL OCCUR ON HOLIDAYS, SATURDAY OR SUNDAY. ALL BLASTING SHALL ALSO BE COMPLETED IN ACCORDANCE WITH THE TOWN OF OSSINING AND NEW YORK STATE BLASTING ORDINANCES.
3. ANY SOIL THAT IS UNSUITABLE FOR DEVELOPMENT OF BUILDINGS OR ROADWAYS SHALL BE REMOVED FROM AREAS TO BE DEVELOPED AND SHALL BE DISPOSED OF WITHIN THE SITE IN NEW EMBANKMENTS WHERE STRUCTURAL LOADING, I.E. A BUILDING OR ROADWAY, WILL NOT TAKE PLACE. WHEN CONSTRUCTION IS PROPOSED TO OCCUR IN SPECIFIC AREAS WHERE SOILS ARE OF QUESTIONABLE SUITABILITY, THE APPLICANT SHALL PROVIDE SOILS ENGINEERING REPORTS AS REQUIRED BY THE PLANNING BOARD ENGINEER, PRIOR TO THE CONSTRUCTION OF ROADWAYS AND, AS REQUIRED BY THE BUILDING INSPECTOR, PRIOR TO THE ISSUANCE OF A BUILDING PERMIT.
4. NO TOPSOIL SHALL BE REMOVED FROM THE SITE.
5. ROCK CUT STABILITY IS TO BE FIELD VERIFIED BY GEOTECHNICAL ENGINEER AND SHALL BE MODIFIED IF REQUIRED.
6. NO CRUSHING/PROCESSING IS PERMITTED ON THE SITE WITHOUT PRIOR APPROVAL BY THE TOWN OF OSSINING PLANNING BOARD.

GENERAL STORM DRAINAGE & UTILITY NOTES

1. ALL UTILITIES, INCLUDING ELECTRIC LINES, TELEPHONE, WATER, SANITARY SEWER LINES, AND STORM SEWER LINES SHALL BE LOCATED UNDERGROUND AND SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE TOWN OF OSSINING AND THE UTILITY COMPANIES HAVING JURISDICTION.
2. LOCATION OF GAS AND WATER VALVES, ELECTRIC AND TELEPHONE POLES ARE TO BE DETERMINED BY PROPER AUTHORITIES AND APPROVED, AS TO LOCATION, BY THE TOWN ENGINEER.
3. EACH BUILDING CONSTRUCTED HEREON SHALL BE OF SUCH AN ELEVATION THAT THE GROUND WILL SLOPE AWAY FROM IT IN ALL DIRECTIONS. IN THE EVENT THAT THIS IS NOT FEASIBLE, THE CONTRACTOR SHALL INSTALL TYPICAL YARD DRAINS AS REQUIRED AND CONNECT THEM TO THE STORM DRAINAGE SYSTEM OR AS DIRECTED BY THE PROJECT ENGINEER.
4. ROOF LEADERS AND FOOTING DRAINS SHALL EMPTY INTO THE STORM DRAINAGE SYSTEM OR DISCHARGE DIRECTLY TO STORMWATER MANAGEMENT SYSTEMS IF GRADES PERMIT, AND CONNECTION TO THE STORM SYSTEM IS NOT FEASIBLE, FOOTING DRAINS ONLY MAY DISCHARGE TO DAYLIGHT AT THE REAR OF BUILDINGS. FOOTING DRAINS SHALL EXTEND A MINIMUM OF 30 FT. FROM THE REAR FACE OF THE BUILDING WHEN POSSIBLE. UNDER NO CIRCUMSTANCES SHALL THE DISCHARGE OF GROUND WATER OR STORM WATER, EITHER BY GRAVITY OR BY PUMPING, BE DISCHARGED TO ANY SANITARY SEWER SYSTEM.
5. ANY REVISIONS AND/OR ADDITIONS TO THE ROAD STORM DRAINAGE SYSTEMS CURRENTLY SHOWN ON THE PLANS WHICH ARE DEEMED NECESSARY DURING CONSTRUCTION MUST BE MADE BY THE CONTRACTOR AS REQUIRED BY THE TOWN AND SHALL BE SHOWN ON THE AS-BUILT DRAWINGS.
6. STORM DRAIN PIPING TO BE HIGH DENSITY POLYETHYLENE AS SHOWN ON THE CONSTRUCTION DRAWINGS. MINIMUM COVER TO BE 2' UNLESS OTHERWISE NOTED.
7. INTERCEPTOR DRAINS ARE TO BE INSTALLED WHERE REQUIRED BY THE TOWN OR PROJECT ENGINEER DURING ROAD CONSTRUCTION.
8. ALL EXISTING UNDERGROUND DRAINS ENCOUNTERED DURING CONSTRUCTION OF PROPOSED ROADS ARE TO BE CONNECTED TO PROPOSED DRAINAGE IMPROVEMENTS. CONNECTIONS TO BE APPROVED BY THE TOWN ENGINEER.
9. PRIOR TO FINAL APPROVAL AND OPERATION OF DRAINAGE SYSTEM, CONTRACTOR SHALL CLEAR ALL ACCUMULATED SEDIMENT AND/OR DEBRIS FROM DRAINAGE STRUCTURES, MANHOLES, CULVERTS, OUTLETS AND DRAIN INLETS. ENGINEER SHALL BE NOTIFIED FOR FINAL INSPECTION.
10. ALL STRUCTURES SHALL BE SET ONE INCH BELOW PAVEMENT.
11. STREET OPENING PERMIT FROM THE TOWN OF OSSINING D.P.W. MAY BE REQUIRED FOR INSTALLATIONS IN PUBLIC ROADS.

WALL NOTES:

1. EXCAVATION IN GENERAL SHALL CONFORM TO THE LINES AND GRADES SHOWN ON THE CONTRACT DRAWINGS.
2. THE ENGINEER SHALL BE NOTIFIED OF UNSUITABLE SUB-GRADE SOILS PRIOR TO PLACEMENT OF WALL.
3. WALLS TO BE CONSTRUCTED ON VIRGIN IN-SITU SOIL SHALL HAVE A MINIMUM ALLOWABLE BEARING CAPACITY OF 2 TSF. ALL OTHER CONDITIONS SHALL BE APPROVED BY THE GEOTECHINICAL ENGINEER.
4. TO INSURE A PROPER BEARING SURFACE, THE WALL SHALL BE CONSTRUCTED ON NATURAL IN-SITU SOIL, THE CONTRACTOR SHALL STRIP ALL TOP SOIL. THE AREA SHALL THEN BE COMPACTED USING SUITABLE COMPACTION EQUIPMENT. A MINIMUM OF 3 PASSES SHALL BE MADE.
5. WALLS SHALL NOT BE CONSTRUCTED ON WET OR FROZEN GROUND.
6. SOILS USED AS BACKFILL SHALL CONSIST OF CLEAN DRY SOIL. THE MATERIAL SHALL BE GRANULAR AND FREE OF ORGANIC OR OTHER DELETERIOUS MATERIAL. IN GENERAL THE SOIL SHALL BE NON-PLASTIC WITH A PLASTICITY INDEX LESS THAN 5 AND SHALL CONFORM TO THE AASHTO SOIL CLASSIFICATION SYSTEM FOR AN "A-1-A" SOIL . HOWEVER THE MAXIMUM SIZE SHALL BE 6". IN GENERAL ALL FILL SHALL BE APPROVED BY THE ENGINEER PRIOR TO IT'S USE. WET MATERIAL OR UNSUITABLE MATERIAL SHOULD NOT BE USED.
7. BACKFILL SHALL BE PLACED AND COMPACTED IN A MAXIMUM 12" LIFTS.
8. ALL BOULDER RETAINING WALLS SHALL HAVE A GEOTEXTILE FABRIC BACKING FOR THE FULL HIEGHT OF THE WALL AS MANUFACTURED BY MIRAFI OR APPROVED EQUAL.
9. IF GROUNDWATER IS ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY TO DETERMINE IF THE ADDITION OF AN UNDERDRAIN MAY BE REQUIRED.
10. THE CONTRACTOR SHALL NOT USE LARGE OR HEAVY CONSTRUCTION EQUIPMENT WITHIN 5' OF THE RETAINING WALLS OR NEW FOUNDATION WALLS. HAND OPERATED COMPACTING EQUIPMENT SHALL BE USED WITHIN 5' OF THE WALL FACE.
11. ALTERNATE WALL DESIGNS MUST BE SEALED BY A NEW YORK STATE LICENSED PROFESSIONAL ENGINEER THE MINIMUM FACTORS OF SAFETY FOR SLIDING AND OVERTURNING SHALL BE 2.0.
12. ALTERNATE WALL DESIGNS MUST BE SEALED BY A NEW YORK STATE LICENSED PROFESSIONAL ENGINEER THE MINIMUM FACTORS OF SAFETY FOR SLIDING AND OVERTURNING SHALL BE 2.0.

WATERMAIN NOTES

I. DISTRIBUTION SYSTEM - WATERMAIN

A. GENERAL

THE CONTRACTOR SHALL PERFORM THE NECESSARY EXCAVATION, BACKFILLING, CLEARING, GRUBBING, SHEETING, SHORING, DO ALL SHAPING OF TRENCHES, PUMPING AND BAILING, LAYING AND JOINING OF ALL PIPES, PROTECT AND SUPPORT EXISTING STRUCTURES AND REPAIR THEM, IF DAMAGED, AND ALL ELSE NECESSARY TO COMPLETE THE WORK.

THE CONTRACTOR SHALL FURNISH ALL MATERIALS, EQUIPMENT, LABOR, AND TOOLS NECESSARY TO COMPLETE THE WORK IN A SAFE, NEAT, AND WORKMANLIKE MANNER.

B. SITE AND ACCESS CLEARING (WITHIN EASEMENTS)

THE CONTRACTOR SHALL CONFINE ALL CLEARING OPERATIONS TO WITHIN THE IMMEDIATE AREAS THAT ARE ESSENTIAL FOR CONSTRUCTION OF THE WORK.

C. STOCKPILING OF SUITABLE BACKFILL MATERIAL

THE CONTRACTOR SHALL BE PREPARED WHEN EXCAVATING THE TRENCH TO SEPARATE SUITABLE BACKFILL MATERIAL FROM UNSUITABLE MATERIAL FOR USE AS BACKFILL ADJACENT TO THE PIPE.

D. PROTECTION OF EXISTING STRUCTURES AND UTILITIES

SPECIAL PRECAUTIONS SHALL BE TAKEN BY THE CONTRACTOR TO PROTECT OVERHEAD POWER LINES, WATERMAINS, GAS MAINS, ELECTRIC AND TELEPHONE CONDUITS, STORM AND SANITARY SEWERS, CULVERTS, BUILDINGS AND OTHER EXISTING STRUCTURES IN AND NEAR THE EXCAVATION. IN ALL CASES, WHETHER UNDERGROUND STRUCTURES HAVE OR HAVE NOT BEEN DELINEATED, THE TOWN ENGINEER, WATER SUPERINTENDENT, OR AUTHORIZED REPRESENTATIVE ACCEPTS NO RESPONSIBILITY FOR THEIR LOCATION. 'UNDERGROUND UTILITIES" LOCATES EXISTING UNDERGROUND UTILITIES FREE OF CHARGE. THE PHONE NUMBER IS 1-800-245-2828.

GUTTERS, SEWERS, DRAINS AND DITCHES SHALL BE KEPT OPEN AT ALL TIMES FOR SURFACE DRAINAGE. NO DAMMING OR PONDING OF WATER IN GUTTERS OR OTHER WATERWAYS WILL BE PERMITTED EXCEPT WHERE STREAM CROSSINGS ARE NECESSARY AND THEN ONLY TO AN EXTENT WHICH THE TOWN ENGINEER, WATER SUPERINTENDENT, OR AUTHORIZED REPRESENTATIVE SHALL CONSIDER NECESSARY. THE CONTRACTOR SHALL NOT DIRECT ANY FLOW OF WATER ACROSS OR OVER PAVEMENTS EXCEPT THROUGH APPROVED PIPES OR PROPERLY CONSTRUCTED TROUGHS OF SUCH SIZES AND LENGTHS AS MAY BE REQUIRED, AND PLACE THE SAME AS DIRECTED. THE GRADING IN THE VICINITY OF TRENCHES SHALL BE CONTROLLED SO THAT THE GROUND SURFACE IS PROPERLY PITCHED TO PREVENT WATER RUNNING IN THE TRENCHING. THE CONTRACTOR SHALL NOT COMMENCE OPERATIONS INVOLVING ANY PUBLIC UTILITY BEFORE HAVING GIVEN WRITTEN NOTICE TO THE COMPANY OR OWNER, OR ITS AGENTS, AND SHALL COOPERATE WITH THE COMPANY'S OR OWNER'S FORCES IN PROTECTING AND PREVENTING DAMAGE TO THE PROPERTY.

THE CONTRACTOR WILL, AT HIS OWN EXPENSE, BE RESPONSIBLE FOR DIRECT OR INDIRECT DAMAGE THAT MAY BE DONE TO ANY UTILITY OR STRUCTURE IN THE PROSECUTION OF HIS WORK. THE LIABILITY OF THE CONTRACTOR IS ABSOLUTE AND IS NOT DEPENDENT UPON ANY QUESTIONS OF NEGLIGENCE ON HIS PART OR ON THE PART OF HIS AGENT, OR EMPLOYEES, AND THE NEGLECT OF THE TOWN ENGINEER, WATER SUPERINTENDENT, OR AUTHORIZED REPRESENTATIVE TO DIRECT THE CONTRACTOR TO TAKE ANY PARTICULAR PRECAUTION OR TO REFRAIN FROM DOING SUCH DAMAGE.

SHOULD THE POSITION OF ANY PIPE, CONDUIT, POLE OR OTHER STRUCTURES, ABOVE OR BELOW THE GROUND, BE SUCH AS TO REQUIRE ITS REMOVAL, REALIGNMENT, OR CHANGE DUE TO WORK TO BE DONE, REALIGNMENT OR CHANGE WILL BE DONE BY OR UNDER SUPERVISION OF THE OWNER OF THE OBSTRUCTIONS. THE CONTRACTOR SHALL UNCOVER AND SUSTAIN THE STRUCTURES, AFTER SUCH REALIGNMENT OR CHANGE.

THE CONTACTOR SHALL NOT INTERFERE WITH ANY PERSONS, OR WITH THE OWNER IN PROTECTING, REMOVING, CHANGING OR REPLACING THEIR PIPES, CONDUITS, POLES OR OTHER STRUCTURES; BUT HE SHALL SUFFER SAID PERSONS OR THE OWNER TO TAKE ALL SUCH MEASURES AS THEY MAY DEEM NECESSARY OR ADVISABLE FOR THE PURPOSE AFORESAID, AND THE CONTRACTOR SHALL THEREBY BE IN NO WAY RELIEVED OF ANY OF HIS RESPONSIBILITIES.

THE CONTRACTOR SHALL MAKE ALL NECESSARY ARRANGEMENTS WITH THE OWNER OF THE RESPECTIVE UTILITY PRIOR TO RELOCATION OR INTERRUPTION OF SERVICE. ALL WORK NECESSARY FOR THE RELOCATION SHALL BE PERFORMED BY THE CONTRACTOR, OR BY THE OWNER AT THE OWNER'S OPTION, AND TO THE SATISFACTION OF THE OWNER. WHERE SERVICE IS INTERRUPTED, THE CONTRACTOR SHALL COOPERATE IN RESTORING SERVICE PROMPTLY. ALL CHARGES FOR DAMAGES DONE TO UTILITIES SHALL BE PAID BY THE CONTRACTOR.

E. CONSTRUCTION OF ROAD RIGHT-OF-WAY

CONSTRUCTION IN THE ROAD RIGHT-OF-WAY SHALL AT ALL TIMES BE PERFORMED WITH MINIMUM DISTURBANCE TO TRAFFIC WITH SUFFICIENT BARRICADES AND DIRECTION. DETOURS CAN BE INSTITUTED WITH APPROVAL OF THE TOWN ENGINEER, WATER SUPERINTENDENT, OR AUTHORIZED REPRESENTATIVE, OR STATE, COUNTY, OR LOCAL AUTHORITIES. PAVEMENT SHALL BE CUT PRIOR TO REMOVAL. HOLES AND SETTLEMENTS IN THE TRENCHES SHALL BE IMMEDIATELY FILLED TO THE ORIGINAL GRADE ELEVATION WITH THE SPECIFIED MATERIALS.

F. EXCAVATION AND PREPARATION OF TRENCH

THE CONTRACTOR SHALL PROCEED WITH CAUTION IN THE EXCAVATION AND PREPARATION OF THE TRENCH SO THAT THE EXACT LOCATION OF UNDERGROUND STRUCTURES, BOTH KNOWN AND UNKNOWN, MAY BE DETERMINED. THE TRENCH SHALL BE EXCAVATED SO THAT THE PIPE CAN BE LAID TO THE ALIGNMENT AND DEPTH REQUIRED. MINIMUM DEPTH OF COVER FROM SURFACE OF GROUND TO TOP OF PIPE BARREL SHALL BE FOUR FEET (4'). NO TRENCH SHALL BE EXCAVATED MORE THAN FIVE HUNDRED LINEAL FEET (500 LF) IN ADVANCE OF PIPE LAYING UNLESS AUTHORIZED BY THE TOWN ENGINEER, WATER SUPERINTENDENT, OR AUTHORIZED REPRESENTATIVE. THE TRENCH SHALL BE SO BRACED AND DRAINED THAT THE WORKMEN MAY WORK THEREIN SAFELY AND EFFICIENTLY. IT IS ESSENTIAL THAT THE DISCHARGE OF THE TRENCH DEWATERING PUMPS BE CONDUCTED TO NATURAL DRAINAGE CHANNELS OR DRAINS, AS IN ACCORDANCE WITH OSHA REQUIREMENTS.

THE WIDTH OF THE TRENCH SHALL BE OF ADEQUATE SIZE TO PERMIT THE PIPE TO BE LAID AND JOINTED PROPERLY, BUT SHALL NOT EXCEED THE SUM OF TWENTY-FOUR INCHES(24") PLUS THE PIPE OUTSIDE DIAMETER, AND THE BACKFILL TO BE PLACED AND COMPACTED AS SPECIFIED.

LEDGE ROCK, BOULDERS AND LARGE STONES SHALL BE REMOVED TO PROVIDE A CLEARANCE OF AT LEAST SIX INCHES (6") BELOW AND ON EACH SIDE OF ALL PIPES AND FITTINGS.

THE TRENCH SHALL BE EXCAVATED TO THE DEPTH REQUIRED SO AS TO PROVIDE A UNIFORM AND CONTINUOUS BEARING AND SUPPORT FOR THE PIPE ON SOLID AND UNDISTURBED GROUND AT EVERY POINT. WHERE THE BOTTOM OF THE TRENCH AT A SUBGRADE IS FOUND TO BE UNSTABLE, OR TO INCLUDE ASHES, CINDERS, ALL TYPES OF REFUSE, VEGETABLE OR OTHER ORGANIC MATERIAL OR LARGE PICES OF FRAGMENTS OR INORGANIC MATERIAL WHICH IN THE JUDGEMENT OF THE TOWN ENGINEER, WATER SUPERINTENDENT, OR AUTHORIZED REPRESENTATIVE SHOULD BE REMOVED, THE CONTRACTOR SHALL EXCAVATE AND REMOVE SUCH UNSUITABLE MATERIAL TO THE WIDTH AND DEPTH ORDERED BY THE TOWN ENGINEER, WATER SUPERINTENDENT, OR AUTHORIZED REPRESENTATIVE.

ANY PART OF THE BOTTOM OF THE TRENCH EXCAVATED BELOW THE SPECIFIED GRADE SHALL BE CORRECTED WITH APPROVED BEDDING MATERIAL, SUCH AS THOROUGHLY COMPACTED CRUSHED STONE, GRAVEL, OR CONCRETE AS DIRECTED BY THE TOWN ENGINEER, WATER SUPERINTENDENT, OR AUTHORIZED REPRESENTATIVE. THE FINISHED SUBGRADE SHALL BE PREPARED ACCURATELY BY MEANS OF HAND TOOLS.

GENERAL WATER MAIN NOTES:

1. ALL PROPOSED WATERMAIN MATERIALS, CONSTRUCTION AND INSTALLATION SHALL CONFORM TO ALL APPLICABLE RULES AND REGULATIONS OF THE TOWN OF OSSINING WATER DEPARTMENT AND THE WESTCHESTER COUNTY HEALTH DEPARTMENT STANDARDS AND SPECIFICATIONS.
2. THE RECORDS OF THE TOWN OF OSSINING INDICATE THAT THERE IS ADEQUATE WATER PRESSURE AND CAPACITY AS REQURIED TO SERVE THIS PROJECT.
3. ALL BACKFLOW PREVENTION DEVICES ASSOCIATED WITH THE FIRE AND DOMESTIC SERVICES FOR EACH OF THE PROPOSED OFFICE SPACES IN THE TYPE "B" UNITS SHALL BE LOCATED INTERNAL TO THE BUILDING AND SHALL REQUIRE SEPARATE APPROVAL BY THE WESTCHESTER COUNTY DEPARTMENT OF HEALTH.
4. ALL FIRE AND DOMESTIC SERVICE CONNECTIONS FROM THE PROPOSED WATER MAIN SHALL BE INSTALLED WITH WET TAPS AFTER THE CONTRACTOR HAS INSTALLED THE MAIN AND IT HAS BEEN APPROVED BY THE TOWN OF OSSINING WATER DEPARTMENT AND THE WESTCHESTER COUNTY DEPARTMENT OF HEALTH.
5. THE CONTRACTOR IS ADVISED THAT BEFORE HE CONNECTS TO THE EXISTING WATER SYSTEM, HE MUST ADVISE AND COORDINATE HIS OPERATIONS WITH THE TOWN OF OSSINING WATER DEPARTMENT'S SUPERINTENDENT. MEANS AND METHODS USED TO CONNECT TO THE EXISTING SERVICE SHALL BE APPROVED BY THE TOWN AND SHALL INCLUDE BUT NOT BE LIMITED TO WET TAPS OR OTHERWISE.
6. THE CONTRACTOR IS TO MAINTAIN CONSTANT FLOW AND PRESSURE IN ALL WATER MAINS AT ALL TIMES. IF THE NEED SHOULD ARISE THAT WATER SERVICE IS TO BE INTERRUPTED FOR A SHORT PERIOD, IT MUST BE COORDINATED WITH AND APPROVED BY THE ENGINEER AND THE TOWN OF OSSINING SUPERINTENDENT OF WATER.
7. WATER MAINS CROSSING HOUSE SEWERS, STORM SEWERS OR SANITARY SEWERS SHALL BE LAID TO PROVIDE A VERTICAL SEPARATION OF A MINIMUM OF 18" BETWEEN THE BOTTOM OF WATER MAIN AND TOP OF SEWER.
8. WATER MAINS PASSING UNDER HOUSE SEWERS, IN ADDITION, SHALL BE PROTECTED BY PROVIDING A VERTICAL SEPARATION OF 18" MINIMUM FROM THE BOTTOM OF THE SEWER TO THE TOP OF THE WATER MAIN AND ADEQUATE STRUCTURAL SUPPORT FOR THE SEWER TO PREVENT EXCESSIVE DEFLECTION OF THE JOINTS AND THE SEWER SETTLING AND BREAKING THE WATER MAIN. IN ADDITION THE LENGTH OF WATER PIPE IS TO BE CENTERED AT THE POINT OF CROSSING SO THAT THE JOINTS WILL BE EQUIDISTANT AND AS FAR AS POSSIBLE FROM THE SEWER. NO WATER MAIN SHALL PASS THROUGH OR COME IN CONTACT WITH ANY PART OF A SEWER OR SEWER MANHOLE.
9. THE COVER OVER THE TOP OF THE WATER MAIN SHALL BE A MINIMUM OF 4 FEET TO A MAXIMUM OF 5.5 FT.
10. WATER MAINS SHALL BE CLASS 54 DUCTILE IRON PIPES (DIP) TYTON JOINT TYPE AND FITTINGS SHALL BE FACTORY CEMENT LINED CLASS 54. ALL FITTINGS SHALL HAVE MECHANICAL JOINTS AND SHALL BE PRESSURE RATED AT 250 PSI. ALL NECESSARY JOINT MATERIALS SHALL BE FURNISHED. WATER MAINS SHALL BE INSTALLED IN ACCORDANCE WITH AWWA STANDARDS, LATEST REVISION.
11. ALL GATE VALVES SHALL BE MUELLER RESILIENT WEDGE (TURN LEFT OPEN) TYPE AND SHALL MEET AWWA STANDARDS, LATEST REVISION.
12. ALL SERVICE CONNECTIONS AND SMALL DIAMETER EXTENSIONS SHALL CONFORM TO AWWA C-151.
13. RETAINER GLANDS AND CONCRETE THRUST BLOCKS OR RODS SHALL BE USED AT ALL LOCATIONS WHERE RESTRAINTS EXIST.
14. INSTALLATION AND TESTING OF THE WATER MAIN SHALL BE INSPECTED BY THE WESTCHESTER COUNTY DEPARTMENT OF HEALTH. THE CONTRACTOR SHALL PROVIDE THE HEALTH DEPARTMENT A MINIMUM 48 HOURS NOTICE PRIOR TO ANY PRESSURE/LEAKAGE TESTS AND/OR DISINFECTION AND BACTERIOLOGICAL TESTS PERFORMED ON THE PROPOSED WATER MAIN. THE RESULTS OF THE ABOVE TESTS MUST BE ACCEPTED BY THE WCHD PRIOR TO USE OF THE MAIN.
15. ASBUILT DRAWINGS SHALL SHOW DIMENSIONS BETWEEN ALL VALVE TURNING NUTS AND FINISH GRADE.
16. INSTALLATION, DISINFECTION AND TESTING TO BE WITNESSED AND CERTIFIED BY A LICENSED PROFESSIONAL ENGINEER OR TOWN OF OSSINING ENGINEER.
17. ALL HYDRANTS AND VALVES SHALL BE AS MANUFACTURED BY THE MUELLER COMPANY.
18. THE FINAL LOCATIONS OF FIRE HYDRANTS AND SIAMESE CONNECTIONS SHALL BE DETERMINED BY AND COORDINATED WITH THE TOWN OF OSSINING FIRE DEPARTMENT.
19. IF, DURING CONSTRUCTION, IT IS FOUND THAT THE REQUIRED SEPARATION OF WATER MAINS, SANITARY SEWERS, STORM SEWERS, AND BUILDING SEWERS CANNOT BE MET, THE DEVELOPER OR HIS AUTHORIZED REPRESENTATIVE SHALL CONTACT THE WESTCHESTER COUNTY DEPARTMENT OF HEALTH. APPROVAL BY THE WCHD IS REQUIRED PRIOR TO ANY FIELD CHANGES THAT WILL AFFECT MINIMUM WATER/SEWER SEPARATION DISTANCES.
20. ALL TYPES OF INSTALLED PIPE SHALL BE PRESSURE TESTED AND LEAKAGE TESTED IN ACCORDANCE WITH THE LATEST EDITION OF AWWA STANDARD C-600.
21. ALL NEW, CLEANED OR REPAIRED WATER MAINS SHALL BE DISINFECTED AND BACTERIOLOGICAL TESTING PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF AWWA STANDARD C-651-05 (EXCEPT FOR SECTION 4.4.2 WHICH IS NOT APPROVABLE). THE SPECIFICATIONS INCLUDE DETAILED PROCEDURES FOR THE ADEQUATE FLUSHING, DISINFECTION, AND MICRO- BIOLOGICAL TESTING OF ALL WATER MAINS.
22. ROAD OPENINGS SHALL BE DONE IN ACCORDANCE WITH CONDITIONS OF PERMIT, AND COORDINATED WITH THE TOWN OF OSSINING.

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

PROJECT # 15-18

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

Revisions:

No.	Date	Comments:
1	11/5/15	Town Comments
2	12/7/15	Town Comments
3	1/25/16	Town Comments
4	3/7/16	Town Comments
5	4/8/16	Town Comments

SCALE: NTS
DRAWN BY: TK
DATE: 9/25/15

NOTES

SITE PLAN
PREPARED FOR
PARTH KNOLLS LLC.
87 HAWKES AVENUE
Town of Ossining Westchester County, NY

Sheet G-1

F:\2015\15-J8.BELDOTTI MANAGEMENT.CORP\ENGINEERING\CADD\15-J8 BELDOTTI MANAGEMENT CORP.DETAILS.2-29-16.DWG

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.

1. 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.
2. 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.
3. 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.
4. 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).
5. 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).
6. 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 stated woodchips may be stockpiled 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.

Standard Sequence Notes for Phases I & II

7. Begin rough grading the building pads for the Buildings. Begin moving the fill towards the location designated for each phase. Cut and fill of a certain phase shall meet the next phase boundary at a maximum slope of 2V:1H. For previous phases where grading is complete match to finish grade elevations. All compaction requirements shall be met within the fill sections. (This work shall include the commencement of the retaining walls around the proposed building construction.) Upon completion of the grading, temporary seed or hydro-mulch the embankment and install erosion control blankets as shown on the Plans along the northern perimeter of the fill section. During building and site construction, maintain and re-establish as required, erosion control and stabilization measures as required by the Site Plan and Details. Areas which are to remain undisturbed for more than seven (7) days shall be stabilized with temporary seeding or mulch.
8. A licensed surveyor must define the building locations.
9. Install or check condition of all temporary Erosion Control Measures as shown on the Erosion and Sediment Control Plan.
10. Begin preparation of the building site and excavation of the building foundation as well as construction of all retaining walls. Areas in which final grade is achieved shall be immediately stabilized with permanent vegetative cover. Permanent slopes of 3:1 or greater shall receive erosion blankets.
11. Begin construction of the foundation. Upon completion and after proper curing time is achieved, backfill the foundation and bring site to rough grade. Areas which are to remain undisturbed for more than seven (7) days shall be stabilized with temporary seeding or mulch.

The following phases are the general order for construction of the project and may be modified after approved by the supervising Engineer. The phasing is meant to minimize the amount of open disturbance. Under no circumstances shall multiple phases amounting to five (5) acres or greater be disturbed during the same period of time. In the event greater disturbance is necessary outside of the Phase lines shown on the Erosion and Sediment Control Plan, the Contractor shall coordinate with the Engineer of Record, and Municipality for an on-site meeting to discuss the alternative approach to the construction.

Phase I: Construction of Building 1 - The intent of this Phase is to complete the construction of Building 1, the driveways for the parking area in front of the building, the parking garage, the parking area in the rear of the building, and the landscape and hardscape included in the Phase limits shown on the Erosion and Sediment Control Plan. Additionally, any proposed drainage measures shown within the phase limits shall be put in place, but not connected until the final stabilization of Phase 2.

1. The Surveyor shall stake-out the proposed driveway centerlines, limits of cut and fill and the location of the temporary sediment traps.
2. Implement the General Sequence Notes 1 through 6 where applicable prior to continuing this Phase.
3. Once the tree removal operation is complete strip the topsoil within the Phase I boundary 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 landscaped area topsoil. Contractor shall take every precaution feasible to reduce the amount of disturbed/exposed soils during construction.
4. Construct and install temporary sediment traps along the proposed access drive and rear parking area. Install the temporary filtered outlet pipe. Any disturbed area that will not be further disturbed within seven (7) days shall be immediately stabilized with woodchips, hydro-mulch, or straw and seed.
5. Prior to starting the work install all erosion and sediment controls including the installation of the stabilized construction entrance and sediment trap.
6. Begin the removal of the existing driveway. Material shall be properly disposed of.
7. Begin rough grading of driveways within phase limits and adjacent areas. Slops in excess of 3H:1V shall not be left exposed and must be stabilized.
8. Begin excavation of the building foundation for the Building and adjacent areas.

Refer to Notes 7 through 12 under the General Sequence.

9. Cut material shall first be moved to the fill locations required to complete the access drive and staging area and bring the area up 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. An area has been provided for the stockpiling of removed soil and rock which is to be removed from the site as well as a cueing area for trucks awaiting loading.
10. Proceed with the construction of Building 1. This includes the building structure itself, retaining walls, and rough grades. At any point during this begin installation of the utilities including the water and sewer connections, drainage and power utilities.
11. Stake-out the location of utilities and utility structures within this Phase. Temporarily relocate the staging area at the western end of the site. Begin installation of subsurface infiltration and detention chambers within Phase I limits.
12. 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.
13. 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.
14. Upon completion of the subsurface chambers, begin installation of proposed bypass and outlet structures. Install storm sewer piping, catch basins and manholes, working downstream to upstream. During the installation of catch basins, install inlet protection and water bar 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. Refer to the Landscape Plan for the seed mix requirements.
15. Once the infiltrator system has been installed, grade and install the base course for the driveways and parking areas. Re-establish the staging area for the construction site trailer and parking.

Note: No stormwater is permitted to enter the infiltration system from the upstream conveyance system and shall be blocked until the completion and stabilization of all Phases tributary to the basin. An area shall be considered to have achieved final stabilization when it has a minimum uniform 80% perennial vegetative cover or other permanent non-vegetative cover with a density sufficient to resist accelerated surface erosion and subsurface characteristics sufficient to resist sliding and other movements.

16. Complete construction of the building and remaining retaining walls within Phase limits.
17. Stake out and install curbing as per Plan. Once curbing is completed around catch basins, re-install inlet protection within catch basins. As curbing is complete, backfill with topsoil. Areas that are filled with topsoil are to be raked, seeded, and hay mulched.
18. Upon completion of the majority of the infrastructure in that phase, install pavement binder course to the thickness and elevation as per the Construction Plans.
19. As each Phase is at the completion stage install final asphalt surface.
20. Install hardscape such as patios, walks steps etc., and final vegetation including sod and landscaping. Refer to Landscape Plans for location and identification of ground cover and plantings. Clear site of debris and all unwanted materials. Disposal shall be in accordance with all Federal, State, and Local requirements.
21. During the Final Phase of building construction, finish grade, topsoil, rake, and seed all areas as required. Where required or recommended, hydro-mulch or install erosion control blankets.
22. Upon completion of this Phase, the Contractor shall be required to stabilize disturbed soils in the event the disturbed area will remain not worked for greater than seven (7) days, at the direction of the Engineer of Record or permitting entity Inspector, and when significant precipitation is in the immediate forecast. All disturbed areas shall be temporarily stabilized with hydro-mulch or where appropriate woodchips. It is recommended that any grading that is at the finish stage will receive no further disturbance and that permanent stabilization such as topsoil, seed, mulching or blankets as per the Plan be installed. **The next Phase cannot commence until these steps have been completed.**

Phase II: Construction of Building 2 - The intent of this Phase is to complete the construction of Building 2, the main access driveway and parking for the building, the pool and recreation area located behind the building and the landscape and hardscape included in the Phase limits shown on the Erosion and Sediment Control Plan. Additionally, the any proposed drainage measures shown within the phase limits shall be put in place, but not connected until the final stabilization of Phase II.

1. The Surveyor shall stake-out the proposed building, drive and parking access, pool and recreation area, limits of cut and fill, and the location of the temporary sediment traps.
2. Strip topsoil within the Phase II boundary 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 landscaped area topsoil. Contractor shall take every precaution feasible to reduce the amount of disturbed/exposed soils during construction.
3. Begin excavation for the building foundation for the building and adjacent areas. **Refer to Notes 7 through 12 under the General Sequence.**
4. Begin rough grading main access driveway and parking area for building 2. Connections to building 1 driveway shall be made at subgrade elevations.
5. Cut material shall first be moved to the fill locations required to complete and bring the areas up to final grades. Excess material to be removed from the site.
6. Stake-out the location of utilities and utility structures within this Phase. Install storm sewer piping, catch basins and manholes, working downstream to upstream. During the installation of catch basins, install inlet protection and water bar as per E&SC Plan to assure that sediment-laden water will not enter the storm system. Make connections to other phase utilities as necessary.
7. Complete construction of the building and remaining retaining walls within Phase limits. Utilities must be installed and completed before the construction of the retaining walls.
8. Stake out and install curbing as per Plan. Once curbing is completed around catch basins, re-install inlet protection within catch basins. As curbing is complete, backfill with topsoil. Areas that are filled with topsoil are to be raked, seeded, and hay mulched.
9. Upon completion of the majority of the infrastructure in that phase, install pavement binder course to the thickness and elevation as per the Construction Plans.
10. As the Phase is at the completion stage install final asphalt surface.
11. Install hardscape such as patios, walks steps etc., and final vegetation including sod and landscaping. Refer to Landscape Plans for location and identification of ground cover and plantings. Clear site of debris and all unwanted materials. Disposal shall be in accordance with all Federal, State, and Local requirements.
12. During the Final Phase of building construction, once final grade is achieved, place final topsoil cover, begin placement of seed mix and erosion control blanket, or hydro-mulch. Refer to the Landscape Plan for the seed mix requirements.

Final Site Stabilization and Completion of New Construction:

13. 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.
14. Any areas deemed incomplete or not properly stabilized shall be done so to the satisfaction to the Supervising Engineer and Town Inspector.
15. 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 cleaned of sediment and debris. They can then be unblocked to allow for flow of collected surface runoff.

Contact information during and after construction:

Anthony Beldotti
APB. Management
500 Executive Blvd. #203
Ossining, NY 10562
914-762-7898

GENERAL EROSION CONTROL NOTES:

1. 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 SHOULD BE DISSIPATED WITH TRACKING PAD OR APPROPRIATE MEASURES DURING ADJACENT ROAD SHOULDER REGRADING. CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL SOIL EROSION AND SEDIMENTATION CONTROL DEVICES THROUGHOUT THE COURSE OF CONSTRUCTION.
2. CATCH BASIN INLET 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.
3. 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.
4. 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).
5. 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.
6. 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.
7. ALL DISTURBED AREAS WITHIN 500 FEET OF AN INHABITED DWELLING SHALL BE WETTED AS NECESSARY TO PROVIDE DUST CONTROL.
8. 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.
9. SEDIMENT AND EROSION CONTROL STRUCTURES SHALL BE REMOVED AND THE AREA STABILIZED WHEN THE DRAINAGE AREA HAS BEEN PROPERLY STABILIZED BY PERMANENT MEASURES.
10. ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH CURRENT EDITION OF NYSSESC.
11. 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.
12. ANY SLOPES GRADED AT 3:1 OR GREATER SHALL BE STABILIZED WITH EROSION BLANKETS TO BE STAKED INTO PLACE IN ACCORDANCE WITH THE MANUFACTURES 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.
13. TO PREVENT HEAVY CONSTRUCTION EQUIPMENT AND TRUCKS FROM TRACKING SOIL OFF-SITE, CONSTRUCT A PERVIOUS CRUSHED STONE PAD. LOCATE AND CONSTRUCT PADS AS DETAILED IN THESE PLANS.
14. CONTRACTOR IS RESPONSIBLE FOR CONTROLLING DUST BY SPRINKLING EXPOSED SOIL AREAS PERIODICALLY WITH WATER AS REQUIRED. CONTRACTOR TO SUPPLY ALL EQUIPMENT AND WATER.
15. CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTION INSPECTIONS AS PER NYSDEC GP-0-15-002 AND TOWN OF OSSINING CODE.

MAINTENANCE OF TEMPORARY EROSION AND SEDIMENT CONTROL STRUCTURES:

N.Y.S.D.E.C. GP-0-15-002 EXPOSURE RESTRICTIONS - STATES THAT ANY EXPOSED EARTHWORK SHALL BE STABILIZED IN ACCORDANCE WITH THE GUIDELINES OF THIS PLAN.

1. TREES AND VEGETATION SHALL BE PROTECTED AT ALL TIMES AS SHOWN ON THE DETAIL DRAWING AND AS DIRECTED BY THE ENGINEER.
2. CARE SHOULD BE TAKEN SO AS NOT TO CHANNEL CONCENTRATED RUNOFF THROUGH THE AREAS OF CONSTRUCTION ACTIVITY ON THE SITE.
3. FILL AND SITE DISTURBANCES SHOULD NOT BE CREATED WHICH CAUSES WATER TO POND OFF SITE OR ON ADJACENT PROPERTIES.
4. 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.
5. 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.
6. 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.
7. ALL SITES SHALL BE STABILIZED WITH EROSION CONTROL MATERIALS WITHIN 7 DAYS OF FINAL GRADING.
8. 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.

EROSION CONTROL:

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):

1. The pH of the material shall be 5.5 to 7.6.
2. The organic content shall not be less than 2% or more than 70%.
3. 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:

1. Site preparation:
   - 1.1. Install erosion control measures.
   - 1.2. Scarify compacted soil areas.
   - 1.3. Lime as required to ph 6.5.
   - 1.4. Fertilize with 10-6-4 4 lbs/1,000 S.F.
   - 1.5. Incorporate amendments into soil with disc harrow.
2. 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

3. SEEDING
   - 3.1. Prepare seed bed by raking to remove stones, twigs, roots and other foreign material.
   - 3.2. Apply soil amendments and integrate into soil.
   - 3.3. Apply seed uniformly by cyclone seeder culti-packer or hydro-seeder at rate indicated.
   - 3.4. Stabilize seeded areas in drainage swales.
   - 3.5. Irrigate to fully saturate soil layer, but not to dislodge planting soil.
   - 3.6. Seed between April 1st and May 15th or August 15th and October 15th.
   - 3.7. Seeding may occur May 15th and August 15th if adequate irrigation is provided.

TEMPORARY VEGETATIVE COVER:

SITE PREPARATION:

1. Install erosion control measures.
2. Scarify areas of compacted soil.
3. Fertilize with 10-10-10 at 400/acre.
4. 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

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: _____

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: _____

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

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

Revisions:

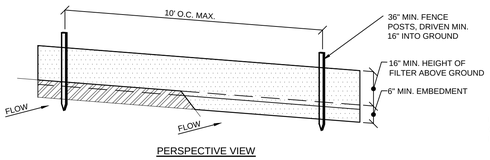
No.	Date	Comments:
1	12/7/15	Town Comments
2	12/7/15	Town Comments
3	1/25/16	Town Comments
4	3/7/16	Town Comments
5	4/8/16	Town Comments

SCALE: N.T.S
DRAWN BY: TK
DATE: 9/25/15

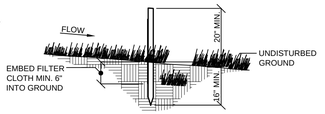
E&SC NOTES

SITE PLAN
PREPARED FOR
PARTH KNOLLS LLC.
87 HAWKES AVENUE
Town Of Ossining Westchester County, NY

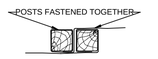
Sheet G-2



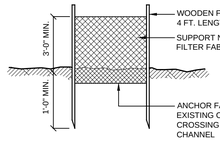
PERSPECTIVE VIEW



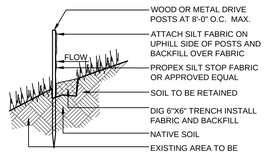
SECTION



PLAN VIEW: JOINING SECTIONS



ELEVATION



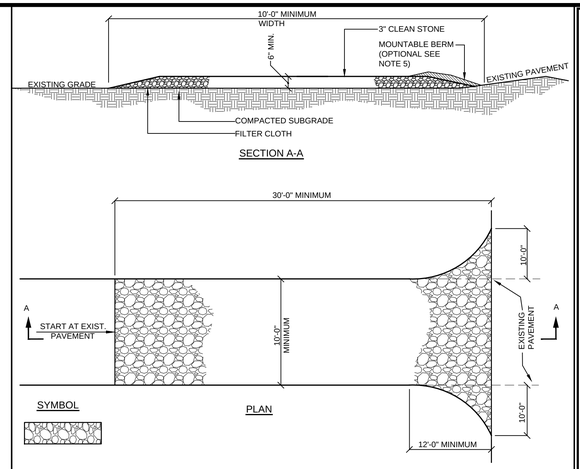
SECTION

NOTES:
1. Filter cloth to be fastened securely to post: steel either t or u type or 2" hardwood posts at top and mid section.
2. When two sections of filter cloth adjoin each other they shall be overlapped by 6 inches and folded. Filter cloth shall be mirafi 100x, stabilinka t140n or approved equal
3. Maintenance shall be performed as needed and material removed when "bulges" develop in the silt fence.
4. Excavate 4 inch trench along the lower perimeter of the site.
5. Unroll a section at a time and position the post against the back (downstream) wall of the trench (net side away from direction of flow).
6. Drive the post into the ground until the netting is approximately 2 inches from the trench bottom.
7. Lay the toe-in flap of fabric onto the undisturbed bottom of the trench, backfill the trench and tamp the soil. Steeper slopes require an intercept trench.
8. Join sections as shown above.

SYMBOL

E-1 SILT FENCE DETAIL

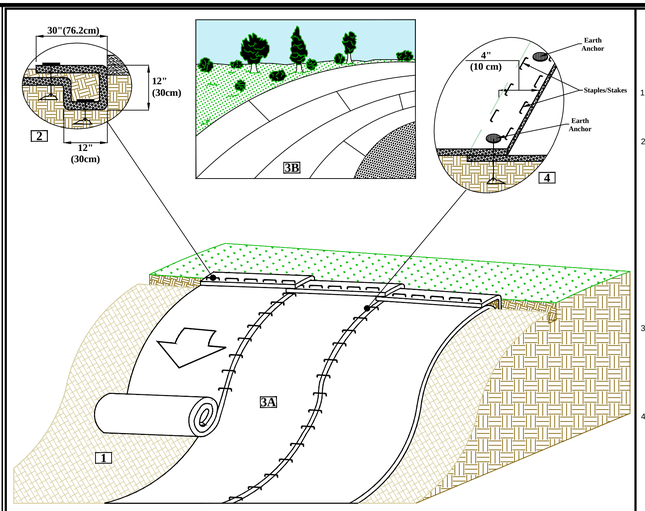
NOT TO SCALE



INSTALLATION NOTES:
1. Stone size - use 3" min. Stone, or reclaimed or recycled concrete equivalent.
2. Length - as required, but not less than 50 feet (except on a single residence lot where a 30 foot minimum length would apply.
3. Thickness - not less than six (6) inches.
4. Width - 10 foot minimum, but not less than the full width at points where ingress or egress occur. 24 ft if single entrance to site.
5. Surface water - all surface water flowing or diverted toward construction entrances shall be piped across the entrance. If piping is impractical, a mountable berm with 5:1 slopes will be permitted.
6. Maintenance - the entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto public right of way this may require periodic top dressing with additional stone as conditions demand and repair and/or cleanouts of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public right of way must be removed immediately.
7. Washing - wheels shall be cleaned to remove sediment prior to entrance onto public right of way. When washing is required, it shall be done on an area stabilized with stone and which drains into an approved sediment trapping device.
8. Periodic inspection and needed maintenance shall be provided after each rain

E-2 STABILIZED CONSTRUCTION ENTRANCE DETAIL

NOT TO SCALE



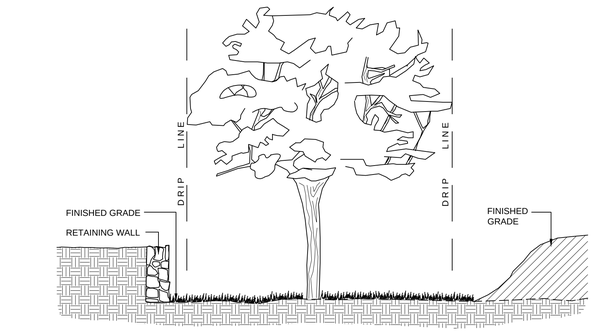
Drawing Not To Scale

Drawn on: 01-28-13

SLOPE INSTALLATION EARTH ANCHOR (EA) DETAIL

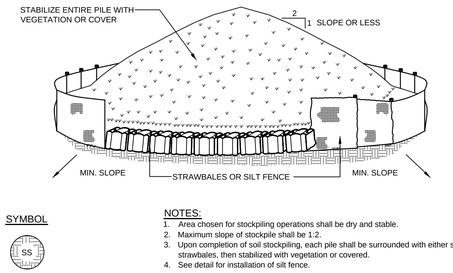
1. Prepare soil before installing high-performance turf reinforcement mats (HP-TRMs), including any necessary application of lime, fertilizer, and seed.
2. Begin at the top of the slope by anchoring the HP-TRMs in a 12" (30 cm) deep x 12" (30cm) wide trench with approximately 30" (76.2 cm) of HP-TRMs extended beyond the up-slope portion of the trench. Anchor the HP-TRMs with an alternating row of staples and anchors approximately 30" (76.2 cm) apart in the bottom of the trench. Backfill and compact the trench after stapling. Fold remaining 30" (76.2 cm) portion of HP-TRMs back over compacted soil. Secure HP-TRMs over compacted soil with an alternating row of staples/anchors spaced approximately 18" (45 cm) apart across the width of the HP-TRMs.
3. Roll the HP-TRMs (A) down or (B) horizontally across the slope. HP-TRMs will unroll with appropriate side against the soil surface. All HP-TRMs must be securely fastened to soil surface by placing staples/anchors in appropriate locations as shown in the staple pattern guide.
4. The edges of parallel HP-TRMs must be stapled between earth anchors with approximately 4" (10 cm) overlap depending on the HP-TRM type. For curved sections, adjust the overlap edges of parallel HP-TRMs accordingly with a minimum of 4" (10 cm) overlap to accommodate transitional segments.

*NOTE:
In loose soil conditions, the use of staple or stake lengths greater than 6"(15cm) may be necessary to properly secure the HP-TRMs.



E-10 TREE PROTECTION PLAN FOR GRADE CHANGE DETAIL

NOT TO SCALE

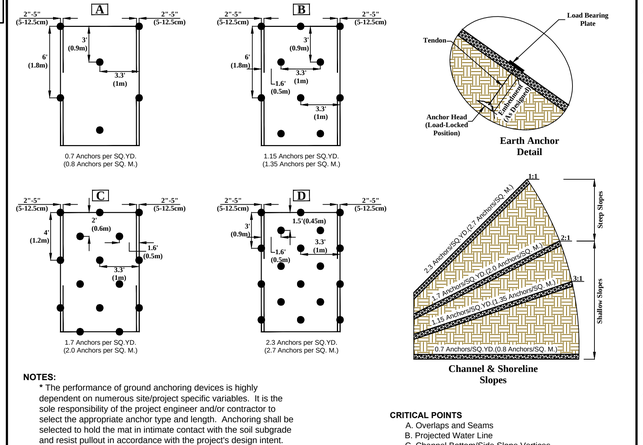


SYMBOL

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. See detail for installation of silt fence.

E-5 SOIL STOCKPILE DETAIL

NOT TO SCALE



NOTES:
* The performance of ground anchoring devices is highly dependent on numerous site/project specific variables. It is the sole responsibility of the project engineer and/or contractor to select the appropriate anchor type and length. Anchoring shall be selected to hold the mat in intimate contact with the soil subgrade and resist pullout in accordance with the project's design intent.
* Anchor Pattern Guide can vary based on earth anchor and blanket selection.
* If desired, the system can be soil-filled and sodded after TRM installation. Sod should be staples/staked according to plan specifications.

CRITICAL POINTS
A. Overlaps and Seams
B. Projected Water Line
C. Channel Bottom/Side Slope Vertices

Drawing Not To Scale

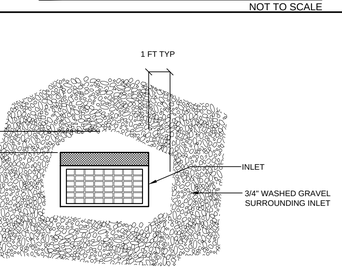
Disclaimer:
The information presented herein is general design information only. For specific applications, consult an independent professional for further design guidance.

Drawn on: 01-28-13

SLOPE INSTALLATION EARTH ANCHOR (EA) DETAIL

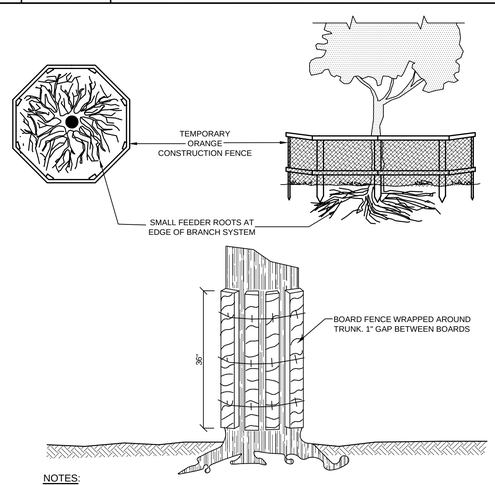
1. Prepare soil before installing high-performance turf reinforcement mats (HP-TRMs), including any necessary application of lime, fertilizer, and seed.
2. Begin at the top of the slope by anchoring the HP-TRMs in a 6" (15 cm) deep x 6" (15cm) wide trench with approximately 12" (30 cm) of HP-TRMs extended beyond the up-slope portion of the trench. Anchor the HP-TRMs with a row of staples and anchors approximately 12" (30 cm) apart in the bottom of the trench. Backfill and compact the trench after stapling. Apply seed to compacted soil and fold remaining 12" (30 cm) portion of HP-TRMs back over seed and compacted soil. Secure HP-TRMs over compacted soil with a row of staples/stakes spaced approximately 12" (30 cm) apart across the width of the HP-TRMs.
3. Roll the HP-TRMs (A) down or (B) horizontally across the slope. HP-TRMs will unroll with appropriate side against the soil surface. All HP-TRMs must be securely fastened to soil surface by placing staples/stakes in appropriate locations as shown in the staple pattern guide.
4. The edges of parallel HP-TRMs must be stapled with approximately 2" - 5" (5-12.5cm) overlap depending on the HP-TRM type.
5. Consecutive HP-TRMs spliced down the slope must be end over end (Shingle style) with an approximate 3"(7.5cm) overlap. Staple through overlapped area, approximately 12"(30cm) apart across entire HP-TRM width.

*NOTE:
In loose soil conditions, the use of staple or stake lengths greater than 6"(15cm) may be necessary to properly secure the HP-TRMs.



E-3 INLET PROTECTION DETAIL

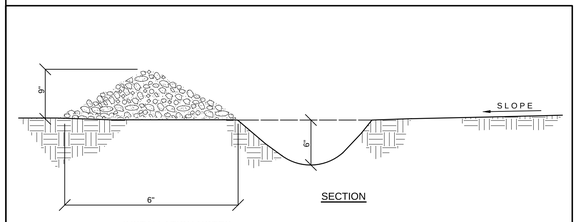
NOT TO SCALE



NOTES:
1. Contractor shall use the tree trunk armor detail for isolated trees that require protection.
2. As an alternate, the contractor may protect trees in the vicinity of regular heavy traffic / construction areas or clusters of trees to be protected as per the construction fence detail.

E-4 TREE TRUNK ARMOR / TREE PROTECTION DETAIL

NOT TO SCALE



INSTALLATION NOTES:
1. Install the water bar as soon as the right of way is cleared and graded.
2. Disk or strip the sod from the base for the constructed ridge before placing fill.
3. Track the ridge to compact it to the design cross section.
4. The outlet shall be located on an undisturbed area. Field spacing will be adjusted to use the most stable outlet areas. Outlet protection will be provided when natural areas are not adequate.
5. Vehicle crossing shall be stabilized with gravel. Exposed areas shall be immediately seeded and mulched.
6. Periodically inspect water bars for erosion damage and sediment. Check outlet areas and make repairs as needed to restore operation.

E-6 WATER BAR DETAIL

NOT TO SCALE

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

PROJECT # 15-18

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

Revisions:

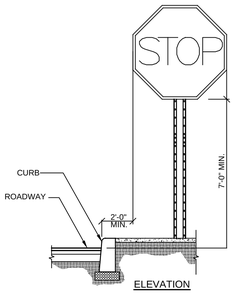
No.	Date	Comments:
1	11/13/15	Town Comments
2	12/7/15	Town Comments
3	1/25/16	Town Comments
4	3/7/16	Town Comments
5	4/8/16	Town Comments

SCALE: NTS
DRAWN BY: TK
DATE: 9/25/15

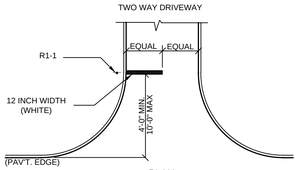
E&SC DETAILS

SITE PLAN
PREPARED FOR
PARTH KNOLLS LLC.
87 HAWKES AVENUE
Town of Ossining Westchester County, NY

Sheet C-501



ELEVATION



PLAN

SYMBOL	DESCRIPTION
GR. MT. OH MT. BR MT. B/B ┼ OR ᵽ	GROUND MOUNTED OVERHEAD MOUNTED BRIDGE MOUNTED BACK TO BACK APPROXIMATE LOCATION OF SIGN

TYPICAL INSTALLATION GUIDELINES

SIGN	M.U.T.C.D. NUMBER	SIZE OF SIGN	TYPE OF MOUNT
STOP	R1-1	18" X 18"	GR. MT.
RESERVED PARKING	R7-8	12" X 18"	GR. MT.
ONE WAY	R3-12 (L) R3-13 (R)	12" X 18"	GR. MT.

SIGN	M.U.T.C.D. NUMBER	SIZE OF SIGN	TYPE OF MOUNT
NO PARKING ANY TIME	P1-2 (SEE NOTE 4)	12" X 18"	GR. MT.
DO NOT ENTER	R3-15	24" X 24"	GR. MT.

GENERAL NOTES:

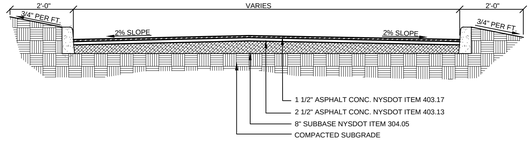
1. All signage shall be in accordance with the latest edition of the national MUTCD and the N.Y.S Supplement (MUTCD), September 2007, including the following:
   A. Letter size and series
   B. Legend and background color
   C. Reflectivity
   D. Size of sign
2. The type of characters as specified in the standard specifications shall be as follows:

MUTCD CODE LETTER	TYPE OF CHARACTER
G.I.	TYPE IV
R.P.W.M.	TYPE IV OR V.

3. Sign locations as shown on plans are approximate. The Contractor shall relocate existing signs and install new signs in accordance with the MUTCD, latest edition. The Contractor shall contact the Town Engineer to discuss/resolve problem areas.
4. Except where otherwise specified, parking signs shall be placed facing approaching traffic at an angle of between 30 and 45 degrees with the line of traffic flow. Parking signs shall be placed at each end of a regulation (single-headed arrows) and, within the regulation (double-headed arrows), at intervals not to exceed 200 ft
5. Where new signs are installed the Contractor shall affix a label to the back of the sign panel. This label will show the date of installation and identification numbers.
6. Placement of W3-17 sign is prescribed in the General Municipal Law.

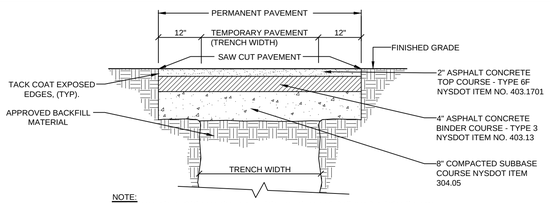
R-1 TRAFFIC SIGN DETAIL

NOT TO SCALE



R-2 TYPICAL DRIVEWAY AND PARKING LOT SECTION

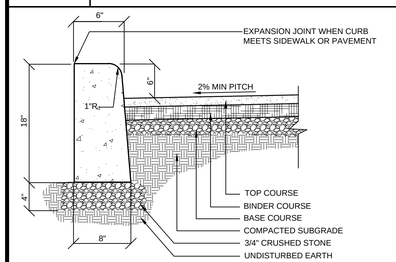
NOT TO SCALE



NOTE:
1. Pavement layer thickness shown are minimum values and shall match existing if greater.

R-3 ROADWAY PAVEMENT REPLACEMENT DETAIL

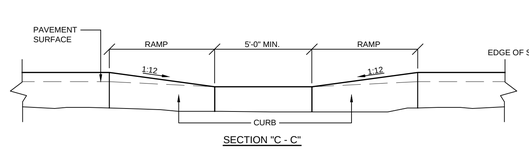
NOT TO SCALE



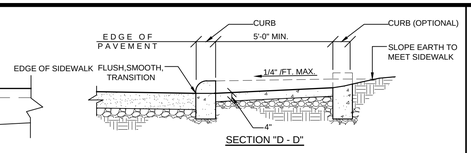
NOTE:
1. Provide 1/2" expansion joint in concrete curb every ten feet.
2. Construct curb with class A concrete (3000 psi).
3. For use within the site.

R-4 CONCRETE CURB DETAIL

NOT TO SCALE



SECTION "C - C"



SECTION "D - D"

NOTES:

GENERAL:
1. Sidewalk curb ramp type and location are as shown on the plans or as directed.
2. All sidewalk curb ramp types may be used as straight or curved curb sections.
3. Sidewalk curb ramp types may be different at each location within an intersection.

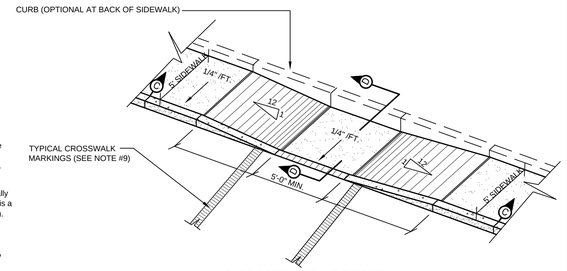
SIDEWALK CURB RAMP CRITERIA:
4. The maximum slope of a sidewalk curb ramp shall be 1:12.
5. The maximum width of a sidewalk curb ramp shall be five feet. Exclusive of flared sides.
6. All sidewalk curb ramps shall have flush, smooth transitions to the adjacent street or highway surface.

SURFACE FINISH:
7. The surface of all sidewalk curb ramps shall be stable, firm, and slip resistant (E.G. A coarse broom finish perpendicular to the ramp slope is acceptable on cement concrete curb ramps.)
8. All proposed sidewalk curb ramps shall have a detectable warning surface installed from the back of the curb for a distance of 2 feet in the direction of travel on the ramp and extending the full width of the ramp, excluding the ramp sides or flares. The detectable warning surface shall comply with the requirements of section 4.29.2 of the Americans with Disabilities Act accessibility guidelines (ADAAG).

SIDEWALK CURB RAMP PLACEMENT:
9. At a corner, where the curb radius is 25-feet or less, a single ramp (either type a or b) located diagonally can often serve crosswalks in two directions. However, a single ramp shall only be used where there is a minimum clear space of 48" falling entirely within the projection of the intersection curbs (see figure 1). Where the radius exceeds 25' or the minimum 48" clear space is not achievable, then separate ramps should be provided for each crosswalk.

PAVEMENT MARKINGS AT CROSSWALKS:
10. Sidewalk curb ramps at marked crossings shall be wholly contained within the markings excluding any flared sides.
11. At a corner where a single ramp (either type a or b; located diagonally serves two crosswalks, this shall be a 48" minimum clear space at the ramp bottom wholly contained within the intersection crosswalk markings.
12. Where stop lines are necessary, they shall be located in advance of sidewalk curb ramps.

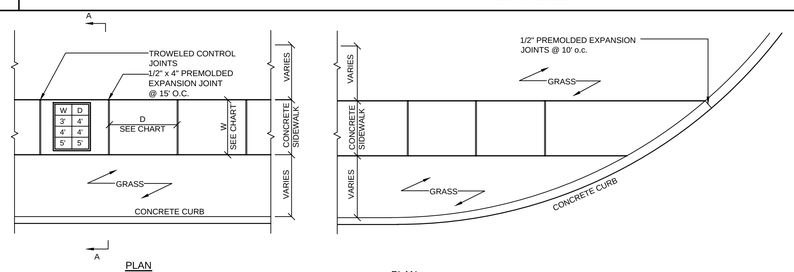
UTILITIES - DRAINAGE INLETS OR GRATES:
13. Where feasible, provide for drainage inlets or grates immediately upstream from the curb ramps. Reticuline or rectangular drainage grates are to be used in the area of curb ramps.
14. Do not place signal poles, sign posts, utility poles, fire hydrants, etc., within the ramp or side flare areas.



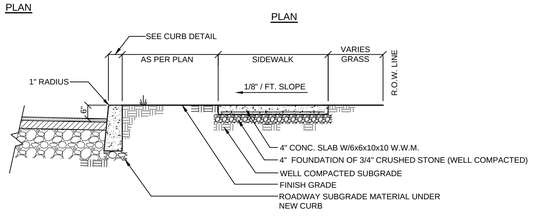
CURB SIDEWALK RAMP TYPE "B"

R-5 SIDEWALK CURB-RAMP DETAIL

NOT TO SCALE



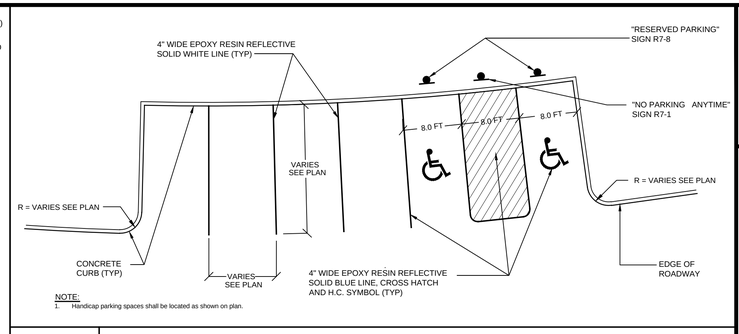
PLAN



SECTION A-A

R-6 CONCRETE SIDEWALK DETAIL

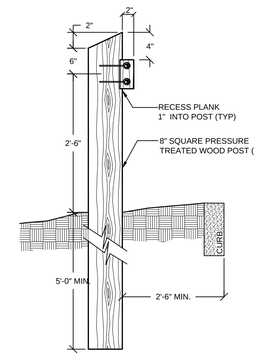
NOT TO SCALE



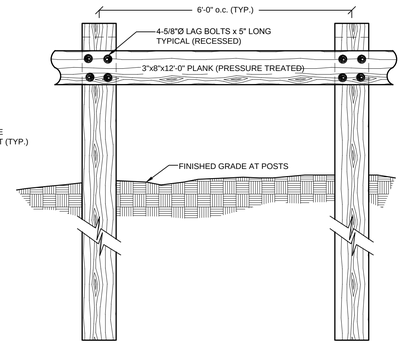
NOTE:
1. Handicap parking spaces shall be located as shown on plan.

R-7 TYPICAL PARKING STALL LAYOUT

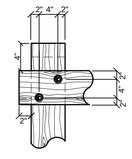
NOT TO SCALE



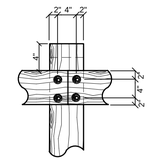
SECTION



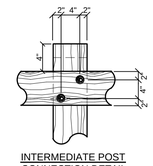
ELEVATION



END POST CONNECTION DETAIL



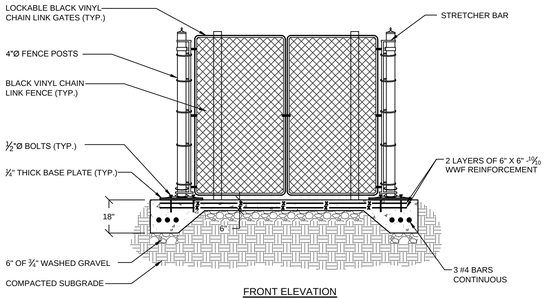
RAIL SPLICE CONNECTION DETAIL



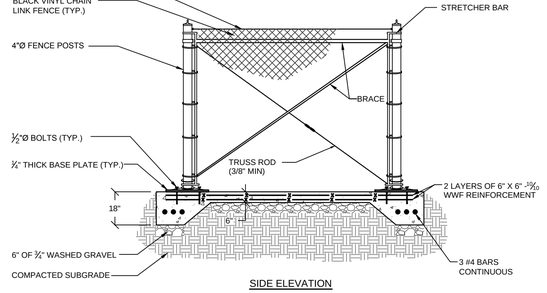
INTERMEDIATE POST CONNECTION DETAIL

R-8 TIMBER GUARDRAIL DETAIL

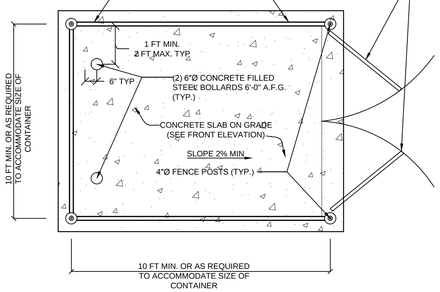
NOT TO SCALE



FRONT ELEVATION



SIDE ELEVATION



PLAN

S-1 TRASH ENCLOSURE DETAIL

NOT TO SCALE

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

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

Revisions:

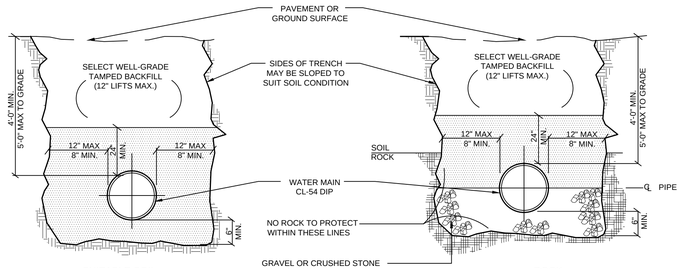
No.	Date	Comments:
1	11/9/15	Town Comments
2	12/7/15	Town Comments
3	1/25/16	Town Comments
4	3/7/16	Town Comments
5	4/8/16	Town Comments

SCALE: N.T.S
DRAWN BY: TK
DATE: 9/25/15

DETAILS

SITE PLAN
PREPARED FOR
PARTH KNOLLS LLC.
87 HAWKES AVENUE
Town of Ossining
Westchester County, NY

Sheet C-502

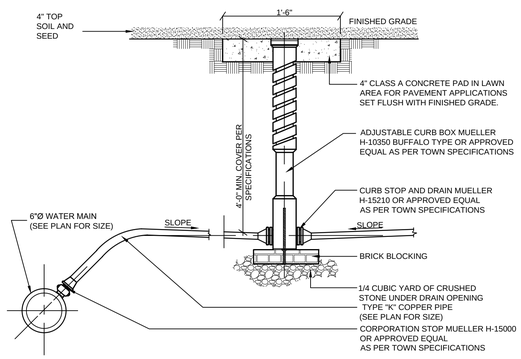


NOTES:

1. In materials to be considered as unsuitable (i.e. Muck) material is to be replaced 24" below the pipe invert and replaced with item no. 4 bedding.
2. A continuous and uniform bedding shall be provided in the trench for all buried pipe. Backfill material shall be tamped in layers around the pipe and to a sufficient height above the pipe to adequately support and protect the pipe. Stones found in the trench shall be removed for a depth of at least six inches below the bottom of the pipe.
3. See Pavement Replacement Detail for backfill specifications in local and main TOWN roads.

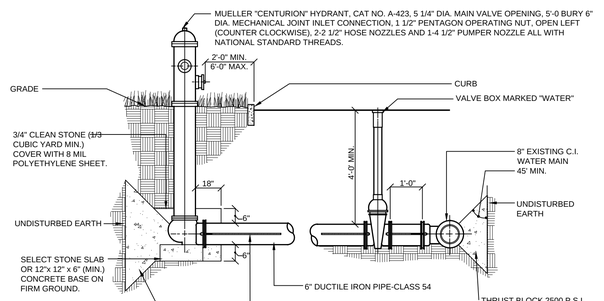
W-1 WATER MAIN BEDDING DETAIL

NOT TO SCALE



W-2 WATER SERVICE CONNECTION DETAIL

NOT TO SCALE

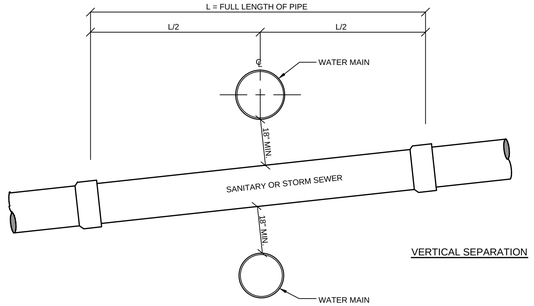


NOTES:

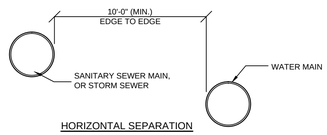
1. Retainer glands, concrete thrust blocks and tie rods shall be used at all locations where restraints are required.
2. If groundwater is encountered within 7 feet of grade, hydrant drain holes shall be plugged. When the drains are plugged the barrels must be pumped dry after use during freezing weather. Where hydrant drains are not plugged, a gravel pocket or dry well shall be provided unless the natural soils will provide adequate drainage. Hydrant drains shall not be connected to or located within 10 feet of sanitary sewers or storm drains.
3. If hydrant is within 10 feet of sewers, hydrant drain holes shall be plugged.
4. Hydrant shall be painted with two coats of Electro- Farrothane, plastic finish, No. 44 red paint.
5. All gate valves shall be Mueller AWWA standard.

W-3 FIRE HYDRANT DETAIL

NOT TO SCALE



VERTICAL SEPARATION



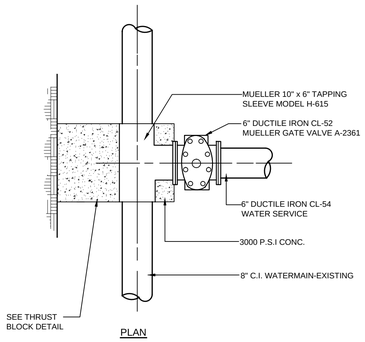
HORIZONTAL SEPARATION

NOTES:

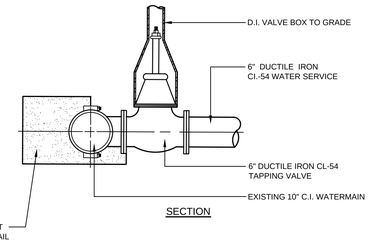
1. Any deviation from the required minimum separations shall be subject to a review and approval by the Westchester County Department of Health prior to construction
2. HORIZONTAL SEPARATION NOTES:
   A Water mains shall be laid at least ten (10) feet horizontally, as measured from edge to edge, from any existing or proposed sewer or drain lines. Should local conditions prevent a lateral separation of ten feet, a water main may be laid closer than ten feet to a sewer if (1) it is laid in a separate trench, or if (2) it is laid in the same trench with the water main located at one side on a bench of undisturbed earth and if in either case the elevation of the crown of the sewer or drain is at least 18 inches below the bottom of the water main
   B When it is impossible to obtain proper horizontal separation, as stipulated above, the sewer or drain shall be constructed of materials and with joints equivalent to the standards for the water main and shall be pressure tested to assure water tightness prior to backfilling.
3. VERTICAL SEPARATION NOTES:
   A Normal conditions: whenever a water main must cross over or under a sewer or drain, the pipes shall be laid to provide a vertical separation between them of at least 18 inches, as measured from the bottom of the higher pipe to the crown of the lower pipe.
   B Unusual conditions: when conditions prevent a vertical separation of 18 inches, the sewer shall be constructed of materials and with joints equivalent to the water main standards and shall be pressure tested to assure water tightness prior to backfilling.
   C Water main crossing over sewers:
   i. Vertical separation of 18 inches must be provided;
   ii. Adequate structural support must be provided for the sewer to prevent excessive deflection of joints and settling;
   iii. Full length of water pipe must be centered at the point of crossing, no joints will be permitted at the point of crossing;.

W-4 SEPARATION OF WATER MAINS, SANITARY SEWERS OR STORM SEWERS

NOT TO SCALE



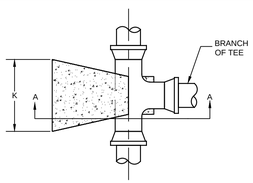
PLAN



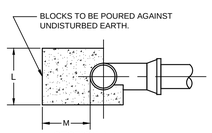
SECTION

W-5 TAPPING SLEEVE AND GATE VALVE CONNECTION DETAIL

NOT TO SCALE



PLAN



SECTION A-A

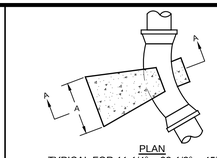
BRANCH SIZE IN.	BLOCK DIMENSIONS K IN.	L IN.	M IN.	CONCRETE VOLUME FT.³
6	18	16	12	2.4
8	30	18	12	4.0
10	42	20	12	6.3
12	50	24	16	11.3
16	60	36	24	30.0

NOTES:

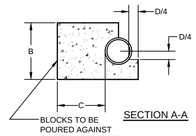
1. Min. 2,500 psi concrete to be used.
2. Block dimensions are minimum and are based upon soil bearing pressure of 2,000 psf and water pressure of 150 psi. Where soil bearing is less or water pressure is greater, a special design will be required.
3. All bolts shall be covered with burlap before pouring concrete.

W-6 THRUST BLOCKING FOR TEES

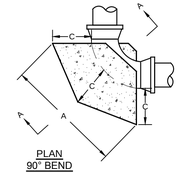
NOT TO SCALE



PLAN
TYPICAL FOR 11-1/4°; - 22-1/2°; - 45° BENDS



SECTION A-A



PLAN
90° BEND

PIPE DIAM. IN.	BEND	BLOCK DIMENSIONS A IN.	B IN.	C IN.	CONCRETE VOLUME FT.³
16	90	80	32	32	39.5
	45	48	28	30	19.7
	22.5	30	22	26	10.0
	11.25	20	18	12	3.8
12	90	56	26	20	15.0
	45	38	22	10	7.7
	22.5	20	20	12	3.6
	11.25	18	18	12	3.0
10	90	48	22	16	8.9
	45	28	20	12	4.0
	22.5	18	18	12	2.7
	11.25	16	16	12	2.2
8	90	34	20	12	4.4
	45	20	18	12	2.5
	22.5	14	14	12	1.6
	11.25				(3)
6	90	24	16	12	2.5
	45	14	14	12	1.5
	22.5	12	12	12	1.2
	11.25				(3)

NOTES:

1. Min. 2,500 psi concrete to be used.
2. Block dimensions are minimum and are based upon soil bearing pressure of 2,000 psf and water pressure of 150 psi. Where soil bearing is less or water pressure is greater, a special design will be required.
3. All bolts shall be covered with burlap before pouring concrete.
4. Bend to be set against disturbed earth, backfill to be firmly tamped, or block to be furnished as directed by the engineer.

W-7 THRUST BLOCKING FOR HORIZONTAL BENDS

NOT TO SCALE

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

PROJECT # 15-18

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

Revisions:

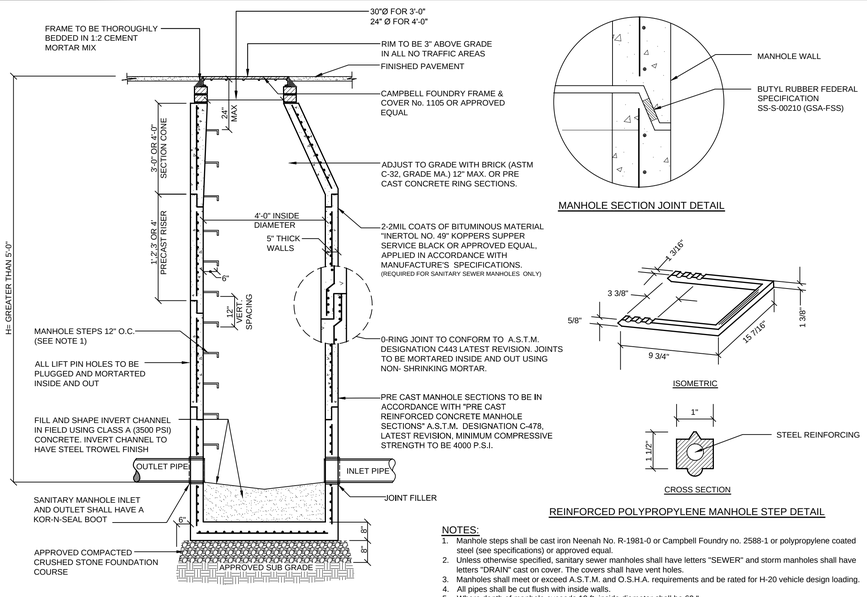
No.	Date	Comments:
1	11/15	Town Comments
2	12/7/15	Town Comments
3	1/25/16	Town Comments
4	3/7/16	Town Comments
5	4/8/16	Town Comments

SCALE: NTS
DRAWN BY: TK
DATE: 9/25/15

WATER MAIN DETAILS

SITE PLAN
PREPARED FOR
PARTH KNOLLS LLC.
87 HAWKES AVENUE
Town of Ossining Westchester County, NY

Sheet C-503



MANHOLE SECTION JOINT DETAIL

ISOMETRIC

CROSS SECTION

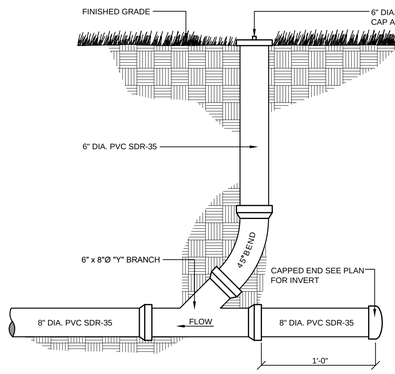
REINFORCED POLYPROPYLENE MANHOLE STEP DETAIL

NOTES:
1. Manhole steps shall be cast iron Neenah No. R-1981-0 or Campbell Foundry no. 2588-1 or polypropylene coated steel (see specifications) or approved equal.
2. Unless otherwise specified, sanitary sewer manholes shall have letters "SEWER" and storm manholes shall have letters "DRAIN" cast on cover. The covers shall have vent holes.
3. Manholes shall meet or exceed A.S.T.M. and O.S.H.A. requirements and be rated for H-20 vehicle design loading.
4. All pipes shall be cut flush with inside walls.
5. Where depth of manhole exceeds 10 ft, inside diameter shall be 60 ".

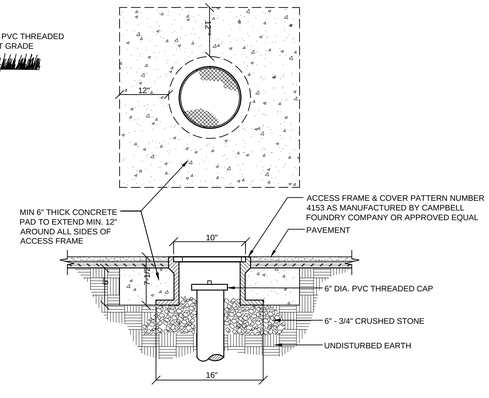
S-1

PRECAST CONCRETE SEWER MANHOLE DETAIL

NOT TO SCALE



SEWER CLEANOUT DETAIL AT GRADE



ACCESS FRAME & COVER DETAIL FOR CLEANOUT UNDER PAVEMENT

NOTES:
1. Clean-outs shall be spaced at minimum 50 ft intervals and/or at all changes in vertical and horizontal alignment.
2. All fittings to be white H.D. As manufactured by GPK Products Inc. or approved equal.

S-2

GRAVITY SEWER LATERAL CLEAN-OUT DETAIL

NOT TO SCALE

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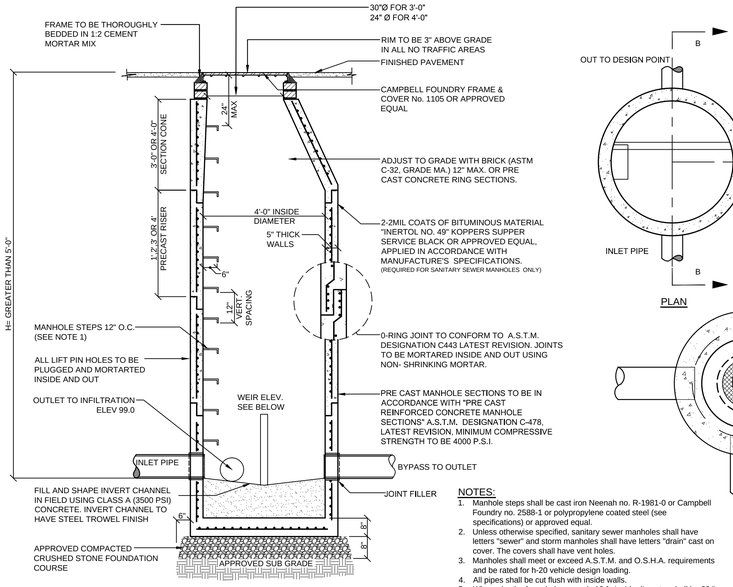
SCALE: NTS
DRAWN BY: TK
DATE: 9/25/15

SANITARY SEWER DETAILS

SITE PLAN
PREPARED FOR
PARTH KNOLLS LLC.
87 HAWKES AVENUE
Town of Ossining Westchester County, NY

Sheet C-504

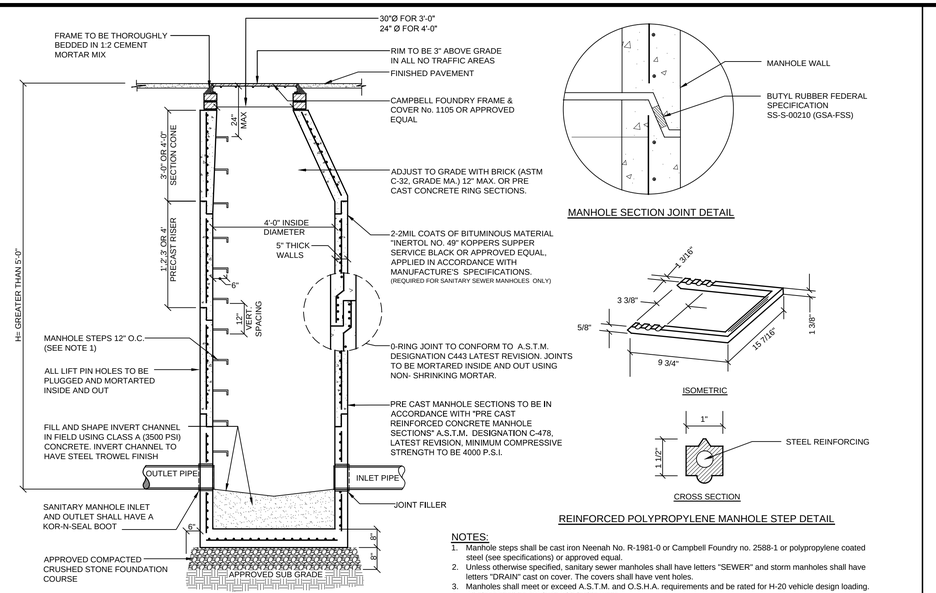


STRUCTURE	WEIR ELEV.
BYPASS 1	142.05
BYPASS 2	144.20

NOTES:
1. Manhole steps shall be cast iron Neenah no. R-1981-0 or Campbell Foundry no. 2588-1 or polypropylene coated steel (see specifications) or approved equal.
2. Unless otherwise specified, sanitary sewer manholes shall have letters "sewer" and storm manholes shall have letters "drain" cast on cover. The covers shall have vent holes.
3. Manholes shall meet or exceed A.S.T.M. and O.S.H.A. requirements and be rated for h-20 vehicle design loading.
4. All pipes shall be cut flush with inside walls.
5. Where depth of manhole exceeds 10 ft, inside diameter shall be 60 ".

D-1 STORM BYPASS STRUCTURE DETAIL

NOT TO SCALE

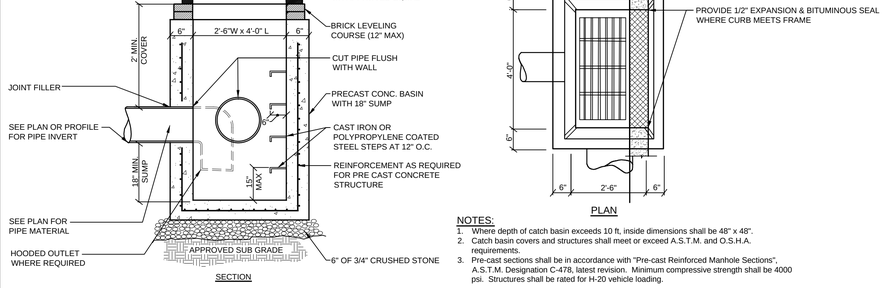


NOTES:
1. Manhole steps shall be cast iron Neenah No. R-1981-0 or Campbell Foundry no. 2588-1 or polypropylene coated steel (see specifications) or approved equal.
2. Unless otherwise specified, sanitary sewer manholes shall have letters "SEWER" and storm manholes shall have letters "DRAIN" cast on cover. The covers shall have vent holes.
3. Manholes shall meet or exceed A.S.T.M. and O.S.H.A. requirements and be rated for H-20 vehicle design loading.
4. All pipes shall be cut flush with inside walls.
5. Where depth of manhole exceeds 10 ft, inside diameter shall be 60 ".

REINFORCED POLYPROPYLENE MANHOLE STEP DETAIL

D-2 PRECAST CONCRETE STORM DRAIN MANHOLE DETAIL

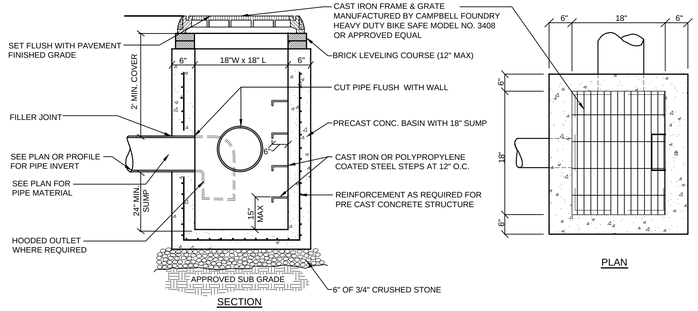
NOT TO SCALE



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.

D-3 TYPICAL CATCH BASIN DETAIL

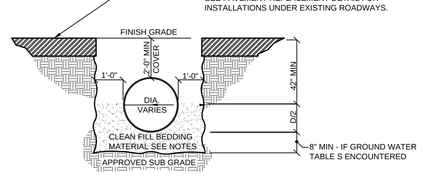
NOT TO SCALE



NOTES:
1. Where depth of catch basin exceeds 10 ft, inside dimensions shall be 48" x 48".
2. Top of basin shall be built with precast concrete structural slab designed for H-20 loading.

D-4 PRECAST CATCH BASIN - DRAIN INLET DETAIL

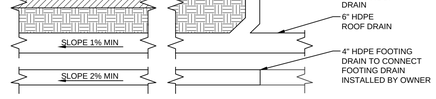
NOT TO SCALE



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-5 STORM PIPE BEDDING DETAIL

NOT TO SCALE



D-6 ROOF & FOOTING DRAIN CONNECTION DETAIL

NOT TO SCALE

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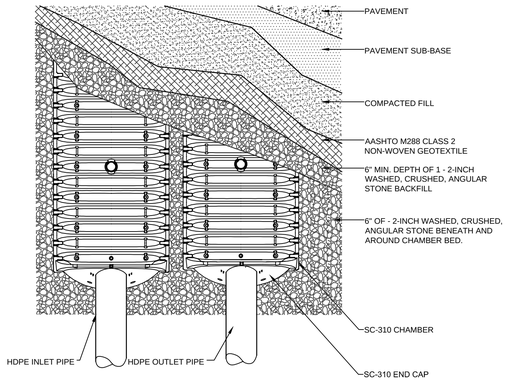
SCALE: NTS
DRAWN BY: TK
DATE: 9/25/15

DRAINAGE DETAILS

SITE PLAN
PREPARED FOR
PARTH KNOLLS LLC.
87 HAWKES AVENUE
Town of Ossining Westchester County, NY

Sheet C-505



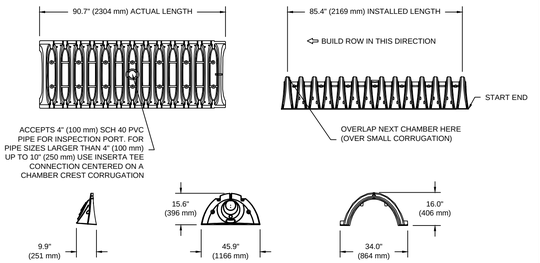
NOTES:

1. All design specifications for Stormtech SC-310 chambers shall be in accordance with the Stormtech design manual.
2. The installation of Stormtech SC-310 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

SWM-1 | STORMTECH SC-310 CHAMBER SYSTEM PLAN VIEW DETAIL | NOT TO SCALE

SC-310 TECHNICAL SPECIFICATION

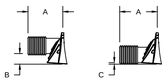
NTS



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	34.0" X 16.0" X 85.4"	(864 mm X 406 mm X 2169 mm)
CHAMBER STORAGE	14.7 CUBIC FEET	(0.42 m³)
MINIMUM INSTALLED STORAGE*	31.0 CUBIC FEET	(0.88 m³)
WEIGHT	35.0 lbs.	(16.8 kg)

*ASSUMES 6" (152 mm) 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"

PART #	STUB	A	B	C
SC310EPE06T / SC310EPE06TPC	6" (150 mm)	9.6" (244 mm)	5.8" (147 mm)	---
SC310EPE06B / SC310EPE06BPC			---	0.5" (13 mm)
SC310EPE08T / SC310EPE08TPC	8" (200 mm)	11.9" (302 mm)	3.5" (89 mm)	---
SC310EPE08B / SC310EPE08BPC			---	0.6" (15 mm)
SC310EPE10T / SC310EPE10TPC	10" (250 mm)	12.7" (323 mm)	1.4" (36 mm)	---
SC310EPE10B / SC310EPE10BPC			---	0.7" (18 mm)
SC310EPE12B	12" (300 mm)	13.5" (343 mm)	---	0.9" (23 mm)

ALL STUBS, EXCEPT FOR THE SC310EPE12B ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

* FOR THE SC310EPE12B THE 12" (300 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 0.25" (6 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

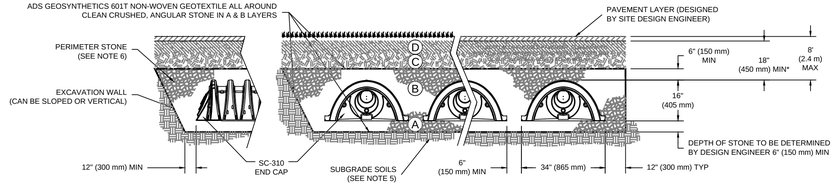
NOTE: ALL DIMENSIONS ARE NOMINAL

SWM-2 | STORMTECH SC-310 CHAMBER DETAIL | NOT TO SCALE

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[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 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 6" (150 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 lbs (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 M43[1] 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 M43[1] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. [2 3]

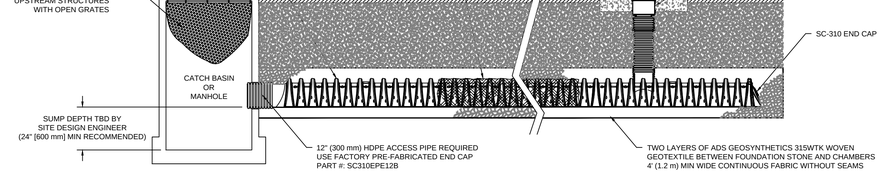
PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (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 F2922 "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. "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
4. THE "SITE DESIGN ENGINEER" REFERS TO THE ENGINEER RESPONSIBLE FOR THE DESIGN AND LAYOUT OF THE STORMTECH 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 SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.

SWM-3 | STORMTECH SC-310 CROSS SECTION DETAIL | NOT TO SCALE



SC-310 ISOLATOR ROW DETAIL
NTS

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

STEP 2) CLEAN OUT ISOLATOR ROW USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45° (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

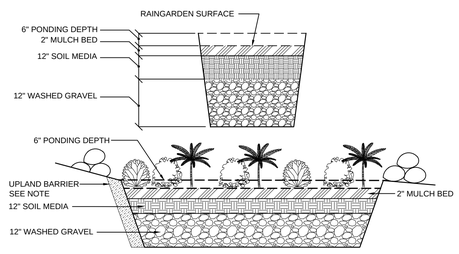
NOTES

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

SWM-4 | STORMTECH SC-310 CHAMBER DETENTION ISOLATOR ROW DETAIL | NOT TO SCALE

SC-310 INSPECTION PORT DETAIL
NTS

SWM-5 | STORMTECH FLUSING/INSPECTION PORT DETAIL | NOT TO SCALE



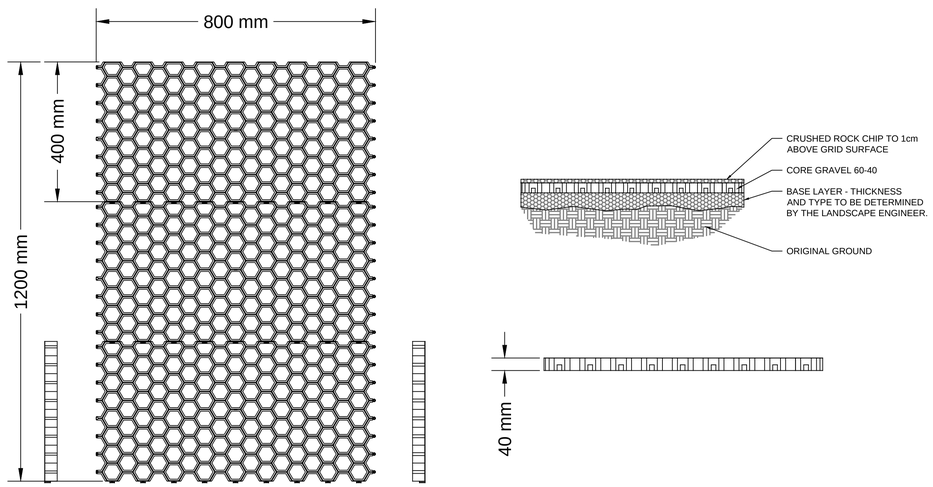
SOIL MEDIA SPECIFICATIONS:
COMPOSITION - 50% SAND, 20-30% TOPSOIL W/ LESS THAN 5% CLAYS, 20-30% LEAF COMPOST
POROSITY - 0.20

DRAINAGE LAYER SPECIFICATIONS:
POROSITY - 0.40

PLANT SPECIFICATIONS:

Suggested Shrubs List	Suggested Herbaceous Plant List
WITCH HAZEL(Hamemelis virginiana)	CINNAMON FERN (Osmunda cinnamomea)
WINTERBERRY(Ilex verticillata)	CUTLEAF CONEFLOWER (Rudbeckia laciniata)
ARROWWOOD (Viburnum dentatum)	WOOLGRASS (Scirpus cyperinus)
BROOK-SIDE ALDER (Alnus serrulata)	NEW ENGLAND ASTER (Aster novea-angliae)
RED-OISER DOGWOOD (Cornus stolonifera)	FOX SEDGE (Carex culpinoidea)
SWEET PEPPERBUSH (Clethra alnifolia)	SPOTTED JOE-PYE WEED (Eupatorium maculatum)
	SWITCH GRASS (Panicum virgatum)
	GREAT BLUE LOBELIA (Lobelia siphatica)
	WILD BERGAMOT (Monarda fisulosa)
	RED MILKWEED (Asclepias incarnata)

SW-6 | RAIN GARDEN DETAIL | NOT TO SCALE



CORE SYSTEMS
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AN AFFORDABLE AND GREEN ALTERNATIVE FOR PAVING AND LANDSCAPING
WEB: WWW.CORECRAVEL.CA EMAIL: Info@corecravel.ca

60-40 GRAVEL PAVER SYSTEM | NOT TO SCALE

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

PROJECT # 15-18

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

Revisions:

No.	Date	Comments:
1	11/7/15	Town Comments
2	12/7/15	Town Comments
3	1/25/16	Town Comments
4	3/7/16	Town Comments
5	4/8/16	Town Comments

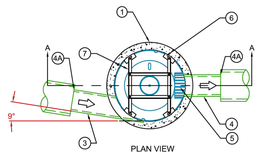
SCALE: NTS
DRAWN BY: TK
DATE: 9/25/15

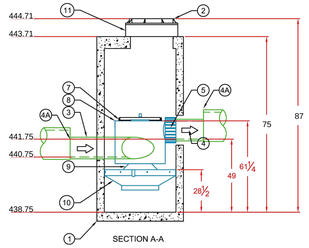
STORMWATER MANAGMENT DETAILS

SITE PLAN
PREPARED FOR
PARTH KNOLLS LLC.
87 HAWKES AVENUE
Town of Ossining Westchester County, NY

Sheet C-506

F:\2015\15-18 BELDOTTI MANAGEMENT CORP\ENGINEERING\CAD\C3D\15-18 BELDOTTI MANAGEMENT CORP15-18_DETAILS_7-29-16.DWG





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
1. PEAK TREATMENT FLOW: 3.0 CFS (85 L/S)
2. SEDIMENT STORAGE CAPACITY: 0.70 YD³ (0.54 m³)
3. OIL STORAGE CAPACITY: 70 GALLONS (265 LITERS)

ADDITIONAL DESIGN INFORMATION
1. 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.
2. 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.
3. SEDIMENT SHALL BE STORED IN A ZONE THAT IS ISOLATED FROM THE MAIN FLOW PATH AND PROTECTED FROM RE-ENTRAINMENT BY THE BENCHING SKIRT.

Hydro International stormwater

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APPROVED BY:

SIGNED DATE

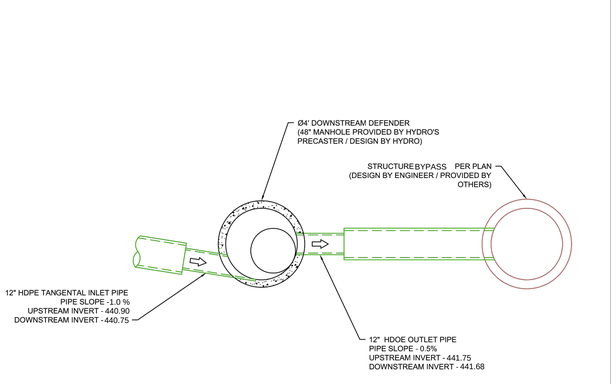
THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS UNDER THE DIRECTION OF THE DESIGN ENGINEER OR OTHER PROJECT REPRESENTATIVE. THE DESIGN ENGINEER SHALL REVIEW THIS DRAWING PRIOR TO CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE DESIGN ENGINEER TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

ADS ADVANCED DRAINAGE SYSTEMS, INC.

TECHNICAL SERVICES
70 INWOOD ROAD, SUITE 3
ROCKY HILL, CT 06067
V: 888-892-2694
F: 866-328-8401

87 HAWKES AVE - NY
4' ONLINE DD - DETAILS

DATE:	05-27-2015	PROJECT:	91772
DRAWN:	DWC	SCALE:	1/4" = 1'
CHECKED:	MRJ	PAGE:	2 OF 3



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87 HAWKES AVE - NY
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DATE:	05-27-2015	PROJECT:	91772
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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 adsorbant 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 level between storm events. The water in the sump prevents stored sediment from solidifying in the base of the unit. (The clean-out procedure becomes more difficult and labor intensive if the system allows fine sediment to dry-out and consolidate. Dried sediment must be manually removed by maintenance crews. This is a labor intensive operation in a hazardous environment.)

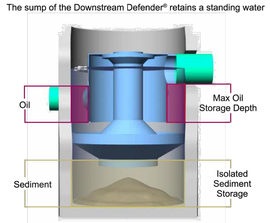

Fig.2 Pollutant storage volumes of the Downstream Defender®.

Blockage Protection

The Downstream Defender® has large clear openings and no internal restrictions or weirs, minimizing the risk of blockage and hydraulic losses. In addition to increasing the system headloss, orifices and internal weirs can increase the risk of blockage within the unit.

Maintenance

Overview

The Downstream Defender® protects the environment by removing a wide range of pollutants from stormwater runoff. Periodic removal of these captured pollutants is essential to the continuous, long-term functioning of the Downstream Defender®. The Downstream Defender® will capture and retain sediment and oil until the sediment and oil storage volumes are full to capacity. When sediment and oil storage capacities are reached, the Downstream Defender® will no longer be able to store removed sediment and oil. Maximum pollutant storage capacities are provided in Table 1.

Hydro International recommends that maintenance crews watch the Downstream Defender® maintenance training video at **www.hydro-int.com/us/products/downstream-defender**. Maintenance providers are also encouraged to participate in Hydro International's Maintenance Contractor Certification Program (see page 12).

Fig.3 Watch the Downstream Defender® instructional maintenance video at **www.hydro-int.com/us/products/downstream-defender**.

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Tel: (207) 756-6200 Fax: (207) 756-6212 Web: www.hydro-int.com

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).

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

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)	(yd^3)	(m^3)	(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
1. Refer to Downstream Defender® Clean-out Detail (Fig.2) for measurement of depths.
2. Oil accumulation is typically less than sediment, however, removal of oil and sediment during the same service is recommended.
3. Remove floatables first, then remove sediment storage volume.
4. Sediment removal is not required unless sediment depths exceed 75% of maximum clean-out depths stated in Table 1.


Fig.4


Fig.5


Fig.6

Inspection Procedures

1. 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.
2. Remove the lids to the manhole (Fig. 4). NOTE: The 4-ft (1.2m) Downstream Defender® will only have one lid.
3. 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.
4. Without entering the vessel, use the pole with the skimmer net to remove floatables and loose debris from the outer annulus of the chamber.
5. 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).
6. 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.
7. Securely replace the grate or lid.
8. Take down safety equipment.
9. Notify Hydro International of any irregularities noted during inspection.

Floatables and Sediment Cleanout

Floatables cleanout is typically done in conjunction with sediment removal. A commercially or municipally owned sump-vac is used to remove captured sediment and floatables (Fig.6).

Floatables and loose debris can also be netted with a skimmer and pole. The access port located at the top of the manhole provides unobstructed access for a vactor hose and skimmer pole to be lowered to the base of the sump.

Scheduling

- Floatables and sump cleanout are typically conducted once a year during any season.
- If sediment depths are greater than 75% of maximum clean-out depths stated in Table 1, sediment removal is required.
- Floatables and sump cleanout should occur as soon as possible following a spill in the contributing drainage area.


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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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

1. 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.
2. Remove the lids to the manhole NOTE: The 4-ft (1.2m) Downstream Defender® will only have one lid.
3. Without entering the vessel, look down into the chamber to inspect the inside. Make note of any irregularities.
4. 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).
5. 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).
6. 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).
7. Retract the vactor hose from the vessel.
8. On the Maintenance Log provided by Hydro International, 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.
9. Securely replace the grate or lid.

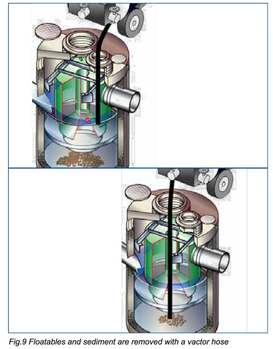
Fig.9 Floatables and sediment are removed with a vactor hose

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.	

NOTE: THESE PAGES HAVE BEEN TAKE FROM THE DOWNSTREAM DEFENDER MAINTENANCE AND OPERATIONS MANUAL. THEY ILLUSTRATE THE INPSECTION AND MAINTENANCE PROCEDURE FOR THE SYSTEM

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DOWNSTREAM DEFENDER DETAILS

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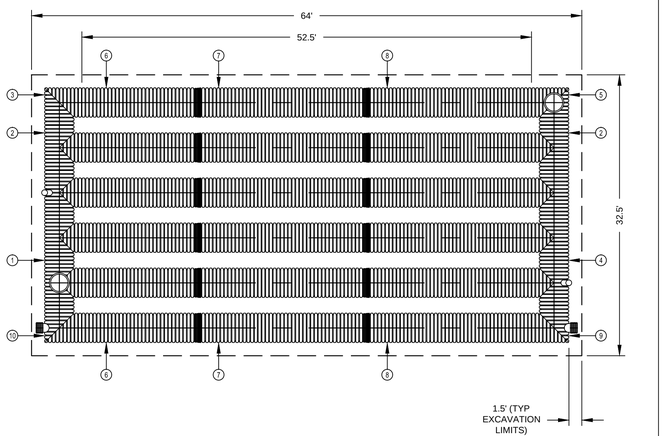
Sheet C-507



BILL OF MATERIALS

*THE COMPONENTS AND QUANTITIES LISTED HEREIN ARE NOT INTENDED TO BE A COMPREHENSIVE MATERIAL LIST. EXTRA COMPONENTS, NOT LISTED HEREIN, MAY BE NECESSARY TO COMPLETE THE CONSTRUCTION OF THE SYSTEM.

ITEM	QTY.	PART #	DESCRIPTION	MATERIAL	VENDOR	NOTE
1	1	3653ANC_1	36" TRIPLE MANIFOLD TEE W/24" RISER, W/8" CLEANOUT			See Detail
2	2	3651AN	36" SINGLE MANIFOLD TEE			See Detail
3	1	3698AN	36" X 90 DEGREE MANIFOLD BEND			See Detail
4	1	3653ANC_2	36" TRIPLE MANIFOLD TEE W/8" CLEANOUT			See Detail
5	1	3698ANC_1	36" X 90 DEGREE MANIFOLD BEND W/24" RISER			See Detail
6	6	Stick 1	36" PIPE STICK : SOIL TIGHT (FIELDCUT)			See Detail
7	6	36850020IB	36" PIPE STICK : SOIL TIGHT			See Detail
8	6	Stick 2	36" PIPE STICK : SOIL TIGHT (FIELDCUT)			See Detail
9	1	3698ANC_2	36" X 90 DEGREE MANIFOLD BEND W/12" STUB			See Detail
10	1	3698ANC_3	36" X 90 DEGREE MANIFOLD BEND W/12" STUB			See Detail
	18	3905AA	36" SPLIT COUPLER			STANDARD

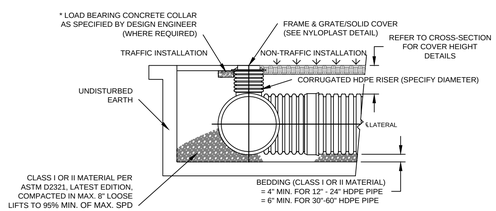
NOMINAL DIAMETER	NOMINAL O.D.	TYPICAL SPACING "C"	TYPICAL SIDE WALL "X"	MIN. H (NON-TRAFFIC)	MIN. H (TRAFFIC)	MAX. H*
36" (900 MM)	42" 1067 MM)	63" (1600 MM)	18" (457 MM)	12" (292 MM)	12" (292 MM)	8' (2.4 M)

* MAXIMUM FILL HEIGHTS OVER MANIFOLD FITTINGS. CONTACT MANUFACTURER'S REPRESENTATIVE FOR INSTALLATION CONSIDERATIONS WHEN COVER EXCEEDS 8-FT.
**60" SYSTEMS REQUIRE CLASS I BACKFILL AROUND ALL FITTINGS.

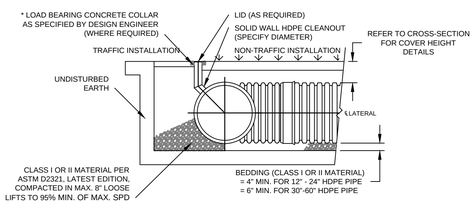
NOTES:

1. ALL REFERENCES TO CLASS I OR II MATERIAL ARE PER ASTM D2321 "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST EDITION.
2. ALL RETENTION AND DETENTION SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, LATEST EDITION AND THE MANUFACTURER'S PUBLISHED INSTALLATION GUIDELINES.
3. MEASURES SHOULD BE TAKEN TO PREVENT THE MIGRATION OF NATIVE FINES INTO THE BACKFILL MATERIAL, WHEN REQUIRED. SEE ASTM D2321.
4. FILTER FABRIC: A GEOTEXTILE FABRIC MAY BE USED AS SPECIFIED BY THE ENGINEER TO PREVENT THE MIGRATION OF FINES FROM THE NATIVE SOIL INTO THE SELECT BACKFILL MATERIAL.
5. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE. THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER. AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
6. BEDDING: SUITABLE MATERIAL SHALL BE CLASS I OR II. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 4'-24" (100mm-600mm); 6" (150mm) FOR 30"-60" (750mm-900mm).
7. INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I OR II IN THE PIPE ZONE EXTENDING NOT LESS THAN 6" ABOVE CROWN OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.
8. COVER: MINIMUM COVER OVER ALL RETENTION/DETENTION SYSTEMS IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" FROM TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOATATION. FOR TRAFFIC APPLICATIONS, MINIMUM COVER IS 12" UPTO 36" DIAMETER PIPE AND 24" OF COVER FOR 42" - 60" DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT. MAXIMUM FILL HEIGHT LIMITED TO 8-FT OVER FITTINGS FOR STANDARD INSTALLATIONS. CONTACT A SALES REPRESENTATIVE WHEN MAXIMUM FILL HEIGHTS EXCEED 8-FT FOR INSTALLATION CONSIDERATIONS.

PLAN VIEW



SECTION A-A



SECTION B-B

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

ADS RETENTION/DETENTION PIPE SYSTEM SPECIFICATION

SCOPE
THIS SPECIFICATION DESCRIBES ADS RETENTION/DETENTION PIPE SYSTEMS FOR USE IN NON-PRESSURE GRAVITY-FLOW STORM WATER COLLECTION
SYSTEMS UTILIZING A CONTINUOUS OUTFALL STRUCTURE.

PIPE REQUIREMENTS
ADS RETENTION/DETENTION SYSTEMS MAY UTILIZE ANY OF THE VARIOUS PIPE PRODUCTS BELOW:
- N-12 ST IB PIPE (PER AASHTO) SHALL MEET AASHTO M294, TYPE S OR ASTM F2306
- N-12 ST IB PIPE (PER ASTM F2648) SHALL MEET ASTM F2648
- N-12 MEGA GREEN ST IB SHALL MEET ASTM F2648
- N-12 WT IB PIPE (PER AASHTO) SHALL MEET AASHTO M294, TYPE S OR ASTM F2306
- N-12 WT IB PIPE (PER ASTM F2648) SHALL MEET ASTM F2648
- N-12 MEGA GREEN WT IB SHALL MEET ASTM F2648

ALL PRODUCTS SHALL HAVE A SMOOTH INTERIOR AND ANNULAR EXTERIOR CORRUGATIONS. ALL ST IB PIPE PRODUCTS ARE AVAILABLE AS
PERFORATED OR NON-PERFORATED. WT IB PIPE PRODUCTS ARE ONLY AVAILABLE AS NON-PERFORATED.
PRODUCT-SPECIFIC PIPE SPECIFICATIONS ARE AVAILABLE IN THE DRAINAGE HANDBOOK SECTION 1 *SPECIFICATIONS*

JOINT PERFORMANCE
PLAIN END /SOIL-TIGHT (ST IB):
ST IB PIPE SHALL BE JOINED USING A BELL & SPIGOT JOINT. THE BELL & SPIGOT JOINT SHALL MEET THE SOIL-TIGHT REQUIREMENTS OF ASTM F2306 AND
GASKETS SHALL MEET THE REQUIREMENTS OF ASTM F477.

PLAIN END PIPE & FITTINGS CONNECTIONS SHALL BE JOINED WITH COUPLING BANDS COVERING AT LEAST TWO FULL CORRUGATIONS ON EACH END OF
THE PIPE. GASKETED SOIL-TIGHT COUPLING BAND CONNECTIONS SHALL INCORPORATE A CLOSED-CELL SYNTHETIC EXPANDED RUBBER GASKET
MEETING THE REQUIREMENTS OF ASTM D1056 GRADE 2A2. GASKETS, WHEN APPLICABLE, SHALL BE INSTALLED BY THE PIPE MANUFACTURER.

WATERTIGHT (WT IB):
WT IB PIPE SHALL BE JOINED USING A BELL & SPIGOT JOINT. THE JOINT SHALL BE WATERTIGHT ACCORDING TO THE REQUIREMENTS OF ASTM D3212
GASKETS SHALL MEET THE REQUIREMENTS OF ASTM F477. 12 - THROUGH 60 - INCH (300 TO 1500MM) DIAMETERS SHALL HAVE A BELL REINFORCED WITH A
POLYMER COMPOSITE BAND. THE BELL TOLERANCE DEVICE SHALL BE INSTALLED BY THE MANUFACTURER.

PIPE & FITTING CONNECTIONS SHALL BE WITH A BELL AND SPIGOT CONNECTION UTILIZING A SPUN-ON OR WELDED BELL AND VALLEY OR SADDLE
GASKET. THE JOINT SHALL MEET THE WATERTIGHT REQUIREMENTS OF ASTM D3212, AND GASKETS SHALL MEET THE REQUIREMENTS OF ASTM F477.
DETENTION SYSTEMS ARE SUBJECT TO GREATER LEAKAGE THAN TYPICAL SINGLE RUN STORM SEWER APPLICATIONS AND THEREFORE ARE NOT
APPROPRIATE FOR APPLICATIONS REQUIRING LONG-TERM FLUID CONTAINMENT OR HYDROSTATIC PRESSURE. FOR ADDITIONAL DETAILS REFER TO
TECHNICAL NOTE 7.01 *RAINWATER HARVESTING WITH HDPE CISTERNS*.

FITTINGS
FITTINGS SHALL CONFORM TO ASTM F2306 AND MEET JOINT PERFORMANCE INDICATED ABOVE FOR FITTINGS CONNECTIONS. CUSTOM FITTINGS ARE
AVAILABLE AND MAY REQUIRE SPECIAL INSTALLATION CRITERION.

INSTALLATION
INSTALLATION SHALL BE IN ACCORDANCE WITH ASTM D2321 AND ADS RECOMMENDED INSTALLATION GUIDELINES, WITH THE EXCEPTION THAT MINIMUM
COVER IN NON-TRAFFIC AREAS FOR 12 - THROUGH 60 - INCH (300 TO 1500MM) DIAMETERS SHALL BE ONE FOOT (0.3M). MINIMUM COVER IN TRAFFICKED
AREAS FOR 12 - THROUGH 36 - INCH (300 TO 900MM) DIAMETERS SHALL BE ONE FOOT (0.3M) AND FOR 42 - THROUGH 60 - INCH (1050 TO 1500MM)
DIAMETERS, THE MINIMUM COVER SHALL BE 2 FT (0.6M). BACKFILL SHALL CONSIST OF CLASS I MATERIAL ONLY. MINIMUM COVER HEIGHTS DO NOT
ACCOUNT FOR PIPE BUOYANCY. REFER TO ADS TECHNICAL NOTE 5.*05 HDPE PIPE FLOTATION FOR BUOYANCY DESIGN CONSIDERATIONS*. MAXIMUM
COVER OVER SYSTEM USING STANDARD BACKFILL IS 8-FT (2.4M); CONTACT A REPRESENTATIVE WHEN MAXIMUM FILL HEIGHT MAY BE EXCEEDED
ADDITIONAL INSTALLATION REQUIREMENTS ARE PROVIDED IN THE DRAINAGE HANDBOOK SECTION 6 *RETENTION/DETENTION*.

NOTES:

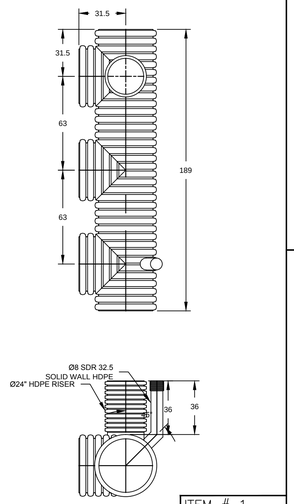
1) ALL ELEVATIONS, DIMENSIONS AND LOCATIONS OF RISERS, INLETS AND OUTLETS, SHALL BE VERIFIED BY THE ENGINEER PRIOR TO RELEASING FOR FABRICATION.
2) IN SITUATIONS WHERE A FINE-GRAINED BACKFILL MATERIAL IS USED ADJACENT TO THE PIPE SYSTEM, AND ESPECIALLY INVOLVING GROUND WATER CONDITIONS, CONSIDERATION SHOULD BE GIVEN TO THE USE OF GASKETED PIPE JOINTS. AT THE VERY LEAST THE PIPE JOINTS SHOULD BE WRAPPED IN A SUITABLE, NON-WOVEN GEOTEXTILE FABRIC TO PREVENT INFILTRATION OF FINES INTO THE PIPE SYSTEM.
3) CONSIDERATION FOR CONSTRUCTION EQUIPMENT LOADS MUST BE TAKEN INTO ACCOUNT.
4) ALL PIPE DIMENSIONS ARE SUBJECT TO MANUFACTURERS TOLERANCES.
5) ALL RISERS TO BE FIELD EXTENDED OR TRIMMED TO FINAL GRADE.

THE PROCEEDING DETAILS WERE GENERATED USING ADS DESIGN PRO®, A SOFTWARE PROGRAM DEVELOPED BY ADVANCED DRAINAGE SYSTEMS, INC. ("ADS"). THESE DRAWINGS ARE INTENDED TO DEPICT THE ADS COMPONENTS AS REQUESTED BY THE USER. ADS HAS NOT PERFORMED ANY ENGINEERING OR DESIGN SERVICES FOR THIS PROJECT, NOR HAS ADS INDEPENDENTLY VERIFIED THE INFORMATION SUPPLIED. THE INSTALLATION DETAILS PROVIDED HEREIN ARE GENERAL RECOMMENDATIONS AND ARE NOT SPECIFIC FOR THIS PROJECT. THE DESIGN ENGINEER SHALL REVIEW THESE DETAILS PRIOR TO CONSTRUCTION. IT IS THE DESIGN ENGINEERS RESPONSIBILITY TO ENSURE THE DETAILS PROVIDED HEREIN MEETS OR EXCEEDS THE APPLICABLE NATIONAL, STATE, OR LOCAL REQUIREMENTS AND TO ENSURE THAT THE DETAILS PROVIDED HEREIN ARE ACCEPTABLE FOR THIS PROJECT.

THE UNDERSIGNED HERBY APPROVES THE ATTACHED DETAILS.

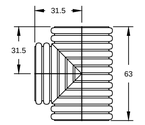
CUSTOMER DATE

36" TRIPLE MANIFOLD TEE W/24" RISER, W/8" CLEANOUT



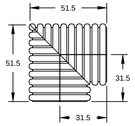
ITEM # 1
QTY : 1
3653ANC_1

36" SINGLE MANIFOLD TEE



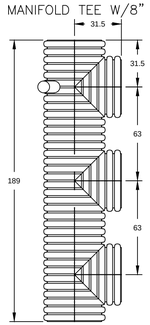
ITEM # 2
QTY : 2
3651AN

36" X 90 DEGREE MANIFOLD BEND



ITEM # 3
QTY : 1
3698AN

36" TRIPLE MANIFOLD TEE W/8" CLEANOUT



ITEM # 4
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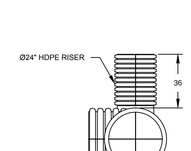
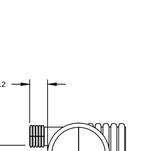
3653ANC_2

36" X 90 DEGREE MANIFOLD BEND W/24" RISER



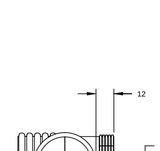
ITEM # 5
QTY : 1
3698ANC_1

36" X 90 DEGREE MANIFOLD BEND W/12" STUB



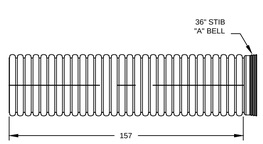
ITEM # 9
QTY : 1
3698ANC_2

36" X 90 DEGREE MANIFOLD BEND W/12" STUB



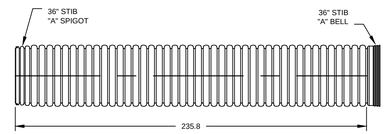
ITEM # 10
QTY : 1
3698ANC_3

36" PIPE STICK : SOIL TIGHT (FIELDCUT)



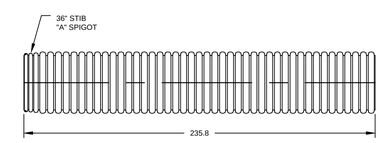
ITEM # 6
QTY : 6
Stick 1

36" PIPE STICK : SOIL TIGHT



ITEM # 7
QTY : 6
36850020IB

36" PIPE STICK : SOIL TIGHT (FIELDCUT)



ITEM # 8
QTY : 6
Stick 2

PROJECT # 15-18

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

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

Revisions:

No.	Date	Comments:
1	11/5/15	Town Comments
2	12/7/15	Town Comments
3	1/25/16	Town Comments
4	3/7/16	Town Comments

SCALE: NTS
DRAWN BY: TK
DATE: 9/25/15

CISTERN DETAILS

SITE PLAN
PREPARED FOR
PARTH KNOLLS LLC.
87 HAWKES AVENUE
Town of Ossining Westchester County, NY

Sheet C-508