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Civil / Site / Environmental

www.rgmpepc.com

To: Adam Kaufman, AICP
Director of Planning Department
Town of North Castle, NY

From: 32 Orchard Drive – Preliminary Subdivision

Date: August 7, 2023

We are re-submitting the subdivision plan and request that these plans replace any earlier submittals. The subdivision now includes four (4) new lots for a total of five (5) lots, in conformance to the zoning.

It is possible that Lot 3 may require a variance for frontage, however, if that is the case, we have also submitted a variation of the Subdivision Plan that takes frontage from the cul-de-sac.

The preliminary computations of Gross Land Coverage and Gross Floor Area are contained on the Plans. The exhibits also provide information on conformance to the required contiguous area and steep slopes.

We are also submitting a Preliminary Stormwater Plan that describes the reduction in peak flows using a proposed stormwater basin.

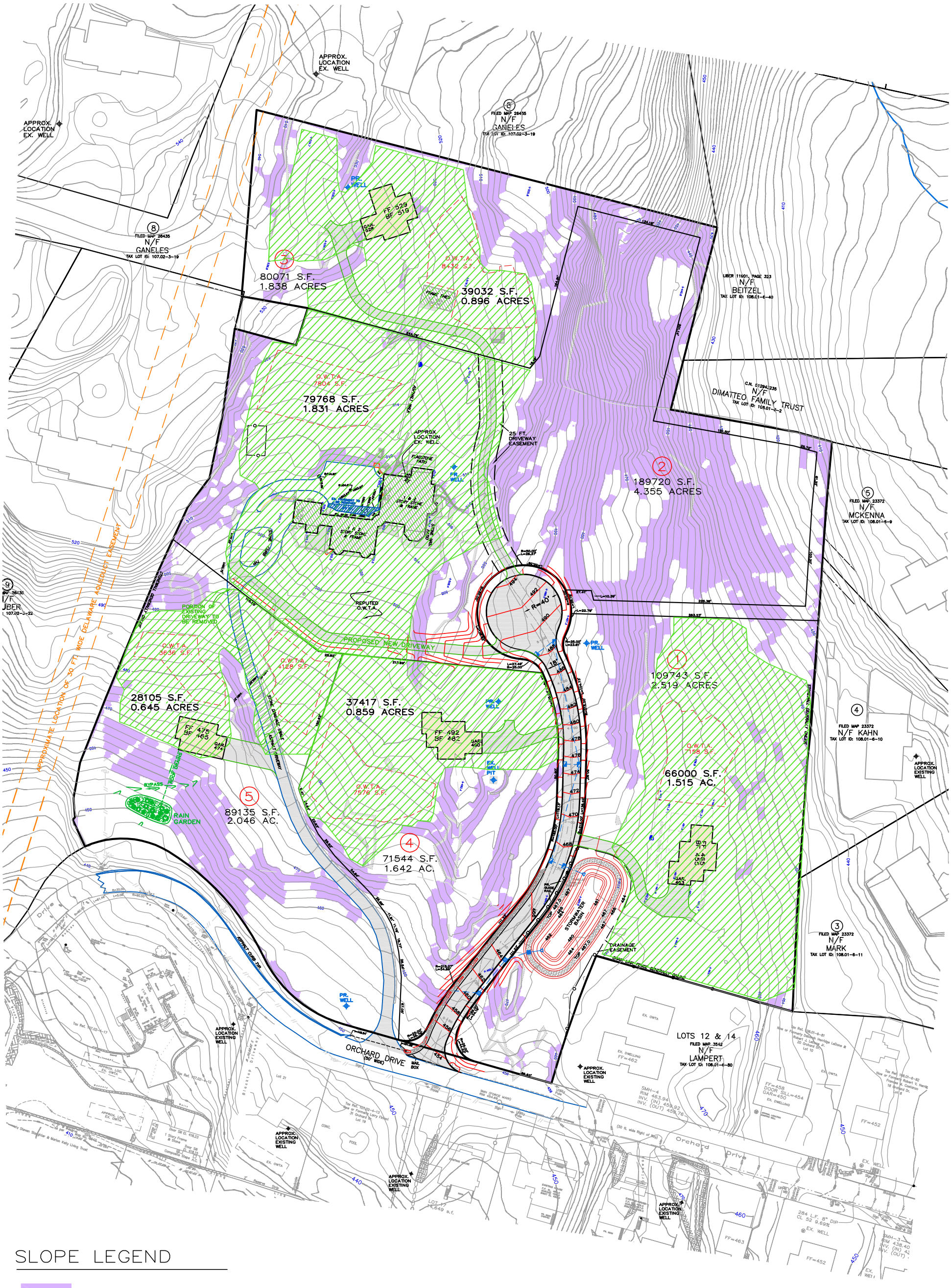
The subdivision plans have been designed to minimize disturbance by using existing paths and drives, and are based on the private road specifications as outlined in the Town Code.

We would appreciate your including this project for the agenda of the September 11 meeting of the Planning Board where we would provide a full description of the project.

Submitted by:

Ralph G. Mastromonaco

Cc: Wael Alesawy



SLOPE LEGEND

25% AND GREATER

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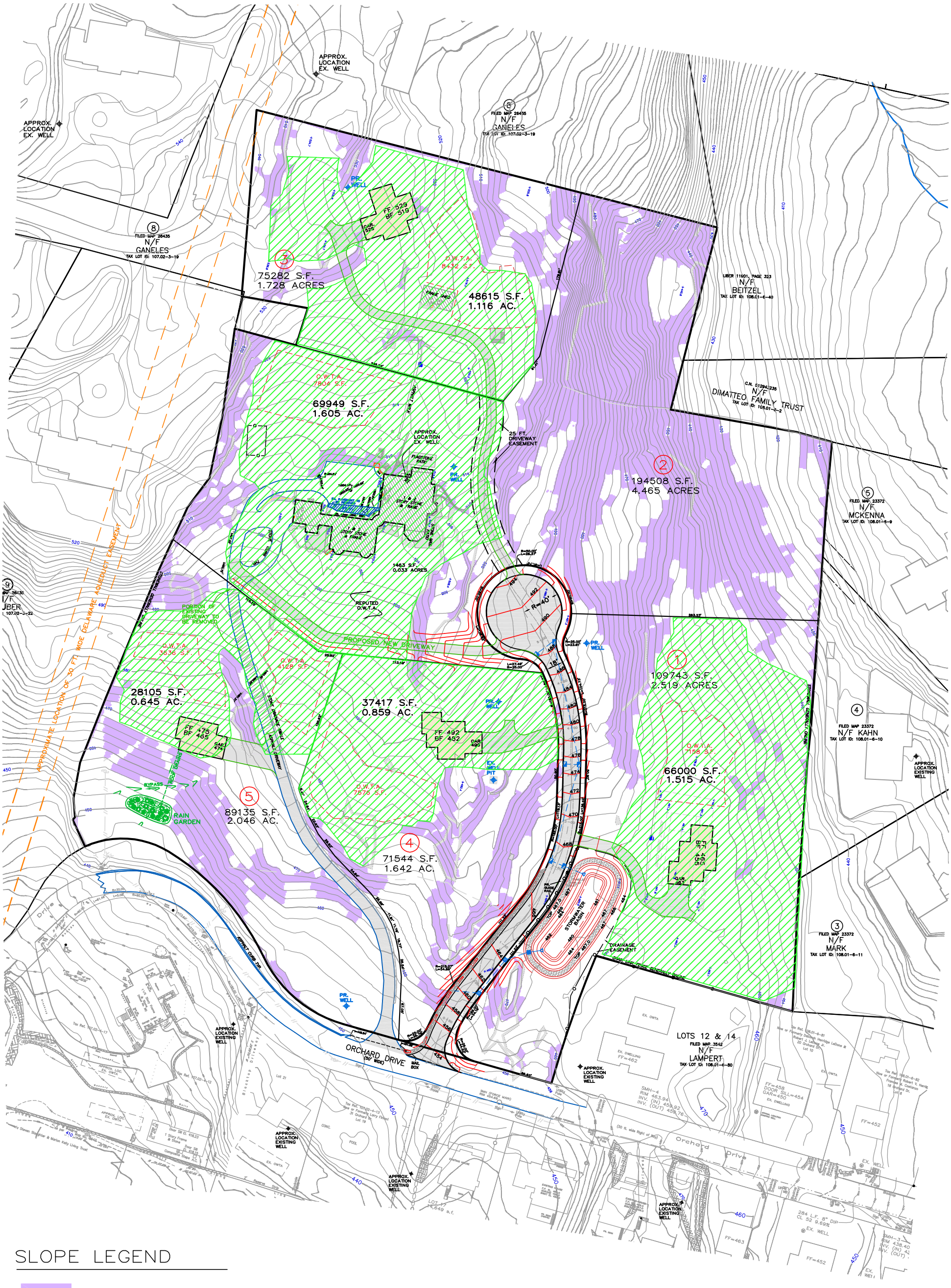
0 50 100
SCALE IN FEET

ALTERNATE CONTIGUOUS BUILDABLE AREA/ SLOPE MAP PROPOSED SUBDIVISION AT 32 ORCHARD DRIVE TOWN OF NORTH CASTLE WESTCHESTER COUNTY, NY

AUGUST 7, 2023



SLOPE LEGEND

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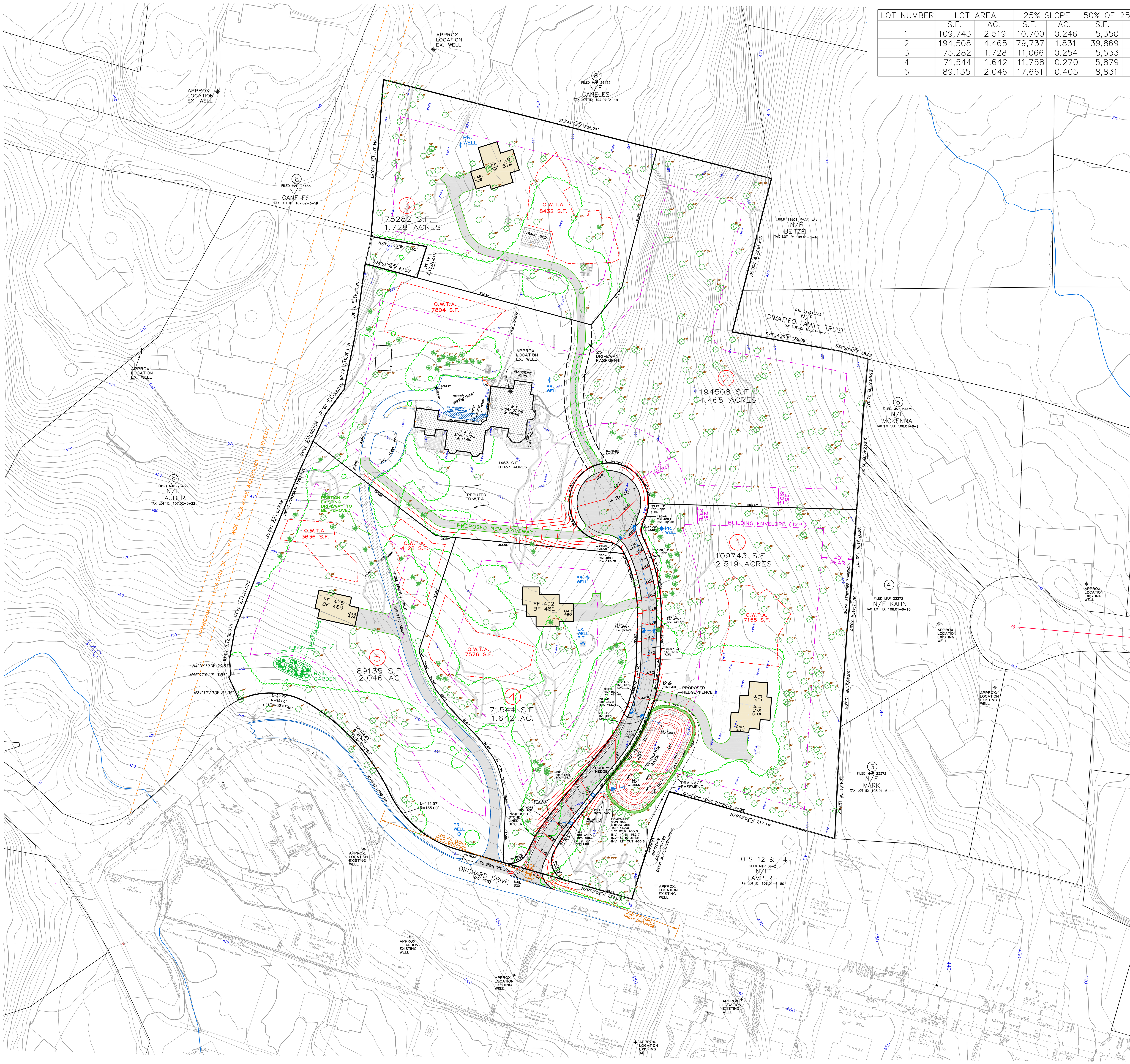
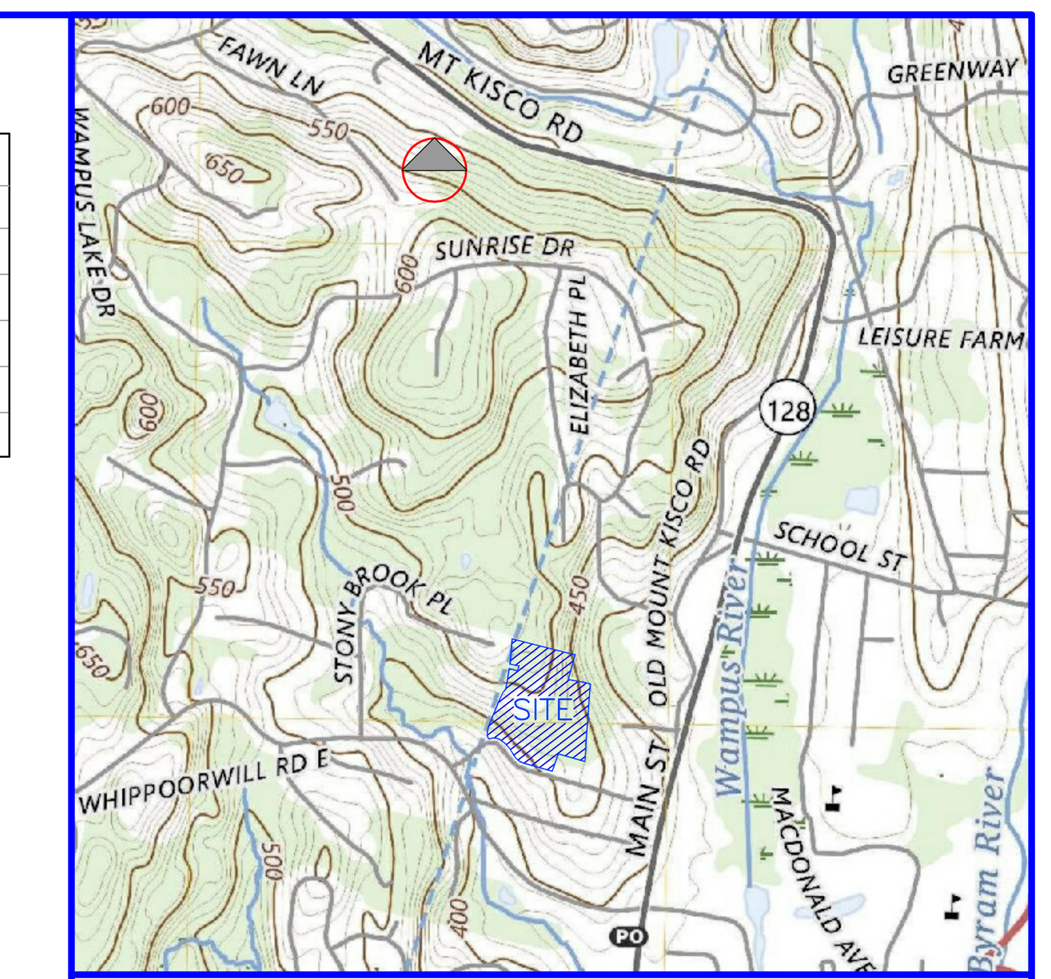
0 50 100
SCALE IN FEET

CONTIGUOUS BUILDABLE AREA/ SLOPE MAP PROPOSED SUBDIVISION AT 32 ORCHARD DRIVE TOWN OF NORTH CASTLE WESTCHESTER COUNTY, NY

AUGUST 7, 2023

LOT NUMBER	LOT AREA		25% SLOPE		50% OF 25% SLOPE		NET LOT AREA	
	S.F.	AC.	S.F.	AC.	S.F.	AC.	S.F.	AC.
1	109,743	2.519	10,700	0.246	5,350	0.123	104,393	2.397
2	194,508	4.465	79,737	1.831	39,869	0.915	154,640	3.550
3	75,282	1.728	11,066	0.254	5,533	0.127	69,749	1.601
4	71,544	1.642	11,758	0.270	5,879	0.135	65,665	1.507
5	89,135	2.046	17,661	0.405	8,831	0.203	80,305	1.844





LOCATION MAP
N.T.S.

0 25 50 100
SCALE IN FEET

Unauthorized alterations or additions to this drawing is a violation of Section 7209 (2) of the New York State Education Law.

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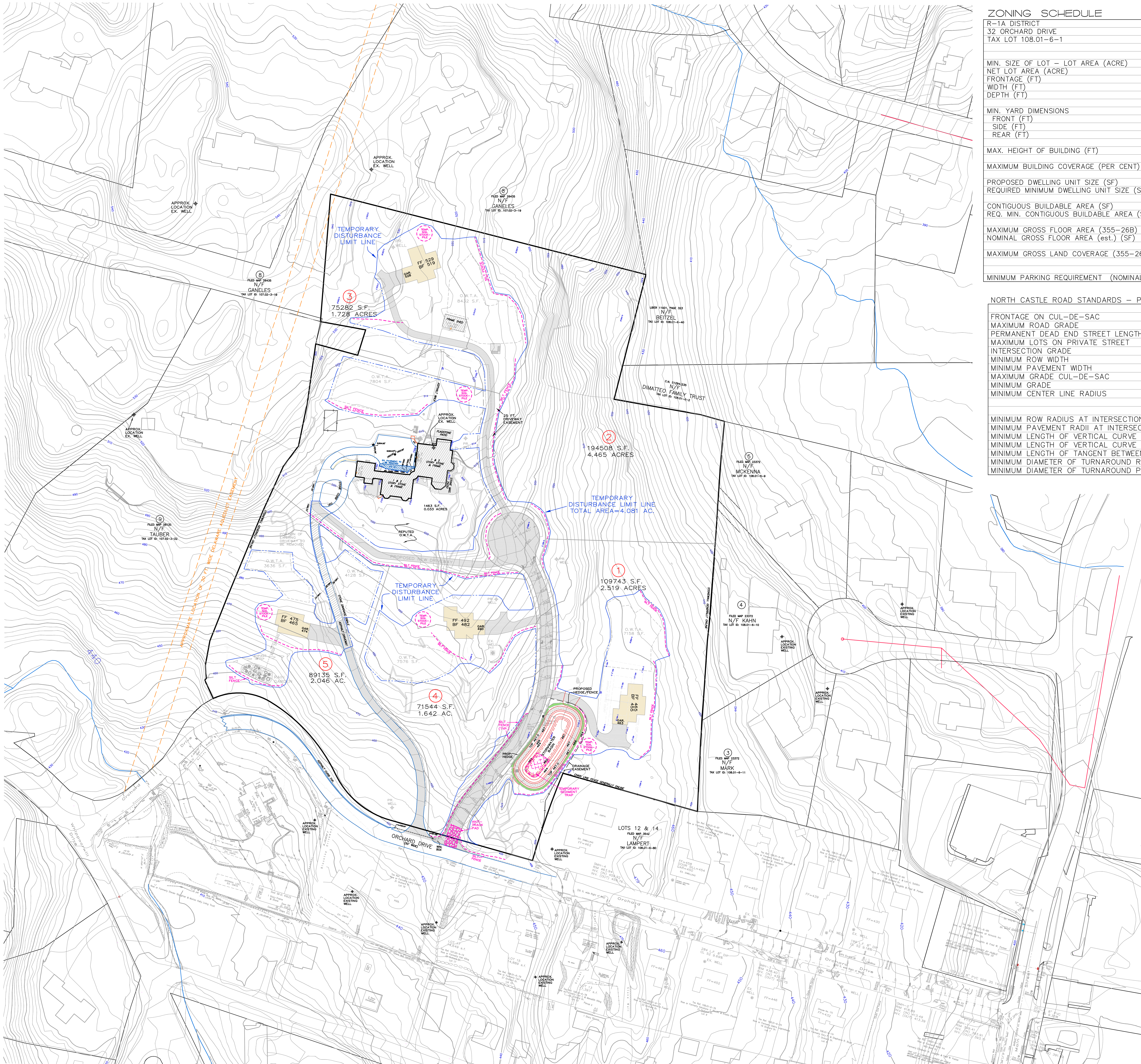
PRELIMINARY PLAT PROPOSED SUBDIVISION AT 32 ORCHARD DRIVE

TOWN OF NORTH CASTLE
WESTCHESTER COUNTY, NY
AUGUST 7, 2023

SHEET 1 OF 3 SHEETS



ZONING SCHEDULE

R-1A DISTRICT 32 ORCHARD DRIVE TAX LOT 108.01-6-1	REQUIRED	LOT 1	LOT 2	LOT 3	LOT 4	LOT 5
MIN. SIZE OF LOT – LOT AREA (ACRE)	1 ACRE	2.52	4.47	1.73	1.64	2.05
NET LOT AREA (ACRE)	1 ACRE	2.40	3.55	1.60	1.51	1.84
FRONTAGE (FT)	125'	486'	207'	25'	418'	358'
WIDTH (FT)	125'	486'	652'	332'	405'	279'
DEPTH (FT)	150'	231'	175'	235'	288'	200'
MIN. YARD DIMENSIONS						
FRONT (FT)	50'	97'	85'	126'	81'	86'
SIDE (FT)	25'	94'	96'	121'	52'	103'
REAR (FT)	40'	90'	89'	40'	100'	80'
MAX. HEIGHT OF BUILDING (FT)	30'	< 30'	EXISTING	< 30'	< 30'	< 30'
MAXIMUM BUILDING COVERAGE (PER CENT)	12%	2%	3%	3%	3%	2%
PROPOSED DWELLING UNIT SIZE (SF)	ESTIMATED	4426	9200	4564	4288	3386
REQUIRED MINIMUM DWELLING UNIT SIZE (SF)	1200	1200	1200	1200	1200	1200
CONTIGUOUS BUILDABLE AREA (SF)	COMPUTED	67085	48615	69949	37417	28105
REQ. MIN. CONTIGUOUS BUILDABLE AREA (SF)	25000	25000	25000	25000	25000	25000
MAXIMUM GROSS FLOOR AREA (355-26B) (SF)	ALLOWED	10812	12822	9254	9184	9634
NOMINAL GROSS FLOOR AREA (est.) (SF)	PROPOSED	4500	9200	4500	4500	4500
MAXIMUM GROSS LAND COVERAGE (355-26C) (SF)	ALLOWED	15035	18684	12467	11649	13017
	PROPOSED	4797	9474	8440	3741	7677
MINIMUM PARKING REQUIREMENT (NOMINAL)	2 PER UNIT	2	2	2	2	2

NORTH CASTLE ROAD STANDARDS – PRIVATE STREET

	REQUIRED	PROVIDED
FRONTAGE ON CUL-DE-SAC	25'	N/A
MAXIMUM ROAD GRADE	12%	11.50%
PERMANENT DEAD END STREET LENGTH	6 X LOT WIDTH (125*6=750')	574.73'
MAXIMUM LOTS ON PRIVATE STREET	4	4
INTERSECTION GRADE	4% WITHIN 35' OR 10' ROW	4%
MINIMUM ROW WIDTH	30' to 40'	30'
MINIMUM PAVEMENT WIDTH	18' WITH TURNOFFS	18'
MAXIMUM GRADE CUL-DE-SAC	7%	7%
MINIMUM GRADE	1.5%	1.5%
MINIMUM CENTER LINE RADIUS	150' <5%	200'
	175' < 8%	200'
	200' >8%	200'
MINIMUM ROW RADIUS AT INTERSECTIONS	25'	25'
MINIMUM PAVEMENT RADII AT INTERSECTIONS	25'	25'
MINIMUM LENGTH OF VERTICAL CURVE –CREST	75' NOT LESS THAN 15 TIMES 1% ALG. DIFF.	MEETS CODE
MINIMUM LENGTH OF VERTICAL CURVE –SAG	75' NOT LESS THAN 15 TIMES ALG. DIFF.	VC1=48.7'*
MINIMUM LENGTH OF TANGENT BETWEEN REVERSE CURVES	50'	111.23'
MINIMUM DIAMETER OF TURNAROUND ROW	100'	100'
MINIMUM DIAMETER OF TURNAROUND PAVEMENT	80' OR ALTERNATE AS APPROVED BY FD	80'

*ASYMMETRICAL V.C. USED

0 25 50 100
SCALE IN FEET

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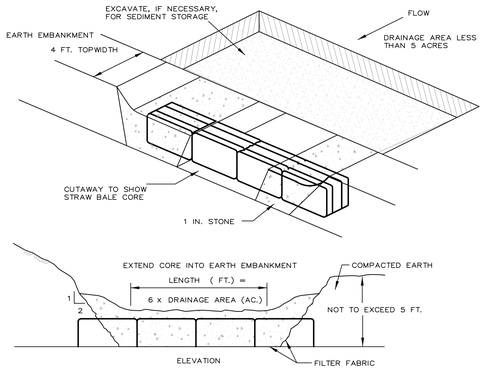
EROSION CONTROL PLAN
PROPOSED SUBDIVISION
AT
32 ORCHARD DRIVE
TOWN OF NORTH CASTLE
WESTCHESTER COUNTY, NY
AUGUST 7, 2023

SHEET 2 OF 3 SHEETS



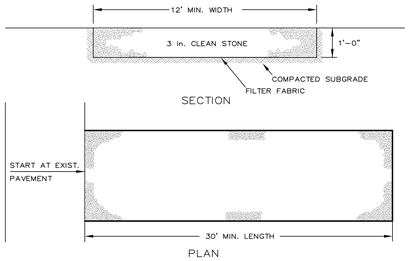
TO BE INSTALLED PRIOR TO GRADING OR FILLING IN THE DRAINAGE AREA THEY ARE TO PROTECT. TRAPS THAT ARE TO FUNCTION DURING BUILDING CONSTRUCTION MUST NOT BE LOCATED WITHIN 20 FEET OF A PROPOSED BUILDING FOUNDATION. WHILE TRAPS SHOULD BE SITED TO MAXIMIZE STORAGE BENEFIT, THEY SHOULD NOT BE LOCATED WETLAND OR WETLAND BUFFER AREAS, OR IN EXISTING WATERCOURSES.

INSTALLATION NOTES

1. AREA UNDER EMBANKMENT SHALL BE CLEARED, GRUBBED, AND STRIPPED OF ANY VEGETATION AND ROOT MAT. THE POOL AREA SHALL BE CLEARED AS WELL.
2. THE FILL MATERIAL FOR THE EMBANKMENT SHALL BE FREE OF ROOTS OR OTHER WOODY VEGETATION AS WELL AS OVER SIZED STONES, ROCKS, ORGANIC MATERIAL AND OTHER QUESTIONABLE MATERIAL. THE EMBANKMENT SHALL BE COMPACTED BY TRAVERSING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED.
3. SEDIMENT SHALL BE REMOVED AND TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE TRAP. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.
4. THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED.
5. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND WATER POLLUTION IS MINIMIZED.
6. THE STRUCTURE SHALL BE REMOVED AND THE AREA STABILIZED WHEN THE DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.
7. ALL CUT AND FILL SLOPES SHALL BE 1 : 2 OR FLATTER.

STONE OUTLET SEDIMENT TRAP
N.T.S.

RAIN GARDEN
N.T.S.

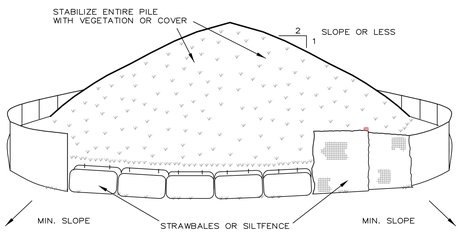


TO BE PROVIDED AT ALL POINTS OF EQUIPMENT INGRESS OR EGRESS ONTO PUBLIC RIGHTS-OF-WAY.

INSTALLATION NOTES

1. STONE SIZE – USE 3" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH – AS REQUIRED, BUT NOT LESS THAN 30 FEET
3. THICKNESS – NOT LESS THAN SIX (6) INCHES.
4. WIDTH – 12 FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCUR.
5. FILTER CLOTH – WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE. FILTER CLOTH WILL NOT BE REQUIRED ON A SINGLE FAMILY RESIDENCE LOT.
6. 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.
7. 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 CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHT OF WAY MUST BE REMOVED IMMEDIATELY.
8. 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.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

ANTI-TRACK PAD
N.T.S.



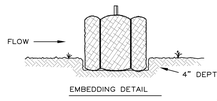
TO BE USED WHERE TOPSOIL PRESERVATION IS NECESSARY FOR REGRADING AND VEGETATING DISTURBED AREAS. TOPSOIL IS APPLIED TO SUBSOILS THAT ARE DROUGHTY (HAVING LOW AVAILABLE MOISTURE FOR PLANTS), STONY, SALTY, HAVE LOW PERMEABILITY, OR ARE EXTREMELY ACID. IT IS ALSO USED TO BACKFILL AROUND SHRUB AND TREE TRANSPLANTS. PRESERVATION OF EXISTING TOPSOIL IS BENEFICIAL FOR ALL TYPES OF LAWN OR ORNAMENTAL PLANTINGS.

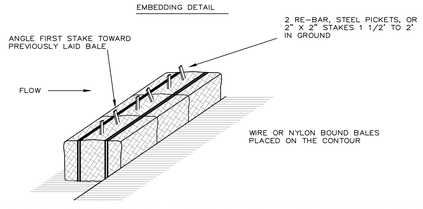
TEMPORARY STOCKPILE STABILIZATION MEASURES INCLUDE VEGETATIVE COVER, MULCH, NON-VEGETATIVE COVER, AND PERIPHERAL SEDIMENT TRAPPING BARRIERS. THE STABILIZATION MEASURE(S) SELECTED SHOULD BE APPROPRIATE FOR THE TIME OF YEAR, SITE CONDITIONS, AND REQUIRED DURATION OF USE.

INSTALLATION 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.

TEMPORARY SOIL STOCKPILING
N.T.S.



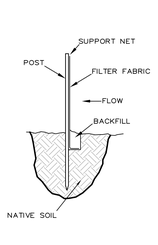


TO BE USED TO CONTROL SEDIMENT. THEY CAN BE EFFECTIVE IN PROTECTING SENSITIVE DOWNSLOPE AREAS SUCH AS STREAMS, WETLANDS, AND ADJACENT PROPERTIES THAT WOULD BE DAMAGED BY SEDIMENTS FROM UPLAND SITE DISTURBANCES. STRAWBALE SEDIMENT BARRIERS SHOULD BE USED IN CONJUNCTION WITH EROSION CONTROL MEASURES UNLESS THE SITE OR DISTURBED AREA IS VERY SMALL AND/OR NEARLY LEVEL.

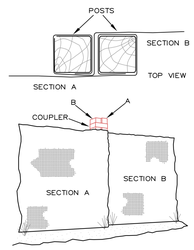
INSTALLATION NOTES

1. BALES SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
2. EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF 4".
3. BALES SHALL BE SECURELY ANCHORED IN PLACE BY STAKES OR RE-BAR DRIVEN THROUGH THE BALES. THE FIRST STAKE IN EACH BALE SHALL BE ANGLED TOWARD PREVIOUSLY LAID BALE TO FORCE BALES TOGETHER.
4. BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULLNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

HAYBALE SEDIMENT BARRIERS
N.T.S.



TOE-IN METHOD



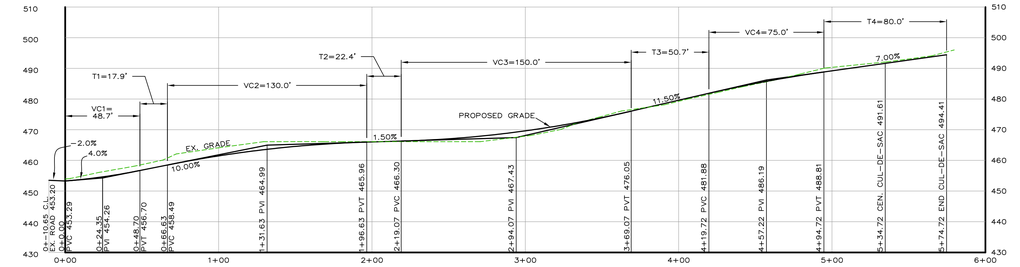
JOINING SECTIONS OF FENCING

TO BE INSTALLED IMMEDIATELY BELOW DISTURBED AREAS THAT ARE SUSCEPTIBLE TO SHEET OR RILL EROSION; AND WHERE SENSITIVE WATER BODIES, SUCH AS DRINKING WATER SUPPLIES OR WETLANDS, ARE LOCATED DOWNSLOPE OF AN AREA TO BE DISTURBED.

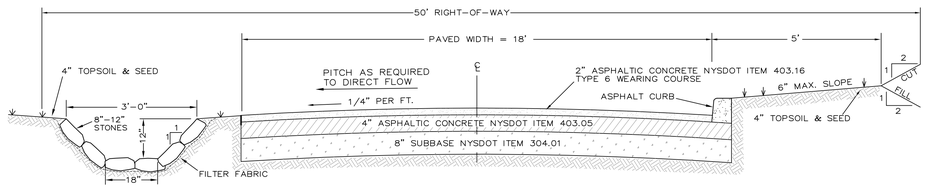
INSTALLATION NOTES

1. EXCAVATE A 4 INCH X 4 INCH TRENCH ALONG THE LOWER PERIMETER OF THE SITE.
2. UNROLL A SECTION AT A TIME AND POSITION THE POSTS AGAINST THE BACK (DOWNSTREAM) WALL OF THE TRENCH (NET SIDE AWAY FROM DIRECTION OF FLOW).
3. DRIVE THE POST INTO THE GROUND UNTIL THE NETTING IS APPROXIMATELY 2 INCHES FROM THE TRENCH BOTTOM.
4. 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.
5. JOIN SECTIONS AS SHOWN ABOVE.

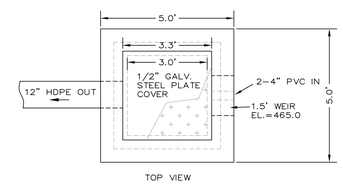
SILT FENCE
N.T.S.

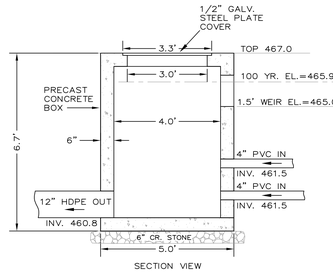


ROAD PROFILE (PRIVATE ROAD)
SCALE: HOR. 1"=40'
VER. 1"=20'



ROAD/STONE GUTTER SECTION
N.T.S.

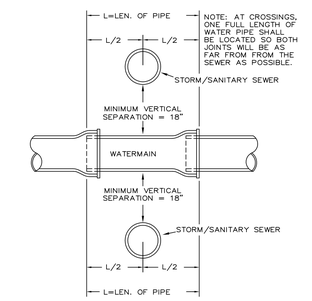




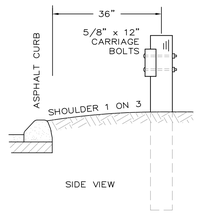
CONTROL STRUCTURE
N.T.S.

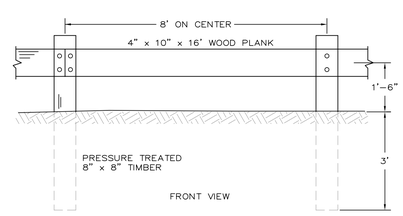
Sewers shall be laid at least 10 feet (3.0 m) horizontally from any existing or proposed water main. The distance shall be measured edge to edge. In cases where it is not practical to maintain a ten foot separation, the appropriate reviewing agency may allow deviation on a case-by-case basis, if supported by data from the design engineer. Such deviation may allow installation of the sewer closer to a water main, provided that the water main is in a separate trench or on an undisturbed earth shelf located on one side of the sewer and at an elevation so the bottom of the water main is at least 18 inches (46 cm) above the top of the sewer.

DRAIN/SEWER/WATER SEPARATION
N.T.S.

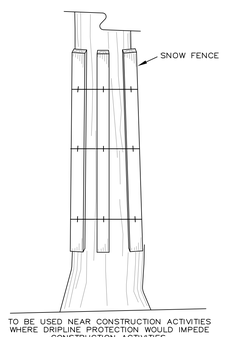


DRAIN/SEWER WATER MAIN CROSSING
N.T.S.



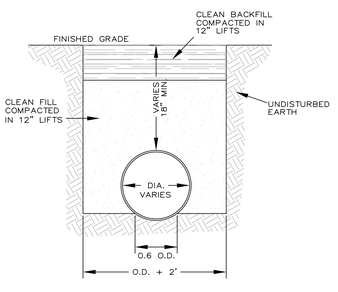


GUIDE RAIL
N.T.S.

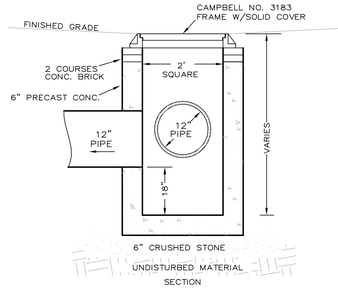


TO BE USED NEAR CONSTRUCTION ACTIVITIES WHERE DRIPLINE PROTECTION WOULD IMPEDE CONSTRUCTION ACTIVITIES.

TRUNK ARMOR DETAIL FOR TREE PROTECTION
N.T.S.



DRAIN PIPE BEDDING
N.T.S.



JUNCTION BOX
N.T.S.

CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL LOCATE AND VERIFY IN THE FIELD ALL UTILITIES – GAS, WATER, ELECTRICAL BEFORE THE START OF CONSTRUCTION. CONTRACTOR SHALL CALL CODE 753 (FORMERLY CODE 53)
2. EROSION CONTROL MEASURES, INCLUDING SILT FENCE, SHALL BE REQUIRED AS DIRECTED BY THE TOWN.
3. ALL PROPERTY DISTURBED IN THE R.O.W. OR ON PRIVATE LANDS, SHALL BE RESTORED TO NEW CONDITIONS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL APPLICATIONS AND PERMITS REQUIRED FOR CONSTRUCTION.
5. UNDERGROUND GAS AND ELECTRIC SHALL BE AS REQUIRED BY THE TOWN AND LOCAL POWER COMPANY.

EROSION AND SEDIMENT CONTROL NOTES:

1. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF CONSTRUCTION AND MAINTAINED IN EFFECTIVE CONDITION THROUGHOUT THE CONSTRUCTION PERIOD.
2. ALL EROSION AND SEDIMENTATION CONTROL MEASURES AND PROCEDURES SHALL COMPLY WITH THE STANDARDS AND SPECIFICATIONS OF THE TOWN OF NORTH CASTLE.
3. PRIOR TO ANY EXCAVATION, SILT FENCE SHALL BE INSTALLED AT THE APPROPRIATE LOCATIONS NOTED ON EROSION CONTROL PLAN. SILT FENCING SHALL BE INSTALLED AS DIRECTED BY THE OWNER'S REPRESENTATIVE IN THE FIELD AND INSTALLED AS PER THE INSTRUCTIONS OF THE MANUFACTURER. ADDITIONAL SILT FENCE MAY BE PLACED BY THE OWNER'S REPRESENTATIVE IN THE FIELD. SILT FENCING SHALL BE MAINTAINED IN OPERABLE CONDITION AND SHALL NOT BE REMOVED UNTIL DISTURBED AREAS ARE THOROUGHLY STABILIZED.
4. ALL FINISHED SLOPES AND ALL ROUGH CUT SLOPES TO REMAIN OPEN FOR EXTENDED PERIODS IMMEDIATELY TOPSOIL, SEED WITH A MIXTURE OF PERENNIAL RYE GRASS, ANNUAL RYE GRASS AND WINTER RYE AND MULCH WITH 6" OF HAY.
5. ALL SLOPES CONSTRUCTED WITH FILL MATERIAL AND ALL SLOPES WITH GRADE 3:1 OR STEEPER SHALL BE TOPSOILED, SEEDED, MULCHED AND STABILIZED WITH STAKED JUTE NETTING, UNLESS OTHERWISE NOTED.
6. ALL AREAS OF DISTURBED SOIL SHALL BE STABILIZED. IN ADDITION TO ALL SPECIFIED AND LOCATED EROSION CONTROL DEVICES, THE CONTRACTOR SHALL TAKE ALL STEPS PRUDENT AND NECESSARY TO STABILIZE THE SITE AT ALL TIMES.
7. DO NOT STOCKPILE MATERIALS ON STEEP SLOPES, IN DRAINAGE SWALES OR IN WETLAND AREAS. SURROUND ALL STOCKPILE AREAS WITH SILT SCREEN AND SEED THEM WITH THE ANNUAL RYE GRASS.
8. ALL CATCH BASINS ARE TO BE PROTECTED WITH HAYBALE FILTERS THROUGHOUT THE CONSTRUCTION PERIOD AND UNTIL ALL DISTURBED AREAS ARE THOROUGHLY STABILIZED.
9. HAYBALES SHALL BE USED AT THE TOPS AND TOES OF SLOPES, AS NECESSARY, TO COLLECT SILT AND DIVERT FLOWS. SILT SCREENS WILL BE USED IN AREAS OF UNCONCENTRATED FLOWS TO COLLECT SILT. HAYBALES AND SILT SCREEN ON PLANS MAY BE AUGMENTED IN THE FIELD AS NECESSARY.
10. UTILITY LINE EXCAVATED MATERIAL SHALL BE TEMPORARILY STOCKPILED ON HIGH SIDE OF EXCAVATION SO RUNOFF IS DIRECTED AWAY FROM TRENCH, AFTER BACK-FILLING, AREA IS TO BE TOPSOILED, SEEDED, AND MULCHED.
11. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.
12. SEDIMENT DEPOSITS SHALL BE REMOVED WHEN THEY REACH APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER. SEDIMENT SHALL BE DISPOSED OF IN A MANNER THAT DOES NOT RESULT IN ADDITIONAL EROSION OR POLLUTION.
13. INSTALL GRAVEL BED AT CONSTRUCTION ENTRANCE TO SERVE AS ANTI-TRACKING PAD. GRAVEL BED TO BE 2" DIAMETER CRUSHED STONE 6" DEEP, OVER GEOTEXTILE SUPPORT FABRIC. ANTI-TRACKING PADS TO MEASURE 30' (MIN.) LENGTH BY THE ROADWAY WIDTH.
14. BLASTING AREAS – ROCK, RIPPING WILL BE USED WHEREVER POSSIBLE. BLASTING WILL OCCUR IN ACCORDANCE WITH REGULATIONS AND STANDARDS PRESCRIBED BY THE TOWN OF NORTH CASTLE.

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DETAILS/NOTES/ ROAD PROFILE PROPOSED SUBDIVISION AT 32 ORCHARD DRIVE TOWN OF NORTH CASTLE WESTCHESTER COUNTY, NY

AUGUST 7, 2023

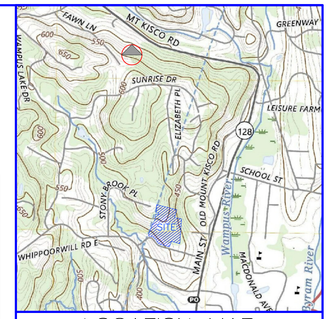
SHEET 3 OF 3 SHEETS

LOT NUMBER	LOT AREA		25% SLOPE		50% OF 25% SLOPE		NET LOT AREA	
	S.F.	AC.	S.F.	AC.	S.F.	AC.	S.F.	AC.
1	109,743	2.519	10,700	0.246	5,350	0.123	104,393	2.397
2	189,720	4.355	66,121	1.518	33,061	0.759	156,660	3.596
3	80,071	1.838	24,398	0.560	12,199	0.280	67,872	1.558
4	71,544	1.642	11,758	0.270	5,879	0.135	65,665	1.507
5	89,135	2.046	17,661	0.405	8,831	0.203	80,305	1.844

ZONING SCHEDULE

R-1A DISTRICT
32 ORCHARD DRIVE
TAX LOT 108.01-6-1

	REQUIRED	LOT 1	LOT 2	LOT 3	LOT 4	LOT 5
MIN. SIZE OF LOT – LOT AREA (ACRE)	1 ACRE	2.52	4.13	2.06	1.64	2.04
NET LOT AREA (ACRE)	1 ACRE	2.39	3.31	1.84	1.50	1.84
FRONTAGE (FT)	125'	486'	207'	25'	418'	358'
WIDTH (FT)	125'	486'	652'	332'	405'	279'
DEPTH (FT)	150'	231'	175'	235'	288'	200'
MIN. YARD DIMENSIONS						
FRONT (FT)	50'	98'	85'	85'	81'	86'
SIDE (FT)	25'	94'	96'	121'	52'	103'
REAR (FT)	40'	90'	89'	40'	100'	80'
MAX. HEIGHT OF BUILDING (FT)	30'	< 30'	EXISTING	< 30'	< 30'	< 30'
MAXIMUM BUILDING COVERAGE (PER CENT)	12%	2%	3%	3%	3%	2%
PROPOSED DWELLING UNIT SIZE (SF)	ESTIMATED	4426	9200	4564	4288	3386
REQUIRED MINIMUM DWELLING UNIT SIZE (SF)	1200	1200	1200	1200	1200	1200
CONTIGUOUS BUILDABLE AREA (SF)	COMPUTED	66000	79768	39032	37417	28105
REQ. MIN. CONTIGUOUS BUILDABLE AREA (SF)	25000	25000	25000	25000	25000	25000
MAXIMUM GROSS FLOOR AREA (355-26B) (SF)	ALLOWED	10812	12822	9254	9184	9634
NOMINAL GROSS FLOOR AREA (est.) (SF)	PROPOSED	4500	9200	4500	4500	4500
MAXIMUM GROSS LAND COVERAGE (355-26C) (SF)	ALLOWED	15035	18684	12467	11649	13017
	PROPOSED	4797	9474	8440	3741	7677
MINIMUM PARKING REQUIREMENT (NOMINAL)	2 PER UNIT	2	2	2	2	2



LOCATION MAP
N.T.S.

0 25 50 100
SCALE IN FEET

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ALTERNATE PRELIMINARY PLAT PROPOSED SUBDIVISION AT 32 ORCHARD DRIVE TOWN OF NORTH CASTLE WESTCHESTER COUNTY, NY

AUGUST 7, 2023

SHEET 1 OF 3 SHEETS

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Civil / Site / Environmental

www.rgmpepc.com

Project: 32 Orchard Drive – Residential Subdivision

Scope: Stormwater Pollution Prevention Plan (Preliminary)

Date: July 11, 2023

Introduction:

The 13-acre, partially developed and wooded site at 32 Orchard Drive, is proposed for development for four (4) new lots. The project must follow the stormwater rules requiring conformance to the NYS Stormwater Design Manual and NYS General Permit. In addition, the project must conform to the Town's Stormwater Management Code.

The Design Pont is at Orchard Drive and evaluates the existing flow condition as well as the impact of the proposed new houses and new impervious areas in the future. The site discharges to an existing surface roadway and, with proposed stormwater basin, there would be no additional flows to the street system.

For each storm studied the proposed stormwater control systems limits the peak flows to the current, undeveloped condition.

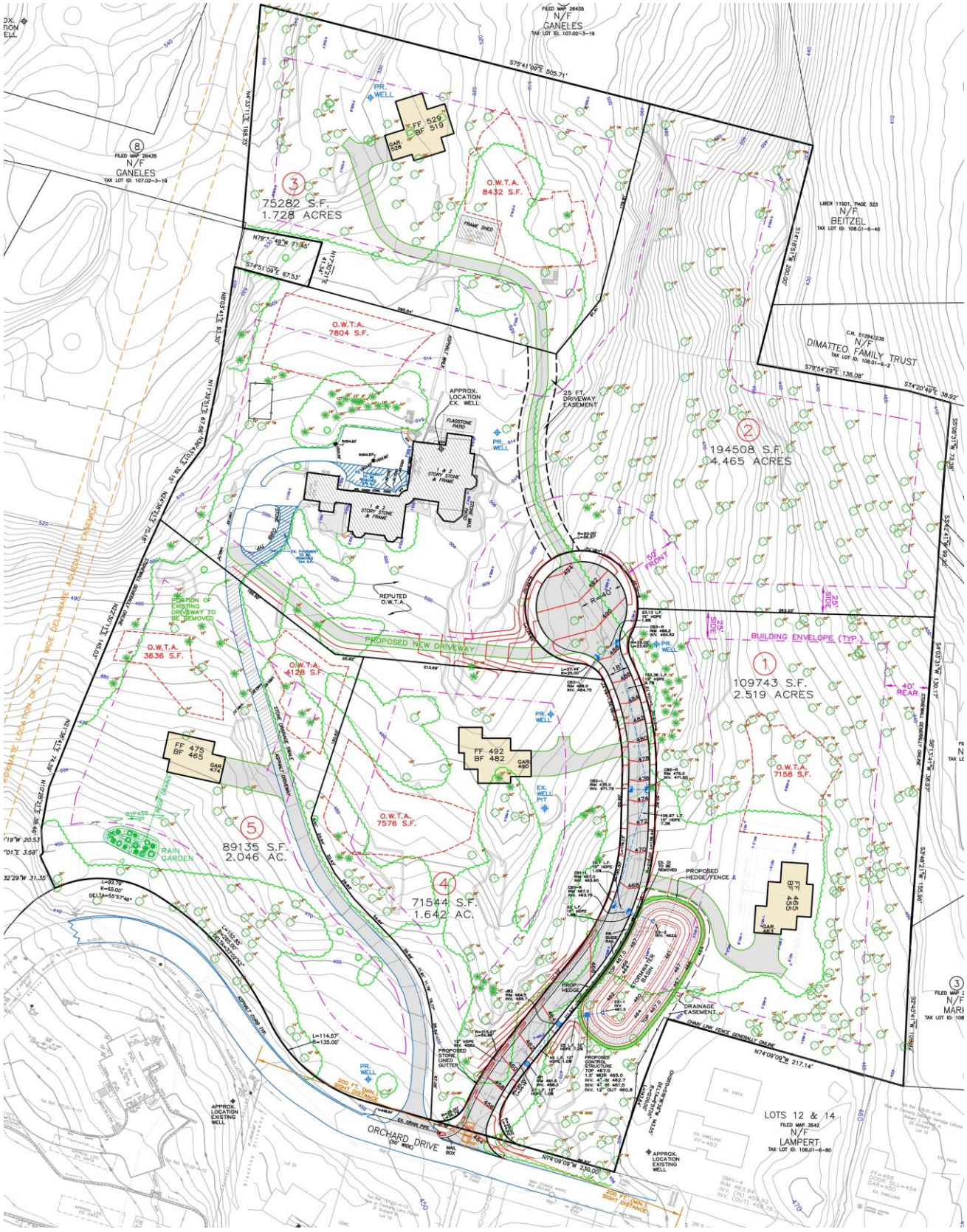
Methodology:

The overall watershed was determined from site inspections and NYS GIS topographical maps. The Runoff Curve Numbers were determined from Soil mapping of the Natural Resources Conservation Division in the web soil survey. The area of interest is principally a 'B' hydrologic grouping based on the soil mapping through the site.

The Hydrocad computer software is used to compute runoff from the watershed and routings through the Stormwater Wetland to the outlet control structure.

The purpose of this analysis is also to ensure that peak flows after development do not exceed the peak flows that occur currently for a range of storms. This report analyzes the; 90% occurring storm, 2-yr, 10-yr and 100 year storm frequencies.

Figure: Proposed Subdivision



Results of the Stormwater Analysis:

Table: NYS DEC Standards

Storm (as noted)	**Existing Peak Flow** (cfs)	**Proposed Peak Flow** (cfs)
100-yr Extreme Storm	35.08	**33.97**
10-yr Overbank Flood	12.52	**11.52**
2-yr	4.82	**4.40**
90% Storm	0	**0**

Table: Water Quality Volume Computation for Lots 1, 3, 4

Item	**Area** (sq. ft.)	**Imp. Area** (Sq. ft.)	**Imp.** %	**Prec.** In.	**Rv**	**WQv** (cu. ft.)
New Houses	42,907	17,106	40	1.5	.41	**2,193**

The Stormwater Basin captures the entire WQv as there is no outflow during the 90% storm.

Table: Water Quality Volume for Lot 5– Rain Garden

Item	**Area** (Sq. ft.)	**New Imp. Area** (Sq. ft.)	**Imp.** %	**Prec.** In.	**Rv**	**WQv** (cu. ft.)
Lot 5	2000	2000	100	1.5	.95	**238**

The proposed Rain Garden is sized to accommodate the required Water Quality Volume.

Discussion:

For each of the watersheds draining to the east (Nos. 2, 3, 4, 5, 7, 8), the proposed realignment of the road reduces the area of each watershed such that there is a reduction in peak flow and runoff volume in those directions. Accordingly the proposed development would not impact the properties downhill.

For the design point at the base of the driveways, the total flow would be reduced for all storms up to the 100 year frequency. This is due to the large stormwater basin to be constructed on the site. Accordingly, there would be no impact due to the proposed development.

The Stormwater Basin is designed as a common system, thereby eliminating the need to provide stormwater treatment for each house. The stormwater basin would be maintained in a common maintenance easement to be filed in Land Records and would encumber each lot tributary to it.

Maintenance:

The stormwater basin can be cleaned manually after annual inspection of silt levels.

Regulatory Notes:

The project requires that a Notice of Intent be filed with NYS DEC. Upon completion of the work, a Notice of Completion will be filed.

Conclusion:

The stormwater basin will treat the runoff of the Water Quality Volume (WQv) and will conform to the NYSDEC requirements of Extreme Storm and Overbank Flood.

A separate Rain Garden would be used to treat runoff from the proposed house on Lot 5, its sizing would be complete when the actual house is proposed for a building permit.

The stormwater system will also maintain peak flows to the same level or lower than existing conditions. Further, the stormwater treatment systems are in accordance with NYS DEC and Town rules, accordingly, no stormwater impacts are anticipated from this proposed development.

Submitted by:

Ralph G. Mastromonaco

Tables: Existing and Proposed Flows

EX	PR Final	Change
4.82	4.4	(0.09)
12.52	11.52	(0.08)
35.08	33.97	(0.03)

Name	Ex. Flow	Name	Pr. Flow	Change
2EX	1.52	2P	1.09	(0.28)
2EX	4.19	2P	2.99	(0.29)
2EX	12.11	2P	8.63	(0.29)
3EX	1.1	3P	0.85	(0.23)
3EX	2.96	3P	2.37	(0.20)
3EX	8.42	3P	6.9	(0.18)
4EX	0.59	4P	0.46	(0.22)
4EX	1.6	4P	1.3	(0.19)
4EX	4.56	4P	3.8	(0.17)
5EX	0.68	5P	0.058	(0.91)
5EX	1.84	5P	1.64	(0.11)
5EX	5.23	5P	4.77	(0.09)
6EX	1.14	6P	0.77	(0.32)
6EX	2.83	6P	1.8	(0.36)
6EX	7.65	6P	4.66	(0.39)
7EX	0.45	7P	0.42	(0.07)
7EX	1.13	7P	0.95	(0.16)
7EX	3.04	7P	2.39	(0.21)
8EX	0.32	8P	0.26	(0.19)
8EX	0.87	8P	0.72	(0.17)
8EX	2.51	8P	2.09	(0.17)
9EX	0.21	9P	0.21	0.00
9EX	0.55	9P	0.55	0.00
9EX	1.57	9P	1.57	0.00

Figure: Existing Watersheds

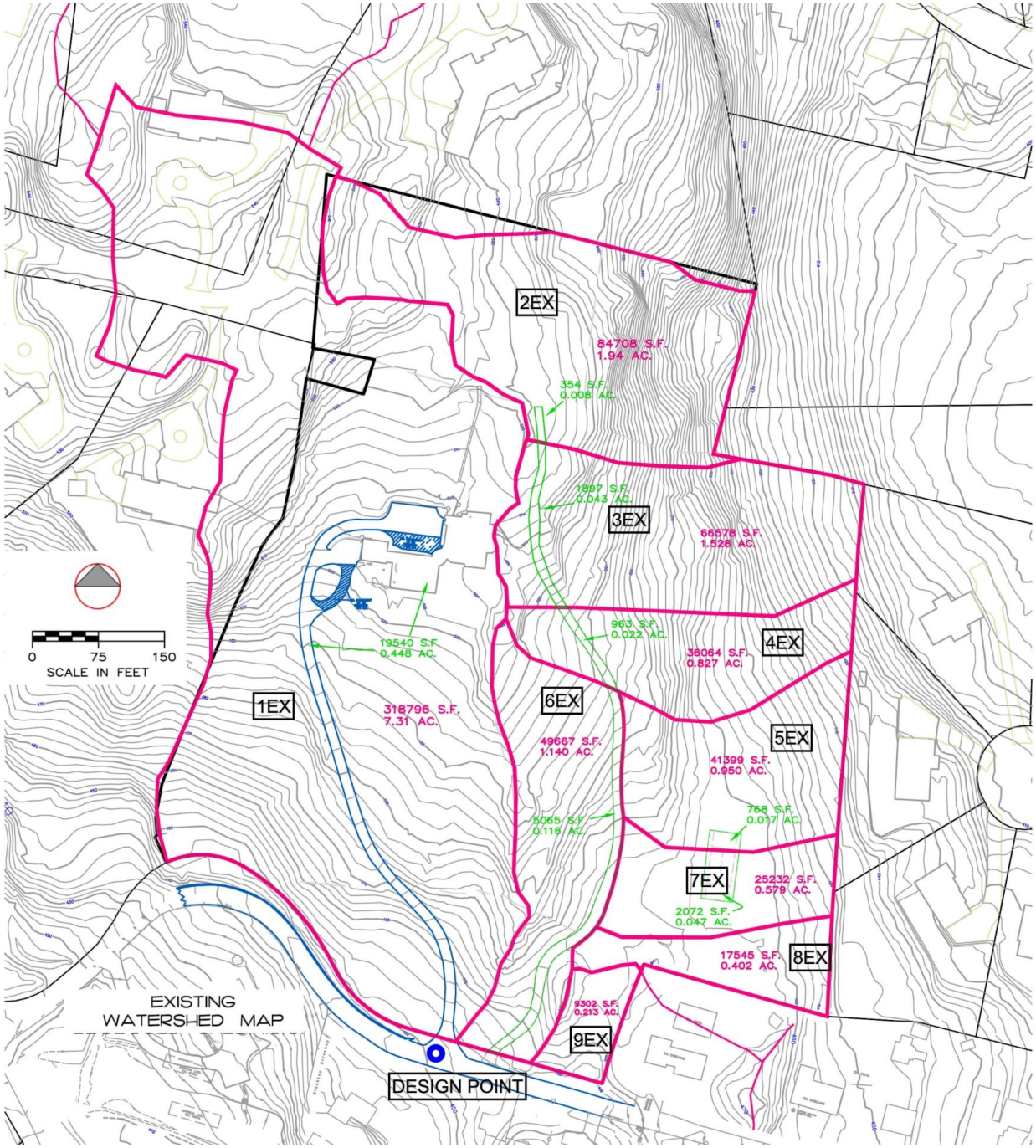


Figure: Proposed Watersheds

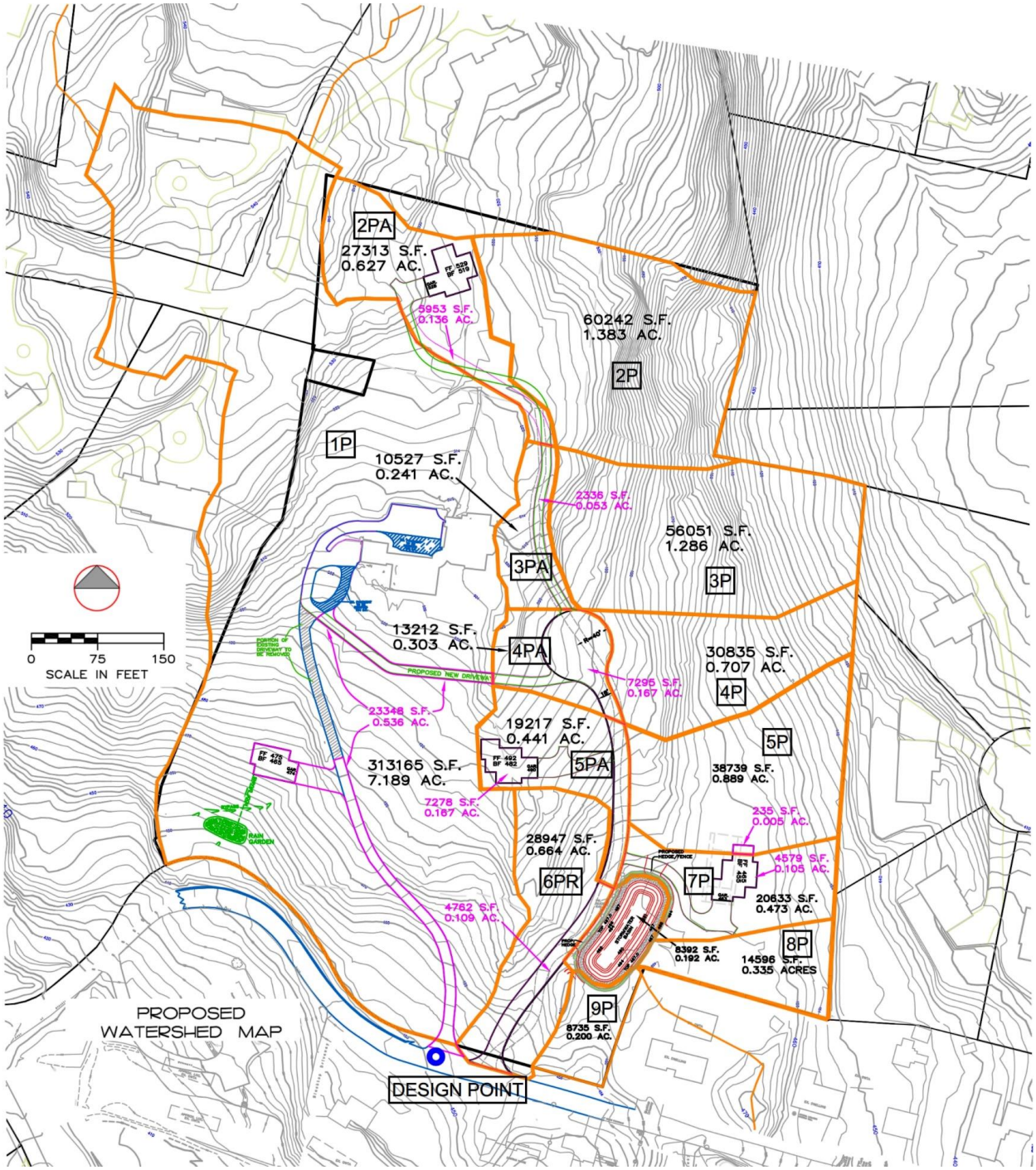
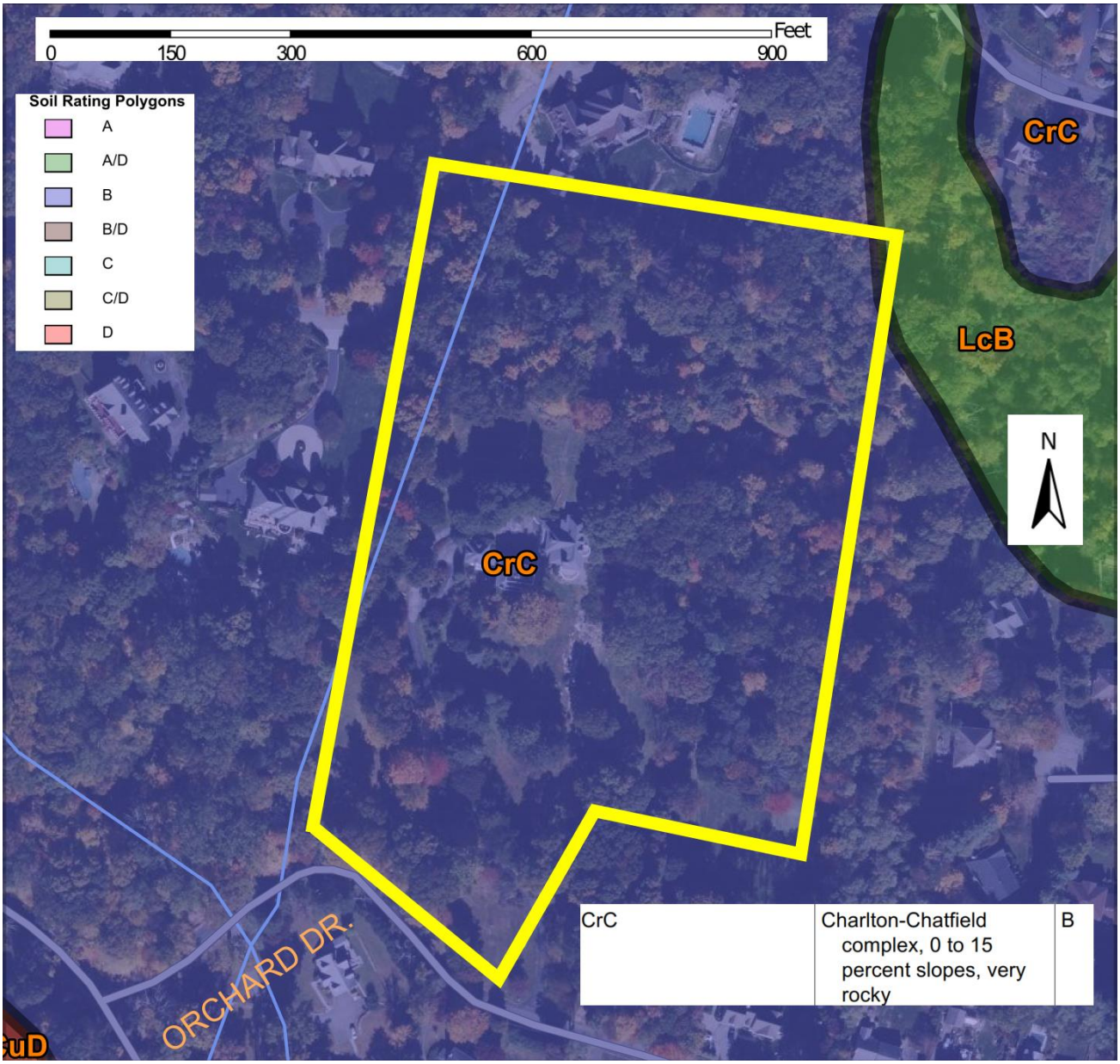
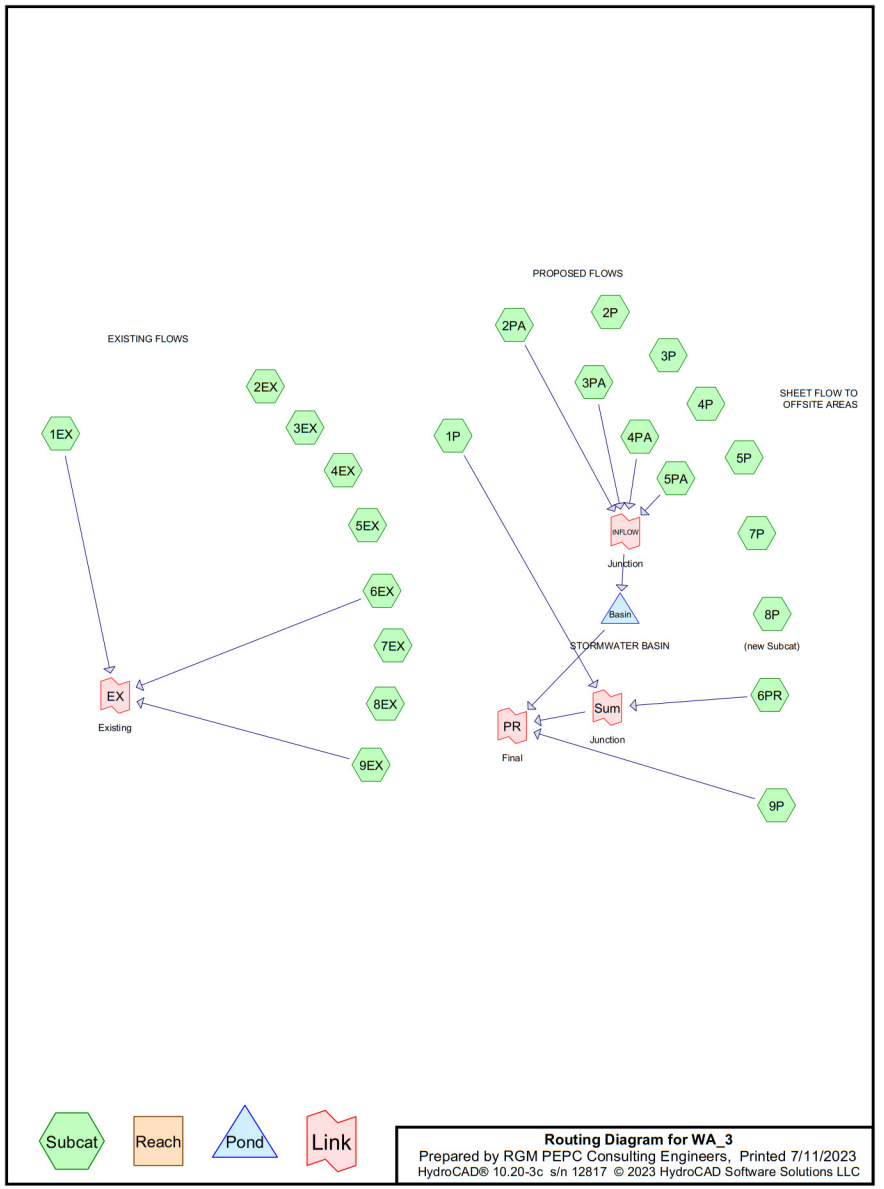


Figure: Soil Hydrologic Groups and Soil Types



Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-yr	Type III 24-hr		Default	24.00	1	3.43	2
2	10-yr	Type III 24-hr		Default	24.00	1	5.13	2
3	100-yr	Type III 24-hr		Default	24.00	1	9.17	2



Summary for Subcatchment 1EX:

Runoff = 4.03 cfs @ 12.32 hrs, Volume= 0.491 af, Depth> 0.81"
Routed to Link EX : Existing

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.43"

	Area (ac)	CN	Description
	6.862	65	Woods/grass comb., Fair, HSG B
*	0.448	98	Impervious
	7.310	67	Weighted Average
	6.862		93.87% Pervious Area
	0.448		6.13% Impervious Area

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

Summary for Subcatchment 1P:

Runoff = 3.63 cfs @ 12.41 hrs, Volume= 0.482 af, Depth> 0.81"
Routed to Link Sum : Junction

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.43"

	Area (ac)	CN	Description
	6.653	65	Woods/grass comb., Fair, HSG B
*	0.536	98	Impervious
	7.189	67	Weighted Average
	6.653		92.54% Pervious Area
	0.536		7.46% Impervious Area

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

Summary for Subcatchment 2EX:

Runoff = 1.00 cfs @ 12.25 hrs, Volume= 0.115 af, Depth> 0.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.43"

	Area (ac)	CN	Description
	1.932	65	Woods/grass comb., Fair, HSG B
*	0.008	98	Impervious
	1.940	65	Weighted Average
	1.932		99.59% Pervious Area
	0.008		0.41% Impervious Area

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

Summary for Subcatchment 2P:

Runoff = 0.71 cfs @ 12.25 hrs, Volume= 0.082 af, Depth> 0.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.43"

	Area (ac)	CN	Description
	1.383	65	Woods/grass comb., Fair, HSG B
	1.383		100.00% Pervious Area

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

Summary for Subcatchment 2PA:

Runoff = 0.57 cfs @ 12.37 hrs, Volume= 0.068 af, Depth> 1.31"
Routed to Link INFLOW : Junction

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.43"

	Area (ac)	CN	Description
	0.491	70	1/2 acre lots, 25% imp, HSG B
*	0.136	98	Impervious
	0.627	76	Weighted Average
	0.368		58.73% Pervious Area
	0.259		41.27% Impervious Area

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

Summary for Subcatchment 3EX:

Runoff = 0.77 cfs @ 12.33 hrs, Volume= 0.097 af, Depth> 0.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.43"

	Area (ac)	CN	Description
	1.485	65	Woods/grass comb., Fair, HSG B
*	0.043	98	Impervious
	1.528	66	Weighted Average
	1.485		97.19% Pervious Area
	0.043		2.81% Impervious Area

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

Summary for Subcatchment 3P:

Runoff = 0.59 cfs @ 12.33 hrs, Volume= 0.076 af, Depth> 0.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.43"

Area (ac)	CN	Description
1.286	65	Woods/grass comb., Fair, HSG B
1.286		100.00% Pervious Area

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

Summary for Subcatchment 3PA:

Runoff = 0.30 cfs @ 12.29 hrs, Volume= 0.032 af, Depth> 1.57"
Routed to Link INFLOW : Junction

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.43"

	Area (ac)	CN	Description
	0.188	75	1/4 acre lots, 38% imp, HSG B
*	0.053	98	Impervious
	0.241	80	Weighted Average
	0.117		48.37% Pervious Area
	0.124		51.63% Impervious Area

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

Summary for Subcatchment 4EX:

Runoff = 0.42 cfs @ 12.33 hrs, Volume= 0.052 af, Depth> 0.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.43"

	Area (ac)	CN	Description
	0.805	65	Woods/grass comb., Fair, HSG B
*	0.022	98	Impervious
	0.827	66	Weighted Average
	0.805		97.34% Pervious Area
	0.022		2.66% Impervious Area

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

Summary for Subcatchment 4P:

Runoff = 0.33 cfs @ 12.33 hrs, Volume= 0.042 af, Depth> 0.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.43"

Area (ac)	CN	Description
0.707	65	Woods/grass comb., Fair, HSG B
0.707		100.00% Pervious Area

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

Summary for Subcatchment 4PA:

Runoff = 0.48 cfs @ 12.21 hrs, Volume= 0.045 af, Depth> 1.79"
Routed to Link INFLOW : Junction

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.43"

Area (ac)	CN	Description
0.136	65	Woods/grass comb., Fair, HSG B
* 0.167	98	Impervious
0.303	83	Weighted Average
0.136		44.88% Pervious Area
0.167		55.12% Impervious Area

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

Summary for Subcatchment 5EX:

Runoff = 0.48 cfs @ 12.33 hrs, Volume= 0.060 af, Depth> 0.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.43"

Area (ac)	CN	Description
0.933	65	Woods/grass comb., Fair, HSG B
* 0.017	98	Impervious
0.950	66	Weighted Average
0.933		98.21% Pervious Area
0.017		1.79% Impervious Area

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

Summary for Subcatchment 5P:

Runoff = 0.41 cfs @ 12.33 hrs, Volume= 0.053 af, Depth> 0.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.43"

Area (ac)	CN	Description
0.884	65	Woods/grass comb., Fair, HSG B
* 0.005	98	Impervious
0.889	65	Weighted Average
0.884		99.44% Pervious Area
0.005		0.56% Impervious Area

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

Summary for Subcatchment 5PA:

Runoff = 0.52 cfs @ 12.22 hrs, Volume= 0.051 af, Depth> 1.37"
Routed to Link INFLOW : Junction

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.43"

Area (ac)	CN	Description
0.274	65	Woods/grass comb., Fair, HSG B
* 0.167	98	Impervious
0.441	77	Weighted Average
0.274		62.13% Pervious Area
0.167		37.87% Impervious Area

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

Summary for Subcatchment 6EX:

Runoff = 0.76 cfs @ 12.24 hrs, Volume= 0.081 af, Depth> 0.86"
Routed to Link EX : Existing

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.43"

Area (ac)	CN	Description
1.024	65	Woods/grass comb., Fair, HSG B
* 0.116	98	Impervious
1.140	68	Weighted Average
1.024		89.82% Pervious Area
0.116		10.18% Impervious Area

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

Summary for Subcatchment 6PR:

Runoff = 0.51 cfs @ 12.23 hrs, Volume= 0.053 af, Depth> 0.96"
Routed to Link Sum : Junction

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.43"

Area (ac)	CN	Description
0.555	65	Woods/grass comb., Fair, HSG B
* 0.109	98	Impervious
0.664	70	Weighted Average
0.555		83.58% Pervious Area
0.109		16.42% Impervious Area

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

Summary for Subcatchment 7EX:

Runoff = 0.45 cfs @ 12.16 hrs, Volume= 0.041 af, Depth> 0.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.43"

Area (ac)	CN	Description
0.532	65	Woods/grass comb., Fair, HSG B
* 0.047	98	Impervious
0.579	68	Weighted Average
0.532		91.88% Pervious Area
0.047		8.12% Impervious Area

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

Summary for Subcatchment 7P:

Runoff = 0.42 cfs @ 12.22 hrs, Volume= 0.042 af, Depth> 1.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.43"

Area (ac)	CN	Description
0.368	65	Woods/grass comb., Fair, HSG B
* 0.105	98	Impervious
0.473	72	Weighted Average
0.368		77.80% Pervious Area
0.105		22.20% Impervious Area

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

Summary for Subcatchment 8EX:

Runoff = 0.21 cfs @ 12.25 hrs, Volume= 0.024 af, Depth> 0.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.43"

Area (ac)	CN	Description
0.402	65	Woods/grass comb., Fair, HSG B
0.402		100.00% Pervious Area

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

Summary for Subcatchment 8P: (new Subcat)

Runoff = 0.17 cfs @ 12.25 hrs, Volume= 0.020 af, Depth> 0.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.43"

Area (ac)	CN	Description
0.335	65	Woods/grass comb., Fair, HSG B
0.335		100.00% Pervious Area

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

Summary for Subcatchment 9EX:

Runoff = 0.13 cfs @ 12.17 hrs, Volume= 0.013 af, Depth> 0.71"
Routed to Link EX : Existing

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.43"

Area (ac)	CN	Description
0.213	65	Woods/grass comb., Fair, HSG B
0.213		100.00% Pervious Area

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

Summary for Subcatchment 9P:

Runoff = 0.13 cfs @ 12.17 hrs, Volume= 0.013 af, Depth> 0.71"
Routed to Link PR : Final

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.43"

Area (ac)	CN	Description
0.213	65	Woods/grass comb., Fair, HSG B
0.213		100.00% Pervious Area

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

Summary for Pond Basin: STORMWATER BASIN

Inflow Area = 1.612 ac, 44.49% Impervious, Inflow Depth > 1.46" for 2-yr event
Inflow = 1.77 cfs @ 12.26 hrs, Volume= 0.196 af
Outflow = 0.54 cfs @ 12.84 hrs, Volume= 0.173 af, Atten= 70%, Lag= 34.8 min
Discarded = 0.10 cfs @ 12.84 hrs, Volume= 0.087 af
Primary = 0.43 cfs @ 12.84 hrs, Volume= 0.085 af
Routed to Link PR : Final

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 462.71' @ 12.84 hrs Surf.Area= 0.034 ac Storage= 0.070 af

Plug-Flow detention time= 135.9 min calculated for 0.172 af (88% of inflow)
Center-of-Mass det. time= 82.2 min (935.7 - 853.5)

Volume	Invert	Avail.Storage	Storage Description
#1	460.00'	0.545 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
460.00	0.020	0.000	0.000
462.00	0.028	0.048	0.048
463.00	0.037	0.032	0.080
464.00	0.048	0.043	0.123
465.00	0.061	0.054	0.177
466.00	0.075	0.068	0.245
467.00	0.091	0.083	0.328
468.00	0.108	0.100	0.428
469.00	0.127	0.117	0.545

Device	Routing	Invert	Outlet Devices
#1	Primary	461.50'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	465.00'	**1.5' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Discarded	460.00'	**3.000 in/hr Exfiltration over Surface area**
#4	Primary	462.70'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.10 cfs @ 12.84 hrs HW=462.71' (Free Discharge)
└**3=Exfiltration** (Exfiltration Controls 0.10 cfs)

Primary OutFlow Max=0.43 cfs @ 12.84 hrs HW=462.71' (Free Discharge)
├**1=Orifice/Grate** (Orifice Controls 0.43 cfs @ 4.92 fps)
├**2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
└**4=Orifice/Grate** (Orifice Controls 0.00 cfs @ 0.35 fps)

Summary for Link EX: Existing

Inflow Area = 8.663 ac, 6.51% Impervious, Inflow Depth > 0.81" for 2-yr event
Inflow = 4.82 cfs @ 12.31 hrs, Volume= 0.585 af
Primary = 4.82 cfs @ 12.31 hrs, Volume= 0.585 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Summary for Link INFLOW: Junction

Inflow Area = 1.612 ac, 44.49% Impervious, Inflow Depth > 1.46" for 2-yr event
Inflow = 1.77 cfs @ 12.26 hrs, Volume= 0.196 af
Primary = 1.77 cfs @ 12.26 hrs, Volume= 0.196 af, Atten= 0%, Lag= 0.0 min
Routed to Pond Basin : STORMWATER BASIN

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Summary for Link PR: Final

Inflow Area = 9.678 ac, 14.08% Impervious, Inflow Depth > 0.79" for 2-yr event
Inflow = 4.40 cfs @ 12.41 hrs, Volume= 0.634 af
Primary = 4.40 cfs @ 12.41 hrs, Volume= 0.634 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Summary for Link Sum: Junction

Inflow Area = 7.853 ac, 8.21% Impervious, Inflow Depth > 0.82" for 2-yr event
Inflow = 4.02 cfs @ 12.39 hrs, Volume= 0.535 af
Primary = 4.02 cfs @ 12.39 hrs, Volume= 0.535 af, Atten= 0%, Lag= 0.0 min
Routed to Link PR : Final

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Summary for Subcatchment 1EX:

Runoff = 10.51 cfs @ 12.30 hrs, Volume= 1.148 af, Depth> 1.89"
Routed to Link EX : Existing

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.13"

	Area (ac)	CN	Description
	6.862	65	Woods/grass comb., Fair, HSG B
*	0.448	98	Impervious
	7.310	67	Weighted Average
	6.862		93.87% Pervious Area
	0.448		6.13% Impervious Area

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

Summary for Subcatchment 1P:

Runoff = 9.43 cfs @ 12.37 hrs, Volume= 1.128 af, Depth> 1.88"
Routed to Link Sum : Junction

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.13"

	Area (ac)	CN	Description
	6.653	65	Woods/grass comb., Fair, HSG B
*	0.536	98	Impervious
	7.189	67	Weighted Average
	6.653		92.54% Pervious Area
	0.536		7.46% Impervious Area

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

Summary for Subcatchment 2EX:

Runoff = 2.83 cfs @ 12.22 hrs, Volume= 0.280 af, Depth> 1.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.13"

	Area (ac)	CN	Description
	1.932	65	Woods/grass comb., Fair, HSG B
*	0.008	98	Impervious
	1.940	65	Weighted Average
	1.932		99.59% Pervious Area
	0.008		0.41% Impervious Area

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

Summary for Subcatchment 2P:

Runoff = 2.02 cfs @ 12.22 hrs, Volume= 0.200 af, Depth> 1.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.13"

	Area (ac)	CN	Description
	1.383	65	Woods/grass comb., Fair, HSG B
	1.383		100.00% Pervious Area

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

Summary for Subcatchment 2PA:

Runoff = 1.19 cfs @ 12.35 hrs, Volume= 0.137 af, Depth> 2.63"
Routed to Link INFLOW : Junction

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.13"

	Area (ac)	CN	Description
	0.491	70	1/2 acre lots, 25% imp, HSG B
*	0.136	98	Impervious
	0.627	76	Weighted Average
	0.368		58.73% Pervious Area
	0.259		41.27% Impervious Area

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

Summary for Subcatchment 3EX:

Runoff = 2.09 cfs @ 12.30 hrs, Volume= 0.230 af, Depth> 1.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.13"

	Area (ac)	CN	Description
	1.485	65	Woods/grass comb., Fair, HSG B
*	0.043	98	Impervious
	1.528	66	Weighted Average
	1.485		97.19% Pervious Area
	0.043		2.81% Impervious Area

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

Summary for Subcatchment 3P:

Runoff = 1.68 cfs @ 12.30 hrs, Volume= 0.186 af, Depth> 1.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.13"

Area (ac)	CN	Description
1.286	65	Woods/grass comb., Fair, HSG B
1.286		100.00% Pervious Area

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

Summary for Subcatchment 3PA:

Runoff = 0.57 cfs @ 12.28 hrs, Volume= 0.060 af, Depth> 3.00"
Routed to Link INFLOW : Junction

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.13"

	Area (ac)	CN	Description
	0.188	75	1/4 acre lots, 38% imp, HSG B
*	0.053	98	Impervious
	0.241	80	Weighted Average
	0.117		48.37% Pervious Area
	0.124		51.63% Impervious Area

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

Summary for Subcatchment 4EX:

Runoff = 1.13 cfs @ 12.30 hrs, Volume= 0.125 af, Depth> 1.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.13"

	Area (ac)	CN	Description
	0.805	65	Woods/grass comb., Fair, HSG B
*	0.022	98	Impervious
	0.827	66	Weighted Average
	0.805		97.34% Pervious Area
	0.022		2.66% Impervious Area

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

Summary for Subcatchment 4P:

Runoff = 0.92 cfs @ 12.30 hrs, Volume= 0.102 af, Depth> 1.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.13"

Area (ac)	CN	Description
0.707	65	Woods/grass comb., Fair, HSG B
0.707		100.00% Pervious Area

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

Summary for Subcatchment 4PA:

Runoff = 0.88 cfs @ 12.21 hrs, Volume= 0.083 af, Depth> 3.28"
Routed to Link INFLOW : Junction

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.13"

Area (ac)	CN	Description
0.136	65	Woods/grass comb., Fair, HSG B
* 0.167	98	Impervious
0.303	83	Weighted Average
0.136		44.88% Pervious Area
0.167		55.12% Impervious Area

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

Summary for Subcatchment 5EX:

Runoff = 1.30 cfs @ 12.30 hrs, Volume= 0.143 af, Depth> 1.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.13"

Area (ac)	CN	Description
0.933	65	Woods/grass comb., Fair, HSG B
* 0.017	98	Impervious
0.950	66	Weighted Average
0.933		98.21% Pervious Area
0.017		1.79% Impervious Area

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

Summary for Subcatchment 5P:

Runoff = 1.16 cfs @ 12.30 hrs, Volume= 0.128 af, Depth> 1.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.13"

Area (ac)	CN	Description
0.884	65	Woods/grass comb., Fair, HSG B
* 0.005	98	Impervious
0.889	65	Weighted Average
0.884		99.44% Pervious Area
0.005		0.56% Impervious Area

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

Summary for Subcatchment 5PA:

Runoff = 1.06 cfs @ 12.21 hrs, Volume= 0.100 af, Depth> 2.72"
Routed to Link INFLOW : Junction

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.13"

Area (ac)	CN	Description
0.274	65	Woods/grass comb., Fair, HSG B
* 0.167	98	Impervious
0.441	77	Weighted Average
0.274		62.13% Pervious Area
0.167		37.87% Impervious Area

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

Summary for Subcatchment 6EX:

Runoff = 1.93 cfs @ 12.22 hrs, Volume= 0.187 af, Depth> 1.97"
Routed to Link EX : Existing

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.13"

Area (ac)	CN	Description
1.024	65	Woods/grass comb., Fair, HSG B
* 0.116	98	Impervious
1.140	68	Weighted Average
1.024		89.82% Pervious Area
0.116		10.18% Impervious Area

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

Summary for Subcatchment 6PR:

Runoff = 1.23 cfs @ 12.22 hrs, Volume= 0.118 af, Depth> 2.13"
Routed to Link Sum : Junction

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.13"

Area (ac)	CN	Description
0.555	65	Woods/grass comb., Fair, HSG B
* 0.109	98	Impervious
0.664	70	Weighted Average
0.555		83.58% Pervious Area
0.109		16.42% Impervious Area

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

Summary for Subcatchment 7EX:

Runoff = 1.13 cfs @ 12.15 hrs, Volume= 0.095 af, Depth> 1.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.13"

Area (ac)	CN	Description
0.532	65	Woods/grass comb., Fair, HSG B
* 0.047	98	Impervious
0.579	68	Weighted Average
0.532		91.88% Pervious Area
0.047		8.12% Impervious Area

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

Summary for Subcatchment 7P:

Runoff = 0.95 cfs @ 12.21 hrs, Volume= 0.090 af, Depth> 2.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.13"

Area (ac)	CN	Description
0.368	65	Woods/grass comb., Fair, HSG B
* 0.105	98	Impervious
0.473	72	Weighted Average
0.368		77.80% Pervious Area
0.105		22.20% Impervious Area

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

Summary for Subcatchment 8EX:

Runoff = 0.59 cfs @ 12.22 hrs, Volume= 0.058 af, Depth> 1.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.13"

Area (ac)	CN	Description
0.402	65	Woods/grass comb., Fair, HSG B
0.402		100.00% Pervious Area

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

Summary for Subcatchment 8P: (new Subcat)

Runoff = 0.49 cfs @ 12.22 hrs, Volume= 0.048 af, Depth> 1.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.13"

Area (ac)	CN	Description
0.335	65	Woods/grass comb., Fair, HSG B
0.335		100.00% Pervious Area

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

Summary for Subcatchment 9EX:

Runoff = 0.36 cfs @ 12.15 hrs, Volume= 0.031 af, Depth> 1.74"
Routed to Link EX : Existing

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.13"

Area (ac)	CN	Description
0.213	65	Woods/grass comb., Fair, HSG B
0.213		100.00% Pervious Area

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

Discarded OutFlow Max=0.15 cfs @ 12.72 hrs HW=464.20' (Free Discharge)
└**3=Exfiltration** (Exfiltration Controls 0.15 cfs)

Primary OutFlow Max=1.15 cfs @ 12.72 hrs HW=464.20' (Free Discharge)
├**1=Orifice/Grate** (Orifice Controls 0.67 cfs @ 7.66 fps)
├**2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
└**4=Orifice/Grate** (Orifice Controls 0.48 cfs @ 5.55 fps)

Summary for Link EX: Existing

Inflow Area = 8.663 ac, 6.51% Impervious, Inflow Depth > 1.89" for 10-yr event
Inflow = 12.52 cfs @ 12.28 hrs, Volume= 1.366 af
Primary = 12.52 cfs @ 12.28 hrs, Volume= 1.366 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Summary for Link INFLOW: Junction

Inflow Area = 1.612 ac, 44.49% Impervious, Inflow Depth > 2.83" for 10-yr event
Inflow = 3.49 cfs @ 12.25 hrs, Volume= 0.381 af
Primary = 3.49 cfs @ 12.25 hrs, Volume= 0.381 af, Atten= 0%, Lag= 0.0 min
Routed to Pond Basin : STORMWATER BASIN

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Summary for Link PR: Final

Inflow Area = 9.678 ac, 14.08% Impervious, Inflow Depth > 1.88" for 10-yr event
Inflow = 11.52 cfs @ 12.36 hrs, Volume= 1.517 af
Primary = 11.52 cfs @ 12.36 hrs, Volume= 1.517 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Summary for Link Sum: Junction

Inflow Area = 7.853 ac, 8.21% Impervious, Inflow Depth > 1.90" for 10-yr event
Inflow = 10.37 cfs @ 12.36 hrs, Volume= 1.246 af
Primary = 10.37 cfs @ 12.36 hrs, Volume= 1.246 af, Atten= 0%, Lag= 0.0 min
Routed to Link PR : Final

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Summary for Subcatchment 9P:

Runoff = 0.36 cfs @ 12.15 hrs, Volume= 0.031 af, Depth> 1.74"
Routed to Link PR : Final

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.13"

Area (ac)	CN	Description
0.213	65	Woods/grass comb., Fair, HSG B
0.213		100.00% Pervious Area

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

Summary for Pond Basin: STORMWATER BASIN

Inflow Area = 1.612 ac, 44.49% Impervious, Inflow Depth > 2.83" for 10-yr event
Inflow = 3.49 cfs @ 12.25 hrs, Volume= 0.381 af
Outflow = 1.31 cfs @ 12.72 hrs, Volume= 0.347 af, Atten= 63%, Lag= 28.3 min
Discarded = 0.15 cfs @ 12.72 hrs, Volume= 0.106 af
Primary = 1.15 cfs @ 12.72 hrs, Volume= 0.241 af
Routed to Link PR : Final

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 464.20' @ 12.72 hrs Surf.Area= 0.051 ac Storage= 0.133 af

Plug-Flow detention time= 97.6 min calculated for 0.347 af (91% of inflow)
Center-of-Mass det. time= 54.0 min (888.9 - 834.8)

Volume	Invert	Avail.Storage	Storage Description
#1	460.00'	0.545 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
460.00	0.020	0.000	0.000
462.00	0.028	0.048	0.048
463.00	0.037	0.032	0.080
464.00	0.048	0.043	0.123
465.00	0.061	0.054	0.177
466.00	0.075	0.068	0.245
467.00	0.091	0.083	0.328
468.00	0.108	0.100	0.428
469.00	0.127	0.117	0.545

Device	Routing	Invert	Outlet Devices
#1	Primary	461.50'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	465.00'	**1.5' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Discarded	460.00'	**3.000 in/hr Exfiltration over Surface area**
#4	Primary	462.70'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Summary for Subcatchment 1EX:

Runoff = 29.40 cfs @ 12.28 hrs, Volume= 3.101 af, Depth> 5.09"
Routed to Link EX : Existing

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=9.17"

Area (ac)	CN	Description
6.862	65	Woods/grass comb., Fair, HSG B
* 0.448	98	Impervious
7.310	67	Weighted Average
6.862		93.87% Pervious Area
0.448		6.13% Impervious Area

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

Summary for Subcatchment 1P:

Runoff = 26.35 cfs @ 12.35 hrs, Volume= 3.046 af, Depth> 5.09"
Routed to Link Sum : Junction

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=9.17"

Area (ac)	CN	Description
6.653	65	Woods/grass comb., Fair, HSG B
* 0.536	98	Impervious
7.189	67	Weighted Average
6.653		92.54% Pervious Area
0.536		7.46% Impervious Area

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

Summary for Subcatchment 2EX:

Runoff = 8.32 cfs @ 12.21 hrs, Volume= 0.783 af, Depth> 4.85"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=9.17"

Area (ac)	CN	Description
1.932	65	Woods/grass comb., Fair, HSG B
* 0.008	98	Impervious
1.940	65	Weighted Average
1.932		99.59% Pervious Area
0.008		0.41% Impervious Area

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

Summary for Subcatchment 2P:

Runoff = 5.93 cfs @ 12.21 hrs, Volume= 0.558 af, Depth> 4.85"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=9.17"

Area (ac)	CN	Description
1.383	65	Woods/grass comb., Fair, HSG B
1.383		100.00% Pervious Area

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

Summary for Subcatchment 2PA:

Runoff = 2.78 cfs @ 12.34 hrs, Volume= 0.324 af, Depth> 6.21"
Routed to Link INFLOW : Junction

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=9.17"

Area (ac)	CN	Description
0.491	70	1/2 acre lots, 25% imp, HSG B
* 0.136	98	Impervious
0.627	76	Weighted Average
0.368		58.73% Pervious Area
0.259		41.27% Impervious Area

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

Summary for Subcatchment 3EX:

Runoff = 5.99 cfs @ 12.28 hrs, Volume= 0.632 af, Depth> 4.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=9.17"

	Area (ac)	CN	Description
	1.485	65	Woods/grass comb., Fair, HSG B
*	0.043	98	Impervious
	1.528	66	Weighted Average
	1.485		97.19% Pervious Area
	0.043		2.81% Impervious Area

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

Summary for Subcatchment 3P:

Runoff = 4.91 cfs @ 12.28 hrs, Volume= 0.519 af, Depth> 4.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=9.17"

Area (ac)	CN	Description
1.286	65	Woods/grass comb., Fair, HSG B
1.286		100.00% Pervious Area

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

Summary for Subcatchment 3PA:

Runoff = 1.26 cfs @ 12.27 hrs, Volume= 0.135 af, Depth> 6.71"
Routed to Link INFLOW : Junction

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=9.17"

	Area (ac)	CN	Description
	0.188	75	1/4 acre lots, 38% imp, HSG B
*	0.053	98	Impervious
	0.241	80	Weighted Average
	0.117		48.37% Pervious Area
	0.124		51.63% Impervious Area

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

Summary for Subcatchment 4EX:

Runoff = 3.24 cfs @ 12.28 hrs, Volume= 0.342 af, Depth> 4.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=9.17"

	Area (ac)	CN	Description
	0.805	65	Woods/grass comb., Fair, HSG B
*	0.022	98	Impervious
	0.827	66	Weighted Average
	0.805		97.34% Pervious Area
	0.022		2.66% Impervious Area

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

Summary for Subcatchment 4P:

Runoff = 2.70 cfs @ 12.28 hrs, Volume= 0.285 af, Depth> 4.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=9.17"

Area (ac)	CN	Description
0.707	65	Woods/grass comb., Fair, HSG B
0.707		100.00% Pervious Area

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

Summary for Subcatchment 4PA:

Runoff = 1.84 cfs @ 12.20 hrs, Volume= 0.179 af, Depth> 7.08"
Routed to Link INFLOW : Junction

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=9.17"

Area (ac)	CN	Description
0.136	65	Woods/grass comb., Fair, HSG B
* 0.167	98	Impervious
0.303	83	Weighted Average
0.136		44.88% Pervious Area
0.167		55.12% Impervious Area

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

Summary for Subcatchment 5EX:

Runoff = 3.73 cfs @ 12.28 hrs, Volume= 0.393 af, Depth> 4.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=9.17"

Area (ac)	CN	Description
0.933	65	Woods/grass comb., Fair, HSG B
* 0.017	98	Impervious
0.950	66	Weighted Average
0.933		98.21% Pervious Area
0.017		1.79% Impervious Area

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

Summary for Subcatchment 5P:

Runoff = 3.40 cfs @ 12.28 hrs, Volume= 0.359 af, Depth> 4.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=9.17"

Area (ac)	CN	Description
0.884	65	Woods/grass comb., Fair, HSG B
* 0.005	98	Impervious
0.889	65	Weighted Average
0.884		99.44% Pervious Area
0.005		0.56% Impervious Area

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

Summary for Subcatchment 5PA:

Runoff = 2.45 cfs @ 12.20 hrs, Volume= 0.233 af, Depth> 6.34"
Routed to Link INFLOW : Junction

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=9.17"

Area (ac)	CN	Description
0.274	65	Woods/grass comb., Fair, HSG B
* 0.167	98	Impervious
0.441	77	Weighted Average
0.274		62.13% Pervious Area
0.167		37.87% Impervious Area

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

Summary for Subcatchment 6EX:

Runoff = 5.28 cfs @ 12.21 hrs, Volume= 0.496 af, Depth> 5.22"
Routed to Link EX : Existing

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=9.17"

Area (ac)	CN	Description
1.024	65	Woods/grass comb., Fair, HSG B
* 0.116	98	Impervious
1.140	68	Weighted Average
1.024		89.82% Pervious Area
0.116		10.18% Impervious Area

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

Summary for Subcatchment 6PR:

Runoff = 3.22 cfs @ 12.21 hrs, Volume= 0.303 af, Depth> 5.47"
Routed to Link Sum : Junction

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=9.17"

Area (ac)	CN	Description
0.555	65	Woods/grass comb., Fair, HSG B
* 0.109	98	Impervious
0.664	70	Weighted Average
0.555		83.58% Pervious Area
0.109		16.42% Impervious Area

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

Summary for Subcatchment 7EX:

Runoff = 3.07 cfs @ 12.14 hrs, Volume= 0.252 af, Depth> 5.23"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=9.17"

Area (ac)	CN	Description
0.532	65	Woods/grass comb., Fair, HSG B
* 0.047	98	Impervious
0.579	68	Weighted Average
0.532		91.88% Pervious Area
0.047		8.12% Impervious Area

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

Summary for Subcatchment 7P:

Runoff = 2.39 cfs @ 12.21 hrs, Volume= 0.225 af, Depth> 5.72"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=9.17"

Area (ac)	CN	Description
0.368	65	Woods/grass comb., Fair, HSG B
* 0.105	98	Impervious
0.473	72	Weighted Average
0.368		77.80% Pervious Area
0.105		22.20% Impervious Area

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

Summary for Subcatchment 8EX:

Runoff = 1.72 cfs @ 12.21 hrs, Volume= 0.162 af, Depth> 4.85"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=9.17"

Area (ac)	CN	Description
0.402	65	Woods/grass comb., Fair, HSG B
0.402		100.00% Pervious Area

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

Summary for Subcatchment 8P: (new Subcat)

Runoff = 1.44 cfs @ 12.21 hrs, Volume= 0.135 af, Depth> 4.85"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=9.17"

Area (ac)	CN	Description
0.335	65	Woods/grass comb., Fair, HSG B
0.335		100.00% Pervious Area

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

Summary for Subcatchment 9EX:

Runoff = 1.05 cfs @ 12.15 hrs, Volume= 0.086 af, Depth> 4.85"
Routed to Link EX : Existing

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=9.17"

Area (ac)	CN	Description
0.213	65	Woods/grass comb., Fair, HSG B
0.213		100.00% Pervious Area

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

Summary for Subcatchment 9P:

Runoff = 1.05 cfs @ 12.15 hrs, Volume= 0.086 af, Depth> 4.85"
Routed to Link PR : Final

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=9.17"

Area (ac)	CN	Description
0.213	65	Woods/grass comb., Fair, HSG B
0.213		100.00% Pervious Area

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

Summary for Pond Basin: STORMWATER BASIN

Inflow Area = 1.612 ac, 44.49% Impervious, Inflow Depth > 6.48" for 100-yr event
Inflow = 7.89 cfs @ 12.24 hrs, Volume= 0.871 af
Outflow = 5.60 cfs @ 12.47 hrs, Volume= 0.833 af, Atten= 29%, Lag= 13.6 min
Discarded = 0.22 cfs @ 12.47 hrs, Volume= 0.141 af
Primary = 5.37 cfs @ 12.47 hrs, Volume= 0.692 af
Routed to Link PR : Final

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 465.92' @ 12.47 hrs Surf.Area= 0.074 ac Storage= 0.239 af

Plug-Flow detention time= 71.9 min calculated for 0.831 af (95% of inflow)
Center-of-Mass det. time= 47.7 min (859.6 - 811.9)

Volume	Invert	Avail.Storage	Storage Description
#1	460.00'	0.545 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
460.00	0.020	0.000	0.000
462.00	0.028	0.048	0.048
463.00	0.037	0.032	0.080
464.00	0.048	0.043	0.123
465.00	0.061	0.054	0.177
466.00	0.075	0.068	0.245
467.00	0.091	0.083	0.328
468.00	0.108	0.100	0.428
469.00	0.127	0.117	0.545

Device	Routing	Invert	Outlet Devices
#1	Primary	461.50'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	465.00'	**1.5' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Discarded	460.00'	**3.000 in/hr Exfiltration over Surface area**
#4	Primary	462.70'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.22 cfs @ 12.47 hrs HW=465.91' (Free Discharge)
└**3=Exfiltration** (Exfiltration Controls 0.22 cfs)

Primary OutFlow Max=5.34 cfs @ 12.47 hrs HW=465.91' (Free Discharge)
├**1=Orifice/Grate** (Orifice Controls 0.87 cfs @ 9.92 fps)
├**2=Sharp-Crested Rectangular Weir** (Weir Controls 3.75 cfs @ 3.12 fps)
└**4=Orifice/Grate** (Orifice Controls 0.73 cfs @ 8.40 fps)

Summary for Link EX: Existing

Inflow Area = 8.663 ac, 6.51% Impervious, Inflow Depth > 5.10" for 100-yr event
Inflow = 35.08 cfs @ 12.26 hrs, Volume= 3.683 af
Primary = 35.08 cfs @ 12.26 hrs, Volume= 3.683 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Summary for Link INFLOW: Junction

Inflow Area = 1.612 ac, 44.49% Impervious, Inflow Depth > 6.48" for 100-yr event
Inflow = 7.89 cfs @ 12.24 hrs, Volume= 0.871 af
Primary = 7.89 cfs @ 12.24 hrs, Volume= 0.871 af, Atten= 0%, Lag= 0.0 min
Routed to Pond Basin : STORMWATER BASIN

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Summary for Link PR: Final

Inflow Area = 9.678 ac, 14.08% Impervious, Inflow Depth > 5.12" for 100-yr event
Inflow = 33.97 cfs @ 12.36 hrs, Volume= 4.127 af
Primary = 33.97 cfs @ 12.36 hrs, Volume= 4.127 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Summary for Link Sum: Junction

Inflow Area = 7.853 ac, 8.21% Impervious, Inflow Depth > 5.12" for 100-yr event
Inflow = 28.80 cfs @ 12.34 hrs, Volume= 3.349 af
Primary = 28.80 cfs @ 12.34 hrs, Volume= 3.349 af, Atten= 0%, Lag= 0.0 min
Routed to Link PR : Final

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs