PROPOSED RENOVATION OF

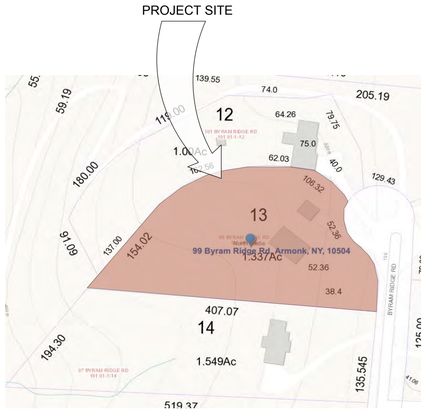
The Kalian Residence

99 Byram Ridge Road, Armonk, NY

OWNER : Mr. & Mrs. Christopher Kalian

Contractor : Ridge Partners

Architect: Tom F. Abillama, AIA



GIS MAP

DRAWING LIST	
T. 1	TITLE SHEET
C. 1	COVER SHEET
C. 2	RENDERINGS
C. 3	STREETSCAPE
SP. 1	SITE PLAN
SP. 2	SITE ZONING/ DIAGRAMS
SP. 3	SITE STORMWATER PLANS
SP. 4	SITE GRADING PLAN
A. 1	BASEMENT FLOOR PLAN
A. 2	1ST FLOOR PLAN
A. 3	2ND FLOOR PLAN
A. 4	ROOF PLAN
A. 5	FRONT & REAR ELEVATIONS
A. 6	RIGHT ELEVATION
A. 7	LEFT ELEVATION/ SECTION
A. 8	CROSS SECTION
A. 9	EXTERIOR WALL DETAILS

PROPOSED HOUSE

NO.	REV.	DATE
10	Planning Bd.	9.10.21
9	ARB	7.19.21
8	ARB	7.09.21
7	Coord.	6.17.21
6	Client/ PB	6.7.21
5	Client	6.2.21
4	Planning Bd	5.21.21
3	Planning Bd	5.10.21
2	Planning Bd	4.14.21
1	Planning Bd	3.10.21

OWNER:

MR. & MRS. CHRISTOPHER KALIAN

Tom Abillama Architects

1955 CENTRAL PARK AVENUE
YONKERS, NEW YORK

PHONE: 914 6684673
FAX: 914 668 1831
EMAIL: FILES@TFARA.COM

REGISTERED ARCHITECT
TOM FRANCIS ABILLAMA
STATE OF NEW YORK

SEAL

KEY PLAN

PROPOSED ONE FAMILY DWELLING EXPANSION

99 BYRAM RIDGE RD., ARMONK, N.Y

SBL: 101.01/1/13 ZONE: R-1A

TITLE SHEET

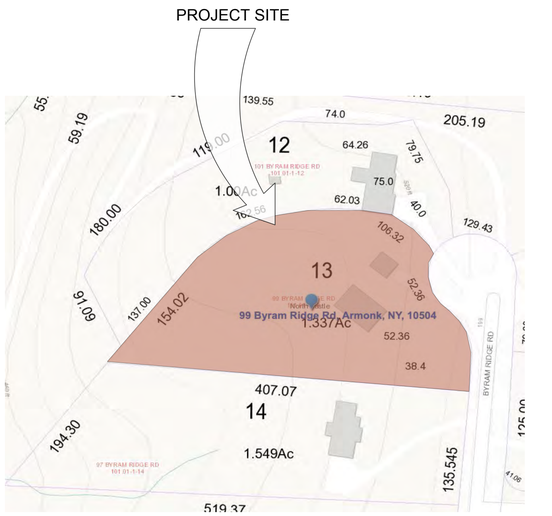
Project ID / DATE : 2048/ 10.15.2020

Sheet Scale:

T. 1

Drawn By: KM Checked By: TFA

Plot Date: JULY 19.2021



ELECTRICAL NOTES

Work related to these documents shall include furnishing and installation of every kind of wire/conduit required to make the electric light and power distribution system complete, i.e. providing and connecting service entrance equipment, lighting panels, power panels, switches, outlets, receptacles, back boxes, related components required by the local utility company of all fixtures complete with lamps, clamps, hangers, supports, etc.

All electrical work shall comply with the requirements of the national electric code, latest edition. Should a conflict arise, the code or more stringent requirements shall prevail.

All wiring shall be copper, # 12 awg minimum size - #8 and smaller to be solid, #6 and larger to be stranded. Insulation to be NEC 600 volt type, rated @ 75 degrees C and be properly phase color coded for 120/208 V. 3 phase 4-wire service.

Unless noted otherwise, minimum size conduit shall be 1/2" and number of cross marks indicate number of # 12 conductors in conduit. Type of conduit used shall be in strict accordance with code provisions concerning same. All conduit runs are to be concealed in floors, walls, and ceilings, except where noted otherwise.

Electrical installation shall be tested for shorts, grounds, operation of low voltage circuitry, night light wiring, stand-by generator and connections to same, etc. Defects shall be remedied at once and the tests re-run as many times as may be required to prove correctness. Balance all phase loading of all panelboards.

The circuits shall be distinctly numbered and identified on the schedule of circuits typewritten to the panelboard. Affix permanent identifying nameplates to all electrical switches, pilot devices, selector switches, etc. Submit samples and list of titles for approval prior to purchase and installation.

PLUMBING NOTES

Installation of all work herein specified shall conform to the requirements of the NY State Plumbing Code, rules and regulations of the North Castle building department, and all other local authorities having jurisdiction, including federal O.S.H.A. specifications.

All materials used shall be new, best of their respective brands and conform to the requirements of all state and local authorities having jurisdiction. Pipework installed under this contract shall be in accordance with the following schedule:

Material

Soil and waste lines(within building)above grade- extra heavy cast iron pipe or dwv copper pipe with sweat solder connections;

Below grade- extra heavy cast iron pipe. soil and waste lines (outside building) extra heavy cast iron pipe. vent pipingstandard weight galvanized pipe or type dwv copper pipe with sweat solder joints. cold and hot water piping underground-typek with flare fittings.

Above grade (within building) type l copper tube with lead free sweat solder connections

Set clevis hangers for the support of copper piping not more than 10 ft on center. set hangers for cast iron pipe not more than 5 ft apart; use 3/8" rod for pipe up to 2" and 1/2" rod for pipes, 2 1/2" and larger. cover all cold water and hot water lines with 1" thick o-c fiberglass light density one piece pipe insulation having frk universal type vapor barrier outer jacket. install as per manufacturer's specifications. cover all valves and fittings with zeston premoulded insulating shapes.

02060 REMOVALS

I. WORK INCLUDED

1. SEE ARCHITECTURAL DEMOLITION DRAWING
SEE ALSO MECHANICAL AND ELECTRICAL DRAWINGS.

2. GENERAL REMOVALS AND RELOCATIONS:

1. REMOVE AND RELOCATE ALL EXISTING MISCELLANEOUS MECHANICAL AND ELECTRICAL DEVICES AND FIXTURES INCLUDING BUT NOT LIMITED TO; FIRE ALARM, PULLS STATIONS, POWER OUTLETS, LIGHT SWITCHES, THERMOSTATS AND TELEPHONE OUTLETS AS REQUIRED FOR THE INSTALLATION OF NEW YORK.

2. REMOVE ALL ITEMS, MATERIALS AND FINISHES REQUIRED FOR THE INSTALLATION OF NEW WORK, OR THE RELOCATION OF EXISTING, AS DESCRIBED IN PERTINENT SECTIONS OF THESE SPECIFICATIONS AND / OR SHOWN ON THE DRAWINGS INCLUDING STRUCTURAL, MECHANICAL END ELECTRICAL DRAWINGS AND SPECIFICATIONS.

3. EXISTING WIRING, PIPING OR OTHER LINES WITHIN WALLS OR CEILINGS TO BE REMOVED - VERIFY THAT THESE ARE ABANDONED PRIOR TO REMOVAL. RE-ROUTE ANY LINES THAT ARE STILL IN USE TO MAINTAIN ALL EXISTING SERVICES.

II. MATERIALS - (NA)
III. EXECUTION

1. ALL REMOVALS AND DEMOLITION SHALL BE IN COMPLIANCE WITH NYS BUILDING CODE, AND ALL APPLICABLE FEDERAL SAFETY REGULATIONS.

2. ALL MATERIALS AND ITEMS THAT ARE TO BE REUSED AND RELOCATED IN CONJUNCTION WITH THE NEW WORK SHALL BE CAREFULLY CUT AWAY FROM THE EXISTING ABUTTING WORK TRUE TO LINE AT THE NEAREST JOINT, SURFACE BREAK OR PATTERN LINE TO ENSURE NO NOTICEABLE DIFFERANCE BETWEEN NEW AND EXISTING TO REMAIN. REMOVALS SHALL BE KEPT TO A MINIMUM MATERIALS TO BE REUSED AND RELOCATED SHALL BE PROPERLY HANDLED, TAGGED AND PROPERLY STORED TO PREVENT DAMAGING AND BREAKING.

3. CAREFULLY COORDINATE ALL TRADES TO ENSURE PROPER AND ADEQUATE INTERFACE OF THE WORK.

4. WHEN WORK IS STOPPED, PROVIDE AND MAINTAIN IN PLACE SUITABLE COVERINGS AND BARRIERS FOR PROTECTION OF THE WORK AND SAFETY FOR ALL PERSONNEL AND BUILDING USERS, PROVIDE PROTECTED PATHS OF EGRESS, PER PHASING REQUIREMENTS, FOR CONTINUOUS PLUBLIC ACCESS TO STAIRS , ESCALATORS AND ENTRANCES/EXITS.

5. PROTECT ALL WORK, EXISTING AND NEW, FROM DAMAGE BY ANY CAUSE THROUGHOUT THE DEMOLITION OPERATIONS PROTECTIVE COVERINGS OR BARRIERS SHALL NOT MAR, STAIN OR PENETRATE THE FINISHED WORK.

6. COORDINATE ALL ELECTRICAL WORK FOR THE PROPER DISCONNECTIONS, PROTECTIONS AND CAPPINGS: SEE ELECTRICAL DRAWINGS AND SPECIFICATIONS.

7. UNDERTAKE WHATEVER PRECAUTIONS ARE NECESSARY TO PREVENT EXCESSIVE DUST DURING DEMOLITION.

8. REMOVE ALL PORTIONS OF THE WORK IN A SAFE MANNER WITH CARE TO PREVENT DAMAGE TO ADJACENT AND REMAINING STRUCTURE, FINISHES OR ANY OTHER ITEMS OF PROPERTY.

9. ALL MATERIALS UNLESS NOTED TO BE REUSED OR TO BE SALVAGED SHALL BE REMOVED OFF THE PROPERTY TO AN AVAILABLE DUMP OR SITE OF THE CONTRACTOR'S OWN CHOOSING AND ARE TO BE PROPERLY AND RESPONSIBLY DISPOSED OF. NO BURNING OR ON-SITE DISPOSAL IS PERMITTED.

10. VERIFY SALVAGE REQUIREMENTS FOR ALL MATERIALS NOTED TO BE REMOVED WITH SAFE HORIZON. MATERIALS NOTED TO BE SALVAGED SHALL BE PROPERLY STORED IN LOCATION PER SAFE HORIZON, INC. DIRECTIONS.

11. ALL SPACES ARE TO BE BROOM CLEANED DAILY.

12. ALL REMOVALS SHALL LEAVE THE EXISTING SURFACES AND SUBSTRATES FREE AND CLEAN FOR THE PROPER PATCHING AND PREPARATION REQUIRED FOR THE SPECIFIED NEW MATERIALS AND FINISHES.

NOTES:
STEEL GOL'S SHALL REST ON 12" X 12" X 3/4" T. ST. BASE PLATE OVER LEVELLING PLATE OVER NON-SHRINK GROUT W/ (4) 3/4" Ø 12" LONG ANCHOR BOLTS OVER 3'-0" X 3'-0" X 18" CONC. FOOTINGS W/ (3) # 4'S EA. WAY- BOTTOM.

ALL BEAMS OVER 2 MEMBERS SHALL BE BOLTED TOGETHER W/ 3/4" THRU-BOLTS @ 18" O.C. STAGGERED.

ALL FLUSH BEAMS SHALL RECEIVE JOIST HANGERS BY SIMPSON OR EQ.

ALL DOORS, WINDOWS SHALL RECEIVE (2) 2X10 HEADERS (TYP.) UNLESS OTHERWISE NOTED ON PLANS.

ALL FOUNDATION WALLS SHALL BE WATERPROOFED W/ 2-COATS OF BITUM. COATING AND BACKFILLED W/ GRAVEL

CONSTRUCTION TO BE "V b"
SINGLE FAMILY RESIDENTIAL
LIVE LOADS = 40 PSF
GROUND SNOW LOAD = 30 PSF
SNOW LOAD = 30 PSF
DEAD LOAD = 15 PSF
WIND LOADS = 115 MPH
SEISMIC DESIGN: B

1- ALL STRUCTURAL STEEL SHALL CONFORM WITH AISC SPECIFICATIONS FOR STRUCTURAL STEEL FOR BUILDINGS, AND SHALL BE BASED ON ASTM-A36 WITH MINIMUM YIELD POINT OF 36,000 PSI.
2- ALL CONNECTION MATERIAL SHALL CONFORM TO ASTM REQUIREMENTS:
A) HIGH STRENGTH BOLTS : A325.
B) WELDING ELECTRODES : AWS-A5.1, E70 SERIES.
C) BOLTS SHALL BE 3/4" DIAMETER.
D) OPEN HOLES SHALL BE 13/16" DIAMETER, UNLESS OTHERWISE INDICATED.
3- ALL WELDING SHALL BE DONE BY LICENSED WELDERS AND SHALL BE INSPECTED BY APPROVED WELDING AGENCY.
4- PROVISIONS SHALL BE MADE FOR CONNECTIONS OF OTHER TRADES PRIOR TO FABRICATION.
5- ALL STEEL MEMBERS SHALL HAVE SHOP COAT OF PRIMER.
6- LOOSE LINTELS SHALL HAVE 6" BEARING EACH END.

FOUNDATIONS:
1- ALL FOOTINGS ARE TO REST ON UNDISTURBED SOIL HAVING A MIN. BEARING CAPACITY OF 2 TONS PER SQ. FT.
2- EDGES OF FOOTINGS SHALL NOT BE PLACED AT A GREATER THAN 1 VERTICAL TO 2 HORIZONTAL SLOPE WITH RESPECT TO ANY OTHER ADJACENT FOOTINGS.

CONCRETE:
1- ALL CONCRETE SHALL BE STONE AGGREGATE CONCRETE WITH AN ULTIMATE COMPRESSIVE STRENGTH OF 3000 PSI AFTER 28 DAYS.
2- WELDED WIRE FABRIC SHALL HAVE AN ULTIMATE STRENGTH OF 70,000 PSI.
3- ALL STEEL REINFORCEMENT SHALL BE DEFORMED ACCORDING TO ASTM-A615, GRADE 60 AND SHALL HAVE A YIELD POINT OF 40,000 PSI.

MASONRY:
1- CONCRETE BLOCK SHALL CONFORM TO ASTM C-145, GRADE N-1.
2- MORTAR SHALL CONFORM TO ASTM C-270 TYPE "M".
3- NO VINYLIDENE CHLORIDE OR ANY UNAPPROVED CURING ADMIXTURE SHALL BE ALLOWED IN MORTAR MIXTURE.
4- PROVIDE GALV. HORIZONTAL REINFORCEMENTS AT EVERY COURSE JOINT.

ADMINISTRATIVE

THE ARCHITECT/ENGINEER HAS NOT BEEN RETAINED FOR THE SUPERVISION OF WORK & IT REMAINS INCUMBENT ON THE CONTRACTOR TO INFORM THE BUILDING DEPARTMENT OR THE ARCHITECT/ENGINEER OF ANY DISCREPANCIES OR CHANGES ON THE APPROVED PLANS.

NO WORK IS TO BE STARTED UNTIL A BUILDING PERMIT HAS BEEN SECURED AS REQUIRED BY THE GOVERNING AGENCIES.

THE CONTRACTOR IS TO VERIFY ALL DIMENSIONS AND CONDITIONS PRIOR TO THE COMMENCEMENT OF WORK & SHALL REPORT ANDY DISCREPANCIES TO THE ATTENTION OF THE ARCHITECT/ENGINEER BEFORE PROCEEDING.

ALL WORK OF THE VARIOUS TRADES INVOLVED WITH THE CONSTRUCTION OF THIS PROJECT IS TO BE PERFORMED BY CAPABLE AND REPUTABLE CONTRACTORS, LICENSED IN THE STATE OF NEW YORK & AS REQUIRED BY LOCAL AGENCIES.

DO NOT SCALE DIMENSIONS FROM DRAWINGS, WRITTEN DIMENSIONS ARE TO BE FOLLOWED FOR CONSTRUCTION PURPOSES. LARGE SCALE DRAWINGS TAKE PREFERENCE OVER SMALLER SCALE DRAWINGS.

NO WORK IS TO BE STARTED UNTIL THE PLANS ARE APPROVED BY THE NEW YORK CITY DEPT. OF BUILDING AND A WORK PERMIT IS OBTAINED.

THESE NOTES ARE PART OF THE CONSTRUCTION DOCUMENTS AND SPECIFICATIONS AND ARE TO BE FULLY COMPLIED WITH IN ALL RESPECT. THE CONTRACTOR SHALL BE HELD TO HAVE VISITED THE SITE SO THAT HE MAY DETERMINE THE DIFFICULTIES HE MAY ENCOUNTER DURING CONSTRUCTION.

FOUNDATION AND SUBSOIL CONDITIONS HAVE BEEN DESIGNED BASED ON THE INFORMATION CONTAINED WITHIN THE BORINGS AND/OR TEST PITS AS FURNISHED BY THE OWNER. EXACT FOUNDATION REQUIREMENTS ARE SUBJECT TO CHANGE BASED ON CONTROLLED INSPECTIONS OF SUBSOIL CONDITIONS AND MAY VARY FROM THOSE INDICATED ON THESE DRAWINGS.

CONTRACTOR IS RESPONSIBLE FOR NOTIFYING UTILITY COMPANIES TO VERIFY EXACT LOCATIONS OF THEIR UTILITY LINES, SERVICE AND OTHER POSSIBLE EQUIPMENT.

THE OWNER SHALL BE RESPONSIBLE FOR THE SAFE MAINTENANCE OF THE BUILDING SITE.

PRIOR TO COMMENCMENT OF WORK THE ADJACENT PROPERTY OWNERS SHALL BE GIVEN 5 DAYS WRITTEN NOTICE BY CERTIFIED MAIL, WHERE ADJACENT PROPERTY IS AFFECTED BY FOUNDATIONS, GRADING EARTH WORK OR DEMO WORK.

AN ACCURATE AND COMPLETED SURVEY, MADE BY A LICENSED SURVEYOR, SHALL BE SUBMITTED TO THE APPLICANT OF RECORD AFTER COMPLETION OF WORK SHOWING THE LOCATION AND ELEVATIONS OF ANY NEW BUILDING OR EXTENSION. FINISHED FLOOR ELEVATION, GRADE ELEVATIONS AND SHALL COMPLY TO THE MINIMUM STANDARDS OF THE NYSSPLS.

GENERAL NOTES

CONTRACTOR SHALL VISIT SITE AND SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL DIMENSIONS, CONDITIONS, WHICH PERTAIN TO THE FABRICATION PROCESSES, OR TO TECHNIQUES FOR CONSTRUCTION AND COORDINATION OF THE WORK OF ALL TRADES, PRIOR TO START OF CONSTRUCTION.

ALL DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF ARCHITECT BEFORE PROCEEDING. THE ELEVATIONS AND AVAILABILITY OF UTILITIES, SEWER, WATER AND ELECTRIC LINES SHALL BE VERIFIED BY OR DETERMINED BY INTERESTED CONTRACTORS PRIOR TO SUBMISSION OF BID.

CONTRACTORS SHALL ADJUST PITCH OF NEW LINES TO INSURE PROPER AND LEGAL INTERSECTIONS. CONTRACTOR SHALL COORDINATE LOCATIONS FOR STRUCTURAL, MECHANICAL AND ELECTRICAL WORK FOR ALL PITS, SLAB DEPRESSIONS, SLEEVES IN FOUNDATION WALLS, SLABS, AND ROOF OPENINGS, ETC.

CONTRACTOR SHALL VERIFY CONDITIONS OF ADJOINING STRUCTURES WHICH MAY BE AFFECTED, PROVIDE ADEQUATE PROTECTION AND RESTORE TO ORIGINAL CONDITIONS, WHENCE DAMAGE SHOULD RESULT FROM SUCH WORK. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY SHORING AND BRACING FOR ALL BUILDING COMPONENTS IN ORDER TO ADEQUATELY PROTECT AGAINST ANY FAILURES.

CONTRACTOR SHALL SECURE AND PAY FOR ANY AND ALL PERMITS, LICENSES, CERTIFICATES, FEES, ETC., REQUIRED BY THE TOWN OF NORTH CASTLE DEPARTMENT OF BUILDINGS OR ANY AND ALL JURISDICTION AUTHORITIES. CONTRACTOR SHALL OBTAIN A FINAL CERTIFICATE OF OCCUPANCY UPON COMPLETION.

ALL WORK MUST CONFORM TO THE TOWN OF NORTH CASTLE DEPARTMENT OF BUILDINGS, FIRE DEPARTMENT LAWS, RULES AND TO ALL REGULATIONS OF ALL AUTHORITIES HAVING JURISDICTION WHETHER SPECIFICALLY SHOWN OR NOT. (O.S.H.A. REGULATIONS MUST ALSO BE ADHERED TO). ALL ELECTRIC WORK MUST CONFORM TO NATIONAL ELECTRIC CODE

ANY ITEM SHOWN ON ONE SHEET SHALL BE AS IF CALLED FOR BY ALL SHEETS. FINAL COORDIANTION IS THE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR SHALL NOT SCALE DRAWINGS AND SHALL USE FIGURED DIMENSIONS ONLY. THE GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION OF BUILDINGS, (STANDARD FORM OF A.I.A. LATEST EDITION A201), ARE PART OF THE CONTRACT DOCUMENTS.

WORK INCLUDED IN THESE CONTRACT DOCUMENTS TO BE ALL LABOR, MATERIALS, AND EQUIPMENT, REQUIRED TO COMPLETE THE PROPOSED CONSTRUCTION AS SHOWN. WORK INCLUDED IN THIS CONTRACT SHALL BE ACCORDING TO THE TRUE INTENT OF THE DRAWINGS AND SHALL BE FIRST CLASS IN ALL RESPECTS.

SUBCONTRACTORS SHALL GUARRANTEE, IN WRITING TO THE OWNER AT CONCLUSION OF JOB, ALL MATERIALS AND WORKMANSHIP FOR A MINIMUM OF ONE YEAR AFTER SUBSTANTIAL COMPLETION.

THE ARCHITECT HAS NOT BEEN RETAINED FOR SUPERVISION OR PERIODIC FIELD OBSERVATIONS AND ASSUMES NO RESPONSIBILITY FOR SAFETY METHODS ON SITE. THE OWNER AND CONTRACTOR SHALL HOLD HARMLESS THE ARCHITECT FROM AND AGAINST ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES INCLUDING ATTORNEY'S FEES ARISING OUT OF OR RESULTING FROM THE PERFORMANCE OF THE WORK BY THE CONTRACTOR.

CONTRACTOR SHALL APPLY TAPING COMPOUND IN 3 COATS TO ALL JOINTS OF ALL SHEETROCK. SHALL PROVIDE TWO COAT HIGH GLOSS PAINT IN THE KITCHEN AREA AND A SATIN FINISH COAT AT ALL OTHER AREAS, INCLUDING CEILINGS. CONTRACTOR TO PROVIDE NEW CERAMIC TILE THROUGHOUT KITCHEN, BATHROOMS, LAUNDRY ROOMS AND ALL OTHER NET FLOOR AREAS. COLORS AS SELECTED BY OWNER. SUBCONTRACTOR IS TO PROVIDE ALL FINISH HARDWARE AS REQUIRED BY THE OWNER FOR ALL NEW DOORS.

SCOPE OF WORK PERTAINS TO THE RENOVATION/ADDITION TO EXISTING ONE FAMILY DWELLING. THESE PLANS ARE BASED ON THE 2020 RCNYS, (APPENDIX J, ALTERATION LEVEL 2-CHAPTER 6), THE TOWN OF NORTH CASTLEMUNICIPAL CODE AND ALL APPLICABLE RULES AND REGULATIONS.

I, TOM F. ABILLAMA R.A., HEREBY STATE THAT I HAVE PREPARED THESE PLANS AND SPECIFICATIONS, TO THE BEST OF MY KNOWLEDGE, BELIEF AND PROFESSIONAL JUDGEMENT, IN COMPLIANCE WITH THE 2020 ENERGY CODE OF NEW YORK STATE-R 109.2.2 - ZONE 4A

TOM F. ABILLAMA , R.A. ARCHITECT

ENERGY CODE REQUIREMENTS:
PRESCRIPTIVE METHOD
ZONE 4A CRITERIA (RCNY,2020- N 1102.1.2):
1- U FACTOR @ GLAZING : .32
2- U FACTOR @ SKYLIGHT: .55
3- U FACTOR @ SHGC : .40
4- R VALUE @ ROOF: R-49
5- R-VALUE @ WD FRAME WALL: R-21
6- R-VALUE @ MASS WALL: R-13
7- R-VALUE @ FLOOR: R-25
8- R-VALUE @ BASEMENT WALL: R-13
9- R-VALUE @ SLAB: R-10, 2 FT PERIM.
10-R-VALUE @ CRAWL SPACE WALL: R-19
11- MAX INFILTR.@ AD/ABSKLTS : 0.3 CFM/SF
12- MAX INFILTR.@ SWING. DRS : 0.5 CFM/SF
13- MIN. 75% -HIGH EFFICACY LAMPS
14- TESTING PER N 1102-4.1.2

ROUGH CARPENTRY:

1. Framing and structural lumber: Douglas Fir # 1, Fb=1050 psi, E=1,600,000, Fv=95 psi. All joists and rafters to have diagonal bridging, 8'-0" o.c. maximum. Solid blocking under ceramic tile. Members of built-up girders, headers or lintels shall be spiked or bolted together to act as one unit.
2. Cross bridging of joists 1- 1/4" x 8" max, 8'-0" o.c. Collar ties at cathedral ceilings, 2-2 x 6 @ 4'-0" o.c. max. Exterior carpentry at porches shall be c.c.a. treated as indicated on drawings. Ornamental posts shall be of a nominal size 6"x6" — pine.
3. Wood deck, 5/4" thick T & G Redwood decking. Deck shall pitch slightly for water runoff.
4. Plywood shall meet the requirements of APA requirements and specifications:
5. Wall and roof sheathing: 5/8" thick, C-D—Ext-Apa, Exterior glue
6. Subflooring : 5/8" thick, C—D—Ext—Apa, exterior glue
Underlayment: 3/8" thick—
7. Underlayment INT-APA Exterior glue
8. All wood beams to have a minimum bearing of 4". Double all joists under all partitions.
9. All details of construction; lintels, headers, posts, beams, framing, nailing, etc. shall comply with all minimum standards of New York State Code.
10. Contractor to do all necessary firestopping of stud partitions and pipe chases, as required by N.Y. State Code whether specifically shown or not.
11. Lumber schedule: Miscellaneous lumber, furring, bridging, blocking to be grade #2 of any species ample in strength to meet the requirements thereof.
12. Wooden trimmers, headers, and tail joists over six feet in length, unless supported on walls or girders, shall be hung in approved metal stirrups, or hangers.
13. Every six feet, at least one beam or joist which rests on masonry walls, shall be secured to such walls by approved metal anchors attached in a manner at or near bottom to be self releasing.
14. The ends of wooden beams and joists resting on masonry walls shall be cut to a bevel of three inches in their depth. All girders to bear minimum of 8" on masonry.
15. Provide shelf and coat pole in all closets with five shelves in linen closet. 16. Finish woodwork shall be dressed and sanded, free from machine and tool marks, abrasions raised grain or other defects on surfaces exposed to view in the finished work.
17. Wood finish shall be set straight, plumb and level in true alignment, closely fitted and rigidly secure in place. Nail heads of exposed nailing shall be countersunk. All work shall be left clean, free from warp, twist, open joints and other defects.
18. Interior miscellaneous finish carpentry and woodwork to be "C" select of white pine, oak, or yellow poplar.
19. Interior doors to be clear birch, stain grade.
20. Caulk at all doors and window frames, joints and other surfaces which require the closing of a joint between any two surfaces not of the same material. Caulking compound shall be silicone equal to Thickol sealant by Toch Brothers.
21. Contractor to do all flashing required whether specifically shown or not. Tape and apply taping compound in 3 coats to all joints of all sheetrock.

STEEL NOTES

1- All Structural Steel Shall Conform With Aisc Specifications For Structural Steel For Buildings, And Shall Be Based On Astm-A36 With Minimum Yield Point Of 36,000psi.

2- All Connection Material Shall Conform To ASTM Requirements:
A) High Strength Bolts : A325.
B) Welding Electrodes : Aws-a5.1, E70 Series.
C) Bolts Shall Be 3/4" Diameter.
D) Open Holes Shall Be 13/16" Diameter, Unless Otherwise Indicated.

3- All Welding Shall Be Done By Licensed Welders And Shall Be Inspected By Approved Welding Agency.

4- Provisions Shall Be Made For Connections Of Other Trades Prior To Fabrication.

5- All Steel Members Shall Have Shop Coat Of Primer.

6- Loose Lintels Shall Have 6" Bearing Each End.

WOOD NOTES

1- All Exterior Wood Framing Members Shall Be Structural Grade With Min. Fiber Stress Strength Of 1400, And Shall Be Pressure Treated For Exterior Exposure.

2- Contractor To Provide All Steel Connections Required For Fastening Members To Others.

3- Contractor To Refer To "simpson-strong Tie" Manual For Post Plates, Joist / Beam Hangers As Well As Hold Downs And Post Caps Etc...

SCOPE OF WORK:

PROVIDE 2 STORY ADDITION AND RENOVATION TO EXISTING ONE AND HALF STORY STRUCTURE.
WORK TO INCLUDE NEW INGROUND POOL UNDER SEPARATE PERMIT. 6
PROVIDE FOR NEW DRIVEWAY, DECK AND GAZEBO.
REMOVE EXISTING TREES UNDER SEPARATE PERMIT.

SEPARATE APPLICATIONS

- PLUMBING PERMIT
- ELECTRICAL PERMIT
- TREE REMOVAL
- SEPTIC DESIGN

Ground Snow Load (psf)	Wind Design				Seismic Design Category	Subject To Damage From:			Winter Design Temp.	Ice Shield Underlayment Required	Flood Hazards	Air Freezing Index	Mean Annual Temp
	Speed	Topographic Effects	Special region winds	Wind Born Debris Zone		Weathering	Frost Line Depth	Decay					
30	115 Mph	No	No	No	B	Severe	3'-6"	Moderate to Heavy	7°	Yes	FIRM map 36119C0301F 2007	1500 or less	52.2° F

NO.	REV.	DATE
10	Planning Bd.	9.10.21
9	ARB	7.19.21
8	ARB	7.09.21
7	Coord.	6.17.21
6	Client/ PB	6.7.21
5	Client	6.2.21
4	Planning Bd	5.21.21
3	Planning Bd	5.10.21
2	Planning Bd	4.14.21
1	Planning Bd	3.10.21

OWNER:

MR. & MRS. CHRISTOPHER KALIAN

Tom Abillama Architects
1955 CENTRAL PARK AVENUE
YONKERS, NEW YORK
PHONE: 914 6684673
FAX: 914 668 1831
EMAIL: FILES@TFARA.COM

SEAL

KEY PLAN

PROPOSED ONE FAMILY DWELLING EXPANSION

99 BYRAM RIDGE RD., ARMONK, N.Y

SBL: 101.01/1/13 ZONE: R-1A

COVER SHEET/MAP /NOTES

Project ID / DATE : 2048/ 10.15.2020
Sheet Scale:

C.01

Drawn By: KM Checked By: TFA
Plot Date: JULY 19.2021

The Christophor Kalian Residence

NO.	REV.	DATE
10	Planning Bd.	9.10.21
9	ARB	7.19.21
8	ARB	7.09.21
7	Coord.	6.17.21
6	Client/ PB	6.7.21
5	Client	6.2.21
4	Planning Bd	5.21.21
3	Planning Bd	5.10.21
2	Planning Bd	4.14.21
1	Planning Bd	3.10.21

OWNER:

MR. & MRS. CHRISTOPHER KALIAN

Tom Abillama Architects

1955 CENTRAL PARK AVENUE
YONKERS, NEW YORK

PHONE: 914 6684673
FAX: 914 668 1831
EMAIL: FILES@TFARA.COM

SEAL

KEY PLAN

PROPOSED ONE FAMILY DWELLING EXPANSION

99 BYRAM RIDGE RD., ARMONK, N.Y

SBL: 101.01/1/13 ZONE: R-1A

3D RENDERINGS

Project ID / DATE : 2048/ 10.15.2020

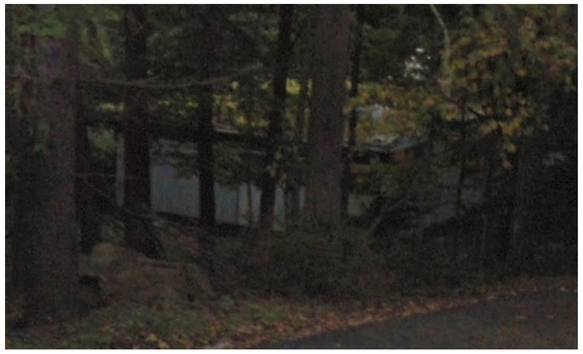
Sheet Scale:

C.02

Drawn By: KM **Checked By:** TFA

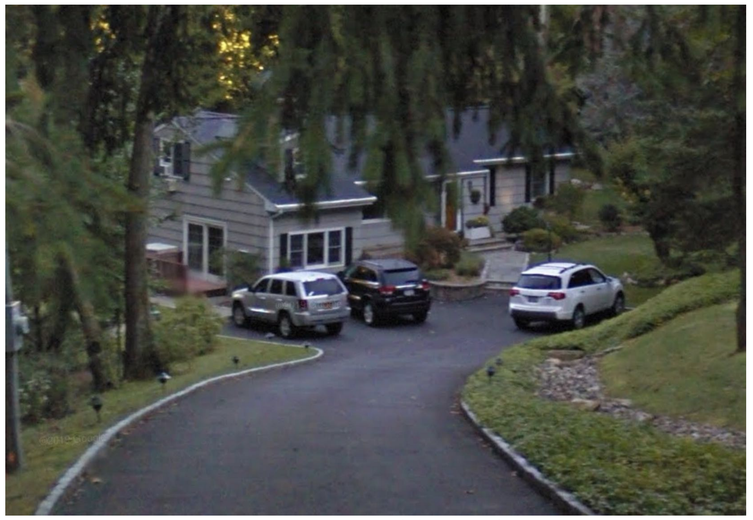
Plot Date: JULY 19.2021

97 BYRAM RIDGE ROAD



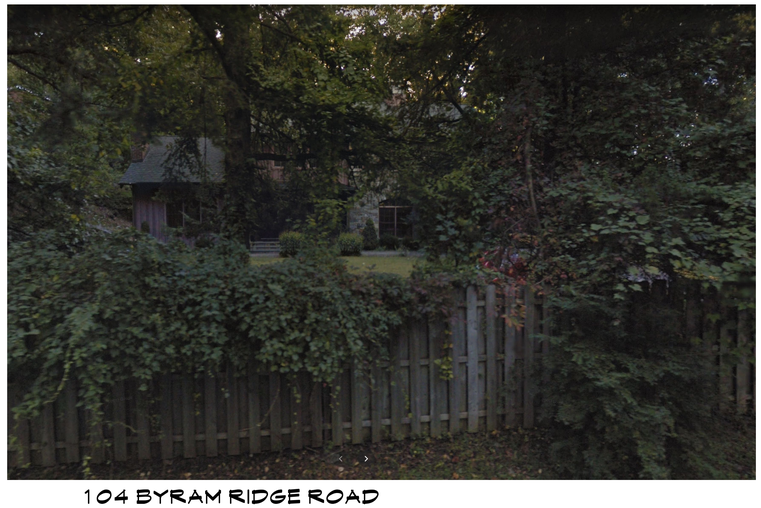
99 BYRAM RIDGE ROAD

101 BYRAM RIDGE ROAD



101 BYRAM RIDGE ROAD (close up)

99 BYRAM RIDGE ROAD - ADJOINING PROPERTIES



104 BYRAM RIDGE ROAD

NO.	REV.	DATE
10	Planning Bd.	9.10.21
9	ARB	7.19.21
8	ARB	7.09.21
7	Coord.	6.17.21
6	Client/ PB	6.7.21
5	Client	6.2.21
4	Planning Bd	5.21.21
3	Planning Bd	5.10.21
2	Planning Bd	4.14.21
1	Planning Bd	3.10.21

OWNER:

MR. & MRS. CHRISTOPHER KALIAN

Tom Abillama Architects

1955 CENTRAL PARK AVENUE
YONKERS, NEW YORK

PHONE: 914 6684673
FAX: 914 668 1831
EMAIL: FILES@TFARA.COM

SEAL

KEY PLAN

PROPOSED ONE FAMILY DWELLING EXPANSION

99 BYRAM RIDGE RD., ARMONK, N.Y

SBL: 101.01/1/13 ZONE: R-1A

AERIAL VIEW & STREETSCAPE

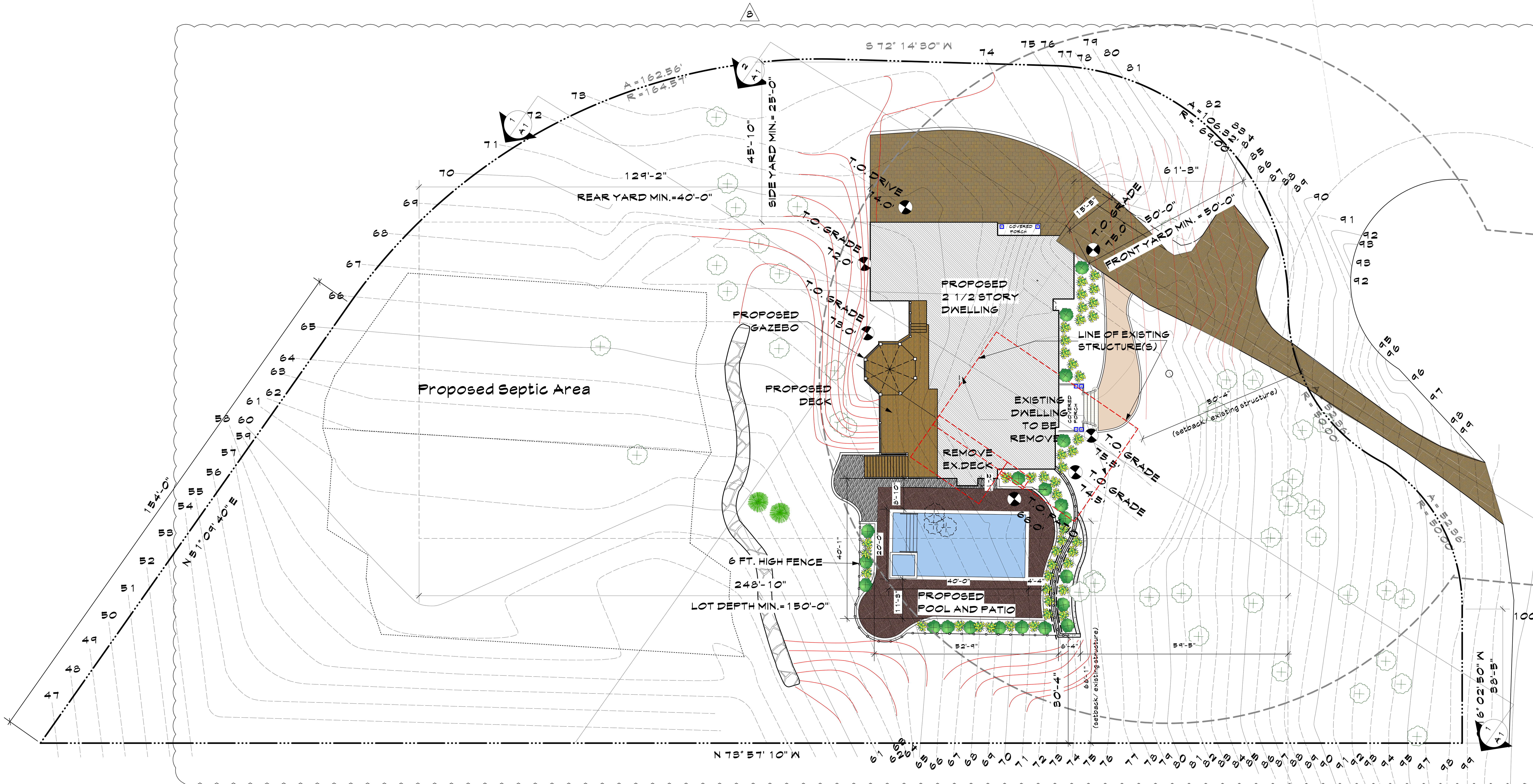
Project ID / DATE : 2048/ 10.15.2020

Sheet Scale:

C.03

Drawn By: KM Checked By: TFA

Plot Date: JULY 19.2021



1 SITE PLAN
Scale: 1/16" = 1'-0"

N

NO.	REV.	DATE
10	Planning Bd.	9.10.21
9	ARB	7.19.21
8	ARB	7.09.21
7	Coord.	6.17.21
6	Client/ PB	6.7.21
5	Client	6.2.21
4	Planning Bd	5.21.21
3	Planning Bd	5.10.21
2	Planning Bd	4.14.21
1	Planning Bd	3.10.21

OWNER:

MR. & MRS.
CHRISTOPHER
KALIAN

Tom Abillama Architects

1955 CENTRAL PARK AVENUE
YONKERS, NEW YORK

PHONE: 914 6684673
FAX: 914 668 1831
EMAIL: FILES@TFARA.COM

SEAL

KEY PLAN

PROPOSED ONE FAMILY DWELLING EXPANSION

99 BYRAM RIDGE RD.,
ARMONK, N.Y

SBL: 101.01/1/13 ZONE: R-1A

SITE PLAN

Project ID / DATE : 2048/ 10.15.2020

Sheet Scale:

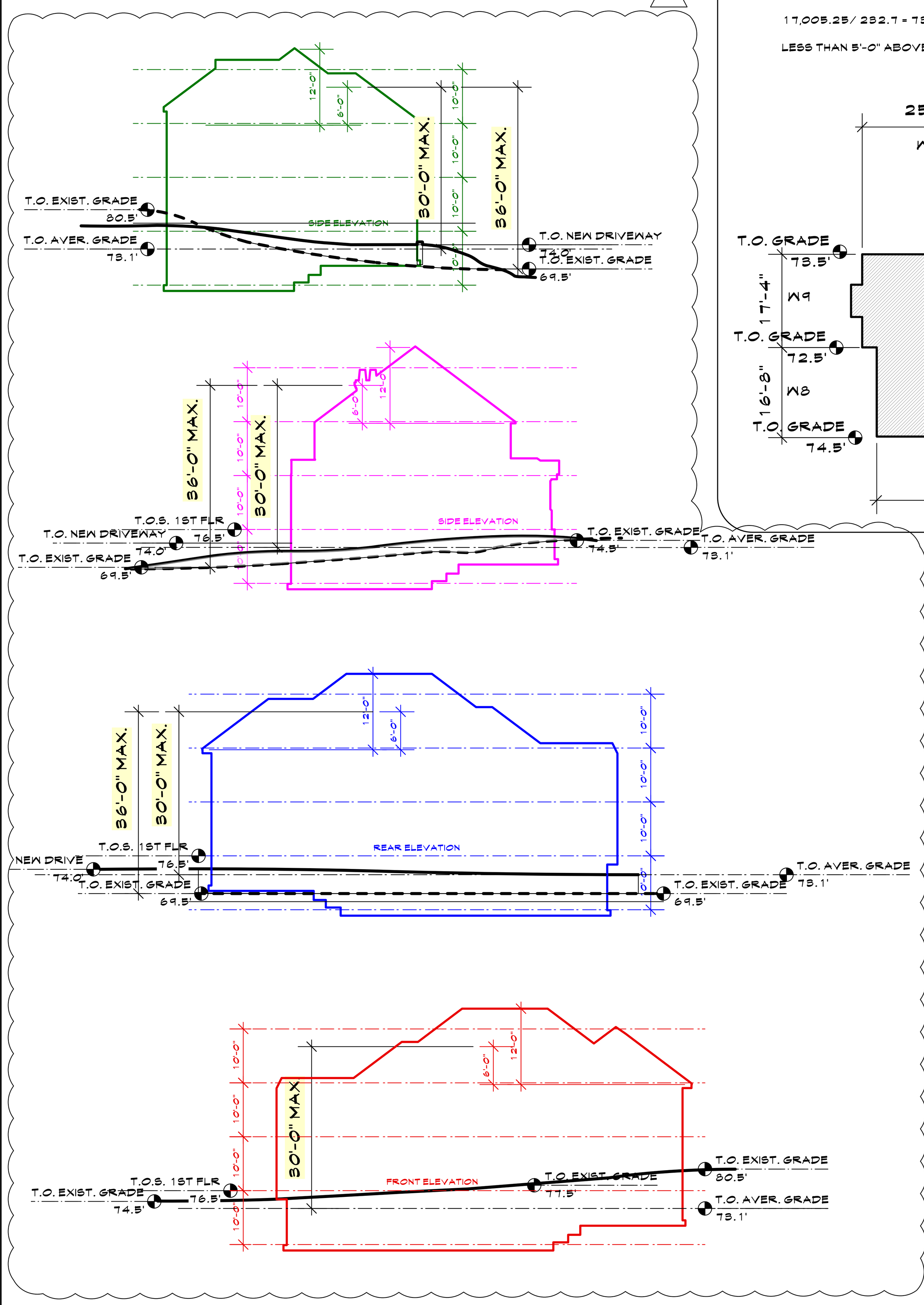
SP.1

Drawn By: KM Checked By: TFA

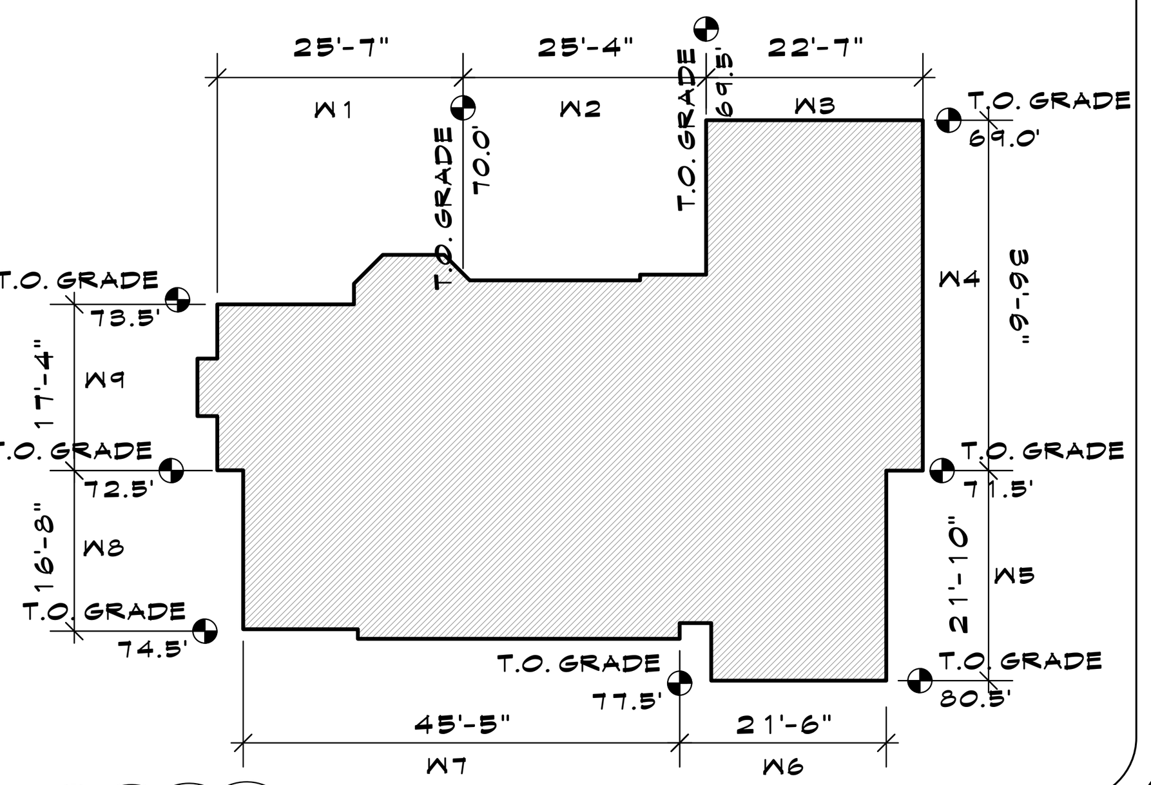
Plot Date: JULY 19.2021

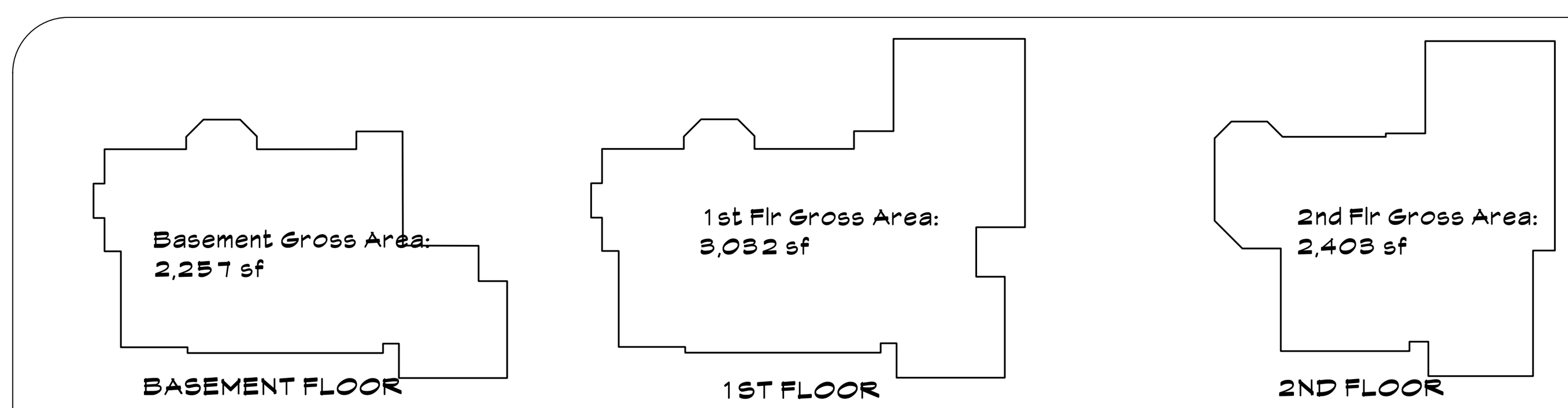
MAX. BUILDING HEIGHT

PER RPRC DETERMINATION LETTER DATED 01/05/2021, MAX. BUILDING HEIGHT TO BE 36'-0"



AVERAGE GRADE





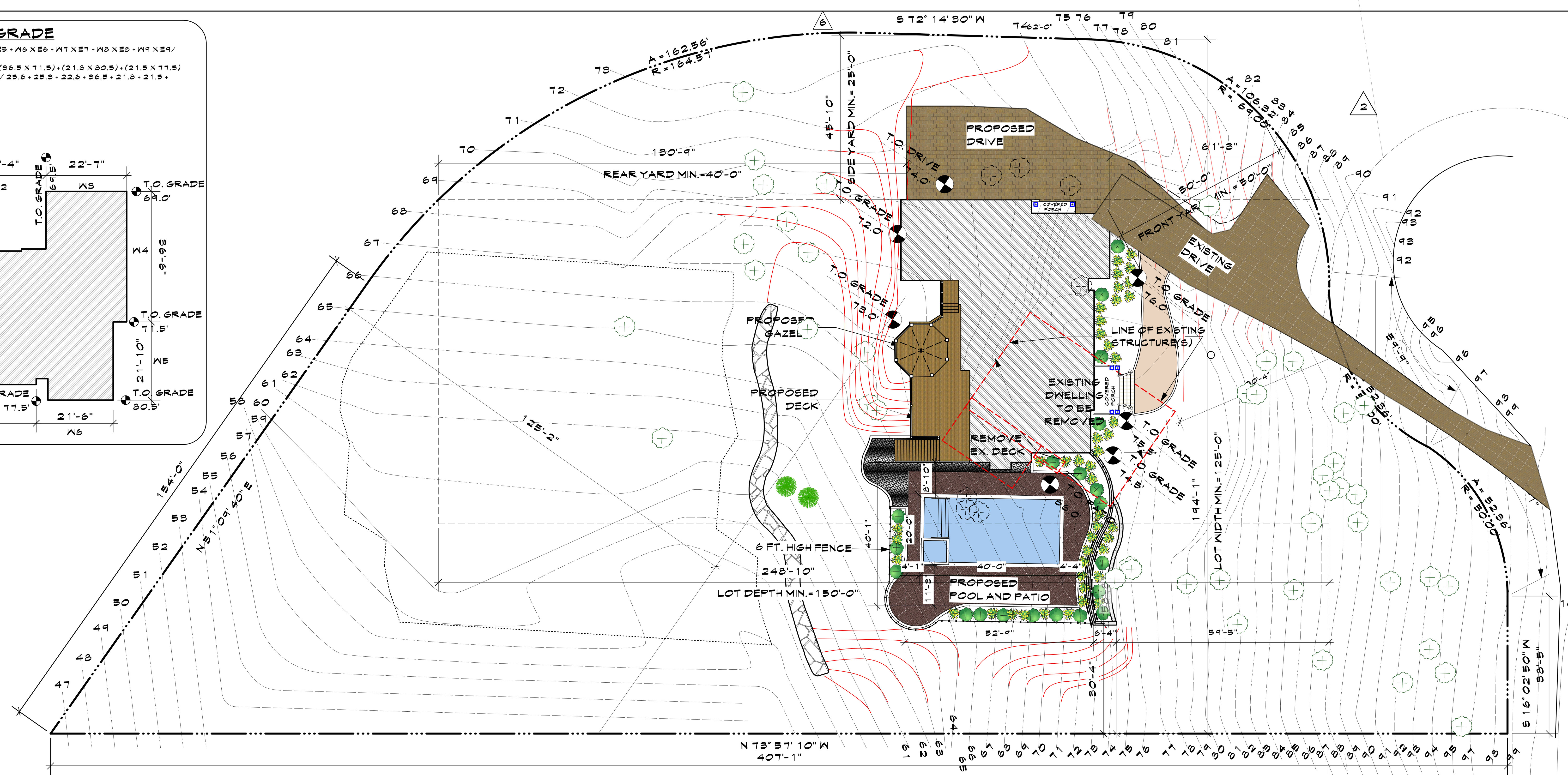
TOTAL GFA AREA : 2,257 + 3,032 + 2,403 = 7,692 S.F.

GROSS FLOOR AREA DIAGRAM

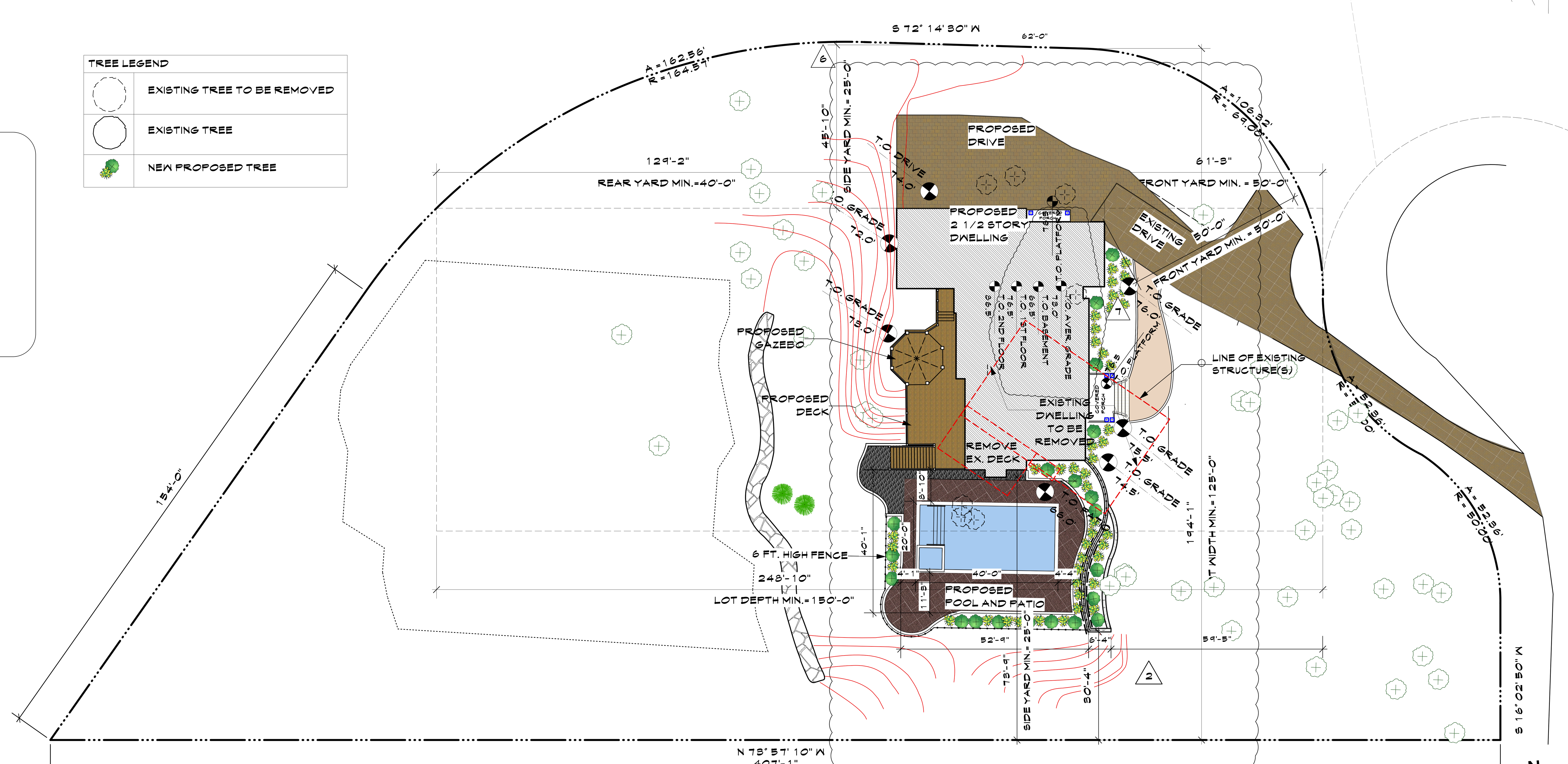
ZONING COMPLIANCE CHART			
ZONING DISTRICT	R-1A, ONE FAMILY RESIDENCE DISTRICT		
DESCRIPTION	REQUIRED OR ALLOWED	PROPOSED	REMARK
MIN. LOT AREA	1 acres	1.33 acres	PERMITTED
MIN. LOT FRONTAGE	125 FT	125'-0"	PERMITTED
MIN. LOT WIDTH	125 FT	194'-1"	PERMITTED
MIN. LOT DEPTH	150 FT	248'-10"	PERMITTED
MIN. FRONT YARD	50 FT	50'-0"	PERMITTED
MIN. SIDE YARD	25 FT	45'-10" FT	PERMITTED
MIN. REAR YARD	40 FT	129'-2" FT	PERMITTED
HEIGHT	36'-0" FT **	31'-6" FT **	PERMITTED
BLDG. COVER%	9350 SF+9 % OF LOT AREA IN ACCESS OF 1.0 AC = 10644 SF	6,259 SF	PERMITTED
MAXIMUM PERMITTED GROSS FLOOR AREA	7727 SF + 6 % OF LOT AREA IN ACCESS OF 1.0 AC = 9021 SF	7,692 SF	PERMITTED

** PER RPRC DETERMINATION LETTER DATED 1.5.21, PAGE 2, LINE 6: 36'-0" MAX. BUILDING HEIGHT PERMITTED IN R-1A DISTRICT.

TREE LEGEND	
(symbol)	EXISTING TREE TO BE REMOVED
(symbol)	EXISTING TREE
(symbol)	NEW PROPOSED TREE



1 SITE PLAN
Scale: 1" = 20'-0"



2 TREE REMOVAL/ SITE SETBACK CLARIFICATIONS
Scale: 1" = 20'-0"

NO.	REV.	DATE
10	Planning Bd.	9.10.21
9	ARB	7.19.21
8	ARB	7.09.21
7	Coord.	6.17.21
6	Client/ PB	6.7.21
5	Client	6.2.21
4	Planning Bd	5.21.21
3	Planning Bd	5.10.21
2	Planning Bd	4.14.21
1	Planning Bd	3.10.21

OWNER:

MR. & MRS. CHRISTOPHER KALIAN

Tom Abillama Architects

1955 CENTRAL PARK AVENUE
YONKERS, NEW YORK

PHONE: 914 6684673
FAX: 914 668 1831
EMAIL: FILES@TFARA.COM

SEAL

KEY PLAN

PROPOSED ONE FAMILY DWELLING EXPANSION

99 BYRAM RIDGE RD., ARMONK, N.Y

SBL: 101.01/1/13 ZONE: R-1A

SITE DIAGRAMS & ZONING

Project ID / DATE : 2048/ 10.15.2020

Sheet Scale:

SP.2

Drawn By: KM Checked By: TFA

Plot Date: JULY 19.2021

STORMTECH SC-740 CHAMBER

Designed to meet the most stringent industry performance standards for superior structural integrity while providing designers with a cost-effective method to save valuable land and protect water resources. The StormTech system is designed primarily to be used under parking lots, thus maximizing land usage for private (commercial) and public applications. StormTech chambers can also be used in conjunction with Green Infrastructure, thus enhancing the performance and extending the service life of these practices.

STORMTECH SC-740 CHAMBER
(not to scale)

Nominal Chamber Specifications

Size (L x W x H)
85.4" x 51" x 30"
2,170 mm x 1,295 mm x 762 mm

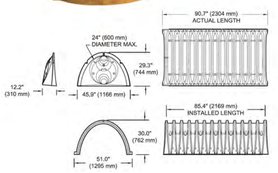
Chamber Storage
45.9 ft³ (1.30 m³)

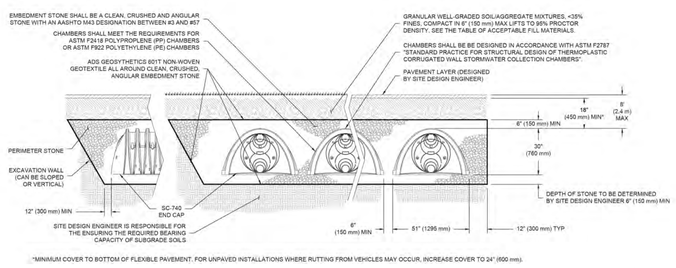
Min. Installed Storage*
74.9 ft³ (2.12 m³)

Weight
74.0 lbs (33.6 kg)

Shipping
30 chambers/pallet
60 end caps/pallet
12 pallets/truck

*Assumes 6" (150 mm) stone above, below and between chambers and 40% stone porosity.





*MINIMUM COVER TO BOTTOM OF FLEXIBLE PAVEMENT. FOR UNPAVED INSTALLATIONS WHERE RUTTING FROM VEHICLES MAY OCCUR, INCREASE COVER TO 24" (600 mm).

Storm Water Design.

Storm Design based on a 9inch storm in 24 hours
(using STORMTECH SC-740 CHAMBER)

The existing lot involves 1 family dwelling, driveway & deck.

The existing lot area is 58239 ft2.
The total proposed impermeable surfaces (house and paved areas) add up to 5,713 ft2.
The following is a stormwater analysis for the above conditions.

Curve number for pre-development : 75, Run off coefficient: 4.33
Curve number for post-development : 98, Run off coefficient: 6.96
Delta in run off coeficient : 6.96- 4.33 = 2.63
Calculate volume :

Area X Delta / 12 = Volume (ft3)
5,713 x 2.63 / 12 = 1,252 ft3

Percolation Capacity
(Perc test yielded a high of 6 minutes per inch we will use a conservation rate of 20 minutes per inch)

Area of Perc----------2.23 ft2
Volume of Perc--------0.196 ft3

Soil Perc Rate (SR)= Volume/Area/Time = 0.196/3.01/60 minutes
= 0.0010852 x 60 x 24
Sr = 1.562 or 1.11115 with 25% clogging

740HD; VOLUME PER UNIT: Chamber 74.9 C.F.

Total PERCOLATION PER CULTEC :
7.1' X 4.25' X 1.11115 = 33.71 C.F.

Volume: 74.9 + 33.71 = 108.61 Cf
Total Volume 1,252 / 108.61 = 11.53 OR
USE 12 CHAMBERS

Proposed 12- SC-740 Chambers

SC-740 CHAMBERS

Maintenance Guidelines

The following guidelines shall be adhered to for the operation and maintenance of the CULTEC stormwater management system:

A. The owner shall keep a maintenance log which shall include details of any events which would have an effect on the system's operational capacity.

B. The operation and maintenance procedure shall be reviewed periodically and changed to meet site conditions.

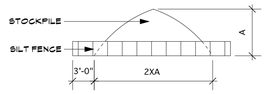
C. Maintenance of the stormwater management system shall be performed by qualified workers and shall follow applicable occupational health and safety requirements.

D. Debris removed from the stormwater management system shall be disposed of in accordance with applicable laws and regulations.

E. **No trees to be planted above cultec tanks and 15' away, ground planting and flower w/ shallow roots allowed**

DEMOLITION:
1- CONTRACTOR SHALL DO ALL DEMOLITION REQUIRED FOR THE COMPLETION OF WORK SHOWN ON DRAWINGS.
2- HE SHALL ALLOW NO DEBRIS TO ACCUMULATE AND SHALL HAUL AWAY FROM SITE ALL DEBRIS AT
CONTRACTOR'S EXPENSE.
3- HE SHALL PROVIDE PROTECTION OF ALL ADJACENT OR NEIGHBOURING PROPERTY FROM DAMAGE, INJURY
AND DISCOMFORT CAUSED BY DUST. HE SHALL PROTECT UTILITY LINES AS REQUIRED.

-SITE CLEARING
PART 1 - GENERAL
1.1 RELATED DOCUMENTS
A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.
1.2 SUMMARY
A. This Section includes the following:
1. Removing trees and other vegetation.
2. Clearing and grubbing.
3. Topsoil stripping.
4. Removing above-grade site improvements.
B. Related Sections include the following:
1. Division 1 Section "Construction Facilities and Temporary Controls" for temporary security and protection facilities, and environmental protection measures during site operations.
2. Division 2 Section "Earthwork" for soil materials, excavating, backfilling, and site grading operations.
3. Division 2 Section "Landscaping" for finish grading placing and preparing topsoil for lawns and planting.
1.3 DEFINITIONS
A. Topsoil: Natural or cultivated surface-soil layer containing organic matter and sand, silt, and clay particles;
friable, pervious, and black or a darker shade of brown, gray, or red than underlying subsoil; reasonably free
subsoil, clay lumps, gravel, and other objects more than 2 inches (50 mm) in diameter; and free of weeds, roots, and other deleterious materials.
1.4 MATERIALS OWNERSHIP
A. Except for materials indicated to be stockpiled or to remain Owner's property, cleared materials shall become
Contractor's property and shall be removed from the site.
1.5 SUBMITTALS
A. Photographs or videotape, sufficiently detailed, of existing conditions of trees and planting, adjoining construction, and site improvements that might be mis-constructed as damage caused by site clearing.
B. Record drawings according to Division 1 Section "Contract closeout."
1. Identify and accurately locate capped utilities and other subsurface structural, electrical, and mechanical conditions.
1.6 PROJECT CONDITIONS



STOCKPILE PROTECTION INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
–LOCATION OF STOCKPILES.
–TYPE OF STOCKPILE PROTECTION.

2. INSTALL PERIMETER CONTROLS IN ACCORDANCE WITH THEIR RESPECTIVE DESIGN DETAILS. SILT FENCE IS SHOWN IN THE STOCKPILE PROTECTION DETAILS; HOWEVER, OTHER TYPES OF PERIMETER CONTROLS INCLUDING SEDIMENT CONTROL LOGS OR ROCK SOCKS MAY BE SUITABLE IN SOME CIRCUMSTANCES. CONSIDERATIONS FOR DETERMINING THE APPROPRIATE TYPE OF PERIMETER CONTROL FOR A STOCKPILE INCLUDE WHETHER THE STOCKPILE IS LOCATED ON A PERVIOUS OR IMPERVIOUS SURFACE, THE RELATIVE HEIGHTS OF THE PERIMETER CONTROL AND STOCKPILE, THE ABILITY OF THE PERIMETER CONTROL TO CONTAIN THE STOCKPILE WITHOUT FAILING IN THE EVENT THAT MATERIAL FROM THE STOCKPILE SHIFTS OR SLUMPS AGAINST THE PERIMETER, AND OTHER FACTORS.

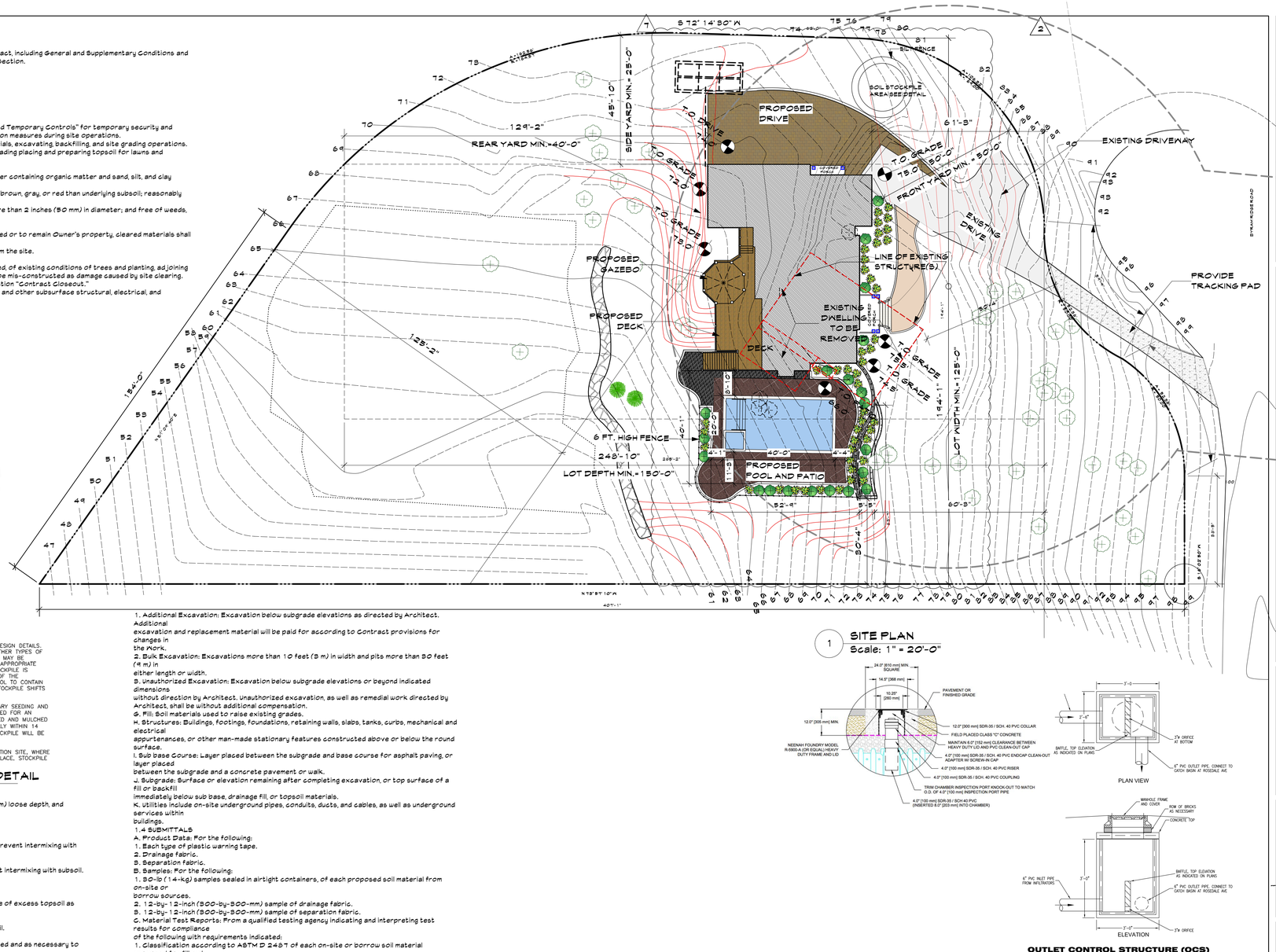
3. STABILIZE THE STOCKPILE SURFACE WITH SURFACE ROUGHENING, TEMPORARY SEEDING AND MULCHING, EROSION CONTROL BLANKETS, OR SOIL BINDERS. SOILS STOCKPILED FOR AN EXTENDED PERIOD (TYPICALLY FOR MORE THAN 60 DAYS) SHOULD BE SEEDED AND MULCHED WITH A TEMPORARY GRASS COVER ONCE THE STOCKPILE IS PLACED (TYPICALLY WITHIN 14 DAYS). USE OF MULCH ONLY OR A SOIL BINDER IS ACCEPTABLE IF THE STOCKPILE WILL BE IN PLACE FOR A MORE LIMITED TIME PERIOD (TYPICALLY 30–60 DAYS).

4. FOR TEMPORARY STOCKPILES ON THE INTERIOR PORTION OF A CONSTRUCTION SITE, WHERE OTHER DOWNGRADIENT CONTROLS, INCLUDING PERIMETER CONTROL, ARE IN PLACE, STOCKPILE PERIMETER CONTROLS MAY NOT BE REQUIRED.

6 STOCKPILES PROTECTION DETAIL
NOT TO SCALE

1. Place fill material in horizontal layers not exceeding 8-inch (200 mm) loose depth, and compact each
layer to a density equal to adjacent original ground.
3.3 TOP SOIL
A. Remove sod and grass before stripping topsoil.
B. Strip topsoil to whatever depths are encountered in a manner to prevent intermixing with underlying subsoil or
other waste materials.
C. Stockpile topsoil materials away from edge of excavations without intermixing with subsoil. Grade and shape
stockpiles to drain surface water. Cover to prevent windblown dust.
1. Limit height of topsoil stockpiles to 72 inches (1800 mm).
2. Do not stockpile topsoil within drip line of remaining trees. Dispose of excess topsoil as specified for
waste material disposal.
B. Stockpile surplus topsoil and allow for re-spreading deeper topsoil.
3.4 SITE IMPROVEMENTS
A. Remove existing above- and below-grade improvements as indicated and as necessary to facilitate new
construction.
B. Remove slabs, paving, curbs, gutters, and aggregate base as indicated.
3.5 DISPOSAL
A. Disposal: Remove surplus soil material, unsuitable topsoil, obstructions, demolished materials, and waste
materials, including trash and debris, and legally dispose of them off Owner's property.
END OF SECTION 02230

SECTION 02200 - EARTHWORK
PART 1 - GENERAL
1.1 RELATED DOCUMENTS
A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.
1.2 SUMMARY
A. This Section includes the following:
1. Preparing sub-grades for slabs-on-grade, walks, pavements, lawns, and plantings.
2. Excavating and backfilling for buildings and structures.
3. Drainage course for slabs-on-grade.
4. Sub-base course for concrete walks and pavements.
5. Base course for asphalt paving.
6. Subsurface drainage backfill for walls and trenches.
7. Excavating and backfilling trenches within building lines.
8. Excavating and backfilling trenches for buried mechanical and electrical utilities and pits for buried utility structures.
B. Related Sections include the following:
1. Division 1 Section "Construction Facilities and Temporary Controls."
2. Division 2 Section "Site Clearing" for site stripping, grubbing, removing topsoil, and protecting trees to remain.
3. Division 2 Section "Landscaping" for finish grading, including placing and preparing topsoil for lawns and plantings.
4. Division 5 Section "Cast-in-Place Concrete" for granular course over vapor retarder.
5. Division 15 through 16 Sections for excavating and backfilling buried mechanical and electrical utilities and buried utility structures.
1.3 DEFINITIONS
A. Backfill: Soil materials used to fill an excavation.
1. Initial Backfill: Backfill placed beside and over pipe in a trench, including haunches to support sides of pipe.
2. Final Backfill: Backfill placed over initial backfill to fill a trench.
B. Base Course: Layer placed between the sub base course and asphalt paving.
C. Bedding Course: Layer placed over the excavated subgrade in a trench before laying pipe.
D. Borrow: Satisfactory soil imported from off-site for use as fill or backfill.
E. Drainage Course: Layer supporting slab-on-grade used to minimize capillary flow of pore water.
F. Excavation: Removal of material encountered above subgrade elevations.



1 SITE PLAN
Scale: 1" = 20'-0"

1. Additional Excavation: Excavation below subgrade elevations as directed by Architect. Additional
excavation and replacement material will be paid for according to Contract provisions for changes in
the Work.
2. Bulk Excavation: Excavations more than 10 feet (3 m) in width and pits more than 30 feet (9 m) in
either length or width.
3. Unauthorized Excavation: Excavation below subgrade elevations or beyond indicated dimensions
without direction by Architect. Unauthorized excavation, as well as remedial work directed by Architect, shall be without additional compensation.
G. Fill: Soil materials used to raise existing grades.
H. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical
appurtenances, or other man-made stationary features constructed above or below the round surface.
I. Sub base Course: Layer placed between the subgrade and base course for asphalt paving, or layer placed
between the subgrade and a concrete pavement or walk.
J. Subgrade: Surface or elevation remaining after completing excavation, or top surface of a fill or backfill
immediately below sub base, drainage fill, or topsoil materials.
K. Utilities include on-site underground pipes, conduits, ducts, and cables, as well as underground services within
buildings.
1.4 SUBMITTALS
A. Product Data: For the following:
1. Each type of plastic warning tape.
2. Drainage fabric.
3. Separation fabric.
B. Samples: For the following:
1. 50-lb (14-kg) samples sealed in airtight containers, of each proposed soil material from on-site or
borrow sources.
2. 12-by-12-inch (300-by-300-mm) sample of drainage fabric.
3. 12-by-12-inch (300-by-300-mm) sample of separation fabric.
C. Material Test Reports: From a qualified testing agency indicating and interpreting test results for compliance
of the following with requirements indicated:
1. Classification according to ASTM D 2487 of each on-site or borrow soil material proposed for fill and
backfill.
2. Laboratory compaction curve according to ASTM D 698 for each on-site or borrow soil material
proposed for fill and backfill.
D. Seismic survey agency report, for record purposes.
1.5 QUALITY ASSURANCE
A. Geotechnical testing Agency Qualifications: An independent testing agency qualified according to ASTM E
329 to conduct soil materials and rock-definition testing, as documented according to ASTM D 3740 and
ASTME 548.
SOIL EROSION NOTES:

1. PRIOR TO STARTING ANY CONSTRUCTION, TEMPORARY SILT TRAPS, SEDIMENTATION FENCES AND OTHER APPROVED SOIL CONTROL MEASURES SHALL BE PLACED AS REQUIRED.
ADDITIONAL SEDIMENT CONTROL MEASURES SHALL BE INSTALLED WHERE DEEMED NECESSARY
TO SUPPLEMENT THE EROSION CONTROL DETAILS AS SHOWN ON THIS DRAWING.

2. CONTRACTOR SHALL TAKE EXTRA CARE WITH RESPECT TO LAND EXPOSED DURING DEVELOPMENT. THE EXPOSED LAND AREA SHALL BE KEPT TO A MIN. TIME PERIOD.
PERMANENT SITE IMPROVEMENT METHODS AND STRUCTURES SHALL TAKE PLACE AT THE EARLIEST POSSIBLE OPPORTUNITY.

3. CONTRACTOR SHALL ENSURE THE MAINTENANCE OF SOIL EROSION FENCES AS PER REQUIREMENTS OF MUNICIPAL AUTHORITIES HAVING JURISDICTION THEREOF.

4. CONTRACTOR SHALL ALLOW TO A MINIMUM POSSIBLE THE SEDIMENTATION DEBRIS TO THE PUBLIC AND PRIVATE ADJOINING AREAS AND SHALL ASSUME RESPONSIBILITY FOR SUCH CONDITIONS. HE SHALL BRUSH CLEAN ALL DEBRIS FROM SIDEWALKS AND STREETS.

5. METHODS FOR OPEN EXCAVATION EMBANKMENTS NOT REQUIRING SILT FENCES OR STRAW BALES CAN BE EMPLOYED SUBJECT TO SOIL CONDITIONS AND WHERE SLOPES DO
NOT EXCEED A PITCH OF 8" IN 12".LOOSE STONE AND ROCK SHALL REMOVED FROM SITE.
COMPACTED AND SEEDED TOP SOIL SHALL BE INSTALLED FOR SOIL PROTECTION.

6. UNLESS OTHERWISE AGREED BY SEPARATE CONTRACT, THIS ARCHITECT HAS NOT BEEN RETAINED FOR CONSTRUCTION ADMINISTRATION RELATED TO THE WORK THEREOF.

DEMOLITION NOTE:

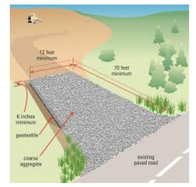
CONTRACTOR TO REMOVE ALL STRUCTURES AND PAVEMENTS AS INDICATED WITHOUT UNDERMINING THE STRUCTURAL INTEGRITY OF THE ADJACENT NEIGHBORING PROPERTIES.

TO REMOVE ALL FOUNDATIONS AND FOOTINGS AS REQUIRED. CONTRACTOR TO ABIDE BY ALL ENVIRONMENTAL REQUIREMENTS, SUCH AS NOISE, DUST CONTROL, ASBESTOS ABATEMENT, RODENT CONTROL, ETC.
ALL MATERIALS TO BE REMOVED SHALL BE DISPENSED OF IN PROPPER MANNER AND AS PER REQUIREMENTS OF THE VILLAGE OF LARCHMONT AND THE COUNTY OF WESTCHESTER.
CONTRACTOR TO MAKE OWNER/ARCHITECT AWARE OF ANY STRUCTURAL DAMAGE PRIOR TO DEMOLITION.

SHORING AND BRACING:
1- CONTRACTOR SHALL PROTECT SITE FROM CAVING AND SOIL MOVEMENT. HE SHALL LOCATE SYSTEMS TO CLEAR PERMANENT CONSTRUCTION AND TO PERMIT FORMING AND FINISHING OF CONCRETE SURFACES.

2- CONTRACTOR SHALL LOCATE BRACING TO CLEAR COLUMNS, FLOOR FRAMING CONSTRUCTION, AND OTHER PERMANENT WORK. INSTALL NEW BRACE PRIOR TO REMOVING OLD BRACE.

OUTLET CONTROL STRUCTURE (OCS)
NTS



TRACKING PAD DIAGRAM

NO.	REV.	DATE
10	Planning Bd.	9.10.21
9	ARB	7.19.21
8	ARB	7.09.21
7	Coord.	6.17.21
6	Client/ PB	6.7.21
5	Client	6.2.21
4	Planning Bd	5.21.21
3	Planning Bd	5.10.21
2	Planning Bd	4.14.21
1	Planning Bd	3.10.21

OWNER:

MR. & MRS. CHRISTOPHER KALIAN

Tom Abillama Architects
1955 CENTRAL PARK AVENUE
YONKERS, NEW YORK
PHONE: 914 6684673
FAX: 914 668 1831
EMAIL: FILES@TFARA.COM

SEAL

KEY PLAN

PROPOSED ONE FAMILY DWELLING EXPANSION

99 BYRAM RIDGE RD.,
ARMONK, N.Y

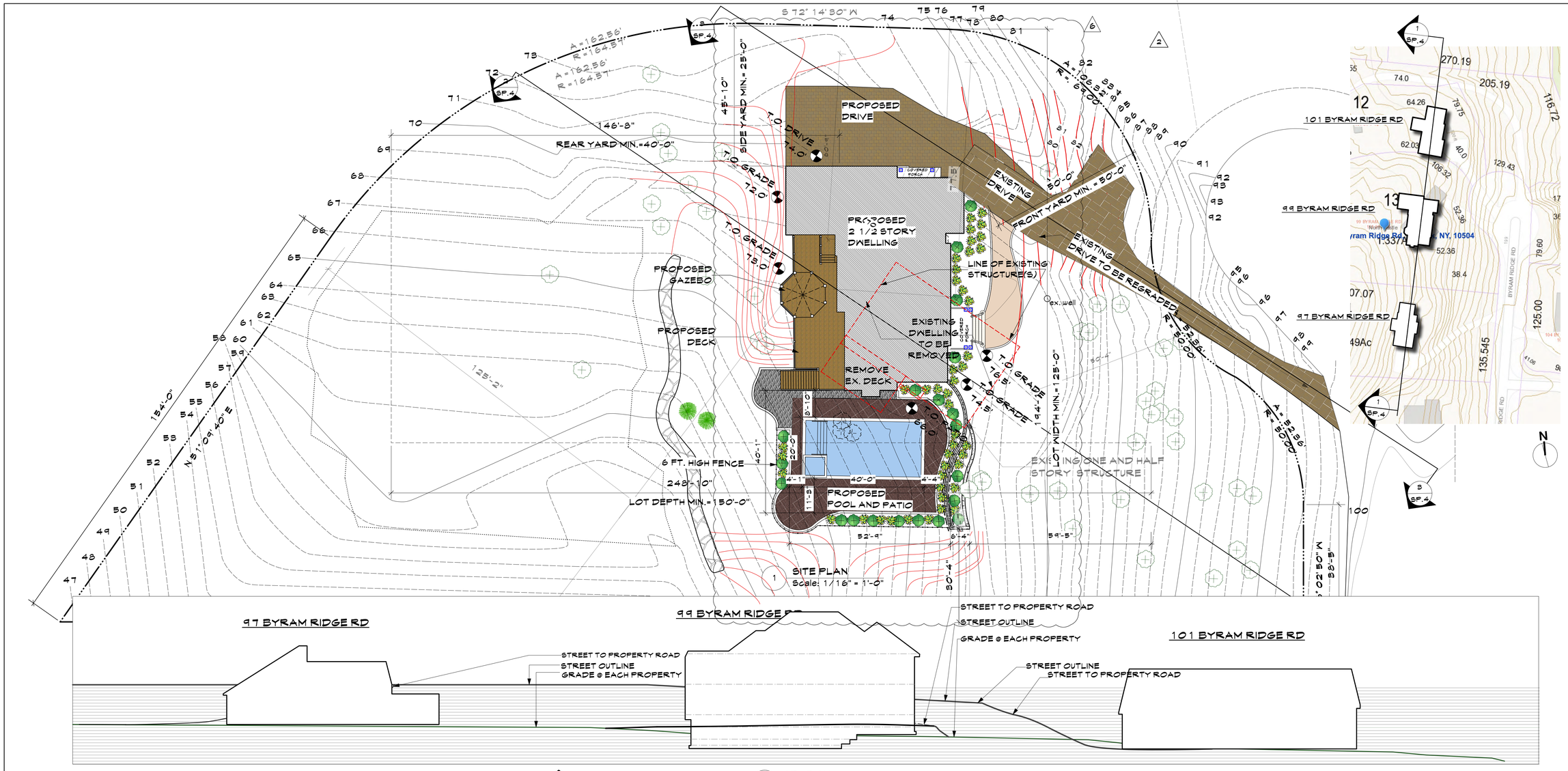
SBL: 101.01/1/13 ZONE: R-1A

STORMWATER CALCULATIONS AND DESIGN

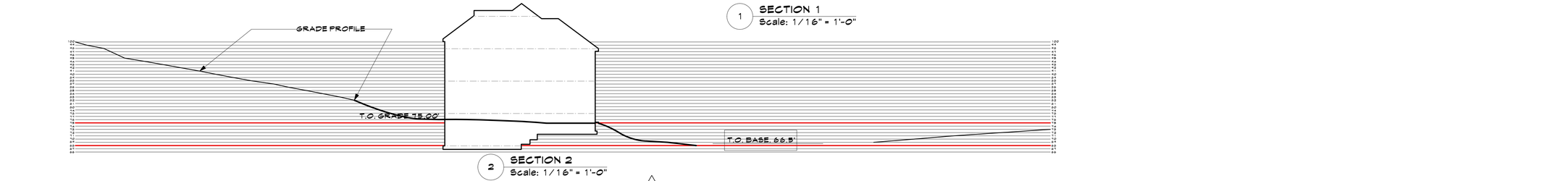
Project ID / DATE : 2048/ 10.15.2020
Sheet Scale:

SP.3

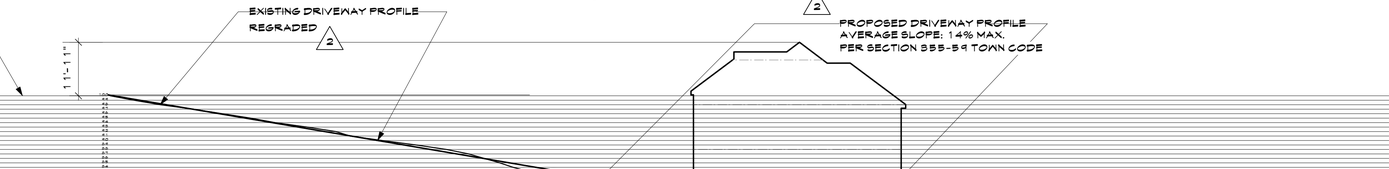
Drawn By: KM **Checked By:** TFA
Plot Date: JULY 19.2021



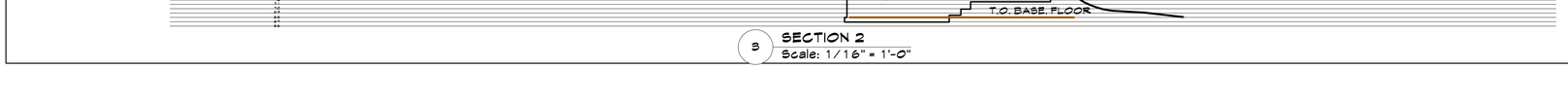
1 SITE PLAN
Scale: 1/16" = 1'-0"



1 SECTION 1
Scale: 1/16" = 1'-0"



2 SECTION 2
Scale: 1/16" = 1'-0"



3 SECTION 2
Scale: 1/16" = 1'-0"

TOWN CODE - SECTION 355-59 DRIVEWAYS 2

B. Driveway grades.

(1) The maximum grade for any new driveway accessory to a single-family dwelling, and connecting its off-street parking area to a street, shall be 14%, except that where it can be demonstrated to the satisfaction of the Town Engineer that, because of practical difficulty or unreasonable hardship affecting a particular property, the construction of a driveway grade of less than 14% is impractical, the construction of a steeper driveway shall be permitted, provided that the increase in driveway grade is the minimum increase required.

NO.	REV.	DATE
10	Planning Bd.	9.10.21
9	ARB	7.19.21
8	ARB	7.09.21
7	Coord.	6.17.21
6	Client/ PB	6.7.21
5	Client	6.2.21
4	Planning Bd	5.21.21
3	Planning Bd	5.10.21
2	Planning Bd	4.14.21
1	Planning Bd	3.10.21

OWNER:

MR. & MRS. CHRISTOPHER KALIAN

Tom Abillama Architects

1955 CENTRAL PARK AVENUE
YONKERS, NEW YORK

PHONE: 914 6684673
FAX: 914 668 1831
EMAIL: FILES@TFARA.COM

SEAL

KEY PLAN

PROPOSED ONE FAMILY DWELLING EXPANSION

99 BYRAM RIDGE RD., ARMONK, N.Y

SBL: 101.01/1/13 ZONE: R-1A

SITE GRADING

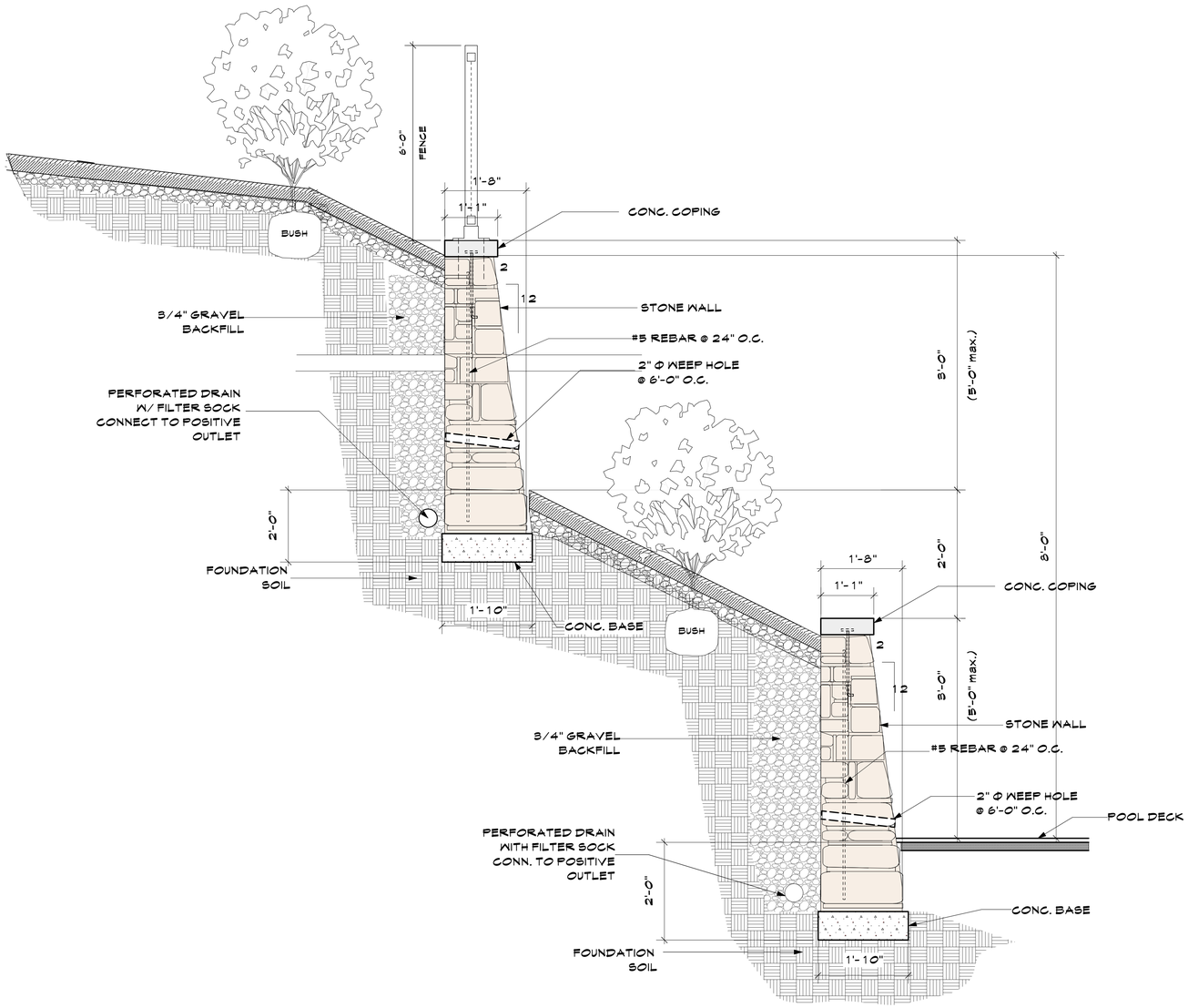
Project ID / DATE : 2048/ 10.15.2020

Sheet Scale:

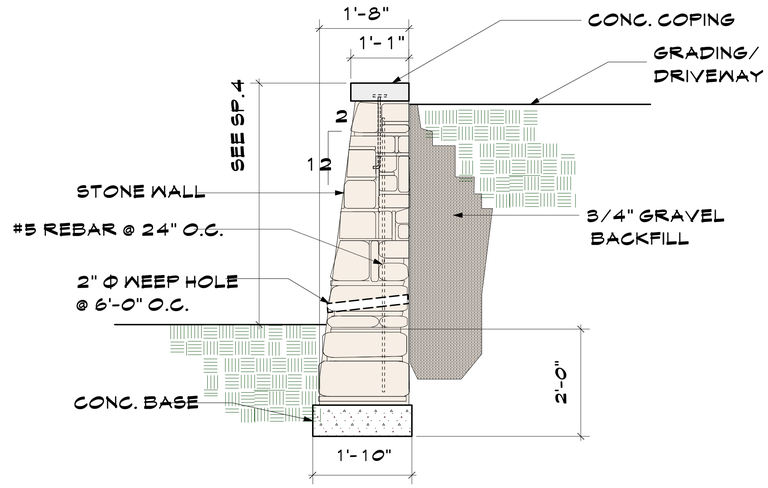
SP.4

Drawn By: KM Checked By: TFA

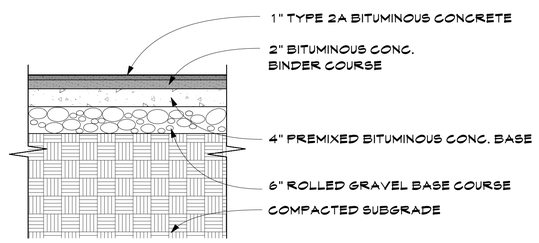
Plot Date: JULY 19.2021



3 DETAIL @ SEGMENTED RETAINING WALL
Scale: 3/4" = 1'-0"



2 STONE RETAINING WALL
Scale: 3/4" = 1'-0"



1 PAVEMENT DETAIL
Scale: 3/4" = 1'-0"

NO.	REV.	DATE
10	Planning Bd.	9.10.21
9	ARB	7.19.21
8	ARB	7.09.21
7	Coord.	6.17.21
6	Client/ PB	6.7.21
5	Client	6.2.21
4	Planning Bd	5.21.21
3	Planning Bd	5.10.21
2	Planning Bd	4.14.21
1	Planning Bd	3.10.21

OWNER:

MR. & MRS.
CHRISTOPHER
KALIAN

Tom Abillama Architects

1955 CENTRAL PARK AVENUE
YONKERS, NEW YORK

PHONE: 914 6684673
FAX: 914 668 1831
EMAIL: FILES@TFARA.COM

SEAL

KEY PLAN

PROPOSED
ONE FAMILY
DWELLING
EXPANSION

99 BYRAM RIDGE RD.,
ARMONK, N.Y

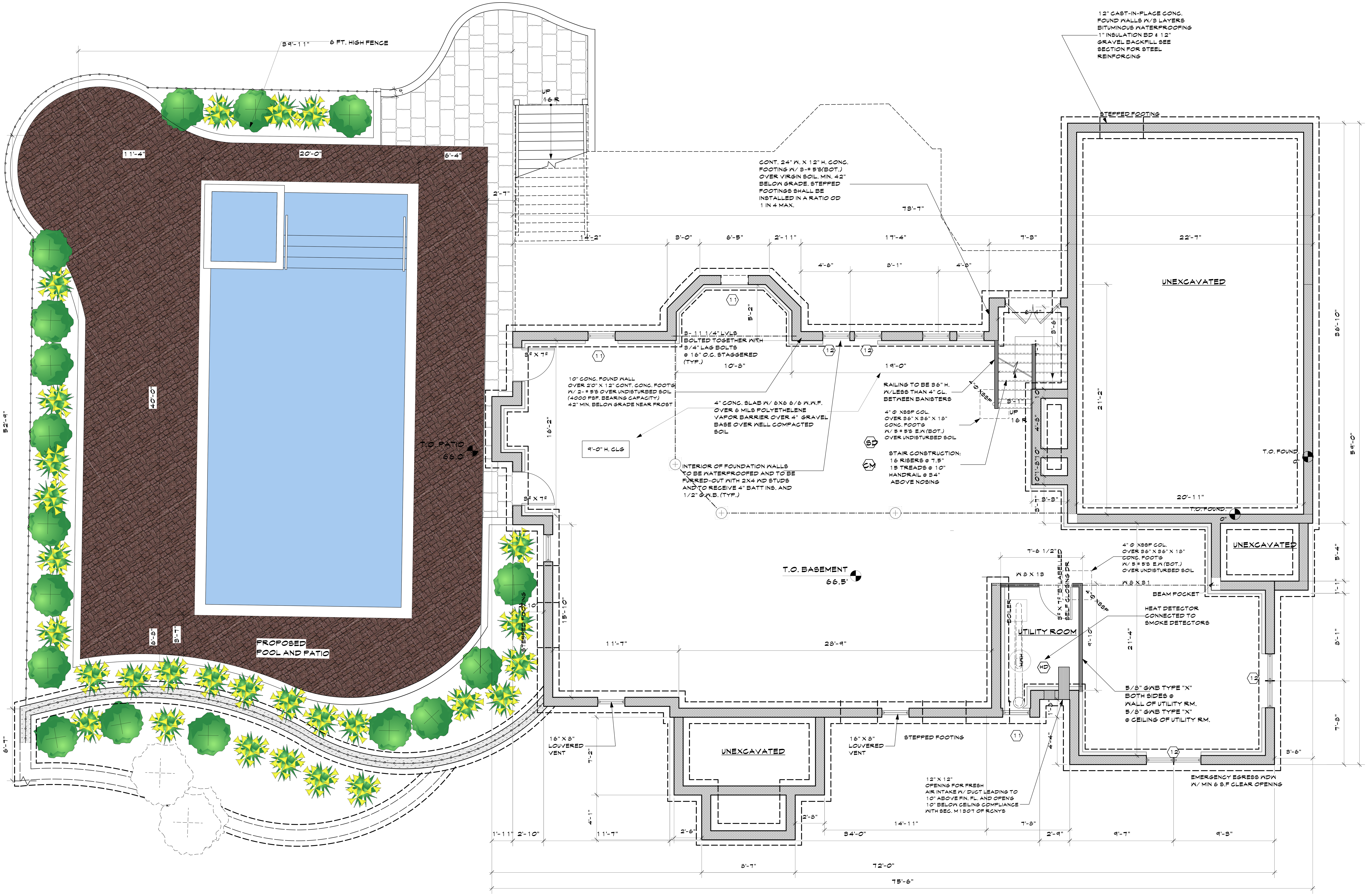
SBL: 101.01/1/13 ZONE: R-1A

SITE/
RETAINING
WALL DETAILS

Project ID / DATE : 2048/ 10.15.2020
Sheet Scale:

SP.5

Drawn By: KM Checked By: TFA
Plot Date: JULY 19.2021



BASEMENT FLOOR PLAN (1/A.1)
Scale: 1/4" = 1'-0"

NO.	REV.	DATE
10	Planning Bd.	9.10.21
9	ARB	7.19.21
8	ARB	7.09.21
7	Coord.	6.17.21
6	Client/ PB	6.7.21
5	Client	6.2.21
4	Planning Bd	5.21.21
3	Planning Bd	5.10.21
2	Planning Bd	4.14.21
1	Planning Bd	3.10.21

OWNER:

MR. & MRS. CHRISTOPHER KALIAN

Tom Abillama Architects
1955 CENTRAL PARK AVENUE
YONKERS, NEW YORK
PHONE: 914 6684673
FAX: 914 668 1831
EMAIL: FILES@TFARA.COM

SEAL

KEY PLAN

PROPOSED ONE FAMILY DWELLING EXPANSION

99 BYRAM RIDGE RD., ARMONK, N.Y

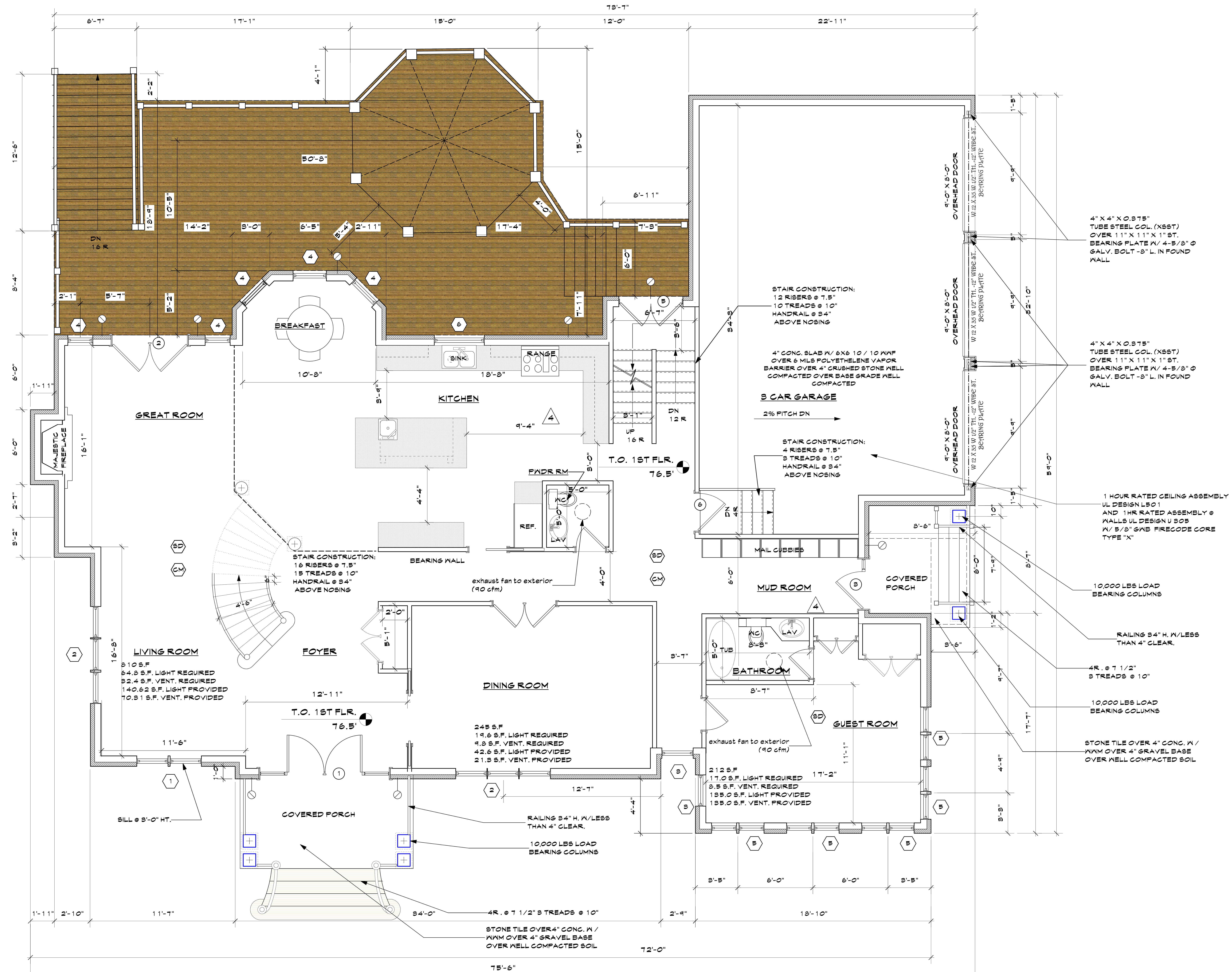
SBL: 101.01/1/13 ZONE: R-1A

BASMENT FLOOR PLAN

Project ID / DATE: 2048/ 10.15.2020
Sheet Scale:

A.1

Drawn By: KM Checked By: TFA
Plot Date: JULY 19.2021



FIRST FLOOR PLAN 1 / A.2
Scale: 1/4" = 1'-0"

NO.	REV.	DATE
10	Planning Bd.	9.10.21
9	ARB	7.19.21
8	ARB	7.09.21
7	Coord.	6.17.21
6	Client/ PB	6.7.21
5	Client	6.2.21
4	Planning Bd	5.21.21
3	Planning Bd	5.10.21
2	Planning Bd	4.14.21
1	Planning Bd	3.10.21

OWNER:

MR. & MRS. CHRISTOPHER KALIAN

Tom Abillama Architects
1955 CENTRAL PARK AVENUE
YONKERS, NEW YORK
PHONE: 914 6684673
FAX: 914 668 1831
EMAIL: FILES@TFARA.COM

SEAL

KEY PLAN

PROPOSED ONE FAMILY DWELLING EXPANSION

99 BYRAM RIDGE RD.,
ARMONK, N.Y

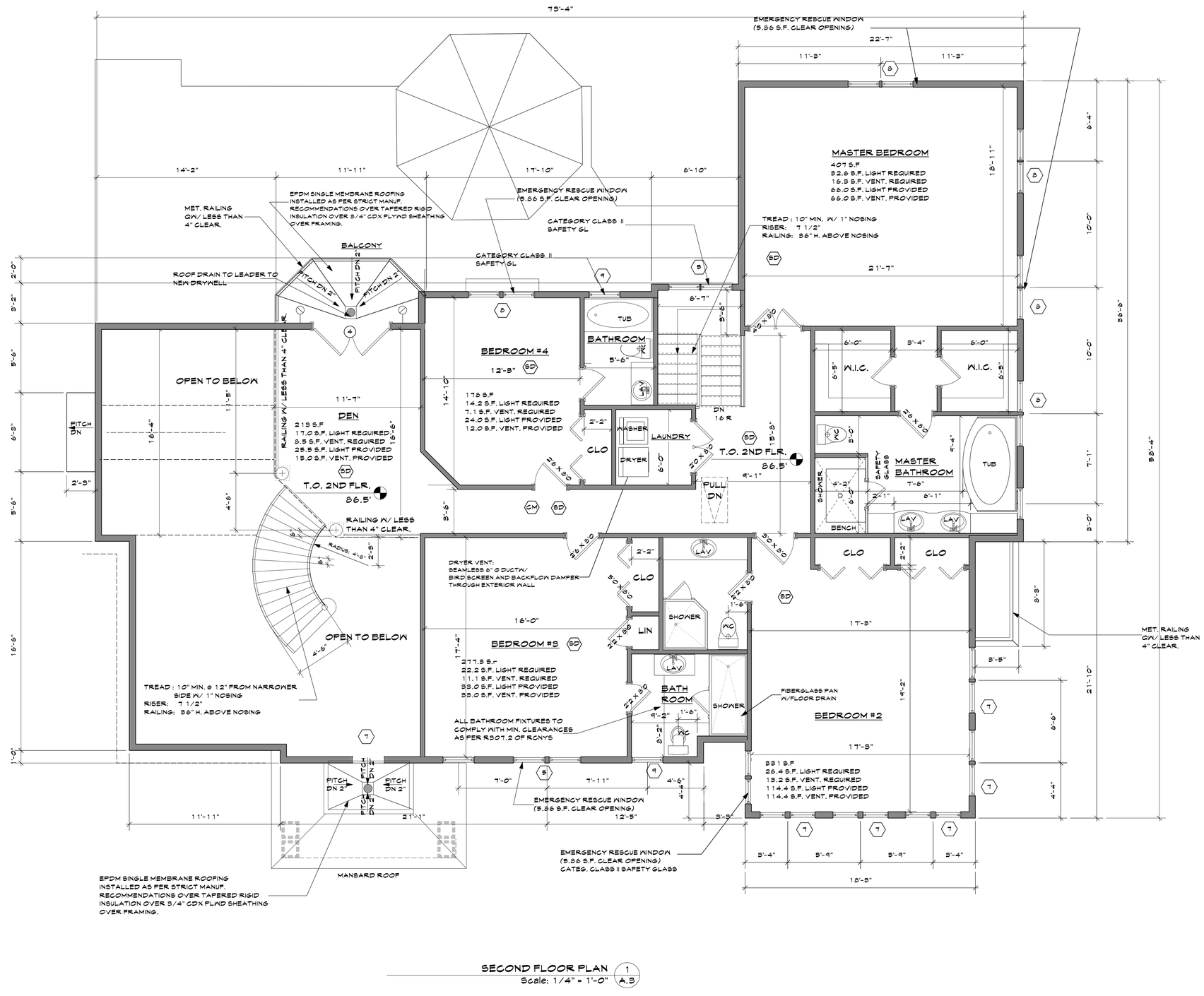
SBL: 101.01/1/13 ZONE: R-1A

1ST FLOOR PLAN

Project ID / DATE : 2048/ 10.15.2020
Sheet Scale:

A.2

Drawn By: KM Checked By: TFA
Plot Date: JULY 19.2021



SECOND FLOOR PLAN (1 / A.3)
Scale: 1/4" = 1'-0"

NO.	REV.	DATE
10	Planning Bd.	9.10.21
9	ARB	7.19.21
8	ARB	7.09.21
7	Coord.	6.17.21
6	Client/ PB	6.7.21
5	Client	6.2.21
4	Planning Bd	5.21.21
3	Planning Bd	5.10.21
2	Planning Bd	4.14.21
1	Planning Bd	3.10.21

OWNER:

MR. & MRS.
CHRISTOPHER
KALIAN

Tom Abillama Architects

1955 CENTRAL PARK AVENUE
YONKERS, NEW YORK

PHONE: 914 6684673
FAX: 914 668 1831
EMAIL: FILES@TFARA.COM

SEAL

KEY PLAN

PROPOSED
ONE FAMILY
DWELLING
EXPANSION

99 BYRAM RIDGE RD.,
ARMONK, N.Y

SBL: 101.01/1/13 ZONE: R-1A

2ND FLOOR
PLAN

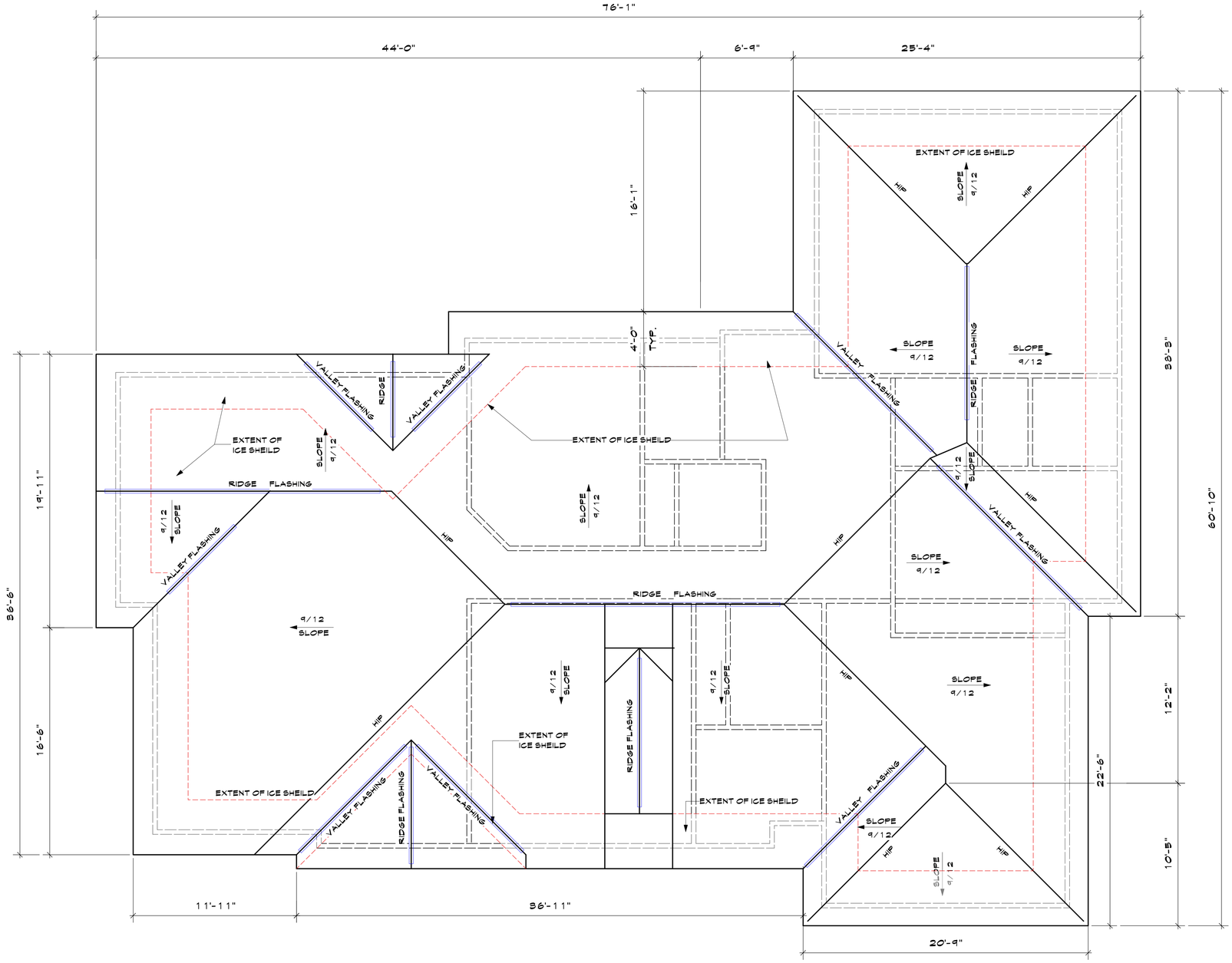
Project ID / DATE : 2048/ 10.15.2020

Sheet Scale:

A.3

Drawn By: KM **Checked By:** TFA

Plot Date: JULY 19.2021



ROOF PLAN ① A.4
Scale: 1/4" = 1'-0"

NO.	REV.	DATE
10	Planning Bd.	9.10.21
9	ARB	7.19.21
8	ARB	7.09.21
7	Coord.	6.17.21
6	Client/ PB	6.7.21
5	Client	6.2.21
4	Planning Bd	5.21.21
3	Planning Bd	5.10.21
2	Planning Bd	4.14.21
1	Planning Bd	3.10.21

OWNER:

MR. & MRS.
CHRISTOPHER
KALIAN

Tom
Abillama
Architects

1955 CENTRAL PARK AVENUE
YONKERS, NEW YORK

PHONE: 914 6684673
FAX: 914 668 1831
EMAIL: FILES@TFARA.COM

TOUFIC FRANCOIS ABILLAMA

SEAL

KEY PLAN

PROPOSED
ONE FAMILY
DWELLING
EXPANSION

99 BYRAM RIDGE RD.,
ARMONK, N.Y

SBL: 101.01/1/13 ZONE: R-1A

ROOF PLAN

Project ID / DATE : 2048/ 10.15.2020
Sheet Scale:

A.4

Drawn By: KM **Checked By:** TFA
Plot Date: JULY 19.2021

REAR ELEVATION
Scale: 1/4" = 1'-0"
2

FRONT ELEVATION
Scale: 1/4" = 1'-0"
1

NO.	REV.	DATE
10	Planning Bd.	9.10.21
9	ARB	7.19.21
8	ARB	7.09.21
7	Coord.	6.17.21
6	Client/ PB	6.7.21
5	Client	6.2.21
4	Planning Bd	5.21.21
3	Planning Bd	5.10.21
2	Planning Bd	4.14.21
1	Planning Bd	3.10.21

OWNER:

MR. & MRS. CHRISTOPHER KALIAN

Tom Abillama Architects

1955 CENTRAL PARK AVENUE
YONKERS, NEW YORK

PHONE: 914 6684673
FAX: 914 668 1831
EMAIL: FILES@TFARA.COM

SEAL

KEY PLAN

PROPOSED ONE FAMILY DWELLING EXPANSION

99 BYRAM RIDGE RD.,
ARMONK, N.Y

SBL: 101.01/1/13 ZONE: R-1A

REAR/ FRONT ELEVATION

Project ID / DATE : 2048/ 10.15.2020
Sheet Scale:

A.5

Drawn By: KM **Checked By:** TFA
Plot Date: JULY 19.2021

EXTERIOR FINISH NOTES

1- FIBERGLASS SHINGLES OVER 15#
BLDG PAPER OVER 5/8" FLND SHEATHING
TO BE INSTALLED IN STRICT ACCORDANCE WITH MFR'S
WRITTEN RECOMMENDATIONS. COLOR "BROWNSTONE"SEE SAMPLE.

2- FASCIA & RAKE BOARD SHALL BE 5/4"X 10" WOOD WITH 1"X 8"
APPLIED WOOD TRIM, PAINTED WHITE

3- GABLE END TRIM SHALL BE 1"X 6" CLASSIC TRIM WITH SEMI-MATTE FINISH
AS MFD. BY AZEK OR APPROVED EQUAL.
COLOR: PREFINISHED WHITE

4- CORNICE : FRIEZE SHALL BE COMPOSED OF #089600 CROWN MOULDING
& #154600 BOARD AS MFD. BY FYPON OR EQUAL. INSTALL AS PER
MFR'S RECOMMENDATIONS. FINISH OF FRIEZE: WHITE.

5- STONE VENEER @ BUILDING: SEE IMAGE

5- STONE VENEER @ BUILDING

6- STONE RETAINING WALL : SEE IMAGE

6- STONE RETAINING WALL

7- 12" Ø X 9'-0" LOAD BEARING COLUMN (25000 # CAPACITY)
PLAIN FIBERGLASS PAINTED WHITE- CLASSIC TAPERED W/ TUSCAN BASE
AND CAPITAL MOULDING BY "CROWN" OR EQUAL

8- TOP & BOT. RAIL - BTRX 96 OR 144 BY FYPON &
5" BALUSTRADE - BAL3X-3AX32NF BY FYPON

9- WINDOW TRIM SHALL BE 1"X 8" RAISED AS - EIFS
COLOR : WHITE

10- DORMER RAKE BOARDS, TRIM & FASCIA SHALL BE AZEK CUT TO SIZE
IF REQUIRED, PAINTED WHITE

11- 1" STUCCO W/ WIRE LATH- COLOR: BEIGE "DESERT TAN"

12- BALUSTERS (BAL 7x 25) BY OUTWATER OREQ.

13- WOOD RAILING @ BACK OF PATIO, BTR 12x 96

14- WHITE ANDERSON DBL HUNG WINDOWS

15- RAISED CEDAR TRIM OVER BIRCH VENEER PLYWD

16- METAL RAILING PAINTED WHITE

17- STONE STEPS

18- WALL HUNG LIGHT FIXTURE

19- FRONT DOOR PER OWNER

LEFT ELEVATION
Scale: 1/4" = 1'-0"
2

NO.	REV.	DATE
10	Planning Bd.	9.10.21
9	ARB	7.19.21
8	ARB	7.09.21
7	Coord.	6.17.21
6	Client/ PB	6.7.21
5	Client	6.2.21
4	Planning Bd	5.21.21
3	Planning Bd	5.10.21
2	Planning Bd	4.14.21
1	Planning Bd	3.10.21

OWNER:

MR. & MRS.
CHRISTOPHER
KALIAN

Tom Abillama Architects

1955 CENTRAL PARK AVENUE
YONKERS, NEW YORK

PHONE: 914 6684673
FAX: 914 668 1831
EMAIL: FILES@TFARA.COM

REGISTERED ARCHITECT
TOM FRANCIS ABILLAMA
STATE OF NEW YORK

SEAL

KEY PLAN

PROPOSED
ONE FAMILY
DWELLING
EXPANSION

99 BYRAM RIDGE RD.,
ARMONK, N.Y

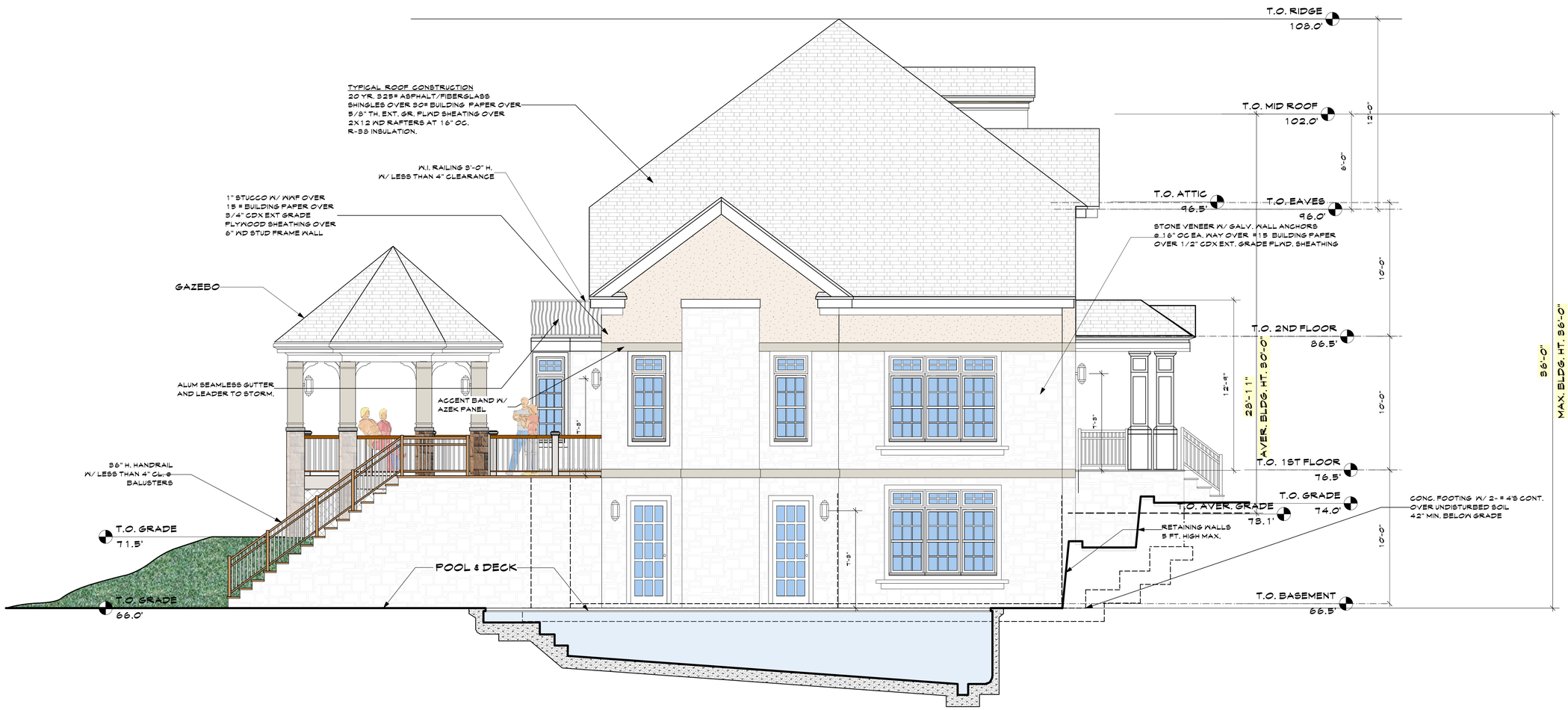
SBL: 101.01/1/13 ZONE: R-1A

RIGHT SIDE
ELEVATION

Project ID / DATE : 2048/ 10.15.2020
Sheet Scale:

A.6

Drawn By: KM Checked By: TFA
Plot Date: JULY 19.2021



RIGHT SIDE ELEVATION (1)
Scale: 1/4" = 1'-0"

NO.	REV.	DATE
10	Planning Bd.	9.10.21
9	ARB	7.19.21
8	ARB	7.09.21
7	Coord.	6.17.21
6	Client/ PB	6.7.21
5	Client	6.2.21
4	Planning Bd	5.21.21
3	Planning Bd	5.10.21
2	Planning Bd	4.14.21
1	Planning Bd	3.10.21

OWNER:

MR. & MRS. CHRISTOPHER KALIAN

Tom Abillama Architects

1955 CENTRAL PARK AVENUE
YONKERS, NEW YORK

PHONE: 914 6684673
FAX: 914 668 1831
EMAIL: FILES@TFARA.COM

SEAL

KEY PLAN

PROPOSED ONE FAMILY DWELLING EXPANSION

99 BYRAM RIDGE RD., ARMONK, N.Y

SBL: 101.01/1/13 ZONE: R-1A

LEFT SIDE ELEVATION

Project ID / DATE : 2048/ 10.15.2020

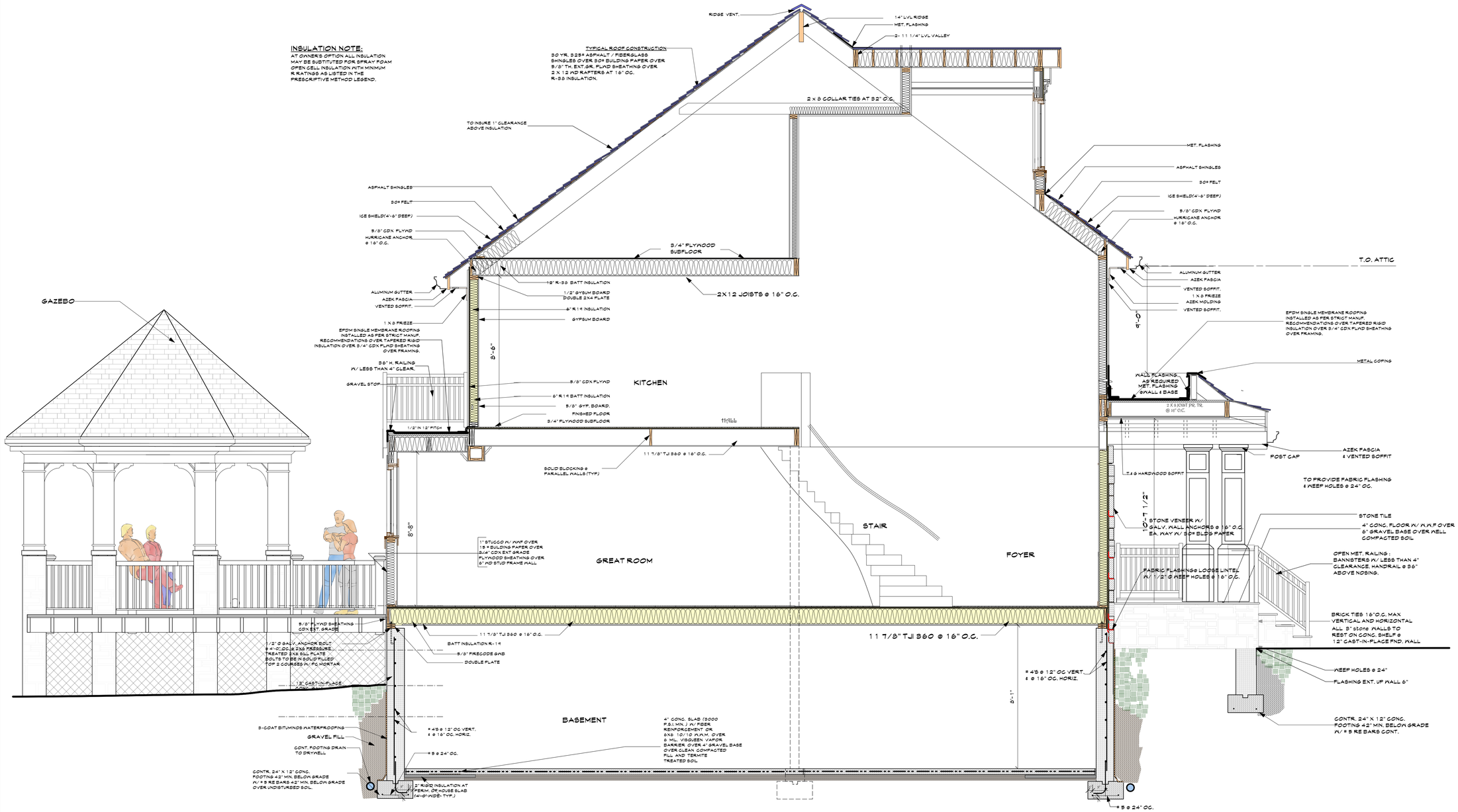
Sheet Scale:

A.7

Drawn By: KM **Checked By:** TFA

Plot Date: JULY 19.2021

INSULATION NOTE:
AT OWNER'S OPTION ALL INSULATION MAY BE SUBTITUTED FOR SPRAY FOAM OPEN CELL INSULATION WITH MINIMUM R RATINGS AS LISTED IN THE PRESCRIPTIVE METHOD LEGEND.



CROSS SECTION (1 / A.7)
Scale: 3/8" = 1'-0"

NO.	REV.	DATE
10	Planning Bd.	9.10.21
9	ARB	7.19.21
8	ARB	7.09.21
7	Coord.	6.17.21
6	Client/ PB	6.7.21
5	Client	6.2.21
4	Planning Bd	5.21.21
3	Planning Bd	5.10.21
2	Planning Bd	4.14.21
1	Planning Bd	3.10.21

OWNER:

MR. & MRS. CHRISTOPHER KALIAN

Tom Abillama Architects
1955 CENTRAL PARK AVENUE
YONKERS, NEW YORK
PHONE: 914 6684673
FAX: 914 668 1831
EMAIL: FILES@TFARA.COM

SEAL

KEY PLAN

PROPOSED ONE FAMILY DWELLING EXPANSION

99 BYRAM RIDGE RD., ARMONK, N.Y

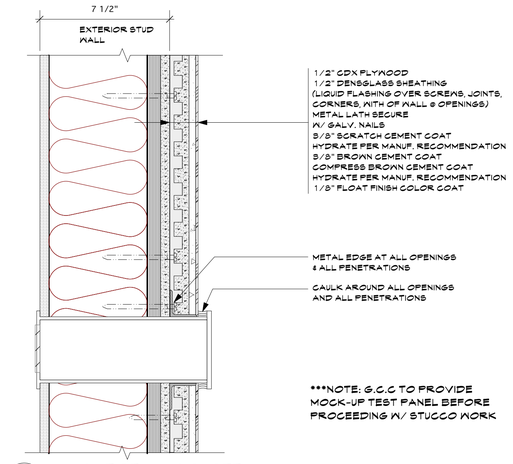
SBL: 101.01/1/13 ZONE: R-1A

CROSS SECTION

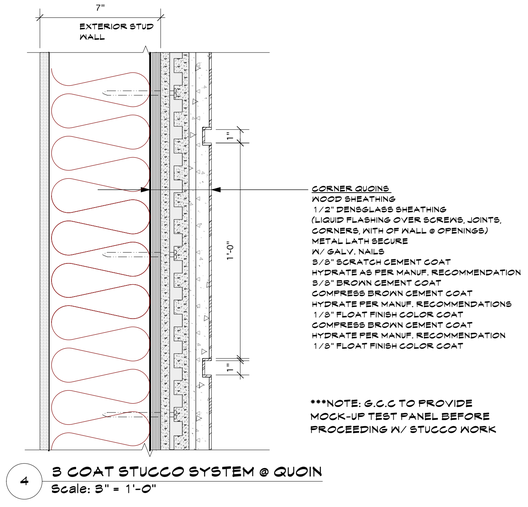
Project ID / DATE : 2048/ 10.15.2020
Sheet Scale:

A.8

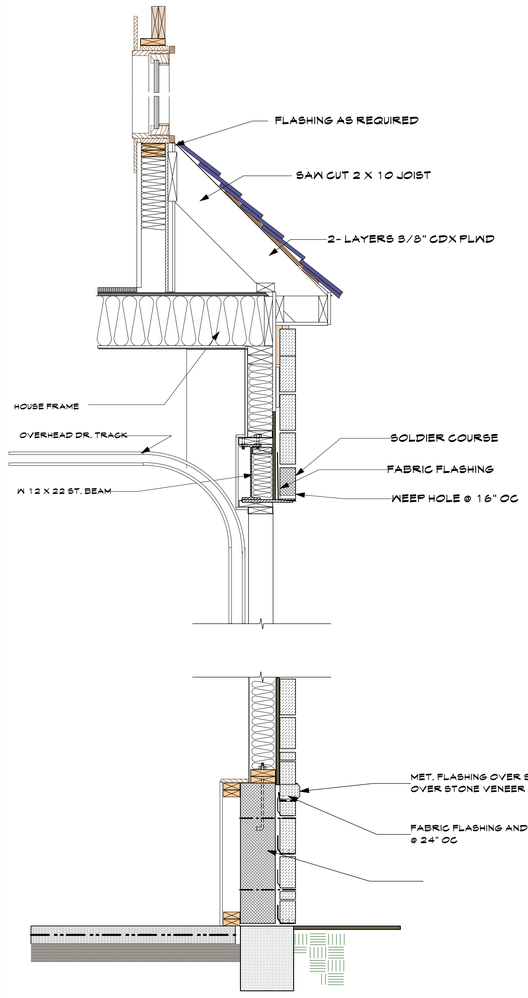
Drawn By: KM **Checked By:** TFA
Plot Date: JULY 19.2021



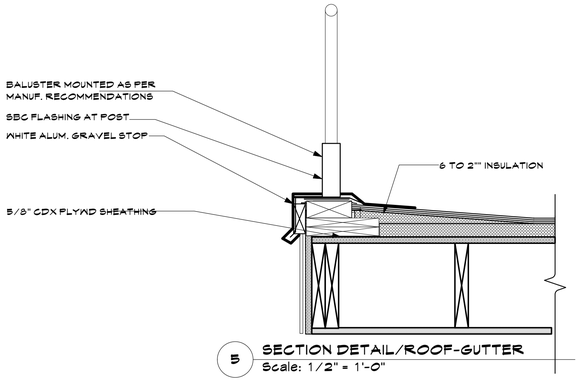
B **3 COAT STUCCO SYSTEM**
Scale: 3" = 1'-0"



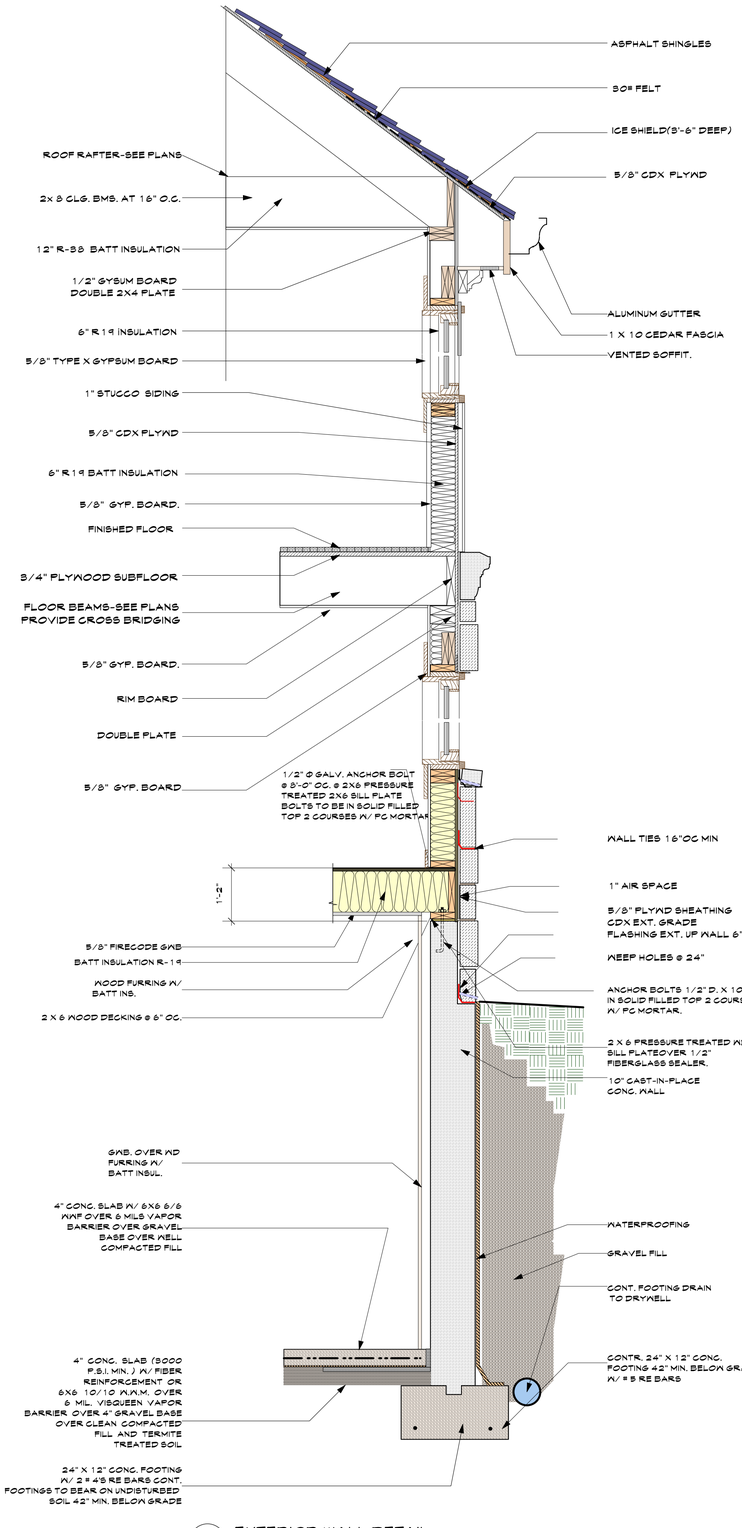
4 **3 COAT STUCCO SYSTEM @ QUOIN**
Scale: 3" = 1'-0"



2 **EXTERIOR WALL DETAIL**
Scale: 3/4" = 1'-0"



5 **SECTION DETAIL/ROOF-GUTTER**
Scale: 1/2" = 1'-0"



1 **EXTERIOR WALL DETAIL**
Scale: 3/4" = 1'-0"

NO.	REV.	DATE
10	Planning Bd.	9.10.21
9	ARB	7.19.21
8	ARB	7.09.21
7	Coord.	6.17.21
6	Client/ PB	6.7.21
5	Client	6.2.21
4	Planning Bd	5.21.21
3	Planning Bd	5.10.21
2	Planning Bd	4.14.21
1	Planning Bd	3.10.21

OWNER:

MR. & MRS. CHRISTOPHER KALIAN

Tom Abillama Architects
1955 CENTRAL PARK AVENUE
YONKERS, NEW YORK
PHONE: 914 6684673
FAX: 914 668 1831
EMAIL: FILES@TFARA.COM

SEAL

KEY PLAN

PROPOSED ONE FAMILY DWELLING EXPANSION

99 BYRAM RIDGE RD., ARMONK, N.Y

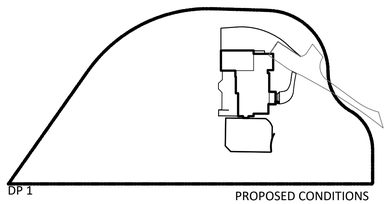
SBL: 101.01/1/13 ZONE: R-1A

EXTERIOR WALL DETAILS

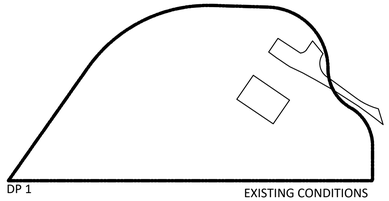
Project ID / DATE : 2048/ 10.15.2020
Sheet Scale:

A.9

Drawn By: KM **Checked By:** TFA
Plot Date: JULY 19.2021

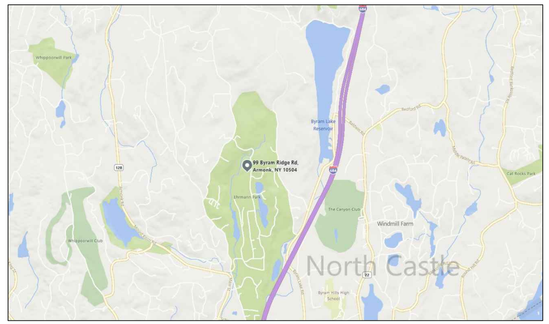


PROPOSED CONDITIONS
Impervious = 8878 SF
Pervious = 49400 SF



EXISTING CONDITIONS
Impervious = 3671 SF
Pervious = 54607 SF

LOT COVEREAGE
1" = 80'-0"



LOCATION MAP
N.T.S.

SOIL TEST FOR STORMWATER DESIGN

Percolation Test No: 1 (Depth 30") Performed on 8/11/21

Min. Elapsed	Depth to Water From Ground Surface		Water Level Drop	Soil Rate (Min./in. drop)
	Start (in.)	Stop (in.)		
10	23	26	3	3.33
10	23	26	3	3.33
11	23	26	3	3.67

Test Pit #1	
Depth 52"	Performed on 8/11/21
0-4"	Topsoil
4"-24"	Brown Sandy Loam
24"-52"	Brown Sandy Loam with 6-10" boulders
52"	Large boulders not able to be excavated with

OWTS DESIGN SUMMARY

PROPOSED DEVELOPMENT SINGLE FAMILY, 5 BEDROOM HOME

DESIGN FLOW: 200 GPD/BEDROOM = 1,000 GPD

DEPTH TO GROUNDWATER N/A

DEPTH TO BEDROCK N/A

SOIL PERCOLATION RATE = 16-20 MIN/IN

TOPOGRAPHY/SLOPE 11%

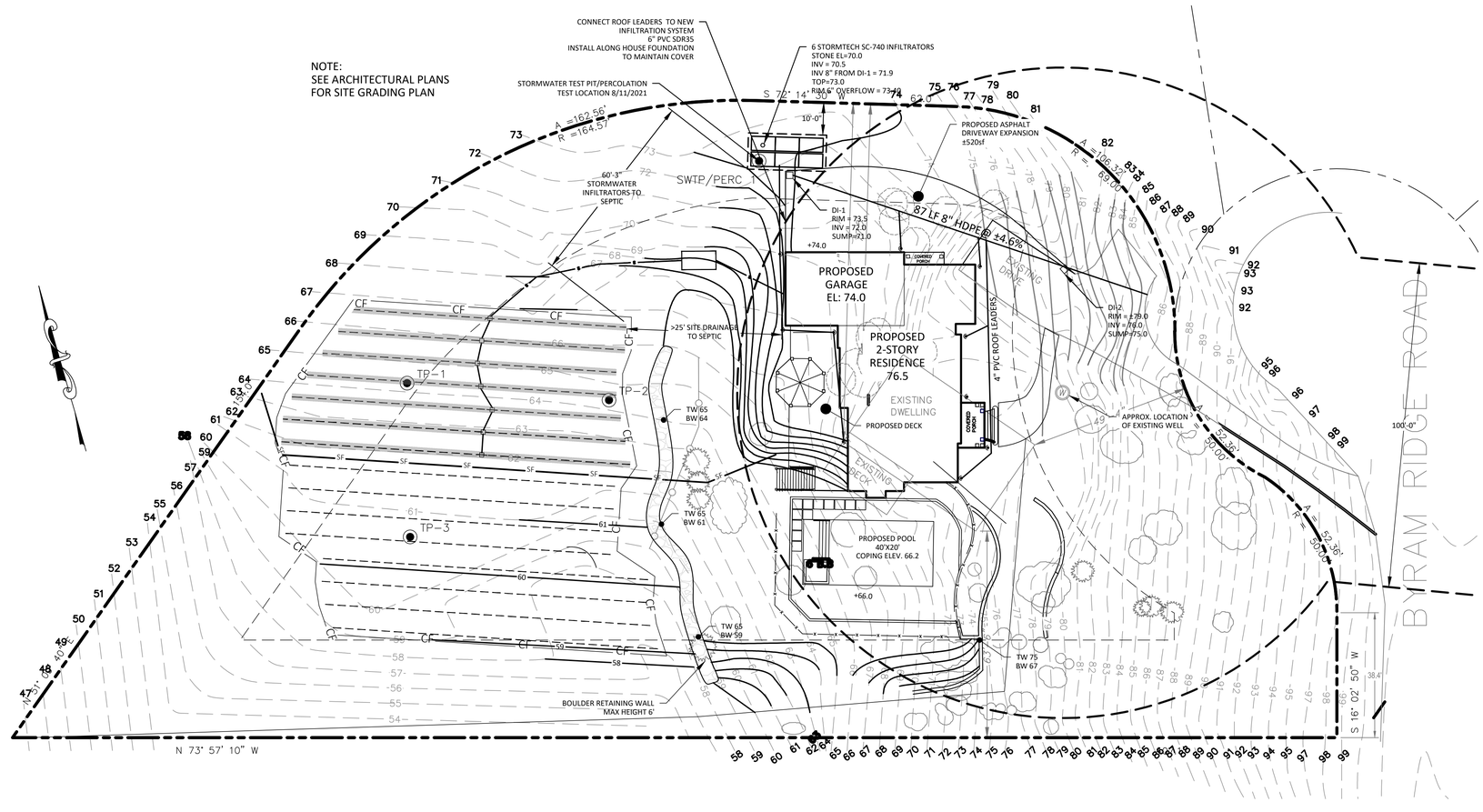
TOTAL LENGTH ABSORPTION TRENCH REQUIRED/PROVIDED = 720 LF

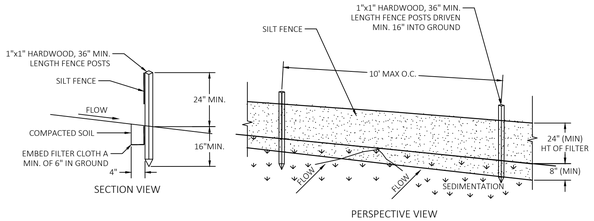
SOIL CLASSIFICATION: ChB & RhD

MISCELLANEOUS DATA

OWNER/APPLICANT:	99 BYRAM LLC 5 W MAIN ST ELMSFORD, NY 10523
SURVEYOR:	EDWARD T. GANNON, PLS CHERRY HILL ROAD BLOOMING GROVE, NY 10914 PREPARED 9/2/2020
MUNICIPALITY:	TOWN OF NORTH CASTLE
LOT AREA:	1.34 AC
FIRE DISTRICT:	ARMONK FD
TAX MAP	101.01-1-13
WATER DISTRICT:	ONSITE WELL
SEWER DISTRICT:	ONSITE SSDS
SCHOOL DISTRICT:	BYRAM HILLS
DRAINAGE BASIN:	BYRAM RIVER BASIN
WATERSHED:	INLAND LONG ISLAND SOUND BASIN
EXISTING ZONING DISTRICT:	R-1A

NOTE:
SEE ARCHITECTURAL PLANS FOR SITE GRADING PLAN

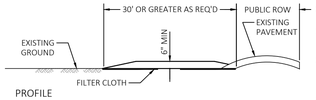




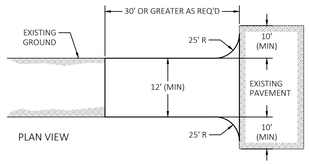
CONSTRUCTION SPECIFICATIONS:

1. SILT FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH STAPLES. POSTS SHALL BE 1"X1" HARDWOOD, OR APPROVED EQUAL.
2. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE WRAPPED AROUND 2 STAKES, MIN 2X. FILTER CLOTH SHALL BE EITHER FILTER USCF MISF180, MIRAFI 100X OR APPROVED EQUIVALENT.
3. MAINTENANCE SHALL BE PERFORMED AS NEEDED, REINFORCE AREA LOW POINTS WITH ADDITIONAL STAKES OR OTHER MATERIALS (AS RECOMMENDED BY ENGINEER). MATERIAL SHALL BE REMOVED WHEN SEDIMENT LOAD REACHES 50% HEIGHT OF FENCE.

SILT FENCE INSTALLATION DETAIL
N.T.S.



NOTE:
PROVIDE APPROPRIATE TRANSITION BETWEEN STABILIZED CONSTRUCTION ENTRANCE AND PUBLIC R.O.W.



CONSTRUCTION SPECIFICATIONS

1. STONE SIZE - USE 2" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH - 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 - TWELVE (12) FOOT MINIMUM. BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. TWENTY-FOUR (24) FOOT IF SINGLE ENTRANCE TO SIGHT.
5. FILTER CLOTH - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
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 RIGHTS-OF-WAY, ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACTED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WHEN WASHING IS REQUITED, IT SHALL BE DONE ON A AREA STABILISED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

STABILIZED CONSTRUCTION ENTRANCE
N.T.S.

ARQ ARCHITECTURE P.C.
ARCHITECTURE - PLANNING & ENGINEERING

100 EXECUTIVE BLVD. SUITE 204
OSSINING, NY 10562
PHONE: (914) 944-3377
FAX: (866) 567-6240

JORGE B. HERNANDEZ R.A. A.I.A.
LICENSE NUMBER: 030424-1
CERTIFICATE NUMBER: 0973256

PAUL A. BERTE, P.E
100 EXECUTIVE BLVD. SUITE 204
OSSINING, NY 10562

REVISIONS	DATE	BY
Revised per Town Comments	4/13/21	
Rev. house location	7/8/21	
Submit to PB	8/31/21	

DRAWING TITLE:
SITE DRAINAGE PLAN

PROJECT:
99 BYRAM LLC
SINGLE FAMILY RESIDENCE

PROJECT ADDRESS:
99 BYRAM RIDGE ROAD
ARMONK, NY 10504

TOWN ENGINEER SIGNATURE:

SEAL & SIGNATURE

DATE.:	SCALE:
3/1/2021	1" = 20'-0"
PROJECT NO.: 21-030	
DRAWING BY: PB	DRAWING NO.: 1 OF 1
CHECKED BY: PB	

STORMWATER POLLUTION PREVENTION PLAN

ENGINEER'S REPORT

for

99 Byram Ridge Road

DEMOLITION AND RECONSTRUCTION OF NEW SINGLE FAMILY HOME

Armonk, Town of North Castle

Westchester County, New York

Calculations and Report by: Paul Berté

Submitted by: Paul Berté, PE

Dated: 8/23/2021

NYS Professional Engineer Lic # 071859

Table of Contents

Introduction

This report has been prepared in accordance with Chapter 267 of the Town Code for Building Permit approval for the demolition and reconstruction of a 2 story single family home, including extending an existing driveway, installing new walkways and rear deck and a new in-ground swimming pool. The construction activity installing a new on-site separate sewerage disposal system (SSDS) for the new 5-bedroom home approved by the Westchester County Health Department. The Architecture of the new home is by Tom Abilima, RA, which meets all zoning regulations

This site is approximately 058,278 sf (1.345ac) as shown on a survey prepared by Edward T. Gannon, PLS dated September 2, 2020.

This report is prepared in conjunction with the proposed improvements shown on Plans prepared by Tom Abilama and ARQ PC, hereinafter called the ***Plans.***

I. Site Description

Existing Improvement
Existing improvements on the property include a 1 story single family residence, macadam driveway, a rear deck and a front walkway.

Existing Tress
The existing undeveloped area has several mature trees and understory, as identified on the Plans.

Soils
Provided herein is a copy of the USDA NRCS Soil Survey report prepared for this property. The soil types have been identified to be UlC—Urban Land-Charlton-Chatfield complex, rolling, very rocky. Depth to bedrock can be as shallow as 24” and as deep as 60”.

Soil testing for the SSDS has been witnessed by the Health Department. Deep tests were excavated to 7 feet with no restrictive layer, soil percolation rate designed using 16-20 min/in rate.

Soil testing for the stormwater system was conducted and witnessed by the Town Engineer’s office on 8/11/21, large rocks were encountered at a depth of 52”, although bedrock not encountered, this depth was utilized for the design of the infiltration system. Percolation rate was determine to be 3.3 min/in in this location.

Flood Plain

The FEMA floodplain map (included in the Appendices) illustrates that this parcel is outside the 100 and 500 year flood plain.

Site Drainage Characteristics
The site topography generally slopes from East to West toward the rear of the property.

The site is located in the Byram River Basin in the Inland Long Island Sound Basin.

The existing grades shall be maintained with this alteration; no changes in drainage conditions are proposed. It is anticipated that the activities proposed with this application will not have a negative impact to the receiving water body.

Proposed Improvements
The proposed application includes the re-construction of the single family home utilizing a portion of the existing driveway and same curb cut.

II. Stormwater Management Methodology and Design

A. Methodology

The on-site stormwater management design was analyzed using HydroCAD stormwater modeling software V10.00, which models Type III 24 hour stormwater flows using those methods contained in "Urban Hydrology for Small Watersheds Technical Release No. 55," prepared by the United States Department of Agriculture Soil Conservation Service.

B. Drainage Design

This existing impervious surfaces on this lot is approximately 3,671 square feet. The proposed impervious area Is 8,878 sf including the new home, driveway extension, walkways and new pool site.

The drainage improvements have been designed to capture the stormwater runoff from the additional impervious surfaces on the site via drainage inlets directed to the new underground detention system. The following table summarizes the existing and proposed cover types.

Table 1: Summary of Cover Types

Cover Type	Pre Development Area (sf)	Post Development Area (sf)	Change in Area (sf)
Impervious	3671	8878	**+5207**
Pervious	54607	49400	-5207

Based on the soil test results, an underground infiltration system has been designed to mitigate the runoff rate to pre-development conditions for the 2, 10, 25, 100 year-24 hour storm events.

C. Proposed Drainage Mitigation System

The stormwater management plan has been implemented to control the peak rate of runoff by providing 550 cubic feet of storage provided within six (6) Stormtech SC-740 infiltrators and ±25.5 cy of crushed stone. A 6" overflow orifice is proposed at the surface of the units for stormflows exceeding the capacity of the system.

Detailed flow control calculations (routings) are also included herewith.

Stormwater runoff from the proposed home created will be collected via gutters/roof leaders and directed towards the proposed subsurface Stormtech SC-740 infiltrators. Catch basins are proposed to capture runoff from the existing and proposed driveway and direct runoff to the proposed infiltration system.

Throughout the construction process, strict adherence to Plan and Specifications will be maintained to minimize sediment and pollutants from discharging off site. All areas within the subject site (for the pre and post conditions) were analyzed to a single design point.

The HydroCAD model was created using appropriate sub-catchments model the proposed design. Sub-catchment S1 represents all pre development impervious and pervious areas . Sub-catchment DA-1 represents all areas (roof and driveway) directed to the proposed infiltration system. Sub catchment 5S represents areas of the site that will sheet flow as in the existing conditions. DP 1 is the Design Point for the project located at the lowest point in the Southwest corner of the lot. The peak runoff rates at DP 1 have been mitigated to be less than the pre-development rate.

The following table (Table 1) is a summary of the results of the hydrograph routings for the Pre-

Development and Post Development stormwater flows:

Table 2: Summary of Stormwater Runoff Rates

Storm Event	Rainfall Depth	Pre Development Rate (cfs)	Post Development Rate (cfs)
2 year	3.4"	1.98	1.67
25 year	6.4"	5.43	4.68
100 year	9.0"	8.71	8.44
WQ90%	1.3"	1.35	1.12

III. Stormwater Pollution Prevention Plan

Temporary and permanent erosion control and pollution prevention measures will be maintained and inspected in accordance with the ***Plan.*** All proposed soil erosion and sediment control and pollution prevention practices are designed in accordance with the following publications:

- New York State Standards and Specifications for Erosion and Sediment Control, August 2005, latest edition.
- New York State Guidelines for Urban Erosion and Sediment Control, latest edition,
- New York State General Permit for Stormwater Discharges,
- "Reducing the Impacts of Stormwater Runoff from New Development", as published by the New York State Department of Environmental Conservation (NYSDEC), second edition, April 1993.

A. Soil Erosion and Sediment Control Plan

The primary goal of the soil erosion and sediment control measures is to reduce soil erosion from areas stripped of vegetation during and after construction, and to prevent discharge of silt offsite. Sediment control barriers shall be placed around exposed areas during construction. The barriers shall consist of silt fence. Alternate practice may be implemented by the contractor after approval from the Design Engineer and the Town Engineer.

Any areas stripped of vegetation during construction will be left bare for the shortest time possible. Any topsoil removed during construction will be temporarily stockpiled for future use in grading and landscaping. Stockpile locations have been provided on the **Plan** and shall be contained within a silt fence/hay bale barrier.

Temporary vegetation will be established to protect exposed soil areas during construction. If growing conditions are not suitable for the temporary vegetation, mulch or alternative cover may be used. Materials that may be used for mulching include; straw, wood fiber, synthetic soil stabilizers, mulch netting, and sod. A permanent vegetative cover will be established upon completion of construction of those areas that have been brought to finish grade and to remain undisturbed.

A stone construction access is specified to minimize sediment tracking onto Shore Road. The purpose of a stabilized entrance is to remove as much soil from the construction vehicle tires prior to exiting the site and traveling on the existing roadways. During construction, inlet protection (as applicable) will be installed at each storm sewer inlet to minimize the conveyance of silt and sediment through the storm sewer system.

For dewatering activities during excavation of the footings, a dewatering pump shall be located in a perforated tub surrounded by filter fabric and stone (or approved alternative). Clean discharge should be directed to onsite drainage appurtenances to minimize erosion of soils. Discharge with

suspended sediment shall be connected to a sediment bag on undisturbed ground in a location where the discharge will not cause erosion or flow over exposed soils.

If the contractor encounters ground water during the excavation of the filtering system, he shall notify the design engineer immediately. The contractor shall store all excavated material at the designated location show on the **Plan** with the appropriate erosion control measures corresponding to the stockpile detail.

B. Construction Phasing Plan

Construction shall be implemented in the following order:

1. Erosion and sediment control (ESC) measures and Pollution Prevention (PP) implementation,
   a) Install silt fences along the limit of disturbance\
   b) Install Construction Fence around SSDS area (Primary and Reserve)
   c) Install controlled construction access
   d) Install Tree Protection
   e) Install temporary sanitary facilities (portable toilets) in a location that is at least 20 from any drainage facility or flow path. Recommend staking the facility to prevent accidental tipping by construction activity or wind.
   f) Install waste container – maintain rigorous site cleaning schedule to prevent debris from blowing off site. Construction waste shall be stored in a dumpster and carried off-site on a regular basis
   g) Allocate concrete washout areas
2. Clearing and grubbing,
   a) Strip top soil and stockpile. Initiate cover practices and sediment controls at the base of the stockpile. Stockpile can be temporarily stabilized with tarp or mulch and/or temporary seeding.
   b) Disturbed areas where construction will cease for more than 14 days will be stabilized with erosion controls, such hydro-seeding, hydro-mulch, or straw. Straw mulch shall be applied at the rate of 2 tons per acre.
3. Excavate to subgrade elevation
   a) Install dewatering practice if necessary.
4. Install subsurface storage system and site drainage to capture runoff. Protect inlets with sediment control inlet protection.
5. Construct improvements
6. Final stabilization of disturbed areas
   a) Install minimum 4” topsoil and final stabilize with lawn or mulch in landscape areas.
   b) Remove all ESC and PP measures upon approval of design engineer and/or ESC inspector.

C. Stormwater Management Facilities Maintenance Program

Awarded contractor shall be responsible for the proper implementation of the ESC and PP practices. The following maintenance program is proposed in order to maintain the proper function of all drainage and erosion and sediment control facilities:

- Inspect erosion and sediment control devices and construction access point routinely and if necessary remove accumulated sedimentation and debris.
- Inspect all catch basins receiving runoff from disturbed areas after each runoff producing rainfall event; remove accumulated sediment or debris as necessary in the sump and invert.

- Sediment shall be removed from temporary sediment control facilities once 50% of its capacity is reached.
- Practices shall be restored to full capacity prior to forecasted significant rainfall events.
- Disturbed areas shall be inspected after runoff producing rain events for rill and gully erosion. Rills and gullies shall be regraded and uphill areas shall be inspected and protected to minimize concentrated flow.
- Restore and re-seed any eroded areas as soon as possible
- The Stormwater Management Facilities Maintenance Program will be managed by the home owner and shall include removal of sediment from the on-site catch basins and underground storage facilities.

D. Pollution Prevention, Material Handling and Waste Management

Contractor shall be responsible for all waste materials being collected and disposed of into one (1) metal trash dumpster. Dumpster shall be placed away from stormwater conveyances and drains, and meet all local and state solid-waste management regulations. Only trash and construction debris from the site will be deposited in the dumpster.

Contractor shall not store erodible or hazardous materials on any roadway. Oil and machinery fuels shall be kept to a necessary minimum and stored in structurally sound and sealed shipping containers or stored in the contractor's vehicles. Hazardous-material storage should be segregated from other non-waste materials. All hazardous materials will be disposed of in accordance with federal, state, and municipal regulations.

Contractor shall be responsible for maintaining the cleanliness of the streets (driveways/parking and adjacent areas) and storm drain inlet protection (as applicable) Best Management Practices (BMPs) throughout the construction project.

Contractor shall provide adequate designated concrete washout areas throughout the construction project and will be responsible for proper disposal of the concrete, mortar or grout collected there.

One (1) temporary sanitary facility (portable toilet) shall be provided at the site in the combined staging area. The toilet shall be located at least 20 feet from a drainage facility or concentrated flow path and traffic flow. The unit shall be staked down to prevent wind overtopping the unit.

Wood pallets, cardboard boxes, and other recyclable construction scraps will be disposed of in a designated dumpster for recycling. Construction equipment and maintenance materials shall be stored at the combined staging area.

All spills shall be cleaned up immediately upon discovery. Spent absorbent materials and rags will be hauled off-site immediately after the spill is cleaned up for disposal. Spill large enough to discharge to surface water will be reported to the National Response Center at 1-800-424-8802. Material safety date sheets, a material inventory, and emergency contact information will be maintained on site.

E. Final Stabilization

Permanent seeding shall be applied immediately after the final design grades are achieved as applicable throughout the site but no later than fourteen (14) days after construction activities have ceased. After stabilization, accumulated sediment shall be removed from site for disposal along with construction debris, trash and temporary BMPs e.g. silt fences, straw bales, material storage areas, sanitary toilets,

etc.

Seedbed preparation/grass application

A minimum depth of 2 to 6 inches shall be applied on areas where disturbance results in subsoil being the final grade surface. The seedbed shall be free of large clods, rocks, woody debris and other intrusive materials; fertilizer shall be applied accordingly.

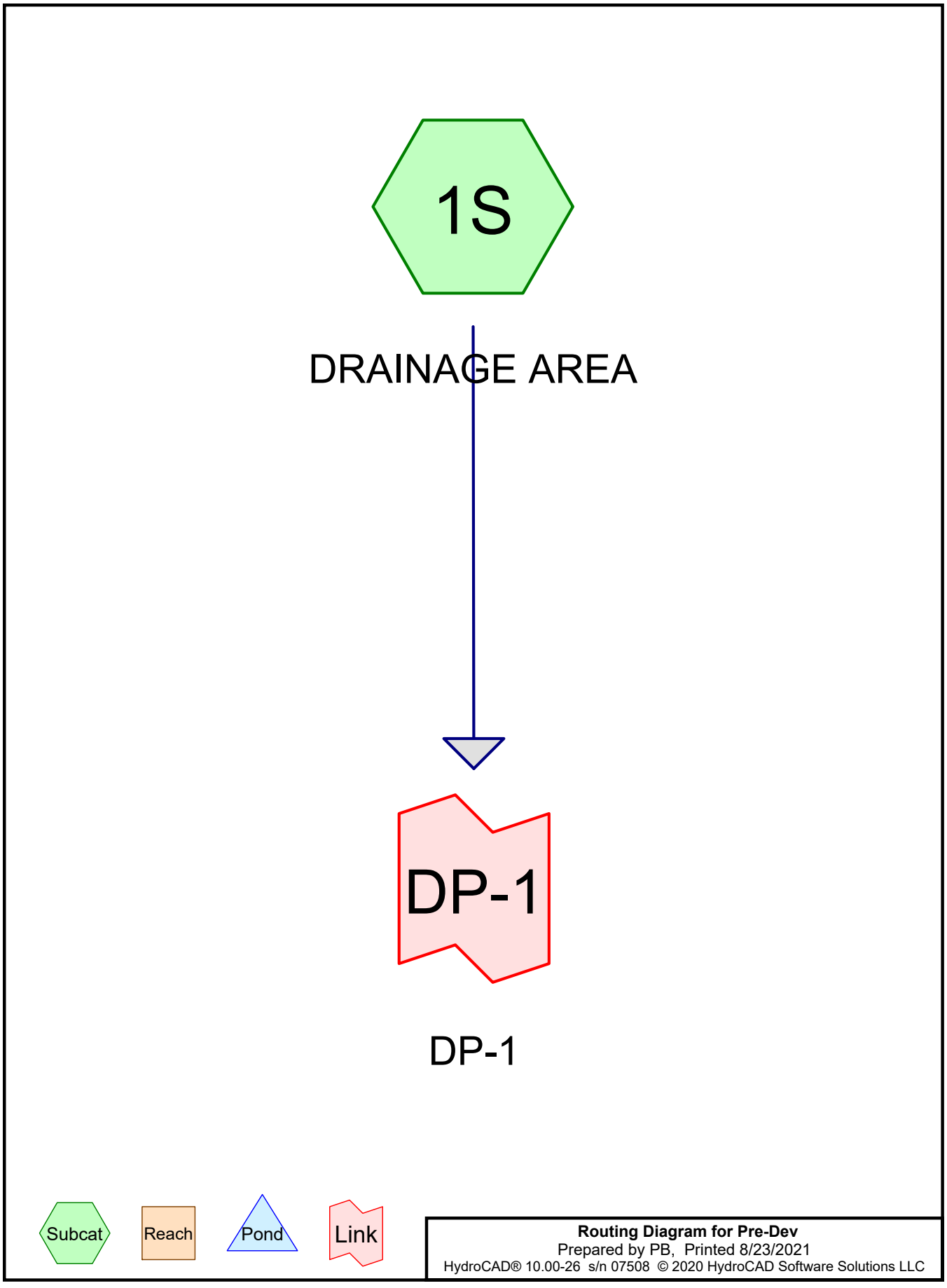
Conclusion:

The implementation of this stormwater management plan will mitigate the post development stormwater flows to the predevelopment rates and not adversely affect the adjacent properties or the existing drainage system in Betsy Brown Circle.

APPENDIX A

Stormwater Routings

Pre & Post Development Calculations



Routing Diagram for Pre-Dev
Prepared by PB, Printed 8/23/2021

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.048	98	Driveway (1S)
0.043	98	Ex House (1S)
0.004	98	Walkways (1S)
1.244	76	Woods/grass comb., Fair, HSG C (1S)
1.338	**78**	**TOTAL AREA**

Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 1S: DRAINAGE AREA Runoff Area=58,278 sf 7.05% Impervious Runoff Depth=1.01"
Flow Length=412' Tc=9.4 min CN=78 Runoff=1.35 cfs 0.113 af

Link DP-1: DP-1 Inflow=1.35 cfs 0.113 af
Primary=1.35 cfs 0.113 af

Total Runoff Area = 1.338 ac Runoff Volume = 0.113 af Average Runoff Depth = 1.01"
92.95% Pervious = 1.244 ac 7.05% Impervious = 0.094 ac

Summary for Subcatchment 1S: DRAINAGE AREA

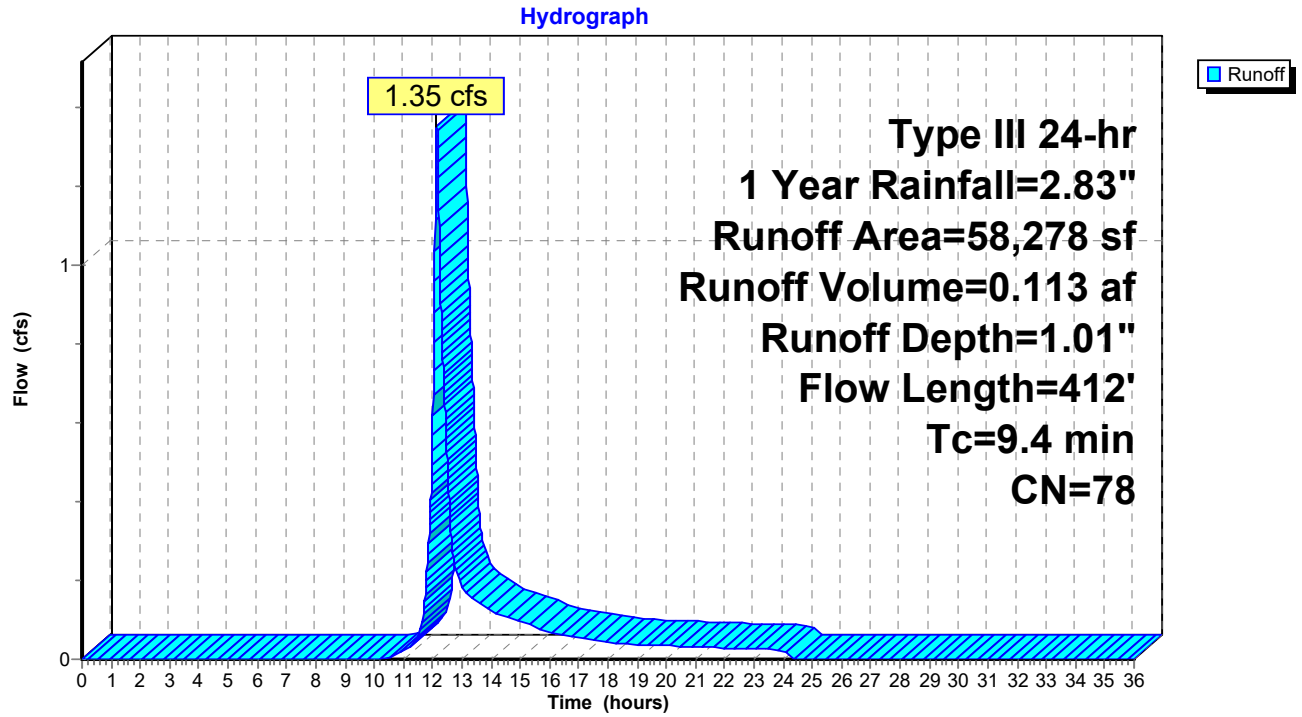
Runoff = 1.35 cfs @ 12.14 hrs, Volume= 0.113 af, Depth= 1.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 Year Rainfall=2.83"

	Area (sf)	CN	Description
*	2,083	98	Driveway
*	170	98	Walkways
*	1,855	98	Ex House
	54,170	76	Woods/grass comb., Fair, HSG C
	58,278	78	Weighted Average
	54,170		92.95% Pervious Area
	4,108		7.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	100	0.3100	0.24		**Sheet Flow, 1-2** Woods: Light underbrush n= 0.400 P2= 3.50"
1.8	218	0.1559	1.97		**Shallow Concentrated Flow, 2-3** Woodland Kv= 5.0 fps
0.7	94	0.1809	2.13		**Shallow Concentrated Flow, 3-4** Woodland Kv= 5.0 fps
9.4	412	Total			

Subcatchment 1S: DRAINAGE AREA

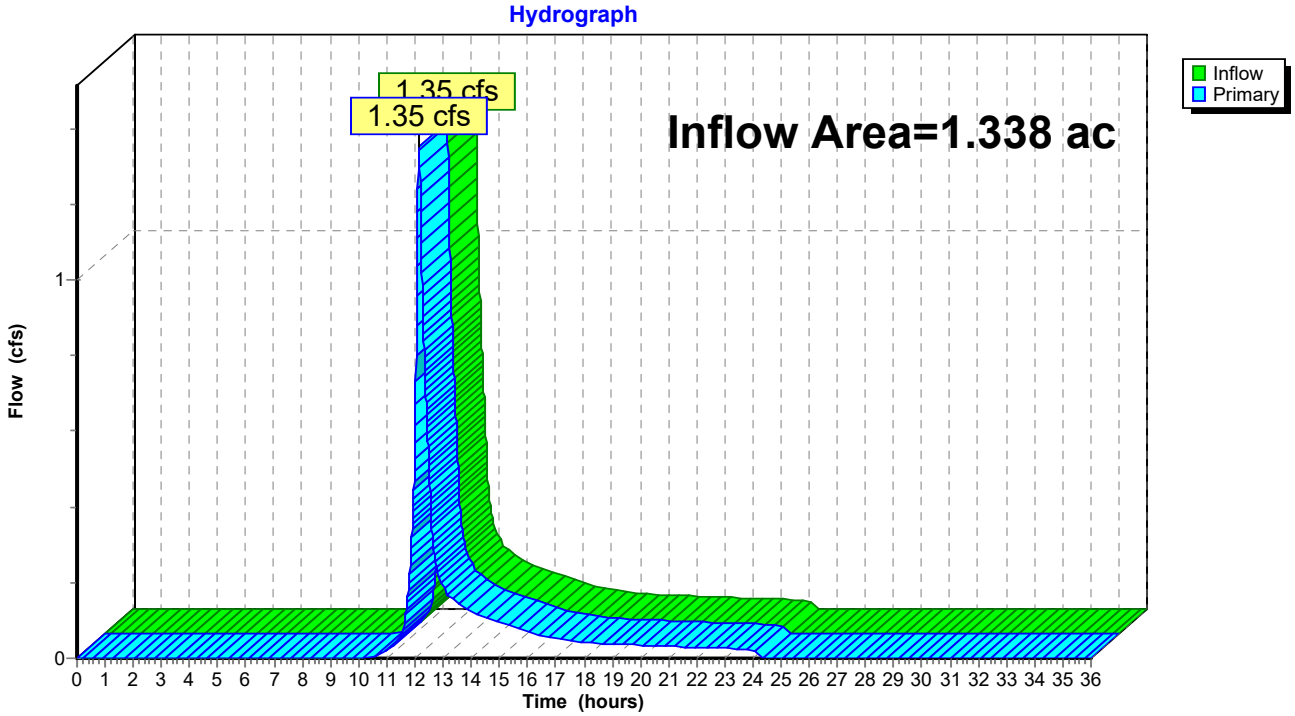


Summary for Link DP-1: DP-1

Inflow Area = 1.338 ac, 7.05% Impervious, Inflow Depth = 1.01" for 1 Year event
Inflow = 1.35 cfs @ 12.14 hrs, Volume= 0.113 af
Primary = 1.35 cfs @ 12.14 hrs, Volume= 0.113 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Link DP-1: DP-1



Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 1S: DRAINAGE AREA Runoff Area=58,278 sf 7.05% Impervious Runoff Depth=1.44"
Flow Length=412' Tc=9.4 min CN=78 Runoff=1.98 cfs 0.161 af

Link DP-1: DP-1 Inflow=1.98 cfs 0.161 af
Primary=1.98 cfs 0.161 af

Total Runoff Area = 1.338 ac Runoff Volume = 0.161 af Average Runoff Depth = 1.44"
92.95% Pervious = 1.244 ac 7.05% Impervious = 0.094 ac

Summary for Subcatchment 1S: DRAINAGE AREA

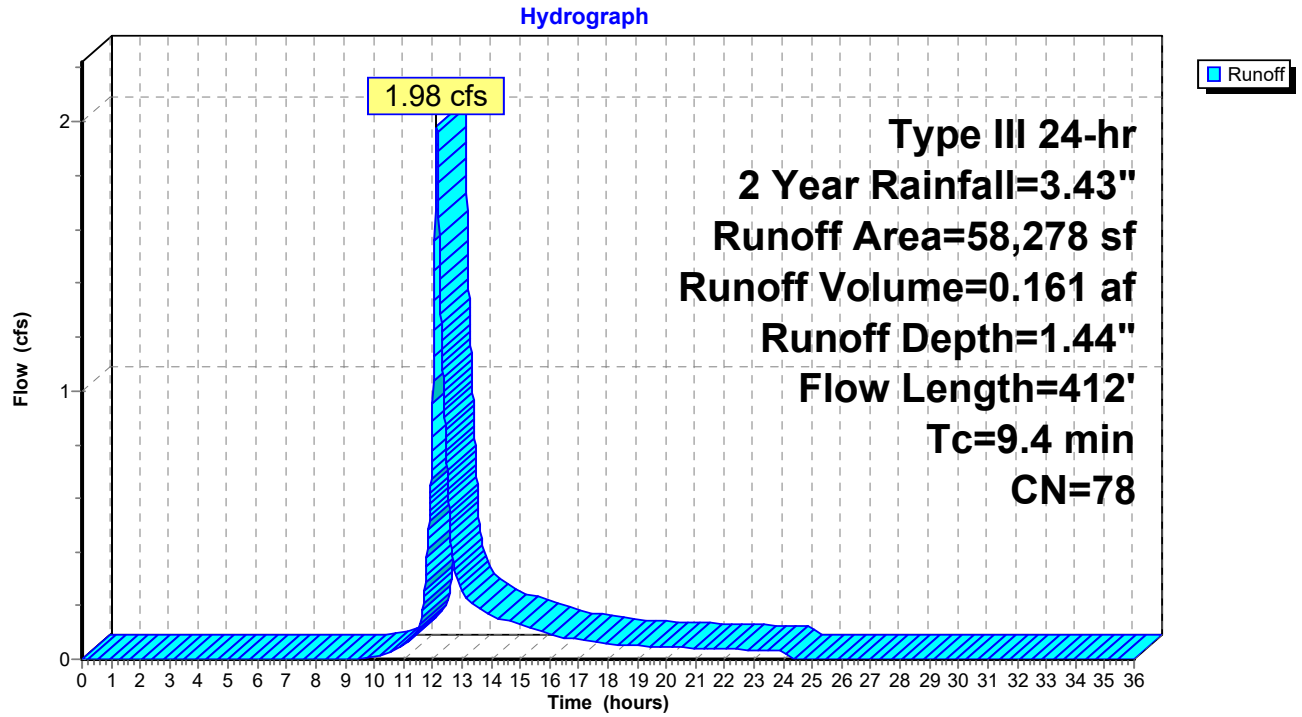
Runoff = 1.98 cfs @ 12.14 hrs, Volume= 0.161 af, Depth= 1.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.43"

	Area (sf)	CN	Description
*	2,083	98	Driveway
*	170	98	Walkways
*	1,855	98	Ex House
	54,170	76	Woods/grass comb., Fair, HSG C
	58,278	78	Weighted Average
	54,170		92.95% Pervious Area
	4,108		7.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	100	0.3100	0.24		**Sheet Flow, 1-2** Woods: Light underbrush n= 0.400 P2= 3.50"
1.8	218	0.1559	1.97		**Shallow Concentrated Flow, 2-3** Woodland Kv= 5.0 fps
0.7	94	0.1809	2.13		**Shallow Concentrated Flow, 3-4** Woodland Kv= 5.0 fps
9.4	412	Total			

Subcatchment 1S: DRAINAGE AREA

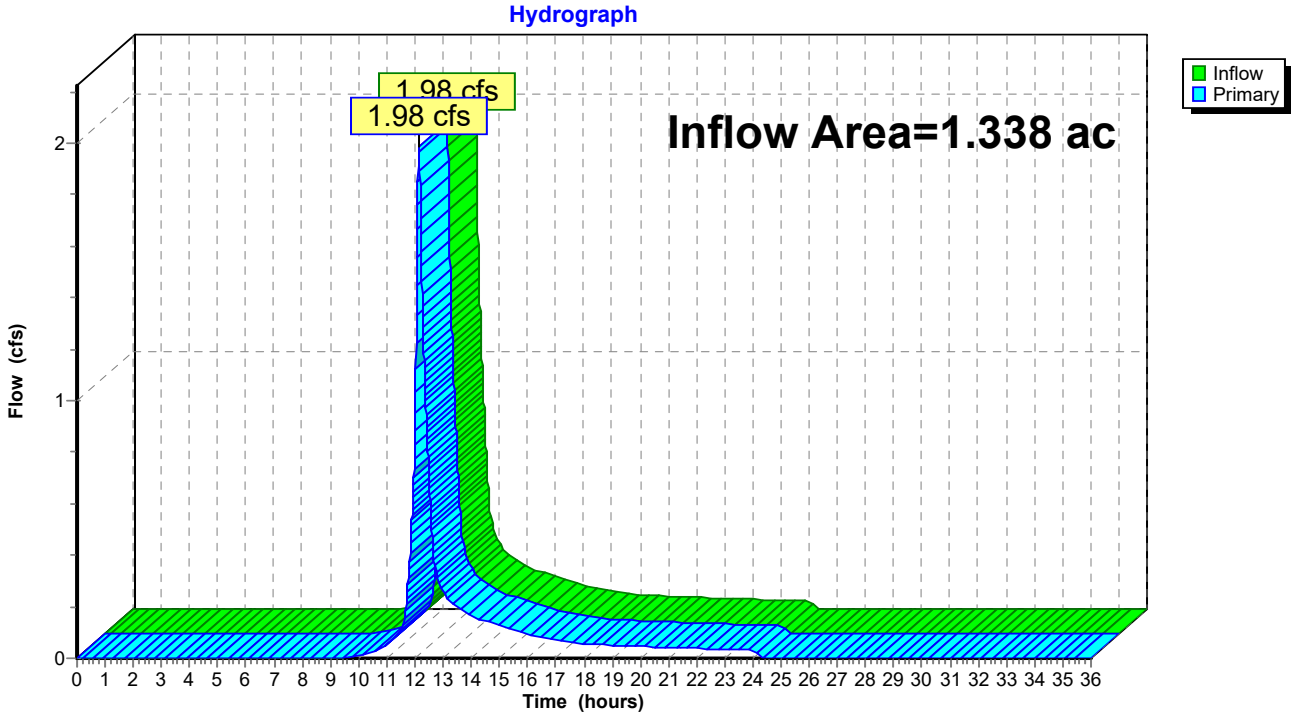


Summary for Link DP-1: DP-1

Inflow Area = 1.338 ac, 7.05% Impervious, Inflow Depth = 1.44" for 2 Year event
Inflow = 1.98 cfs @ 12.14 hrs, Volume= 0.161 af
Primary = 1.98 cfs @ 12.14 hrs, Volume= 0.161 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Link DP-1: DP-1



Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 1S: DRAINAGE AREA Runoff Area=58,278 sf 7.05% Impervious Runoff Depth=3.89"
Flow Length=412' Tc=9.4 min CN=78 Runoff=5.43 cfs 0.434 af

Link DP-1: DP-1 Inflow=5.43 cfs 0.434 af
Primary=5.43 cfs 0.434 af

Total Runoff Area = 1.338 ac Runoff Volume = 0.434 af Average Runoff Depth = 3.89"
92.95% Pervious = 1.244 ac 7.05% Impervious = 0.094 ac

Summary for Subcatchment 1S: DRAINAGE AREA

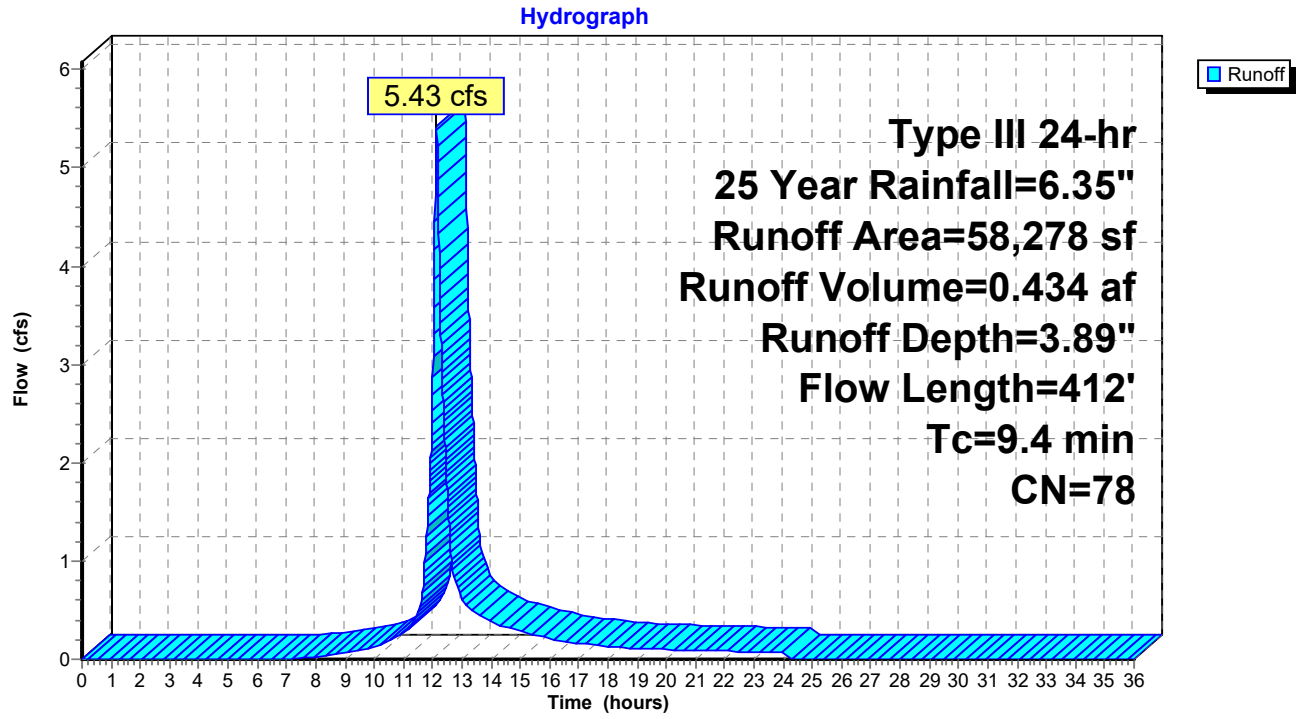
Runoff = 5.43 cfs @ 12.13 hrs, Volume= 0.434 af, Depth= 3.89"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 Year Rainfall=6.35"

	Area (sf)	CN	Description
*	2,083	98	Driveway
*	170	98	Walkways
*	1,855	98	Ex House
	54,170	76	Woods/grass comb., Fair, HSG C
	58,278	78	Weighted Average
	54,170		92.95% Pervious Area
	4,108		7.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	100	0.3100	0.24		**Sheet Flow, 1-2** Woods: Light underbrush n= 0.400 P2= 3.50"
1.8	218	0.1559	1.97		**Shallow Concentrated Flow, 2-3** Woodland Kv= 5.0 fps
0.7	94	0.1809	2.13		**Shallow Concentrated Flow, 3-4** Woodland Kv= 5.0 fps
9.4	412	Total			

Subcatchment 1S: DRAINAGE AREA

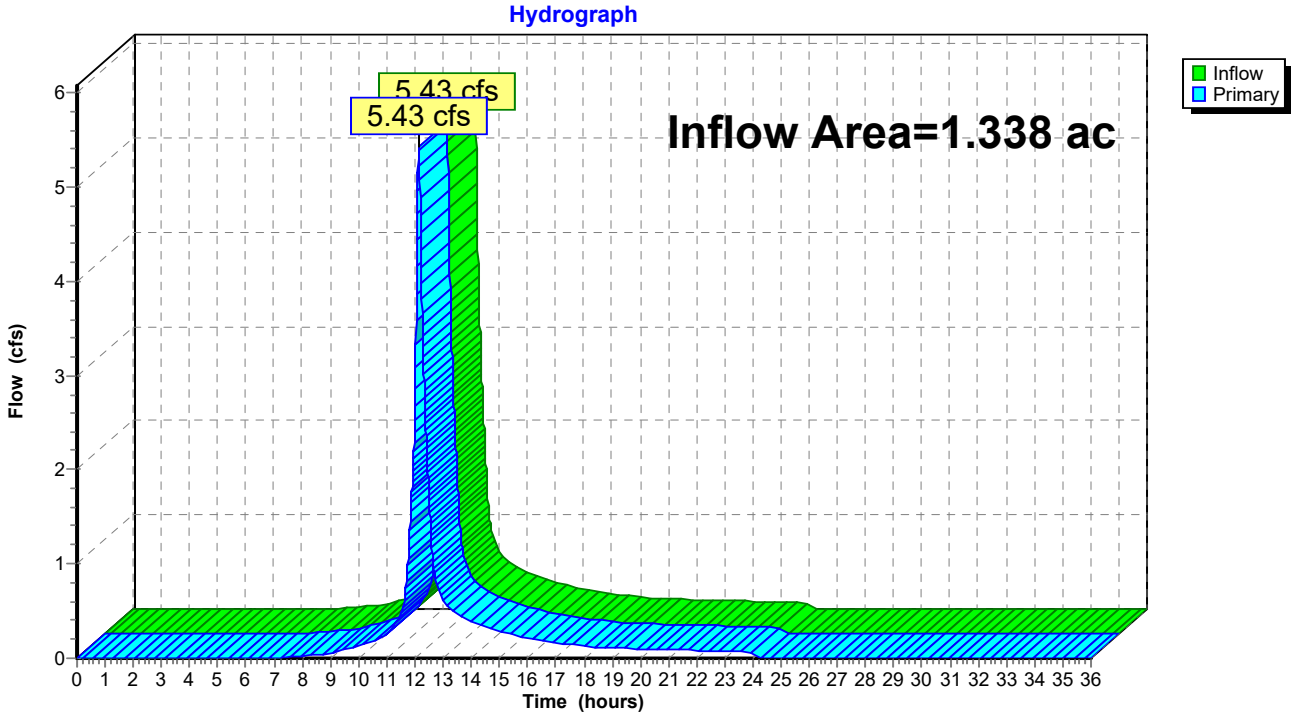


Summary for Link DP-1: DP-1

Inflow Area = 1.338 ac, 7.05% Impervious, Inflow Depth = 3.89" for 25 Year event
Inflow = 5.43 cfs @ 12.13 hrs, Volume= 0.434 af
Primary = 5.43 cfs @ 12.13 hrs, Volume= 0.434 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Link DP-1: DP-1



Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 1S: DRAINAGE AREA Runoff Area=58,278 sf 7.05% Impervious Runoff Depth=6.32"
Flow Length=412' Tc=9.4 min CN=78 Runoff=8.71 cfs 0.705 af

Link DP-1: DP-1 Inflow=8.71 cfs 0.705 af
Primary=8.71 cfs 0.705 af

Total Runoff Area = 1.338 ac Runoff Volume = 0.705 af Average Runoff Depth = 6.32"
92.95% Pervious = 1.244 ac 7.05% Impervious = 0.094 ac

Summary for Subcatchment 1S: DRAINAGE AREA

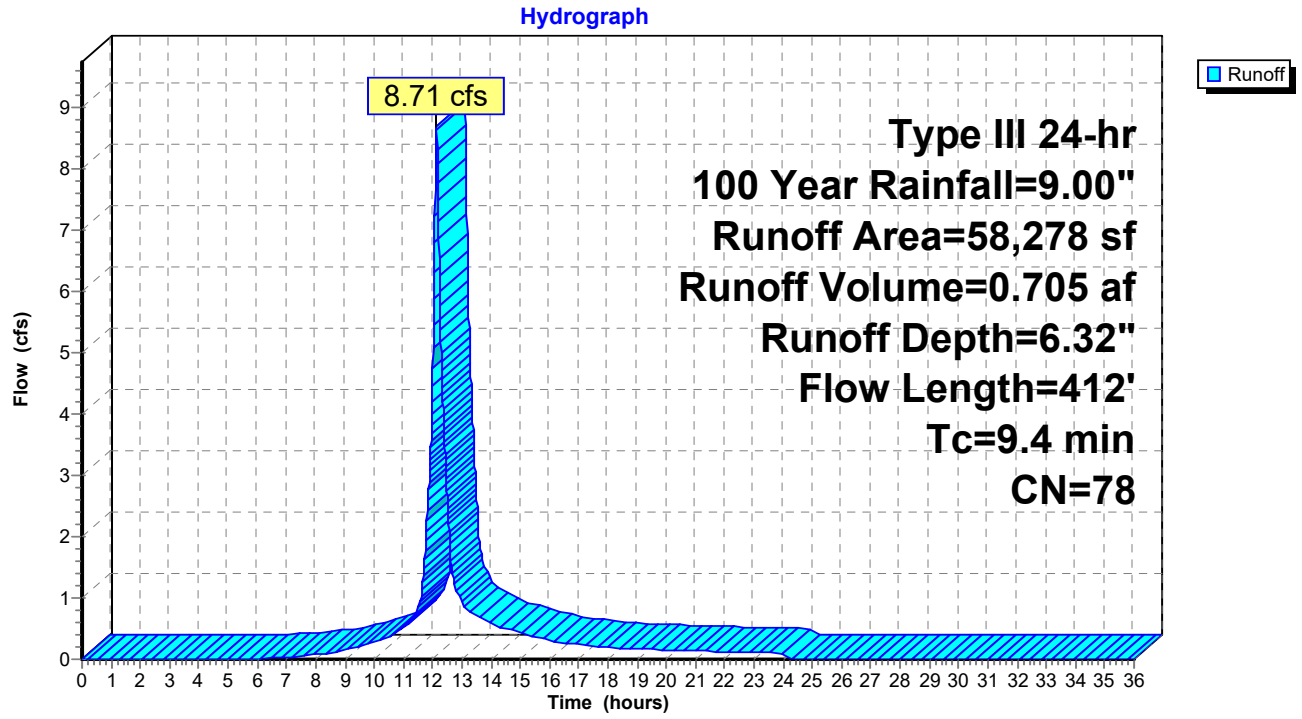
Runoff = 8.71 cfs @ 12.13 hrs, Volume= 0.705 af, Depth= 6.32"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 Year Rainfall=9.00"

	Area (sf)	CN	Description
*	2,083	98	Driveway
*	170	98	Walkways
*	1,855	98	Ex House
	54,170	76	Woods/grass comb., Fair, HSG C
	58,278	78	Weighted Average
	54,170		92.95% Pervious Area
	4,108		7.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	100	0.3100	0.24		**Sheet Flow, 1-2** Woods: Light underbrush n= 0.400 P2= 3.50"
1.8	218	0.1559	1.97		**Shallow Concentrated Flow, 2-3** Woodland Kv= 5.0 fps
0.7	94	0.1809	2.13		**Shallow Concentrated Flow, 3-4** Woodland Kv= 5.0 fps
9.4	412	Total			

Subcatchment 1S: DRAINAGE AREA

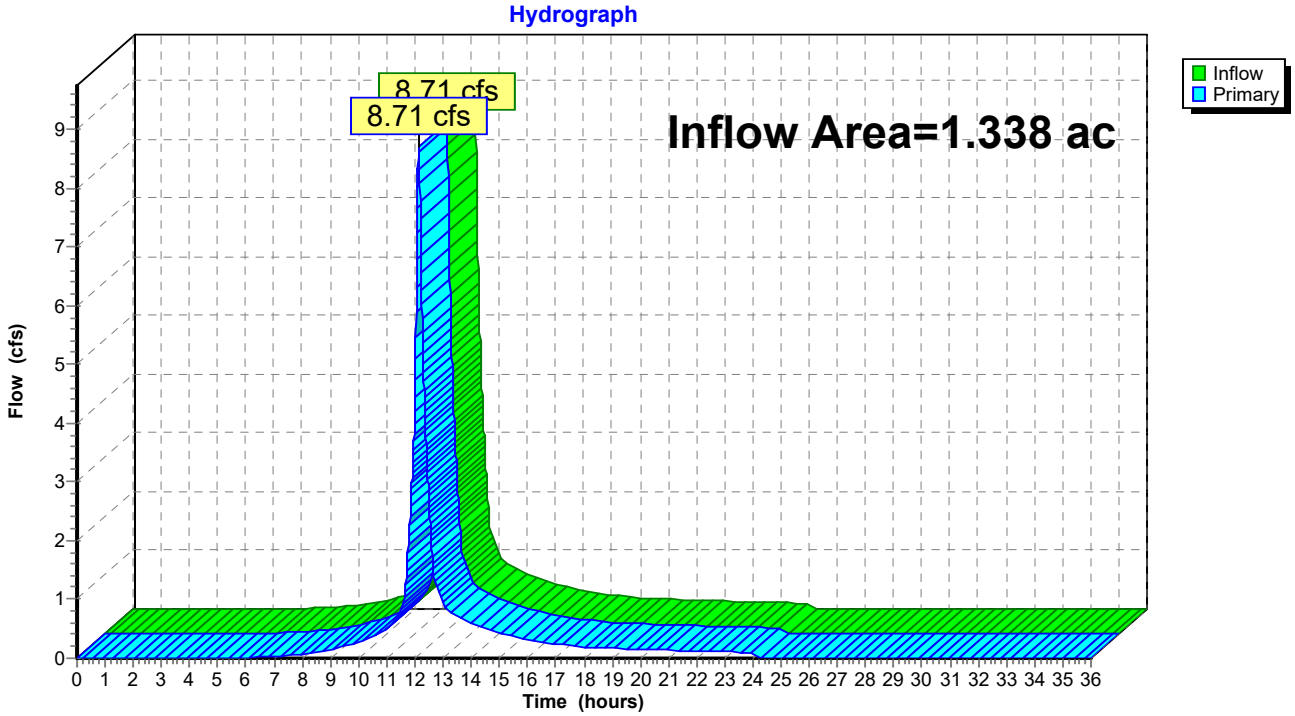


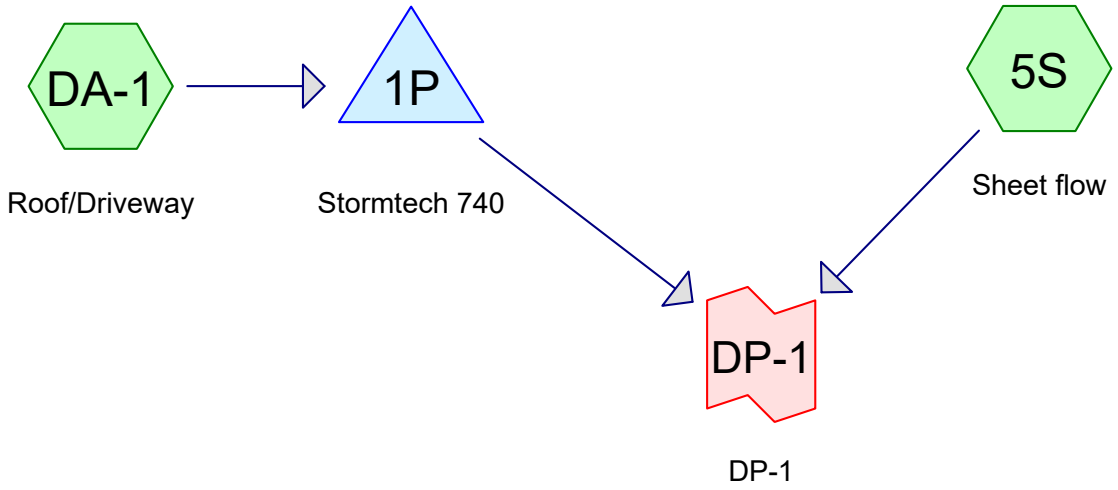
Summary for Link DP-1: DP-1

Inflow Area = 1.338 ac, 7.05% Impervious, Inflow Depth = 6.32" for 100 Year event
Inflow = 8.71 cfs @ 12.13 hrs, Volume= 0.705 af
Primary = 8.71 cfs @ 12.13 hrs, Volume= 0.705 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Link DP-1: DP-1





Subcat Reach Pond Link

Routing Diagram for Post-Dev
Prepared by PB, Printed 8/23/2021

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.021	98	Deck (5S)
0.060	98	Driveway (DA-1)
0.072	98	House (DA-1)
1.134	76	Imperpervious site area (5S)
0.044	98	Pool (5S)
0.007	98	Walkway (5S)
1.338	**79**	**TOTAL AREA**

Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 5S: Sheet flow Runoff Area=52,561 sf 6.01% Impervious Runoff Depth=0.95"
Tc=10.0 min CN=77 Runoff=1.12 cfs 0.096 af

Subcatchment DA-1: Roof/Driveway Runoff Area=5,717 sf 100.00% Impervious Runoff Depth=2.60"
Flow Length=412' Tc=9.4 min CN=98 Runoff=0.32 cfs 0.028 af

Pond 1P: Stormtech 740 Peak Elev=71.04' Storage=0.004 af Inflow=0.32 cfs 0.028 af
Discarded=0.13 cfs 0.028 af Primary=0.00 cfs 0.000 af Outflow=0.13 cfs 0.028 af

Link DP-1: DP-1 Inflow=1.12 cfs 0.096 af
Primary=1.12 cfs 0.096 af

Total Runoff Area = 1.338 ac Runoff Volume = 0.124 af Average Runoff Depth = 1.12"
84.77% Pervious = 1.134 ac 15.23% Impervious = 0.204 ac

Summary for Subcatchment 5S: Sheet flow

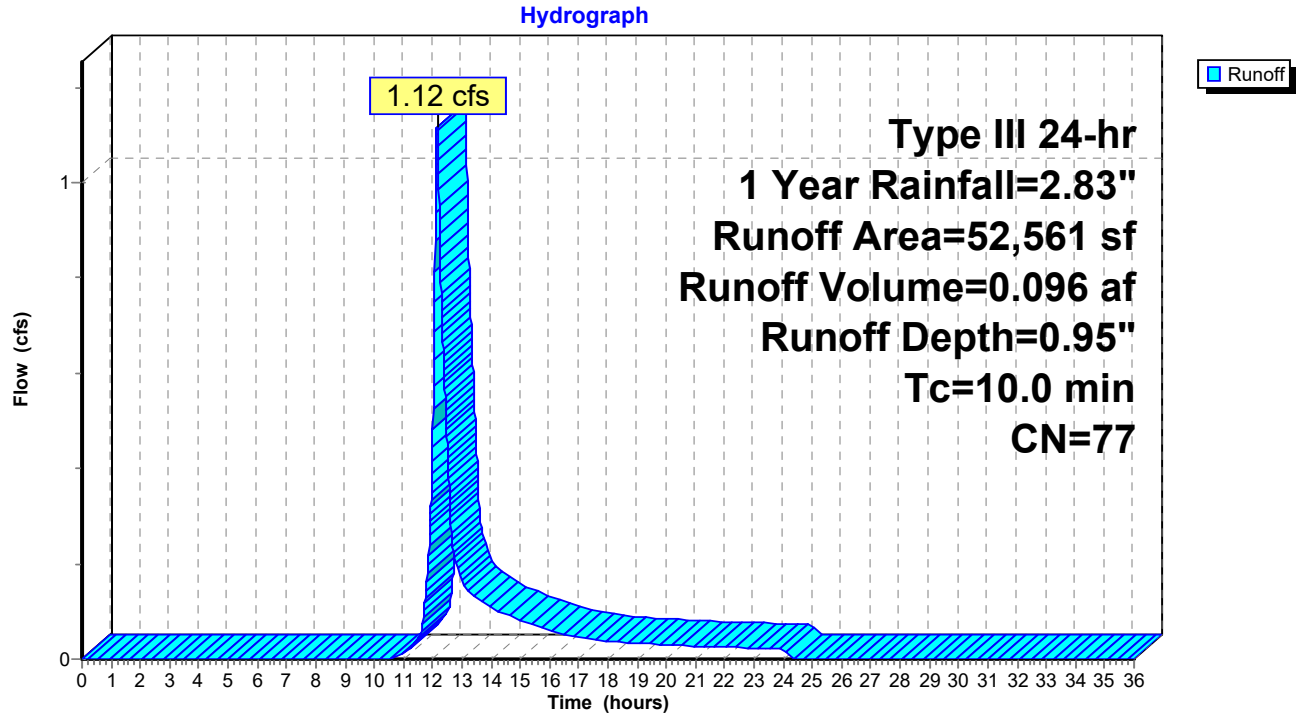
Runoff = 1.12 cfs @ 12.15 hrs, Volume= 0.096 af, Depth= 0.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 Year Rainfall=2.83"

	Area (sf)	CN	Description
*	49,400	76	Imperpervious site area
*	908	98	Deck
*	1,934	98	Pool
*	319	98	Walkway
	52,561	77	Weighted Average
	49,400		93.99% Pervious Area
	3,161		6.01% Impervious Area

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

Subcatchment 5S: Sheet flow



Summary for Subcatchment DA-1: Roof/Driveway

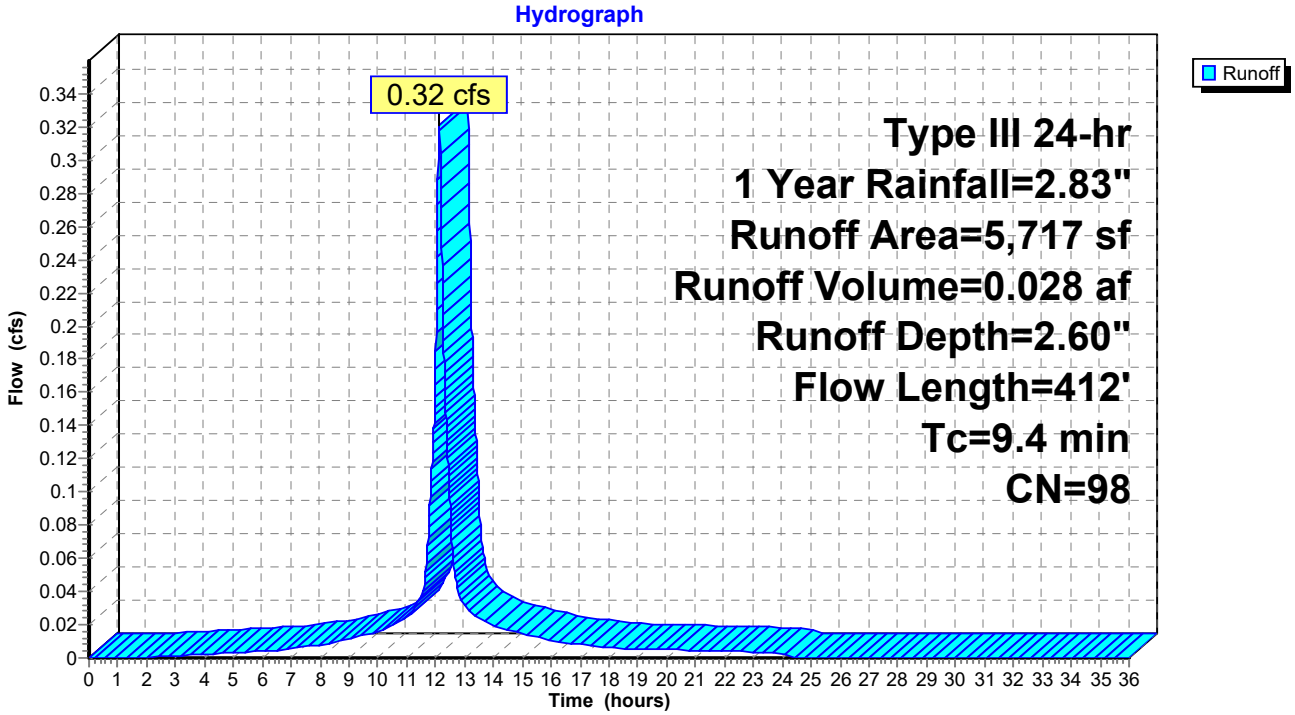
Runoff = 0.32 cfs @ 12.13 hrs, Volume= 0.028 af, Depth= 2.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 Year Rainfall=2.83"

	Area (sf)	CN	Description
*	2,600	98	Driveway
*	3,117	98	House
	5,717	98	Weighted Average
	5,717		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	100	0.3100	0.24		**Sheet Flow, 1-2** Woods: Light underbrush n= 0.400 P2= 3.50"
1.8	218	0.1559	1.97		**Shallow Concentrated Flow, 2-3** Woodland Kv= 5.0 fps
0.7	94	0.1809	2.13		**Shallow Concentrated Flow, 3-4** Woodland Kv= 5.0 fps
9.4	412	Total			

Subcatchment DA-1: Roof/Driveway



Summary for Pond 1P: Stormtech 740

Inflow Area = 0.131 ac,100.00% Impervious, Inflow Depth = 2.60" for 1 Year event
Inflow = 0.32 cfs @ 12.13 hrs, Volume= 0.028 af
Outflow = 0.13 cfs @ 12.39 hrs, Volume= 0.028 af, Atten= 59%, Lag= 15.7 min
Discarded = 0.13 cfs @ 12.39 hrs, Volume= 0.028 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 71.04' @ 12.39 hrs Surf.Area= 0.006 ac Storage= 0.004 af

Plug-Flow detention time= 5.7 min calculated for 0.028 af (100% of inflow)
Center-of-Mass det. time= 5.7 min (767.9 - 762.2)

Volume	Invert	Avail.Storage	Storage Description
#1A	70.00'	0.006 af	**11.00'W x 24.98'L x 3.50'H Field A** 0.022 af Overall - 0.006 af Embedded = 0.016 af x 40.0% Voids
#2A	70.50'	0.006 af	**ADS_StormTech SC-740 +Cap** x 6 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 6 Chambers in 2 Rows
		0.013 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	70.00'	**16.360 in/hr Exfiltration over Wetted area**
#2	Primary	73.00'	**6.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.13 cfs @ 12.39 hrs HW=71.04' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.13 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=70.00' (Free Discharge)
↑**2=Orifice/Grate** (Controls 0.00 cfs)

Pond 1P: Stormtech 740 - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

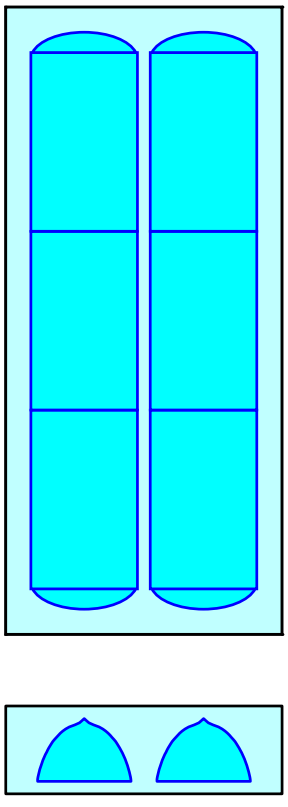
3 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 22.98' Row Length +12.0" End Stone x 2 = 24.98' Base Length
2 Rows x 51.0" Wide + 6.0" Spacing x 1 + 12.0" Side Stone x 2 = 11.00' Base Width
6.0" Base + 30.0" Chamber Height + 6.0" Cover = 3.50' Field Height

6 Chambers x 45.9 cf = 275.6 cf Chamber Storage

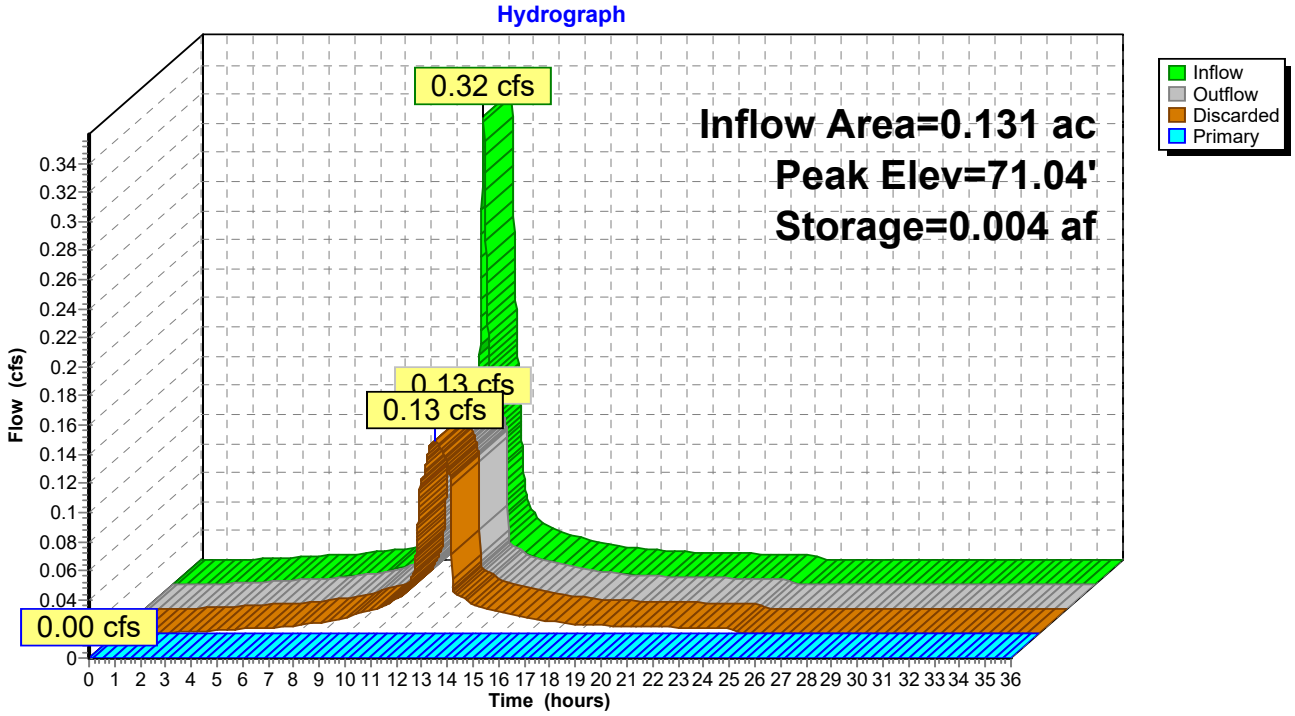
961.6 cf Field - 275.6 cf Chambers = 686.0 cf Stone x 40.0% Voids = 274.4 cf Stone Storage

Chamber Storage + Stone Storage = 550.0 cf = 0.013 af
Overall Storage Efficiency = 57.2%
Overall System Size = 24.98' x 11.00' x 3.50'

6 Chambers
35.6 cy Field
25.4 cy Stone



Pond 1P: Stormtech 740

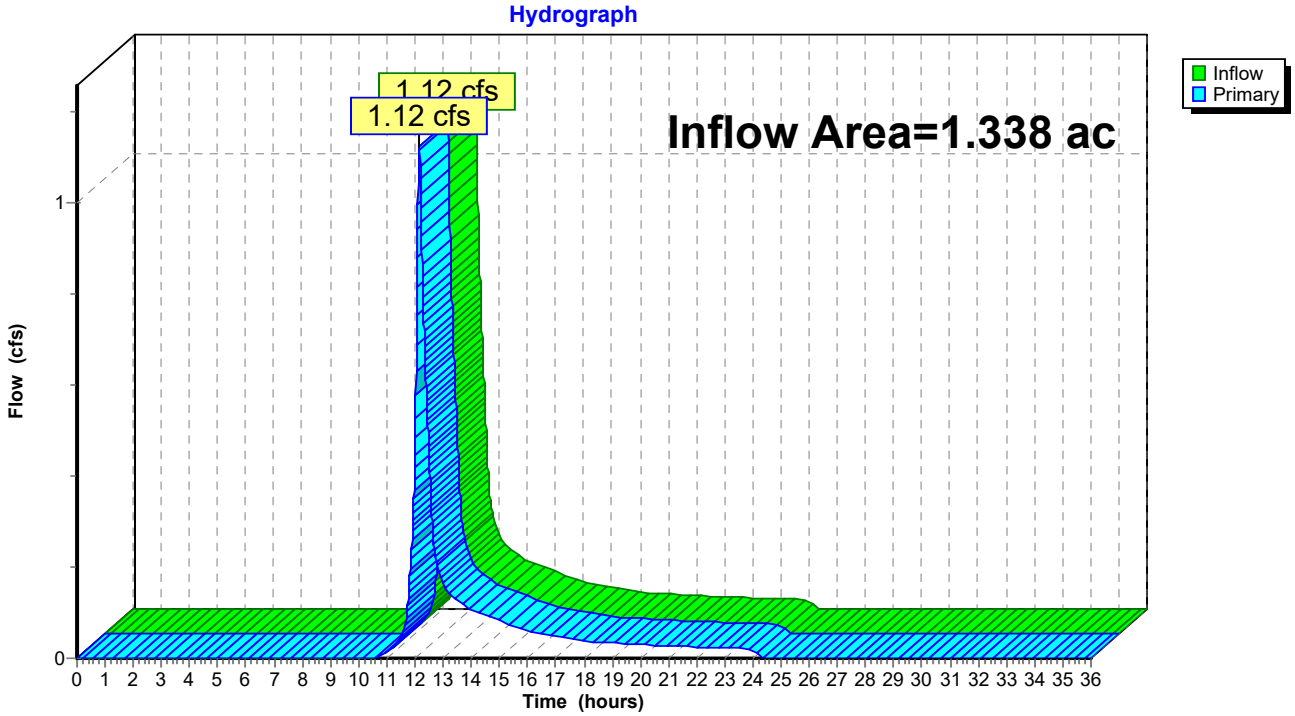


Summary for Link DP-1: DP-1

Inflow Area = 1.338 ac, 15.23% Impervious, Inflow Depth = 0.86" for 1 Year event
Inflow = 1.12 cfs @ 12.15 hrs, Volume= 0.096 af
Primary = 1.12 cfs @ 12.15 hrs, Volume= 0.096 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Link DP-1: DP-1



Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 5S: Sheet flow Runoff Area=52,561 sf 6.01% Impervious Runoff Depth=1.38"
Tc=10.0 min CN=77 Runoff=1.67 cfs 0.139 af

Subcatchment DA-1: Roof/Driveway Runoff Area=5,717 sf 100.00% Impervious Runoff Depth=3.20"
Flow Length=412' Tc=9.4 min CN=98 Runoff=0.39 cfs 0.035 af

Pond 1P: Stormtech 740 Peak Elev=71.44' Storage=0.006 af Inflow=0.39 cfs 0.035 af
Discarded=0.14 cfs 0.035 af Primary=0.00 cfs 0.000 af Outflow=0.14 cfs 0.035 af

Link DP-1: DP-1 Inflow=1.67 cfs 0.139 af
Primary=1.67 cfs 0.139 af

Total Runoff Area = 1.338 ac Runoff Volume = 0.174 af Average Runoff Depth = 1.56"
84.77% Pervious = 1.134 ac 15.23% Impervious = 0.204 ac

Summary for Subcatchment 5S: Sheet flow

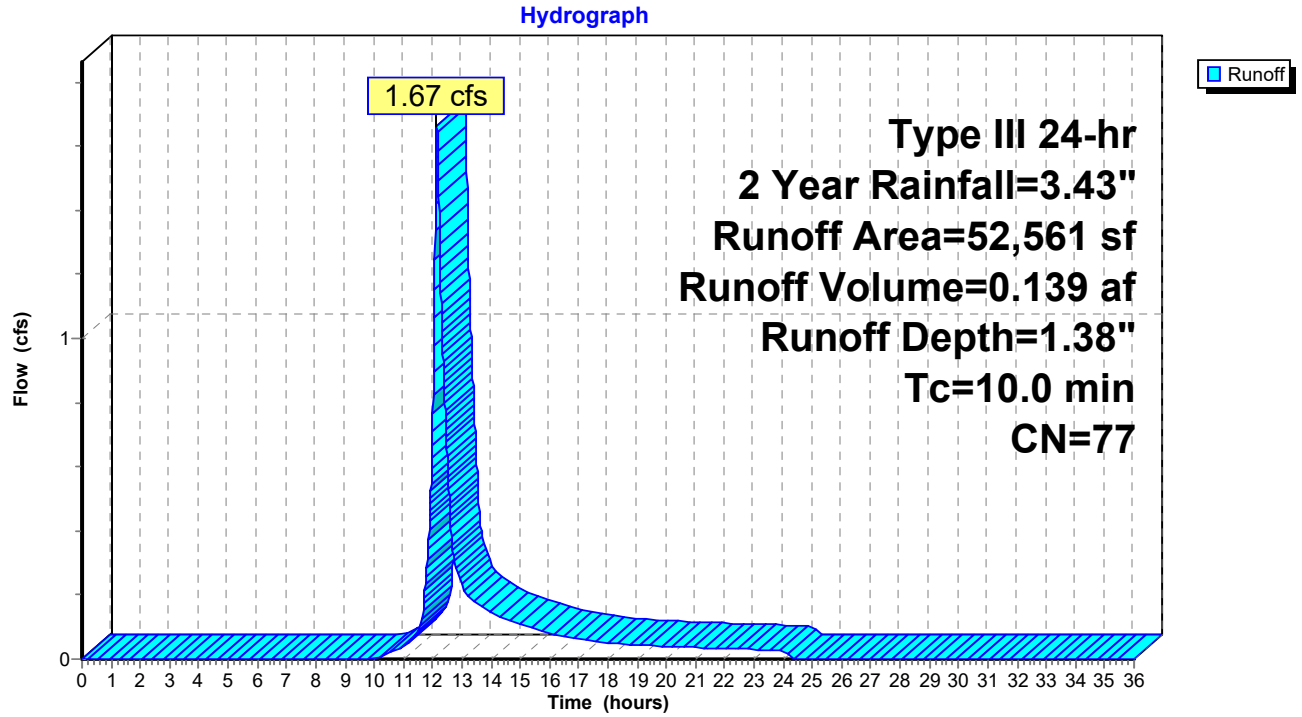
Runoff = 1.67 cfs @ 12.15 hrs, Volume= 0.139 af, Depth= 1.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.43"

	Area (sf)	CN	Description
*	49,400	76	Imperpervious site area
*	908	98	Deck
*	1,934	98	Pool
*	319	98	Walkway
	52,561	77	Weighted Average
	49,400		93.99% Pervious Area
	3,161		6.01% Impervious Area

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

Subcatchment 5S: Sheet flow



Summary for Subcatchment DA-1: Roof/Driveway

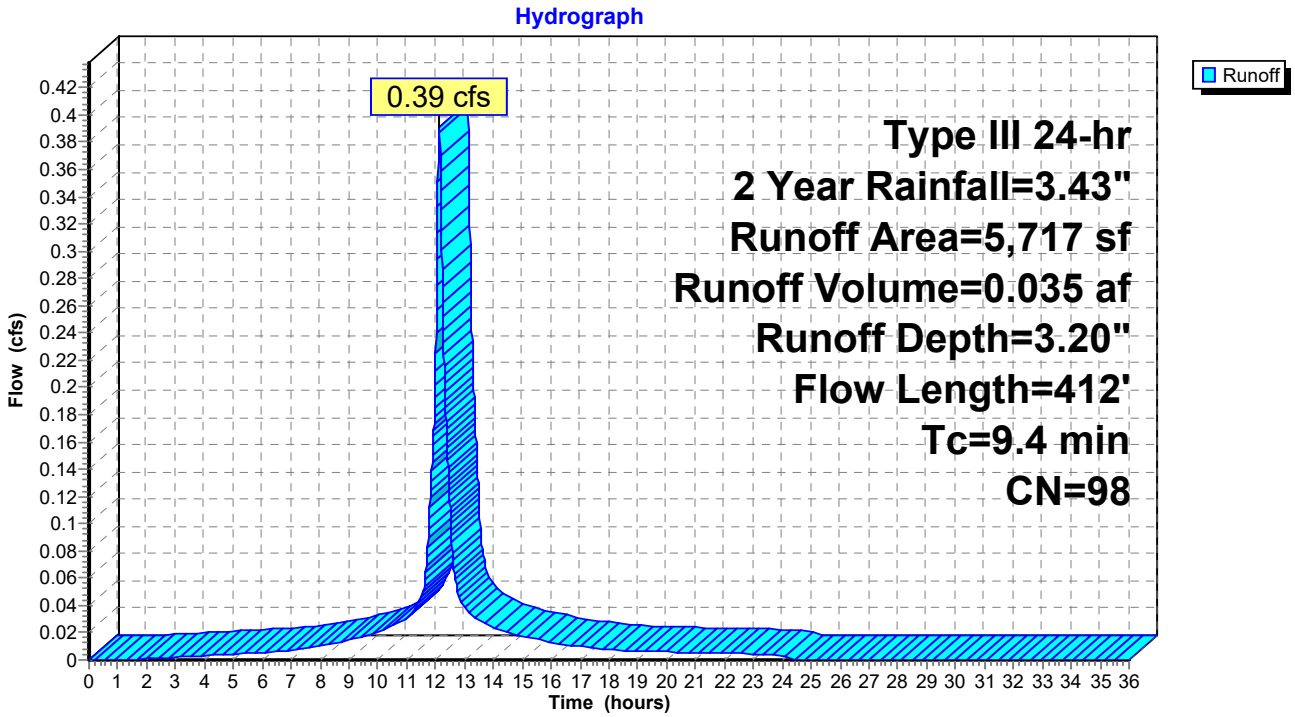
Runoff = 0.39 cfs @ 12.13 hrs, Volume= 0.035 af, Depth= 3.20"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=3.43"

	Area (sf)	CN	Description
*	2,600	98	Driveway
*	3,117	98	House
	5,717	98	Weighted Average
	5,717		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	100	0.3100	0.24		**Sheet Flow, 1-2** Woods: Light underbrush n= 0.400 P2= 3.50"
1.8	218	0.1559	1.97		**Shallow Concentrated Flow, 2-3** Woodland Kv= 5.0 fps
0.7	94	0.1809	2.13		**Shallow Concentrated Flow, 3-4** Woodland Kv= 5.0 fps
9.4	412	Total			

Subcatchment DA-1: Roof/Driveway



Summary for Pond 1P: Stormtech 740

Inflow Area = 0.131 ac,100.00% Impervious, Inflow Depth = 3.20" for 2 Year event
Inflow = 0.39 cfs @ 12.13 hrs, Volume= 0.035 af
Outflow = 0.14 cfs @ 12.43 hrs, Volume= 0.035 af, Atten= 63%, Lag= 18.0 min
Discarded = 0.14 cfs @ 12.43 hrs, Volume= 0.035 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 71.44' @ 12.43 hrs Surf.Area= 0.006 ac Storage= 0.006 af

Plug-Flow detention time= 8.2 min calculated for 0.035 af (100% of inflow)
Center-of-Mass det. time= 8.2 min (766.3 - 758.1)

Volume	Invert	Avail.Storage	Storage Description
#1A	70.00'	0.006 af	**11.00'W x 24.98'L x 3.50'H Field A** 0.022 af Overall - 0.006 af Embedded = 0.016 af x 40.0% Voids
#2A	70.50'	0.006 af	**ADS_StormTech SC-740 +Cap** x 6 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 6 Chambers in 2 Rows
		0.013 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	70.00'	**16.360 in/hr Exfiltration over Wetted area**
#2	Primary	73.00'	**6.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.14 cfs @ 12.43 hrs HW=71.44' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.14 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=70.00' (Free Discharge)
↑**2=Orifice/Grate** (Controls 0.00 cfs)

Pond 1P: Stormtech 740 - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

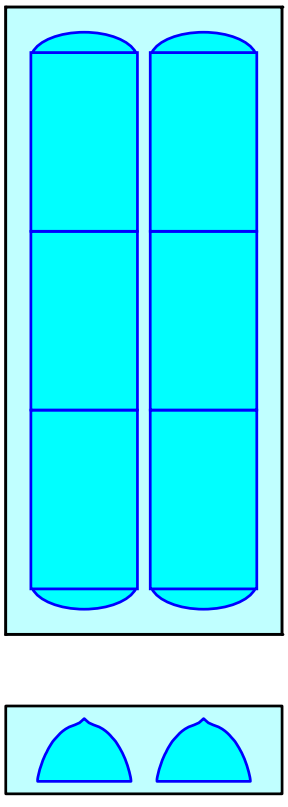
3 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 22.98' Row Length +12.0" End Stone x 2 = 24.98' Base Length
2 Rows x 51.0" Wide + 6.0" Spacing x 1 + 12.0" Side Stone x 2 = 11.00' Base Width
6.0" Base + 30.0" Chamber Height + 6.0" Cover = 3.50' Field Height

6 Chambers x 45.9 cf = 275.6 cf Chamber Storage

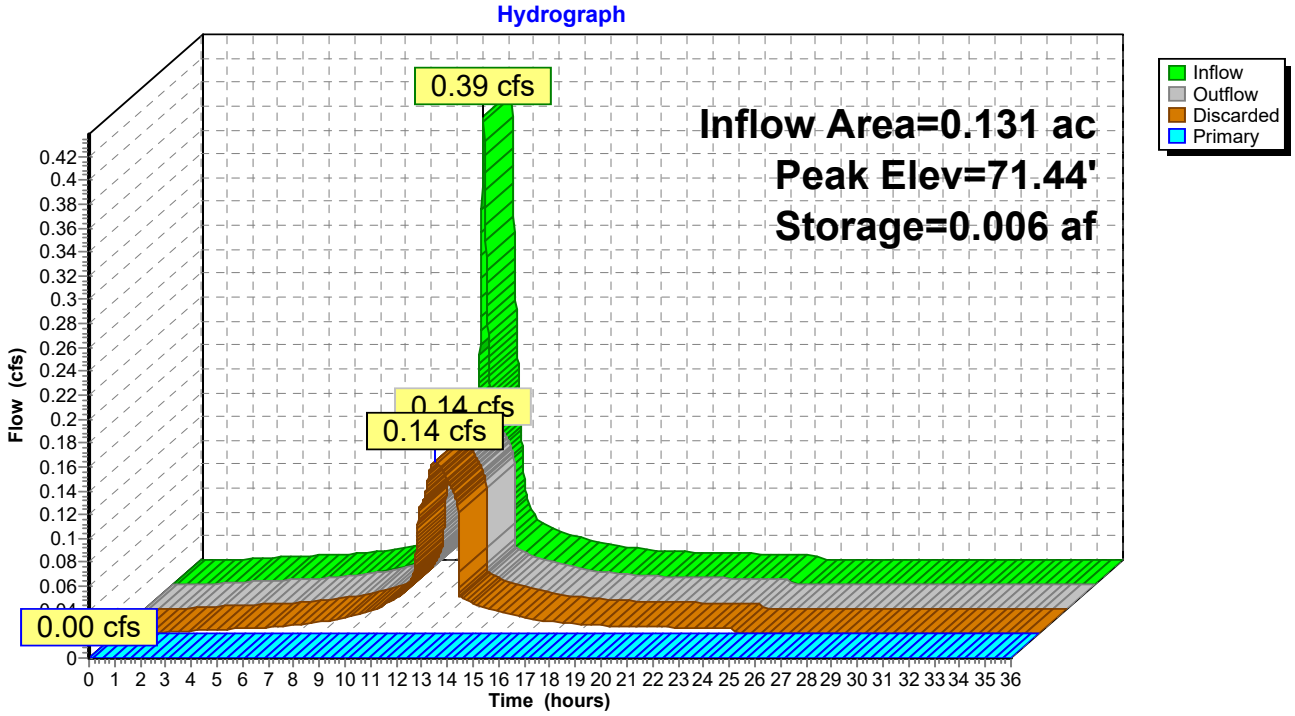
961.6 cf Field - 275.6 cf Chambers = 686.0 cf Stone x 40.0% Voids = 274.4 cf Stone Storage

Chamber Storage + Stone Storage = 550.0 cf = 0.013 af
Overall Storage Efficiency = 57.2%
Overall System Size = 24.98' x 11.00' x 3.50'

6 Chambers
35.6 cy Field
25.4 cy Stone



Pond 1P: Stormtech 740

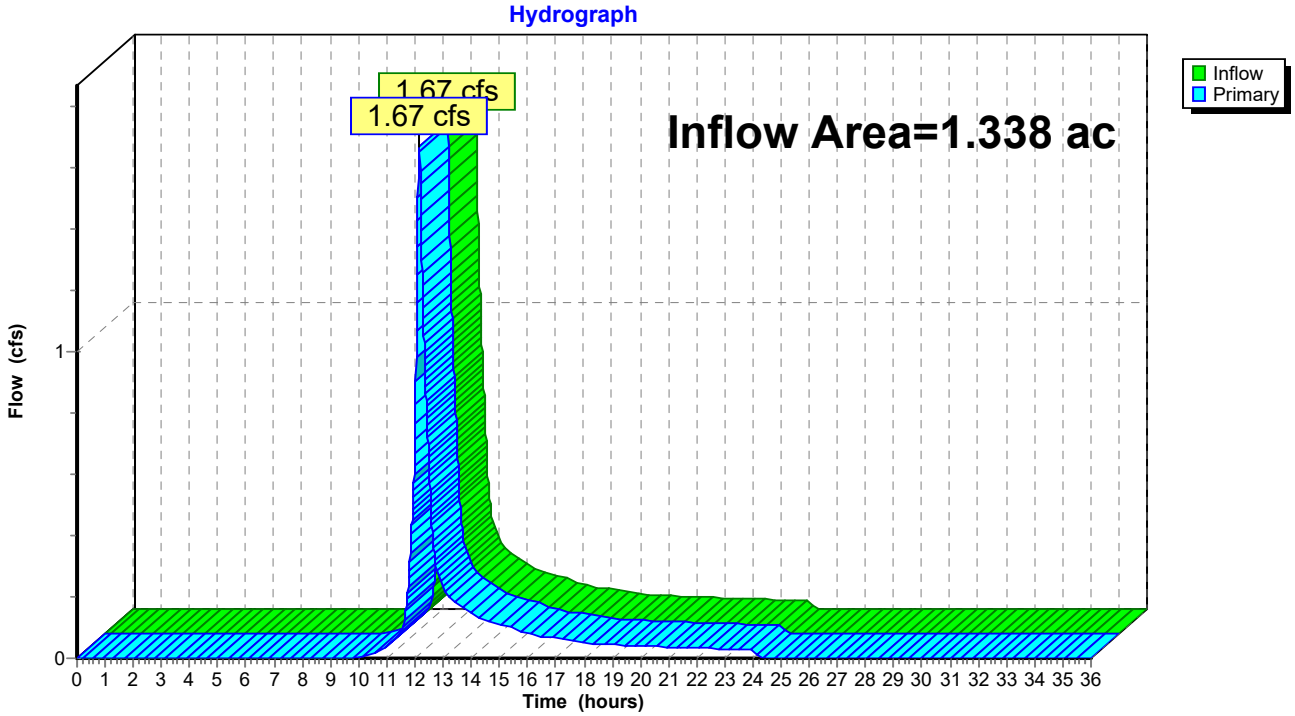


Summary for Link DP-1: DP-1

Inflow Area = 1.338 ac, 15.23% Impervious, Inflow Depth = 1.24" for 2 Year event
Inflow = 1.67 cfs @ 12.15 hrs, Volume= 0.139 af
Primary = 1.67 cfs @ 12.15 hrs, Volume= 0.139 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Link DP-1: DP-1



Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 5S: Sheet flow Runoff Area=52,561 sf 6.01% Impervious Runoff Depth=3.79"
Tc=10.0 min CN=77 Runoff=4.68 cfs 0.381 af

Subcatchment DA-1: Roof/Driveway Runoff Area=5,717 sf 100.00% Impervious Runoff Depth=6.11"
Flow Length=412' Tc=9.4 min CN=98 Runoff=0.73 cfs 0.067 af

Pond 1P: Stormtech 740 Peak Elev=73.15' Storage=0.012 af Inflow=0.73 cfs 0.067 af
Discarded=0.19 cfs 0.063 af Primary=0.31 cfs 0.004 af Outflow=0.50 cfs 0.067 af

Link DP-1: DP-1 Inflow=4.68 cfs 0.385 af
Primary=4.68 cfs 0.385 af

Total Runoff Area = 1.338 ac Runoff Volume = 0.448 af Average Runoff Depth = 4.01"
84.77% Pervious = 1.134 ac 15.23% Impervious = 0.204 ac

Summary for Subcatchment 5S: Sheet flow

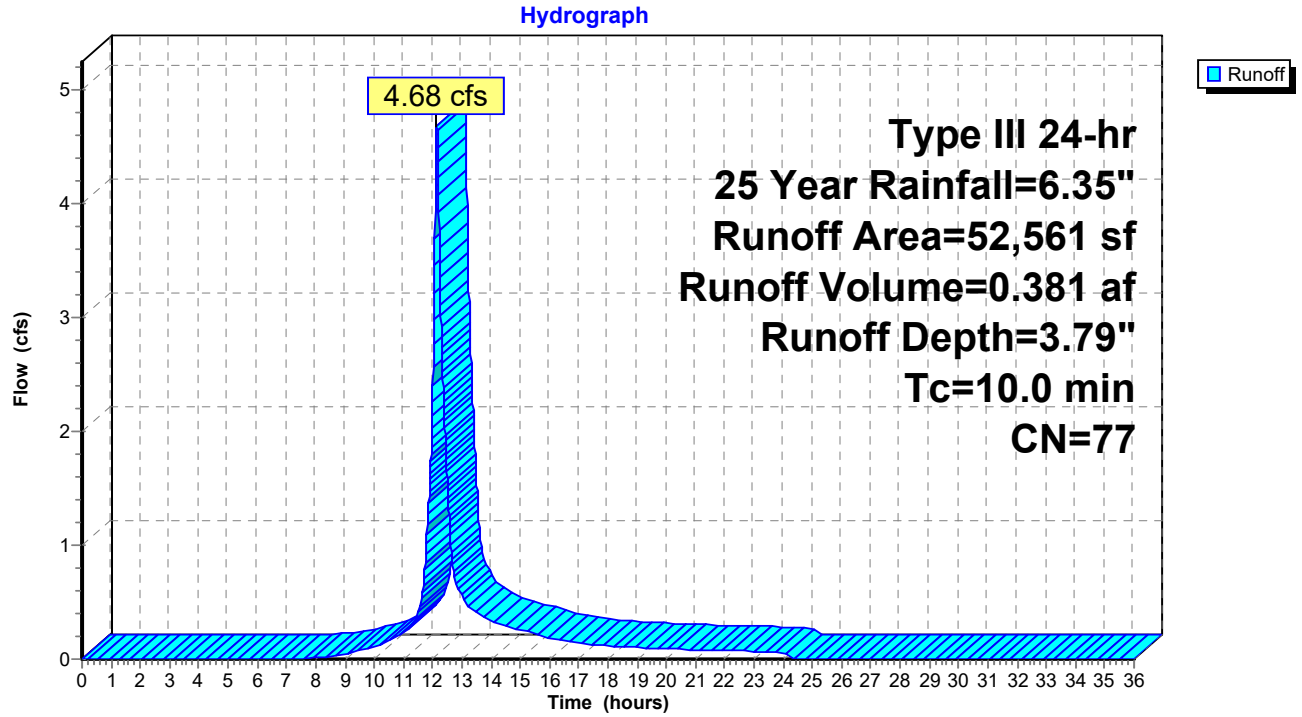
Runoff = 4.68 cfs @ 12.14 hrs, Volume= 0.381 af, Depth= 3.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 Year Rainfall=6.35"

	Area (sf)	CN	Description
*	49,400	76	Imperpervious site area
*	908	98	Deck
*	1,934	98	Pool
*	319	98	Walkway
	52,561	77	Weighted Average
	49,400		93.99% Pervious Area
	3,161		6.01% Impervious Area

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

Subcatchment 5S: Sheet flow



Summary for Subcatchment DA-1: Roof/Driveway

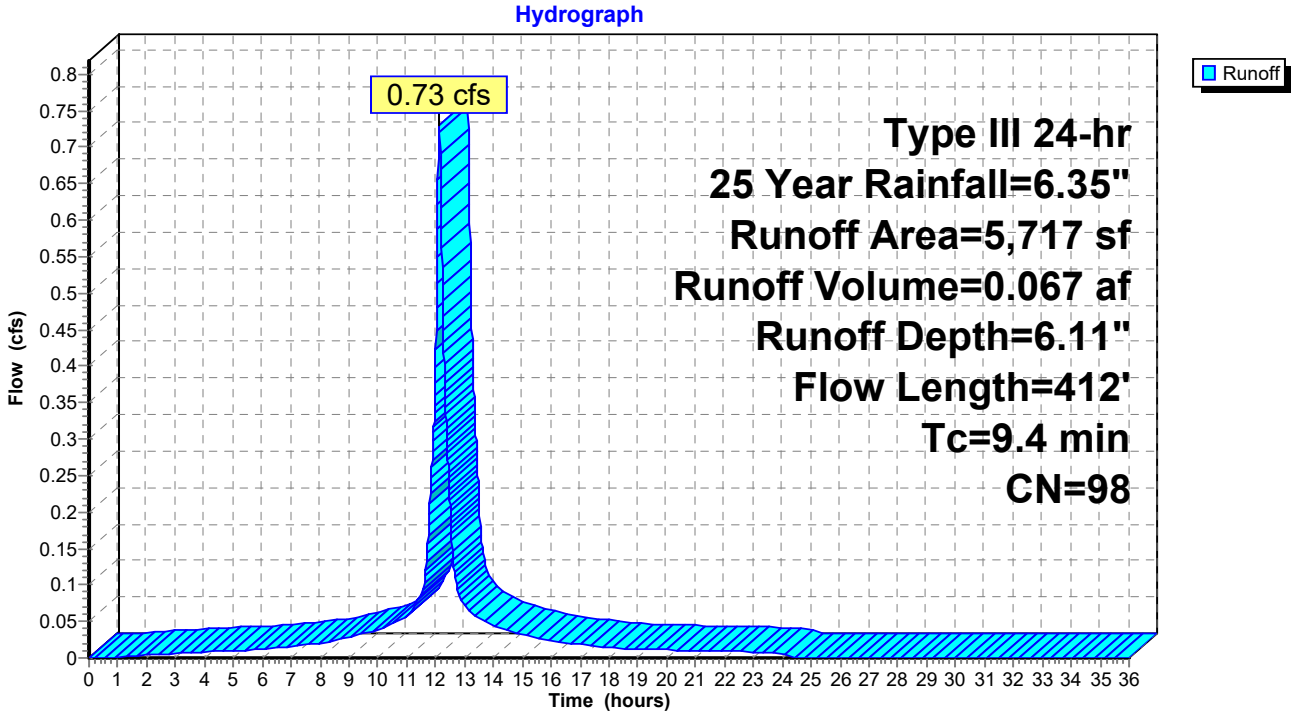
Runoff = 0.73 cfs @ 12.13 hrs, Volume= 0.067 af, Depth= 6.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 Year Rainfall=6.35"

	Area (sf)	CN	Description
*	2,600	98	Driveway
*	3,117	98	House
	5,717	98	Weighted Average
	5,717		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	100	0.3100	0.24		**Sheet Flow, 1-2** Woods: Light underbrush n= 0.400 P2= 3.50"
1.8	218	0.1559	1.97		**Shallow Concentrated Flow, 2-3** Woodland Kv= 5.0 fps
0.7	94	0.1809	2.13		**Shallow Concentrated Flow, 3-4** Woodland Kv= 5.0 fps
9.4	412	Total			

Subcatchment DA-1: Roof/Driveway



Summary for Pond 1P: Stormtech 740

Inflow Area = 0.131 ac,100.00% Impervious, Inflow Depth = 6.11" for 25 Year event
Inflow = 0.73 cfs @ 12.13 hrs, Volume= 0.067 af
Outflow = 0.50 cfs @ 12.24 hrs, Volume= 0.067 af, Atten= 32%, Lag= 6.7 min
Discarded = 0.19 cfs @ 12.24 hrs, Volume= 0.063 af
Primary = 0.31 cfs @ 12.24 hrs, Volume= 0.004 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 73.15' @ 12.24 hrs Surf.Area= 0.006 ac Storage= 0.012 af

Plug-Flow detention time= 14.3 min calculated for 0.067 af (100% of inflow)
Center-of-Mass det. time= 14.3 min (761.8 - 747.5)

Volume	Invert	Avail.Storage	Storage Description
#1A	70.00'	0.006 af	**11.00'W x 24.98'L x 3.50'H Field A** 0.022 af Overall - 0.006 af Embedded = 0.016 af x 40.0% Voids
#2A	70.50'	0.006 af	**ADS_StormTech SC-740 +Cap** x 6 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 6 Chambers in 2 Rows
		0.013 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	70.00'	**16.360 in/hr Exfiltration over Wetted area**
#2	Primary	73.00'	**6.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.19 cfs @ 12.24 hrs HW=73.15' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.19 cfs)

Primary OutFlow Max=0.31 cfs @ 12.24 hrs HW=73.15' (Free Discharge)
↑—**2=Orifice/Grate** (Weir Controls 0.31 cfs @ 1.28 fps)

Pond 1P: Stormtech 740 - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

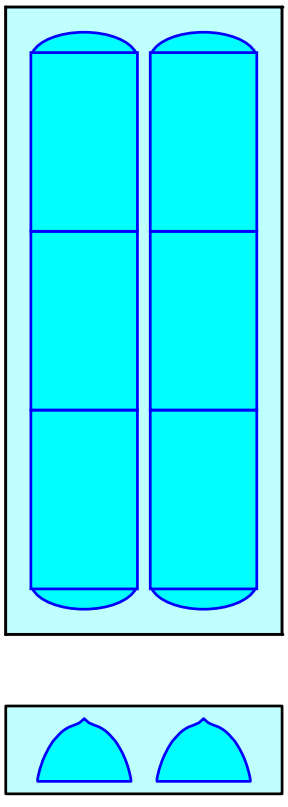
3 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 22.98' Row Length +12.0" End Stone x 2 = 24.98' Base Length
2 Rows x 51.0" Wide + 6.0" Spacing x 1 + 12.0" Side Stone x 2 = 11.00' Base Width
6.0" Base + 30.0" Chamber Height + 6.0" Cover = 3.50' Field Height

6 Chambers x 45.9 cf = 275.6 cf Chamber Storage

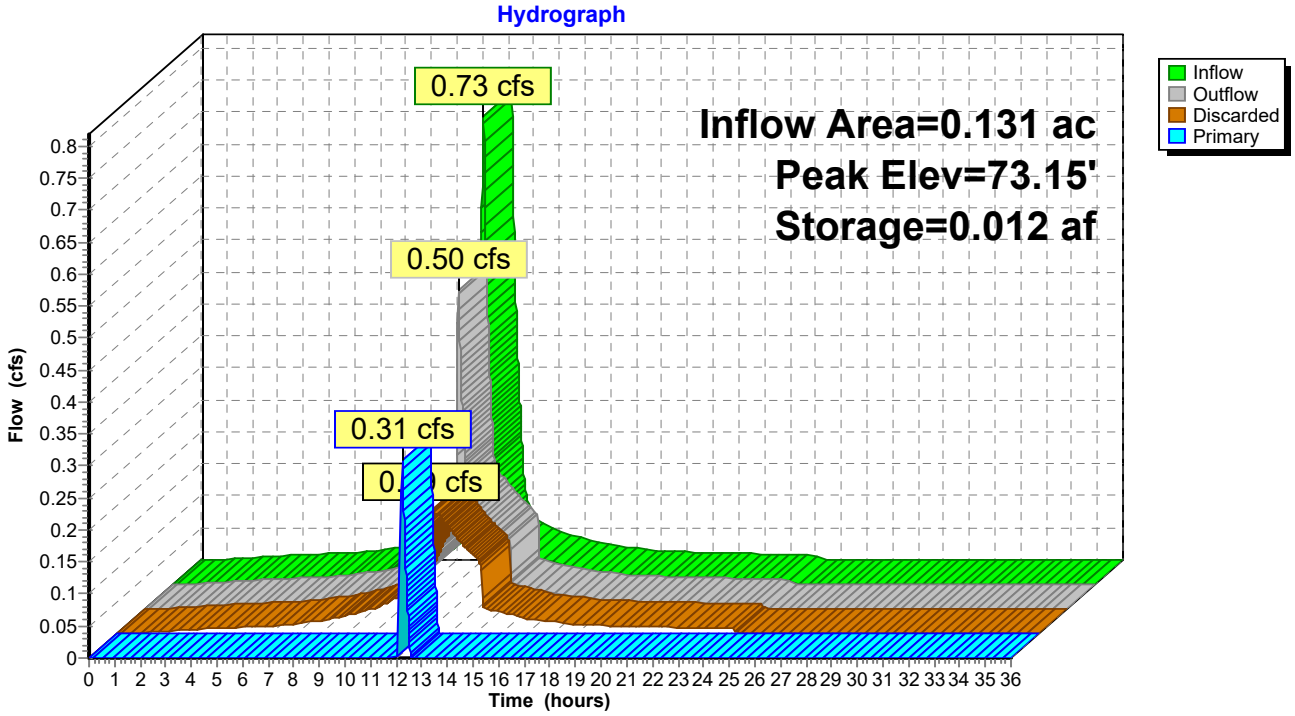
961.6 cf Field - 275.6 cf Chambers = 686.0 cf Stone x 40.0% Voids = 274.4 cf Stone Storage

Chamber Storage + Stone Storage = 550.0 cf = 0.013 af
Overall Storage Efficiency = 57.2%
Overall System Size = 24.98' x 11.00' x 3.50'

6 Chambers
35.6 cy Field
25.4 cy Stone



Pond 1P: Stormtech 740

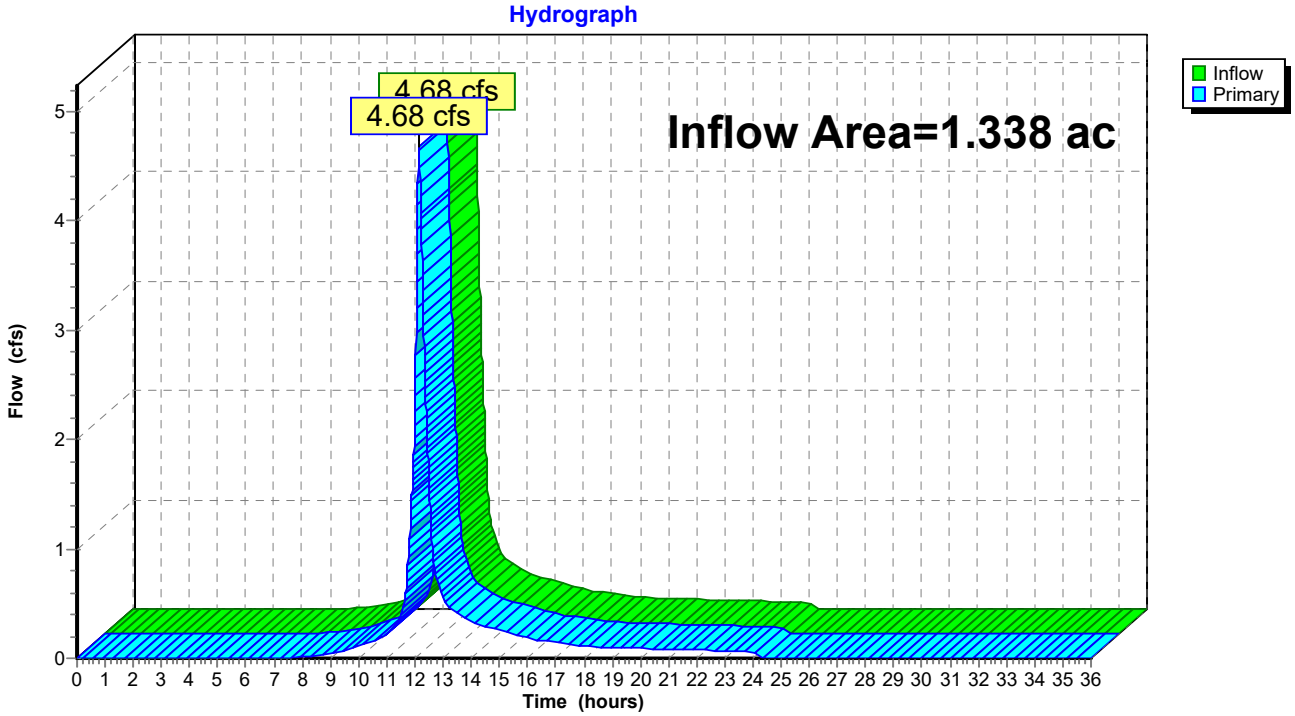


Summary for Link DP-1: DP-1

Inflow Area = 1.338 ac, 15.23% Impervious, Inflow Depth = 3.45" for 25 Year event
Inflow = 4.68 cfs @ 12.14 hrs, Volume= 0.385 af
Primary = 4.68 cfs @ 12.14 hrs, Volume= 0.385 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Link DP-1: DP-1



Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 5S: Sheet flow Runoff Area=52,561 sf 6.01% Impervious Runoff Depth=6.20"
Tc=10.0 min CN=77 Runoff=7.58 cfs 0.623 af

Subcatchment DA-1: Roof/Driveway Runoff Area=5,717 sf 100.00% Impervious Runoff Depth=8.76"
Flow Length=412' Tc=9.4 min CN=98 Runoff=1.04 cfs 0.096 af

Pond 1P: Stormtech 740 Peak Elev=73.92' Storage=0.013 af Inflow=1.04 cfs 0.096 af
Discarded=0.20 cfs 0.081 af Primary=0.91 cfs 0.015 af Outflow=1.11 cfs 0.096 af

Link DP-1: DP-1 Inflow=8.44 cfs 0.638 af
Primary=8.44 cfs 0.638 af

Total Runoff Area = 1.338 ac Runoff Volume = 0.719 af Average Runoff Depth = 6.45"
84.77% Pervious = 1.134 ac 15.23% Impervious = 0.204 ac

Summary for Subcatchment 5S: Sheet flow

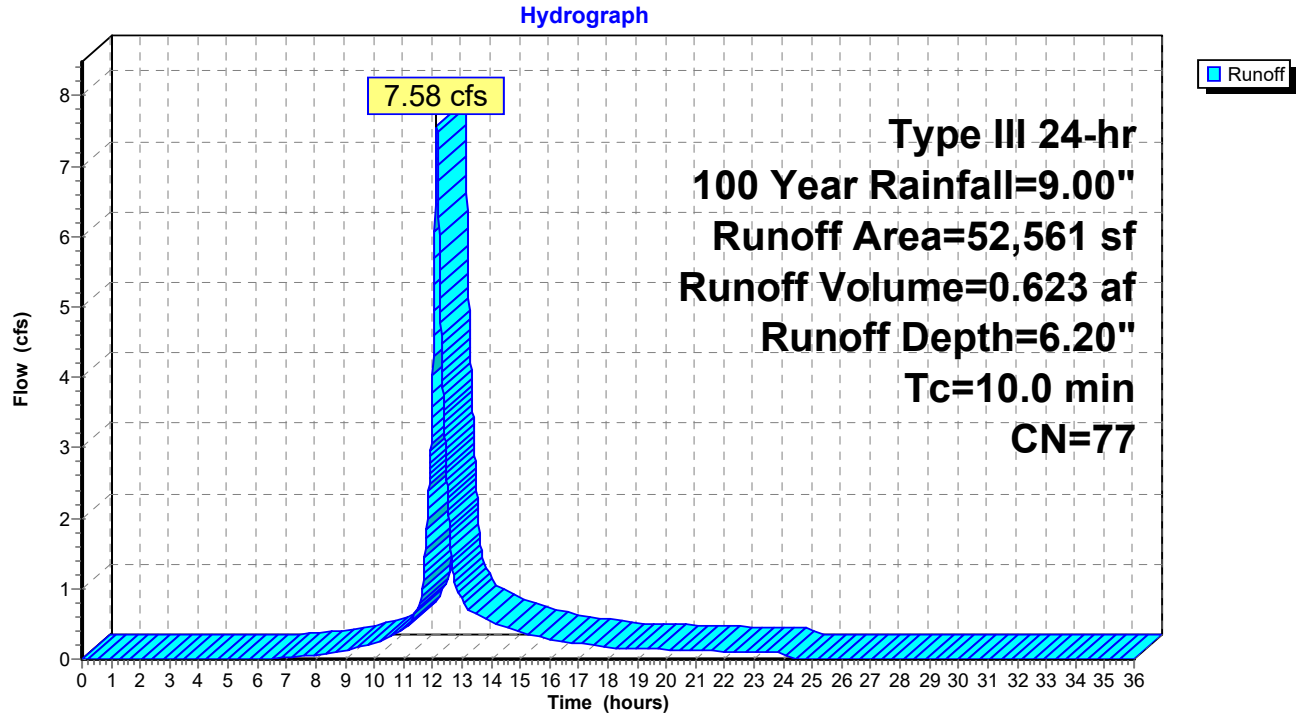
Runoff = 7.58 cfs @ 12.14 hrs, Volume= 0.623 af, Depth= 6.20"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 Year Rainfall=9.00"

	Area (sf)	CN	Description
*	49,400	76	Imperpervious site area
*	908	98	Deck
*	1,934	98	Pool
*	319	98	Walkway
	52,561	77	Weighted Average
	49,400		93.99% Pervious Area
	3,161		6.01% Impervious Area

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

Subcatchment 5S: Sheet flow



Summary for Subcatchment DA-1: Roof/Driveway

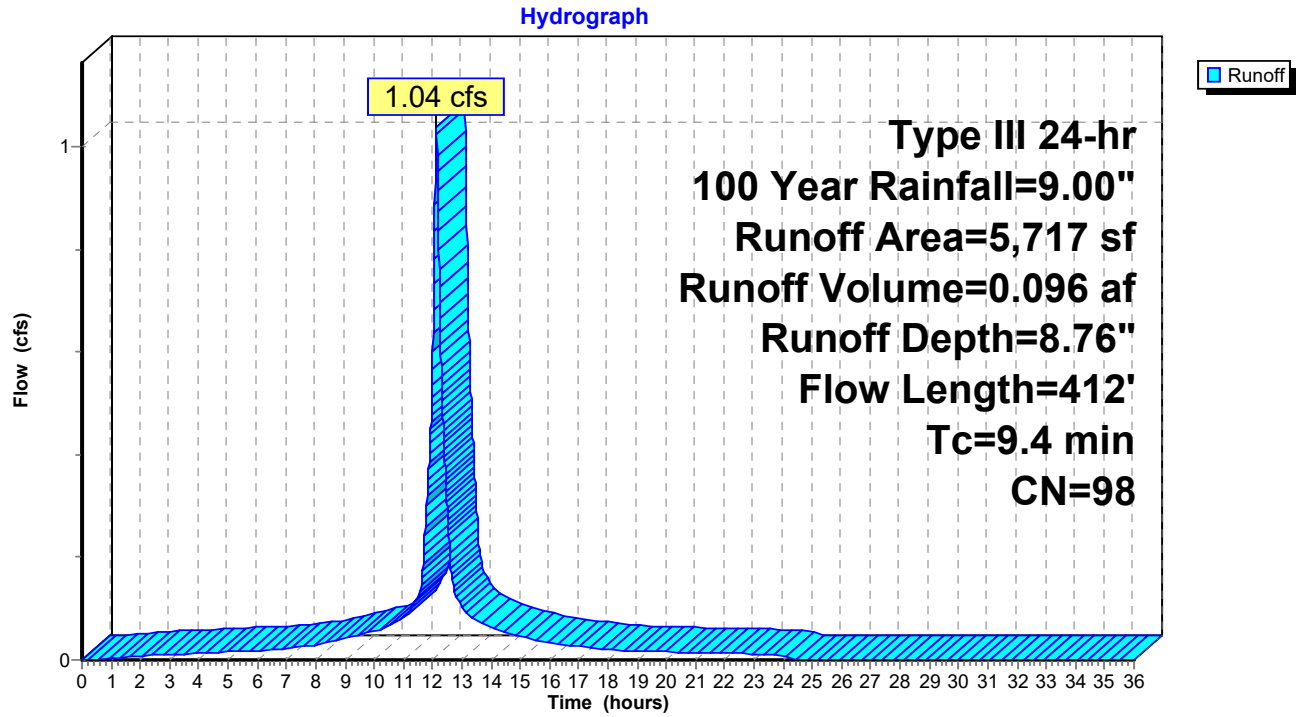
Runoff = 1.04 cfs @ 12.13 hrs, Volume= 0.096 af, Depth= 8.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 Year Rainfall=9.00"

	Area (sf)	CN	Description
*	2,600	98	Driveway
*	3,117	98	House
	5,717	98	Weighted Average
	5,717		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	100	0.3100	0.24		**Sheet Flow, 1-2** Woods: Light underbrush n= 0.400 P2= 3.50"
1.8	218	0.1559	1.97		**Shallow Concentrated Flow, 2-3** Woodland Kv= 5.0 fps
0.7	94	0.1809	2.13		**Shallow Concentrated Flow, 3-4** Woodland Kv= 5.0 fps
9.4	412	Total			

Subcatchment DA-1: Roof/Driveway



Summary for Pond 1P: Stormtech 740

Inflow Area = 0.131 ac,100.00% Impervious, Inflow Depth = 8.76" for 100 Year event
Inflow = 1.04 cfs @ 12.13 hrs, Volume= 0.096 af
Outflow = 1.11 cfs @ 12.15 hrs, Volume= 0.096 af, Atten= 0%, Lag= 1.4 min
Discarded = 0.20 cfs @ 12.14 hrs, Volume= 0.081 af
Primary = 0.91 cfs @ 12.15 hrs, Volume= 0.015 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 73.92' @ 12.15 hrs Surf.Area= 0.006 ac Storage= 0.013 af

Plug-Flow detention time= 13.0 min calculated for 0.096 af (100% of inflow)
Center-of-Mass det. time= 13.0 min (755.9 - 743.0)

Volume	Invert	Avail.Storage	Storage Description
#1A	70.00'	0.006 af	**11.00'W x 24.98'L x 3.50'H Field A** 0.022 af Overall - 0.006 af Embedded = 0.016 af x 40.0% Voids
#2A	70.50'	0.006 af	**ADS_StormTech SC-740 +Cap** x 6 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 6 Chambers in 2 Rows
		0.013 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	70.00'	**16.360 in/hr Exfiltration over Wetted area**
#2	Primary	73.00'	**6.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.20 cfs @ 12.14 hrs HW=73.60' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.20 cfs)

Primary OutFlow Max=0.90 cfs @ 12.15 hrs HW=73.90' (Free Discharge)
↑—**2=Orifice/Grate** (Orifice Controls 0.90 cfs @ 4.58 fps)

Pond 1P: Stormtech 740 - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

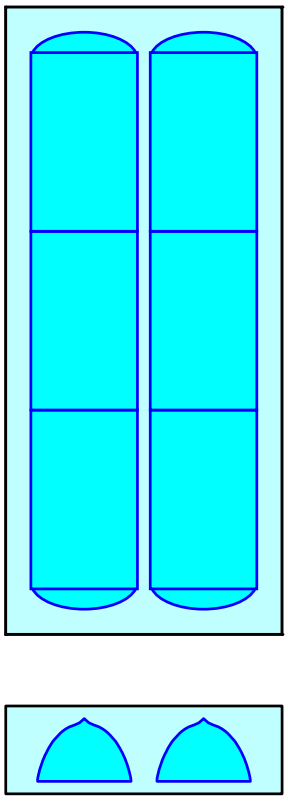
3 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 22.98' Row Length +12.0" End Stone x 2 = 24.98' Base Length
2 Rows x 51.0" Wide + 6.0" Spacing x 1 + 12.0" Side Stone x 2 = 11.00' Base Width
6.0" Base + 30.0" Chamber Height + 6.0" Cover = 3.50' Field Height

6 Chambers x 45.9 cf = 275.6 cf Chamber Storage

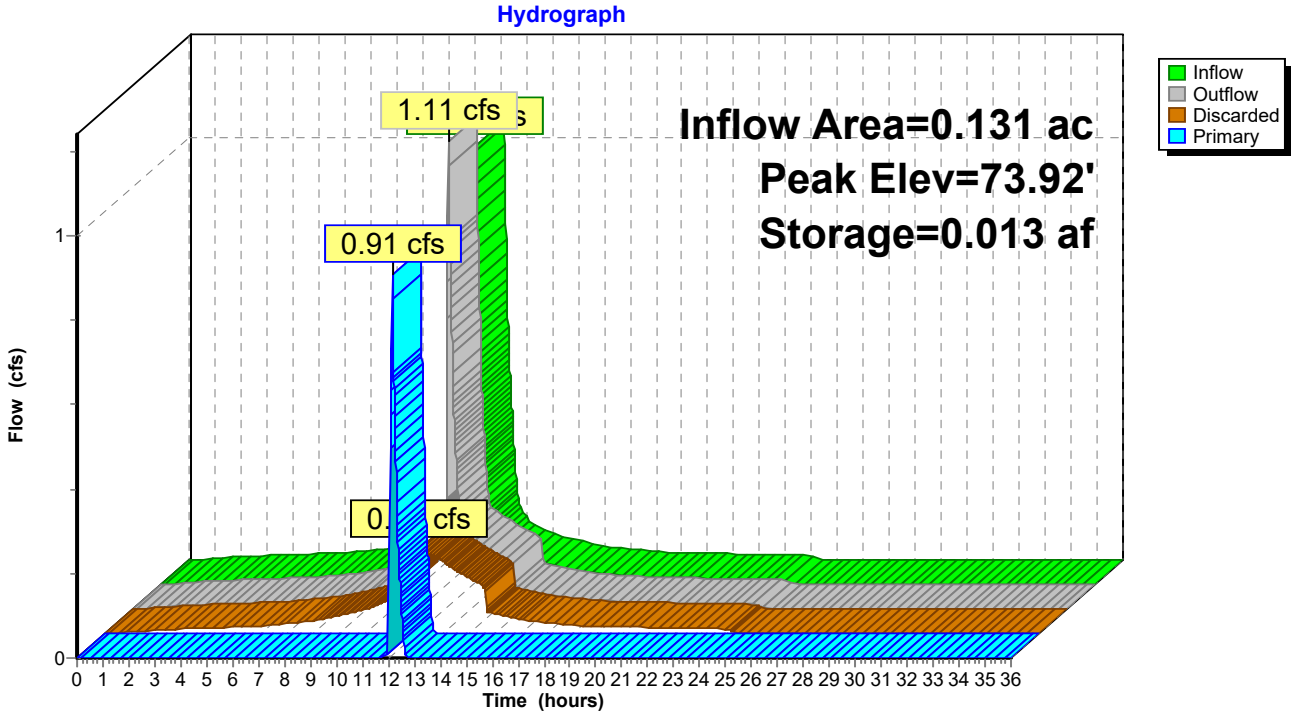
961.6 cf Field - 275.6 cf Chambers = 686.0 cf Stone x 40.0% Voids = 274.4 cf Stone Storage

Chamber Storage + Stone Storage = 550.0 cf = 0.013 af
Overall Storage Efficiency = 57.2%
Overall System Size = 24.98' x 11.00' x 3.50'

6 Chambers
35.6 cy Field
25.4 cy Stone



Pond 1P: Stormtech 740

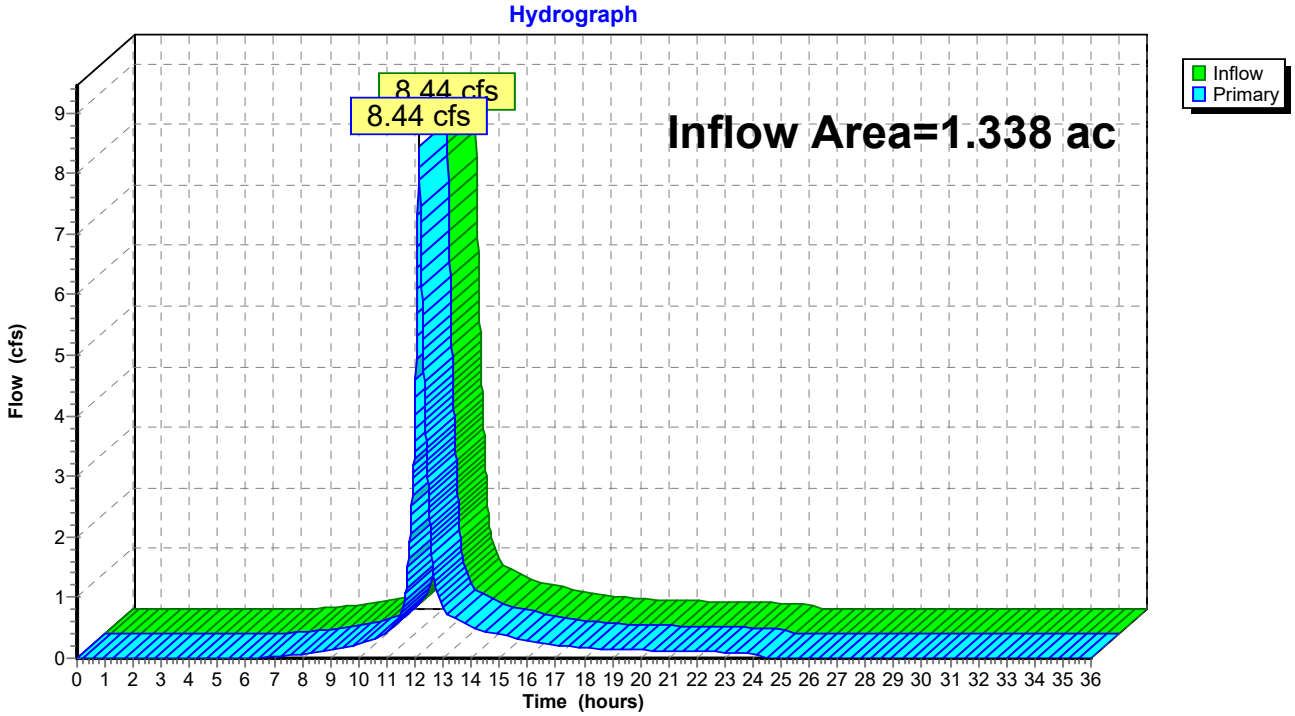


Summary for Link DP-1: DP-1

Inflow Area = 1.338 ac, 15.23% Impervious, Inflow Depth = 5.73" for 100 Year event
Inflow = 8.44 cfs @ 12.15 hrs, Volume= 0.638 af
Primary = 8.44 cfs @ 12.15 hrs, Volume= 0.638 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Link DP-1: DP-1



Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 5S: Sheet flow Runoff Area=52,561 sf 6.01% Impervious Runoff Depth=6.20"
Tc=10.0 min CN=77 Runoff=7.58 cfs 0.623 af

Subcatchment DA-1: Roof/Driveway Runoff Area=5,717 sf 100.00% Impervious Runoff Depth=8.76"
Flow Length=412' Tc=9.4 min CN=98 Runoff=1.04 cfs 0.096 af

Pond 1P: Stormtech 740 Peak Elev=73.92' Storage=0.013 af Inflow=1.04 cfs 0.096 af
Discarded=0.20 cfs 0.081 af Primary=0.91 cfs 0.015 af Outflow=1.11 cfs 0.096 af

Link DP-1: DP-1 Inflow=8.44 cfs 0.638 af
Primary=8.44 cfs 0.638 af

Total Runoff Area = 1.338 ac Runoff Volume = 0.719 af Average Runoff Depth = 6.45"
84.77% Pervious = 1.134 ac 15.23% Impervious = 0.204 ac

Summary for Subcatchment 5S: Sheet flow

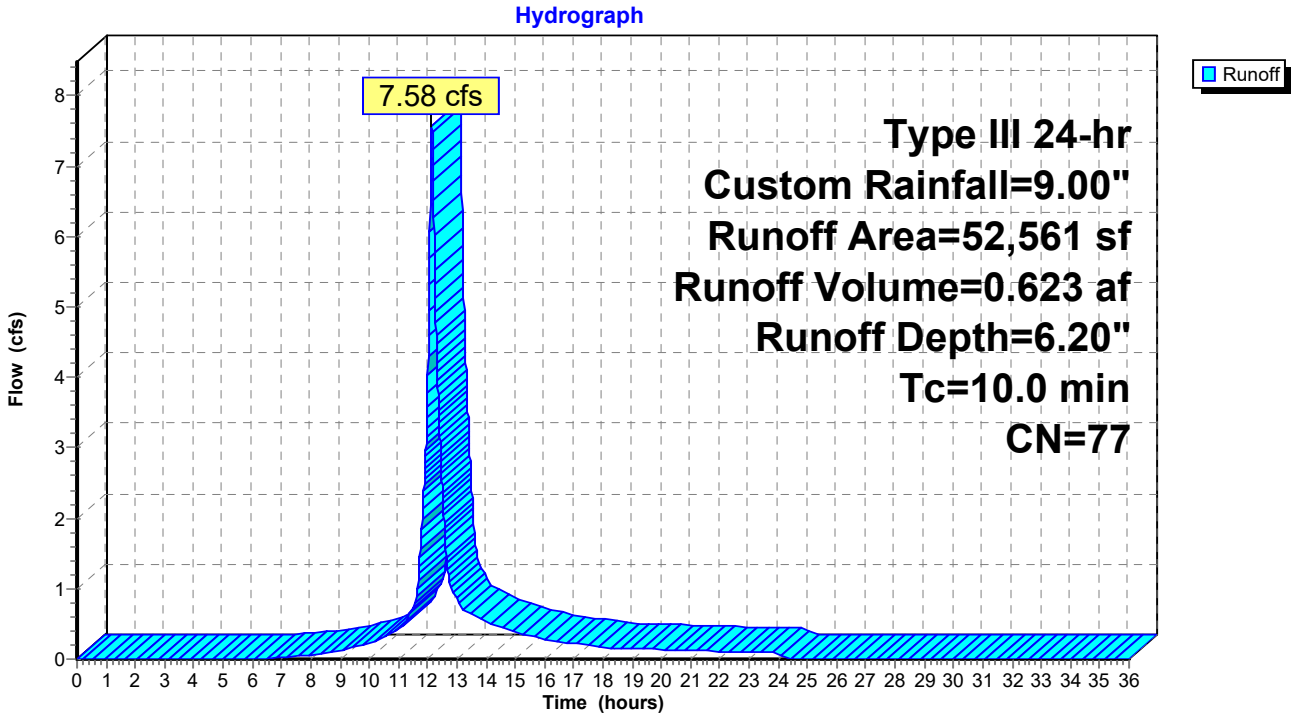
Runoff = 7.58 cfs @ 12.14 hrs, Volume= 0.623 af, Depth= 6.20"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr Custom Rainfall=9.00"

	Area (sf)	CN	Description
*	49,400	76	Imperpervious site area
*	908	98	Deck
*	1,934	98	Pool
*	319	98	Walkway
	52,561	77	Weighted Average
	49,400		93.99% Pervious Area
	3,161		6.01% Impervious Area

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

Subcatchment 5S: Sheet flow



Summary for Subcatchment DA-1: Roof/Driveway

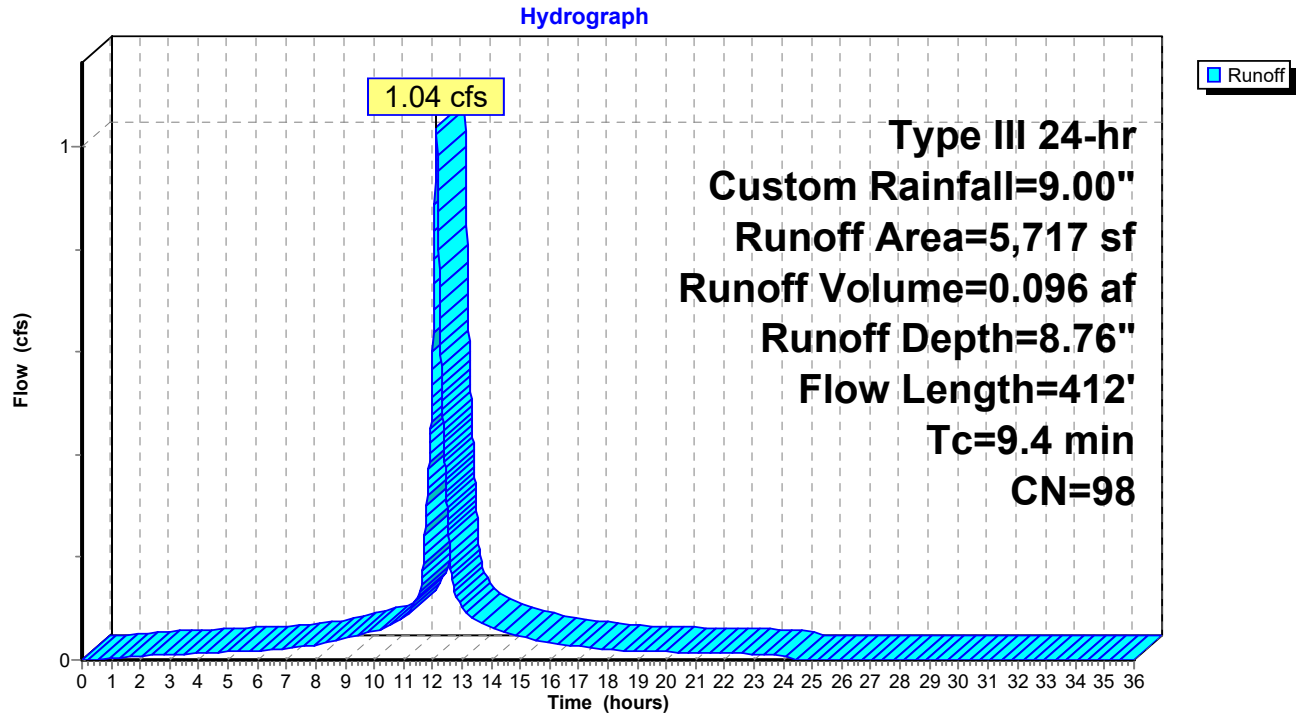
Runoff = 1.04 cfs @ 12.13 hrs, Volume= 0.096 af, Depth= 8.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr Custom Rainfall=9.00"

	Area (sf)	CN	Description
*	2,600	98	Driveway
*	3,117	98	House
	5,717	98	Weighted Average
	5,717		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9	100	0.3100	0.24		**Sheet Flow, 1-2** Woods: Light underbrush n= 0.400 P2= 3.50"
1.8	218	0.1559	1.97		**Shallow Concentrated Flow, 2-3** Woodland Kv= 5.0 fps
0.7	94	0.1809	2.13		**Shallow Concentrated Flow, 3-4** Woodland Kv= 5.0 fps
9.4	412	Total			

Subcatchment DA-1: Roof/Driveway



Summary for Pond 1P: Stormtech 740

Inflow Area = 0.131 ac,100.00% Impervious, Inflow Depth = 8.76" for Custom event
Inflow = 1.04 cfs @ 12.13 hrs, Volume= 0.096 af
Outflow = 1.11 cfs @ 12.15 hrs, Volume= 0.096 af, Atten= 0%, Lag= 1.4 min
Discarded = 0.20 cfs @ 12.14 hrs, Volume= 0.081 af
Primary = 0.91 cfs @ 12.15 hrs, Volume= 0.015 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 73.92' @ 12.15 hrs Surf.Area= 0.006 ac Storage= 0.013 af

Plug-Flow detention time= 13.0 min calculated for 0.096 af (100% of inflow)
Center-of-Mass det. time= 13.0 min (755.9 - 743.0)

Volume	Invert	Avail.Storage	Storage Description
#1A	70.00'	0.006 af	**11.00'W x 24.98'L x 3.50'H Field A** 0.022 af Overall - 0.006 af Embedded = 0.016 af x 40.0% Voids
#2A	70.50'	0.006 af	**ADS_StormTech SC-740 +Cap** x 6 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 6 Chambers in 2 Rows
		0.013 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	70.00'	**16.360 in/hr Exfiltration over Wetted area**
#2	Primary	73.00'	**6.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.20 cfs @ 12.14 hrs HW=73.60' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.20 cfs)

Primary OutFlow Max=0.90 cfs @ 12.15 hrs HW=73.90' (Free Discharge)
↑**2=Orifice/Grate** (Orifice Controls 0.90 cfs @ 4.58 fps)

Pond 1P: Stormtech 740 - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

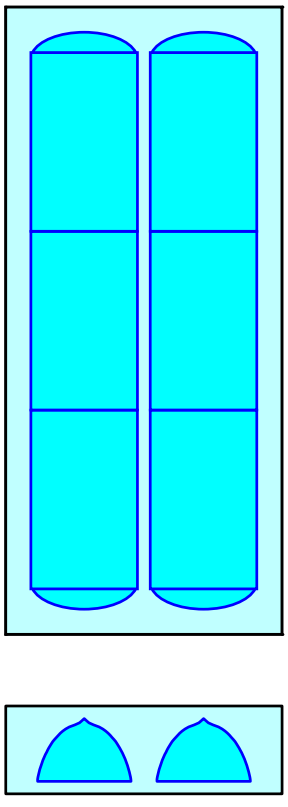
3 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 22.98' Row Length +12.0" End Stone x 2 = 24.98' Base Length
2 Rows x 51.0" Wide + 6.0" Spacing x 1 + 12.0" Side Stone x 2 = 11.00' Base Width
6.0" Base + 30.0" Chamber Height + 6.0" Cover = 3.50' Field Height

6 Chambers x 45.9 cf = 275.6 cf Chamber Storage

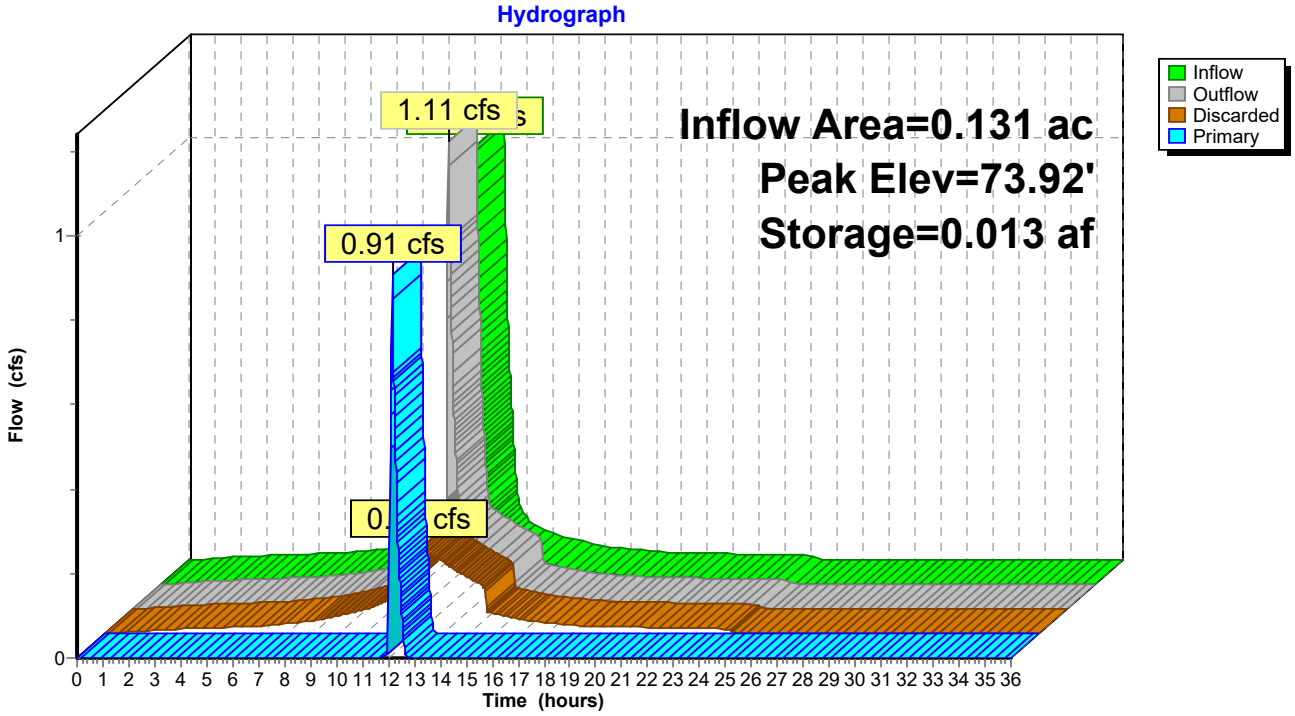
961.6 cf Field - 275.6 cf Chambers = 686.0 cf Stone x 40.0% Voids = 274.4 cf Stone Storage

Chamber Storage + Stone Storage = 550.0 cf = 0.013 af
Overall Storage Efficiency = 57.2%
Overall System Size = 24.98' x 11.00' x 3.50'

6 Chambers
35.6 cy Field
25.4 cy Stone



Pond 1P: Stormtech 740

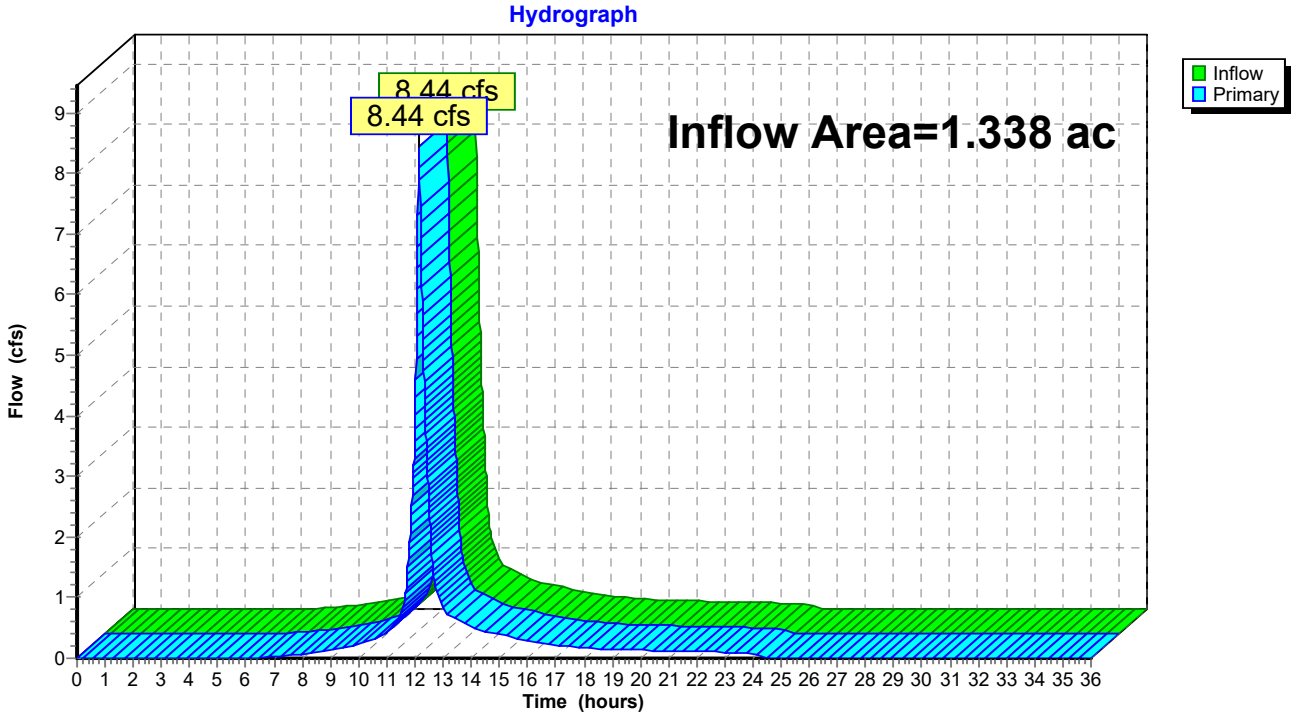


Summary for Link DP-1: DP-1

Inflow Area = 1.338 ac, 15.23% Impervious, Inflow Depth = 5.73" for Custom event
Inflow = 8.44 cfs @ 12.15 hrs, Volume= 0.638 af
Primary = 8.44 cfs @ 12.15 hrs, Volume= 0.638 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Link DP-1: DP-1



APPENDIX B

Test Pit Observations

Percolation Test No: 1 (Depth 30") Performed on 8/11/21

Min. Elapsed	Depth to Water From Ground Surface		Water Level Drop	Soil Rate (Min./in. drop)
	Start (in.)	Stop (in.)		
10	*23*	*26*	*3*	*3.33*
10	*23*	*26*	*3*	*3.33*
11	*23*	*26*	*3*	*3.67*

Test Pit #1	
Depth 52"	*Performed on 8/11/21*
0-4"	*Topsoil*
4"-24"	*Brown Sandy Loam*
24"-52"	*Brown Sandy Loam with 6-10" boulders*
52"	*Large boulders not able to be excavated with small equipment*