



Site Planning	Environmental Studies
Civil Engineering	Entitlements
Landscape Architecture	Construction Services
Land Surveying	3D Visualization
Transportation Engineering	Laser Scanning

March 28, 2022

Mr. Christopher Carthy, Chairman  
and Members of the Planning Board  
Town of North Castle  
17 Bedford Road  
Armonk, NY 10504

RE: JMC Project 20101  
The Summit Club at Armonk Residential  
Bedford Road (Route 22)  
Town of North Castle, NY

**Response to Town Comments Resubmission**

Dear Chairman Carthy and Members of the Planning Board:

On behalf of the owner and applicant, Summit Club Partners, LLC, we are pleased to submit the following documents for your continued review of the Site Plan Application for the proposed residential development on The Summit Club residential property:

I. JMC Drawings:

<u>Dwg. No.</u>	<u>Title</u>	<u>Rev. #/Date</u>	
C-000	Cover Sheet	5	03/28/2022
C-010	Overall Existing Conditions Map	5	03/28/2022
C-011	Existing Conditions Map (South)	5	03/28/2022
C-012	Existing Conditions Map (North)	5	03/28/2022
C-020	Site Demolition & Tree Removal Plan (South)	5	03/28/2022
C-021	Site Demolition & Tree Removal Plan (North)	5	03/28/2022
C-022	Site Tree Removal Table	5	03/28/2022
C-100A	Overall Site Layout and Phasing Plan	5	03/28/2022
C-100	Site Layout Plan (South)	5	03/28/2022
C-101	Site Layout Plan (North)	5	03/28/2022
C-102	Fire Truck Access Plan	5	03/28/2022
C-103	Utility Complex Plans		03/28/2022
C-200	Site Grading Plan (South)	5	03/28/2022
C-201	Site Grading Plan (North)	5	03/28/2022
C-202	Road Profiles Plan	5	03/28/2022
C-900	Construction Details	5	03/28/2022
C-901	Construction Details	5	03/28/2022
C-902	Construction Details	5	03/28/2022
C-903	Construction Details	5	03/28/2022

C-904	Construction Details	1	03/28/2022
PSP-1	Preliminary Subdivision Plat	5	03/28/2022
IPP-1	Integrated Plot Plan	5	03/28/2022

2. Granoff Architects Drawings:

<u>Dwg. No.</u>	<u>Title</u>		<u>Rev. #/Date</u>
<u>Landscape:</u>			
LS C	Cover-Landscape	9	03/28/2022
LS 100.0	Overall Site Plan	9	03/28/2022
LS 100.1	Overall Site Plan-Southern Development	9	03/28/2022
LS 100.2	Overall Site Plan-Northern Development	9	03/28/2022
LS 100.3	Overall Site Plan-Utility Buildings and Future Cottages	9	03/28/2022
LS 101	Amenities Side Site Plan-Landscape	9	03/28/2022
LS 102	Main Entry Plan-Landscape	9	03/28/2022
LS 103	Residential Side Site Plan-Landscape	9	03/28/2022
LS 104	Residence Typical Plan-Landscape	9	03/28/2022
LS 105	Detention Basin Planting Plan	9	03/28/2022

Amenities Building:

AS100	Site Plan-Pool Terrace		03/28/2022
A 100	Floor Plan-Lower Level		03/28/2022
A 101	Floor Plan-Main Level		03/28/2022
A 300	Building Elevations		03/28/2022
A 400	Building Sections		03/28/2022
Images	Pages 6-13		03/28/2022

Residential Building – Plan Type ‘A’:

A 100.A	Garage Floor Plan	1	03/28/2022
A 101.A	First Floor Plan	1	03/28/2022
A 102.A	Second Floor Plan	1	03/28/2022
A 103.A	Third Floor Plan	1	03/28/2022
A 300.A	Building Elevations	1	03/28/2022
A 301.A	Building Elevations	1	03/28/2022
A 302.A	Building Elevations	1	03/28/2022
A 303.A	Building Elevations	1	03/28/2022
A 304.A	Building Elevations - Materials	1	03/28/2022

Residential Building – Plan Type ‘B’:

A 100.B	Garage Floor Plan	1	03/28/2022
A 101.A	First Floor Plan	1	03/28/2022
A 102.B	Second Floor Plan	1	03/28/2022
A 103.B	Third Floor Plan	1	03/28/2022
A 300.B	Building Elevations	1	03/28/2022
A 301.B	Building Elevations	1	03/28/2022

A 302.B	Building Elevations	I	03/28/2022
A 303.B	Building Elevations	I	03/28/2022
A 304.B	Building Elevations - Materials	I	03/28/2022

Gatehouse:

A 100	Plans/Elevations	9	03/28/2022
-------	------------------	---	------------

3. R&M Engineering Drawings:

<u>Dwg. No.</u>	<u>Title</u>		<u>Rev. #/Date</u>
STP-1	Preliminary STP Site Layout		03/28/2022
STP-2	Preliminary STP Hydraulic Profile		03/28/2022

4. "Preliminary Stormwater Pollution Prevention Plan", prepared by JMC, last revised 03/28/2022.

The revisions depicted on the above noted plans reflect responses to comments outlined in the Town of North Castle Planning Department Memorandum, dated January 18, 2022. For ease of review, we have repeated and enumerated the comments in italic print, followed by our responses:

**Town of North Castle Planning Department, dated January 18, 2022**

General Comments

Comment No. 1

*The submitted plans contain several items relating to the golf club, including, pro shop, parking lot, roadway improvements, guest cottages, etc. However, the original submission to the Planning Board only pertained to the residential component of the project. The Applicant should confirm that they are only seeking approval of the residential component at this time and that the golf course site plan and special use permit will be officially processed at a later date.*

Response No. 1

The applicant is only seeking approval for the Residential Phase of the project, which includes the amenities building, pool and associated subdivision.

Comment No. 2

*The plans have been revised to depict a seventh AFFH building in the location previously anticipated (EIS) for golf cottages. The smaller golf cottages were acceptable to the Lead Agency since these units were designed in such a manner to be compatible with the existing single family development pattern in the area. However, the current plan depicts a new two story apartment building in this area. It is noted that the first floor of this building is 10 feet above Bedford Road. It is recommended that this building be eliminated and replaced with smaller cottages or townhomes that will be more compatible with the surrounding residential neighborhood.*

*The site plan depicts a future road to provide access to the tennis courts and AFFH Building. If the AFFH building is not constructed on site, it seems that a fully designed road would not be required for access. Perhaps, an improved golf cart path or smaller road would be more appropriate for this area.*

### Response No. 2

The previously proposed seventh (AFFH) building has been removed from the plans. The required seven (7) AHHF units are now proposed to be integrated in the six (6) proposed residential buildings. There will still be a proposed tennis/sport court complex in the upper residential area, however, they will have access via a paved golf cart path.

### Comment No. 3

*The site plan has been revised to depict a proposed 60 space off-street parking lot adjacent to NY Route 22 and within the 100 foot R-2A buffer zone. Pursuant to Section 355-32.B of the Town Code, the intent of the Town Board is that a buffer area shall be used only for golf course uses, including access driveways and accessory parking, permitted in the R-2A District. In this case, the existing parking lot and proposed access drives were anticipated elements, but the proposed 58 space parking lot should not be constructed within the buffer. Any proposed new parking area shall be located outside of the buffer area. The area of the proposed off-street parking should be landscaped as anticipated during the environmental review of this project.*

### Response No. 3

The proposed off-street parking area has been relocated outside of the 100 foot R-2A buffer zone. The previously proposed practice putting green has been removed from the proposal at this time in order to accommodate the relocation of the off-street parking. The buffer area will be landscaped as depicted on plans prepared by Granoff Architects.

### Comment No. 4

*At the June 28, 2021 Planning Board meeting staff was requested to provide language from the adopted Findings Statement relating to the referenced 100-foot buffer.*

*The following language was provided in the Views section of the Findings Statement:*

*The project includes a landscaped 100-foot buffer along the perimeter of the Site. Portions of the golf course, landscaping, a portion of the existing clubhouse parking lot, the paved entrance to the Site, the proposed gatehouse, and a limited amount of roadway would be located within the buffer, but no buildings or other structures would be permitted to be constructed in the buffer. The buffer along Bedford Road would contain stone walls, additional landscaping and existing healthy mature trees. The Conceptual Landscape Plan for the project includes new evergreen trees and shrubs along the property line adjacent to Coman Hill Elementary School and along Bedford Road to screen year-round views of the parking lot. The Applicant would install all of the Bedford Road frontage landscape buffer, as well as the buffer along the southern property line adjacent to Coman Hill Elementary School, as part of the first phase of residential construction. The Bedford Road frontage landscape buffer would be required to be constructed as part of the first phase of residential construction.*

*The design of the project would incorporate the essential qualities of area building traditions and maintain the visual character of Bedford Road. The area immediately adjacent to Bedford Road and existing landscape buffers around the club parking lot would be supplemented with new plantings including a mix of evergreens and stone walls and hedges to reinforce the character of the area and provide a visual buffer. Topography and vegetation significantly limit views deep into the Site and from the north, west, and south, including views of the golf maintenance facility and water storage tank. Landscaping would be installed to buffer neighboring single-family residences north of the Site and internal landscaping would be provided to screen the golf maintenance facility and water storage tank from within the Site.*

*For these reasons, the Planning Board finds that the buffer, coupled with smaller structures along the Bedford Road frontage and the Site's topography would reduce visual impacts and be more compatible with surrounding residential uses.*

#### Response No. 4

The proposed off-street parking area has been relocated outside of the 100 foot R-2A buffer zone. The previously proposed practice putting green has been removed from the proposal at this time in order to accommodate the relocation of the off-street parking. The buffer area will be landscaped as depicted on plans prepared by Granoff Architects.

#### Comment No. 5

*The plans have been revised to depict 10 woodland cottages. The Applicant should explain the proposed use and provide additional information to the Planning Board. Floor plans and elevations should be submitted for review. If the intent of the cottages is to provide temporary lodging for members and guests, the units should be designed to resemble typical short duration hotel accommodations.*

#### Response No. 5

The design and location of the cottages will be part of a separate site plan application for the golf course parcel.

#### Comment No. 6

*The plan package should contain floor plans and elevations for each proposed residential building,*

#### Response No. 6

Floor plans and elevations for each residential building have been included in the resubmission package. There are two residential building designs (a "left entrance garage" and a "right entrance garage") in order to accommodate the shared driveways between the three (3) pairs of buildings.

#### Comment No. 7

*Building Height analysis. The plan package should provide a building height analysis demonstrating that all of the proposed buildings are no more than three stories and 39 1/2 feet to the mean level of the primary*

*roof, measured from the level of the finished grade at the main entry to the building.*

Response No. 7

The height of the residential buildings are below 39 ½' as per the zoning definition of building height for the GCCFO district. No building is more than 3 stories. (See dimensions on submitted elevation drawings).

Comment No. 8

*The plan package should contain floor plans and elevations of the proposed gate house for review.*

Response No. 8

Please refer to Drawing A 100 "Gatehouse Plans and Elevations", prepared by Granoff Architects, last revised 03/28/2022.

Comment No. 9

*The plan package should contain floor plans and elevations of the proposed pro shop.*

Response No. 9

The design and location of the golf pro shop will be part of a separate site plan application for the golf course parcel.

Comment No. 10

*The Applicant should provide floor plans and elevations of the proposed 2,500 square foot maintenance building.*

Response No. 10

The existing sewage treatment plant (STP) building is proposed to be reused as an equipment storage building. Minor interior renovations will be made to the building and the exterior painted. The design and location of the 2,500 square foot maintenance building will be part of a separate site plan application for the golf course parcel.

Comment No. 11

*The plans state that the existing wastewater treatment plant is to remain. However, it was understood that this plant has been previously dismantled. The Applicant should clarify. Given the current state of the WWTP building, the Applicant should give consideration to upgrading the exterior of the building at this time.*

Response No. 11

The existing sewage treatment plant (STP) building is proposed to be reused as an equipment storage building. Minor interior renovations will be made to the building and the exterior painted.

Comment No. 12

*The site plan depicts a building adjacent to the proposed maintenance building. The site plan should indicate the proposed use of the building. In addition, floor plans and elevations should be submitted for review.*

Response No. 12

The proposed structures located adjacent to the existing STP (which will be reused as an equipment storage building) are the proposed potable water treatment building and the proposed 105,000 gallon above grade potable water atmospheric storage tank. Floor plans and elevations will be prepared and provided under separate cover.

Comment No. 13

*The Applicant should indicate whether any chemical storage, mixing or diluting will occur on site. If so, the Applicant should provide the Planning Board with additional information regarding this subject. If chemicals are proposed to be stored, the site plan should be revised to indicate the location of the proposed chemical storage. Specifically, the Applicant should explain the measures proposed to be implemented that would contain any accidental spillage. In addition, the Applicant should provide the Town with a list of all chemicals and quantifies proposed to be stored at the facility.*

Response No. 13

This will be addressed when the site plan application for the golf course parcel, including the new maintenance facility, is submitted.

Comment No. 14

*The Applicant should indicate whether any vehicle or equipment repair will occur on site. If so, the Applicant should provide the Planning Board with additional information regarding this subject. Specifically, the Applicant should explain the measures proposed to be implemented that would contain vehicle/equipment fluids.*

Response No. 14

This will be addressed when the site plan application for the golf course parcel, including the new maintenance facility, is submitted.

Comment No. 15

*The Applicant should indicate whether any vehicle or equipment washing will occur on site. If so, the*

*Applicant should provide the Planning Board with additional information regarding this subject. Specifically, the Applicant should explain the measures proposed to be implemented that would contain/treat/reuse the wash water.*

Response No. 15

This will be addressed when the site plan application for the golf course parcel, including the new maintenance facility, is submitted.

Comment No. 16

*The site plan should contain a note stating that the tennis courts shall not be lit.*

Response No. 16

A note has been added to the site plans.

Comment No. 17

*Tennis court details, including surrounding fencing should be included on the plans. Any fence exceeding six feet in height will require a variance from the Zoning Board of Appeals.*

Response No. 17

The comment is so noted.

Comment No. 18

*The site plan shall be revised to provide calculations demonstrating that the proposed units meet the minimum size requirements of the GCCFO Zoning District.*

Response No. 18

The proposed Market Rate and AFF units comply to the minimum sizes. See charts and notes on submitted residential plans.

Comment No. 19

*A golf course community must be affiliated with an adjoining membership club which is subject to a Town Board special use permit. Such affiliation shall be established by the requirement that, except for the initial developer/sponsor of the golf course community and successor sponsors/owners of units which have not yet been sold for owner occupancy, the owner of a dwelling unit of the golf course community must for the duration of ownership be a member (whether individually or as a family) of the membership club. The terms and conditions of membership shall be determined by the membership club.*

*The golf course of the affiliated membership club functions as the open space for the golf course community, and preservation of that open space is a basis for the permitted density of a golf course*



*community. Accordingly, as a condition of site development plan approval of a golf course community, the affiliated membership club shall record in the Westchester County Clerk's office a permanent conservation easement pursuant to which the membership club agrees that the property on which the golf course is located shall be used solely as a golf course or as open space. The conservation easement shall be in form and substance reasonably acceptable to the Town Board and Town Attorney.*

Response No. 19

The owners of the market-rate residences will all be members of The Summit Club which has reopened as of April, 2021. A Temporary Special Use Permit for the club/golf course operations, including the temporary facilities was approved by the Town Board on 02/24/2021.

The golf course lot is already subject to a recorded Declaration providing that the golf course lot can only be used as a golf course/club or as open space. The landowner, Summit Club Partners, LLC, will enter into a permanent conservation easement and file it with the Westchester County Clerk's office.

Comment No. 20

*The Applicant will need to file the previously discussed conservation easement prior to the issuance of the first building permit.*

Response No. 20

The comment is so noted.

Comment No. 21

*The Applicant has indicated that chipping would be required during construction. At this time, the Applicant should provide details for review by the Planning Board.*

Response No. 21

Based on the subsurface geotechnical exploration conducted at the property, rock is present in the proposed redevelopment area and blasting and/or chipping will be required to remove the rock during construction. All rock removal processes shall meet all applicable Town of North Castle. Additional information related to blasting and/or rock chipping in accordance with Town Code Chapter 22 "Blasting, Explosives and Chipping, last revised 11/18/2020 will be provided under separate cover.

Comment No. 22

*The Applicant has indicated that rock processing would be proposed on the site. Additional details should be submitted regarding the proposed operation at this time.*

Response No. 22

Based on the subsurface geotechnical exploration conducted at the property, rock is present in the

proposed redevelopment area. Once removed, the rock will be processed on-site and used for construction. A note has been added to the site plans. All rock processing operations shall meet all applicable Town of North Castle and Westchester County Department of Health requirements. Additional information related to on-site rock processing in accordance with all local and WCDH requirements will be provided under separate cover.

Comment No. 23

*The Town charges a fee in lieu of providing recreation facilities. The Applicant believes that sufficient on-site recreational facilities are being provided to meet the demand of the project, and has requested a credit be given for the market rate homes. The residents of the AFFH units would not be required to be members of the Club and would likely use Town recreation facilities. Therefore, the required \$1,000 per unit fee in lieu should be paid by the Applicant for the AFFH units.*

Response No. 23

The comment is so noted.

Comment No. 24

*The site plan depicts 25,700 square feet of Town-regulated steep slope disturbance.*

Response No. 24

The current site plans have been revised to depict 65,300 square feet (1.50 acres) of Town-regulated steep slope disturbance.

Comment No. 25

*The site plan depicts the removal of 225 Town-regulated trees.*

Response No. 25

The current site plans have been revised to depict the removal of 250 Town-regulated trees.

Comment No. 26

*The Applicant should update the Planning Board regarding the status of providing potable water to the project.*

Response No. 26

The applicant has retained the services of a hydrogeologist/water system consultant who is currently working on the design of the new on-site water system. The new water system will be sized appropriately to accommodate the proposed residential, golf club and various amenities facilities.

According to the project Hydrogeologist/Water Supply Consultant (WSP), the next step for the project potable water system will be to conduct a 72-hour yield test of the three on-site wells with a full NYS Part 5 water sample for each well. After the 72-hour test is completed, WSP will revise the 50% plans and specifications that have been developed and previously provided to the Town. Once the plans and specifications have been updated and further developed, they will be submitted to the Town of North Castle (Sal Misiti), its consultants and the WCDH. Please refer to drawings prepared by WSP USA.

Comment No. 27

*The Applicant should update the Planning Board regarding the plans to improve the wastewater treatment plant.*

Response No. 27

The applicant has retained the services of a sewage treatment plant consultant (R&M Engineering) who is currently working on the design of the new sewage treatment plant. As indicated above, the existing STP building will be reused as an equipment storage building. Instead, a new sewage treatment plant is proposed within the hillside between the existing driveway leading to the STP building and the south side of the existing driving range. The new plant will be sized appropriately to accommodate the proposed residential, golf club and various amenities facilities. Refer to drawings prepared by R&M Engineering for preliminary STP site layout and hydraulic profile.

Comment No. 28

*The Applicant has stated that signage is proposed for the project. The location and design of the signage should be included on the plans at this time.*

Response No. 28

New entrance signage will be proposed on the new decorative stone walls proposed at the entrance to the site. Additional signage will be provided throughout the interior of the development area as required (traffic control, directional, etc.). The design of the proposed entrance signage will be prepared and provided under separate cover.

Comment No. 29

*Pursuant to Section 355-34.1(5)(b) of the Town Code, within multifamily developments, the affordable AFFH units shall be physically integrated into the design of the development and shall be distributed among various sizes (efficiency, one-, two-, three- and four-bedroom units) in the same proportion as all other units in the development. The plan should identify which units will be AFFH and demonstrate that the unit sizes are equally distributed among the various sizes.*

*The Chart on A101 is not correct and should be double checked. For instance, Building 3 and 4 are identified as having 9 units, but consist of 8 units (2 three-bedroom, 9 two-bedroom and 1 four-bedroom units). The number of units is important as the unit breakdown is needed to calculate density, off-street parking and AFFH requirements.*

Response No. 29

The chart has been revised. See plan residential sheets.

Comment No. 30

*Pursuant to Section 355-24.1.1 of the Town Code AFFH units shall be marketed in accordance with the Westchester County Fair Affordable Housing Affirmative Marketing Plan.*

Response No. 30

The comment is so noted.

Comment No. 31

*Pursuant to Section 355-24-1.2 of the Town Code, the maximum monthly rent for an affordable AFFH unit and the maximum gross sales price for an AFAH unit shall be established in accordance with US Department of Housing and Urban Development guidelines as published in the current edition of the Westchester County Area Median Income AMI Sales Rent Limits available from the County of Westchester.*

Response No. 31

The comment is so noted.

Comment No. 32

*Pursuant to Section 355-24-1.3 of the Town Code, units designated as affordable AFFH units shall remain affordable for a minimum of 50 years from date of initial certificate of occupancy for rental properties and from date of original sale for ownership units.*

Response No. 32

The comment is so noted.

Comment No. 33

*Pursuant to Section 355-24-1.4 of the Town Code, a property containing any affordable AFFH units shall be restricted using a mechanism such as declaration of restrictive covenants in recordable form acceptable to the Town which shall ensure that the affordable AFFH unit shall remain subject to affordable regulations for the minimum 50-year period of affordability. The covenants shall require that the unit be the primary residence of the resident household selected to occupy the unit upon approval such declaration shall be recorded against the property containing the affordable AFFH unit prior to the issuance of a Certificate of Occupancy for the development.*

Response No. 33

The comment is so noted. The applicant will comply.

Comment No. 34

*Pursuant to Section 355-34.1(6)(a) of the Town Code the Applicant shall submit an exhibit demonstrating that the proposed AFFH units meet the minimum size requirements and are not less than 80% of the of average floor area of market rate units.*

Response No. 34

The AFF units are not less than 80% of the average Market Rate floor area. See charts and notes on the submitted floor plans.

We trust the attached documents and above responses are sufficient for your review and we respectfully request placement on the April 11th Planning Board agenda. Thank you for your consideration.

If you have any questions or require additional information, please do not hesitate to contact our office at (914) 273-5225.

Sincerely,

JMC Planning Engineering Landscape Architecture & Land Surveying, PLLC



Paul R. Sysak, RLA  
Project Manager

cc: Adam R. Kaufman, AICP  
Joseph M. Cermele, PE, CFM  
Roland Baroni, Esq.  
Jeffrey B. Mendell  
Mark P. Weingarten, Esq.  
Peter J. Wise, Esq.  
Rich S. Granoff, AIA, LEED AP  
Kenneth S. Andersen, AIA

# SITE PLAN APPROVAL DRAWINGS

# THE SUMMIT CLUB AT ARMONK (RESIDENTIAL PHASE)

TAX MAP SECTION 101.02 | BLOCK 1 | LOT 28.1 & 28.2  
WESTCHESTER COUNTY  
568 & 570 BEDFORD ROAD (NY-22)  
ARMONK, NY 10504

**Applicant/Owner:**  
SUMMIT CLUB PARTNERS, LLC  
568 BEDFORD ROAD (NY-22)  
ARMONK, NY 10504  
(914) 391-2900

**Architect/Landscape Architect:**  
GRANOFF ARCHITECTS  
330 RAILROAD AVENUE  
GREENWICH, CT 06830  
(203) 625-9460

**Attorney:**  
DELBELLO DONNELLAN WEINGARTEN WISE & WIEDERKEHR, LLP  
THE GATEWAY BUILDING  
ONE NORTH LEXINGTON AVENUE  
WHITE PLAINS, NY 10601  
(914) 681-0200

**Lighting Consultant:**  
APEX LIGHTING SOLUTIONS  
20-30 BEAVER ROAD  
WETHERSFIELD, CT 06109  
(860) 632-8766

**Site Planner, Civil Engineer, Surveyor:**  
JMC PLANNING ENGINEERING LANDSCAPE ARCHITECTURE & LAND SURVEYING PLLC  
120 BEDFORD ROAD  
ARMONK, NY 10504  
(914) 273-5225



- JMC Drawing List:**
- C-000 COVER SHEET
  - C-010 OVERALL EXISTING CONDITIONS MAP
  - C-011 EXISTING CONDITIONS MAP (SOUTH)
  - C-012 EXISTING CONDITIONS MAP (NORTH)
  - C-020 SITE DEMOLITION & TREE REMOVAL PLAN (SOUTH)
  - C-021 SITE DEMOLITION & TREE REMOVAL PLAN (NORTH)
  - C-022 SITE TREE REMOVAL TABLE
  - C-100A OVERALL SITE LAYOUT AND PHASING PLAN
  - C-100 SITE LAYOUT PLAN (SOUTH)
  - C-101 SITE LAYOUT PLAN (NORTH)
  - C-102 FIRE TRUCK ACCESS PLAN
  - C-103 UTILITIES COMPLEX PLANS
  - C-200 SITE GRADING PLAN (SOUTH)
  - C-201 SITE GRADING PLAN (NORTH)
  - C-202 ROAD PROFILES PLAN
  - C-300 SITE PRELIMINARY UTILITIES PLAN (SOUTH)
  - C-301 SITE PRELIMINARY UTILITIES PLAN (NORTH)
  - C-302 SANITARY SEWER PROFILES
  - C-303 WATER MAIN PROFILES
  - C-304 STORM SEWER PROFILES
  - C-400 SITE EROSION & SEDIMENT CONTROL PLAN (SOUTH)
  - C-401 SITE EROSION & SEDIMENT CONTROL PLAN (NORTH)
  - C-402 EROSION & SEDIMENT CONTROL/PHASING NOTES
  - C-900 CONSTRUCTION DETAILS
  - C-901 CONSTRUCTION DETAILS
  - C-902 CONSTRUCTION DETAILS
  - C-903 CONSTRUCTION DETAILS
  - C-904 CONSTRUCTION DETAILS
  - PSP-1 PRELIMINARY SUBDIVISION PLAT (NO JURISDICTION SUBDIVISION)
  - IPP-1 INTEGRATED PLOT PLAN (NO JURISDICTION SUBDIVISION)

TABLE OF LAND USE							
SECTION 101.02, BLOCK 1, LOT 28.1 & 28.2 (2/08/7.C1A) ZONES "R-2A" - "ONE FAMILY RESIDENCE DISTRICT (2 ACRES)" "GCCFO" - "GOLF COURSE COMMUNITY FLOATING OVERLAY DISTRICT" PROPOSED USE: GOLF COURSE COMMUNITY FIRE/AMBULANCE DISTRICT: ARMONK FIRE DEPARTMENT (NORTH CASTLE DISTRICT #2) WATER DISTRICT: NORTH CASTLE WATER DISTRICT #2 SCHOOL DISTRICT: BYRAM HILLS CENTRAL SCHOOL DISTRICT SEWER DISTRICT: ON-SITE SEWAGE TREATMENT PLANT (SPDES PERMIT)							
DESCRIPTION	REQUIRED/PERMITTED (R-2A)	REQUIRED/PERMITTED (GCCFO)	EXISTING	PROPOSED/PROVIDED (LOT 1)	PROPOSED/PROVIDED (LOT 2)	PROPOSED/PROVIDED (LOT 3)	PROPOSED/PROVIDED (LOT 4)
LOT AREA (ACRES)	2.0 MIN. (1)	SEE NOTE 1	±156.30 (5)	±135.34	±20.96	±2.95	±0.25
LOT STREET FRONTAGE (FEET)	150 MIN. (1)	SEE NOTE 1	1,519.70	1,519.70 (1)	1,519.70 (1)	1,519.70 (1)	1,519.70 (1)
LOT WIDTH (FEET)	150 MIN. (1)	SEE NOTE 1	±2,300	±2,300 (1)	±2,300 (1)	±2,300 (1)	±2,300 (1)
LOT DEPTH (FEET)	150 MIN. (1)	SEE NOTE 1	±1,805	±1,805 (1)	±1,805 (1)	±1,805 (1)	±1,805 (1)
PRINCIPAL BUILDING MINIMUM YARDS (FEET)							
FRONT	50 (1)	SEE NOTE 1	±123.1	±313.72 (1)	±252.91 (1)	±917.74 (1)	±1,132.50 (1)
SIDE	30 (1)	SEE NOTE 1	±297.8	±297.8 (1)	±1,468.17 (1)	±1,468.17 (1)	±1,869.34 (1)
REAR	50 (1)	SEE NOTE 1	±1,645.5	±1,755.63 (1)	±1,874.18 (1)	±1,095.77 (1)	±1,249.79 (1)
MAXIMUM BUILDING COVERAGE (%)	8 (1)	3.5 (1)	0.72 (6)	0.33 (1)(7)	1.33 (1)(7)	0.01 (1)(7)	0.01 (1)(7)
MAXIMUM BUILDING HEIGHT (STORIES / FEET)	NA / 30	3 / 39.5 (2)	3 / < 39.5	3 / < 39.5	3 / < 39.5	3 / < 39.5	3 / < 39.5
PARKING SPACES							
STANDARD PARKING SPACES	2 PER DWELLING UNIT	SEE NOTE 3	-	160	168	-	-
ACCESSIBLE PARKING SPACES	N/A	-	-	8	12	-	-
COMPACT PARKING SPACES	N/A	-	-	72	-	-	-
TOTAL PARKING SPACES	2 PER DWELLING UNIT	-	160	240	180	-	-
LOADING SPACES	N/A	SEE NOTE 4	-	2	-	-	-

- NOTES:**
- IN THE GCCFO DISTRICT, THE LOT, DIMENSIONAL, AND PARKING REQUIREMENTS FOR A GOLF COURSE COMMUNITY IN THIS SECTION SHALL SUPERSEDE THE SCHEDULE OF RESIDENCE DISTRICT REGULATIONS (§ 355-21 OF THIS CHAPTER), LOT SIZE, LOT CONFIGURATION AND OTHER LOT DIMENSIONAL REQUIREMENTS WITHIN A GCCFO DISTRICT SHALL BE DETERMINED BY THE PLANNING BOARD IN CONJUNCTION WITH SUBDIVISION APPROVAL. LOT SIZE, LOT CONFIGURATION AND OTHER LOT DIMENSIONAL REQUIREMENTS OF LOTS WITHIN A GCCFO DISTRICT SHALL BE BASED UPON THE PLANNING BOARD'S CONSIDERATION OF THE CHARACTER OF THE NEIGHBORHOOD IN WHICH THE GCCFO DISTRICT WILL BE LOCATED; THE GCCFO DISTRICT'S RELATIONSHIP TO ADJOINING DISTRICTS, PROPERTIES AND LAND USES; THE GCCFO DISTRICT'S TOPOGRAPHY; AND SUCH OTHER FACTORS THE PLANNING BOARD MAY DETERMINE TO BE APPROPRIATE. THE LOTS AND/OR PARCELS THAT TOGETHER COMPOSE A GOLF COURSE COMMUNITY SITE ARE NOT REQUIRED TO BE CONTIGUOUS, PROVIDED THAT EACH SUCH LOT AND/OR PARCEL ADJAINS THE AFFILIATED MEMBERSHIP CLUB. ALL LOT, DIMENSIONAL, AND PARKING REQUIREMENTS IN THIS SECTION, INCLUDING BUT NOT LIMITED TO MAXIMUM DENSITY, MAXIMUM BUILDING COVERAGE, MINIMUM YARDS AND REQUIRED OFF-STREET PARKING, SHALL APPLY TO THE LAND AREA IN THE GCCFO DISTRICT AS A WHOLE. NOTWITHSTANDING THAT THE GOLF COURSE COMMUNITY SITE MAY BE COMPRISED OF MORE THAN ONE LOT AND/OR PARCEL, OR THAT THE SITE MAY FROM TIME TO TIME BE SUBDIVIDED OR RESUBDIVIDED, AND ALL DETERMINATIONS AND CALCULATIONS RELATING TO SUCH REQUIREMENTS SHALL BE MADE WITH REFERENCE TO THE BOUNDARIES OF THE ENTIRE LAND AREA IN THE GCCFO DISTRICT AND AS THOUGH SUCH AREA IS A SINGLE LOT (AS DEFINED IN § 355-4 OF THIS CHAPTER), EVEN THOUGH IT IS OR WILL BE COMPRISED OF MORE THAN ONE LOT AND/OR PARCEL.
  - THE MAXIMUM BUILDING HEIGHT SHALL BE THREE STORES AND 39 1/2 FEET TO THE MEAN LEVEL OF THE PRIMARY ROOF, MEASURED FROM THE LEVEL OF THE FINISHED GRADE AT THE MAIN ENTRY TO THE BUILDING.
  - RESIDENTIAL PARKING CALCULATIONS**  
MARKET-RATE DWELLING UNITS REQUIREMENT: "OTHER MULTIFAMILY DWELLING UNITS": 2 FOR EACH DWELLING UNIT, PLUS 1/3 FOR EACH BEDROOM IN EXCESS OF 2, PLUS 10% VISITOR PARKING.  
65 TOTAL MARKET-RATE DWELLING UNITS: (49) 2-BEDROOM UNITS, (16) 3-BEDROOM UNITS  
65 (DWELLING UNITS) X 2 = 130 PARKING SPACES  
16 (3-BEDROOM UNITS) X 5 = 80 PARKING SPACES  
10% VISITOR PARKING: 130 X 10 = 13.0 (14) PARKING SPACES  
TOTAL REQUIRED PARKING FOR MARKET-RATE UNITS: 152 PARKING SPACES  
AFFH DWELLING UNITS REQUIREMENT: "MIDDLE-INCOME DWELLING UNITS AND AFFH UNITS": 1 FOR EACH DWELLING UNIT, PLUS 1/3 FOR EACH BEDROOM.  
7 TOTAL AFFH DWELLING UNITS: (5) 2-BEDROOM UNITS, (2) 3-BEDROOM UNITS  
7 (DWELLING UNITS) X 1 = 7 PARKING SPACES  
16 (TOTAL BEDROOMS) X 5 = 80 PARKING SPACES  
TOTAL REQUIRED PARKING FOR MARKET-RATE UNITS: 159 PARKING SPACES

**PROPOSED BUILDING AREA SUMMARY (GROSS FLOOR AREA):**

**AMENITIES BUILDING:**  
FIRST FLOOR: 2,946 SF  
LOWER LEVEL: 2,913 SF  
TOTAL FOR AMENITIES BUILDING: 5,859 SF

**RESIDENTIAL BUILDINGS (#1-6):**  
EACH CONDO FLOOR: 12,350 S.F. (3 STORES TOTAL = 37,050 S.F.)  
EACH GARAGE PARKING LEVEL: 16,005 S.F.  
TOTAL PER BUILDING (#1-6): 53,655 S.F.  
TOTAL FOR ALL RESIDENTIAL BUILDINGS (#1-6): 321,930 SF

**RESIDENTIAL UNIT PHASING DECLARATION:**

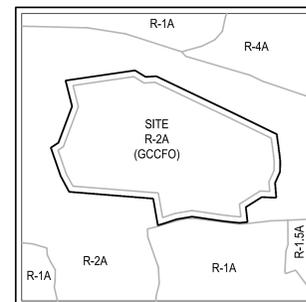
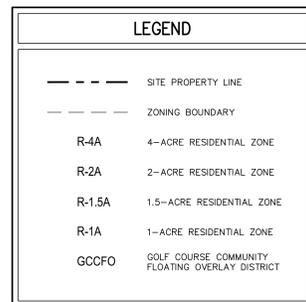
IN DECEMBER, 2019, IN CONSIDERATION OF THE ADOPTION BY THE TOWN OF THE AMENDMENT, THE APPLICANT RECORDED A DECLARATION PURSUANT TO WHICH THE APPLICANT MAY, SUBJECT TO SITE PLAN APPROVAL, CONSTRUCT ON THE DEVELOPMENT LOT A FIRST PHASE OF THE COMMUNITY ("PHASE 1"), WHICH MAY CONSIST OF UP TO THIRTY-SIX (36) RESIDENCES, WHICH MAY BE FEE-SIMPLE HOMES AND/OR CONDOMINIUM UNITS WITHOUT LIMITATION REGARDING FORM OF OWNERSHIP OF THE RESIDENCES, AND A SECOND PHASE OF THE COMMUNITY ("PHASE 2"), WHICH MAY CONSIST OF UP TO THIRTY-SEVEN (37) RESIDENCES, WHICH MAY BE FEE-SIMPLE HOMES AND/OR CONDOMINIUM UNITS WITHOUT LIMITATION REGARDING FORM OF OWNERSHIP OF THE RESIDENCES; PROVIDED THAT UNLESS THE AGGREGATE AVERAGE OF THE GROSS SALES PRICES OF THE MARKET-RATE PHASE 1 CONDOMINIUM UNITS IS \$700.00 PER SQUARE FOOT OR MORE, THE PHASE 2 CONDOMINIUM RESIDENCES ARE REQUIRED TO BE "50 AND OLDER" AGE-RESTRICTED HOUSING AS PERMITTED UNDER APPLICABLE FEDERAL LAW AND REGULATIONS. THE DECLARATION ALSO REQUIRES PHASE 1 TO INCLUDE FOUR (4) ON-SITE AFFORDABLE UNITS, AND PHASE 2 TO INCLUDE THREE (3) ON-SITE AFFORDABLE UNITS. HOWEVER, THE APPLICANT IS PERMITTED TO AT ANY TIME ELECT TO RELOCATE ALL OR A PORTION OF THE AFFORDABLE UNITS OFF-SITE WITHIN AREAS IN THE ARMONK HAMLET THAT ARE SERVED BY PUBLIC SEWER AND WATER, AND THEREBY REDUCE THE ON-SITE AFFORDABLE UNITS AND SUBSTITUTE MARKET-RATE UNITS THEREON ON A ONE-TO-ONE BASIS, PROVIDED THAT IN NO EVENT SHALL THE TOTAL NUMBER OF RESIDENTIAL UNITS ON THE PROPERTY EXCEED SEVENTY-THREE (73).

**GENERAL CONSTRUCTION NOTES APPLY TO ALL WORK HEREIN:**

- PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL CALL 811 "DIG SAFELY" (1-800-962-7862) TO HAVE UNDERGROUND UTILITIES LOCATED. EXPLORATORY EXCAVATIONS SHALL COMPLY WITH CODE 753 REQUIREMENTS. NO WORK SHALL COMMENCE UNTIL ALL THE OPERATORS HAVE NOTIFIED THE CONTRACTOR THAT THEIR UTILITIES HAVE BEEN LOCATED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PRESERVATION OF ALL PUBLIC AND PRIVATE UNDERGROUND AND SURFACE UTILITIES AND STRUCTURES AT OR ADJACENT TO THE SITE OF CONSTRUCTION, INsofar AS THEY MAY BE ENDANGERED BY THE CONTRACTOR'S OPERATIONS. THIS SHALL HOLD TRUE WHETHER OR NOT THEY ARE SHOWN ON THE CONTRACT DRAWINGS. IF THEY ARE SHOWN ON THE DRAWINGS, THEIR LOCATIONS ARE NOT GUARANTEED EVEN THOUGH THE INFORMATION WAS OBTAINED FROM THE BEST AVAILABLE SOURCES, AND IN ANY EVENT, OTHER UTILITIES ON THESE PLANS MAY BE ENCOUNTERED IN THE FIELD. THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, IMMEDIATELY REPAIR OR REPLACE ANY STRUCTURES OR UTILITIES THAT HE DAMAGES, AND SHALL CONSTANTLY PROCEED WITH CAUTION TO PREVENT UNDEIR INTERRUPTION OF UTILITY SERVICE.
- CONTRACTOR SHALL HAND DIG TEST PITS TO VERIFY THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO THE START OF CONSTRUCTION. CONTRACTOR SHALL VERIFY EXISTING UTILITIES DEPTHS AND ADVISE OF ANY CONFLICTS WITH PROPOSED UTILITIES. IF CONFLICTS ARE PRESENT, THE OWNER'S FIELD REPRESENTATIVE, JMC, PLLC AND THE APPLICABLE MUNICIPALITY OR AGENCY SHALL BE NOTIFIED IN WRITING. THE EXISTING/PROPOSED UTILITIES RELOCATION SHALL BE DESIGNED BY JMC, PLLC.
- CONTRACTOR IS RESPONSIBLE FOR OBTAINING ANY AND ALL LOCAL PERMITS REQUIRED.
- ALL WORK SHALL BE DONE IN STRICT COMPLIANCE WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES, STANDARDS, ORDINANCES, RULES, AND REGULATIONS. ALL CONSTRUCTION WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL SAFETY CODES. APPLICABLE SAFETY CODES MEAN THE LATEST EDITION INCLUDING ANY AND ALL AMENDMENTS, REVISIONS, AND ADDITIONS THERETO, TO THE FEDERAL DEPARTMENT OF LABOR, OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION'S OCCUPATIONAL SAFETY AND HEALTH STANDARDS (OSHA); AND APPLICABLE SAFETY, HEALTH REGULATIONS AND BUILDING CODES FOR CONSTRUCTION IN THE STATE OF NEW YORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR GUARDING AND PROTECTING ALL OPEN EXCAVATIONS IN ACCORDANCE WITH THE PROVISIONS OF SECTION 107-05 (SAFETY AND HEALTH REQUIREMENTS) OF THE NYS DOT STANDARD SPECIFICATIONS. IF THE CONTRACTOR PERFORMS ANY HAZARDOUS CONSTRUCTION PRACTICES, ALL OPERATIONS IN THE AFFECTED AREA SHALL BE DISCONTINUED AND IMMEDIATE ACTION SHALL BE TAKEN TO CORRECT THE SITUATION TO THE SATISFACTION OF THE APPROVAL AUTHORITY HAVING JURISDICTION.
- CONTRACTOR SHALL MAINTAIN ACCESS TO ALL PROPERTIES AFFECTED BY THE SCOPE OF WORK SHOWN HEREON AT ALL TIMES TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE. RAMPING CONSTRUCTION TO PROVIDE ACCESS MAY BE CONSTRUCTED WITH SUBBASE MATERIAL EXCEPT THAT TEMPORARY ASPHALT CONCRETE SHALL BE PLACED AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING SAFE PEDESTRIAN ACCESS AT ALL TIMES.
- CONTRACTOR SHALL MAINTAIN THE INTEGRITY OF EXISTING PAVEMENT TO REMAIN.



**SITE LOCATION MAP**  
SCALE: 1" = 1,000'  
SOURCE: TITLE / YEAR



**GOLF COURSE/CLUB PARKING CALCULATIONS**

GOLF COURSE/CLUB REQUIREMENT: "GOLF OR COUNTRY CLUBS": 1 FOR EACH 3 MEMBERS, PLUS 1 FOR EACH 3 SEATS IN THE MEETING AND/OR DINING ROOMS.  
600 TOTAL MEMBERSHIPS:  
600 (MEMBERSHIPS) / 3 = 200 PARKING SPACES  
286 TOTAL SEATS: (232 RESTAURANT SEATS + 54 BAR SEATS)  
286 (SEATS) / 3 = 95.3 (96) = PARKING SPACES  
TOTAL REQUIRED PARKING FOR GOLF COURSE/CLUB: 296 PARKING SPACES

TOTAL REQUIRED PARKING: 167 RESIDENTIAL + 296 GOLF COURSE/CLUB = 463 SPACES  
TOTAL PROVIDED PARKING: 180 RESIDENTIAL + 240 GOLF COURSE/CLUB + 65 GOLF CLUB RESIDENT CREDIT (1 SPACE/UNIT) = 485 SPACES

- FOR WHOLESALE BUSINESS, INDUSTRY, STORAGE, WAREHOUSE AND OTHER COMMERCIAL ESTABLISHMENTS, A MINIMUM OF ONE SPACE FOR EACH ESTABLISHMENT, AND ONE ADDITIONAL SPACE FOR EACH 10,000 SQUARE FEET OF GROSS FLOOR AREA OR MAJOR PORTION THEREOF IN EXCESS OF 4,000 SQUARE FEET OF GROSS FLOOR AREA.
- CURRENTLY THE GOLF COURSE LOT IS ±135.34 ACRES AND THE RESIDENTIAL LOT IS ±20.96 ACRES.
- TOTAL EXISTING BUILDING COVERAGE CALCULATED BASED ON ALL EXISTING BUILDINGS ON THE PROPERTY, INCLUDING PREVIOUSLY DEMOLISHED STRUCTURES.
- BUILDING COVERAGE BREAKDOWN:

LOT 1:	LOT 2:
CLUBHOUSE BUILDING: ±8,070.06 S.F.	RESIDENTIAL AMENITIES BUILDING: ±2,939.39 S.F.
COTTAGES: 10 X 1,500.00 S.F.	RESIDENTIAL BUILDINGS 6 X ±14,400.17 S.F.
TOTAL LOT 1 BUILDING COVERAGE: ±23,070.06 S.F.	GATE HOUSE: ±903 S.F.
	TENNIS PAVILION: ±375 S.F.
	TOTAL LOT 2 BUILDING COVERAGE: ±90,738.41 S.F.
LOT 3:	LOT 4:
SEWAGE TREATMENT PLANT: ±699.58 S.F.	WATER TREATMENT BUILDING: ±640.00 S.F.
	WATER HOLDING TANK: ±571.36 S.F.
TOTAL LOT 3 BUILDING COVERAGE: ±699.58 S.F.	TOTAL LOT 4 BUILDING COVERAGE: ±1,211.36 S.F.

APPROVED BY TOWN OF NORTH CASTLE PLANNING BOARD RESOLUTION, DATED \_\_\_\_\_ DATE: \_\_\_\_\_  
CHRISTOPHER CARRHY, CHAIRMAN,  
TOWN OF NORTH CASTLE PLANNING BOARD  
ENGINEERING DRAWINGS REVIEWED BY TOWN CONSULTING ENGINEER  
JOSEPH M. CERMELE, P.E.  
KELLARD SESSIONS CONSULTING, P.C.  
CONSULTING TOWN ENGINEER

ANY ALTERATION OF PLANS, SPECIFICATIONS, PLATS AND REPORTS BEARING THE SEAL OF A LICENSED PROFESSIONAL ENGINEER OR LICENSED LAND SURVEYOR IS A VIOLATION OF SECTION 1209 OF THE NEW YORK STATE EDUCATION LAW, EXCEPT AS PROVIDED FOR BY SECTION 7209, SUBSECTION 2.

APPROVED BY TOWN OF NORTH CASTLE PLANNING BOARD RESOLUTION, DATED \_\_\_\_\_ DATE: \_\_\_\_\_  
CHRISTOPHER CARRHY, CHAIRMAN,  
TOWN OF NORTH CASTLE PLANNING BOARD  
ENGINEERING DRAWINGS REVIEWED BY TOWN CONSULTING ENGINEER  
JOSEPH M. CERMELE, P.E.  
KELLARD SESSIONS CONSULTING, P.C.  
CONSULTING TOWN ENGINEER

SUBSURFACE UTILITY LOCATIONS ARE BASED ON A COMBINATION OF FIELD EVIDENCE, AVAILABLE RECORD PLANS AND/OR UTILITY MARK-OVERS. THE LOCATION OR COMPLETENESS OF UNDERGROUND INFORMATION CANNOT BE GUARANTEED. VERIFY THE ACTUAL LOCATION OF ALL UTILITIES PRIOR TO EXCAVATION OR CONSTRUCTION.

**811** Know what's below. Call before you dig.

No.	Revision	Date	By
1.	RESPONSE TO TOWN COMMENTS	01/11/2021	NC
2.	RESPONSE TO TOWN COMMENTS	03/08/2021	NC
3.	RESPONSE TO TOWN COMMENTS	06/14/2021	NC
4.	RESPONSE TO TOWN COMMENTS	01/10/2022	NC
5.	RESPONSE TO TOWN COMMENTS	03/28/2022	NC

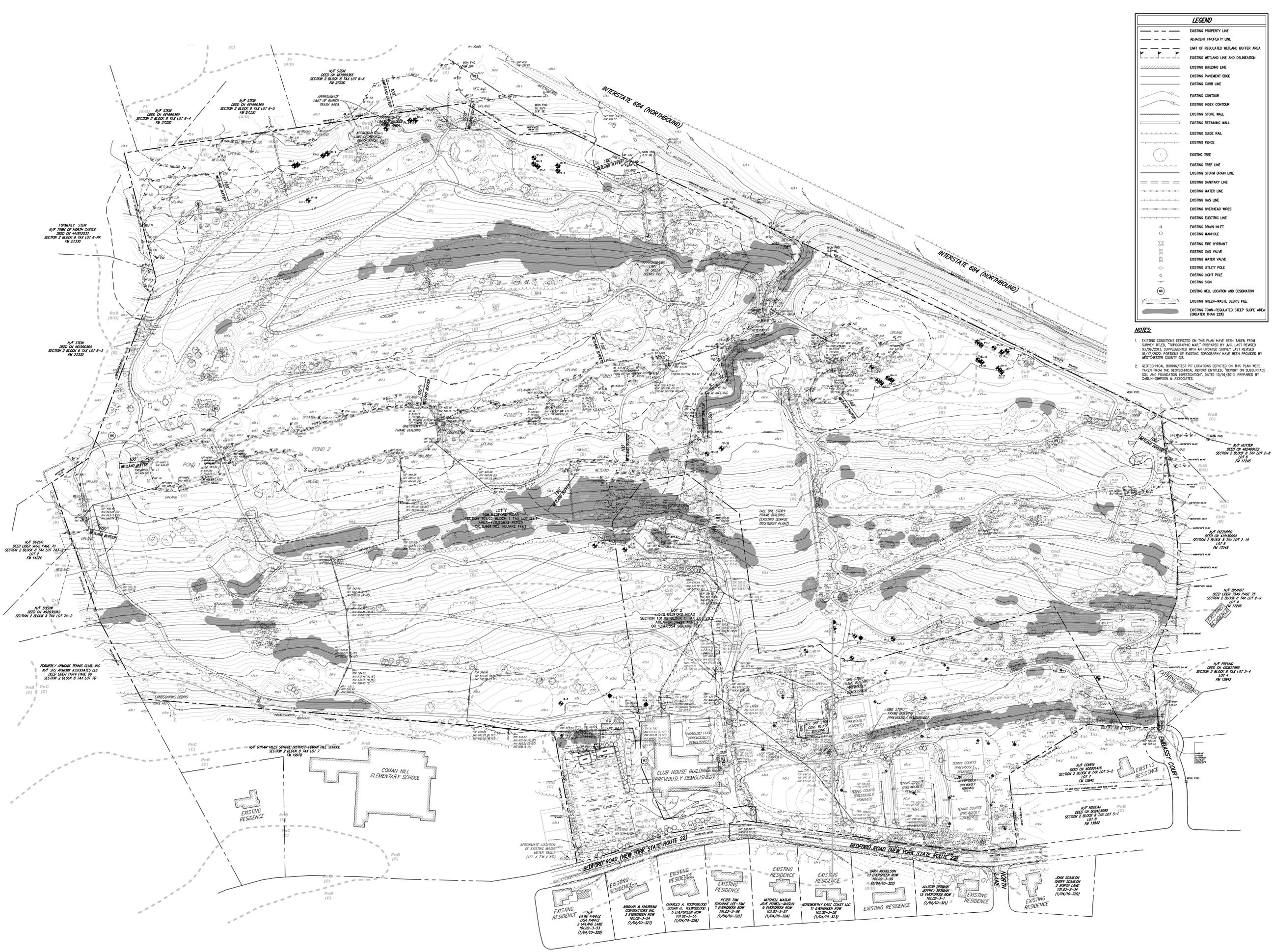
JMC Planning & Engineering, Landscape Architects & Land Surveying, PLLC  
JMC Site Development Consultants, LLC  
John Moyer Consulting, Inc.  
120 BEDFORD ROAD - ARMONK, NY 10504  
voice 914.273.5225 • fax 914.273.2102  
www.jmcpilc.com

Scale: NOT TO SCALE  
Date: 11/23/2020  
Project No: 20101  
Drawn By: JMC  
Checked By: JMC  
Approved By: JMC

**C-000**

NOT FOR CONSTRUCTION

NOT FOR CONSTRUCTION



**LEGEND**

[Symbol]	EXISTING PROPERTY LINE
[Symbol]	ADJACENT PROPERTY LINE
[Symbol]	LIMIT OF REGULATED WETLAND BUFFER AREA
[Symbol]	EXISTING WETLAND LINE AND DELINEATION
[Symbol]	EXISTING BUILDING LINE
[Symbol]	EXISTING PAVEMENT EDGE
[Symbol]	EXISTING CURB LINE
[Symbol]	EXISTING CONTOUR
[Symbol]	EXISTING INDEX CONTOUR
[Symbol]	EXISTING STONE WALL
[Symbol]	EXISTING RETAINING WALL
[Symbol]	EXISTING CURE RAIL
[Symbol]	EXISTING FENCE
[Symbol]	EXISTING TREE
[Symbol]	EXISTING TREE LINE
[Symbol]	EXISTING STORM DRAIN LINE
[Symbol]	EXISTING SANITARY LINE
[Symbol]	EXISTING WATER LINE
[Symbol]	EXISTING GAS LINE
[Symbol]	EXISTING OVERHEAD WIRES
[Symbol]	EXISTING ELECTRIC LINE
[Symbol]	EXISTING DRAIN INLET
[Symbol]	EXISTING MANHOLE
[Symbol]	EXISTING GAS VALVE
[Symbol]	EXISTING WATER VALVE
[Symbol]	EXISTING UTILITY POLE
[Symbol]	EXISTING LIGHT POLE
[Symbol]	EXISTING SIGN
[Symbol]	EXISTING WELL LOCATION AND DESIGNATION
[Symbol]	EXISTING GREEN-WASTE DEBRIS PILE
[Symbol]	EXISTING TOWN-REGULATED STEEP SLOPE AREA (GREATER THAN 30%)

**NOTES**

- EXISTING CONDITIONS DEPICTED ON THIS PLAN HAVE BEEN TAKEN FROM SURVEY TITLED, "TOPOGRAPHIC MAP," PREPARED BY JMC, LAST REVISED 03/06/2013, SUPPLEMENTED WITH AN UPDATED SURVEY LAST REVISED 01/17/2022. PORTIONS OF EXISTING TOPOGRAPHY HAVE BEEN PROVIDED BY WESTCHESTER COUNTY GIS.
- GEOTECHNICAL BORING/TEST PIT LOCATIONS DEPICTED ON THIS PLAN WERE TAKEN FROM THE GEOTECHNICAL REPORT ENTITLED, "REPORT ON SUBSURFACE SOIL AND FOUNDATION INVESTIGATION," DATED 10/16/2013, PREPARED BY CARLIN-SIMPSON & ASSOCIATES.

**APPLICANT/OWNER:** SUMMIT CLUB PARTNERS, LLC  
568 BEDFORD ROAD (NY-22)  
ARMONK, NY 10504

**ARCHITECT:** GRANOFF ARCHITECTS  
330 RAILROAD AVENUE  
GREENWICH, CT 06850

No.	REVISION	Date
1.	RESPONSE TO TOWN COMMENTS	01/17/2021
2.	RESPONSE TO TOWN COMMENTS	03/06/2021
3.	RESPONSE TO TOWN COMMENTS	06/14/2021
4.	RESPONSE TO TOWN COMMENTS	07/07/2022
5.	RESPONSE TO TOWN COMMENTS	07/29/2022

JMC Planning, Engineering, Landscape Architecture & Land Surveying, PLLC  
JMC Site Development Consultants, LLC  
John Meyer Consulting, Inc.

120 BEDFORD ROAD - ARMONK, NY 10534  
PHONE: 914-333-3223 - FAX: 914-233-2102  
www.jmcpllc.com

**JMC**

**OVERALL EXISTING CONDITIONS MAP**  
THE SUMMIT CLUB AT ARMONK  
(RESIDENTIAL PHASE)  
568 & 570 BEDFORD ROAD (NY-22)  
ARMONK, NY 10504

ANY ALTERATION OF PLANS, SPECIFICATIONS, PLATS AND REPORTS BEARING THE SEAL OF A LICENSED PROFESSIONAL ENGINEER OR LICENSED LAND SURVEYOR IS A VIOLATION OF SECTION 7209 OF THE NEW YORK STATE EDUCATION LAW, EXCEPT AS PROVIDED FOR BY SECTION 7209. SUBSECTION 2.

APPROVED BY TOWN OF NORTH CASTLE PLANNING BOARD RESOLUTION, DATED \_\_\_\_\_ DATE: \_\_\_\_\_  
CHRISTOPHER CATHY, CHAIRMAN, TOWN OF NORTH CASTLE PLANNING BOARD  
ENGINEERING DRAWINGS REVIEWED BY TOWN CONSULTING ENGINEER  
JOSEPH M. CERMIELE, P.E. KELLARD SESSIONS CONSULTING, P.C. CONSULTING TOWN ENGINEER

Drawn	NC	Approved	AG
Scale:	1" = 100'		
Date:	11/23/2020		
Project No.:	20101		
2010-0206	EX	01	001
Client/Title:	DATE: _____		

**C-010**

NOT FOR CONSTRUCTION



**LEGEND**

- EXISTING PROPERTY LINE
- ADJACENT PROPERTY LINE
- LIMIT OF REGULATED WETLAND BUFFER AREA
- EXISTING WETLAND LINE AND DELINEATION
- EXISTING BUILDING LINE
- EXISTING PAVEMENT EDGE
- EXISTING CURB LINE
- EXISTING CONTOUR
- EXISTING INDEX CONTOUR
- EXISTING STONE WALL
- EXISTING RETAINING WALL
- EXISTING GUIDE RAIL
- EXISTING FENCE
- EXISTING TREE
- EXISTING TREE LINE
- EXISTING STORM DRAIN LINE
- EXISTING SANITARY LINE
- EXISTING WATER LINE
- EXISTING GAS LINE
- EXISTING OVERHEAD WIRE
- EXISTING ELECTRIC LINE
- EXISTING DRAIN INLET
- EXISTING MANHOLE
- EXISTING FIRE HYDRANT
- EXISTING GAS VALVE
- EXISTING WATER VALVE
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING SIGN
- EXISTING WELL LOCATION AND DESIGNATION
- EXISTING GREEN-WASTE DEBRIS PILE
- EXISTING TOWN-REGULATED SLOPE AREA (GREATER THAN 25%)

**NOTES**

- EXISTING CONDITIONS DEPICTED ON THIS PLAN HAVE BEEN TAKEN FROM SURVEY TITLES, "TOPOGRAPHIC MAP" PREPARED BY JMC, LAST REVISED 03/06/2013, SUPPLEMENTED WITH AN UPDATED SURVEY LAST REVISED 07/17/2022. PORTIONS OF EXISTING TOPOGRAPHY HAVE BEEN PROVIDED BY WESTCHESTER COUNTY GIS.
- GEOTECHNICAL BORINGS/TEST PIT LOCATIONS SHOWN ON THIS PLAN WERE TAKEN FROM THE GEOTECHNICAL REPORT ENTITLED, "REPORT ON SUBSURFACE SOIL AND FOUNDATION INVESTIGATION", DATED 10/16/2013, PREPARED BY CARLIN-SIMPSON & ASSOCIATES.

**REVISIONS**

No.	Date	By	Revised
1.	07/17/2022	NC	RESPONSE TO TOWN COMMENTS
2.	03/06/2023	NC	RESPONSE TO TOWN COMMENTS
3.	06/14/2023	NC	RESPONSE TO TOWN COMMENTS
4.	07/07/2023	NC	RESPONSE TO TOWN COMMENTS
5.	07/29/2023	NC	RESPONSE TO TOWN COMMENTS

APPLICANT/OWNER: **SUMMIT CLUB PARTNERS, LLC**  
568 BEDFORD ROAD (NY-22)  
ARMONK, NY 10504

ARCHITECT: **GRANOFF ARCHITECTS**  
330 RAILROAD AVENUE  
GREENWICH, CT 06830

JMC Planning, Engineering, Landscape Architecture & Land Surveying, PLLC  
JMC Site Development Consultants, LLC  
John Meyer Consulting, Inc.  
120 BEDFORD ROAD • ARMONK, NY 10534  
PHONE: 914.333.3242 • FAX: 914.233.2102  
www.jmcp.com



**EXISTING CONDITIONS MAP (SOUTH)**  
**THE SUMMIT CLUB AT ARMONK (RESIDENTIAL PHASE)**  
568 & 570 BEDFORD ROAD (NY-22)  
ARMONK, NY 10504

ANY ALTERATION OF PLANS, SPECIFICATIONS, PLATS AND REPORTS BEARING THE SEAL OF A LICENSED PROFESSIONAL ENGINEER OR LICENSED LAND SURVEYOR IS A VIOLATION OF SECTION 7209 OF THE NEW YORK STATE EDUCATION LAW, EXCEPT AS PROVIDED FOR BY SECTION 7209. SUBSECTION 2.

APPROVED BY TOWN OF NORTH CASTLE PLANNING BOARD RESOLUTION, DATED \_\_\_\_\_ DATE: \_\_\_\_\_  
CHRISTOPHER CARTHAY, CHAIRMAN, TOWN OF NORTH CASTLE PLANNING BOARD  
ENGINEERING DRAWINGS REVIEWED BY TOWN CONSULTING ENGINEER  
JOSEPH M. GEMBLE, P.E. KELLARD SESSIONS CONSULTING, P.C. CONSULTING TOWN ENGINEER DATE: \_\_\_\_\_

Drawn: NC Approved: AG  
Scale: 1" = 30'  
Date: 11/23/2020  
Project No: 20101  
DWG-DATE: 11/23/2020  
Drawing No: C-011



NOT FOR CONSTRUCTION



**LEGEND**

- EXISTING PROPERTY LINE
- ADJACENT PROPERTY LINE
- LIMIT OF REGULATED WETLAND BUFFER AREA
- EXISTING WETLAND LINE AND DELINEATION
- EXISTING BUILDING LINE
- EXISTING PAVEMENT EDGE
- EXISTING CURB LINE
- EXISTING CONTOUR
- EXISTING INDEX CONTOUR
- EXISTING STONE WALL
- EXISTING RETAINING WALL
- EXISTING GLEDE RAIL
- EXISTING FENCE
- EXISTING TREE
- EXISTING TREE LINE
- EXISTING STORM DRAIN LINE
- EXISTING SANITARY LINE
- EXISTING WATER LINE
- EXISTING GAS LINE
- EXISTING OVERHEAD WIRES
- EXISTING ELECTRIC LINE
- EXISTING DRAIN INLET
- EXISTING MANHOLE
- EXISTING FIRE HYDRANT
- EXISTING GAS VALVE
- EXISTING WATER VALVE
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING SIGN
- EXISTING WELL LOCATION AND DESIGNATION
- EXISTING GREEN-WASTE DEBRIS PILE
- EXISTING TOWN-REGULATED STEEP SLOPE AREA (GREATER THAN 25%)

**NOTES**

- EXISTING CONDITIONS DEPICTED ON THIS PLAN HAVE BEEN TAKEN FROM SURVEY TITLED, "TOPOGRAPHIC MAP", PREPARED BY JMC, LAST REVISED 03/06/2013, SUPPLEMENTED WITH AN UPDATED SURVEY LAST REVISED 01/17/2022. PORTIONS OF EXISTING TOPOGRAPHY HAVE BEEN PROVIDED BY WESTCHESTER COUNTY GIS.
- GEOTECHNICAL BORING/TEST PIT LOCATIONS DEPICTED ON THIS PLAN WERE TAKEN FROM THE GEOTECHNICAL REPORT ENTITLED, "REPORT ON SURFACE SOIL AND FOUNDATION INVESTIGATION", DATED 10/16/2013, PREPARED BY CARLIN-SIMPSON & ASSOCIATES.

**APPLICANT/OWNER:** SUMMIT CLUB PARTNERS, LLC  
568 BEDFORD ROAD (NY-22)  
ARMONK, NY 10504

**ARCHITECT:** GRANOFF ARCHITECTS  
330 RAILROAD AVENUE  
GREENWICH, CT 06850

No.	Rev.	Date	Description
1.	1.	07/17/2021	RESPONSE TO TOWN COMMENTS
2.	2.	03/08/2022	RESPONSE TO TOWN COMMENTS
3.	3.	06/14/2022	RESPONSE TO TOWN COMMENTS
4.	4.	07/07/2022	RESPONSE TO TOWN COMMENTS
5.	5.	07/29/2022	RESPONSE TO TOWN COMMENTS

JMC Planning, Engineering, Landscape Architecture & Land Surveying, PLLC  
JMC Site Development Consultants, LLC  
John Meyer Consulting, Inc.  
120 BEDFORD ROAD - ARMONK, NY 10534  
PHONE: 914.333.2222 - FAX: 914.233.2102  
www.jmcpllc.com



**EXISTING CONDITIONS MAP (NORTH)**  
**THE SUMMIT CLUB AT ARMONK (RESIDENTIAL PHASE)**  
568 & 570 BEDFORD ROAD (NY-22)  
ARMONK, NY 10504

ANY ALTERATION OF PLANS, SPECIFICATIONS, PLATS AND REPORTS BEARING THE SEAL OF A LICENSED PROFESSIONAL ENGINEER OR LICENSED LAND SURVEYOR IS A VIOLATION OF SECTION 7209 OF THE NEW YORK STATE EDUCATION LAW, EXCEPT AS PROVIDED FOR BY SECTION 7209. SUBSECTION 2.

APPROVED BY TOWN OF NORTH CASTLE PLANNING BOARD RESOLUTION, DATED \_\_\_\_\_ DATE: \_\_\_\_\_  
CHRISTOPHER CARTHAY, CHAIRMAN, TOWN OF NORTH CASTLE PLANNING BOARD  
ENGINEERING DRAWINGS REVIEWED BY TOWN CONSULTING ENGINEER  
JOSEPH M. GEMELLE, P.E. KELLARD SESSIONS CONSULTING, P.C. CONSULTING TOWN ENGINEER

Drawn: NC Approved: AG  
Scale: 1" = 30'  
Date: 11/23/2020  
Project No: 20101  
2010-0206 EX NORTH DIST No:  
Drawing No:  
**C-012**



**LEGEND**

[Symbol]	EXISTING PROPERTY LINE
[Symbol]	ADJACENT PROPERTY LINE
[Symbol]	LIMIT OF REGULATED WETLAND BUFFER AREA
[Symbol]	EXISTING WETLAND LINE AND DELINEATION
[Symbol]	EXISTING PAVEMENT EDGE
[Symbol]	EXISTING CURB LINE
[Symbol]	EXISTING CONTOUR
[Symbol]	EXISTING INDEX CONTOUR
[Symbol]	EXISTING STONE WALL
[Symbol]	EXISTING RETAINING WALL
[Symbol]	EXISTING GUIDE RAIL
[Symbol]	EXISTING FENCE
[Symbol]	EXISTING TREE
[Symbol]	EXISTING TREE TO BE REMOVED
[Symbol]	EXISTING TREE LINE
[Symbol]	EXISTING STORM DRAIN LINE
[Symbol]	EXISTING SANITARY LINE
[Symbol]	EXISTING WATER LINE
[Symbol]	EXISTING GAS LINE
[Symbol]	EXISTING OVERHEAD WIRES
[Symbol]	EXISTING ELECTRIC LINE
[Symbol]	EXISTING DRAIN INLET
[Symbol]	EXISTING MANHOLE
[Symbol]	EXISTING FIRE HYDRANT
[Symbol]	EXISTING GAS VALVE
[Symbol]	EXISTING WATER VALVE
[Symbol]	EXISTING UTILITY POLE
[Symbol]	EXISTING LIGHT
[Symbol]	EXISTING WELL LOCATION AND DESIGNATION
[Symbol]	EXISTING FEATURE TO BE REMOVED
[Symbol]	PROPOSED SAWCUT LINE
[Symbol]	PROPOSED LIMIT OF DISTURBANCE

TOTAL NUMBER OF TREES TO BE REMOVED: 241

**NOTES:**

- EXISTING CONDITIONS DEPICTED ON THIS PLAN HAVE BEEN TAKEN FROM SURVEY TITLED, "TOPOGRAPHIC MAP," PREPARED BY JMC, LAST REVISED 03/06/2013. PORTIONS OF EXISTING TOPOGRAPHY HAVE BEEN PROVIDED BY WESTCHESTER COUNTY, NY.
- GEOTECHNICAL BORING/TEST PIT LOCATIONS DEPICTED ON THIS PLAN WERE TAKEN FROM THE GEOTECHNICAL REPORT ENTITLED, "REPORT ON SUBSURFACE SOIL AND FOUNDATION INVESTIGATION," DATED 10/16/2013, PREPARED BY CARL-SIMPSON & ASSOCIATES.
- CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND ADHERE TO ALL REQUIREMENTS OF AGENCIES HAVING JURISDICTION OVER ROCK CRUSHING OPERATIONS. PORTABLE ROCK CRUSHING EQUIPMENT USED IN WESTCHESTER COUNTY IS SUBJECT TO PERMITTING BY THE WESTCHESTER COUNTY DEPARTMENT OF HEALTH (WCDH). THE ROCK CRUSHING EQUIPMENT MUST MAINTAIN A VALID AND CURRENT PERMIT IN ACCORDANCE WITH REQUIREMENTS SET FORTH IN CHAPTER 873, ARTICLE XII, SECTIONS 873.1353.1 AND 873.1306.1 OF THE WESTCHESTER COUNTY CODE. IN ADDITION TO COUNTY INSPECTION OF THE EQUIPMENT, THESE REGULATIONS REQUIRE MITIGATION MEASURES TO CONTROL THE POTENTIAL FOR FUGITIVE PARTICULATE EMISSIONS (STONE DUST).
- THE CONTRACTOR SHALL VERIFY THE LOCATION OF EXISTING UTILITIES TO BE DEMOLISHED AND EXISTING UTILITIES TO BE PROTECTED. IF ANY DISCREPANCIES ARE FOUND, THE CONTRACTOR SHALL NOTIFY THE GENERAL CONTRACTOR AND JMC PRIOR TO THE START OF CONSTRUCTION.
- PRIOR TO THE START OF ANY DEMOLITION THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND/OR APPROVALS FROM THE TOWN OF NORTH CASTLE AND ALL OTHER AUTHORITIES HAVING JURISDICTION. CONTRACTOR SHALL PAY ALL OUTSTANDING FEES, CHARGES, AND DEPOSITS TO ACQUIRE SAID PERMITS. NO DEMOLITION SHALL COMMENCE UNTIL A PERMIT HAS BEEN OBTAINED FROM THE TOWN.
- THE CONTRACTOR SHALL COORDINATE THE DISCONNECTION OF ALL UTILITIES WITH THE UTILITY COMPANY HAVING JURISDICTION PRIOR TO THE START OF DEMOLITION. CONFIRMATION OF DISCONNECTED UTILITIES SHALL BE PROVIDED TO THE TOWN OF NORTH CASTLE BUILDING DEPARTMENT IN ACCORDANCE WITH THEIR REQUIREMENTS. LETTERS FROM THE APPROPRIATE UTILITIES STATING THAT GAS AND ELECTRIC HAVE BEEN CUT OFF SHALL BE PROVIDED TO THE TOWN.
- THE CONTRACTOR SHALL OBTAIN, AND PROVIDE A COPY TO THE TOWN, A SEWER PLUG PERMIT INDICATING THAT A LICENSED PLUMBER HAS PLUGGED ALL EXISTING SEWER LINES TO THE EXISTING BUILDING. THE CONTRACTOR SHALL OBTAIN, AND PROVIDE A COPY TO THE TOWN, A WATER USE PERMIT INDICATING THAT A LICENSED PLUMBER HAS CUT OUT AND SEALED ALL EXISTING WATER SERVICE TO THE EXISTING BUILDING.
- ANY UNSUITABLE MATERIAL FOUND ON-SITE DURING DEMOLITION/CONSTRUCTION, AS DETERMINED BY THE PROJECT'S GEOTECHNICAL ENGINEER, SHALL BE PROPERLY DISPOSED OF OFF-SITE IN A MANNER APPROVED BY ALL AUTHORITIES HAVING JURISDICTION AND REPLACED WITH SUITABLE MATERIAL, AS REQUIRED.
- ALL DEMOLITION AND/OR CONSTRUCTION WITHIN THE RIGHT-OF-WAY, INCLUDING STREETS AND SIDEWALKS, SHALL BE PERFORMED IN ACCORDANCE WITH TOWN/STATE REQUIREMENTS.
- ALL CONSTRUCTION/DEMOLITION DEBRIS NOT PROPOSED TO BE RECYCLED SHALL BE REMOVED AND LEGALLY DISPOSED OF OFF-SITE IN ACCORDANCE WITH THE REGULATIONS OF ALL LOCAL, STATE AND FEDERAL AGENCIES HAVING JURISDICTION.
- EXISTING CONCRETE MAY BE STORED ON SITE, AND RECYCLED FOR USE AS COMPACTED FILL. ALL MATERIAL TO BE USED AS FILL SHALL BE APPROVED BY THE PROJECT GEOTECHNICAL ENGINEER.
- PRIOR TO THE START OF SITE DEMOLITION, EROSION AND SEDIMENT CONTROL DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH TOWN REQUIREMENTS, AS REQUIRED AND/OR DIRECTED BY THE TOWN OF NORTH CASTLE OR JMC.
- EXISTING DRAINAGE PATTERNS ON SITE SHALL BE MAINTAINED TO THE MAXIMUM EXTENT PRACTICABLE.
- ALL EXISTING UTILITY CASTINGS WHICH ARE TO REMAIN SHALL BE REMOVED AND RESET TO THE NEW PROPOSED GRADES IN ACCORDANCE WITH THE DIRECTIONS OF THE OWNER'S FIELD REPRESENTATIVE. EXISTING CASTINGS WHICH ARE DAMAGED OR UNFIT FOR INSTALLATION IN THE NEW CONSTRUCTION, AS DETERMINED BY THE OWNER'S FIELD REPRESENTATIVE, SHALL BE REPLACED.
- ALL EXISTING SIDEWALKS, CURBS, PAVEMENT, ETC. TO REMAIN, WHICH ARE DISTURBED OR DAMAGED DUE TO THE NEW CONSTRUCTION, ARE TO BE REPLACED WITH MATERIALS CONSISTENT WITH EXISTING CONDITIONS.
- THESE PLANS ARE TO BE PROVIDED TO BOTH THE DEMOLITION CONTRACTOR AND THE SITE CONTRACTOR FOR THEIR USE. INFORMATION AND COORDINATION. ANY QUESTIONS OF CONTRACTOR RESPONSIBILITY AND/OR SEPARATION OF WORK SHALL BE DIRECTED TO THE GENERAL CONTRACTOR IN WRITING PRIOR TO ISSUANCE OF BID.
- THE OWNER SHALL RETAIN A LICENSED AND QUALIFIED PROFESSIONAL, CERTIFIED BY THE STATE, TO INSPECT FOR THE PRESENCE OF ASBESTOS AND/OR OTHER HAZARDOUS MATERIALS WITHIN DEMOLITION AREAS PRIOR TO THE COMMENCEMENT OF DEMOLITION. IF REMEDIATION IS REQUIRED, THE OWNER SHALL DO SO IN ACCORDANCE WITH THE NYS ASBESTOS RULES AND REGULATIONS AND/OR ANY AUTHORITIES HAVING JURISDICTION. THE CONTRACTOR SHALL PROVIDE ALL REQUIRED DOCUMENTATION TO THE STATE PRIOR TO OBTAINING A DEMOLITION PERMIT.

APPROVED BY TOWN OF NORTH CASTLE PLANNING BOARD RESOLUTION, DATED \_\_\_\_\_

CHRISTOPHER CARRY, CHAIRMAN, TOWN OF NORTH CASTLE PLANNING BOARD  
 ENGINEERING DRAWINGS REVIEWED BY TOWN CONSULTING ENGINEER  
 JOSEPH W. GERMELI, P.E., KELLARD SESSIONS CONSULTING, P.C. CONSULTING TOWN ENGINEER

- THE CONTRACTOR SHALL EXTERMINATE RODENTS AS REQUIRED BY WESTCHESTER COUNTY DEPARTMENT OF HEALTH AND MENTAL HYGIENE. A LETTER FROM THE HEALTH DEPARTMENT CERTIFYING THAT A LICENSED EXTERMINATOR HAS TREATED THE EXISTING BUILDING SHALL BE PROVIDED TO THE TOWN DEPARTMENT OF BUILDINGS.
- PRIOR TO COMMENCEMENT OF DEMOLITION, THE CONTRACTOR MUST PROVIDE 24-HOUR NOTIFICATION TO THE TOWN.
- THE CONTRACTOR SHALL PROVIDE VERIFICATION TO THE TOWN THAT FIVE (5)

APP/CLIENT/OWNER:	SUMMIT CLUB PARTNERS, LLC
ARCHITECT:	GRANOFF ARCHITECTS
DATE:	07/17/2020
NO.:	1
REVISION:	RESPONSE TO TOWN COMMENTS
NO.:	2
REVISION:	RESPONSE TO TOWN COMMENTS
NO.:	3
REVISION:	RESPONSE TO TOWN COMMENTS
NO.:	4
REVISION:	RESPONSE TO TOWN COMMENTS
NO.:	5
REVISION:	RESPONSE TO TOWN COMMENTS

JMC Planning, Engineering, Landscape Architecture & Land Surveying, PLLC  
 JMC Site Development Consultants, LLC  
 JMC Meyer Consulting, Inc.  
 120 BEDFORD ROAD - ARMONK, NY 10504  
 PH: 914.333.3222 - FAX: 914.233.2102  
 www.jmcpllc.com

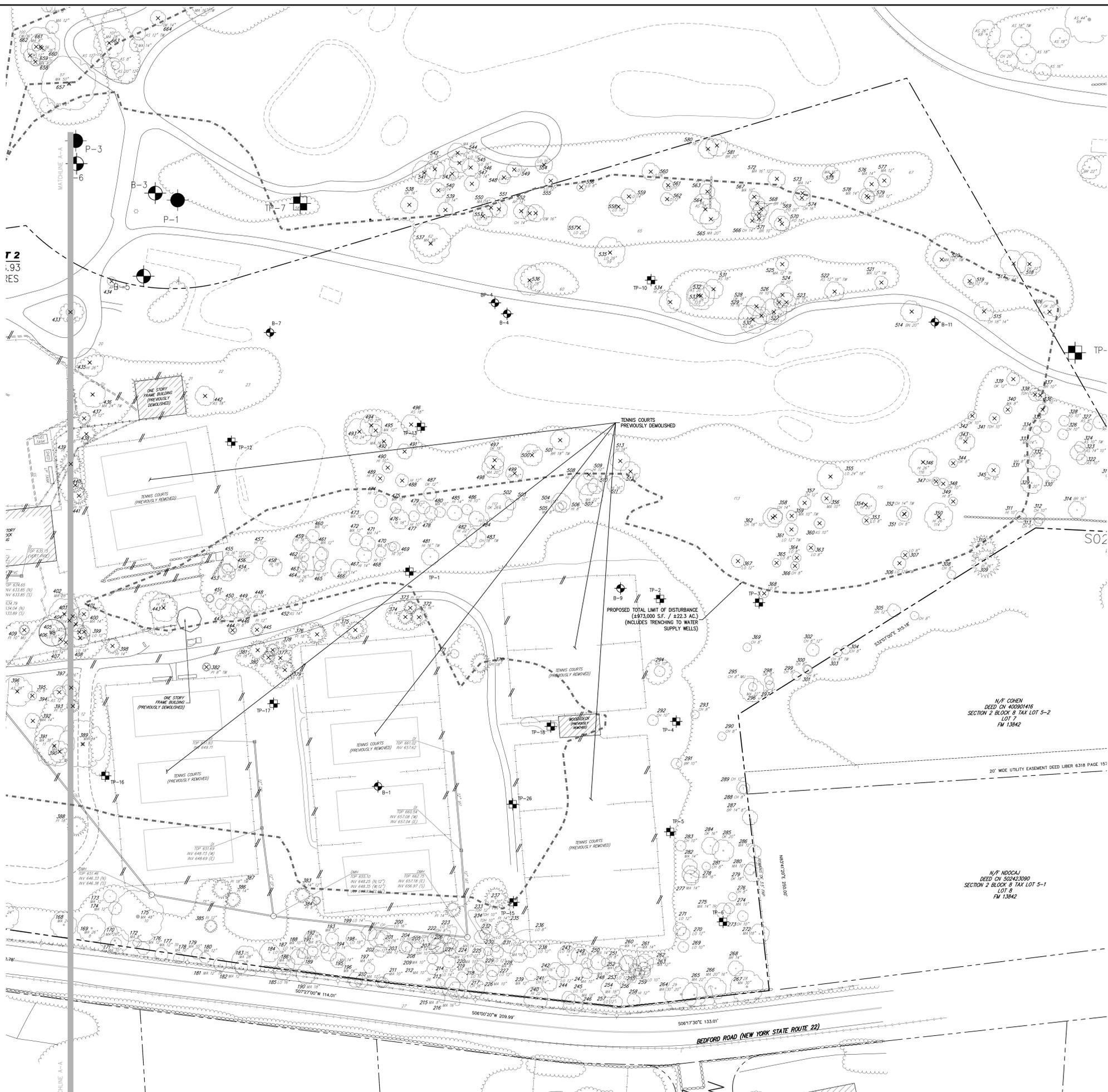
**SITE DEMOLITION & TREE REMOVAL PLAN (SOUTH)**  
 THE SUMMIT CLUB AT ARMONK (RESIDENTIAL PHASE)  
 568 & 570 BEDFORD ROAD (NY-22) ARMONK, NY 10504

ANY ALTERATION OF PLANS, SPECIFICATIONS, PLATS AND PERMITS BEARING THE SEAL OF A LICENSED PROFESSIONAL ENGINEER OR LICENSED LAND SURVEYOR IS A VIOLATION OF SECTION 2209 OF THE NEW YORK STATE EDUCATION LAW, EXCEPT AS PROVIDED FOR BY SECTION 2209.3 SUBSECTION 2.

Drawn:	NC	Approved:	AG
Scale:	1" = 30'		
Date:	11/23/2020		
Project No.:	20101		
Sheet No.:	0000 0010 0000 0000		
Drawn by:			

C-020

NOT FOR CONSTRUCTION



**LEGEND**

	EXISTING PROPERTY LINE
	ADJACENT PROPERTY LINE
	LIMIT OF REGULATED WETLAND BUFFER AREA
	EXISTING WETLAND LINE AND DELINEATION
	EXISTING PAVEMENT EDGE
	EXISTING CURB LINE
	EXISTING CONTOUR
	EXISTING INDEX CONTOUR
	EXISTING STONE WALL
	EXISTING RETAINING WALL
	EXISTING GUIDE RAIL
	EXISTING FENCE
	EXISTING TREE
	EXISTING TREE TO BE REMOVED
	EXISTING TREE LINE
	EXISTING STORM DRAIN LINE
	EXISTING SANITARY LINE
	EXISTING WATER LINE
	EXISTING GAS LINE
	EXISTING OVERHEAD WIRES
	EXISTING ELECTRIC LINE
	EXISTING DRAIN INLET
	EXISTING MANHOLE
	EXISTING FIRE HYDRANT
	EXISTING GAS VALVE
	EXISTING WATER VALVE
	EXISTING UTILITY POLE
	EXISTING LIGHT POLE
	EXISTING SIGN
	EXISTING WELL LOCATION AND DESIGNATION
	EXISTING FEATURE TO BE REMOVED
	PROPOSED SAWCUT LINE
	PROPOSED LIMIT OF DISTURBANCE

TOTAL NUMBER OF TREES TO BE REMOVED: 241

**NOTES:**

- EXISTING CONDITIONS DEPICTED ON THIS PLAN HAVE BEEN TAKEN FROM SURVEY TITLED, "TOPOGRAPHIC MAP," PREPARED BY JMC, LAST REVISED 03/06/2013. PORTIONS OF EXISTING TOPOGRAPHY HAVE BEEN PROVIDED BY WESTCHESTER COUNTY GIS.
- GEOTECHNICAL BORING/TEST PIT LOCATIONS DEPICTED ON THIS PLAN WERE TAKEN FROM THE GEOTECHNICAL REPORT ENTITLED, "REPORT ON SUBSURFACE SOIL AND FOUNDATION INVESTIGATION", DATED 10/16/2013, PREPARED BY CARLIN-SIMPSON & ASSOCIATES.
- CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND ADHERE TO ALL REQUIREMENTS OF AGENCIES HAVING JURISDICTION OVER ROCK CRUSHING OPERATIONS. PORTABLE ROCK CRUSHING EQUIPMENT USED IN WESTCHESTER COUNTY IS SUBJECT TO PERMITTING BY THE WESTCHESTER COUNTY DEPARTMENT OF HEALTH (WCDOH). THE ROCK CRUSHING EQUIPMENT MUST MAINTAIN A VALID AND CURRENT PERMIT IN ACCORDANCE WITH REQUIREMENTS SET FORTH IN CHAPTER 873, ARTICLE XII, SECTIONS 873.135.1 AND 873.1306.1 OF THE WESTCHESTER COUNTY CODE. IN ADDITION TO COUNTY INSPECTION OF THE EQUIPMENT, THESE REGULATIONS REQUIRE MITIGATION MEASURES TO CONTROL THE POTENTIAL FOR FUGITIVE PARTICULATE EMISSIONS (STONE DUST).
- THE CONTRACTOR SHALL VERIFY THE LOCATION OF EXISTING UTILITIES TO BE DEMOLISHED AND EXISTING UTILITIES TO BE PROTECTED. IF ANY DISCREPANCIES ARE FOUND, THE CONTRACTOR SHALL NOTIFY THE GENERAL CONTRACTOR AND JMC PRIOR TO THE START OF CONSTRUCTION.
- PRIOR TO THE START OF ANY DEMOLITION THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND/OR APPROVALS FROM THE TOWN OF NORTH CASTLE AND ALL OTHER AUTHORITIES HAVING JURISDICTION. CONTRACTOR SHALL PAY ALL OUTSTANDING FEES, CHARGES, AND DEPOSITS TO ACQUIRE SAID PERMITS. NO DEMOLITION SHALL COMMENCE UNTIL A PERMIT HAS BEEN OBTAINED FROM THE TOWN.
- THE CONTRACTOR SHALL COORDINATE THE DISCONNECTION OF ALL UTILITIES WITH THE UTILITY COMPANY HAVING JURISDICTION PRIOR TO THE START OF DEMOLITION. CONFIRMATION OF DISCONNECTED UTILITIES SHALL BE PROVIDED TO THE TOWN OF NORTH CASTLE BUILDING DEPARTMENT IN ACCORDANCE WITH THEIR REQUIREMENTS. LETTERS FROM THE APPROPRIATE UTILITIES STATING THAT GAS AND ELECTRIC HAVE BEEN CUT OFF SHALL BE PROVIDED TO THE TOWN.
- THE CONTRACTOR SHALL OBTAIN, AND PROVIDE A COPY TO THE TOWN, A SEWER PLUG PERMIT INDICATING THAT A LICENSED PLUMBER HAS PLUGGED ALL EXISTING SEWER LINES TO THE EXISTING BUILDING. THE CONTRACTOR SHALL OBTAIN, AND PROVIDE A COPY TO THE TOWN, A WATER USE PERMIT INDICATING THAT A LICENSED PLUMBER HAS CUT AND SEALED ALL EXISTING WATER SERVICE TO THE EXISTING BUILDING.
- ANY UNSUITABLE MATERIAL FOUND ON-SITE DURING DEMOLITION/CONSTRUCTION, AS DETERMINED BY THE PROJECT'S GEOTECHNICAL ENGINEER, SHALL BE PROPERLY DISPOSED OF OFF-SITE IN A MANNER APPROVED BY ALL AUTHORITIES HAVING JURISDICTION AND REPLACED WITH SUITABLE MATERIAL AS REQUIRED.
- ALL DEMOLITION AND/OR CONSTRUCTION WITHIN THE RIGHT-OF-WAY, INCLUDING STREETS AND SIDEWALKS, SHALL BE PERFORMED IN ACCORDANCE WITH TOWN/STATE REQUIREMENTS.
- ALL CONSTRUCTION/DEMOLITION DEBRIS NOT PROPOSED TO BE RECYCLED SHALL BE REMOVED AND LEGALLY DISPOSED OF OFF-SITE IN ACCORDANCE WITH THE REGULATIONS OF ALL LOCAL, STATE AND FEDERAL AGENCIES HAVING JURISDICTION.
- EXISTING CONCRETE MAY BE STORED ON SITE, AND RECYCLED FOR USE AS COMPACTED FILL. ALL MATERIAL TO BE USED AS FILL SHALL BE APPROVED BY THE PROJECT GEOTECHNICAL ENGINEER.
- PRIOR TO THE START OF SITE DEMOLITION, EROSION AND SEDIMENT CONTROL DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH TOWN REQUIREMENTS, AS REQUIRED AND/OR DIRECTED BY THE TOWN OF NORTH CASTLE OR JMC.
- EXISTING DRAINAGE PATTERNS ON SITE SHALL BE MAINTAINED TO THE MAXIMUM EXTENT PRACTICABLE.
- ALL EXISTING UTILITY CASTINGS WHICH ARE TO REMAIN SHALL BE REMOVED AND RESET TO THE NEW PROPOSED GRADES IN ACCORDANCE WITH THE DIRECTIONS OF THE OWNER'S FIELD REPRESENTATIVE. EXISTING CASTINGS WHICH ARE DAMAGED OR UNFIT FOR INSTALLATION IN THE NEW CONSTRUCTION, AS DETERMINED BY THE OWNER'S FIELD REPRESENTATIVE, SHALL BE REPLACED.
- ALL EXISTING SIDEWALKS, CURBS, PAVEMENT, ETC. TO REMAIN, WHICH ARE DISTURBED OR DAMAGED DUE TO THE NEW CONSTRUCTION, ARE TO BE REPLACED WITH MATERIALS CONSISTENT WITH EXISTING CONDITIONS.
- THESE PLANS ARE TO BE PROVIDED TO BOTH THE DEMOLITION CONTRACTOR AND THE SITE CONTRACTOR FOR THEIR USE. INFORMATION AND COORDINATION. ANY QUESTIONS OF CONTRACTOR RESPONSIBILITY AND/OR SEPARATION OF WORK SHALL BE DIRECTED TO THE GENERAL CONTRACTOR IN WRITING PRIOR TO ISSUANCE OF BID.
- THE OWNER SHALL RETAIN A LICENSED AND QUALIFIED PROFESSIONAL, CERTIFIED BY THE STATE, TO INSPECT FOR THE PRESENCE OF ASBESTOS AND/OR OTHER HAZARDOUS MATERIALS WITHIN DEMOLITION AREAS PRIOR TO THE COMMENCEMENT OF DEMOLITION. IF REMEDIATION IS REQUIRED, THE OWNER SHALL DO SO IN ACCORDANCE WITH THE NYS ASBESTOS RULES AND REGULATIONS AND/OR ANY AUTHORITIES HAVING JURISDICTION. THE CONTRACTOR SHALL PROVIDE ALL REQUIRED DOCUMENTATION TO THE STATE PRIOR TO OBTAINING A DEMOLITION PERMIT.
- THE CONTRACTOR SHALL EXTERMINATE RODENTS AS REQUIRED BY WESTCHESTER COUNTY DEPARTMENT OF HEALTH AND MENTAL HYGIENE. A LETTER FROM THE HEALTH DEPARTMENT CERTIFYING THAT A LICENSED EXTERMINATOR HAS TREATED THE EXISTING BUILDING SHALL BE PROVIDED TO THE TOWN DEPARTMENT OF BUILDINGS.
- PRIOR TO COMMENCEMENT OF DEMOLITION, THE CONTRACTOR MUST PROVIDE 24-HOUR NOTIFICATION TO THE TOWN.
- THE CONTRACTOR SHALL PROVIDE VERIFICATION TO THE TOWN THAT FIVE (5)

APPROVED BY TOWN OF NORTH CASTLE PLANNING BOARD RESOLUTION, DATED \_\_\_\_\_

CHRISTOPHER CARRY, CHAIRMAN, DATE: \_\_\_\_\_  
 TOWN OF NORTH CASTLE PLANNING BOARD  
 ENGINEERING DRAWINGS REVIEWED BY TOWN CONSULTING ENGINEER  
 JOSEPH M. GERMEL, P.E. DATE: \_\_\_\_\_  
 KELLARD SESSIONS CONSULTING, P.C.  
 CONSULTING TOWN ENGINEER

APPLICANT/OWNER: **SUMMIT CLUB PARTNERS, LLC**  
 568 BEDFORD ROAD (NY-22)  
 ARMONK, NY 10504

ARCHITECT: **GRANOFF ARCHITECTS**  
 330 RAILROAD AVENUE  
 GREENWICH, CT 06850

No.	Rev.	Date	By
1.	RESPONSE TO TOWN COMMENTS	07/17/2020	NC
2.	RESPONSE TO TOWN COMMENTS	05/08/2021	NC
3.	RESPONSE TO TOWN COMMENTS	06/14/2021	NC
4.	RESPONSE TO TOWN COMMENTS	07/07/2022	NC
5.	RESPONSE TO TOWN COMMENTS	07/29/2022	NC

Prepared/Entered/Checked: \_\_\_\_\_

JMC Planning, Engineering, Landscape Architecture & Land Surveying, PLLC  
 JMC Site Development Consultants, LLC  
 John Meyer Consulting, Inc.

120 BEDFORD ROAD - ARMONK, NY 10504  
 PH: 914-333-3222 - FAX: 914-233-2102  
 www.jmcp.com

**SITE DEMOLITION & TREE REMOVAL PLAN (NORTH)**  
**THE SUMMIT CLUB AT ARMONK (RESIDENTIAL PHASE)**  
 568 & 570 BEDFORD ROAD (NY-22)  
 ARMONK, NY 10504

ANY ALTERATION OF PLANS, SPECIFICATIONS, PLATS AND REPORTS BEARING THE SEAL OF A LICENSED PROFESSIONAL ENGINEER OR LICENSED LAND SURVEYOR IS A VIOLATION OF SECTION 2209 OF THE NEW YORK STATE EDUCATION LAW, EXCEPT AS PROVIDED FOR BY SECTION 2209.9 SUBSECTION 2.

Drawn	NC	Approved	AG
Scale:	1" = 30'		
Date:	11/23/2020		
Project No.:	20101		
Sheet No.:	200-NORTH	09A-02	
Drawing No.:			

**C-021**

NOT FOR CONSTRUCTION

SARA RICHOLSON

TREE REMOVAL SUMMARY

NUMBER	SPECIES	DIAMETER	REMAIN/REMOVE	NUMBER	SPECIES	DIAMETER	REMAIN/REMOVE	NUMBER	SPECIES	DIAMETER	REMAIN/REMOVE	NUMBER	SPECIES	DIAMETER	REMAIN/REMOVE	NUMBER	SPECIES	DIAMETER	REMAIN/REMOVE	NUMBER	SPECIES	DIAMETER	REMAIN/REMOVE
1	MAPLE	20" MU	REMOVE	112	MAPLE	24"	REMOVE	223	LOCUST	10"	REMAIN	334	ASH	8"	REMAIN	445	PINE	12"	REMOVE	555	LOCUST	12"	REMOVE
2	MAPLE	8"	REMOVE	113	CHERRY	14"	REMOVE	224	MAPLE	14"	REMOVE	335	CHERRY	10"	REMOVE	446	HICKORY	8"	REMOVE	556	LOCUST	8"	REMOVE
3	SASSAFRASS	10"	REMAIN	114	MAPLE	28"	REMOVE	225	LOCUST	12"	REMAIN	336	OAK	10"	REMOVE	447	HICKORY	16"	REMAIN	557	LOCUST	20"	REMOVE
4	LOCUST	8"	REMAIN	115	MAPLE	14"	REMOVE	226	MAPLE	10"	REMAIN	337	BIRCH	10"	REMOVE	448	ASH	14"	REMAIN	558	LOCUST	18"	REMOVE
5	LOCUST	18"	REMAIN	116	MAPLE	22"	REMOVE	227	LOCUST	12"	REMAIN	338	TREE OF HEAVEN	12"	REMOVE	449	CHERRY	16"	REMAIN	559	LOCUST	14"	REMOVE
6	PINE	14"	REMAIN	117	DECIDUOUS	12" TW	REMOVE	228	MAPLE	8"	REMAIN	339	TREE OF HEAVEN	12"	REMOVE	450	ASH	10"	REMAIN	560	LOCUST	16"	REMOVE
7	LOCUST	8"	REMAIN	118	MAPLE	8"	REMOVE	229	LOCUST	12"	REMAIN	340	MAPLE	8"	REMOVE	451	PINE	8"	REMAIN	561	LOCUST	10"	REMOVE
8	LOCUST	8"	REMAIN	119	HICKORY	20"-16"	REMOVE	230	LOCUST	10"	REMAIN	341	TREE OF HEAVEN	10"	REMOVE	452	ASH	14"	REMAIN	562	LOCUST	12"	REMOVE
9	LOCUST	10"	REMAIN	120	PINE	12"	REMOVE	231	LOCUST	18"	REMAIN	342	OAK	10"	REMOVE	453	HICKORY	16"	REMAIN	563	HICKORY	14"	REMOVE
10	LOCUST	8"	REMAIN	121	PINE	16"	REMOVE	232	TREE OF HEAVEN	10"	REMAIN	343	HICKORY	18"	REMOVE	454	HICKORY	10"	REMAIN	564	ASH	28"	REMOVE
11	LOCUST	10" TW	REMAIN	122	PINE	22"	REMOVE	233	TREE OF HEAVEN	12"	REMAIN	344	OAK	8"	REMOVE	455	HICKORY	16"-10"	REMAIN	565	MAPLE	20"	REMOVE
12	LOCUST	8"	REMAIN	123	MAPLE	18"	REMOVE	234	TREE OF HEAVEN	10"	REMAIN	345	OAK	12"	REMOVE	456	HICKORY	10"	REMAIN	566	CHERRY	14"	REMOVE
13	POPLAR	20"	REMAIN	124	PINE	22"	REMOVE	235	PINE	14"	REMAIN	346	HICKORY	26"	REMOVE	457	HICKORY	12"	REMAIN	567	MAPLE	10"	REMOVE
14	LOCUST	10"	REMAIN	125	PINE	20"	REMOVE	236	LOCUST	8"	REMAIN	347	CHERRY	8"	REMOVE	458	HICKORY	18"	REMAIN	568	BIRCH	14"	REMOVE
15	MAPLE	10"	REMAIN	126	PINE	24"	REMOVE	237	PINE	20"	REMAIN	348	CHERRY	10"	REMOVE	459	HICKORY	16"	REMAIN	569	POPLAR	20"	REMOVE
16	LOCUST	10"	REMAIN	127	MAPLE	12"	REMOVE	238	LOCUST	12"	REMAIN	349	HICKORY	8"	REMOVE	460	MAPLE	12"	REMAIN	570	POPLAR	14"	REMOVE
17	MAPLE	8"	REMAIN	128	LOCUST	20"	REMOVE	239	MAPLE	12"	REMAIN	350	HICKORY	26"	REMOVE	461	MAPLE	12"	REMAIN	571	BIRCH	10"	REMOVE
18	MAPLE	8"	REMAIN	129	MAPLE	28"	REMOVE	240	HICKORY	8"	REMAIN	351	HICKORY	8"	REMOVE	462	MAPLE	8"	REMAIN	572	MAPLE	16"-12"	REMOVE
19	POPLAR	14"	REMAIN	130	PINE	14"	REMAIN	241	CHERRY	14" TW	REMAIN	352	CHERRY	14" TW	REMAIN	463	HICKORY	8"	REMAIN	573	MAPLE	14"	REMOVE
20	POPLAR	20"-16" TW	REMAIN	131	PINE	14"	REMAIN	242	MAPLE	16"	REMAIN	353	LOCUST	8"	REMOVE	464	HICKORY	26"	REMAIN	574	CHERRY	16"	REMOVE
21	MAPLE	8"	REMAIN	132	LOCUST	32"	REMOVE	243	LOCUST	18"	REMAIN	354	HICKORY	20"	REMOVE	465	HICKORY	10"	REMAIN	575	MAPLE	16"	REMOVE
22	PINE	16"	REMAIN	133	PINE	16"	REMOVE	244	LOCUST	12"	REMAIN	355	LOCUST	24"-18"	REMOVE	466	HICKORY	18"-14"	REMAIN	576	MAPLE	14"	REMOVE
23	PINE	12"	REMAIN	134	PINE	18"	REMOVE	245	LOCUST	12"	REMAIN	356	MAPLE	10"	REMOVE	467	HICKORY	14"	REMAIN	577	MAPLE	12"	REMOVE
24	PINE	14"	REMAIN	135	PINE	16" TW	REMOVE	246	MAPLE	18"	REMAIN	357	CHERRY	12"	REMOVE	468	HICKORY	10"	REMAIN	578	MAPLE	14"	REMOVE
25	ASH	16"-14"	REMAIN	136	LOCUST	22"	REMOVE	247	MAPLE	10"	REMAIN	358	CHERRY	14"	REMOVE	469	HICKORY	10"	REMAIN	579	MAPLE	12"	REMOVE
26	PINE	14"	REMAIN	137	MAPLE	18"	REMOVE	248	MAPLE	10"	REMAIN	359	MAPLE	10" TW	REMOVE	470	MAPLE	8"	REMAIN	580	HICKORY	18"	REMOVE
27	PINE	14"	REMAIN	138	PINE	12"	REMOVE	249	MAPLE	16"	REMAIN	360	ASH	10"	REMOVE	471	MAPLE	14"	REMAIN	581	BIRCH	20"	REMOVE
28	PINE	16"	REMAIN	139	HICKORY	14"	REMOVE	250	MAPLE	14"	REMAIN	361	LOCUST	12" TW	REMOVE	472	MAPLE	12"	REMAIN	582	MAPLE	24"	REMAIN
29	PINE	18"	REMAIN	140	PINE	14"	REMOVE	251	CHERRY	8"	REMAIN	362	CHERRY	18"-10"	REMOVE	473	MAPLE	12"	REMAIN	583	MAPLE	16"	REMOVE
30	PINE	14"	REMAIN	141	PINE	18" TW	REMOVE	252	MAPLE	8"	REMAIN	363	LOCUST	8"	REMOVE	474	HICKORY	12"	REMAIN	584	MAPLE	14"	REMAIN
31	PINE	14"	REMAIN	142	PINE	20"	REMOVE	253	LOCUST	16"	REMAIN	364	MAPLE	8"	REMOVE	475	MAPLE	12"	REMAIN	585	MAPLE	12"	REMAIN
32	PINE	16"	REMAIN	143	PINE	14"	REMAIN	254	MAPLE	18"	REMAIN	365	LOCUST	8"	REMOVE	476	HICKORY	18"	REMAIN	586	MAPLE	10"	REMAIN
33	PINE	14"	REMAIN	144	PINE	12"	REMOVE	255	LOCUST	12"	REMAIN	366	CHERRY	8"	REMOVE	477	HICKORY	10"	REMAIN	587	MAPLE	18"	REMAIN
34	PINE	14"	REMAIN	145	ASH	24"	REMOVE	256	LOCUST	10"	REMAIN	367	LOCUST	12"	REMOVE	478	HICKORY	12"	REMAIN	588	MAPLE	24"	REMAIN
35	PINE	14"	REMAIN	146	PINE	20"	REMOVE	257	LOCUST	12"	REMAIN	368	LOCUST	8"	REMOVE	479	HICKORY	12"	REMAIN	589	MAPLE	24"	REMAIN
36	PINE	10"	REMAIN	147	PINE	14"	REMAIN	258	HICKORY	12"	REMAIN	369	CHERRY	8"	REMAIN	480	MAPLE	10"	REMAIN	590	OAK	18"	REMAIN
37	PINE	16"	REMAIN	148	PINE	12"	REMOVE	259	LOCUST	10"	REMAIN	370	PINE	18"	REMAIN	481	HICKORY	16" TW	REMAIN	591	MAPLE	24"	REMAIN
38	MAPLE	6"	REMAIN	149	PINE	14"	REMAIN	260	MAPLE	14"	REMAIN	371	CHERRY	8"	REMAIN	482	HICKORY	22"	REMAIN	592	MAPLE	10"	REMAIN
39	MAPLE	6"	REMAIN	150	ASH	8"	REMOVE	261	MAPLE	14"	REMAIN	372	PINE	16"	REMOVE	483	CHERRY	18" TW	REMAIN	593	MAPLE	16"	REMAIN
40	MAPLE	4"	REMAIN	151	PINE	24"	REMOVE	262	LOCUST	16"	REMAIN	373	PINE	12"	REMOVE	484	HICKORY	14"	REMAIN	594	MAPLE	18"	REMAIN
41	MAPLE	4"	REMAIN	152	PINE	8"	REMOVE	263	MAPLE	12"	REMAIN	374	PINE	14"	REMOVE	485	HICKORY	14"	REMAIN	595	MAPLE	12"	REMAIN
42	DECIDUOUS	20"-16"	REMOVE	153	PINE	10"	REMOVE	264	MAPLE	30"-20"	REMAIN	375	PINE	16"	REMOVE	486	HICKORY	10"	REMAIN	596	MAPLE	12"	REMAIN
43	PINE	10"	REMOVE	154	PINE	18"	REMOVE	265	MAPLE	18"	REMAIN	376	PINE	18"	REMOVE	487	OAK	18"	REMAIN	597	MAPLE	28"	REMAIN
44	PINE	10"	REMOVE	155	PINE	22"	REMOVE	266	MAPLE	20"-16"	REMAIN	377	PINE	20"	REMOVE	488	HICKORY	12"	REMAIN	598	ELM	14"	REMAIN
45	PINE	8"	REMOVE	156	PINE	18"	REMOVE	267	MAPLE	28"-30"	REMAIN	378	PINE	12"	REMOVE	489	HICKORY	8"	REMAIN	599	MAPLE	28"	REMAIN
46	PINE	10"	REMOVE	157	PINE	24"	REMOVE	268	BIRCH	14"	REMAIN	379	PINE	18"	REMOVE	490	HICKORY	10"	REMAIN	600	MAPLE	8"	REMAIN
47	ASH	18"-16"	REMAIN	158	PINE	22"	REMOVE	269	LOCUST	10"	REMAIN	380	PINE	12"	REMOVE	491	ASH	14"	REMAIN	601	MAPLE	26"	REMAIN
48	JAPANESE MAPLE	12" MU	REMOVE	159	CEDAR	8"	REMOVE	270	LOCUST	12"	REMAIN	381	PINE	18"	REMOVE	492	MAPLE	16"	REMAIN	602	MAPLE	18"	REMAIN
49	MAPLE	48"	REMAIN	160	PINE	10"	REMAIN	271	LOCUST	12"	REMAIN	382	PINE	8" TW	REMOVE	493	POPLAR	24"	REMAIN	603	TREE OF HEAVEN	10"-6"	REMAIN
50	MAPLE	32"	REMAIN	161	MAPLE	12"	REMAIN	272	MAPLE	18"	REMAIN	383	PINE	14" -12"	REMAIN	494	POPLAR	20"	REMAIN	604	MAPLE	18"	REMAIN
51	PINE	16"	REMAIN	162	MAPLE	14"	REMAIN	273	CHERRY	10"	REMAIN	384	PINE	8"	REMAIN	495	MAPLE	12"	REMAIN	605	MAPLE	26"	REMAIN
52	PINE	14"	REMAIN	163	MAPLE	8"-6" TW	REMAIN	274	MAPLE	10"	REMAIN	385	PINE	12"	REMAIN	496	ASH	18"	REMAIN	606	MAPLE	22"	REMAIN
53	PINE	12"	REMAIN	164	MAPLE	28"	REMOVE	275	MAPLE	14" TR	REMAIN	386	PINE	14"	REMAIN	497	OAK	18"	REMAIN	607	MAPLE	10"	REMAIN
54	PINE	8"	REMAIN	165	HICKORY	40"	REMOVE	276	CHERRY	8"	REMAIN	387	PINE	18" TW	REMAIN	498	MAPLE	20"	REMAIN	608	MAPLE	10"	REMAIN
55	PINE	10"	REMAIN	166	MAPLE	36"	REMOVE	277	MAPLE	14"	REMAIN	388	PINE	15"	REMAIN	499	OAK	16"	REMAIN	609	MAPLE	8"	REMAIN
56	PINE	8"	REMAIN	167	MAPLE	24"	REMOVE	278	MAPLE	16"	REMAIN	389	MAPLE	44"	REMOVE	500	HICKORY	20"	REMAIN	610	MAPLE	8"	REMAIN
57	PINE	8"	REMAIN	168	MAPLE	24"	REMOVE	279	OAK	18"	REMAIN	390	MAPLE	24"	REMOVE	501	BIRCH	18" TW	REMAIN	611	MAPLE	10"	REMAIN
58	PINE	10"	REMAIN	169	MAPLE	26"	REMOVE	280	MAPLE	10"	REMAIN	391	MAPLE	38"	REMOVE	502	OAK	26"	REMAIN	612	MAPLE	16"	REMAIN
59	PINE	8"	REMAIN	170	MAPLE	26"	REMOVE	281	CHERRY	10"	REMAIN	392	MAPLE	14"	REMOVE	503	HICKORY	10"	REMAIN	613	MAPLE	18"	REMAIN
60	PINE	12"	REMAIN	171	MAPLE	10"	REMAIN	282	MAPLE	14"	REMAIN	393	PINE	12"	REMOVE	504	CHERRY	18"	REMAIN	614	MAPLE	20"	REMAIN
61	PINE	10"	REMAIN	172	MAPLE	8"	REMOVE	283	CHERRY	10"	REMAIN	394	ASH	12"	REMOVE	505	MAPLE	8"	REMAIN	615	MAPLE	18"	REMAIN
62	PINE	8"	REMAIN	173	MAPLE	12"	REMOVE	284	OAK	16"	REMAIN	395	ASH	8"	REMOVE	506	HICKORY	8"	REMAIN	616	MAPLE	8"	REMAIN
63	MAPLE	18"	REMAIN	174	MAPLE	12"	REMOVE	285	OAK	20"	REMAIN	396	ASH	28"	REMOVE	507	MAPLE	22"	REMAIN	617	MAPLE	8"	REMAIN
64	MAPLE	18"	REMAIN	175	MAPLE	48"	REMOVE	286	MAPLE	12"	REMAIN	397	ASH	16"	REMOVE	508	HICKORY	20"	REMAIN	618	MAPLE	14"	REMAIN
65	MAPLE	12"	REMAIN	176	MAPLE	12"	REMOVE	287	BIRCH	14"-8"	REMAIN	398	PINE	14"	REMOVE	509	HICKORY	10"	REMAIN	619	HICKORY	16"	REMAIN
66	MAPLE	10"	REMAIN	177	MAPLE	12"	REMOVE	288	CHERRY	8"	REMAIN	399	LOCUST	12"	REMOVE	510	HICKORY	14"	REMAIN	620	MAPLE	26"	REMAIN
67	MAPLE	14"-6"	REMAIN	178	MAPLE	10"	REMOVE	289	CHERRY	10"	REMAIN	400	MAPLE	12"	REMOVE	511	HICKORY	16"	REMAIN	621	MAPLE	18"	REMAIN
68	MAPLE	10"	REMAIN	179	MAPLE	10"	REMOVE	290	CHERRY	8"	REMAIN	401	LOCUST	10"	REMOVE	512	HICKORY	18"	REMAIN	622	OAK	28"	REMAIN
69	MAPLE	8"	REMAIN	180	MAPLE	12"	REMOVE	291	BIRCH	10"	REMAIN	402	MAPLE	28"	REMOVE	513	HICKORY	18"	REMAIN	623	MAPLE	26"	REMAIN
70	MAPLE	14"</																					

LANDSCAPE AREA LEGEND	
	PROPOSED PARKING AREA (±135,327 S.F.)
	PROPOSED INTERIOR PARKING LANDSCAPED AREA (±32,460 S.F.)

**PROPOSED INTERIOR PARKING LANDSCAPED AREA CALCULATION:**  
 TOTAL PROPOSED INTERIOR PARKING LANDSCAPED AREA → 32,460 S.F. X 100 = ±23.9%  
 TOTAL PROPOSED PARKING AREA → 135,327 S.F.

UNIT / BEDROOM COUNT	PHASE 1	PHASE 2	PHASE 3
BUILDING 1 (3 STORIES) 12 UNITS	(3) 3 BEDROOMS & (3) 2 BEDROOMS	(7) 2 BEDROOMS/1.00	(1) 2 BEDROOMS
BUILDING 2 (3 STORIES) 12 UNITS	(3) 3 BEDROOMS & (3) 2 BEDROOMS	(7) 2 BEDROOMS/1.00	(1) 2 BEDROOMS
BUILDING 3 (3 STORIES) 12 UNITS	(3) 3 BEDROOMS & (3) 2 BEDROOMS	(7) 2 BEDROOMS/1.00	(1) 2 BEDROOMS
BUILDING 4 (3 STORIES) 12 UNITS	(3) 3 BEDROOMS & (3) 2 BEDROOMS	(7) 2 BEDROOMS/1.00	(1) 2 BEDROOMS
BUILDING 5 (3 STORIES) 12 UNITS	(3) 3 BEDROOMS & (3) 2 BEDROOMS	(7) 2 BEDROOMS/1.00	(1) 2 BEDROOMS
BUILDING 6 (3 STORIES) 12 UNITS	(3) 3 BEDROOMS & (3) 2 BEDROOMS	(7) 2 BEDROOMS/1.00	(1) 2 BEDROOMS
TOTALS	72 UNITS	49 UNITS	6 UNITS
IDENTITY UNITS	72 UNITS	49 UNITS	6 UNITS
DEVELOPMENT UNITS	72 UNITS	49 UNITS	6 UNITS

**PHASING NOTES:**  
 1. IN DECEMBER, 2019, IN CONSIDERATION OF THE ADOPTION BY THE TOWN OF THE AMENDMENT, THE APPLICANT RECORDED A DECLARATION PURSUANT TO WHICH THE APPLICANT MAY SUBJECT TO SITE PLAN APPROVAL, CONSTRUCT ON THE DEVELOPMENT LOT 4 FIRST PHASE OF THE COMMUNITY (PHASE 1), WHICH MAY CONSIST OF UP TO THIRTY-SIX (36) RESIDENCES, WHICH MAY BE FREE-SIMPLE HOMES AND/OR CONDOMINIUM UNITS WITHOUT LIMITATION REGARDING FORM OF OWNERSHIP OF THE RESIDENCES, AND A SECOND PHASE OF THE COMMUNITY (PHASE 2), WHICH MAY CONSIST OF UP TO THIRTY-SEVEN (37) RESIDENCES, WHICH MAY BE FREE-SIMPLE HOMES AND/OR CONDOMINIUM UNITS WITHOUT LIMITATION REGARDING FORM OF OWNERSHIP OF THE RESIDENCES, PROVIDED THAT UNLESS THE AGGREGATE AVERAGE OF THE GROSS SALES PRICE OF THE MARKET-RATE PHASE 1 CONDOMINIUM UNITS IS \$700,000 PER SQUARE FOOT OR MORE, THE PHASE 2 CONDOMINIUM RESIDENCES ARE REQUIRED TO BE 75% AND OLDER AGE-RESTRICTED HOUSING AS PERMITTED UNDER APPLICABLE FEDERAL LAW AND REGULATIONS. THE DECLARATION ALSO REQUIRES PHASE 1 TO INCLUDE FOUR (4) ON-SITE AFFORDABLE UNITS, AND PHASE 2 TO INCLUDE THREE (3) ON-SITE AFFORDABLE UNITS. HOWEVER, THE APPLICANT IS PERMITTED TO AT ANY TIME ELECT TO RELOCATE ALL OR A PORTION OF THE AFFORDABLE UNITS OFF-SITE WITHIN AREAS IN THE AMOUNT HANDELT THAT ARE SERVED BY PUBLIC SEWER AND WATER, AND THEREBY REDUCE THE ON-SITE AFFORDABLE UNITS AND SUBSTITUTE MARKET-RATE UNITS THEREFOR ON A ONE-TO-ONE BASIS, PROVIDED THAT IN NO EVENT SHALL THE TOTAL NUMBER OF RESIDENTIAL UNITS ON THE PROPERTY EXCEED SEVENTY-THREE (73).  
 2. REFER TO DRAWING C-402 FOR SEQUENCE OF CONSTRUCTION.

	Project Summary Comparison Table		
	DEIS Plan	FEB Alternative 2	Modified Project (New Residential Development)
Market Rate Condominiums	80	80	See Unit/Bedroom Count Table
Fast and Affordable Units	8	8*	See Unit/Bedroom Count Table
<b>Total Residential Units</b>	<b>88</b>	<b>88</b>	See Unit/Bedroom Count Table
Golf Cottages (4 BR)	5	10	See Unit/Bedroom Count Table
Golf Residences (2 BR)	55	70	See Unit/Bedroom Count Table
Golf Residences (2 BR)	0	0	See Unit/Bedroom Count Table
Club Villas (2 BR)	14	0	See Unit/Bedroom Count Table
Affordable Units (2 BR)	6	7*	See Unit/Bedroom Count Table
Affordable Units (3 BR)	1	0	See Unit/Bedroom Count Table
Affordable Units (4 BR)	1	1*	See Unit/Bedroom Count Table
<b>Total Bedrooms</b>	<b>209</b>	<b>198</b>	<b>162</b>
Buffer on Bedford Road	25 feet	100 feet	100 feet
Open Space	141.6 acres	141.6 acres	137.37 acres
Impervious Area	17.5 ac. (6.6 ac. New Impervious)	16.7 acres (5.8 ac. New Impervious)	11.3 acres (5.2 ac. New Impervious)
Length of Private Road	3,750 LF	3,258 LF	2,262 LF
Steepest Slope Impact	2.75 acres	2.75 acres	1.50 acres
Stream to be Relocated	4.79 acres	8.13 acres	243 trees
Wetland Impacts	add 1.25 acres of new wetland and enhancements	add 1.25 acres of new wetland and enhancements	N/A
Wetland Buffer Impacts	4.34 acres	4.59 acres	N/A
Trip Generation (Peak)	47 AM / 55 PM	47 AM / 55 PM (or less)	47 AM / 55 PM (or less)
Additional Water Demand	29,775 gpd	28,325 gpd	46,903 gpd
Additional Wastewater Generation	29,775 gpd	28,325 gpd	46,903 gpd
Annual Tax and Mitigation Payment Revenue	\$1,493,223	\$2,528,230	\$2,528,230
Total Population	185,204	183,191	150,151 (1)
School Children - Local Experience	9	9	4.5 (2)
School Children - Rutgers & Local Experience	20	17	18-20 (2)
Visual Impacts	4 new residential buildings along Bedford Road, with landscaping to 25-foot buffer.	5 new detached single family Golf Cottages along Bedford Road, portion of internal road close to Bedford Road along Bedford Road (100' buffer extends around the perimeter of the Site). Repair to stone wall on Windmill Farms side of Route 22.	6 new residential buildings with tennis courts and amenities building more than 100 feet from Bedford Road.

**NOTES:**  
 1. RUTGERS MULTIPLIERS (TOTAL POPULATION)  
 FOR THE 3-11-BEDROOM AFFH RENTAL UNITS, MULTIPLIER OF 1.09 = 5.97  
 FOR THE 4-6 MARKET RATE 2-BEDROOM UNITS, MULTIPLIER OF 1.88 = 96.50; 4-2-BEDROOM AFFH RENTAL UNITS, MULTIPLIER OF 2.55 = 10.2; TOTAL 96.7  
 RUTGERS UNIVERSITY RESIDENTIAL DEMOGRAPHIC MULTIPLIERS (JUNE 2006): NEW YORK, OWNERSHIP UNITS IN BUILDINGS WITH 5+ UNITS, COSTING MORE THAN \$329,500 AND RENTAL UNITS IN BUILDINGS WITH 5+ UNITS, MID-LEVEL RENT (\$150-\$1,100) (2-BEDROOM)  
 FOR THE 14 3-BEDROOM UNITS, MULTIPLIER OF 3.09 = 48  
 RUTGERS UNIVERSITY RESIDENTIAL DEMOGRAPHIC MULTIPLIERS (JUNE 2006): NEW YORK, OWNERSHIP UNITS IN BUILDINGS WITH 5+ UNITS, ALL VALUES (3-BEDROOMS)  
 RUTGERS HAS NO DATA FOR THE 2-4-BEDROOM UNITS, FOR THE PURPOSE OF THIS ANALYSIS IT IS ASSUMED A TOTAL POPULATION OF 4 MARKET RATE UNITS, MULTIPLIER OF 4.0 = 8  
 TOTAL POPULATION = 150-151 PERSONS  
 APPROXIMATELY 2.3 PERSONS AVERAGE PER UNIT TIMES 73 UNITS EQUALS 167-168 PERSONS  
 USING THE SAME FORMAT AS THE PROJECT SUMMARY COMPARISON TABLE, THE TOTAL POPULATION WOULD BE 150-151 PERSONS.  
 2. RUTGERS MULTIPLIERS (PUBLIC SCHOOL CHILDREN)  
 FOR THE 3-11-BEDROOM AFFH RENTAL UNITS, MULTIPLIER OF 0.27 = 0.81  
 FOR THE 4-6 MARKET RATE 2-BEDROOM UNITS, MULTIPLIER OF 0.05 = 2.3; 4-2-BEDROOM AFFH RENTAL UNITS, MULTIPLIER OF 0.45 = 1.8; TOTAL 4.1  
 RUTGERS UNIVERSITY RESIDENTIAL DEMOGRAPHIC MULTIPLIERS (JUNE 2006): NEW YORK, SCHOOL AGE CHILDREN IN PUBLIC SCHOOLS, OWNERSHIP UNITS IN BUILDINGS WITH 5+ UNITS, COSTING MORE THAN \$329,500 (2-BEDROOM)  
 RUTGERS HAS NO DATA FOR THE 2-4-BEDROOM UNITS, MULTIPLIER OF 0.49 = 7.84  
 RUTGERS UNIVERSITY RESIDENTIAL DEMOGRAPHIC MULTIPLIERS (JUNE 2006): NEW YORK, SCHOOL AGE CHILDREN IN PUBLIC SCHOOLS, OWNERSHIP UNITS IN BUILDINGS WITH 5+ UNITS, ALL VALUES (3-BEDROOMS)  
 RUTGERS HAS NO DATA FOR THE 2-4-BEDROOM UNITS, FOR THE PURPOSE OF THIS ANALYSIS IT IS ASSUMED A SCHOOL-AGE CHILDREN IN PUBLIC SCHOOL, MULTIPLIER OF 1.0 = 2  
 TOTAL = 14-15 SCHOOL-AGE CHILDREN  
 LOCAL EXPERIENCE  
 0.08 SCHOOL-CHILDREN PER UNIT TIMES 73 UNITS EQUALS 4-5 SCHOOL-AGE CHILDREN

LEGEND	
	EXISTING PROPERTY LINE
	ADJACENT PROPERTY LINE
	EXISTING SETBACK LINE
	EXISTING WETLAND LINE AND DELINEATION
	EXISTING BUILDING LINE
	EXISTING PAVEMENT EDGE
	EXISTING CURB LINE
	EXISTING STONE WALL
	EXISTING GUIDE RAIL
	EXISTING FENCE
	EXISTING TREE AND DESIGNATION
	EXISTING TREE LINE
	EXISTING PAINT
	EXISTING UTILITY POLE
	EXISTING LIGHT POLE
	EXISTING SIGN
	PROPOSED BUILDING LINE
	PROPOSED CONCRETE CURB
	PROPOSED SAWCUT LINE
	PROPOSED ACCESSIBLE PARKING SPACES WITH NUMBER OF SPACES INDICATED (REFER TO STRIPING DETAILS)
	PROPOSED PARKING SPACES WITH NUMBER OF SPACES INDICATED (REFER TO STRIPING DETAILS)
	PROPOSED CONCRETE SIDEWALK
	PROPOSED HEAVY DUTY PAVEMENT
	PROPOSED POROUS PAVEMENT
	PROPOSED DECORATIVE PAVERS
	PROPOSED RETAINING WALL (DESIGN BY OTHERS)
	PROPOSED FENCE
	PROPOSED 2'-4" WIDE YELLOW LINES 8" O.C.
	PROPOSED 12" WIDE WHITE STOP LINE
	PROPOSED ARROW MARKING ON PAVEMENT
	TRAFFIC SIGN LOCATION & DESIGNATION
	PEDESTRIAN CROSSING

**NOTES:**  
 1. EXISTING CONDITIONS DEPICTED ON THIS PLAN HAVE BEEN TAKEN FROM SURVEY TITLED, "TOPOGRAPHIC MAP," PREPARED BY JMC, PLLC, LAST REVISED 03/06/2013.



No.	Revision	Date
1.	RESPONSE TO TOWN COMMENTS	07/17/2020
2.	RESPONSE TO TOWN COMMENTS	03/08/2021
3.	RESPONSE TO TOWN COMMENTS	06/14/2021
4.	RESPONSE TO TOWN COMMENTS	07/07/2022
5.	RESPONSE TO TOWN COMMENTS	07/29/2022

APPLICANT/OWNER: **SUMMIT CLUB PARTNERS, LLC**  
 568 BEDFORD ROAD (NY-22)  
 ARMONK, NY 10504

ARCHITECT: **GRANOFF ARCHITECTS**  
 330 RAILROAD AVENUE  
 GREENWICH, CT 06850

JMC Planning, Engineering, Landscape Architecture & Land Surveying, PLLC  
 JMC Site Development Consultants, LLC  
 John Meyer Consulting, Inc.

120 BEDFORD ROAD - ARMONK, NY 10504  
 PHONE: 914-333-3242 - FAX: 914-243-2102  
 www.jmcp.com

**OVERALL LAYOUT AND PHASING PLAN**  
 THE SUMMIT CLUB AT ARMONK (RESIDENTIAL PHASE)  
 568 & 570 BEDFORD ROAD (NY-22)  
 ARMONK, NY 10504

ANY ALTERATION OF PLANS, SPECIFICATIONS, PLATS AND REPORTS BEARING THE SEAL OF A LICENSED PROFESSIONAL ENGINEER OR LICENSED LAND SURVEYOR IS A VIOLATION OF SECTION 7209 OF THE NEW YORK STATE EDUCATION LAW, EXCEPT AS PROVIDED FOR BY SECTION 7209 SUBSECTION 2.

APPROVED BY TOWN OF NORTH CASTLE PLANNING BOARD RESOLUTION, DATED: \_\_\_\_\_ DATE: \_\_\_\_\_

CHRISTOPHER CATHY, CHAIRMAN, TOWN OF NORTH CASTLE PLANNING BOARD  
 ENGINEERING DRAWINGS REVIEWED BY TOWN CONSULTING ENGINEER

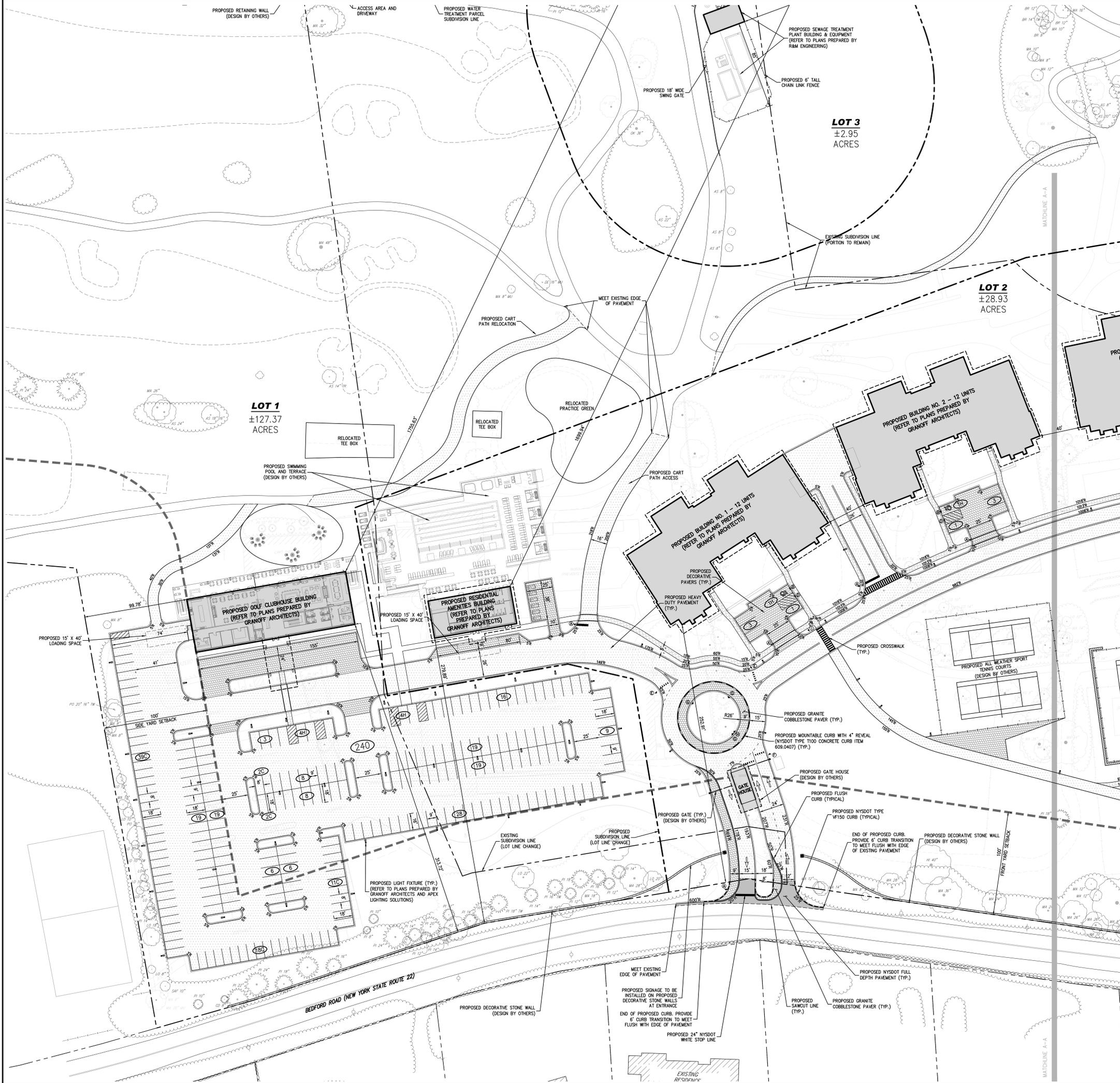
JOSEPH M. GERMEL, P.E.  
 KELLARD SESSIONS CONSULTING, P.C.  
 CONSULTING TOWN ENGINEER

DATE: \_\_\_\_\_

Scale: 1" = 30'  
 Date: 11/23/2020  
 Project No: 20101  
 Drawing No: \_\_\_\_\_

**C-100A**

NOT FOR CONSTRUCTION



### LEGEND

	EXISTING PROPERTY LINE
	ADJACENT PROPERTY LINE
	EXISTING SETBACK LINE
	EXISTING WETLAND LINE AND DELINEATION
	EXISTING BUILDING LINE
	EXISTING PAVEMENT EDGE
	EXISTING CURB LINE
	EXISTING STONE WALL
	EXISTING GUIDE RAIL
	EXISTING FENCE
	EXISTING TREE AND DESIGNATION
	EXISTING TREE LINE
	EXISTING PAINT
	EXISTING UTILITY POLE
	EXISTING LIGHT POLE
	EXISTING SIGN
	PROPOSED BUILDING LINE
	PROPOSED CONCRETE CURB
	PROPOSED SAWCUT LINE
	PROPOSED ACCESSIBLE PARKING SPACES WITH NUMBER OF SPACES INDICATED (REFER TO STRIPING DETAILS)
	PROPOSED PARKING SPACES WITH NUMBER OF SPACES INDICATED (REFER TO STRIPING DETAILS)
	PROPOSED CONCRETE SIDEWALK
	PROPOSED HEAVY DUTY PAVEMENT
	PROPOSED POROUS PAVEMENT
	PROPOSED DECORATIVE PAVERS
	PROPOSED RETAINING WALL (DESIGN BY OTHERS)
	PROPOSED FENCE
	PROPOSED 2'-4" WIDE YELLOW LINES 8" O.C.
	PROPOSED 12" WIDE WHITE STOP LINE
	PROPOSED ARROW MARKING ON PAVEMENT
	TRAFFIC SIGN LOCATION & DESIGNATION
	PEDESTRIAN CROSSING

**NOTES:**

- EXISTING CONDITIONS DEPICTED ON THIS PLAN HAVE BEEN TAKEN FROM SURVEY TITLED, "TOPOGRAPHIC MAP," PREPARED BY JMC, LLC, LAST REVISED 03/06/2013.

### SIGN TABLE

DESIGNATION NUMBER	SIGN	SIZE	DESCRIPTION	MARKING TYPE	MARKING HEIGHT	REAR VIEW	REFLECTORIZED
A		30"x30"	WHITE ON RED	STEEL CHANNEL	7'-0"	R1-1	X
B		12"x18"	GREEN & BLUE ON WHITE	STEEL CHANNEL	7'-0"	R7-8	X
C		12"x18" 12"x6"	GREEN & BLUE ON WHITE	STEEL CHANNEL	7'-0"	R7-8 R7-8A	X
D		12"x18"	RED ON WHITE	STEEL CHANNEL	7'-0"	NP1-2	X
E		30"x30"x30"	RED ON WHITE	STEEL CHANNEL	7'-0"	R1-2	X
F		30"x30"x30" 30"x30"	RED ON WHITE BLACK ON YELLOW	STEEL CHANNEL	6'-0"	R1-2 NYW3-15	X
G		30"x24"	BLACK ON WHITE	STEEL CHANNEL	7'-0"	R6-4	X
H		30"x30"	BLACK ON WHITE	STEEL CHANNEL	7'-0"	NYW3-15	X
I		30"x30" 24"x12"	BLACK ON YELLOW	STEEL CHANNEL	7'-0"	W16-7PL	X

APPLICANT/OWNER: **SUMMIT CLUB PARTNERS, LLC**  
 568 BEDFORD ROAD (NY-22)  
 ARMONK, NY 10504

ARCHITECT: **GRANOFF ARCHITECTS**  
 330 RAILROAD AVENUE  
 GREENWICH, CT 06850

JMC Planning, Engineering, Landscape Architecture & Land Surveying, PLLC  
 JMC Site Development Consultants, LLC  
 John Meyer Consulting, Inc.  
 120 BEDFORD ROAD - ARMONK, NY 10504  
 PH: 914.333.3222 - FAX: 914.233.2102  
 www.jmcpllc.com



**SITE LAYOUT (SOUTH)**  
**THE SUMMIT CLUB AT ARMONK (RESIDENTIAL PHASE)**  
 568 & 570 BEDFORD ROAD - ARMONK, NY 10504

ANY ALTERATION OF PLANS, SPECIFICATIONS, PLATS AND REPORTS BEARING THE SEAL OF A LICENSED PROFESSIONAL ENGINEER OR LICENSED LAND SURVEYOR IS A VIOLATION OF SECTION 7209 OF THE NEW YORK STATE EDUCATION LAW, EXCEPT AS PROVIDED FOR BY SECTION 7209, SUBSECTION 2.

APPROVED BY TOWN OF NORTH CASTLE PLANNING BOARD RESOLUTION, DATED \_\_\_\_\_ DATE: \_\_\_\_\_

CHRISTOPHER CARRY, CHAIRMAN, TOWN OF NORTH CASTLE PLANNING BOARD  
**ENGINEERING DRAWINGS REVIEWED BY TOWN CONSULTING ENGINEER**

JOSEPH M. GEMELLE, P.E.  
 KELLARD SESSIONS CONSULTING, P.C.  
 CONSULTING TOWN ENGINEER

Scale: 1" = 30'  
 Date: 11/23/2020  
 Project No: 20101  
 Drawing No: **C-100**

NOT FOR CONSTRUCTION



### LEGEND

- EXISTING PROPERTY LINE
- ADJACENT PROPERTY LINE
- EXISTING SETBACK LINE
- EXISTING WETLAND LINE AND DELINEATION
- EXISTING BUILDING LINE
- EXISTING PAVEMENT EDGE
- EXISTING CURB LINE
- EXISTING STONE WALL
- EXISTING GUIDE RAIL
- EXISTING FENCE
- EXISTING TREE AND DESIGNATION
- EXISTING TREE LINE
- EXISTING PAINT
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING SIGN
- PROPOSED BUILDING LINE
- PROPOSED CONCRETE CURB
- PROPOSED SAWCUT LINE
- PROPOSED ACCESSIBLE PARKING SPACES WITH NUMBER OF SPACES INDICATED (REFER TO STRIPING DETAILS)
- PROPOSED PARKING SPACES WITH NUMBER OF SPACES INDICATED (REFER TO STRIPING DETAILS)
- PROPOSED CONCRETE SIDEWALK
- PROPOSED HEAVY DUTY PAVEMENT
- PROPOSED POROUS PAVEMENT
- PROPOSED DECORATIVE PAVERS
- PROPOSED RETAINING WALL (DESIGN BY OTHERS)
- PROPOSED FENCE
- PROPOSED 2'-4" WIDE YELLOW LINES 8' O.C.
- PROPOSED 12" WIDE WHITE STOP LINE
- PROPOSED ARROW MARKING ON PAVEMENT
- TRAFFIC SIGN LOCATION & DESIGNATION
- PEDESTRIAN CROSSING

**NOTES:**

- EXISTING CONDITIONS DEPICTED ON THIS PLAN HAVE BEEN TAKEN FROM SURVEY TITLED, "TOPOGRAPHIC MAP," PREPARED BY JMC, PLLC, LAST REVISED 03/06/2013.

### SIGN TABLE

DESIGNATION NUMBER	SHOW	SIZE	DESCRIPTION	MONUMENT TYPE	MONUMENT HEIGHT	REGULATORY	RECOMMENDED
A	STOP	30"x30"	WHITE ON RED	STEEL CHANNEL	7'-0"	R1-1	X
B	AWAY FROM TRAFFIC	12"x18"	GREEN & BLUE ON WHITE	STEEL CHANNEL	7'-0"	R7-8	X
C	AWAY FROM TRAFFIC	12"x18" 12"x8"	GREEN & BLUE ON WHITE	STEEL CHANNEL	7'-0"	R7-8 R7-8A	X
D	AWAY FROM TRAFFIC	12"x18"	RED ON WHITE	STEEL CHANNEL	7'-0"	NYP1-2	X
E	AWAY FROM TRAFFIC	30"x30"x30"	RED ON WHITE	STEEL CHANNEL	7'-0"	R1-2	X
F	AWAY FROM TRAFFIC	30"x30"x30" 30"x30"	BLACK ON WHITE BLACK ON YELLOW	STEEL CHANNEL	6'-0"	R1-2 NYW3-15	X
G	AWAY FROM TRAFFIC	30"x24"	BLACK ON WHITE	STEEL CHANNEL	7'-0"	R6-4	X
H	AWAY FROM TRAFFIC	30"x30"	BLACK ON WHITE	STEEL CHANNEL	7'-0"	NYW3-15	X
I	AWAY FROM TRAFFIC	30"x30" 24"x12"	BLACK ON YELLOW	STEEL CHANNEL	7'-0"	W11-2 W16-7A	X

APPLICANT/OWNER: **SUMMIT CLUB PARTNERS, LLC**  
568 BEDFORD ROAD (NY-22)  
ARMONK, NY 10504

ARCHITECT: **GRANOFF ARCHITECTS**  
330 RAILROAD AVENUE  
GREENWICH, CT 06850

No.	Revision	Date
1.	RESPONSE TO TOWN COMMENTS	07/17/2021
2.	RESPONSE TO TOWN COMMENTS	03/08/2021
3.	RESPONSE TO TOWN COMMENTS	06/14/2021
4.	RESPONSE TO TOWN COMMENTS	07/07/2022
5.	RESPONSE TO TOWN COMMENTS	07/29/2022

JMC Planning, Engineering, Landscape Architecture & Land Surveying, PLLC  
John Meyer Consulting, Inc.  
120 BEDFORD ROAD - ARMONK, NY 10504  
PHONE: 914.333.2222 - FAX: 914.233.2102  
www.jmcpic.com

**SITE LAYOUT (NORTH)**  
**THE SUMMIT CLUB AT ARMONK (RESIDENTIAL PHASE)**  
568 & 570 BEDFORD ROAD (NY-22)  
ARMONK, NY

ANY ALTERATION OF PLANS, SPECIFICATIONS, PLATS AND REPORTS BEARING THE SEAL OF A LICENSED PROFESSIONAL ENGINEER OR LICENSED LAND SURVEYOR IS A VIOLATION OF SECTION 7209 OF THE NEW YORK STATE EDUCATION LAW, EXCEPT AS PROVIDED FOR BY SECTION 7209, SUBSECTION 2.

APPROVED BY TOWN OF NORTH CASTLE PLANNING BOARD RESOLUTION, DATED \_\_\_\_\_ DATE: \_\_\_\_\_

CHRISTOPHER CATHY, CHAIRMAN, TOWN OF NORTH CASTLE PLANNING BOARD  
ENGINEERING DRAWINGS REVIEWED BY TOWN CONSULTING ENGINEER

JOSEPH M. CERNIELE, P.E.  
KELLARD SESSIONS CONSULTING, P.C.  
CONSULTING TOWN ENGINEER

Scale: 1" = 30'  
Date: 11/23/2020  
Project No: 20101  
Drawing No: LAYOUT NORTH

**C-101**

NOT FOR CONSTRUCTION

FIRE TRUCK PROFILE	
E-ONE HP95 Mid Mount	47.750ft
Overall Length	47.750ft
Overall Width	7.917ft
Overall Body Height	12.417ft
Min. Body Ground Clearance	6.833ft
Track Width	6.833ft
Lock-to-lock time	6.00s
Max Wheel Angle	45.00°

No.	Rev.	Date
1.	RESPONSE TO TOWN COMMENTS	07/17/2021
2.	RESPONSE TO TOWN COMMENTS	05/06/2021
3.	RESPONSE TO TOWN COMMENTS	06/14/2021
4.	RESPONSE TO TOWN COMMENTS	07/07/2022
5.	RESPONSE TO TOWN COMMENTS	07/29/2022

APPLICANT/OWNER	ARCHITECT
SUMMIT CLUB PARTNERS, LLC 568 BEDFORD ROAD (NY-22) ARMONK, NY 10504	GRANOFF ARCHITECTS 330 RAILROAD AVENUE GREENWICH, CT 06850

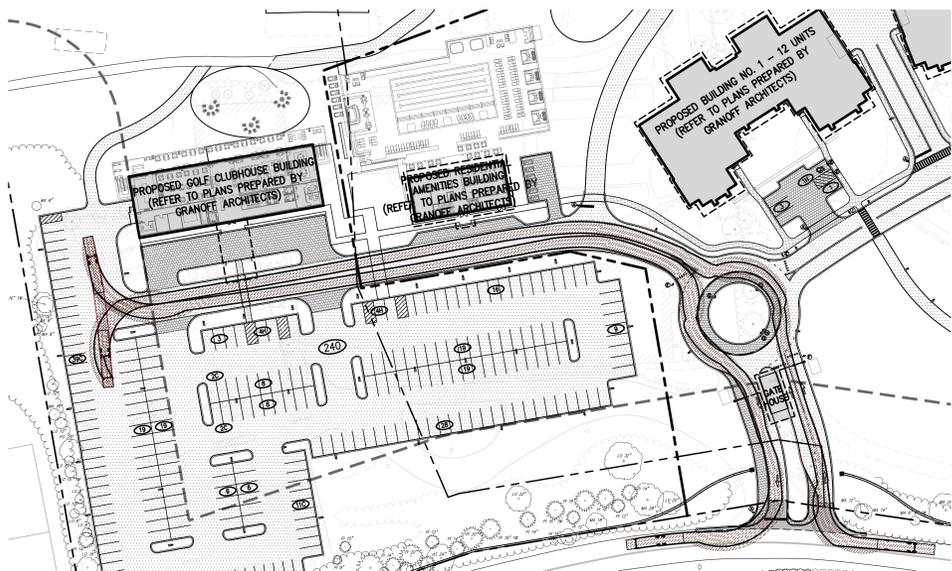
APPLICANT/OWNER	ARCHITECT
SUMMIT CLUB PARTNERS, LLC 568 BEDFORD ROAD (NY-22) ARMONK, NY 10504	GRANOFF ARCHITECTS 330 RAILROAD AVENUE GREENWICH, CT 06850

JMC Planning, Engineering, Landscape Architecture & Land Surveying, PLLC  
JMC Site Development Consultants, LLC  
Alpha Meyer Consulting, Inc.  
120 BEDFORD ROAD - ARMONK, NY 10504  
PHONE: 914.233.2422 - FAX: 914.233.2102  
www.jmcpic.com



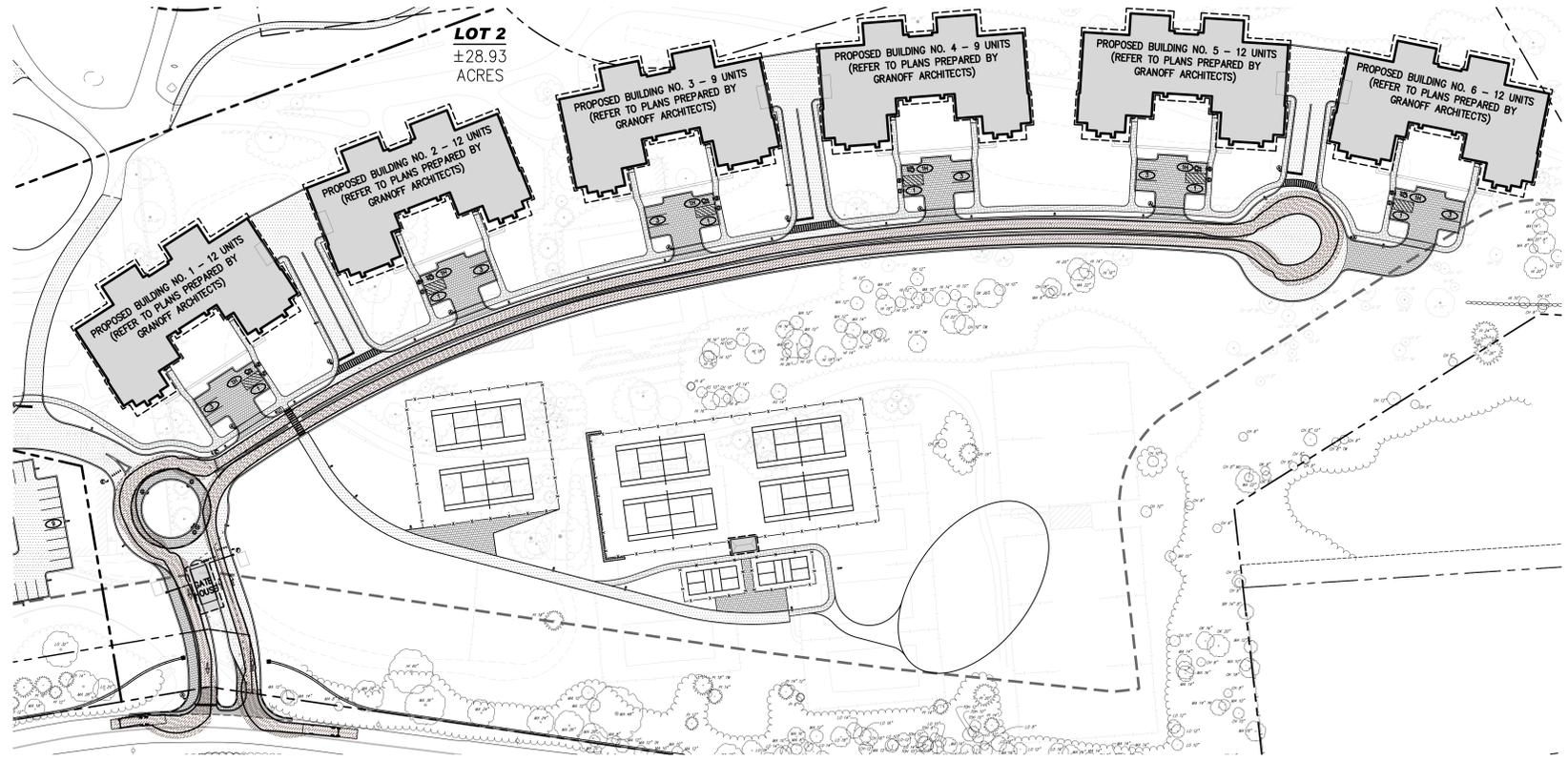
FIRE TRUCK ACCESS PLAN  
THE SUMMIT CLUB AT ARMONK  
(RESIDENTIAL PHASE)  
568 & 570 BEDFORD ROAD (NY-22)  
ARMONK, NY 10504

ANY ALTERATION OF PLANS, SPECIFICATIONS, PLATS AND REPORTS BEARING THE SEAL OF A LICENSED PROFESSIONAL ENGINEER OR LICENSED LAND SURVEYOR IS A VIOLATION OF SECTION 7209 OF THE NEW YORK STATE EDUCATION LAW, EXCEPT AS PROVIDED FOR BY SECTION 7209, SUBSECTION 2.



ROAD A FIRE TRUCK TURNING ANALYSIS

SCALE: 1" = 50'



ROAD B FIRE TRUCK TURNING ANALYSIS

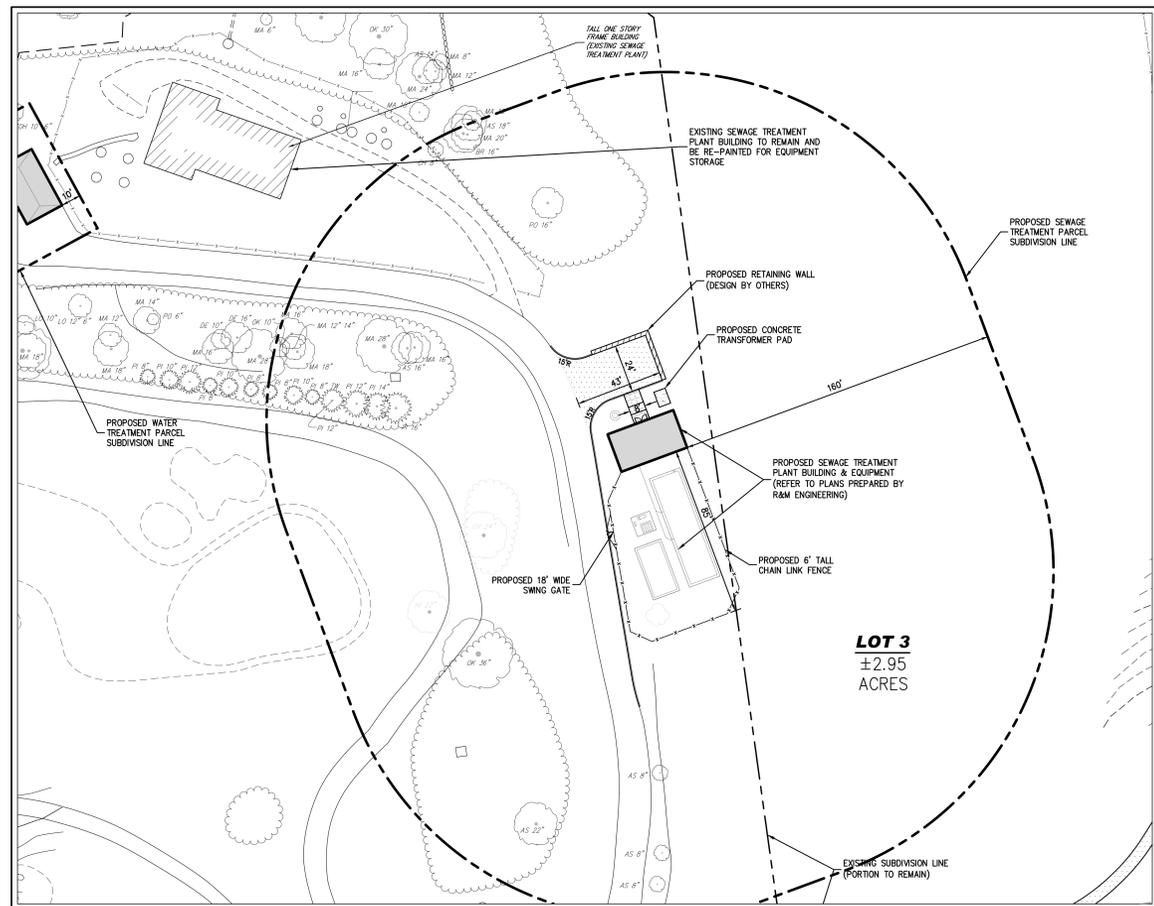
SCALE: 1" = 50'

APPROVED BY TOWN OF NORTH CASTLE PLANNING BOARD RESOLUTION, DATED \_\_\_\_\_  
DATE: \_\_\_\_\_  
CHRISTOPHER CARRHY, CHAIRMAN,  
TOWN OF NORTH CASTLE PLANNING BOARD  
ENGINEERING DRAWINGS REVIEWED BY TOWN CONSULTING ENGINEER  
DATE: \_\_\_\_\_  
JOSEPH M. CERNIELE, P.E.  
KELLARD SESSONS CONSULTING, P.C.  
CONSULTING TOWN ENGINEER

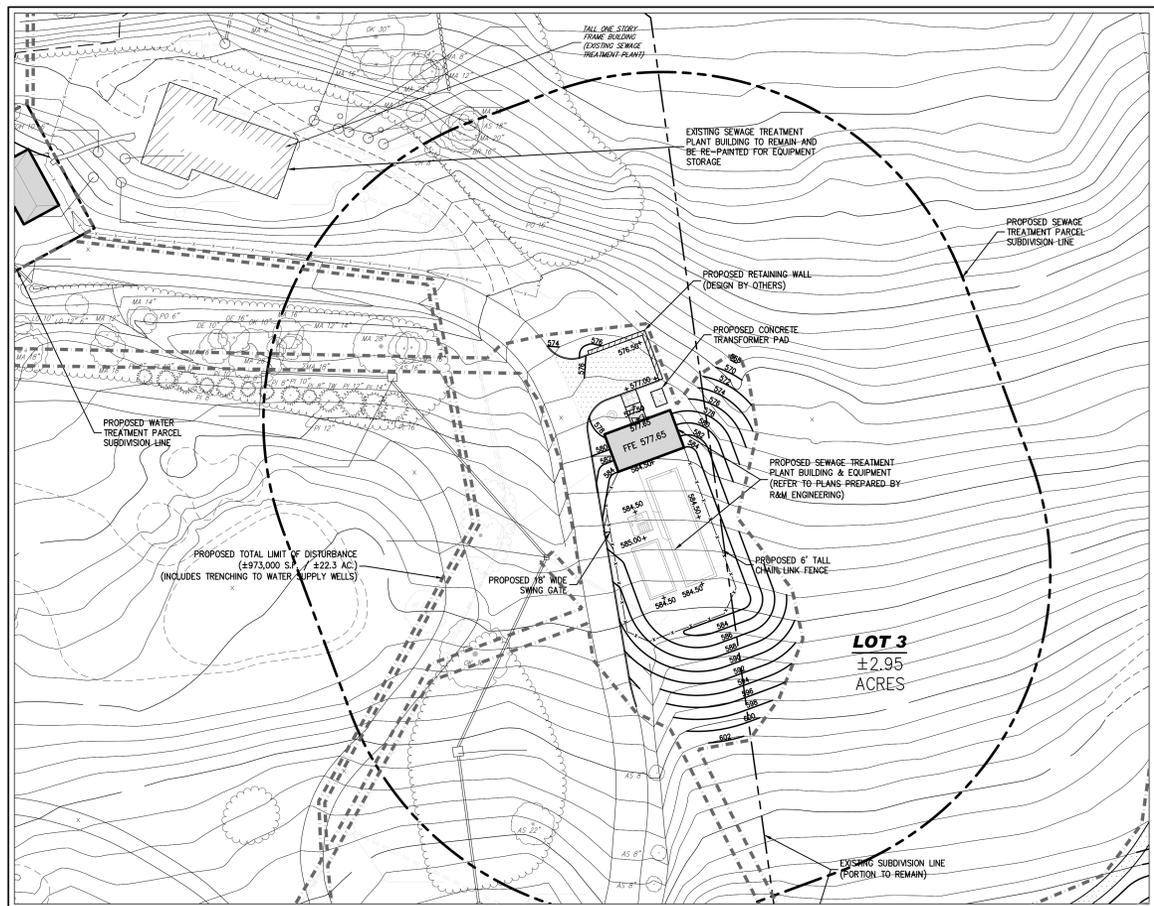
Drawn: NC Approved: AG  
Scale: AS SHOWN  
Date: 11/23/2020  
Project No: 20101  
JOB: TRUCK TURNING LAYOUT  
Drawing No: C-102

NOT FOR CONSTRUCTION

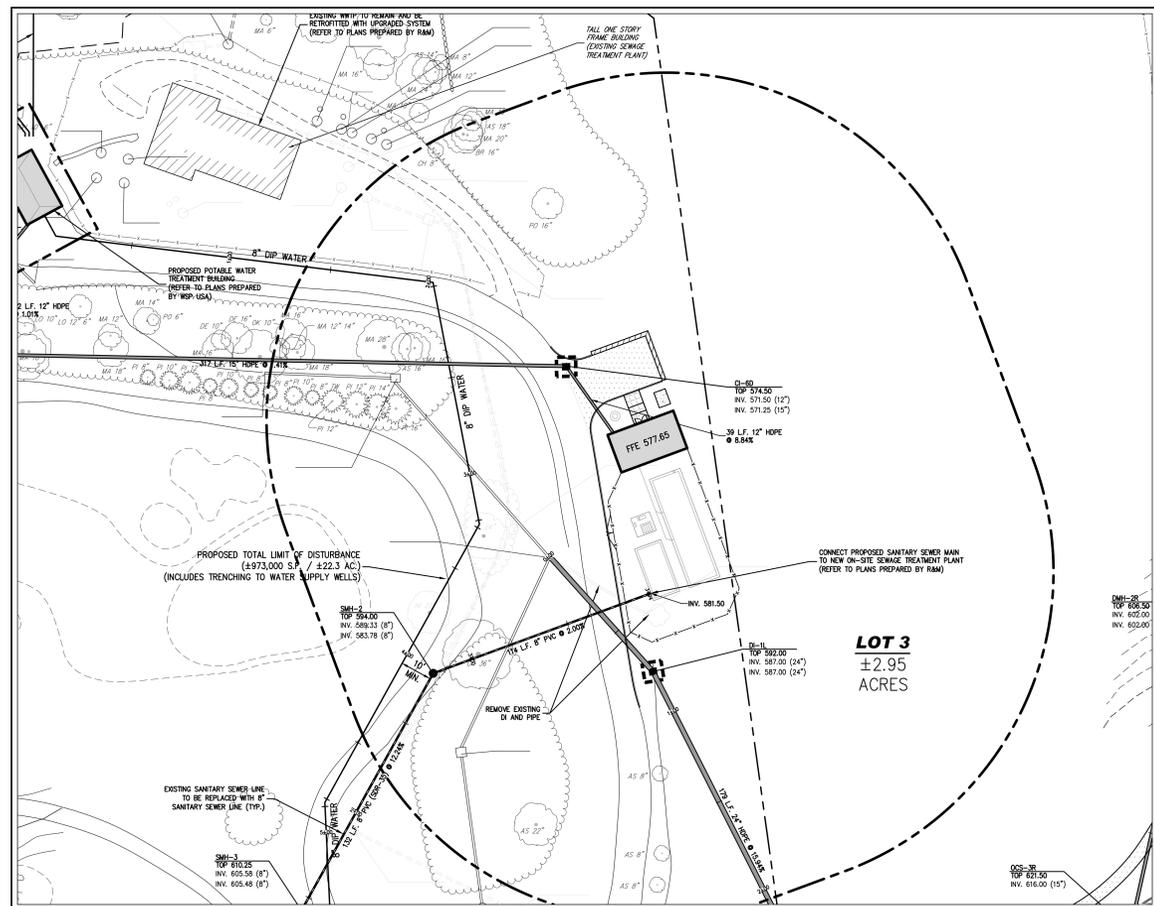




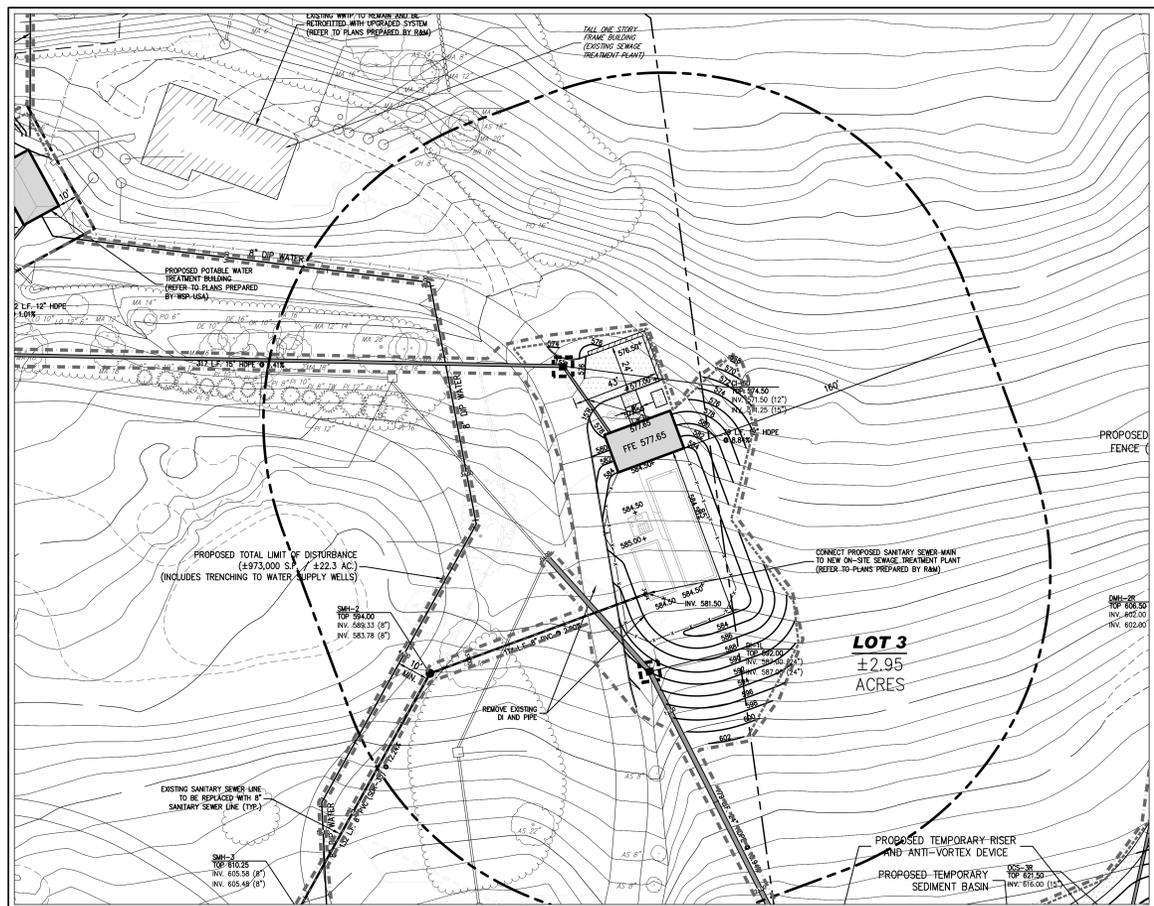
**LAYOUT PLAN**  
1" = 30'



**GRADING PLAN**  
1" = 30'



**UTILITIES PLAN**  
1" = 30'



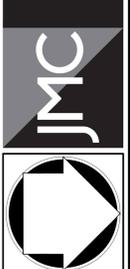
**EROSION & SEDIMENT CONTROL PLAN**  
1" = 30'

APPROVED BY TOWN OF NORTH CASTLE PLANNING BOARD RESOLUTION, DATED \_\_\_\_\_ DATE: \_\_\_\_\_  
 CHRISTOPHER CARRHY, CHAIRMAN, TOWN OF NORTH CASTLE PLANNING BOARD  
 ENGINEERING DRAWINGS REVIEWED BY TOWN CONSULTING ENGINEER  
 JOSEPH M. CERNIELE, P.E., KELLARD SESSONS CONSULTING, P.C. CONSULTING TOWN ENGINEER

No.	Revision	Date
1.	RESPONSE TO TOWN COMMENTS	07/17/2021
2.	RESPONSE TO TOWN COMMENTS	03/09/2021
3.	RESPONSE TO TOWN COMMENTS	06/14/2021
4.	RESPONSE TO TOWN COMMENTS	07/07/2021
5.	RESPONSE TO TOWN COMMENTS	07/29/2021

APPLICANT/OWNER: **SUMMIT CLUB PARTNERS, LLC**  
 568 BEDFORD ROAD (NY-22) ARMONK, NY 10504  
 ARCHITECT: **GRANOFF ARCHITECTS**  
 330 RAILROAD AVENUE GREENWICH, CT 06850

JMC Planning, Engineering, Landscape Architecture & Land Surveying, PLLC  
 John Meyer Consulting, Inc.  
 120 BEDFORD ROAD - ARMONK, NY 10504  
 voice 914.233.2222 • fax 914.233.2192  
 www.jmcpac.com



**UTILITY COMPLEX PLANS**  
**THE SUMMIT CLUB AT ARMONK (RESIDENTIAL PHASE)**  
 568 & 570 BEDFORD ROAD (NY-22) ARMONK, NY 10504

ANY ALTERATION OF PLANS, SPECIFICATIONS, PLATS AND REPORTS BEARING THE SEAL OF A LICENSED PROFESSIONAL ENGINEER OR LICENSED LAND SURVEYOR IS A VIOLATION OF SECTION 7209 OF THE NEW YORK STATE EDUCATION LAW, EXCEPT AS PROVIDED FOR BY SECTION 7209, SUBSECTION 2.

Drawn: NC Approved: AG  
 Scale: 1" = 30'  
 Date: 11/23/2020  
 Project No: 20101  
 Job No: SP  
 Drawing No: **C-103**

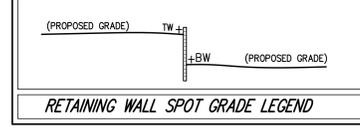
NOT FOR CONSTRUCTION



**LEGEND**

	EXISTING PROPERTY LINE
	ADJACENT PROPERTY LINE
	EXISTING EASEMENT LINE
	EXISTING WETLAND LINE AND DELINEATION
	EXISTING BUILDING OVERHANG
	EXISTING BUILDING LINE
	EXISTING PAVEMENT EDGE
	EXISTING CURB LINE
	EXISTING CONTOUR
	EXISTING INDEX CONTOUR
	EXISTING STONE WALL
	EXISTING RETAINING WALL
	EXISTING FENCE RAIL
	EXISTING FENCE
	EXISTING DRAIN INLET
	EXISTING MANHOLE
	EXISTING UTILITY POLE
	EXISTING LIGHT POLE
	EXISTING SIGN
	PROPOSED BUILDING LINE
	PROPOSED CONCRETE CURB
	PROPOSED CONCRETE SIDEWALK
	PROPOSED DROP CURB AND RAMP
	PROPOSED FINISHED GRADE
	PROPOSED SPOT GRADE
	PROPOSED SANITARY SEWER MANHOLE
	PROPOSED STORM DRAIN MANHOLE
	PROPOSED TYPE CI DRAIN INLET
	PROPOSED TYPE DI DRAIN INLET
	PROPOSED HEADWALL
	PROPOSED SUBSURFACE DRAINAGE OUTLET CONTROL STRUCTURE
	PROPOSED RETAINING WALL (DESIGN BY OTHERS)
	BORING LOCATION AND DESIGNATION
	PROPOSED LIMIT OF DISTURBANCE

- NOTES:**
- EXISTING CONDITIONS DEPICTED ON THIS PLAN HAVE BEEN TAKEN FROM SURVEY TITLED, "TOPOGRAPHIC MAP," PREPARED BY JMC, LAST REVISED 03/06/2013. PORTIONS OF EXISTING TOPOGRAPHY HAVE BEEN PROVIDED BY WESTCHESTER COUNTY GIS.
  - GEOTECHNICAL BORING/TEST PIT LOCATIONS DEPICTED ON THIS PLAN WERE TAKEN FROM THE GEOTECHNICAL REPORT ENTITLED, "GEOTECHNICAL DWG NAME," DATED GEOTECHNICAL DATE, PREPARED BY GEOTECHNICAL ENGINEERING NAME.
  - ALL STORMWATER MANAGEMENT PRACTICES SHALL REMAIN UNDISTURBED AND BE PROTECTED FROM HEAVY MACHINERY TRAFFIC DURING CONSTRUCTION. HOWEVER DURING CONSTRUCTION OF THE PRACTICE THE CONTRACTOR SHALL MINIMIZE AND AVOID HEAVY MACHINERY TRAFFIC TO THE MAXIMUM EXTENT PRACTICABLE. THERE SHALL BE NO STORAGE OF MATERIALS WITHIN AREAS TO BE USED FOR STORMWATER MANAGEMENT PRACTICES. THE CONTRACTOR SHALL INSTALL CONSTRUCTION FENCE AROUND THE PRACTICE TO DISCOURAGE VEHICLE TRAFFIC.



**APPLICANT/OWNER:** SUMMIT CLUB PARTNERS, LLC  
568 BEDFORD ROAD (NY-22)  
ARMONK, NY 10504

**ARCHITECT:** GRANOFF ARCHITECTS  
330 RAILROAD AVENUE  
GREENWICH, CT 06850

No.	Revision	Date
1.	RESPONSE TO TOWN COMMENTS	07/17/2021
2.	RESPONSE TO TOWN COMMENTS	03/09/2022
3.	RESPONSE TO TOWN COMMENTS	06/14/2022
4.	RESPONSE TO TOWN COMMENTS	07/07/2022
5.	RESPONSE TO TOWN COMMENTS	07/29/2022

JMC Planning, Engineering, Landscape Architecture & Land Surveying, PLLC  
John Meyer Consulting, Inc.  
420 BEDFORD ROAD - ARMONK, NY 10554  
PHONE: 914.233.2222 - FAX: 914.233.2162  
www.jmcpllc.com



**SITE GRADING PLAN (SOUTH)**  
THE SUMMIT CLUB AT ARMONK (RESIDENTIAL PHASE)  
568 & 570 BEDFORD ROAD (NY-22)  
ARMONK, NY 10504

ANY ALTERATION OF PLANS, SPECIFICATIONS, PLATS AND REPORTS BEARING THE SEAL OF A LICENSED PROFESSIONAL ENGINEER OR LICENSED LAND SURVEYOR IS A VIOLATION OF SECTION 7209 OF THE NEW YORK STATE EDUCATION LAW EXCEPT AS PROVIDED FOR BY SECTION 7209, SUBSECTION 2.

APPROVED BY TOWN OF NORTH CASTLE PLANNING BOARD RESOLUTION, DATED \_\_\_\_\_ DATE: \_\_\_\_\_  
CHRISTOPHER CARRY, CHAIRMAN, TOWN OF NORTH CASTLE PLANNING BOARD  
ENGINEERING DRAWINGS REVIEWED BY TOWN CONSULTING ENGINEER  
JOSEPH M. CERNILE, P.E. KELLARD SESSIONS CONSULTING, P.C. CONSULTING TOWN ENGINEER  
DATE: \_\_\_\_\_

Drawn: NC Approved: AG  
Scale: 1" = 30'  
Date: 11/23/2020  
Project No: 20101  
300-0000 000 0000 000 000 000  
Drawing No: \_\_\_\_\_  
**C-200**

NOT FOR CONSTRUCTION

BEDFORD ROAD (NEW YORK STATE ROUTE 22)

EXISTING RESIDENCE

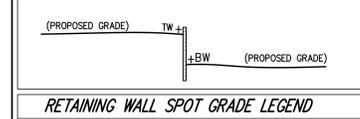
SARA RICHEL  
12/23/2022



**LEGEND**

	EXISTING PROPERTY LINE
	ADJACENT PROPERTY LINE
	EXISTING EASEMENT LINE
	EXISTING WETLAND LINE AND DELINEATION
	EXISTING BUILDING OVERHANG
	EXISTING BUILDING LINE
	EXISTING PAVEMENT EDGE
	EXISTING CURB LINE
	EXISTING CONTOUR
	EXISTING INDEX CONTOUR
	EXISTING STONE WALL
	EXISTING RETAINING WALL
	EXISTING GUIDE RAIL
	EXISTING FENCE
	EXISTING DRAIN INLET
	EXISTING MANHOLE
	EXISTING UTILITY POLE
	EXISTING LIGHT POLE
	EXISTING SIGN
	PROPOSED BUILDING LINE
	PROPOSED CONCRETE CURB
	PROPOSED CONCRETE SIDEWALK
	PROPOSED DROP CURB AND RAMP
	PROPOSED FINISHED GRADE
	PROPOSED SPOT GRADE
	PROPOSED SANITARY SEWER MANHOLE
	PROPOSED STORM DRAIN MANHOLE
	PROPOSED TYPE CI DRAIN INLET
	PROPOSED TYPE DI DRAIN INLET
	PROPOSED HEADWALL
	PROPOSED SUBSURFACE DRAINAGE OUTLET CONTROL STRUCTURE
	PROPOSED RETAINING WALL (DESIGN BY OTHERS)
	BORING LOCATION AND DESIGNATION
	PROPOSED LIMIT OF DISTURBANCE

- NOTES:**
- EXISTING CONDITIONS DEPICTED ON THIS PLAN HAVE BEEN TAKEN FROM SURVEY TITLED, "TOPOGRAPHIC MAP," PREPARED BY JMC, LAST REVISED 03/06/2013. PORTIONS OF EXISTING TOPOGRAPHY HAVE BEEN PROVIDED BY WESTCHESTER COUNTY GIS.
  - GEOTECHNICAL BORING/TEST PIT LOCATIONS DEPICTED ON THIS PLAN WERE TAKEN FROM THE GEOTECHNICAL REPORT ENTITLED, "GEOTECHNICAL DWG NAME," DATED GEOTECHNICAL DATE, PREPARED BY GEOTECHNICAL ENGINEERING NAME.
  - ALL STORMWATER MANAGEMENT PRACTICES SHALL REMAIN UNDISTURBED AND BE PROTECTED FROM HEAVY MACHINERY TRAFFIC DURING CONSTRUCTION. HOWEVER DURING CONSTRUCTION OF THE PRACTICE THE CONTRACTOR SHALL MINIMIZE AND AVOID HEAVY MACHINERY TRAFFIC TO THE MAXIMUM EXTENT PRACTICABLE. THERE SHALL BE NO STORAGE OF MATERIALS WITHIN AREAS TO BE USED FOR STORMWATER MANAGEMENT PRACTICES. THE CONTRACTOR SHALL INSTALL CONSTRUCTION FENCE AROUND THE PRACTICE TO DISCOURAGE VEHICLE TRAFFIC.



**REVISIONS**

No.	Date	By	NC	AG
1.	07/17/2020			
2.	03/06/2021			
3.	06/14/2021			
4.	07/07/2022			
5.	07/29/2022			

APPLICANT/OWNER: **SUMMIT CLUB PARTNERS, LLC**  
 568 BEDFORD ROAD (NY-22)  
 ARMONK, NY 10504

ARCHITECT: **GRANOFF ARCHITECTS**  
 330 RAILROAD AVENUE  
 GREENWICH, CT 06850



**SITE GRADING PLAN (NORTH)**

**THE SUMMIT CLUB AT ARMONK (RESIDENTIAL PHASE)**  
 568 & 570 BEDFORD ROAD (NY-22)  
 ARMONK, NY 10504

ANY ALTERATION OF PLANS, SPECIFICATIONS, PLATS AND REPORTS BEARING THE SEAL OF A LICENSED PROFESSIONAL ENGINEER OR LICENSED LAND SURVEYOR IS A VIOLATION OF SECTION 7209 OF THE NEW YORK STATE EDUCATION LAW, EXCEPT AS PROVIDED FOR BY SECTION 7209, SUBSECTION 2.

APPROVED BY TOWN OF NORTH CASTLE PLANNING BOARD RESOLUTION, DATED \_\_\_\_\_

DATE: \_\_\_\_\_

CHRISTOPHER CARTHAY, CHAIRMAN, TOWN OF NORTH CASTLE PLANNING BOARD

ENGINEERING DRAWINGS REVIEWED BY TOWN CONSULTING ENGINEER

JOSEPH M. GEMELLE, P.E. KELLARD SESSIONS CONSULTING, P.C. CONSULTING TOWN ENGINEER

DATE: \_\_\_\_\_

Scale: 1" = 30'

Date: 11/23/2020

Project No: 20101

2010-0000: GRAD NORTH 09/01/20

Drawn by: \_\_\_\_\_

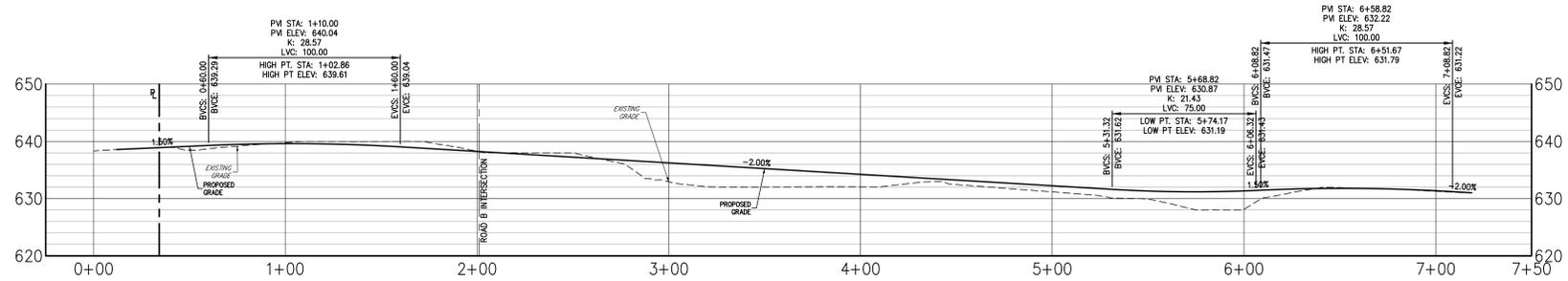
**C-201**

NOT FOR CONSTRUCTION

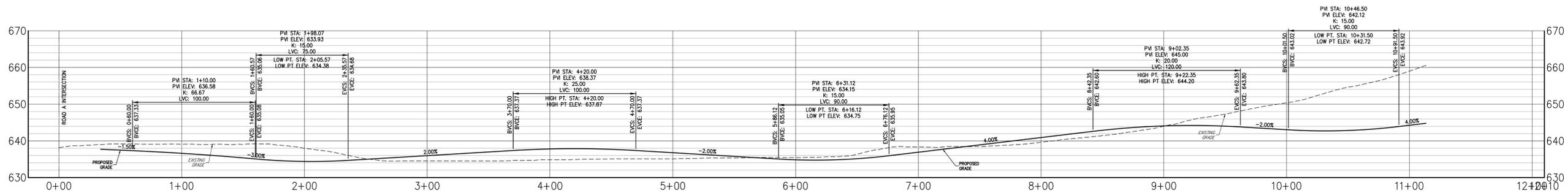
SARA RICHELSON  
 11/23/2020 DWG

NOT FOR CONSTRUCTION

DATE PLOTTED: 11/23/2020 10:54:10 AM  
DRAWING: ROAD PROFILES  
PROJECT: 20101  
SCALE: AS SHOWN  
DATE: 11/23/2020  
BY: JMC  
CHECKED: JMC  
APPROVED: JMC



**ROAD A PROFILE**  
HORIZONTAL: 1" = 30'  
VERTICAL: 1" = 10'



**ROAD B PROFILE**  
HORIZONTAL: 1" = 30'  
VERTICAL: 1" = 10'

No.	Revision	Date
1.	RESPONSE TO TOWN COMMENTS	07/17/2020
2.	RESPONSE TO TOWN COMMENTS	05/08/2021
3.	RESPONSE TO TOWN COMMENTS	06/14/2021
4.	RESPONSE TO TOWN COMMENTS	07/07/2021
5.	RESPONSE TO TOWN COMMENTS	07/29/2021

APPLICANT/OWNER:  
**SUMMIT CLUB PARTNERS, LLC**  
568 BEDFORD ROAD (NY-22)  
ARMONK, NY 10504

ARCHITECT:  
**GRANOFF ARCHITECTS**  
330 RAILROAD AVENUE  
GREENWICH, CT 06850

JMC Planning, Engineering, Landscape Architecture & Land Surveying, PLLC  
120 BEDFORD ROAD • ARMONK, NY 10504  
PHONE: 914.233.2424 • FAX: 914.233.2102  
www.jmcpic.com



**ROAD PROFILES PLAN**  
**THE SUMMIT CLUB AT ARMONK**  
**(RESIDENTIAL PHASE)**  
568 & 570 BEDFORD ROAD (NY-22)  
ARMONK, NY 10504

ANY ALTERATION OF PLANS, SPECIFICATIONS, PLATS AND REPORTS BEARING THE SEAL OF A LICENSED PROFESSIONAL ENGINEER OR LICENSED LAND SURVEYOR IS A VIOLATION OF SECTION 7209 OF THE NEW YORK STATE EDUCATION LAW, EXCEPT AS PROVIDED FOR BY SECTION 7209, SUBSECTION 2.

APPROVED BY TOWN OF NORTH CASTLE PLANNING BOARD RESOLUTION, DATED \_\_\_\_\_

DATE: \_\_\_\_\_

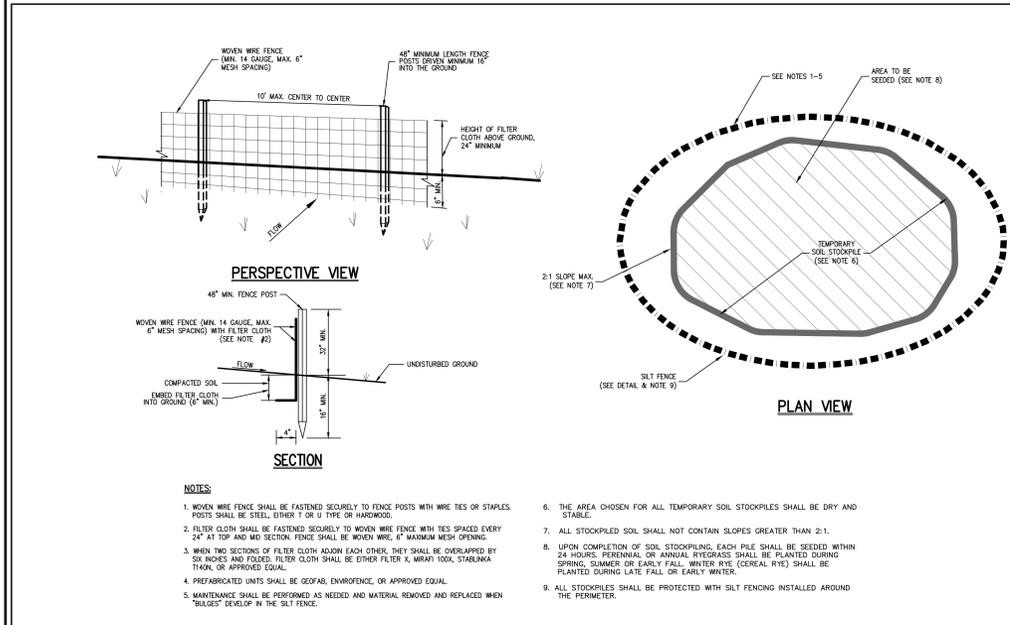
CHRISTOPHER CARTHAY, CHAIRMAN,  
TOWN OF NORTH CASTLE PLANNING BOARD

ENGINEERING DRAWINGS REVIEWED BY TOWN CONSULTING ENGINEER

DATE: \_\_\_\_\_

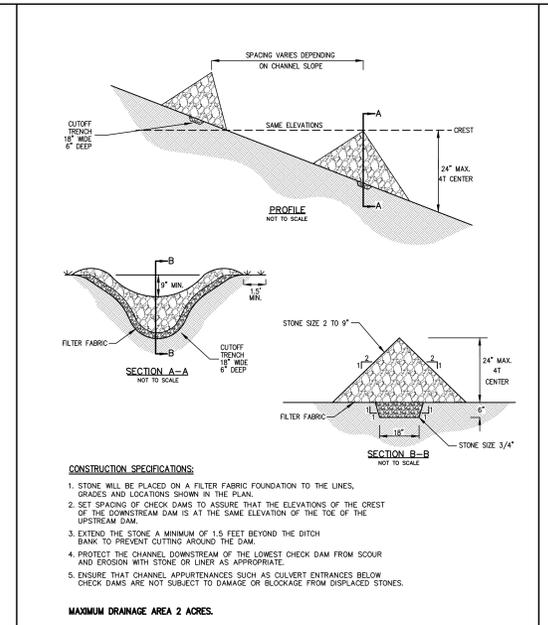
JOSEPH M. GEMBLE, P.E.  
KELLARD SESSIONS CONSULTING, P.C.  
CONSULTING TOWN ENGINEER

Drawn: NC  
Scale: AS SHOWN  
Date: 11/23/2020  
Project No: 20101  
DWG NO: ROAD PROFILES  
DWG SET: ROAD PROFILES  
Checked By: \_\_\_\_\_  
**C-202**



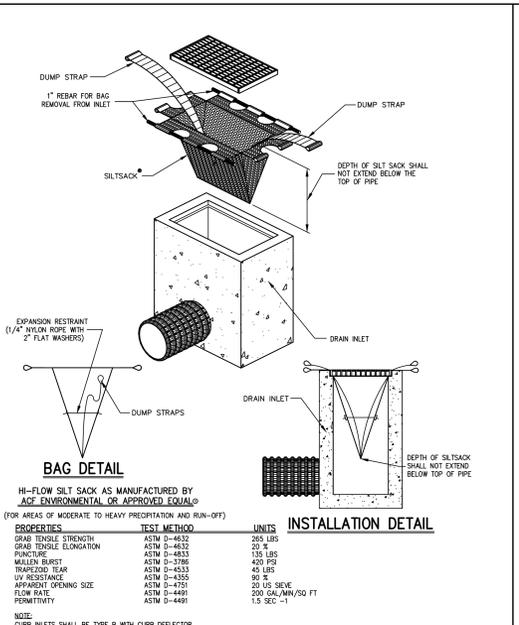
TEMPORARY SOIL STOCKPILE WITH SILT FENCE

1



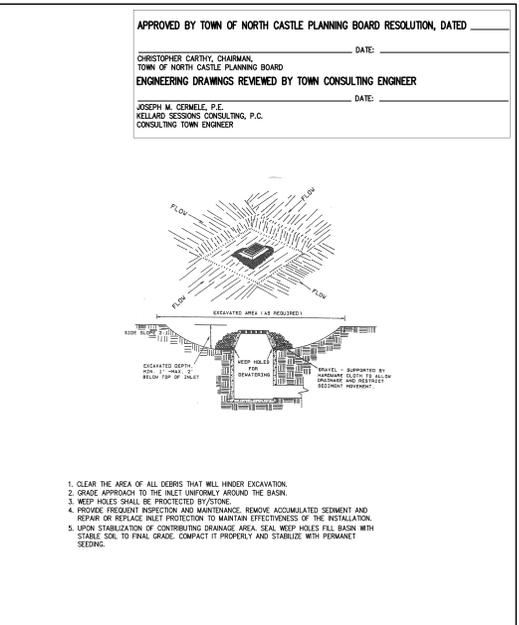
STONE CHECK DAM

2



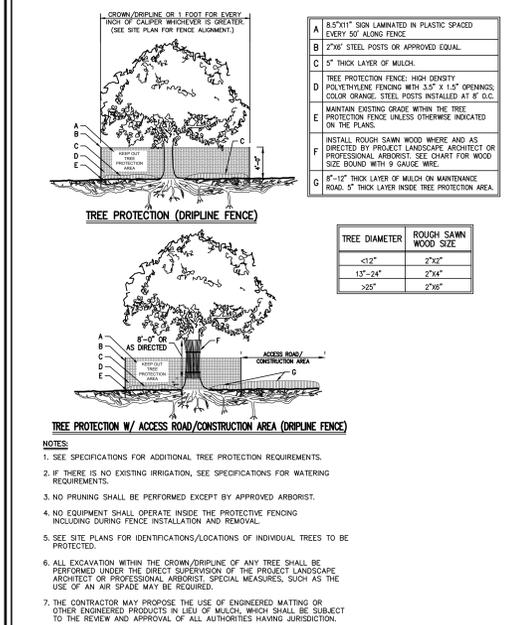
MANUFACTURED INSERT INLET PROTECTION

3



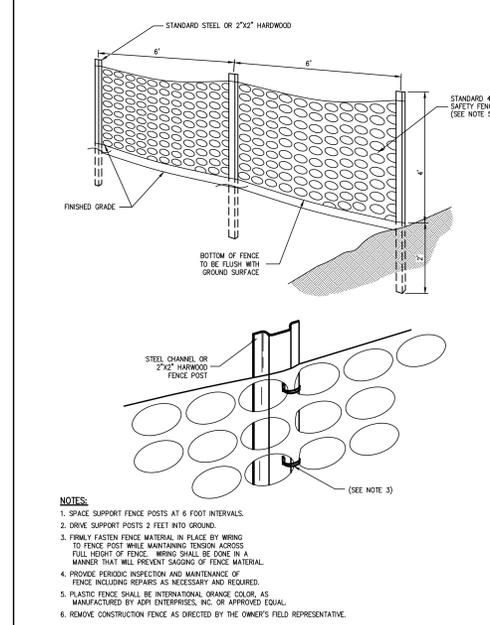
EXCAVATED DROP INLET PROTECTION

4



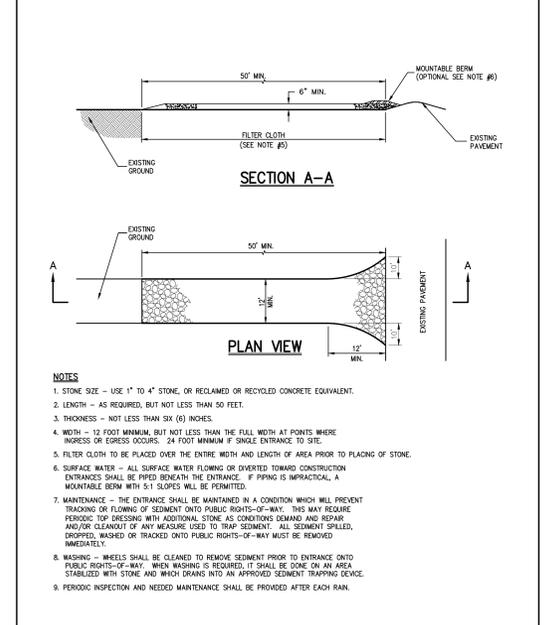
TREE PROTECTION

5



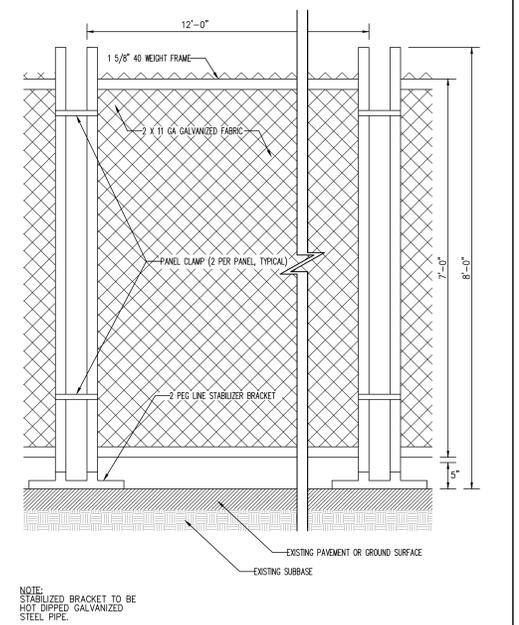
CONSTRUCTION FENCE

6



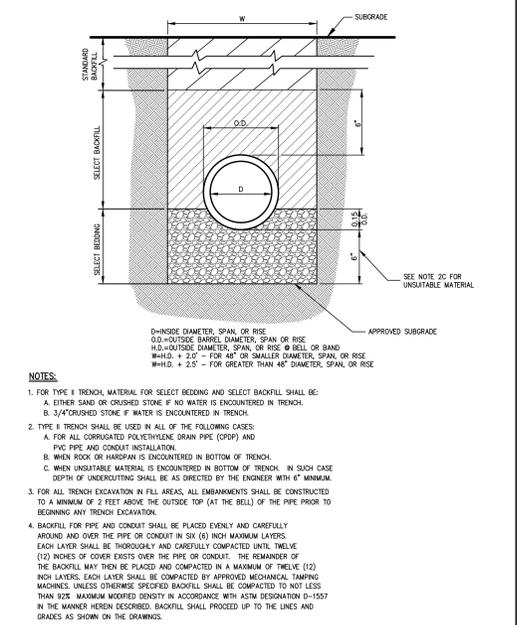
STABILIZED CONSTRUCTION ENTRANCE

7



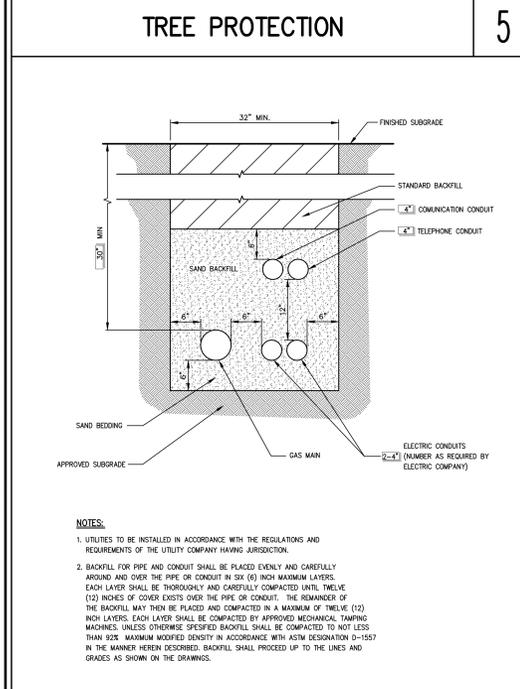
TEMPORARY CHAIN LINK CONSTRUCTION FENCE

8



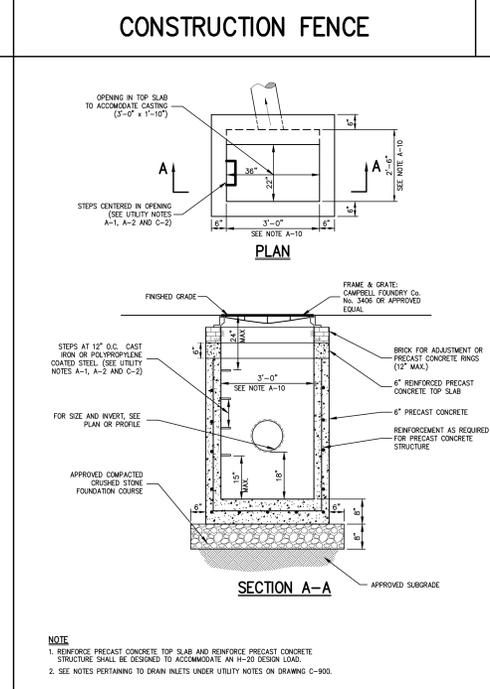
TYPE II TRENCH

9



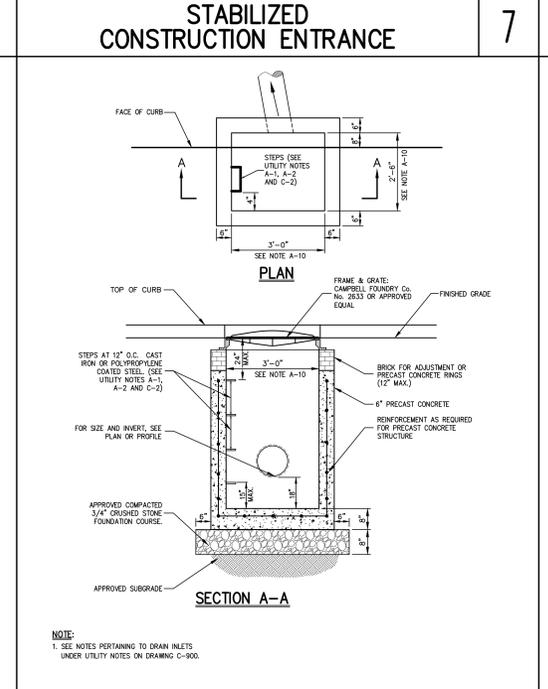
UTILITY TRENCH DETAIL

10



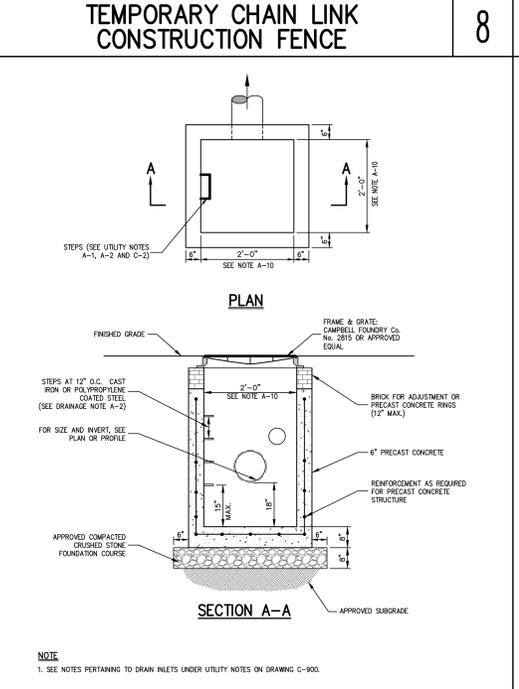
DRAIN INLET (TYPE DI)  
(WITH SUMP-W/O FINGER UNDERDRAINS)

11



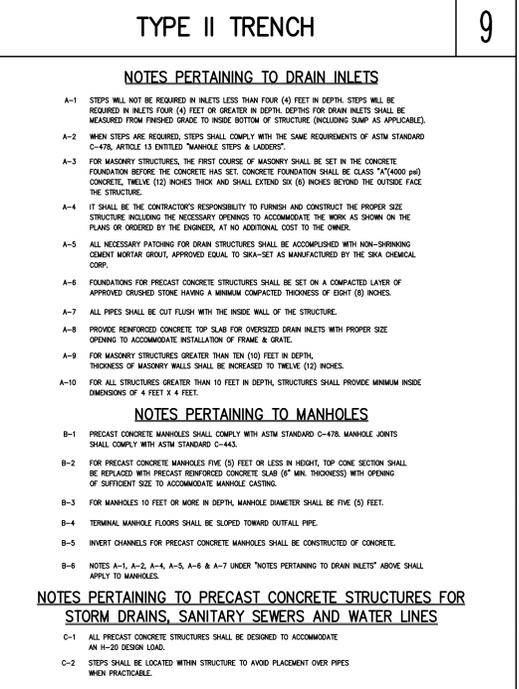
DRAIN INLET (TYPE CI)  
(WITH SUMP-W/O FINGER UNDERDRAINS)

12



LAWN INLET (TYPE LI)  
(WITH SUMP)

13



UTILITY NOTES

14

APPROVED BY TOWN OF NORTH CASTLE PLANNING BOARD RESOLUTION, DATED \_\_\_\_\_ DATE \_\_\_\_\_  
 CHRISTOPHER CATHY, CHAIRMAN, TOWN OF NORTH CASTLE PLANNING BOARD  
 ENGINEERING DRAWINGS REVIEWED BY TOWN CONSULTING ENGINEER  
 JOSEPH M. CERMELE, P.E. DATE \_\_\_\_\_  
 KELLARD SESSIONS CONSULTING, P.C. CONSULTING TOWN ENGINEER

Rev	Date	Revision
1	07/17/2021	RESPONSE TO TOWN COMMENTS
2	03/08/2021	RESPONSE TO TOWN COMMENTS
3	06/14/2021	RESPONSE TO TOWN COMMENTS
4	07/10/2022	RESPONSE TO TOWN COMMENTS
5	03/28/2022	RESPONSE TO TOWN COMMENTS

APPLICANT: SUMMIT CLUB PARTNERS, LLC  
 566 BEDFORD ROAD (NY-22)  
 ARMONK, NY 10504  
 ARCHITECT: GRANOFF ARCHITECTS  
 330 RAILROAD AVENUE  
 GREENWICH, CT 06850

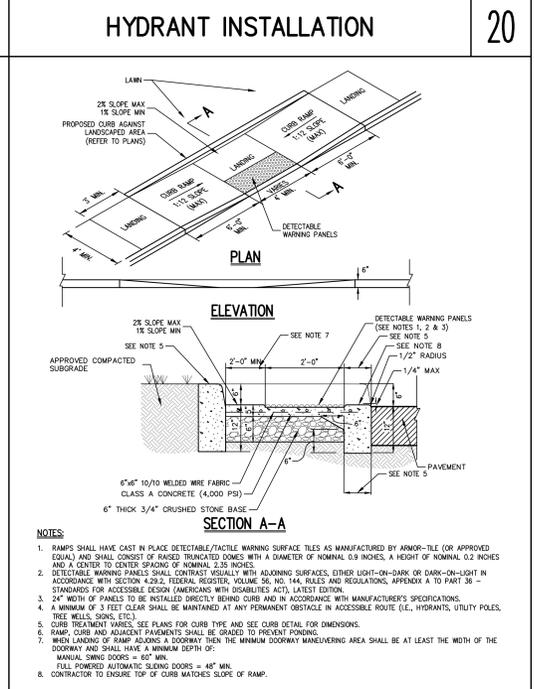
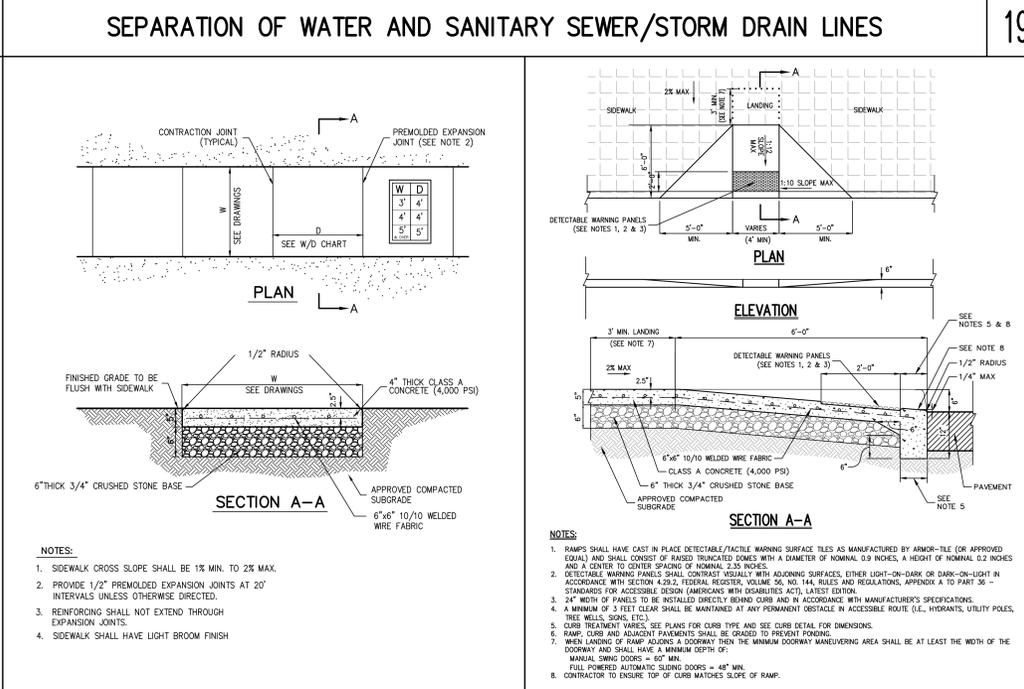
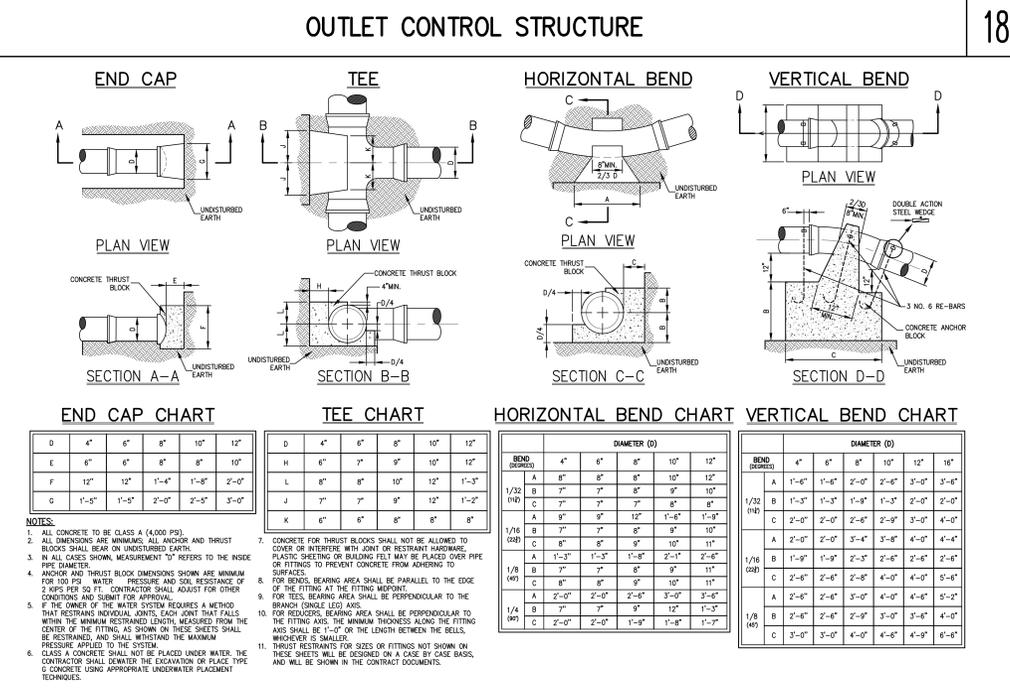
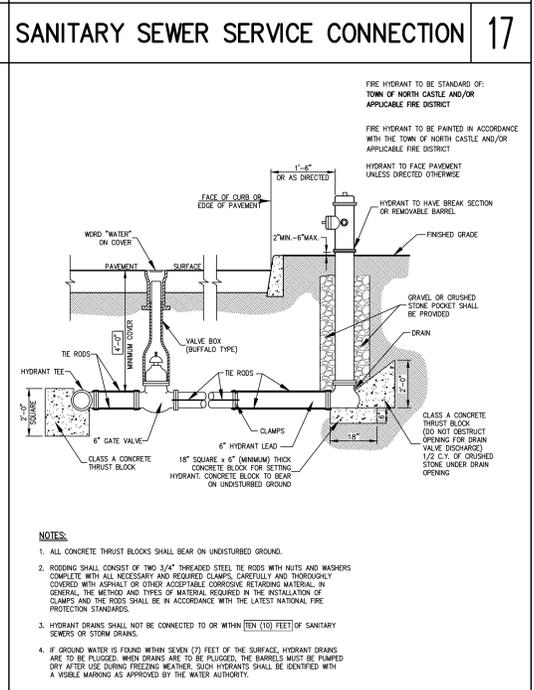
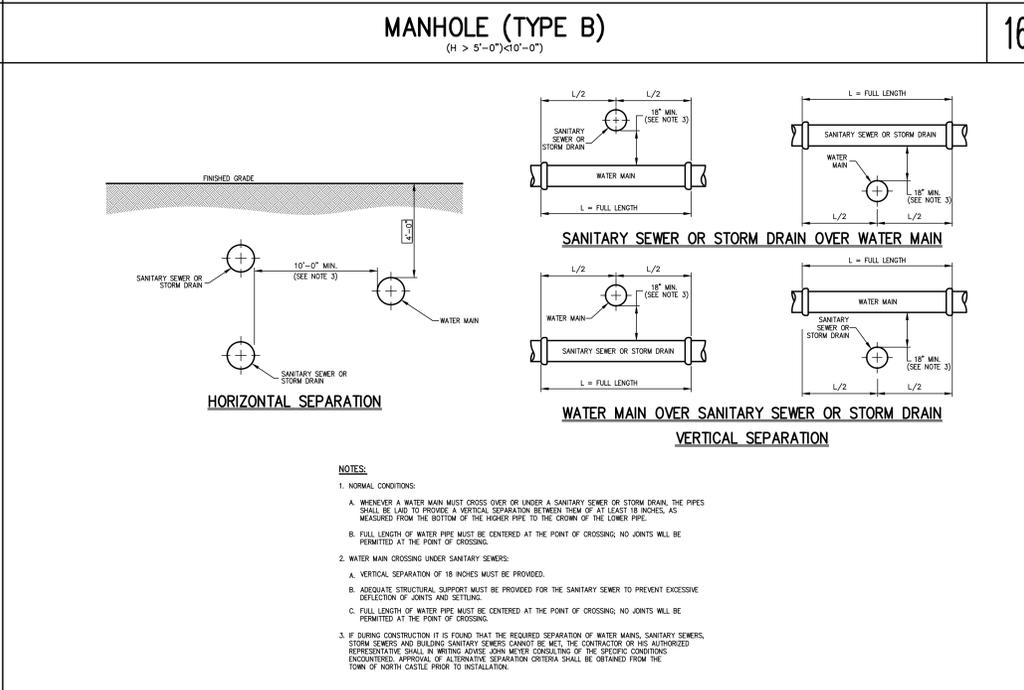
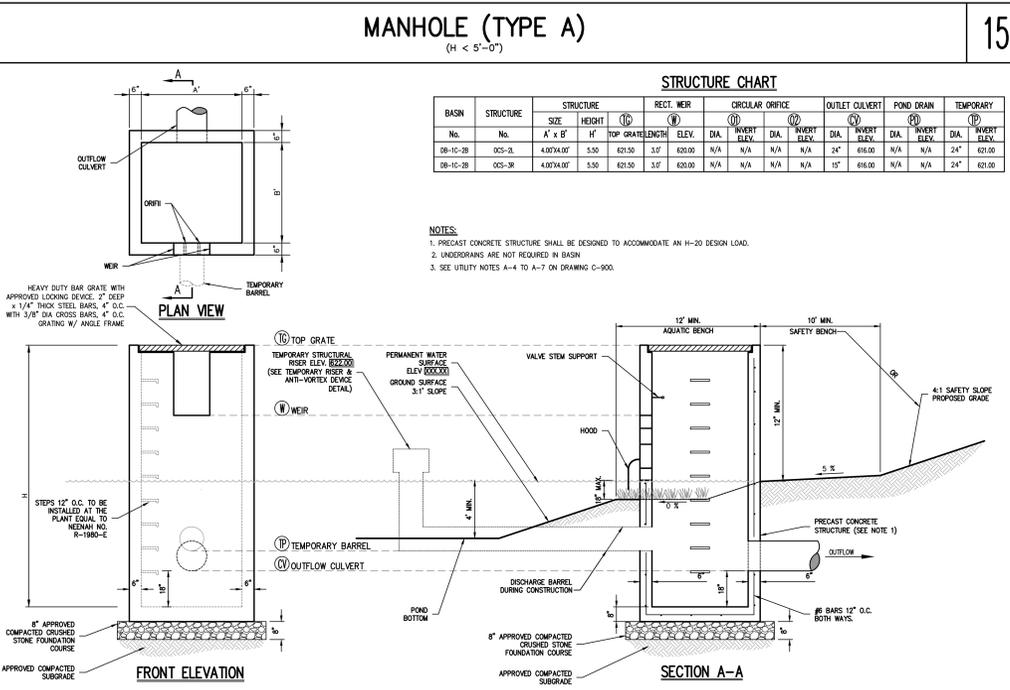
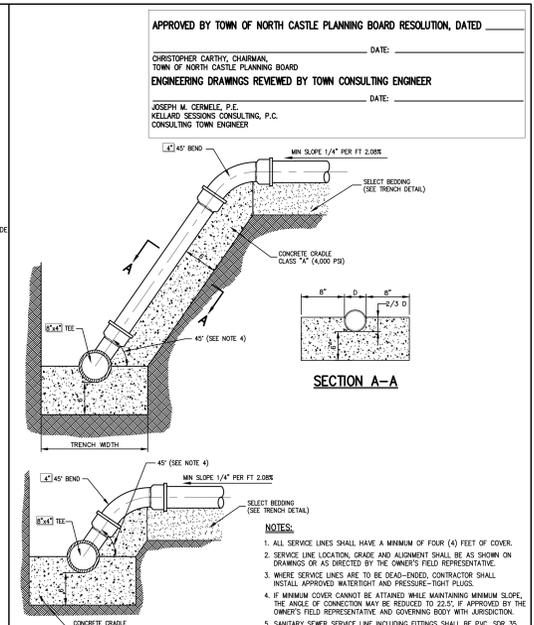
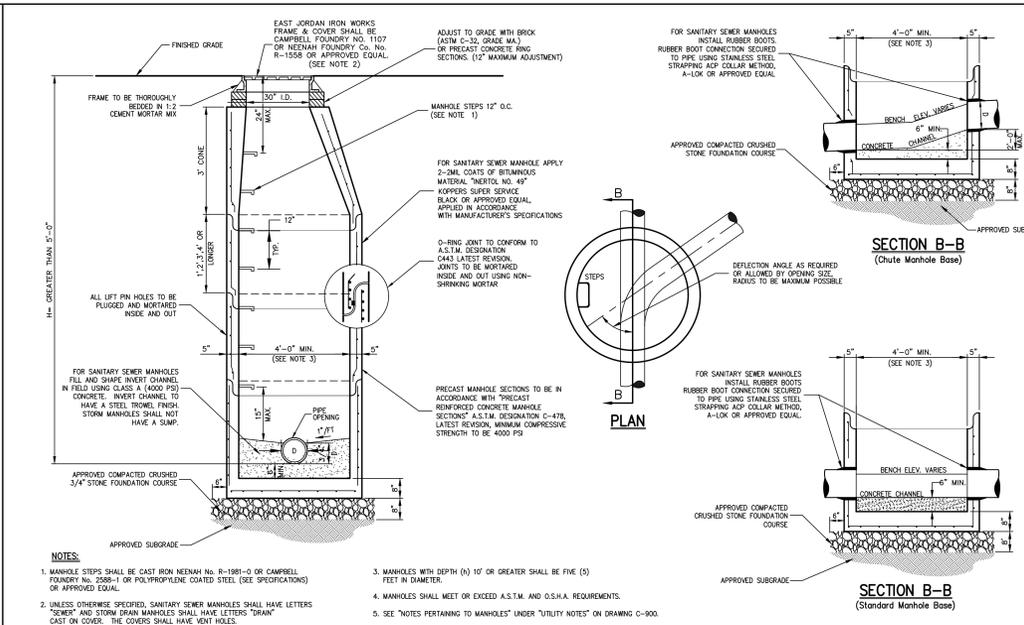
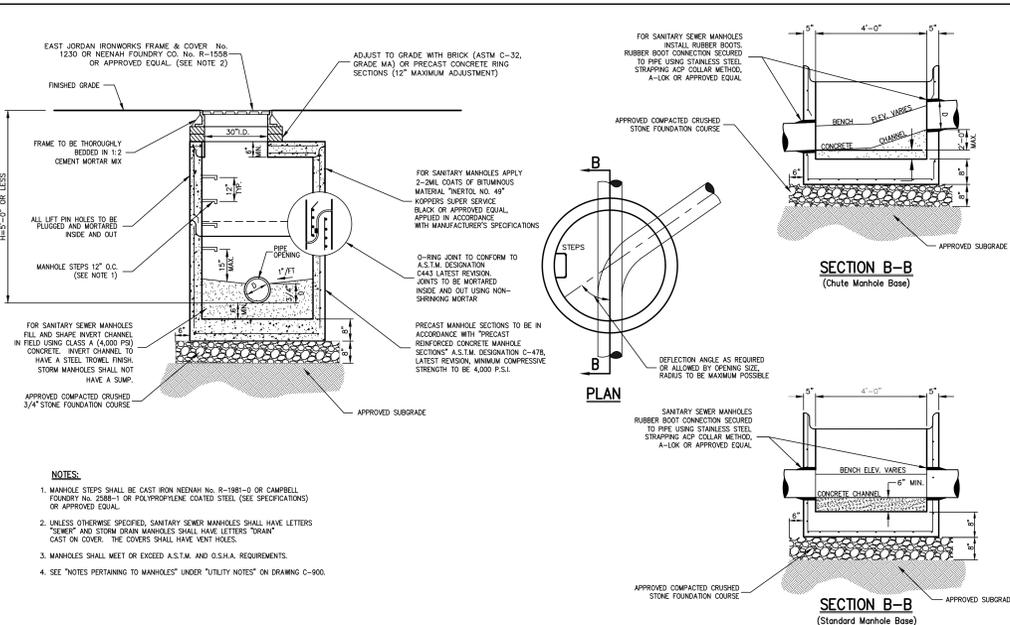
JMC Planning, Engineering, Landscape Architecture & Land Surveying, LLC  
 John Meyer Consulting, Inc.  
 1208990909 10409 - ARMONK, NY 10504  
 voice 914 273 5253 - fax 914 273 2702  
 www.jmcplanning.com

CONSTRUCTION DETAILS  
 THE SUMMIT CLUB AT ARMONK  
 (RESIDENTIAL PHASE)  
 566 & 570 BEDFORD ROAD (NY-22)  
 ARMONK, NY 10504

ANY ALTERATION OF PLANS, SPECIFICATIONS, PLATS AND REPORTS BEARING THE SEAL OF A LICENSED PROFESSIONAL ENGINEER OR LICENSED LAND SURVEYOR IS A VIOLATION OF SECTION 7209 OF THE NEW YORK STATE EDUCATION LAW, EXCEPT AS PROVIDED FOR BY SECTION 7209, SUBSECTION 2.

Drawn	NC	Approved	AG
Scale:	NOT TO SCALE		
Date:	11/23/2020		
Project No.:	20101		
Sheet No.:	DET-1		
Drawing No.:	C-900		

NOT FOR CONSTRUCTION



APPROVED BY TOWN OF NORTH CASTLE PLANNING BOARD RESOLUTION, DATED \_\_\_\_\_ DATE \_\_\_\_\_

CHRISTOPHER CATHY, CHAIRMAN, TOWN OF NORTH CASTLE PLANNING BOARD

ENGINEERING DRAWINGS REVIEWED BY TOWN CONSULTING ENGINEER

DATE \_\_\_\_\_

JOSEPH M. CERMELE, P.E. KELLARD SESSIONS CONSULTING, P.C. CONSULTING TOWN ENGINEER

DATE \_\_\_\_\_

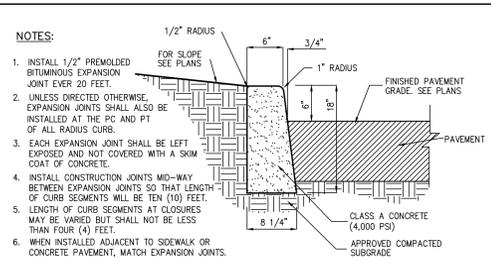
No.	Date	Revised
1.	07/17/2021	NO COMMENTS
2.	03/08/2021	NO COMMENTS
3.	06/14/2021	NO COMMENTS
4.	07/10/2022	NO COMMENTS
5.	03/26/2022	NO COMMENTS

APPLICANT: SUMMIT CLUB PARTNERS, LLC  
568 BEDFORD ROAD (NY-22) ARMONK, NY 10504

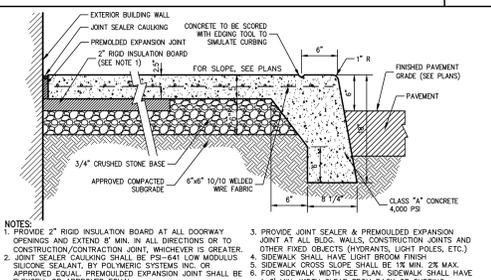
ARCHITECT: GRANOFF ARCHITECTS  
330 RAILROAD AVENUE GREENWICH, CT 06850

JMC Planning, Engineering, Landscape Architecture & Land Surveying, LLC  
John Meyer Consulting, Inc.  
120 BEDFORD ROAD - ARMONK, NY 10504  
voice 914.233.5253 - fax 914.272.2702  
www.jmcc.com

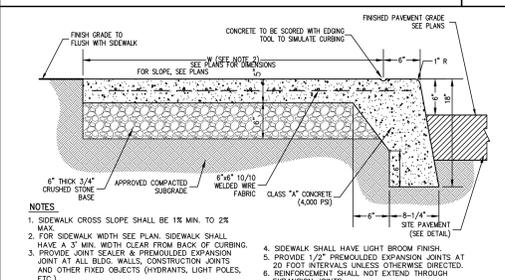
Scale: NC TO SCALE  
Date: 11/23/2020  
Project No.: 20101  
JOB-DIMS: DET-2



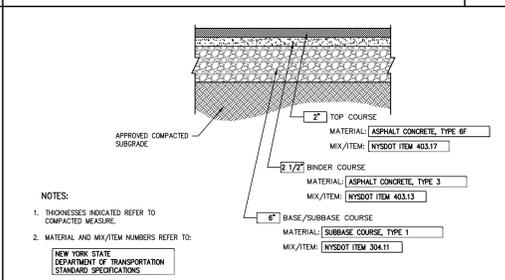
**CAST-IN-PLACE CONCRETE CURB** 25



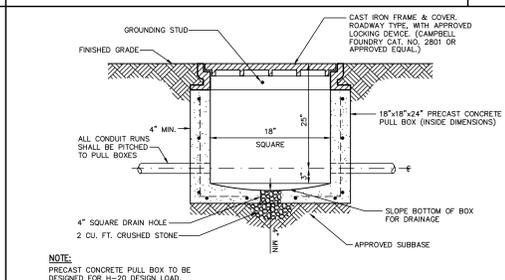
**CONCRETE CURB ENDING** 26



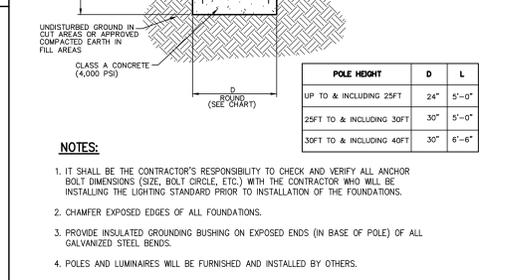
**SITE PAVEMENT (HEAVY DUTY)** 27



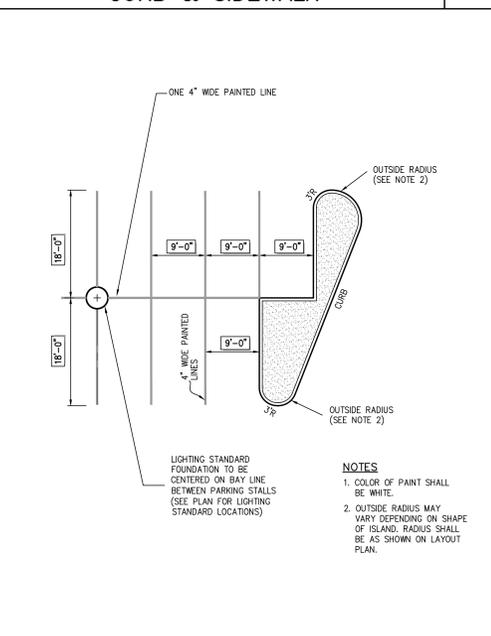
**PAINTED ACCESSIBLE SYMBOL** 28



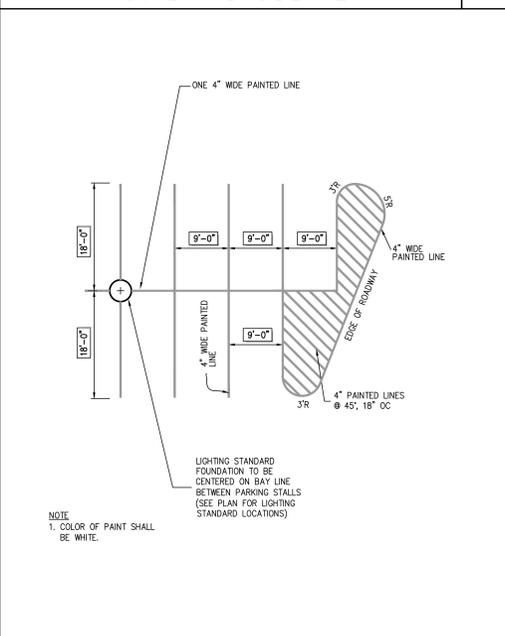
**LIGHTING STANDARD FOUNDATION (ROUND)** 33



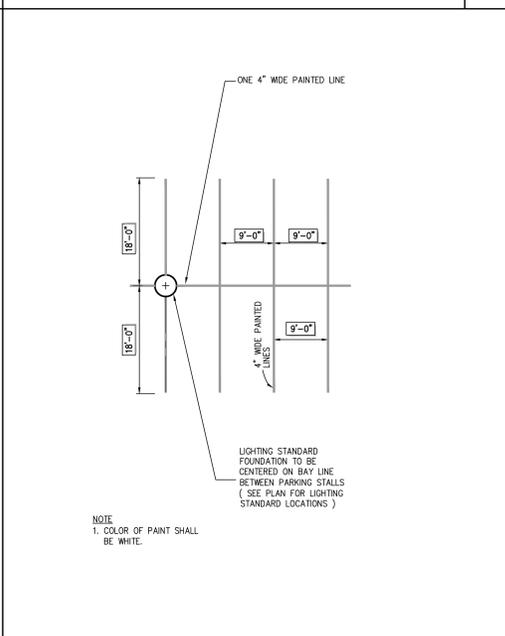
**BUILDING PERIMETER MONOLITHIC CURB & SIDEWALK** 29



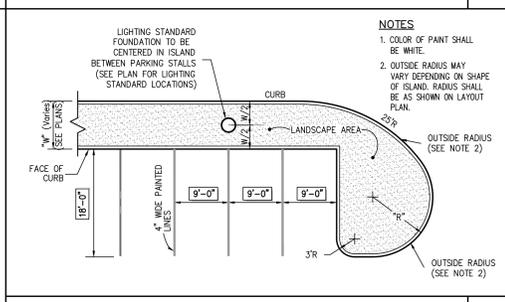
**MONOLITHIC CONCRETE CURB AND SIDEWALK** 30



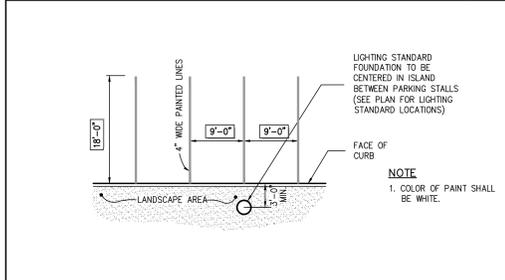
**SITE PAVEMENT (LIGHT DUTY)** 31



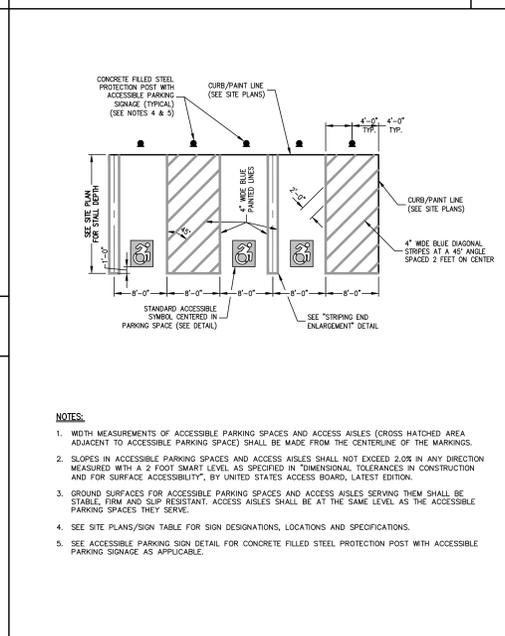
**ELECTRICAL PULL BOX** 32



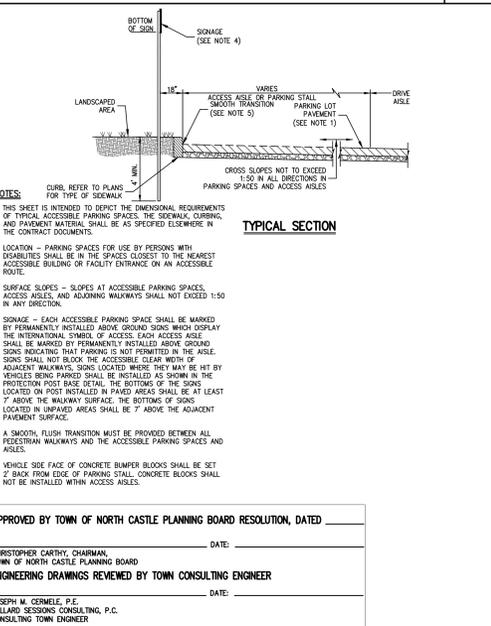
**90° PARKING (SINGLE STRIPING - CURBED ISLAND AND CURBED END)** 37



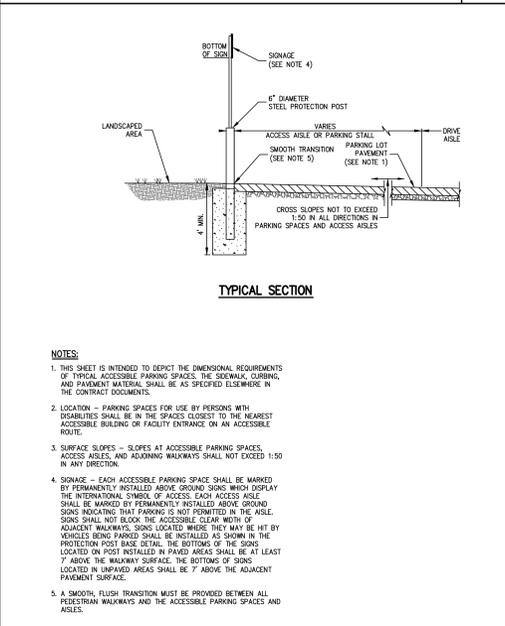
**LIGHTING STANDARD FOUNDATION (ROUND)** 33



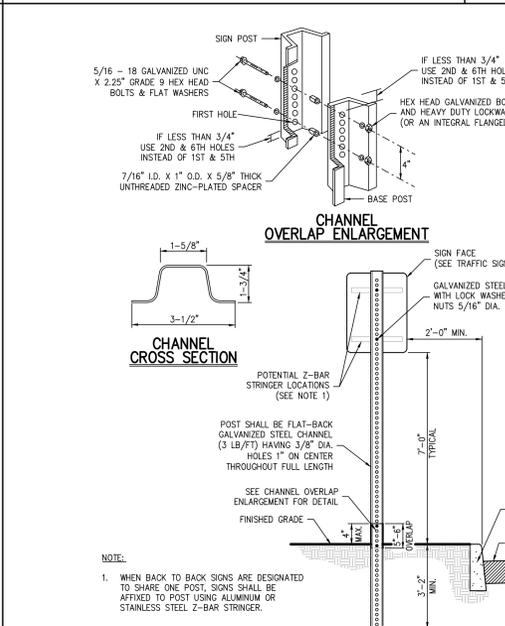
**90° PARKING (SINGLE STRIPING - CURBED END)** 34



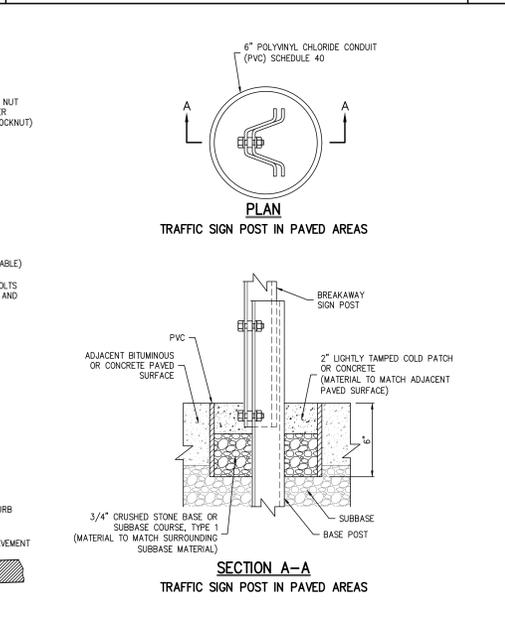
**90° PARKING (SINGLE STRIPING - PAINTED END)** 35



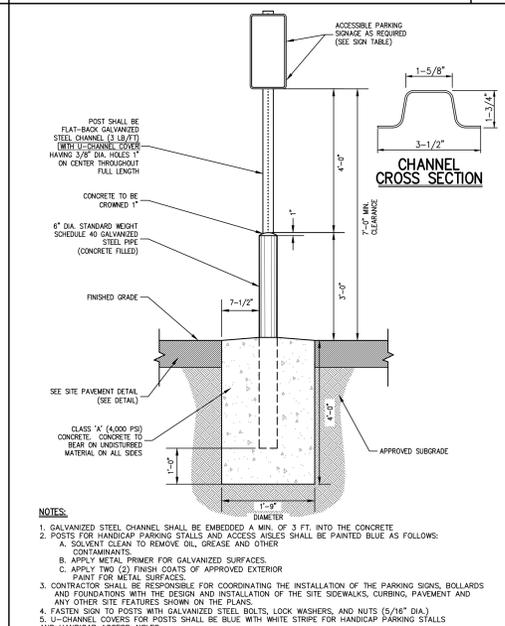
**90° PARKING (SINGLE STRIPING - W/O CURBED ISLAND)** 36



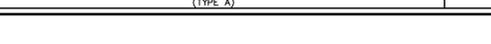
**90° PARKING (SINGLE STRIPING - CURBED PERIMETER)** 38



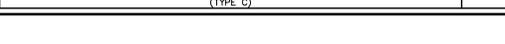
**ACCESSIBLE PARKING (DOUBLE STRIPING - NEW YORK)** 39



**TYPICAL ACCESSIBLE PARKING STALL AND AISLE (TYPE A)** 40



**TYPICAL ACCESSIBLE PARKING STALL AND AISLE (TYPE C)** 41



**TRAFFIC SIGN POST (BREAKAWAY STEEL CHANNEL)** 42



**ACCESSIBLE PARKING SIGN DETAIL** 43



**CONSTRUCTION DETAILS**

**THE SUMMIT CLUB AT ARMONK (RESIDENTIAL PHASE)**  
566 & 570 BEDFORD ROAD (NY-22)  
ARMONK, NY 10504

**APPLICANT:** SUMMIT CLUB PARTNERS, LLC  
566 BEDFORD ROAD (NY-22)  
ARMONK, NY 10504

**ARCHITECT:** GRANOFF ARCHITECTS  
330 RAILROAD AVENUE  
GREENWICH, CT 06850

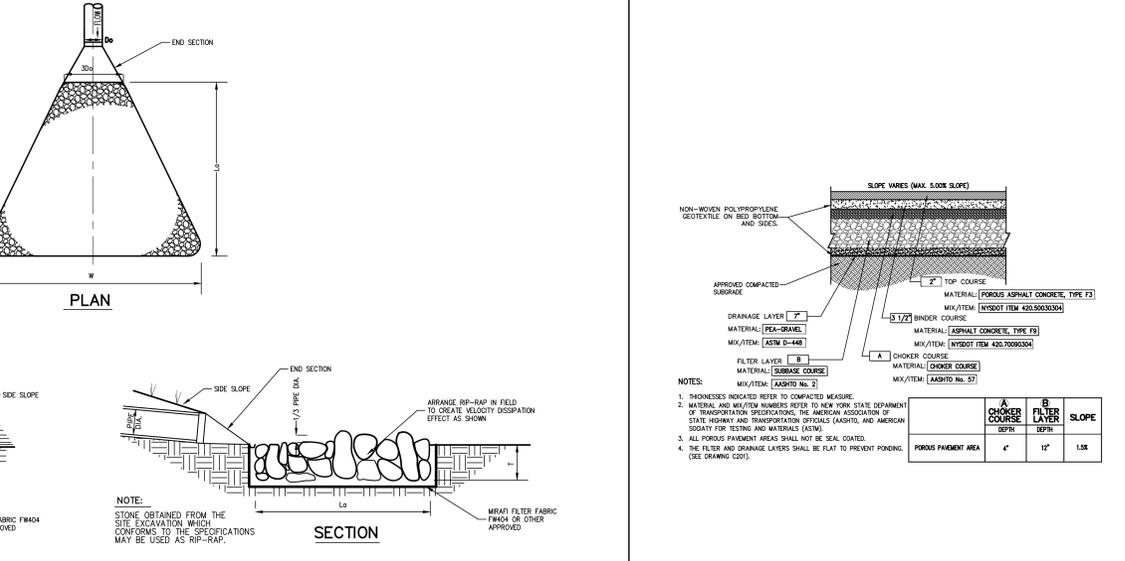
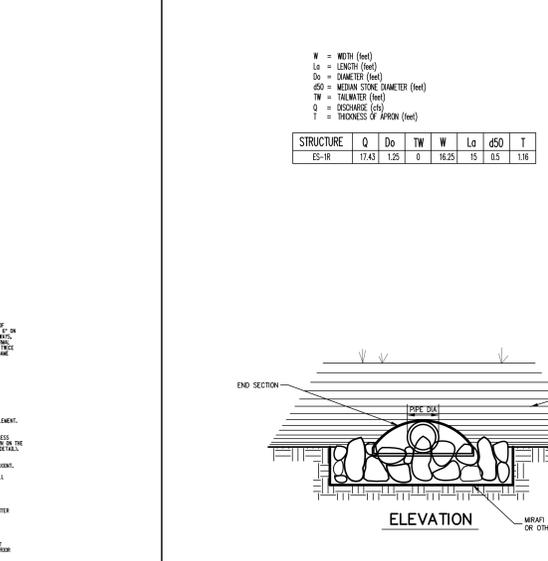
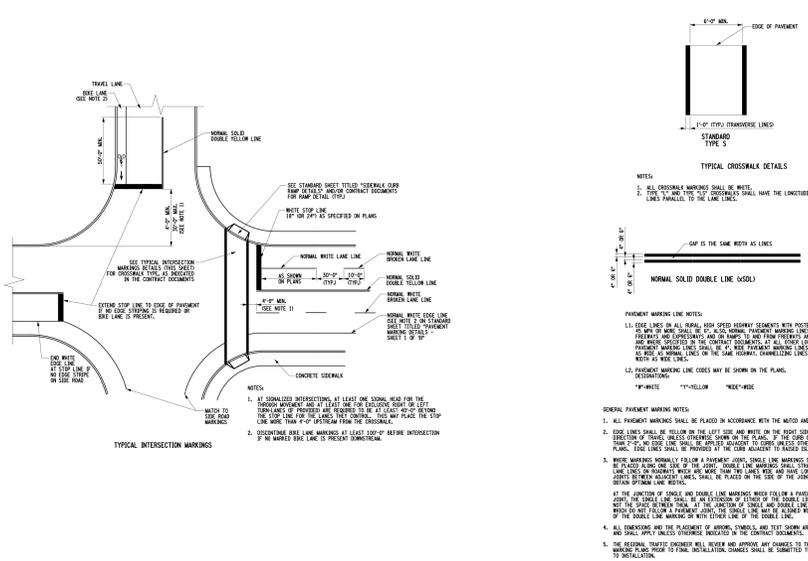
**DATE:** 11/23/2020

**SCALE:** NOT TO SCALE

**PROJECT NO.:** 20101

**REVISED:** DET-3

**NO. FOR CONSTRUCTION:** C-902



**PAVEMENT MARKINGS**

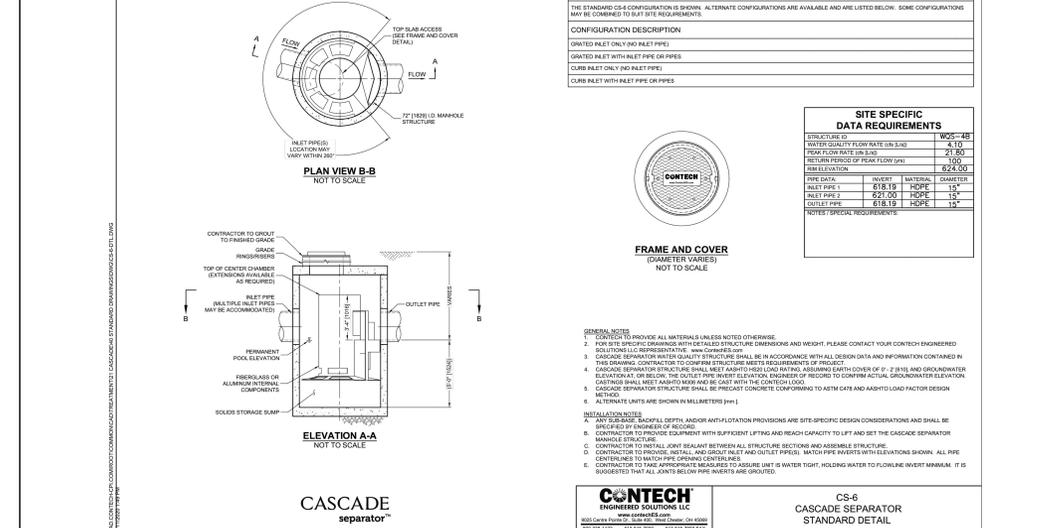
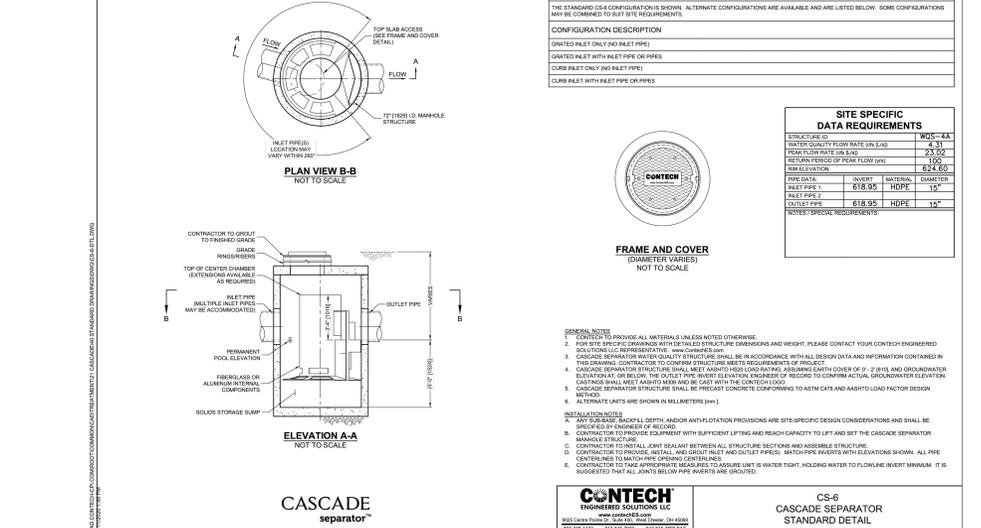
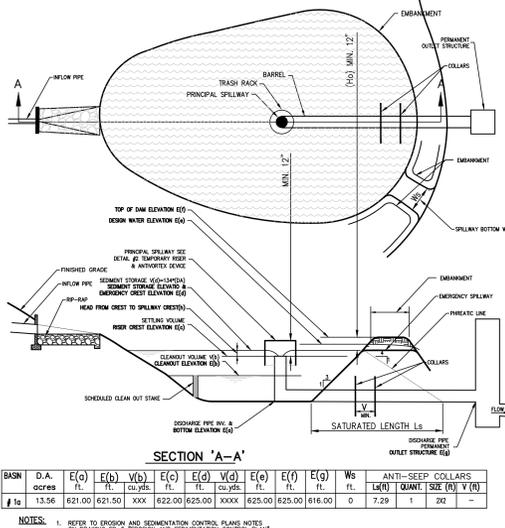
**44**

**RIP-RAP APRON/ENERGY DISSIPATOR**

**45**

**POROUS PAVEMENT**

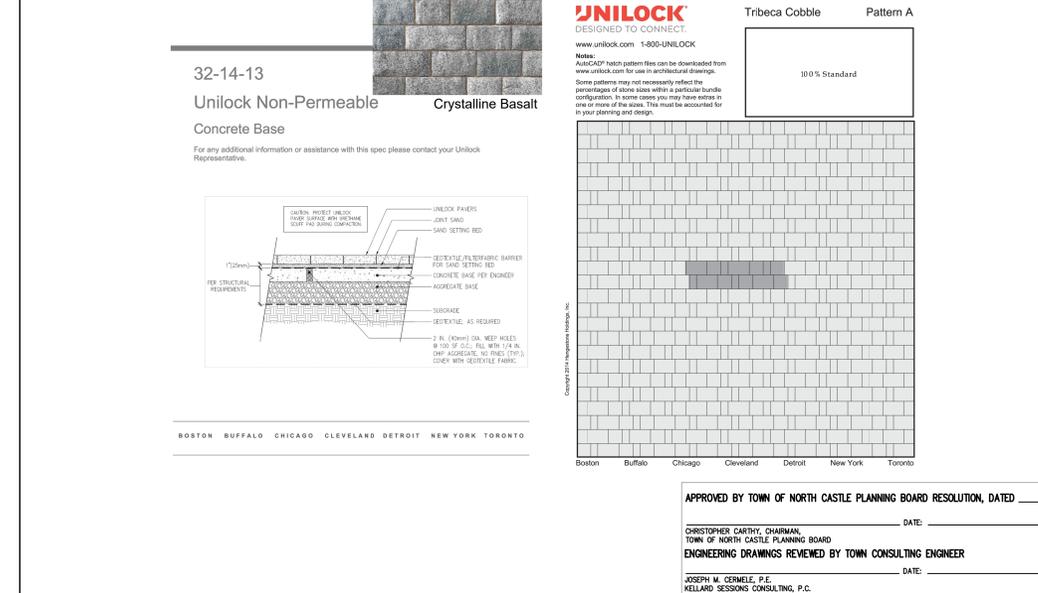
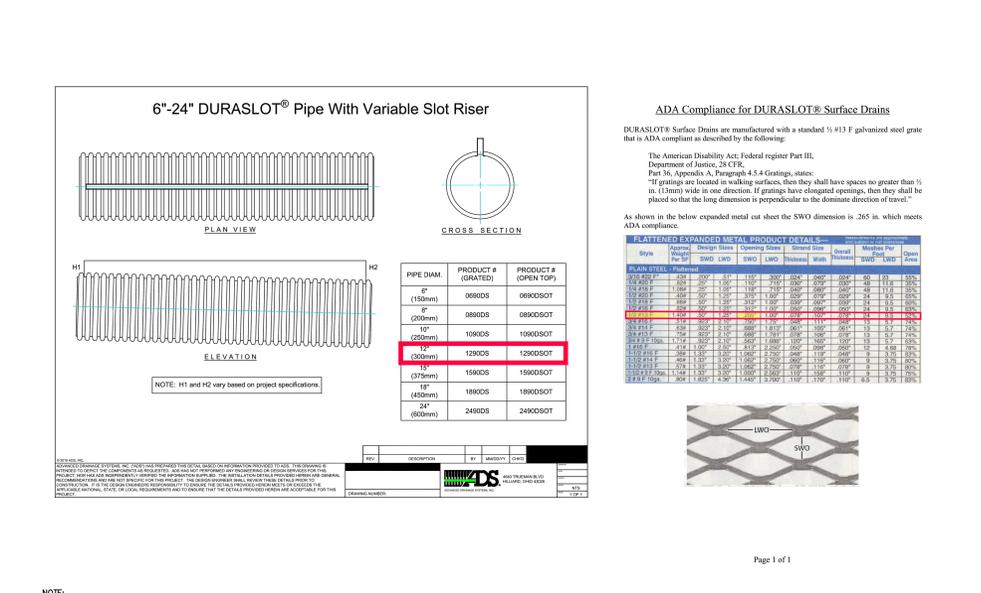
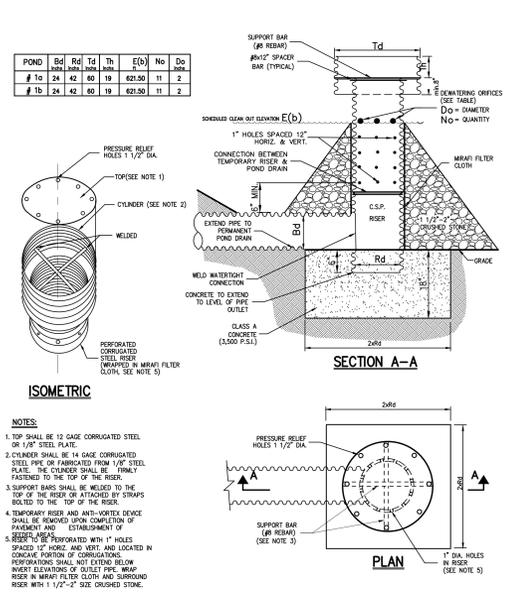
**46**



**TEMPORARY SEDIMENT BASIN DETAIL**

**QWS-4A**

**QWS-4B**



**TEMPORARY RISER & ANTI-VORTEX DEVICE**

**12" DURASLOT PIPE WITH VARIABLE SLOT RISER WITH ADA COMPLIANT GRATE**

**DECORATIVE PAVER**

No.	Date	Revised
1.	01/17/2021	NC
2.	03/08/2021	NC
3.	06/14/2021	NC
4.	07/07/2022	NC
5.	03/26/2022	NC

**APPLICANT/OWNER:** SUMMIT CLUB PARTNERS, LLC  
566 BEDFORD ROAD (NY-22)  
ARMONK, NY 10504

**ARCHITECT:** GRANOFF ARCHITECTS  
330 RAILROAD AVENUE  
GREENWICH, CT 06850

**JMC** Planning, Engineering, Landscape Architecture & Land Surveying, LLC  
John Meyer Consulting, Inc.  
1208 BEDFORD ROAD - ARMONK, NY 10504  
VOICE: 914.233.5253 - FAX: 914.272.2102  
www.jmcinc.com

**CONSTRUCTION DETAILS**

**THE SUMMIT CLUB AT ARMONK (RESIDENTIAL PHASE)**  
566 & 570 BEDFORD ROAD (NY-22)  
ARMONK, NY 10504

Drawn	NC	Approved	AG
Scale	NOT TO SCALE		
Date	11/23/2020		
Project No.	20101		
Sheet No.	DET-4		
Drawing No.	C-903		

NOT FOR CONSTRUCTION





LEGEND	
	EXISTING PROPERTY LINE
	ADJACENT PROPERTY LINE
	LIMIT OF REGULATED WETLAND BUFFER AREA
	EXISTING WETLAND LINE AND DELINEATION
	EXISTING BUILDING LINE
	EXISTING PAVEMENT EDGE
	EXISTING CURB LINE
	EXISTING CONTOUR
	EXISTING INDEX CONTOUR
	EXISTING STONE WALL
	EXISTING RETAINING WALL
	EXISTING GUIDE RAIL
	EXISTING FENCE
	EXISTING TREE
	EXISTING TREE LINE
	EXISTING STORM DRAIN LINE
	EXISTING SANITARY LINE
	EXISTING WATER LINE
	EXISTING GAS LINE
	EXISTING OVERHEAD WIRES
	EXISTING ELECTRIC LINE
	EXISTING DRAIN INLET
	EXISTING MANHOLE
	EXISTING FIRE HYDRANT
	EXISTING GAS VALVE
	EXISTING WATER VALVE
	EXISTING UTILITY POLE
	EXISTING LIGHT POLE
	EXISTING SIGN
	TOWN-REGULATED STEEP SLOPES
	EXISTING WELL LOCATION AND DESIGNATION
	EXISTING GREEN-WASTE DEBRIS PILE

**NOTES:**  
 1. EXISTING CONDITIONS DEPICTED ON THIS PLAN HAVE BEEN TAKEN FROM SURVEY TITLED, "TOPOGRAPHIC MAP," PREPARED BY JMC, LAST REVISED 03/06/2013. PORTIONS OF EXISTING TOPOGRAPHY HAVE BEEN PROVIDED BY WESTCHESTER COUNTY GIS.

No.	Revision	Date
1.	RESPONSE TO TOWN COMMENTS	07/17/2021
2.	RESPONSE TO TOWN COMMENTS	03/09/2022
3.	RESPONSE TO TOWN COMMENTS	06/14/2022
4.	RESPONSE TO TOWN COMMENTS	07/07/2022
5.	RESPONSE TO TOWN COMMENTS	07/29/2022

APPLICANT/TOWNSHIP: **SUMMIT CLUB PARTNERS, LLC**  
 568 BEDFORD ROAD (NY-22)  
 ARMONK, NY 10504

JMC Planning, Engineering, Architecture & Land Surveying, PLLC  
 JMC Site Development Consultants, LLC  
 John Meyer Consulting, Inc.  
 420 BEDFORD ROAD - ARMONK, NY 10504  
 PHONE: 914.233.2222 • FAX: 914.233.2192  
 WWW.JMCPINC.COM

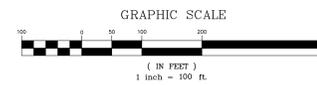
**INTEGRATED PLOT PLAN**  
 (NO JURISDICTION SUBDIVISION)  
 THE SUMMIT CLUB AT ARMONK  
 (RESIDENTIAL PHASE)  
 568 & 570 BEDFORD ROAD (NY-22)  
 ARMONK, NY 10504

ANY ALTERATION OF PLANS, SPECIFICATIONS, PLATS AND REPORTS BEARING THE SEAL OF A LICENSED PROFESSIONAL ENGINEER OR LICENSED LAND SURVEYOR IS A VIOLATION OF SECTION 7209 OF THE NEW YORK STATE EDUCATION LAW, EXCEPT AS PROVIDED FOR BY SECTION 7209, SUBSECTION 2.

APPROVED BY TOWN OF NORTH CASTLE PLANNING BOARD RESOLUTION, DATED \_\_\_\_\_ DATE: \_\_\_\_\_  
 CHRISTOPHER CARRY, CHAIRMAN, TOWN OF NORTH CASTLE PLANNING BOARD  
 ENGINEERING DRAWINGS REVIEWED BY TOWN CONSULTING ENGINEER  
 JOSEPH M. CERNIELE, P.E., KELLARD SESSIONS CONSULTING, P.C. CONSULTING TOWN ENGINEER

Scale: 1" = 100'  
 Date: 11/23/2020  
 Project No.: 20101  
 Drawing No.: 200-SUBDIVISION INTEGRATED PLOT PLAN (SHEET 01) OF 01

IPP-1



NOT FOR CONSTRUCTION



# THE SUMMIT CLUB AT ARMONK NORTH CASTLE, NY

## GENERAL NOTES:

- CONTACT THE PROJECT LANDSCAPE ARCHITECT AT: GRANOFF ARCHITECTS P.C. 330 RAILROAD AVENUE GREENWICH, CT 06830 (203) 625-9460
- THE TERM "CONTRACTOR" SHALL BE DEFINED AS THE GENERAL CONTRACTOR AND SUB-CONTRACTORS; THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK INCLUDING ALL SUBCONTRACTORS HEREON. ALL DRAWINGS AND NOTES APPLY TO ALL CONTRACTORS AND HIS/HER SUBCONTRACTORS.
- CONTRACTOR SHALL NOTIFY THE OWNER AND LANDSCAPE ARCHITECT AT LEAST 48 HOURS PRIOR TO ANY ROUTINE FIELD OBSERVATION REQUIRED.
- CONSTRUCTION SHALL FOLLOW THE CONDITIONS OF THE PLANS AND SPECIFICATIONS. IN ANY CASE OF DISCREPANCY BETWEEN SITE CONDITIONS AND THE DRAWINGS AND THE SPECIFICATIONS OR BETWEEN DRAWINGS AND SPECIFICATIONS NOTIFY THE LANDSCAPE ARCHITECT AS SOON AS THE DISCREPANCY IS APPARENT.
- VERIFY LOCATIONS, ELEVATIONS AND DIMENSIONS IN FIELD PRIOR TO CONSTRUCTION. NOTIFY LANDSCAPE ARCHITECT OF ANY DISCREPANCY.
- CONTACT "CALL DIG SAFELY NEW YORK" AT 1-800-962-7962 PRIOR TO ANY SITE WORK ACTIVITY. THE CONTRACTOR SHALL BE AWARE OF ALL SUBSURFACE DRAINAGE AND ALL UTILITIES AS SHOWN ON PLANS AND AS MARKED OUT ON SITE. PROTECT EXPOSED LINES FROM DAMAGE AND DEBRIS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR OF ALL DAMAGED UTILITIES DUE TO CONSTRUCTION AT NO ADDITIONAL COST TO THE OWNER.
- THE CONTRACTOR IS RESPONSIBLE FOR SECURING ALL CONSTRUCTION PERMITS AND LICENSES REQUIRED TO COMPLETE THE WORK. ALL BONDS AND INSURANCE WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- IT IS THE GENERAL CONTRACTOR'S RESPONSIBILITY TO INFORM ALL CONTRACTORS, SUBCONTRACTORS, AND EMPLOYEES OF ALL CONDITIONS ASSOCIATED WITH ANY PERMITS ISSUED.
- CONTRACTOR IS RESPONSIBLE FOR REPAIR OF ALL DAMAGE AND DISTURBANCE WHICH MAY OCCUR AS A RESULT OF HIS WORK.
- BLEND NEW WORK SMOOTHLY WITH EXISTING GRADES AND MATERIALS TO REMAIN. AVOID SHARP BREAKS IN GRADE; ROUND OVER TOP AND BOTTOMS OF SLOPES.
- FINAL GRADE IN ALL CASES SHALL SLOPE AWAY FROM THE BUILDING AT A MINIMUM OF 1/4" PER FOOT (2%) AND ALL PAVED AREAS SHALL HAVE A MINIMUM PITCH OF AT LEAST 1/8" PER FOOT (1%).
- ALL TREES OR VEGETATION TO BE REMOVED OR TRANSPLANTED ARE TAGGED ON SITE WITH FLAGGING TAPE. REFER TO TREE PROTECTION PLANS, NOTES AND DETAILS.
- THE CONTRACTOR SHALL PROTECT ALL CATCH BASINS WITH FILTER FABRIC OR STAKED HAY BALES AND SHALL EMPLOY ALL OTHER NECESSARY MEANS TO CONTROL AND PREVENT EROSION THROUGHOUT THE CONSTRUCTION PERIOD UNTIL ALL AREAS STABILIZED. THE CONTRACTOR SHALL MINIMIZE THE AMOUNT OF DISTURBED AREA EXPOSED AT ANY ONE TIME AND STABILIZE THE AREA AS SOON AS PRACTICAL. REFER TO EROSION CONTROL DRAWINGS, NOTES AND DETAILS. ALL DRAINAGE STRUCTURES ARE TO BE CLEANED OF ANY ACCUMULATED DEBRIS AT THE END OF PROJECT CONSTRUCTION. SEE TREE PROTECTION & EROSION CONTROL DETAILS SHEET.
- THE CONTRACTOR SHALL MAINTAIN ACCESS AND EGRESS TO THE SITE AT ALL TIMES DURING CONSTRUCTION. NOTIFY OWNER 24 HOURS IN ADVANCE OF ANY DISRUPTION IN ACCESS. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN TRAFFIC CONTROL DEVICES, WARNING SIGNS, BARRIERS, FLASHERS, FLAG MEN, ETC.) IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, USDOT, FHA 1988 PT. VI, TRAFFIC CONTROLS FOR STREETS AND HIGHWAY CONSTRUCTION AND MAINTENANCE OPERATIONS AS MAY BE AMENDED TO DATE, FOR THE MAINTENANCE AND PROTECTION OF BOTH VEHICULAR AND PEDESTRIAN TRAFFIC.
- TRAFFIC SHALL BE MAINTAINED AT ALL TIMES ON BEDFORD RD. THE STREET SHALL NOT BE CLOSED TO TRAFFIC, NOR SHALL ANY TRAFFIC BE DETOURED TO OTHER STREETS WITHOUT PRIOR WRITTEN APPROVAL OF THE VILLAGE TRAFFIC ENGINEER.
- WORKING HOURS AND ALL NOISE PRODUCING ACTIVITIES MUST CONFORM TO THE TOWN OF NORTH CASTLE REGULATED WORKING HOURS.
- REMOVAL AND DISPOSAL OF ALL MATERIALS TO COMPLY WITH ANY AND ALL STATE AND LOCAL CODES AND REGULATIONS.
- THE CONTRACTOR IS TO RESTORE TO ORIGINAL CONDITION ALL DISTURBED AREAS CAUSED BY THE ACTIVITIES OF THE PROJECT.
- THE CONTRACTOR IS RESPONSIBLE TO SUPERVISE THE ASSEMBLY OF ALL MATERIALS.
- THE CONTRACTOR SHALL DETERMINE THE METHODS, MEANS, TECHNIQUES, SEQUENCES AND PROCEDURES OF IMPLEMENTING THE PROJECT.
- THE CONTRACTOR SHALL COMPLETE ALL WORK REQUIRED TO PRODUCE A COMPLETE JOB IN ACCORDANCE WITH THE BEST APPLICABLE STANDARDS. IT IS INTENDED THAT THE WORK BE EXECUTED IN ACCORDANCE WITH THE BEST CUSTOMARY BUILDING PRACTICES. IF WORK IS REQUIRED IN A MANNER TO MAKE IT IMPOSSIBLE TO PRODUCE FIRST CLASS WORK OR IF ERRORS, CONFLICTS OR DISCREPANCIES APPEAR AMONG THE CONTRACT DOCUMENTS, INFORM THE LANDSCAPE ARCHITECT IMMEDIATELY AND REQUEST INTERPRETATION BEFORE PROCEEDING WITH THE WORK. IF THE CONTRACTOR FAILS TO MAKE SUCH A STATEMENT AND REQUEST, NO EXCUSE WILL THEREAFTER BE ENTERTAINED, NOR ADDITIONAL EXPENSE BE ACCEPTED FOR FAILURE TO CARRY OUT WORK IN A SATISFACTORY MANNER.
- CONTRACTOR SHALL REFER TO ADDITIONAL NOTES FOUND THROUGHOUT THE CONTRACT DRAWINGS.

## OUTDOOR LIGHTING NOTES:

- ALL LIGHTING WORK SHALL BE DONE IN ACCORDANCE WITH NATIONAL ELECTRIC CODE AND IN ACCORDANCE WITH THE STANDARDS AND REQUIREMENTS OF THE TOWN OF NORTH CASTLE, INCLUDING PERMITS AND REQUIRED INSPECTIONS
- ALL FIXTURES SHALL BE FULL CUTOFF; SHALL BE COMPLIANT WITH DARK SKY RECOMMENDATIONS; OR FITTED WITH SHROUDS TO SHIELD THE LIGHT SOURCE.
- THE CONTRACTOR SHALL FURNISH AND INSTALL ALL FIXTURES, OUTLETS AND SWITCHES LISTED AND SHOWN ON PLANS. SIZE AND PROVIDE ALL TRANSFORMERS AND JUNCTION BOXES NECESSARY TO COMPLETE THE WORK, INCLUDING CONDUIT, WIRE, FITTINGS, EXCAVATION, BACKFILL, ETC. REQUIRED TO MAKE A COMPLETE FUNCTIONING SYSTEM. ALL FIXTURES SHALL BE SUPPLIED WITH LAMPS. THE LEAST WATT LAMP SHALL BE SUPPLIED, SUBJECT TO THE OWNER'S APPROVAL. RE-LAMPING WITH MAXIMUM WATT LAMPS MAY BE REQUIRED.
- THE CONTRACTOR SHALL FURNISH AND INSTALL ALL CONDUITS NECESSARY FOR A COMPLETE INSTALLATION. THIS INCLUDES SIZING GALVANIZED STEEL AND PVC WITH ALL ASSOCIATED FITTINGS, COUPLINGS AND BUSHINGS. ALL LINE VOLTAGE SHALL BE IN CONDUIT WITH A MINIMUM COVER OF 24 INCHES AND A MINIMUM OF 12 INCHES OF COMPACTED SAND AROUND IT AND AS PER CODE. METALLIC CAUTION TAPE SHALL BE PLACED 6 INCHES BELOW FINISHED GRADE.
- ALL WIRING AND TRENCHING TO TREE TRUNKS BENEATH TREE CANOPIES TO BE RADIAL TO TREE TRUNK AND APPROVED BY L.A. PRIOR TO GROUND DISTURBANCE. TRENCHING WITHIN THE TREE CANOPY SHALL BE EXCAVATED WITH AN AIR SPADE TOOL TO MINIMIZE ROOT DAMAGE. CARE IS TO BE TAKEN TO PREVENT EXPOSED TREE ROOTS FROM DRYING.
- FINAL SWITCH LOCATIONS TO BE APPROVED BY OWNER. CONTRACTOR SHALL VERIFY AND COORDINATE NEW SWITCHES WITH EXISTING INTERIOR LIGHTING. DRAWING SHOWS PROPOSED LANDSCAPE LIGHTING AND DOES NOT SHOW EXISTING ARCHITECTURAL LIGHTING
- FINAL FIXTURE PLACEMENT TO BE APPROVED BY THE LANDSCAPE ARCHITECT & OWNER AFTER NIGHTTIME DEMONSTRATION OF INITIAL PLACEMENT.
- ALL PATH LIGHTS TO BE LOCATED 12" BACK FROM EDGE OF PAVING UNLESS OTHERWISE DIRECTED BY THE LANDSCAPE ARCHITECT.
- LOCATIONS OF TRANSFORMERS, JUNCTION BOXES, FIXTURES AND OUTLETS ARE A GRAPHIC REPRESENTATION AND MAY NOT SHOW PRECISE LOCATION. FINAL LOCATIONS TO BE APPROVED BY L.A. PRIOR TO INSTALLATION. ACTUAL WIRING ROUTES ARE NOT SHOWN ON THIS PLAN. WIRING ROUTES INDICATED ARE A GRAPHIC REPRESENTATION OF CONNECTIONS AND GROUPINGS OF LIGHTS FOR SWITCHING. L.A. TO APPROVE WIRING ROUTES PRIOR TO GROUND DISTURBANCE. ALL LINE VOLTAGE RUNS IN CONDUIT MINIMUM 18 INCHES DEEP OR AS PER LOCAL CODE..
- STAKE MOUNTED UPLIGHTS TO BE MOVABLE WITHIN A SIX (6) FOOT RADIUS OF INSTALLED LOCATION.
- TRANSFORMERS FOR LOW VOLTAGE LIGHTING AND JUNCTION BOXES NOT SHOWN. CONTRACTOR TO DETERMINE NUMBER REQUIRED AND COORDINATE THEIR LOCATION WITH THE LANDSCAPE ARCHITECT.
- WIRING SIZES ARE TO BE DETERMINED BY ELECTRICIAN TO INSURE FULLY FUNCTIONAL SYSTEM WITH NO MORE THAN A 5% VOLTAGE DROP FROM EACH TRANSFORMER TO FARTHEST FIXTURE ON LINE FROM THAT TRANSFORMER.
- ALL WIRE CONNECTIONS TO BE THOROUGHLY SEALED WITH SILICONE SEALANT & WILL BE LOCATED WITHIN FIXTURE STEMS, TREE MOUNTS, OR JUNCTION BOXES WHEREVER POSSIBLE. DIRECT BURIAL OF LOW VOLTAGE CONNECTIONS WILL BE MINIMIZED. DIRECT BURIAL CONNECTIONS FOR LINE VOLTAGE WILL NOT BE PERMITTED.
- REVIEW EXISTING CONDITIONS AND PROPOSED PLANTING PLANS. ELECTRICIAN TO BE RESPONSIBLE FOR RESTORING ANY SITE OR UTILITY DAMAGE CAUSED BY HIS INSTALLATION WORK.
- SEE LIGHTING PLAN FOR LIGHT FIXTURE TYPE AND SPECIFICATIONS.

## TREE PROTECTION AND EROSION CONTROL NOTES:

- ALL TREE PROTECTION AND REMOVALS SHALL BE IN ACCORDANCE WITH THE DRAWINGS, DETAILS AND NOTES HEREON. REFER TO TREE PROTECTION DRAWINGS AND DETAILS FOR ADDITIONAL INFORMATION
- PRIOR TO ANY OTHER WORK, THE CONTRACTOR SHALL STAKE OUT THE LIMITS OF "TREE PROTECTION AREAS" WITHIN THE WORK ZONE AS SHOWN ON THE PLANS FOR APPROVAL BY THE LANDSCAPE ARCHITECT. IF NO TREE/LANDSCAPE PROTECTION AREA LIMITS ARE SPECIFICALLY SHOWN ON THE PLANS AND WORK WILL OCCUR IN OR NEAR TREES OR VEGETATED AREAS, THE LANDSCAPE ARCHITECT WILL DIRECT THE CONTRACTOR, THE INTENT OF THE LIMITS ARE TO PROTECT THE ROOT ZONE OF INDIVIDUAL TREES AND GROUPINGS OF TREES (USING THE "DRIPLINE" - THE VERTICAL PROJECTION TO THE GROUND OF THE TREE'S CANOPY - AS A GUIDE). LAWNS AND OTHER VALUABLE VEGETATION TO THE MAXIMUM EXTENT FEASIBLE WHILE ALLOWING THE CONTRACTOR SUFFICIENT ROOM TO OPERATE. THEREFORE, THE CONTRACTOR MUST ASSESS THE ADEQUACY OF THE ALLOWED SPACE FOR ALL CONCEIVABLE ACTIVITIES INCLUDING THE PARKING OF PERSONAL VEHICLES. IT IS UNDERSTOOD THAT WORK MAY NEED TO OCCUR IN THE ROOT ZONE OF TREES, IN SUCH CASES, THE CONTRACTOR MAY PROPOSE ADJUSTMENTS TO THE TAKEOUT OF PROTECTION LIMITS TO SUIT FIELD CONDITIONS AND SUCH OPERATIONS. ANY SUCH ADJUSTMENTS SHALL BE SHOWN ON A PLAN AND/OR APPROVED IN THE FIELD BY THE LANDSCAPE ARCHITECT.
- THE CONTRACTOR SHALL NOT STOCKPILE MATERIAL, PARK ANY VEHICLE, OR DRIVE ANY VEHICLE WITHIN THE DRIP LINE OF EXISTING TREES. IT IS UNDERSTOOD THAT LOCALIZED STAGINGS/STORAGE AREAS MAY BE NECESSARY IN ADDITION TO ANY MAIN AREAS SHOWN ON PLANS. THE CONTRACTOR SHALL COORDINATE WITH THE LANDSCAPE ARCHITECT FOR ANY AREAS OUTSIDE TREE/LANDSCAPE PROTECTION FOR AREAS APPROPRIATE FOR STORAGE OF MATERIALS, AND EQUIPMENT AS WELL AS PARKING OF CONTRACTOR'S VEHICLES AND ACCESS ROUTES THROUGH THE ACTIVE WORK ZONE. THESE AREAS MUST BE DEFINED BY APPROPRIATE FENCING AND MUST MEET ALL TREE PROTECTION SPECIFICATIONS.
- ONCE PROTECTION FENCING IS IN PLACE, THE CONTRACTOR SHALL NOT ENTER OR DAMAGE OR DIMINISH THE LANDSCAPE OR ANY PORTION THERE OF WITHIN THE DEFINED TREE/LANDSCAPE PROTECTION AREAS. AT ALL TIMES DURING THE COURSE OF THE PROJECT, THE CONTRACTOR SHALL AVOID SOIL COMPACTION, POLLUTION, EROSION AND IMPACTS TO EXISTING VEGETATION UNLESS REMOVAL, SELECTIVE THINNING OR CLEARING ARE SPECIFIED IN THE DRAWINGS.
- WHERE WORK AREAS MUST ENCRoACH ON TREE ROOT ZONES, THE CONTRACTOR, IF ORDERED BY LANDSCAPE ARCHITECT OR AS NOTED ON THE PLANS, SHALL FURNISH APPROXIMATELY 12-INCH LAYER OF WOOD CHIPS OR ACCESS MAT WITHIN THE DRIP LINE AREA TO REDUCE SOIL COMPACTION ON UNPAVED AREAS TO MINIMIZE SOIL COMPACTION AND PREVENT CONTAMINATION OF EXISTING SOIL. UNDER NO CIRCUMSTANCES MAY PETROLEUM PRODUCTS, CONCRETE WASH WATER, PAINT, OR OTHER POLLUTANTS BE ALLOWED TO SEEP INTO THE LANDSCAPE.
- THE LANDSCAPE ARCHITECT MUST BE NOTIFIED WHENEVER TRENCHING OCCURS WITHIN THE DRIPLINE FOR ANY TREE. ALL EXCAVATION WITHIN THE DRIP LINE OF A TREE OR NEAR THE DRIP LINE SHALL BE PERFORMED WITH AN AIR SPADE. THERE WILL BE NO SEPARATE PAYMENT FOR ANY REQUIRED AIR SPADE EXCAVATION. SEE ROOT PRUNING AND TRENCHING DETAILS.
- NO TREE PRUNING MAY BE PERFORMED EXCEPT BY (OR UNDER THE SUPERVISION OF) A QUALIFIED TREE-CARE PROFESSIONAL APPROVED BY THE LANDSCAPE ARCHITECT.
- "UNAUTHORIZED" TREE REMOVALS: IF THE CONTRACTOR REMOVES TREES NOT IDENTIFIED ON THE DRAWINGS OR REMOVES TREES NOT APPROVED BY LANDSCAPE ARCHITECT, OR SO SEVERELY DAMAGES TREES AS A RESULT OF CONSTRUCTION ACTIVITY THAT IN THE JUDGMENT OF LANDSCAPE ARCHITECT THEY MUST BE REMOVED, THE CONTRACTOR SHALL PROVIDE REPLACEMENT TREES AT HIS/HER OWN EXPENSE. SUCH THAT FOR EACH TREE REMOVED, EQUALS ONE SIX INCH CALIPER TREE AS APPROVED BY THE LANDSCAPE ARCHITECT. THE FINAL LOCATION OF REPLACEMENT TREES SHALL BE WITHIN THE PROJECT LIMITS AND WILL BE LOCATED IN THE FIELD BY THE LANDSCAPE ARCHITECT. IF PLANTING WITHIN THE LIMITS IS NOT POSSIBLE, THE LANDSCAPE ARCHITECT, OWNER, AND CONTRACTOR SHALL AGREE ON APPROPRIATE MITIGATION. ANY REPLACEMENT TREES PLANTED AS MITIGATION MUST BE WATERED, MAINTAINED AND GUARANTEED PER PLANTING SPECIFICATIONS IN THE DRAWINGS AND AT NO ADDITIONAL COST.
- LANDSCAPE MAINTENANCE DURING CONSTRUCTION: DURING THE COURSE OF THE PROJECT, THE CONTRACTOR SHALL MAINTAIN THE APPEARANCE OF THE PROJECT SITE BY REMOVING LITTER, DEBRIS AND EXCESS MATERIALS, AS A RESULT OF THE CONSTRUCTION OPERATIONS, FROM THE WORK SITE ON A REGULAR BASIS AND SHALL STORE ALL CONSTRUCTION EQUIPMENT AND CONSTRUCTION MATERIAL IN AN ORGANIZED MANNER THROUGHOUT THE CONSTRUCTION PERIOD.
- IN CASE OF A TREE REMOVAL, ALL REMNANTS INCLUDING, BUT NOT LIMITED TO, STUMPS, TRUNKS, LIMBS, BRANCHES, AND FOLIAGE SHALL BE DISPOSED OF AS EXPEDITIOUSLY AS POSSIBLE.
- RESTORATION OF LANDSCAPE: ALL EXCESS MATERIALS AND DEBRIS RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE REMOVED BY THE CONTRACTOR, AS PART OF SITE RESTORATION. ALL SOIL DIMINISHED AND/OR CONTAMINATED WITH EXCESS MATERIAL AND DEBRIS SHALL ALSO BE REMOVED AND REPLACED WITH TOPSOIL ACCEPTABLE TO THE LANDSCAPE ARCHITECT. THE CONTRACTOR, AS DIRECTED BY LANDSCAPE ARCHITECT, SHALL RESTORE A MINIMUM OF 6" OF NEW TOPSOIL ON ALL AREAS WHERE THE TOPSOIL LAYER HAS BEEN DIMINISHED OR LOST DUE TO HIS/HER OPERATIONS. OUTSIDE THE DRIP LINE OF TREES, IF IT IS DETERMINED BY THE LANDSCAPE ARCHITECT THAT THE SOIL HAS BEEN COMPACTED DURING THE COURSE OF THE PROJECT, IT WILL BE UNCOMPACTED AND LOOSENEO BY USE OF AN AIR SPADE WITHIN AND NEAR THE DRIPLINES OF TREES) TO THE DEPTH OF 12 INCHES PRIOR TO FINAL GRADING OR PLANTING. UNDER NO CIRCUMSTANCES MAY HEAVY EQUIPMENT (I.E. PAVLOADERS) BE USED TO ACCOMPLISH SITE RESTORATION WITHIN THE DRIP LINE OF TREES. IN ALL ROOT-SENSITIVE AREAS, WORK MUST BE DONE USING ONLY AN AIR SPADE.
- ALL UTILITY CONFLICTS WITH PROPOSED TREES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT.
- CONTRACTOR SHALL REFER TO THE DEMOLITION/EROSION CONTROL PLAN FOR MORE INFORMATION

## PLANTING NOTES:

- SEE DEMOLITION AND EROSION CONTROL DRAWING FOR EXISTING PLANTS TO BE STOCKPILED AND MAINTAINED FOR TRANSPLANTING. ADDITIONAL PLANTINGS MAY BE REQUIRED FOR TOP OF WALL BARRIER PLANTING AND WILL BE REQUESTED UPON OWNER'S APPROVAL. ADDITIONAL PLANTING PHASES TO BE COMPLETED IN SEPARATE CONTRACT (SPRING SEASON).
- TOPSOIL FOR PLANTING:
  - MATERIAL: TOPSOIL SHALL CONSIST OF NATURAL LOAM, FREE FROM SUBSOIL, OBTAINED FROM AN AREA THAT HAS NEVER BEEN PREVIOUSLY STRIPPED. MANUFACTURED OR AMENDED SOILS ARE NOT ACCEPTABLE UNLESS OTHERWISE DIRECTED BY LANDSCAPE ARCHITECT.
  - QUALITY: TOPSOIL SHALL BE OF UNIFORM QUALITY, FREE FROM HARD CLODS, STIFF CLAY, HARD PLAN, SODS, PARTIALLY DISINTEGRATED STONE, LIME, CEMENT, ASHES, SLAG, CONCRETE, TAR RESIDUES, TARRED PAPER, BOARDS, CHIPS, STICKS, OR ANY OTHER UNDESIRABLE MATERIAL.
  - NO TOPSOIL SHALL BE DELIVERED, MANIPULATED OR HANDLED IN A FROZEN OR MUDDY CONDITION. THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO REJECT, ON OR AFTER DELIVERY, OF ANY MATERIAL THAT DOES NOT, IN THEIR OPINION, MEET THESE SPECIFICATIONS.
- IRRIGATION SYSTEM (SEPARATE PRICE):
  - THE EXISTING IRRIGATION SYSTEM SHALL BE MODIFIED AND SHALL BE A FULLY OPERATIONAL AND COMPLETE IN-GROUND IRRIGATION SYSTEM, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
    - ALL EXCAVATION, TRENCHING, PUMPS, FILTERS, VALVES, BOXES, TIMERS, CONNECTIONS, WIRING, PIPING, DRIP TUBE, HEADS AND EMITTERS AS NECESSARY.
  - CONTRACTOR IS REQUIRED TO COORDINATE WORK WITH IRRIGATION CONTRACTOR. CONTRACTOR SHALL PROVIDE SLEEVES AS INDICATED ON THE DRAWINGS OR AS REQUIRED BY THE IRRIGATION INSTALLER
- NEW SEED (INCLUDING FINE GRADING) WHERE REQUIRED
  - INSTALLATION OF SEED SHALL INCLUDE FINE GRADING, PREPARATION OF SOIL BED, INCORPORATION OF FERTILIZER AND TIME, PROTECTION (BEFORE AND AFTER INSTALLATION) AND MAINTENANCE UNTIL FINAL ACCEPTANCE.
  - SEED MIX SHALL BE LOW MAINTENANCE, NATIVE, AND DROUGHT TOLERANT MIX WITH ANNUAL RYE. SEED MIX APPROPRIATE FOR TIME OF PLANTING. SEED MIX TO BE APPROVED BY THE LANDSCAPE ARCHITECT. SEEDING RATE SHALL BE AS RECOMMENDED BY THE MANUFACTURER.
  - FERTILIZER FOR LAWNS: FERTILIZE LAWN AREAS EVENLY USING MECHANICAL METHODS ACCORDING TO MANUFACTURER'S INSTRUCTIONS AND AS DIRECTED. FERTILIZER TO BE "SCOTT'S ORGANIC CHOICE LAWN FOOD" BY THE SCOTT'S MIRACLE-GRO COMPANY 14111 SCOTTSLAWN ROAD MARYSVILLE, OH 43041, OR AS RECOMMENDED BY THE SOD GROWER, OR APPROVED EQUAL.
- ACCEPTANCE (OF SEED): THE LANDSCAPE ARCHITECT SHALL REJECT ANY AREAS OF SEED WHICH IN THEIR OPINION HAS NOT PROPERLY GERMINATED TO FORM AN EVEN AND VIGOROUS GROWING BED. REJECTED SEED BEDS SHALL BE PREPARED AND RE-SEEDED AT NO COST TO THE OWNER. SEED LAWNS SHALL BE READY FOR ACCEPTANCE AFTER A MINIMUM OF A 60 DAY ACTIVE GROWING PERIOD, UNTIL A UNIFORM STAND OF 2 1/2 INCHES IS OBTAINED, WITH A MINIMUM OF 95% COVERAGE. UNACCEPTED SEED LAWNS SHALL BE RE-SEEDED AS SPECIFIED.
- MAINTENANCE OF SEED:
  - THE CONTRACTOR SHALL PROPERLY WATER AS OFTEN AS REQUIRED TO MAINTAIN OPTIMUM GROWING CONDITIONS UNTIL FINAL ACCEPTANCE. THE CONTRACTOR SHALL MAINTAIN LAWN AT ONE AND A HALF TO THREE INCHES (1-1/2 TO 3") IN HEIGHT, FOR TWO MOWINGS OR UNTIL ACCEPTANCE. CONTRACTOR SHALL MONITOR IRRIGATION SYSTEM TO ENSURE NEW SOD AND SEED LAWNS RECEIVE PROPER AMOUNTS OF WATER.
  - MAINTAIN ALL LAWNS THROUGHOUT AND IMMEDIATELY FOLLOWING PLANTING OPERATIONS UNTIL PROJECT IS CERTIFIED SUBSTANTIALLY COMPLETE.
  - MAINTAIN SURFACES AND SUPPLY ADDITIONAL TOPSOIL WHERE NECESSARY, INCLUDING AREAS AFFECTED BY EROSION.
  - REPLANT DAMAGED LAWN AREAS SHOWING GROWTH FAILURE, DETERIORATION, BARE OR THIN SPOTS AND ERODED AREAS.

## LOCATION MAP:



LOCAL MAP (N.T.S.)

## DRAWING LIST:

LS C	COVER SHEET
LS 100.0	OVERALL SITE PLAN
LS 100.1	OVERALL SITE PLAN - SOUTHERN DEVELOPMENT
LS 100.2	OVERALL SITE PLAN - NORTHERN DEVELOPMENT
LS 100.3	OVERALL SITE PLAN - UTILITY BUILDINGS AND FUTURE COTTAGES
LS 101	AMENITIES SIDE SITE PLAN - LANDSCAPE
LS 102	MAIN ENTRY PLAN - LANDSCAPE
LS 103	RESIDENTIAL SIDE SITE PLAN - LANDSCAPE
LS 104	RESIDENTIAL TYPICAL PLAN - LANDSCAPE
LS 105	DETENTION BASIN PLANTING PLAN

REFER TO GRANOFF ARCHITECTS ARCHITECTURAL PLANS FOR ADDITIONAL INFORMATION

## ABBREVIATIONS:

B.P.	BOTTOM PIER	MANUF.	MANUFACTURER
B.S.	BOTTOM STEP	MAX.	MAXIMUM
B.W.	BOTTOM WALL	MFR.	MANUFACTURER
BL	BASE LINE	MIN.	MINIMUM
BC	BOTTOM OF CURB	MH	MAN HOLE
BLDG.	BUILDING	NEC.	NECESSARY
CL	CENTER LINE	N.I.C	NOT IN CONTRACT
CMU	CONCRETE MASONRY UNIT	N.T.S	NOT TO SCALE
CONC.	CONCRETE	NO./#	NUMBER
CONT.	CONTINUOUS	OC	ON CENTER
DI	DRAIN INLET	PL	PROPERTY LINE
DIA.	DIAMETER	R	RISER
DN.	DOWN	REQ'D	REQUIRED
EA.	EACH	R.O.W.	RIGHT OF WAY
EJ	EXPANSION JOINT	SPEC.	SPECIFICATION
EL.	ELEVATION	SQ.	SQUARE
ELEV.	ELEVATION	T	TREAD
EQ.	EQUAL	TC	TOP OF CURB
E.W.	EACH WAY	T.P	TOP PIER
EX.JT.	EXPANSION JOINT	T.S.	TOP STAIR
EXP.JT.	EXPANSION JOINT	T.W.	TOP WALL
EX.	EXISTING	TBD	TO BE DETERMINED
EXIST.	EXISTING	TY.P.	TYPICAL
FL	FLOW LINE	UW	UNDER WATER
FLR.	FLOOR	UG	UNDERGROUND
FLWR	FLOWER	VIF	VERIFY IN FIELD
FTG.	FOOTING	W/L	WATER LINE
G	GRATE ELEVATION/RIM ELEV.	W/	WITH
H.B.	HOSE BIB	W/O	WITHOUT
JNT.	JOINT	WT	WATERTABLE

REFER TO OTHER DRAWINGS FOR LEGENDS AND KEYS

## REVISIONS

#	DATE	REVISION DESCRIPTION	BY:
1	11.23.20	PLANNING BOARD SUBMISSION	KA
2	01.11.21	ARB SUBMISSION	KA
3	03.08.21	ARB SUBMISSION	KA
4	05.09.21	ARB SUBMISSION	KA
5	06.14.21	PLANNING BOARD SUBMISSION	KA
6	07.12.21	PLANNING BOARD SUBMISSION	KA
7	11.23.21	EDIT, PROSHOP LAYOUT SCHEM	JS
8	1.10.22	PLANNING BOARD SUBMISSION	KA
9	3.28.22	PLANNING BOARD SUBMISSION	KA

## PHASE

## SUBMITAL

## PROJECT NAME

## SUMMIT CLUB PARTNERS LLC

## ARMONK, NY

JOB NO: 20035

DRAWN BY: JS PROJ. MANAGER: KA

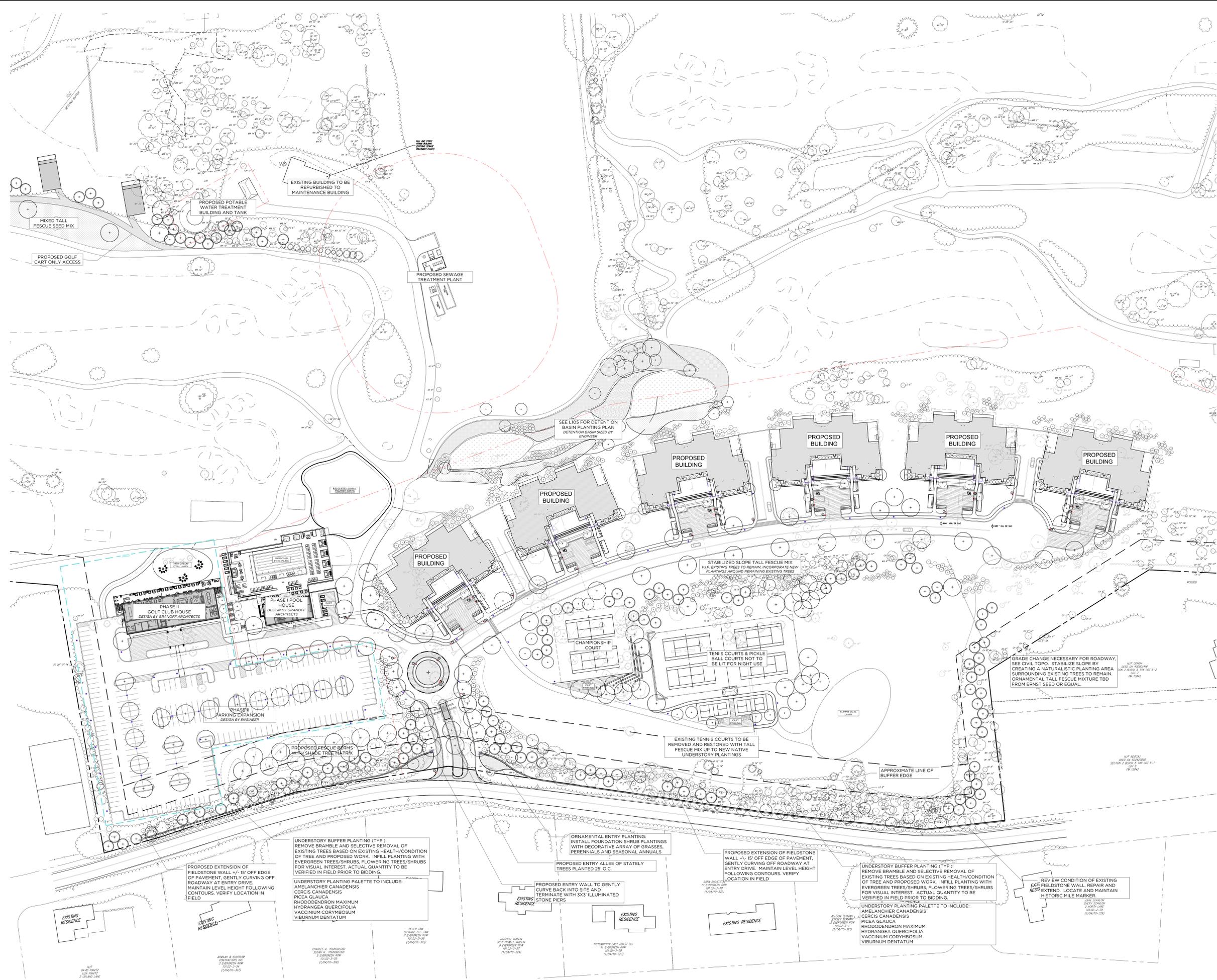
DATE: 03.28.22 SCALE:

DRAWING TITLE

## COVER

DRAWING NO.

# LS C



#	DATE	REVISION DESCRIPTION	BY
1	11.23.20	PLANNING BOARD SUBMISSION	KA
2	01.11.21	ARB SUBMISSION	KA
3	03.08.21	ARB SUBMISSION	KA
4	05.09.21	ARB SUBMISSION	KA
5	06.14.21	PLANNING BOARD SUBMISSION	KA
6	07.12.21	PLANNING BOARD SUBMISSION	KA
7	11.23.21	EDIT, PROSHOP LAYOUT SCHEM	JS
8	11.02.22	PLANNING BOARD SUBMISSION	KA
9	3.28.22	PLANNING BOARD SUBMISSION	KA

PHASE  
**SCHEMATIC**

PROJECT NAME  
**SUMMIT CLUB PARTNERS LLC**

ARMONK, NY  
 JOB NO.: 20035  
 DRAWN BY: JS PROJ. MANAGER: KA  
 DATE: 03.04.22 SCALE:  
 DRAWING TITLE  
**OVERALL SITE PLAN**

DRAWING NO.  
**LS100.0**

**OVERALL SOUTHERN LANDSCAPE SITE PLAN**

1" = 50'-0"

© 2022 GRANOFF ARCHITECTS  
 These drawings, concepts, design and ideas are the property of B.S. Granoff Architects, P.C. They may not be copied, reproduced, disclosed to others, or used in connection with any work other than that specified in the contract for which they were prepared, in whole or in part, without prior written consent of B.S. Granoff Architects, P.C.





OVERALL NORTHERN LANDSCAPE SITE PLAN

1" = 40'-0"

REVISIONS			
#	DATE	REVISION DESCRIPTION	BY
1	11.23.20	PLANNING BOARD SUBMISSION	KA
2	01.11.21	ARB SUBMISSION	KA
3	03.08.21	ARB SUBMISSION	KA
4	05.09.21	ARB SUBMISSION	KA
5	06.14.21	PLANNING BOARD SUBMISSION	KA
6	07.12.21	PLANNING BOARD SUBMISSION	KA
7	11.23.21	EDIT, PROSHOP LAYOUT SCHEM	JS
8	11.02.22	PLANNING BOARD SUBMISSION	KA
9	3.28.22	PLANNING BOARD SUBMISSION	KA

PHASE  
**SCHEMATIC**

PROJECT NAME  
**SUMMIT CLUB PARTNERS LLC**

ARMONK, NY  
 JOB NO: 20035  
 DRAWN BY: JS PROJ. MANAGER: KA  
 DATE: 03.28.22 SCALE:

OVERALL SITE PLAN - NORTHERN DEVELOPMENT

DRAWING NO.  
**LS100.2**

© 2022 GRANOFF ARCHITECTS  
 These drawings, concepts, design and ideas are the property of R.S. Granoff Architects, P.C. They may not be copied, reproduced, disclosed to others, or used in connection with any work other than the specific project for which they were prepared, in whole or in part, without prior written consent of R.S. Granoff Architects, P.C.



REVISIONS			
#	DATE	REVISION DESCRIPTION	BY:
1	11.23.20	PLANNING BOARD SUBMISSION	KA
2	01.11.21	ARB SUBMISSION	KA
3	03.08.21	ARB SUBMISSION	KA
4	05.09.21	ARB SUBMISSION	KA
5	06.14.21	PLANNING BOARD SUBMISSION	KA
6	07.12.21	PLANNING BOARD SUBMISSION	KA
7	11.23.21	EDIT, PROSHOP LAYOUT SCHEM	JS
8	1.10.22	PLANNING BOARD SUBMISSION	KA
9	3.28.22	PLANNING BOARD SUBMISSION	KA

PHASE  
**SCHEMATIC**

PROJECT NAME  
**SUMMIT CLUB PARTNERS LLC**  
 ARMONK, NY  
 JOB NO.: 20035  
 DRAWN BY: JS PROJ. MANAGER: KA  
 DATE: 03.28.22 SCALE:  
 OVERALL SITE PLAN - UTILITY BUILDINGS AND FUTURE COTTAGES

DRAWING NO.  
**LS100.3**  
 © 2022 GRANOFF ARCHITECTS  
 These drawings, concepts, design and ideas are the property of B.S. Granoff Architects, P.C. They may not be copied, reproduced, disclosed to others, or used in connection with any work other than the specific project for which they were prepared, in whole or in part, without prior written consent of B.S. Granoff Architects, P.C.

UTILITY BUILDINGS AND COTTAGES

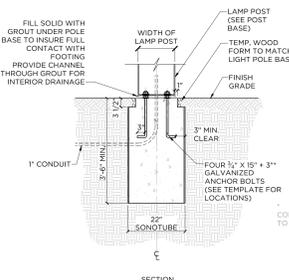
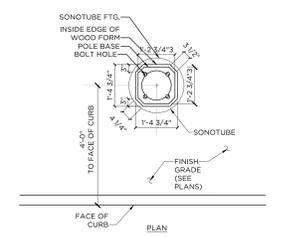
1" = 30'-0"





SOUTHERN BUFFER AND AMENITIES LANDSCAPE PLAN

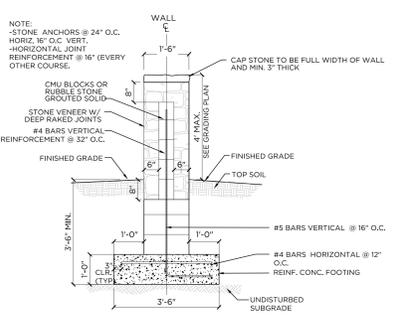
1" = 20'-0"



NOTES:  
 - SEE PLAN FOR LOCATIONS.  
 - EXISTING FOOTINGS TO REMAIN AND BE REUSED FOR NEW LIGHT POLES IF DETERMINED TO BE STRUCTURALLY SUITABLE  
 - LIGHTING SPEC - USA LIGHTING F2Z - 19' MOUNTING HEIGHT  
 - SEE APEX LIGHTING PLAN FOR FULL SPEC

PARKING LOT LIGHT POLE FOUNDATION DETAIL

SCALE: 1/2" = 1' - 0"



STONE WALL DETAIL

SCALE: 1/2" = 1' - 0"

REVISIONS			
#	DATE	REVISION DESCRIPTION	BY:
1	11.23.20	PLANNING BOARD SUBMISSION	KA
2	01.11.21	ARB SUBMISSION	KA
3	03.08.21	ARB SUBMISSION	KA
4	05.09.21	ARB SUBMISSION	KA
5	06.14.21	PLANNING BOARD SUBMISSION	KA
6	07.12.21	PLANNING BOARD SUBMISSION	KA
7	11.23.21	EDIT, PROSHOP LAYOUT SCHEM	JS
8	1.10.22	PLANNING BOARD SUBMISSION	KA
9	3.28.22	PLANNING BOARD SUBMISSION	KA

PHASE  
**SUBMITAL**

PROJECT NAME  
**SUMMIT CLUB PARTNERS LLC**  
 ARMONK, NY  
 JOB NO.: 20035  
 DRAWN BY: JS PROJ. MANAGER: KA  
 DATE: 03.28.22 SCALE:  
 DRAWING TITLE  
**AMENITIES SIDE SITE PLAN - LANDSCAPE**





NORTHERN BUFFER AND RESIDENTIAL LANDSCAPE PLAN

1" = 30'-0"

REVISIONS			
#	DATE	REVISION DESCRIPTION	BY:
1	11.23.20	PLANNING BOARD SUBMISSION	KA
2	01.11.21	ARB SUBMISSION	KA
3	03.08.21	ARB SUBMISSION	KA
4	05.09.21	ARB SUBMISSION	KA
5	06.14.21	PLANNING BOARD SUBMISSION	KA
6	07.12.21	PLANNING BOARD SUBMISSION	KA
7	11.23.21	EDIT PROSHOP LAYOUT SCHEM	JS
8	1.10.22	PLANNING BOARD SUBMISSION	KA
9	3.28.22	PLANNING BOARD SUBMISSION	KA

PHASE  
**SUBMITAL**

PROJECT NAME  
**SUMMIT CLUB PARTNERS LLC**

ARMONK, NY  
 JOB NO: 20035  
 DRAWN BY: JS PROJ. MANAGER: KA  
 DATE: 03.28.22 SCALE:

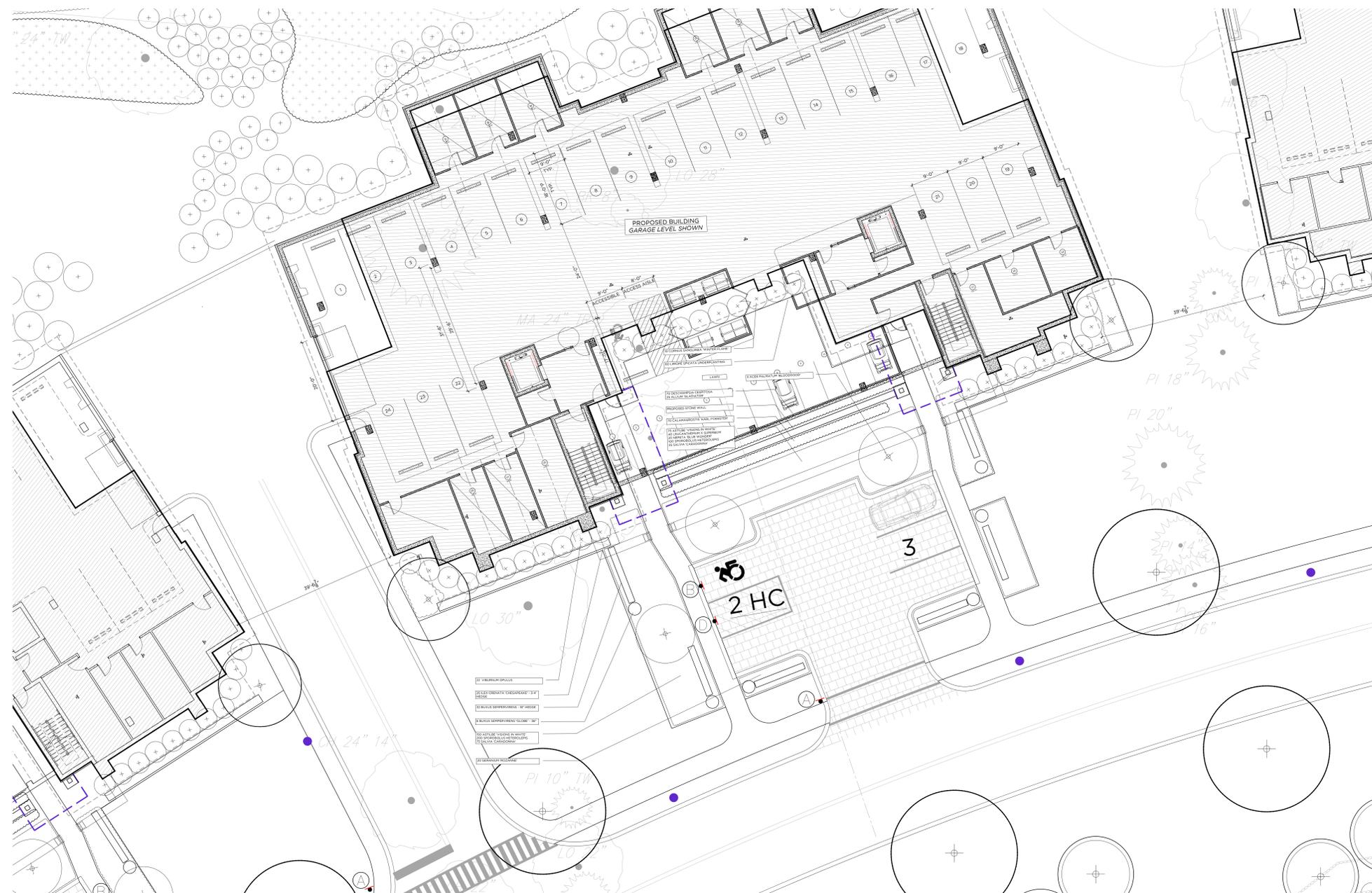
DRAWING TITLE  
**RESIDENTIAL SIDE SITE PLAN - LANDSCAPE**

DRAWING NO.  
**LS103**

© 2022 GRANOFF ARCHITECTS. These drawings, concepts, designs and ideas are the property of P.S. Granoff Architects, P.C. They may not be copied, reproduced, disclosed or used in connection with any work other than the specific project for which they were prepared in whole or in part, without prior written consent of P.S. Granoff Architects, P.C.

**PLANTING SCHEDULE**

Residence Landscape Typical				
QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
5	TREES			
3	<i>Acer palmatum 'Bloodgood'</i>	Japanese Maple	8-10'	Matching
2	<i>Acer rubrum 'October Glory'</i>		3' cal.	Matching
97	SHRUBS			
8	<i>Buxus sempervirens 'Globe'</i>	Boxwood	36"	Globe specimen
32	<i>Buxus sempervirens</i>	Boxwood	18"	Hedge quality
10	<i>Cornus sanguinea 'Winter Flame'</i>	Red twig Dogwood	3 gal.	
25	<i>Ilex crenata 'Chesapeake'</i>	Chesapeake Japanese Holly	3-4'	Full Hedge quality
22	<i>Viburnum opulus</i>	Snowball Viburnum	5 gal.	Full Shape
876	GRASSES/PERENNIALS			
125	<i>Astilbe x 'Wagner's White'</i>	White Astilbe	1 gal.	
90	<i>Carex 'Ice Dance'</i>	Sedge	1 gal.	
5	<i>Clematis terniflora 'Sweet Autumn'</i>	Sweet Autumn Clematis	1 gal.	
90	<i>Deschampsia cespitosa</i>	Tufted Hair Grass	1 gal.	
26	<i>Echinacea 'White Swan'</i>	Coneflower	1 gal.	
20	<i>Geranium 'Rozanne'</i>	Cranesbill	1 gal.	
60	<i>Liriope spicata</i>	Lily Turf	1 gal.	
40	<i>Leucanthemum x superbum</i>	Shasta Daisy	1 gal.	
20	<i>Nepeta 'Blue Wonder'</i>	Catmint	1 gal.	
100	<i>Salvia nemorosa 'Caradonna'</i>	Caradonna Meadow Sage	1 gal.	
300	<i>Sporobolus heterolepis</i>	Prarie Dropseed	1 gal.	
25	BULBS			
25	<i>Allium 'Gladiator'</i>	Allium	Bulb	
2500	<i>Narcissus naturalizing mix</i>	Naturalizing daffodils	Bulb	



TYPICAL RESIDENCE ENTRY LANDSCAPE PLAN

1" = 10'-0"

REVISIONS			
#	DATE	REVISION DESCRIPTION	BY:
1	11.23.20	PLANNING BOARD SUBMISSION	KA
2	01.11.21	ARB SUBMISSION	KA
3	03.08.21	ARB SUBMISSION	KA
4	05.09.21	ARB SUBMISSION	KA
5	06.14.21	PLANNING BOARD SUBMISSION	KA
6	07.12.21	PLANNING BOARD SUBMISSION	KA
7	11.25.21	EDIT, PROSHOP LAYOUT SCHEM	JS
8	1.10.22	PLANNING BOARD SUBMISSION	KA
9	3.28.22	PLANNING BOARD SUBMISSION	KA

PHASE  
**SUBMITAL**

PROJECT NAME  
**SUMMIT CLUB PARTNERS LLC**

ARMONK, NY  
 JOB NO.: 20035  
 DRAWN BY: JS PROJ. MANAGER: KA  
 DATE: 03.28.22 SCALE:

DRAWING TITLE  
**RESIDENCE TYPICAL PLAN - LANDSCAPE**

DRAWING NO.  
**LS104**

© 2022 GRANOFF ARCHITECTS. These drawings, concepts, designs and ideas are the property of R.S. Granoff Architects, P.C. They may not be copied, reproduced, disclosed or used in connection with any work other than the specified project for which they were prepared, in whole or in part, without prior written consent of R.S. Granoff Architects, P.C.

**PLANTING SCHEDULE**

QUANTITY	BOTANICAL NAME	Detention Basin Planting COMMON NAME	SIZE	REMARKS
18	TREES			
13	<i>Amelanchier canadensis</i>	Serviceberry	7-8'	Multistem
5	<i>Quercus palustris</i>	Pin Oak	2' cal	Full shape
143	SHRUBS			
42	<i>Ilex verticillata</i>	Winterberry	3'-4'	
35	<i>Lindera benzoin</i>	Spicebush	3 gal.	
66	<i>Viburnum dentatum</i>	Arrowwood Viburnum	3 gal.	Full shape
6725	PERENNIALS/GRASSES			
1075	<i>Andropogon gerardi</i>	Big Bluestem	1 gal.	
1650	<i>Calamagrostis 'Karl Foerster'</i>	Feather Reed Grass	1 gal.	
n/a	<i>Carex pennsylvanica</i>	Sedge	Seed	Basin Floor Seed Mix (16,000 sf)
3450	<i>Deschampsia cespitosa</i>	Tufted Hair Grass	1 gal.	
550	<i>Echinacea 'White Swan'</i>	Coneflower	Seed	Basin Floor Seed Mix (16,000 sf)
n/a	<i>Juncus effusus</i>	Soft Rush	Seed	
350	<i>Lobelia cardinalis</i>	Cardinal Flower	1 gal.	
100	<i>Nepeta 'Blue Wonder'</i>	Catmint	1 gal.	
200	<i>Perovskia atriplicifolia 'Little Spire'</i>	Dward Russian Sage	1 gal.	
300	<i>Salvia nemerosa 'Caradonna'</i>	Caradonna Meadow Sage	1 gal.	



PIN OAK



SERVICEBERRY



WINTERBERRY



SPICEBUSH



ARROWWOOD VIBURNUM



BIG BLUESTEM



FEATHER REED GRASS



SEDE



TUFTED HAIR GRASS



CONEFLOWER



SOFT RUSH



CARDINAL FLOWER



CATMINT



DWARF RUSSIAN SAGE



CARADONNA MEADOW SAGE



#	DATE	REVISION DESCRIPTION	BY:
1	11.23.20	PLANNING BOARD SUBMISSION	KA
2	01.11.21	ARB SUBMISSION	KA
3	03.08.21	ARB SUBMISSION	KA
4	05.09.21	ARB SUBMISSION	KA
5	06.14.21	PLANNING BOARD SUBMISSION	KA
6	07.12.21	PLANNING BOARD SUBMISSION	KA
7	11.23.21	EDIT, PROSHOP LAYOUT SCHEM	JS
8	1.10.22	PLANNING BOARD SUBMISSION	KA
9	3.28.22	PLANNING BOARD SUBMISSION	KA

**SUBMITAL**

PROJECT NAME  
**SUMMIT CLUB PARTNERS LLC**  
ARMONK, NY  
JOB NO: 20035  
DRAWN BY: JS PROJ. MANAGER: KA  
DATE: 03.28.22 SCALE:  
DRAWING TITLE  
**DETENTION BASIN PLANTING PLAN**

DRAWING NO.  
**LS105**  
© 2022 GRANOFF ARCHITECTS  
This drawing, including design and ideas, are the property of R.S. Granoff Architects. It may not be reproduced, stored in a retrieval system, or used in connection with any work other than the specified project for which they were prepared, in whole or part, without prior written consent of R.S. Granoff Architects, P.C.

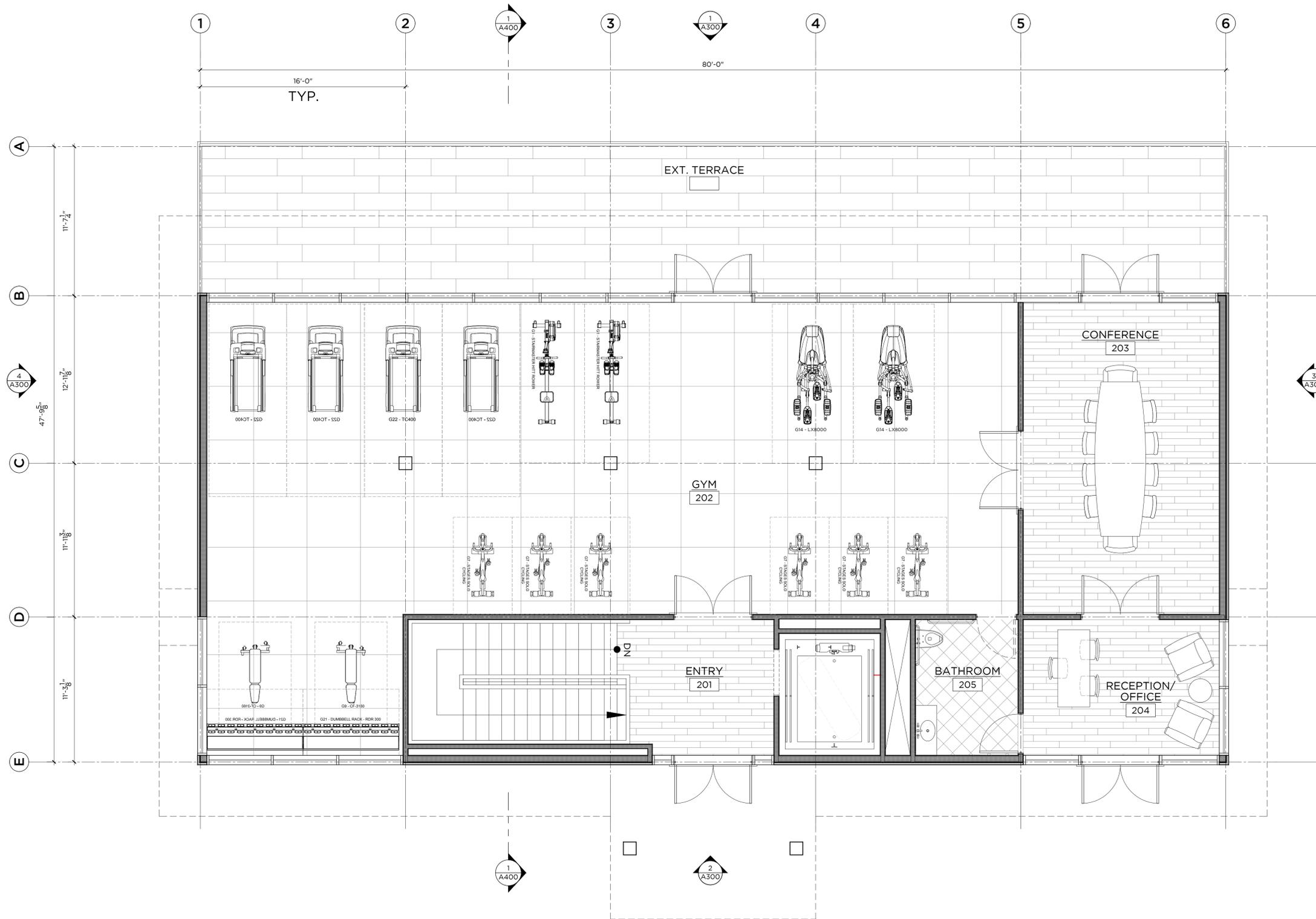
DETENTION BASIN LANDSCAPE PLAN

1/16" = 1'-0"





CONSULTANTS



REVISIONS

#	DATE	REVISION DESCRIPTION	BY:

PHASE  
**PLANNING BOARD  
 SUBMISSION**

PROJECT NAME  
**SUMMIT CLUB PARTNERS  
 LLC - AMENITIES BUILDING**

ARMONK, NY  
 JOB NO.: ----  
 DRAWN BY: JT      PROJ. MANAGER: KA  
 DATE: 03/28/2022      SCALE: AS NOTED

DRAWING TITLE  
**FLOOR PLAN - MAIN LEVEL**

DRAWING NO.  
**A-101**

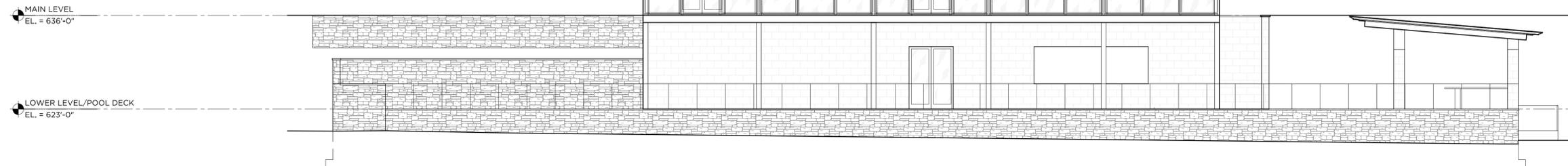
**MAIN LEVEL FLOOR PLAN**  
 2,946 SF      1/4" = 1'-0"

Nov 24, 2022 2:18pm revised 2.0 10 Construction Drawing 001\_CD\_Architectural SHEET FILED POOL HOUSE A 101 FLOOR PLAN MAIN LEVEL PL 1010

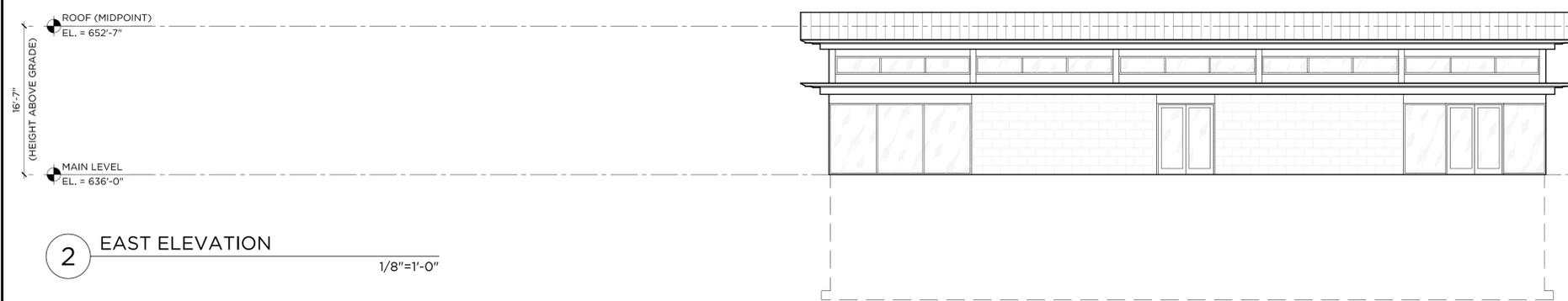
© 2022 GRANOFF ARCHITECTS  
 These drawings, concepts, designs and ideas are the property of R.S. Granoff Architects, P.C. They may not be copied, reproduced, disclosed to others, or used in connection with any work other than the specified project for which they were prepared, in whole or in part, without prior written consent of R.S. Granoff Architects, P.C.



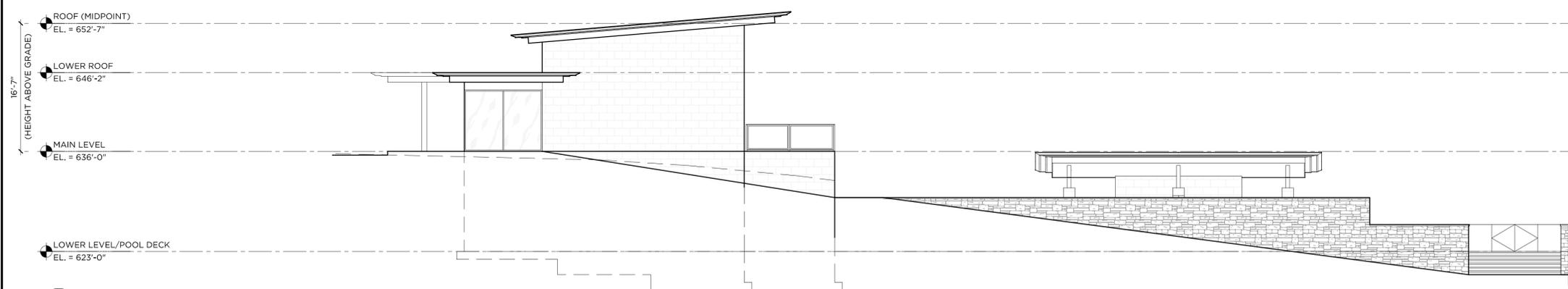
CONSULTANTS



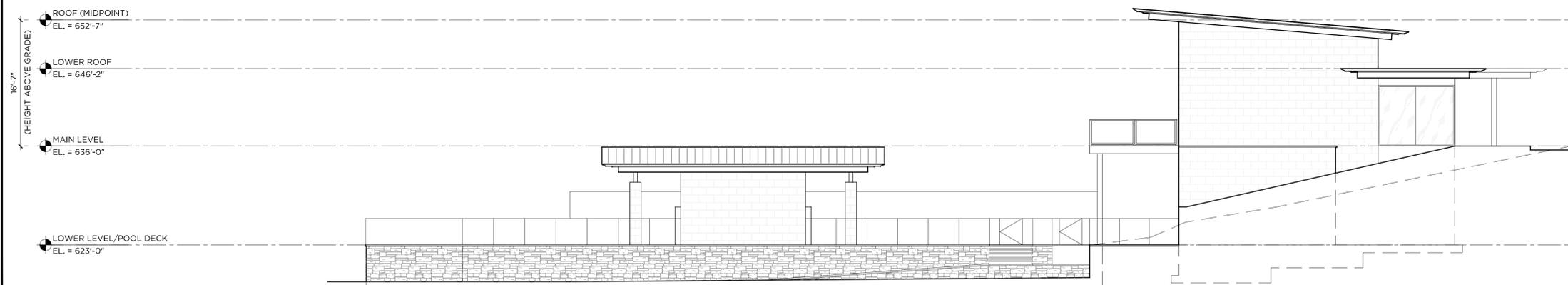
**1 WEST ELEVATION**  
 1/8"=1'-0"



**2 EAST ELEVATION**  
 1/8"=1'-0"



**3 NORTH ELEVATION**  
 1/8"=1'-0"



**4 SOUTH ELEVATION**  
 1/8"=1'-0"

REVISIONS

#	DATE	REVISION DESCRIPTION	BY:

PHASE  
**PLANNING BOARD  
 SUBMISSION**

PROJECT NAME  
**SUMMIT CLUB PARTNERS  
 LLC - AMENITIES BUILDING**

ARMONK, NY  
 JOB NO.: ----  
 DRAWN BY: **JT** PROJ. MANAGER: **KA**  
 DATE: **03/28/2022** SCALE: AS NOTED

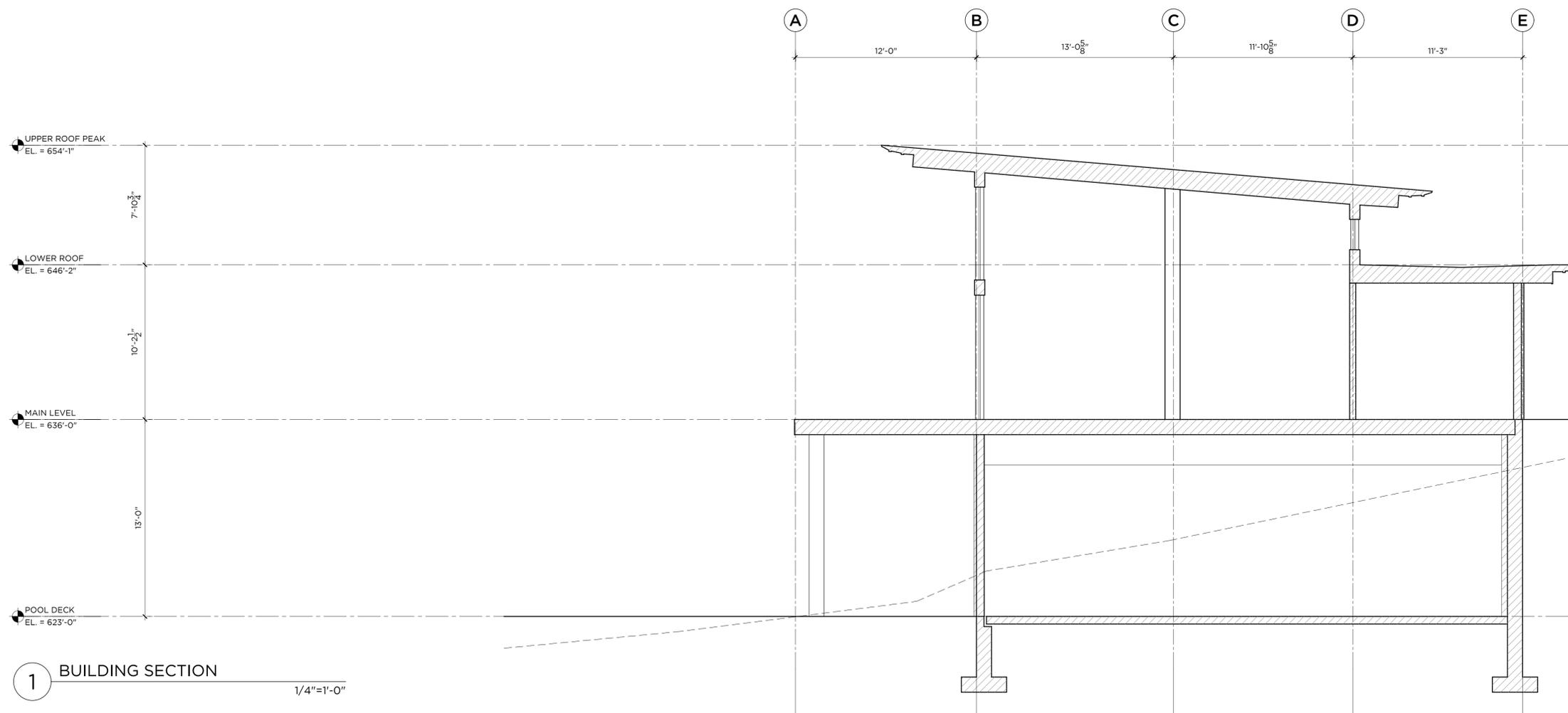
DRAWING TITLE  
**BUILDING ELEVATIONS**

DRAWING NO.  
**A-300**

© 2022 GRANOFF ARCHITECTS  
 These drawings, concepts, designs and ideas are the property of R.S. Granoff Architects, P.C. They may not be copied, reproduced, disclosed to others, or used in connection with any work other than the specified project for which they were prepared, in whole or in part, without prior written consent of R.S. Granoff Architects, P.C.

Nov 24, 2022 2:18pm revised 2:01:00 Construction Drawing 001\_CD\_Architectural Sheet FILED POOL HOUSE, A 300, BUILDING ELEVATIONS, PHASE

CONSULTANTS



1 BUILDING SECTION  
 1/4"=1'-0"

REVISIONS

#	DATE	REVISION DESCRIPTION	BY:

PHASE  
**PLANNING BOARD  
 SUBMISSION**

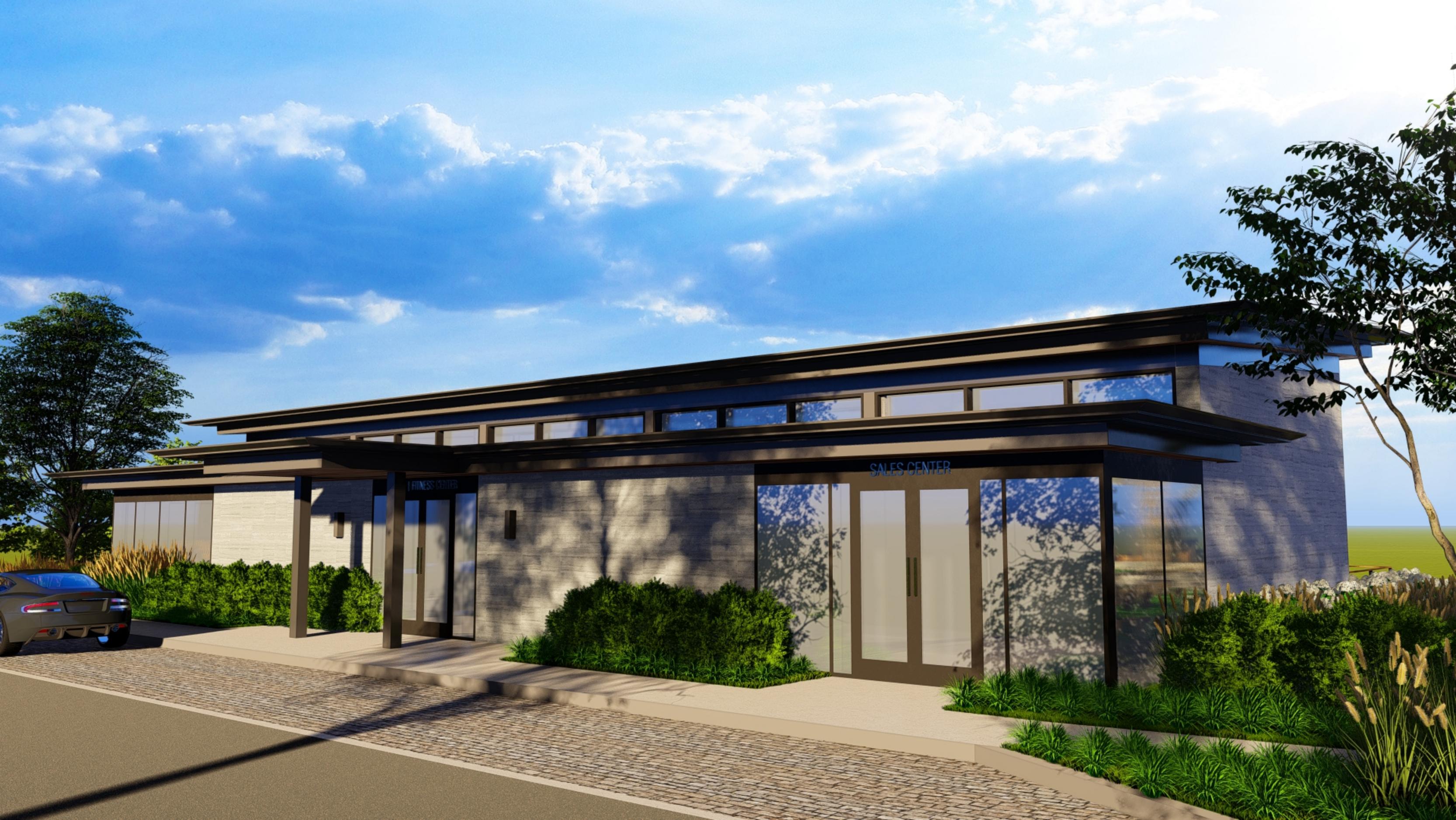
PROJECT NAME  
**SUMMIT CLUB PARTNERS  
 LLC - AMENITIES BUILDING**

ARMONK, NY  
 JOB NO.: ----  
 DRAWN BY: JT PROJ. MANAGER: KA  
 DATE: 03/28/2022 SCALE: AS NOTED

DRAWING TITLE  
**BUILDING SECTIONS**

DRAWING NO.  
**A-400**

Nov 24, 2022 2:18pm revised 2.0.18 Construction Drawing 001\_CD\_Architectural SHEET FILED POOL HOUSE, A-400, BUILDING SECTIONS PHASE



SALES CENTER

FITNESS CENTER















POOL | FITNESS CENTER

SALES CENTER

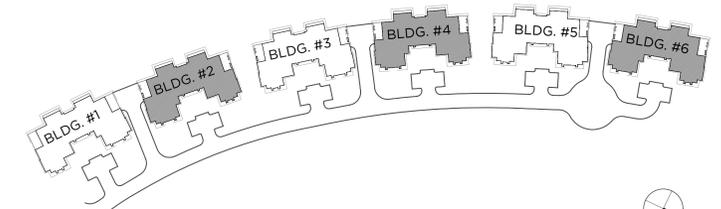




#	DATE	REVISION DESCRIPTION	BY:
1	03/28/2022	PLANNING BOARD SUBMISSION	KA

PHASE  
**PLANNING BOARD  
 SUBMISSION**

PLAN LEGEND



PROJECT NAME  
**SUMMIT CLUB PARTNERS  
 LLC - RESIDENCES**  
 ARMONK, NY  
 JOB NO: ----  
 DRAWN BY: **JT** PROJ. MANAGER: **KA**  
 DATE: **03/28/2022** SCALE: AS NOTED  
 DRAWING TITLE  
**GARAGE LEVEL PLAN**

DRAWING NO.  
**A-100.A**

© 2022 GRANOFF ARCHITECTS  
 These drawings, concepts, designs and ideas are the property of G.S. Granoff Architects, P.C. They may not be copied, reproduced, disclosed to others or used in connection with any work other than the specific project for which they were prepared, in whole or in part, without prior written consent of G.S. Granoff Architects, P.C.



**Density Unit Calculation:**  
 Site: 129.95872 acres  
 Lot 1 = 26.34421 acres  
 Lot 2 = 103.61451 acres  
 Total Site = 156.30293 acres x 43,560 sq ft/ac = (6,808,555.6308 sq ft) / 133,000 = 51.921476  
 51 Density Units Available  
 39 Density Units Proposed (COMPLIES)

**Dwelling Unit Calculation:**  
 Site: 156.30293 acres / 18 Acres = 86.834961  
 87 Dwelling Units Available (88 Studied in the EIS)  
 72 Dwelling Units Proposed (COMPLIES)  
 73 Dwelling Units Previously Approved

**Minimum Unit Sizes:**

Market Rate Units	Efficiency	One-Bedroom	Two-Bedroom	Three-Bedroom
Efficiency	450 sf Min.	N/A	N/A	N/A
One-Bedroom	700 sf Min.	N/A	N/A	N/A
Two-Bedroom	900 sf	2,377 sf is smallest (complies)		
Three-Bedroom	1,100 sf	2,997 sf is smallest (complies)		

**AFPH Units\*\***

Efficiency	450 sf Min.	N/A
One-Bedroom	700 sf Min.	N/A
Two-Bedroom	900 sf	2,377 sf is smallest (complies)
Three-Bedroom	1,100 sf	2,997 sf is smallest (complies)

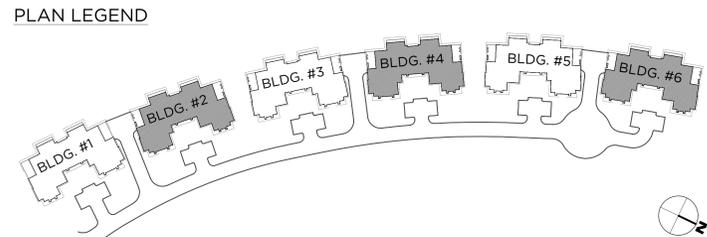
- Density Unit Definition:**  
 A density unit is defined as being equal to one or a proportionate combination of the following:
- One one-family detached dwelling unit.
  - One dwelling unit containing four or more bedrooms in a permitted type of dwelling other than a one-family detached unit.
  - One and one-half dwelling units containing three bedrooms each in permitted dwellings other than one-family detached units.
  - Two dwelling units containing two bedrooms each in permitted dwellings other than one-family detached units.
  - Two and one-half dwellings containing one bedroom or less each in permitted dwellings other than one-family detached units.
  - Three efficiency dwelling units in permitted dwellings other than one-family detached units.

[2] Density. The maximum permitted density shall not exceed one density unit, as defined in § 355-4 of this chapter, per 133,000 square feet of the aggregate total lot area (as defined in § 355-4 of this chapter) in the GCCFO District and one dwelling unit, as defined in § 355-4 of this chapter, per 18 acres of the aggregate total lot area (as defined in § 355-4 of this chapter) in the GCCFO District.  
 Editor's Note: Former Subsection D(1), regarding lots and dwelling units in the GCCFO District, was repealed 3-27-2019 by L.L. No. 2-2019.  
 This local law also renumbered former Subsections D(2) through D(6) as Subsections D(1) through D(5), respectively.

UNIT / BEDROOM COUNT Revised 3-28-22	MARKET RATE Units	AFPH Units	TOTAL bedrooms
BUILDING 1 (3 STORY)	12 UNITS (2) 3 BEDROOMS & (8) 2 BEDROOMS	(1) 3 BEDROOM (UNIT 101)	27 BEDROOMS/BLDG
BUILDING 2 (3 STORY)	12 UNITS (3) 3 BEDROOMS & (8) 2 BEDROOMS	(1) 2 BEDROOM (UNIT 102)	27 BEDROOMS/BLDG
BUILDING 3 (3 STORY)	12 UNITS (3) 3 BEDROOMS & (8) 2 BEDROOMS	(1) 2 BEDROOM (UNIT 102)	27 BEDROOMS/BLDG
BUILDING 4 (3 STORY)	12 UNITS (2) 3 BEDROOMS & (8) 2 BEDROOMS	(1) 3 BEDROOM (UNIT 101)	27 BEDROOMS/BLDG
BUILDING 5 (3 STORY)	12 UNITS (3) 3 BEDROOMS & (8) 2 BEDROOMS	(1) 2 BEDROOM (UNIT 102)	27 BEDROOMS/BLDG
BUILDING 6 (3 STORY)	12 UNITS (3) 3 BEDROOMS & (8) 2 BEDROOMS	(1) 2 BEDROOM (UNIT 102)	27 BEDROOMS/BLDG
<b>TOTALS</b>	<b>72 UNITS (16) 3 BEDROOMS &amp; (49) 2 BEDROOMS</b>	<b>(2) 3 BEDROOMS &amp; (5) 2 BEDROOMS</b>	<b>162 BEDROOMS</b>
	<b>65 MARKET RATE UNITS</b>	<b>7 AFPH UNITS</b>	

DENSITY UNITS	39 UNITS (18) 3 BEDROOMS = 12 DENSITY UNITS (54) 2 BEDROOMS = 27 DENSITY UNITS	(18 / 3) X 2 = 12 (54 / 2) = 27
DWELLING UNITS	72 UNITS	



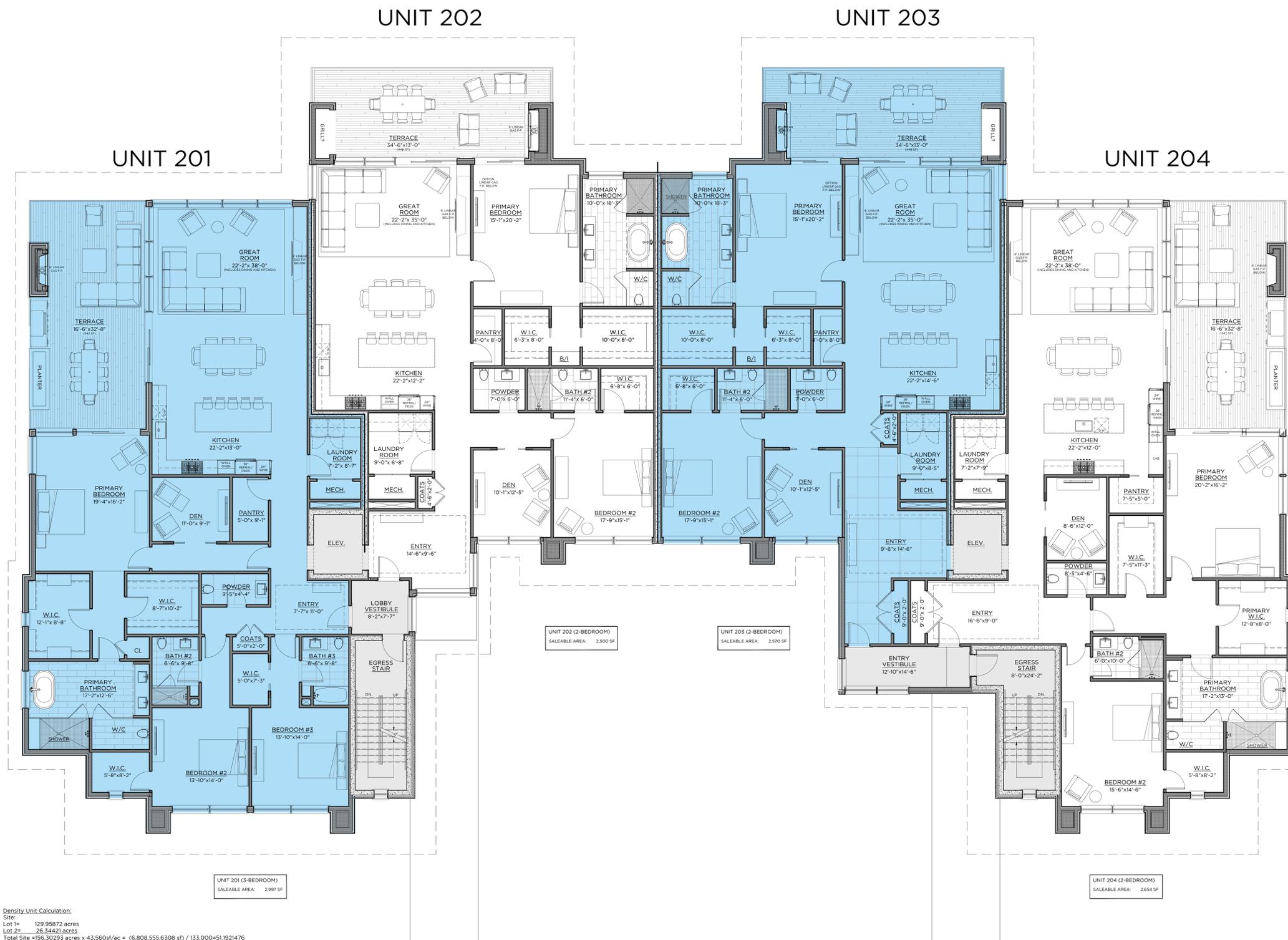
**REVISIONS**

#	DATE	REVISION DESCRIPTION	BY:
1	03/28/2022	PLANNING BOARD SUBMISSION	KA

**PHASE**  
**PLANNING BOARD SUBMISSION**

**PROJECT NAME**  
**SUMMIT CLUB PARTNERS LLC - RESIDENCES**  
 ARMONK, NY  
 JOB NO.:  
 DRAWN BY: JT PROJ. MANAGER: KA  
 DATE: 03/28/2022 SCALE: AS NOTED  
 DRAWING TITLE  
**FIRST FLOOR PLAN**

DRAWING NO.  
**A-101.A**



**Density Unit Calculation:**  
 Site: 129.95872 acres  
 Lot 1: 26.34421 acres  
 Lot 2: 26.34421 acres  
 Total Site = 156.30293 acres x 43,560 sq ft/ac = (6,808,555.6308 sq ft) / 133,000 = 51.921476  
 51 Density Units Available  
 39 Density Units Proposed (COMPLIES)

**Dwelling Unit Calculation:**  
 Site: 156.30293 acres / 18 Acres = 86.834961  
 87 Dwelling Units Available (88 Studied in the EIS)  
 72 Dwelling Units Proposed (COMPLIES)  
 73 Dwelling Units Previously Approved

**Minimum Unit Sizes:**  
 Market Rate Units  
 Efficiency: 450 sf Min. N/A  
 One-Bedroom: 700 sf Min. N/A  
 Two-Bedroom: 900 sf 2,377 sf is smallest (complies)  
 Three-Bedroom: 1,100 sf 2,997 sf is smallest (complies)  
 AFFH Units\*\*\*  
 Efficiency: 450 sf Min. N/A  
 One-Bedroom: 700 sf Min. N/A  
 Two-Bedroom: 900 sf 2,377 sf is smallest (complies)  
 Three-Bedroom: 1,100 sf 2,997 sf is smallest (complies)

**Density Unit Definition:**  
 A density unit is defined as being equal to one or a proportionate combination of the following:  
 A. One one-family detached dwelling unit.  
 B. One dwelling unit containing four or more bedrooms in a permitted type of dwelling other than a one-family detached unit.  
 C. One and one-half dwelling units containing three bedrooms each in permitted dwellings other than one-family detached units.  
 D. Two dwelling units containing two bedrooms each in permitted dwellings other than one-family detached units.  
 E. Two and one-half dwellings containing one bedroom or less each in permitted dwellings other than one-family detached units.  
 F. Three efficiency dwelling units in permitted dwellings other than one-family detached units

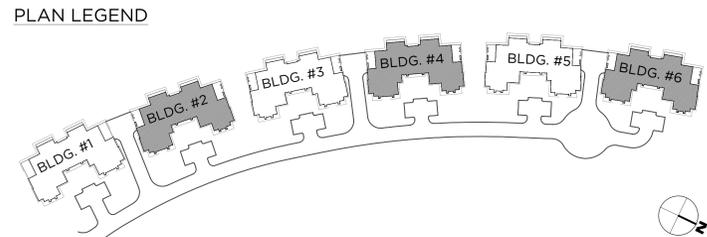
[2]Density. The maximum permitted density shall not exceed one density unit, as defined in § 355-4 of this chapter, per 133,000 square feet of the aggregate total lot area (as defined in § 355-4 of this chapter) in the GCCFO District and one dwelling unit, as defined in § 355-4 of this chapter, per 1.8 acres of the aggregate total lot area (as defined in § 355-4 of this chapter) in the GCCFO District.  
 [2] Editor's Note: Former Subsection D(1), regarding lots and dwelling units in the GCCFO District, was repealed 3-27-2019 by L.L. No. 2-2019. This local law also renumbered former Subsections D(2) through D(6) as Subsections D(1) through D(5), respectively.

UNIT 202 (2-BEDROOM) SALEABLE AREA: 2,500 SF  
 UNIT 203 (2-BEDROOM) SALEABLE AREA: 2,570 SF  
 UNIT 201 (3-BEDROOM) SALEABLE AREA: 2,997 SF  
 UNIT 204 (2-BEDROOM) SALEABLE AREA: 2,654 SF

UNIT / BEDROOM COUNT Revised 3-28-22	MARKET RATE Units	AFFH Units	TOTAL bedrooms
BUILDING 1 (3 STORY)	12 UNITS (2) 3 BEDROOMS & (8) 2 BEDROOMS	(1) 3 BEDROOM (UNIT 101)	27 BEDROOMS/BLDG
BUILDING 2 (3 STORY)	12 UNITS (3) 3 BEDROOMS & (8) 2 BEDROOMS	(1) 2 BEDROOM (UNIT 102)	27 BEDROOMS/BLDG
BUILDING 3 (3 STORY)	12 UNITS (3) 3 BEDROOMS & (8) 2 BEDROOMS	(1) 2 BEDROOM (UNIT 102)	27 BEDROOMS/BLDG
BUILDING 4 (3 STORY)	12 UNITS (2) 3 BEDROOMS & (8) 2 BEDROOMS	(1) 3 BEDROOM (UNIT 101)	27 BEDROOMS/BLDG
BUILDING 5 (3 STORY)	12 UNITS (3) 3 BEDROOMS & (8) 2 BEDROOMS	(1) 2 BEDROOM (UNIT 102)	27 BEDROOMS/BLDG
BUILDING 6 (3 STORY)	12 UNITS (3) 3 BEDROOMS & (8) 2 BEDROOMS	(1) 2 BEDROOM (UNIT 102)	27 BEDROOMS/BLDG
TOTALS	72 UNITS (16) 3 BEDROOMS & (49) 2 BEDROOMS	(2) 3 BEDROOMS & (5) 2 BEDROOMS	162 BEDROOMS
	65 MARKET RATE UNITS	7 AFFH UNITS	

DENSITY UNITS	39 UNITS (18) 3 BEDROOMS = 12 DENSITY UNITS (54) 2 BEDROOMS = 27 DENSITY UNITS	(18 / 3) X 2 = 12 (54 / 2) = 27
DWELLING UNITS	72 UNITS	



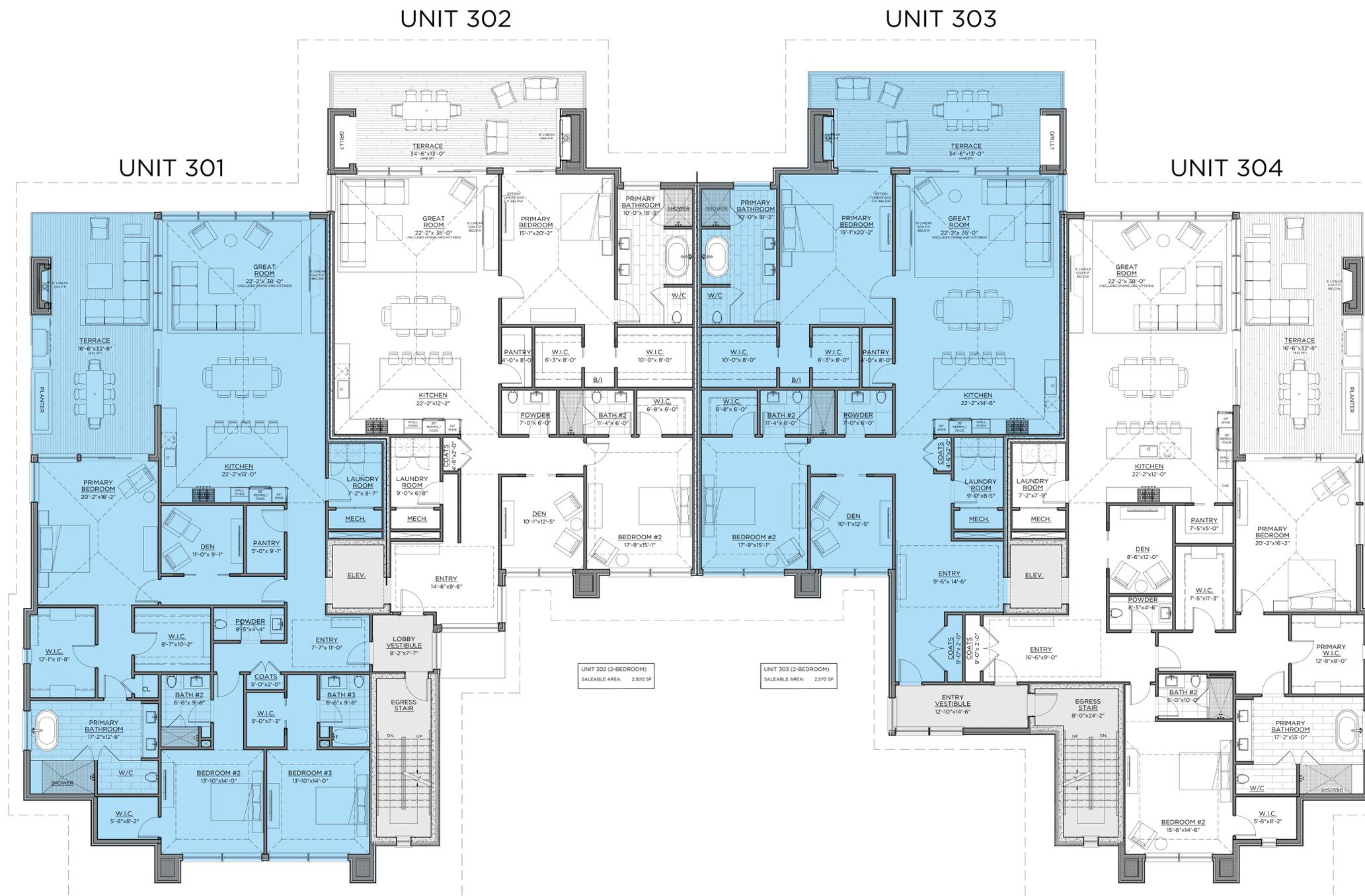
REVISIONS

#	DATE	REVISION DESCRIPTION	BY:
1	03/28/2022	PLANNING BOARD SUBMISSION	KA

PHASE  
**PLANNING BOARD SUBMISSION**

PROJECT NAME  
**SUMMIT CLUB PARTNERS LLC - RESIDENCES**  
 ARMONK, NY  
 JOB NO.:  
 DRAWN BY: **JT** PROJ. MANAGER: **KA**  
 DATE: **03/28/2022** SCALE: AS NOTED  
 DRAWING TITLE  
**SECOND FLOOR PLAN**

DRAWING NO.  
**A-102.A**



**Density Unit Calculation:**  
 Site: 129.95872 acres  
 Lot 1: 26.34421 acres  
 Lot 2: 26.34421 acres  
 Total Site = 156.30293 acres x 43,560 sq ft/ac = (6,808,555.6308 sq ft) / 133,000 = 51.921476  
 51 Density Units Available  
 39 Density Units Proposed (COMPLIES)

**Dwelling Unit Calculation:**  
 Site: 156.30293 acres / 18 Acres = 86.834961  
 87 Dwelling Units Available (88 Studied in the EIS)  
 72 Dwelling Units Proposed (COMPLIES)  
 73 Dwelling Units Previously Approved

**Minimum Unit Sizes:**  
 Market Rate Units  
 Efficiency: 450 sf Min. N/A  
 One-Bedroom: 700 sf Min. N/A  
 Two-Bedroom: 900 sf 2,377 sf is smallest (complies)  
 Three-Bedroom: 1,100 sf 2,997 sf is smallest (complies)  
 AFFH Units\*\*\*  
 Efficiency: 450 sf Min. N/A  
 One-Bedroom: 700 sf Min. N/A  
 Two-Bedroom: 900 sf 2,377 sf is smallest (complies)  
 Three-Bedroom: 1,100 sf 2,997 sf is smallest (complies)

**Density Unit Definition:**  
 A density unit is defined as being equal to one or a proportionate combination of the following:  
 A. One one-family detached dwelling unit.  
 B. One dwelling unit containing four or more bedrooms in a permitted type of dwelling other than a one-family detached unit.  
 C. One one-half dwelling units containing three bedrooms each in permitted dwellings other than one-family detached units.  
 D. Two dwelling units containing two bedrooms each in permitted dwellings other than one-family detached units.  
 E. Two and one-half dwellings containing one bedroom or less each in permitted dwellings other than one-family detached units.  
 F. Three efficiency dwelling units in permitted dwellings other than one-family detached units

[2] Density. The maximum permitted density shall not exceed one density unit, as defined in § 355-4 of this chapter, per 133,000 square feet of the aggregate total lot area (as defined in § 355-4 of this chapter) in the GCCFO District and one dwelling unit, as defined in § 355-4 of this chapter, per 1.8 acres of the aggregate total lot area (as defined in § 355-4 of this chapter) in the GCCFO District.  
 [2] Editor's Note: Former Subsection D(1), regarding lots and dwelling units in the GCCFO District, was repealed 3-27-2019 by L.L. No. 2-2019. This local law also renumbered former Subsections D(2) through D(6) as Subsections D(1) through D(5), respectively.

UNIT 302 (2-BEDROOM)  
 SALEABLE AREA: 2,500 SF

UNIT 303 (2-BEDROOM)  
 SALEABLE AREA: 2,570 SF

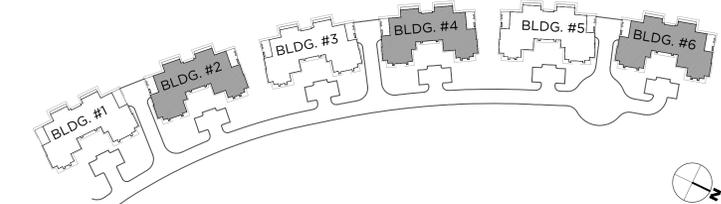
UNIT 301 (3-BEDROOM)  
 SALEABLE AREA: 2,997 SF

UNIT 304 (2-BEDROOM)  
 SALEABLE AREA: 2,654 SF

UNIT / BEDROOM COUNT Revised 3-28-22	MARKET RATE Units	AFFH Units	TOTAL bedrooms
BUILDING 1 (3 STORY)	12 UNITS (2) 3 BEDROOMS & (8) 2 BEDROOMS	(1) 3 BEDROOM (UNIT 101)	27 BEDROOMS/BLDG
BUILDING 2 (3 STORY)	12 UNITS (3) 3 BEDROOMS & (8) 2 BEDROOMS	(1) 2 BEDROOM (UNIT 102)	27 BEDROOMS/BLDG
BUILDING 3 (3 STORY)	12 UNITS (3) 3 BEDROOMS & (8) 2 BEDROOMS	(1) 2 BEDROOM (UNIT 102)	27 BEDROOMS/BLDG
BUILDING 4 (3 STORY)	12 UNITS (2) 3 BEDROOMS & (8) 2 BEDROOMS	(1) 3 BEDROOM (UNIT 101)	27 BEDROOMS/BLDG
BUILDING 5 (3 STORY)	12 UNITS (3) 3 BEDROOMS & (8) 2 BEDROOMS	(1) 2 BEDROOM (UNIT 102)	27 BEDROOMS/BLDG
BUILDING 6 (3 STORY)	12 UNITS (3) 3 BEDROOMS & (8) 2 BEDROOMS	(1) 2 BEDROOM (UNIT 102)	27 BEDROOMS/BLDG
TOTALS	72 UNITS (16) 3 BEDROOMS & (49) 2 BEDROOMS	(2) 3 BEDROOMS & (5) 2 BEDROOMS	162 BEDROOMS
	65 MARKET RATE UNITS	7 AFFH UNITS	

DENSITY UNITS	39 UNITS (18) 3 BEDROOMS = 12 DENSITY UNITS (54) 2 BEDROOMS = 27 DENSITY UNITS	(18 / 3) X 2 = 12 (54 / 2) = 27
DWELLING UNITS	72 UNITS	

**PLAN LEGEND**



REVISIONS

#	DATE	REVISION DESCRIPTION	BY:
1	03/28/2022	PLANNING BOARD SUBMISSION	KA

**PHASE PLANNING BOARD SUBMISSION**

PROJECT NAME: **SUMMIT CLUB PARTNERS LLC - RESIDENCES**  
 ARMONK, NY  
 JOB NO.:  
 DRAWN BY: **JT** PROJ. MANAGER: **KA**  
 DATE: **03/28/2022** SCALE: AS NOTED  
 DRAWING TITLE: **THIRD FLOOR PLAN**

DRAWING NO: **A-103.A**



1 EAST ELEVATION  
12-UNIT; COLOR SCHEME 'SAND' 3/32" = 1'-0"



2 EAST ELEVATION - VIEW  
12-UNIT; COLOR SCHEME 'SAND' N.T.S.



3 EAST ELEVATION  
12-UNIT; COLOR SCHEME 'SLATE' 3/32" = 1'-0"



4 EAST ELEVATION - VIEW  
12-UNIT; COLOR SCHEME 'SLATE' N.T.S.

#	DATE	REVISION DESCRIPTION	BY:
1	03/28/2022	PLANNING BOARD SUBMISSION	KA

PHASE  
**PLANNING BOARD  
SUBMISSION**

PROJECT NAME  
**SUMMIT CLUB PARTNERS  
LLC - RESIDENCES**

JOB NO: ----  
DRAWN BY: JT PROJ. MANAGER: KA

DATE: 03/28/2022 SCALE: AS NOTED

DRAWING TITLE  
**BUILDING ELEVATIONS**

DRAWING NO.  
**A-300.A**



**1 NORTH ELEVATION**  
 12-UNIT: COLOR SCHEME 'SAND' 3/32" = 1'-0"



**2 NORTH ELEVATION - VIEW**  
 12-UNIT: COLOR SCHEME 'SAND' N.T.S.



**3 NORTH ELEVATION**  
 12-UNIT: COLOR SCHEME 'SLATE' 3/32" = 1'-0"



**4 NORTH ELEVATION - VIEW**  
 12-UNIT: COLOR SCHEME 'SLATE' N.T.S.

#	DATE	REVISION DESCRIPTION	BY:
1	03/28/2022	PLANNING BOARD SUBMISSION	KA

PHASE  
**PLANNING BOARD  
 SUBMISSION**

PROJECT NAME  
**SUMMIT CLUB PARTNERS  
 LLC - RESIDENCES**  
 ARMONK, NY  
 JOB NO.: ----  
 DRAWN BY: **JT** PROJ. MANAGER: **KA**  
 DATE: **03/28/2022** SCALE: AS NOTED  
 DRAWING TITLE  
**BUILDING ELEVATIONS**

DRAWING NO.  
**A-301.A**

© 2022 GRANOFF ARCHITECTS  
 These drawings, concepts, designs and ideas are the property of G.S. Granoff Architects, P.C. They may not be copied, reproduced, distributed to others, or used in connection with any work other than the specific project for which they were prepared, in whole or in part, without prior written consent of G.S. Granoff Architects, P.C.





1 WEST ELEVATION  
 12-UNIT; COLOR SCHEME 'SAND' 3/32" = 1'-0"



2 WEST ELEVATION - VIEW  
 12-UNIT; COLOR SCHEME 'SAND' N.T.S.



3 WEST ELEVATION  
 12-UNIT; COLOR SCHEME 'SLATE' 3/32" = 1'-0"



4 WEST ELEVATION - VIEW  
 12-UNIT; COLOR SCHEME 'SLATE' N.T.S.

#	DATE	REVISION DESCRIPTION	BY:
1	03/28/2022	PLANNING BOARD SUBMISSION	KA

PHASE  
**PLANNING BOARD  
 SUBMISSION**

PROJECT NAME  
**SUMMIT CLUB PARTNERS  
 LLC - RESIDENCES**  
 ARMONK, NY  
 JOB NO.: ----  
 DRAWN BY: JT PROJ. MANAGER: KA  
 DATE: 03/28/2022 SCALE: AS NOTED  
 DRAWING TITLE  
**BUILDING ELEVATIONS**

DRAWING NO.  
**A-302.A**



**1 SOUTH ELEVATION**  
 12-UNIT: COLOR SCHEME 'SAND' 3/32" = 1'-0"



**2 SOUTH ELEVATION - VIEW**  
 12-UNIT: COLOR SCHEME 'SAND' N.T.S.



**3 SOUTH ELEVATION**  
 12-UNIT: COLOR SCHEME 'SLATE' 3/32" = 1'-0"



**4 SOUTH ELEVATION - VIEW**  
 12-UNIT: COLOR SCHEME 'SLATE' N.T.S.

#	DATE	REVISION DESCRIPTION	BY:
1	03/28/2022	PLANNING BOARD SUBMISSION	KA

PHASE  
**PLANNING BOARD  
 SUBMISSION**

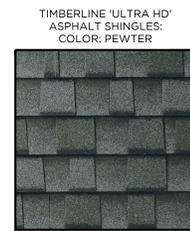
PROJECT NAME  
**SUMMIT CLUB PARTNERS  
 LLC - RESIDENCES**  
 ARMONK, NY  
 JOB NO.: ----  
 DRAWN BY: **JT** PROJ. MANAGER: **KA**  
 DATE: **03/28/2022** SCALE: AS NOTED  
 DRAWING TITLE  
**BUILDING ELEVATIONS**

DRAWING NO.  
**A-303.A**



1 SOUTH ELEVATION

3/32" = 1'-0"



TIMBERLINE 'ULTRA HD'  
 ASPHALT SHINGLES:  
 COLOR: PEWTER



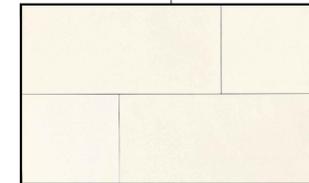
ALUMINUM WINDOW FRAMES:  
 COLOR: BLACK



BORAL 'TRU EXTERIOR'  
 CHANNEL SIDING 1x10  
 COLOR: DARK GREY



ELDORADO STONE 'SIERRA CUT 24'  
 CULTURED STONE:  
 COLOR: MONUMENT



ELDORADO STONE 'LONGITUDE 24'  
 CULTURED STONE:  
 COLOR: SNOWDRIFT



2 SOUTH ELEVATION

3/32" = 1'-0"



TIMBERLINE 'ULTRA HD'  
 ASPHALT SHINGLES:  
 COLOR: CHARCOAL



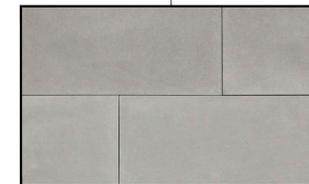
ALUMINUM WINDOW FRAMES:  
 COLOR: BLACK



BORAL 'TRU EXTERIOR'  
 CHANNEL SIDING 1x10  
 COLOR: DARK GREY



ELDORADO STONE 'SIERRA CUT 24'  
 CULTURED STONE:  
 COLOR: ZENITH GREY



ELDORADO STONE 'LONGITUDE 24'  
 CULTURED STONE:  
 COLOR: SILENT GREY

#	DATE	REVISION DESCRIPTION	BY:
1	03/28/2022	PLANNING BOARD SUBMISSION	KA

PHASE  
**PLANNING BOARD  
 SUBMISSION**

PROJECT NAME  
**SUMMIT CLUB PARTNERS  
 LLC - RESIDENCES**  
 ARMONK, NY  
 JOB NO.: ----  
 DRAWN BY: JT PROJ. MANAGER: KA  
 DATE: 03/28/2022 SCALE: AS NOTED  
 DRAWING TITLE  
**BUILDING ELEVATIONS**

DRAWING NO.  
**A-304.A**



REVISIONS

#	DATE	REVISION DESCRIPTION	BY:
1	03/28/2022	PLANNING BOARD SUBMISSION	KA

PHASE  
**PLANNING BOARD  
 SUBMISSION**

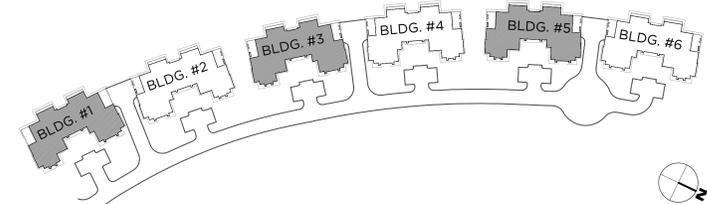
PROJECT NAME  
**SUMMIT CLUB PARTNERS  
 LLC - RESIDENCES**  
 ARMONK, NY

JOB NO.: ----  
 DRAWN BY: **JT** PROJ. MANAGER: **KA**  
 DATE: **03/28/2022** SCALE: AS NOTED

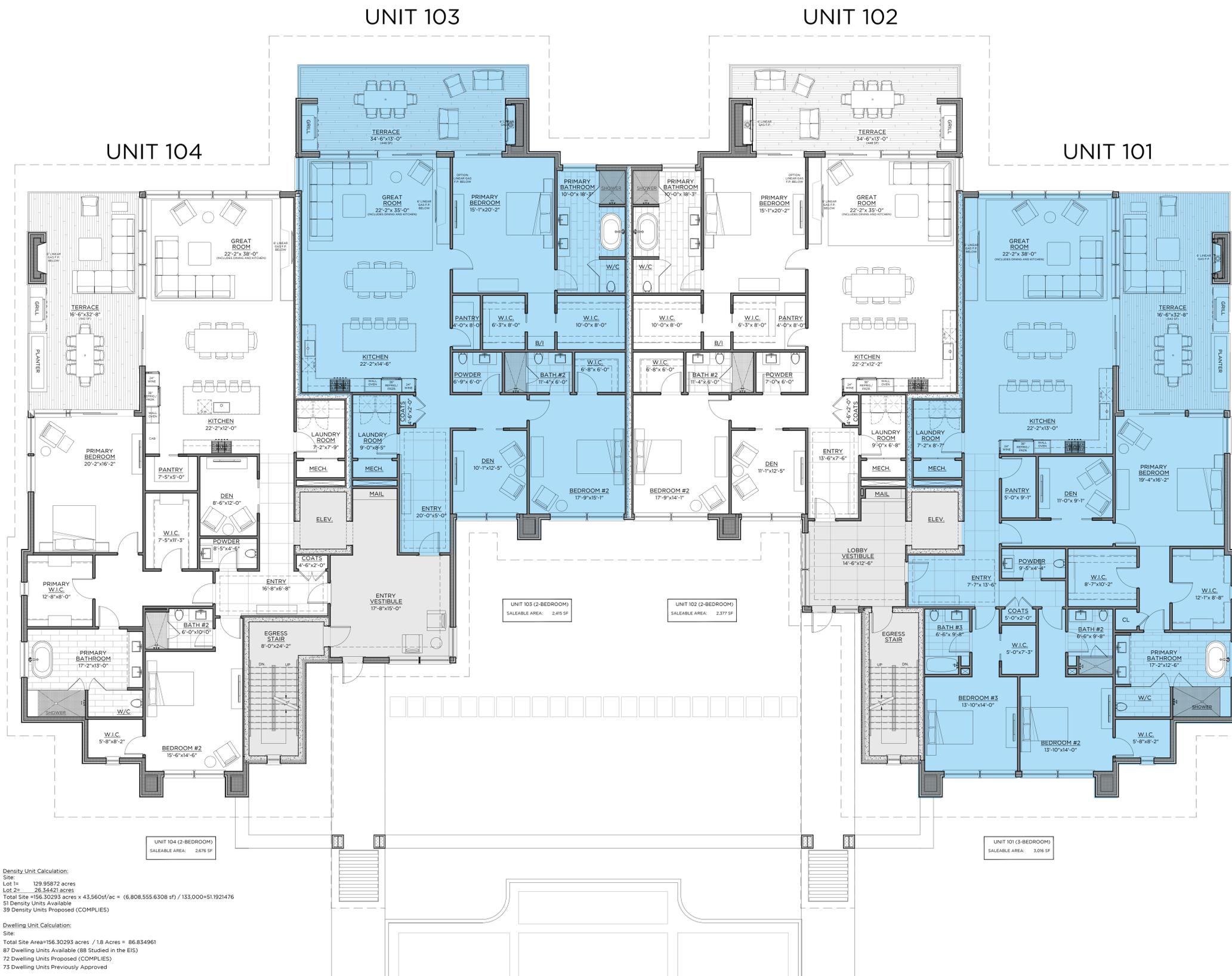
DRAWING TITLE  
**GARAGE LEVEL PLAN**

DRAWING NO.  
**A-100.B**

PLAN LEGEND



© 2022 GRANOFF ARCHITECTS  
 These drawings, concepts, designs and ideas are the property of G.S. Granoff Architects, P.C. They may not be copied, reproduced, distributed to others or used in connection with any work other than the specific project for which they were prepared. In whole or in part, without prior written consent of G.S. Granoff Architects, P.C.



**Density Unit Calculation:**  
 Site: 129.95872 acres  
 Lot 1 = 26.34421 acres  
 Lot 2 = 26.34421 acres  
 Total Site = 156.30293 acres x 43,560 sq ft/ac = (6,808,555.6308 sq ft) / 133,000 = 51.1921476  
 51 Density Units Available  
 39 Density Units Proposed (COMPLIES)

**Dwelling Unit Calculation:**  
 Site: 156.30293 acres / 18 Acres = 86.834961  
 87 Dwelling Units Available (88 Studied in the EIS)  
 72 Dwelling Units Proposed (COMPLIES)  
 73 Dwelling Units Previously Approved

**Minimum Unit Sizes:**  
 Market Rate Units  
 Efficiency: 450 sf Min. N/A  
 One-Bedroom: 700 sf Min. N/A  
 Two-Bedroom: 900 sf 2,377 sf is smallest (complies)  
 Three-Bedroom: 1,100 sf 2,997 sf is smallest (complies)

**AFPH Units\*\***  
 Efficiency: 450 sf Min. N/A  
 One-Bedroom: 700 sf Min. N/A  
 Two-Bedroom: 900 sf 2,377 sf is smallest (complies)  
 Three-Bedroom: 1,100 sf 2,997 sf is smallest (complies)

\*\*AFPH UNITS IDENTICAL TO MARKET RATE UNITS.

**Density Unit Definition:**  
 A density unit is defined as being equal to one or a proportionate combination of the following:

- A. One one-family detached dwelling unit.
- B. One dwelling unit containing four or more bedrooms in a permitted type of dwelling other than a one-family detached unit.
- C. One and one-half dwelling units containing three bedrooms each in permitted dwellings other than one-family detached units.
- D. Two dwelling units containing two bedrooms each in permitted dwellings other than one-family detached units.
- E. Two and one-half dwellings containing one bedroom or less each in permitted dwellings other than one-family detached units.
- F. Three efficiency dwelling units in permitted dwellings other than one-family detached units.

[2] Density. The maximum permitted density shall not exceed one density unit, as defined in § 355-4 of this chapter, per 133,000 square feet of the aggregate total lot area (as defined in § 355-4 of this chapter) in the GCCFO District and one dwelling unit, as defined in § 355-4 of this chapter, per 18 acres of the aggregate total lot area (as defined in § 355-4 of this chapter) in the GCCFO District.

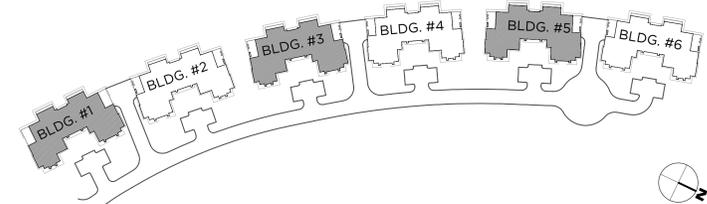
[2] Editor's Note: Former Subsection D(1), regarding lots and dwelling units in the GCCFO District, was repealed 3-27-2019 by L.L. No. 2-2019. This local law also renumbered former Subsections D(2) through D(5) as Subsections D(1) through D(5), respectively.

UNIT / BEDROOM COUNT Revised 3-28-22	MARKET RATE Units	AFPH Units	TOTAL bedrooms
BUILDING 1 (3 STORY)	12 UNITS (2) 3 BEDROOMS & (8) 2 BEDROOMS	(1) 3 BEDROOM (UNIT 101)	27 BEDROOMS/BLDG
BUILDING 2 (3 STORY)	12 UNITS (3) 3 BEDROOMS & (8) 2 BEDROOMS	(1) 2 BEDROOM (UNIT 102)	27 BEDROOMS/BLDG
BUILDING 3 (3 STORY)	12 UNITS (3) 3 BEDROOMS & (8) 2 BEDROOMS	(1) 2 BEDROOM (UNIT 102)	27 BEDROOMS/BLDG
BUILDING 4 (3 STORY)	12 UNITS (2) 3 BEDROOMS & (8) 2 BEDROOMS	(1) 3 BEDROOM (UNIT 101)	27 BEDROOMS/BLDG
BUILDING 5 (3 STORY)	12 UNITS (3) 3 BEDROOMS & (8) 2 BEDROOMS	(1) 2 BEDROOM (UNIT 102)	27 BEDROOMS/BLDG
BUILDING 6 (3 STORY)	12 UNITS (3) 3 BEDROOMS & (8) 2 BEDROOMS	(1) 2 BEDROOM (UNIT 102)	27 BEDROOMS/BLDG
TOTALS	72 UNITS (16) 3 BEDROOMS & (49) 2 BEDROOMS	(2) 3 BEDROOMS & (5) 2 BEDROOMS	162 BEDROOMS
	65 MARKET RATE UNITS	7 AFPH UNITS	

DENSITY UNITS	39 UNITS (18) 3 BEDROOMS = 12 DENSITY UNITS (54) 2 BEDROOMS = 27 DENSITY UNITS	(18) 3 X 2 = 12 (54) 2 = 27
DWELLING UNITS	72 UNITS	

**PLAN LEGEND**



REVISIONS

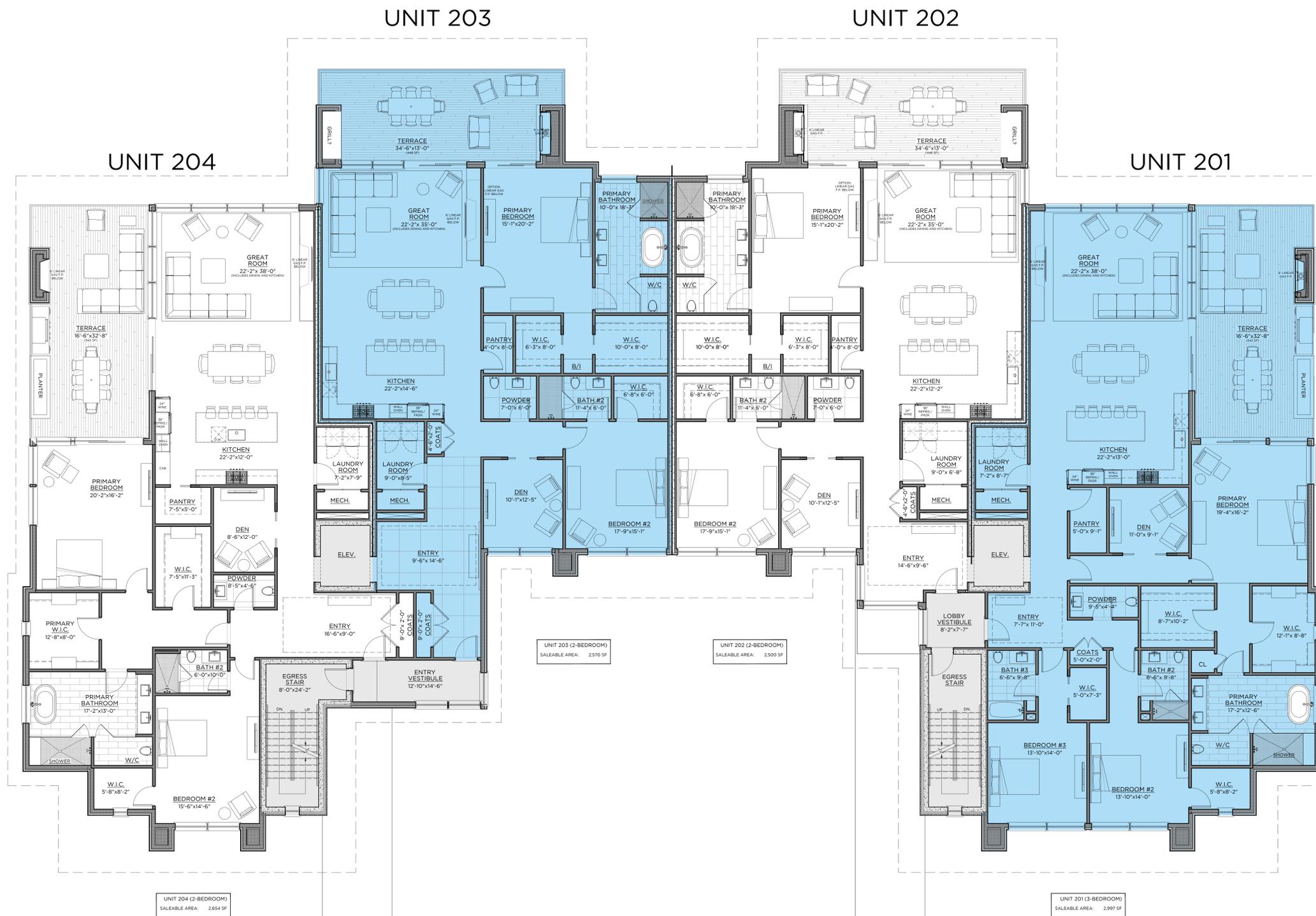
#	DATE	REVISION DESCRIPTION	BY:
1	03/28/2022	PLANNING BOARD SUBMISSION	KA

**PHASE PLANNING BOARD SUBMISSION**

PROJECT NAME: **SUMMIT CLUB PARTNERS LLC - RESIDENCES**  
 ARMONK, NY  
 JOB NO.: ----  
 DRAWN BY: **JT** PROJ. MANAGER: **KA**  
 DATE: **03/28/2022** SCALE: AS NOTED  
 DRAWING TITLE: **FIRST FLOOR PLAN**

DRAWING NO: **A-101.B**

© 2022 GRANOFF ARCHITECTS  
 These drawings, concepts, designs and ideas are the property of G.S. Granoff Architects, P.C. They may not be copied, reprinted, distributed to others or used in connection with any work other than the specific project for which they were prepared, in whole or in part, without prior written consent of G.S. Granoff Architects, P.C.



**Density Unit Calculation:**  
 Site: 129.95872 acres  
 Lot 1 = 26.34421 acres  
 Lot 2 = 103.61451 acres  
 Total Site = 156.30293 acres x 43,560 sq ft/ac = (6,808,555.6308 sq ft) / 133,000 = 51.1921476  
 51 Density Units Available  
 39 Density Units Proposed (COMPLIES)

**Dwelling Unit Calculation:**  
 Site: 156.30293 acres / 18 Acres = 86.834961  
 87 Dwelling Units Available (88 Studied in the EIS)  
 72 Dwelling Units Proposed (COMPLIES)  
 73 Dwelling Units Previously Approved

**Minimum Unit Sizes:**  
 Market Rate Units  
 Efficiency: 450 sf Min. N/A  
 One-Bedroom: 700 sf Min. N/A  
 Two-Bedroom: 900 sf 2,377 sf is smallest (complies)  
 Three-Bedroom: 1,100 sf 2,997 sf is smallest (complies)

**AFPH Units\*\***  
 Efficiency: 450 sf Min. N/A  
 One-Bedroom: 700 sf Min. N/A  
 Two-Bedroom: 900 sf 2,377 sf is smallest (complies)  
 Three-Bedroom: 1,100 sf 2,997 sf is smallest (complies)

**Density Unit Definition:**  
 A density unit is defined as being equal to one or a proportionate combination of the following:

- A. One one-family detached dwelling unit.
- B. One dwelling unit containing four or more bedrooms in a permitted type of dwelling other than a one-family detached unit.
- C. One and one-half dwelling units containing three bedrooms each in permitted dwellings other than one-family detached units.
- D. Two dwelling units containing two bedrooms each in permitted dwellings other than one-family detached units.
- E. Two and one-half dwellings containing one bedroom or less each in permitted dwellings other than one-family detached units.
- F. Three efficiency dwelling units in permitted dwellings other than one-family detached units.

[2] Density. The maximum permitted density shall not exceed one density unit, as defined in § 355-4 of this chapter, per 133,000 square feet of the aggregate total lot area (as defined in § 355-4 of this chapter) in the GCCFO District and one dwelling unit, as defined in § 355-4 of this chapter, per 1.8 acres of the aggregate total lot area (as defined in § 355-4 of this chapter) in the GCCFO District.

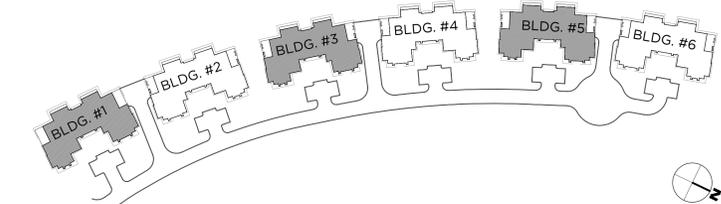
[2] Editor's Note: Former Subsection D(1), regarding lots and dwelling units in the GCCFO District, was repealed 3-27-2019 by L.L. No. 2-2019. This local law also renumbered former Subsections D(2) through D(5) as Subsections D(1) through D(5), respectively.

UNIT / BEDROOM COUNT Revised 3-28-22	MARKET RATE Units	AFPH Units	TOTAL bedrooms
BUILDING 1 (3 STORY)	12 UNITS (2) 3 BEDROOMS & (8) 2 BEDROOMS	(1) 3 BEDROOM (UNIT 101)	27 BEDROOMS/BLDG
BUILDING 2 (3 STORY)	12 UNITS (3) 3 BEDROOMS & (8) 2 BEDROOMS	(1) 2 BEDROOM (UNIT 102)	27 BEDROOMS/BLDG
BUILDING 3 (3 STORY)	12 UNITS (3) 3 BEDROOMS & (8) 2 BEDROOMS	(1) 2 BEDROOM (UNIT 102)	27 BEDROOMS/BLDG
BUILDING 4 (3 STORY)	12 UNITS (2) 3 BEDROOMS & (8) 2 BEDROOMS	(1) 3 BEDROOM (UNIT 101)	27 BEDROOMS/BLDG
BUILDING 5 (3 STORY)	12 UNITS (3) 3 BEDROOMS & (8) 2 BEDROOMS	(1) 2 BEDROOM (UNIT 102)	27 BEDROOMS/BLDG
BUILDING 6 (3 STORY)	12 UNITS (3) 3 BEDROOMS & (8) 2 BEDROOMS	(1) 2 BEDROOM (UNIT 102)	27 BEDROOMS/BLDG
TOTALS	72 UNITS (16) 3 BEDROOMS & (49) 2 BEDROOMS	(2) 3 BEDROOMS & (5) 2 BEDROOMS	162 BEDROOMS
	65 MARKET RATE UNITS	7 AFPH UNITS	

DENSITY UNITS	39 UNITS (18) 3 BEDROOMS = 12 DENSITY UNITS (54) 2 BEDROOMS = 27 DENSITY UNITS	(18 / 3) X 2 = 12 (54 / 2) = 27
DWELLING UNITS	72 UNITS	

**PLAN LEGEND**



**REVISIONS**

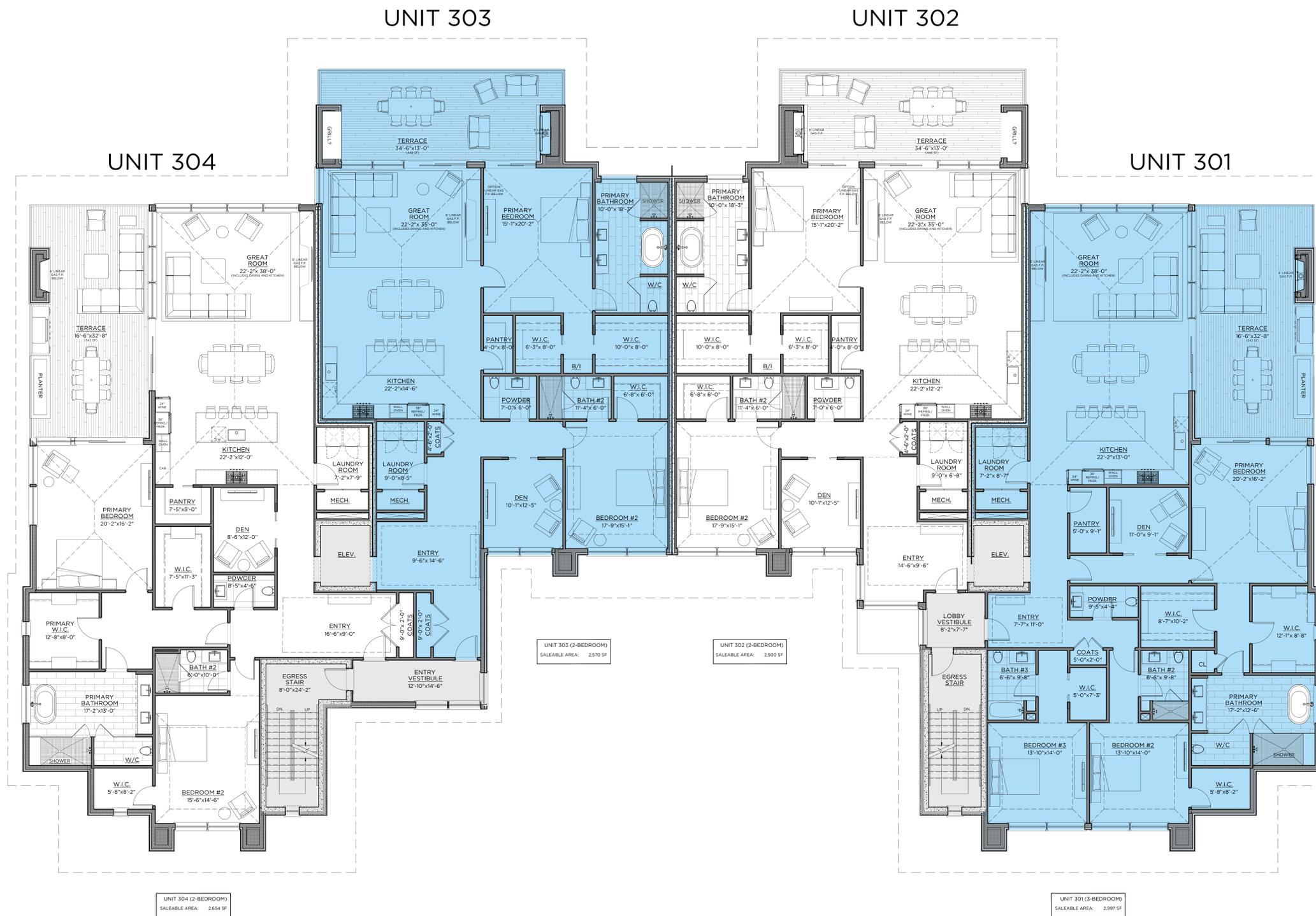
#	DATE	REVISION DESCRIPTION	BY:
1	03/28/2022	PLANNING BOARD SUBMISSION	KA

**PHASE**  
 PLANNING BOARD SUBMISSION

**PROJECT NAME**  
 SUMMIT CLUB PARTNERS LLC - RESIDENCES  
 ARMONK, NY

**JOB NO.:** ----  
**DRAWN BY:** JT **PROJ. MANAGER:** KA  
**DATE:** 03/28/2022 **SCALE:** AS NOTED  
**DRAWING TITLE**  
 SECOND FLOOR PLAN

**DRAWING NO.**  
 A-102.B



**Density Unit Calculation:**  
 Site: 129.95872 acres  
 Lot 1 = 26.34421 acres  
 Lot 2 = 103.61451 acres  
 Total Site = 156.30293 acres x 43,560 sq ft/ac = (6,808,555.6308 sq ft) / 133,000 = 51.1921476  
 51 Density Units Available  
 39 Density Units Proposed (COMPLIES)

**Dwelling Unit Calculation:**  
 Site: 156.30293 acres / 18 Acres = 86.834961  
 87 Dwelling Units Available (88 Studied in the EIS)  
 72 Dwelling Units Proposed (COMPLIES)  
 73 Dwelling Units Previously Approved

**Minimum Unit Sizes:**  
 Market Rate Units  
 Efficiency: 450 sf Min. N/A  
 One-Bedroom: 700 sf Min. N/A  
 Two-Bedroom: 900 sf 2,377 sf is smallest (complies)  
 Three-Bedroom: 1,100 sf 2,997 sf is smallest (complies)

**AFPH Units\*\***  
 Efficiency: 450 sf Min. N/A  
 One-Bedroom: 700 sf Min. N/A  
 Two-Bedroom: 900 sf 2,377 sf is smallest (complies)  
 Three-Bedroom: 1,100 sf 2,997 sf is smallest (complies)

\*\*AFPH UNITS IDENTICAL TO MARKET RATE UNITS.

**Density Unit Definition:**  
 A density unit is defined as being equal to one or a proportionate combination of the following:  
 A. One one-family detached dwelling unit.  
 B. One dwelling unit containing four or more bedrooms in a permitted type of dwelling other than a one-family detached unit.  
 C. One and one-half dwelling units containing three bedrooms each in permitted dwellings other than one-family detached units.  
 D. Two dwelling units containing two bedrooms each in permitted dwellings other than one-family detached units.  
 E. Two and one-half dwellings containing one bedroom or less each in permitted dwellings other than one-family detached units.  
 F. Three efficiency dwelling units in permitted dwellings other than one-family detached units

[2] Density. The maximum permitted density shall not exceed one density unit, as defined in § 355-4 of this chapter, per 133,000 square feet of the aggregate total lot area (as defined in § 355-4 of this chapter) in the GCCFO District and one dwelling unit, as defined in § 355-4 of this chapter, per 18 acres of the aggregate total lot area (as defined in § 355-4 of this chapter) in the GCCFO District.

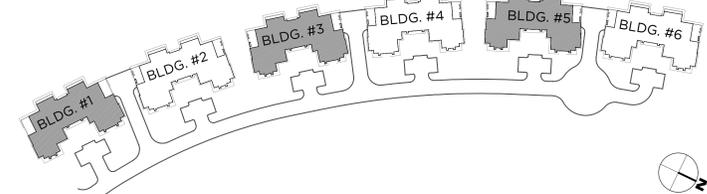
[2] Editor's Note: Former Subsection D(1), regarding lots and dwelling units in the GCCFO District, was repealed 3-27-2019 by L.L. No. 2-2019. This local law also renumbered former Subsections D(2) through D(5) as Subsections D(1) through D(5), respectively.

UNIT / BEDROOM COUNT Revised 3-28-22	MARKET RATE Units	AFPH Units	TOTAL bedrooms
BUILDING 1 (3 STORY)	12 UNITS (2) 3 BEDROOMS & (8) 2 BEDROOMS	(1) 3 BEDROOM (UNIT 101)	27 BEDROOMS/BLDG
BUILDING 2 (3 STORY)	12 UNITS (3) 3 BEDROOMS & (8) 2 BEDROOMS	(1) 2 BEDROOM (UNIT 102)	27 BEDROOMS/BLDG
BUILDING 3 (3 STORY)	12 UNITS (3) 3 BEDROOMS & (8) 2 BEDROOMS	(1) 2 BEDROOM (UNIT 102)	27 BEDROOMS/BLDG
BUILDING 4 (3 STORY)	12 UNITS (2) 3 BEDROOMS & (8) 2 BEDROOMS	(1) 3 BEDROOM (UNIT 101)	27 BEDROOMS/BLDG
BUILDING 5 (3 STORY)	12 UNITS (3) 3 BEDROOMS & (8) 2 BEDROOMS	(1) 2 BEDROOM (UNIT 102)	27 BEDROOMS/BLDG
BUILDING 6 (3 STORY)	12 UNITS (3) 3 BEDROOMS & (8) 2 BEDROOMS	(1) 2 BEDROOM (UNIT 102)	27 BEDROOMS/BLDG
TOTALS	72 UNITS (16) 3 BEDROOMS & (49) 2 BEDROOMS	(2) 3 BEDROOMS & (5) 2 BEDROOMS	162 BEDROOMS
	65 MARKET RATE UNITS	7 AFPH UNITS	

DENSITY UNITS	39 UNITS (18) 3 BEDROOMS = 12 DENSITY UNITS (54) 2 BEDROOMS = 27 DENSITY UNITS	(18 / 3) X 2 = 12 (54 / 2) = 27
DWELLING UNITS	72 UNITS	

**PLAN LEGEND**



REVISIONS

#	DATE	REVISION DESCRIPTION	BY:
1	03/28/2022	PLANNING BOARD SUBMISSION	KA

PHASE  
**PLANNING BOARD SUBMISSION**

PROJECT NAME  
**SUMMIT CLUB PARTNERS LLC - RESIDENCES**  
 ARMONK, NY  
 JOB NO.: ----  
 DRAWN BY: JT PROJ. MANAGER: KA  
 DATE: 03/28/2022 SCALE: AS NOTED  
 DRAWING TITLE  
**THIRD FLOOR PLAN**

DRAWING NO.  
**A-103.B**

© 2022 GRANOFF ARCHITECTS  
 These drawings, concepts, designs and ideas are the property of G.S. Granoff Architects, P.C. They may not be copied, reproduced, disclosed to others or used in connection with any work other than the specific project for which they were prepared, in whole or in part, without prior written consent of G.S. Granoff Architects, P.C.



1 EAST ELEVATION  
 12-UNIT; COLOR SCHEME 'SAND' 3/32" = 1'-0"



2 EAST ELEVATION - VIEW  
 12-UNIT; COLOR SCHEME 'SAND' N.T.S.



3 EAST ELEVATION  
 12-UNIT; COLOR SCHEME 'SLATE' 3/32" = 1'-0"



4 EAST ELEVATION - VIEW  
 12-UNIT; COLOR SCHEME 'SLATE' N.T.S.

#	DATE	REVISION DESCRIPTION	BY:
1	03/28/2022	PLANNING BOARD SUBMISSION	KA

PHASE  
**PLANNING BOARD  
 SUBMISSION**

PROJECT NAME  
**SUMMIT CLUB PARTNERS  
 LLC - RESIDENCES**  
 ARMONK, NY  
 JOB NO.: ----  
 DRAWN BY: JT PROJ. MANAGER: KA  
 DATE: 03/28/2022 SCALE: AS NOTED  
 DRAWING TITLE  
**BUILDING ELEVATIONS**

DRAWING NO.  
**A-300.B**





**1 NORTH ELEVATION**  
 12-UNIT: COLOR SCHEME 'SAND' 3/32" = 1'-0"



**2 NORTH ELEVATION - VIEW**  
 12-UNIT: COLOR SCHEME 'SAND' N.T.S.



**3 NORTH ELEVATION**  
 12-UNIT: COLOR SCHEME 'SLATE' 3/32" = 1'-0"



**4 NORTH ELEVATION - VIEW**  
 12-UNIT: COLOR SCHEME 'SLATE' N.T.S.

#	DATE	REVISION DESCRIPTION	BY:
1	03/28/2022	PLANNING BOARD SUBMISSION	KA

PHASE  
**PLANNING BOARD SUBMISSION**

PROJECT NAME  
**SUMMIT CLUB PARTNERS LLC - RESIDENCES**  
 ARMONK, NY

JOB NO: ----  
 DRAWN BY: **JT** PROJ. MANAGER: **KA**  
 DATE: **03/28/2022** SCALE: AS NOTED

DRAWING TITLE  
**BUILDING ELEVATIONS**

DRAWING NO.  
**A-301.B**



1 WEST ELEVATION  
 12-UNIT; COLOR SCHEME 'SAND' 3/32" = 1'-0"



2 WEST ELEVATION - VIEW  
 12-UNIT; COLOR SCHEME 'SAND' N.T.S.



3 WEST ELEVATION  
 12-UNIT; COLOR SCHEME 'SLATE' 3/32" = 1'-0"



4 WEST ELEVATION - VIEW  
 12-UNIT; COLOR SCHEME 'SLATE' N.T.S.

#	DATE	REVISION DESCRIPTION	BY:
1	03/28/2022	PLANNING BOARD SUBMISSION	KA

PHASE  
**PLANNING BOARD  
 SUBMISSION**

PROJECT NAME  
**SUMMIT CLUB PARTNERS  
 LLC - RESIDENCES**  
 ARMONK, NY  
 JOB NO.: ----  
 DRAWN BY: JT PROJ. MANAGER: KA  
 DATE: 03/28/2022 SCALE: AS NOTED  
 DRAWING TITLE  
**BUILDING ELEVATIONS**

DRAWING NO.  
**A-302.B**



**1 SOUTH ELEVATION**  
 12-UNIT: COLOR SCHEME 'SAND' 3/32" = 1'-0"



**2 SOUTH ELEVATION - VIEW**  
 12-UNIT: COLOR SCHEME 'SAND' N.T.S.



**3 SOUTH ELEVATION**  
 12-UNIT: COLOR SCHEME 'SLATE' 3/32" = 1'-0"



**4 SOUTH ELEVATION - VIEW**  
 12-UNIT: COLOR SCHEME 'SLATE' N.T.S.

#	DATE	REVISION DESCRIPTION	BY:
1	03/28/2022	PLANNING BOARD SUBMISSION	KA

PHASE  
**PLANNING BOARD SUBMISSION**

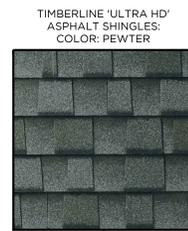
PROJECT NAME  
**SUMMIT CLUB PARTNERS LLC - RESIDENCES**  
 ARMONK, NY  
 JOB NO: ----  
 DRAWN BY: **JT** PROJ. MANAGER: **KA**  
 DATE: **03/28/2022** SCALE: AS NOTED  
 DRAWING TITLE  
**BUILDING ELEVATIONS**

DRAWING NO.  
**A-303.B**



1 SOUTH ELEVATION

3/32" = 1'-0"



TIMBERLINE 'ULTRA HD'  
 ASPHALT SHINGLES:  
 COLOR: PEWTER



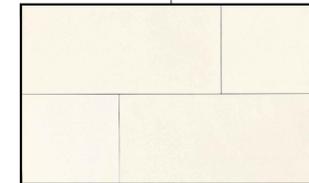
ALUMINUM WINDOW FRAMES:  
 COLOR: BLACK



BORAL 'TRU EXTERIOR'  
 CHANNEL SIDING 1x10  
 COLOR: DARK GREY



ELDORADO STONE 'SIERRA CUT 24'  
 CULTURED STONE:  
 COLOR: MONUMENT



ELDORADO STONE 'LONGITUDE 24'  
 CULTURED STONE:  
 COLOR: SNOWDRIFT



2 SOUTH ELEVATION

3/32" = 1'-0"



TIMBERLINE 'ULTRA HD'  
 ASPHALT SHINGLES:  
 COLOR: CHARCOAL



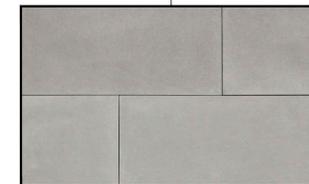
ALUMINUM WINDOW FRAMES:  
 COLOR: BLACK



BORAL 'TRU EXTERIOR'  
 CHANNEL SIDING 1x10  
 COLOR: DARK GREY



ELDORADO STONE 'SIERRA CUT 24'  
 CULTURED STONE:  
 COLOR: ZENITH GREY



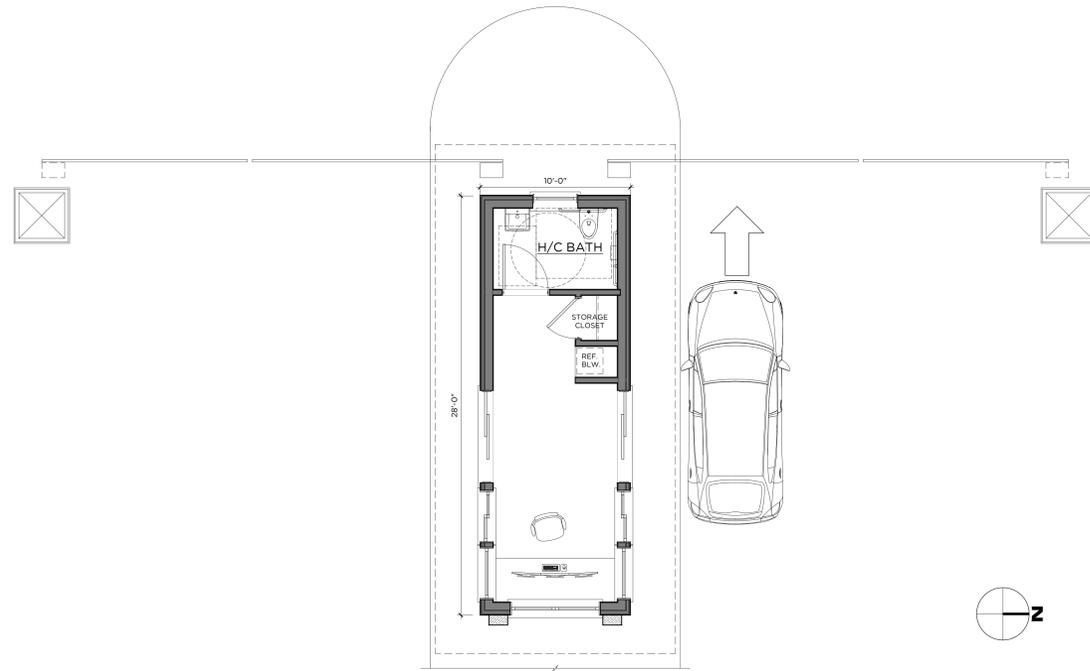
ELDORADO STONE 'LONGITUDE 24'  
 CULTURED STONE:  
 COLOR: SILENT GREY

#	DATE	REVISION DESCRIPTION	BY:
1	03/28/2022	PLANNING BOARD SUBMISSION	KA

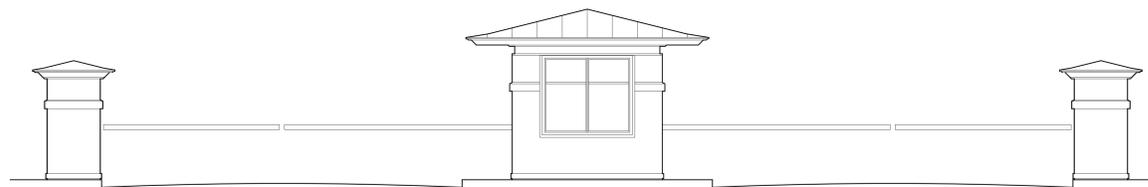
PHASE  
**PLANNING BOARD  
 SUBMISSION**

PROJECT NAME  
**SUMMIT CLUB PARTNERS  
 LLC - RESIDENCES**  
 ARMONK, NY  
 JOB NO.: ----  
 DRAWN BY: JT PROJ. MANAGER: KA  
 DATE: 03/28/2022 SCALE: AS NOTED  
 DRAWING TITLE  
**BUILDING ELEVATIONS**

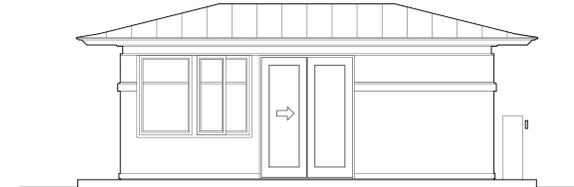
DRAWING NO.  
**A-304.B**



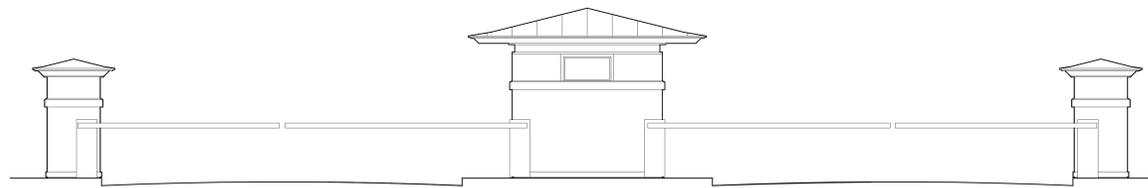
**1 GATEHOUSE PLAN**  
 SCHEMATIC 1/8" = 1'-0"



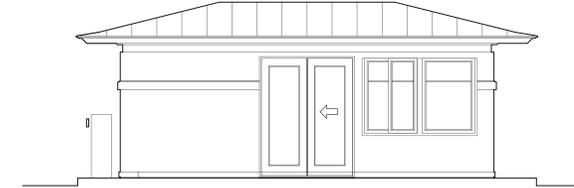
**2 EAST ELEVATION**  
 GATEHOUSE SCHEMATIC 1/8" = 1'-0"



**3 NORTH ELEVATION**  
 GATEHOUSE SCHEMATIC 1/8" = 1'-0"



**4 WEST ELEVATION**  
 GATEHOUSE SCHEMATIC 1/8" = 1'-0"



**5 SOUTH ELEVATION**  
 GATEHOUSE SCHEMATIC 1/8" = 1'-0"

#	DATE	REVISION DESCRIPTION	BY:
1	11.23.20	PLANNING BOARD SUBMISSION	KA
2	01.11.21	ARB SUBMISSION	KA
3	03.08.21	ARB SUBMISSION	KA
4	05.09.21	ARB SUBMISSION	KA
5	06.14.21	PLANNING BOARD SUBMISSION	KA
6	07.12.21	PLANNING BOARD SUBMISSION	KA
7	11.23.21	EDIT, PROSHOP LAYOUT SCHEM	JS
8	1.10.22	PLANNING BOARD SUBMISSION	KA
9	03.28.22	PLANNING BOARD SUBMISSION	KA

PHASE  
**PLANNING BOARD  
 SUBMISSION**

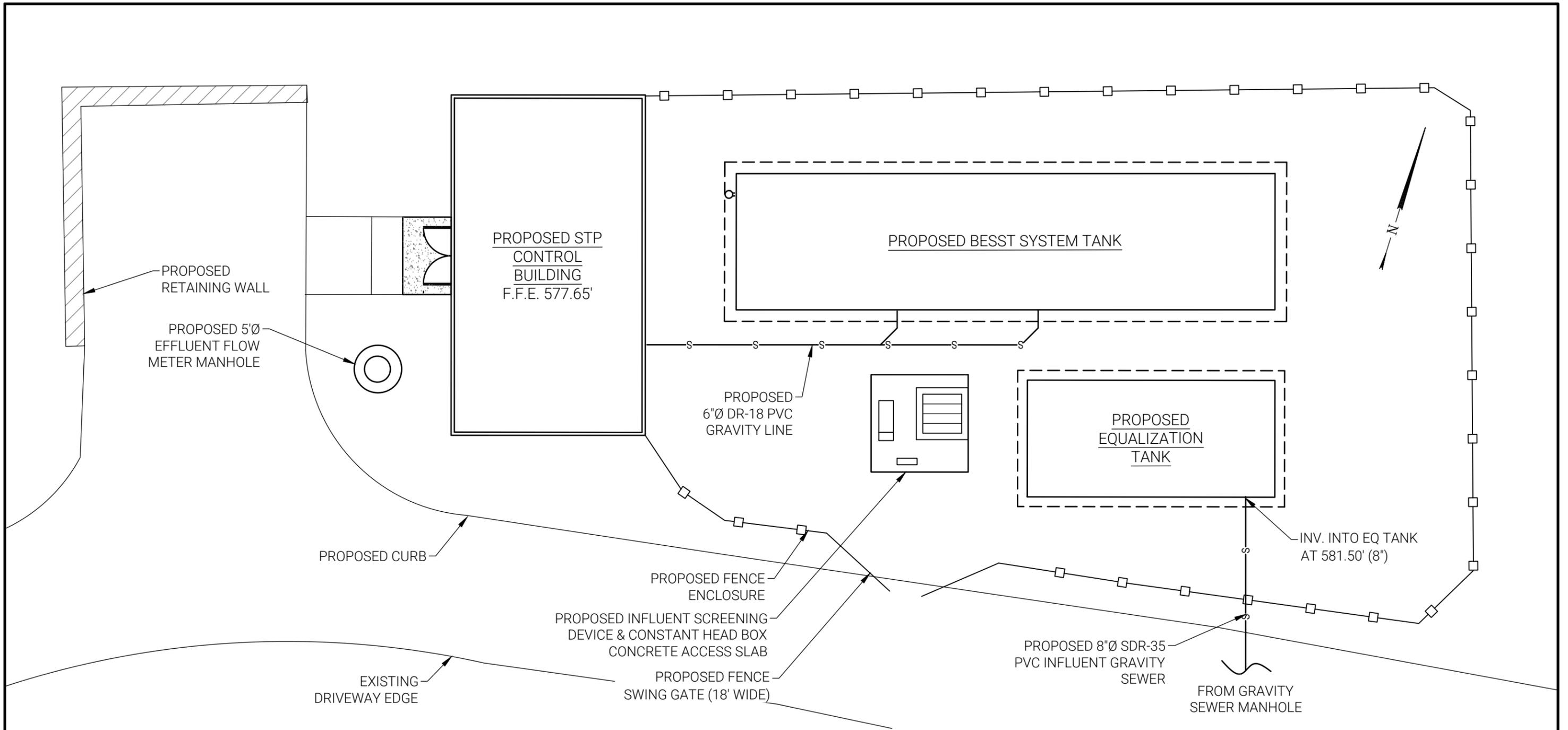
PROJECT NAME  
**SUMMIT CLUB  
 PARTNERS LLC**

ARMONK, NY  
 JOB NO.: **20035**  
 DRAWN BY: **JS** PROJ. MANAGER: **KA**  
 DATE: **03.28.22** SCALE:

DRAWING TITLE  
**GATEHOUSE  
 FLOOR PLANS &  
 ELEVATIONS**

DRAWING NO.

**A100**



**PRELIMINARY STP SITE LAYOUT**  
SCALE: 1" = 10'

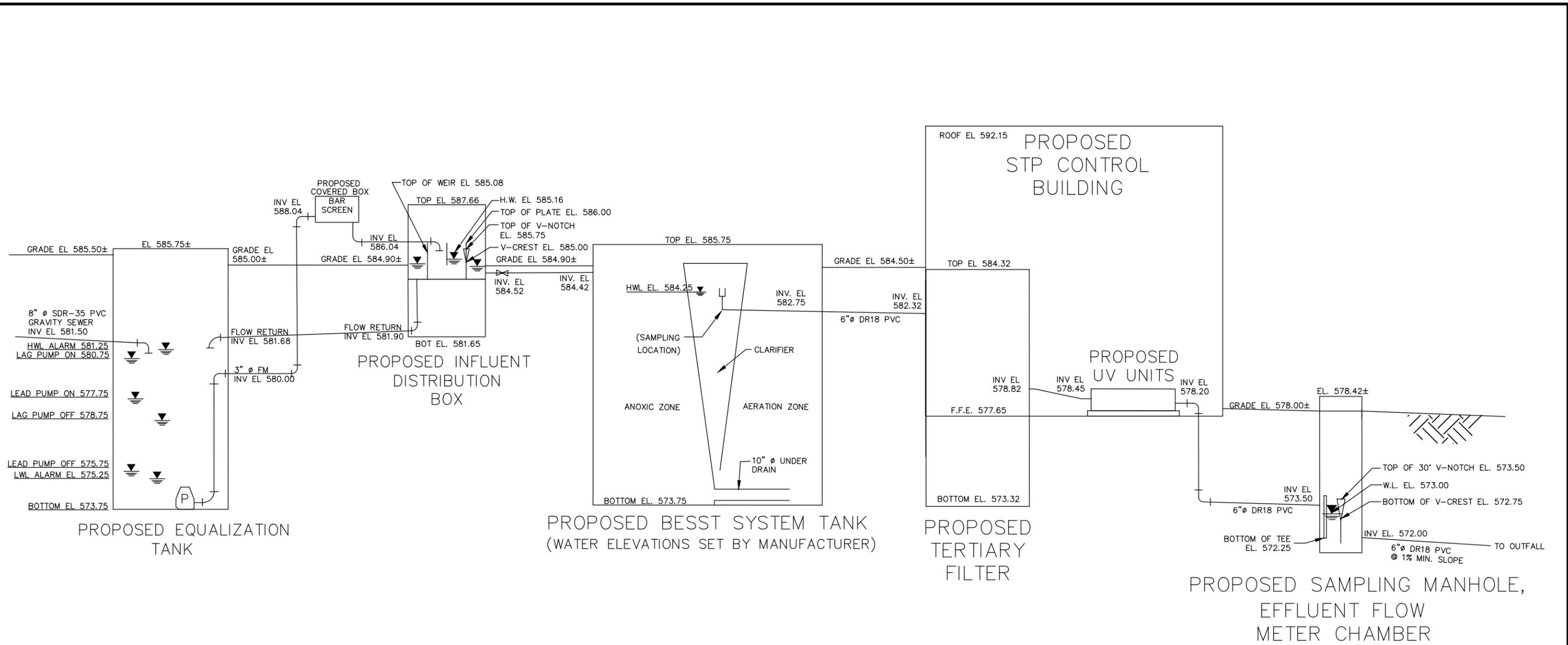
**SUMMIT CLUB SEWAGE TREATMENT PLANT REPLACEMENT  
TOWN OF ARMONK, WESTCHESTER COUNTY, NEW YORK**

**PRELIMINARY STP SITE LAYOUT**



**Robinson & Muller  
Engineers, P.C.**  
50 Elm Street  
Huntington, NY 11743  
Office: (631) 271-0576  
Fax: (631) 271-0592  
www.rmengineering.com

DATE:	MARCH 28, 2022
SCALE:	AS SHOWN
JOB No.:	2021-201
SHEET:	STP-1



HYDRAULIC PROFILE  
SCALE: N.T.S.

**SUMMIT CLUB STP REPLACEMENT**  
**TOWN OF ARMONK, WESTCHESTER COUNTY, NEW YORK**

---

**PRELIMINARY STP HYDRAULIC PROFILE**

**Robinson & Muller  
Engineers, P.C.**  
50 Elm Street  
Huntington, NY 11743  
Office: (631) 271-0576  
Fax: (631) 271-0592  
www.rmengineering.com

DATE:	MARCH 28, 2022
SCALE:	NOT TO SCALE
JOB No.:	2021-201
SHEET:	STP-2

---

**PRELIMINARY STORMWATER POLLUTION  
PREVENTION PLAN**

---

***THE SUMMIT CLUB AT  
ARMONK***

**568 & 570 BEDFORD ROAD (NY-22)  
ARMONK, NY 10504**

*Applicant/Operator/  
Owner:* **Summit Club Partners, LLC  
c/o Mr. Jeff Mendell  
(203) 813-3264**

*Prepared by:*



JMC Project 20101

*Draft:* 06/14/2021  
*Revised:* 01/10/2022  
03/28/2022



## TABLE OF CONTENTS

<u>SECTION</u>	<u>TITLE</u>	<u>PAGE</u>
I.	INTRODUCTION .....	I
II.	STORMWATER MANAGEMENT PLANNING.....	I
III.	STUDY METHODOLOGY .....	8
IV.	EXISTING CONDITIONS .....	10
V.	PROPOSED CONDITIONS.....	13
VI.	SOIL EROSION & SEDIMENT CONTROL.....	19
VII.	CONSTRUCTION PHASE AND POST-CONSTRUCTION MAINTENANCE ....	38
VIII.	CONCLUSION .....	41

## APPENDICES

<u>FIGURES</u>	<u>DESCRIPTION</u>
----------------	--------------------

- |    |                   |
|----|-------------------|
| I. | Site Location Map |
|----|-------------------|

### **APPENDIX DESCRIPTION**

- |    |   |
|----|---|
| A. | Existing & Proposed Hydrologic Calculations   |
| B. | NYSDEC Stormwater Sizing Calculations   |
| C. | Soil Testing Data   |
| D. | Temporary & Permanent Erosion and Sediment Control Inspection and Maintenance Checklist |
| E. | Contractor's Certification  |
| F. | Temporary Sediment Basin Design Data Sheet  |
| G. | Drawings  |
|    | DA-1 "Existing Drainage Area Map"   |
|    | DA-2 "Proposed Drainage Area Map"   |

## **REFERENCED DRAWINGS FOR SWPPP DESIGN AND DETAILS**

### **JMC SITE PLANS**

<b><u>Dwg. No.</u></b>	<b><u>Title</u></b>	<b><u>Rev. No./Date</u></b>
C-000	Cover Sheet	03/28/2022
C-010	Overall Existing Conditions	03/28/2022
C-011	Existing Conditions Map (South)	03/28/2022
C-012	Existing Conditions Map (North)	03/28/2022
C-020	Site Demolition Plan (South)	03/28/2022
C-021	Site Demolition Plan (North)	03/28/2022
C-022	Site Tree Removal Table	03/28/2022
C-100A	Overall Site Layout Plan	03/28/2022
C-100	Site Layout Plan (South)	03/28/2022
C-101	Site Layout Plan (North)	03/28/2022
C-102	Fire Truck Access Plan	03/28/2022
C-200	Site Grading Plan (South)	03/28/2022
C-201	Site Grading Plan (North)	03/28/2022
C-202	Road Profiles Plan	03/28/2022
C-300	Utilities Plan (South)	03/28/2022
C-301	Utilities Plan (North)	03/28/2022
C-302	Sanitary Profiles	03/28/2022
C-303	Water Profiles	03/28/2022
C-304	Storm Profiles	03/28/2022
C-400	SE Plan (South)	03/28/2022
C-401	SE Plan (North)	03/28/2022
C-900	Construction Details	03/28/2022
C-901	Construction Details	03/28/2022
C-902	Construction Details	03/28/2022
C-903	Construction Details	03/28/2022

## **I. INTRODUCTION**

---

This Stormwater Pollution Prevention Plan has been prepared for the 156.30 acre Summit Club at Armonk site, located in the Town of North Castle, Westchester County, New York (hereinafter referred to as the "Site"). The site is bordered by residential to the north and south, NY-22 (Bedford Road) to the east, and I-684 to the west. The development has been designed in accordance with the following:

- Requirements of the New York State Department of Environmental Conservation (NYSDEC) SPDES General Permit No. GP-0-20-001, effective January 29, 2020.
- Chapter 267 "Stormwater Management" of the Town of North Castle Zoning Code
- New York State Stormwater Management Design Manual.

The project will consist of approximately 22.3 acres of disturbance at the east end of the site. The existing clubhouse, pool and tennis have recently been demolished. Six multifamily 3-story residential buildings are being proposed, along with a residential amenity building, pool, clubhouse and tennis courts. An entrance road and overflow parking area are also being added. This stormwater report also includes the future work of a new wastewater treatment plant, water tower, and ten cottages.

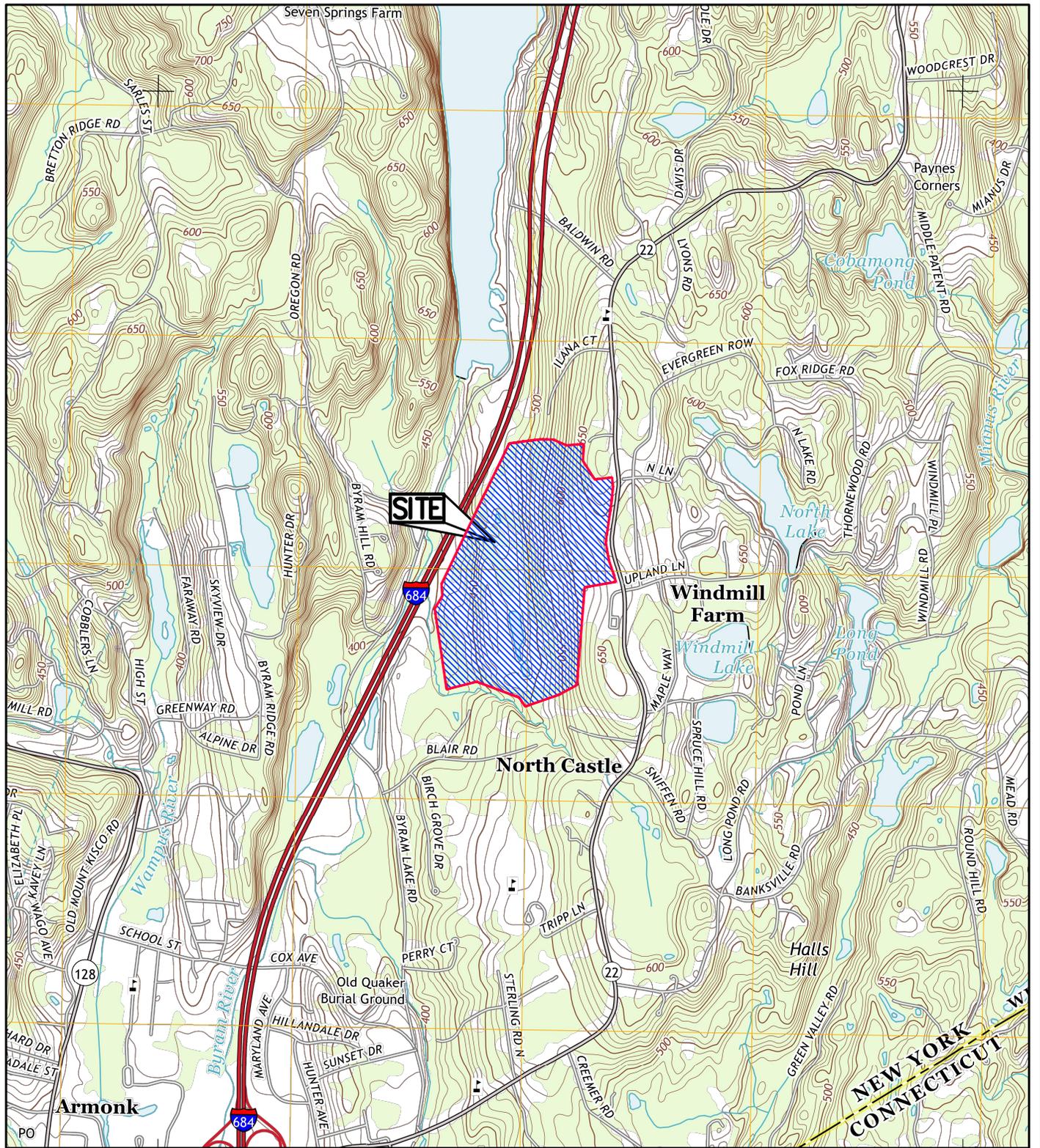
## **II. STORMWATER MANAGEMENT PLANNING**

---

In order to be eligible for coverage under the NYSDEC SPDES General Permit No. GP-0-20-001 for Stormwater Discharges from Construction Activities, the Stormwater Pollution Prevention Plan (SWPPP) includes stormwater management practices (SMP's) from the publication "New York State Stormwater Management Design Manual," last revised January 2015.

A Stormwater Pollution Prevention Plan has been prepared for this project because it is a construction activity that involves:

- Soil disturbances of one (1) or more acres of land.

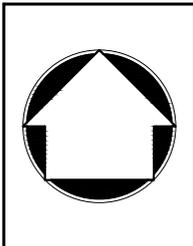


**THE SUMMIT CLUB AT ARMONK**  
 568 BEDFORD ROAD (NY 22) TOWN OF NORTH CASTLE, NY

**USGS SITE LOCATION MAP**

DATE: 05/27/2021 JMC PROJECT: 20101

FIGURE: 1 SCALE: 1"=2000'



120 BEDFORD RD  
 ARMONK  
 NY 10504

(914) 273-5225  
 fax 273-2102

JMCPLLC.COM

COPYRIGHT © 2021 by JMC All Rights Reserved. No part of this document may be reproduced, stored in a retrieval system, or transmitted in any form or by means, electronic, mechanical, photocopying, recording or otherwise, without the prior written permission of JMC PLANNING, ENGINEERING, LANDSCAPE ARCHITECTURE & LAND SURVEYING, PLLC | JMC SITE DEVELOPMENT CONSULTANTS, LLC | JOHN MEYER CONSULTING, INC. (JMC). Any modifications or alterations to this document without the written permission of JMC shall render them invalid and unusable.

The proposed stormwater facilities have been designed such that the quantity and quality of stormwater runoff during and after construction are not adversely altered or are enhanced when compared to pre-development conditions.

Based on the GIS information provided by the website of the New York State Office of Parks, Recreation and Historic Places, the site does not contain, nor is it immediately adjacent to any properties listed on the State or National Register of Historic Places.

### **The Six Step Process for Stormwater Site Planning and Practice Selection**

Stormwater management using green infrastructure is summarized in the six step process described below. The six step process was adhered to when developing this SWPPP. Information is provided in this SWPPP which documents compliance with the required process as follows:

#### **Step 1: Site Planning**

Implement planning practices that protect natural resources and utilize the hydrology of the site. Strong consideration must be given to reducing impervious cover to aid in the preservation of natural resources including protecting natural areas, avoiding sensitive areas and minimizing grading and soil disturbance.

#### **Step 2: Determine Water Quality Treatment Volume (WQv)**

Determine the required WQv for the site based on the site layout, impervious areas and sub-catchments. This initial calculation of WQv will have to be revised after green infrastructure techniques are applied. The following method has been used to calculate the WQv.

- **90% Rule** - According to the New York State Stormwater Design Manual, Section 4.1, the water quality volume is determined from the 90% rule. The method is based on 90% of the average annual stormwater runoff volume which must be provided due to

impervious surfaces. The Water Quality Volume (denoted as the WQv) is designed to improve water quality sizing to capture and treat 90% of the average annual stormwater runoff volume. The WQv is directly related to the amount of impervious cover created at a site. The average rainfall storm depth for 90% of storms in New York State in one year is used to calculate a volume of runoff. The rainfall depth depends on the location of the site within the state. From this depth of rainfall, the required water quality volume is calculated.

The project is a redevelopment and therefore will comply with the strategies outlined within Chapter 9: Redevelopment Projects of the Design Manual. There are different options to control water quality depending on the redevelopment.

Since the redevelopment results in the creation of additional impervious area, Water Quality Treatment Option II will be utilized which requires treatment for 25% of the existing impervious area, plus 100% of the additional, new impervious area.

The plan proposes that a minimum of 25% of the water quality volume (WQv) from the disturbed area is captured and treated by the implementation of standard practices. When utilizing structural stormwater management practices, these practices should be targeted to treat areas with the greatest pollutant generation potential (e.g. parking areas, service stations, etc).

### Step 3: Runoff Reduction Volumes (RRv) by Applying Green Infrastructure Techniques and Standard SMP's

RRv is required for this project since it is a combination of both new development and redevelopment.

Green infrastructure techniques or standard SMP's with RRv capacity can potentially reduce the required WQv by incorporating combinations of green infrastructure techniques and standard SMP's within each drainage area on the site.

Green infrastructure techniques are grouped into two categories:

- Practices resulting in a reduction of contributing area such as preservation/restoration of conservation areas, vegetated channels, etc.
- Practices resulting in a reduction of contributing volume such as green roofs, stormwater planters, and rain gardens.

Apply a combination of green infrastructure techniques and standard SMPs with RRv capacity to provide 100% of the WQv calculated in Step 2. If the RRv calculated in this step is greater than or equal to the WQv in Step 2, the RRv requirement has been met and Step 4 can be skipped. If the RRv provided cannot meet or exceed 100% of the WQv, the project must, at a minimum, reduce a percentage of the runoff from impervious areas to be constructed on the site. The percent reduction is based on the Hydrologic Soil Group(s) (HSG) of the site and is defined as Specific Reduction Factor (S).

The following green infrastructure techniques and practices are provided in the Design Manual:

- **Conservation of Natural Areas**
  - There are no areas on the site available to be dedicated to a conservation. Therefore, there is no area to be subtracted from the contributing area for the WQv calculation.
- **Sheet flow to Riparian Buffers or Filter Strips**
  - There are some well vegetated areas on-site with acceptable slopes that lend an opportunity as a buffer and still meet the minimum contributing length of flow. However, this practice was not used since an infiltration pond was a more practical and efficient treatment method.
- **Vegetated Swales**
  - The use of sheet flow into vegetated swales cannot be implemented along the proposed driveway because of the steep slope or throughout the parking areas due to the limited flow lengths, rock outcroppings, septic expansion areas, etc.
- **Tree Planting / Tree Pits**

- The project includes extensive tree planting around its perimeter as part of the proposed landscaping plan. However, the new trees are not credited towards area reduction for the water quality volume.
- **Disconnection of Rooftop Runoff**
  - This practice is not practical for this project since these items are typically used in a residential application with small rooftop areas.
- **Stream Daylighting**
  - This practice is not possible for this project since there are no existing streams.
- **Rain Gardens**
  - This practice is not practical for this project since a contributing drainage area is limited to 1,000 square feet of rooftop. This practice is typically used in a smaller residential application.
- **Green Roofs**
  - This practice is not proposed for this project due to the desired aesthetics of the buildings. Other more practical and efficient treatment methods were used.
- **Stormwater Planters**
  - Small drainage areas, less than 15,000 square feet can be collected by roof drains and discharged into stormwater planters which infiltrate stormwater prior to entering the underground storm pipes. However, this practice was not used in lieu of more practical and efficient treatment methods.
- **Rain Barrels and Cisterns**
  - Underground storage tanks could feasibly be installed to collect stormwater runoff to be used for irrigation purposes. However, this practice was not used in lieu of more practical and efficient treatment methods.
- **Porous Paving**
  - This practice is not proposed for this project due to the desired aesthetics. Other more practical and efficient treatment methods were used.
- **Standard Practices with RRv Capacity**
  - **Biofilters and Bioretention Basins** – These practices cannot be proposed because the soil within the areas that have the ability to accommodate the practices has observed



groundwater elevations that are too close to the surface which would not provide the required separation from the bottom of the practice to groundwater.

- **Infiltration Practices** – An infiltration pond is located behind the residential buildings and is proposed to treat and retain runoff from a majority of the disturbance area. Subsurface infiltration systems are employed to treat runoff from the STP, water building, and ten cottages.

The Minimum RRv capacity required must be provided by green infrastructure techniques to verify that the RRv requirement has been met. The RRv that is provided by the green infrastructure techniques can then be subtracted from the Total Required WQv that must be provided by the SMP's.

#### Step 4: Determine the minimum RRv Required

The minimum RRv is calculated similar to the WQv. However, it is determined using only the new impervious cover and accounts for the hydrologic soil group present. In no case shall the runoff reduction achieved from the newly constructed impervious area be less than the minimum runoff reduction volume ( $RRv_{min}$ ).

#### Step 5: Apply Standard Stormwater Management Practices to Address Remaining Water Quality Volume

Apply the standard SMP's to meet additional water quality volume requirements that cannot be addressed by applying the green infrastructure techniques. The standard SMP's with RRv capacity must be implemented to verify that the RRv requirement has been met.

- **Infiltration Practices** – An infiltration pond is proposed to treat and retain runoff from the residential portion of the site. This practice is located in an area the groundwater elevation is acceptable to provide the required separation. According to Section 3.6 of the Design Manual, 100% of the WQv provided by an Infiltration Practice can be applied towards meeting the RRv criteria.

## Step 6: Apply Volume and Peak Rate Control Practices to Meet Water Quantity Requirements

The Channel Protection Volume (CPv), Overbank Flood Control (Qp) and Extreme Flood Control (Qf) must be met for the plan to be completed. This is accomplished by using practices such as infiltration basins, dry detention basins, etc. to meet water quantity requirements. The following standards must be met:

### **I. Stream Channel Protection (CPv)**

Stream Channel Protection Volume Requirements (CPv) are designed to protect stream channels from erosion. In New York State this goal is accomplished by providing 24-hour extended detention of the one-year, 24-hour storm event, remained from runoff reduction. Reduction of runoff for meeting stream channel protection objectives, where site conditions allow, is encouraged and the volume reduction achieved through green infrastructure can be deducted from CPv. Trout waters may be exempted from the 24-hour ED requirement, with only 12 hours of extended detention required to meet this criterion. Detention time may be calculated using either a center of mass method or plug flow calculation method.

- CPv for a redevelopment project is not required if there is no increase in impervious area or changes to hydrology that increase the discharge rate. This criterion, as defined in Chapter 4 of New York State Stormwater Design Manual, is not based on a pre versus post-development comparison. However, for a redevelopment project this requirement is relaxed. If the hydrology and hydraulic study shows that the post-construction 1-year 24 hour discharge rate and velocity are less than or equal to the pre-construction discharge rate, providing 24 hour detention of the 1-year storm to meet the channel protection criteria is not required.

**2. Overbank Flood (Qp) which is the 10 year storm.**

Overbank control requires storage to attenuate the post development 10-year, 24-hour peak discharge rate (Qp) to predevelopment rates.

**3. Extreme Storm (Qf) which is the 100 year storm.**

100 Year Control requires storage to attenuate the post development 100-year, 24-hour peak discharge rate (Qf) to predevelopment rates.

Based on the foregoing, this project is eligible for coverage under NYSDEC SPDES General Permit No. GP-0-20-001.

**III. STUDY METHODOLOGY**

---

Runoff rates were calculated based upon the standards set forth by the United States Department of Agriculture Natural Resources Conservation Service Technical Release 55, Urban Hydrology for Small Watersheds (TR-55), dated June 1986. The methodology set forth in TR-55 considers a multitude of characteristics for watershed areas including soil types, soil permeability, vegetative cover, time of concentration, topography, rainfall intensity, ponding areas, etc.

The 1, 10, 25, 100-year storm recurrence intervals were reviewed in the design of the stormwater management facilities (see Appendix A Existing & Proposed Hydrologic Calculations).

Anticipated drainage conditions were analyzed taking into account the rate of runoff which will result from the construction of buildings, parking areas and other impervious surfaces associated with the site development.

Base Data and Design Criteria

For the stormwater management analysis, the following base information and methodology were used:

1. The site drainage patterns and outfall facilities were reviewed by JMC personnel for the purpose of gathering background data and confirming existing mapping of the watershed areas.
2. An Existing Drainage Area Map was developed from the topographical survey. The drainage area map reflects the existing conditions within and around the project area.
3. A Proposed Drainage Area Map was developed from the proposed grading design superimposed over the topographical survey. The drainage area map reflects the proposed conditions within the project area and the existing conditions to remain in the surrounding area.
4. The United States Department of Agriculture (USDA) Web Soil Survey of the site available on its website at <http://websoilsurvey.nrcd.usda.gov>.
5. Soil Survey of Putnam and Westchester Counties, 1994.
6. The United States Department of Agriculture Natural Resources Conservation Service Technical Report No. 55, Urban Hydrology for Small Watersheds (TR-55), dated June 1986.
7. The time of concentration was calculated using the methods described in Chapter 3 of TR-55, Second Edition, June 1986. Manning's kinematics wave equation was used to determine the travel time of sheet flow. The 2-year 24-hour precipitation amount of 3.4 inches was used in the equation for all storm events. The travel time for shallow concentrated flow was computed using Figure 3-1 and Table 3-1 of TR-55. Manning's Equation was used to determine the travel time for channel reaches.

8. All hydrologic calculations were performed with the Bentley PondPack software package version 10.0.
9. All hydraulic calculations were performed with the Civil 3D Storm Sewer Analysis software package version 2020.
10. The New York State Stormwater Management Design Manual, revised January 2015.
11. New York Standards and Specifications for Erosion and Sediment Control, November 2016.
12. The storm flows for the 1-, 10-, 25-, & 100-year recurrence interval storms were analyzed for the total watershed areas. The Type III distribution design storm for a 24 hour duration was used and the mass rainfall for each design storm was taken from the Extreme Precipitation in New York & New England developed by the Natural Resource Conservation Service (NRCS) and the Northeast Regional Climate Center (NRCC) as follows:

**24 Hour Rainfall Amounts**

Design Storm Recurrence Interval	Inches of Rainfall
1 Year	2.8
10 Year	5.1
25 Year	6.4
100 Year	9.1

**IV. EXISTING CONDITIONS**

---

The existing conditions of the project site consists of an existing clubhouse building with a swimming pool, fourteen tennis courts, and a parking lot to remain. The majority of the site drains through the golf course to the west, passing through a series of swales and pond before finally existing the site by I-684. A small portion of the stormwater drains to the east towards Bedford Road (NYS Route 22).

The following natural features, conservation areas, resource areas and drainage patterns of the project site have been identified and utilized to develop Drawing DA-I “Existing Drainage Area Map” which is included in Appendix G:

- Wetlands (jurisdictional, wetland of special concern)
- Waterways (major, perennial, intermittent, springs)
- Buffers (stream, wetland, forest, etc.)
- Forest, vegetative cover
- Topography (contour lines, existing flow paths, steep slopes, etc.)
- Soil (hydrologic soil groups, highly erodible soils, etc.)

Based on the USDA Web soil survey, most on-site soils are well drained, with some moderately well drained soils. Most of the soils belong to hydrological groups B or C. The soil types, boundaries and drainage areas/designations are depicted on Drawing DA-I within Appendix G.

Five separate Design Points (DP-IC-2, DP-IC-6, DP-IC-7, DP-IC-10 and DP-2) were identified for comparing peak rates of runoff in existing and proposed conditions. Similarly, five separate drainage areas were identified in existing conditions based on the existing drainage divides at the site. The numbers included in the name of each drainage area correspond to the Design Point they drain towards.

The following is a description of each of the drainage areas analyzed in the existing conditions analysis. Refer to Drawing DA-I in Appendix G.

Existing Drainage Area IC-2 (EDA-IC-2) is 53.26 acres and consists of holes 9 and 18, portions of holes 1, 3, 4 and 17, the existing club house, parking lot, pool area, cart shed, maintenance building, eight tennis courts, driveways, and woods. Stormwater runoff from the golf course areas flows east and west to Pond 2. The Curve Number (CN) and Time of Concentration (Tc) for this drainage area are 70 and 12 minutes, respectively.

Existing Drainage Area IC-6 (EDA-IC-6) is 13.07 acres and consists of the majority of the driving range, hole 16 and woods. Stormwater runoff from EDA IC-6 flows overland to an existing watercourse which flows west to Discharge Point IC-6. The Curve Number (CN) and Time of Concentration (Tc) for this drainage area are 60 and 9 minutes, respectively.

Existing Drainage Area IC-7 (EDA-IC-7) is 5.67 acres and consists of the northern portion of the driving range, a portion of hole 14, woods and Pond 4. Stormwater runoff from EDA IC-7 flows west to Pond 4. The Curve Number (CN) and Time of Concentration (Tc) for this drainage area are 67 and 8 minutes, respectively.

Existing Drainage Area IC-10 (EDA-IC-10) is 20.02 acres and consists of holes 10, 11 and 12, a tennis court and woods. Stormwater runoff from EDA IC-10 flows west to a swale and then north and discharges to a wetland designated as Discharge Point IC-10. The Curve Number (CN) and Time of Concentration (Tc) for this drainage area are 61 and 10 minutes, respectively.

Existing Drainage Area 2 (EDA-2) is 3.37 acres in size and is located on the eastern portion of the disturbance area. This area consists mostly of landscaped area with a portion of the tennis courts. This drainage area drains towards a drain inlet along Bedford Road. The Curve Number (CN) and Time of Concentration (Tc) for this drainage area are 74 and 12 minutes, respectively.

The peak rates of runoff to the design points from the drainage areas for each storm are shown in the table below:

**Table 1**  
**Summary of Peak Rates of Runoff in Existing Conditions**  
**(Cubic Feet per Second)**

<b>Storm Recurrence Interval</b>	<b>DP-IC-2</b>	<b>DP-IC-6</b>	<b>DP-IC-7</b>	<b>DP-IC-10</b>	<b>DP-2</b>
1 year	21.36	1.59	2.21	2.88	2.17
10 year	87.56	16.08	10.21	25.49	7.39
25 year	131.50	27.12	15.81	42.57	10.75
100 year	228.21	52.62	28.29	81.83	17.89

## V. **PROPOSED CONDITIONS**

---

The proposed improvements consist of the entrance driveway, six residential buildings, ten cottages, an amenities building, pool, clubhouse, tennis courts, water treatment, wastewater treatment plant and a new maintenance building.

The proposed drainage improvements include an infiltration basin, a detention basin, and two subsurface treatment systems. After treatment for water quality and peak rate attenuation, stormwater discharges from the ponds will travel through overland flow and ponds/wetlands. The overland discharges provide multiple opportunities for water quality enhancement and infiltration in addition to the proposed stormwater management basins.

This section describes the design and analysis of the proposed conditions used to demonstrate that the SWPPP meets the requirements of the General Permit.

### **The Six Step Process For Stormwater Site Planning and Practice Selection**

#### **Step I: Site Planning**

The following practices and site features were incorporated in the site design:

- Preserving hydrology - Maintaining drainage divides
- Wetlands and buffers – The site includes 6.56 acres of wetlands and 26.01 acres of wetland buffers. The project requires the disturbance of 0 acres of wetlands and 0 acres of wetland buffers.
- Floodplain considerations - The site does not lie within the 100 year flood zone according to the National Flood Insurance Program Flood Insurance Rate Map (FIRM) No. 36119C0164F and No. 36119C0168F, effective date 09/28/2007.
- Waterways (major, perennial, intermittent, springs) – The location, setback, cross section, etc. of the existing waterway has been maintained.



- Forest, vegetative cover – The maximum amount of forest and vegetative cover has been maintained and/or provided.
- Topography (contour lines, existing flow paths, steep slopes, etc.) has been maintained or disturbed to the minimum extent practicable.
- Soil (hydrologic soil groups, highly erodible soils, etc.)

Step 2: Determine Water Quality Treatment Volume (WQv)

Step 3: Runoff Reduction Volumes (RRv) by Applying Green Infrastructure Techniques and Standard SMP's

- **Infiltration Basin**
- **Subsurface Infiltration System**

Step 4: Determine the minimum RRv Required

RRv<sub>min</sub> calculations can be found in Appendix 'B'. RRv<sub>min</sub> was met through infiltration basins and porous pavement.

Step 5: Apply Standard Stormwater Management Practices to Address Remaining Water Quality Volume

Non Standard/Alternative SMP's to Address Remaining Water Quality Volume (for Redevelopment Projects)

- **Hydrodynamic Separators**

Step 6: Apply Volume and Peak Rate Control Practices to Meet Water Quantity Requirements

- **PONDS**

Extended Detention Pond

### Description

Pond that treats the water quantity volume through extended detention.

All practices exceed the required elements of SMP criteria as outlined in Chapter 6 of the NYS Stormwater Management Design Manual. A summary of each category is provided below.

1. Feasibility – Stormwater practices are designed based upon unique physical environmental considerations noted in the NYS Stormwater Management Design Manual (NYSSMDM).
2. Conveyance – The design conveys runoff to the designed stormwater practice in a manner that is safe, minimizes erosion and disruption to natural drainage channel and promotes filtering and infiltration.
3. Pretreatment – All stormwater practices provide pretreatment as required in accordance with NYSSMDM design guidelines.
4. Treatment Geometry – The plan provides water quality treatment in accordance with NYSSMDM guidelines.
5. Environmental/Landscaping – Extensive landscaping has been provided for each proposed stormwater practice to enhance pollutant removal and provide aesthetic enhancement to the property.
6. Maintenance – Maintenance for the environment practices has been provided and is detain the SWPPP Report as required. Maintenance access is provided in the design plans.

In order to determine the post-development rates of runoff generated on-site, the following drainage areas were analyzed in the post-development conditions. These areas are graphically depicted on Drawing DA-2 "Proposed Drainage Area Map" located in Appendix "G".

Five separate Design Points (DP-1C-2, DP-1C-6, DP-1C-7, DP-1C-10 and DP-2) were identified for comparing peak rates of runoff in existing and proposed conditions. Similarly, eight separate drainage areas were identified in proposed conditions based on the proposed drainage divides at the site. The numbers included in the name of each drainage area correspond to the Design Point they drain towards.

The following is a description of each of the drainage areas analyzed in the proposed conditions analysis. Refer to Drawing DA-2 in Appendix G.

Proposed Drainage Area 1C-2A (PDA-1C-2A) is 47.35 acres and consists of holes 9 and 18, portions of holes 1, 3, 4 and 17, woods, the proposed club house, parking lot, pool area, and amenities building. Stormwater runoff from the golf course areas flows east and west to Pond 2. A water quality structure in the parking lot will treat runoff from the parking, driveway, and clubhouse building areas. The Curve Number (CN) and Time of Concentration (Tc) for this drainage area are 68 and 12 minutes, respectively.

Proposed Drainage Area 1C-2B (PDA-1C-2B) is 0.35 acres in size and is located on the southern portion of the disturbed area. This area consists of nine of the ten proposed cottage buildings. This drainage area drains towards subsurface infiltration system. Infiltration rates for this system is assumed to be 1.42 in/hr based on the soil survey. A safety factor of 2 is applied so 0.71 in/hr is used in the calculations. Stormwater is released from the detention system during large storm events by use of an outlet control structure. The Curve Number (CN) and Time of Concentration (Tc) for this drainage area are 98 and 5 minutes, respectively.

Proposed Drainage Area 1C-2C (PDA-1C-2C) is 0.21 acres in size and is located on the southern portion of the disturbed area. This area consists of one of the proposed cottages, along with the sewage treatment plant, water treatment plan and water treatment building. This drainage area drains towards subsurface infiltration system. Infiltration rates for this system is assumed to be 1.42 in/hr based on the soil survey. A safety factor of 2 is applied so 0.71 in/hr is used in the calculations. Stormwater is released from the detention system during large storm events by use of an outlet control structure. The Curve Number (CN) and Time of

Concentration (Tc) for this drainage area are 98 and 5 minutes, respectively.

Proposed Drainage Area IC-2/10 (PDA-IC-2/10) is 13.80 acres in size and is located on the northeastern portion of the disturbed area. This area consists of the proposed residential buildings, roadways and parking areas, and tennis courts. This drainage area drains towards an infiltration and detention pond for quality and quantity treatment. The infiltration rate of the pond is assumed to be 20 in/hr based on permeability test results as seen in Appendix C. A safety factor of 2 is applied so 10. In/hr is used in the calculations. As the stormwater exits the detention pond, it is directed towards two separate locations, DP IC-2 and DP IC-10. This is done to align post-development flows with pre-development conditions. The Curve Number (CN) and Time of Concentration (Tc) for this drainage area are 77 and 10 minutes, respectively.

Proposed Drainage Area IC-6 (PDA-IC-6) is 12.68 acres and consists of the majority of the driving range, hole 16 and woods. Stormwater runoff from PDA IC-6 flows overland to an existing watercourse which flows west to Discharge Point IC-6. The Curve Number (CN) and Time of Concentration (Tc) for this drainage area are 60 and 9 minutes, respectively.

Proposed Drainage Area IC-7 (PDA-IC-7) is 4.06 acres and consists of the northern portion of the driving range, a portion of hole 14, woods and Pond 4. Stormwater runoff from PDA IC-7 flows west to Pond 4. The Curve Number (CN) and Time of Concentration (Tc) for this drainage area are 65 and 5 minutes, respectively.

Proposed Drainage Area IC-10 (PDA-IC-10) is 14.82 acres and consists of holes 10, 11 and 12, a tennis court and woods. Stormwater runoff from PDA IC-10 flows west to a swale and then north and discharges to a wetland designated as Discharge Point IC-10. The Curve Number (CN) and Time of Concentration (Tc) for this drainage area are 60 and 8 minutes, respectively.

Proposed Drainage Area 2 (PDA-2) is 2.93 acres in size and is located on the eastern portion of the disturbed area. This area consists of existing landscaped area. This drainage area drains towards a drain inlet along Bedford Road. The Curve Number (CN) and Time of Concentration (Tc) for this drainage area are 73 and 12 minutes, respectively.

The peak rates of runoff to the design point of each of the analyzed drainage areas for each storm are shown on the table below:

**Table 3**  
**Summary of Proposed Peak Rates of Runoff in Proposed Conditions**  
**(Cubic Feet per Second)**

<b>Storm Recurrence Interval</b>	<b>DP-1C-2</b>	<b>DP-1C-6</b>	<b>DP-1C-7</b>	<b>DP-1C-10</b>	<b>DP-2</b>
1 year	17.97	1.53	1.28	1.81	1.72
10 year	81.78	15.49	7.15	19.03	6.11
25 year	131.28	26.18	11.24	36.87	8.96
100 year	246.10	50.91	20.36	76.15	15.06

The reductions in peak rates of runoff from proposed to existing conditions are shown on the table below:

**Table 4**  
**Percent Reductions in Peak Rates of Runoff (Existing vs. Proposed Conditions)**  
**(Cubic Feet per Second)**

Design Point	Storm Recurrence Frequency (Years)	Existing Peak Runoff Rate (cfs)	Proposed Peak Runoff Rate (cfs)	Percent Reduction (%)
IC-2	1 year	24.70	17.97	27.2%
	10 year	99.64	81.78	17.9%
	25 year	150.27	131.28	12.6%
	100 year	260.46	246.10	5.5%
IC-6	1 year	1.59	1.53	3.8%
	10 year	16.08	15.49	3.7%
	25 year	27.12	26.18	3.5%
	100 year	52.62	50.91	3.2%
IC-7	1 year	2.21	1.28	42.1%
	10 year	10.21	7.15	30.0%
	25 year	15.81	11.24	28.9%
	100 year	28.29	20.36	28.0%
IC-10	1 year	2.88	1.81	37.2%
	10 year	25.49	19.03	25.3%
	25 year	42.57	36.87	13.4%
	100 year	81.83	76.15	6.9%
2	1 year	2.17	1.72	20.7%
	10 year	7.39	6.11	17.3%
	25 year	10.75	8.96	16.7%
	100 year	17.89	15.06	15.8%

As demonstrated in Table 4, the proposed stormwater improvements will result in significant reductions of peak rates of runoff for all storms and design points analyzed.

## **VI. SOIL EROSION & SEDIMENT CONTROL**

---

A potential impact of the proposed development on any soils or slopes will be that of erosion and transport of sediment during construction. An Erosion and Sediment Control Management Program will be established for the proposed development, beginning at the start of construction and continuing throughout its course, as outlined in the "New York State Standards and Specifications for Erosion and Sediment Control," November 2016. A continuing maintenance

program will be implemented for the control of sediment transport and erosion control after construction and throughout the useful life of the project.

The Operator shall have a qualified professional conduct an assessment of the site prior to the commencement of construction and certify that the appropriate erosion and sediment controls, as shown on the Sediment & Erosion Control Plans, have been adequately installed to ensure overall preparedness of the site for the commencement of construction. In addition, the Operator shall have a qualified professional conduct one site inspection at least every seven calendar days and at least two site inspections every seven calendar days when greater than five acres of soil is disturbed at any one time. In accordance with NYSDEC SPDES General Permit No. GP-0-20-001 effective January 29, 2020 written authorization by the MS4 (Town of North Castle) to disturb greater than five (5) acres of soil at any one time is hereby requested, subject to the following provisions:

1. The owner or operator shall have a qualified inspector conduct at least two (2) site inspections in accordance with Part IV.C. of this permit every seven (7) calendar days, for as long as greater than five (5) acres of soil remain disturbed. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.
2. In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven (7) days from the date the current soil disturbance activity ceased. The soil stabilization measures selected shall be in conformance with the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, last revised November 2016.
3. The owner or operator shall prepare a phasing plan that defines maximum disturbed area per phase and shows required cuts and fills.
4. The owner or operator shall install any additional site-specific practices needed to protect water quality.
5. The owner or operator shall include the requirements above in their SWPPP.

Prior to the commencement of construction activity, the owner or operator must identify the contractor(s) and subcontractor(s) that will be responsible for installing, constructing, repairing,

replacing, inspecting and maintaining the erosion and sediment control practices included in the SWPPP; and the contractor(s) and subcontractor(s) that will be responsible for constructing the post-construction stormwater management practices included in the SWPPP. The owner or operator shall have each of the contractors and subcontractors identify at least one person from their company that will be responsible for implementation of the SWPPP. This person shall be known as the trained contractor. The owner or operator shall ensure that at least one trained contractor is on site on a daily basis when soil disturbance activities are being performed. The owner or operator shall have each of the contractors and subcontractors identified above sign a copy of the certification statement provided in Appendix E before they commence any construction activity.

### Soil Description

As provided by the United States Department of Agriculture, Soil Conservation Service "Web Soil Survey," soil classifications which exist on the subject site are described below.

Soils are placed into four hydrologic groups: A, B, C, and D. In the definitions of the classes, infiltration rate is the rate at which water enters the soil at the surface and is controlled by the surface conditions. Transmission rate is the rate at which water moves in the soil and is controlled by soil properties. Definitions of the classes are as follows:

- A. (Low runoff potential). The soils have a high infiltration rate even when thoroughly wetted. They chiefly consist of deep, well drained to excessively drained sands or gravels. They have a high rate of water transmission.
  
- B. The soils have a moderate infiltration rate when thoroughly wetted. They chiefly are moderately deep to deep, moderately well drained to well drained soils that have moderately fine to moderately coarse textures. They have a moderate rate of water transmission.



- C. The soils have a slow infiltration rate when thoroughly wetted. They chiefly have a layer that impedes downward movement of water or have moderately fine to fine texture. They have a slow rate of water transmission.
- D. (High runoff potential). The soils have a very slow infiltration rate when thoroughly wetted. They chiefly consist of clay soils that have a high swelling potential, soils that have a permanent high water table, soils that have a claypan or clay layer at or near the surface, and shallow soils over nearly impervious material. They have a very slow rate of water transmission.

A soil's tendency to erode is also described in the USDA web soil survey. The ratings in this interpretation indicate the hazard of soil loss from unsurfaced areas. The ratings are based on soil erosion factor K, slope, and content of rock fragments. The hazard is described as "slight," "moderate," or "SEVERE." A rating of "slight" indicates that little or no erosion is likely; "moderate" indicates that some erosion is likely, that the temporarily unsurfaced / unstabilized during construction may require occasional maintenance, and that simple erosion-control measures are needed; and "SEVERE" indicates that significant erosion is expected, that the roads or trails require frequent maintenance, and that erosion-control measures are needed.

Per the Soil Survey, the following soils listed below are present at the site. Following this list is a detailed description of each soil type found on the property:

<b>SYM.</b>	<b>HYDRO.</b>	<b>SOIL GROUP</b>	<b>DESCRIPTION</b>
<b>Ub</b>	<b>B</b>		<b>Udorthents, Smoothed</b>
<b>PnB</b>	<b>C</b>		<b>Paxton fine sandy loam, 3 to 8 percent</b>
<b>CrC</b>	<b>B</b>		<b>Charlton-Chatfield complex, 0 to 15 percent slopes, very rocky</b>
<b>PnC</b>	<b>C</b>		<b>Paxton fine sandy loam, 8 to 15 percent</b>
<b>CsD</b>	<b>B</b>		<b>Charlton-Chatfield complex, 15 to 35 percent slopes, very rocky</b>

**Ub, Udorthents, Smoothed**

This soil consists of very deep, excessively drained to moderately well drained soils that have been altered by cutting and filling. It is made up of soil material in alternating layers ranging from

sand to silt loam. Slopes are mainly 3 to 15 percent, but they range from 0 to 25 percent. Because of the variability of the Udorthents, a typical pedon is not described. The fill material is commonly more than 20 inches deep over the original soil. The content of rock fragments ranges from 0 to 60 percent. The properties and characteristics of the Udorthents are so variable that onsite investigation and evaluation are required to determine the suitability and limitations for proposed uses.

Hydrologic group: **B**

Erosion Hazard Rating: **NOT RATED**

### **PnB, Paxton fine sandy loam, 3 to 8 percent**

This soil is gently sloping, very deep, and well drained. It is on broad ridges and small hills. Individual areas are irregularly shaped or are long and narrow. Included with this soil in mapping are a few areas of the moderately well drained Woodbridge soils, small areas of the somewhat poorly drained Ridgebury soils, small areas of Charlton soils that do not have a dense substratum, and the areas of rock outcrop. Woodbridge soils are on the lower concave side slopes and at the bottom of the hills. Ridgebury soils are along drainageways. The rock outcrop is in a few areas, generally near areas of Chatfield or Hollis soils. Also included are a new soils that have a very stony surface. The seasonally high water table is 1.5 to 2.5 feet. The available water capacity is moderate.

Hydrologic group: **C**

Erosion Hazard Rating: **SLIGHT**

### **CrC, Charlton-Chatfield complex, 0 to 15 percent slopes, very rocky**

The unit consists of very deep and moderately deep, well drained and somewhat excessively drained Chatfield soil and the well-drained Charlton soil. It is on hilltops and hillsides that are underlain by highly folded bedrock. Included in mapping are areas of moderately well drained Sutton soils, the somewhat poorly drained and poorly drained Leicester soils, and the poorly

drained and very poorly drained Sun soils. Sutton soils are along drainageways and in concave interridge areas. Leicester and Sun soils are in shallow depressions and along drainageways. Also included are the poorly drained Carlisle and Palms soils, the somewhat excessively drained and well drained Hollis soils, and areas of soils that are similar to the Chatfield soil but are deep over bedrock. Carlisle and Palms soils are in closed depressions. Hollis soils are shallow over bedrock. They are in scattered areas throughout the unit but are mostly on ridgetops. The soils that are similar to the Chatfield soils are in the western part of Putnam County, in areas where the surface is extremely stony or bouldery. The seasonally high water table is more than 6 feet. The available water capacity is moderate.

Hydrologic group: **B**

Erosion Hazard Rating: **MODERATE**

#### **PnC, Paxton fine sandy loam, 8 to 15 percent**

This soil is strongly sloping, very deep, and well drained. It is on the sides and tops broad ridges and small hills. Individual areas are irregularly shaped or are long and narrow. Included with this soil in mapping are a few areas of the moderately well drained Woodbridge soils, small areas of the somewhat poorly drained Ridgebury soils, small areas of Charlton soils that do not have a dense substratum, and the areas of rock outcrop. Woodbridge soils are on the lower concave side slopes and at the bottom of the hills. Ridgebury soils are along drainageways. The rock outcrop is in a few areas, generally near areas of Chatfield or Hollis soils. Also included are a new soils that have a very stony surface. The seasonally high water table is 1.5 to 2.5 feet. The available water capacity is moderate.

Hydrologic group: **C**

Erosion Hazard Rating: **MODERATE**

#### **CsD, Charlton-Chatfield complex, 15 to 35 percent slopes, very rocky**

The unit consists of very deep and moderately deep, well drained and somewhat excessively drained Chatfield soil and the well-drained Charlton soil. It is on tops and sides of hills that are underlain by highly folded bedrock. Slopes range from 15 to 35 percent. Included in mapping are areas of moderately well drained Sutton soils, the somewhat poorly drained and poorly drained Leicester soils, and the poorly drained and very poorly drained Sun soils. Sutton soils are along drainageways and in concave interridge areas. Leicester and Sun soils are in shallow depressions and along drainageways. Also included are the poorly drained Carlisle and Palms soils, the somewhat excessively drained and well drained Hollis soils, and areas of soils that are similar to the Chatfield soil but are deep over bedrock. Carlisle and Palms soils are in closed depressions. Hollis soils are shallow over bedrock. They are in scattered areas throughout the unit but are mostly on ridgetops. The soils that are similar to the Chatfield soils are in the western part of Putnam County, in areas where the surface is extremely stony or bouldery. The seasonally high water table is more than 6 feet. The available water capacity is moderate.

Hydrologic group: **B**

Erosion Hazard Rating: **SEVERE**

#### On-Site Pollution Prevention

There are temporary pollution prevention measures used to control litter and construction debris on site, such as:

- Temporary Riser and Anti-Vortex Device
- Silt Fence
- Silt Sack
- Manufactured Insert Inlet Protection
- Stone Check Dam
- Excavated Drop Inlet Protection

There will be inlet protection provided for all storm drains and inlets with the use of curb gutter inlet protection structures and stone & block drop inlet protection, which keep silt, sediment and construction litter and debris out of the on-site stormwater drainage system.

### Temporary Control Measures

Temporary control measures and facilities will include silt fences, construction ditches, stabilized construction access, temporary seeding, mulching and sediment traps with temporary riser and anti-vortex devices.

Throughout the construction of the proposed redevelopment, temporary control facilities will be implemented to control on-site erosion and sediment transfer. Construction ditches, if required, will be used to direct stormwater runoff to temporary sediment traps for settlement. The sediment traps will be constructed as part of this project will serve as temporary sediment basins to remove sediment and pollutants from the stormwater runoff produced during construction. Descriptions of the temporary sediment & erosion controls that will be used during the development of the site including silt fence, stabilized construction access, seeding, mulching and inlet protection are as follows:

1. Silt Fence is constructed using a geotextile fabric. The fence will be either 18 inches or 30 inches high. The height of the fence can be increased in the event of placing these devices on uncompacted fills or extremely loose undisturbed soils. The fences will not be placed in areas which receive concentrated flows such as ditches, swales and channels nor will the filter fabric material be placed across the entrance to pipes, culverts, spillway structures, sediment traps or basins.
2. Stabilized Construction Access consists of AASHTO No. 1 rock. The rock entrance will be a minimum of 50 feet in length by 24 feet in width by 8 inches in depth.
3. Seeding will be used to create a vegetative surface to stabilize disturbed earth until at least 80% of the disturbed area has a perennial vegetative cover. This amount is required to adequately function as a sediment and erosion control facility. Grass lining will also be used to line temporary channels and the surrounding disturbed areas.
4. Mulching is used as an anchor for seeding and disturbed areas to reduce soil loss due to storm events. These areas will be mulched with straw at a rate of 3 tons per acre such that

the mulch forms a continuous blanket. Mulch must be placed after seeding or within 48 hours after seeding is completed.

5. Inlet Protection will be provided for all stormwater basins and inlets with the use of curb & gutter inlet protection and stone & block inlet protection structures, which will keep silt, sediment and construction debris out of the storm system. Existing structures within existing paved areas will be protected using “Silt Sacks” inside the structures.
6. Stone Check Dams are small barriers of crushed stone which will be laid across the grass swales which are approximately 12 inches high, located every one foot of elevation change along the swales so that the crest elevation of the downstream dam is at the same elevation of the toe of the upstream dam.
7. Temporary Sediment Basins will be constructed to intercept sediment laden runoff and trap and retain the sediment. The sediment basins are sized to provide a sediment storage volume of 3,600 cubic feet per acre draining to the basin. The Sediment Basins will be used with the permanent SMP's until their contributing drainage areas are stabilized. Once stabilized, the temporary risers will be removed, permanent outlet control structures will be installed and final grading/planting of the sediment basins will be completed for permanent use as Stormwater Management basins. Sediment Basin sizing standards, details and calculations are provided in Appendix F.
8. Temporary Riser and Anti-Vortex Devices- are placed at the bottom of the temporary sediment basins where they intercept and collect debris and litter from the pond before they can enter the off-site storm drainage system.

The contractor shall be responsible for maintaining the temporary sediment and erosion control measures throughout construction. This maintenance will include, but not be limited to, the following tasks:

1. For dust control purposes, moisten all exposed graded areas with water at least twice a day in those areas where soil is exposed and cannot be planted with a temporary cover due to construction operations or the season (December through March).
2. Inspection of erosion and sediment control measures shall be performed at the end of each construction day and immediately following each rainfall event. All required repairs shall be immediately executed by the contractor.
3. Sediment deposits shall be removed when they reach approximately  $\frac{1}{3}$  the height of the silt fence. All such sediment shall be properly disposed of in fill areas on the site, as directed by the Owner's Field Representative. Fill shall be protected following disposal with mulch, temporary and/or permanent vegetation and be completely circumscribed on the downhill side by silt fence.
4. Rake all exposed areas parallel to the slope during earthwork operations.
5. Following final grading, the disturbed area shall be stabilized with a permanent surface treatment (i.e. turf grass, pavement or sidewalk). During rough grading, areas which are not to be disturbed for fourteen or more days shall be stabilized with the temporary seed mixture, as defined on the plans. Seed all piles of dirt in exposed soil areas that will not receive a permanent surface treatment.

#### Concrete Material and Equipment Management

Concrete washouts shall be used to contain concrete and liquids when the chutes of concrete mixers and hoppers of concrete pumps are rinsed out after delivery. The washout facilities consolidate solid for easier disposal and prevent runoff of liquids. The wash water is alkaline and contains high levels of chromium, which can leach into the ground and contaminate groundwater. It can also migrate to a storm drain, which can increase the pH of area waters and harm aquatic life. Solids that are improperly disposed of can clog storm drain pipes and cause flooding.

Installing concrete washout facilities not only prevents pollution but also is a matter of good housekeeping at your construction site.

Prefabricated concrete washout containers can be delivered to the site to provide maintenance and disposal of materials. Regular pick-ups of solid and liquid waste materials will be necessary. To prevent leaks on the job site, ensure that prefabricated washout containers are watertight. A self installed concrete washout facility can be utilized although they are much less reliable than prefabricated containers and are prone to leaks. There are many design options for the washout, but they are preferably built below-grade to prevent breaches and reduce the likelihood of runoff. Above-grade structures can also be used if they are sized and constructed correctly and are diligently maintained. One of the most common problems with self-installed concrete washout facilities is that they can leak or be breached as a result of constant use, therefore the contractor shall be sure to use quality materials and inspect the facilities on a daily basis.

Washouts must be sized to handle solids, wash water, and rainfall to prevent overflow. Concrete Washout Systems, Inc. estimates that 7 gallons of wash water are used to wash one truck chute and 50 gallons are used to wash out the hopper of a concrete pump truck.

For larger sites, a below-grade washout should be at least 10 feet wide and sized to contain all liquid and solid waste expected to be generated in between cleanout periods. A minimum of 12-inches of freeboard must be provided. The pit must be lined with plastic sheeting of at least 10-mil thickness without holes or tears to prevent leaching of liquids into the ground. Concrete wash water should never be placed in a pit that is connected to the storm drain system or that drains to nearby waterways.

An above-grade washout can be constructed at least 10 feet wide by 10 feet long and sized to contain all liquid and solid waste expected to be generated in between cleanout periods. A minimum of 4-inches of freeboard must be provided. The washout structures can be constructed with staked straw bales or sandbags double-or triple lined with plastic sheeting of at least 10-mil thickness without holes or tears.



Concrete washout facilities shall not be located within 50 feet of storm drains, open ditches, or water bodies and should be placed in locations that allow for convenient access for concrete trucks. The contractor shall check all concrete washout facilities daily to determine if they have been filled to 75 percent capacity, which is when materials need to be removed. Both above-and below-ground self-installed washouts should be inspected daily to ensure that plastic linings are intact and sidewalls have not been damaged by construction activities. Prefabricated washout containers should be inspected daily as well as to ensure the container is not leaking or nearing 75 percent capacity. Inspectors should also note whether the facilities are being used regularly. Additional signage for washouts may be needed in more convenient locations if concrete truck operators are not utilizing them.

The washout structures must be drained or covered prior to predicted rainstorms to prevent overflows. Hardened solids either whole or broken must be removed and then they may be reused onsite or hauled away for recycling.

Once materials are removed from the concrete washout, a new structure must be built or excavated, or if the previous structure is still intact, inspect it for signs of weakening or damage and make any necessary repairs. Line the structure with new plastic that is free of holes or tears and replace signage if necessary. It is very important that new plastic be used after every cleaning because pumps and concrete removal equipment can damage the existing liner.

#### Construction Site Chemical Control

The purpose of this management measure is to prevent the generation of nonpoint source pollution from construction sites due to improper handling and usage of nutrients and toxic substances, and to prevent the movement of toxic substances from the construction site.

Many potential pollutants other than sediment are associated with construction activities. These pollutants include pesticides; fertilizers used for vegetative stabilization; petrochemicals;

construction chemicals such as concrete products, sealers, and paints; wash water associated with these products; paper; wood; garbage; and sanitary waste.

Disposal of excess pesticides and pesticide-related wastes should conform to registered label directions for the disposal and storage of pesticides and pesticide containers set forth in applicable Federal, State and local regulations that govern their usage, handling, storage, and disposal.

Pesticides should be disposed of through either a licensed waste management firm or a treatment, storage and disposal (TSD) facility. Containers should be triple-rinsed before disposal, and rinse waters should be reused as product.

Other practices include setting aside a locked storage area, tightly closing lids, storing in a cool, dry place, checking containers periodically for leaks or deterioration, maintaining a list of products in storage, using plastic sheeting to line the storage areas, and notifying neighboring property owners prior to spraying.

When storing petroleum products, follow these guidelines:

- Create a shelter around the area with cover and wind protection;
- Line the storage area with a double layer of plastic sheeting or similar material;
- Create an impervious berm around the perimeter with a capacity of 110 percent greater than that of the largest container;
- Clearly label all products;
- Keep tanks off the ground; and
- Keep lids securely fastened.

Post spill procedure information and have persons trained in spill handling on site or on call at all times. Materials for cleaning up spills should be kept on site and easily available. Spills should be cleaned up immediately and the contaminated material properly disposed of. Maintain and wash equipment and machinery in confined areas specifically designed to control runoff.

Thinners or solvents should not be discharged into sanitary or storm systems when cleaning machinery. Use alternative methods for cleaning larger equipment parts, such as high-pressure, high-temperature water washes, or steam cleaning. Equipment-washing detergents can be used, and wash water may be discharged into sanitary sewers if solids are removed from the solution first. (This practice should be verified with the local sewer authority.) Small parts can be cleaned with degreasing solvents, which can then be reused or recycled.

#### Solid Waste Management and Portable Sanitary Management

The purpose of this management measure is to prevent the potential for solid waste such as construction debris, trash, etc. from construction sites due to improper handling and storage. Debris and litter should be removed periodically from the BMP's and surrounding areas to prevent clogging of pipes and structures. All construction material shall be stored in designated staging areas. Roll-off containers shall be placed on site and all empty containers, construction debris and litter shall be placed in the containers.

Portable sanitary units may be utilized on-site or bathrooms will be provided within construction trailers. A sanitation removal company will be hired to pump/remove any sanitary waste. In the event that portable sanitary units are used and then cleaned after being emptied, the rinse water may not be disposed of to the storm drain system. It shall be contained for later disposal if it can't be disposed of on-site. Remove paper and trash before cleaning the portable sanitary units. The portable sanitary units shall be located away from the storm drain system if possible. Provide over head cover for wash areas if possible. Maintain spill response material and equipment on site to eliminate the potential for contaminants and wash water from entering the storm drain system.

#### Permanent Control Measures and Facilities for Long Term Protection

Towards the completion of construction, permanent sediment and erosion control measures will be developed for long term erosion protection. The following permanent control measures and facilities have been proposed to be implemented for the project:

1. Vegetated Swales will function to provide additional treatment of stormwater runoff by removal of pollutants and will promote a reduction of peak flows and provide runoff infiltration.
2. Infiltration Basins will be used to treat the runoff volume generated from the developed area and provide improvement to water quality control. The proposed basins will provide water quality for 90% of the average annual stormwater runoff volume. The water quality volume will be retained and higher storms will be released gradually. Refer to the water quality volume calculations, in Appendix B.
3. A Hydrodynamic Water Quality Structure will be used to provide pretreatment of the water quality flow rate for separating sediment, debris, floatables, etc. from the runoff prior to discharge to the SMP's. The Water Quality Structure has been designed to treat up to the required water quality volume and appropriately handle all storm frequencies without the resuspension of solids. The system will provide 80% TSS removal rate for particles having a mean particle size of 125 microns for stormwater runoff.
4. Catch Basins will be used to remove some of the coarse sand and grit sediment before entering the drainage system. Each catch basin will be constructed with an 18 inch deep sump.
5. Rip-Rap Energy Dissipators At discharge points from the stormwater drainage system into the stormwater management basins, rip-rap pads consisting of angular rocks will be placed to dissipate velocity and reduce the risk of erosion.
6. Seeding of at least 70% perennial vegetative cover will be used to produce a permanent uniform erosion resistant surface. The seeded areas will be mulched with straw at a rate of 2 tons per acre such that the mulch forms a continuous blanket.

## **Specifications for Soil Restoration**

Prior to the final stabilization of the disturbed areas, soil restoration will be required for all vegetated areas to recover the original properties and porosity of the soil. Soil Restoration Requirements are provided on Table 7 below:

**Table 7**

**Soil Restoration Requirements**

Type of Soil Disturbance	Soil Restoration Requirement		Comments/Examples
No soil disturbance	Restoration not permitted		Preservation of Natural Features
Minimal soil disturbance	Restoration not required		Clearing and grubbing
Areas where topsoil is stripped only – no change in grade	HSG A&B	HSG C&D	Protect area from any ongoing construction activities
	apply 6 inches of topsoil	Aerate* and apply 6 inches of topsoil	
Areas of cut or fill	HSG A&B	HSG C&D	Clearing and grubbing
	Aerate and apply 6 inches of topsoil	Apply full Soil Restoration**	
Heavy traffic areas on site (especially) in a zone 5-25 feet around buildings but not within a 5 foot perimeter around foundation walls)	Apply full Soil Restoration (decompaction and compost enhancement)		
Areas where Runoff Reduction and/or Infiltration practices are applied	Restoration not required, but may be applied to enhance the reduction specified for appropriate practices.		Keep construction equipment from crossing these areas. To protect newly installed practice from any ongoing construction activities construct a single phase operation fence area.
Redevelopment projects	Soil Restoration is required on redevelopment projects in areas where existing impervious area will be converted to pervious area.		

\* Aeration includes the use of machines such as tractor-drawn implements with coulters making a narrow slit in the soil, a roller with many spikes making indentations in the soil, or prongs which function like a mini-subsoiler.

\*\* Per "Deep Ripping and De-compaction, DEC 2008."

During periods of relatively low to moderate subsoil moisture, the disturbed subsoils are returned to rough grade and the following full soil restoration steps applied:

1. Apply 3 inches of compost over subsoil.
2. Till compost into subsoil to a depth of at least 12 inches using a cat-mounted ripper, tractor-mounted disc, or tiller, mixing, and circulating air and compost into subsoils.
3. Rock-pick until uplifted stone/rock materials of four inches and larger size are cleaned off the site.

### **Specifications for Final Stabilization of Graded Areas**

Final stabilization of graded areas consists of the placement of topsoil and installation of landscaping (unless the area is to be paved, or a building is to be constructed in the location). Topsoil is to be spread as soon as grading operations are completed. Topsoil is to be placed to a minimum depth of six inches on all embankments, planting areas and seeding/sod areas. The subgrade is to be scarified to a depth of two inches to provide a bond of the topsoil with the subsoil. Topsoil is to be raked to an even surface and cleared of all debris, roots, stones and other unsatisfactory material.

Planting operations shall be conducted under favorable weather conditions as follows:

- Permanent Lawns - April 15 (provided soil is frost-free and not excessively moist) to May 15; August 15 to October 15.
- Temporary Lawn Seeding - if outside of the time periods noted above, the areas shall be seeded immediately on completion of topsoil operations with annual ryegrass (Italian rye) at a rate of six pounds per 1,000 square feet. Temporary lawn installation is permitted provided the soil is frost-free and not excessively moist. The permanent lawn is to be installed the next planting season.

On slopes with a grade of 3 horizontal to 1 vertical or greater, and in swales, a geotextile netting or mat shall be installed for stabilization purposes as shown on the Plans. Seeded areas are to be mulched with straw or hay at an application rate of 70-90 pounds per 1,000 s.f. Straw or hay mulch must be spread uniformly and anchored immediately after spreading to prevent wind blowing. Mulches must be inspected periodically and in particular after rainstorms to check for erosion. If erosion is observed, additional mulch must be applied. Netting shall be inspected after rainstorms for dislocation or failure; any damage shall be repaired immediately.

All denuded surfaces which will be exposed for a period of over two months or more shall be temporarily hydroseeded with (a) perennial ryegrass at a rate of 40 lbs per acre (1.0 lb per 1000 square feet ); (b) Certified "Aroostook" winter rye (cereal rye) @ 100 lb per acre (2.5 lb/1000 s.f.) to be used in the months of October and November.

Permanent turfgrass cover is to consist of a seed mixture as follows:

(a) Sunny sites

Kentucky Bluegrass	2.0-2.6 pounds/1000 square feet
Perennial Ryegrass	0.6-0.7 pounds/1000 square feet
Fine Fescue	0.4-0.6 pounds/1000 square feet

(b) Shady sites

Kentucky Bluegrass	0.8-1.0 pounds/1000 square feet
Perennial Ryegrass	0.6-0.7 pounds/1000 square feet
Fine Fescue	2.6-3.3 pounds/1000 square feet

All plant materials shall comply with the standards of the American Association of Nurserymen with respect to height and caliper as described in its publication American Standard for Nursery Stock, latest edition.



## **VII. CONSTRUCTION PHASE AND POST-CONSTRUCTION MAINTENANCE**

During the construction phase and following construction of the project, a number of maintenance measures will be taken with respect to the site maintenance. Measures to be taken included the following:

### **I. During Construction**

The area of proposed ground disturbance will at times exceed five (5) acres. Therefore, and in accordance with NYSDEC SPDES General Permit No. GP-0-20-001 effective January 29, 2020 written authorization by the MS4 (Town of North Castle) to disturb greater than five (5) acres of soil at any one time is hereby requested, subject to the following provisions:

- i. The owner or operator shall have a qualified inspector conduct at least two (2) site inspections in accordance with Part IV.C. of this permit every seven (7) calendar days. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.
- ii. In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven (7) days from the date the current soil disturbance activity ceased. The soil stabilization measures selected shall be in conformance with the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, last revised November 2016.
- iii. The owner or operator shall prepare a phasing plan that defines maximum disturbed area per phase and shows required cuts and fills.
- iv. The owner or operator shall install any additional site-specific practices needed to protect water quality.
- v. The owner or operator shall include the requirements above in their SWPPP.

The minimum number of required weekly inspections will be two (2) erosion control inspections shall be made at the site every seven (7) calendar days.

In the circumstance of greater than five (5) acres of soil be disturbed at any one time, and the activity be temporarily or permanently ceased, then soil stabilization measures shall be initiated by the end of the next business day and completed within seven (7) days from ceasing activity.

A qualified professional acceptable to the municipality will be hired by the owner or operator to monitor the installation and maintenance of the sediment and erosion control plans. The qualified professional shall report directly to the Engineering Consultant and shall be responsible for ensuring compliance with the design of the sediment and erosion control plans.

In the event that there has been a variance with the design of the sediment and erosion control measures so that the ability of the measures to adequately perform the intended function is lessened or compromised and/or the facilities are not adequately maintained, the qualified professional shall be required to report such variance to the Engineering Consultant within 48 hours and shall be empowered to order immediate repairs to the sediment and erosion control measures.

The qualified professional will also be responsible for observing the adequacy of the vegetation growth (trees, shrubs, groundcovers and turfgrasses) in newly graded areas and for ordering additional plantings in the event that the established plant materials do not adequately protect the ground surface from erosion.

## **2. Following Construction**

Site maintenance activities on the property will include:

- Grounds maintenance, including mowing of lawns;
- Planting of trees, shrubs and groundcovers; pruning of trees and shrubs;
- Application of fertilizer and herbicides;
- Maintenance of stormwater management area;

Grounds maintenance on the site will be performed by landscaping contractor.

Fertilizer is typically applied twice in the year - once in the spring and once in the fall. The application of fertilizer is usually necessary to maintain healthy lawn growth due to competition for nutrients with trees and shrubs and since the clippings are often removed. It is not recommended that fertilizer be applied during the summer. It is at this time that lawns are typically dormant.

Fertilizers come in three basic types: (1) Organic; (2) Soluble synthetic and (3) Slow release.

Organic fertilizers are derived from plant or animal waste. Since they are heavier and bulkier than other fertilizers, it is necessary to apply a much greater amount at one time. Soluble synthetic fertilizers are predictable with determining the exact impact on a lawn. However more applications are necessary since their effect is often short term. Slow release fertilizers have a high percentage of nitrogen so quantities that need be handled at one time are smaller. Slow release fertilizers will be utilized by the project.

A complete fertilizer contains all three of the primary nutrients - nitrogen (N), phosphorus (P) and potassium in the form of potash (K). Typically, a 3-1-2 ratio of nutrients (N-P-K) is used for lawn applications.

Fertilizer shall be applied by the landscape contractor in accordance with the manufacturer's instructions. The application of fertilizer does require some skill on the part of the operator. Should there be a spill of fertilizer, the landscape contractor shall be required to scrape or vacuum it up. The area will then be watered in accordance with the manufacturer's instructions to ensure that the fertilizer becomes soluble and available to plants and does not run off.

Summit Club Partners, LLC will be responsible for the long-term operation and maintenance of the permanent stormwater management practices. The permanent stormwater management practices shall be maintained in accordance with the Maintenance Inspection Checklists provided in Appendix D.

## VIII. CONCLUSION

---

This Stormwater Pollution Prevention Plan has been prepared to describe the project's pre and post-development stormwater management improvements and its sediment and erosion control improvements to be utilized during construction. The proposed permanent improvements and the interim improvements to be utilized during construction have been designed in accordance with the requirements of the:

- Requirements of the New York State Department of Environmental Conservation (NYSDEC) SPDES General Permit No. GP-0-20-001, effective January 29, 2020.
- Chapter 267 "Stormwater Management" of the Town of North Castle Zoning Code
- New York State Stormwater Management Design Manual.

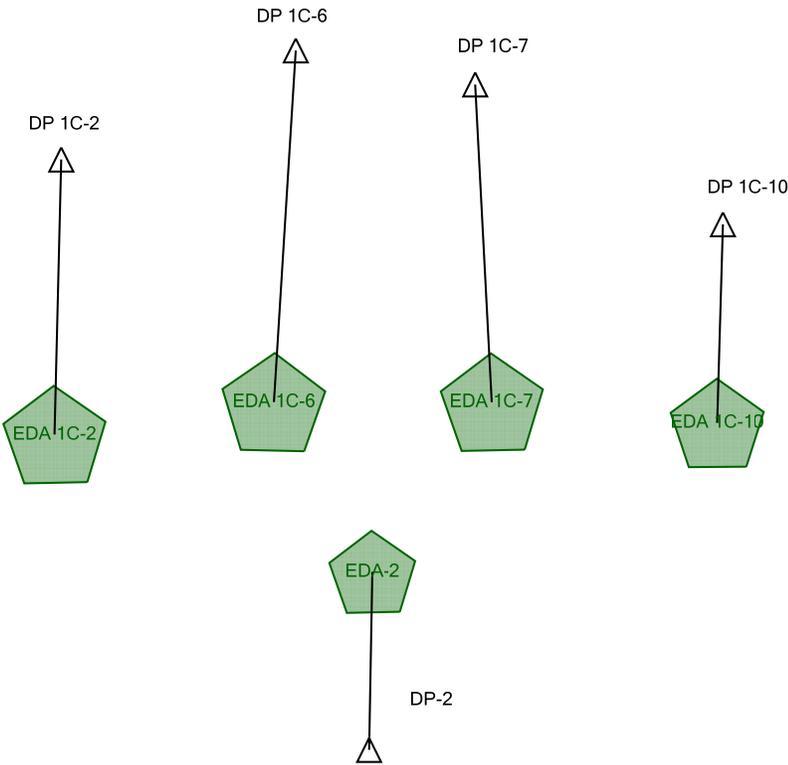
The project employs a variety of practices to enhance stormwater quality and reduce peak rates of runoff associated with the proposed improvements. These measures include an infiltration basin, detention basin, and subsurface infiltration systems.

Based on the foregoing, it is our professional opinion that the proposed improvements will provide water quantity and quality enhancements which exceed the above mentioned requirements and are not anticipated to have any adverse impacts to the site or any surrounding areas.

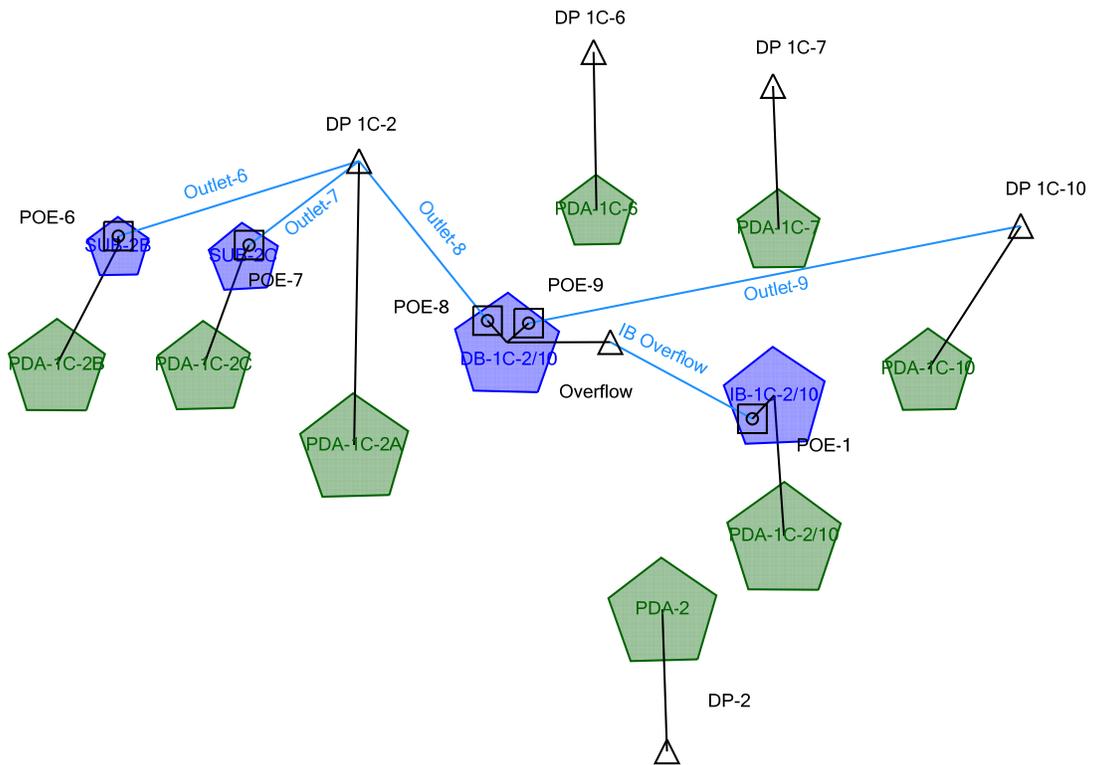
***APPENDIX A***

***EXISTING AND PROPOSED HYDROLOGIC  
CALCULATIONS***

Scenario: Pre-Development 1 year



# Scenario: Post-Development 1 year



# Stormwater Hydrologic Calculations

---

## Project Summary

---

Title	The Summit Club at Armonk
Engineer	Michael Thompson, PE
Company	JMC, PLLC
Date	3/28/2022

---

---

Notes

---



## Table of Contents

	Master Network Summary	2
Time-Depth - 1		
	Time-Depth Curve, 1 years (Pre-Development 1 year)	9
	Time-Depth Curve, 10 years (Pre-Development 10 year)	11
	Time-Depth Curve, 100 years (Pre-Development 100 year)	13
	Time-Depth Curve, 25 years (Pre-Development 25 year)	15
EDA 1C-10		
	Time of Concentration Calculations, 1 years (Pre-Development 1 year)	17
EDA 1C-2		
	Time of Concentration Calculations, 1 years (Pre-Development 1 year)	19
EDA 1C-6		
	Time of Concentration Calculations, 1 years (Pre-Development 1 year)	21
EDA 1C-7		
	Time of Concentration Calculations, 1 years (Pre-Development 1 year)	23
EDA-2		
	Time of Concentration Calculations, 1 years (Pre-Development 1 year)	25
PDA-1C-10		
	Time of Concentration Calculations, 1 years (Post-Development 1 year)	27
PDA-1C-2/10		
	Time of Concentration Calculations, 1 years (Post-Development 1 year)	29
PDA-1C-2A		
	Time of Concentration Calculations, 1 years (Post-Development 1 year)	31
PDA-1C-2B		
	Time of Concentration Calculations, 1 years (Post-Development 1 year)	33
PDA-1C-2C		
	Time of Concentration Calculations, 1 years (Post-Development 1 year)	35
PDA-1C-6		
	Time of Concentration Calculations, 1 years (Post-Development 1 year)	37
PDA-1C-7		
	Time of Concentration Calculations, 1 years (Post-Development 1 year)	39
PDA-2		
	Time of Concentration Calculations, 1 years (Post-Development 1 year)	41

## Table of Contents

EDA 1C-10	Runoff CN-Area, 1 years (Pre-Development 1 year)	43
EDA 1C-2	Runoff CN-Area, 1 years (Pre-Development 1 year)	44
EDA 1C-6	Runoff CN-Area, 1 years (Pre-Development 1 year)	45
EDA 1C-7	Runoff CN-Area, 1 years (Pre-Development 1 year)	46
EDA-2	Runoff CN-Area, 1 years (Pre-Development 1 year)	47
PDA-1C-10	Runoff CN-Area, 1 years (Post-Development 1 year)	48
PDA-1C-2/10	Runoff CN-Area, 1 years (Post-Development 1 year)	49
PDA-1C-2A	Runoff CN-Area, 1 years (Post-Development 1 year)	50
PDA-1C-2B	Runoff CN-Area, 1 years (Post-Development 1 year)	51
PDA-1C-2C	Runoff CN-Area, 1 years (Post-Development 1 year)	52
PDA-1C-6	Runoff CN-Area, 1 years (Post-Development 1 year)	53
PDA-1C-7	Runoff CN-Area, 1 years (Post-Development 1 year)	54
PDA-2	Runoff CN-Area, 1 years (Post-Development 1 year)	55
EDA 1C-10	Unit Hydrograph Summary, 1 years (Pre-Development 1 year)	56
	Unit Hydrograph Summary, 10 years (Pre-Development 10 year)	58
	Unit Hydrograph Summary, 25 years (Pre-Development 25 year)	60
	Unit Hydrograph Summary, 100 years (Pre-Development 100 year)	62
EDA 1C-2	Unit Hydrograph Summary, 1 years (Pre-Development 1 year)	64
	Unit Hydrograph Summary, 10 years (Pre-Development 10 year)	66

## Table of Contents

	Unit Hydrograph Summary, 25 years (Pre-Development 25 year)	68
	Unit Hydrograph Summary, 100 years (Pre-Development 100 year)	70
EDA 1C-6		
	Unit Hydrograph Summary, 1 years (Pre-Development 1 year)	72
	Unit Hydrograph Summary, 10 years (Pre-Development 10 year)	74
	Unit Hydrograph Summary, 25 years (Pre-Development 25 year)	76
	Unit Hydrograph Summary, 100 years (Pre-Development 100 year)	78
EDA 1C-7		
	Unit Hydrograph Summary, 1 years (Pre-Development 1 year)	80
	Unit Hydrograph Summary, 10 years (Pre-Development 10 year)	82
	Unit Hydrograph Summary, 25 years (Pre-Development 25 year)	84
	Unit Hydrograph Summary, 100 years (Pre-Development 100 year)	86
EDA-2		
	Unit Hydrograph Summary, 1 years (Pre-Development 1 year)	88
	Unit Hydrograph Summary, 10 years (Pre-Development 10 year)	90
	Unit Hydrograph Summary, 25 years (Pre-Development 25 year)	92
	Unit Hydrograph Summary, 100 years (Pre-Development 100 year)	94
PDA-1C-10		
	Unit Hydrograph Summary, 1 years (Post-Development 1 year)	96
	Unit Hydrograph Summary, 10 years (Post-Development 10 year)	98
	Unit Hydrograph Summary, 25 years (Post-Development 25 year)	100
	Unit Hydrograph Summary, 100 years (Post-Development 100 year)	102
PDA-1C-2/10		
	Unit Hydrograph Summary, 1 years (Post-Development 1 year)	104
	Unit Hydrograph Summary, 10 years (Post-Development 10 year)	106
	Unit Hydrograph Summary, 25 years (Post-Development 25 year)	108
	Unit Hydrograph Summary, 100 years (Post-Development 100 year)	110
PDA-1C-2A		
	Unit Hydrograph Summary, 1 years (Post-Development 1 year)	112
	Unit Hydrograph Summary, 10 years (Post-Development 10 year)	114
	Unit Hydrograph Summary, 25 years (Post-Development 25 year)	116

## Table of Contents

	Unit Hydrograph Summary, 100 years (Post-Development 100 year)	118
PDA-1C-2B	Unit Hydrograph Summary, 1 years (Post-Development 1 year)	120
	Unit Hydrograph Summary, 10 years (Post-Development 10 year)	122
	Unit Hydrograph Summary, 25 years (Post-Development 25 year)	124
	Unit Hydrograph Summary, 100 years (Post-Development 100 year)	126
PDA-1C-2C	Unit Hydrograph Summary, 1 years (Post-Development 1 year)	128
	Unit Hydrograph Summary, 10 years (Post-Development 10 year)	130
	Unit Hydrograph Summary, 25 years (Post-Development 25 year)	132
	Unit Hydrograph Summary, 100 years (Post-Development 100 year)	134
PDA-1C-6	Unit Hydrograph Summary, 1 years (Post-Development 1 year)	136
	Unit Hydrograph Summary, 10 years (Post-Development 10 year)	138
	Unit Hydrograph Summary, 25 years (Post-Development 25 year)	140
	Unit Hydrograph Summary, 100 years (Post-Development 100 year)	142
PDA-1C-7	Unit Hydrograph Summary, 1 years (Post-Development 1 year)	144
	Unit Hydrograph Summary, 10 years (Post-Development 10 year)	146
	Unit Hydrograph Summary, 25 years (Post-Development 25 year)	148
	Unit Hydrograph Summary, 100 years (Post-Development 100 year)	150
PDA-2	Unit Hydrograph Summary, 1 years (Post-Development 1 year)	152
	Unit Hydrograph Summary, 10 years (Post-Development 10 year)	154
	Unit Hydrograph Summary, 25 years (Post-Development 25 year)	156
	Unit Hydrograph Summary, 100 years (Post-Development 100 year)	158
DP 1C-10	Addition Summary, 1 years (Post-Development 1 year)	160
	Addition Summary, 10 years (Post-Development 10 year)	161
	Addition Summary, 25 years (Post-Development 25 year)	162
	Addition Summary, 100 years (Post-Development 100 year)	163

## Table of Contents

DP 1C-2		
	Addition Summary, 1 years (Post-Development 1 year)	164
	Addition Summary, 10 years (Post-Development 10 year)	165
	Addition Summary, 25 years (Post-Development 25 year)	166
	Addition Summary, 100 years (Post-Development 100 year)	167
DB-1C-2/10 (IN)		
	Time vs. Elevation, 1 years (Post-Development 1 year)	168
	Time vs. Elevation, 10 years (Post-Development 10 year)	171
	Time vs. Elevation, 25 years (Post-Development 25 year)	174
	Time vs. Elevation, 100 years (Post-Development 100 year)	177
IB-1C-2/10 (IN)		
	Time vs. Elevation, 1 years (Post-Development 1 year)	180
	Time vs. Elevation, 10 years (Post-Development 10 year)	183
	Time vs. Elevation, 25 years (Post-Development 25 year)	186
	Time vs. Elevation, 100 years (Post-Development 100 year)	189
SUB-2B (IN)		
	Time vs. Elevation, 1 years (Post-Development 1 year)	192
	Time vs. Elevation, 10 years (Post-Development 10 year)	195
	Time vs. Elevation, 25 years (Post-Development 25 year)	198
	Time vs. Elevation, 100 years (Post-Development 100 year)	201
SUB-2C (IN)		
	Time vs. Elevation, 1 years (Post-Development 1 year)	204
	Time vs. Elevation, 10 years (Post-Development 10 year)	207
	Time vs. Elevation, 25 years (Post-Development 25 year)	210
	Time vs. Elevation, 100 years (Post-Development 100 year)	213
DB-1C-2/10		
	Time vs. Volume, 1 years (Post-Development 1 year)	216
	Time vs. Volume, 10 years (Post-Development 10 year)	219
	Time vs. Volume, 25 years (Post-Development 25 year)	222
	Time vs. Volume, 100 years (Post-Development 100 year)	225
IB-1C-2/10		
	Time vs. Volume, 1 years (Post-Development 1 year)	228
	Time vs. Volume, 10 years (Post-Development 10 year)	231
	Time vs. Volume, 25 years (Post-Development 25 year)	234

## Table of Contents

	Time vs. Volume, 100 years (Post-Development 100 year)	237
SUB-2B		
	Time vs. Volume, 1 years (Post-Development 1 year)	240
	Time vs. Volume, 10 years (Post-Development 10 year)	243
	Time vs. Volume, 25 years (Post-Development 25 year)	246
	Time vs. Volume, 100 years (Post-Development 100 year)	249
SUB-2C		
	Time vs. Volume, 1 years (Post-Development 1 year)	252
	Time vs. Volume, 10 years (Post-Development 10 year)	255
	Time vs. Volume, 25 years (Post-Development 25 year)	258
	Time vs. Volume, 100 years (Post-Development 100 year)	261
DB-1C-2/10		
	Elevation-Area Volume Curve, 1 years (Post-Development 1 year)	264
IB-1C-2/10		
	Elevation-Area Volume Curve, 1 years (Post-Development 1 year)	265
SUB-2B		
	Elevation vs. Volume Curve, 1 years (Post-Development 1 year)	266
SUB-2C		
	Elevation vs. Volume Curve, 1 years (Post-Development 1 year)	267
DB-1C-2/10 (IN)		
	Multiple Outfall Rating Curves, 1 years (Post-Development 1 year)	268
Detention Basin OCS L		
	Composite Rating Curve, 1 years (Post-Development 1 year)	269
Detention Basin OCS R		
	Composite Rating Curve, 1 years (Post-Development 1 year)	272
Infiltration Basin Overflow		
	Composite Rating Curve, 1 years (Post-Development 1 year)	275
Subsurface System 2B		
	Composite Rating Curve, 1 years (Post-Development 1 year)	439
Subsurface System 2C		
	Composite Rating Curve, 1 years (Post-Development 1 year)	440
DB-1C-2/10		
	Interconnected Pond Routing Summary, 1 years (Post-Development 1 year)	441

## Table of Contents

	Interconnected Pond Routing Summary, 10 years (Post-Development 10 year)	442
	Interconnected Pond Routing Summary, 25 years (Post-Development 25 year)	443
	Interconnected Pond Routing Summary, 100 years (Post-Development 100 year)	444
IB-1C-2/10		
	Interconnected Pond Routing Summary, 1 years (Post-Development 1 year)	445
	Interconnected Pond Routing Summary, 10 years (Post-Development 10 year)	446
	Interconnected Pond Routing Summary, 25 years (Post-Development 25 year)	447
	Interconnected Pond Routing Summary, 100 years (Post-Development 100 year)	448
SUB-2B		
	Elevation-Volume-Flow Table (Pond), 1 years (Post-Development 1 year)	449
SUB-2B (IN)		
	Level Pool Pond Routing Summary, 1 years (Post-Development 1 year)	450
	Level Pool Pond Routing Summary, 10 years (Post-Development 10 year)	451
	Level Pool Pond Routing Summary, 25 years (Post-Development 25 year)	452
	Level Pool Pond Routing Summary, 100 years (Post-Development 100 year)	453
SUB-2B (OUT)		
	Pond Routing Calculations (Total Out), 1 years (Post-Development 1 year)	454
SUB-2B (IN)		
	Pond Inflow Summary, 1 years (Post-Development 1 year)	466
	Pond Inflow Summary, 10 years (Post-Development 10 year)	467
	Pond Inflow Summary, 25 years (Post-Development 25 year)	468
	Pond Inflow Summary, 100 years (Post-Development 100 year)	469
SUB-2C		
	Elevation-Volume-Flow Table (Pond), 1 years (Post-Development 1 year)	470
SUB-2C (IN)		
	Level Pool Pond Routing Summary, 1 years (Post-Development 1 year)	471
	Level Pool Pond Routing Summary, 10 years (Post-Development 10 year)	472
	Level Pool Pond Routing Summary, 25 years (Post-Development 25 year)	473
	Level Pool Pond Routing Summary, 100 years (Post-Development 100 year)	474
SUB-2C (OUT)		

## Table of Contents

	Pond Routing Calculations (Total Out), 1 years (Post-Development 1 year)	475
SUB-2C (IN)	Pond Inflow Summary, 1 years (Post-Development 1 year)	487
	Pond Inflow Summary, 10 years (Post-Development 10 year)	488
	Pond Inflow Summary, 25 years (Post-Development 25 year)	489
	Pond Inflow Summary, 100 years (Post-Development 100 year)	490



# Stormwater Hydrologic Calculations

Subsection: Master Network Summary

## Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft <sup>3</sup> )	Time to Peak (hours)	Peak Flow (ft <sup>3</sup> /s)
EDA 1C-2	Pre-Development 1 year	1	116,765	12.200	24.70
EDA 1C-2	Pre-Development 10 year	10	409,916	12.150	99.64
EDA 1C-2	Pre-Development 25 year	25	609,163	12.150	150.27
EDA 1C-2	Pre-Development 100 year	100	1,053,060	12.150	260.46
EDA 1C-6	Pre-Development 1 year	1	12,504	12.300	1.59
EDA 1C-6	Pre-Development 10 year	10	64,931	12.150	16.08
EDA 1C-6	Pre-Development 25 year	25	104,876	12.150	27.12
EDA 1C-6	Pre-Development 100 year	100	199,424	12.150	52.62
EDA 1C-7	Pre-Development 1 year	1	10,045	12.150	2.21
EDA 1C-7	Pre-Development 10 year	10	38,812	12.150	10.21
EDA 1C-7	Pre-Development 25 year	25	58,967	12.100	15.81
EDA 1C-7	Pre-Development 100 year	100	104,601	12.100	28.29
EDA 1C-10	Pre-Development 1 year	1	21,168	12.250	2.88
EDA 1C-10	Pre-Development 10 year	10	104,512	12.150	25.49
EDA 1C-10	Pre-Development 25 year	25	167,171	12.150	42.57
EDA 1C-10	Pre-Development 100 year	100	314,455	12.150	81.83
EDA-2	Pre-Development 1 year	1	9,561	12.200	2.17
EDA-2	Pre-Development 10 year	10	30,028	12.150	7.39
EDA-2	Pre-Development 25 year	25	43,435	12.150	10.75
EDA-2	Pre-Development 100 year	100	72,729	12.150	17.89
PDA-1C-2A	Post-Development 1 year	1	90,134	12.200	17.97
PDA-1C-2A	Post-Development 10 year	10	336,905	12.150	81.02
PDA-1C-2A	Post-Development 25 year	25	508,016	12.150	124.77

# Stormwater Hydrologic Calculations

Subsection: Master Network Summary

## Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft <sup>3</sup> )	Time to Peak (hours)	Peak Flow (ft <sup>3</sup> /s)
PDA-1C-2A	Post-Development 100 year	100	893,317	12.150	221.18
PDA-1C-2/10	Post-Development 1 year	1	46,701	12.150	11.68
PDA-1C-2/10	Post-Development 10 year	10	136,135	12.150	35.25
PDA-1C-2/10	Post-Development 25 year	25	193,258	12.150	49.78
PDA-1C-2/10	Post-Development 100 year	100	316,447	12.150	80.13
PDA-2	Post-Development 1 year	1	7,713	12.200	1.72
PDA-2	Post-Development 10 year	10	24,870	12.150	6.11
PDA-2	Post-Development 25 year	25	36,209	12.150	8.96
PDA-2	Post-Development 100 year	100	61,100	12.150	15.06
PDA-1C-6	Post-Development 1 year	1	12,132	12.300	1.53
PDA-1C-6	Post-Development 10 year	10	63,004	12.150	15.49
PDA-1C-6	Post-Development 25 year	25	101,763	12.150	26.18
PDA-1C-6	Post-Development 100 year	100	193,508	12.150	50.91
PDA-1C-7	Post-Development 1 year	1	6,161	12.150	1.28
PDA-1C-7	Post-Development 10 year	10	25,589	12.100	7.15
PDA-1C-7	Post-Development 25 year	25	39,500	12.100	11.24
PDA-1C-7	Post-Development 100 year	100	71,369	12.100	20.36
PDA-1C-10	Post-Development 1 year	1	14,186	12.300	1.81
PDA-1C-10	Post-Development 10 year	10	73,664	12.150	18.57
PDA-1C-10	Post-Development 25 year	25	118,978	12.150	31.15
PDA-1C-10	Post-Development 100 year	100	226,232	12.150	60.14
PDA-1C-2B	Post-Development 1 year	1	3,293	12.100	0.82
PDA-1C-2B	Post-Development 10 year	10	6,259	12.100	1.52

# Stormwater Hydrologic Calculations

Subsection: Master Network Summary

## Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft <sup>3</sup> )	Time to Peak (hours)	Peak Flow (ft <sup>3</sup> /s)
PDA-1C-2B	Post-Development 25 year	25	7,949	12.100	1.91
PDA-1C-2B	Post-Development 100 year	100	11,407	12.100	2.72
PDA-1C-2C	Post-Development 1 year	1	1,911	12.100	0.48
PDA-1C-2C	Post-Development 10 year	10	3,632	12.100	0.88
PDA-1C-2C	Post-Development 25 year	25	4,612	12.100	1.11
PDA-1C-2C	Post-Development 100 year	100	6,619	12.100	1.58

## Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft <sup>3</sup> )	Time to Peak (hours)	Peak Flow (ft <sup>3</sup> /s)
DP-2	Pre-Development 1 year	1	9,561	12.200	2.17
DP-2	Post-Development 1 year	1	7,713	12.200	1.72
DP-2	Pre-Development 10 year	10	30,028	12.150	7.39
DP-2	Post-Development 10 year	10	24,870	12.150	6.11
DP-2	Pre-Development 25 year	25	43,435	12.150	10.75
DP-2	Post-Development 25 year	25	36,209	12.150	8.96
DP-2	Pre-Development 100 year	100	72,729	12.150	17.89
DP-2	Post-Development 100 year	100	61,100	12.150	15.06
DP 1C-6	Pre-Development 1 year	1	12,504	12.300	1.59
DP 1C-6	Post-Development 1 year	1	12,132	12.300	1.53
DP 1C-6	Pre-Development 10 year	10	64,931	12.150	16.08
DP 1C-6	Post-Development 10 year	10	63,004	12.150	15.49
DP 1C-6	Pre-Development 25 year	25	104,876	12.150	27.12
DP 1C-6	Post-Development 25 year	25	101,763	12.150	26.18

# Stormwater Hydrologic Calculations

Subsection: Master Network Summary

## Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft <sup>3</sup> )	Time to Peak (hours)	Peak Flow (ft <sup>3</sup> /s)
DP 1C-6	Pre-Development 100 year	100	199,424	12.150	52.62
DP 1C-6	Post-Development 100 year	100	193,508	12.150	50.91
DP 1C-2	Pre-Development 1 year	1	116,765	12.200	24.70
DP 1C-2	Post-Development 1 year	1	90,134	12.200	17.97
DP 1C-2	Pre-Development 10 year	10	409,916	12.150	99.64
DP 1C-2	Post-Development 10 year	10	366,356	12.200	81.78
DP 1C-2	Pre-Development 25 year	25	609,163	12.150	150.27
DP 1C-2	Post-Development 25 year	25	562,282	12.200	131.28
DP 1C-2	Pre-Development 100 year	100	1,053,060	12.150	260.46
DP 1C-2	Post-Development 100 year	100	1,013,897	12.150	246.10
DP 1C-7	Pre-Development 1 year	1	10,045	12.150	2.21
DP 1C-7	Post-Development 1 year	1	6,161	12.150	1.28
DP 1C-7	Pre-Development 10 year	10	38,812	12.150	10.21
DP 1C-7	Post-Development 10 year	10	25,589	12.100	7.15
DP 1C-7	Pre-Development 25 year	25	58,967	12.100	15.81
DP 1C-7	Post-Development 25 year	25	39,500	12.100	11.24
DP 1C-7	Pre-Development 100 year	100	104,601	12.100	28.29
DP 1C-7	Post-Development 100 year	100	71,369	12.100	20.36
DP 1C-10	Pre-Development 1 year	1	21,168	12.250	2.88
DP 1C-10	Post-Development 1 year	1	14,186	12.300	1.81
DP 1C-10	Pre-Development 10 year	10	104,512	12.150	25.49
DP 1C-10	Post-Development 10 year	10	101,465	12.150	19.03
DP 1C-10	Pre-Development 25 year	25	167,171	12.150	42.57

# Stormwater Hydrologic Calculations

Subsection: Master Network Summary

## Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft <sup>3</sup> )	Time to Peak (hours)	Peak Flow (ft <sup>3</sup> /s)
DP 1C-10	Post-Development 25 year	25	169,265	12.150	36.87
DP 1C-10	Pre-Development 100 year	100	314,455	12.150	81.83
DP 1C-10	Post-Development 100 year	100	320,300	12.150	76.15

## Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft <sup>3</sup> )	Time to Peak (hours)	Peak Flow (ft <sup>3</sup> /s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ft <sup>3</sup> )
IB-1C-2/10 (IN)	Post-Development 1 year	1	46,701	12.150	11.68	(N/A)	(N/A)
IB-1C-2/10 (OUT)	Post-Development 1 year	1	0	0.000	0.00	619.58	15,820
IB-1C-2/10 (IN)	Post-Development 10 year	10	136,135	12.150	35.25	(N/A)	(N/A)
IB-1C-2/10 (OUT)	Post-Development 10 year	10	55,604	12.200	23.13	620.78	31,604
IB-1C-2/10 (IN)	Post-Development 25 year	25	193,258	12.150	49.78	(N/A)	(N/A)
IB-1C-2/10 (OUT)	Post-Development 25 year	25	100,579	12.150	36.15	621.20	37,712
IB-1C-2/10 (IN)	Post-Development 100 year	100	316,447	12.150	80.13	(N/A)	(N/A)
IB-1C-2/10 (OUT)	Post-Development 100 year	100	205,620	12.150	58.99	621.91	48,174
DB-1C-2/10 (IN)	Post-Development 1 year	1	0	0.000	0.00	(N/A)	(N/A)
DB-1C-2/10 (OUT)	Post-Development 1 year	1	0	0.000	0.00	620.00	0
DB-1C-2/10 (IN)	Post-Development 10 year	10	55,604	12.200	23.13	(N/A)	(N/A)

# Stormwater Hydrologic Calculations

Subsection: Master Network Summary

## Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft <sup>3</sup> )	Time to Peak (hours)	Peak Flow (ft <sup>3</sup> /s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ft <sup>3</sup> )
DB-1C-2/10 (OUT)	Post-Development 10 year	10	55,598	12.500	11.96	620.76	10,670
DB-1C-2/10 (IN)	Post-Development 25 year	25	100,579	12.150	36.15	(N/A)	(N/A)
DB-1C-2/10 (OUT)	Post-Development 25 year	25	100,569	12.400	22.79	621.17	16,401
DB-1C-2/10 (IN)	Post-Development 100 year	100	205,620	12.150	58.99	(N/A)	(N/A)
DB-1C-2/10 (OUT)	Post-Development 100 year	100	205,594	12.300	49.51	621.87	26,194
SUB-2B (IN)	Post-Development 1 year	1	3,293	12.100	0.82	(N/A)	(N/A)
SUB-2B (OUT)	Post-Development 1 year	1	0	0.000	0.00	492.95	2,026
SUB-2B (IN)	Post-Development 10 year	10	6,259	12.100	1.52	(N/A)	(N/A)
SUB-2B (OUT)	Post-Development 10 year	10	824	12.900	0.12	494.08	3,669
SUB-2B (IN)	Post-Development 25 year	25	7,949	12.100	1.91	(N/A)	(N/A)
SUB-2B (OUT)	Post-Development 25 year	25	2,286	12.400	0.62	494.39	3,989
SUB-2B (IN)	Post-Development 100 year	100	11,407	12.100	2.72	(N/A)	(N/A)
SUB-2B (OUT)	Post-Development 100 year	100	5,468	12.150	2.35	494.88	4,400
SUB-2C (IN)	Post-Development 1 year	1	1,911	12.100	0.48	(N/A)	(N/A)
SUB-2C (OUT)	Post-Development 1 year	1	0	0.000	0.00	557.19	1,210

# Stormwater Hydrologic Calculations

Subsection: Master Network Summary

## Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft <sup>3</sup> )	Time to Peak (hours)	Peak Flow (ft <sup>3</sup> /s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ft <sup>3</sup> )
SUB-2C (IN)	Post-Development 10 year	10	3,632	12.100	0.88	(N/A)	(N/A)
SUB-2C (OUT)	Post-Development 10 year	10	830	12.400	0.27	558.17	1,886
SUB-2C (IN)	Post-Development 25 year	25	4,612	12.100	1.11	(N/A)	(N/A)
SUB-2C (OUT)	Post-Development 25 year	25	1,699	12.200	0.69	558.43	2,013
SUB-2C (IN)	Post-Development 100 year	100	6,619	12.100	1.58	(N/A)	(N/A)
SUB-2C (OUT)	Post-Development 100 year	100	3,586	12.100	1.55	558.69	2,119

# Stormwater Hydrologic Calculations

Subsection: Time-Depth Curve

Return Event: 1 years

Label: Time-Depth - 1

Storm Event: 1 year

Scenario: Pre-Development 1 year

Time-Depth Curve: 1 year

Label	1 year
Start Time	0.000 hours
Increment	0.100 hours
End Time	24.000 hours
Return Event	1 years

### CUMULATIVE RAINFALL (in)

**Output Time Increment = 0.100 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.000	0.0	0.0	0.0	0.0	0.0
0.500	0.0	0.0	0.0	0.0	0.0
1.000	0.0	0.0	0.0	0.0	0.0
1.500	0.0	0.0	0.0	0.1	0.1
2.000	0.1	0.1	0.1	0.1	0.1
2.500	0.1	0.1	0.1	0.1	0.1
3.000	0.1	0.1	0.1	0.1	0.1
3.500	0.1	0.1	0.1	0.1	0.1
4.000	0.1	0.1	0.1	0.1	0.1
4.500	0.1	0.1	0.1	0.2	0.2
5.000	0.2	0.2	0.2	0.2	0.2
5.500	0.2	0.2	0.2	0.2	0.2
6.000	0.2	0.2	0.2	0.2	0.2
6.500	0.2	0.2	0.2	0.2	0.2
7.000	0.3	0.3	0.3	0.3	0.3
7.500	0.3	0.3	0.3	0.3	0.3
8.000	0.3	0.3	0.3	0.3	0.4
8.500	0.4	0.4	0.4	0.4	0.4
9.000	0.4	0.4	0.4	0.4	0.5
9.500	0.5	0.5	0.5	0.5	0.5
10.000	0.5	0.5	0.6	0.6	0.6
10.500	0.6	0.6	0.6	0.7	0.7
11.000	0.7	0.7	0.7	0.8	0.8
11.500	0.8	0.9	1.0	1.0	1.2
12.000	1.4	1.6	1.8	1.8	1.9
12.500	2.0	2.0	2.0	2.1	2.1
13.000	2.1	2.1	2.1	2.2	2.2
13.500	2.2	2.2	2.2	2.2	2.3
14.000	2.3	2.3	2.3	2.3	2.3
14.500	2.3	2.3	2.4	2.4	2.4
15.000	2.4	2.4	2.4	2.4	2.4
15.500	2.4	2.4	2.5	2.5	2.5
16.000	2.5	2.5	2.5	2.5	2.5
16.500	2.5	2.5	2.5	2.5	2.5



## Stormwater Hydrologic Calculations

Subsection: Time-Depth Curve

Return Event: 1 years

Label: Time-Depth - 1

Storm Event: 1 year

Scenario: Pre-Development 1 year

### CUMULATIVE RAINFALL (in)

Output Time Increment = 0.100 hours

Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
17.000	2.5	2.6	2.6	2.6	2.6
17.500	2.6	2.6	2.6	2.6	2.6
18.000	2.6	2.6	2.6	2.6	2.6
18.500	2.6	2.6	2.6	2.6	2.6
19.000	2.6	2.6	2.6	2.7	2.7
19.500	2.7	2.7	2.7	2.7	2.7
20.000	2.7	2.7	2.7	2.7	2.7
20.500	2.7	2.7	2.7	2.7	2.7
21.000	2.7	2.7	2.7	2.7	2.7
21.500	2.7	2.7	2.7	2.7	2.7
22.000	2.7	2.7	2.8	2.8	2.8
22.500	2.8	2.8	2.8	2.8	2.8
23.000	2.8	2.8	2.8	2.8	2.8
23.500	2.8	2.8	2.8	2.8	2.8
24.000	2.8	(N/A)	(N/A)	(N/A)	(N/A)

# Stormwater Hydrologic Calculations

Subsection: Time-Depth Curve

Return Event: 10 years

Label: Time-Depth - 1

Storm Event: 10 year

Scenario: Pre-Development 10 year

---

Time-Depth Curve: 10 year	
Label	10 year
Start Time	0.000 hours
Increment	0.100 hours
End Time	24.000 hours
Return Event	10 years

---

### CUMULATIVE RAINFALL (in)

**Output Time Increment = 0.100 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.000	0.0	0.0	0.0	0.0	0.0
0.500	0.0	0.0	0.0	0.0	0.0
1.000	0.1	0.1	0.1	0.1	0.1
1.500	0.1	0.1	0.1	0.1	0.1
2.000	0.1	0.1	0.1	0.1	0.1
2.500	0.1	0.1	0.1	0.1	0.2
3.000	0.2	0.2	0.2	0.2	0.2
3.500	0.2	0.2	0.2	0.2	0.2
4.000	0.2	0.2	0.2	0.2	0.2
4.500	0.3	0.3	0.3	0.3	0.3
5.000	0.3	0.3	0.3	0.3	0.3
5.500	0.3	0.3	0.3	0.4	0.4
6.000	0.4	0.4	0.4	0.4	0.4
6.500	0.4	0.4	0.4	0.4	0.5
7.000	0.5	0.5	0.5	0.5	0.5
7.500	0.5	0.5	0.5	0.6	0.6
8.000	0.6	0.6	0.6	0.6	0.6
8.500	0.7	0.7	0.7	0.7	0.7
9.000	0.7	0.8	0.8	0.8	0.8
9.500	0.8	0.9	0.9	0.9	0.9
10.000	1.0	1.0	1.0	1.0	1.1
10.500	1.1	1.1	1.2	1.2	1.2
11.000	1.3	1.3	1.4	1.4	1.5
11.500	1.5	1.6	1.7	1.9	2.1
12.000	2.6	3.0	3.2	3.4	3.5
12.500	3.6	3.7	3.7	3.8	3.8
13.000	3.8	3.9	3.9	3.9	4.0
13.500	4.0	4.0	4.1	4.1	4.1
14.000	4.2	4.2	4.2	4.2	4.2
14.500	4.3	4.3	4.3	4.3	4.4
15.000	4.4	4.4	4.4	4.4	4.4
15.500	4.5	4.5	4.5	4.5	4.5
16.000	4.5	4.5	4.6	4.6	4.6
16.500	4.6	4.6	4.6	4.6	4.6

## Stormwater Hydrologic Calculations

Subsection: Time-Depth Curve

Return Event: 10 years

Label: Time-Depth - 1

Storm Event: 10 year

Scenario: Pre-Development 10 year

### CUMULATIVE RAINFALL (in)

Output Time Increment = 0.100 hours

Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
17.000	4.7	4.7	4.7	4.7	4.7
17.500	4.7	4.7	4.7	4.7	4.7
18.000	4.8	4.8	4.8	4.8	4.8
18.500	4.8	4.8	4.8	4.8	4.8
19.000	4.8	4.8	4.8	4.9	4.9
19.500	4.9	4.9	4.9	4.9	4.9
20.000	4.9	4.9	4.9	4.9	4.9
20.500	4.9	4.9	4.9	5.0	5.0
21.000	5.0	5.0	5.0	5.0	5.0
21.500	5.0	5.0	5.0	5.0	5.0
22.000	5.0	5.0	5.0	5.0	5.0
22.500	5.0	5.1	5.1	5.1	5.1
23.000	5.1	5.1	5.1	5.1	5.1
23.500	5.1	5.1	5.1	5.1	5.1
24.000	5.1	(N/A)	(N/A)	(N/A)	(N/A)

## Stormwater Hydrologic Calculations

Subsection: Time-Depth Curve

Return Event: 100 years

Label: Time-Depth - 1

Storm Event: 100 year

Scenario: Pre-Development 100 year

---

Time-Depth Curve: 100 year

---

Label	100 year
Start Time	0.000 hours
Increment	0.100 hours
End Time	24.000 hours
Return Event	100 years

---

### CUMULATIVE RAINFALL (in)

**Output Time Increment = 0.100 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.000	0.0	0.0	0.0	0.0	0.0
0.500	0.0	0.1	0.1	0.1	0.1
1.000	0.1	0.1	0.1	0.1	0.1
1.500	0.1	0.1	0.2	0.2	0.2
2.000	0.2	0.2	0.2	0.2	0.2
2.500	0.2	0.2	0.3	0.3	0.3
3.000	0.3	0.3	0.3	0.3	0.3
3.500	0.3	0.3	0.4	0.4	0.4
4.000	0.4	0.4	0.4	0.4	0.4
4.500	0.5	0.5	0.5	0.5	0.5
5.000	0.5	0.5	0.5	0.6	0.6
5.500	0.6	0.6	0.6	0.6	0.6
6.000	0.7	0.7	0.7	0.7	0.7
6.500	0.7	0.8	0.8	0.8	0.8
7.000	0.8	0.8	0.9	0.9	0.9
7.500	0.9	1.0	1.0	1.0	1.0
8.000	1.0	1.1	1.1	1.1	1.1
8.500	1.2	1.2	1.2	1.3	1.3
9.000	1.3	1.4	1.4	1.4	1.5
9.500	1.5	1.6	1.6	1.6	1.7
10.000	1.7	1.8	1.8	1.9	1.9
10.500	2.0	2.0	2.1	2.2	2.2
11.000	2.3	2.4	2.4	2.5	2.6
11.500	2.7	2.9	3.1	3.4	3.8
12.000	4.6	5.3	5.7	6.0	6.3
12.500	6.4	6.5	6.6	6.7	6.8
13.000	6.9	6.9	7.0	7.0	7.1
13.500	7.2	7.2	7.3	7.3	7.4
14.000	7.4	7.5	7.5	7.5	7.6
14.500	7.6	7.7	7.7	7.7	7.8
15.000	7.8	7.8	7.9	7.9	7.9
15.500	8.0	8.0	8.0	8.0	8.1
16.000	8.1	8.1	8.1	8.2	8.2
16.500	8.2	8.2	8.3	8.3	8.3

## Stormwater Hydrologic Calculations

Subsection: Time-Depth Curve

Return Event: 100 years

Label: Time-Depth - 1

Storm Event: 100 year

Scenario: Pre-Development 100 year

### CUMULATIVE RAINFALL (in)

Output Time Increment = 0.100 hours

Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
17.000	8.3	8.3	8.4	8.4	8.4
17.500	8.4	8.4	8.4	8.5	8.5
18.000	8.5	8.5	8.5	8.5	8.5
18.500	8.6	8.6	8.6	8.6	8.6
19.000	8.6	8.6	8.6	8.7	8.7
19.500	8.7	8.7	8.7	8.7	8.7
20.000	8.7	8.8	8.8	8.8	8.8
20.500	8.8	8.8	8.8	8.8	8.8
21.000	8.9	8.9	8.9	8.9	8.9
21.500	8.9	8.9	8.9	8.9	9.0
22.000	9.0	9.0	9.0	9.0	9.0
22.500	9.0	9.0	9.0	9.0	9.0
23.000	9.1	9.1	9.1	9.1	9.1
23.500	9.1	9.1	9.1	9.1	9.1
24.000	9.1	(N/A)	(N/A)	(N/A)	(N/A)

# Stormwater Hydrologic Calculations

Subsection: Time-Depth Curve

Return Event: 25 years

Label: Time-Depth - 1

Storm Event: 25 year

Scenario: Pre-Development 25 year

---

Time-Depth Curve: 25 year	
Label	25 year
Start Time	0.000 hours
Increment	0.100 hours
End Time	24.000 hours
Return Event	25 years

---

### CUMULATIVE RAINFALL (in)

**Output Time Increment = 0.100 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.000	0.0	0.0	0.0	0.0	0.0
0.500	0.0	0.0	0.0	0.1	0.1
1.000	0.1	0.1	0.1	0.1	0.1
1.500	0.1	0.1	0.1	0.1	0.1
2.000	0.1	0.1	0.1	0.1	0.2
2.500	0.2	0.2	0.2	0.2	0.2
3.000	0.2	0.2	0.2	0.2	0.2
3.500	0.2	0.2	0.3	0.3	0.3
4.000	0.3	0.3	0.3	0.3	0.3
4.500	0.3	0.3	0.3	0.3	0.4
5.000	0.4	0.4	0.4	0.4	0.4
5.500	0.4	0.4	0.4	0.4	0.5
6.000	0.5	0.5	0.5	0.5	0.5
6.500	0.5	0.5	0.5	0.6	0.6
7.000	0.6	0.6	0.6	0.6	0.6
7.500	0.7	0.7	0.7	0.7	0.7
8.000	0.7	0.8	0.8	0.8	0.8
8.500	0.8	0.8	0.9	0.9	0.9
9.000	0.9	1.0	1.0	1.0	1.0
9.500	1.1	1.1	1.1	1.2	1.2
10.000	1.2	1.2	1.3	1.3	1.4
10.500	1.4	1.4	1.5	1.5	1.6
11.000	1.6	1.7	1.7	1.8	1.8
11.500	1.9	2.0	2.2	2.4	2.7
12.000	3.2	3.8	4.0	4.3	4.4
12.500	4.5	4.6	4.7	4.7	4.8
13.000	4.8	4.9	4.9	5.0	5.0
13.500	5.0	5.1	5.1	5.2	5.2
14.000	5.2	5.3	5.3	5.3	5.3
14.500	5.4	5.4	5.4	5.5	5.5
15.000	5.5	5.5	5.5	5.6	5.6
15.500	5.6	5.6	5.7	5.7	5.7
16.000	5.7	5.7	5.7	5.8	5.8
16.500	5.8	5.8	5.8	5.8	5.8

## Stormwater Hydrologic Calculations

Subsection: Time-Depth Curve

Return Event: 25 years

Label: Time-Depth - 1

Storm Event: 25 year

Scenario: Pre-Development 25 year

### CUMULATIVE RAINFALL (in)

Output Time Increment = 0.100 hours

Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
17.000	5.9	5.9	5.9	5.9	5.9
17.500	5.9	5.9	5.9	6.0	6.0
18.000	6.0	6.0	6.0	6.0	6.0
18.500	6.0	6.0	6.0	6.1	6.1
19.000	6.1	6.1	6.1	6.1	6.1
19.500	6.1	6.1	6.1	6.1	6.2
20.000	6.2	6.2	6.2	6.2	6.2
20.500	6.2	6.2	6.2	6.2	6.2
21.000	6.2	6.3	6.3	6.3	6.3
21.500	6.3	6.3	6.3	6.3	6.3
22.000	6.3	6.3	6.3	6.3	6.3
22.500	6.3	6.4	6.4	6.4	6.4
23.000	6.4	6.4	6.4	6.4	6.4
23.500	6.4	6.4	6.4	6.4	6.4
24.000	6.4	(N/A)	(N/A)	(N/A)	(N/A)

# Stormwater Hydrologic Calculations

Subsection: Time of Concentration Calculations

Label: EDA 1C-10

Scenario: Pre-Development 1 year

Return Event: 1 years

Storm Event: 1 year

## Time of Concentration Results

---

### Segment #1: TR-55 Sheet Flow

---

Hydraulic Length	100.00 ft
Manning's n	0.150
Slope	0.120 ft/ft
2 Year 24 Hour Depth	3.4 in
Average Velocity	0.36 ft/s
Segment Time of Concentration	0.077 hours

---

---

### Segment #2: TR-55 Shallow Concentrated Flow

---

Hydraulic Length	1,647.00 ft
Is Paved?	False
Slope	0.102 ft/ft
Average Velocity	5.15 ft/s
Segment Time of Concentration	0.089 hours

---

---

### Time of Concentration (Composite)

---

Time of Concentration (Composite)	0.166 hours
-----------------------------------	-------------

---



# Stormwater Hydrologic Calculations

Subsection: Time of Concentration Calculations

Label: EDA 1C-10

Scenario: Pre-Development 1 year

Return Event: 1 years

Storm Event: 1 year

## ==== SCS Channel Flow

Tc =  $R = Qa / Wp$   
 $V = (1.49 * (R^{2/3}) * (Sf^{*-0.5})) / n$

Where:  $(Lf / V) / 3600$   
R= Hydraulic radius  
Aq= Flow area, square feet  
Wp= Wetted perimeter, feet  
V= Velocity, ft/sec  
Sf= Slope, ft/ft  
n= Manning's n  
Tc= Time of concentration, hours  
Lf= Flow length, feet

## ==== SCS TR-55 Shallow Concentration Flow

Tc = Unpaved surface:  
 $V = 16.1345 * (Sf^{*0.5})$

Paved Surface:  
 $V = 20.3282 * (Sf^{*0.5})$

Where:  $(Lf / V) / 3600$   
V= Velocity, ft/sec  
Sf= Slope, ft/ft  
Tc= Time of concentration, hours  
Lf= Flow length, feet

# Stormwater Hydrologic Calculations

Subsection: Time of Concentration Calculations

Label: EDA 1C-2

Scenario: Pre-Development 1 year

Return Event: 1 years

Storm Event: 1 year

## Time of Concentration Results

---

### Segment #1: TR-55 Sheet Flow

---

Hydraulic Length	100.00 ft
Manning's n	0.150
Slope	0.040 ft/ft
2 Year 24 Hour Depth	3.4 in
Average Velocity	0.23 ft/s
Segment Time of Concentration	0.120 hours

---

---

### Segment #2: TR-55 Shallow Concentrated Flow

---

Hydraulic Length	1,515.00 ft
Is Paved?	False
Slope	0.091 ft/ft
Average Velocity	4.87 ft/s
Segment Time of Concentration	0.086 hours

---

---

### Time of Concentration (Composite)

---

Time of Concentration (Composite)	0.207 hours
-----------------------------------	-------------

---

# Stormwater Hydrologic Calculations

Subsection: Time of Concentration Calculations

Label: EDA 1C-2

Scenario: Pre-Development 1 year

Return Event: 1 years

Storm Event: 1 year

## ==== SCS Channel Flow

Tc =  $R = Qa / Wp$   
 $V = (1.49 * (R^{2/3}) * (Sf^{*-0.5})) / n$

Where:  $(Lf / V) / 3600$   
R= Hydraulic radius  
Aq= Flow area, square feet  
Wp= Wetted perimeter, feet  
V= Velocity, ft/sec  
Sf= Slope, ft/ft  
n= Manning's n  
Tc= Time of concentration, hours  
Lf= Flow length, feet

## ==== SCS TR-55 Shallow Concentration Flow

Tc = Unpaved surface:  
 $V = 16.1345 * (Sf^{*0.5})$

Paved Surface:  
 $V = 20.3282 * (Sf^{*0.5})$

Where:  $(Lf / V) / 3600$   
V= Velocity, ft/sec  
Sf= Slope, ft/ft  
Tc= Time of concentration, hours  
Lf= Flow length, feet

## Stormwater Hydrologic Calculations

Subsection: Time of Concentration Calculations

Label: EDA 1C-6

Scenario: Pre-Development 1 year

Return Event: 1 years

Storm Event: 1 year

### Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	100.00 ft
Manning's n	0.150
Slope	0.220 ft/ft
2 Year 24 Hour Depth	3.4 in
Average Velocity	0.46 ft/s
Segment Time of Concentration	0.061 hours
Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	1,699.00 ft
Is Paved?	False
Slope	0.109 ft/ft
Average Velocity	5.33 ft/s
Segment Time of Concentration	0.089 hours
Time of Concentration (Composite)	
Time of Concentration (Composite)	0.149 hours

## Stormwater Hydrologic Calculations

Subsection: Time of Concentration Calculations

Label: EDA 1C-6

Scenario: Pre-Development 1 year

Return Event: 1 years

Storm Event: 1 year

### ==== SCS Channel Flow

$$T_c = \frac{R = Q_a / W_p}{V = (1.49 * (R^{2/3}) * (S_f^{-0.5})) / n}$$

$$\text{Where: } \frac{(L_f / V) / 3600}{R = \text{Hydraulic radius}} \\ A_q = \text{Flow area, square feet} \\ W_p = \text{Wetted perimeter, feet} \\ V = \text{Velocity, ft/sec} \\ S_f = \text{Slope, ft/ft} \\ n = \text{Manning's n} \\ T_c = \text{Time of concentration, hours} \\ L_f = \text{Flow length, feet}$$

### ==== SCS TR-55 Shallow Concentration Flow

$$T_c = \frac{\text{Unpaved surface:}}{V = 16.1345 * (S_f^{0.5})}$$

$$\text{Paved Surface:} \\ V = 20.3282 * (S_f^{0.5})$$

$$\text{Where: } \frac{(L_f / V) / 3600}{V = \text{Velocity, ft/sec}} \\ S_f = \text{Slope, ft/ft} \\ T_c = \text{Time of concentration, hours} \\ L_f = \text{Flow length, feet}$$

## Stormwater Hydrologic Calculations

Subsection: Time of Concentration Calculations

Label: EDA 1C-7

Scenario: Pre-Development 1 year

Return Event: 1 years

Storm Event: 1 year

### Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	100.00 ft
Manning's n	0.150
Slope	0.080 ft/ft
2 Year 24 Hour Depth	3.4 in
Average Velocity	0.31 ft/s
Segment Time of Concentration	0.091 hours
Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	855.00 ft
Is Paved?	False
Slope	0.164 ft/ft
Average Velocity	6.53 ft/s
Segment Time of Concentration	0.036 hours
Time of Concentration (Composite)	
Time of Concentration (Composite)	0.127 hours

# Stormwater Hydrologic Calculations

Subsection: Time of Concentration Calculations

Label: EDA 1C-7

Scenario: Pre-Development 1 year

Return Event: 1 years

Storm Event: 1 year

## ==== SCS Channel Flow

Tc =  $R = Qa / Wp$   
 $V = (1.49 * (R^{2/3}) * (Sf^{*-0.5})) / n$

Where:  $(Lf / V) / 3600$   
R= Hydraulic radius  
Aq= Flow area, square feet  
Wp= Wetted perimeter, feet  
V= Velocity, ft/sec  
Sf= Slope, ft/ft  
n= Manning's n  
Tc= Time of concentration, hours  
Lf= Flow length, feet

## ==== SCS TR-55 Shallow Concentration Flow

Tc = Unpaved surface:  
 $V = 16.1345 * (Sf^{*0.5})$

Paved Surface:  
 $V = 20.3282 * (Sf^{*0.5})$

Where:  $(Lf / V) / 3600$   
V= Velocity, ft/sec  
Sf= Slope, ft/ft  
Tc= Time of concentration, hours  
Lf= Flow length, feet

# Stormwater Hydrologic Calculations

Subsection: Time of Concentration Calculations

Label: EDA-2

Scenario: Pre-Development 1 year

Return Event: 1 years

Storm Event: 1 year

## Time of Concentration Results

---

### Segment #1: TR-55 Sheet Flow

---

Hydraulic Length	100.00 ft
Manning's n	0.150
Slope	0.040 ft/ft
2 Year 24 Hour Depth	3.4 in
Average Velocity	0.23 ft/s
Segment Time of Concentration	0.120 hours

---

---

### Segment #2: TR-55 Shallow Concentrated Flow

---

Hydraulic Length	947.00 ft
Is Paved?	False
Slope	0.034 ft/ft
Average Velocity	2.98 ft/s
Segment Time of Concentration	0.088 hours

---

---

### Time of Concentration (Composite)

---

Time of Concentration (Composite)	0.208 hours
-----------------------------------	-------------

---



## Stormwater Hydrologic Calculations

Subsection: Time of Concentration Calculations

Label: EDA-2

Scenario: Pre-Development 1 year

Return Event: 1 years

Storm Event: 1 year

### ==== SCS Channel Flow

$$T_c = \frac{R = Q_a / W_p}{V = (1.49 * (R^{2/3}) * (S_f^{-0.5})) / n}$$

Where:  $(L_f / V) / 3600$   
R= Hydraulic radius  
A<sub>q</sub>= Flow area, square feet  
W<sub>p</sub>= Wetted perimeter, feet  
V= Velocity, ft/sec  
S<sub>f</sub>= Slope, ft/ft  
n= Manning's n  
T<sub>c</sub>= Time of concentration, hours  
L<sub>f</sub>= Flow length, feet

### ==== SCS TR-55 Shallow Concentration Flow

$$T_c = \frac{\text{Unpaved surface:}}{V = 16.1345 * (S_f^{0.5})}$$

$$\text{Paved Surface:}$$
$$V = 20.3282 * (S_f^{0.5})$$

Where:  $(L_f / V) / 3600$   
V= Velocity, ft/sec  
S<sub>f</sub>= Slope, ft/ft  
T<sub>c</sub>= Time of concentration, hours  
L<sub>f</sub>= Flow length, feet

## Stormwater Hydrologic Calculations

Subsection: Time of Concentration Calculations

Label: PDA-1C-10

Scenario: Post-Development 1 year

Return Event: 1 years

Storm Event: 1 year

### Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	100.00 ft
Manning's n	0.150
Slope	0.150 ft/ft
2 Year 24 Hour Depth	3.4 in
Average Velocity	0.39 ft/s
Segment Time of Concentration	0.071 hours
Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	1,194.00 ft
Is Paved?	False
Slope	0.101 ft/ft
Average Velocity	5.13 ft/s
Segment Time of Concentration	0.065 hours
Time of Concentration (Composite)	
Time of Concentration (Composite)	0.135 hours

## Stormwater Hydrologic Calculations

Subsection: Time of Concentration Calculations

Label: PDA-1C-10

Scenario: Post-Development 1 year

Return Event: 1 years

Storm Event: 1 year

### ==== SCS Channel Flow

$$T_c = \frac{R = Q_a / W_p}{V = (1.49 * (R^{2/3}) * (S_f^{-0.5})) / n}$$

Where:  $(L_f / V) / 3600$   
R= Hydraulic radius  
A<sub>q</sub>= Flow area, square feet  
W<sub>p</sub>= Wetted perimeter, feet  
V= Velocity, ft/sec  
S<sub>f</sub>= Slope, ft/ft  
n= Manning's n  
T<sub>c</sub>= Time of concentration, hours  
L<sub>f</sub>= Flow length, feet

### ==== SCS TR-55 Shallow Concentration Flow

$$T_c = \frac{\text{Unpaved surface:}}{V = 16.1345 * (S_f^{0.5})}$$

$$\text{Paved Surface:}$$
$$V = 20.3282 * (S_f^{0.5})$$

Where:  $(L_f / V) / 3600$   
V= Velocity, ft/sec  
S<sub>f</sub>= Slope, ft/ft  
T<sub>c</sub>= Time of concentration, hours  
L<sub>f</sub>= Flow length, feet

## Stormwater Hydrologic Calculations

Subsection: Time of Concentration Calculations

Label: PDA-1C-2/10

Scenario: Post-Development 1 year

Return Event: 1 years

Storm Event: 1 year

### Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	100.00 ft
Manning's n	0.150
Slope	0.040 ft/ft
2 Year 24 Hour Depth	3.4 in
Average Velocity	0.23 ft/s
Segment Time of Concentration	0.120 hours
Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	650.00 ft
Is Paved?	False
Slope	0.060 ft/ft
Average Velocity	3.95 ft/s
Segment Time of Concentration	0.046 hours
Segment #3: TR-55 Channel Flow	
Flow Area	1.2 ft <sup>2</sup>
Hydraulic Length	272.00 ft
Manning's n	0.011
Slope	0.058 ft/ft
Wetted Perimeter	3.93 ft
Average Velocity	14.97 ft/s
Segment Time of Concentration	0.005 hours
Time of Concentration (Composite)	
Time of Concentration (Composite)	0.171 hours

## Stormwater Hydrologic Calculations

Subsection: Time of Concentration Calculations

Label: PDA-1C-2/10

Scenario: Post-Development 1 year

Return Event: 1 years

Storm Event: 1 year

### ==== SCS Channel Flow

$$T_c = \frac{R}{Q_a / W_p}$$
$$V = \frac{1.49 * (R^{2/3}) * (S_f^{0.5})}{n}$$

Where:

$(L_f / V) / 3600$

R= Hydraulic radius  
A<sub>q</sub>= Flow area, square feet  
W<sub>p</sub>= Wetted perimeter, feet  
V= Velocity, ft/sec  
S<sub>f</sub>= Slope, ft/ft  
n= Manning's n  
T<sub>c</sub>= Time of concentration, hours  
L<sub>f</sub>= Flow length, feet

### ==== SCS TR-55 Shallow Concentration Flow

$$T_c = \frac{\text{Unpaved surface:}}{V = 16.1345 * (S_f^{0.5})}$$

$$\text{Paved Surface:}$$
$$V = 20.3282 * (S_f^{0.5})$$

Where:

$(L_f / V) / 3600$

V= Velocity, ft/sec  
S<sub>f</sub>= Slope, ft/ft  
T<sub>c</sub>= Time of concentration, hours  
L<sub>f</sub>= Flow length, feet

### ==== SCS TR-55 Sheet Flow

$$T_c = \frac{0.007 * ((n * L_f)^{0.8})}{((P^{0.5}) * (S_f^{0.4}))}$$

Where:

T<sub>c</sub>= Time of concentration, hours  
n= Manning's n  
L<sub>f</sub>= Flow length, feet  
P= 2yr, 24hr Rain depth, inches  
S<sub>f</sub>= Slope, %

# Stormwater Hydrologic Calculations

Subsection: Time of Concentration Calculations

Return Event: 1 years

Label: PDA-1C-2A

Storm Event: 1 year

Scenario: Post-Development 1 year

## Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	100.00 ft
Manning's n	0.150
Slope	0.040 ft/ft
2 Year 24 Hour Depth	3.4 in
Average Velocity	0.23 ft/s
Segment Time of Concentration	0.120 hours
Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	1,515.00 ft
Is Paved?	False
Slope	0.091 ft/ft
Average Velocity	4.87 ft/s
Segment Time of Concentration	0.086 hours
Time of Concentration (Composite)	
Time of Concentration (Composite)	0.207 hours

## Stormwater Hydrologic Calculations

Subsection: Time of Concentration Calculations

Label: PDA-1C-2A

Scenario: Post-Development 1 year

Return Event: 1 years

Storm Event: 1 year

### ==== SCS Channel Flow

$$T_c = \frac{R = Q_a / W_p}{V = (1.49 * (R^{2/3}) * (S_f^{-0.5})) / n}$$

Where:  $(L_f / V) / 3600$   
R= Hydraulic radius  
A<sub>q</sub>= Flow area, square feet  
W<sub>p</sub>= Wetted perimeter, feet  
V= Velocity, ft/sec  
S<sub>f</sub>= Slope, ft/ft  
n= Manning's n  
T<sub>c</sub>= Time of concentration, hours  
L<sub>f</sub>= Flow length, feet

### ==== SCS TR-55 Shallow Concentration Flow

$$T_c = \frac{\text{Unpaved surface:}}{V = 16.1345 * (S_f^{0.5})}$$

$$\text{Paved Surface:}$$
$$V = 20.3282 * (S_f^{0.5})$$

Where:  $(L_f / V) / 3600$   
V= Velocity, ft/sec  
S<sub>f</sub>= Slope, ft/ft  
T<sub>c</sub>= Time of concentration, hours  
L<sub>f</sub>= Flow length, feet

# Stormwater Hydrologic Calculations

Subsection: Time of Concentration Calculations

Label: PDA-1C-2B

Scenario: Post-Development 1 year

Return Event: 1 years

Storm Event: 1 year

## Time of Concentration Results

---

Segment #1: User Defined Tc	
Time of Concentration	0.083 hours

---

---

Time of Concentration (Composite)	
Time of Concentration (Composite)	0.083 hours

---



# Stormwater Hydrologic Calculations

Subsection: Time of Concentration Calculations

Label: PDA-1C-2B

Scenario: Post-Development 1 year

Return Event: 1 years

Storm Event: 1 year

## ==== User Defined

Tc = Value entered by user

Where: Tc= Time of concentration, hours

# Stormwater Hydrologic Calculations

Subsection: Time of Concentration Calculations

Label: PDA-1C-2C

Scenario: Post-Development 1 year

Return Event: 1 years

Storm Event: 1 year

## Time of Concentration Results

---

### Segment #1: User Defined Tc

---

Time of Concentration	0.083 hours
-----------------------	-------------

---

---

### Time of Concentration (Composite)

---

Time of Concentration (Composite)	0.083 hours
--------------------------------------	-------------

---

# Stormwater Hydrologic Calculations

Subsection: Time of Concentration Calculations

Label: PDA-1C-2C

Scenario: Post-Development 1 year

Return Event: 1 years

Storm Event: 1 year

## ==== User Defined

Tc = Value entered by user

Where: Tc= Time of concentration, hours

## Stormwater Hydrologic Calculations

Subsection: Time of Concentration Calculations

Return Event: 1 years

Label: PDA-1C-6

Storm Event: 1 year

Scenario: Post-Development 1 year

### Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	100.00 ft
Manning's n	0.150
Slope	0.170 ft/ft
2 Year 24 Hour Depth	3.4 in
Average Velocity	0.41 ft/s
Segment Time of Concentration	0.067 hours
Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	1,688.00 ft
Is Paved?	False
Slope	0.110 ft/ft
Average Velocity	5.35 ft/s
Segment Time of Concentration	0.088 hours
Time of Concentration (Composite)	
Time of Concentration (Composite)	0.155 hours

# Stormwater Hydrologic Calculations

Subsection: Time of Concentration Calculations

Label: PDA-1C-6

Scenario: Post-Development 1 year

Return Event: 1 years

Storm Event: 1 year

## ==== SCS Channel Flow

Tc =  $R = Qa / Wp$   
 $V = (1.49 * (R^{2/3}) * (Sf^{*-0.5})) / n$

Where:  $(Lf / V) / 3600$   
R= Hydraulic radius  
Aq= Flow area, square feet  
Wp= Wetted perimeter, feet  
V= Velocity, ft/sec  
Sf= Slope, ft/ft  
n= Manning's n  
Tc= Time of concentration, hours  
Lf= Flow length, feet

## ==== SCS TR-55 Shallow Concentration Flow

Tc = Unpaved surface:  
 $V = 16.1345 * (Sf^{*0.5})$

Paved Surface:  
 $V = 20.3282 * (Sf^{*0.5})$

Where:  $(Lf / V) / 3600$   
V= Velocity, ft/sec  
Sf= Slope, ft/ft  
Tc= Time of concentration, hours  
Lf= Flow length, feet

## Stormwater Hydrologic Calculations

Subsection: Time of Concentration Calculations

Return Event: 1 years

Label: PDA-1C-7

Storm Event: 1 year

Scenario: Post-Development 1 year

### Time of Concentration Results

Segment #1: TR-55 Sheet Flow	
Hydraulic Length	100.00 ft
Manning's n	0.150
Slope	0.240 ft/ft
2 Year 24 Hour Depth	3.4 in
Average Velocity	0.47 ft/s
Segment Time of Concentration	0.059 hours
Segment #2: TR-55 Shallow Concentrated Flow	
Hydraulic Length	718.00 ft
Is Paved?	False
Slope	0.167 ft/ft
Average Velocity	6.59 ft/s
Segment Time of Concentration	0.030 hours
Time of Concentration (Composite)	
Time of Concentration (Composite)	0.089 hours

# Stormwater Hydrologic Calculations

Subsection: Time of Concentration Calculations

Label: PDA-1C-7

Scenario: Post-Development 1 year

Return Event: 1 years

Storm Event: 1 year

## ==== SCS Channel Flow

Tc =  $R = Qa / Wp$   
 $V = (1.49 * (R^{2/3}) * (Sf^{*-0.5})) / n$

Where:  $(Lf / V) / 3600$   
R= Hydraulic radius  
Aq= Flow area, square feet  
Wp= Wetted perimeter, feet  
V= Velocity, ft/sec  
Sf= Slope, ft/ft  
n= Manning's n  
Tc= Time of concentration, hours  
Lf= Flow length, feet

## ==== SCS TR-55 Shallow Concentration Flow

Tc = Unpaved surface:  
 $V = 16.1345 * (Sf^{*0.5})$

Paved Surface:  
 $V = 20.3282 * (Sf^{*0.5})$

Where:  $(Lf / V) / 3600$   
V= Velocity, ft/sec  
Sf= Slope, ft/ft  
Tc= Time of concentration, hours  
Lf= Flow length, feet

# Stormwater Hydrologic Calculations

Subsection: Time of Concentration Calculations

Label: PDA-2

Scenario: Post-Development 1 year

Return Event: 1 years

Storm Event: 1 year

## Time of Concentration Results

---

### Segment #1: TR-55 Sheet Flow

---

Hydraulic Length	100.00 ft
Manning's n	0.150
Slope	0.040 ft/ft
2 Year 24 Hour Depth	3.4 in
Average Velocity	0.23 ft/s
Segment Time of Concentration	0.120 hours

---

---

### Segment #2: TR-55 Shallow Concentrated Flow

---

Hydraulic Length	947.00 ft
Is Paved?	False
Slope	0.034 ft/ft
Average Velocity	2.98 ft/s
Segment Time of Concentration	0.088 hours

---

---

### Time of Concentration (Composite)

---

Time of Concentration (Composite)	0.208 hours
-----------------------------------	-------------

---



## Stormwater Hydrologic Calculations

Subsection: Time of Concentration Calculations

Label: PDA-2

Scenario: Post-Development 1 year

Return Event: 1 years

Storm Event: 1 year

### ==== SCS Channel Flow

$$T_c = \frac{R = Q_a / W_p}{V = (1.49 * (R^{2/3}) * (S_f^{-0.5})) / n}$$

$$\text{Where: } (L_f / V) / 3600$$

R= Hydraulic radius  
A<sub>q</sub>= Flow area, square feet  
W<sub>p</sub>= Wetted perimeter, feet  
V= Velocity, ft/sec  
S<sub>f</sub>= Slope, ft/ft  
n= Manning's n  
T<sub>c</sub>= Time of concentration, hours  
L<sub>f</sub>= Flow length, feet

### ==== SCS TR-55 Shallow Concentration Flow

$$T_c = \frac{\text{Unpaved surface:}}{V = 16.1345 * (S_f^{0.5})}$$

$$\text{Paved Surface:}$$
$$V = 20.3282 * (S_f^{0.5})$$

$$\text{Where: } (L_f / V) / 3600$$

V= Velocity, ft/sec  
S<sub>f</sub>= Slope, ft/ft  
T<sub>c</sub>= Time of concentration, hours  
L<sub>f</sub>= Flow length, feet

## Stormwater Hydrologic Calculations

Subsection: Runoff CN-Area  
 Label: EDA 1C-10  
 Scenario: Pre-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Runoff Curve Number Data

Soil/Surface Description	CN	Area (ft <sup>2</sup> )	C (%)	UC (%)	Adjusted CN
Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil C	98.000	25,196	0.0	0.0	98.000
Woods - good - Soil C	70.000	15,880	0.0	0.0	70.000
Tennis Court - Soil B	92.000	7,323	0.0	0.0	92.000
Open space (Lawns,parks etc.) - Good condition; grass cover > 75% - Soil C	74.000	59,050	0.0	0.0	74.000
Open space (Lawns,parks etc.) - Good condition; grass cover > 75% - Soil B	61.000	476,936	0.0	0.0	61.000
Woods - good - Soil B	55.000	287,685	0.0	0.0	55.000
COMPOSITE AREA & WEIGHTED CN --->	(N/A)	872,070	(N/A)	(N/A)	61.394

## Stormwater Hydrologic Calculations

Subsection: Runoff CN-Area  
 Label: EDA 1C-2  
 Scenario: Pre-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Runoff Curve Number Data

Soil/Surface Description	CN	Area (ft <sup>2</sup> )	C (%)	UC (%)	Adjusted CN
Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil B	98.000	285,024	0.0	0.0	98.000
Open space (Lawns,parks etc.) - Good condition; grass cover > 75% - Soil B	61.000	1,133,377	0.0	0.0	61.000
Open space (Lawns,parks etc.) - Good condition; grass cover > 75% - Soil C	74.000	406,420	0.0	0.0	74.000
Woods - good - Soil B	55.000	256,121	0.0	0.0	55.000
Woods - good - Soil C	70.000	94,026	0.0	0.0	70.000
Water	100.000	82,180	0.0	0.0	100.000
Tennis Court - Soil B	92.000	50,432	0.0	0.0	92.000
Tennis Court - Soil C	94.000	12,426	0.0	0.0	94.000
COMPOSITE AREA & WEIGHTED CN --->	(N/A)	2,320,006	(N/A)	(N/A)	69.757

## Stormwater Hydrologic Calculations

Subsection: Runoff CN-Area  
 Label: EDA 1C-6  
 Scenario: Pre-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Runoff Curve Number Data

Soil/Surface Description	CN	Area (ft <sup>2</sup> )	C (%)	UC (%)	Adjusted CN
Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil B	98.000	15,851	0.0	0.0	98.000
Woods - good - Soil B	55.000	176,410	0.0	0.0	55.000
Open space (Lawns,parks etc.) - Good condition; grass cover > 75% - Soil B	61.000	372,448	0.0	0.0	61.000
Open space (Lawns,parks etc.) - Good condition; grass cover > 75% - Soil C	74.000	4,620	0.0	0.0	74.000
COMPOSITE AREA & WEIGHTED CN --->	(N/A)	569,329	(N/A)	(N/A)	60.276

## Stormwater Hydrologic Calculations

Subsection: Runoff CN-Area  
 Label: EDA 1C-7  
 Scenario: Pre-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Runoff Curve Number Data

Soil/Surface Description	CN	Area (ft <sup>2</sup> )	C (%)	UC (%)	Adjusted CN
Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil C	98.000	22,088	0.0	0.0	98.000
Open space (Lawns,parks etc.) - Good condition; grass cover > 75% - Soil B	61.000	136,639	0.0	0.0	61.000
Woods - good - Soil B	55.000	40,653	0.0	0.0	55.000
Tennis Court - Soil C	92.000	12,560	0.0	0.0	92.000
Open space (Lawns,parks etc.) - Good condition; grass cover > 75% - Soil C	74.000	16,584	0.0	0.0	74.000
Woods - good - Soil C	70.000	10,690	0.0	0.0	70.000
Water	100.000	8,021	0.0	0.0	100.000
COMPOSITE AREA & WEIGHTED CN --->	(N/A)	247,235	(N/A)	(N/A)	67.420

## Stormwater Hydrologic Calculations

Subsection: Runoff CN-Area  
 Label: EDA-2  
 Scenario: Pre-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Runoff Curve Number Data

Soil/Surface Description	CN	Area (ft <sup>2</sup> )	C (%)	UC (%)	Adjusted CN
Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil C	98.000	15,842	0.0	0.0	98.000
Open space (Lawns,parks etc.) - Good condition; grass cover > 75% - Soil B	61.000	6,802	0.0	0.0	61.000
Open space (Lawns,parks etc.) - Good condition; grass cover > 75% - Soil C	74.000	69,240	0.0	0.0	74.000
Woods - good - Soil B	55.000	1,020	0.0	0.0	55.000
Woods - good - Soil C	70.000	53,899	0.0	0.0	70.000
COMPOSITE AREA & WEIGHTED CN --->	(N/A)	146,803	(N/A)	(N/A)	74.387

## Stormwater Hydrologic Calculations

Subsection: Runoff CN-Area  
 Label: PDA-1C-10  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Runoff Curve Number Data

Soil/Surface Description	CN	Area (ft <sup>2</sup> )	C (%)	UC (%)	Adjusted CN
Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil B	98.000	12,243	0.0	0.0	98.000
Woods - good - Soil C	70.000	5,602	0.0	0.0	70.000
Open space (Lawns,parks etc.) - Good condition; grass cover > 75% - Soil C	74.000	10,867	0.0	0.0	74.000
Open space (Lawns,parks etc.) - Good condition; grass cover > 75% - Soil B	61.000	433,215	0.0	0.0	61.000
Woods - good - Soil B	55.000	183,777	0.0	0.0	55.000
COMPOSITE AREA & WEIGHTED CN --->	(N/A)	645,704	(N/A)	(N/A)	60.291

## Stormwater Hydrologic Calculations

Subsection: Runoff CN-Area  
 Label: PDA-1C-2/10  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Runoff Curve Number Data

Soil/Surface Description	CN	Area (ft <sup>2</sup> )	C (%)	UC (%)	Adjusted CN
Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil C	98.000	221,971	0.0	0.0	98.000
Open space (Lawns,parks etc.) - Good condition; grass cover > 75% - Soil B	61.000	267,127	0.0	0.0	61.000
Open space (Lawns,parks etc.) - Good condition; grass cover > 75% - Soil C	74.000	111,853	0.0	0.0	74.000
COMPOSITE AREA & WEIGHTED CN --->	(N/A)	600,951	(N/A)	(N/A)	77.086



## Stormwater Hydrologic Calculations

Subsection: Runoff CN-Area  
 Label: PDA-1C-2A  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Runoff Curve Number Data

Soil/Surface Description	CN	Area (ft <sup>2</sup> )	C (%)	UC (%)	Adjusted CN
Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil C	98.000	203,585	0.0	0.0	98.000
Open space (Lawns,parks etc.) - Good condition; grass cover > 75% - Soil B	61.000	1,076,753	0.0	0.0	61.000
Open space (Lawns,parks etc.) - Good condition; grass cover > 75% - Soil C	74.000	349,797	0.0	0.0	74.000
Woods - good - Soil B	55.000	256,121	0.0	0.0	55.000
Woods - good - Soil C	70.000	94,026	0.0	0.0	70.000
Water	100.000	82,180	0.0	0.0	100.000
COMPOSITE AREA & WEIGHTED CN --->	(N/A)	2,062,462	(N/A)	(N/A)	68.076

## Stormwater Hydrologic Calculations

Subsection: Runoff CN-Area  
 Label: PDA-1C-2B  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Runoff Curve Number Data

Soil/Surface Description	CN	Area (ft <sup>2</sup> )	C (%)	UC (%)	Adjusted CN
Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil B	98.000	15,390	0.0	0.0	98.000
COMPOSITE AREA & WEIGHTED CN --->	(N/A)	15,390	(N/A)	(N/A)	98.000

## Stormwater Hydrologic Calculations

Subsection: Runoff CN-Area  
 Label: PDA-1C-2C  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Runoff Curve Number Data

Soil/Surface Description	CN	Area (ft <sup>2</sup> )	C (%)	UC (%)	Adjusted CN
Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil B	98.000	8,930	0.0	0.0	98.000
COMPOSITE AREA & WEIGHTED CN --->	(N/A)	8,930	(N/A)	(N/A)	98.000

## Stormwater Hydrologic Calculations

Subsection: Runoff CN-Area  
 Label: PDA-1C-6  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Runoff Curve Number Data

Soil/Surface Description	CN	Area (ft <sup>2</sup> )	C (%)	UC (%)	Adjusted CN
Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil B	98.000	15,851	0.0	0.0	98.000
Woods - good - Soil B	55.000	176,410	0.0	0.0	55.000
Open space (Lawns,parks etc.) - Good condition; grass cover > 75% - Soil B	61.000	355,580	0.0	0.0	61.000
Open space (Lawns,parks etc.) - Good condition; grass cover > 75% - Soil C	74.000	4,620	0.0	0.0	74.000
COMPOSITE AREA & WEIGHTED CN --->	(N/A)	552,461	(N/A)	(N/A)	60.254

## Stormwater Hydrologic Calculations

Subsection: Runoff CN-Area  
 Label: PDA-1C-7  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Runoff Curve Number Data

Soil/Surface Description	CN	Area (ft <sup>2</sup> )	C (%)	UC (%)	Adjusted CN
Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil B	98.000	16,509	0.0	0.0	98.000
Open space (Lawns,parks etc.) - Good condition; grass cover > 75% - Soil B	61.000	112,143	0.0	0.0	61.000
Woods - good - Soil B	55.000	40,653	0.0	0.0	55.000
Water	100.000	8,021	0.0	0.0	100.000
COMPOSITE AREA & WEIGHTED CN --->	(N/A)	177,326	(N/A)	(N/A)	64.833

## Stormwater Hydrologic Calculations

Subsection: Runoff CN-Area  
 Label: PDA-2  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Runoff Curve Number Data

Soil/Surface Description	CN	Area (ft <sup>2</sup> )	C (%)	UC (%)	Adjusted CN
Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil C	98.000	263	0.0	0.0	98.000
Open space (Lawns,parks etc.) - Good condition; grass cover > 75% - Soil B	61.000	7,530	0.0	0.0	61.000
Open space (Lawns,parks etc.) - Good condition; grass cover > 75% - Soil C	74.000	118,171	0.0	0.0	74.000
COMPOSITE AREA & WEIGHTED CN --->	(N/A)	125,964	(N/A)	(N/A)	73.273

## Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: EDA 1C-10

Scenario: Pre-Development 1 year

Return Event: 1 years

Storm Event: 1 year

Storm Event	1 year
Return Event	1 years
Duration	24.000 hours
Depth	2.8 in
Time of Concentration (Composite)	0.166 hours
Area (User Defined)	872,070 ft <sup>2</sup>
<hr/>	
Computational Time Increment	0.022 hours
Time to Peak (Computed)	12.251 hours
Flow (Peak, Computed)	2.88 ft <sup>3</sup> /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.250 hours
Flow (Peak Interpolated Output)	2.88 ft <sup>3</sup> /s
<hr/>	
<b>Drainage Area</b>	
SCS CN (Composite)	61.000
Area (User Defined)	872,070 ft <sup>2</sup>
Maximum Retention (Pervious)	6.4 in
Maximum Retention (Pervious, 20 percent)	1.3 in
<hr/>	
<b>Cumulative Runoff</b>	
Cumulative Runoff Depth (Pervious)	0.3 in
Runoff Volume (Pervious)	21,250 ft <sup>3</sup>
<hr/>	
<b>Hydrograph Volume (Area under Hydrograph curve)</b>	
Volume	21,168 ft <sup>3</sup>
<hr/>	
<b>SCS Unit Hydrograph Parameters</b>	
Time of Concentration (Composite)	0.166 hours
Computational Time Increment	0.022 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

## Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: EDA 1C-10

Scenario: Pre-Development 1 year

Return Event: 1 years

Storm Event: 1 year

---

SCS Unit Hydrograph Parameters	
Unit peak, qp	136.52 ft <sup>3</sup> /s
Unit peak time, Tp	0.111 hours
Unit receding limb, Tr	0.443 hours
Total unit time, Tb	0.554 hours

---



## Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: EDA 1C-10

Scenario: Pre-Development 10 year

Return Event: 10 years

Storm Event: 10 year

Storm Event	10 year
Return Event	10 years
Duration	24.000 hours
Depth	5.1 in
Time of Concentration (Composite)	0.166 hours
Area (User Defined)	872,070 ft <sup>2</sup>
<hr/>	
Computational Time Increment	0.022 hours
Time to Peak (Computed)	12.162 hours
Flow (Peak, Computed)	25.53 ft <sup>3</sup> /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	25.49 ft <sup>3</sup> /s
<hr/>	
<b>Drainage Area</b>	
SCS CN (Composite)	61.000
Area (User Defined)	872,070 ft <sup>2</sup>
Maximum Retention (Pervious)	6.4 in
Maximum Retention (Pervious, 20 percent)	1.3 in
<hr/>	
<b>Cumulative Runoff</b>	
Cumulative Runoff Depth (Pervious)	1.4 in
Runoff Volume (Pervious)	104,774 ft <sup>3</sup>
<hr/>	
<b>Hydrograph Volume (Area under Hydrograph curve)</b>	
Volume	104,512 ft <sup>3</sup>
<hr/>	
<b>SCS Unit Hydrograph Parameters</b>	
Time of Concentration (Composite)	0.166 hours
Computational Time Increment	0.022 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

# Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: EDA 1C-10

Scenario: Pre-Development 10 year

Return Event: 10 years

Storm Event: 10 year

---

SCS Unit Hydrograph Parameters	
Unit peak, qp	136.52 ft <sup>3</sup> /s
Unit peak time, Tp	0.111 hours
Unit receding limb, Tr	0.443 hours
Total unit time, Tb	0.554 hours

---

## Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: EDA 1C-10

Scenario: Pre-Development 25 year

Return Event: 25 years

Storm Event: 25 year

Storm Event	25 year
Return Event	25 years
Duration	24.000 hours
Depth	6.4 in
Time of Concentration (Composite)	0.166 hours
Area (User Defined)	872,070 ft <sup>2</sup>
<hr/>	
Computational Time Increment	0.022 hours
Time to Peak (Computed)	12.140 hours
Flow (Peak, Computed)	42.70 ft <sup>3</sup> /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	42.57 ft <sup>3</sup> /s
<hr/>	
Drainage Area	
SCS CN (Composite)	61.000
Area (User Defined)	872,070 ft <sup>2</sup>
Maximum Retention (Pervious)	6.4 in
Maximum Retention (Pervious, 20 percent)	1.3 in
<hr/>	
Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.3 in
Runoff Volume (Pervious)	167,544 ft <sup>3</sup>
<hr/>	
Hydrograph Volume (Area under Hydrograph curve)	
Volume	167,171 ft <sup>3</sup>
<hr/>	
SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.166 hours
Computational Time Increment	0.022 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

# Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: EDA 1C-10

Scenario: Pre-Development 25 year

Return Event: 25 years

Storm Event: 25 year

---

SCS Unit Hydrograph Parameters	
Unit peak, qp	136.52 ft <sup>3</sup> /s
Unit peak time, Tp	0.111 hours
Unit receding limb, Tr	0.443 hours
Total unit time, Tb	0.554 hours

---

## Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Return Event: 100 years

Label: EDA 1C-10

Storm Event: 100 year

Scenario: Pre-Development 100 year

Storm Event	100 year
Return Event	100 years
Duration	24.000 hours
Depth	9.1 in
Time of Concentration (Composite)	0.166 hours
Area (User Defined)	872,070 ft <sup>2</sup>
<hr/>	
Computational Time Increment	0.022 hours
Time to Peak (Computed)	12.140 hours
Flow (Peak, Computed)	82.43 ft <sup>3</sup> /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	81.83 ft <sup>3</sup> /s
<hr/>	
<b>Drainage Area</b>	
SCS CN (Composite)	61.000
Area (User Defined)	872,070 ft <sup>2</sup>
Maximum Retention (Pervious)	6.4 in
Maximum Retention (Pervious, 20 percent)	1.3 in
<hr/>	
<b>Cumulative Runoff</b>	
Cumulative Runoff Depth (Pervious)	4.3 in
Runoff Volume (Pervious)	315,065 ft <sup>3</sup>
<hr/>	
<b>Hydrograph Volume (Area under Hydrograph curve)</b>	
Volume	314,455 ft <sup>3</sup>
<hr/>	
<b>SCS Unit Hydrograph Parameters</b>	
Time of Concentration (Composite)	0.166 hours
Computational Time Increment	0.022 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

# Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: EDA 1C-10

Scenario: Pre-Development 100 year

Return Event: 100 years

Storm Event: 100 year

---

SCS Unit Hydrograph Parameters	
Unit peak, qp	136.52 ft <sup>3</sup> /s
Unit peak time, Tp	0.111 hours
Unit receding limb, Tr	0.443 hours
Total unit time, Tb	0.554 hours

---

## Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: EDA 1C-2

Scenario: Pre-Development 1 year

Return Event: 1 years

Storm Event: 1 year

Storm Event	1 year
Return Event	1 years
Duration	24.000 hours
Depth	2.8 in
Time of Concentration (Composite)	0.207 hours
Area (User Defined)	2,320,006 ft <sup>2</sup>

Computational Time Increment	0.028 hours
Time to Peak (Computed)	12.199 hours
Flow (Peak, Computed)	24.73 ft <sup>3</sup> /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.200 hours
Flow (Peak Interpolated Output)	24.70 ft <sup>3</sup> /s

Drainage Area	
SCS CN (Composite)	70.000
Area (User Defined)	2,320,006 ft <sup>2</sup>
Maximum Retention (Pervious)	4.3 in
Maximum Retention (Pervious, 20 percent)	0.9 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	0.6 in
Runoff Volume (Pervious)	117,166 ft <sup>3</sup>

Hydrograph Volume (Area under Hydrograph curve)	
Volume	116,765 ft <sup>3</sup>

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.207 hours
Computational Time Increment	0.028 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

# Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: EDA 1C-2

Scenario: Pre-Development 1 year

Return Event: 1 years

Storm Event: 1 year

---

SCS Unit Hydrograph Parameters	
Unit peak, qp	292.19 ft <sup>3</sup> /s
Unit peak time, Tp	0.138 hours
Unit receding limb, Tr	0.551 hours
Total unit time, Tb	0.688 hours

---



## Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: EDA 1C-2

Scenario: Pre-Development 10 year

Return Event: 10 years

Storm Event: 10 year

Storm Event	10 year
Return Event	10 years
Duration	24.000 hours
Depth	5.1 in
Time of Concentration (Composite)	0.207 hours
Area (User Defined)	2,320,006 ft <sup>2</sup>

Computational Time Increment	0.028 hours
Time to Peak (Computed)	12.171 hours
Flow (Peak, Computed)	100.58 ft <sup>3</sup> /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	99.64 ft <sup>3</sup> /s

Drainage Area	
SCS CN (Composite)	70.000
Area (User Defined)	2,320,006 ft <sup>2</sup>
Maximum Retention (Pervious)	4.3 in
Maximum Retention (Pervious, 20 percent)	0.9 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.1 in
Runoff Volume (Pervious)	410,975 ft <sup>3</sup>

Hydrograph Volume (Area under Hydrograph curve)	
Volume	409,916 ft <sup>3</sup>

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.207 hours
Computational Time Increment	0.028 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

# Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: EDA 1C-2

Scenario: Pre-Development 10 year

Return Event: 10 years

Storm Event: 10 year

---

SCS Unit Hydrograph Parameters	
Unit peak, qp	292.19 ft <sup>3</sup> /s
Unit peak time, Tp	0.138 hours
Unit receding limb, Tr	0.551 hours
Total unit time, Tb	0.688 hours

---

## Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: EDA 1C-2

Scenario: Pre-Development 25 year

Return Event: 25 years

Storm Event: 25 year

Storm Event	25 year
Return Event	25 years
Duration	24.000 hours
Depth	6.4 in
Time of Concentration (Composite)	0.207 hours
Area (User Defined)	2,320,006 ft <sup>2</sup>

Computational Time Increment	0.028 hours
Time to Peak (Computed)	12.171 hours
Flow (Peak, Computed)	150.94 ft <sup>3</sup> /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	150.27 ft <sup>3</sup> /s

Drainage Area	
SCS CN (Composite)	70.000
Area (User Defined)	2,320,006 ft <sup>2</sup>
Maximum Retention (Pervious)	4.3 in
Maximum Retention (Pervious, 20 percent)	0.9 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.2 in
Runoff Volume (Pervious)	610,614 ft <sup>3</sup>

Hydrograph Volume (Area under Hydrograph curve)	
Volume	609,163 ft <sup>3</sup>

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.207 hours
Computational Time Increment	0.028 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

## Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: EDA 1C-2

Scenario: Pre-Development 25 year

Return Event: 25 years

Storm Event: 25 year

---

### SCS Unit Hydrograph Parameters

---

Unit peak, $q_p$	292.19 ft <sup>3</sup> /s
Unit peak time, $T_p$	0.138 hours
Unit receding limb, $T_r$	0.551 hours
Total unit time, $T_b$	0.688 hours

---

## Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Return Event: 100 years

Label: EDA 1C-2

Storm Event: 100 year

Scenario: Pre-Development 100 year

Storm Event	100 year
Return Event	100 years
Duration	24.000 hours
Depth	9.1 in
Time of Concentration (Composite)	0.207 hours
Area (User Defined)	2,320,006 ft <sup>2</sup>
<hr/>	
Computational Time Increment	0.028 hours
Time to Peak (Computed)	12.144 hours
Flow (Peak, Computed)	260.54 ft <sup>3</sup> /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	260.46 ft <sup>3</sup> /s
<hr/>	
Drainage Area	
SCS CN (Composite)	70.000
Area (User Defined)	2,320,006 ft <sup>2</sup>
Maximum Retention (Pervious)	4.3 in
Maximum Retention (Pervious, 20 percent)	0.9 in
<hr/>	
Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	5.5 in
Runoff Volume (Pervious)	1,055,315 ft <sup>3</sup>
<hr/>	
Hydrograph Volume (Area under Hydrograph curve)	
Volume	1,053,060 ft <sup>3</sup>
<hr/>	
SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.207 hours
Computational Time Increment	0.028 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

# Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: EDA 1C-2

Scenario: Pre-Development 100 year

Return Event: 100 years

Storm Event: 100 year

---

## SCS Unit Hydrograph Parameters

---

Unit peak, qp	292.19 ft <sup>3</sup> /s
Unit peak time, Tp	0.138 hours
Unit receding limb, Tr	0.551 hours
Total unit time, Tb	0.688 hours

---

## Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: EDA 1C-6

Scenario: Pre-Development 1 year

Return Event: 1 years

Storm Event: 1 year

Storm Event	1 year
Return Event	1 years
Duration	24.000 hours
Depth	2.8 in
Time of Concentration (Composite)	0.149 hours
Area (User Defined)	569,329 ft <sup>2</sup>
<hr/>	
Computational Time Increment	0.020 hours
Time to Peak (Computed)	12.323 hours
Flow (Peak, Computed)	1.59 ft <sup>3</sup> /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.300 hours
Flow (Peak Interpolated Output)	1.59 ft <sup>3</sup> /s
<hr/>	
<b>Drainage Area</b>	
SCS CN (Composite)	60.000
Area (User Defined)	569,329 ft <sup>2</sup>
Maximum Retention (Pervious)	6.7 in
Maximum Retention (Pervious, 20 percent)	1.3 in
<hr/>	
<b>Cumulative Runoff</b>	
Cumulative Runoff Depth (Pervious)	0.3 in
Runoff Volume (Pervious)	12,548 ft <sup>3</sup>
<hr/>	
<b>Hydrograph Volume (Area under Hydrograph curve)</b>	
Volume	12,504 ft <sup>3</sup>
<hr/>	
<b>SCS Unit Hydrograph Parameters</b>	
Time of Concentration (Composite)	0.149 hours
Computational Time Increment	0.020 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

# Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: EDA 1C-6

Scenario: Pre-Development 1 year

Return Event: 1 years

Storm Event: 1 year

---

SCS Unit Hydrograph Parameters	
Unit peak, qp	99.18 ft <sup>3</sup> /s
Unit peak time, Tp	0.100 hours
Unit receding limb, Tr	0.398 hours
Total unit time, Tb	0.498 hours

---



## Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: EDA 1C-6

Scenario: Pre-Development 10 year

Return Event: 10 years

Storm Event: 10 year

Storm Event	10 year
Return Event	10 years
Duration	24.000 hours
Depth	5.1 in
Time of Concentration (Composite)	0.149 hours
Area (User Defined)	569,329 ft <sup>2</sup>
<hr/>	
Computational Time Increment	0.020 hours
Time to Peak (Computed)	12.144 hours
Flow (Peak, Computed)	16.16 ft <sup>3</sup> /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	16.08 ft <sup>3</sup> /s
<hr/>	
<b>Drainage Area</b>	
SCS CN (Composite)	60.000
Area (User Defined)	569,329 ft <sup>2</sup>
Maximum Retention (Pervious)	6.7 in
Maximum Retention (Pervious, 20 percent)	1.3 in
<hr/>	
<b>Cumulative Runoff</b>	
Cumulative Runoff Depth (Pervious)	1.4 in
Runoff Volume (Pervious)	65,079 ft <sup>3</sup>
<hr/>	
<b>Hydrograph Volume (Area under Hydrograph curve)</b>	
Volume	64,931 ft <sup>3</sup>
<hr/>	
<b>SCS Unit Hydrograph Parameters</b>	
Time of Concentration (Composite)	0.149 hours
Computational Time Increment	0.020 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

# Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: EDA 1C-6

Scenario: Pre-Development 10 year

Return Event: 10 years

Storm Event: 10 year

---

SCS Unit Hydrograph Parameters	
Unit peak, qp	99.18 ft <sup>3</sup> /s
Unit peak time, Tp	0.100 hours
Unit receding limb, Tr	0.398 hours
Total unit time, Tb	0.498 hours

---

## Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: EDA 1C-6

Scenario: Pre-Development 25 year

Return Event: 25 years

Storm Event: 25 year

Storm Event	25 year
Return Event	25 years
Duration	24.000 hours
Depth	6.4 in
Time of Concentration (Composite)	0.149 hours
Area (User Defined)	569,329 ft <sup>2</sup>

Computational Time Increment	0.020 hours
Time to Peak (Computed)	12.144 hours
Flow (Peak, Computed)	27.33 ft <sup>3</sup> /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	27.12 ft <sup>3</sup> /s

Drainage Area	
SCS CN (Composite)	60.000
Area (User Defined)	569,329 ft <sup>2</sup>
Maximum Retention (Pervious)	6.7 in
Maximum Retention (Pervious, 20 percent)	1.3 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.2 in
Runoff Volume (Pervious)	105,089 ft <sup>3</sup>

Hydrograph Volume (Area under Hydrograph curve)	
Volume	104,876 ft <sup>3</sup>

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.149 hours
Computational Time Increment	0.020 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

# Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: EDA 1C-6

Scenario: Pre-Development 25 year

Return Event: 25 years

Storm Event: 25 year

---

SCS Unit Hydrograph Parameters	
Unit peak, qp	99.18 ft <sup>3</sup> /s
Unit peak time, Tp	0.100 hours
Unit receding limb, Tr	0.398 hours
Total unit time, Tb	0.498 hours

---

## Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Return Event: 100 years

Label: EDA 1C-6

Storm Event: 100 year

Scenario: Pre-Development 100 year

Storm Event	100 year
Return Event	100 years
Duration	24.000 hours
Depth	9.1 in
Time of Concentration (Composite)	0.149 hours
Area (User Defined)	569,329 ft <sup>2</sup>
<hr/>	
Computational Time Increment	0.020 hours
Time to Peak (Computed)	12.144 hours
Flow (Peak, Computed)	53.17 ft <sup>3</sup> /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	52.62 ft <sup>3</sup> /s
<hr/>	
<b>Drainage Area</b>	
SCS CN (Composite)	60.000
Area (User Defined)	569,329 ft <sup>2</sup>
Maximum Retention (Pervious)	6.7 in
Maximum Retention (Pervious, 20 percent)	1.3 in
<hr/>	
<b>Cumulative Runoff</b>	
Cumulative Runoff Depth (Pervious)	4.2 in
Runoff Volume (Pervious)	199,777 ft <sup>3</sup>
<hr/>	
<b>Hydrograph Volume (Area under Hydrograph curve)</b>	
Volume	199,424 ft <sup>3</sup>
<hr/>	
<b>SCS Unit Hydrograph Parameters</b>	
Time of Concentration (Composite)	0.149 hours
Computational Time Increment	0.020 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

# Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: EDA 1C-6

Scenario: Pre-Development 100 year

Return Event: 100 years

Storm Event: 100 year

---

SCS Unit Hydrograph Parameters	
Unit peak, qp	99.18 ft <sup>3</sup> /s
Unit peak time, Tp	0.100 hours
Unit receding limb, Tr	0.398 hours
Total unit time, Tb	0.498 hours

---

## Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: EDA 1C-7

Scenario: Pre-Development 1 year

Return Event: 1 years

Storm Event: 1 year

Storm Event	1 year
Return Event	1 years
Duration	24.000 hours
Depth	2.8 in
Time of Concentration (Composite)	0.127 hours
Area (User Defined)	247,235 ft <sup>2</sup>
<hr/>	
Computational Time Increment	0.017 hours
Time to Peak (Computed)	12.140 hours
Flow (Peak, Computed)	2.22 ft <sup>3</sup> /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	2.21 ft <sup>3</sup> /s
<hr/>	
<b>Drainage Area</b>	
SCS CN (Composite)	67.000
Area (User Defined)	247,235 ft <sup>2</sup>
Maximum Retention (Pervious)	4.9 in
Maximum Retention (Pervious, 20 percent)	1.0 in
<hr/>	
<b>Cumulative Runoff</b>	
Cumulative Runoff Depth (Pervious)	0.5 in
Runoff Volume (Pervious)	10,069 ft <sup>3</sup>
<hr/>	
<b>Hydrograph Volume (Area under Hydrograph curve)</b>	
Volume	10,045 ft <sup>3</sup>
<hr/>	
<b>SCS Unit Hydrograph Parameters</b>	
Time of Concentration (Composite)	0.127 hours
Computational Time Increment	0.017 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

# Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: EDA 1C-7

Scenario: Pre-Development 1 year

Return Event: 1 years

Storm Event: 1 year

---

SCS Unit Hydrograph Parameters	
Unit peak, qp	50.50 ft <sup>3</sup> /s
Unit peak time, Tp	0.085 hours
Unit receding limb, Tr	0.340 hours
Total unit time, Tb	0.424 hours

---



## Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: EDA 1C-7

Scenario: Pre-Development 10 year

Return Event: 10 years

Storm Event: 10 year

Storm Event	10 year
Return Event	10 years
Duration	24.000 hours
Depth	5.1 in
Time of Concentration (Composite)	0.127 hours
Area (User Defined)	247,235 ft <sup>2</sup>
<hr/>	
Computational Time Increment	0.017 hours
Time to Peak (Computed)	12.123 hours
Flow (Peak, Computed)	10.50 ft <sup>3</sup> /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	10.21 ft <sup>3</sup> /s
<hr/>	
<b>Drainage Area</b>	
SCS CN (Composite)	67.000
Area (User Defined)	247,235 ft <sup>2</sup>
Maximum Retention (Pervious)	4.9 in
Maximum Retention (Pervious, 20 percent)	1.0 in
<hr/>	
<b>Cumulative Runoff</b>	
Cumulative Runoff Depth (Pervious)	1.9 in
Runoff Volume (Pervious)	38,880 ft <sup>3</sup>
<hr/>	
<b>Hydrograph Volume (Area under Hydrograph curve)</b>	
Volume	38,812 ft <sup>3</sup>
<hr/>	
<b>SCS Unit Hydrograph Parameters</b>	
Time of Concentration (Composite)	0.127 hours
Computational Time Increment	0.017 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

# Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: EDA 1C-7

Scenario: Pre-Development 10 year

Return Event: 10 years

Storm Event: 10 year

---

SCS Unit Hydrograph Parameters	
Unit peak, qp	50.50 ft <sup>3</sup> /s
Unit peak time, Tp	0.085 hours
Unit receding limb, Tr	0.340 hours
Total unit time, Tb	0.424 hours

---

## Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: EDA 1C-7

Scenario: Pre-Development 25 year

Return Event: 25 years

Storm Event: 25 year

Storm Event	25 year
Return Event	25 years
Duration	24.000 hours
Depth	6.4 in
Time of Concentration (Composite)	0.127 hours
Area (User Defined)	247,235 ft <sup>2</sup>

Computational Time Increment	0.017 hours
Time to Peak (Computed)	12.123 hours
Flow (Peak, Computed)	16.19 ft <sup>3</sup> /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	15.81 ft <sup>3</sup> /s

Drainage Area	
SCS CN (Composite)	67.000
Area (User Defined)	247,235 ft <sup>2</sup>
Maximum Retention (Pervious)	4.9 in
Maximum Retention (Pervious, 20 percent)	1.0 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.9 in
Runoff Volume (Pervious)	59,060 ft <sup>3</sup>

Hydrograph Volume (Area under Hydrograph curve)	
Volume	58,967 ft <sup>3</sup>

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.127 hours
Computational Time Increment	0.017 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

# Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: EDA 1C-7

Scenario: Pre-Development 25 year

Return Event: 25 years

Storm Event: 25 year

---

SCS Unit Hydrograph Parameters	
Unit peak, qp	50.50 ft <sup>3</sup> /s
Unit peak time, Tp	0.085 hours
Unit receding limb, Tr	0.340 hours
Total unit time, Tb	0.424 hours

---

## Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Return Event: 100 years

Label: EDA 1C-7

Storm Event: 100 year

Scenario: Pre-Development 100 year

Storm Event	100 year
Return Event	100 years
Duration	24.000 hours
Depth	9.1 in
Time of Concentration (Composite)	0.127 hours
Area (User Defined)	247,235 ft <sup>2</sup>
<hr/>	
Computational Time Increment	0.017 hours
Time to Peak (Computed)	12.123 hours
Flow (Peak, Computed)	28.73 ft <sup>3</sup> /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	28.29 ft <sup>3</sup> /s
<hr/>	
<b>Drainage Area</b>	
SCS CN (Composite)	67.000
Area (User Defined)	247,235 ft <sup>2</sup>
Maximum Retention (Pervious)	4.9 in
Maximum Retention (Pervious, 20 percent)	1.0 in
<hr/>	
<b>Cumulative Runoff</b>	
Cumulative Runoff Depth (Pervious)	5.1 in
Runoff Volume (Pervious)	104,749 ft <sup>3</sup>
<hr/>	
<b>Hydrograph Volume (Area under Hydrograph curve)</b>	
Volume	104,601 ft <sup>3</sup>
<hr/>	
<b>SCS Unit Hydrograph Parameters</b>	
Time of Concentration (Composite)	0.127 hours
Computational Time Increment	0.017 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

## Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: EDA 1C-7

Scenario: Pre-Development 100 year

Return Event: 100 years

Storm Event: 100 year

---

### SCS Unit Hydrograph Parameters

---

Unit peak, $q_p$	50.50 ft <sup>3</sup> /s
Unit peak time, $T_p$	0.085 hours
Unit receding limb, $T_r$	0.340 hours
Total unit time, $T_b$	0.424 hours

---

## Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: EDA-2

Scenario: Pre-Development 1 year

Return Event: 1 years

Storm Event: 1 year

Storm Event	1 year
Return Event	1 years
Duration	24.000 hours
Depth	2.8 in
Time of Concentration (Composite)	0.208 hours
Area (User Defined)	146,803 ft <sup>2</sup>
<hr/>	
Computational Time Increment	0.028 hours
Time to Peak (Computed)	12.175 hours
Flow (Peak, Computed)	2.19 ft <sup>3</sup> /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.200 hours
Flow (Peak Interpolated Output)	2.17 ft <sup>3</sup> /s
<hr/>	
<b>Drainage Area</b>	
SCS CN (Composite)	74.000
Area (User Defined)	146,803 ft <sup>2</sup>
Maximum Retention (Pervious)	3.5 in
Maximum Retention (Pervious, 20 percent)	0.7 in
<hr/>	
<b>Cumulative Runoff</b>	
Cumulative Runoff Depth (Pervious)	0.8 in
Runoff Volume (Pervious)	9,591 ft <sup>3</sup>
<hr/>	
<b>Hydrograph Volume (Area under Hydrograph curve)</b>	
Volume	9,561 ft <sup>3</sup>
<hr/>	
<b>SCS Unit Hydrograph Parameters</b>	
Time of Concentration (Composite)	0.208 hours
Computational Time Increment	0.028 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

# Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: EDA-2

Scenario: Pre-Development 1 year

Return Event: 1 years

Storm Event: 1 year

---

SCS Unit Hydrograph Parameters	
Unit peak, qp	18.32 ft <sup>3</sup> /s
Unit peak time, Tp	0.139 hours
Unit receding limb, Tr	0.556 hours
Total unit time, Tb	0.695 hours

---



## Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: EDA-2

Scenario: Pre-Development 10 year

Return Event: 10 years

Storm Event: 10 year

Storm Event	10 year
Return Event	10 years
Duration	24.000 hours
Depth	5.1 in
Time of Concentration (Composite)	0.208 hours
Area (User Defined)	146,803 ft <sup>2</sup>

Computational Time Increment	0.028 hours
Time to Peak (Computed)	12.175 hours
Flow (Peak, Computed)	7.41 ft <sup>3</sup> /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	7.39 ft <sup>3</sup> /s

Drainage Area	
SCS CN (Composite)	74.000
Area (User Defined)	146,803 ft <sup>2</sup>
Maximum Retention (Pervious)	3.5 in
Maximum Retention (Pervious, 20 percent)	0.7 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.5 in
Runoff Volume (Pervious)	30,099 ft <sup>3</sup>

Hydrograph Volume (Area under Hydrograph curve)	
Volume	30,028 ft <sup>3</sup>

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.208 hours
Computational Time Increment	0.028 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

# Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: EDA-2

Scenario: Pre-Development 10 year

Return Event: 10 years

Storm Event: 10 year

---

SCS Unit Hydrograph Parameters	
Unit peak, qp	18.32 ft <sup>3</sup> /s
Unit peak time, Tp	0.139 hours
Unit receding limb, Tr	0.556 hours
Total unit time, Tb	0.695 hours

---

## Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: EDA-2

Scenario: Pre-Development 25 year

Return Event: 25 years

Storm Event: 25 year

Storm Event	25 year
Return Event	25 years
Duration	24.000 hours
Depth	6.4 in
Time of Concentration (Composite)	0.208 hours
Area (User Defined)	146,803 ft <sup>2</sup>
<hr/>	
Computational Time Increment	0.028 hours
Time to Peak (Computed)	12.148 hours
Flow (Peak, Computed)	10.75 ft <sup>3</sup> /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	10.75 ft <sup>3</sup> /s
<hr/>	
<b>Drainage Area</b>	
SCS CN (Composite)	74.000
Area (User Defined)	146,803 ft <sup>2</sup>
Maximum Retention (Pervious)	3.5 in
Maximum Retention (Pervious, 20 percent)	0.7 in
<hr/>	
<b>Cumulative Runoff</b>	
Cumulative Runoff Depth (Pervious)	3.6 in
Runoff Volume (Pervious)	43,530 ft <sup>3</sup>
<hr/>	
<b>Hydrograph Volume (Area under Hydrograph curve)</b>	
Volume	43,435 ft <sup>3</sup>
<hr/>	
<b>SCS Unit Hydrograph Parameters</b>	
Time of Concentration (Composite)	0.208 hours
Computational Time Increment	0.028 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

# Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: EDA-2

Scenario: Pre-Development 25 year

Return Event: 25 years

Storm Event: 25 year

---

SCS Unit Hydrograph Parameters	
Unit peak, qp	18.32 ft <sup>3</sup> /s
Unit peak time, Tp	0.139 hours
Unit receding limb, Tr	0.556 hours
Total unit time, Tb	0.695 hours

---

## Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Return Event: 100 years

Label: EDA-2

Storm Event: 100 year

Scenario: Pre-Development 100 year

Storm Event	100 year
Return Event	100 years
Duration	24.000 hours
Depth	9.1 in
Time of Concentration (Composite)	0.208 hours
Area (User Defined)	146,803 ft <sup>2</sup>
<hr/>	
Computational Time Increment	0.028 hours
Time to Peak (Computed)	12.148 hours
Flow (Peak, Computed)	17.90 ft <sup>3</sup> /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	17.89 ft <sup>3</sup> /s
<hr/>	
<b>Drainage Area</b>	
SCS CN (Composite)	74.000
Area (User Defined)	146,803 ft <sup>2</sup>
Maximum Retention (Pervious)	3.5 in
Maximum Retention (Pervious, 20 percent)	0.7 in
<hr/>	
<b>Cumulative Runoff</b>	
Cumulative Runoff Depth (Pervious)	6.0 in
Runoff Volume (Pervious)	72,872 ft <sup>3</sup>
<hr/>	
<b>Hydrograph Volume (Area under Hydrograph curve)</b>	
Volume	72,729 ft <sup>3</sup>
<hr/>	
<b>SCS Unit Hydrograph Parameters</b>	
Time of Concentration (Composite)	0.208 hours
Computational Time Increment	0.028 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

# Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: EDA-2

Scenario: Pre-Development 100 year

Return Event: 100 years

Storm Event: 100 year

---

SCS Unit Hydrograph Parameters	
Unit peak, qp	18.32 ft <sup>3</sup> /s
Unit peak time, Tp	0.139 hours
Unit receding limb, Tr	0.556 hours
Total unit time, Tb	0.695 hours

---

## Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: PDA-1C-10

Scenario: Post-Development 1 year

Return Event: 1 years

Storm Event: 1 year

Storm Event	1 year
Return Event	1 years
Duration	24.000 hours
Depth	2.8 in
Time of Concentration (Composite)	0.135 hours
Area (User Defined)	645,704 ft <sup>2</sup>
<hr/>	
Computational Time Increment	0.018 hours
Time to Peak (Computed)	12.262 hours
Flow (Peak, Computed)	1.81 ft <sup>3</sup> /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.300 hours
Flow (Peak Interpolated Output)	1.81 ft <sup>3</sup> /s
<hr/>	
<b>Drainage Area</b>	
SCS CN (Composite)	60.000
Area (User Defined)	645,704 ft <sup>2</sup>
Maximum Retention (Pervious)	6.7 in
Maximum Retention (Pervious, 20 percent)	1.3 in
<hr/>	
<b>Cumulative Runoff</b>	
Cumulative Runoff Depth (Pervious)	0.3 in
Runoff Volume (Pervious)	14,231 ft <sup>3</sup>
<hr/>	
<b>Hydrograph Volume (Area under Hydrograph curve)</b>	
Volume	14,186 ft <sup>3</sup>
<hr/>	
<b>SCS Unit Hydrograph Parameters</b>	
Time of Concentration (Composite)	0.135 hours
Computational Time Increment	0.018 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

# Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: PDA-1C-10

Scenario: Post-Development 1 year

Return Event: 1 years

Storm Event: 1 year

---

SCS Unit Hydrograph Parameters	
Unit peak, $q_p$	124.00 ft <sup>3</sup> /s
Unit peak time, $T_p$	0.090 hours
Unit receding limb, $T_r$	0.361 hours
Total unit time, $T_b$	0.451 hours

---



## Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: PDA-1C-10

Scenario: Post-Development 10 year

Return Event: 10 years

Storm Event: 10 year

Storm Event	10 year
Return Event	10 years
Duration	24.000 hours
Depth	5.1 in
Time of Concentration (Composite)	0.135 hours
Area (User Defined)	645,704 ft <sup>2</sup>
<hr/>	
Computational Time Increment	0.018 hours
Time to Peak (Computed)	12.136 hours
Flow (Peak, Computed)	18.79 ft <sup>3</sup> /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	18.57 ft <sup>3</sup> /s
<hr/>	
Drainage Area	
SCS CN (Composite)	60.000
Area (User Defined)	645,704 ft <sup>2</sup>
Maximum Retention (Pervious)	6.7 in
Maximum Retention (Pervious, 20 percent)	1.3 in
<hr/>	
Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	1.4 in
Runoff Volume (Pervious)	73,809 ft <sup>3</sup>
<hr/>	
Hydrograph Volume (Area under Hydrograph curve)	
Volume	73,664 ft <sup>3</sup>
<hr/>	
SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.135 hours
Computational Time Increment	0.018 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

# Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: PDA-1C-10

Scenario: Post-Development 10 year

Return Event: 10 years

Storm Event: 10 year

---

SCS Unit Hydrograph Parameters	
Unit peak, qp	124.00 ft <sup>3</sup> /s
Unit peak time, Tp	0.090 hours
Unit receding limb, Tr	0.361 hours
Total unit time, Tb	0.451 hours

---

## Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: PDA-1C-10

Scenario: Post-Development 25 year

Return Event: 25 years

Storm Event: 25 year

Storm Event	25 year
Return Event	25 years
Duration	24.000 hours
Depth	6.4 in
Time of Concentration (Composite)	0.135 hours
Area (User Defined)	645,704 ft <sup>2</sup>
<hr/>	
Computational Time Increment	0.018 hours
Time to Peak (Computed)	12.136 hours
Flow (Peak, Computed)	31.72 ft <sup>3</sup> /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	31.15 ft <sup>3</sup> /s
<hr/>	
Drainage Area	
SCS CN (Composite)	60.000
Area (User Defined)	645,704 ft <sup>2</sup>
Maximum Retention (Pervious)	6.7 in
Maximum Retention (Pervious, 20 percent)	1.3 in
<hr/>	
Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.2 in
Runoff Volume (Pervious)	119,187 ft <sup>3</sup>
<hr/>	
Hydrograph Volume (Area under Hydrograph curve)	
Volume	118,978 ft <sup>3</sup>
<hr/>	
SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.135 hours
Computational Time Increment	0.018 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

# Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: PDA-1C-10

Scenario: Post-Development 25 year

Return Event: 25 years

Storm Event: 25 year

---

SCS Unit Hydrograph Parameters	
Unit peak, qp	124.00 ft <sup>3</sup> /s
Unit peak time, Tp	0.090 hours
Unit receding limb, Tr	0.361 hours
Total unit time, Tb	0.451 hours

---

## Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Return Event: 100 years

Label: PDA-1C-10

Storm Event: 100 year

Scenario: Post-Development 100 year

Storm Event	100 year
Return Event	100 years
Duration	24.000 hours
Depth	9.1 in
Time of Concentration (Composite)	0.135 hours
Area (User Defined)	645,704 ft <sup>2</sup>
<hr/>	
Computational Time Increment	0.018 hours
Time to Peak (Computed)	12.136 hours
Flow (Peak, Computed)	61.60 ft <sup>3</sup> /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	60.14 ft <sup>3</sup> /s
<hr/>	
<b>Drainage Area</b>	
SCS CN (Composite)	60.000
Area (User Defined)	645,704 ft <sup>2</sup>
Maximum Retention (Pervious)	6.7 in
Maximum Retention (Pervious, 20 percent)	1.3 in
<hr/>	
<b>Cumulative Runoff</b>	
Cumulative Runoff Depth (Pervious)	4.2 in
Runoff Volume (Pervious)	226,577 ft <sup>3</sup>
<hr/>	
<b>Hydrograph Volume (Area under Hydrograph curve)</b>	
Volume	226,232 ft <sup>3</sup>
<hr/>	
<b>SCS Unit Hydrograph Parameters</b>	
Time of Concentration (Composite)	0.135 hours
Computational Time Increment	0.018 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

# Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: PDA-1C-10

Scenario: Post-Development 100 year

Return Event: 100 years

Storm Event: 100 year

---

SCS Unit Hydrograph Parameters	
Unit peak, $q_p$	124.00 ft <sup>3</sup> /s
Unit peak time, $T_p$	0.090 hours
Unit receding limb, $T_r$	0.361 hours
Total unit time, $T_b$	0.451 hours

---

## Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: PDA-1C-2/10

Scenario: Post-Development 1 year

Return Event: 1 years

Storm Event: 1 year

Storm Event	1 year
Return Event	1 years
Duration	24.000 hours
Depth	2.8 in
Time of Concentration (Composite)	0.171 hours
Area (User Defined)	600,951 ft <sup>2</sup>

Computational Time Increment	0.023 hours
Time to Peak (Computed)	12.161 hours
Flow (Peak, Computed)	11.69 ft <sup>3</sup> /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	11.68 ft <sup>3</sup> /s

Drainage Area	
SCS CN (Composite)	77.000
Area (User Defined)	600,951 ft <sup>2</sup>
Maximum Retention (Pervious)	3.0 in
Maximum Retention (Pervious, 20 percent)	0.6 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	0.9 in
Runoff Volume (Pervious)	46,816 ft <sup>3</sup>

Hydrograph Volume (Area under Hydrograph curve)	
Volume	46,701 ft <sup>3</sup>

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.171 hours
Computational Time Increment	0.023 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

# Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: PDA-1C-2/10

Scenario: Post-Development 1 year

Return Event: 1 years

Storm Event: 1 year

---

SCS Unit Hydrograph Parameters	
Unit peak, qp	91.52 ft <sup>3</sup> /s
Unit peak time, Tp	0.114 hours
Unit receding limb, Tr	0.455 hours
Total unit time, Tb	0.569 hours

---



## Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: PDA-1C-2/10

Scenario: Post-Development 10 year

Return Event: 10 years

Storm Event: 10 year

Storm Event	10 year
Return Event	10 years
Duration	24.000 hours
Depth	5.1 in
Time of Concentration (Composite)	0.171 hours
Area (User Defined)	600,951 ft <sup>2</sup>
<hr/>	
Computational Time Increment	0.023 hours
Time to Peak (Computed)	12.138 hours
Flow (Peak, Computed)	35.49 ft <sup>3</sup> /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	35.25 ft <sup>3</sup> /s
<hr/>	
<b>Drainage Area</b>	
SCS CN (Composite)	77.000
Area (User Defined)	600,951 ft <sup>2</sup>
Maximum Retention (Pervious)	3.0 in
Maximum Retention (Pervious, 20 percent)	0.6 in
<hr/>	
<b>Cumulative Runoff</b>	
Cumulative Runoff Depth (Pervious)	2.7 in
Runoff Volume (Pervious)	136,401 ft <sup>3</sup>
<hr/>	
<b>Hydrograph Volume (Area under Hydrograph curve)</b>	
Volume	136,135 ft <sup>3</sup>
<hr/>	
<b>SCS Unit Hydrograph Parameters</b>	
Time of Concentration (Composite)	0.171 hours
Computational Time Increment	0.023 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

# Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: PDA-1C-2/10

Scenario: Post-Development 10 year

Return Event: 10 years

Storm Event: 10 year

---

SCS Unit Hydrograph Parameters	
Unit peak, $q_p$	91.52 ft <sup>3</sup> /s
Unit peak time, $T_p$	0.114 hours
Unit receding limb, $T_r$	0.455 hours
Total unit time, $T_b$	0.569 hours

---

## Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: PDA-1C-2/10

Scenario: Post-Development 25 year

Return Event: 25 years

Storm Event: 25 year

Storm Event	25 year
Return Event	25 years
Duration	24.000 hours
Depth	6.4 in
Time of Concentration (Composite)	0.171 hours
Area (User Defined)	600,951 ft <sup>2</sup>

Computational Time Increment	0.023 hours
Time to Peak (Computed)	12.138 hours
Flow (Peak, Computed)	50.21 ft <sup>3</sup> /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	49.78 ft <sup>3</sup> /s

<b>Drainage Area</b>	
SCS CN (Composite)	77.000
Area (User Defined)	600,951 ft <sup>2</sup>
Maximum Retention (Pervious)	3.0 in
Maximum Retention (Pervious, 20 percent)	0.6 in

<b>Cumulative Runoff</b>	
Cumulative Runoff Depth (Pervious)	3.9 in
Runoff Volume (Pervious)	193,610 ft <sup>3</sup>

<b>Hydrograph Volume (Area under Hydrograph curve)</b>	
Volume	193,258 ft <sup>3</sup>

<b>SCS Unit Hydrograph Parameters</b>	
Time of Concentration (Composite)	0.171 hours
Computational Time Increment	0.023 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

# Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: PDA-1C-2/10

Scenario: Post-Development 25 year

Return Event: 25 years

Storm Event: 25 year

---

SCS Unit Hydrograph Parameters	
Unit peak, $q_p$	91.52 ft <sup>3</sup> /s
Unit peak time, $T_p$	0.114 hours
Unit receding limb, $T_r$	0.455 hours
Total unit time, $T_b$	0.569 hours

---

## Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Return Event: 100 years

Label: PDA-1C-2/10

Storm Event: 100 year

Scenario: Post-Development 100 year

Storm Event	100 year
Return Event	100 years
Duration	24.000 hours
Depth	9.1 in
Time of Concentration (Composite)	0.171 hours
Area (User Defined)	600,951 ft <sup>2</sup>
<hr/>	
Computational Time Increment	0.023 hours
Time to Peak (Computed)	12.138 hours
Flow (Peak, Computed)	81.01 ft <sup>3</sup> /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	80.13 ft <sup>3</sup> /s
<hr/>	
Drainage Area	
SCS CN (Composite)	77.000
Area (User Defined)	600,951 ft <sup>2</sup>
Maximum Retention (Pervious)	3.0 in
Maximum Retention (Pervious, 20 percent)	0.6 in
<hr/>	
Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	6.3 in
Runoff Volume (Pervious)	316,974 ft <sup>3</sup>
<hr/>	
Hydrograph Volume (Area under Hydrograph curve)	
Volume	316,447 ft <sup>3</sup>
<hr/>	
SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.171 hours
Computational Time Increment	0.023 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

# Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: PDA-1C-2/10

Scenario: Post-Development 100 year

Return Event: 100 years

Storm Event: 100 year

---

SCS Unit Hydrograph Parameters	
Unit peak, $q_p$	91.52 ft <sup>3</sup> /s
Unit peak time, $T_p$	0.114 hours
Unit receding limb, $T_r$	0.455 hours
Total unit time, $T_b$	0.569 hours

---

## Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: PDA-1C-2A

Scenario: Post-Development 1 year

Return Event: 1 years

Storm Event: 1 year

Storm Event	1 year
Return Event	1 years
Duration	24.000 hours
Depth	2.8 in
Time of Concentration (Composite)	0.207 hours
Area (User Defined)	2,062,462 ft <sup>2</sup>

Computational Time Increment	0.028 hours
Time to Peak (Computed)	12.199 hours
Flow (Peak, Computed)	17.99 ft <sup>3</sup> /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.200 hours
Flow (Peak Interpolated Output)	17.97 ft <sup>3</sup> /s

Drainage Area	
SCS CN (Composite)	68.000
Area (User Defined)	2,062,462 ft <sup>2</sup>
Maximum Retention (Pervious)	4.7 in
Maximum Retention (Pervious, 20 percent)	0.9 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	0.5 in
Runoff Volume (Pervious)	90,462 ft <sup>3</sup>

Hydrograph Volume (Area under Hydrograph curve)	
Volume	90,134 ft <sup>3</sup>

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.207 hours
Computational Time Increment	0.028 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

# Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: PDA-1C-2A

Scenario: Post-Development 1 year

Return Event: 1 years

Storm Event: 1 year

---

SCS Unit Hydrograph Parameters	
Unit peak, $q_p$	259.76 ft <sup>3</sup> /s
Unit peak time, $T_p$	0.138 hours
Unit receding limb, $T_r$	0.551 hours
Total unit time, $T_b$	0.688 hours

---



## Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: PDA-1C-2A

Scenario: Post-Development 10 year

Return Event: 10 years

Storm Event: 10 year

Storm Event	10 year
Return Event	10 years
Duration	24.000 hours
Depth	5.1 in
Time of Concentration (Composite)	0.207 hours
Area (User Defined)	2,062,462 ft <sup>2</sup>

Computational Time Increment	0.028 hours
Time to Peak (Computed)	12.171 hours
Flow (Peak, Computed)	82.00 ft <sup>3</sup> /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	81.02 ft <sup>3</sup> /s

Drainage Area	
SCS CN (Composite)	68.000
Area (User Defined)	2,062,462 ft <sup>2</sup>
Maximum Retention (Pervious)	4.7 in
Maximum Retention (Pervious, 20 percent)	0.9 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.0 in
Runoff Volume (Pervious)	337,808 ft <sup>3</sup>

Hydrograph Volume (Area under Hydrograph curve)	
Volume	336,905 ft <sup>3</sup>

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.207 hours
Computational Time Increment	0.028 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

# Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: PDA-1C-2A

Scenario: Post-Development 10 year

Return Event: 10 years

Storm Event: 10 year

---

SCS Unit Hydrograph Parameters	
Unit peak, qp	259.76 ft <sup>3</sup> /s
Unit peak time, Tp	0.138 hours
Unit receding limb, Tr	0.551 hours
Total unit time, Tb	0.688 hours

---

## Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: PDA-1C-2A

Scenario: Post-Development 25 year

Return Event: 25 years

Storm Event: 25 year

Storm Event	25 year
Return Event	25 years
Duration	24.000 hours
Depth	6.4 in
Time of Concentration (Composite)	0.207 hours
Area (User Defined)	2,062,462 ft <sup>2</sup>

Computational Time Increment	0.028 hours
Time to Peak (Computed)	12.171 hours
Flow (Peak, Computed)	125.56 ft <sup>3</sup> /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	124.77 ft <sup>3</sup> /s

<b>Drainage Area</b>	
SCS CN (Composite)	68.000
Area (User Defined)	2,062,462 ft <sup>2</sup>
Maximum Retention (Pervious)	4.7 in
Maximum Retention (Pervious, 20 percent)	0.9 in

<b>Cumulative Runoff</b>	
Cumulative Runoff Depth (Pervious)	3.0 in
Runoff Volume (Pervious)	509,265 ft <sup>3</sup>

<b>Hydrograph Volume (Area under Hydrograph curve)</b>	
Volume	508,016 ft <sup>3</sup>

<b>SCS Unit Hydrograph Parameters</b>	
Time of Concentration (Composite)	0.207 hours
Computational Time Increment	0.028 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

# Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: PDA-1C-2A

Scenario: Post-Development 25 year

Return Event: 25 years

Storm Event: 25 year

---

SCS Unit Hydrograph Parameters	
Unit peak, $q_p$	259.76 ft <sup>3</sup> /s
Unit peak time, $T_p$	0.138 hours
Unit receding limb, $T_r$	0.551 hours
Total unit time, $T_b$	0.688 hours

---

## Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Return Event: 100 years

Label: PDA-1C-2A

Storm Event: 100 year

Scenario: Post-Development 100 year

Storm Event	100 year
Return Event	100 years
Duration	24.000 hours
Depth	9.1 in
Time of Concentration (Composite)	0.207 hours
Area (User Defined)	2,062,462 ft <sup>2</sup>
<hr/>	
Computational Time Increment	0.028 hours
Time to Peak (Computed)	12.171 hours
Flow (Peak, Computed)	221.21 ft <sup>3</sup> /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	221.18 ft <sup>3</sup> /s
<hr/>	
<b>Drainage Area</b>	
SCS CN (Composite)	68.000
Area (User Defined)	2,062,462 ft <sup>2</sup>
Maximum Retention (Pervious)	4.7 in
Maximum Retention (Pervious, 20 percent)	0.9 in
<hr/>	
<b>Cumulative Runoff</b>	
Cumulative Runoff Depth (Pervious)	5.2 in
Runoff Volume (Pervious)	895,282 ft <sup>3</sup>
<hr/>	
<b>Hydrograph Volume (Area under Hydrograph curve)</b>	
Volume	893,317 ft <sup>3</sup>
<hr/>	
<b>SCS Unit Hydrograph Parameters</b>	
Time of Concentration (Composite)	0.207 hours
Computational Time Increment	0.028 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

# Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: PDA-1C-2A

Scenario: Post-Development 100 year

Return Event: 100 years

Storm Event: 100 year

---

SCS Unit Hydrograph Parameters	
Unit peak, $q_p$	259.76 ft <sup>3</sup> /s
Unit peak time, $T_p$	0.138 hours
Unit receding limb, $T_r$	0.551 hours
Total unit time, $T_b$	0.688 hours

---

## Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: PDA-1C-2B

Scenario: Post-Development 1 year

Return Event: 1 years

Storm Event: 1 year

Storm Event	1 year
Return Event	1 years
Duration	24.000 hours
Depth	2.8 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	15,390 ft <sup>2</sup>
<hr/>	
Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.100 hours
Flow (Peak, Computed)	0.82 ft <sup>3</sup> /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	0.82 ft <sup>3</sup> /s
<hr/>	
Drainage Area	
SCS CN (Composite)	98.000
Area (User Defined)	15,390 ft <sup>2</sup>
Maximum Retention (Pervious)	0.2 in
Maximum Retention (Pervious, 20 percent)	0.0 in
<hr/>	
Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.6 in
Runoff Volume (Pervious)	3,295 ft <sup>3</sup>
<hr/>	
Hydrograph Volume (Area under Hydrograph curve)	
Volume	3,293 ft <sup>3</sup>
<hr/>	
SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

# Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: PDA-1C-2B

Scenario: Post-Development 1 year

Return Event: 1 years

Storm Event: 1 year

---

SCS Unit Hydrograph Parameters	
Unit peak, $q_p$	4.80 ft <sup>3</sup> /s
Unit peak time, $T_p$	0.056 hours
Unit receding limb, $T_r$	0.222 hours
Total unit time, $T_b$	0.278 hours

---



## Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: PDA-1C-2B

Scenario: Post-Development 10 year

Return Event: 10 years

Storm Event: 10 year

Storm Event	10 year
Return Event	10 years
Duration	24.000 hours
Depth	5.1 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	15,390 ft <sup>2</sup>
<hr/>	
Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.100 hours
Flow (Peak, Computed)	1.52 ft <sup>3</sup> /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	1.52 ft <sup>3</sup> /s
<hr/>	
Drainage Area	
SCS CN (Composite)	98.000
Area (User Defined)	15,390 ft <sup>2</sup>
Maximum Retention (Pervious)	0.2 in
Maximum Retention (Pervious, 20 percent)	0.0 in
<hr/>	
Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	4.9 in
Runoff Volume (Pervious)	6,262 ft <sup>3</sup>
<hr/>	
Hydrograph Volume (Area under Hydrograph curve)	
Volume	6,259 ft <sup>3</sup>
<hr/>	
SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

# Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: PDA-1C-2B

Scenario: Post-Development 10 year

Return Event: 10 years

Storm Event: 10 year

---

SCS Unit Hydrograph Parameters	
Unit peak, qp	4.80 ft <sup>3</sup> /s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.222 hours
Total unit time, Tb	0.278 hours

---

## Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: PDA-1C-2B

Scenario: Post-Development 25 year

Return Event: 25 years

Storm Event: 25 year

Storm Event	25 year
Return Event	25 years
Duration	24.000 hours
Depth	6.4 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	15,390 ft <sup>2</sup>
<hr/>	
Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.100 hours
Flow (Peak, Computed)	1.91 ft <sup>3</sup> /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	1.91 ft <sup>3</sup> /s
<hr/>	
<b>Drainage Area</b>	
SCS CN (Composite)	98.000
Area (User Defined)	15,390 ft <sup>2</sup>
Maximum Retention (Pervious)	0.2 in
Maximum Retention (Pervious, 20 percent)	0.0 in
<hr/>	
<b>Cumulative Runoff</b>	
Cumulative Runoff Depth (Pervious)	6.2 in
Runoff Volume (Pervious)	7,953 ft <sup>3</sup>
<hr/>	
<b>Hydrograph Volume (Area under Hydrograph curve)</b>	
Volume	7,949 ft <sup>3</sup>
<hr/>	
<b>SCS Unit Hydrograph Parameters</b>	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

# Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: PDA-1C-2B

Scenario: Post-Development 25 year

Return Event: 25 years

Storm Event: 25 year

---

SCS Unit Hydrograph Parameters	
Unit peak, $q_p$	4.80 ft <sup>3</sup> /s
Unit peak time, $T_p$	0.056 hours
Unit receding limb, $T_r$	0.222 hours
Total unit time, $T_b$	0.278 hours

---

## Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Return Event: 100 years

Label: PDA-1C-2B

Storm Event: 100 year

Scenario: Post-Development 100 year

Storm Event	100 year
Return Event	100 years
Duration	24.000 hours
Depth	9.1 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	15,390 ft <sup>2</sup>
<hr/>	
Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.100 hours
Flow (Peak, Computed)	2.72 ft <sup>3</sup> /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	2.72 ft <sup>3</sup> /s
<hr/>	
<b>Drainage Area</b>	
SCS CN (Composite)	98.000
Area (User Defined)	15,390 ft <sup>2</sup>
Maximum Retention (Pervious)	0.2 in
Maximum Retention (Pervious, 20 percent)	0.0 in
<hr/>	
<b>Cumulative Runoff</b>	
Cumulative Runoff Depth (Pervious)	8.9 in
Runoff Volume (Pervious)	11,414 ft <sup>3</sup>
<hr/>	
<b>Hydrograph Volume (Area under Hydrograph curve)</b>	
Volume	11,407 ft <sup>3</sup>
<hr/>	
<b>SCS Unit Hydrograph Parameters</b>	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

# Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: PDA-1C-2B

Scenario: Post-Development 100 year

Return Event: 100 years

Storm Event: 100 year

---

SCS Unit Hydrograph Parameters	
Unit peak, $q_p$	4.80 ft <sup>3</sup> /s
Unit peak time, $T_p$	0.056 hours
Unit receding limb, $T_r$	0.222 hours
Total unit time, $T_b$	0.278 hours

---

## Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: PDA-1C-2C

Scenario: Post-Development 1 year

Return Event: 1 years

Storm Event: 1 year

Storm Event	1 year
Return Event	1 years
Duration	24.000 hours
Depth	2.8 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	8,930 ft <sup>2</sup>
<hr/>	
Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.100 hours
Flow (Peak, Computed)	0.48 ft <sup>3</sup> /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	0.48 ft <sup>3</sup> /s
<hr/>	
Drainage Area	
SCS CN (Composite)	98.000
Area (User Defined)	8,930 ft <sup>2</sup>
Maximum Retention (Pervious)	0.2 in
Maximum Retention (Pervious, 20 percent)	0.0 in
<hr/>	
Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.6 in
Runoff Volume (Pervious)	1,912 ft <sup>3</sup>
<hr/>	
Hydrograph Volume (Area under Hydrograph curve)	
Volume	1,911 ft <sup>3</sup>
<hr/>	
SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

# Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: PDA-1C-2C

Scenario: Post-Development 1 year

Return Event: 1 years

Storm Event: 1 year

---

SCS Unit Hydrograph Parameters	
Unit peak, qp	2.79 ft <sup>3</sup> /s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.222 hours
Total unit time, Tb	0.278 hours

---



## Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: PDA-1C-2C

Scenario: Post-Development 10 year

Return Event: 10 years

Storm Event: 10 year

Storm Event	10 year
Return Event	10 years
Duration	24.000 hours
Depth	5.1 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	8,930 ft <sup>2</sup>
<hr/>	
Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.100 hours
Flow (Peak, Computed)	0.88 ft <sup>3</sup> /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	0.88 ft <sup>3</sup> /s
<hr/>	
<b>Drainage Area</b>	
SCS CN (Composite)	98.000
Area (User Defined)	8,930 ft <sup>2</sup>
Maximum Retention (Pervious)	0.2 in
Maximum Retention (Pervious, 20 percent)	0.0 in
<hr/>	
<b>Cumulative Runoff</b>	
Cumulative Runoff Depth (Pervious)	4.9 in
Runoff Volume (Pervious)	3,634 ft <sup>3</sup>
<hr/>	
<b>Hydrograph Volume (Area under Hydrograph curve)</b>	
Volume	3,632 ft <sup>3</sup>
<hr/>	
<b>SCS Unit Hydrograph Parameters</b>	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

# Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: PDA-1C-2C

Scenario: Post-Development 10 year

Return Event: 10 years

Storm Event: 10 year

---

SCS Unit Hydrograph Parameters	
Unit peak, qp	2.79 ft <sup>3</sup> /s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.222 hours
Total unit time, Tb	0.278 hours

---

## Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: PDA-1C-2C

Scenario: Post-Development 25 year

Return Event: 25 years

Storm Event: 25 year

Storm Event	25 year
Return Event	25 years
Duration	24.000 hours
Depth	6.4 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	8,930 ft <sup>2</sup>
<hr/>	
Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.100 hours
Flow (Peak, Computed)	1.11 ft <sup>3</sup> /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	1.11 ft <sup>3</sup> /s
<hr/>	
<b>Drainage Area</b>	
SCS CN (Composite)	98.000
Area (User Defined)	8,930 ft <sup>2</sup>
Maximum Retention (Pervious)	0.2 in
Maximum Retention (Pervious, 20 percent)	0.0 in
<hr/>	
<b>Cumulative Runoff</b>	
Cumulative Runoff Depth (Pervious)	6.2 in
Runoff Volume (Pervious)	4,615 ft <sup>3</sup>
<hr/>	
<b>Hydrograph Volume (Area under Hydrograph curve)</b>	
Volume	4,612 ft <sup>3</sup>
<hr/>	
<b>SCS Unit Hydrograph Parameters</b>	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

# Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: PDA-1C-2C

Scenario: Post-Development 25 year

Return Event: 25 years

Storm Event: 25 year

---

SCS Unit Hydrograph Parameters	
Unit peak, qp	2.79 ft <sup>3</sup> /s
Unit peak time, Tp	0.056 hours
Unit receding limb, Tr	0.222 hours
Total unit time, Tb	0.278 hours

---

## Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Return Event: 100 years

Label: PDA-1C-2C

Storm Event: 100 year

Scenario: Post-Development 100 year

Storm Event	100 year
Return Event	100 years
Duration	24.000 hours
Depth	9.1 in
Time of Concentration (Composite)	0.083 hours
Area (User Defined)	8,930 ft <sup>2</sup>
<hr/>	
Computational Time Increment	0.011 hours
Time to Peak (Computed)	12.100 hours
Flow (Peak, Computed)	1.58 ft <sup>3</sup> /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	1.58 ft <sup>3</sup> /s
<hr/>	
<b>Drainage Area</b>	
SCS CN (Composite)	98.000
Area (User Defined)	8,930 ft <sup>2</sup>
Maximum Retention (Pervious)	0.2 in
Maximum Retention (Pervious, 20 percent)	0.0 in
<hr/>	
<b>Cumulative Runoff</b>	
Cumulative Runoff Depth (Pervious)	8.9 in
Runoff Volume (Pervious)	6,623 ft <sup>3</sup>
<hr/>	
<b>Hydrograph Volume (Area under Hydrograph curve)</b>	
Volume	6,619 ft <sup>3</sup>
<hr/>	
<b>SCS Unit Hydrograph Parameters</b>	
Time of Concentration (Composite)	0.083 hours
Computational Time Increment	0.011 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

## Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: PDA-1C-2C

Scenario: Post-Development 100 year

Return Event: 100 years

Storm Event: 100 year

---

### SCS Unit Hydrograph Parameters

---

Unit peak, $q_p$	2.79 ft <sup>3</sup> /s
Unit peak time, $T_p$	0.056 hours
Unit receding limb, $T_r$	0.222 hours
Total unit time, $T_b$	0.278 hours

---

## Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: PDA-1C-6

Scenario: Post-Development 1 year

Return Event: 1 years

Storm Event: 1 year

Storm Event	1 year
Return Event	1 years
Duration	24.000 hours
Depth	2.8 in
Time of Concentration (Composite)	0.155 hours
Area (User Defined)	552,461 ft <sup>2</sup>
<hr/>	
Computational Time Increment	0.021 hours
Time to Peak (Computed)	12.312 hours
Flow (Peak, Computed)	1.54 ft <sup>3</sup> /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.300 hours
Flow (Peak Interpolated Output)	1.53 ft <sup>3</sup> /s
<hr/>	
Drainage Area	
SCS CN (Composite)	60.000
Area (User Defined)	552,461 ft <sup>2</sup>
Maximum Retention (Pervious)	6.7 in
Maximum Retention (Pervious, 20 percent)	1.3 in
<hr/>	
Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	0.3 in
Runoff Volume (Pervious)	12,176 ft <sup>3</sup>
<hr/>	
Hydrograph Volume (Area under Hydrograph curve)	
Volume	12,132 ft <sup>3</sup>
<hr/>	
SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.155 hours
Computational Time Increment	0.021 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

# Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: PDA-1C-6

Scenario: Post-Development 1 year

Return Event: 1 years

Storm Event: 1 year

---

SCS Unit Hydrograph Parameters	
Unit peak, $q_p$	92.75 ft <sup>3</sup> /s
Unit peak time, $T_p$	0.103 hours
Unit receding limb, $T_r$	0.413 hours
Total unit time, $T_b$	0.516 hours

---



## Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: PDA-1C-6

Scenario: Post-Development 10 year

Return Event: 10 years

Storm Event: 10 year

Storm Event	10 year
Return Event	10 years
Duration	24.000 hours
Depth	5.1 in
Time of Concentration (Composite)	0.155 hours
Area (User Defined)	552,461 ft <sup>2</sup>
<hr/>	
Computational Time Increment	0.021 hours
Time to Peak (Computed)	12.146 hours
Flow (Peak, Computed)	15.53 ft <sup>3</sup> /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	15.49 ft <sup>3</sup> /s
<hr/>	
<b>Drainage Area</b>	
SCS CN (Composite)	60.000
Area (User Defined)	552,461 ft <sup>2</sup>
Maximum Retention (Pervious)	6.7 in
Maximum Retention (Pervious, 20 percent)	1.3 in
<hr/>	
<b>Cumulative Runoff</b>	
Cumulative Runoff Depth (Pervious)	1.4 in
Runoff Volume (Pervious)	63,151 ft <sup>3</sup>
<hr/>	
<b>Hydrograph Volume (Area under Hydrograph curve)</b>	
Volume	63,004 ft <sup>3</sup>
<hr/>	
<b>SCS Unit Hydrograph Parameters</b>	
Time of Concentration (Composite)	0.155 hours
Computational Time Increment	0.021 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

# Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: PDA-1C-6

Scenario: Post-Development 10 year

Return Event: 10 years

Storm Event: 10 year

---

## SCS Unit Hydrograph Parameters

---

Unit peak, $q_p$	92.75 ft <sup>3</sup> /s
Unit peak time, $T_p$	0.103 hours
Unit receding limb, $T_r$	0.413 hours
Total unit time, $T_b$	0.516 hours

---

## Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: PDA-1C-6

Scenario: Post-Development 25 year

Return Event: 25 years

Storm Event: 25 year

Storm Event	25 year
Return Event	25 years
Duration	24.000 hours
Depth	6.4 in
Time of Concentration (Composite)	0.155 hours
Area (User Defined)	552,461 ft <sup>2</sup>

Computational Time Increment	0.021 hours
Time to Peak (Computed)	12.146 hours
Flow (Peak, Computed)	26.29 ft <sup>3</sup> /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	26.18 ft <sup>3</sup> /s

<b>Drainage Area</b>	
SCS CN (Composite)	60.000
Area (User Defined)	552,461 ft <sup>2</sup>
Maximum Retention (Pervious)	6.7 in
Maximum Retention (Pervious, 20 percent)	1.3 in

<b>Cumulative Runoff</b>	
Cumulative Runoff Depth (Pervious)	2.2 in
Runoff Volume (Pervious)	101,976 ft <sup>3</sup>

<b>Hydrograph Volume (Area under Hydrograph curve)</b>	
Volume	101,763 ft <sup>3</sup>

<b>SCS Unit Hydrograph Parameters</b>	
Time of Concentration (Composite)	0.155 hours
Computational Time Increment	0.021 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

# Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: PDA-1C-6

Scenario: Post-Development 25 year

Return Event: 25 years

Storm Event: 25 year

---

SCS Unit Hydrograph Parameters	
Unit peak, $q_p$	92.75 ft <sup>3</sup> /s
Unit peak time, $T_p$	0.103 hours
Unit receding limb, $T_r$	0.413 hours
Total unit time, $T_b$	0.516 hours

---

## Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Return Event: 100 years

Label: PDA-1C-6

Storm Event: 100 year

Scenario: Post-Development 100 year

Storm Event	100 year
Return Event	100 years
Duration	24.000 hours
Depth	9.1 in
Time of Concentration (Composite)	0.155 hours
Area (User Defined)	552,461 ft <sup>2</sup>
<hr/>	
Computational Time Increment	0.021 hours
Time to Peak (Computed)	12.146 hours
Flow (Peak, Computed)	51.20 ft <sup>3</sup> /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	50.91 ft <sup>3</sup> /s
<hr/>	
<b>Drainage Area</b>	
SCS CN (Composite)	60.000
Area (User Defined)	552,461 ft <sup>2</sup>
Maximum Retention (Pervious)	6.7 in
Maximum Retention (Pervious, 20 percent)	1.3 in
<hr/>	
<b>Cumulative Runoff</b>	
Cumulative Runoff Depth (Pervious)	4.2 in
Runoff Volume (Pervious)	193,858 ft <sup>3</sup>
<hr/>	
<b>Hydrograph Volume (Area under Hydrograph curve)</b>	
Volume	193,508 ft <sup>3</sup>
<hr/>	
<b>SCS Unit Hydrograph Parameters</b>	
Time of Concentration (Composite)	0.155 hours
Computational Time Increment	0.021 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

# Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: PDA-1C-6

Scenario: Post-Development 100 year

Return Event: 100 years

Storm Event: 100 year

---

## SCS Unit Hydrograph Parameters

---

Unit peak, $q_p$	92.75 ft <sup>3</sup> /s
Unit peak time, $T_p$	0.103 hours
Unit receding limb, $T_r$	0.413 hours
Total unit time, $T_b$	0.516 hours

---

## Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: PDA-1C-7

Scenario: Post-Development 1 year

Return Event: 1 years

Storm Event: 1 year

Storm Event	1 year
Return Event	1 years
Duration	24.000 hours
Depth	2.8 in
Time of Concentration (Composite)	0.089 hours
Area (User Defined)	177,326 ft <sup>2</sup>
<hr/>	
Computational Time Increment	0.012 hours
Time to Peak (Computed)	12.124 hours
Flow (Peak, Computed)	1.36 ft <sup>3</sup> /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	1.28 ft <sup>3</sup> /s
<hr/>	
Drainage Area	
SCS CN (Composite)	65.000
Area (User Defined)	177,326 ft <sup>2</sup>
Maximum Retention (Pervious)	5.4 in
Maximum Retention (Pervious, 20 percent)	1.1 in
<hr/>	
Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	0.4 in
Runoff Volume (Pervious)	6,173 ft <sup>3</sup>
<hr/>	
Hydrograph Volume (Area under Hydrograph curve)	
Volume	6,161 ft <sup>3</sup>
<hr/>	
SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.089 hours
Computational Time Increment	0.012 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

# Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: PDA-1C-7

Scenario: Post-Development 1 year

Return Event: 1 years

Storm Event: 1 year

---

SCS Unit Hydrograph Parameters	
Unit peak, qp	51.89 ft <sup>3</sup> /s
Unit peak time, Tp	0.059 hours
Unit receding limb, Tr	0.237 hours
Total unit time, Tb	0.296 hours

---



## Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: PDA-1C-7

Scenario: Post-Development 10 year

Return Event: 10 years

Storm Event: 10 year

Storm Event	10 year
Return Event	10 years
Duration	24.000 hours
Depth	5.1 in
Time of Concentration (Composite)	0.089 hours
Area (User Defined)	177,326 ft <sup>2</sup>
<hr/>	
Computational Time Increment	0.012 hours
Time to Peak (Computed)	12.112 hours
Flow (Peak, Computed)	7.25 ft <sup>3</sup> /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	7.15 ft <sup>3</sup> /s
<hr/>	
<b>Drainage Area</b>	
SCS CN (Composite)	65.000
Area (User Defined)	177,326 ft <sup>2</sup>
Maximum Retention (Pervious)	5.4 in
Maximum Retention (Pervious, 20 percent)	1.1 in
<hr/>	
<b>Cumulative Runoff</b>	
Cumulative Runoff Depth (Pervious)	1.7 in
Runoff Volume (Pervious)	25,622 ft <sup>3</sup>
<hr/>	
<b>Hydrograph Volume (Area under Hydrograph curve)</b>	
Volume	25,589 ft <sup>3</sup>
<hr/>	
<b>SCS Unit Hydrograph Parameters</b>	
Time of Concentration (Composite)	0.089 hours
Computational Time Increment	0.012 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

# Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: PDA-1C-7

Scenario: Post-Development 10 year

Return Event: 10 years

Storm Event: 10 year

---

SCS Unit Hydrograph Parameters	
Unit peak, $q_p$	51.89 ft <sup>3</sup> /s
Unit peak time, $T_p$	0.059 hours
Unit receding limb, $T_r$	0.237 hours
Total unit time, $T_b$	0.296 hours

---

## Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: PDA-1C-7

Scenario: Post-Development 25 year

Return Event: 25 years

Storm Event: 25 year

Storm Event	25 year
Return Event	25 years
Duration	24.000 hours
Depth	6.4 in
Time of Concentration (Composite)	0.089 hours
Area (User Defined)	177,326 ft <sup>2</sup>
<hr/>	
Computational Time Increment	0.012 hours
Time to Peak (Computed)	12.112 hours
Flow (Peak, Computed)	11.34 ft <sup>3</sup> /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	11.24 ft <sup>3</sup> /s
<hr/>	
<b>Drainage Area</b>	
SCS CN (Composite)	65.000
Area (User Defined)	177,326 ft <sup>2</sup>
Maximum Retention (Pervious)	5.4 in
Maximum Retention (Pervious, 20 percent)	1.1 in
<hr/>	
<b>Cumulative Runoff</b>	
Cumulative Runoff Depth (Pervious)	2.7 in
Runoff Volume (Pervious)	39,546 ft <sup>3</sup>
<hr/>	
<b>Hydrograph Volume (Area under Hydrograph curve)</b>	
Volume	39,500 ft <sup>3</sup>
<hr/>	
<b>SCS Unit Hydrograph Parameters</b>	
Time of Concentration (Composite)	0.089 hours
Computational Time Increment	0.012 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

# Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: PDA-1C-7

Scenario: Post-Development 25 year

Return Event: 25 years

Storm Event: 25 year

---

SCS Unit Hydrograph Parameters	
Unit peak, qp	51.89 ft <sup>3</sup> /s
Unit peak time, Tp	0.059 hours
Unit receding limb, Tr	0.237 hours
Total unit time, Tb	0.296 hours

---

## Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Return Event: 100 years

Label: PDA-1C-7

Storm Event: 100 year

Scenario: Post-Development 100 year

Storm Event	100 year
Return Event	100 years
Duration	24.000 hours
Depth	9.1 in
Time of Concentration (Composite)	0.089 hours
Area (User Defined)	177,326 ft <sup>2</sup>
<hr/>	
Computational Time Increment	0.012 hours
Time to Peak (Computed)	12.112 hours
Flow (Peak, Computed)	20.45 ft <sup>3</sup> /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.100 hours
Flow (Peak Interpolated Output)	20.36 ft <sup>3</sup> /s
<hr/>	
<b>Drainage Area</b>	
SCS CN (Composite)	65.000
Area (User Defined)	177,326 ft <sup>2</sup>
Maximum Retention (Pervious)	5.4 in
Maximum Retention (Pervious, 20 percent)	1.1 in
<hr/>	
<b>Cumulative Runoff</b>	
Cumulative Runoff Depth (Pervious)	4.8 in
Runoff Volume (Pervious)	71,441 ft <sup>3</sup>
<hr/>	
<b>Hydrograph Volume (Area under Hydrograph curve)</b>	
Volume	71,369 ft <sup>3</sup>
<hr/>	
<b>SCS Unit Hydrograph Parameters</b>	
Time of Concentration (Composite)	0.089 hours
Computational Time Increment	0.012 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

# Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: PDA-1C-7

Scenario: Post-Development 100 year

Return Event: 100 years

Storm Event: 100 year

---

## SCS Unit Hydrograph Parameters

---

Unit peak, $q_p$	51.89 ft <sup>3</sup> /s
Unit peak time, $T_p$	0.059 hours
Unit receding limb, $T_r$	0.237 hours
Total unit time, $T_b$	0.296 hours

---

## Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: PDA-2

Scenario: Post-Development 1 year

Return Event: 1 years

Storm Event: 1 year

Storm Event	1 year
Return Event	1 years
Duration	24.000 hours
Depth	2.8 in
Time of Concentration (Composite)	0.208 hours
Area (User Defined)	125,964 ft <sup>2</sup>
<hr/>	
Computational Time Increment	0.028 hours
Time to Peak (Computed)	12.175 hours
Flow (Peak, Computed)	1.74 ft <sup>3</sup> /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.200 hours
Flow (Peak Interpolated Output)	1.72 ft <sup>3</sup> /s
<hr/>	
<b>Drainage Area</b>	
SCS CN (Composite)	73.000
Area (User Defined)	125,964 ft <sup>2</sup>
Maximum Retention (Pervious)	3.7 in
Maximum Retention (Pervious, 20 percent)	0.7 in
<hr/>	
<b>Cumulative Runoff</b>	
Cumulative Runoff Depth (Pervious)	0.7 in
Runoff Volume (Pervious)	7,737 ft <sup>3</sup>
<hr/>	
<b>Hydrograph Volume (Area under Hydrograph curve)</b>	
Volume	7,713 ft <sup>3</sup>
<hr/>	
<b>SCS Unit Hydrograph Parameters</b>	
Time of Concentration (Composite)	0.208 hours
Computational Time Increment	0.028 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

## Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: PDA-2

Scenario: Post-Development 1 year

Return Event: 1 years

Storm Event: 1 year

---

### SCS Unit Hydrograph Parameters

---

Unit peak, $q_p$	15.72 ft <sup>3</sup> /s
Unit peak time, $T_p$	0.139 hours
Unit receding limb, $T_r$	0.556 hours
Total unit time, $T_b$	0.695 hours

---



## Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: PDA-2

Scenario: Post-Development 10 year

Return Event: 10 years

Storm Event: 10 year

Storm Event	10 year
Return Event	10 years
Duration	24.000 hours
Depth	5.1 in
Time of Concentration (Composite)	0.208 hours
Area (User Defined)	125,964 ft <sup>2</sup>
<hr/>	
Computational Time Increment	0.028 hours
Time to Peak (Computed)	12.175 hours
Flow (Peak, Computed)	6.13 ft <sup>3</sup> /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	6.11 ft <sup>3</sup> /s
<hr/>	
<b>Drainage Area</b>	
SCS CN (Composite)	73.000
Area (User Defined)	125,964 ft <sup>2</sup>
Maximum Retention (Pervious)	3.7 in
Maximum Retention (Pervious, 20 percent)	0.7 in
<hr/>	
<b>Cumulative Runoff</b>	
Cumulative Runoff Depth (Pervious)	2.4 in
Runoff Volume (Pervious)	24,930 ft <sup>3</sup>
<hr/>	
<b>Hydrograph Volume (Area under Hydrograph curve)</b>	
Volume	24,870 ft <sup>3</sup>
<hr/>	
<b>SCS Unit Hydrograph Parameters</b>	
Time of Concentration (Composite)	0.208 hours
Computational Time Increment	0.028 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

# Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: PDA-2

Scenario: Post-Development 10 year

Return Event: 10 years

Storm Event: 10 year

---

SCS Unit Hydrograph Parameters	
Unit peak, $q_p$	15.72 ft <sup>3</sup> /s
Unit peak time, $T_p$	0.139 hours
Unit receding limb, $T_r$	0.556 hours
Total unit time, $T_b$	0.695 hours

---

## Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: PDA-2

Scenario: Post-Development 25 year

Return Event: 25 years

Storm Event: 25 year

Storm Event	25 year
Return Event	25 years
Duration	24.000 hours
Depth	6.4 in
Time of Concentration (Composite)	0.208 hours
Area (User Defined)	125,964 ft <sup>2</sup>
<hr/>	
Computational Time Increment	0.028 hours
Time to Peak (Computed)	12.148 hours
Flow (Peak, Computed)	8.96 ft <sup>3</sup> /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	8.96 ft <sup>3</sup> /s
<hr/>	
<b>Drainage Area</b>	
SCS CN (Composite)	73.000
Area (User Defined)	125,964 ft <sup>2</sup>
Maximum Retention (Pervious)	3.7 in
Maximum Retention (Pervious, 20 percent)	0.7 in
<hr/>	
<b>Cumulative Runoff</b>	
Cumulative Runoff Depth (Pervious)	3.5 in
Runoff Volume (Pervious)	36,289 ft <sup>3</sup>
<hr/>	
<b>Hydrograph Volume (Area under Hydrograph curve)</b>	
Volume	36,209 ft <sup>3</sup>
<hr/>	
<b>SCS Unit Hydrograph Parameters</b>	
Time of Concentration (Composite)	0.208 hours
Computational Time Increment	0.028 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

# Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: PDA-2

Scenario: Post-Development 25 year

Return Event: 25 years

Storm Event: 25 year

---

SCS Unit Hydrograph Parameters	
Unit peak, qp	15.72 ft <sup>3</sup> /s
Unit peak time, Tp	0.139 hours
Unit receding limb, Tr	0.556 hours
Total unit time, Tb	0.695 hours

---

## Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Return Event: 100 years

Label: PDA-2

Storm Event: 100 year

Scenario: Post-Development 100 year

Storm Event	100 year
Return Event	100 years
Duration	24.000 hours
Depth	9.1 in
Time of Concentration (Composite)	0.208 hours
Area (User Defined)	125,964 ft <sup>2</sup>
<hr/>	
Computational Time Increment	0.028 hours
Time to Peak (Computed)	12.148 hours
Flow (Peak, Computed)	15.07 ft <sup>3</sup> /s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	15.06 ft <sup>3</sup> /s
<hr/>	
Drainage Area	
SCS CN (Composite)	73.000
Area (User Defined)	125,964 ft <sup>2</sup>
Maximum Retention (Pervious)	3.7 in
Maximum Retention (Pervious, 20 percent)	0.7 in
<hr/>	
Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	5.8 in
Runoff Volume (Pervious)	61,222 ft <sup>3</sup>
<hr/>	
Hydrograph Volume (Area under Hydrograph curve)	
Volume	61,100 ft <sup>3</sup>
<hr/>	
SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.208 hours
Computational Time Increment	0.028 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670

# Stormwater Hydrologic Calculations

Subsection: Unit Hydrograph Summary

Label: PDA-2

Scenario: Post-Development 100 year

Return Event: 100 years

Storm Event: 100 year

---

SCS Unit Hydrograph Parameters	
Unit peak, qp	15.72 ft <sup>3</sup> /s
Unit peak time, Tp	0.139 hours
Unit receding limb, Tr	0.556 hours
Total unit time, Tb	0.695 hours

---

# Stormwater Hydrologic Calculations

Subsection: Addition Summary

Label: DP 1C-10

Scenario: Post-Development 1 year

Return Event: 1 years

Storm Event: 1 year

## Summary for Hydrograph Addition at 'DP 1C-10'

Upstream Link	Upstream Node
Outlet-9	DB-1C-2/10
<Catchment to Outflow Node>	PDA-1C-10

### Node Inflows

Inflow Type	Element	Volume (ft <sup>3</sup> )	Time to Peak (hours)	Flow (Peak) (ft <sup>3</sup> /s)
Flow (From)	Outlet-9	0	0.000	0.00
Flow (From)	PDA-1C-10	14,186	12.300	1.81
Flow (In)	DP 1C-10	14,186	12.300	1.81

# Stormwater Hydrologic Calculations

Subsection: Addition Summary

Label: DP 1C-10

Scenario: Post-Development 10 year

Return Event: 10 years

Storm Event: 10 year

## Summary for Hydrograph Addition at 'DP 1C-10'

Upstream Link	Upstream Node
Outlet-9	DB-1C-2/10
<Catchment to Outflow Node>	PDA-1C-10

## Node Inflows

Inflow Type	Element	Volume (ft <sup>3</sup> )	Time to Peak (hours)	Flow (Peak) (ft <sup>3</sup> /s)
Flow (From)	Outlet-9	27,800	12.500	5.98
Flow (From)	PDA-1C-10	73,664	12.150	18.57
Flow (In)	DP 1C-10	101,465	12.150	19.03



## Stormwater Hydrologic Calculations

Subsection: Addition Summary

Label: DP 1C-10

Scenario: Post-Development 25 year

Return Event: 25 years

Storm Event: 25 year

### Summary for Hydrograph Addition at 'DP 1C-10'

Upstream Link	Upstream Node
Outlet-9	DB-1C-2/10
<Catchment to Outflow Node>	PDA-1C-10

### Node Inflows

Inflow Type	Element	Volume (ft <sup>3</sup> )	Time to Peak (hours)	Flow (Peak) (ft <sup>3</sup> /s)
Flow (From)	Outlet-9	50,287	12.400	11.39
Flow (From)	PDA-1C-10	118,978	12.150	31.15
Flow (In)	DP 1C-10	169,265	12.150	36.87

## Stormwater Hydrologic Calculations

Subsection: Addition Summary

Label: DP 1C-10

Scenario: Post-Development 100 year

Return Event: 100 years

Storm Event: 100 year

### Summary for Hydrograph Addition at 'DP 1C-10'

Upstream Link	Upstream Node
Outlet-9	DB-1C-2/10
<Catchment to Outflow Node>	PDA-1C-10

### Node Inflows

Inflow Type	Element	Volume (ft <sup>3</sup> )	Time to Peak (hours)	Flow (Peak) (ft <sup>3</sup> /s)
Flow (From)	Outlet-9	94,068	12.300	17.32
Flow (From)	PDA-1C-10	226,232	12.150	60.14
Flow (In)	DP 1C-10	320,300	12.150	76.15

## Stormwater Hydrologic Calculations

Subsection: Addition Summary  
 Label: DP 1C-2  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Summary for Hydrograph Addition at 'DP 1C-2'

Upstream Link	Upstream Node
Outlet-8	DB-1C-2/10
<Catchment to Outflow Node>	PDA-1C-2A
Outlet-7	SUB-2C
Outlet-6	SUB-2B

### Node Inflows

Inflow Type	Element	Volume (ft <sup>3</sup> )	Time to Peak (hours)	Flow (Peak) (ft <sup>3</sup> /s)
Flow (From)	Outlet-8	0	0.000	0.00
Flow (From)	PDA-1C-2A	90,134	12.200	17.97
Flow (From)	Outlet-7	0	0.000	0.00
Flow (From)	Outlet-6	0	0.000	0.00
Flow (In)	DP 1C-2	90,134	12.200	17.97

## Stormwater Hydrologic Calculations

Subsection: Addition Summary

Label: DP 1C-2

Scenario: Post-Development 10 year

Return Event: 10 years

Storm Event: 10 year

### Summary for Hydrograph Addition at 'DP 1C-2'

Upstream Link	Upstream Node
Outlet-8	DB-1C-2/10
<Catchment to Outflow Node>	PDA-1C-2A
Outlet-7	SUB-2C
Outlet-6	SUB-2B

### Node Inflows

Inflow Type	Element	Volume (ft <sup>3</sup> )	Time to Peak (hours)	Flow (Peak) (ft <sup>3</sup> /s)
Flow (From)	Outlet-8	27,796	12.500	5.98
Flow (From)	PDA-1C-2A	336,905	12.150	81.02
Flow (From)	Outlet-7	830	12.400	0.27
Flow (From)	Outlet-6	824	12.900	0.12
Flow (In)	DP 1C-2	366,356	12.200	81.78

## Stormwater Hydrologic Calculations

Subsection: Addition Summary

Label: DP 1C-2

Scenario: Post-Development 25 year

Return Event: 25 years

Storm Event: 25 year

### Summary for Hydrograph Addition at 'DP 1C-2'

Upstream Link	Upstream Node
Outlet-8	DB-1C-2/10
<Catchment to Outflow Node>	PDA-1C-2A
Outlet-7	SUB-2C
Outlet-6	SUB-2B

### Node Inflows

Inflow Type	Element	Volume (ft <sup>3</sup> )	Time to Peak (hours)	Flow (Peak) (ft <sup>3</sup> /s)
Flow (From)	Outlet-8	50,282	12.400	11.40
Flow (From)	PDA-1C-2A	508,016	12.150	124.77
Flow (From)	Outlet-7	1,699	12.200	0.69
Flow (From)	Outlet-6	2,286	12.400	0.62
Flow (In)	DP 1C-2	562,282	12.200	131.28

## Stormwater Hydrologic Calculations

Subsection: Addition Summary

Label: DP 1C-2

Scenario: Post-Development 100 year

Return Event: 100 years

Storm Event: 100 year

### Summary for Hydrograph Addition at 'DP 1C-2'

Upstream Link	Upstream Node
Outlet-8	DB-1C-2/10
<Catchment to Outflow Node>	PDA-1C-2A
Outlet-7	SUB-2C
Outlet-6	SUB-2B

### Node Inflows

Inflow Type	Element	Volume (ft <sup>3</sup> )	Time to Peak (hours)	Flow (Peak) (ft <sup>3</sup> /s)
Flow (From)	Outlet-8	111,526	12.300	32.19
Flow (From)	PDA-1C-2A	893,317	12.150	221.18
Flow (From)	Outlet-7	3,586	12.100	1.55
Flow (From)	Outlet-6	5,468	12.150	2.35
Flow (In)	DP 1C-2	1,013,897	12.150	246.10

# Stormwater Hydrologic Calculations

Subsection: Time vs. Elevation  
 Label: DB-1C-2/10 (IN)  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

## Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
0.000	620.00	620.00	620.00	620.00	620.00
0.250	620.00	620.00	620.00	620.00	620.00
0.500	620.00	620.00	620.00	620.00	620.00
0.750	620.00	620.00	620.00	620.00	620.00
1.000	620.00	620.00	620.00	620.00	620.00
1.250	620.00	620.00	620.00	620.00	620.00
1.500	620.00	620.00	620.00	620.00	620.00
1.750	620.00	620.00	620.00	620.00	620.00
2.000	620.00	620.00	620.00	620.00	620.00
2.250	620.00	620.00	620.00	620.00	620.00
2.500	620.00	620.00	620.00	620.00	620.00
2.750	620.00	620.00	620.00	620.00	620.00
3.000	620.00	620.00	620.00	620.00	620.00
3.250	620.00	620.00	620.00	620.00	620.00
3.500	620.00	620.00	620.00	620.00	620.00
3.750	620.00	620.00	620.00	620.00	620.00
4.000	620.00	620.00	620.00	620.00	620.00
4.250	620.00	620.00	620.00	620.00	620.00
4.500	620.00	620.00	620.00	620.00	620.00
4.750	620.00	620.00	620.00	620.00	620.00
5.000	620.00	620.00	620.00	620.00	620.00
5.250	620.00	620.00	620.00	620.00	620.00
5.500	620.00	620.00	620.00	620.00	620.00
5.750	620.00	620.00	620.00	620.00	620.00
6.000	620.00	620.00	620.00	620.00	620.00
6.250	620.00	620.00	620.00	620.00	620.00
6.500	620.00	620.00	620.00	620.00	620.00
6.750	620.00	620.00	620.00	620.00	620.00
7.000	620.00	620.00	620.00	620.00	620.00
7.250	620.00	620.00	620.00	620.00	620.00
7.500	620.00	620.00	620.00	620.00	620.00
7.750	620.00	620.00	620.00	620.00	620.00
8.000	620.00	620.00	620.00	620.00	620.00
8.250	620.00	620.00	620.00	620.00	620.00
8.500	620.00	620.00	620.00	620.00	620.00
8.750	620.00	620.00	620.00	620.00	620.00
9.000	620.00	620.00	620.00	620.00	620.00
9.250	620.00	620.00	620.00	620.00	620.00
9.500	620.00	620.00	620.00	620.00	620.00
9.750	620.00	620.00	620.00	620.00	620.00

# Stormwater Hydrologic Calculations

Subsection: Time vs. Elevation  
 Label: DB-1C-2/10 (IN)  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

## Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
10.000	620.00	620.00	620.00	620.00	620.00
10.250	620.00	620.00	620.00	620.00	620.00
10.500	620.00	620.00	620.00	620.00	620.00
10.750	620.00	620.00	620.00	620.00	620.00
11.000	620.00	620.00	620.00	620.00	620.00
11.250	620.00	620.00	620.00	620.00	620.00
11.500	620.00	620.00	620.00	620.00	620.00
11.750	620.00	620.00	620.00	620.00	620.00
12.000	620.00	620.00	620.00	620.00	620.00
12.250	620.00	620.00	620.00	620.00	620.00
12.500	620.00	620.00	620.00	620.00	620.00
12.750	620.00	620.00	620.00	620.00	620.00
13.000	620.00	620.00	620.00	620.00	620.00
13.250	620.00	620.00	620.00	620.00	620.00
13.500	620.00	620.00	620.00	620.00	620.00
13.750	620.00	620.00	620.00	620.00	620.00
14.000	620.00	620.00	620.00	620.00	620.00
14.250	620.00	620.00	620.00	620.00	620.00
14.500	620.00	620.00	620.00	620.00	620.00
14.750	620.00	620.00	620.00	620.00	620.00
15.000	620.00	620.00	620.00	620.00	620.00
15.250	620.00	620.00	620.00	620.00	620.00
15.500	620.00	620.00	620.00	620.00	620.00
15.750	620.00	620.00	620.00	620.00	620.00
16.000	620.00	620.00	620.00	620.00	620.00
16.250	620.00	620.00	620.00	620.00	620.00
16.500	620.00	620.00	620.00	620.00	620.00
16.750	620.00	620.00	620.00	620.00	620.00
17.000	620.00	620.00	620.00	620.00	620.00
17.250	620.00	620.00	620.00	620.00	620.00
17.500	620.00	620.00	620.00	620.00	620.00
17.750	620.00	620.00	620.00	620.00	620.00
18.000	620.00	620.00	620.00	620.00	620.00
18.250	620.00	620.00	620.00	620.00	620.00
18.500	620.00	620.00	620.00	620.00	620.00
18.750	620.00	620.00	620.00	620.00	620.00
19.000	620.00	620.00	620.00	620.00	620.00
19.250	620.00	620.00	620.00	620.00	620.00
19.500	620.00	620.00	620.00	620.00	620.00
19.750	620.00	620.00	620.00	620.00	620.00
20.000	620.00	620.00	620.00	620.00	620.00



## Stormwater Hydrologic Calculations

Subsection: Time vs. Elevation  
 Label: DB-1C-2/10 (IN)  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
20.250	620.00	620.00	620.00	620.00	620.00
20.500	620.00	620.00	620.00	620.00	620.00
20.750	620.00	620.00	620.00	620.00	620.00
21.000	620.00	620.00	620.00	620.00	620.00
21.250	620.00	620.00	620.00	620.00	620.00
21.500	620.00	620.00	620.00	620.00	620.00
21.750	620.00	620.00	620.00	620.00	620.00
22.000	620.00	620.00	620.00	620.00	620.00
22.250	620.00	620.00	620.00	620.00	620.00
22.500	620.00	620.00	620.00	620.00	620.00
22.750	620.00	620.00	620.00	620.00	620.00
23.000	620.00	620.00	620.00	620.00	620.00
23.250	620.00	620.00	620.00	620.00	620.00
23.500	620.00	620.00	620.00	620.00	620.00
23.750	620.00	620.00	620.00	620.00	620.00
24.000	620.00	(N/A)	(N/A)	(N/A)	(N/A)

## Stormwater Hydrologic Calculations

Subsection: Time vs. Elevation

Return Event: 10 years

Label: DB-1C-2/10 (IN)

Storm Event: 10 year

Scenario: Post-Development 10 year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
0.000	620.00	620.00	620.00	620.00	620.00
0.250	620.00	620.00	620.00	620.00	620.00
0.500	620.00	620.00	620.00	620.00	620.00
0.750	620.00	620.00	620.00	620.00	620.00
1.000	620.00	620.00	620.00	620.00	620.00
1.250	620.00	620.00	620.00	620.00	620.00
1.500	620.00	620.00	620.00	620.00	620.00
1.750	620.00	620.00	620.00	620.00	620.00
2.000	620.00	620.00	620.00	620.00	620.00
2.250	620.00	620.00	620.00	620.00	620.00
2.500	620.00	620.00	620.00	620.00	620.00
2.750	620.00	620.00	620.00	620.00	620.00
3.000	620.00	620.00	620.00	620.00	620.00
3.250	620.00	620.00	620.00	620.00	620.00
3.500	620.00	620.00	620.00	620.00	620.00
3.750	620.00	620.00	620.00	620.00	620.00
4.000	620.00	620.00	620.00	620.00	620.00
4.250	620.00	620.00	620.00	620.00	620.00
4.500	620.00	620.00	620.00	620.00	620.00
4.750	620.00	620.00	620.00	620.00	620.00
5.000	620.00	620.00	620.00	620.00	620.00
5.250	620.00	620.00	620.00	620.00	620.00
5.500	620.00	620.00	620.00	620.00	620.00
5.750	620.00	620.00	620.00	620.00	620.00
6.000	620.00	620.00	620.00	620.00	620.00
6.250	620.00	620.00	620.00	620.00	620.00
6.500	620.00	620.00	620.00	620.00	620.00
6.750	620.00	620.00	620.00	620.00	620.00
7.000	620.00	620.00	620.00	620.00	620.00
7.250	620.00	620.00	620.00	620.00	620.00
7.500	620.00	620.00	620.00	620.00	620.00
7.750	620.00	620.00	620.00	620.00	620.00
8.000	620.00	620.00	620.00	620.00	620.00
8.250	620.00	620.00	620.00	620.00	620.00
8.500	620.00	620.00	620.00	620.00	620.00
8.750	620.00	620.00	620.00	620.00	620.00
9.000	620.00	620.00	620.00	620.00	620.00
9.250	620.00	620.00	620.00	620.00	620.00
9.500	620.00	620.00	620.00	620.00	620.00
9.750	620.00	620.00	620.00	620.00	620.00

# Stormwater Hydrologic Calculations

Subsection: Time vs. Elevation

Return Event: 10 years

Label: DB-1C-2/10 (IN)

Storm Event: 10 year

Scenario: Post-Development 10 year

## Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
10.000	620.00	620.00	620.00	620.00	620.00
10.250	620.00	620.00	620.00	620.00	620.00
10.500	620.00	620.00	620.00	620.00	620.00
10.750	620.00	620.00	620.00	620.00	620.00
11.000	620.00	620.00	620.00	620.00	620.00
11.250	620.00	620.00	620.00	620.00	620.00
11.500	620.00	620.00	620.00	620.00	620.00
11.750	620.00	620.00	620.00	620.00	620.00
12.000	620.00	620.00	620.02	620.14	620.34
12.250	620.54	620.68	620.73	620.74	620.76
12.500	620.76	620.75	620.73	620.70	620.68
12.750	620.65	620.62	620.60	620.57	620.55
13.000	620.53	620.51	620.49	620.47	620.45
13.250	620.43	620.42	620.40	620.39	620.38
13.500	620.36	620.35	620.34	620.33	620.32
13.750	620.31	620.31	620.30	620.29	620.28
14.000	620.27	620.27	620.26	620.25	620.25
14.250	620.24	620.23	620.23	620.22	620.22
14.500	620.21	620.21	620.20	620.20	620.19
14.750	620.19	620.18	620.18	620.18	620.17
15.000	620.17	620.17	620.16	620.16	620.15
15.250	620.15	620.15	620.14	620.14	620.14
15.500	620.13	620.13	620.13	620.12	620.12
15.750	620.12	620.11	620.11	620.11	620.10
16.000	620.10	620.10	620.09	620.09	620.09
16.250	620.08	620.08	620.08	620.08	620.07
16.500	620.07	620.07	620.07	620.07	620.06
16.750	620.06	620.06	620.06	620.06	620.06
17.000	620.06	620.05	620.05	620.05	620.05
17.250	620.05	620.05	620.05	620.05	620.05
17.500	620.04	620.04	620.04	620.04	620.04
17.750	620.04	620.03	620.03	620.03	620.03
18.000	620.03	620.03	620.03	620.03	620.02
18.250	620.02	620.02	620.02	620.02	620.02
18.500	620.02	620.02	620.02	620.02	620.02
18.750	620.01	620.01	620.01	620.01	620.01
19.000	620.01	620.01	620.01	620.01	620.01
19.250	620.01	620.01	620.01	620.01	620.01
19.500	620.01	620.01	620.01	620.01	620.01
19.750	620.01	620.01	620.01	620.01	620.00
20.000	620.00	620.00	620.00	620.00	620.00

## Stormwater Hydrologic Calculations

Subsection: Time vs. Elevation

Return Event: 10 years

Label: DB-1C-2/10 (IN)

Storm Event: 10 year

Scenario: Post-Development 10 year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
20.250	620.00	620.00	620.00	620.00	620.00
20.500	620.00	620.00	620.00	620.00	620.00
20.750	620.00	620.00	620.00	620.00	620.00
21.000	620.00	620.00	620.00	620.00	620.00
21.250	620.00	620.00	620.00	620.00	620.00
21.500	620.00	620.00	620.00	620.00	620.00
21.750	620.00	620.00	620.00	620.00	620.00
22.000	620.00	620.00	620.00	620.00	620.00
22.250	620.00	620.00	620.00	620.00	620.00
22.500	620.00	620.00	620.00	620.00	620.00
22.750	620.00	620.00	620.00	620.00	620.00
23.000	620.00	620.00	620.00	620.00	620.00
23.250	620.00	620.00	620.00	620.00	620.00
23.500	620.00	620.00	620.00	620.00	620.00
23.750	620.00	620.00	620.00	620.00	620.00
24.000	620.00	(N/A)	(N/A)	(N/A)	(N/A)

# Stormwater Hydrologic Calculations

Subsection: Time vs. Elevation

Return Event: 25 years

Label: DB-1C-2/10 (IN)

Storm Event: 25 year

Scenario: Post-Development 25 year

## Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
0.000	620.00	620.00	620.00	620.00	620.00
0.250	620.00	620.00	620.00	620.00	620.00
0.500	620.00	620.00	620.00	620.00	620.00
0.750	620.00	620.00	620.00	620.00	620.00
1.000	620.00	620.00	620.00	620.00	620.00
1.250	620.00	620.00	620.00	620.00	620.00
1.500	620.00	620.00	620.00	620.00	620.00
1.750	620.00	620.00	620.00	620.00	620.00
2.000	620.00	620.00	620.00	620.00	620.00
2.250	620.00	620.00	620.00	620.00	620.00
2.500	620.00	620.00	620.00	620.00	620.00
2.750	620.00	620.00	620.00	620.00	620.00
3.000	620.00	620.00	620.00	620.00	620.00
3.250	620.00	620.00	620.00	620.00	620.00
3.500	620.00	620.00	620.00	620.00	620.00
3.750	620.00	620.00	620.00	620.00	620.00
4.000	620.00	620.00	620.00	620.00	620.00
4.250	620.00	620.00	620.00	620.00	620.00
4.500	620.00	620.00	620.00	620.00	620.00
4.750	620.00	620.00	620.00	620.00	620.00
5.000	620.00	620.00	620.00	620.00	620.00
5.250	620.00	620.00	620.00	620.00	620.00
5.500	620.00	620.00	620.00	620.00	620.00
5.750	620.00	620.00	620.00	620.00	620.00
6.000	620.00	620.00	620.00	620.00	620.00
6.250	620.00	620.00	620.00	620.00	620.00
6.500	620.00	620.00	620.00	620.00	620.00
6.750	620.00	620.00	620.00	620.00	620.00
7.000	620.00	620.00	620.00	620.00	620.00
7.250	620.00	620.00	620.00	620.00	620.00
7.500	620.00	620.00	620.00	620.00	620.00
7.750	620.00	620.00	620.00	620.00	620.00
8.000	620.00	620.00	620.00	620.00	620.00
8.250	620.00	620.00	620.00	620.00	620.00
8.500	620.00	620.00	620.00	620.00	620.00
8.750	620.00	620.00	620.00	620.00	620.00
9.000	620.00	620.00	620.00	620.00	620.00
9.250	620.00	620.00	620.00	620.00	620.00
9.500	620.00	620.00	620.00	620.00	620.00
9.750	620.00	620.00	620.00	620.00	620.00

# Stormwater Hydrologic Calculations

Subsection: Time vs. Elevation

Return Event: 25 years

Label: DB-1C-2/10 (IN)

Storm Event: 25 year

Scenario: Post-Development 25 year

## Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
10.000	620.00	620.00	620.00	620.00	620.00
10.250	620.00	620.00	620.00	620.00	620.00
10.500	620.00	620.00	620.00	620.00	620.00
10.750	620.00	620.00	620.00	620.00	620.00
11.000	620.00	620.00	620.00	620.00	620.00
11.250	620.00	620.00	620.00	620.00	620.00
11.500	620.00	620.00	620.00	620.00	620.00
11.750	620.00	620.00	620.00	620.00	620.00
12.000	620.05	620.20	620.46	620.74	620.97
12.250	621.10	621.14	621.16	621.17	621.16
12.500	621.13	621.09	621.04	620.99	620.94
12.750	620.90	620.85	620.81	620.77	620.74
13.000	620.70	620.67	620.64	620.62	620.59
13.250	620.57	620.55	620.53	620.51	620.49
13.500	620.48	620.46	620.45	620.44	620.42
13.750	620.41	620.40	620.39	620.38	620.37
14.000	620.36	620.35	620.34	620.34	620.33
14.250	620.32	620.31	620.31	620.30	620.29
14.500	620.29	620.28	620.28	620.27	620.27
14.750	620.26	620.26	620.25	620.25	620.24
15.000	620.24	620.23	620.23	620.23	620.22
15.250	620.22	620.21	620.21	620.21	620.20
15.500	620.20	620.19	620.19	620.19	620.18
15.750	620.18	620.17	620.17	620.17	620.16
16.000	620.16	620.16	620.15	620.15	620.15
16.250	620.14	620.14	620.13	620.13	620.13
16.500	620.12	620.12	620.12	620.11	620.11
16.750	620.11	620.11	620.10	620.10	620.10
17.000	620.09	620.09	620.09	620.08	620.08
17.250	620.08	620.08	620.07	620.07	620.07
17.500	620.07	620.07	620.07	620.06	620.06
17.750	620.06	620.06	620.06	620.06	620.06
18.000	620.05	620.05	620.05	620.05	620.05
18.250	620.05	620.05	620.05	620.04	620.04
18.500	620.04	620.04	620.04	620.04	620.04
18.750	620.03	620.03	620.03	620.03	620.03
19.000	620.03	620.03	620.02	620.02	620.02
19.250	620.02	620.02	620.02	620.02	620.02
19.500	620.02	620.02	620.02	620.01	620.01
19.750	620.01	620.01	620.01	620.01	620.01
20.000	620.01	620.01	620.01	620.01	620.01

## Stormwater Hydrologic Calculations

Subsection: Time vs. Elevation

Return Event: 25 years

Label: DB-1C-2/10 (IN)

Storm Event: 25 year

Scenario: Post-Development 25 year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
20.250	620.01	620.01	620.01	620.01	620.01
20.500	620.01	620.01	620.01	620.01	620.01
20.750	620.01	620.00	620.00	620.00	620.00
21.000	620.00	620.00	620.00	620.00	620.00
21.250	620.00	620.00	620.00	620.00	620.00
21.500	620.00	620.00	620.00	620.00	620.00
21.750	620.00	620.00	620.00	620.00	620.00
22.000	620.00	620.00	620.00	620.00	620.00
22.250	620.00	620.00	620.00	620.00	620.00
22.500	620.00	620.00	620.00	620.00	620.00
22.750	620.00	620.00	620.00	620.00	620.00
23.000	620.00	620.00	620.00	620.00	620.00
23.250	620.00	620.00	620.00	620.00	620.00
23.500	620.00	620.00	620.00	620.00	620.00
23.750	620.00	620.00	620.00	620.00	620.00
24.000	620.00	(N/A)	(N/A)	(N/A)	(N/A)

# Stormwater Hydrologic Calculations

Subsection: Time vs. Elevation

Return Event: 100 years

Label: DB-1C-2/10 (IN)

Storm Event: 100 year

Scenario: Post-Development 100 year

## Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
0.000	620.00	620.00	620.00	620.00	620.00
0.250	620.00	620.00	620.00	620.00	620.00
0.500	620.00	620.00	620.00	620.00	620.00
0.750	620.00	620.00	620.00	620.00	620.00
1.000	620.00	620.00	620.00	620.00	620.00
1.250	620.00	620.00	620.00	620.00	620.00
1.500	620.00	620.00	620.00	620.00	620.00
1.750	620.00	620.00	620.00	620.00	620.00
2.000	620.00	620.00	620.00	620.00	620.00
2.250	620.00	620.00	620.00	620.00	620.00
2.500	620.00	620.00	620.00	620.00	620.00
2.750	620.00	620.00	620.00	620.00	620.00
3.000	620.00	620.00	620.00	620.00	620.00
3.250	620.00	620.00	620.00	620.00	620.00
3.500	620.00	620.00	620.00	620.00	620.00
3.750	620.00	620.00	620.00	620.00	620.00
4.000	620.00	620.00	620.00	620.00	620.00
4.250	620.00	620.00	620.00	620.00	620.00
4.500	620.00	620.00	620.00	620.00	620.00
4.750	620.00	620.00	620.00	620.00	620.00
5.000	620.00	620.00	620.00	620.00	620.00
5.250	620.00	620.00	620.00	620.00	620.00
5.500	620.00	620.00	620.00	620.00	620.00
5.750	620.00	620.00	620.00	620.00	620.00
6.000	620.00	620.00	620.00	620.00	620.00
6.250	620.00	620.00	620.00	620.00	620.00
6.500	620.00	620.00	620.00	620.00	620.00
6.750	620.00	620.00	620.00	620.00	620.00
7.000	620.00	620.00	620.00	620.00	620.00
7.250	620.00	620.00	620.00	620.00	620.00
7.500	620.00	620.00	620.00	620.00	620.00
7.750	620.00	620.00	620.00	620.00	620.00
8.000	620.00	620.00	620.00	620.00	620.00
8.250	620.00	620.00	620.00	620.00	620.00
8.500	620.00	620.00	620.00	620.00	620.00
8.750	620.00	620.00	620.00	620.00	620.00
9.000	620.00	620.00	620.00	620.00	620.00
9.250	620.00	620.00	620.00	620.00	620.00
9.500	620.00	620.00	620.00	620.00	620.00
9.750	620.00	620.00	620.00	620.00	620.00



# Stormwater Hydrologic Calculations

Subsection: Time vs. Elevation

Return Event: 100 years

Label: DB-1C-2/10 (IN)

Storm Event: 100 year

Scenario: Post-Development 100 year

## Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
10.000	620.00	620.00	620.00	620.00	620.00
10.250	620.00	620.00	620.00	620.00	620.00
10.500	620.00	620.00	620.00	620.00	620.00
10.750	620.00	620.00	620.00	620.00	620.00
11.000	620.00	620.00	620.00	620.00	620.00
11.250	620.00	620.00	620.00	620.00	620.00
11.500	620.00	620.00	620.00	620.03	620.09
11.750	620.19	620.31	620.44	620.58	620.73
12.000	620.90	621.12	621.38	621.63	621.79
12.250	621.86	621.87	621.84	621.79	621.74
12.500	621.68	621.61	621.53	621.44	621.35
12.750	621.27	621.20	621.13	621.07	621.02
13.000	620.97	620.92	620.88	620.84	620.81
13.250	620.77	620.74	620.72	620.69	620.67
13.500	620.65	620.63	620.61	620.59	620.58
13.750	620.56	620.55	620.54	620.52	620.51
14.000	620.50	620.49	620.48	620.47	620.46
14.250	620.45	620.44	620.43	620.43	620.42
14.500	620.41	620.41	620.40	620.39	620.39
14.750	620.38	620.37	620.37	620.36	620.36
15.000	620.35	620.35	620.34	620.34	620.33
15.250	620.33	620.32	620.32	620.32	620.31
15.500	620.31	620.30	620.30	620.29	620.29
15.750	620.28	620.28	620.27	620.27	620.26
16.000	620.26	620.26	620.25	620.25	620.24
16.250	620.24	620.23	620.23	620.22	620.22
16.500	620.22	620.21	620.21	620.21	620.20
16.750	620.20	620.20	620.19	620.19	620.19
17.000	620.18	620.18	620.18	620.17	620.17
17.250	620.17	620.17	620.16	620.16	620.16
17.500	620.15	620.15	620.15	620.15	620.14
17.750	620.14	620.14	620.13	620.13	620.13
18.000	620.13	620.12	620.12	620.12	620.11
18.250	620.11	620.11	620.11	620.10	620.10
18.500	620.10	620.10	620.10	620.09	620.09
18.750	620.09	620.08	620.08	620.08	620.08
19.000	620.08	620.07	620.07	620.07	620.07
19.250	620.07	620.07	620.07	620.06	620.06
19.500	620.06	620.06	620.06	620.06	620.06
19.750	620.05	620.05	620.05	620.05	620.05
20.000	620.05	620.05	620.05	620.04	620.04

## Stormwater Hydrologic Calculations

Subsection: Time vs. Elevation

Return Event: 100 years

Label: DB-1C-2/10 (IN)

Storm Event: 100 year

Scenario: Post-Development 100 year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
20.250	620.04	620.04	620.04	620.04	620.04
20.500	620.03	620.03	620.03	620.03	620.03
20.750	620.03	620.03	620.02	620.02	620.02
21.000	620.02	620.02	620.02	620.02	620.02
21.250	620.02	620.02	620.02	620.01	620.01
21.500	620.01	620.01	620.01	620.01	620.01
21.750	620.01	620.01	620.01	620.01	620.01
22.000	620.01	620.01	620.01	620.01	620.01
22.250	620.01	620.01	620.01	620.01	620.01
22.500	620.01	620.01	620.00	620.00	620.00
22.750	620.00	620.00	620.00	620.00	620.00
23.000	620.00	620.00	620.00	620.00	620.00
23.250	620.00	620.00	620.00	620.00	620.00
23.500	620.00	620.00	620.00	620.00	620.00
23.750	620.00	620.00	620.00	620.00	620.00
24.000	620.00	(N/A)	(N/A)	(N/A)	(N/A)

## Stormwater Hydrologic Calculations

Subsection: Time vs. Elevation

Return Event: 1 years

Label: IB-1C-2/10 (IN)

Storm Event: 1 year

Scenario: Post-Development 1 year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
0.000	618.00	618.00	618.00	618.00	618.00
0.250	618.00	618.00	618.00	618.00	618.00
0.500	618.00	618.00	618.00	618.00	618.00
0.750	618.00	618.00	618.00	618.00	618.00
1.000	618.00	618.00	618.00	618.00	618.00
1.250	618.00	618.00	618.00	618.00	618.00
1.500	618.00	618.00	618.00	618.00	618.00
1.750	618.00	618.00	618.00	618.00	618.00
2.000	618.00	618.00	618.00	618.00	618.00
2.250	618.00	618.00	618.00	618.00	618.00
2.500	618.00	618.00	618.00	618.00	618.00
2.750	618.00	618.00	618.00	618.00	618.00
3.000	618.00	618.00	618.00	618.00	618.00
3.250	618.00	618.00	618.00	618.00	618.00
3.500	618.00	618.00	618.00	618.00	618.00
3.750	618.00	618.00	618.00	618.00	618.00
4.000	618.00	618.00	618.00	618.00	618.00
4.250	618.00	618.00	618.00	618.00	618.00
4.500	618.00	618.00	618.00	618.00	618.00
4.750	618.00	618.00	618.00	618.00	618.00
5.000	618.00	618.00	618.00	618.00	618.00
5.250	618.00	618.00	618.00	618.00	618.00
5.500	618.00	618.00	618.00	618.00	618.00
5.750	618.00	618.00	618.00	618.00	618.00
6.000	618.00	618.00	618.00	618.00	618.00
6.250	618.00	618.00	618.00	618.00	618.00
6.500	618.00	618.00	618.00	618.00	618.00
6.750	618.00	618.00	618.00	618.00	618.00
7.000	618.00	618.00	618.00	618.00	618.00
7.250	618.00	618.00	618.00	618.00	618.00
7.500	618.00	618.00	618.00	618.00	618.00
7.750	618.00	618.00	618.00	618.00	618.00
8.000	618.00	618.00	618.00	618.00	618.00
8.250	618.00	618.00	618.00	618.00	618.00
8.500	618.00	618.00	618.00	618.00	618.00
8.750	618.00	618.00	618.00	618.00	618.00
9.000	618.00	618.00	618.00	618.00	618.00
9.250	618.00	618.00	618.00	618.00	618.00
9.500	618.00	618.00	618.00	618.00	618.00
9.750	618.00	618.00	618.00	618.00	618.00

## Stormwater Hydrologic Calculations

Subsection: Time vs. Elevation

Return Event: 1 years

Label: IB-1C-2/10 (IN)

Storm Event: 1 year

Scenario: Post-Development 1 year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
10.000	618.00	618.00	618.00	618.00	618.00
10.250	618.00	618.00	618.00	618.00	618.00
10.500	618.00	618.00	618.00	618.00	618.00
10.750	618.00	618.00	618.00	618.00	618.00
11.000	618.00	618.00	618.00	618.00	618.00
11.250	618.00	618.00	618.00	618.00	618.00
11.500	618.00	618.01	618.01	618.01	618.01
11.750	618.01	618.02	618.03	618.05	618.09
12.000	618.16	618.27	618.41	618.58	618.76
12.250	618.91	619.04	619.14	619.24	619.31
12.500	619.38	619.43	619.46	619.49	619.51
12.750	619.52	619.53	619.54	619.55	619.56
13.000	619.56	619.56	619.56	619.56	619.56
13.250	619.56	619.57	619.57	619.57	619.57
13.500	619.57	619.57	619.57	619.57	619.57
13.750	619.57	619.57	619.57	619.57	619.57
14.000	619.57	619.57	619.57	619.57	619.57
14.250	619.57	619.57	619.57	619.57	619.57
14.500	619.57	619.57	619.57	619.57	619.57
14.750	619.57	619.57	619.57	619.57	619.57
15.000	619.57	619.57	619.57	619.57	619.57
15.250	619.57	619.57	619.57	619.57	619.57
15.500	619.57	619.57	619.57	619.57	619.57
15.750	619.57	619.57	619.57	619.57	619.57
16.000	619.57	619.57	619.57	619.57	619.57
16.250	619.57	619.57	619.57	619.57	619.57
16.500	619.57	619.57	619.57	619.57	619.57
16.750	619.57	619.57	619.57	619.57	619.57
17.000	619.57	619.57	619.57	619.57	619.57
17.250	619.57	619.57	619.57	619.57	619.57
17.500	619.57	619.57	619.57	619.57	619.57
17.750	619.57	619.57	619.57	619.57	619.57
18.000	619.57	619.58	619.58	619.58	619.58
18.250	619.58	619.58	619.58	619.58	619.58
18.500	619.58	619.58	619.58	619.58	619.58
18.750	619.58	619.58	619.58	619.58	619.58
19.000	619.58	619.58	619.58	619.58	619.58
19.250	619.58	619.58	619.58	619.58	619.58
19.500	619.58	619.58	619.58	619.58	619.58
19.750	619.58	619.58	619.58	619.58	619.58
20.000	619.58	619.58	619.58	619.58	619.58

## Stormwater Hydrologic Calculations

Subsection: Time vs. Elevation  
 Label: IB-1C-2/10 (IN)  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
20.250	619.58	619.58	619.58	619.58	619.58
20.500	619.58	619.58	619.58	619.58	619.58
20.750	619.58	619.58	619.58	619.58	619.58
21.000	619.58	619.58	619.58	619.58	619.58
21.250	619.58	619.58	619.58	619.58	619.58
21.500	619.58	619.58	619.58	619.58	619.58
21.750	619.58	619.58	619.58	619.58	619.58
22.000	619.58	619.58	619.58	619.58	619.58
22.250	619.58	619.58	619.58	619.58	619.58
22.500	619.58	619.58	619.58	619.58	619.58
22.750	619.58	619.58	619.58	619.58	619.58
23.000	619.58	619.58	619.58	619.58	619.58
23.250	619.58	619.58	619.58	619.58	619.58
23.500	619.58	619.58	619.58	619.58	619.58
23.750	619.58	619.58	619.58	619.58	619.58
24.000	619.58	(N/A)	(N/A)	(N/A)	(N/A)

## Stormwater Hydrologic Calculations

Subsection: Time vs. Elevation

Return Event: 10 years

Label: IB-1C-2/10 (IN)

Storm Event: 10 year

Scenario: Post-Development 10 year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
0.000	618.00	618.00	618.00	618.00	618.00
0.250	618.00	618.00	618.00	618.00	618.00
0.500	618.00	618.00	618.00	618.00	618.00
0.750	618.00	618.00	618.00	618.00	618.00
1.000	618.00	618.00	618.00	618.00	618.00
1.250	618.00	618.00	618.00	618.00	618.00
1.500	618.00	618.00	618.00	618.00	618.00
1.750	618.00	618.00	618.00	618.00	618.00
2.000	618.00	618.00	618.00	618.00	618.00
2.250	618.00	618.00	618.00	618.00	618.00
2.500	618.00	618.00	618.00	618.00	618.00
2.750	618.00	618.00	618.00	618.00	618.00
3.000	618.00	618.00	618.00	618.00	618.00
3.250	618.00	618.00	618.00	618.00	618.00
3.500	618.00	618.00	618.00	618.00	618.00
3.750	618.00	618.00	618.00	618.00	618.00
4.000	618.00	618.00	618.00	618.00	618.00
4.250	618.00	618.00	618.00	618.00	618.00
4.500	618.00	618.00	618.00	618.00	618.00
4.750	618.00	618.00	618.00	618.00	618.00
5.000	618.00	618.00	618.00	618.00	618.00
5.250	618.00	618.00	618.00	618.00	618.00
5.500	618.00	618.00	618.00	618.00	618.00
5.750	618.00	618.00	618.00	618.00	618.00
6.000	618.00	618.00	618.00	618.00	618.00
6.250	618.00	618.00	618.00	618.00	618.00
6.500	618.00	618.00	618.00	618.00	618.00
6.750	618.00	618.00	618.00	618.00	618.00
7.000	618.00	618.00	618.00	618.00	618.00
7.250	618.00	618.00	618.00	618.00	618.00
7.500	618.00	618.00	618.00	618.00	618.00
7.750	618.00	618.00	618.00	618.00	618.00
8.000	618.00	618.00	618.00	618.00	618.00
8.250	618.00	618.00	618.00	618.00	618.00
8.500	618.00	618.00	618.00	618.00	618.00
8.750	618.00	618.00	618.00	618.00	618.00
9.000	618.00	618.00	618.00	618.00	618.00
9.250	618.00	618.00	618.00	618.00	618.00
9.500	618.00	618.00	618.00	618.00	618.00
9.750	618.00	618.00	618.01	618.01	618.01

# Stormwater Hydrologic Calculations

Subsection: Time vs. Elevation

Return Event: 10 years

Label: IB-1C-2/10 (IN)

Storm Event: 10 year

Scenario: Post-Development 10 year

## Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
10.000	618.01	618.01	618.01	618.01	618.01
10.250	618.01	618.01	618.01	618.01	618.01
10.500	618.01	618.01	618.01	618.01	618.01
10.750	618.01	618.01	618.01	618.01	618.01
11.000	618.01	618.01	618.02	618.02	618.02
11.250	618.03	618.04	618.05	618.07	618.09
11.500	618.11	618.14	618.17	618.22	618.28
11.750	618.37	618.49	618.63	618.82	619.05
12.000	619.36	619.79	620.18	620.39	620.49
12.250	620.55	620.62	620.71	620.76	620.77
12.500	620.78	620.78	620.77	620.75	620.72
12.750	620.69	620.67	620.64	620.61	620.59
13.000	620.57	620.54	620.52	620.50	620.48
13.250	620.47	620.45	620.43	620.42	620.41
13.500	620.39	620.38	620.37	620.36	620.35
13.750	620.34	620.33	620.32	620.31	620.31
14.000	620.30	620.29	620.28	620.27	620.27
14.250	620.26	620.26	620.25	620.24	620.24
14.500	620.23	620.23	620.22	620.22	620.21
14.750	620.21	620.20	620.20	620.20	620.19
15.000	620.19	620.18	620.18	620.17	620.17
15.250	620.17	620.16	620.16	620.16	620.15
15.500	620.15	620.14	620.14	620.14	620.13
15.750	620.13	620.13	620.12	620.12	620.11
16.000	620.11	620.11	620.10	620.10	620.10
16.250	620.10	620.09	620.09	620.09	620.09
16.500	620.08	620.08	620.08	620.08	620.08
16.750	620.07	620.07	620.07	620.07	620.07
17.000	620.06	620.06	620.06	620.06	620.06
17.250	620.06	620.06	620.06	620.05	620.05
17.500	620.05	620.05	620.05	620.05	620.05
17.750	620.05	620.05	620.05	620.05	620.05
18.000	620.05	620.05	620.05	620.05	620.05
18.250	620.05	620.05	620.05	620.05	620.05
18.500	620.05	620.05	620.05	620.05	620.05
18.750	620.05	620.05	620.05	620.05	620.05
19.000	620.05	620.05	620.05	620.05	620.05
19.250	620.05	620.05	620.05	620.05	620.05
19.500	620.05	620.05	620.05	620.05	620.05
19.750	620.05	620.05	620.05	620.05	620.05
20.000	620.05	620.05	620.05	620.05	620.05

## Stormwater Hydrologic Calculations

Subsection: Time vs. Elevation

Return Event: 10 years

Label: IB-1C-2/10 (IN)

Storm Event: 10 year

Scenario: Post-Development 10 year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
20.250	620.05	620.05	620.05	620.05	620.05
20.500	620.05	620.05	620.05	620.05	620.05
20.750	620.05	620.05	620.05	620.05	620.05
21.000	620.05	620.05	620.05	620.05	620.05
21.250	620.05	620.05	620.05	620.05	620.05
21.500	620.05	620.05	620.05	620.05	620.05
21.750	620.05	620.05	620.05	620.05	620.05
22.000	620.05	620.05	620.05	620.05	620.05
22.250	620.05	620.05	620.05	620.05	620.05
22.500	620.05	620.05	620.05	620.05	620.05
22.750	620.05	620.05	620.05	620.05	620.05
23.000	620.05	620.05	620.05	620.05	620.05
23.250	620.05	620.05	620.05	620.05	620.05
23.500	620.05	620.05	620.05	620.05	620.05
23.750	620.05	620.05	620.05	620.05	620.05
24.000	620.05	(N/A)	(N/A)	(N/A)	(N/A)



## Stormwater Hydrologic Calculations

Subsection: Time vs. Elevation

Return Event: 25 years

Label: IB-1C-2/10 (IN)

Storm Event: 25 year

Scenario: Post-Development 25 year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
0.000	618.00	618.00	618.00	618.00	618.00
0.250	618.00	618.00	618.00	618.00	618.00
0.500	618.00	618.00	618.00	618.00	618.00
0.750	618.00	618.00	618.00	618.00	618.00
1.000	618.00	618.00	618.00	618.00	618.00
1.250	618.00	618.00	618.00	618.00	618.00
1.500	618.00	618.00	618.00	618.00	618.00
1.750	618.00	618.00	618.00	618.00	618.00
2.000	618.00	618.00	618.00	618.00	618.00
2.250	618.00	618.00	618.00	618.00	618.00
2.500	618.00	618.00	618.00	618.00	618.00
2.750	618.00	618.00	618.00	618.00	618.00
3.000	618.00	618.00	618.00	618.00	618.00
3.250	618.00	618.00	618.00	618.00	618.00
3.500	618.00	618.00	618.00	618.00	618.00
3.750	618.00	618.00	618.00	618.00	618.00
4.000	618.00	618.00	618.00	618.00	618.00
4.250	618.00	618.00	618.00	618.00	618.00
4.500	618.00	618.00	618.00	618.00	618.00
4.750	618.00	618.00	618.00	618.00	618.00
5.000	618.00	618.00	618.00	618.00	618.00
5.250	618.00	618.00	618.00	618.00	618.00
5.500	618.00	618.00	618.00	618.00	618.00
5.750	618.00	618.00	618.00	618.00	618.00
6.000	618.00	618.00	618.00	618.00	618.00
6.250	618.00	618.00	618.00	618.00	618.00
6.500	618.00	618.00	618.00	618.00	618.00
6.750	618.00	618.00	618.00	618.00	618.00
7.000	618.00	618.00	618.00	618.00	618.00
7.250	618.00	618.00	618.00	618.00	618.00
7.500	618.00	618.00	618.00	618.00	618.00
7.750	618.00	618.00	618.00	618.00	618.00
8.000	618.00	618.00	618.00	618.00	618.00
8.250	618.00	618.00	618.00	618.00	618.00
8.500	618.00	618.00	618.00	618.00	618.00
8.750	618.00	618.00	618.00	618.00	618.00
9.000	618.01	618.01	618.01	618.01	618.01
9.250	618.01	618.01	618.01	618.01	618.01
9.500	618.01	618.01	618.01	618.01	618.01
9.750	618.01	618.01	618.01	618.01	618.01

## Stormwater Hydrologic Calculations

Subsection: Time vs. Elevation

Return Event: 25 years

Label: IB-1C-2/10 (IN)

Storm Event: 25 year

Scenario: Post-Development 25 year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
10.000	618.01	618.01	618.01	618.01	618.01
10.250	618.01	618.01	618.01	618.02	618.02
10.500	618.02	618.03	618.03	618.04	618.05
10.750	618.06	618.07	618.08	618.09	618.11
11.000	618.13	618.15	618.17	618.19	618.22
11.250	618.25	618.28	618.32	618.36	618.41
11.500	618.47	618.53	618.60	618.69	618.80
11.750	618.95	619.14	619.38	619.67	620.02
12.000	620.25	620.44	620.60	620.73	620.87
12.250	621.03	621.13	621.18	621.19	621.20
12.500	621.18	621.15	621.11	621.07	621.02
12.750	620.97	620.92	620.87	620.83	620.79
13.000	620.76	620.72	620.69	620.66	620.63
13.250	620.61	620.59	620.56	620.55	620.53
13.500	620.51	620.49	620.48	620.47	620.45
13.750	620.44	620.43	620.42	620.41	620.40
14.000	620.39	620.38	620.37	620.36	620.35
14.250	620.34	620.34	620.33	620.32	620.32
14.500	620.31	620.31	620.30	620.29	620.29
14.750	620.28	620.28	620.27	620.27	620.26
15.000	620.26	620.25	620.25	620.25	620.24
15.250	620.24	620.23	620.23	620.22	620.22
15.500	620.22	620.21	620.21	620.20	620.20
15.750	620.20	620.19	620.19	620.18	620.18
16.000	620.18	620.17	620.17	620.16	620.16
16.250	620.16	620.15	620.15	620.15	620.14
16.500	620.14	620.13	620.13	620.13	620.12
16.750	620.12	620.12	620.11	620.11	620.11
17.000	620.11	620.10	620.10	620.10	620.10
17.250	620.09	620.09	620.09	620.09	620.08
17.500	620.08	620.08	620.08	620.07	620.07
17.750	620.07	620.07	620.07	620.07	620.06
18.000	620.06	620.06	620.06	620.06	620.06
18.250	620.06	620.05	620.05	620.05	620.05
18.500	620.05	620.05	620.05	620.05	620.05
18.750	620.05	620.05	620.05	620.05	620.05
19.000	620.05	620.05	620.05	620.05	620.05
19.250	620.05	620.05	620.05	620.05	620.05
19.500	620.05	620.05	620.05	620.05	620.05
19.750	620.05	620.05	620.05	620.05	620.05
20.000	620.05	620.05	620.05	620.05	620.05

## Stormwater Hydrologic Calculations

Subsection: Time vs. Elevation

Return Event: 25 years

Label: IB-1C-2/10 (IN)

Storm Event: 25 year

Scenario: Post-Development 25 year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
20.250	620.05	620.05	620.05	620.05	620.05
20.500	620.05	620.05	620.05	620.05	620.05
20.750	620.05	620.05	620.05	620.05	620.05
21.000	620.05	620.05	620.05	620.05	620.05
21.250	620.05	620.05	620.05	620.05	620.05
21.500	620.05	620.05	620.05	620.05	620.05
21.750	620.05	620.05	620.05	620.05	620.05
22.000	620.05	620.05	620.05	620.05	620.05
22.250	620.05	620.05	620.05	620.05	620.05
22.500	620.05	620.05	620.05	620.05	620.05
22.750	620.05	620.05	620.05	620.05	620.05
23.000	620.05	620.05	620.05	620.05	620.05
23.250	620.05	620.05	620.05	620.05	620.05
23.500	620.05	620.05	620.05	620.05	620.05
23.750	620.05	620.05	620.05	620.05	620.05
24.000	620.05	(N/A)	(N/A)	(N/A)	(N/A)

## Stormwater Hydrologic Calculations

Subsection: Time vs. Elevation

Return Event: 100 years

Label: IB-1C-2/10 (IN)

Storm Event: 100 year

Scenario: Post-Development 100 year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
0.000	618.00	618.00	618.00	618.00	618.00
0.250	618.00	618.00	618.00	618.00	618.00
0.500	618.00	618.00	618.00	618.00	618.00
0.750	618.00	618.00	618.00	618.00	618.00
1.000	618.00	618.00	618.00	618.00	618.00
1.250	618.00	618.00	618.00	618.00	618.00
1.500	618.00	618.00	618.00	618.00	618.00
1.750	618.00	618.00	618.00	618.00	618.00
2.000	618.00	618.00	618.00	618.00	618.00
2.250	618.00	618.00	618.00	618.00	618.00
2.500	618.00	618.00	618.00	618.00	618.00
2.750	618.00	618.00	618.00	618.00	618.00
3.000	618.00	618.00	618.00	618.00	618.00
3.250	618.00	618.00	618.00	618.00	618.00
3.500	618.00	618.00	618.00	618.00	618.00
3.750	618.00	618.00	618.00	618.00	618.00
4.000	618.00	618.00	618.00	618.00	618.00
4.250	618.00	618.00	618.00	618.00	618.00
4.500	618.00	618.00	618.00	618.00	618.00
4.750	618.00	618.00	618.00	618.00	618.00
5.000	618.00	618.00	618.00	618.00	618.00
5.250	618.00	618.00	618.00	618.00	618.00
5.500	618.00	618.00	618.00	618.00	618.00
5.750	618.00	618.00	618.00	618.00	618.00
6.000	618.00	618.00	618.00	618.00	618.00
6.250	618.00	618.00	618.00	618.00	618.00
6.500	618.00	618.00	618.00	618.00	618.00
6.750	618.00	618.00	618.00	618.00	618.00
7.000	618.00	618.00	618.00	618.00	618.00
7.250	618.00	618.00	618.00	618.00	618.00
7.500	618.00	618.00	618.00	618.01	618.01
7.750	618.01	618.01	618.01	618.01	618.01
8.000	618.01	618.01	618.01	618.01	618.01
8.250	618.01	618.01	618.01	618.01	618.01
8.500	618.01	618.01	618.01	618.01	618.01
8.750	618.01	618.01	618.01	618.01	618.01
9.000	618.01	618.01	618.01	618.02	618.02
9.250	618.02	618.02	618.03	618.03	618.04
9.500	618.05	618.06	618.07	618.08	618.09
9.750	618.10	618.12	618.13	618.15	618.17

# Stormwater Hydrologic Calculations

Subsection: Time vs. Elevation

Return Event: 100 years

Label: IB-1C-2/10 (IN)

Storm Event: 100 year

Scenario: Post-Development 100 year

## Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
10.000	618.19	618.21	618.23	618.26	618.28
10.250	618.31	618.34	618.37	618.40	618.44
10.500	618.47	618.51	618.55	618.60	618.64
10.750	618.69	618.74	618.80	618.85	618.91
11.000	618.97	619.04	619.10	619.17	619.25
11.250	619.33	619.42	619.52	619.63	619.74
11.500	619.86	620.00	620.09	620.17	620.25
11.750	620.31	620.39	620.47	620.57	620.70
12.000	620.85	621.05	621.26	621.49	621.70
12.250	621.84	621.90	621.91	621.88	621.83
12.500	621.77	621.71	621.63	621.55	621.47
12.750	621.37	621.30	621.22	621.16	621.10
13.000	621.04	620.99	620.94	620.90	620.86
13.250	620.83	620.79	620.77	620.74	620.71
13.500	620.69	620.67	620.65	620.63	620.62
13.750	620.60	620.58	620.57	620.56	620.55
14.000	620.53	620.52	620.51	620.50	620.49
14.250	620.48	620.47	620.46	620.46	620.45
14.500	620.44	620.43	620.42	620.42	620.41
14.750	620.41	620.40	620.39	620.39	620.38
15.000	620.38	620.37	620.37	620.36	620.36
15.250	620.35	620.35	620.34	620.34	620.33
15.500	620.33	620.32	620.32	620.31	620.31
15.750	620.31	620.30	620.30	620.29	620.29
16.000	620.28	620.28	620.27	620.27	620.26
16.250	620.26	620.25	620.25	620.24	620.24
16.500	620.24	620.23	620.23	620.22	620.22
16.750	620.22	620.21	620.21	620.21	620.21
17.000	620.20	620.20	620.20	620.19	620.19
17.250	620.19	620.18	620.18	620.18	620.17
17.500	620.17	620.17	620.16	620.16	620.16
17.750	620.16	620.15	620.15	620.15	620.14
18.000	620.14	620.14	620.13	620.13	620.13
18.250	620.13	620.12	620.12	620.12	620.11
18.500	620.11	620.11	620.11	620.10	620.10
18.750	620.10	620.10	620.10	620.10	620.09
19.000	620.09	620.09	620.09	620.09	620.08
19.250	620.08	620.08	620.08	620.08	620.07
19.500	620.07	620.07	620.07	620.07	620.06
19.750	620.06	620.06	620.06	620.06	620.06
20.000	620.06	620.05	620.05	620.05	620.05

## Stormwater Hydrologic Calculations

Subsection: Time vs. Elevation

Return Event: 100 years

Label: IB-1C-2/10 (IN)

Storm Event: 100 year

Scenario: Post-Development 100 year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
20.250	620.05	620.05	620.05	620.05	620.05
20.500	620.05	620.05	620.05	620.05	620.05
20.750	620.05	620.05	620.05	620.05	620.05
21.000	620.05	620.05	620.05	620.05	620.05
21.250	620.05	620.05	620.05	620.05	620.05
21.500	620.05	620.05	620.05	620.05	620.05
21.750	620.05	620.05	620.05	620.05	620.05
22.000	620.05	620.05	620.05	620.05	620.05
22.250	620.05	620.05	620.05	620.05	620.05
22.500	620.05	620.05	620.05	620.05	620.05
22.750	620.05	620.05	620.05	620.05	620.05
23.000	620.05	620.05	620.05	620.05	620.05
23.250	620.05	620.05	620.05	620.05	620.05
23.500	620.05	620.05	620.05	620.05	620.05
23.750	620.05	620.05	620.05	620.05	620.05
24.000	620.05	(N/A)	(N/A)	(N/A)	(N/A)

## Stormwater Hydrologic Calculations

Subsection: Time vs. Elevation  
 Label: SUB-2B (IN)  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
0.000	491.50	491.50	491.50	491.50	491.50
0.250	491.50	491.50	491.50	491.50	491.50
0.500	491.50	491.50	491.50	491.50	491.50
0.750	491.50	491.50	491.50	491.50	491.50
1.000	491.50	491.50	491.50	491.50	491.50
1.250	491.50	491.50	491.50	491.50	491.50
1.500	491.50	491.50	491.50	491.50	491.50
1.750	491.50	491.50	491.50	491.50	491.50
2.000	491.50	491.50	491.50	491.50	491.50
2.250	491.50	491.50	491.50	491.50	491.50
2.500	491.50	491.51	491.51	491.51	491.51
2.750	491.51	491.51	491.51	491.51	491.51
3.000	491.51	491.51	491.51	491.51	491.51
3.250	491.51	491.51	491.52	491.52	491.52
3.500	491.52	491.52	491.52	491.52	491.52
3.750	491.52	491.52	491.52	491.52	491.53
4.000	491.53	491.53	491.53	491.53	491.53
4.250	491.53	491.53	491.53	491.53	491.54
4.500	491.54	491.54	491.54	491.54	491.54
4.750	491.54	491.54	491.54	491.55	491.55
5.000	491.55	491.55	491.55	491.55	491.55
5.250	491.55	491.56	491.56	491.56	491.56
5.500	491.56	491.56	491.56	491.56	491.57
5.750	491.57	491.57	491.57	491.57	491.57
6.000	491.57	491.57	491.58	491.58	491.58
6.250	491.58	491.58	491.58	491.58	491.59
6.500	491.59	491.59	491.59	491.59	491.59
6.750	491.60	491.60	491.60	491.60	491.60
7.000	491.61	491.61	491.61	491.61	491.61
7.250	491.62	491.62	491.62	491.62	491.62
7.500	491.63	491.63	491.63	491.63	491.64
7.750	491.64	491.64	491.64	491.64	491.65
8.000	491.65	491.65	491.65	491.66	491.66
8.250	491.66	491.67	491.67	491.67	491.67
8.500	491.68	491.68	491.68	491.69	491.69
8.750	491.69	491.70	491.70	491.71	491.71
9.000	491.71	491.72	491.72	491.73	491.73
9.250	491.73	491.74	491.74	491.75	491.75
9.500	491.76	491.76	491.77	491.77	491.78
9.750	491.78	491.79	491.79	491.80	491.80

# Stormwater Hydrologic Calculations

Subsection: Time vs. Elevation  
 Label: SUB-2B (IN)  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

## Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
10.000	491.81	491.81	491.82	491.82	491.83
10.250	491.83	491.84	491.85	491.85	491.86
10.500	491.87	491.87	491.88	491.89	491.89
10.750	491.90	491.91	491.92	491.93	491.93
11.000	491.94	491.95	491.96	491.97	491.98
11.250	491.99	492.00	492.01	492.01	492.02
11.500	492.03	492.04	492.05	492.06	492.08
11.750	492.10	492.13	492.16	492.20	492.24
12.000	492.31	492.38	492.47	492.54	492.60
12.250	492.64	492.68	492.71	492.74	492.76
12.500	492.78	492.79	492.80	492.81	492.82
12.750	492.83	492.84	492.84	492.85	492.85
13.000	492.86	492.86	492.87	492.87	492.88
13.250	492.88	492.88	492.89	492.89	492.89
13.500	492.90	492.90	492.90	492.91	492.91
13.750	492.91	492.91	492.92	492.92	492.92
14.000	492.92	492.92	492.93	492.93	492.93
14.250	492.93	492.93	492.93	492.93	492.94
14.500	492.94	492.94	492.94	492.94	492.94
14.750	492.94	492.94	492.94	492.94	492.94
15.000	492.94	492.95	492.95	492.95	492.95
15.250	492.95	492.95	492.95	492.95	492.95
15.500	492.95	492.95	492.95	492.95	492.95
15.750	492.95	492.95	492.94	492.94	492.94
16.000	492.94	492.94	492.94	492.94	492.94
16.250	492.94	492.94	492.94	492.94	492.94
16.500	492.93	492.93	492.93	492.93	492.93
16.750	492.93	492.93	492.93	492.93	492.92
17.000	492.92	492.92	492.92	492.92	492.92
17.250	492.92	492.91	492.91	492.91	492.91
17.500	492.91	492.91	492.91	492.90	492.90
17.750	492.90	492.90	492.90	492.90	492.89
18.000	492.89	492.89	492.89	492.89	492.88
18.250	492.88	492.88	492.88	492.88	492.88
18.500	492.87	492.87	492.87	492.87	492.87
18.750	492.86	492.86	492.86	492.86	492.86
19.000	492.85	492.85	492.85	492.85	492.85
19.250	492.84	492.84	492.84	492.84	492.84
19.500	492.83	492.83	492.83	492.83	492.83
19.750	492.82	492.82	492.82	492.82	492.81
20.000	492.81	492.81	492.81	492.81	492.80



## Stormwater Hydrologic Calculations

Subsection: Time vs. Elevation  
 Label: SUB-2B (IN)  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
20.250	492.80	492.80	492.80	492.79	492.79
20.500	492.79	492.79	492.79	492.78	492.78
20.750	492.78	492.78	492.77	492.77	492.77
21.000	492.77	492.77	492.76	492.76	492.76
21.250	492.76	492.75	492.75	492.75	492.75
21.500	492.74	492.74	492.74	492.74	492.74
21.750	492.73	492.73	492.73	492.73	492.72
22.000	492.72	492.72	492.72	492.71	492.71
22.250	492.71	492.71	492.70	492.70	492.70
22.500	492.70	492.69	492.69	492.69	492.69
22.750	492.68	492.68	492.68	492.68	492.67
23.000	492.67	492.67	492.67	492.66	492.66
23.250	492.66	492.66	492.65	492.65	492.65
23.500	492.65	492.64	492.64	492.64	492.64
23.750	492.63	492.63	492.63	492.63	492.62
24.000	492.62	(N/A)	(N/A)	(N/A)	(N/A)

# Stormwater Hydrologic Calculations

Subsection: Time vs. Elevation

Return Event: 10 years

Label: SUB-2B (IN)

Storm Event: 10 year

Scenario: Post-Development 10 year

## Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
0.000	491.50	491.50	491.50	491.50	491.50
0.250	491.50	491.50	491.50	491.50	491.50
0.500	491.50	491.50	491.50	491.50	491.50
0.750	491.50	491.50	491.50	491.50	491.50
1.000	491.50	491.50	491.50	491.50	491.50
1.250	491.50	491.50	491.50	491.50	491.51
1.500	491.51	491.51	491.51	491.51	491.51
1.750	491.51	491.51	491.51	491.52	491.52
2.000	491.52	491.52	491.52	491.52	491.52
2.250	491.53	491.53	491.53	491.53	491.53
2.500	491.53	491.53	491.54	491.54	491.54
2.750	491.54	491.54	491.55	491.55	491.55
3.000	491.55	491.55	491.56	491.56	491.56
3.250	491.56	491.56	491.57	491.57	491.57
3.500	491.57	491.57	491.58	491.58	491.58
3.750	491.58	491.59	491.59	491.59	491.59
4.000	491.59	491.60	491.60	491.60	491.60
4.250	491.61	491.61	491.61	491.61	491.62
4.500	491.62	491.62	491.62	491.63	491.63
4.750	491.63	491.63	491.64	491.64	491.64
5.000	491.64	491.65	491.65	491.65	491.65
5.250	491.66	491.66	491.66	491.66	491.67
5.500	491.67	491.67	491.67	491.68	491.68
5.750	491.68	491.68	491.69	491.69	491.69
6.000	491.69	491.70	491.70	491.70	491.71
6.250	491.71	491.71	491.71	491.72	491.72
6.500	491.72	491.73	491.73	491.73	491.74
6.750	491.74	491.74	491.75	491.75	491.75
7.000	491.76	491.76	491.76	491.77	491.77
7.250	491.78	491.78	491.78	491.79	491.79
7.500	491.80	491.80	491.81	491.81	491.81
7.750	491.82	491.82	491.83	491.83	491.84
8.000	491.84	491.85	491.85	491.86	491.86
8.250	491.87	491.87	491.88	491.88	491.89
8.500	491.89	491.90	491.91	491.91	491.92
8.750	491.93	491.93	491.94	491.95	491.95
9.000	491.96	491.97	491.98	491.98	491.99
9.250	492.00	492.00	492.01	492.01	492.02
9.500	492.02	492.02	492.03	492.03	492.04
9.750	492.04	492.05	492.05	492.06	492.06

# Stormwater Hydrologic Calculations

Subsection: Time vs. Elevation

Return Event: 10 years

Label: SUB-2B (IN)

Storm Event: 10 year

Scenario: Post-Development 10 year

## Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
10.000	492.07	492.07	492.08	492.08	492.09
10.250	492.10	492.10	492.11	492.12	492.12
10.500	492.13	492.14	492.15	492.15	492.16
10.750	492.17	492.18	492.19	492.20	492.21
11.000	492.22	492.23	492.24	492.25	492.26
11.250	492.27	492.29	492.30	492.32	492.33
11.500	492.35	492.37	492.39	492.42	492.46
11.750	492.50	492.56	492.62	492.70	492.79
12.000	492.92	493.08	493.25	493.40	493.52
12.250	493.63	493.71	493.79	493.85	493.90
12.500	493.95	493.98	494.01	494.04	494.05
12.750	494.06	494.07	494.08	494.08	494.08
13.000	494.08	494.07	494.07	494.07	494.07
13.250	494.06	494.06	494.06	494.06	494.06
13.500	494.06	494.05	494.05	494.05	494.05
13.750	494.05	494.05	494.05	494.04	494.04
14.000	494.04	494.04	494.04	494.04	494.04
14.250	494.04	494.04	494.03	494.03	494.03
14.500	494.03	494.03	494.03	494.03	494.03
14.750	494.03	494.03	494.03	494.03	494.03
15.000	494.03	494.02	494.02	494.02	494.02
15.250	494.02	494.02	494.02	494.02	494.02
15.500	494.02	494.02	494.02	494.02	494.02
15.750	494.02	494.01	494.01	494.01	494.01
16.000	494.01	494.01	494.01	494.01	494.01
16.250	494.01	494.01	494.01	494.01	494.01
16.500	494.01	494.01	494.01	494.01	494.01
16.750	494.01	494.01	494.01	494.01	494.00
17.000	494.00	494.00	494.00	494.00	494.00
17.250	494.00	494.00	494.00	494.00	494.00
17.500	494.00	494.00	494.00	494.00	494.00
17.750	494.00	494.00	494.00	494.00	494.00
18.000	494.00	494.00	494.00	494.00	494.00
18.250	494.00	494.00	494.00	493.99	493.99
18.500	493.99	493.99	493.99	493.99	493.99
18.750	493.99	493.99	493.99	493.99	493.99
19.000	493.99	493.98	493.98	493.98	493.98
19.250	493.98	493.98	493.98	493.98	493.98
19.500	493.98	493.98	493.97	493.97	493.97
19.750	493.97	493.97	493.97	493.97	493.97
20.000	493.97	493.96	493.96	493.96	493.96

## Stormwater Hydrologic Calculations

Subsection: Time vs. Elevation

Return Event: 10 years

Label: SUB-2B (IN)

Storm Event: 10 year

Scenario: Post-Development 10 year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
20.250	493.96	493.96	493.96	493.96	493.95
20.500	493.95	493.95	493.95	493.95	493.95
20.750	493.95	493.94	493.94	493.94	493.94
21.000	493.94	493.94	493.94	493.93	493.93
21.250	493.93	493.93	493.93	493.93	493.92
21.500	493.92	493.92	493.92	493.92	493.92
21.750	493.92	493.91	493.91	493.91	493.91
22.000	493.91	493.90	493.90	493.90	493.90
22.250	493.90	493.90	493.89	493.89	493.89
22.500	493.89	493.89	493.88	493.88	493.88
22.750	493.88	493.88	493.88	493.87	493.87
23.000	493.87	493.87	493.87	493.86	493.86
23.250	493.86	493.86	493.85	493.85	493.85
23.500	493.85	493.85	493.84	493.84	493.84
23.750	493.84	493.84	493.83	493.83	493.83
24.000	493.83	(N/A)	(N/A)	(N/A)	(N/A)

## Stormwater Hydrologic Calculations

Subsection: Time vs. Elevation

Return Event: 25 years

Label: SUB-2B (IN)

Storm Event: 25 year

Scenario: Post-Development 25 year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
0.000	491.50	491.50	491.50	491.50	491.50
0.250	491.50	491.50	491.50	491.50	491.50
0.500	491.50	491.50	491.50	491.50	491.50
0.750	491.50	491.50	491.50	491.50	491.50
1.000	491.50	491.50	491.50	491.51	491.51
1.250	491.51	491.51	491.51	491.51	491.51
1.500	491.52	491.52	491.52	491.52	491.52
1.750	491.52	491.53	491.53	491.53	491.53
2.000	491.53	491.54	491.54	491.54	491.54
2.250	491.54	491.55	491.55	491.55	491.55
2.500	491.56	491.56	491.56	491.56	491.57
2.750	491.57	491.57	491.57	491.58	491.58
3.000	491.58	491.58	491.59	491.59	491.59
3.250	491.60	491.60	491.60	491.60	491.61
3.500	491.61	491.61	491.62	491.62	491.62
3.750	491.62	491.63	491.63	491.63	491.64
4.000	491.64	491.64	491.65	491.65	491.65
4.250	491.66	491.66	491.66	491.66	491.67
4.500	491.67	491.67	491.68	491.68	491.68
4.750	491.69	491.69	491.69	491.70	491.70
5.000	491.70	491.71	491.71	491.71	491.72
5.250	491.72	491.72	491.73	491.73	491.73
5.500	491.74	491.74	491.74	491.75	491.75
5.750	491.75	491.76	491.76	491.76	491.77
6.000	491.77	491.77	491.78	491.78	491.78
6.250	491.79	491.79	491.79	491.80	491.80
6.500	491.80	491.81	491.81	491.82	491.82
6.750	491.83	491.83	491.83	491.84	491.84
7.000	491.85	491.85	491.86	491.86	491.87
7.250	491.87	491.88	491.88	491.89	491.89
7.500	491.90	491.90	491.91	491.91	491.92
7.750	491.92	491.93	491.93	491.94	491.95
8.000	491.95	491.96	491.96	491.97	491.98
8.250	491.98	491.99	492.00	492.00	492.00
8.500	492.01	492.01	492.02	492.02	492.02
8.750	492.03	492.03	492.04	492.04	492.05
9.000	492.05	492.06	492.06	492.07	492.07
9.250	492.08	492.08	492.09	492.10	492.10
9.500	492.11	492.11	492.12	492.13	492.13
9.750	492.14	492.15	492.16	492.16	492.17

# Stormwater Hydrologic Calculations

Subsection: Time vs. Elevation

Return Event: 25 years

Label: SUB-2B (IN)

Storm Event: 25 year

Scenario: Post-Development 25 year

## Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
10.000	492.18	492.19	492.19	492.20	492.21
10.250	492.22	492.23	492.24	492.25	492.26
10.500	492.27	492.28	492.29	492.30	492.31
10.750	492.32	492.34	492.35	492.36	492.37
11.000	492.39	492.40	492.41	492.43	492.45
11.250	492.46	492.48	492.50	492.52	492.54
11.500	492.57	492.59	492.63	492.66	492.71
11.750	492.77	492.84	492.93	493.02	493.15
12.000	493.32	493.53	493.78	494.00	494.21
12.250	494.31	494.36	494.39	494.39	494.37
12.500	494.35	494.31	494.28	494.25	494.22
12.750	494.20	494.18	494.16	494.15	494.14
13.000	494.13	494.12	494.11	494.10	494.10
13.250	494.09	494.09	494.09	494.08	494.08
13.500	494.08	494.08	494.07	494.07	494.07
13.750	494.07	494.07	494.06	494.06	494.06
14.000	494.06	494.06	494.05	494.05	494.05
14.250	494.05	494.05	494.05	494.05	494.05
14.500	494.05	494.04	494.04	494.04	494.04
14.750	494.04	494.04	494.04	494.04	494.04
15.000	494.04	494.04	494.04	494.03	494.03
15.250	494.03	494.03	494.03	494.03	494.03
15.500	494.03	494.03	494.03	494.03	494.03
15.750	494.02	494.02	494.02	494.02	494.02
16.000	494.02	494.02	494.02	494.02	494.02
16.250	494.02	494.02	494.02	494.02	494.02
16.500	494.01	494.01	494.01	494.01	494.01
16.750	494.01	494.01	494.01	494.01	494.01
17.000	494.01	494.01	494.01	494.01	494.01
17.250	494.01	494.01	494.01	494.01	494.01
17.500	494.01	494.01	494.01	494.01	494.01
17.750	494.01	494.01	494.01	494.00	494.00
18.000	494.00	494.00	494.00	494.00	494.00
18.250	494.00	494.00	494.00	494.00	494.00
18.500	494.00	494.00	494.00	494.00	494.00
18.750	494.00	494.00	494.00	494.00	494.00
19.000	494.00	494.00	494.00	494.00	494.00
19.250	494.00	494.00	494.00	494.00	494.00
19.500	494.00	494.00	494.00	494.00	494.00
19.750	494.00	494.00	494.00	494.00	494.00
20.000	494.00	494.00	494.00	494.00	494.00

## Stormwater Hydrologic Calculations

Subsection: Time vs. Elevation

Return Event: 25 years

Label: SUB-2B (IN)

Storm Event: 25 year

Scenario: Post-Development 25 year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
20.250	493.99	493.99	493.99	493.99	493.99
20.500	493.99	493.99	493.99	493.99	493.99
20.750	493.99	493.99	493.99	493.99	493.99
21.000	493.99	493.98	493.98	493.98	493.98
21.250	493.98	493.98	493.98	493.98	493.98
21.500	493.98	493.98	493.98	493.97	493.97
21.750	493.97	493.97	493.97	493.97	493.97
22.000	493.97	493.97	493.97	493.96	493.96
22.250	493.96	493.96	493.96	493.96	493.96
22.500	493.96	493.95	493.95	493.95	493.95
22.750	493.95	493.95	493.95	493.95	493.94
23.000	493.94	493.94	493.94	493.94	493.94
23.250	493.94	493.93	493.93	493.93	493.93
23.500	493.93	493.93	493.92	493.92	493.92
23.750	493.92	493.92	493.92	493.91	493.91
24.000	493.91	(N/A)	(N/A)	(N/A)	(N/A)

## Stormwater Hydrologic Calculations

Subsection: Time vs. Elevation

Return Event: 100 years

Label: SUB-2B (IN)

Storm Event: 100 year

Scenario: Post-Development 100 year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
0.000	491.50	491.50	491.50	491.50	491.50
0.250	491.50	491.50	491.50	491.50	491.50
0.500	491.50	491.50	491.50	491.50	491.50
0.750	491.50	491.50	491.51	491.51	491.51
1.000	491.51	491.51	491.52	491.52	491.52
1.250	491.52	491.53	491.53	491.53	491.54
1.500	491.54	491.54	491.55	491.55	491.55
1.750	491.56	491.56	491.56	491.57	491.57
2.000	491.57	491.58	491.58	491.58	491.59
2.250	491.59	491.60	491.60	491.60	491.61
2.500	491.61	491.61	491.62	491.62	491.63
2.750	491.63	491.64	491.64	491.64	491.65
3.000	491.65	491.66	491.66	491.66	491.67
3.250	491.67	491.68	491.68	491.69	491.69
3.500	491.69	491.70	491.70	491.71	491.71
3.750	491.72	491.72	491.73	491.73	491.74
4.000	491.74	491.74	491.75	491.75	491.76
4.250	491.76	491.77	491.77	491.78	491.78
4.500	491.79	491.79	491.79	491.80	491.80
4.750	491.81	491.81	491.82	491.82	491.83
5.000	491.83	491.84	491.84	491.84	491.85
5.250	491.85	491.86	491.86	491.87	491.87
5.500	491.88	491.88	491.89	491.89	491.90
5.750	491.90	491.90	491.91	491.91	491.92
6.000	491.92	491.93	491.93	491.94	491.94
6.250	491.95	491.95	491.96	491.96	491.97
6.500	491.97	491.98	491.98	491.99	492.00
6.750	492.00	492.00	492.01	492.01	492.01
7.000	492.02	492.02	492.02	492.03	492.03
7.250	492.03	492.04	492.04	492.04	492.05
7.500	492.05	492.06	492.06	492.07	492.07
7.750	492.07	492.08	492.08	492.09	492.09
8.000	492.10	492.10	492.11	492.11	492.12
8.250	492.12	492.13	492.14	492.14	492.15
8.500	492.16	492.16	492.17	492.18	492.18
8.750	492.19	492.20	492.21	492.22	492.22
9.000	492.23	492.24	492.25	492.26	492.27
9.250	492.28	492.29	492.30	492.31	492.32
9.500	492.33	492.34	492.35	492.36	492.37
9.750	492.39	492.40	492.41	492.42	492.43



# Stormwater Hydrologic Calculations

Subsection: Time vs. Elevation

Return Event: 100 years

Label: SUB-2B (IN)

Storm Event: 100 year

Scenario: Post-Development 100 year

## Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
10.000	492.45	492.46	492.47	492.49	492.50
10.250	492.51	492.53	492.54	492.56	492.58
10.500	492.59	492.61	492.63	492.65	492.67
10.750	492.68	492.70	492.72	492.74	492.76
11.000	492.79	492.81	492.83	492.85	492.88
11.250	492.91	492.94	492.97	493.00	493.03
11.500	493.07	493.11	493.16	493.22	493.30
11.750	493.40	493.51	493.65	493.81	494.02
12.000	494.35	494.66	494.85	494.88	494.81
12.250	494.71	494.64	494.59	494.55	494.51
12.500	494.48	494.44	494.39	494.35	494.31
12.750	494.28	494.26	494.24	494.22	494.20
13.000	494.19	494.18	494.17	494.16	494.15
13.250	494.14	494.14	494.13	494.13	494.12
13.500	494.12	494.12	494.11	494.11	494.11
13.750	494.10	494.10	494.10	494.10	494.09
14.000	494.09	494.09	494.09	494.08	494.08
14.250	494.08	494.08	494.08	494.08	494.08
14.500	494.07	494.07	494.07	494.07	494.07
14.750	494.07	494.07	494.07	494.06	494.06
15.000	494.06	494.06	494.06	494.06	494.06
15.250	494.06	494.05	494.05	494.05	494.05
15.500	494.05	494.05	494.05	494.05	494.05
15.750	494.04	494.04	494.04	494.04	494.04
16.000	494.04	494.04	494.04	494.03	494.03
16.250	494.03	494.03	494.03	494.03	494.03
16.500	494.03	494.03	494.03	494.03	494.03
16.750	494.03	494.03	494.03	494.03	494.03
17.000	494.02	494.02	494.02	494.02	494.02
17.250	494.02	494.02	494.02	494.02	494.02
17.500	494.02	494.02	494.02	494.02	494.02
17.750	494.02	494.02	494.02	494.02	494.01
18.000	494.01	494.01	494.01	494.01	494.01
18.250	494.01	494.01	494.01	494.01	494.01
18.500	494.01	494.01	494.01	494.01	494.01
18.750	494.01	494.01	494.01	494.01	494.01
19.000	494.01	494.01	494.01	494.01	494.01
19.250	494.01	494.01	494.01	494.01	494.01
19.500	494.01	494.01	494.01	494.01	494.01
19.750	494.01	494.01	494.01	494.01	494.01
20.000	494.01	494.01	494.01	494.01	494.01

## Stormwater Hydrologic Calculations

Subsection: Time vs. Elevation

Return Event: 100 years

Label: SUB-2B (IN)

Storm Event: 100 year

Scenario: Post-Development 100 year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
20.250	494.01	494.01	494.01	494.01	494.01
20.500	494.01	494.01	494.01	494.00	494.00
20.750	494.00	494.00	494.00	494.00	494.00
21.000	494.00	494.00	494.00	494.00	494.00
21.250	494.00	494.00	494.00	494.00	494.00
21.500	494.00	494.00	494.00	494.00	494.00
21.750	494.00	494.00	494.00	494.00	494.00
22.000	494.00	494.00	494.00	494.00	494.00
22.250	494.00	494.00	494.00	494.00	494.00
22.500	494.00	494.00	494.00	494.00	494.00
22.750	494.00	494.00	494.00	494.00	494.00
23.000	494.00	494.00	494.00	494.00	494.00
23.250	494.00	494.00	494.00	494.00	494.00
23.500	494.00	494.00	494.00	493.99	493.99
23.750	493.99	493.99	493.99	493.99	493.99
24.000	493.99	(N/A)	(N/A)	(N/A)	(N/A)

## Stormwater Hydrologic Calculations

Subsection: Time vs. Elevation

Return Event: 1 years

Label: SUB-2C (IN)

Storm Event: 1 year

Scenario: Post-Development 1 year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
0.000	555.50	555.50	555.50	555.50	555.50
0.250	555.50	555.50	555.50	555.50	555.50
0.500	555.50	555.50	555.50	555.50	555.50
0.750	555.50	555.50	555.50	555.50	555.50
1.000	555.50	555.50	555.50	555.50	555.50
1.250	555.50	555.50	555.50	555.50	555.50
1.500	555.50	555.50	555.50	555.50	555.50
1.750	555.50	555.50	555.50	555.50	555.50
2.000	555.50	555.50	555.50	555.50	555.50
2.250	555.50	555.50	555.50	555.50	555.51
2.500	555.51	555.51	555.51	555.51	555.51
2.750	555.51	555.51	555.51	555.51	555.51
3.000	555.51	555.51	555.51	555.51	555.52
3.250	555.52	555.52	555.52	555.52	555.52
3.500	555.52	555.52	555.52	555.52	555.52
3.750	555.53	555.53	555.53	555.53	555.53
4.000	555.53	555.53	555.53	555.53	555.54
4.250	555.54	555.54	555.54	555.54	555.54
4.500	555.54	555.54	555.54	555.55	555.55
4.750	555.55	555.55	555.55	555.55	555.55
5.000	555.56	555.56	555.56	555.56	555.56
5.250	555.56	555.56	555.57	555.57	555.57
5.500	555.57	555.57	555.57	555.57	555.58
5.750	555.58	555.58	555.58	555.58	555.58
6.000	555.58	555.59	555.59	555.59	555.59
6.250	555.59	555.59	555.60	555.60	555.60
6.500	555.60	555.60	555.60	555.61	555.61
6.750	555.61	555.61	555.61	555.62	555.62
7.000	555.62	555.62	555.63	555.63	555.63
7.250	555.63	555.63	555.64	555.64	555.64
7.500	555.64	555.65	555.65	555.65	555.65
7.750	555.66	555.66	555.66	555.67	555.67
8.000	555.67	555.67	555.68	555.68	555.68
8.250	555.69	555.69	555.69	555.70	555.70
8.500	555.70	555.71	555.71	555.71	555.72
8.750	555.72	555.73	555.73	555.74	555.74
9.000	555.74	555.75	555.75	555.76	555.76
9.250	555.77	555.77	555.78	555.78	555.79
9.500	555.79	555.80	555.80	555.81	555.82
9.750	555.82	555.83	555.83	555.84	555.84

# Stormwater Hydrologic Calculations

Subsection: Time vs. Elevation  
 Label: SUB-2C (IN)  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

## Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
10.000	555.85	555.86	555.86	555.87	555.88
10.250	555.88	555.89	555.90	555.90	555.91
10.500	555.92	555.93	555.93	555.94	555.95
10.750	555.96	555.97	555.98	555.99	556.00
11.000	556.00	556.01	556.01	556.02	556.02
11.250	556.03	556.04	556.04	556.05	556.06
11.500	556.07	556.08	556.09	556.11	556.13
11.750	556.16	556.19	556.23	556.27	556.32
12.000	556.40	556.49	556.59	556.68	556.74
12.250	556.80	556.84	556.88	556.91	556.93
12.500	556.96	556.97	556.99	557.00	557.01
12.750	557.02	557.03	557.03	557.04	557.05
13.000	557.06	557.06	557.07	557.07	557.08
13.250	557.09	557.09	557.10	557.10	557.10
13.500	557.11	557.11	557.12	557.12	557.13
13.750	557.13	557.13	557.14	557.14	557.14
14.000	557.15	557.15	557.15	557.15	557.16
14.250	557.16	557.16	557.16	557.16	557.17
14.500	557.17	557.17	557.17	557.17	557.18
14.750	557.18	557.18	557.18	557.18	557.18
15.000	557.18	557.18	557.19	557.19	557.19
15.250	557.19	557.19	557.19	557.19	557.19
15.500	557.19	557.19	557.19	557.19	557.19
15.750	557.19	557.19	557.19	557.19	557.19
16.000	557.19	557.19	557.19	557.19	557.19
16.250	557.19	557.19	557.19	557.19	557.19
16.500	557.19	557.19	557.18	557.18	557.18
16.750	557.18	557.18	557.18	557.18	557.18
17.000	557.18	557.18	557.17	557.17	557.17
17.250	557.17	557.17	557.17	557.17	557.17
17.500	557.16	557.16	557.16	557.16	557.16
17.750	557.16	557.15	557.15	557.15	557.15
18.000	557.15	557.15	557.14	557.14	557.14
18.250	557.14	557.14	557.14	557.13	557.13
18.500	557.13	557.13	557.13	557.12	557.12
18.750	557.12	557.12	557.12	557.11	557.11
19.000	557.11	557.11	557.11	557.10	557.10
19.250	557.10	557.10	557.10	557.09	557.09
19.500	557.09	557.09	557.09	557.08	557.08
19.750	557.08	557.08	557.08	557.07	557.07
20.000	557.07	557.07	557.06	557.06	557.06

## Stormwater Hydrologic Calculations

Subsection: Time vs. Elevation  
 Label: SUB-2C (IN)  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
20.250	557.06	557.06	557.05	557.05	557.05
20.500	557.05	557.04	557.04	557.04	557.04
20.750	557.03	557.03	557.03	557.03	557.03
21.000	557.02	557.02	557.02	557.02	557.01
21.250	557.01	557.01	557.01	557.00	557.00
21.500	557.00	557.00	556.99	556.99	556.99
21.750	556.99	556.99	556.98	556.98	556.98
22.000	556.98	556.97	556.97	556.97	556.97
22.250	556.96	556.96	556.96	556.96	556.96
22.500	556.95	556.95	556.95	556.95	556.94
22.750	556.94	556.94	556.94	556.93	556.93
23.000	556.93	556.93	556.92	556.92	556.92
23.250	556.92	556.91	556.91	556.91	556.91
23.500	556.90	556.90	556.90	556.90	556.89
23.750	556.89	556.89	556.89	556.88	556.88
24.000	556.88	(N/A)	(N/A)	(N/A)	(N/A)

## Stormwater Hydrologic Calculations

Subsection: Time vs. Elevation

Return Event: 10 years

Label: SUB-2C (IN)

Storm Event: 10 year

Scenario: Post-Development 10 year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
0.000	555.50	555.50	555.50	555.50	555.50
0.250	555.50	555.50	555.50	555.50	555.50
0.500	555.50	555.50	555.50	555.50	555.50
0.750	555.50	555.50	555.50	555.50	555.50
1.000	555.50	555.50	555.50	555.50	555.50
1.250	555.50	555.50	555.50	555.51	555.51
1.500	555.51	555.51	555.51	555.51	555.51
1.750	555.51	555.52	555.52	555.52	555.52
2.000	555.52	555.52	555.52	555.53	555.53
2.250	555.53	555.53	555.53	555.53	555.54
2.500	555.54	555.54	555.54	555.54	555.55
2.750	555.55	555.55	555.55	555.55	555.56
3.000	555.56	555.56	555.56	555.57	555.57
3.250	555.57	555.57	555.58	555.58	555.58
3.500	555.58	555.59	555.59	555.59	555.59
3.750	555.60	555.60	555.60	555.60	555.61
4.000	555.61	555.61	555.61	555.62	555.62
4.250	555.62	555.62	555.63	555.63	555.63
4.500	555.64	555.64	555.64	555.64	555.65
4.750	555.65	555.65	555.66	555.66	555.66
5.000	555.66	555.67	555.67	555.67	555.68
5.250	555.68	555.68	555.68	555.69	555.69
5.500	555.69	555.70	555.70	555.70	555.71
5.750	555.71	555.71	555.71	555.72	555.72
6.000	555.72	555.73	555.73	555.73	555.74
6.250	555.74	555.74	555.75	555.75	555.75
6.500	555.76	555.76	555.76	555.77	555.77
6.750	555.77	555.78	555.78	555.79	555.79
7.000	555.79	555.80	555.80	555.81	555.81
7.250	555.82	555.82	555.83	555.83	555.83
7.500	555.84	555.84	555.85	555.85	555.86
7.750	555.86	555.87	555.87	555.88	555.88
8.000	555.89	555.90	555.90	555.91	555.91
8.250	555.92	555.92	555.93	555.94	555.94
8.500	555.95	555.96	555.96	555.97	555.98
8.750	555.99	555.99	556.00	556.00	556.01
9.000	556.01	556.02	556.02	556.03	556.03
9.250	556.03	556.04	556.04	556.05	556.05
9.500	556.06	556.07	556.07	556.08	556.08
9.750	556.09	556.09	556.10	556.11	556.11

# Stormwater Hydrologic Calculations

Subsection: Time vs. Elevation

Return Event: 10 years

Label: SUB-2C (IN)

Storm Event: 10 year

Scenario: Post-Development 10 year

## Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
10.000	556.12	556.13	556.13	556.14	556.15
10.250	556.16	556.16	556.17	556.18	556.19
10.500	556.20	556.21	556.22	556.23	556.24
10.750	556.25	556.26	556.27	556.28	556.29
11.000	556.30	556.31	556.33	556.34	556.35
11.250	556.37	556.39	556.40	556.42	556.44
11.500	556.46	556.48	556.51	556.55	556.59
11.750	556.65	556.71	556.79	556.87	556.98
12.000	557.14	557.33	557.53	557.74	557.90
12.250	558.02	558.12	558.16	558.17	558.16
12.500	558.14	558.12	558.10	558.09	558.08
12.750	558.07	558.06	558.06	558.05	558.05
13.000	558.05	558.04	558.04	558.04	558.04
13.250	558.04	558.04	558.03	558.03	558.03
13.500	558.03	558.03	558.03	558.03	558.03
13.750	558.03	558.03	558.03	558.03	558.02
14.000	558.02	558.02	558.02	558.02	558.02
14.250	558.02	558.02	558.02	558.02	558.02
14.500	558.02	558.02	558.02	558.02	558.02
14.750	558.02	558.02	558.02	558.02	558.02
15.000	558.02	558.01	558.01	558.01	558.01
15.250	558.01	558.01	558.01	558.01	558.01
15.500	558.01	558.01	558.01	558.01	558.01
15.750	558.01	558.01	558.01	558.01	558.01
16.000	558.01	558.01	558.01	558.01	558.01
16.250	558.01	558.01	558.01	558.01	558.01
16.500	558.01	558.01	558.01	558.00	558.00
16.750	558.00	558.00	558.00	558.00	558.00
17.000	558.00	558.00	558.00	558.00	558.00
17.250	558.00	558.00	558.00	558.00	558.00
17.500	558.00	558.00	558.00	558.00	558.00
17.750	558.00	558.00	558.00	558.00	558.00
18.000	558.00	558.00	558.00	558.00	558.00
18.250	558.00	558.00	558.00	558.00	558.00
18.500	558.00	558.00	558.00	558.00	558.00
18.750	558.00	558.00	558.00	558.00	558.00
19.000	558.00	558.00	558.00	557.99	557.99
19.250	557.99	557.99	557.99	557.99	557.99
19.500	557.99	557.99	557.99	557.99	557.99
19.750	557.99	557.99	557.99	557.99	557.98
20.000	557.98	557.98	557.98	557.98	557.98

## Stormwater Hydrologic Calculations

Subsection: Time vs. Elevation

Return Event: 10 years

Label: SUB-2C (IN)

Storm Event: 10 year

Scenario: Post-Development 10 year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
20.250	557.98	557.98	557.98	557.98	557.98
20.500	557.97	557.97	557.97	557.97	557.97
20.750	557.97	557.97	557.97	557.97	557.96
21.000	557.96	557.96	557.96	557.96	557.96
21.250	557.96	557.96	557.96	557.95	557.95
21.500	557.95	557.95	557.95	557.95	557.95
21.750	557.94	557.94	557.94	557.94	557.94
22.000	557.94	557.94	557.93	557.93	557.93
22.250	557.93	557.93	557.93	557.93	557.92
22.500	557.92	557.92	557.92	557.92	557.92
22.750	557.91	557.91	557.91	557.91	557.91
23.000	557.91	557.90	557.90	557.90	557.90
23.250	557.90	557.89	557.89	557.89	557.89
23.500	557.89	557.89	557.88	557.88	557.88
23.750	557.88	557.88	557.87	557.87	557.87
24.000	557.87	(N/A)	(N/A)	(N/A)	(N/A)



## Stormwater Hydrologic Calculations

Subsection: Time vs. Elevation

Return Event: 25 years

Label: SUB-2C (IN)

Storm Event: 25 year

Scenario: Post-Development 25 year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
0.000	555.50	555.50	555.50	555.50	555.50
0.250	555.50	555.50	555.50	555.50	555.50
0.500	555.50	555.50	555.50	555.50	555.50
0.750	555.50	555.50	555.50	555.50	555.50
1.000	555.50	555.50	555.51	555.51	555.51
1.250	555.51	555.51	555.51	555.51	555.52
1.500	555.52	555.52	555.52	555.52	555.53
1.750	555.53	555.53	555.53	555.53	555.54
2.000	555.54	555.54	555.54	555.55	555.55
2.250	555.55	555.55	555.56	555.56	555.56
2.500	555.56	555.57	555.57	555.57	555.58
2.750	555.58	555.58	555.58	555.59	555.59
3.000	555.59	555.60	555.60	555.60	555.61
3.250	555.61	555.61	555.62	555.62	555.62
3.500	555.63	555.63	555.63	555.64	555.64
3.750	555.64	555.65	555.65	555.65	555.66
4.000	555.66	555.66	555.67	555.67	555.67
4.250	555.68	555.68	555.69	555.69	555.69
4.500	555.70	555.70	555.70	555.71	555.71
4.750	555.71	555.72	555.72	555.73	555.73
5.000	555.73	555.74	555.74	555.74	555.75
5.250	555.75	555.76	555.76	555.76	555.77
5.500	555.77	555.77	555.78	555.78	555.79
5.750	555.79	555.79	555.80	555.80	555.80
6.000	555.81	555.81	555.82	555.82	555.82
6.250	555.83	555.83	555.84	555.84	555.84
6.500	555.85	555.85	555.86	555.86	555.87
6.750	555.87	555.88	555.88	555.89	555.89
7.000	555.90	555.90	555.91	555.91	555.92
7.250	555.92	555.93	555.94	555.94	555.95
7.500	555.95	555.96	555.97	555.97	555.98
7.750	555.98	555.99	556.00	556.00	556.00
8.000	556.01	556.01	556.01	556.02	556.02
8.250	556.03	556.03	556.03	556.04	556.04
8.500	556.05	556.05	556.06	556.06	556.07
8.750	556.07	556.08	556.08	556.09	556.09
9.000	556.10	556.11	556.11	556.12	556.13
9.250	556.13	556.14	556.15	556.16	556.16
9.500	556.17	556.18	556.19	556.20	556.20
9.750	556.21	556.22	556.23	556.24	556.25

# Stormwater Hydrologic Calculations

Subsection: Time vs. Elevation

Return Event: 25 years

Label: SUB-2C (IN)

Storm Event: 25 year

Scenario: Post-Development 25 year

## Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
10.000	556.26	556.27	556.28	556.29	556.30
10.250	556.31	556.32	556.33	556.34	556.35
10.500	556.37	556.38	556.39	556.41	556.42
10.750	556.43	556.45	556.46	556.48	556.49
11.000	556.51	556.53	556.54	556.56	556.58
11.250	556.60	556.62	556.65	556.67	556.70
11.500	556.73	556.76	556.80	556.84	556.90
11.750	556.97	557.06	557.16	557.27	557.42
12.000	557.64	557.92	558.21	558.39	558.43
12.250	558.40	558.36	558.32	558.28	558.24
12.500	558.20	558.17	558.14	558.12	558.10
12.750	558.09	558.08	558.08	558.07	558.07
13.000	558.06	558.06	558.06	558.05	558.05
13.250	558.05	558.05	558.05	558.05	558.04
13.500	558.04	558.04	558.04	558.04	558.04
13.750	558.04	558.04	558.04	558.04	558.03
14.000	558.03	558.03	558.03	558.03	558.03
14.250	558.03	558.03	558.03	558.03	558.03
14.500	558.03	558.03	558.03	558.03	558.02
14.750	558.02	558.02	558.02	558.02	558.02
15.000	558.02	558.02	558.02	558.02	558.02
15.250	558.02	558.02	558.02	558.02	558.02
15.500	558.02	558.02	558.02	558.02	558.02
15.750	558.01	558.01	558.01	558.01	558.01
16.000	558.01	558.01	558.01	558.01	558.01
16.250	558.01	558.01	558.01	558.01	558.01
16.500	558.01	558.01	558.01	558.01	558.01
16.750	558.01	558.01	558.01	558.01	558.01
17.000	558.01	558.01	558.01	558.01	558.01
17.250	558.01	558.01	558.01	558.01	558.01
17.500	558.01	558.01	558.01	558.00	558.00
17.750	558.00	558.00	558.00	558.00	558.00
18.000	558.00	558.00	558.00	558.00	558.00
18.250	558.00	558.00	558.00	558.00	558.00
18.500	558.00	558.00	558.00	558.00	558.00
18.750	558.00	558.00	558.00	558.00	558.00
19.000	558.00	558.00	558.00	558.00	558.00
19.250	558.00	558.00	558.00	558.00	558.00
19.500	558.00	558.00	558.00	558.00	558.00
19.750	558.00	558.00	558.00	558.00	558.00
20.000	558.00	558.00	558.00	558.00	558.00

## Stormwater Hydrologic Calculations

Subsection: Time vs. Elevation

Return Event: 25 years

Label: SUB-2C (IN)

Storm Event: 25 year

Scenario: Post-Development 25 year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
20.250	558.00	558.00	558.00	558.00	558.00
20.500	558.00	558.00	558.00	558.00	558.00
20.750	558.00	558.00	558.00	558.00	558.00
21.000	558.00	558.00	558.00	558.00	558.00
21.250	558.00	558.00	558.00	557.99	557.99
21.500	557.99	557.99	557.99	557.99	557.99
21.750	557.99	557.99	557.99	557.99	557.99
22.000	557.99	557.99	557.99	557.99	557.99
22.250	557.98	557.98	557.98	557.98	557.98
22.500	557.98	557.98	557.98	557.98	557.98
22.750	557.98	557.97	557.97	557.97	557.97
23.000	557.97	557.97	557.97	557.97	557.97
23.250	557.97	557.96	557.96	557.96	557.96
23.500	557.96	557.96	557.96	557.96	557.95
23.750	557.95	557.95	557.95	557.95	557.95
24.000	557.95	(N/A)	(N/A)	(N/A)	(N/A)

## Stormwater Hydrologic Calculations

Subsection: Time vs. Elevation

Return Event: 100 years

Label: SUB-2C (IN)

Storm Event: 100 year

Scenario: Post-Development 100 year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
0.000	555.50	555.50	555.50	555.50	555.50
0.250	555.50	555.50	555.50	555.50	555.50
0.500	555.50	555.50	555.50	555.50	555.50
0.750	555.50	555.51	555.51	555.51	555.51
1.000	555.51	555.52	555.52	555.52	555.53
1.250	555.53	555.53	555.54	555.54	555.54
1.500	555.55	555.55	555.55	555.56	555.56
1.750	555.56	555.57	555.57	555.58	555.58
2.000	555.58	555.59	555.59	555.60	555.60
2.250	555.61	555.61	555.61	555.62	555.62
2.500	555.63	555.63	555.64	555.64	555.65
2.750	555.65	555.66	555.66	555.67	555.67
3.000	555.67	555.68	555.68	555.69	555.69
3.250	555.70	555.70	555.71	555.71	555.72
3.500	555.72	555.73	555.73	555.74	555.74
3.750	555.75	555.75	555.76	555.77	555.77
4.000	555.78	555.78	555.79	555.79	555.80
4.250	555.80	555.81	555.81	555.82	555.82
4.500	555.83	555.83	555.84	555.84	555.85
4.750	555.85	555.86	555.86	555.87	555.87
5.000	555.88	555.88	555.89	555.90	555.90
5.250	555.91	555.91	555.92	555.92	555.93
5.500	555.93	555.94	555.94	555.95	555.95
5.750	555.96	555.96	555.97	555.97	555.98
6.000	555.98	555.99	555.99	556.00	556.00
6.250	556.01	556.01	556.01	556.01	556.02
6.500	556.02	556.02	556.03	556.03	556.03
6.750	556.04	556.04	556.04	556.05	556.05
7.000	556.06	556.06	556.07	556.07	556.07
7.250	556.08	556.08	556.09	556.09	556.10
7.500	556.10	556.11	556.11	556.12	556.13
7.750	556.13	556.14	556.14	556.15	556.15
8.000	556.16	556.17	556.17	556.18	556.19
8.250	556.19	556.20	556.21	556.22	556.22
8.500	556.23	556.24	556.25	556.26	556.27
8.750	556.28	556.29	556.30	556.31	556.32
9.000	556.33	556.34	556.35	556.36	556.37
9.250	556.38	556.39	556.41	556.42	556.43
9.500	556.44	556.46	556.47	556.48	556.50
9.750	556.51	556.53	556.54	556.56	556.57

# Stormwater Hydrologic Calculations

Subsection: Time vs. Elevation

Return Event: 100 years

Label: SUB-2C (IN)

Storm Event: 100 year

Scenario: Post-Development 100 year

## Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
10.000	556.59	556.60	556.62	556.64	556.65
10.250	556.67	556.69	556.71	556.73	556.75
10.500	556.77	556.79	556.81	556.83	556.85
10.750	556.87	556.90	556.92	556.94	556.97
11.000	556.99	557.02	557.05	557.08	557.11
11.250	557.15	557.18	557.22	557.26	557.30
11.500	557.35	557.40	557.45	557.53	557.63
11.750	557.75	557.90	558.07	558.24	558.39
12.000	558.55	558.67	558.69	558.66	558.58
12.250	558.51	558.47	558.43	558.39	558.34
12.500	558.29	558.24	558.20	558.17	558.15
12.750	558.13	558.12	558.11	558.11	558.10
13.000	558.09	558.09	558.08	558.08	558.08
13.250	558.07	558.07	558.07	558.07	558.07
13.500	558.07	558.06	558.06	558.06	558.06
13.750	558.06	558.06	558.06	558.05	558.05
14.000	558.05	558.05	558.05	558.05	558.05
14.250	558.05	558.05	558.04	558.04	558.04
14.500	558.04	558.04	558.04	558.04	558.04
14.750	558.04	558.04	558.04	558.04	558.04
15.000	558.04	558.04	558.03	558.03	558.03
15.250	558.03	558.03	558.03	558.03	558.03
15.500	558.03	558.03	558.03	558.03	558.03
15.750	558.03	558.02	558.02	558.02	558.02
16.000	558.02	558.02	558.02	558.02	558.02
16.250	558.02	558.02	558.02	558.02	558.02
16.500	558.02	558.02	558.02	558.02	558.02
16.750	558.02	558.02	558.02	558.02	558.02
17.000	558.02	558.01	558.01	558.01	558.01
17.250	558.01	558.01	558.01	558.01	558.01
17.500	558.01	558.01	558.01	558.01	558.01
17.750	558.01	558.01	558.01	558.01	558.01
18.000	558.01	558.01	558.01	558.01	558.01
18.250	558.01	558.01	558.01	558.01	558.01
18.500	558.01	558.01	558.01	558.01	558.01
18.750	558.01	558.01	558.01	558.01	558.01
19.000	558.01	558.01	558.01	558.01	558.01
19.250	558.01	558.01	558.01	558.01	558.01
19.500	558.01	558.01	558.01	558.01	558.01
19.750	558.01	558.01	558.01	558.01	558.01
20.000	558.01	558.00	558.00	558.00	558.00

## Stormwater Hydrologic Calculations

Subsection: Time vs. Elevation

Return Event: 100 years

Label: SUB-2C (IN)

Storm Event: 100 year

Scenario: Post-Development 100 year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
20.250	558.00	558.00	558.00	558.00	558.00
20.500	558.00	558.00	558.00	558.00	558.00
20.750	558.00	558.00	558.00	558.00	558.00
21.000	558.00	558.00	558.00	558.00	558.00
21.250	558.00	558.00	558.00	558.00	558.00
21.500	558.00	558.00	558.00	558.00	558.00
21.750	558.00	558.00	558.00	558.00	558.00
22.000	558.00	558.00	558.00	558.00	558.00
22.250	558.00	558.00	558.00	558.00	558.00
22.500	558.00	558.00	558.00	558.00	558.00
22.750	558.00	558.00	558.00	558.00	558.00
23.000	558.00	558.00	558.00	558.00	558.00
23.250	558.00	558.00	558.00	558.00	558.00
23.500	558.00	558.00	558.00	558.00	558.00
23.750	558.00	558.00	558.00	558.00	558.00
24.000	558.00	(N/A)	(N/A)	(N/A)	(N/A)

## Stormwater Hydrologic Calculations

Subsection: Time vs. Volume  
 Label: DB-1C-2/10  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Time vs. Volume (ft<sup>3</sup>)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

Time (hours)	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )
0.000	0	0	0	0	0
0.250	0	0	0	0	0
0.500	0	0	0	0	0
0.750	0	0	0	0	0
1.000	0	0	0	0	0
1.250	0	0	0	0	0
1.500	0	0	0	0	0
1.750	0	0	0	0	0
2.000	0	0	0	0	0
2.250	0	0	0	0	0
2.500	0	0	0	0	0
2.750	0	0	0	0	0
3.000	0	0	0	0	0
3.250	0	0	0	0	0
3.500	0	0	0	0	0
3.750	0	0	0	0	0
4.000	0	0	0	0	0
4.250	0	0	0	0	0
4.500	0	0	0	0	0
4.750	0	0	0	0	0
5.000	0	0	0	0	0
5.250	0	0	0	0	0
5.500	0	0	0	0	0
5.750	0	0	0	0	0
6.000	0	0	0	0	0
6.250	0	0	0	0	0
6.500	0	0	0	0	0
6.750	0	0	0	0	0
7.000	0	0	0	0	0
7.250	0	0	0	0	0
7.500	0	0	0	0	0
7.750	0	0	0	0	0
8.000	0	0	0	0	0
8.250	0	0	0	0	0
8.500	0	0	0	0	0
8.750	0	0	0	0	0
9.000	0	0	0	0	0
9.250	0	0	0	0	0
9.500	0	0	0	0	0
9.750	0	0	0	0	0

# Stormwater Hydrologic Calculations

Subsection: Time vs. Volume

Return Event: 1 years

Label: DB-1C-2/10

Storm Event: 1 year

Scenario: Post-Development 1 year

## Time vs. Volume (ft<sup>3</sup>)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )
10.000	0	0	0	0	0
10.250	0	0	0	0	0
10.500	0	0	0	0	0
10.750	0	0	0	0	0
11.000	0	0	0	0	0
11.250	0	0	0	0	0
11.500	0	0	0	0	0
11.750	0	0	0	0	0
12.000	0	0	0	0	0
12.250	0	0	0	0	0
12.500	0	0	0	0	0
12.750	0	0	0	0	0
13.000	0	0	0	0	0
13.250	0	0	0	0	0
13.500	0	0	0	0	0
13.750	0	0	0	0	0
14.000	0	0	0	0	0
14.250	0	0	0	0	0
14.500	0	0	0	0	0
14.750	0	0	0	0	0
15.000	0	0	0	0	0
15.250	0	0	0	0	0
15.500	0	0	0	0	0
15.750	0	0	0	0	0
16.000	0	0	0	0	0
16.250	0	0	0	0	0
16.500	0	0	0	0	0
16.750	0	0	0	0	0
17.000	0	0	0	0	0
17.250	0	0	0	0	0
17.500	0	0	0	0	0
17.750	0	0	0	0	0
18.000	0	0	0	0	0
18.250	0	0	0	0	0
18.500	0	0	0	0	0
18.750	0	0	0	0	0
19.000	0	0	0	0	0
19.250	0	0	0	0	0
19.500	0	0	0	0	0
19.750	0	0	0	0	0
20.000	0	0	0	0	0



## Stormwater Hydrologic Calculations

Subsection: Time vs. Volume  
 Label: DB-1C-2/10  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Time vs. Volume (ft<sup>3</sup>)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

Time (hours)	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )
20.250	0	0	0	0	0
20.500	0	0	0	0	0
20.750	0	0	0	0	0
21.000	0	0	0	0	0
21.250	0	0	0	0	0
21.500	0	0	0	0	0
21.750	0	0	0	0	0
22.000	0	0	0	0	0
22.250	0	0	0	0	0
22.500	0	0	0	0	0
22.750	0	0	0	0	0
23.000	0	0	0	0	0
23.250	0	0	0	0	0
23.500	0	0	0	0	0
23.750	0	0	0	0	0
24.000	0	(N/A)	(N/A)	(N/A)	(N/A)

## Stormwater Hydrologic Calculations

Subsection: Time vs. Volume

Return Event: 10 years

Label: DB-1C-2/10

Storm Event: 10 year

Scenario: Post-Development 10 year

### Time vs. Volume (ft<sup>3</sup>)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )
0.000	0	0	0	0	0
0.250	0	0	0	0	0
0.500	0	0	0	0	0
0.750	0	0	0	0	0
1.000	0	0	0	0	0
1.250	0	0	0	0	0
1.500	0	0	0	0	0
1.750	0	0	0	0	0
2.000	0	0	0	0	0
2.250	0	0	0	0	0
2.500	0	0	0	0	0
2.750	0	0	0	0	0
3.000	0	0	0	0	0
3.250	0	0	0	0	0
3.500	0	0	0	0	0
3.750	0	0	0	0	0
4.000	0	0	0	0	0
4.250	0	0	0	0	0
4.500	0	0	0	0	0
4.750	0	0	0	0	0
5.000	0	0	0	0	0
5.250	0	0	0	0	0
5.500	0	0	0	0	0
5.750	0	0	0	0	0
6.000	0	0	0	0	0
6.250	0	0	0	0	0
6.500	0	0	0	0	0
6.750	0	0	0	0	0
7.000	0	0	0	0	0
7.250	0	0	0	0	0
7.500	0	0	0	0	0
7.750	0	0	0	0	0
8.000	0	0	0	0	0
8.250	0	0	0	0	0
8.500	0	0	0	0	0
8.750	0	0	0	0	0
9.000	0	0	0	0	0
9.250	0	0	0	0	0
9.500	0	0	0	0	0
9.750	0	0	0	0	0

## Stormwater Hydrologic Calculations

Subsection: Time vs. Volume

Return Event: 10 years

Label: DB-1C-2/10

Storm Event: 10 year

Scenario: Post-Development 10 year

### Time vs. Volume (ft<sup>3</sup>)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )
10.000	0	0	0	0	0
10.250	0	0	0	0	0
10.500	0	0	0	0	0
10.750	0	0	0	0	0
11.000	0	0	0	0	0
11.250	0	0	0	0	0
11.500	0	0	0	0	0
11.750	0	0	0	0	0
12.000	0	0	323	1,922	4,782
12.250	7,630	9,496	10,166	10,346	10,591
12.500	10,670	10,480	10,176	9,839	9,463
12.750	9,071	8,697	8,350	8,013	7,692
13.000	7,390	7,097	6,817	6,550	6,301
13.250	6,076	5,854	5,647	5,466	5,285
13.500	5,111	4,961	4,820	4,674	4,531
13.750	4,407	4,293	4,179	4,065	3,948
14.000	3,837	3,740	3,647	3,554	3,464
14.250	3,374	3,282	3,194	3,118	3,049
14.500	2,981	2,914	2,850	2,788	2,725
14.750	2,658	2,589	2,526	2,469	2,418
15.000	2,367	2,316	2,266	2,216	2,167
15.250	2,119	2,070	2,018	1,961	1,903
15.500	1,848	1,798	1,753	1,708	1,663
15.750	1,618	1,572	1,527	1,481	1,436
16.000	1,392	1,349	1,303	1,252	1,201
16.250	1,156	1,118	1,085	1,054	1,026
16.500	999	973	948	924	901
16.750	879	858	838	818	799
17.000	781	764	747	731	716
17.250	701	686	670	651	631
17.500	611	589	567	545	524
17.750	503	482	461	442	423
18.000	404	387	369	353	337
18.250	322	307	293	280	267
18.500	254	243	231	220	210
18.750	200	191	182	173	165
19.000	158	150	143	137	130
19.250	124	118	113	108	103
19.500	98	94	89	85	81
19.750	78	74	71	68	65
20.000	62	59	57	54	52

## Stormwater Hydrologic Calculations

Subsection: Time vs. Volume

Return Event: 10 years

Label: DB-1C-2/10

Storm Event: 10 year

Scenario: Post-Development 10 year

### Time vs. Volume (ft<sup>3</sup>)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )
20.250	50	48	46	44	42
20.500	40	38	37	35	34
20.750	32	31	30	29	28
21.000	27	25	24	24	23
21.250	22	21	20	20	19
21.500	18	18	17	16	16
21.750	15	15	14	14	14
22.000	13	13	12	12	12
22.250	12	11	11	11	10
22.500	10	10	10	10	9
22.750	9	9	9	9	9
23.000	8	8	8	8	8
23.250	8	8	8	8	7
23.500	7	7	7	7	7
23.750	7	7	7	7	7
24.000	7	(N/A)	(N/A)	(N/A)	(N/A)

## Stormwater Hydrologic Calculations

Subsection: Time vs. Volume

Return Event: 25 years

Label: DB-1C-2/10

Storm Event: 25 year

Scenario: Post-Development 25 year

### Time vs. Volume (ft<sup>3</sup>)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )
0.000	0	0	0	0	0
0.250	0	0	0	0	0
0.500	0	0	0	0	0
0.750	0	0	0	0	0
1.000	0	0	0	0	0
1.250	0	0	0	0	0
1.500	0	0	0	0	0
1.750	0	0	0	0	0
2.000	0	0	0	0	0
2.250	0	0	0	0	0
2.500	0	0	0	0	0
2.750	0	0	0	0	0
3.000	0	0	0	0	0
3.250	0	0	0	0	0
3.500	0	0	0	0	0
3.750	0	0	0	0	0
4.000	0	0	0	0	0
4.250	0	0	0	0	0
4.500	0	0	0	0	0
4.750	0	0	0	0	0
5.000	0	0	0	0	0
5.250	0	0	0	0	0
5.500	0	0	0	0	0
5.750	0	0	0	0	0
6.000	0	0	0	0	0
6.250	0	0	0	0	0
6.500	0	0	0	0	0
6.750	0	0	0	0	0
7.000	0	0	0	0	0
7.250	0	0	0	0	0
7.500	0	0	0	0	0
7.750	0	0	0	0	0
8.000	0	0	0	0	0
8.250	0	0	0	0	0
8.500	0	0	0	0	0
8.750	0	0	0	0	0
9.000	0	0	0	0	0
9.250	0	0	0	0	0
9.500	0	0	0	0	0
9.750	0	0	0	0	0

# Stormwater Hydrologic Calculations

Subsection: Time vs. Volume

Return Event: 25 years

Label: DB-1C-2/10

Storm Event: 25 year

Scenario: Post-Development 25 year

## Time vs. Volume (ft<sup>3</sup>)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )
10.000	0	0	0	0	0
10.250	0	0	0	0	0
10.500	0	0	0	0	0
10.750	0	0	0	0	0
11.000	0	0	0	0	0
11.250	0	0	0	0	0
11.500	0	0	0	0	0
11.750	0	0	0	0	0
12.000	633	2,806	6,383	10,355	13,597
12.250	15,367	15,988	16,277	16,401	16,220
12.500	15,805	15,275	14,635	13,939	13,244
12.750	12,575	11,954	11,381	10,843	10,339
13.000	9,867	9,436	9,032	8,640	8,287
13.250	7,962	7,661	7,387	7,129	6,893
13.500	6,670	6,461	6,276	6,098	5,918
13.750	5,756	5,613	5,471	5,321	5,180
14.000	5,060	4,942	4,824	4,703	4,584
14.250	4,481	4,389	4,297	4,209	4,124
14.500	4,036	3,947	3,869	3,800	3,732
14.750	3,665	3,600	3,536	3,475	3,410
15.000	3,342	3,275	3,213	3,157	3,104
15.250	3,050	2,996	2,942	2,890	2,837
15.500	2,785	2,730	2,670	2,609	2,549
15.750	2,495	2,445	2,395	2,344	2,293
16.000	2,242	2,190	2,139	2,088	2,035
16.250	1,977	1,917	1,859	1,808	1,764
16.500	1,722	1,681	1,639	1,599	1,558
16.750	1,519	1,480	1,442	1,404	1,366
17.000	1,324	1,277	1,227	1,180	1,139
17.250	1,103	1,071	1,042	1,014	987
17.500	962	938	914	892	871
17.750	850	830	811	793	775
18.000	758	742	726	711	696
18.250	681	665	645	625	603
18.500	581	559	536	514	493
18.750	471	451	431	411	393
19.000	375	358	341	325	310
19.250	296	282	269	256	244
19.500	233	222	212	202	192
19.750	183	175	167	159	152
20.000	145	138	132	126	120

## Stormwater Hydrologic Calculations

Subsection: Time vs. Volume

Return Event: 25 years

Label: DB-1C-2/10

Storm Event: 25 year

Scenario: Post-Development 25 year

### Time vs. Volume (ft<sup>3</sup>)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )
20.250	115	109	104	100	95
20.500	91	87	83	79	76
20.750	72	69	66	63	61
21.000	58	55	53	51	49
21.250	47	45	43	41	39
21.500	38	36	35	34	32
21.750	31	30	29	28	27
22.000	26	25	24	23	22
22.250	22	21	20	20	19
22.500	19	18	18	17	17
22.750	16	16	15	15	15
23.000	14	14	14	13	13
23.250	13	13	12	12	12
23.500	12	11	11	11	11
23.750	11	11	10	10	10
24.000	10	(N/A)	(N/A)	(N/A)	(N/A)

## Stormwater Hydrologic Calculations

Subsection: Time vs. Volume

Return Event: 100 years

Label: DB-1C-2/10

Storm Event: 100 year

Scenario: Post-Development 100 year

### Time vs. Volume (ft<sup>3</sup>)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )
0.000	0	0	0	0	0
0.250	0	0	0	0	0
0.500	0	0	0	0	0
0.750	0	0	0	0	0
1.000	0	0	0	0	0
1.250	0	0	0	0	0
1.500	0	0	0	0	0
1.750	0	0	0	0	0
2.000	0	0	0	0	0
2.250	0	0	0	0	0
2.500	0	0	0	0	0
2.750	0	0	0	0	0
3.000	0	0	0	0	0
3.250	0	0	0	0	0
3.500	0	0	0	0	0
3.750	0	0	0	0	0
4.000	0	0	0	0	0
4.250	0	0	0	0	0
4.500	0	0	0	0	0
4.750	0	0	0	0	0
5.000	0	0	0	0	0
5.250	0	0	0	0	0
5.500	0	0	0	0	0
5.750	0	0	0	0	0
6.000	0	0	0	0	0
6.250	0	0	0	0	0
6.500	0	0	0	0	0
6.750	0	0	0	0	0
7.000	0	0	0	0	0
7.250	0	0	0	0	0
7.500	0	0	0	0	0
7.750	0	0	0	0	0
8.000	0	0	0	0	0
8.250	0	0	0	0	0
8.500	0	0	0	0	0
8.750	0	0	0	0	0
9.000	0	0	0	0	0
9.250	0	0	0	0	0
9.500	0	0	0	0	0
9.750	0	0	0	0	0



## Stormwater Hydrologic Calculations

Subsection: Time vs. Volume

Return Event: 100 years

Label: DB-1C-2/10

Storm Event: 100 year

Scenario: Post-Development 100 year

### Time vs. Volume (ft<sup>3</sup>)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )
10.000	0	0	0	0	0
10.250	0	0	0	0	0
10.500	0	0	0	0	0
10.750	0	0	0	0	0
11.000	0	0	0	0	0
11.250	0	0	0	0	0
11.500	0	0	64	431	1,290
11.750	2,614	4,286	6,158	8,123	10,188
12.000	12,607	15,698	19,378	22,889	25,066
12.250	26,051	26,194	25,794	25,124	24,395
12.500	23,516	22,515	21,446	20,207	18,928
12.750	17,839	16,848	15,902	15,052	14,297
13.000	13,603	12,947	12,347	11,795	11,287
13.250	10,837	10,426	10,035	9,692	9,376
13.500	9,083	8,819	8,566	8,333	8,115
13.750	7,906	7,718	7,540	7,355	7,183
14.000	7,036	6,885	6,725	6,578	6,453
14.250	6,331	6,209	6,087	5,971	5,872
14.500	5,782	5,688	5,598	5,513	5,422
14.750	5,329	5,252	5,182	5,109	5,036
15.000	4,965	4,897	4,828	4,753	4,675
15.250	4,606	4,544	4,482	4,418	4,354
15.500	4,291	4,229	4,165	4,098	4,026
15.750	3,956	3,891	3,830	3,769	3,706
16.000	3,643	3,580	3,517	3,454	3,388
16.250	3,318	3,253	3,194	3,141	3,091
16.500	3,040	2,991	2,943	2,896	2,850
16.750	2,806	2,761	2,713	2,661	2,611
17.000	2,564	2,520	2,479	2,441	2,402
17.250	2,363	2,324	2,286	2,247	2,209
17.500	2,171	2,133	2,095	2,057	2,013
17.750	1,965	1,917	1,871	1,829	1,790
18.000	1,754	1,717	1,679	1,642	1,605
18.250	1,568	1,533	1,499	1,466	1,434
18.500	1,402	1,372	1,338	1,300	1,261
18.750	1,223	1,185	1,151	1,121	1,095
19.000	1,071	1,048	1,025	1,003	982
19.250	960	939	918	897	876
19.500	856	836	816	798	779
19.750	762	745	729	713	698
20.000	683	667	648	627	606

## Stormwater Hydrologic Calculations

Subsection: Time vs. Volume

Return Event: 100 years

Label: DB-1C-2/10

Storm Event: 100 year

Scenario: Post-Development 100 year

### Time vs. Volume (ft<sup>3</sup>)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )
20.250	584	562	539	517	496
20.500	475	454	434	415	396
20.750	378	361	344	328	313
21.000	299	285	271	259	247
21.250	235	224	214	204	195
21.500	186	177	169	161	154
21.750	147	140	134	128	122
22.000	117	111	106	102	97
22.250	93	89	85	82	78
22.500	75	72	69	66	63
22.750	61	58	56	54	52
23.000	50	48	46	44	43
23.250	41	40	38	37	36
23.500	34	33	32	31	30
23.750	29	28	28	27	26
24.000	25	(N/A)	(N/A)	(N/A)	(N/A)

## Stormwater Hydrologic Calculations

Subsection: Time vs. Volume  
 Label: IB-1C-2/10  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Time vs. Volume (ft<sup>3</sup>)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

Time (hours)	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )
0.000	0	0	0	0	0
0.250	0	0	0	0	0
0.500	0	0	0	0	0
0.750	0	0	0	0	0
1.000	0	0	0	0	0
1.250	0	0	0	0	0
1.500	0	0	0	0	0
1.750	0	0	0	0	0
2.000	0	0	0	0	0
2.250	0	0	0	0	0
2.500	0	0	0	0	0
2.750	0	0	0	0	0
3.000	0	0	0	0	0
3.250	0	0	0	0	0
3.500	0	0	0	0	0
3.750	0	0	0	0	0
4.000	0	0	0	0	0
4.250	0	0	0	0	0
4.500	0	0	0	0	0
4.750	0	0	0	0	0
5.000	0	0	0	0	0
5.250	0	0	0	0	0
5.500	0	0	0	0	0
5.750	0	0	0	0	0
6.000	0	0	0	0	0
6.250	0	0	0	0	0
6.500	0	0	0	0	0
6.750	0	0	0	0	0
7.000	0	0	0	0	0
7.250	0	0	0	0	0
7.500	0	0	0	0	0
7.750	0	0	0	0	0
8.000	0	0	0	0	0
8.250	0	0	0	0	0
8.500	0	0	0	0	0
8.750	0	0	0	0	0
9.000	0	0	0	0	0
9.250	0	0	0	0	0
9.500	0	0	0	0	0
9.750	0	0	0	0	0

# Stormwater Hydrologic Calculations

Subsection: Time vs. Volume

Return Event: 1 years

Label: IB-1C-2/10

Storm Event: 1 year

Scenario: Post-Development 1 year

## Time vs. Volume (ft<sup>3</sup>)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )
10.000	0	0	0	0	0
10.250	0	0	0	0	0
10.500	0	0	1	2	3
10.750	4	6	7	9	10
11.000	12	14	16	18	21
11.250	24	27	31	35	40
11.500	45	51	63	81	107
11.750	140	183	301	530	918
12.000	1,589	2,660	4,123	5,845	7,579
12.250	9,106	10,387	11,475	12,403	13,183
12.500	13,815	14,306	14,670	14,931	15,121
12.750	15,267	15,383	15,478	15,553	15,612
13.000	15,653	15,679	15,690	15,695	15,699
13.250	15,702	15,704	15,706	15,708	15,710
13.500	15,712	15,714	15,716	15,718	15,721
13.750	15,723	15,725	15,727	15,729	15,731
14.000	15,734	15,736	15,738	15,739	15,741
14.250	15,742	15,743	15,744	15,745	15,746
14.500	15,747	15,748	15,749	15,750	15,751
14.750	15,752	15,753	15,754	15,756	15,757
15.000	15,758	15,759	15,760	15,761	15,762
15.250	15,763	15,764	15,766	15,767	15,768
15.500	15,769	15,770	15,771	15,772	15,774
15.750	15,775	15,776	15,777	15,778	15,780
16.000	15,781	15,782	15,783	15,784	15,784
16.250	15,785	15,786	15,786	15,787	15,787
16.500	15,788	15,788	15,789	15,789	15,790
16.750	15,790	15,791	15,791	15,792	15,792
17.000	15,793	15,793	15,794	15,794	15,795
17.250	15,795	15,796	15,796	15,797	15,798
17.500	15,798	15,799	15,799	15,800	15,800
17.750	15,801	15,801	15,802	15,802	15,803
18.000	15,803	15,804	15,804	15,805	15,805
18.250	15,805	15,805	15,806	15,806	15,806
18.500	15,806	15,806	15,806	15,806	15,807
18.750	15,807	15,807	15,807	15,807	15,807
19.000	15,808	15,808	15,808	15,808	15,808
19.250	15,808	15,808	15,809	15,809	15,809
19.500	15,809	15,809	15,809	15,810	15,810
19.750	15,810	15,810	15,810	15,810	15,811
20.000	15,811	15,811	15,811	15,811	15,811

## Stormwater Hydrologic Calculations

Subsection: Time vs. Volume

Return Event: 1 years

Label: IB-1C-2/10

Storm Event: 1 year

Scenario: Post-Development 1 year

### Time vs. Volume (ft<sup>3</sup>)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )
20.250	15,811	15,811	15,812	15,812	15,812
20.500	15,812	15,812	15,812	15,812	15,812
20.750	15,813	15,813	15,813	15,813	15,813
21.000	15,813	15,813	15,813	15,814	15,814
21.250	15,814	15,814	15,814	15,814	15,814
21.500	15,814	15,815	15,815	15,815	15,815
21.750	15,815	15,815	15,815	15,815	15,815
22.000	15,816	15,816	15,816	15,816	15,816
22.250	15,816	15,816	15,817	15,817	15,817
22.500	15,817	15,817	15,817	15,817	15,817
22.750	15,817	15,818	15,818	15,818	15,818
23.000	15,818	15,818	15,818	15,819	15,819
23.250	15,819	15,819	15,819	15,819	15,819
23.500	15,819	15,819	15,820	15,820	15,820
23.750	15,820	15,820	15,820	15,820	15,821
24.000	15,821	(N/A)	(N/A)	(N/A)	(N/A)

## Stormwater Hydrologic Calculations

Subsection: Time vs. Volume

Return Event: 10 years

Label: IB-1C-2/10

Storm Event: 10 year

Scenario: Post-Development 10 year

### Time vs. Volume (ft<sup>3</sup>)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )
0.000	0	0	0	0	0
0.250	0	0	0	0	0
0.500	0	0	0	0	0
0.750	0	0	0	0	0
1.000	0	0	0	0	0
1.250	0	0	0	0	0
1.500	0	0	0	0	0
1.750	0	0	0	0	0
2.000	0	0	0	0	0
2.250	0	0	0	0	0
2.500	0	0	0	0	0
2.750	0	0	0	0	0
3.000	0	0	0	0	0
3.250	0	0	0	0	0
3.500	0	0	0	0	0
3.750	0	0	0	0	0
4.000	0	0	0	0	0
4.250	0	0	0	0	0
4.500	0	0	0	0	0
4.750	0	0	0	0	0
5.000	0	0	0	0	0
5.250	0	0	0	0	0
5.500	0	0	0	0	0
5.750	0	0	0	0	0
6.000	0	0	0	0	0
6.250	0	0	0	0	0
6.500	0	0	0	0	0
6.750	0	0	0	0	0
7.000	0	0	0	0	0
7.250	0	0	0	0	0
7.500	0	0	0	0	0
7.750	0	0	0	0	0
8.000	0	0	0	0	0
8.250	1	1	2	3	4
8.500	5	6	7	8	10
8.750	11	12	14	15	16
9.000	18	20	21	23	25
9.250	26	28	30	32	34
9.500	36	38	40	42	44
9.750	47	49	51	54	56

# Stormwater Hydrologic Calculations

Subsection: Time vs. Volume

Return Event: 10 years

Label: IB-1C-2/10

Storm Event: 10 year

Scenario: Post-Development 10 year

## Time vs. Volume (ft<sup>3</sup>)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )
10.000	59	61	64	67	70
10.250	74	78	82	86	90
10.500	94	98	103	107	112
10.750	117	122	127	132	137
11.000	143	149	158	184	231
11.250	302	401	530	689	881
11.500	1,107	1,376	1,721	2,190	2,838
11.750	3,720	4,882	6,360	8,190	10,506
12.000	13,677	18,008	22,690	25,757	27,338
12.250	28,189	29,144	30,553	31,260	31,452
12.500	31,578	31,604	31,395	31,058	30,675
12.750	30,280	29,866	29,469	29,101	28,741
13.000	28,394	28,078	27,760	27,477	27,188
13.250	26,914	26,687	26,453	26,227	26,047
13.500	25,858	25,670	25,500	25,358	25,215
13.750	25,063	24,921	24,790	24,668	24,561
14.000	24,445	24,324	24,211	24,103	23,999
14.250	23,906	23,824	23,739	23,647	23,559
14.500	23,477	23,399	23,322	23,248	23,179
14.750	23,121	23,065	23,005	22,939	22,873
15.000	22,809	22,747	22,686	22,625	22,566
15.250	22,507	22,448	22,397	22,352	22,306
15.500	22,257	22,200	22,142	22,083	22,025
15.750	21,967	21,908	21,850	21,791	21,735
16.000	21,682	21,631	21,593	21,561	21,532
16.250	21,497	21,459	21,421	21,383	21,346
16.500	21,311	21,277	21,244	21,212	21,182
16.750	21,152	21,124	21,097	21,071	21,046
17.000	21,022	20,999	20,977	20,955	20,935
17.250	20,915	20,896	20,880	20,867	20,857
17.500	20,849	20,841	20,836	20,831	20,827
17.750	20,824	20,822	20,820	20,818	20,816
18.000	20,815	20,814	20,813	20,812	20,811
18.250	20,810	20,810	20,809	20,808	20,808
18.500	20,808	20,807	20,807	20,807	20,807
18.750	20,807	20,806	20,806	20,806	20,806
19.000	20,806	20,806	20,806	20,806	20,806
19.250	20,806	20,806	20,806	20,806	20,806
19.500	20,806	20,806	20,806	20,806	20,806
19.750	20,806	20,806	20,806	20,806	20,806
20.000	20,806	20,806	20,806	20,806	20,806

## Stormwater Hydrologic Calculations

Subsection: Time vs. Volume

Return Event: 10 years

Label: IB-1C-2/10

Storm Event: 10 year

Scenario: Post-Development 10 year

### Time vs. Volume (ft<sup>3</sup>)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )
20.250	20,806	20,806	20,806	20,806	20,806
20.500	20,806	20,806	20,806	20,806	20,806
20.750	20,806	20,806	20,805	20,806	20,806
21.000	20,805	20,805	20,805	20,806	20,806
21.250	20,806	20,806	20,805	20,805	20,805
21.500	20,806	20,806	20,806	20,805	20,805
21.750	20,806	20,805	20,805	20,805	20,806
22.000	20,806	20,806	20,806	20,806	20,805
22.250	20,805	20,806	20,806	20,806	20,805
22.500	20,806	20,806	20,805	20,805	20,805
22.750	20,806	20,806	20,806	20,806	20,806
23.000	20,805	20,806	20,806	20,806	20,806
23.250	20,805	20,806	20,806	20,805	20,805
23.500	20,805	20,806	20,806	20,806	20,806
23.750	20,806	20,806	20,806	20,806	20,806
24.000	20,806	(N/A)	(N/A)	(N/A)	(N/A)



## Stormwater Hydrologic Calculations

Subsection: Time vs. Volume

Return Event: 25 years

Label: IB-1C-2/10

Storm Event: 25 year

Scenario: Post-Development 25 year

### Time vs. Volume (ft<sup>3</sup>)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )
0.000	0	0	0	0	0
0.250	0	0	0	0	0
0.500	0	0	0	0	0
0.750	0	0	0	0	0
1.000	0	0	0	0	0
1.250	0	0	0	0	0
1.500	0	0	0	0	0
1.750	0	0	0	0	0
2.000	0	0	0	0	0
2.250	0	0	0	0	0
2.500	0	0	0	0	0
2.750	0	0	0	0	0
3.000	0	0	0	0	0
3.250	0	0	0	0	0
3.500	0	0	0	0	0
3.750	0	0	0	0	0
4.000	0	0	0	0	0
4.250	0	0	0	0	0
4.500	0	0	0	0	0
4.750	0	0	0	0	0
5.000	0	0	0	0	0
5.250	0	0	0	0	0
5.500	0	0	0	0	0
5.750	0	0	0	0	0
6.000	0	0	0	0	0
6.250	0	0	0	0	0
6.500	0	0	0	0	0
6.750	0	0	0	0	0
7.000	0	0	0	0	0
7.250	1	1	2	3	4
7.500	4	5	6	7	8
7.750	9	10	11	13	14
8.000	15	16	17	19	20
8.250	21	23	25	26	28
8.500	30	32	34	36	38
8.750	40	42	45	47	49
9.000	52	54	57	60	62
9.250	65	68	71	74	77
9.500	80	83	86	90	93
9.750	96	100	103	107	110

# Stormwater Hydrologic Calculations

Subsection: Time vs. Volume

Return Event: 25 years

Label: IB-1C-2/10

Storm Event: 25 year

Scenario: Post-Development 25 year

## Time vs. Volume (ft<sup>3</sup>)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )
10.000	114	118	122	127	132
10.250	137	143	149	156	175
10.500	206	251	309	380	465
10.750	564	677	805	947	1,105
11.000	1,278	1,467	1,677	1,913	2,180
11.250	2,485	2,831	3,221	3,656	4,140
11.500	4,673	5,271	5,982	6,879	8,046
11.750	9,562	11,489	13,873	16,760	20,335
12.000	23,785	26,590	28,847	30,859	32,898
12.250	35,184	36,764	37,426	37,639	37,712
12.500	37,488	37,045	36,468	35,768	35,023
12.750	34,284	33,571	32,905	32,300	31,736
13.000	31,218	30,701	30,246	29,825	29,409
13.250	29,047	28,695	28,378	28,092	27,813
13.500	27,577	27,341	27,113	26,914	26,739
13.750	26,548	26,367	26,205	26,071	25,919
14.000	25,765	25,625	25,492	25,378	25,263
14.250	25,139	25,023	24,916	24,814	24,715
14.500	24,637	24,558	24,470	24,383	24,302
14.750	24,224	24,147	24,072	24,000	23,935
15.000	23,878	23,819	23,755	23,687	23,621
15.250	23,557	23,493	23,429	23,366	23,304
15.500	23,242	23,184	23,134	23,083	23,029
15.750	22,968	22,905	22,843	22,781	22,718
16.000	22,656	22,593	22,531	22,469	22,411
16.250	22,362	22,317	22,270	22,216	22,160
16.500	22,105	22,051	21,999	21,947	21,897
16.750	21,847	21,797	21,749	21,701	21,654
17.000	21,615	21,580	21,549	21,515	21,479
17.250	21,441	21,404	21,367	21,331	21,297
17.500	21,263	21,231	21,200	21,171	21,142
17.750	21,114	21,088	21,063	21,038	21,015
18.000	20,992	20,970	20,949	20,929	20,909
18.250	20,889	20,874	20,862	20,852	20,844
18.500	20,837	20,832	20,827	20,823	20,820
18.750	20,818	20,816	20,814	20,813	20,812
19.000	20,811	20,810	20,809	20,809	20,808
19.250	20,808	20,808	20,808	20,807	20,807
19.500	20,807	20,807	20,807	20,807	20,807
19.750	20,807	20,807	20,807	20,807	20,807
20.000	20,807	20,807	20,807	20,807	20,806

## Stormwater Hydrologic Calculations

Subsection: Time vs. Volume

Return Event: 25 years

Label: IB-1C-2/10

Storm Event: 25 year

Scenario: Post-Development 25 year

### Time vs. Volume (ft<sup>3</sup>)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )
20.250	20,806	20,806	20,806	20,806	20,806
20.500	20,806	20,806	20,806	20,806	20,806
20.750	20,806	20,806	20,806	20,806	20,806
21.000	20,806	20,806	20,806	20,806	20,806
21.250	20,806	20,806	20,806	20,806	20,806
21.500	20,806	20,806	20,806	20,806	20,806
21.750	20,806	20,806	20,806	20,806	20,806
22.000	20,806	20,806	20,806	20,806	20,806
22.250	20,806	20,806	20,806	20,806	20,806
22.500	20,806	20,806	20,806	20,806	20,806
22.750	20,806	20,806	20,806	20,806	20,806
23.000	20,806	20,806	20,806	20,806	20,806
23.250	20,806	20,806	20,806	20,806	20,806
23.500	20,806	20,806	20,806	20,806	20,806
23.750	20,806	20,806	20,806	20,806	20,806
24.000	20,806	(N/A)	(N/A)	(N/A)	(N/A)

## Stormwater Hydrologic Calculations

Subsection: Time vs. Volume

Return Event: 100 years

Label: IB-1C-2/10

Storm Event: 100 year

Scenario: Post-Development 100 year

### Time vs. Volume (ft<sup>3</sup>)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )
0.000	0	0	0	0	0
0.250	0	0	0	0	0
0.500	0	0	0	0	0
0.750	0	0	0	0	0
1.000	0	0	0	0	0
1.250	0	0	0	0	0
1.500	0	0	0	0	0
1.750	0	0	0	0	0
2.000	0	0	0	0	0
2.250	0	0	0	0	0
2.500	0	0	0	0	0
2.750	0	0	0	0	0
3.000	0	0	0	0	0
3.250	0	0	0	0	0
3.500	0	0	0	0	0
3.750	0	0	0	0	0
4.000	0	0	0	0	0
4.250	0	0	0	0	0
4.500	0	0	0	0	0
4.750	0	0	0	0	0
5.000	0	0	0	0	0
5.250	0	0	0	0	0
5.500	0	0	0	0	0
5.750	1	2	2	3	4
6.000	5	6	7	8	9
6.250	10	11	12	13	14
6.500	15	16	18	19	20
6.750	22	23	24	26	27
7.000	29	30	32	34	35
7.250	37	39	40	42	44
7.500	46	48	50	52	54
7.750	56	58	60	62	64
8.000	66	68	71	74	77
8.250	80	83	87	90	94
8.500	98	101	105	109	113
8.750	118	122	126	131	135
9.000	140	145	149	156	172
9.250	199	235	282	340	407
9.500	486	576	676	788	911
9.750	1,046	1,193	1,351	1,521	1,703

# Stormwater Hydrologic Calculations

Subsection: Time vs. Volume

Return Event: 100 years

Label: IB-1C-2/10

Storm Event: 100 year

Scenario: Post-Development 100 year

## Time vs. Volume (ft<sup>3</sup>)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )
10.000	1,897	2,104	2,325	2,560	2,813
10.250	3,084	3,375	3,686	4,018	4,371
10.500	4,746	5,143	5,562	6,004	6,469
10.750	6,958	7,470	8,006	8,566	9,151
11.000	9,761	10,398	11,069	11,784	12,554
11.250	13,388	14,293	15,273	16,332	17,472
11.500	18,694	20,025	21,416	22,622	23,675
11.750	24,670	25,745	26,997	28,489	30,310
12.000	32,629	35,455	38,634	41,984	45,070
12.250	47,152	48,013	48,174	47,719	46,965
12.500	46,153	45,184	44,071	42,941	41,646
12.750	40,282	39,128	38,077	37,112	36,198
13.000	35,395	34,662	33,974	33,349	32,776
13.250	32,223	31,752	31,330	30,913	30,564
13.500	30,220	29,909	29,636	29,364	29,128
13.750	28,897	28,671	28,462	28,295	28,096
14.000	27,906	27,737	27,597	27,433	27,270
14.250	27,128	26,993	26,882	26,765	26,638
14.500	26,524	26,421	26,318	26,218	26,143
14.750	26,060	25,964	25,874	25,792	25,709
15.000	25,627	25,547	25,469	25,408	25,342
15.250	25,267	25,188	25,115	25,042	24,969
15.500	24,896	24,823	24,751	24,687	24,627
15.750	24,561	24,489	24,415	24,342	24,269
16.000	24,196	24,122	24,049	23,977	23,916
16.250	23,858	23,797	23,733	23,668	23,605
16.500	23,545	23,487	23,430	23,374	23,319
16.750	23,266	23,213	23,171	23,131	23,089
17.000	23,045	23,000	22,951	22,902	22,854
17.250	22,807	22,760	22,713	22,666	22,619
17.500	22,573	22,526	22,480	22,434	22,397
17.750	22,362	22,326	22,288	22,245	22,198
18.000	22,149	22,101	22,053	22,005	21,958
18.250	21,913	21,869	21,826	21,785	21,745
18.500	21,706	21,668	21,637	21,612	21,588
18.750	21,566	21,544	21,518	21,490	21,459
19.000	21,428	21,397	21,366	21,334	21,303
19.250	21,273	21,242	21,212	21,181	21,152
19.500	21,123	21,095	21,069	21,043	21,019
19.750	20,996	20,973	20,952	20,931	20,911
20.000	20,892	20,876	20,864	20,854	20,845

## Stormwater Hydrologic Calculations

Subsection: Time vs. Volume

Return Event: 100 years

Label: IB-1C-2/10

Storm Event: 100 year

Scenario: Post-Development 100 year

### Time vs. Volume (ft<sup>3</sup>)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )
20.250	20,838	20,832	20,828	20,824	20,821
20.500	20,818	20,816	20,815	20,813	20,812
20.750	20,811	20,810	20,810	20,809	20,809
21.000	20,808	20,808	20,808	20,808	20,808
21.250	20,807	20,807	20,807	20,807	20,807
21.500	20,807	20,807	20,807	20,807	20,807
21.750	20,807	20,807	20,807	20,807	20,807
22.000	20,807	20,807	20,807	20,807	20,807
22.250	20,807	20,807	20,807	20,807	20,807
22.500	20,807	20,807	20,807	20,807	20,807
22.750	20,807	20,807	20,807	20,807	20,807
23.000	20,807	20,807	20,807	20,807	20,807
23.250	20,807	20,807	20,807	20,807	20,807
23.500	20,807	20,807	20,807	20,807	20,807
23.750	20,807	20,807	20,807	20,807	20,807
24.000	20,807	(N/A)	(N/A)	(N/A)	(N/A)

## Stormwater Hydrologic Calculations

Subsection: Time vs. Volume

Return Event: 1 years

Label: SUB-2B

Storm Event: 1 year

Scenario: Post-Development 1 year

### Time vs. Volume (ft<sup>3</sup>)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )
0.000	0	0	0	0	0
0.250	0	0	0	0	0
0.500	0	0	0	0	0
0.750	0	0	0	0	0
1.000	0	0	0	0	0
1.250	0	0	0	0	0
1.500	0	0	0	0	0
1.750	0	0	0	1	1
2.000	1	1	1	2	2
2.250	2	3	3	3	4
2.500	4	4	5	5	6
2.750	6	6	7	7	8
3.000	8	9	9	10	11
3.250	11	12	12	13	14
3.500	14	15	16	16	17
3.750	18	19	19	20	21
4.000	22	22	23	24	25
4.250	26	26	27	28	29
4.500	30	31	32	33	34
4.750	34	35	36	37	38
5.000	39	40	41	42	43
5.250	44	45	46	47	48
5.500	49	50	51	52	53
5.750	54	55	56	57	58
6.000	60	61	62	63	64
6.250	65	66	68	69	70
6.500	71	73	74	75	77
6.750	78	80	81	83	84
7.000	86	87	89	90	92
7.250	94	95	97	99	101
7.500	102	104	106	108	110
7.750	111	113	115	117	119
8.000	121	123	125	127	130
8.250	132	134	136	139	141
8.500	144	147	149	152	155
8.750	158	161	164	167	170
9.000	173	176	179	183	186
9.250	190	193	197	200	204
9.500	208	212	215	219	223
9.750	227	231	235	239	244

# Stormwater Hydrologic Calculations

Subsection: Time vs. Volume

Return Event: 1 years

Label: SUB-2B

Storm Event: 1 year

Scenario: Post-Development 1 year

## Time vs. Volume (ft<sup>3</sup>)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )
10.000	248	252	257	261	266
10.250	271	275	281	286	291
10.500	297	302	308	314	320
10.750	326	332	339	345	352
11.000	359	366	373	381	389
11.250	398	408	419	430	443
11.500	456	471	490	514	545
11.750	584	631	685	748	829
12.000	942	1,077	1,218	1,347	1,447
12.250	1,521	1,584	1,638	1,683	1,720
12.500	1,749	1,772	1,790	1,805	1,818
12.750	1,831	1,842	1,853	1,863	1,873
13.000	1,881	1,889	1,896	1,903	1,909
13.250	1,915	1,922	1,927	1,933	1,939
13.500	1,944	1,949	1,954	1,958	1,963
13.750	1,967	1,971	1,975	1,978	1,982
14.000	1,985	1,988	1,990	1,993	1,996
14.250	1,998	2,000	2,003	2,005	2,007
14.500	2,009	2,011	2,012	2,014	2,016
14.750	2,017	2,018	2,020	2,021	2,022
15.000	2,023	2,023	2,024	2,025	2,025
15.250	2,026	2,026	2,026	2,026	2,026
15.500	2,026	2,026	2,026	2,025	2,025
15.750	2,024	2,024	2,023	2,022	2,021
16.000	2,020	2,019	2,017	2,016	2,015
16.250	2,013	2,012	2,010	2,009	2,007
16.500	2,005	2,004	2,002	2,000	1,998
16.750	1,997	1,995	1,993	1,991	1,989
17.000	1,987	1,985	1,982	1,980	1,978
17.250	1,976	1,973	1,971	1,968	1,966
17.500	1,963	1,961	1,958	1,956	1,953
17.750	1,950	1,947	1,945	1,942	1,939
18.000	1,936	1,933	1,930	1,927	1,924
18.250	1,921	1,917	1,914	1,911	1,908
18.500	1,905	1,902	1,899	1,895	1,892
18.750	1,889	1,886	1,882	1,879	1,876
19.000	1,873	1,869	1,866	1,863	1,859
19.250	1,856	1,853	1,849	1,846	1,843
19.500	1,839	1,836	1,832	1,829	1,825
19.750	1,822	1,818	1,815	1,811	1,808
20.000	1,804	1,801	1,797	1,793	1,790



## Stormwater Hydrologic Calculations

Subsection: Time vs. Volume

Return Event: 1 years

Label: SUB-2B

Storm Event: 1 year

Scenario: Post-Development 1 year

### Time vs. Volume (ft<sup>3</sup>)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )
20.250	1,786	1,783	1,779	1,775	1,772
20.500	1,768	1,764	1,761	1,757	1,753
20.750	1,750	1,746	1,742	1,739	1,735
21.000	1,731	1,727	1,724	1,720	1,716
21.250	1,712	1,708	1,705	1,701	1,697
21.500	1,693	1,689	1,685	1,681	1,677
21.750	1,673	1,669	1,665	1,661	1,657
22.000	1,653	1,649	1,645	1,641	1,636
22.250	1,632	1,628	1,624	1,620	1,616
22.500	1,612	1,607	1,603	1,599	1,595
22.750	1,591	1,586	1,582	1,578	1,574
23.000	1,570	1,565	1,561	1,557	1,552
23.250	1,548	1,544	1,539	1,535	1,531
23.500	1,526	1,522	1,518	1,513	1,509
23.750	1,504	1,500	1,496	1,491	1,487
24.000	1,482	(N/A)	(N/A)	(N/A)	(N/A)

## Stormwater Hydrologic Calculations

Subsection: Time vs. Volume

Return Event: 10 years

Label: SUB-2B

Storm Event: 10 year

Scenario: Post-Development 10 year

### Time vs. Volume (ft<sup>3</sup>)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )
0.000	0	0	0	0	0
0.250	0	0	0	0	0
0.500	0	0	0	0	0
0.750	0	0	0	0	0
1.000	0	1	1	1	2
1.250	2	3	3	4	5
1.500	5	6	7	8	9
1.750	10	11	12	13	14
2.000	15	16	17	18	19
2.250	21	22	23	24	26
2.500	27	28	30	31	33
2.750	34	36	37	39	40
3.000	42	43	45	46	48
3.250	50	51	53	55	57
3.500	58	60	62	64	66
3.750	67	69	71	73	75
4.000	77	78	80	82	84
4.250	86	88	90	92	94
4.500	96	98	100	102	104
4.750	106	108	110	112	114
5.000	116	118	120	122	124
5.250	126	129	131	133	135
5.500	137	139	141	143	145
5.750	147	150	152	154	156
6.000	158	160	162	164	167
6.250	169	171	174	176	179
6.500	181	184	186	189	192
6.750	194	197	200	203	206
7.000	209	212	215	218	221
7.250	224	228	231	234	237
7.500	241	244	248	251	255
7.750	258	262	265	269	273
8.000	276	280	284	288	292
8.250	296	301	305	310	314
8.500	319	324	329	334	339
8.750	345	350	356	362	367
9.000	373	379	385	392	398
9.250	404	411	418	425	432
9.500	439	447	454	462	470
9.750	479	487	496	505	514

## Stormwater Hydrologic Calculations

Subsection: Time vs. Volume

Return Event: 10 years

Label: SUB-2B

Storm Event: 10 year

Scenario: Post-Development 10 year

### Time vs. Volume (ft<sup>3</sup>)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )
10.000	523	533	542	553	563
10.250	574	585	597	609	621
10.500	634	647	661	675	690
10.750	704	720	735	751	768
11.000	785	802	820	840	861
11.250	883	907	932	959	987
11.500	1,017	1,051	1,091	1,142	1,206
11.750	1,284	1,378	1,486	1,609	1,765
12.000	1,977	2,233	2,504	2,742	2,926
12.250	3,073	3,197	3,300	3,384	3,454
12.500	3,511	3,556	3,593	3,622	3,642
12.750	3,654	3,662	3,667	3,669	3,669
13.000	3,667	3,665	3,662	3,659	3,657
13.250	3,654	3,652	3,650	3,648	3,646
13.500	3,644	3,643	3,641	3,639	3,638
13.750	3,636	3,634	3,633	3,631	3,630
14.000	3,628	3,626	3,625	3,624	3,622
14.250	3,621	3,620	3,619	3,618	3,617
14.500	3,617	3,616	3,615	3,614	3,613
14.750	3,613	3,612	3,611	3,610	3,610
15.000	3,609	3,608	3,607	3,607	3,606
15.250	3,605	3,604	3,603	3,603	3,602
15.500	3,601	3,600	3,600	3,599	3,598
15.750	3,597	3,597	3,596	3,595	3,594
16.000	3,594	3,593	3,592	3,592	3,591
16.250	3,590	3,590	3,590	3,589	3,589
16.500	3,588	3,588	3,588	3,587	3,587
16.750	3,587	3,586	3,586	3,586	3,585
17.000	3,585	3,585	3,584	3,584	3,584
17.250	3,583	3,583	3,583	3,582	3,582
17.500	3,582	3,581	3,581	3,581	3,580
17.750	3,580	3,580	3,579	3,579	3,579
18.000	3,578	3,577	3,577	3,576	3,575
18.250	3,575	3,574	3,573	3,572	3,571
18.500	3,571	3,570	3,569	3,568	3,567
18.750	3,566	3,565	3,564	3,563	3,562
19.000	3,561	3,560	3,558	3,557	3,556
19.250	3,555	3,554	3,552	3,551	3,550
19.500	3,548	3,547	3,546	3,544	3,543
19.750	3,541	3,540	3,539	3,537	3,535
20.000	3,534	3,532	3,531	3,529	3,527

## Stormwater Hydrologic Calculations

Subsection: Time vs. Volume

Return Event: 10 years

Label: SUB-2B

Storm Event: 10 year

Scenario: Post-Development 10 year

### Time vs. Volume (ft<sup>3</sup>)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )
20.250	3,526	3,524	3,522	3,521	3,519
20.500	3,517	3,515	3,514	3,512	3,510
20.750	3,508	3,506	3,504	3,503	3,501
21.000	3,499	3,497	3,495	3,493	3,491
21.250	3,489	3,487	3,485	3,483	3,481
21.500	3,478	3,476	3,474	3,472	3,470
21.750	3,468	3,465	3,463	3,461	3,459
22.000	3,456	3,454	3,452	3,450	3,447
22.250	3,445	3,442	3,440	3,438	3,435
22.500	3,433	3,430	3,428	3,425	3,423
22.750	3,420	3,418	3,415	3,412	3,410
23.000	3,407	3,404	3,402	3,399	3,396
23.250	3,394	3,391	3,388	3,385	3,383
23.500	3,380	3,377	3,374	3,371	3,368
23.750	3,366	3,363	3,360	3,357	3,354
24.000	3,351	(N/A)	(N/A)	(N/A)	(N/A)

## Stormwater Hydrologic Calculations

Subsection: Time vs. Volume

Return Event: 25 years

Label: SUB-2B

Storm Event: 25 year

Scenario: Post-Development 25 year

### Time vs. Volume (ft<sup>3</sup>)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )
0.000	0	0	0	0	0
0.250	0	0	0	0	0
0.500	0	0	0	0	0
0.750	0	0	1	1	2
1.000	2	3	4	4	5
1.250	6	7	9	10	11
1.500	12	14	15	16	18
1.750	19	21	23	24	26
2.000	27	29	31	32	34
2.250	36	38	40	42	43
2.500	45	47	49	51	53
2.750	55	58	60	62	64
3.000	66	68	71	73	75
3.250	77	80	82	84	87
3.500	89	91	94	96	99
3.750	101	104	106	108	111
4.000	113	116	118	121	123
4.250	126	129	131	134	136
4.500	139	141	144	147	149
4.750	152	154	157	160	162
5.000	165	167	170	173	175
5.250	178	181	183	186	189
5.500	191	194	197	199	202
5.750	205	207	210	213	215
6.000	218	221	223	226	229
6.250	232	235	238	241	244
6.500	247	250	253	257	260
6.750	264	267	271	274	278
7.000	282	286	289	293	297
7.250	301	305	309	313	318
7.500	322	326	330	335	339
7.750	344	348	353	357	362
8.000	366	371	376	381	386
8.250	391	397	402	408	414
8.500	420	426	433	440	447
8.750	455	462	470	478	486
9.000	495	504	513	522	532
9.250	542	552	562	572	583
9.500	594	605	617	628	640
9.750	653	665	678	691	704

# Stormwater Hydrologic Calculations

Subsection: Time vs. Volume

Return Event: 25 years

Label: SUB-2B

Storm Event: 25 year

Scenario: Post-Development 25 year

## Time vs. Volume (ft<sup>3</sup>)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )
10.000	717	731	745	759	774
10.250	790	806	822	839	857
10.500	874	893	912	931	951
10.750	971	992	1,014	1,036	1,058
11.000	1,081	1,105	1,129	1,156	1,184
11.250	1,213	1,245	1,279	1,315	1,352
11.500	1,392	1,437	1,491	1,557	1,641
11.750	1,741	1,858	1,992	2,146	2,348
12.000	2,622	2,941	3,289	3,583	3,816
12.250	3,920	3,967	3,988	3,989	3,976
12.500	3,953	3,924	3,893	3,864	3,833
12.750	3,807	3,786	3,768	3,753	3,739
13.000	3,727	3,716	3,707	3,699	3,693
13.250	3,687	3,682	3,679	3,675	3,672
13.500	3,669	3,666	3,664	3,662	3,659
13.750	3,657	3,655	3,653	3,651	3,649
14.000	3,647	3,645	3,643	3,641	3,640
14.250	3,638	3,637	3,636	3,635	3,633
14.500	3,632	3,631	3,630	3,629	3,628
14.750	3,627	3,626	3,625	3,624	3,623
15.000	3,623	3,622	3,621	3,620	3,619
15.250	3,618	3,617	3,616	3,615	3,614
15.500	3,613	3,612	3,611	3,610	3,609
15.750	3,608	3,607	3,606	3,605	3,604
16.000	3,603	3,603	3,602	3,601	3,600
16.250	3,599	3,599	3,598	3,598	3,597
16.500	3,597	3,596	3,596	3,596	3,595
16.750	3,595	3,594	3,594	3,593	3,593
17.000	3,593	3,592	3,592	3,591	3,591
17.250	3,590	3,590	3,590	3,589	3,589
17.500	3,588	3,588	3,588	3,587	3,587
17.750	3,586	3,586	3,586	3,585	3,585
18.000	3,584	3,584	3,583	3,583	3,583
18.250	3,583	3,582	3,582	3,582	3,582
18.500	3,582	3,582	3,581	3,581	3,581
18.750	3,581	3,581	3,581	3,581	3,580
19.000	3,580	3,580	3,580	3,580	3,580
19.250	3,580	3,580	3,580	3,579	3,579
19.500	3,579	3,579	3,578	3,578	3,578
19.750	3,578	3,577	3,577	3,576	3,576
20.000	3,575	3,575	3,574	3,574	3,573

## Stormwater Hydrologic Calculations

Subsection: Time vs. Volume

Return Event: 25 years

Label: SUB-2B

Storm Event: 25 year

Scenario: Post-Development 25 year

### Time vs. Volume (ft<sup>3</sup>)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )
20.250	3,572	3,572	3,571	3,570	3,570
20.500	3,569	3,568	3,567	3,567	3,566
20.750	3,565	3,564	3,563	3,562	3,561
21.000	3,560	3,559	3,558	3,557	3,556
21.250	3,555	3,554	3,553	3,552	3,551
21.500	3,550	3,548	3,547	3,546	3,545
21.750	3,543	3,542	3,541	3,539	3,538
22.000	3,537	3,535	3,534	3,532	3,531
22.250	3,529	3,528	3,526	3,525	3,523
22.500	3,521	3,520	3,518	3,516	3,515
22.750	3,513	3,511	3,509	3,508	3,506
23.000	3,504	3,502	3,500	3,498	3,496
23.250	3,494	3,492	3,490	3,488	3,486
23.500	3,484	3,482	3,480	3,478	3,476
23.750	3,474	3,471	3,469	3,467	3,465
24.000	3,462	(N/A)	(N/A)	(N/A)	(N/A)

## Stormwater Hydrologic Calculations

Subsection: Time vs. Volume

Return Event: 100 years

Label: SUB-2B

Storm Event: 100 year

Scenario: Post-Development 100 year

### Time vs. Volume (ft<sup>3</sup>)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )
0.000	0	0	0	0	0
0.250	0	0	0	0	0
0.500	0	0	0	1	2
0.750	3	4	5	7	8
1.000	10	12	14	16	18
1.250	20	22	25	27	29
1.500	32	35	37	40	43
1.750	45	48	51	54	57
2.000	60	62	65	68	71
2.250	74	77	80	84	87
2.500	90	93	96	100	103
2.750	106	110	113	116	120
3.000	123	126	130	133	137
3.250	140	144	147	151	155
3.500	158	162	165	169	173
3.750	176	180	183	187	191
4.000	194	198	202	205	209
4.250	213	216	220	224	228
4.500	231	235	239	242	246
4.750	250	254	257	261	265
5.000	269	272	276	280	284
5.250	287	291	295	298	302
5.500	306	310	313	317	321
5.750	325	328	332	336	339
6.000	343	347	351	354	358
6.250	362	366	371	375	379
6.500	384	388	393	397	402
6.750	407	412	417	422	428
7.000	433	439	445	451	457
7.250	463	470	477	483	490
7.500	497	505	512	519	527
7.750	535	543	551	559	568
8.000	576	585	594	603	613
8.250	623	633	644	655	666
8.500	678	690	702	715	728
8.750	741	755	769	783	798
9.000	813	828	844	860	876
9.250	893	910	927	945	963
9.500	981	1,000	1,019	1,039	1,058
9.750	1,079	1,099	1,120	1,141	1,162



# Stormwater Hydrologic Calculations

Subsection: Time vs. Volume

Return Event: 100 years

Label: SUB-2B

Storm Event: 100 year

Scenario: Post-Development 100 year

## Time vs. Volume (ft<sup>3</sup>)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )
10.000	1,184	1,206	1,229	1,253	1,277
10.250	1,301	1,327	1,354	1,381	1,409
10.500	1,437	1,466	1,496	1,527	1,559
10.750	1,591	1,624	1,657	1,691	1,726
11.000	1,761	1,797	1,834	1,873	1,915
11.250	1,960	2,007	2,057	2,109	2,166
11.500	2,226	2,293	2,373	2,471	2,590
11.750	2,732	2,900	3,105	3,330	3,603
12.000	3,957	4,219	4,371	4,400	4,341
12.250	4,263	4,206	4,164	4,130	4,099
12.500	4,068	4,032	3,992	3,955	3,923
12.750	3,897	3,875	3,853	3,832	3,814
13.000	3,798	3,783	3,770	3,759	3,750
13.250	3,742	3,735	3,730	3,725	3,721
13.500	3,717	3,713	3,709	3,706	3,703
13.750	3,700	3,697	3,694	3,691	3,688
14.000	3,685	3,682	3,680	3,677	3,675
14.250	3,673	3,671	3,669	3,668	3,666
14.500	3,665	3,663	3,662	3,660	3,659
14.750	3,657	3,656	3,655	3,653	3,652
15.000	3,651	3,649	3,648	3,647	3,645
15.250	3,644	3,642	3,641	3,640	3,638
15.500	3,637	3,636	3,634	3,633	3,632
15.750	3,630	3,629	3,628	3,626	3,625
16.000	3,624	3,622	3,621	3,620	3,619
16.250	3,618	3,617	3,616	3,616	3,615
16.500	3,614	3,614	3,613	3,612	3,612
16.750	3,611	3,610	3,610	3,609	3,609
17.000	3,608	3,607	3,607	3,606	3,606
17.250	3,605	3,604	3,604	3,603	3,603
17.500	3,602	3,602	3,601	3,600	3,600
17.750	3,599	3,599	3,598	3,597	3,597
18.000	3,596	3,596	3,595	3,595	3,594
18.250	3,594	3,594	3,593	3,593	3,593
18.500	3,593	3,592	3,592	3,592	3,592
18.750	3,592	3,591	3,591	3,591	3,591
19.000	3,591	3,591	3,590	3,590	3,590
19.250	3,590	3,590	3,589	3,589	3,589
19.500	3,589	3,589	3,589	3,588	3,588
19.750	3,588	3,588	3,588	3,588	3,587
20.000	3,587	3,587	3,587	3,587	3,587

## Stormwater Hydrologic Calculations

Subsection: Time vs. Volume

Return Event: 100 years

Label: SUB-2B

Storm Event: 100 year

Scenario: Post-Development 100 year

### Time vs. Volume (ft<sup>3</sup>)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )
20.250	3,586	3,586	3,586	3,586	3,586
20.500	3,586	3,586	3,585	3,585	3,585
20.750	3,585	3,585	3,585	3,585	3,584
21.000	3,584	3,584	3,584	3,584	3,584
21.250	3,584	3,584	3,583	3,583	3,583
21.500	3,583	3,583	3,583	3,583	3,582
21.750	3,582	3,582	3,582	3,582	3,582
22.000	3,582	3,582	3,581	3,581	3,581
22.250	3,581	3,581	3,581	3,581	3,580
22.500	3,580	3,580	3,580	3,580	3,580
22.750	3,580	3,580	3,579	3,579	3,579
23.000	3,579	3,579	3,578	3,578	3,578
23.250	3,577	3,577	3,576	3,576	3,575
23.500	3,575	3,574	3,574	3,573	3,572
23.750	3,572	3,571	3,570	3,569	3,568
24.000	3,568	(N/A)	(N/A)	(N/A)	(N/A)

## Stormwater Hydrologic Calculations

Subsection: Time vs. Volume  
 Label: SUB-2C  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Time vs. Volume (ft<sup>3</sup>)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

Time (hours)	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )
0.000	0	0	0	0	0
0.250	0	0	0	0	0
0.500	0	0	0	0	0
0.750	0	0	0	0	0
1.000	0	0	0	0	0
1.250	0	0	0	0	0
1.500	0	0	0	0	0
1.750	0	0	0	0	0
2.000	1	1	1	1	1
2.250	1	1	2	2	2
2.500	2	2	3	3	3
2.750	3	4	4	4	5
3.000	5	5	5	6	6
3.250	6	7	7	8	8
3.500	8	9	9	9	10
3.750	10	11	11	12	12
4.000	12	13	13	14	14
4.250	15	15	16	16	17
4.500	17	18	18	19	19
4.750	20	20	21	21	22
5.000	23	23	24	24	25
5.250	25	26	26	27	28
5.500	28	29	29	30	31
5.750	31	32	32	33	34
6.000	34	35	35	36	37
6.250	37	38	39	39	40
6.500	41	42	42	43	44
6.750	45	46	46	47	48
7.000	49	50	51	52	53
7.250	54	55	56	57	58
7.500	59	60	61	62	63
7.750	64	65	66	67	68
8.000	69	71	72	73	74
8.250	75	77	78	80	81
8.500	82	84	85	87	89
8.750	90	92	94	95	97
9.000	99	101	103	105	107
9.250	109	111	113	115	117
9.500	119	121	123	126	128
9.750	130	132	135	137	140

# Stormwater Hydrologic Calculations

Subsection: Time vs. Volume

Return Event: 1 years

Label: SUB-2C

Storm Event: 1 year

Scenario: Post-Development 1 year

## Time vs. Volume (ft<sup>3</sup>)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )
10.000	142	144	147	149	152
10.250	155	158	161	164	167
10.500	170	173	176	180	183
10.750	187	190	194	198	201
11.000	205	209	214	218	224
11.250	229	235	242	249	256
11.500	264	273	285	299	318
11.750	341	368	400	437	484
12.000	550	629	712	788	846
12.250	889	925	955	982	1,003
12.500	1,020	1,034	1,045	1,054	1,062
12.750	1,070	1,077	1,084	1,091	1,097
13.000	1,102	1,107	1,112	1,116	1,121
13.250	1,125	1,129	1,133	1,137	1,140
13.500	1,144	1,147	1,151	1,154	1,157
13.750	1,160	1,162	1,165	1,168	1,170
14.000	1,172	1,175	1,177	1,179	1,180
14.250	1,182	1,184	1,186	1,188	1,189
14.500	1,191	1,192	1,194	1,195	1,196
14.750	1,198	1,199	1,200	1,201	1,202
15.000	1,203	1,204	1,205	1,205	1,206
15.250	1,207	1,207	1,208	1,208	1,209
15.500	1,209	1,209	1,210	1,210	1,210
15.750	1,210	1,210	1,210	1,210	1,209
16.000	1,209	1,209	1,209	1,208	1,208
16.250	1,207	1,207	1,206	1,206	1,205
16.500	1,205	1,204	1,203	1,203	1,202
16.750	1,201	1,200	1,200	1,199	1,198
17.000	1,197	1,196	1,195	1,194	1,194
17.250	1,193	1,192	1,190	1,189	1,188
17.500	1,187	1,186	1,185	1,184	1,182
17.750	1,181	1,180	1,179	1,177	1,176
18.000	1,175	1,173	1,172	1,170	1,169
18.250	1,167	1,166	1,164	1,163	1,161
18.500	1,160	1,158	1,157	1,155	1,154
18.750	1,152	1,151	1,149	1,148	1,146
19.000	1,145	1,143	1,141	1,140	1,138
19.250	1,137	1,135	1,133	1,132	1,130
19.500	1,128	1,127	1,125	1,123	1,122
19.750	1,120	1,118	1,117	1,115	1,113
20.000	1,111	1,110	1,108	1,106	1,104

## Stormwater Hydrologic Calculations

Subsection: Time vs. Volume

Return Event: 1 years

Label: SUB-2C

Storm Event: 1 year

Scenario: Post-Development 1 year

### Time vs. Volume (ft<sup>3</sup>)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )
20.250	1,103	1,101	1,099	1,097	1,095
20.500	1,094	1,092	1,090	1,088	1,086
20.750	1,085	1,083	1,081	1,079	1,077
21.000	1,075	1,073	1,072	1,070	1,068
21.250	1,066	1,064	1,062	1,060	1,058
21.500	1,056	1,055	1,053	1,051	1,049
21.750	1,047	1,045	1,043	1,041	1,039
22.000	1,038	1,036	1,034	1,032	1,030
22.250	1,028	1,026	1,024	1,022	1,020
22.500	1,018	1,016	1,014	1,012	1,010
22.750	1,008	1,006	1,004	1,002	1,000
23.000	998	996	994	992	990
23.250	988	986	984	982	980
23.500	978	976	973	971	969
23.750	967	965	963	961	959
24.000	956	(N/A)	(N/A)	(N/A)	(N/A)

## Stormwater Hydrologic Calculations

Subsection: Time vs. Volume

Return Event: 10 years

Label: SUB-2C

Storm Event: 10 year

Scenario: Post-Development 10 year

### Time vs. Volume (ft<sup>3</sup>)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )
0.000	0	0	0	0	0
0.250	0	0	0	0	0
0.500	0	0	0	0	0
0.750	0	0	0	0	0
1.000	0	0	1	1	1
1.250	1	2	2	2	3
1.500	3	4	4	5	5
1.750	6	6	7	7	8
2.000	9	9	10	10	11
2.250	12	13	13	14	15
2.500	16	16	17	18	19
2.750	20	20	21	22	23
3.000	24	25	26	27	28
3.250	29	30	31	32	33
3.500	34	35	36	37	38
3.750	39	40	41	42	43
4.000	44	45	46	47	48
4.250	50	51	52	53	54
4.500	55	56	57	59	60
4.750	61	62	63	64	66
5.000	67	68	69	70	71
5.250	73	74	75	76	77
5.500	79	80	81	82	83
5.750	85	86	87	88	89
6.000	91	92	93	94	96
6.250	97	98	99	101	102
6.500	104	105	107	108	110
6.750	111	113	115	116	118
7.000	120	121	123	125	127
7.250	128	130	132	134	136
7.500	138	140	142	144	146
7.750	148	150	152	154	156
8.000	158	160	162	165	167
8.250	169	172	174	177	180
8.500	182	185	188	191	194
8.750	197	200	203	207	210
9.000	214	217	221	225	229
9.250	233	237	241	246	250
9.500	255	260	265	270	275
9.750	280	285	291	296	302

# Stormwater Hydrologic Calculations

Subsection: Time vs. Volume

Return Event: 10 years

Label: SUB-2C

Storm Event: 10 year

Scenario: Post-Development 10 year

## Time vs. Volume (ft<sup>3</sup>)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )
10.000	308	314	320	326	332
10.250	339	346	353	361	368
10.500	376	384	392	401	410
10.750	419	428	437	447	457
11.000	467	478	489	500	513
11.250	526	540	555	571	588
11.500	606	626	650	680	718
11.750	764	819	881	951	1,041
12.000	1,168	1,317	1,470	1,617	1,721
12.250	1,799	1,856	1,880	1,886	1,881
12.500	1,872	1,860	1,849	1,840	1,834
12.750	1,829	1,826	1,823	1,821	1,819
13.000	1,817	1,815	1,814	1,813	1,812
13.250	1,811	1,810	1,810	1,809	1,809
13.500	1,808	1,808	1,807	1,807	1,806
13.750	1,806	1,806	1,805	1,805	1,804
14.000	1,804	1,803	1,803	1,803	1,802
14.250	1,802	1,802	1,801	1,801	1,801
14.500	1,801	1,801	1,800	1,800	1,800
14.750	1,800	1,799	1,799	1,799	1,799
15.000	1,799	1,798	1,798	1,798	1,798
15.250	1,798	1,797	1,797	1,797	1,797
15.500	1,796	1,796	1,796	1,796	1,796
15.750	1,795	1,795	1,795	1,795	1,794
16.000	1,794	1,794	1,794	1,794	1,794
16.250	1,793	1,793	1,793	1,793	1,793
16.500	1,793	1,793	1,793	1,793	1,793
16.750	1,792	1,792	1,792	1,792	1,792
17.000	1,792	1,792	1,792	1,792	1,792
17.250	1,791	1,791	1,791	1,791	1,791
17.500	1,791	1,791	1,791	1,791	1,791
17.750	1,791	1,790	1,790	1,790	1,790
18.000	1,790	1,790	1,790	1,790	1,790
18.250	1,790	1,790	1,790	1,789	1,789
18.500	1,789	1,789	1,789	1,789	1,789
18.750	1,788	1,788	1,788	1,788	1,787
19.000	1,787	1,787	1,787	1,786	1,786
19.250	1,786	1,785	1,785	1,785	1,784
19.500	1,784	1,783	1,783	1,782	1,782
19.750	1,782	1,781	1,781	1,780	1,780
20.000	1,779	1,778	1,778	1,777	1,777

## Stormwater Hydrologic Calculations

Subsection: Time vs. Volume

Return Event: 10 years

Label: SUB-2C

Storm Event: 10 year

Scenario: Post-Development 10 year

### Time vs. Volume (ft<sup>3</sup>)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )
20.250	1,776	1,776	1,775	1,774	1,774
20.500	1,773	1,772	1,772	1,771	1,770
20.750	1,770	1,769	1,768	1,767	1,767
21.000	1,766	1,765	1,764	1,764	1,763
21.250	1,762	1,761	1,760	1,760	1,759
21.500	1,758	1,757	1,756	1,755	1,754
21.750	1,754	1,753	1,752	1,751	1,750
22.000	1,749	1,748	1,747	1,746	1,745
22.250	1,744	1,743	1,742	1,741	1,740
22.500	1,739	1,738	1,737	1,736	1,734
22.750	1,733	1,732	1,731	1,730	1,729
23.000	1,728	1,727	1,725	1,724	1,723
23.250	1,722	1,720	1,719	1,718	1,717
23.500	1,716	1,714	1,713	1,712	1,710
23.750	1,709	1,708	1,706	1,705	1,704
24.000	1,702	(N/A)	(N/A)	(N/A)	(N/A)



## Stormwater Hydrologic Calculations

Subsection: Time vs. Volume

Return Event: 25 years

Label: SUB-2C

Storm Event: 25 year

Scenario: Post-Development 25 year

### Time vs. Volume (ft<sup>3</sup>)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )
0.000	0	0	0	0	0
0.250	0	0	0	0	0
0.500	0	0	0	0	0
0.750	0	0	0	1	1
1.000	1	2	2	3	3
1.250	4	4	5	6	6
1.500	7	8	9	10	10
1.750	11	12	13	14	15
2.000	16	17	18	19	20
2.250	21	22	23	24	25
2.500	26	27	28	30	31
2.750	32	33	34	36	37
3.000	38	39	41	42	43
3.250	45	46	47	49	50
3.500	51	53	54	55	57
3.750	58	60	61	62	64
4.000	65	67	68	70	71
4.250	72	74	75	77	78
4.500	80	81	83	84	86
4.750	87	89	90	92	93
5.000	95	96	98	99	101
5.250	102	104	105	107	108
5.500	110	111	113	114	116
5.750	117	119	120	122	123
6.000	125	126	128	129	131
6.250	133	134	136	138	139
6.500	141	143	145	147	149
6.750	151	153	155	157	159
7.000	161	163	166	168	170
7.250	172	175	177	179	182
7.500	184	186	189	191	194
7.750	196	199	202	204	207
8.000	210	212	215	218	221
8.250	225	228	232	235	239
8.500	243	247	252	256	261
8.750	265	270	275	280	285
9.000	291	296	302	308	313
9.250	320	326	332	339	345
9.500	352	359	366	373	380
9.750	388	395	403	411	419

## Stormwater Hydrologic Calculations

Subsection: Time vs. Volume

Return Event: 25 years

Label: SUB-2C

Storm Event: 25 year

Scenario: Post-Development 25 year

### Time vs. Volume (ft<sup>3</sup>)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )
10.000	427	436	444	453	462
10.250	471	481	491	501	512
10.500	522	533	545	556	568
10.750	581	593	606	619	632
11.000	646	660	675	691	708
11.250	726	745	765	786	809
11.500	832	858	889	927	975
11.750	1,032	1,102	1,183	1,274	1,387
12.000	1,549	1,735	1,912	1,997	2,013
12.250	2,000	1,982	1,964	1,946	1,928
12.500	1,906	1,887	1,870	1,857	1,848
12.750	1,842	1,837	1,834	1,831	1,828
13.000	1,826	1,824	1,822	1,820	1,819
13.250	1,818	1,817	1,817	1,816	1,815
13.500	1,815	1,814	1,814	1,813	1,812
13.750	1,812	1,811	1,811	1,810	1,809
14.000	1,809	1,808	1,808	1,807	1,807
14.250	1,807	1,806	1,806	1,806	1,806
14.500	1,805	1,805	1,805	1,804	1,804
14.750	1,804	1,804	1,803	1,803	1,803
15.000	1,802	1,802	1,802	1,802	1,801
15.250	1,801	1,801	1,801	1,800	1,800
15.500	1,800	1,799	1,799	1,799	1,799
15.750	1,798	1,798	1,798	1,798	1,797
16.000	1,797	1,797	1,796	1,796	1,796
16.250	1,796	1,796	1,796	1,796	1,795
16.500	1,795	1,795	1,795	1,795	1,795
16.750	1,795	1,795	1,794	1,794	1,794
17.000	1,794	1,794	1,794	1,794	1,794
17.250	1,794	1,793	1,793	1,793	1,793
17.500	1,793	1,793	1,793	1,793	1,792
17.750	1,792	1,792	1,792	1,792	1,792
18.000	1,792	1,792	1,791	1,791	1,791
18.250	1,791	1,791	1,791	1,791	1,791
18.500	1,791	1,791	1,791	1,791	1,791
18.750	1,791	1,791	1,791	1,791	1,791
19.000	1,791	1,791	1,791	1,791	1,791
19.250	1,791	1,791	1,790	1,790	1,790
19.500	1,790	1,790	1,790	1,790	1,790
19.750	1,790	1,790	1,790	1,790	1,790
20.000	1,790	1,790	1,790	1,790	1,790

## Stormwater Hydrologic Calculations

Subsection: Time vs. Volume

Return Event: 25 years

Label: SUB-2C

Storm Event: 25 year

Scenario: Post-Development 25 year

### Time vs. Volume (ft<sup>3</sup>)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )
20.250	1,790	1,790	1,790	1,790	1,790
20.500	1,790	1,790	1,790	1,789	1,789
20.750	1,789	1,789	1,789	1,789	1,789
21.000	1,788	1,788	1,788	1,788	1,788
21.250	1,787	1,787	1,787	1,786	1,786
21.500	1,786	1,786	1,785	1,785	1,784
21.750	1,784	1,784	1,783	1,783	1,782
22.000	1,782	1,782	1,781	1,781	1,780
22.250	1,780	1,779	1,779	1,778	1,777
22.500	1,777	1,776	1,776	1,775	1,774
22.750	1,774	1,773	1,773	1,772	1,771
23.000	1,770	1,770	1,769	1,768	1,768
23.250	1,767	1,766	1,765	1,764	1,764
23.500	1,763	1,762	1,761	1,760	1,759
23.750	1,758	1,757	1,757	1,756	1,755
24.000	1,754	(N/A)	(N/A)	(N/A)	(N/A)

## Stormwater Hydrologic Calculations

Subsection: Time vs. Volume

Return Event: 100 years

Label: SUB-2C

Storm Event: 100 year

Scenario: Post-Development 100 year

### Time vs. Volume (ft<sup>3</sup>)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )
0.000	0	0	0	0	0
0.250	0	0	0	0	0
0.500	0	0	0	1	1
0.750	2	2	3	4	5
1.000	6	7	8	9	10
1.250	12	13	14	16	17
1.500	19	20	22	23	25
1.750	26	28	29	31	33
2.000	34	36	38	39	41
2.250	43	45	46	48	50
2.500	52	54	56	57	59
2.750	61	63	65	67	69
3.000	71	73	75	77	79
3.250	81	83	85	87	89
3.500	91	93	95	97	99
3.750	101	103	105	108	110
4.000	112	114	116	118	120
4.250	122	124	126	129	131
4.500	133	135	137	139	141
4.750	143	145	148	150	152
5.000	154	156	158	160	162
5.250	165	167	169	171	173
5.500	175	177	179	182	184
5.750	186	188	190	192	194
6.000	196	198	201	203	205
6.250	207	210	212	215	217
6.500	220	223	226	229	232
6.750	235	239	242	245	249
7.000	252	256	260	264	268
7.250	272	276	280	285	289
7.500	293	298	303	307	312
7.750	317	322	327	333	338
8.000	343	349	354	360	366
8.250	372	379	385	392	399
8.500	406	413	421	428	436
8.750	444	453	461	470	479
9.000	488	497	507	516	526
9.250	536	547	557	568	579
9.500	590	601	613	624	636
9.750	648	661	673	686	699

# Stormwater Hydrologic Calculations

Subsection: Time vs. Volume

Return Event: 100 years

Label: SUB-2C

Storm Event: 100 year

Scenario: Post-Development 100 year

## Time vs. Volume (ft<sup>3</sup>)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )
10.000	712	726	740	754	768
10.250	783	798	814	830	847
10.500	863	880	898	915	934
10.750	952	971	990	1,010	1,030
11.000	1,051	1,073	1,096	1,120	1,145
11.250	1,172	1,201	1,231	1,263	1,295
11.500	1,329	1,366	1,411	1,467	1,540
11.750	1,628	1,724	1,830	1,926	1,994
12.000	2,066	2,111	2,119	2,107	2,075
12.250	2,049	2,033	2,015	1,994	1,973
12.500	1,951	1,929	1,905	1,887	1,874
12.750	1,866	1,859	1,855	1,850	1,847
13.000	1,843	1,840	1,838	1,835	1,834
13.250	1,832	1,831	1,830	1,829	1,829
13.500	1,828	1,827	1,826	1,825	1,824
13.750	1,824	1,823	1,822	1,821	1,820
14.000	1,820	1,819	1,818	1,817	1,817
14.250	1,816	1,816	1,816	1,815	1,815
14.500	1,814	1,814	1,814	1,813	1,813
14.750	1,812	1,812	1,812	1,811	1,811
15.000	1,810	1,810	1,810	1,809	1,809
15.250	1,808	1,808	1,808	1,807	1,807
15.500	1,806	1,806	1,806	1,805	1,805
15.750	1,805	1,804	1,804	1,803	1,803
16.000	1,803	1,802	1,802	1,802	1,801
16.250	1,801	1,801	1,801	1,801	1,800
16.500	1,800	1,800	1,800	1,800	1,800
16.750	1,799	1,799	1,799	1,799	1,799
17.000	1,798	1,798	1,798	1,798	1,798
17.250	1,798	1,797	1,797	1,797	1,797
17.500	1,797	1,797	1,796	1,796	1,796
17.750	1,796	1,796	1,796	1,795	1,795
18.000	1,795	1,795	1,795	1,795	1,795
18.250	1,794	1,794	1,794	1,794	1,794
18.500	1,794	1,794	1,794	1,794	1,794
18.750	1,794	1,794	1,794	1,794	1,794
19.000	1,794	1,794	1,794	1,794	1,793
19.250	1,793	1,793	1,793	1,793	1,793
19.500	1,793	1,793	1,793	1,793	1,793
19.750	1,793	1,793	1,793	1,793	1,793
20.000	1,793	1,793	1,793	1,793	1,792

## Stormwater Hydrologic Calculations

Subsection: Time vs. Volume

Return Event: 100 years

Label: SUB-2C

Storm Event: 100 year

Scenario: Post-Development 100 year

### Time vs. Volume (ft<sup>3</sup>)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

Time (hours)	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )	Volume (ft <sup>3</sup> )
20.250	1,792	1,792	1,792	1,792	1,792
20.500	1,792	1,792	1,792	1,792	1,792
20.750	1,792	1,792	1,792	1,792	1,792
21.000	1,792	1,792	1,792	1,792	1,792
21.250	1,792	1,792	1,792	1,792	1,792
21.500	1,791	1,791	1,791	1,791	1,791
21.750	1,791	1,791	1,791	1,791	1,791
22.000	1,791	1,791	1,791	1,791	1,791
22.250	1,791	1,791	1,791	1,791	1,791
22.500	1,791	1,791	1,791	1,791	1,791
22.750	1,791	1,790	1,790	1,790	1,790
23.000	1,790	1,790	1,790	1,790	1,790
23.250	1,790	1,790	1,790	1,790	1,790
23.500	1,790	1,790	1,790	1,790	1,790
23.750	1,790	1,790	1,790	1,790	1,789
24.000	1,789	(N/A)	(N/A)	(N/A)	(N/A)

## Stormwater Hydrologic Calculations

Subsection: Elevation-Area Volume Curve

Return Event: 1 years

Label: DB-1C-2/10

Storm Event: 1 year

Scenario: Post-Development 1 year

Elevation (ft)	Planimeter (ft <sup>2</sup> )	Area (ft <sup>2</sup> )	A1+A2+sqr (A1*A2) (ft <sup>2</sup> )	Volume (ft <sup>3</sup> )	Volume (Total) (ft <sup>3</sup> )
620.00	0.0	12,133	0	0	0
622.00	0.0	15,988	42,049	28,033	28,033

## Stormwater Hydrologic Calculations

Subsection: Elevation-Area Volume Curve

Return Event: 1 years

Label: IB-1C-2/10

Storm Event: 1 year

Scenario: Post-Development 1 year

Elevation (ft)	Planimeter (ft <sup>2</sup> )	Area (ft <sup>2</sup> )	A1+A2+sq (A1*A2) (ft <sup>2</sup> )	Volume (ft <sup>3</sup> )	Volume (Total) (ft <sup>3</sup> )
618.00	0.0	7,148	0	0	0
620.00	0.0	13,230	30,103	20,068	20,068
622.00	0.0	16,253	44,147	29,431	49,500



## Stormwater Hydrologic Calculations

Subsection: Elevation vs. Volume Curve

Label: SUB-2B

Scenario: Post-Development 1 year

Return Event: 1 years

Storm Event: 1 year

### Elevation-Volume

Pond Elevation (ft)	Pond Volume (ft <sup>3</sup> )
491.50	0
492.00	406
492.50	1,279
492.75	1,702
493.00	2,114
493.25	2,511
493.50	2,891
493.75	3,250
494.00	3,580
494.25	3,868
494.50	4,088
494.75	4,291
495.00	4,494

## Stormwater Hydrologic Calculations

Subsection: Elevation vs. Volume Curve

Label: SUB-2C

Scenario: Post-Development 1 year

Return Event: 1 years

Storm Event: 1 year

### Elevation-Volume

Pond Elevation (ft)	Pond Volume (ft <sup>3</sup> )
555.50	0
556.00	203
556.50	639
556.75	851
557.00	1,057
557.25	1,256
557.50	1,446
557.75	1,625
558.00	1,790
558.25	1,934
558.50	2,044
558.75	2,146
559.00	2,247

## Stormwater Hydrologic Calculations

Subsection: Multiple Outfall Rating Curves

Label: DB-1C-2/10 (IN)

Scenario: Post-Development 1 year

Return Event: 1 years

Storm Event: 1 year

### Total Pond Outflow Curve for Multiple Outfalls

Headwater Elevation (ft)	Outfall: Outlet-9 (ft <sup>3</sup> /s)	Outfall: Outlet-8 (ft <sup>3</sup> /s)	Total Flow (ft <sup>3</sup> /s)
620.00	0.00	0.00	0.00
620.05	0.10	0.10	0.20
620.10	0.28	0.28	0.57
620.15	0.52	0.52	1.05
620.20	0.81	0.80	1.61
620.25	1.13	1.13	2.25
620.30	1.48	1.48	2.96
620.35	1.86	1.86	3.73
620.40	2.28	2.28	4.55
620.45	2.72	2.72	5.43
620.50	3.18	3.18	6.37
620.55	3.67	3.67	7.34
620.60	4.18	4.18	8.36
620.65	4.72	4.72	9.44
620.70	5.27	5.27	10.54
620.75	5.84	5.85	11.69
620.80	6.44	6.44	12.88
620.85	7.05	7.05	14.10
620.90	7.68	7.68	15.36
620.95	8.33	8.33	16.66
621.00	9.00	9.00	18.00
621.05	9.69	9.69	19.38
621.10	10.38	10.38	20.76
621.15	11.10	11.11	22.21
621.20	11.83	11.82	23.65
621.25	12.58	12.58	25.15
621.30	13.34	13.33	26.67
621.35	13.97	14.13	28.10
621.40	14.34	14.91	29.25
621.45	14.65	15.72	30.37
621.50	14.93	16.53	31.45
621.55	15.32	17.91	33.23
621.60	15.74	19.74	35.48
621.65	16.14	21.86	38.00
621.70	16.50	24.25	40.74
621.75	16.80	26.83	43.64
621.80	17.06	29.58	46.63
621.85	17.26	31.57	48.84
621.90	17.42	33.20	50.62
621.95	17.55	34.58	52.13
622.00	17.65	35.77	53.42

## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Detention Basin OCS L  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
620.00	0.00	(N/A)	0.00
620.05	0.10	(N/A)	0.00
620.10	0.28	(N/A)	0.00
620.15	0.52	(N/A)	0.00
620.20	0.80	(N/A)	0.00
620.25	1.13	(N/A)	0.00
620.30	1.48	(N/A)	0.00
620.35	1.86	(N/A)	0.00
620.40	2.28	(N/A)	0.00
620.45	2.72	(N/A)	0.00
620.50	3.18	(N/A)	0.00
620.55	3.67	(N/A)	0.00
620.60	4.18	(N/A)	0.00
620.65	4.72	(N/A)	0.00
620.70	5.27	(N/A)	0.00
620.75	5.85	(N/A)	0.00
620.80	6.44	(N/A)	0.00
620.85	7.05	(N/A)	0.00
620.90	7.68	(N/A)	0.00
620.95	8.33	(N/A)	0.00
621.00	9.00	(N/A)	0.00
621.05	9.69	(N/A)	0.00
621.10	10.38	(N/A)	0.00
621.15	11.11	(N/A)	0.00
621.20	11.82	(N/A)	0.00
621.25	12.58	(N/A)	0.00
621.30	13.33	(N/A)	0.00
621.35	14.13	(N/A)	0.00
621.40	14.91	(N/A)	0.00
621.45	15.72	(N/A)	0.00
621.50	16.53	(N/A)	0.00
621.55	17.91	(N/A)	0.00
621.60	19.74	(N/A)	0.00
621.65	21.86	(N/A)	0.00
621.70	24.25	(N/A)	0.00
621.75	26.83	(N/A)	0.00
621.80	29.58	(N/A)	0.00
621.85	31.57	(N/A)	0.00
621.90	33.20	(N/A)	0.00
621.95	34.58	(N/A)	0.00
622.00	35.77	(N/A)	0.00

Contributing Structures



# Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
Label: Detention Basin OCS L  
Scenario: Post-Development 1 year

Return Event: 1 years  
Storm Event: 1 year

## Composite Outflow Summary

Contributing Structures
Weir - 1,Culvert - 1 (no Q: Riser - 1)
Weir - 1,Culvert - 1 (no Q: Riser - 1)
Weir - 1,Culvert - 1 (no Q: Riser - 1)
Weir - 1,Culvert - 1 (no Q: Riser - 1)
Weir - 1,Culvert - 1 (no Q: Riser - 1)
Weir - 1,Culvert - 1 (no Q: Riser - 1)
Weir - 1,Culvert - 1 (no Q: Riser - 1)
Weir - 1,Culvert - 1 (no Q: Riser - 1)
Riser - 1,Weir - 1,Culvert - 1
Riser - 1,Weir - 1,Culvert - 1
Riser - 1,Weir - 1,Culvert - 1
Riser - 1,Weir - 1,Culvert - 1
Riser - 1,Weir - 1,Culvert - 1
Riser - 1,Weir - 1,Culvert - 1
Riser - 1,Weir - 1,Culvert - 1
Riser - 1,Weir - 1,Culvert - 1
Riser - 1,Weir - 1,Culvert - 1
Riser - 1,Weir - 1,Culvert - 1
Riser - 1,Weir - 1,Culvert - 1

## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Detention Basin OCS R  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
620.00	0.00	(N/A)	0.00
620.05	0.10	(N/A)	0.00
620.10	0.28	(N/A)	0.00
620.15	0.52	(N/A)	0.00
620.20	0.81	(N/A)	0.00
620.25	1.13	(N/A)	0.00
620.30	1.48	(N/A)	0.00
620.35	1.86	(N/A)	0.00
620.40	2.28	(N/A)	0.00
620.45	2.72	(N/A)	0.00
620.50	3.18	(N/A)	0.00
620.55	3.67	(N/A)	0.00
620.60	4.18	(N/A)	0.00
620.65	4.72	(N/A)	0.00
620.70	5.27	(N/A)	0.00
620.75	5.84	(N/A)	0.00
620.80	6.44	(N/A)	0.00
620.85	7.05	(N/A)	0.00
620.90	7.68	(N/A)	0.00
620.95	8.33	(N/A)	0.00
621.00	9.00	(N/A)	0.00
621.05	9.69	(N/A)	0.00
621.10	10.38	(N/A)	0.00
621.15	11.10	(N/A)	0.00
621.20	11.83	(N/A)	0.00
621.25	12.58	(N/A)	0.00
621.30	13.34	(N/A)	0.00
621.35	13.97	(N/A)	0.00
621.40	14.34	(N/A)	0.00
621.45	14.65	(N/A)	0.00
621.50	14.93	(N/A)	0.00
621.55	15.32	(N/A)	0.00
621.60	15.74	(N/A)	0.00
621.65	16.14	(N/A)	0.00
621.70	16.50	(N/A)	0.00
621.75	16.80	(N/A)	0.00
621.80	17.06	(N/A)	0.00
621.85	17.26	(N/A)	0.00
621.90	17.42	(N/A)	0.00
621.95	17.55	(N/A)	0.00
622.00	17.65	(N/A)	0.00

Contributing Structures





# Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
Label: Detention Basin OCS R  
Scenario: Post-Development 1 year

Return Event: 1 years  
Storm Event: 1 year

## Composite Outflow Summary

Contributing Structures
Weir - 1,Culvert - 1 (no Q: Riser - 1)
Weir - 1,Culvert - 1 (no Q: Riser - 1)
Weir - 1,Culvert - 1 (no Q: Riser - 1)
Weir - 1,Culvert - 1 (no Q: Riser - 1)
Weir - 1,Culvert - 1 (no Q: Riser - 1)
Weir - 1,Culvert - 1 (no Q: Riser - 1)
Weir - 1,Culvert - 1 (no Q: Riser - 1)
Weir - 1,Culvert - 1 (no Q: Riser - 1)
Riser - 1,Weir - 1,Culvert - 1
Riser - 1,Weir - 1,Culvert - 1
Riser - 1,Weir - 1,Culvert - 1
Riser - 1,Weir - 1,Culvert - 1
Riser - 1,Weir - 1,Culvert - 1
Riser - 1,Weir - 1,Culvert - 1
Riser - 1,Weir - 1,Culvert - 1
Riser - 1,Weir - 1,Culvert - 1
Riser - 1,Weir - 1,Culvert - 1
Riser - 1,Culvert - 1 (no Q: Weir - 1)

## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
618.00	0.00	620.00	0.00
618.05	0.00	620.00	0.00
618.10	0.00	620.00	0.00
618.15	0.00	620.00	0.00
618.20	0.00	620.00	0.00
618.25	0.00	620.00	0.00
618.30	0.00	620.00	0.00
618.35	0.00	620.00	0.00
618.40	0.00	620.00	0.00
618.45	0.00	620.00	0.00
618.50	0.00	620.00	0.00
618.55	0.00	620.00	0.00
618.60	0.00	620.00	0.00
618.65	0.00	620.00	0.00
618.70	0.00	620.00	0.00
618.75	0.00	620.00	0.00
618.80	0.00	620.00	0.00
618.85	0.00	620.00	0.00
618.90	0.00	620.00	0.00
618.95	0.00	620.00	0.00
619.00	0.00	620.00	0.00
619.05	0.00	620.00	0.00
619.10	0.00	620.00	0.00
619.15	0.00	620.00	0.00
619.20	0.00	620.00	0.00
619.25	0.00	620.00	0.00
619.30	0.00	620.00	0.00
619.35	0.00	620.00	0.00
619.40	0.00	620.00	0.00
619.45	0.00	620.00	0.00
619.50	0.00	620.00	0.00
619.55	0.00	620.00	0.00
619.60	0.00	620.00	0.00
619.65	0.00	620.00	0.00
619.70	0.00	620.00	0.00
619.75	0.00	620.00	0.00
619.80	0.00	620.00	0.00
619.85	0.00	620.00	0.00
619.90	0.00	620.00	0.00
619.95	0.00	620.00	0.00
620.00	0.00	620.00	0.00
620.05	0.00	620.00	0.00

## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
620.10	0.91	620.00	0.00
620.15	2.56	620.00	0.00
620.20	4.71	620.00	0.00
620.25	7.24	620.00	0.00
620.30	10.13	620.00	0.00
620.35	13.31	620.00	0.00
620.40	16.77	620.00	0.00
620.45	20.49	620.00	0.00
620.50	24.45	620.00	0.00
620.55	28.64	620.00	0.00
620.60	33.04	620.00	0.00
620.65	37.65	620.00	0.00
620.70	42.45	620.00	0.00
620.75	47.44	620.00	0.00
620.80	52.61	620.00	0.00
620.85	57.96	620.00	0.00
620.90	63.48	620.00	0.00
620.95	69.16	620.00	0.00
621.00	75.00	620.00	0.00
621.05	81.00	620.00	0.00
621.10	87.15	620.00	0.00
621.15	93.45	620.00	0.00
621.20	99.89	620.00	0.00
621.25	106.48	620.00	0.00
621.30	113.20	620.00	0.00
621.35	120.06	620.00	0.00
621.40	127.05	620.00	0.00
621.45	134.18	620.00	0.00
621.50	141.43	620.00	0.00
621.55	148.81	620.00	0.00
621.60	156.31	620.00	0.00
621.65	163.93	620.00	0.00
621.70	171.68	620.00	0.00
621.75	179.54	620.00	0.00
621.80	187.52	620.00	0.00
621.85	195.61	620.00	0.00
621.90	203.82	620.00	0.00
621.95	212.14	620.00	0.00
622.00	220.57	620.00	0.00

#### Contributing Structures

None Contributing
None Contributing





# Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

## Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
618.00	0.00	620.05	0.00
618.05	0.00	620.05	0.00
618.10	0.00	620.05	0.00
618.15	0.00	620.05	0.00
618.20	0.00	620.05	0.00
618.25	0.00	620.05	0.00
618.30	0.00	620.05	0.00
618.35	0.00	620.05	0.00
618.40	0.00	620.05	0.00
618.45	0.00	620.05	0.00
618.50	0.00	620.05	0.00
618.55	0.00	620.05	0.00
618.60	0.00	620.05	0.00
618.65	0.00	620.05	0.00
618.70	0.00	620.05	0.00
618.75	0.00	620.05	0.00
618.80	0.00	620.05	0.00
618.85	0.00	620.05	0.00
618.90	0.00	620.05	0.00
618.95	0.00	620.05	0.00
619.00	0.00	620.05	0.00
619.05	0.00	620.05	0.00
619.10	0.00	620.05	0.00
619.15	0.00	620.05	0.00
619.20	0.00	620.05	0.00
619.25	0.00	620.05	0.00
619.30	0.00	620.05	0.00
619.35	0.00	620.05	0.00
619.40	0.00	620.05	0.00
619.45	0.00	620.05	0.00
619.50	0.00	620.05	0.00
619.55	0.00	620.05	0.00
619.60	0.00	620.05	0.00
619.65	0.00	620.05	0.00
619.70	0.00	620.05	0.00
619.75	0.00	620.05	0.00
619.80	0.00	620.05	0.00
619.85	0.00	620.05	0.00
619.90	0.00	620.05	0.00
619.95	0.00	620.05	0.00
620.00	0.00	620.05	0.00
620.05	0.00	620.05	0.00

## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
620.10	0.91	620.05	0.00
620.15	2.56	620.05	0.00
620.20	4.71	620.05	0.00
620.25	7.24	620.05	0.00
620.30	10.13	620.05	0.00
620.35	13.31	620.05	0.00
620.40	16.77	620.05	0.00
620.45	20.49	620.05	0.00
620.50	24.45	620.05	0.00
620.55	28.64	620.05	0.00
620.60	33.04	620.05	0.00
620.65	37.65	620.05	0.00
620.70	42.45	620.05	0.00
620.75	47.44	620.05	0.00
620.80	52.61	620.05	0.00
620.85	57.96	620.05	0.00
620.90	63.48	620.05	0.00
620.95	69.16	620.05	0.00
621.00	75.00	620.05	0.00
621.05	81.00	620.05	0.00
621.10	87.15	620.05	0.00
621.15	93.45	620.05	0.00
621.20	99.89	620.05	0.00
621.25	106.48	620.05	0.00
621.30	113.20	620.05	0.00
621.35	120.06	620.05	0.00
621.40	127.05	620.05	0.00
621.45	134.18	620.05	0.00
621.50	141.43	620.05	0.00
621.55	148.81	620.05	0.00
621.60	156.31	620.05	0.00
621.65	163.93	620.05	0.00
621.70	171.68	620.05	0.00
621.75	179.54	620.05	0.00
621.80	187.52	620.05	0.00
621.85	195.61	620.05	0.00
621.90	203.82	620.05	0.00
621.95	212.14	620.05	0.00
622.00	220.57	620.05	0.00

#### Contributing Structures

Weir - 1
Weir - 1







## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
618.00	-0.91	620.10	0.00
618.05	-0.91	620.10	0.00
618.10	-0.91	620.10	0.00
618.15	-0.91	620.10	0.00
618.20	-0.91	620.10	0.00
618.25	-0.91	620.10	0.00
618.30	-0.91	620.10	0.00
618.35	-0.91	620.10	0.00
618.40	-0.91	620.10	0.00
618.45	-0.91	620.10	0.00
618.50	-0.91	620.10	0.00
618.55	-0.91	620.10	0.00
618.60	-0.91	620.10	0.00
618.65	-0.91	620.10	0.00
618.70	-0.91	620.10	0.00
618.75	-0.91	620.10	0.00
618.80	-0.91	620.10	0.00
618.85	-0.91	620.10	0.00
618.90	-0.91	620.10	0.00
618.95	-0.91	620.10	0.00
619.00	-0.91	620.10	0.00
619.05	-0.91	620.10	0.00
619.10	-0.91	620.10	0.00
619.15	-0.91	620.10	0.00
619.20	-0.91	620.10	0.00
619.25	-0.91	620.10	0.00
619.30	-0.91	620.10	0.00
619.35	-0.91	620.10	0.00
619.40	-0.91	620.10	0.00
619.45	-0.91	620.10	0.00
619.50	-0.91	620.10	0.00
619.55	-0.91	620.10	0.00
619.60	-0.91	620.10	0.00
619.65	-0.91	620.10	0.00
619.70	-0.91	620.10	0.00
619.75	-0.91	620.10	0.00
619.80	-0.91	620.10	0.00
619.85	-0.91	620.10	0.00
619.90	-0.91	620.10	0.00
619.95	-0.91	620.10	0.00
620.00	-0.91	620.10	0.00
620.05	-0.91	620.10	0.00

# Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

## Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
620.10	0.00	620.10	0.00
620.15	2.17	620.10	0.00
620.20	4.33	620.10	0.00
620.25	6.88	620.10	0.00
620.30	9.77	620.10	0.00
620.35	12.95	620.10	0.00
620.40	16.42	620.10	0.00
620.45	20.14	620.10	0.00
620.50	24.10	620.10	0.00
620.55	28.29	620.10	0.00
620.60	32.69	620.10	0.00
620.65	37.29	620.10	0.00
620.70	42.10	620.10	0.00
620.75	47.09	620.10	0.00
620.80	52.26	620.10	0.00
620.85	57.61	620.10	0.00
620.90	63.13	620.10	0.00
620.95	68.81	620.10	0.00
621.00	74.65	620.10	0.00
621.05	80.65	620.10	0.00
621.10	86.80	620.10	0.00
621.15	93.10	620.10	0.00
621.20	99.54	620.10	0.00
621.25	106.13	620.10	0.00
621.30	112.85	620.10	0.00
621.35	119.71	620.10	0.00
621.40	126.70	620.10	0.00
621.45	133.83	620.10	0.00
621.50	141.08	620.10	0.00
621.55	148.46	620.10	0.00
621.60	155.96	620.10	0.00
621.65	163.58	620.10	0.00
621.70	171.33	620.10	0.00
621.75	179.19	620.10	0.00
621.80	187.17	620.10	0.00
621.85	195.26	620.10	0.00
621.90	203.47	620.10	0.00
621.95	211.79	620.10	0.00
622.00	220.22	620.10	0.00

### Contributing Structures

Weir - 1
Weir - 1





## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
618.00	-2.56	620.15	0.00
618.05	-2.56	620.15	0.00
618.10	-2.56	620.15	0.00
618.15	-2.56	620.15	0.00
618.20	-2.56	620.15	0.00
618.25	-2.56	620.15	0.00
618.30	-2.56	620.15	0.00
618.35	-2.56	620.15	0.00
618.40	-2.56	620.15	0.00
618.45	-2.56	620.15	0.00
618.50	-2.56	620.15	0.00
618.55	-2.56	620.15	0.00
618.60	-2.56	620.15	0.00
618.65	-2.56	620.15	0.00
618.70	-2.56	620.15	0.00
618.75	-2.56	620.15	0.00
618.80	-2.56	620.15	0.00
618.85	-2.56	620.15	0.00
618.90	-2.56	620.15	0.00
618.95	-2.56	620.15	0.00
619.00	-2.56	620.15	0.00
619.05	-2.56	620.15	0.00
619.10	-2.56	620.15	0.00
619.15	-2.56	620.15	0.00
619.20	-2.56	620.15	0.00
619.25	-2.56	620.15	0.00
619.30	-2.56	620.15	0.00
619.35	-2.56	620.15	0.00
619.40	-2.56	620.15	0.00
619.45	-2.56	620.15	0.00
619.50	-2.56	620.15	0.00
619.55	-2.56	620.15	0.00
619.60	-2.56	620.15	0.00
619.65	-2.56	620.15	0.00
619.70	-2.56	620.15	0.00
619.75	-2.56	620.15	0.00
619.80	-2.56	620.15	0.00
619.85	-2.56	620.15	0.00
619.90	-2.56	620.15	0.00
619.95	-2.56	620.15	0.00
620.00	-2.56	620.15	0.00
620.05	-2.56	620.15	0.00

# Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

## Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
620.10	-2.17	620.15	0.00
620.15	0.00	620.15	0.00
620.20	3.48	620.15	0.00
620.25	6.12	620.15	0.00
620.30	9.05	620.15	0.00
620.35	12.26	620.15	0.00
620.40	15.74	620.15	0.00
620.45	19.46	620.15	0.00
620.50	23.43	620.15	0.00
620.55	27.62	620.15	0.00
620.60	32.03	620.15	0.00
620.65	36.64	620.15	0.00
620.70	41.44	620.15	0.00
620.75	46.44	620.15	0.00
620.80	51.61	620.15	0.00
620.85	56.96	620.15	0.00
620.90	62.48	620.15	0.00
620.95	68.16	620.15	0.00
621.00	74.00	620.15	0.00
621.05	80.00	620.15	0.00
621.10	86.16	620.15	0.00
621.15	92.45	620.15	0.00
621.20	98.90	620.15	0.00
621.25	105.48	620.15	0.00
621.30	112.21	620.15	0.00
621.35	119.07	620.15	0.00
621.40	126.06	620.15	0.00
621.45	133.18	620.15	0.00
621.50	140.44	620.15	0.00
621.55	147.82	620.15	0.00
621.60	155.32	620.15	0.00
621.65	162.94	620.15	0.00
621.70	170.69	620.15	0.00
621.75	178.55	620.15	0.00
621.80	186.53	620.15	0.00
621.85	194.62	620.15	0.00
621.90	202.83	620.15	0.00
621.95	211.15	620.15	0.00
622.00	219.58	620.15	0.00

### Contributing Structures

Weir - 1
Weir - 1







## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
618.00	-4.71	620.20	0.00
618.05	-4.71	620.20	0.00
618.10	-4.71	620.20	0.00
618.15	-4.71	620.20	0.00
618.20	-4.71	620.20	0.00
618.25	-4.71	620.20	0.00
618.30	-4.71	620.20	0.00
618.35	-4.71	620.20	0.00
618.40	-4.71	620.20	0.00
618.45	-4.71	620.20	0.00
618.50	-4.71	620.20	0.00
618.55	-4.71	620.20	0.00
618.60	-4.71	620.20	0.00
618.65	-4.71	620.20	0.00
618.70	-4.71	620.20	0.00
618.75	-4.71	620.20	0.00
618.80	-4.71	620.20	0.00
618.85	-4.71	620.20	0.00
618.90	-4.71	620.20	0.00
618.95	-4.71	620.20	0.00
619.00	-4.71	620.20	0.00
619.05	-4.71	620.20	0.00
619.10	-4.71	620.20	0.00
619.15	-4.71	620.20	0.00
619.20	-4.71	620.20	0.00
619.25	-4.71	620.20	0.00
619.30	-4.71	620.20	0.00
619.35	-4.71	620.20	0.00
619.40	-4.71	620.20	0.00
619.45	-4.71	620.20	0.00
619.50	-4.71	620.20	0.00
619.55	-4.71	620.20	0.00
619.60	-4.71	620.20	0.00
619.65	-4.71	620.20	0.00
619.70	-4.71	620.20	0.00
619.75	-4.71	620.20	0.00
619.80	-4.71	620.20	0.00
619.85	-4.71	620.20	0.00
619.90	-4.71	620.20	0.00
619.95	-4.71	620.20	0.00
620.00	-4.71	620.20	0.00
620.05	-4.71	620.20	0.00

## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
620.10	-4.33	620.20	0.00
620.15	-3.48	620.20	0.00
620.20	0.00	620.20	0.00
620.25	4.84	620.20	0.00
620.30	7.96	620.20	0.00
620.35	11.25	620.20	0.00
620.40	14.78	620.20	0.00
620.45	18.53	620.20	0.00
620.50	22.52	620.20	0.00
620.55	26.73	620.20	0.00
620.60	31.14	620.20	0.00
620.65	35.76	620.20	0.00
620.70	40.57	620.20	0.00
620.75	45.57	620.20	0.00
620.80	50.75	620.20	0.00
620.85	56.10	620.20	0.00
620.90	61.62	620.20	0.00
620.95	67.31	620.20	0.00
621.00	73.15	620.20	0.00
621.05	79.15	620.20	0.00
621.10	85.31	620.20	0.00
621.15	91.61	620.20	0.00
621.20	98.05	620.20	0.00
621.25	104.64	620.20	0.00
621.30	111.37	620.20	0.00
621.35	118.23	620.20	0.00
621.40	125.22	620.20	0.00
621.45	132.35	620.20	0.00
621.50	139.60	620.20	0.00
621.55	146.98	620.20	0.00
621.60	154.48	620.20	0.00
621.65	162.10	620.20	0.00
621.70	169.85	620.20	0.00
621.75	177.71	620.20	0.00
621.80	185.69	620.20	0.00
621.85	193.79	620.20	0.00
621.90	201.99	620.20	0.00
621.95	210.31	620.20	0.00
622.00	218.74	620.20	0.00

#### Contributing Structures

Weir - 1
Weir - 1





## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
618.00	-7.24	620.25	0.00
618.05	-7.24	620.25	0.00
618.10	-7.24	620.25	0.00
618.15	-7.24	620.25	0.00
618.20	-7.24	620.25	0.00
618.25	-7.24	620.25	0.00
618.30	-7.24	620.25	0.00
618.35	-7.24	620.25	0.00
618.40	-7.24	620.25	0.00
618.45	-7.24	620.25	0.00
618.50	-7.24	620.25	0.00
618.55	-7.24	620.25	0.00
618.60	-7.24	620.25	0.00
618.65	-7.24	620.25	0.00
618.70	-7.24	620.25	0.00
618.75	-7.24	620.25	0.00
618.80	-7.24	620.25	0.00
618.85	-7.24	620.25	0.00
618.90	-7.24	620.25	0.00
618.95	-7.24	620.25	0.00
619.00	-7.24	620.25	0.00
619.05	-7.24	620.25	0.00
619.10	-7.24	620.25	0.00
619.15	-7.24	620.25	0.00
619.20	-7.24	620.25	0.00
619.25	-7.24	620.25	0.00
619.30	-7.24	620.25	0.00
619.35	-7.24	620.25	0.00
619.40	-7.24	620.25	0.00
619.45	-7.24	620.25	0.00
619.50	-7.24	620.25	0.00
619.55	-7.24	620.25	0.00
619.60	-7.24	620.25	0.00
619.65	-7.24	620.25	0.00
619.70	-7.24	620.25	0.00
619.75	-7.24	620.25	0.00
619.80	-7.24	620.25	0.00
619.85	-7.24	620.25	0.00
619.90	-7.24	620.25	0.00
619.95	-7.24	620.25	0.00
620.00	-7.24	620.25	0.00
620.05	-7.24	620.25	0.00

## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
620.10	-6.88	620.25	0.00
620.15	-6.12	620.25	0.00
620.20	-4.84	620.25	0.00
620.25	0.00	620.25	0.00
620.30	6.24	620.25	0.00
620.35	9.83	620.25	0.00
620.40	13.49	620.25	0.00
620.45	17.32	620.25	0.00
620.50	21.36	620.25	0.00
620.55	25.60	620.25	0.00
620.60	30.04	620.25	0.00
620.65	34.67	620.25	0.00
620.70	39.50	620.25	0.00
620.75	44.51	620.25	0.00
620.80	49.69	620.25	0.00
620.85	55.05	620.25	0.00
620.90	60.58	620.25	0.00
620.95	66.27	620.25	0.00
621.00	72.12	620.25	0.00
621.05	78.13	620.25	0.00
621.10	84.29	620.25	0.00
621.15	90.59	620.25	0.00
621.20	97.04	620.25	0.00
621.25	103.63	620.25	0.00
621.30	110.35	620.25	0.00
621.35	117.22	620.25	0.00
621.40	124.21	620.25	0.00
621.45	131.34	620.25	0.00
621.50	138.59	620.25	0.00
621.55	145.97	620.25	0.00
621.60	153.48	620.25	0.00
621.65	161.10	620.25	0.00
621.70	168.85	620.25	0.00
621.75	176.71	620.25	0.00
621.80	184.69	620.25	0.00
621.85	192.79	620.25	0.00
621.90	201.00	620.25	0.00
621.95	209.32	620.25	0.00
622.00	217.75	620.25	0.00

#### Contributing Structures

Weir - 1
Weir - 1







## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
618.00	-10.13	620.30	0.00
618.05	-10.13	620.30	0.00
618.10	-10.13	620.30	0.00
618.15	-10.13	620.30	0.00
618.20	-10.13	620.30	0.00
618.25	-10.13	620.30	0.00
618.30	-10.13	620.30	0.00
618.35	-10.13	620.30	0.00
618.40	-10.13	620.30	0.00
618.45	-10.13	620.30	0.00
618.50	-10.13	620.30	0.00
618.55	-10.13	620.30	0.00
618.60	-10.13	620.30	0.00
618.65	-10.13	620.30	0.00
618.70	-10.13	620.30	0.00
618.75	-10.13	620.30	0.00
618.80	-10.13	620.30	0.00
618.85	-10.13	620.30	0.00
618.90	-10.13	620.30	0.00
618.95	-10.13	620.30	0.00
619.00	-10.13	620.30	0.00
619.05	-10.13	620.30	0.00
619.10	-10.13	620.30	0.00
619.15	-10.13	620.30	0.00
619.20	-10.13	620.30	0.00
619.25	-10.13	620.30	0.00
619.30	-10.13	620.30	0.00
619.35	-10.13	620.30	0.00
619.40	-10.13	620.30	0.00
619.45	-10.13	620.30	0.00
619.50	-10.13	620.30	0.00
619.55	-10.13	620.30	0.00
619.60	-10.13	620.30	0.00
619.65	-10.13	620.30	0.00
619.70	-10.13	620.30	0.00
619.75	-10.13	620.30	0.00
619.80	-10.13	620.30	0.00
619.85	-10.13	620.30	0.00
619.90	-10.13	620.30	0.00
619.95	-10.13	620.30	0.00
620.00	-10.13	620.30	0.00
620.05	-10.13	620.30	0.00

## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
620.10	-9.77	620.30	0.00
620.15	-9.05	620.30	0.00
620.20	-7.96	620.30	0.00
620.25	-6.24	620.30	0.00
620.30	0.00	620.30	0.00
620.35	7.67	620.30	0.00
620.40	11.74	620.30	0.00
620.45	15.76	620.30	0.00
620.50	19.90	620.30	0.00
620.55	24.21	620.30	0.00
620.60	28.70	620.30	0.00
620.65	33.37	620.30	0.00
620.70	38.22	620.30	0.00
620.75	43.25	620.30	0.00
620.80	48.45	620.30	0.00
620.85	53.83	620.30	0.00
620.90	59.37	620.30	0.00
620.95	65.07	620.30	0.00
621.00	70.93	620.30	0.00
621.05	76.94	620.30	0.00
621.10	83.10	620.30	0.00
621.15	89.41	620.30	0.00
621.20	95.87	620.30	0.00
621.25	102.46	620.30	0.00
621.30	109.19	620.30	0.00
621.35	116.06	620.30	0.00
621.40	123.06	620.30	0.00
621.45	130.18	620.30	0.00
621.50	137.44	620.30	0.00
621.55	144.82	620.30	0.00
621.60	152.33	620.30	0.00
621.65	159.96	620.30	0.00
621.70	167.71	620.30	0.00
621.75	175.57	620.30	0.00
621.80	183.55	620.30	0.00
621.85	191.65	620.30	0.00
621.90	199.86	620.30	0.00
621.95	208.18	620.30	0.00
622.00	216.61	620.30	0.00

#### Contributing Structures

Weir - 1
Weir - 1





## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
618.00	-13.31	620.35	0.00
618.05	-13.31	620.35	0.00
618.10	-13.31	620.35	0.00
618.15	-13.31	620.35	0.00
618.20	-13.31	620.35	0.00
618.25	-13.31	620.35	0.00
618.30	-13.31	620.35	0.00
618.35	-13.31	620.35	0.00
618.40	-13.31	620.35	0.00
618.45	-13.31	620.35	0.00
618.50	-13.31	620.35	0.00
618.55	-13.31	620.35	0.00
618.60	-13.31	620.35	0.00
618.65	-13.31	620.35	0.00
618.70	-13.31	620.35	0.00
618.75	-13.31	620.35	0.00
618.80	-13.31	620.35	0.00
618.85	-13.31	620.35	0.00
618.90	-13.31	620.35	0.00
618.95	-13.31	620.35	0.00
619.00	-13.31	620.35	0.00
619.05	-13.31	620.35	0.00
619.10	-13.31	620.35	0.00
619.15	-13.31	620.35	0.00
619.20	-13.31	620.35	0.00
619.25	-13.31	620.35	0.00
619.30	-13.31	620.35	0.00
619.35	-13.31	620.35	0.00
619.40	-13.31	620.35	0.00
619.45	-13.31	620.35	0.00
619.50	-13.31	620.35	0.00
619.55	-13.31	620.35	0.00
619.60	-13.31	620.35	0.00
619.65	-13.31	620.35	0.00
619.70	-13.31	620.35	0.00
619.75	-13.31	620.35	0.00
619.80	-13.31	620.35	0.00
619.85	-13.31	620.35	0.00
619.90	-13.31	620.35	0.00
619.95	-13.31	620.35	0.00
620.00	-13.31	620.35	0.00
620.05	-13.31	620.35	0.00

# Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

## Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
620.10	-12.95	620.35	0.00
620.15	-12.26	620.35	0.00
620.20	-11.25	620.35	0.00
620.25	-9.83	620.35	0.00
620.30	-7.67	620.35	0.00
620.35	0.00	620.35	0.00
620.40	9.14	620.35	0.00
620.45	13.69	620.35	0.00
620.50	18.07	620.35	0.00
620.55	22.51	620.35	0.00
620.60	27.09	620.35	0.00
620.65	31.82	620.35	0.00
620.70	36.72	620.35	0.00
620.75	41.79	620.35	0.00
620.80	47.02	620.35	0.00
620.85	52.42	620.35	0.00
620.90	57.98	620.35	0.00
620.95	63.70	620.35	0.00
621.00	69.57	620.35	0.00
621.05	75.59	620.35	0.00
621.10	81.76	620.35	0.00
621.15	88.08	620.35	0.00
621.20	94.54	620.35	0.00
621.25	101.14	620.35	0.00
621.30	107.88	620.35	0.00
621.35	114.75	620.35	0.00
621.40	121.75	620.35	0.00
621.45	128.89	620.35	0.00
621.50	136.15	620.35	0.00
621.55	143.53	620.35	0.00
621.60	151.04	620.35	0.00
621.65	158.67	620.35	0.00
621.70	166.42	620.35	0.00
621.75	174.29	620.35	0.00
621.80	182.28	620.35	0.00
621.85	190.38	620.35	0.00
621.90	198.59	620.35	0.00
621.95	206.91	620.35	0.00
622.00	215.34	620.35	0.00

### Contributing Structures

Weir - 1
Weir - 1







# Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

## Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
618.00	-16.77	620.40	0.00
618.05	-16.77	620.40	0.00
618.10	-16.77	620.40	0.00
618.15	-16.77	620.40	0.00
618.20	-16.77	620.40	0.00
618.25	-16.77	620.40	0.00
618.30	-16.77	620.40	0.00
618.35	-16.77	620.40	0.00
618.40	-16.77	620.40	0.00
618.45	-16.77	620.40	0.00
618.50	-16.77	620.40	0.00
618.55	-16.77	620.40	0.00
618.60	-16.77	620.40	0.00
618.65	-16.77	620.40	0.00
618.70	-16.77	620.40	0.00
618.75	-16.77	620.40	0.00
618.80	-16.77	620.40	0.00
618.85	-16.77	620.40	0.00
618.90	-16.77	620.40	0.00
618.95	-16.77	620.40	0.00
619.00	-16.77	620.40	0.00
619.05	-16.77	620.40	0.00
619.10	-16.77	620.40	0.00
619.15	-16.77	620.40	0.00
619.20	-16.77	620.40	0.00
619.25	-16.77	620.40	0.00
619.30	-16.77	620.40	0.00
619.35	-16.77	620.40	0.00
619.40	-16.77	620.40	0.00
619.45	-16.77	620.40	0.00
619.50	-16.77	620.40	0.00
619.55	-16.77	620.40	0.00
619.60	-16.77	620.40	0.00
619.65	-16.77	620.40	0.00
619.70	-16.77	620.40	0.00
619.75	-16.77	620.40	0.00
619.80	-16.77	620.40	0.00
619.85	-16.77	620.40	0.00
619.90	-16.77	620.40	0.00
619.95	-16.77	620.40	0.00
620.00	-16.77	620.40	0.00
620.05	-16.77	620.40	0.00

## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
620.10	-16.42	620.40	0.00
620.15	-15.74	620.40	0.00
620.20	-14.78	620.40	0.00
620.25	-13.49	620.40	0.00
620.30	-11.74	620.40	0.00
620.35	-9.14	620.40	0.00
620.40	0.00	620.40	0.00
620.45	10.62	620.40	0.00
620.50	15.66	620.40	0.00
620.55	20.40	620.40	0.00
620.60	25.15	620.40	0.00
620.65	30.00	620.40	0.00
620.70	34.98	620.40	0.00
620.75	40.10	620.40	0.00
620.80	45.38	620.40	0.00
620.85	50.82	620.40	0.00
620.90	56.40	620.40	0.00
620.95	62.15	620.40	0.00
621.00	68.04	620.40	0.00
621.05	74.08	620.40	0.00
621.10	80.27	620.40	0.00
621.15	86.60	620.40	0.00
621.20	93.07	620.40	0.00
621.25	99.68	620.40	0.00
621.30	106.42	620.40	0.00
621.35	113.30	620.40	0.00
621.40	120.31	620.40	0.00
621.45	127.45	620.40	0.00
621.50	134.72	620.40	0.00
621.55	142.11	620.40	0.00
621.60	149.62	620.40	0.00
621.65	157.26	620.40	0.00
621.70	165.01	620.40	0.00
621.75	172.89	620.40	0.00
621.80	180.87	620.40	0.00
621.85	188.98	620.40	0.00
621.90	197.19	620.40	0.00
621.95	205.52	620.40	0.00
622.00	213.95	620.40	0.00

#### Contributing Structures

Weir - 1
Weir - 1





## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
618.00	-20.49	620.45	0.00
618.05	-20.49	620.45	0.00
618.10	-20.49	620.45	0.00
618.15	-20.49	620.45	0.00
618.20	-20.49	620.45	0.00
618.25	-20.49	620.45	0.00
618.30	-20.49	620.45	0.00
618.35	-20.49	620.45	0.00
618.40	-20.49	620.45	0.00
618.45	-20.49	620.45	0.00
618.50	-20.49	620.45	0.00
618.55	-20.49	620.45	0.00
618.60	-20.49	620.45	0.00
618.65	-20.49	620.45	0.00
618.70	-20.49	620.45	0.00
618.75	-20.49	620.45	0.00
618.80	-20.49	620.45	0.00
618.85	-20.49	620.45	0.00
618.90	-20.49	620.45	0.00
618.95	-20.49	620.45	0.00
619.00	-20.49	620.45	0.00
619.05	-20.49	620.45	0.00
619.10	-20.49	620.45	0.00
619.15	-20.49	620.45	0.00
619.20	-20.49	620.45	0.00
619.25	-20.49	620.45	0.00
619.30	-20.49	620.45	0.00
619.35	-20.49	620.45	0.00
619.40	-20.49	620.45	0.00
619.45	-20.49	620.45	0.00
619.50	-20.49	620.45	0.00
619.55	-20.49	620.45	0.00
619.60	-20.49	620.45	0.00
619.65	-20.49	620.45	0.00
619.70	-20.49	620.45	0.00
619.75	-20.49	620.45	0.00
619.80	-20.49	620.45	0.00
619.85	-20.49	620.45	0.00
619.90	-20.49	620.45	0.00
619.95	-20.49	620.45	0.00
620.00	-20.49	620.45	0.00
620.05	-20.49	620.45	0.00

## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
620.10	-20.14	620.45	0.00
620.15	-19.46	620.45	0.00
620.20	-18.53	620.45	0.00
620.25	-17.32	620.45	0.00
620.30	-15.76	620.45	0.00
620.35	-13.69	620.45	0.00
620.40	-10.62	620.45	0.00
620.45	0.00	620.45	0.00
620.50	12.13	620.45	0.00
620.55	17.65	620.45	0.00
620.60	22.76	620.45	0.00
620.65	27.82	620.45	0.00
620.70	32.93	620.45	0.00
620.75	38.16	620.45	0.00
620.80	43.51	620.45	0.00
620.85	49.00	620.45	0.00
620.90	54.63	620.45	0.00
620.95	60.41	620.45	0.00
621.00	66.33	620.45	0.00
621.05	72.40	620.45	0.00
621.10	78.61	620.45	0.00
621.15	84.95	620.45	0.00
621.20	91.44	620.45	0.00
621.25	98.07	620.45	0.00
621.30	104.82	620.45	0.00
621.35	111.71	620.45	0.00
621.40	118.73	620.45	0.00
621.45	125.88	620.45	0.00
621.50	133.16	620.45	0.00
621.55	140.56	620.45	0.00
621.60	148.08	620.45	0.00
621.65	155.72	620.45	0.00
621.70	163.48	620.45	0.00
621.75	171.35	620.45	0.00
621.80	179.35	620.45	0.00
621.85	187.45	620.45	0.00
621.90	195.67	620.45	0.00
621.95	204.00	620.45	0.00
622.00	212.44	620.45	0.00

#### Contributing Structures

Weir - 1
Weir - 1







## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
618.00	-24.45	620.50	0.00
618.05	-24.45	620.50	0.00
618.10	-24.45	620.50	0.00
618.15	-24.45	620.50	0.00
618.20	-24.45	620.50	0.00
618.25	-24.45	620.50	0.00
618.30	-24.45	620.50	0.00
618.35	-24.45	620.50	0.00
618.40	-24.45	620.50	0.00
618.45	-24.45	620.50	0.00
618.50	-24.45	620.50	0.00
618.55	-24.45	620.50	0.00
618.60	-24.45	620.50	0.00
618.65	-24.45	620.50	0.00
618.70	-24.45	620.50	0.00
618.75	-24.45	620.50	0.00
618.80	-24.45	620.50	0.00
618.85	-24.45	620.50	0.00
618.90	-24.45	620.50	0.00
618.95	-24.45	620.50	0.00
619.00	-24.45	620.50	0.00
619.05	-24.45	620.50	0.00
619.10	-24.45	620.50	0.00
619.15	-24.45	620.50	0.00
619.20	-24.45	620.50	0.00
619.25	-24.45	620.50	0.00
619.30	-24.45	620.50	0.00
619.35	-24.45	620.50	0.00
619.40	-24.45	620.50	0.00
619.45	-24.45	620.50	0.00
619.50	-24.45	620.50	0.00
619.55	-24.45	620.50	0.00
619.60	-24.45	620.50	0.00
619.65	-24.45	620.50	0.00
619.70	-24.45	620.50	0.00
619.75	-24.45	620.50	0.00
619.80	-24.45	620.50	0.00
619.85	-24.45	620.50	0.00
619.90	-24.45	620.50	0.00
619.95	-24.45	620.50	0.00
620.00	-24.45	620.50	0.00
620.05	-24.45	620.50	0.00

## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
620.10	-24.10	620.50	0.00
620.15	-23.43	620.50	0.00
620.20	-22.52	620.50	0.00
620.25	-21.36	620.50	0.00
620.30	-19.90	620.50	0.00
620.35	-18.07	620.50	0.00
620.40	-15.66	620.50	0.00
620.45	-12.13	620.50	0.00
620.50	0.00	620.50	0.00
620.55	13.66	620.50	0.00
620.60	19.67	620.50	0.00
620.65	25.14	620.50	0.00
620.70	30.51	620.50	0.00
620.75	35.89	620.50	0.00
620.80	41.36	620.50	0.00
620.85	46.94	620.50	0.00
620.90	52.64	620.50	0.00
620.95	58.47	620.50	0.00
621.00	64.43	620.50	0.00
621.05	70.53	620.50	0.00
621.10	76.77	620.50	0.00
621.15	83.15	620.50	0.00
621.20	89.66	620.50	0.00
621.25	96.30	620.50	0.00
621.30	103.08	620.50	0.00
621.35	109.98	620.50	0.00
621.40	117.02	620.50	0.00
621.45	124.18	620.50	0.00
621.50	131.46	620.50	0.00
621.55	138.87	620.50	0.00
621.60	146.40	620.50	0.00
621.65	154.05	620.50	0.00
621.70	161.82	620.50	0.00
621.75	169.70	620.50	0.00
621.80	177.70	620.50	0.00
621.85	185.81	620.50	0.00
621.90	194.03	620.50	0.00
621.95	202.37	620.50	0.00
622.00	210.81	620.50	0.00

#### Contributing Structures

Weir - 1
Weir - 1





# Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

## Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
618.00	-28.64	620.55	0.00
618.05	-28.64	620.55	0.00
618.10	-28.64	620.55	0.00
618.15	-28.64	620.55	0.00
618.20	-28.64	620.55	0.00
618.25	-28.64	620.55	0.00
618.30	-28.64	620.55	0.00
618.35	-28.64	620.55	0.00
618.40	-28.64	620.55	0.00
618.45	-28.64	620.55	0.00
618.50	-28.64	620.55	0.00
618.55	-28.64	620.55	0.00
618.60	-28.64	620.55	0.00
618.65	-28.64	620.55	0.00
618.70	-28.64	620.55	0.00
618.75	-28.64	620.55	0.00
618.80	-28.64	620.55	0.00
618.85	-28.64	620.55	0.00
618.90	-28.64	620.55	0.00
618.95	-28.64	620.55	0.00
619.00	-28.64	620.55	0.00
619.05	-28.64	620.55	0.00
619.10	-28.64	620.55	0.00
619.15	-28.64	620.55	0.00
619.20	-28.64	620.55	0.00
619.25	-28.64	620.55	0.00
619.30	-28.64	620.55	0.00
619.35	-28.64	620.55	0.00
619.40	-28.64	620.55	0.00
619.45	-28.64	620.55	0.00
619.50	-28.64	620.55	0.00
619.55	-28.64	620.55	0.00
619.60	-28.64	620.55	0.00
619.65	-28.64	620.55	0.00
619.70	-28.64	620.55	0.00
619.75	-28.64	620.55	0.00
619.80	-28.64	620.55	0.00
619.85	-28.64	620.55	0.00
619.90	-28.64	620.55	0.00
619.95	-28.64	620.55	0.00
620.00	-28.64	620.55	0.00
620.05	-28.64	620.55	0.00

## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
620.10	-28.29	620.55	0.00
620.15	-27.62	620.55	0.00
620.20	-26.73	620.55	0.00
620.25	-25.60	620.55	0.00
620.30	-24.21	620.55	0.00
620.35	-22.51	620.55	0.00
620.40	-20.40	620.55	0.00
620.45	-17.65	620.55	0.00
620.50	-13.66	620.55	0.00
620.55	0.00	620.55	0.00
620.60	15.20	620.55	0.00
620.65	21.71	620.55	0.00
620.70	27.55	620.55	0.00
620.75	33.22	620.55	0.00
620.80	38.87	620.55	0.00
620.85	44.58	620.55	0.00
620.90	50.39	620.55	0.00
620.95	56.29	620.55	0.00
621.00	62.32	620.55	0.00
621.05	68.48	620.55	0.00
621.10	74.76	620.55	0.00
621.15	81.17	620.55	0.00
621.20	87.71	620.55	0.00
621.25	94.38	620.55	0.00
621.30	101.18	620.55	0.00
621.35	108.10	620.55	0.00
621.40	115.15	620.55	0.00
621.45	122.33	620.55	0.00
621.50	129.63	620.55	0.00
621.55	137.05	620.55	0.00
621.60	144.59	620.55	0.00
621.65	152.25	620.55	0.00
621.70	160.03	620.55	0.00
621.75	167.92	620.55	0.00
621.80	175.93	620.55	0.00
621.85	184.05	620.55	0.00
621.90	192.28	620.55	0.00
621.95	200.62	620.55	0.00
622.00	209.07	620.55	0.00

#### Contributing Structures

Weir - 1
Weir - 1







## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
618.00	-33.04	620.60	0.00
618.05	-33.04	620.60	0.00
618.10	-33.04	620.60	0.00
618.15	-33.04	620.60	0.00
618.20	-33.04	620.60	0.00
618.25	-33.04	620.60	0.00
618.30	-33.04	620.60	0.00
618.35	-33.04	620.60	0.00
618.40	-33.04	620.60	0.00
618.45	-33.04	620.60	0.00
618.50	-33.04	620.60	0.00
618.55	-33.04	620.60	0.00
618.60	-33.04	620.60	0.00
618.65	-33.04	620.60	0.00
618.70	-33.04	620.60	0.00
618.75	-33.04	620.60	0.00
618.80	-33.04	620.60	0.00
618.85	-33.04	620.60	0.00
618.90	-33.04	620.60	0.00
618.95	-33.04	620.60	0.00
619.00	-33.04	620.60	0.00
619.05	-33.04	620.60	0.00
619.10	-33.04	620.60	0.00
619.15	-33.04	620.60	0.00
619.20	-33.04	620.60	0.00
619.25	-33.04	620.60	0.00
619.30	-33.04	620.60	0.00
619.35	-33.04	620.60	0.00
619.40	-33.04	620.60	0.00
619.45	-33.04	620.60	0.00
619.50	-33.04	620.60	0.00
619.55	-33.04	620.60	0.00
619.60	-33.04	620.60	0.00
619.65	-33.04	620.60	0.00
619.70	-33.04	620.60	0.00
619.75	-33.04	620.60	0.00
619.80	-33.04	620.60	0.00
619.85	-33.04	620.60	0.00
619.90	-33.04	620.60	0.00
619.95	-33.04	620.60	0.00
620.00	-33.04	620.60	0.00
620.05	-33.04	620.60	0.00

# Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

## Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
620.10	-32.69	620.60	0.00
620.15	-32.03	620.60	0.00
620.20	-31.14	620.60	0.00
620.25	-30.04	620.60	0.00
620.30	-28.70	620.60	0.00
620.35	-27.09	620.60	0.00
620.40	-25.15	620.60	0.00
620.45	-22.76	620.60	0.00
620.50	-19.67	620.60	0.00
620.55	-15.20	620.60	0.00
620.60	0.00	620.60	0.00
620.65	16.77	620.60	0.00
620.70	23.77	620.60	0.00
620.75	29.98	620.60	0.00
620.80	35.95	620.60	0.00
620.85	41.88	620.60	0.00
620.90	47.83	620.60	0.00
620.95	53.86	620.60	0.00
621.00	59.97	620.60	0.00
621.05	66.20	620.60	0.00
621.10	72.54	620.60	0.00
621.15	79.00	620.60	0.00
621.20	85.58	620.60	0.00
621.25	92.29	620.60	0.00
621.30	99.12	620.60	0.00
621.35	106.07	620.60	0.00
621.40	113.14	620.60	0.00
621.45	120.34	620.60	0.00
621.50	127.66	620.60	0.00
621.55	135.10	620.60	0.00
621.60	142.65	620.60	0.00
621.65	150.33	620.60	0.00
621.70	158.11	620.60	0.00
621.75	166.02	620.60	0.00
621.80	174.03	620.60	0.00
621.85	182.16	620.60	0.00
621.90	190.40	620.60	0.00
621.95	198.75	620.60	0.00
622.00	207.21	620.60	0.00

### Contributing Structures

Weir - 1
Weir - 1





## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
618.00	-37.65	620.65	0.00
618.05	-37.65	620.65	0.00
618.10	-37.65	620.65	0.00
618.15	-37.65	620.65	0.00
618.20	-37.65	620.65	0.00
618.25	-37.65	620.65	0.00
618.30	-37.65	620.65	0.00
618.35	-37.65	620.65	0.00
618.40	-37.65	620.65	0.00
618.45	-37.65	620.65	0.00
618.50	-37.65	620.65	0.00
618.55	-37.65	620.65	0.00
618.60	-37.65	620.65	0.00
618.65	-37.65	620.65	0.00
618.70	-37.65	620.65	0.00
618.75	-37.65	620.65	0.00
618.80	-37.65	620.65	0.00
618.85	-37.65	620.65	0.00
618.90	-37.65	620.65	0.00
618.95	-37.65	620.65	0.00
619.00	-37.65	620.65	0.00
619.05	-37.65	620.65	0.00
619.10	-37.65	620.65	0.00
619.15	-37.65	620.65	0.00
619.20	-37.65	620.65	0.00
619.25	-37.65	620.65	0.00
619.30	-37.65	620.65	0.00
619.35	-37.65	620.65	0.00
619.40	-37.65	620.65	0.00
619.45	-37.65	620.65	0.00
619.50	-37.65	620.65	0.00
619.55	-37.65	620.65	0.00
619.60	-37.65	620.65	0.00
619.65	-37.65	620.65	0.00
619.70	-37.65	620.65	0.00
619.75	-37.65	620.65	0.00
619.80	-37.65	620.65	0.00
619.85	-37.65	620.65	0.00
619.90	-37.65	620.65	0.00
619.95	-37.65	620.65	0.00
620.00	-37.65	620.65	0.00
620.05	-37.65	620.65	0.00

## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
620.10	-37.29	620.65	0.00
620.15	-36.64	620.65	0.00
620.20	-35.76	620.65	0.00
620.25	-34.67	620.65	0.00
620.30	-33.37	620.65	0.00
620.35	-31.82	620.65	0.00
620.40	-30.00	620.65	0.00
620.45	-27.82	620.65	0.00
620.50	-25.14	620.65	0.00
620.55	-21.71	620.65	0.00
620.60	-16.77	620.65	0.00
620.65	0.00	620.65	0.00
620.70	18.34	620.65	0.00
620.75	25.84	620.65	0.00
620.80	32.42	620.65	0.00
620.85	38.71	620.65	0.00
620.90	44.90	620.65	0.00
620.95	51.10	620.65	0.00
621.00	57.35	620.65	0.00
621.05	63.68	620.65	0.00
621.10	70.10	620.65	0.00
621.15	76.62	620.65	0.00
621.20	83.26	620.65	0.00
621.25	90.01	620.65	0.00
621.30	96.88	620.65	0.00
621.35	103.87	620.65	0.00
621.40	110.98	620.65	0.00
621.45	118.20	620.65	0.00
621.50	125.54	620.65	0.00
621.55	133.00	620.65	0.00
621.60	140.58	620.65	0.00
621.65	148.27	620.65	0.00
621.70	156.07	620.65	0.00
621.75	163.99	620.65	0.00
621.80	172.02	620.65	0.00
621.85	180.16	620.65	0.00
621.90	188.41	620.65	0.00
621.95	196.77	620.65	0.00
622.00	205.23	620.65	0.00

#### Contributing Structures

Weir - 1
Weir - 1







## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
618.00	-42.45	620.70	0.00
618.05	-42.45	620.70	0.00
618.10	-42.45	620.70	0.00
618.15	-42.45	620.70	0.00
618.20	-42.45	620.70	0.00
618.25	-42.45	620.70	0.00
618.30	-42.45	620.70	0.00
618.35	-42.45	620.70	0.00
618.40	-42.45	620.70	0.00
618.45	-42.45	620.70	0.00
618.50	-42.45	620.70	0.00
618.55	-42.45	620.70	0.00
618.60	-42.45	620.70	0.00
618.65	-42.45	620.70	0.00
618.70	-42.45	620.70	0.00
618.75	-42.45	620.70	0.00
618.80	-42.45	620.70	0.00
618.85	-42.45	620.70	0.00
618.90	-42.45	620.70	0.00
618.95	-42.45	620.70	0.00
619.00	-42.45	620.70	0.00
619.05	-42.45	620.70	0.00
619.10	-42.45	620.70	0.00
619.15	-42.45	620.70	0.00
619.20	-42.45	620.70	0.00
619.25	-42.45	620.70	0.00
619.30	-42.45	620.70	0.00
619.35	-42.45	620.70	0.00
619.40	-42.45	620.70	0.00
619.45	-42.45	620.70	0.00
619.50	-42.45	620.70	0.00
619.55	-42.45	620.70	0.00
619.60	-42.45	620.70	0.00
619.65	-42.45	620.70	0.00
619.70	-42.45	620.70	0.00
619.75	-42.45	620.70	0.00
619.80	-42.45	620.70	0.00
619.85	-42.45	620.70	0.00
619.90	-42.45	620.70	0.00
619.95	-42.45	620.70	0.00
620.00	-42.45	620.70	0.00
620.05	-42.45	620.70	0.00

## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
620.10	-42.10	620.70	0.00
620.15	-41.44	620.70	0.00
620.20	-40.57	620.70	0.00
620.25	-39.50	620.70	0.00
620.30	-38.22	620.70	0.00
620.35	-36.72	620.70	0.00
620.40	-34.98	620.70	0.00
620.45	-32.93	620.70	0.00
620.50	-30.51	620.70	0.00
620.55	-27.55	620.70	0.00
620.60	-23.77	620.70	0.00
620.65	-18.34	620.70	0.00
620.70	0.00	620.70	0.00
620.75	19.94	620.70	0.00
620.80	27.94	620.70	0.00
620.85	34.89	620.70	0.00
620.90	41.48	620.70	0.00
620.95	47.95	620.70	0.00
621.00	54.39	620.70	0.00
621.05	60.86	620.70	0.00
621.10	67.40	620.70	0.00
621.15	74.02	620.70	0.00
621.20	80.73	620.70	0.00
621.25	87.54	620.70	0.00
621.30	94.46	620.70	0.00
621.35	101.50	620.70	0.00
621.40	108.64	620.70	0.00
621.45	115.90	620.70	0.00
621.50	123.27	620.70	0.00
621.55	130.76	620.70	0.00
621.60	138.36	620.70	0.00
621.65	146.07	620.70	0.00
621.70	153.89	620.70	0.00
621.75	161.83	620.70	0.00
621.80	169.87	620.70	0.00
621.85	178.03	620.70	0.00
621.90	186.29	620.70	0.00
621.95	194.66	620.70	0.00
622.00	203.14	620.70	0.00

#### Contributing Structures

Weir - 1
Weir - 1





## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
618.00	-47.44	620.75	0.00
618.05	-47.44	620.75	0.00
618.10	-47.44	620.75	0.00
618.15	-47.44	620.75	0.00
618.20	-47.44	620.75	0.00
618.25	-47.44	620.75	0.00
618.30	-47.44	620.75	0.00
618.35	-47.44	620.75	0.00
618.40	-47.44	620.75	0.00
618.45	-47.44	620.75	0.00
618.50	-47.44	620.75	0.00
618.55	-47.44	620.75	0.00
618.60	-47.44	620.75	0.00
618.65	-47.44	620.75	0.00
618.70	-47.44	620.75	0.00
618.75	-47.44	620.75	0.00
618.80	-47.44	620.75	0.00
618.85	-47.44	620.75	0.00
618.90	-47.44	620.75	0.00
618.95	-47.44	620.75	0.00
619.00	-47.44	620.75	0.00
619.05	-47.44	620.75	0.00
619.10	-47.44	620.75	0.00
619.15	-47.44	620.75	0.00
619.20	-47.44	620.75	0.00
619.25	-47.44	620.75	0.00
619.30	-47.44	620.75	0.00
619.35	-47.44	620.75	0.00
619.40	-47.44	620.75	0.00
619.45	-47.44	620.75	0.00
619.50	-47.44	620.75	0.00
619.55	-47.44	620.75	0.00
619.60	-47.44	620.75	0.00
619.65	-47.44	620.75	0.00
619.70	-47.44	620.75	0.00
619.75	-47.44	620.75	0.00
619.80	-47.44	620.75	0.00
619.85	-47.44	620.75	0.00
619.90	-47.44	620.75	0.00
619.95	-47.44	620.75	0.00
620.00	-47.44	620.75	0.00
620.05	-47.44	620.75	0.00

## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
620.10	-47.09	620.75	0.00
620.15	-46.44	620.75	0.00
620.20	-45.57	620.75	0.00
620.25	-44.51	620.75	0.00
620.30	-43.25	620.75	0.00
620.35	-41.79	620.75	0.00
620.40	-40.10	620.75	0.00
620.45	-38.16	620.75	0.00
620.50	-35.89	620.75	0.00
620.55	-33.22	620.75	0.00
620.60	-29.98	620.75	0.00
620.65	-25.84	620.75	0.00
620.70	-19.94	620.75	0.00
620.75	0.00	620.75	0.00
620.80	21.54	620.75	0.00
620.85	30.05	620.75	0.00
620.90	37.38	620.75	0.00
620.95	44.28	620.75	0.00
621.00	51.01	620.75	0.00
621.05	57.70	620.75	0.00
621.10	64.39	620.75	0.00
621.15	71.14	620.75	0.00
621.20	77.95	620.75	0.00
621.25	84.85	620.75	0.00
621.30	91.84	620.75	0.00
621.35	98.93	620.75	0.00
621.40	106.13	620.75	0.00
621.45	113.43	620.75	0.00
621.50	120.84	620.75	0.00
621.55	128.36	620.75	0.00
621.60	135.99	620.75	0.00
621.65	143.73	620.75	0.00
621.70	151.58	620.75	0.00
621.75	159.53	620.75	0.00
621.80	167.60	620.75	0.00
621.85	175.77	620.75	0.00
621.90	184.05	620.75	0.00
621.95	192.44	620.75	0.00
622.00	200.93	620.75	0.00

#### Contributing Structures

Weir - 1
Weir - 1







## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
618.00	-52.61	620.80	0.00
618.05	-52.61	620.80	0.00
618.10	-52.61	620.80	0.00
618.15	-52.61	620.80	0.00
618.20	-52.61	620.80	0.00
618.25	-52.61	620.80	0.00
618.30	-52.61	620.80	0.00
618.35	-52.61	620.80	0.00
618.40	-52.61	620.80	0.00
618.45	-52.61	620.80	0.00
618.50	-52.61	620.80	0.00
618.55	-52.61	620.80	0.00
618.60	-52.61	620.80	0.00
618.65	-52.61	620.80	0.00
618.70	-52.61	620.80	0.00
618.75	-52.61	620.80	0.00
618.80	-52.61	620.80	0.00
618.85	-52.61	620.80	0.00
618.90	-52.61	620.80	0.00
618.95	-52.61	620.80	0.00
619.00	-52.61	620.80	0.00
619.05	-52.61	620.80	0.00
619.10	-52.61	620.80	0.00
619.15	-52.61	620.80	0.00
619.20	-52.61	620.80	0.00
619.25	-52.61	620.80	0.00
619.30	-52.61	620.80	0.00
619.35	-52.61	620.80	0.00
619.40	-52.61	620.80	0.00
619.45	-52.61	620.80	0.00
619.50	-52.61	620.80	0.00
619.55	-52.61	620.80	0.00
619.60	-52.61	620.80	0.00
619.65	-52.61	620.80	0.00
619.70	-52.61	620.80	0.00
619.75	-52.61	620.80	0.00
619.80	-52.61	620.80	0.00
619.85	-52.61	620.80	0.00
619.90	-52.61	620.80	0.00
619.95	-52.61	620.80	0.00
620.00	-52.61	620.80	0.00
620.05	-52.61	620.80	0.00

## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
620.10	-52.26	620.80	0.00
620.15	-51.61	620.80	0.00
620.20	-50.75	620.80	0.00
620.25	-49.69	620.80	0.00
620.30	-48.45	620.80	0.00
620.35	-47.02	620.80	0.00
620.40	-45.38	620.80	0.00
620.45	-43.51	620.80	0.00
620.50	-41.36	620.80	0.00
620.55	-38.87	620.80	0.00
620.60	-35.95	620.80	0.00
620.65	-32.42	620.80	0.00
620.70	-27.94	620.80	0.00
620.75	-21.54	620.80	0.00
620.80	0.00	620.80	0.00
620.85	23.16	620.80	0.00
620.90	32.17	620.80	0.00
620.95	39.88	620.80	0.00
621.00	47.09	620.80	0.00
621.05	54.10	620.80	0.00
621.10	61.03	620.80	0.00
621.15	67.95	620.80	0.00
621.20	74.90	620.80	0.00
621.25	81.91	620.80	0.00
621.30	88.99	620.80	0.00
621.35	96.16	620.80	0.00
621.40	103.42	620.80	0.00
621.45	110.78	620.80	0.00
621.50	118.24	620.80	0.00
621.55	125.80	620.80	0.00
621.60	133.47	620.80	0.00
621.65	141.24	620.80	0.00
621.70	149.12	620.80	0.00
621.75	157.10	620.80	0.00
621.80	165.19	620.80	0.00
621.85	173.39	620.80	0.00
621.90	181.69	620.80	0.00
621.95	190.09	620.80	0.00
622.00	198.60	620.80	0.00

#### Contributing Structures

Weir - 1
Weir - 1





## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
618.00	-57.96	620.85	0.00
618.05	-57.96	620.85	0.00
618.10	-57.96	620.85	0.00
618.15	-57.96	620.85	0.00
618.20	-57.96	620.85	0.00
618.25	-57.96	620.85	0.00
618.30	-57.96	620.85	0.00
618.35	-57.96	620.85	0.00
618.40	-57.96	620.85	0.00
618.45	-57.96	620.85	0.00
618.50	-57.96	620.85	0.00
618.55	-57.96	620.85	0.00
618.60	-57.96	620.85	0.00
618.65	-57.96	620.85	0.00
618.70	-57.96	620.85	0.00
618.75	-57.96	620.85	0.00
618.80	-57.96	620.85	0.00
618.85	-57.96	620.85	0.00
618.90	-57.96	620.85	0.00
618.95	-57.96	620.85	0.00
619.00	-57.96	620.85	0.00
619.05	-57.96	620.85	0.00
619.10	-57.96	620.85	0.00
619.15	-57.96	620.85	0.00
619.20	-57.96	620.85	0.00
619.25	-57.96	620.85	0.00
619.30	-57.96	620.85	0.00
619.35	-57.96	620.85	0.00
619.40	-57.96	620.85	0.00
619.45	-57.96	620.85	0.00
619.50	-57.96	620.85	0.00
619.55	-57.96	620.85	0.00
619.60	-57.96	620.85	0.00
619.65	-57.96	620.85	0.00
619.70	-57.96	620.85	0.00
619.75	-57.96	620.85	0.00
619.80	-57.96	620.85	0.00
619.85	-57.96	620.85	0.00
619.90	-57.96	620.85	0.00
619.95	-57.96	620.85	0.00
620.00	-57.96	620.85	0.00
620.05	-57.96	620.85	0.00

## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
620.10	-57.61	620.85	0.00
620.15	-56.96	620.85	0.00
620.20	-56.10	620.85	0.00
620.25	-55.05	620.85	0.00
620.30	-53.83	620.85	0.00
620.35	-52.42	620.85	0.00
620.40	-50.82	620.85	0.00
620.45	-49.00	620.85	0.00
620.50	-46.94	620.85	0.00
620.55	-44.58	620.85	0.00
620.60	-41.88	620.85	0.00
620.65	-38.71	620.85	0.00
620.70	-34.89	620.85	0.00
620.75	-30.05	620.85	0.00
620.80	-23.16	620.85	0.00
620.85	0.00	620.85	0.00
620.90	24.78	620.85	0.00
620.95	34.31	620.85	0.00
621.00	42.39	620.85	0.00
621.05	49.92	620.85	0.00
621.10	57.20	620.85	0.00
621.15	64.37	620.85	0.00
621.20	71.52	620.85	0.00
621.25	78.68	620.85	0.00
621.30	85.88	620.85	0.00
621.35	93.15	620.85	0.00
621.40	100.49	620.85	0.00
621.45	107.92	620.85	0.00
621.50	115.44	620.85	0.00
621.55	123.06	620.85	0.00
621.60	130.77	620.85	0.00
621.65	138.59	620.85	0.00
621.70	146.50	620.85	0.00
621.75	154.52	620.85	0.00
621.80	162.64	620.85	0.00
621.85	170.86	620.85	0.00
621.90	179.18	620.85	0.00
621.95	187.61	620.85	0.00
622.00	196.14	620.85	0.00

#### Contributing Structures

Weir - 1
Weir - 1







## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
618.00	-63.48	620.90	0.00
618.05	-63.48	620.90	0.00
618.10	-63.48	620.90	0.00
618.15	-63.48	620.90	0.00
618.20	-63.48	620.90	0.00
618.25	-63.48	620.90	0.00
618.30	-63.48	620.90	0.00
618.35	-63.48	620.90	0.00
618.40	-63.48	620.90	0.00
618.45	-63.48	620.90	0.00
618.50	-63.48	620.90	0.00
618.55	-63.48	620.90	0.00
618.60	-63.48	620.90	0.00
618.65	-63.48	620.90	0.00
618.70	-63.48	620.90	0.00
618.75	-63.48	620.90	0.00
618.80	-63.48	620.90	0.00
618.85	-63.48	620.90	0.00
618.90	-63.48	620.90	0.00
618.95	-63.48	620.90	0.00
619.00	-63.48	620.90	0.00
619.05	-63.48	620.90	0.00
619.10	-63.48	620.90	0.00
619.15	-63.48	620.90	0.00
619.20	-63.48	620.90	0.00
619.25	-63.48	620.90	0.00
619.30	-63.48	620.90	0.00
619.35	-63.48	620.90	0.00
619.40	-63.48	620.90	0.00
619.45	-63.48	620.90	0.00
619.50	-63.48	620.90	0.00
619.55	-63.48	620.90	0.00
619.60	-63.48	620.90	0.00
619.65	-63.48	620.90	0.00
619.70	-63.48	620.90	0.00
619.75	-63.48	620.90	0.00
619.80	-63.48	620.90	0.00
619.85	-63.48	620.90	0.00
619.90	-63.48	620.90	0.00
619.95	-63.48	620.90	0.00
620.00	-63.48	620.90	0.00
620.05	-63.48	620.90	0.00

## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
620.10	-63.13	620.90	0.00
620.15	-62.48	620.90	0.00
620.20	-61.62	620.90	0.00
620.25	-60.58	620.90	0.00
620.30	-59.37	620.90	0.00
620.35	-57.98	620.90	0.00
620.40	-56.40	620.90	0.00
620.45	-54.63	620.90	0.00
620.50	-52.64	620.90	0.00
620.55	-50.39	620.90	0.00
620.60	-47.83	620.90	0.00
620.65	-44.90	620.90	0.00
620.70	-41.48	620.90	0.00
620.75	-37.38	620.90	0.00
620.80	-32.17	620.90	0.00
620.85	-24.78	620.90	0.00
620.90	0.00	620.90	0.00
620.95	26.42	620.90	0.00
621.00	36.47	620.90	0.00
621.05	44.93	620.90	0.00
621.10	52.77	620.90	0.00
621.15	60.32	620.90	0.00
621.20	67.73	620.90	0.00
621.25	75.10	620.90	0.00
621.30	82.47	620.90	0.00
621.35	89.87	620.90	0.00
621.40	97.32	620.90	0.00
621.45	104.85	620.90	0.00
621.50	112.44	620.90	0.00
621.55	120.13	620.90	0.00
621.60	127.90	620.90	0.00
621.65	135.76	620.90	0.00
621.70	143.72	620.90	0.00
621.75	151.78	620.90	0.00
621.80	159.94	620.90	0.00
621.85	168.19	620.90	0.00
621.90	176.54	620.90	0.00
621.95	185.00	620.90	0.00
622.00	193.55	620.90	0.00

#### Contributing Structures

Weir - 1
Weir - 1





## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
618.00	-69.16	620.95	0.00
618.05	-69.16	620.95	0.00
618.10	-69.16	620.95	0.00
618.15	-69.16	620.95	0.00
618.20	-69.16	620.95	0.00
618.25	-69.16	620.95	0.00
618.30	-69.16	620.95	0.00
618.35	-69.16	620.95	0.00
618.40	-69.16	620.95	0.00
618.45	-69.16	620.95	0.00
618.50	-69.16	620.95	0.00
618.55	-69.16	620.95	0.00
618.60	-69.16	620.95	0.00
618.65	-69.16	620.95	0.00
618.70	-69.16	620.95	0.00
618.75	-69.16	620.95	0.00
618.80	-69.16	620.95	0.00
618.85	-69.16	620.95	0.00
618.90	-69.16	620.95	0.00
618.95	-69.16	620.95	0.00
619.00	-69.16	620.95	0.00
619.05	-69.16	620.95	0.00
619.10	-69.16	620.95	0.00
619.15	-69.16	620.95	0.00
619.20	-69.16	620.95	0.00
619.25	-69.16	620.95	0.00
619.30	-69.16	620.95	0.00
619.35	-69.16	620.95	0.00
619.40	-69.16	620.95	0.00
619.45	-69.16	620.95	0.00
619.50	-69.16	620.95	0.00
619.55	-69.16	620.95	0.00
619.60	-69.16	620.95	0.00
619.65	-69.16	620.95	0.00
619.70	-69.16	620.95	0.00
619.75	-69.16	620.95	0.00
619.80	-69.16	620.95	0.00
619.85	-69.16	620.95	0.00
619.90	-69.16	620.95	0.00
619.95	-69.16	620.95	0.00
620.00	-69.16	620.95	0.00
620.05	-69.16	620.95	0.00

## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
620.10	-68.81	620.95	0.00
620.15	-68.16	620.95	0.00
620.20	-67.31	620.95	0.00
620.25	-66.27	620.95	0.00
620.30	-65.07	620.95	0.00
620.35	-63.70	620.95	0.00
620.40	-62.15	620.95	0.00
620.45	-60.41	620.95	0.00
620.50	-58.47	620.95	0.00
620.55	-56.29	620.95	0.00
620.60	-53.86	620.95	0.00
620.65	-51.10	620.95	0.00
620.70	-47.95	620.95	0.00
620.75	-44.28	620.95	0.00
620.80	-39.88	620.95	0.00
620.85	-34.31	620.95	0.00
620.90	-26.42	620.95	0.00
620.95	0.00	620.95	0.00
621.00	28.07	620.95	0.00
621.05	38.63	620.95	0.00
621.10	47.47	620.95	0.00
621.15	55.63	620.95	0.00
621.20	63.45	620.95	0.00
621.25	71.11	620.95	0.00
621.30	78.71	620.95	0.00
621.35	86.28	620.95	0.00
621.40	93.88	620.95	0.00
621.45	101.52	620.95	0.00
621.50	109.21	620.95	0.00
621.55	116.98	620.95	0.00
621.60	124.82	620.95	0.00
621.65	132.75	620.95	0.00
621.70	140.77	620.95	0.00
621.75	148.87	620.95	0.00
621.80	157.07	620.95	0.00
621.85	165.37	620.95	0.00
621.90	173.76	620.95	0.00
621.95	182.24	620.95	0.00
622.00	190.82	620.95	0.00

#### Contributing Structures

Weir - 1
Weir - 1







## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
618.00	-75.00	621.00	0.00
618.05	-75.00	621.00	0.00
618.10	-75.00	621.00	0.00
618.15	-75.00	621.00	0.00
618.20	-75.00	621.00	0.00
618.25	-75.00	621.00	0.00
618.30	-75.00	621.00	0.00
618.35	-75.00	621.00	0.00
618.40	-75.00	621.00	0.00
618.45	-75.00	621.00	0.00
618.50	-75.00	621.00	0.00
618.55	-75.00	621.00	0.00
618.60	-75.00	621.00	0.00
618.65	-75.00	621.00	0.00
618.70	-75.00	621.00	0.00
618.75	-75.00	621.00	0.00
618.80	-75.00	621.00	0.00
618.85	-75.00	621.00	0.00
618.90	-75.00	621.00	0.00
618.95	-75.00	621.00	0.00
619.00	-75.00	621.00	0.00
619.05	-75.00	621.00	0.00
619.10	-75.00	621.00	0.00
619.15	-75.00	621.00	0.00
619.20	-75.00	621.00	0.00
619.25	-75.00	621.00	0.00
619.30	-75.00	621.00	0.00
619.35	-75.00	621.00	0.00
619.40	-75.00	621.00	0.00
619.45	-75.00	621.00	0.00
619.50	-75.00	621.00	0.00
619.55	-75.00	621.00	0.00
619.60	-75.00	621.00	0.00
619.65	-75.00	621.00	0.00
619.70	-75.00	621.00	0.00
619.75	-75.00	621.00	0.00
619.80	-75.00	621.00	0.00
619.85	-75.00	621.00	0.00
619.90	-75.00	621.00	0.00
619.95	-75.00	621.00	0.00
620.00	-75.00	621.00	0.00
620.05	-75.00	621.00	0.00

## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
620.10	-74.65	621.00	0.00
620.15	-74.00	621.00	0.00
620.20	-73.15	621.00	0.00
620.25	-72.12	621.00	0.00
620.30	-70.93	621.00	0.00
620.35	-69.57	621.00	0.00
620.40	-68.04	621.00	0.00
620.45	-66.33	621.00	0.00
620.50	-64.43	621.00	0.00
620.55	-62.32	621.00	0.00
620.60	-59.97	621.00	0.00
620.65	-57.35	621.00	0.00
620.70	-54.39	621.00	0.00
620.75	-51.01	621.00	0.00
620.80	-47.09	621.00	0.00
620.85	-42.39	621.00	0.00
620.90	-36.47	621.00	0.00
620.95	-28.07	621.00	0.00
621.00	0.00	621.00	0.00
621.05	29.73	621.00	0.00
621.10	40.81	621.00	0.00
621.15	50.04	621.00	0.00
621.20	58.50	621.00	0.00
621.25	66.60	621.00	0.00
621.30	74.51	621.00	0.00
621.35	82.33	621.00	0.00
621.40	90.11	621.00	0.00
621.45	97.90	621.00	0.00
621.50	105.73	621.00	0.00
621.55	113.60	621.00	0.00
621.60	121.53	621.00	0.00
621.65	129.54	621.00	0.00
621.70	137.62	621.00	0.00
621.75	145.79	621.00	0.00
621.80	154.04	621.00	0.00
621.85	162.38	621.00	0.00
621.90	170.81	621.00	0.00
621.95	179.34	621.00	0.00
622.00	187.95	621.00	0.00

#### Contributing Structures

Weir - 1
Weir - 1





## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
618.00	-81.00	621.05	0.00
618.05	-81.00	621.05	0.00
618.10	-81.00	621.05	0.00
618.15	-81.00	621.05	0.00
618.20	-81.00	621.05	0.00
618.25	-81.00	621.05	0.00
618.30	-81.00	621.05	0.00
618.35	-81.00	621.05	0.00
618.40	-81.00	621.05	0.00
618.45	-81.00	621.05	0.00
618.50	-81.00	621.05	0.00
618.55	-81.00	621.05	0.00
618.60	-81.00	621.05	0.00
618.65	-81.00	621.05	0.00
618.70	-81.00	621.05	0.00
618.75	-81.00	621.05	0.00
618.80	-81.00	621.05	0.00
618.85	-81.00	621.05	0.00
618.90	-81.00	621.05	0.00
618.95	-81.00	621.05	0.00
619.00	-81.00	621.05	0.00
619.05	-81.00	621.05	0.00
619.10	-81.00	621.05	0.00
619.15	-81.00	621.05	0.00
619.20	-81.00	621.05	0.00
619.25	-81.00	621.05	0.00
619.30	-81.00	621.05	0.00
619.35	-81.00	621.05	0.00
619.40	-81.00	621.05	0.00
619.45	-81.00	621.05	0.00
619.50	-81.00	621.05	0.00
619.55	-81.00	621.05	0.00
619.60	-81.00	621.05	0.00
619.65	-81.00	621.05	0.00
619.70	-81.00	621.05	0.00
619.75	-81.00	621.05	0.00
619.80	-81.00	621.05	0.00
619.85	-81.00	621.05	0.00
619.90	-81.00	621.05	0.00
619.95	-81.00	621.05	0.00
620.00	-81.00	621.05	0.00
620.05	-81.00	621.05	0.00

## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
620.10	-80.65	621.05	0.00
620.15	-80.00	621.05	0.00
620.20	-79.15	621.05	0.00
620.25	-78.13	621.05	0.00
620.30	-76.94	621.05	0.00
620.35	-75.59	621.05	0.00
620.40	-74.08	621.05	0.00
620.45	-72.40	621.05	0.00
620.50	-70.53	621.05	0.00
620.55	-68.48	621.05	0.00
620.60	-66.20	621.05	0.00
620.65	-63.68	621.05	0.00
620.70	-60.86	621.05	0.00
620.75	-57.70	621.05	0.00
620.80	-54.10	621.05	0.00
620.85	-49.92	621.05	0.00
620.90	-44.93	621.05	0.00
620.95	-38.63	621.05	0.00
621.00	-29.73	621.05	0.00
621.05	0.00	621.05	0.00
621.10	31.40	621.05	0.00
621.15	43.01	621.05	0.00
621.20	52.61	621.05	0.00
621.25	61.39	621.05	0.00
621.30	69.77	621.05	0.00
621.35	77.92	621.05	0.00
621.40	85.96	621.05	0.00
621.45	93.96	621.05	0.00
621.50	101.94	621.05	0.00
621.55	109.95	621.05	0.00
621.60	118.00	621.05	0.00
621.65	126.10	621.05	0.00
621.70	134.27	621.05	0.00
621.75	142.51	621.05	0.00
621.80	150.83	621.05	0.00
621.85	159.22	621.05	0.00
621.90	167.71	621.05	0.00
621.95	176.28	621.05	0.00
622.00	184.93	621.05	0.00

#### Contributing Structures

Weir - 1
Weir - 1







## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
618.00	-87.15	621.10	0.00
618.05	-87.15	621.10	0.00
618.10	-87.15	621.10	0.00
618.15	-87.15	621.10	0.00
618.20	-87.15	621.10	0.00
618.25	-87.15	621.10	0.00
618.30	-87.15	621.10	0.00
618.35	-87.15	621.10	0.00
618.40	-87.15	621.10	0.00
618.45	-87.15	621.10	0.00
618.50	-87.15	621.10	0.00
618.55	-87.15	621.10	0.00
618.60	-87.15	621.10	0.00
618.65	-87.15	621.10	0.00
618.70	-87.15	621.10	0.00
618.75	-87.15	621.10	0.00
618.80	-87.15	621.10	0.00
618.85	-87.15	621.10	0.00
618.90	-87.15	621.10	0.00
618.95	-87.15	621.10	0.00
619.00	-87.15	621.10	0.00
619.05	-87.15	621.10	0.00
619.10	-87.15	621.10	0.00
619.15	-87.15	621.10	0.00
619.20	-87.15	621.10	0.00
619.25	-87.15	621.10	0.00
619.30	-87.15	621.10	0.00
619.35	-87.15	621.10	0.00
619.40	-87.15	621.10	0.00
619.45	-87.15	621.10	0.00
619.50	-87.15	621.10	0.00
619.55	-87.15	621.10	0.00
619.60	-87.15	621.10	0.00
619.65	-87.15	621.10	0.00
619.70	-87.15	621.10	0.00
619.75	-87.15	621.10	0.00
619.80	-87.15	621.10	0.00
619.85	-87.15	621.10	0.00
619.90	-87.15	621.10	0.00
619.95	-87.15	621.10	0.00
620.00	-87.15	621.10	0.00
620.05	-87.15	621.10	0.00

## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
620.10	-86.80	621.10	0.00
620.15	-86.16	621.10	0.00
620.20	-85.31	621.10	0.00
620.25	-84.29	621.10	0.00
620.30	-83.10	621.10	0.00
620.35	-81.76	621.10	0.00
620.40	-80.27	621.10	0.00
620.45	-78.61	621.10	0.00
620.50	-76.77	621.10	0.00
620.55	-74.76	621.10	0.00
620.60	-72.54	621.10	0.00
620.65	-70.10	621.10	0.00
620.70	-67.40	621.10	0.00
620.75	-64.39	621.10	0.00
620.80	-61.03	621.10	0.00
620.85	-57.20	621.10	0.00
620.90	-52.77	621.10	0.00
620.95	-47.47	621.10	0.00
621.00	-40.81	621.10	0.00
621.05	-31.40	621.10	0.00
621.10	0.00	621.10	0.00
621.15	33.08	621.10	0.00
621.20	45.21	621.10	0.00
621.25	55.20	621.10	0.00
621.30	64.30	621.10	0.00
621.35	72.95	621.10	0.00
621.40	81.35	621.10	0.00
621.45	89.61	621.10	0.00
621.50	97.82	621.10	0.00
621.55	106.00	621.10	0.00
621.60	114.19	621.10	0.00
621.65	122.42	621.10	0.00
621.70	130.69	621.10	0.00
621.75	139.02	621.10	0.00
621.80	147.41	621.10	0.00
621.85	155.88	621.10	0.00
621.90	164.42	621.10	0.00
621.95	173.05	621.10	0.00
622.00	181.75	621.10	0.00

#### Contributing Structures

Weir - 1
Weir - 1





## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
618.00	-93.45	621.15	0.00
618.05	-93.45	621.15	0.00
618.10	-93.45	621.15	0.00
618.15	-93.45	621.15	0.00
618.20	-93.45	621.15	0.00
618.25	-93.45	621.15	0.00
618.30	-93.45	621.15	0.00
618.35	-93.45	621.15	0.00
618.40	-93.45	621.15	0.00
618.45	-93.45	621.15	0.00
618.50	-93.45	621.15	0.00
618.55	-93.45	621.15	0.00
618.60	-93.45	621.15	0.00
618.65	-93.45	621.15	0.00
618.70	-93.45	621.15	0.00
618.75	-93.45	621.15	0.00
618.80	-93.45	621.15	0.00
618.85	-93.45	621.15	0.00
618.90	-93.45	621.15	0.00
618.95	-93.45	621.15	0.00
619.00	-93.45	621.15	0.00
619.05	-93.45	621.15	0.00
619.10	-93.45	621.15	0.00
619.15	-93.45	621.15	0.00
619.20	-93.45	621.15	0.00
619.25	-93.45	621.15	0.00
619.30	-93.45	621.15	0.00
619.35	-93.45	621.15	0.00
619.40	-93.45	621.15	0.00
619.45	-93.45	621.15	0.00
619.50	-93.45	621.15	0.00
619.55	-93.45	621.15	0.00
619.60	-93.45	621.15	0.00
619.65	-93.45	621.15	0.00
619.70	-93.45	621.15	0.00
619.75	-93.45	621.15	0.00
619.80	-93.45	621.15	0.00
619.85	-93.45	621.15	0.00
619.90	-93.45	621.15	0.00
619.95	-93.45	621.15	0.00
620.00	-93.45	621.15	0.00
620.05	-93.45	621.15	0.00

## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
620.10	-93.10	621.15	0.00
620.15	-92.45	621.15	0.00
620.20	-91.61	621.15	0.00
620.25	-90.59	621.15	0.00
620.30	-89.41	621.15	0.00
620.35	-88.08	621.15	0.00
620.40	-86.60	621.15	0.00
620.45	-84.95	621.15	0.00
620.50	-83.15	621.15	0.00
620.55	-81.17	621.15	0.00
620.60	-79.00	621.15	0.00
620.65	-76.62	621.15	0.00
620.70	-74.02	621.15	0.00
620.75	-71.14	621.15	0.00
620.80	-67.95	621.15	0.00
620.85	-64.37	621.15	0.00
620.90	-60.32	621.15	0.00
620.95	-55.63	621.15	0.00
621.00	-50.04	621.15	0.00
621.05	-43.01	621.15	0.00
621.10	-33.08	621.15	0.00
621.15	0.00	621.15	0.00
621.20	34.77	621.15	0.00
621.25	47.42	621.15	0.00
621.30	57.80	621.15	0.00
621.35	67.22	621.15	0.00
621.40	76.14	621.15	0.00
621.45	84.79	621.15	0.00
621.50	93.28	621.15	0.00
621.55	101.69	621.15	0.00
621.60	110.07	621.15	0.00
621.65	118.45	621.15	0.00
621.70	126.85	621.15	0.00
621.75	135.29	621.15	0.00
621.80	143.78	621.15	0.00
621.85	152.33	621.15	0.00
621.90	160.95	621.15	0.00
621.95	169.63	621.15	0.00
622.00	178.40	621.15	0.00

#### Contributing Structures

Weir - 1
Weir - 1







## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
618.00	-99.89	621.20	0.00
618.05	-99.89	621.20	0.00
618.10	-99.89	621.20	0.00
618.15	-99.89	621.20	0.00
618.20	-99.89	621.20	0.00
618.25	-99.89	621.20	0.00
618.30	-99.89	621.20	0.00
618.35	-99.89	621.20	0.00
618.40	-99.89	621.20	0.00
618.45	-99.89	621.20	0.00
618.50	-99.89	621.20	0.00
618.55	-99.89	621.20	0.00
618.60	-99.89	621.20	0.00
618.65	-99.89	621.20	0.00
618.70	-99.89	621.20	0.00
618.75	-99.89	621.20	0.00
618.80	-99.89	621.20	0.00
618.85	-99.89	621.20	0.00
618.90	-99.89	621.20	0.00
618.95	-99.89	621.20	0.00
619.00	-99.89	621.20	0.00
619.05	-99.89	621.20	0.00
619.10	-99.89	621.20	0.00
619.15	-99.89	621.20	0.00
619.20	-99.89	621.20	0.00
619.25	-99.89	621.20	0.00
619.30	-99.89	621.20	0.00
619.35	-99.89	621.20	0.00
619.40	-99.89	621.20	0.00
619.45	-99.89	621.20	0.00
619.50	-99.89	621.20	0.00
619.55	-99.89	621.20	0.00
619.60	-99.89	621.20	0.00
619.65	-99.89	621.20	0.00
619.70	-99.89	621.20	0.00
619.75	-99.89	621.20	0.00
619.80	-99.89	621.20	0.00
619.85	-99.89	621.20	0.00
619.90	-99.89	621.20	0.00
619.95	-99.89	621.20	0.00
620.00	-99.89	621.20	0.00
620.05	-99.89	621.20	0.00

## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
620.10	-99.54	621.20	0.00
620.15	-98.90	621.20	0.00
620.20	-98.05	621.20	0.00
620.25	-97.04	621.20	0.00
620.30	-95.87	621.20	0.00
620.35	-94.54	621.20	0.00
620.40	-93.07	621.20	0.00
620.45	-91.44	621.20	0.00
620.50	-89.66	621.20	0.00
620.55	-87.71	621.20	0.00
620.60	-85.58	621.20	0.00
620.65	-83.26	621.20	0.00
620.70	-80.73	621.20	0.00
620.75	-77.95	621.20	0.00
620.80	-74.90	621.20	0.00
620.85	-71.52	621.20	0.00
620.90	-67.73	621.20	0.00
620.95	-63.45	621.20	0.00
621.00	-58.50	621.20	0.00
621.05	-52.61	621.20	0.00
621.10	-45.21	621.20	0.00
621.15	-34.77	621.20	0.00
621.20	0.00	621.20	0.00
621.25	36.47	621.20	0.00
621.30	49.65	621.20	0.00
621.35	60.41	621.20	0.00
621.40	70.15	621.20	0.00
621.45	79.35	621.20	0.00
621.50	88.24	621.20	0.00
621.55	96.96	621.20	0.00
621.60	105.58	621.20	0.00
621.65	114.16	621.20	0.00
621.70	122.72	621.20	0.00
621.75	131.30	621.20	0.00
621.80	139.91	621.20	0.00
621.85	148.56	621.20	0.00
621.90	157.26	621.20	0.00
621.95	166.03	621.20	0.00
622.00	174.86	621.20	0.00

#### Contributing Structures

Weir - 1
Weir - 1





# Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

## Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
618.00	-106.48	621.25	0.00
618.05	-106.48	621.25	0.00
618.10	-106.48	621.25	0.00
618.15	-106.48	621.25	0.00
618.20	-106.48	621.25	0.00
618.25	-106.48	621.25	0.00
618.30	-106.48	621.25	0.00
618.35	-106.48	621.25	0.00
618.40	-106.48	621.25	0.00
618.45	-106.48	621.25	0.00
618.50	-106.48	621.25	0.00
618.55	-106.48	621.25	0.00
618.60	-106.48	621.25	0.00
618.65	-106.48	621.25	0.00
618.70	-106.48	621.25	0.00
618.75	-106.48	621.25	0.00
618.80	-106.48	621.25	0.00
618.85	-106.48	621.25	0.00
618.90	-106.48	621.25	0.00
618.95	-106.48	621.25	0.00
619.00	-106.48	621.25	0.00
619.05	-106.48	621.25	0.00
619.10	-106.48	621.25	0.00
619.15	-106.48	621.25	0.00
619.20	-106.48	621.25	0.00
619.25	-106.48	621.25	0.00
619.30	-106.48	621.25	0.00
619.35	-106.48	621.25	0.00
619.40	-106.48	621.25	0.00
619.45	-106.48	621.25	0.00
619.50	-106.48	621.25	0.00
619.55	-106.48	621.25	0.00
619.60	-106.48	621.25	0.00
619.65	-106.48	621.25	0.00
619.70	-106.48	621.25	0.00
619.75	-106.48	621.25	0.00
619.80	-106.48	621.25	0.00
619.85	-106.48	621.25	0.00
619.90	-106.48	621.25	0.00
619.95	-106.48	621.25	0.00
620.00	-106.48	621.25	0.00
620.05	-106.48	621.25	0.00

## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
620.10	-106.13	621.25	0.00
620.15	-105.48	621.25	0.00
620.20	-104.64	621.25	0.00
620.25	-103.63	621.25	0.00
620.30	-102.46	621.25	0.00
620.35	-101.14	621.25	0.00
620.40	-99.68	621.25	0.00
620.45	-98.07	621.25	0.00
620.50	-96.30	621.25	0.00
620.55	-94.38	621.25	0.00
620.60	-92.29	621.25	0.00
620.65	-90.01	621.25	0.00
620.70	-87.54	621.25	0.00
620.75	-84.85	621.25	0.00
620.80	-81.91	621.25	0.00
620.85	-78.68	621.25	0.00
620.90	-75.10	621.25	0.00
620.95	-71.11	621.25	0.00
621.00	-66.60	621.25	0.00
621.05	-61.39	621.25	0.00
621.10	-55.20	621.25	0.00
621.15	-47.42	621.25	0.00
621.20	-36.47	621.25	0.00
621.25	0.00	621.25	0.00
621.30	38.17	621.25	0.00
621.35	51.88	621.25	0.00
621.40	63.04	621.25	0.00
621.45	73.09	621.25	0.00
621.50	82.57	621.25	0.00
621.55	91.71	621.25	0.00
621.60	100.66	621.25	0.00
621.65	109.49	621.25	0.00
621.70	118.26	621.25	0.00
621.75	127.01	621.25	0.00
621.80	135.76	621.25	0.00
621.85	144.54	621.25	0.00
621.90	153.35	621.25	0.00
621.95	162.21	621.25	0.00
622.00	171.12	621.25	0.00

#### Contributing Structures

Weir - 1
Weir - 1







## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
618.00	-113.20	621.30	0.00
618.05	-113.20	621.30	0.00
618.10	-113.20	621.30	0.00
618.15	-113.20	621.30	0.00
618.20	-113.20	621.30	0.00
618.25	-113.20	621.30	0.00
618.30	-113.20	621.30	0.00
618.35	-113.20	621.30	0.00
618.40	-113.20	621.30	0.00
618.45	-113.20	621.30	0.00
618.50	-113.20	621.30	0.00
618.55	-113.20	621.30	0.00
618.60	-113.20	621.30	0.00
618.65	-113.20	621.30	0.00
618.70	-113.20	621.30	0.00
618.75	-113.20	621.30	0.00
618.80	-113.20	621.30	0.00
618.85	-113.20	621.30	0.00
618.90	-113.20	621.30	0.00
618.95	-113.20	621.30	0.00
619.00	-113.20	621.30	0.00
619.05	-113.20	621.30	0.00
619.10	-113.20	621.30	0.00
619.15	-113.20	621.30	0.00
619.20	-113.20	621.30	0.00
619.25	-113.20	621.30	0.00
619.30	-113.20	621.30	0.00
619.35	-113.20	621.30	0.00
619.40	-113.20	621.30	0.00
619.45	-113.20	621.30	0.00
619.50	-113.20	621.30	0.00
619.55	-113.20	621.30	0.00
619.60	-113.20	621.30	0.00
619.65	-113.20	621.30	0.00
619.70	-113.20	621.30	0.00
619.75	-113.20	621.30	0.00
619.80	-113.20	621.30	0.00
619.85	-113.20	621.30	0.00
619.90	-113.20	621.30	0.00
619.95	-113.20	621.30	0.00
620.00	-113.20	621.30	0.00
620.05	-113.20	621.30	0.00

# Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

## Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
620.10	-112.85	621.30	0.00
620.15	-112.21	621.30	0.00
620.20	-111.37	621.30	0.00
620.25	-110.35	621.30	0.00
620.30	-109.19	621.30	0.00
620.35	-107.88	621.30	0.00
620.40	-106.42	621.30	0.00
620.45	-104.82	621.30	0.00
620.50	-103.08	621.30	0.00
620.55	-101.18	621.30	0.00
620.60	-99.12	621.30	0.00
620.65	-96.88	621.30	0.00
620.70	-94.46	621.30	0.00
620.75	-91.84	621.30	0.00
620.80	-88.99	621.30	0.00
620.85	-85.88	621.30	0.00
620.90	-82.47	621.30	0.00
620.95	-78.71	621.30	0.00
621.00	-74.51	621.30	0.00
621.05	-69.77	621.30	0.00
621.10	-64.30	621.30	0.00
621.15	-57.80	621.30	0.00
621.20	-49.65	621.30	0.00
621.25	-38.17	621.30	0.00
621.30	0.00	621.30	0.00
621.35	39.88	621.30	0.00
621.40	54.13	621.30	0.00
621.45	65.67	621.30	0.00
621.50	76.05	621.30	0.00
621.55	85.80	621.30	0.00
621.60	95.19	621.30	0.00
621.65	104.36	621.30	0.00
621.70	113.41	621.30	0.00
621.75	122.37	621.30	0.00
621.80	131.31	621.30	0.00
621.85	140.24	621.30	0.00
621.90	149.18	621.30	0.00
621.95	158.15	621.30	0.00
622.00	167.17	621.30	0.00

### Contributing Structures

Weir - 1
Weir - 1





## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
618.00	-120.06	621.35	0.00
618.05	-120.06	621.35	0.00
618.10	-120.06	621.35	0.00
618.15	-120.06	621.35	0.00
618.20	-120.06	621.35	0.00
618.25	-120.06	621.35	0.00
618.30	-120.06	621.35	0.00
618.35	-120.06	621.35	0.00
618.40	-120.06	621.35	0.00
618.45	-120.06	621.35	0.00
618.50	-120.06	621.35	0.00
618.55	-120.06	621.35	0.00
618.60	-120.06	621.35	0.00
618.65	-120.06	621.35	0.00
618.70	-120.06	621.35	0.00
618.75	-120.06	621.35	0.00
618.80	-120.06	621.35	0.00
618.85	-120.06	621.35	0.00
618.90	-120.06	621.35	0.00
618.95	-120.06	621.35	0.00
619.00	-120.06	621.35	0.00
619.05	-120.06	621.35	0.00
619.10	-120.06	621.35	0.00
619.15	-120.06	621.35	0.00
619.20	-120.06	621.35	0.00
619.25	-120.06	621.35	0.00
619.30	-120.06	621.35	0.00
619.35	-120.06	621.35	0.00
619.40	-120.06	621.35	0.00
619.45	-120.06	621.35	0.00
619.50	-120.06	621.35	0.00
619.55	-120.06	621.35	0.00
619.60	-120.06	621.35	0.00
619.65	-120.06	621.35	0.00
619.70	-120.06	621.35	0.00
619.75	-120.06	621.35	0.00
619.80	-120.06	621.35	0.00
619.85	-120.06	621.35	0.00
619.90	-120.06	621.35	0.00
619.95	-120.06	621.35	0.00
620.00	-120.06	621.35	0.00
620.05	-120.06	621.35	0.00

# Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

## Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
620.10	-119.71	621.35	0.00
620.15	-119.07	621.35	0.00
620.20	-118.23	621.35	0.00
620.25	-117.22	621.35	0.00
620.30	-116.06	621.35	0.00
620.35	-114.75	621.35	0.00
620.40	-113.30	621.35	0.00
620.45	-111.71	621.35	0.00
620.50	-109.98	621.35	0.00
620.55	-108.10	621.35	0.00
620.60	-106.07	621.35	0.00
620.65	-103.87	621.35	0.00
620.70	-101.50	621.35	0.00
620.75	-98.93	621.35	0.00
620.80	-96.16	621.35	0.00
620.85	-93.15	621.35	0.00
620.90	-89.87	621.35	0.00
620.95	-86.28	621.35	0.00
621.00	-82.33	621.35	0.00
621.05	-77.92	621.35	0.00
621.10	-72.95	621.35	0.00
621.15	-67.22	621.35	0.00
621.20	-60.41	621.35	0.00
621.25	-51.88	621.35	0.00
621.30	-39.88	621.35	0.00
621.35	0.00	621.35	0.00
621.40	41.60	621.35	0.00
621.45	56.38	621.35	0.00
621.50	68.32	621.35	0.00
621.55	79.02	621.35	0.00
621.60	89.05	621.35	0.00
621.65	98.69	621.35	0.00
621.70	108.09	621.35	0.00
621.75	117.34	621.35	0.00
621.80	126.50	621.35	0.00
621.85	135.62	621.35	0.00
621.90	144.73	621.35	0.00
621.95	153.84	621.35	0.00
622.00	162.97	621.35	0.00

### Contributing Structures

Weir - 1
Weir - 1







## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
618.00	-127.05	621.40	0.00
618.05	-127.05	621.40	0.00
618.10	-127.05	621.40	0.00
618.15	-127.05	621.40	0.00
618.20	-127.05	621.40	0.00
618.25	-127.05	621.40	0.00
618.30	-127.05	621.40	0.00
618.35	-127.05	621.40	0.00
618.40	-127.05	621.40	0.00
618.45	-127.05	621.40	0.00
618.50	-127.05	621.40	0.00
618.55	-127.05	621.40	0.00
618.60	-127.05	621.40	0.00
618.65	-127.05	621.40	0.00
618.70	-127.05	621.40	0.00
618.75	-127.05	621.40	0.00
618.80	-127.05	621.40	0.00
618.85	-127.05	621.40	0.00
618.90	-127.05	621.40	0.00
618.95	-127.05	621.40	0.00
619.00	-127.05	621.40	0.00
619.05	-127.05	621.40	0.00
619.10	-127.05	621.40	0.00
619.15	-127.05	621.40	0.00
619.20	-127.05	621.40	0.00
619.25	-127.05	621.40	0.00
619.30	-127.05	621.40	0.00
619.35	-127.05	621.40	0.00
619.40	-127.05	621.40	0.00
619.45	-127.05	621.40	0.00
619.50	-127.05	621.40	0.00
619.55	-127.05	621.40	0.00
619.60	-127.05	621.40	0.00
619.65	-127.05	621.40	0.00
619.70	-127.05	621.40	0.00
619.75	-127.05	621.40	0.00
619.80	-127.05	621.40	0.00
619.85	-127.05	621.40	0.00
619.90	-127.05	621.40	0.00
619.95	-127.05	621.40	0.00
620.00	-127.05	621.40	0.00
620.05	-127.05	621.40	0.00

# Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

## Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
620.10	-126.70	621.40	0.00
620.15	-126.06	621.40	0.00
620.20	-125.22	621.40	0.00
620.25	-124.21	621.40	0.00
620.30	-123.06	621.40	0.00
620.35	-121.75	621.40	0.00
620.40	-120.31	621.40	0.00
620.45	-118.73	621.40	0.00
620.50	-117.02	621.40	0.00
620.55	-115.15	621.40	0.00
620.60	-113.14	621.40	0.00
620.65	-110.98	621.40	0.00
620.70	-108.64	621.40	0.00
620.75	-106.13	621.40	0.00
620.80	-103.42	621.40	0.00
620.85	-100.49	621.40	0.00
620.90	-97.32	621.40	0.00
620.95	-93.88	621.40	0.00
621.00	-90.11	621.40	0.00
621.05	-85.96	621.40	0.00
621.10	-81.35	621.40	0.00
621.15	-76.14	621.40	0.00
621.20	-70.15	621.40	0.00
621.25	-63.04	621.40	0.00
621.30	-54.13	621.40	0.00
621.35	-41.60	621.40	0.00
621.40	0.00	621.40	0.00
621.45	43.33	621.40	0.00
621.50	58.65	621.40	0.00
621.55	70.98	621.40	0.00
621.60	82.00	621.40	0.00
621.65	92.31	621.40	0.00
621.70	102.19	621.40	0.00
621.75	111.82	621.40	0.00
621.80	121.28	621.40	0.00
621.85	130.64	621.40	0.00
621.90	139.95	621.40	0.00
621.95	149.23	621.40	0.00
622.00	158.51	621.40	0.00

### Contributing Structures

Weir - 1
Weir - 1





## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
618.00	-134.18	621.45	0.00
618.05	-134.18	621.45	0.00
618.10	-134.18	621.45	0.00
618.15	-134.18	621.45	0.00
618.20	-134.18	621.45	0.00
618.25	-134.18	621.45	0.00
618.30	-134.18	621.45	0.00
618.35	-134.18	621.45	0.00
618.40	-134.18	621.45	0.00
618.45	-134.18	621.45	0.00
618.50	-134.18	621.45	0.00
618.55	-134.18	621.45	0.00
618.60	-134.18	621.45	0.00
618.65	-134.18	621.45	0.00
618.70	-134.18	621.45	0.00
618.75	-134.18	621.45	0.00
618.80	-134.18	621.45	0.00
618.85	-134.18	621.45	0.00
618.90	-134.18	621.45	0.00
618.95	-134.18	621.45	0.00
619.00	-134.18	621.45	0.00
619.05	-134.18	621.45	0.00
619.10	-134.18	621.45	0.00
619.15	-134.18	621.45	0.00
619.20	-134.18	621.45	0.00
619.25	-134.18	621.45	0.00
619.30	-134.18	621.45	0.00
619.35	-134.18	621.45	0.00
619.40	-134.18	621.45	0.00
619.45	-134.18	621.45	0.00
619.50	-134.18	621.45	0.00
619.55	-134.18	621.45	0.00
619.60	-134.18	621.45	0.00
619.65	-134.18	621.45	0.00
619.70	-134.18	621.45	0.00
619.75	-134.18	621.45	0.00
619.80	-134.18	621.45	0.00
619.85	-134.18	621.45	0.00
619.90	-134.18	621.45	0.00
619.95	-134.18	621.45	0.00
620.00	-134.18	621.45	0.00
620.05	-134.18	621.45	0.00

# Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

## Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
620.10	-133.83	621.45	0.00
620.15	-133.18	621.45	0.00
620.20	-132.35	621.45	0.00
620.25	-131.34	621.45	0.00
620.30	-130.18	621.45	0.00
620.35	-128.89	621.45	0.00
620.40	-127.45	621.45	0.00
620.45	-125.88	621.45	0.00
620.50	-124.18	621.45	0.00
620.55	-122.33	621.45	0.00
620.60	-120.34	621.45	0.00
620.65	-118.20	621.45	0.00
620.70	-115.90	621.45	0.00
620.75	-113.43	621.45	0.00
620.80	-110.78	621.45	0.00
620.85	-107.92	621.45	0.00
620.90	-104.85	621.45	0.00
620.95	-101.52	621.45	0.00
621.00	-97.90	621.45	0.00
621.05	-93.96	621.45	0.00
621.10	-89.61	621.45	0.00
621.15	-84.79	621.45	0.00
621.20	-79.35	621.45	0.00
621.25	-73.09	621.45	0.00
621.30	-65.67	621.45	0.00
621.35	-56.38	621.45	0.00
621.40	-43.33	621.45	0.00
621.45	0.00	621.45	0.00
621.50	45.07	621.45	0.00
621.55	60.92	621.45	0.00
621.60	73.64	621.45	0.00
621.65	84.99	621.45	0.00
621.70	95.58	621.45	0.00
621.75	105.71	621.45	0.00
621.80	115.57	621.45	0.00
621.85	125.24	621.45	0.00
621.90	134.80	621.45	0.00
621.95	144.29	621.45	0.00
622.00	153.75	621.45	0.00

### Contributing Structures

Weir - 1
Weir - 1







## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
618.00	-141.43	621.50	0.00
618.05	-141.43	621.50	0.00
618.10	-141.43	621.50	0.00
618.15	-141.43	621.50	0.00
618.20	-141.43	621.50	0.00
618.25	-141.43	621.50	0.00
618.30	-141.43	621.50	0.00
618.35	-141.43	621.50	0.00
618.40	-141.43	621.50	0.00
618.45	-141.43	621.50	0.00
618.50	-141.43	621.50	0.00
618.55	-141.43	621.50	0.00
618.60	-141.43	621.50	0.00
618.65	-141.43	621.50	0.00
618.70	-141.43	621.50	0.00
618.75	-141.43	621.50	0.00
618.80	-141.43	621.50	0.00
618.85	-141.43	621.50	0.00
618.90	-141.43	621.50	0.00
618.95	-141.43	621.50	0.00
619.00	-141.43	621.50	0.00
619.05	-141.43	621.50	0.00
619.10	-141.43	621.50	0.00
619.15	-141.43	621.50	0.00
619.20	-141.43	621.50	0.00
619.25	-141.43	621.50	0.00
619.30	-141.43	621.50	0.00
619.35	-141.43	621.50	0.00
619.40	-141.43	621.50	0.00
619.45	-141.43	621.50	0.00
619.50	-141.43	621.50	0.00
619.55	-141.43	621.50	0.00
619.60	-141.43	621.50	0.00
619.65	-141.43	621.50	0.00
619.70	-141.43	621.50	0.00
619.75	-141.43	621.50	0.00
619.80	-141.43	621.50	0.00
619.85	-141.43	621.50	0.00
619.90	-141.43	621.50	0.00
619.95	-141.43	621.50	0.00
620.00	-141.43	621.50	0.00
620.05	-141.43	621.50	0.00

## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
620.10	-141.08	621.50	0.00
620.15	-140.44	621.50	0.00
620.20	-139.60	621.50	0.00
620.25	-138.59	621.50	0.00
620.30	-137.44	621.50	0.00
620.35	-136.15	621.50	0.00
620.40	-134.72	621.50	0.00
620.45	-133.16	621.50	0.00
620.50	-131.46	621.50	0.00
620.55	-129.63	621.50	0.00
620.60	-127.66	621.50	0.00
620.65	-125.54	621.50	0.00
620.70	-123.27	621.50	0.00
620.75	-120.84	621.50	0.00
620.80	-118.24	621.50	0.00
620.85	-115.44	621.50	0.00
620.90	-112.44	621.50	0.00
620.95	-109.21	621.50	0.00
621.00	-105.73	621.50	0.00
621.05	-101.94	621.50	0.00
621.10	-97.82	621.50	0.00
621.15	-93.28	621.50	0.00
621.20	-88.24	621.50	0.00
621.25	-82.57	621.50	0.00
621.30	-76.05	621.50	0.00
621.35	-68.32	621.50	0.00
621.40	-58.65	621.50	0.00
621.45	-45.07	621.50	0.00
621.50	0.00	621.50	0.00
621.55	46.81	621.50	0.00
621.60	63.20	621.50	0.00
621.65	76.32	621.50	0.00
621.70	87.99	621.50	0.00
621.75	98.86	621.50	0.00
621.80	109.25	621.50	0.00
621.85	119.33	621.50	0.00
621.90	129.21	621.50	0.00
621.95	138.97	621.50	0.00
622.00	148.65	621.50	0.00

#### Contributing Structures

Weir - 1
Weir - 1





## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
618.00	-148.81	621.55	0.00
618.05	-148.81	621.55	0.00
618.10	-148.81	621.55	0.00
618.15	-148.81	621.55	0.00
618.20	-148.81	621.55	0.00
618.25	-148.81	621.55	0.00
618.30	-148.81	621.55	0.00
618.35	-148.81	621.55	0.00
618.40	-148.81	621.55	0.00
618.45	-148.81	621.55	0.00
618.50	-148.81	621.55	0.00
618.55	-148.81	621.55	0.00
618.60	-148.81	621.55	0.00
618.65	-148.81	621.55	0.00
618.70	-148.81	621.55	0.00
618.75	-148.81	621.55	0.00
618.80	-148.81	621.55	0.00
618.85	-148.81	621.55	0.00
618.90	-148.81	621.55	0.00
618.95	-148.81	621.55	0.00
619.00	-148.81	621.55	0.00
619.05	-148.81	621.55	0.00
619.10	-148.81	621.55	0.00
619.15	-148.81	621.55	0.00
619.20	-148.81	621.55	0.00
619.25	-148.81	621.55	0.00
619.30	-148.81	621.55	0.00
619.35	-148.81	621.55	0.00
619.40	-148.81	621.55	0.00
619.45	-148.81	621.55	0.00
619.50	-148.81	621.55	0.00
619.55	-148.81	621.55	0.00
619.60	-148.81	621.55	0.00
619.65	-148.81	621.55	0.00
619.70	-148.81	621.55	0.00
619.75	-148.81	621.55	0.00
619.80	-148.81	621.55	0.00
619.85	-148.81	621.55	0.00
619.90	-148.81	621.55	0.00
619.95	-148.81	621.55	0.00
620.00	-148.81	621.55	0.00
620.05	-148.81	621.55	0.00

## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
620.10	-148.46	621.55	0.00
620.15	-147.82	621.55	0.00
620.20	-146.98	621.55	0.00
620.25	-145.97	621.55	0.00
620.30	-144.82	621.55	0.00
620.35	-143.53	621.55	0.00
620.40	-142.11	621.55	0.00
620.45	-140.56	621.55	0.00
620.50	-138.87	621.55	0.00
620.55	-137.05	621.55	0.00
620.60	-135.10	621.55	0.00
620.65	-133.00	621.55	0.00
620.70	-130.76	621.55	0.00
620.75	-128.36	621.55	0.00
620.80	-125.80	621.55	0.00
620.85	-123.06	621.55	0.00
620.90	-120.13	621.55	0.00
620.95	-116.98	621.55	0.00
621.00	-113.60	621.55	0.00
621.05	-109.95	621.55	0.00
621.10	-106.00	621.55	0.00
621.15	-101.69	621.55	0.00
621.20	-96.96	621.55	0.00
621.25	-91.71	621.55	0.00
621.30	-85.80	621.55	0.00
621.35	-79.02	621.55	0.00
621.40	-70.98	621.55	0.00
621.45	-60.92	621.55	0.00
621.50	-46.81	621.55	0.00
621.55	0.00	621.55	0.00
621.60	48.56	621.55	0.00
621.65	65.50	621.55	0.00
621.70	79.01	621.55	0.00
621.75	91.00	621.55	0.00
621.80	102.15	621.55	0.00
621.85	112.79	621.55	0.00
621.90	123.10	621.55	0.00
621.95	133.20	621.55	0.00
622.00	143.15	621.55	0.00

#### Contributing Structures

Weir - 1
Weir - 1







## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
618.00	-156.31	621.60	0.00
618.05	-156.31	621.60	0.00
618.10	-156.31	621.60	0.00
618.15	-156.31	621.60	0.00
618.20	-156.31	621.60	0.00
618.25	-156.31	621.60	0.00
618.30	-156.31	621.60	0.00
618.35	-156.31	621.60	0.00
618.40	-156.31	621.60	0.00
618.45	-156.31	621.60	0.00
618.50	-156.31	621.60	0.00
618.55	-156.31	621.60	0.00
618.60	-156.31	621.60	0.00
618.65	-156.31	621.60	0.00
618.70	-156.31	621.60	0.00
618.75	-156.31	621.60	0.00
618.80	-156.31	621.60	0.00
618.85	-156.31	621.60	0.00
618.90	-156.31	621.60	0.00
618.95	-156.31	621.60	0.00
619.00	-156.31	621.60	0.00
619.05	-156.31	621.60	0.00
619.10	-156.31	621.60	0.00
619.15	-156.31	621.60	0.00
619.20	-156.31	621.60	0.00
619.25	-156.31	621.60	0.00
619.30	-156.31	621.60	0.00
619.35	-156.31	621.60	0.00
619.40	-156.31	621.60	0.00
619.45	-156.31	621.60	0.00
619.50	-156.31	621.60	0.00
619.55	-156.31	621.60	0.00
619.60	-156.31	621.60	0.00
619.65	-156.31	621.60	0.00
619.70	-156.31	621.60	0.00
619.75	-156.31	621.60	0.00
619.80	-156.31	621.60	0.00
619.85	-156.31	621.60	0.00
619.90	-156.31	621.60	0.00
619.95	-156.31	621.60	0.00
620.00	-156.31	621.60	0.00
620.05	-156.31	621.60	0.00

## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
620.10	-155.96	621.60	0.00
620.15	-155.32	621.60	0.00
620.20	-154.48	621.60	0.00
620.25	-153.48	621.60	0.00
620.30	-152.33	621.60	0.00
620.35	-151.04	621.60	0.00
620.40	-149.62	621.60	0.00
620.45	-148.08	621.60	0.00
620.50	-146.40	621.60	0.00
620.55	-144.59	621.60	0.00
620.60	-142.65	621.60	0.00
620.65	-140.58	621.60	0.00
620.70	-138.36	621.60	0.00
620.75	-135.99	621.60	0.00
620.80	-133.47	621.60	0.00
620.85	-130.77	621.60	0.00
620.90	-127.90	621.60	0.00
620.95	-124.82	621.60	0.00
621.00	-121.53	621.60	0.00
621.05	-118.00	621.60	0.00
621.10	-114.19	621.60	0.00
621.15	-110.07	621.60	0.00
621.20	-105.58	621.60	0.00
621.25	-100.66	621.60	0.00
621.30	-95.19	621.60	0.00
621.35	-89.05	621.60	0.00
621.40	-82.00	621.60	0.00
621.45	-73.64	621.60	0.00
621.50	-63.20	621.60	0.00
621.55	-48.56	621.60	0.00
621.60	0.00	621.60	0.00
621.65	50.31	621.60	0.00
621.70	67.79	621.60	0.00
621.75	81.70	621.60	0.00
621.80	94.02	621.60	0.00
621.85	105.45	621.60	0.00
621.90	116.34	621.60	0.00
621.95	126.88	621.60	0.00
622.00	137.19	621.60	0.00

#### Contributing Structures

Weir - 1
Weir - 1





## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
618.00	-163.93	621.65	0.00
618.05	-163.93	621.65	0.00
618.10	-163.93	621.65	0.00
618.15	-163.93	621.65	0.00
618.20	-163.93	621.65	0.00
618.25	-163.93	621.65	0.00
618.30	-163.93	621.65	0.00
618.35	-163.93	621.65	0.00
618.40	-163.93	621.65	0.00
618.45	-163.93	621.65	0.00
618.50	-163.93	621.65	0.00
618.55	-163.93	621.65	0.00
618.60	-163.93	621.65	0.00
618.65	-163.93	621.65	0.00
618.70	-163.93	621.65	0.00
618.75	-163.93	621.65	0.00
618.80	-163.93	621.65	0.00
618.85	-163.93	621.65	0.00
618.90	-163.93	621.65	0.00
618.95	-163.93	621.65	0.00
619.00	-163.93	621.65	0.00
619.05	-163.93	621.65	0.00
619.10	-163.93	621.65	0.00
619.15	-163.93	621.65	0.00
619.20	-163.93	621.65	0.00
619.25	-163.93	621.65	0.00
619.30	-163.93	621.65	0.00
619.35	-163.93	621.65	0.00
619.40	-163.93	621.65	0.00
619.45	-163.93	621.65	0.00
619.50	-163.93	621.65	0.00
619.55	-163.93	621.65	0.00
619.60	-163.93	621.65	0.00
619.65	-163.93	621.65	0.00
619.70	-163.93	621.65	0.00
619.75	-163.93	621.65	0.00
619.80	-163.93	621.65	0.00
619.85	-163.93	621.65	0.00
619.90	-163.93	621.65	0.00
619.95	-163.93	621.65	0.00
620.00	-163.93	621.65	0.00
620.05	-163.93	621.65	0.00

# Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

## Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
620.10	-163.58	621.65	0.00
620.15	-162.94	621.65	0.00
620.20	-162.10	621.65	0.00
620.25	-161.10	621.65	0.00
620.30	-159.96	621.65	0.00
620.35	-158.67	621.65	0.00
620.40	-157.26	621.65	0.00
620.45	-155.72	621.65	0.00
620.50	-154.05	621.65	0.00
620.55	-152.25	621.65	0.00
620.60	-150.33	621.65	0.00
620.65	-148.27	621.65	0.00
620.70	-146.07	621.65	0.00
620.75	-143.73	621.65	0.00
620.80	-141.24	621.65	0.00
620.85	-138.59	621.65	0.00
620.90	-135.76	621.65	0.00
620.95	-132.75	621.65	0.00
621.00	-129.54	621.65	0.00
621.05	-126.10	621.65	0.00
621.10	-122.42	621.65	0.00
621.15	-118.45	621.65	0.00
621.20	-114.16	621.65	0.00
621.25	-109.49	621.65	0.00
621.30	-104.36	621.65	0.00
621.35	-98.69	621.65	0.00
621.40	-92.31	621.65	0.00
621.45	-84.99	621.65	0.00
621.50	-76.32	621.65	0.00
621.55	-65.50	621.65	0.00
621.60	-50.31	621.65	0.00
621.65	0.00	621.65	0.00
621.70	52.07	621.65	0.00
621.75	70.10	621.65	0.00
621.80	84.41	621.65	0.00
621.85	97.05	621.65	0.00
621.90	108.77	621.65	0.00
621.95	119.91	621.65	0.00
622.00	130.68	621.65	0.00

### Contributing Structures

Weir - 1
Weir - 1







## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
618.00	-171.68	621.70	0.00
618.05	-171.68	621.70	0.00
618.10	-171.68	621.70	0.00
618.15	-171.68	621.70	0.00
618.20	-171.68	621.70	0.00
618.25	-171.68	621.70	0.00
618.30	-171.68	621.70	0.00
618.35	-171.68	621.70	0.00
618.40	-171.68	621.70	0.00
618.45	-171.68	621.70	0.00
618.50	-171.68	621.70	0.00
618.55	-171.68	621.70	0.00
618.60	-171.68	621.70	0.00
618.65	-171.68	621.70	0.00
618.70	-171.68	621.70	0.00
618.75	-171.68	621.70	0.00
618.80	-171.68	621.70	0.00
618.85	-171.68	621.70	0.00
618.90	-171.68	621.70	0.00
618.95	-171.68	621.70	0.00
619.00	-171.68	621.70	0.00
619.05	-171.68	621.70	0.00
619.10	-171.68	621.70	0.00
619.15	-171.68	621.70	0.00
619.20	-171.68	621.70	0.00
619.25	-171.68	621.70	0.00
619.30	-171.68	621.70	0.00
619.35	-171.68	621.70	0.00
619.40	-171.68	621.70	0.00
619.45	-171.68	621.70	0.00
619.50	-171.68	621.70	0.00
619.55	-171.68	621.70	0.00
619.60	-171.68	621.70	0.00
619.65	-171.68	621.70	0.00
619.70	-171.68	621.70	0.00
619.75	-171.68	621.70	0.00
619.80	-171.68	621.70	0.00
619.85	-171.68	621.70	0.00
619.90	-171.68	621.70	0.00
619.95	-171.68	621.70	0.00
620.00	-171.68	621.70	0.00
620.05	-171.68	621.70	0.00

# Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

## Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
620.10	-171.33	621.70	0.00
620.15	-170.69	621.70	0.00
620.20	-169.85	621.70	0.00
620.25	-168.85	621.70	0.00
620.30	-167.71	621.70	0.00
620.35	-166.42	621.70	0.00
620.40	-165.01	621.70	0.00
620.45	-163.48	621.70	0.00
620.50	-161.82	621.70	0.00
620.55	-160.03	621.70	0.00
620.60	-158.11	621.70	0.00
620.65	-156.07	621.70	0.00
620.70	-153.89	621.70	0.00
620.75	-151.58	621.70	0.00
620.80	-149.12	621.70	0.00
620.85	-146.50	621.70	0.00
620.90	-143.72	621.70	0.00
620.95	-140.77	621.70	0.00
621.00	-137.62	621.70	0.00
621.05	-134.27	621.70	0.00
621.10	-130.69	621.70	0.00
621.15	-126.85	621.70	0.00
621.20	-122.72	621.70	0.00
621.25	-118.26	621.70	0.00
621.30	-113.41	621.70	0.00
621.35	-108.09	621.70	0.00
621.40	-102.19	621.70	0.00
621.45	-95.58	621.70	0.00
621.50	-87.99	621.70	0.00
621.55	-79.01	621.70	0.00
621.60	-67.79	621.70	0.00
621.65	-52.07	621.70	0.00
621.70	0.00	621.70	0.00
621.75	53.84	621.70	0.00
621.80	72.42	621.70	0.00
621.85	87.12	621.70	0.00
621.90	100.09	621.70	0.00
621.95	112.09	621.70	0.00
622.00	123.49	621.70	0.00

### Contributing Structures

Weir - 1
Weir - 1





# Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

## Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
618.00	-179.54	621.75	0.00
618.05	-179.54	621.75	0.00
618.10	-179.54	621.75	0.00
618.15	-179.54	621.75	0.00
618.20	-179.54	621.75	0.00
618.25	-179.54	621.75	0.00
618.30	-179.54	621.75	0.00
618.35	-179.54	621.75	0.00
618.40	-179.54	621.75	0.00
618.45	-179.54	621.75	0.00
618.50	-179.54	621.75	0.00
618.55	-179.54	621.75	0.00
618.60	-179.54	621.75	0.00
618.65	-179.54	621.75	0.00
618.70	-179.54	621.75	0.00
618.75	-179.54	621.75	0.00
618.80	-179.54	621.75	0.00
618.85	-179.54	621.75	0.00
618.90	-179.54	621.75	0.00
618.95	-179.54	621.75	0.00
619.00	-179.54	621.75	0.00
619.05	-179.54	621.75	0.00
619.10	-179.54	621.75	0.00
619.15	-179.54	621.75	0.00
619.20	-179.54	621.75	0.00
619.25	-179.54	621.75	0.00
619.30	-179.54	621.75	0.00
619.35	-179.54	621.75	0.00
619.40	-179.54	621.75	0.00
619.45	-179.54	621.75	0.00
619.50	-179.54	621.75	0.00
619.55	-179.54	621.75	0.00
619.60	-179.54	621.75	0.00
619.65	-179.54	621.75	0.00
619.70	-179.54	621.75	0.00
619.75	-179.54	621.75	0.00
619.80	-179.54	621.75	0.00
619.85	-179.54	621.75	0.00
619.90	-179.54	621.75	0.00
619.95	-179.54	621.75	0.00
620.00	-179.54	621.75	0.00
620.05	-179.54	621.75	0.00

## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
620.10	-179.19	621.75	0.00
620.15	-178.55	621.75	0.00
620.20	-177.71	621.75	0.00
620.25	-176.71	621.75	0.00
620.30	-175.57	621.75	0.00
620.35	-174.29	621.75	0.00
620.40	-172.89	621.75	0.00
620.45	-171.35	621.75	0.00
620.50	-169.70	621.75	0.00
620.55	-167.92	621.75	0.00
620.60	-166.02	621.75	0.00
620.65	-163.99	621.75	0.00
620.70	-161.83	621.75	0.00
620.75	-159.53	621.75	0.00
620.80	-157.10	621.75	0.00
620.85	-154.52	621.75	0.00
620.90	-151.78	621.75	0.00
620.95	-148.87	621.75	0.00
621.00	-145.79	621.75	0.00
621.05	-142.51	621.75	0.00
621.10	-139.02	621.75	0.00
621.15	-135.29	621.75	0.00
621.20	-131.30	621.75	0.00
621.25	-127.01	621.75	0.00
621.30	-122.37	621.75	0.00
621.35	-117.34	621.75	0.00
621.40	-111.82	621.75	0.00
621.45	-105.71	621.75	0.00
621.50	-98.86	621.75	0.00
621.55	-91.00	621.75	0.00
621.60	-81.70	621.75	0.00
621.65	-70.10	621.75	0.00
621.70	-53.84	621.75	0.00
621.75	0.00	621.75	0.00
621.80	55.61	621.75	0.00
621.85	74.74	621.75	0.00
621.90	89.85	621.75	0.00
621.95	103.14	621.75	0.00
622.00	115.43	621.75	0.00

#### Contributing Structures

Weir - 1
Weir - 1







## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
618.00	-187.52	621.80	0.00
618.05	-187.52	621.80	0.00
618.10	-187.52	621.80	0.00
618.15	-187.52	621.80	0.00
618.20	-187.52	621.80	0.00
618.25	-187.52	621.80	0.00
618.30	-187.52	621.80	0.00
618.35	-187.52	621.80	0.00
618.40	-187.52	621.80	0.00
618.45	-187.52	621.80	0.00
618.50	-187.52	621.80	0.00
618.55	-187.52	621.80	0.00
618.60	-187.52	621.80	0.00
618.65	-187.52	621.80	0.00
618.70	-187.52	621.80	0.00
618.75	-187.52	621.80	0.00
618.80	-187.52	621.80	0.00
618.85	-187.52	621.80	0.00
618.90	-187.52	621.80	0.00
618.95	-187.52	621.80	0.00
619.00	-187.52	621.80	0.00
619.05	-187.52	621.80	0.00
619.10	-187.52	621.80	0.00
619.15	-187.52	621.80	0.00
619.20	-187.52	621.80	0.00
619.25	-187.52	621.80	0.00
619.30	-187.52	621.80	0.00
619.35	-187.52	621.80	0.00
619.40	-187.52	621.80	0.00
619.45	-187.52	621.80	0.00
619.50	-187.52	621.80	0.00
619.55	-187.52	621.80	0.00
619.60	-187.52	621.80	0.00
619.65	-187.52	621.80	0.00
619.70	-187.52	621.80	0.00
619.75	-187.52	621.80	0.00
619.80	-187.52	621.80	0.00
619.85	-187.52	621.80	0.00
619.90	-187.52	621.80	0.00
619.95	-187.52	621.80	0.00
620.00	-187.52	621.80	0.00
620.05	-187.52	621.80	0.00

# Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

## Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
620.10	-187.17	621.80	0.00
620.15	-186.53	621.80	0.00
620.20	-185.69	621.80	0.00
620.25	-184.69	621.80	0.00
620.30	-183.55	621.80	0.00
620.35	-182.28	621.80	0.00
620.40	-180.87	621.80	0.00
620.45	-179.35	621.80	0.00
620.50	-177.70	621.80	0.00
620.55	-175.93	621.80	0.00
620.60	-174.03	621.80	0.00
620.65	-172.02	621.80	0.00
620.70	-169.87	621.80	0.00
620.75	-167.60	621.80	0.00
620.80	-165.19	621.80	0.00
620.85	-162.64	621.80	0.00
620.90	-159.94	621.80	0.00
620.95	-157.07	621.80	0.00
621.00	-154.04	621.80	0.00
621.05	-150.83	621.80	0.00
621.10	-147.41	621.80	0.00
621.15	-143.78	621.80	0.00
621.20	-139.91	621.80	0.00
621.25	-135.76	621.80	0.00
621.30	-131.31	621.80	0.00
621.35	-126.50	621.80	0.00
621.40	-121.28	621.80	0.00
621.45	-115.57	621.80	0.00
621.50	-109.25	621.80	0.00
621.55	-102.15	621.80	0.00
621.60	-94.02	621.80	0.00
621.65	-84.41	621.80	0.00
621.70	-72.42	621.80	0.00
621.75	-55.61	621.80	0.00
621.80	0.00	621.80	0.00
621.85	57.39	621.80	0.00
621.90	77.07	621.80	0.00
621.95	92.58	621.80	0.00
622.00	106.20	621.80	0.00

### Contributing Structures

Weir - 1
Weir - 1





## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
618.00	-195.61	621.85	0.00
618.05	-195.61	621.85	0.00
618.10	-195.61	621.85	0.00
618.15	-195.61	621.85	0.00
618.20	-195.61	621.85	0.00
618.25	-195.61	621.85	0.00
618.30	-195.61	621.85	0.00
618.35	-195.61	621.85	0.00
618.40	-195.61	621.85	0.00
618.45	-195.61	621.85	0.00
618.50	-195.61	621.85	0.00
618.55	-195.61	621.85	0.00
618.60	-195.61	621.85	0.00
618.65	-195.61	621.85	0.00
618.70	-195.61	621.85	0.00
618.75	-195.61	621.85	0.00
618.80	-195.61	621.85	0.00
618.85	-195.61	621.85	0.00
618.90	-195.61	621.85	0.00
618.95	-195.61	621.85	0.00
619.00	-195.61	621.85	0.00
619.05	-195.61	621.85	0.00
619.10	-195.61	621.85	0.00
619.15	-195.61	621.85	0.00
619.20	-195.61	621.85	0.00
619.25	-195.61	621.85	0.00
619.30	-195.61	621.85	0.00
619.35	-195.61	621.85	0.00
619.40	-195.61	621.85	0.00
619.45	-195.61	621.85	0.00
619.50	-195.61	621.85	0.00
619.55	-195.61	621.85	0.00
619.60	-195.61	621.85	0.00
619.65	-195.61	621.85	0.00
619.70	-195.61	621.85	0.00
619.75	-195.61	621.85	0.00
619.80	-195.61	621.85	0.00
619.85	-195.61	621.85	0.00
619.90	-195.61	621.85	0.00
619.95	-195.61	621.85	0.00
620.00	-195.61	621.85	0.00
620.05	-195.61	621.85	0.00

# Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

## Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
620.10	-195.26	621.85	0.00
620.15	-194.62	621.85	0.00
620.20	-193.79	621.85	0.00
620.25	-192.79	621.85	0.00
620.30	-191.65	621.85	0.00
620.35	-190.38	621.85	0.00
620.40	-188.98	621.85	0.00
620.45	-187.45	621.85	0.00
620.50	-185.81	621.85	0.00
620.55	-184.05	621.85	0.00
620.60	-182.16	621.85	0.00
620.65	-180.16	621.85	0.00
620.70	-178.03	621.85	0.00
620.75	-175.77	621.85	0.00
620.80	-173.39	621.85	0.00
620.85	-170.86	621.85	0.00
620.90	-168.19	621.85	0.00
620.95	-165.37	621.85	0.00
621.00	-162.38	621.85	0.00
621.05	-159.22	621.85	0.00
621.10	-155.88	621.85	0.00
621.15	-152.33	621.85	0.00
621.20	-148.56	621.85	0.00
621.25	-144.54	621.85	0.00
621.30	-140.24	621.85	0.00
621.35	-135.62	621.85	0.00
621.40	-130.64	621.85	0.00
621.45	-125.24	621.85	0.00
621.50	-119.33	621.85	0.00
621.55	-112.79	621.85	0.00
621.60	-105.45	621.85	0.00
621.65	-97.05	621.85	0.00
621.70	-87.12	621.85	0.00
621.75	-74.74	621.85	0.00
621.80	-57.39	621.85	0.00
621.85	0.00	621.85	0.00
621.90	59.18	621.85	0.00
621.95	79.41	621.85	0.00
622.00	95.32	621.85	0.00

### Contributing Structures

Weir - 1
Weir - 1







## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
618.00	-203.82	621.90	0.00
618.05	-203.82	621.90	0.00
618.10	-203.82	621.90	0.00
618.15	-203.82	621.90	0.00
618.20	-203.82	621.90	0.00
618.25	-203.82	621.90	0.00
618.30	-203.82	621.90	0.00
618.35	-203.82	621.90	0.00
618.40	-203.82	621.90	0.00
618.45	-203.82	621.90	0.00
618.50	-203.82	621.90	0.00
618.55	-203.82	621.90	0.00
618.60	-203.82	621.90	0.00
618.65	-203.82	621.90	0.00
618.70	-203.82	621.90	0.00
618.75	-203.82	621.90	0.00
618.80	-203.82	621.90	0.00
618.85	-203.82	621.90	0.00
618.90	-203.82	621.90	0.00
618.95	-203.82	621.90	0.00
619.00	-203.82	621.90	0.00
619.05	-203.82	621.90	0.00
619.10	-203.82	621.90	0.00
619.15	-203.82	621.90	0.00
619.20	-203.82	621.90	0.00
619.25	-203.82	621.90	0.00
619.30	-203.82	621.90	0.00
619.35	-203.82	621.90	0.00
619.40	-203.82	621.90	0.00
619.45	-203.82	621.90	0.00
619.50	-203.82	621.90	0.00
619.55	-203.82	621.90	0.00
619.60	-203.82	621.90	0.00
619.65	-203.82	621.90	0.00
619.70	-203.82	621.90	0.00
619.75	-203.82	621.90	0.00
619.80	-203.82	621.90	0.00
619.85	-203.82	621.90	0.00
619.90	-203.82	621.90	0.00
619.95	-203.82	621.90	0.00
620.00	-203.82	621.90	0.00
620.05	-203.82	621.90	0.00

## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
620.10	-203.47	621.90	0.00
620.15	-202.83	621.90	0.00
620.20	-201.99	621.90	0.00
620.25	-201.00	621.90	0.00
620.30	-199.86	621.90	0.00
620.35	-198.59	621.90	0.00
620.40	-197.19	621.90	0.00
620.45	-195.67	621.90	0.00
620.50	-194.03	621.90	0.00
620.55	-192.28	621.90	0.00
620.60	-190.40	621.90	0.00
620.65	-188.41	621.90	0.00
620.70	-186.29	621.90	0.00
620.75	-184.05	621.90	0.00
620.80	-181.69	621.90	0.00
620.85	-179.18	621.90	0.00
620.90	-176.54	621.90	0.00
620.95	-173.76	621.90	0.00
621.00	-170.81	621.90	0.00
621.05	-167.71	621.90	0.00
621.10	-164.42	621.90	0.00
621.15	-160.95	621.90	0.00
621.20	-157.26	621.90	0.00
621.25	-153.35	621.90	0.00
621.30	-149.18	621.90	0.00
621.35	-144.73	621.90	0.00
621.40	-139.95	621.90	0.00
621.45	-134.80	621.90	0.00
621.50	-129.21	621.90	0.00
621.55	-123.10	621.90	0.00
621.60	-116.34	621.90	0.00
621.65	-108.77	621.90	0.00
621.70	-100.09	621.90	0.00
621.75	-89.85	621.90	0.00
621.80	-77.07	621.90	0.00
621.85	-59.18	621.90	0.00
621.90	0.00	621.90	0.00
621.95	60.97	621.90	0.00
622.00	81.75	621.90	0.00

#### Contributing Structures

Weir - 1
Weir - 1





## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
618.00	-212.14	621.95	0.00
618.05	-212.14	621.95	0.00
618.10	-212.14	621.95	0.00
618.15	-212.14	621.95	0.00
618.20	-212.14	621.95	0.00
618.25	-212.14	621.95	0.00
618.30	-212.14	621.95	0.00
618.35	-212.14	621.95	0.00
618.40	-212.14	621.95	0.00
618.45	-212.14	621.95	0.00
618.50	-212.14	621.95	0.00
618.55	-212.14	621.95	0.00
618.60	-212.14	621.95	0.00
618.65	-212.14	621.95	0.00
618.70	-212.14	621.95	0.00
618.75	-212.14	621.95	0.00
618.80	-212.14	621.95	0.00
618.85	-212.14	621.95	0.00
618.90	-212.14	621.95	0.00
618.95	-212.14	621.95	0.00
619.00	-212.14	621.95	0.00
619.05	-212.14	621.95	0.00
619.10	-212.14	621.95	0.00
619.15	-212.14	621.95	0.00
619.20	-212.14	621.95	0.00
619.25	-212.14	621.95	0.00
619.30	-212.14	621.95	0.00
619.35	-212.14	621.95	0.00
619.40	-212.14	621.95	0.00
619.45	-212.14	621.95	0.00
619.50	-212.14	621.95	0.00
619.55	-212.14	621.95	0.00
619.60	-212.14	621.95	0.00
619.65	-212.14	621.95	0.00
619.70	-212.14	621.95	0.00
619.75	-212.14	621.95	0.00
619.80	-212.14	621.95	0.00
619.85	-212.14	621.95	0.00
619.90	-212.14	621.95	0.00
619.95	-212.14	621.95	0.00
620.00	-212.14	621.95	0.00
620.05	-212.14	621.95	0.00

## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
620.10	-211.79	621.95	0.00
620.15	-211.15	621.95	0.00
620.20	-210.31	621.95	0.00
620.25	-209.32	621.95	0.00
620.30	-208.18	621.95	0.00
620.35	-206.91	621.95	0.00
620.40	-205.52	621.95	0.00
620.45	-204.00	621.95	0.00
620.50	-202.37	621.95	0.00
620.55	-200.62	621.95	0.00
620.60	-198.75	621.95	0.00
620.65	-196.77	621.95	0.00
620.70	-194.66	621.95	0.00
620.75	-192.44	621.95	0.00
620.80	-190.09	621.95	0.00
620.85	-187.61	621.95	0.00
620.90	-185.00	621.95	0.00
620.95	-182.24	621.95	0.00
621.00	-179.34	621.95	0.00
621.05	-176.28	621.95	0.00
621.10	-173.05	621.95	0.00
621.15	-169.63	621.95	0.00
621.20	-166.03	621.95	0.00
621.25	-162.21	621.95	0.00
621.30	-158.15	621.95	0.00
621.35	-153.84	621.95	0.00
621.40	-149.23	621.95	0.00
621.45	-144.29	621.95	0.00
621.50	-138.97	621.95	0.00
621.55	-133.20	621.95	0.00
621.60	-126.88	621.95	0.00
621.65	-119.91	621.95	0.00
621.70	-112.09	621.95	0.00
621.75	-103.14	621.95	0.00
621.80	-92.58	621.95	0.00
621.85	-79.41	621.95	0.00
621.90	-60.97	621.95	0.00
621.95	0.00	621.95	0.00
622.00	62.76	621.95	0.00

#### Contributing Structures

Weir - 1
Weir - 1







## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
618.00	-220.57	622.00	0.00
618.05	-220.57	622.00	0.00
618.10	-220.57	622.00	0.00
618.15	-220.57	622.00	0.00
618.20	-220.57	622.00	0.00
618.25	-220.57	622.00	0.00
618.30	-220.57	622.00	0.00
618.35	-220.57	622.00	0.00
618.40	-220.57	622.00	0.00
618.45	-220.57	622.00	0.00
618.50	-220.57	622.00	0.00
618.55	-220.57	622.00	0.00
618.60	-220.57	622.00	0.00
618.65	-220.57	622.00	0.00
618.70	-220.57	622.00	0.00
618.75	-220.57	622.00	0.00
618.80	-220.57	622.00	0.00
618.85	-220.57	622.00	0.00
618.90	-220.57	622.00	0.00
618.95	-220.57	622.00	0.00
619.00	-220.57	622.00	0.00
619.05	-220.57	622.00	0.00
619.10	-220.57	622.00	0.00
619.15	-220.57	622.00	0.00
619.20	-220.57	622.00	0.00
619.25	-220.57	622.00	0.00
619.30	-220.57	622.00	0.00
619.35	-220.57	622.00	0.00
619.40	-220.57	622.00	0.00
619.45	-220.57	622.00	0.00
619.50	-220.57	622.00	0.00
619.55	-220.57	622.00	0.00
619.60	-220.57	622.00	0.00
619.65	-220.57	622.00	0.00
619.70	-220.57	622.00	0.00
619.75	-220.57	622.00	0.00
619.80	-220.57	622.00	0.00
619.85	-220.57	622.00	0.00
619.90	-220.57	622.00	0.00
619.95	-220.57	622.00	0.00
620.00	-220.57	622.00	0.00
620.05	-220.57	622.00	0.00

## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Infiltration Basin Overflow  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
620.10	-220.22	622.00	0.00
620.15	-219.58	622.00	0.00
620.20	-218.74	622.00	0.00
620.25	-217.75	622.00	0.00
620.30	-216.61	622.00	0.00
620.35	-215.34	622.00	0.00
620.40	-213.95	622.00	0.00
620.45	-212.44	622.00	0.00
620.50	-210.81	622.00	0.00
620.55	-209.07	622.00	0.00
620.60	-207.21	622.00	0.00
620.65	-205.23	622.00	0.00
620.70	-203.14	622.00	0.00
620.75	-200.93	622.00	0.00
620.80	-198.60	622.00	0.00
620.85	-196.14	622.00	0.00
620.90	-193.55	622.00	0.00
620.95	-190.82	622.00	0.00
621.00	-187.95	622.00	0.00
621.05	-184.93	622.00	0.00
621.10	-181.75	622.00	0.00
621.15	-178.40	622.00	0.00
621.20	-174.86	622.00	0.00
621.25	-171.12	622.00	0.00
621.30	-167.17	622.00	0.00
621.35	-162.97	622.00	0.00
621.40	-158.51	622.00	0.00
621.45	-153.75	622.00	0.00
621.50	-148.65	622.00	0.00
621.55	-143.15	622.00	0.00
621.60	-137.19	622.00	0.00
621.65	-130.68	622.00	0.00
621.70	-123.49	622.00	0.00
621.75	-115.43	622.00	0.00
621.80	-106.20	622.00	0.00
621.85	-95.32	622.00	0.00
621.90	-81.75	622.00	0.00
621.95	-62.76	622.00	0.00
622.00	0.00	622.00	0.00

#### Contributing Structures

Weir - 1
Weir - 1





## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Subsurface System 2B  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
491.50	0.00	(N/A)	0.00
492.00	0.00	(N/A)	0.00
492.50	0.00	(N/A)	0.00
493.00	0.00	(N/A)	0.00
493.50	0.00	(N/A)	0.00
494.00	0.00	(N/A)	0.00
494.50	0.80	(N/A)	0.00
495.00	2.82	(N/A)	0.00

### Contributing Structures

None Contributing
None Contributing
None Contributing
None Contributing
None Contributing
None Contributing
Culvert - 1
Culvert - 1

## Stormwater Hydrologic Calculations

Subsection: Composite Rating Curve  
 Label: Subsurface System 2C  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
555.50	0.00	(N/A)	0.00
556.00	0.00	(N/A)	0.00
556.50	0.00	(N/A)	0.00
557.00	0.00	(N/A)	0.00
557.50	0.00	(N/A)	0.00
558.00	0.00	(N/A)	0.00
558.50	0.80	(N/A)	0.00
559.00	2.82	(N/A)	0.00

### Contributing Structures

None Contributing
None Contributing
None Contributing
None Contributing
None Contributing
None Contributing
Culvert - 1
Culvert - 1

## Stormwater Hydrologic Calculations

Subsection: Interconnected Pond Routing Summary

Label: DB-1C-2/10

Scenario: Post-Development 1 year

Return Event: 1 years

Storm Event: 1 year

Infiltration																													
Infiltration Method (Computed)	No Infiltration																												
Initial Conditions			Calculation Tolerances																										
Elevation (Starting Water Surface Computed)	620.00	ft	Flow Tolerance (Minimum)	0.000	ft <sup>3</sup> /s																								
Volume (Starting)	0	ft <sup>3</sup>	Maximum Iterations	35																									
Outflow (Starting)	0.00	ft <sup>3</sup> /s	ICPM Time Step	0.050	hours																								
<table style="width: 100%; border: none;"> <tr> <td></td> <td style="text-align: center;">Time to Peak (hours)</td> <td style="text-align: center;">Maximum Storage Elevation (ft)</td> <td style="text-align: center;">Volume (ft<sup>3</sup>)</td> <td colspan="2"></td> </tr> <tr> <td></td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">620.00</td> <td style="text-align: center;">0</td> <td colspan="2"></td> </tr> </table>							Time to Peak (hours)	Maximum Storage Elevation (ft)	Volume (ft <sup>3</sup> )				0.000	620.00	0														
	Time to Peak (hours)	Maximum Storage Elevation (ft)	Volume (ft <sup>3</sup> )																										
	0.000	620.00	0																										
<table style="width: 100%; border: none;"> <tr> <td></td> <td colspan="2" style="text-align: center;">Forward Flow Peaks</td> <td colspan="2" style="text-align: center;">Reverse Flow Peaks</td> <td></td> </tr> <tr> <td></td> <td style="text-align: center;">Time to Peak (hours)</td> <td style="text-align: center;">Flow (Peak) (ft<sup>3</sup>/s)</td> <td style="text-align: center;">Time to Peak (hours)</td> <td style="text-align: center;">Flow (Peak) (ft<sup>3</sup>/s)</td> <td></td> </tr> <tr> <td>Pond Inflow....</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.00</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.00</td> <td></td> </tr> <tr> <td>Pond Outflow...</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.00</td> <td style="text-align: center;">0.000</td> <td style="text-align: center;">0.00</td> <td></td> </tr> </table>							Forward Flow Peaks		Reverse Flow Peaks				Time to Peak (hours)	Flow (Peak) (ft <sup>3</sup> /s)	Time to Peak (hours)	Flow (Peak) (ft <sup>3</sup> /s)		Pond Inflow....	0.000	0.00	0.000	0.00		Pond Outflow...	0.000	0.00	0.000	0.00	
	Forward Flow Peaks		Reverse Flow Peaks																										
	Time to Peak (hours)	Flow (Peak) (ft <sup>3</sup> /s)	Time to Peak (hours)	Flow (Peak) (ft <sup>3</sup> /s)																									
Pond Inflow....	0.000	0.00	0.000	0.00																									
Pond Outflow...	0.000	0.00	0.000	0.00																									
<table style="width: 100%; border: none;"> <tr> <td></td> <td colspan="2" style="text-align: center;">Total Volume In</td> <td colspan="2" style="text-align: center;">Total Volume Out</td> <td></td> </tr> <tr> <td></td> <td style="text-align: center;">Volume (ft<sup>3</sup>)</td> <td style="text-align: center;">Direction</td> <td style="text-align: center;">Volume (ft<sup>3</sup>)</td> <td style="text-align: center;">Direction</td> <td></td> </tr> <tr> <td>Pond Inflow....</td> <td style="text-align: center;">0</td> <td style="text-align: center;">Forward</td> <td style="text-align: center;">0</td> <td style="text-align: center;">Reverse</td> <td></td> </tr> <tr> <td>Pond Outflow...</td> <td style="text-align: center;">0</td> <td style="text-align: center;">Reverse</td> <td style="text-align: center;">0</td> <td style="text-align: center;">Forward</td> <td></td> </tr> </table>							Total Volume In		Total Volume Out				Volume (ft <sup>3</sup> )	Direction	Volume (ft <sup>3</sup> )	Direction		Pond Inflow....	0	Forward	0	Reverse		Pond Outflow...	0	Reverse	0	Forward	
	Total Volume In		Total Volume Out																										
	Volume (ft <sup>3</sup> )	Direction	Volume (ft <sup>3</sup> )	Direction																									
Pond Inflow....	0	Forward	0	Reverse																									
Pond Outflow...	0	Reverse	0	Forward																									
Mass Balance (ft <sup>3</sup> )																													
Volume (Initial ICPM)	0 ft <sup>3</sup>																												
Volume (Total In ICPM)	0 ft <sup>3</sup>																												
Volume (Total Out ICPM)	0 ft <sup>3</sup>																												
Volume (Ending)	0 ft <sup>3</sup>																												
Elevation (Ending)	620.00 ft																												
Difference	0 ft <sup>3</sup>																												
Percent of Inflow Volume (Interconnected Pond Mass Balance)	0.0 %																												



## Stormwater Hydrologic Calculations

Subsection: Interconnected Pond Routing Summary  
 Label: DB-1C-2/10  
 Scenario: Post-Development 10 year

Return Event: 10 years  
 Storm Event: 10 year

Infiltration					
Infiltration Method (Computed)	No Infiltration				
Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	620.00	ft	Flow Tolerance (Minimum)	0.000	ft <sup>3</sup> /s
Volume (Starting)	0	ft <sup>3</sup>	Maximum Iterations	35	
Outflow (Starting)	0.00	ft <sup>3</sup> /s	ICPM Time Step	0.050	hours

	Time to Peak (hours)	Maximum Storage Elevation (ft)	Volume (ft <sup>3</sup> )
	12.500	620.76	10,670

	Forward Flow Peaks		Reverse Flow Peaks	
	Time to Peak (hours)	Flow (Peak) (ft <sup>3</sup> /s)	Time to Peak (hours)	Flow (Peak) (ft <sup>3</sup> /s)
Pond Inflow....	12.200	23.13	0.000	0.00
Pond Outflow...	12.500	11.96	0.000	0.00

	Total Volume In		Total Volume Out	
	Volume (ft <sup>3</sup> )	Direction	Volume (ft <sup>3</sup> )	Direction
Pond Inflow....	55,604	Forward	0	Reverse
Pond Outflow...	0	Reverse	55,598	Forward

Mass Balance (ft <sup>3</sup> )	
Volume (Initial ICPM)	0 ft <sup>3</sup>
Volume (Total In ICPM)	55,604 ft <sup>3</sup>
Volume (Total Out ICPM)	55,598 ft <sup>3</sup>
Volume (Ending)	7 ft <sup>3</sup>
Elevation (Ending)	620.00 ft
Difference	0 ft <sup>3</sup>
Percent of Inflow Volume (Interconnected Pond Mass Balance)	0.0 %

## Stormwater Hydrologic Calculations

Subsection: Interconnected Pond Routing Summary  
 Label: DB-1C-2/10  
 Scenario: Post-Development 25 year

Return Event: 25 years  
 Storm Event: 25 year

Infiltration					
Infiltration Method (Computed)	No Infiltration				
Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	620.00	ft	Flow Tolerance (Minimum)	0.000	ft <sup>3</sup> /s
Volume (Starting)	0	ft <sup>3</sup>	Maximum Iterations	35	
Outflow (Starting)	0.00	ft <sup>3</sup> /s	ICPM Time Step	0.050	hours

	Time to Peak (hours)	Maximum Storage Elevation (ft)	Volume (ft <sup>3</sup> )
	12.400	621.17	16,401

	Forward Flow Peaks		Reverse Flow Peaks	
	Time to Peak (hours)	Flow (Peak) (ft <sup>3</sup> /s)	Time to Peak (hours)	Flow (Peak) (ft <sup>3</sup> /s)
Pond Inflow....	12.150	36.15	0.000	0.00
Pond Outflow...	12.400	22.79	0.000	0.00

	Total Volume In		Total Volume Out	
	Volume (ft <sup>3</sup> )	Direction	Volume (ft <sup>3</sup> )	Direction
Pond Inflow....	100,579	Forward	0	Reverse
Pond Outflow...	0	Reverse	100,569	Forward

Mass Balance (ft <sup>3</sup> )	
Volume (Initial ICPM)	0 ft <sup>3</sup>
Volume (Total In ICPM)	100,579 ft <sup>3</sup>
Volume (Total Out ICPM)	100,569 ft <sup>3</sup>
Volume (Ending)	10 ft <sup>3</sup>
Elevation (Ending)	620.00 ft
Difference	0 ft <sup>3</sup>
Percent of Inflow Volume (Interconnected Pond Mass Balance)	0.0 %

## Stormwater Hydrologic Calculations

Subsection: Interconnected Pond Routing Summary

Return Event: 100 years

Label: DB-1C-2/10

Storm Event: 100 year

Scenario: Post-Development 100 year

Infiltration					
Infiltration Method (Computed)	No Infiltration				
Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	620.00	ft	Flow Tolerance (Minimum)	0.000	ft <sup>3</sup> /s
Volume (Starting)	0	ft <sup>3</sup>	Maximum Iterations	35	
Outflow (Starting)	0.00	ft <sup>3</sup> /s	ICPM Time Step	0.050	hours

	Time to Peak (hours)	Maximum Storage Elevation (ft)	Volume (ft <sup>3</sup> )
	12.300	621.87	26,194

	Forward Flow Peaks		Reverse Flow Peaks	
	Time to Peak (hours)	Flow (Peak) (ft <sup>3</sup> /s)	Time to Peak (hours)	Flow (Peak) (ft <sup>3</sup> /s)
Pond Inflow....	12.150	58.99	0.000	0.00
Pond Outflow...	12.300	49.51	0.000	0.00

	Total Volume In		Total Volume Out	
	Volume (ft <sup>3</sup> )	Direction	Volume (ft <sup>3</sup> )	Direction
Pond Inflow....	205,620	Forward	0	Reverse
Pond Outflow...	0	Reverse	205,594	Forward

Mass Balance (ft <sup>3</sup> )	
Volume (Initial ICPM)	0 ft <sup>3</sup>
Volume (Total In ICPM)	205,620 ft <sup>3</sup>
Volume (Total Out ICPM)	205,594 ft <sup>3</sup>
Volume (Ending)	25 ft <sup>3</sup>
Elevation (Ending)	620.00 ft
Difference	1 ft <sup>3</sup>
Percent of Inflow Volume (Interconnected Pond Mass Balance)	0.0 %

## Stormwater Hydrologic Calculations

Subsection: Interconnected Pond Routing Summary

Label: IB-1C-2/10

Scenario: Post-Development 1 year

Return Event: 1 years

Storm Event: 1 year

Infiltration					
Infiltration Method (Computed)	Constant				
Infiltration Rate (Constant)	1.65 ft <sup>3</sup> /s				

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	618.00	ft	Flow Tolerance (Minimum)	0.000	ft <sup>3</sup> /s
Volume (Starting)	0	ft <sup>3</sup>	Maximum Iterations	35	
Infiltration (Starting ICPM)	0.00	ft <sup>3</sup> /s	ICPM Time Step	0.050	hours
Outflow (Starting)	0.00	ft <sup>3</sup> /s	Output Increment	0.050	hours

	Maximum Storage	
	Time to Peak (hours)	Elevation (ft)
	23.900	619.58
		15,820

	Forward Flow Peaks		Reverse Flow Peaks	
	Time to Peak (hours)	Flow (Peak) (ft <sup>3</sup> /s)	Time to Peak (hours)	Flow (Peak) (ft <sup>3</sup> /s)
Pond Inflow....	12.150	11.68	0.000	0.00
Infiltration...	11.850	1.65	0.000	0.00
Pond Outflow...	0.000	0.00	0.000	0.00

	Total Volume In		Total Volume Out	
	Volume (ft <sup>3</sup> )	Direction	Volume (ft <sup>3</sup> )	Direction
Pond Inflow....	46,701	Forward	0	Reverse
Infiltration...	0	Reverse	30,860	Forward
Pond Outflow...	0	Reverse	0	Forward

Mass Balance (ft <sup>3</sup> )	
Volume (Initial ICPM)	0 ft <sup>3</sup>
Volume (Total In ICPM)	46,701 ft <sup>3</sup>
Volume (Total Out ICPM)	30,860 ft <sup>3</sup>
Volume (Ending)	15,821 ft <sup>3</sup>
Elevation (Ending)	619.58 ft
Difference	20 ft <sup>3</sup>
Percent of Inflow Volume (Interconnected Pond Mass Balance)	0.0 %

## Stormwater Hydrologic Calculations

Subsection: Interconnected Pond Routing Summary  
 Label: IB-1C-2/10  
 Scenario: Post-Development 10 year

Return Event: 10 years  
 Storm Event: 10 year

Infiltration					
Infiltration Method (Computed)		Constant			
Infiltration Rate (Constant)		1.65 ft <sup>3</sup> /s			

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	618.00	ft	Flow Tolerance (Minimum)	0.000	ft <sup>3</sup> /s
Volume (Starting)	0	ft <sup>3</sup>	Maximum Iterations	35	
Infiltration (Starting ICPM)	0.00	ft <sup>3</sup> /s	ICPM Time Step	0.050	hours
Outflow (Starting)	0.00	ft <sup>3</sup> /s	Output Increment	0.050	hours

Maximum Storage		
Time to Peak (hours)	Elevation (ft)	Volume (ft <sup>3</sup> )
12.550	620.78	31,604

	Forward Flow Peaks		Reverse Flow Peaks	
	Time to Peak (hours)	Flow (Peak) (ft <sup>3</sup> /s)	Time to Peak (hours)	Flow (Peak) (ft <sup>3</sup> /s)
Pond Inflow....	12.150	35.25	0.000	0.00
Infiltration...	11.100	1.65	0.000	0.00
Pond Outflow...	12.200	23.13	0.000	0.00

	Total Volume In		Total Volume Out	
	Volume (ft <sup>3</sup> )	Direction	Volume (ft <sup>3</sup> )	Direction
Pond Inflow....	136,135	Forward	0	Reverse
Infiltration...	0	Reverse	59,678	Forward
Pond Outflow...	0	Reverse	55,604	Forward

Mass Balance (ft <sup>3</sup> )	
Volume (Initial ICPM)	0 ft <sup>3</sup>
Volume (Total In ICPM)	136,135 ft <sup>3</sup>
Volume (Total Out ICPM)	115,283 ft <sup>3</sup>
Volume (Ending)	20,806 ft <sup>3</sup>
Elevation (Ending)	620.05 ft
Difference	47 ft <sup>3</sup>
Percent of Inflow Volume (Interconnected Pond Mass Balance)	0.0 %

# Stormwater Hydrologic Calculations

Subsection: Interconnected Pond Routing Summary  
 Label: IB-1C-2/10  
 Scenario: Post-Development 25 year

Return Event: 25 years  
 Storm Event: 25 year

Infiltration					
Infiltration Method (Computed)		Constant			
Infiltration Rate (Constant)		1.65 ft <sup>3</sup> /s			

Initial Conditions			Calculation Tolerances		
Elevation (Starting Water Surface Computed)	618.00	ft	Flow Tolerance (Minimum)	0.000	ft <sup>3</sup> /s
Volume (Starting)	0	ft <sup>3</sup>	Maximum Iterations	35	
Infiltration (Starting ICPM)	0.00	ft <sup>3</sup> /s	ICPM Time Step	0.050	hours
Outflow (Starting)	0.00	ft <sup>3</sup> /s	Output Increment	0.050	hours

Maximum Storage		
Time to Peak (hours)	Elevation (ft)	Volume (ft <sup>3</sup> )
12.450	621.20	37,712

	Forward Flow Peaks		Reverse Flow Peaks	
	Time to Peak (hours)	Flow (Peak) (ft <sup>3</sup> /s)	Time to Peak (hours)	Flow (Peak) (ft <sup>3</sup> /s)
Pond Inflow....	12.150	49.78	0.000	0.00
Infiltration...	10.400	1.65	0.000	0.00
Pond Outflow...	12.150	36.15	0.000	0.00

	Total Volume In		Total Volume Out	
	Volume (ft <sup>3</sup> )	Direction	Volume (ft <sup>3</sup> )	Direction
Pond Inflow....	193,258	Forward	0	Reverse
Infiltration...	0	Reverse	71,807	Forward
Pond Outflow...	0	Reverse	100,579	Forward

Mass Balance (ft <sup>3</sup> )	
Volume (Initial ICPM)	0 ft <sup>3</sup>
Volume (Total In ICPM)	193,258 ft <sup>3</sup>
Volume (Total Out ICPM)	172,386 ft <sup>3</sup>
Volume (Ending)	20,806 ft <sup>3</sup>
Elevation (Ending)	620.05 ft
Difference	66 ft <sup>3</sup>
Percent of Inflow Volume (Interconnected Pond Mass Balance)	0.0 %

## Stormwater Hydrologic Calculations

Subsection: Interconnected Pond Routing Summary

Return Event: 100 years

Label: IB-1C-2/10

Storm Event: 100 year

Scenario: Post-Development 100 year

### Infiltration

Infiltration Method (Computed)	Constant
Infiltration Rate (Constant)	1.65 ft <sup>3</sup> /s

### Initial Conditions

### Calculation Tolerances

Elevation (Starting Water Surface Computed)	618.00	ft	Flow Tolerance (Minimum)	0.000	ft <sup>3</sup> /s
Volume (Starting)	0	ft <sup>3</sup>	Maximum Iterations	35	
Infiltration (Starting ICPM)	0.00	ft <sup>3</sup> /s	ICPM Time Step	0.050	hours
Outflow (Starting)	0.00	ft <sup>3</sup> /s	Output Increment	0.050	hours

	Maximum Storage		
	Time to Peak (hours)	Elevation (ft)	Volume (ft <sup>3</sup> )
	12.350	621.91	48,174

	Forward Flow Peaks		Reverse Flow Peaks	
	Time to Peak (hours)	Flow (Peak) (ft <sup>3</sup> /s)	Time to Peak (hours)	Flow (Peak) (ft <sup>3</sup> /s)
Pond Inflow....	12.150	80.13	0.000	0.00
Infiltration...	9.150	1.65	0.000	0.00
Pond Outflow...	12.150	58.99	0.000	0.00

	Total Volume In		Total Volume Out	
	Volume (ft <sup>3</sup> )	Direction	Volume (ft <sup>3</sup> )	Direction
Pond Inflow....	316,447	Forward	0	Reverse
Infiltration...	0	Reverse	89,996	Forward
Pond Outflow...	0	Reverse	205,620	Forward

### Mass Balance (ft<sup>3</sup>)

Volume (Initial ICPM)	0 ft <sup>3</sup>
Volume (Total In ICPM)	316,447 ft <sup>3</sup>
Volume (Total Out ICPM)	295,615 ft <sup>3</sup>
Volume (Ending)	20,807 ft <sup>3</sup>
Elevation (Ending)	620.05 ft
Difference	24 ft <sup>3</sup>
Percent of Inflow Volume (Interconnected Pond Mass Balance)	0.0 %

## Stormwater Hydrologic Calculations

Subsection: Elevation-Volume-Flow Table (Pond)

Label: SUB-2B

Scenario: Post-Development 1 year

Return Event: 1 years

Storm Event: 1 year

Infiltration	
Infiltration Method (Computed)	Constant
Infiltration Rate (Constant)	0.03 ft <sup>3</sup> /s
Initial Conditions	
Elevation (Water Surface, Initial)	491.50 ft
Volume (Initial)	0 ft <sup>3</sup>
Flow (Initial Outlet)	0.00 ft <sup>3</sup> /s
Flow (Initial Infiltration)	0.00 ft <sup>3</sup> /s
Flow (Initial, Total)	0.00 ft <sup>3</sup> /s
Time Increment	0.050 hours

Elevation (ft)	Outflow (ft <sup>3</sup> /s)	Storage (ft <sup>3</sup> )	Area (ft <sup>2</sup> )	Infiltration (ft <sup>3</sup> /s)	Flow (Total) (ft <sup>3</sup> /s)	2S/t + O (ft <sup>3</sup> /s)
491.50	0.00	0	0	0.00	0.00	0.00
492.00	0.00	406	0	0.03	0.03	4.54
492.50	0.00	1,279	0	0.03	0.03	14.24
493.00	0.00	2,114	0	0.03	0.03	23.52
493.50	0.00	2,891	0	0.03	0.03	32.16
494.00	0.00	3,580	0	0.03	0.03	39.81
494.50	0.80	4,088	0	0.03	0.83	46.26
495.00	2.82	4,494	0	0.03	2.85	52.79



## Stormwater Hydrologic Calculations

Subsection: Level Pool Pond Routing Summary  
 Label: SUB-2B (IN)  
 Scenario: Post-Development 1 year

Return Event: 1 years  
 Storm Event: 1 year

Infiltration	
Infiltration Method (Computed)	Constant
Infiltration Rate (Constant)	0.03 ft <sup>3</sup> /s

Initial Conditions	
Elevation (Water Surface, Initial)	491.50 ft
Volume (Initial)	0 ft <sup>3</sup>
Flow (Initial Outlet)	0.00 ft <sup>3</sup> /s
Flow (Initial Infiltration)	0.00 ft <sup>3</sup> /s
Flow (Initial, Total)	0.00 ft <sup>3</sup> /s
Time Increment	0.050 hours

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	0.82 ft <sup>3</sup> /s	Time to Peak (Flow, In)	12.100 hours
Infiltration (Peak)	0.03 ft <sup>3</sup> /s	Time to Peak (Infiltration)	11.300 hours
Flow (Peak Outlet)	0.00 ft <sup>3</sup> /s	Time to Peak (Flow, Outlet)	0.000 hours

Elevation (Water Surface, Peak)	492.95 ft
Volume (Peak)	2,026 ft <sup>3</sup>

Mass Balance (ft <sup>3</sup> )	
Volume (Initial)	0 ft <sup>3</sup>
Volume (Total Inflow)	3,293 ft <sup>3</sup>
Volume (Total Infiltration)	1,819 ft <sup>3</sup>
Volume (Total Outlet Outflow)	0 ft <sup>3</sup>
Volume (Retained)	1,476 ft <sup>3</sup>
Volume (Unrouted)	3 ft <sup>3</sup>
Error (Mass Balance)	0.1 %

## Stormwater Hydrologic Calculations

Subsection: Level Pool Pond Routing Summary

Label: SUB-2B (IN)

Scenario: Post-Development 10 year

Return Event: 10 years

Storm Event: 10 year

---

### Infiltration

---

Infiltration Method (Computed)	Constant
Infiltration Rate (Constant)	0.03 ft <sup>3</sup> /s

---

### Initial Conditions

---

Elevation (Water Surface, Initial)	491.50 ft
Volume (Initial)	0 ft <sup>3</sup>
Flow (Initial Outlet)	0.00 ft <sup>3</sup> /s
Flow (Initial Infiltration)	0.00 ft <sup>3</sup> /s
Flow (Initial, Total)	0.00 ft <sup>3</sup> /s
Time Increment	0.050 hours

---



---

### Inflow/Outflow Hydrograph Summary

---

Flow (Peak In)	1.52 ft <sup>3</sup> /s	Time to Peak (Flow, In)	12.100 hours
Infiltration (Peak)	0.03 ft <sup>3</sup> /s	Time to Peak (Infiltration)	9.300 hours
Flow (Peak Outlet)	0.12 ft <sup>3</sup> /s	Time to Peak (Flow, Outlet)	12.900 hours

---

Elevation (Water Surface, Peak)	494.08 ft
Volume (Peak)	3,669 ft <sup>3</sup>

---

### Mass Balance (ft<sup>3</sup>)

---

Volume (Initial)	0 ft <sup>3</sup>
Volume (Total Inflow)	6,259 ft <sup>3</sup>
Volume (Total Infiltration)	2,100 ft <sup>3</sup>
Volume (Total Outlet Outflow)	824 ft <sup>3</sup>
Volume (Retained)	3,345 ft <sup>3</sup>
Volume (Unrouted)	10 ft <sup>3</sup>
Error (Mass Balance)	0.2 %

---

## Stormwater Hydrologic Calculations

Subsection: Level Pool Pond Routing Summary

Label: SUB-2B (IN)

Scenario: Post-Development 25 year

Return Event: 25 years

Storm Event: 25 year

Infiltration			
Infiltration Method (Computed)		Constant	
Infiltration Rate (Constant)		0.03 ft <sup>3</sup> /s	
Initial Conditions			
Elevation (Water Surface, Initial)		491.50 ft	
Volume (Initial)		0 ft <sup>3</sup>	
Flow (Initial Outlet)		0.00 ft <sup>3</sup> /s	
Flow (Initial Infiltration)		0.00 ft <sup>3</sup> /s	
Flow (Initial, Total)		0.00 ft <sup>3</sup> /s	
Time Increment		0.050 hours	
Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	1.91 ft <sup>3</sup> /s	Time to Peak (Flow, In)	12.100 hours
Infiltration (Peak)	0.03 ft <sup>3</sup> /s	Time to Peak (Infiltration)	8.400 hours
Flow (Peak Outlet)	0.62 ft <sup>3</sup> /s	Time to Peak (Flow, Outlet)	12.400 hours
Peak Values			
Elevation (Water Surface, Peak)		494.39 ft	
Volume (Peak)		3,989 ft <sup>3</sup>	
Mass Balance (ft <sup>3</sup> )			
Volume (Initial)		0 ft <sup>3</sup>	
Volume (Total Inflow)		7,949 ft <sup>3</sup>	
Volume (Total Infiltration)		2,212 ft <sup>3</sup>	
Volume (Total Outlet Outflow)		2,286 ft <sup>3</sup>	
Volume (Retained)		3,457 ft <sup>3</sup>	
Volume (Unrouted)		5 ft <sup>3</sup>	
Error (Mass Balance)		0.1 %	

## Stormwater Hydrologic Calculations

Subsection: Level Pool Pond Routing Summary

Return Event: 100 years

Label: SUB-2B (IN)

Storm Event: 100 year

Scenario: Post-Development 100 year

Infiltration			
Infiltration Method (Computed)	Constant		
Infiltration Rate (Constant)		0.03 ft <sup>3</sup> /s	
Initial Conditions			
Elevation (Water Surface, Initial)		491.50 ft	
Volume (Initial)		0 ft <sup>3</sup>	
Flow (Initial Outlet)		0.00 ft <sup>3</sup> /s	
Flow (Initial Infiltration)		0.00 ft <sup>3</sup> /s	
Flow (Initial, Total)		0.00 ft <sup>3</sup> /s	
Time Increment		0.050 hours	
Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	2.72 ft <sup>3</sup> /s	Time to Peak (Flow, In)	12.100 hours
Infiltration (Peak)	0.03 ft <sup>3</sup> /s	Time to Peak (Infiltration)	6.750 hours
Flow (Peak Outlet)	2.35 ft <sup>3</sup> /s	Time to Peak (Flow, Outlet)	12.150 hours
Peak Values			
Elevation (Water Surface, Peak)		494.88 ft	
Volume (Peak)		4,400 ft <sup>3</sup>	
Mass Balance (ft <sup>3</sup> )			
Volume (Initial)		0 ft <sup>3</sup>	
Volume (Total Inflow)		11,407 ft <sup>3</sup>	
Volume (Total Infiltration)		2,378 ft <sup>3</sup>	
Volume (Total Outlet Outflow)		5,468 ft <sup>3</sup>	
Volume (Retained)		3,562 ft <sup>3</sup>	
Volume (Unrouted)		1 ft <sup>3</sup>	
Error (Mass Balance)		0.0 %	

## Stormwater Hydrologic Calculations

Subsection: Pond Routing Calculations (Total Out)

Return Event: 1 years

Label: SUB-2B (OUT)

Storm Event: 1 year

Scenario: Post-Development 1 year

### Pond Routing Calculations (Total Out)

Time (hours)	Flow (Total In) (ft <sup>3</sup> /s)	2S/t - 0 (ft <sup>3</sup> /s)	2S/t + 0 (ft <sup>3</sup> /s)	Infiltration (ft <sup>3</sup> /s)	Flow (Outlet) (ft <sup>3</sup> /s)	Volume (ft <sup>3</sup> )	Elevation (ft)
0.000	0.00	0.00	0.00	0.00	0.00	0	491.50
0.050	0.00	0.00	0.00	0.00	0.00	0	491.50
0.100	0.00	0.00	0.00	0.00	0.00	0	491.50
0.150	0.00	0.00	0.00	0.00	0.00	0	491.50
0.200	0.00	0.00	0.00	0.00	0.00	0	491.50
0.250	0.00	0.00	0.00	0.00	0.00	0	491.50
0.300	0.00	0.00	0.00	0.00	0.00	0	491.50
0.350	0.00	0.00	0.00	0.00	0.00	0	491.50
0.400	0.00	0.00	0.00	0.00	0.00	0	491.50
0.450	0.00	0.00	0.00	0.00	0.00	0	491.50
0.500	0.00	0.00	0.00	0.00	0.00	0	491.50
0.550	0.00	0.00	0.00	0.00	0.00	0	491.50
0.600	0.00	0.00	0.00	0.00	0.00	0	491.50
0.650	0.00	0.00	0.00	0.00	0.00	0	491.50
0.700	0.00	0.00	0.00	0.00	0.00	0	491.50
0.750	0.00	0.00	0.00	0.00	0.00	0	491.50
0.800	0.00	0.00	0.00	0.00	0.00	0	491.50
0.850	0.00	0.00	0.00	0.00	0.00	0	491.50
0.900	0.00	0.00	0.00	0.00	0.00	0	491.50
0.950	0.00	0.00	0.00	0.00	0.00	0	491.50
1.000	0.00	0.00	0.00	0.00	0.00	0	491.50
1.050	0.00	0.00	0.00	0.00	0.00	0	491.50
1.100	0.00	0.00	0.00	0.00	0.00	0	491.50
1.150	0.00	0.00	0.00	0.00	0.00	0	491.50
1.200	0.00	0.00	0.00	0.00	0.00	0	491.50
1.250	0.00	0.00	0.00	0.00	0.00	0	491.50
1.300	0.00	0.00	0.00	0.00	0.00	0	491.50
1.350	0.00	0.00	0.00	0.00	0.00	0	491.50
1.400	0.00	0.00	0.00	0.00	0.00	0	491.50
1.450	0.00	0.00	0.00	0.00	0.00	0	491.50
1.500	0.00	0.00	0.00	0.00	0.00	0	491.50
1.550	0.00	0.00	0.00	0.00	0.00	0	491.50
1.600	0.00	0.00	0.00	0.00	0.00	0	491.50
1.650	0.00	0.00	0.00	0.00	0.00	0	491.50
1.700	0.00	0.00	0.00	0.00	0.00	0	491.50
1.750	0.00	0.00	0.00	0.00	0.00	0	491.50
1.800	0.00	0.00	0.00	0.00	0.00	0	491.50
1.850	0.00	0.01	0.01	0.00	0.00	0	491.50
1.900	0.00	0.01	0.01	0.00	0.00	1	491.50
1.950	0.00	0.01	0.01	0.00	0.00	1	491.50
2.000	0.00	0.01	0.01	0.00	0.00	1	491.50
2.050	0.00	0.01	0.01	0.00	0.00	1	491.50

## Stormwater Hydrologic Calculations

Subsection: Pond Routing Calculations (Total Out)

Return Event: 1 years

Label: SUB-2B (OUT)

Storm Event: 1 year

Scenario: Post-Development 1 year

### Pond Routing Calculations (Total Out)

Time (hours)	Flow (Total In) (ft <sup>3</sup> /s)	2S/t - 0 (ft <sup>3</sup> /s)	2S/t + 0 (ft <sup>3</sup> /s)	Infiltration (ft <sup>3</sup> /s)	Flow (Outlet) (ft <sup>3</sup> /s)	Volume (ft <sup>3</sup> )	Elevation (ft)
2.100	0.00	0.02	0.02	0.00	0.00	1	491.50
2.150	0.00	0.02	0.02	0.00	0.00	2	491.50
2.200	0.00	0.02	0.02	0.00	0.00	2	491.50
2.250	0.00	0.02	0.02	0.00	0.00	2	491.50
2.300	0.00	0.03	0.03	0.00	0.00	3	491.50
2.350	0.00	0.03	0.03	0.00	0.00	3	491.50
2.400	0.00	0.03	0.04	0.00	0.00	3	491.50
2.450	0.00	0.04	0.04	0.00	0.00	4	491.50
2.500	0.00	0.04	0.04	0.00	0.00	4	491.50
2.550	0.00	0.05	0.05	0.00	0.00	4	491.51
2.600	0.00	0.05	0.05	0.00	0.00	5	491.51
2.650	0.00	0.06	0.06	0.00	0.00	5	491.51
2.700	0.00	0.06	0.06	0.00	0.00	6	491.51
2.750	0.00	0.07	0.07	0.00	0.00	6	491.51
2.800	0.00	0.07	0.07	0.00	0.00	6	491.51
2.850	0.00	0.08	0.08	0.00	0.00	7	491.51
2.900	0.00	0.08	0.08	0.00	0.00	7	491.51
2.950	0.00	0.09	0.09	0.00	0.00	8	491.51
3.000	0.00	0.09	0.09	0.00	0.00	8	491.51
3.050	0.00	0.10	0.10	0.00	0.00	9	491.51
3.100	0.00	0.10	0.11	0.00	0.00	9	491.51
3.150	0.00	0.11	0.11	0.00	0.00	10	491.51
3.200	0.00	0.12	0.12	0.00	0.00	11	491.51
3.250	0.00	0.12	0.13	0.00	0.00	11	491.51
3.300	0.00	0.13	0.13	0.00	0.00	12	491.51
3.350	0.00	0.14	0.14	0.00	0.00	12	491.52
3.400	0.00	0.14	0.15	0.00	0.00	13	491.52
3.450	0.00	0.15	0.15	0.00	0.00	14	491.52
3.500	0.00	0.16	0.16	0.00	0.00	14	491.52
3.550	0.00	0.17	0.17	0.00	0.00	15	491.52
3.600	0.01	0.17	0.18	0.00	0.00	16	491.52
3.650	0.01	0.18	0.18	0.00	0.00	16	491.52
3.700	0.01	0.19	0.19	0.00	0.00	17	491.52
3.750	0.01	0.20	0.20	0.00	0.00	18	491.52
3.800	0.01	0.21	0.21	0.00	0.00	19	491.52
3.850	0.01	0.21	0.22	0.00	0.00	19	491.52
3.900	0.01	0.22	0.22	0.00	0.00	20	491.52
3.950	0.01	0.23	0.23	0.00	0.00	21	491.53
4.000	0.01	0.24	0.24	0.00	0.00	22	491.53
4.050	0.01	0.25	0.25	0.00	0.00	22	491.53
4.100	0.01	0.26	0.26	0.00	0.00	23	491.53
4.150	0.01	0.26	0.27	0.00	0.00	24	491.53

## Stormwater Hydrologic Calculations

Subsection: Pond Routing Calculations (Total Out)

Return Event: 1 years

Label: SUB-2B (OUT)

Storm Event: 1 year

Scenario: Post-Development 1 year

### Pond Routing Calculations (Total Out)

Time (hours)	Flow (Total In) (ft <sup>3</sup> /s)	2S/t - O (ft <sup>3</sup> /s)	2S/t + O (ft <sup>3</sup> /s)	Infiltration (ft <sup>3</sup> /s)	Flow (Outlet) (ft <sup>3</sup> /s)	Volume (ft <sup>3</sup> )	Elevation (ft)
4.200	0.01	0.27	0.28	0.00	0.00	25	491.53
4.250	0.01	0.28	0.29	0.00	0.00	26	491.53
4.300	0.01	0.29	0.30	0.00	0.00	26	491.53
4.350	0.01	0.30	0.31	0.00	0.00	27	491.53
4.400	0.01	0.31	0.32	0.00	0.00	28	491.53
4.450	0.01	0.32	0.33	0.00	0.00	29	491.54
4.500	0.01	0.33	0.34	0.00	0.00	30	491.54
4.550	0.01	0.34	0.34	0.00	0.00	31	491.54
4.600	0.01	0.35	0.35	0.00	0.00	32	491.54
4.650	0.01	0.36	0.36	0.00	0.00	33	491.54
4.700	0.01	0.37	0.38	0.00	0.00	34	491.54
4.750	0.01	0.38	0.39	0.00	0.00	34	491.54
4.800	0.01	0.39	0.40	0.00	0.00	35	491.54
4.850	0.01	0.40	0.41	0.00	0.00	36	491.54
4.900	0.01	0.41	0.42	0.00	0.00	37	491.55
4.950	0.01	0.42	0.43	0.00	0.00	38	491.55
5.000	0.01	0.43	0.44	0.00	0.00	39	491.55
5.050	0.01	0.44	0.45	0.00	0.00	40	491.55
5.100	0.01	0.45	0.46	0.00	0.00	41	491.55
5.150	0.01	0.46	0.47	0.00	0.00	42	491.55
5.200	0.01	0.47	0.48	0.00	0.00	43	491.55
5.250	0.01	0.49	0.49	0.00	0.00	44	491.55
5.300	0.01	0.50	0.50	0.00	0.00	45	491.56
5.350	0.01	0.51	0.51	0.00	0.00	46	491.56
5.400	0.01	0.52	0.53	0.00	0.00	47	491.56
5.450	0.01	0.53	0.54	0.00	0.00	48	491.56
5.500	0.01	0.54	0.55	0.00	0.00	49	491.56
5.550	0.01	0.55	0.56	0.00	0.00	50	491.56
5.600	0.01	0.56	0.57	0.00	0.00	51	491.56
5.650	0.01	0.58	0.58	0.00	0.00	52	491.56
5.700	0.01	0.59	0.60	0.00	0.00	53	491.57
5.750	0.01	0.60	0.61	0.00	0.00	54	491.57
5.800	0.01	0.61	0.62	0.00	0.00	55	491.57
5.850	0.01	0.62	0.63	0.00	0.00	56	491.57
5.900	0.01	0.63	0.64	0.00	0.00	57	491.57
5.950	0.01	0.64	0.65	0.00	0.00	58	491.57
6.000	0.01	0.66	0.67	0.00	0.00	60	491.57
6.050	0.01	0.67	0.68	0.00	0.00	61	491.57
6.100	0.01	0.68	0.69	0.01	0.00	62	491.58
6.150	0.01	0.69	0.70	0.01	0.00	63	491.58
6.200	0.01	0.71	0.72	0.01	0.00	64	491.58
6.250	0.01	0.72	0.73	0.01	0.00	65	491.58

## Stormwater Hydrologic Calculations

Subsection: Pond Routing Calculations (Total Out)

Return Event: 1 years

Label: SUB-2B (OUT)

Storm Event: 1 year

Scenario: Post-Development 1 year

### Pond Routing Calculations (Total Out)

Time (hours)	Flow (Total In) (ft <sup>3</sup> /s)	2S/t - O (ft <sup>3</sup> /s)	2S/t + O (ft <sup>3</sup> /s)	Infiltration (ft <sup>3</sup> /s)	Flow (Outlet) (ft <sup>3</sup> /s)	Volume (ft <sup>3</sup> )	Elevation (ft)
6.300	0.01	0.73	0.74	0.01	0.00	66	491.58
6.350	0.01	0.74	0.76	0.01	0.00	68	491.58
6.400	0.01	0.76	0.77	0.01	0.00	69	491.58
6.450	0.01	0.77	0.78	0.01	0.00	70	491.59
6.500	0.01	0.79	0.80	0.01	0.00	71	491.59
6.550	0.01	0.80	0.81	0.01	0.00	73	491.59
6.600	0.01	0.82	0.83	0.01	0.00	74	491.59
6.650	0.01	0.83	0.84	0.01	0.00	75	491.59
6.700	0.01	0.85	0.86	0.01	0.00	77	491.59
6.750	0.01	0.86	0.87	0.01	0.00	78	491.60
6.800	0.01	0.88	0.89	0.01	0.00	80	491.60
6.850	0.01	0.89	0.91	0.01	0.00	81	491.60
6.900	0.02	0.91	0.92	0.01	0.00	83	491.60
6.950	0.02	0.93	0.94	0.01	0.00	84	491.60
7.000	0.02	0.94	0.96	0.01	0.00	86	491.61
7.050	0.02	0.96	0.98	0.01	0.00	87	491.61
7.100	0.02	0.98	0.99	0.01	0.00	89	491.61
7.150	0.02	1.00	1.01	0.01	0.00	90	491.61
7.200	0.02	1.01	1.03	0.01	0.00	92	491.61
7.250	0.02	1.03	1.05	0.01	0.00	94	491.62
7.300	0.02	1.05	1.07	0.01	0.00	95	491.62
7.350	0.02	1.07	1.09	0.01	0.00	97	491.62
7.400	0.02	1.09	1.11	0.01	0.00	99	491.62
7.450	0.02	1.11	1.13	0.01	0.00	101	491.62
7.500	0.02	1.13	1.14	0.01	0.00	102	491.63
7.550	0.02	1.15	1.17	0.01	0.00	104	491.63
7.600	0.02	1.17	1.19	0.01	0.00	106	491.63
7.650	0.02	1.19	1.21	0.01	0.00	108	491.63
7.700	0.02	1.21	1.23	0.01	0.00	110	491.64
7.750	0.02	1.23	1.25	0.01	0.00	111	491.64
7.800	0.02	1.25	1.27	0.01	0.00	113	491.64
7.850	0.02	1.27	1.29	0.01	0.00	115	491.64
7.900	0.02	1.29	1.31	0.01	0.00	117	491.64
7.950	0.02	1.31	1.33	0.01	0.00	119	491.65
8.000	0.02	1.34	1.36	0.01	0.00	121	491.65
8.050	0.02	1.36	1.38	0.01	0.00	123	491.65
8.100	0.02	1.38	1.40	0.01	0.00	125	491.65
8.150	0.02	1.40	1.43	0.01	0.00	127	491.66
8.200	0.02	1.43	1.45	0.01	0.00	130	491.66
8.250	0.02	1.45	1.47	0.01	0.00	132	491.66
8.300	0.02	1.48	1.50	0.01	0.00	134	491.67
8.350	0.02	1.50	1.53	0.01	0.00	136	491.67



## Stormwater Hydrologic Calculations

Subsection: Pond Routing Calculations (Total Out)

Return Event: 1 years

Label: SUB-2B (OUT)

Storm Event: 1 year

Scenario: Post-Development 1 year

### Pond Routing Calculations (Total Out)

Time (hours)	Flow (Total In) (ft <sup>3</sup> /s)	2S/t - 0 (ft <sup>3</sup> /s)	2S/t + 0 (ft <sup>3</sup> /s)	Infiltration (ft <sup>3</sup> /s)	Flow (Outlet) (ft <sup>3</sup> /s)	Volume (ft <sup>3</sup> )	Elevation (ft)
8.400	0.02	1.53	1.55	0.01	0.00	139	491.67
8.450	0.03	1.56	1.58	0.01	0.00	141	491.67
8.500	0.03	1.59	1.61	0.01	0.00	144	491.68
8.550	0.03	1.62	1.64	0.01	0.00	147	491.68
8.600	0.03	1.65	1.67	0.01	0.00	149	491.68
8.650	0.03	1.68	1.70	0.01	0.00	152	491.69
8.700	0.03	1.71	1.73	0.01	0.00	155	491.69
8.750	0.03	1.74	1.76	0.01	0.00	158	491.69
8.800	0.03	1.77	1.80	0.01	0.00	161	491.70
8.850	0.03	1.80	1.83	0.01	0.00	164	491.70
8.900	0.03	1.84	1.86	0.01	0.00	167	491.71
8.950	0.03	1.87	1.90	0.01	0.00	170	491.71
9.000	0.03	1.91	1.94	0.01	0.00	173	491.71
9.050	0.03	1.94	1.97	0.01	0.00	176	491.72
9.100	0.03	1.98	2.01	0.01	0.00	179	491.72
9.150	0.03	2.02	2.05	0.01	0.00	183	491.73
9.200	0.03	2.05	2.08	0.02	0.00	186	491.73
9.250	0.03	2.09	2.12	0.02	0.00	190	491.73
9.300	0.04	2.13	2.16	0.02	0.00	193	491.74
9.350	0.04	2.17	2.20	0.02	0.00	197	491.74
9.400	0.04	2.21	2.24	0.02	0.00	200	491.75
9.450	0.04	2.25	2.28	0.02	0.00	204	491.75
9.500	0.04	2.29	2.33	0.02	0.00	208	491.76
9.550	0.04	2.33	2.37	0.02	0.00	212	491.76
9.600	0.04	2.38	2.41	0.02	0.00	215	491.77
9.650	0.04	2.42	2.45	0.02	0.00	219	491.77
9.700	0.04	2.46	2.50	0.02	0.00	223	491.78
9.750	0.04	2.51	2.54	0.02	0.00	227	491.78
9.800	0.04	2.55	2.59	0.02	0.00	231	491.79
9.850	0.04	2.60	2.63	0.02	0.00	235	491.79
9.900	0.04	2.64	2.68	0.02	0.00	239	491.80
9.950	0.04	2.69	2.73	0.02	0.00	244	491.80
10.000	0.04	2.73	2.77	0.02	0.00	248	491.81
10.050	0.04	2.78	2.82	0.02	0.00	252	491.81
10.100	0.05	2.83	2.87	0.02	0.00	257	491.82
10.150	0.05	2.88	2.92	0.02	0.00	261	491.82
10.200	0.05	2.93	2.97	0.02	0.00	266	491.83
10.250	0.05	2.98	3.03	0.02	0.00	271	491.83
10.300	0.05	3.04	3.08	0.02	0.00	275	491.84
10.350	0.05	3.09	3.14	0.02	0.00	281	491.85
10.400	0.05	3.15	3.20	0.02	0.00	286	491.85
10.450	0.05	3.21	3.26	0.02	0.00	291	491.86

## Stormwater Hydrologic Calculations

Subsection: Pond Routing Calculations (Total Out)

Return Event: 1 years

Label: SUB-2B (OUT)

Storm Event: 1 year

Scenario: Post-Development 1 year

### Pond Routing Calculations (Total Out)

Time (hours)	Flow (Total In) (ft <sup>3</sup> /s)	2S/t - O (ft <sup>3</sup> /s)	2S/t + O (ft <sup>3</sup> /s)	Infiltration (ft <sup>3</sup> /s)	Flow (Outlet) (ft <sup>3</sup> /s)	Volume (ft <sup>3</sup> )	Elevation (ft)
10.500	0.05	3.27	3.32	0.02	0.00	297	491.87
10.550	0.06	3.33	3.38	0.02	0.00	302	491.87
10.600	0.06	3.40	3.45	0.03	0.00	308	491.88
10.650	0.06	3.46	3.51	0.03	0.00	314	491.89
10.700	0.06	3.53	3.58	0.03	0.00	320	491.89
10.750	0.06	3.60	3.65	0.03	0.00	326	491.90
10.800	0.06	3.66	3.72	0.03	0.00	332	491.91
10.850	0.06	3.74	3.79	0.03	0.00	339	491.92
10.900	0.06	3.81	3.86	0.03	0.00	345	491.93
10.950	0.07	3.88	3.94	0.03	0.00	352	491.93
11.000	0.07	3.96	4.01	0.03	0.00	359	491.94
11.050	0.07	4.03	4.09	0.03	0.00	366	491.95
11.100	0.07	4.11	4.17	0.03	0.00	373	491.96
11.150	0.08	4.20	4.26	0.03	0.00	381	491.97
11.200	0.08	4.29	4.36	0.03	0.00	389	491.98
11.250	0.09	4.40	4.46	0.03	0.00	398	491.99
11.300	0.09	4.50	4.57	0.03	0.00	408	492.00
11.350	0.09	4.62	4.69	0.03	0.00	419	492.01
11.400	0.10	4.75	4.81	0.03	0.00	430	492.01
11.450	0.10	4.88	4.95	0.03	0.00	443	492.02
11.500	0.11	5.03	5.10	0.03	0.00	456	492.03
11.550	0.13	5.20	5.26	0.03	0.00	471	492.04
11.600	0.15	5.41	5.47	0.03	0.00	490	492.05
11.650	0.19	5.68	5.74	0.03	0.00	514	492.06
11.700	0.23	6.02	6.09	0.03	0.00	545	492.08
11.750	0.27	6.46	6.52	0.03	0.00	584	492.10
11.800	0.31	6.98	7.04	0.03	0.00	631	492.13
11.850	0.36	7.58	7.65	0.03	0.00	685	492.16
11.900	0.40	8.27	8.34	0.03	0.00	748	492.20
11.950	0.56	9.17	9.24	0.03	0.00	829	492.24
12.000	0.76	10.43	10.50	0.03	0.00	942	492.31
12.050	0.81	11.93	12.00	0.03	0.00	1,077	492.38
12.100	0.82	13.50	13.56	0.03	0.00	1,218	492.47
12.150	0.67	14.93	14.99	0.03	0.00	1,347	492.54
12.200	0.48	16.02	16.08	0.03	0.00	1,447	492.60
12.250	0.40	16.83	16.90	0.03	0.00	1,521	492.64
12.300	0.35	17.52	17.59	0.03	0.00	1,584	492.68
12.350	0.31	18.11	18.18	0.03	0.00	1,638	492.71
12.400	0.26	18.61	18.68	0.03	0.00	1,683	492.74
12.450	0.22	19.03	19.09	0.03	0.00	1,720	492.76
12.500	0.17	19.35	19.42	0.03	0.00	1,749	492.78
12.550	0.15	19.61	19.67	0.03	0.00	1,772	492.79

## Stormwater Hydrologic Calculations

Subsection: Pond Routing Calculations (Total Out)

Return Event: 1 years

Label: SUB-2B (OUT)

Storm Event: 1 year

Scenario: Post-Development 1 year

### Pond Routing Calculations (Total Out)

Time (hours)	Flow (Total In) (ft <sup>3</sup> /s)	2S/t - O (ft <sup>3</sup> /s)	2S/t + O (ft <sup>3</sup> /s)	Infiltration (ft <sup>3</sup> /s)	Flow (Outlet) (ft <sup>3</sup> /s)	Volume (ft <sup>3</sup> )	Elevation (ft)
12.600	0.12	19.81	19.87	0.03	0.00	1,790	492.80
12.650	0.11	19.98	20.04	0.03	0.00	1,805	492.81
12.700	0.11	20.13	20.19	0.03	0.00	1,818	492.82
12.750	0.10	20.27	20.33	0.03	0.00	1,831	492.83
12.800	0.10	20.40	20.46	0.03	0.00	1,842	492.84
12.850	0.09	20.52	20.59	0.03	0.00	1,853	492.84
12.900	0.09	20.63	20.70	0.03	0.00	1,863	492.85
12.950	0.08	20.74	20.80	0.03	0.00	1,873	492.85
13.000	0.08	20.83	20.90	0.03	0.00	1,881	492.86
13.050	0.07	20.92	20.99	0.03	0.00	1,889	492.86
13.100	0.07	21.00	21.07	0.03	0.00	1,896	492.87
13.150	0.07	21.08	21.14	0.03	0.00	1,903	492.87
13.200	0.07	21.15	21.22	0.03	0.00	1,909	492.88
13.250	0.07	21.22	21.29	0.03	0.00	1,915	492.88
13.300	0.07	21.29	21.36	0.03	0.00	1,922	492.88
13.350	0.07	21.36	21.42	0.03	0.00	1,927	492.89
13.400	0.06	21.42	21.49	0.03	0.00	1,933	492.89
13.450	0.06	21.48	21.55	0.03	0.00	1,939	492.89
13.500	0.06	21.54	21.61	0.03	0.00	1,944	492.90
13.550	0.06	21.60	21.66	0.03	0.00	1,949	492.90
13.600	0.06	21.65	21.72	0.03	0.00	1,954	492.90
13.650	0.06	21.70	21.77	0.03	0.00	1,958	492.91
13.700	0.06	21.75	21.82	0.03	0.00	1,963	492.91
13.750	0.06	21.80	21.87	0.03	0.00	1,967	492.91
13.800	0.05	21.85	21.91	0.03	0.00	1,971	492.91
13.850	0.05	21.89	21.95	0.03	0.00	1,975	492.92
13.900	0.05	21.93	21.99	0.03	0.00	1,978	492.92
13.950	0.05	21.97	22.03	0.03	0.00	1,982	492.92
14.000	0.05	22.00	22.07	0.03	0.00	1,985	492.92
14.050	0.05	22.03	22.10	0.03	0.00	1,988	492.92
14.100	0.05	22.07	22.13	0.03	0.00	1,990	492.93
14.150	0.05	22.10	22.16	0.03	0.00	1,993	492.93
14.200	0.05	22.12	22.19	0.03	0.00	1,996	492.93
14.250	0.05	22.15	22.22	0.03	0.00	1,998	492.93
14.300	0.05	22.18	22.24	0.03	0.00	2,000	492.93
14.350	0.05	22.20	22.27	0.03	0.00	2,003	492.93
14.400	0.04	22.23	22.29	0.03	0.00	2,005	492.93
14.450	0.04	22.25	22.32	0.03	0.00	2,007	492.94
14.500	0.04	22.27	22.34	0.03	0.00	2,009	492.94
14.550	0.04	22.29	22.36	0.03	0.00	2,011	492.94
14.600	0.04	22.31	22.38	0.03	0.00	2,012	492.94
14.650	0.04	22.33	22.40	0.03	0.00	2,014	492.94

## Stormwater Hydrologic Calculations

Subsection: Pond Routing Calculations (Total Out)

Return Event: 1 years

Label: SUB-2B (OUT)

Storm Event: 1 year

Scenario: Post-Development 1 year

### Pond Routing Calculations (Total Out)

Time (hours)	Flow (Total In) (ft <sup>3</sup> /s)	2S/t - 0 (ft <sup>3</sup> /s)	2S/t + 0 (ft <sup>3</sup> /s)	Infiltration (ft <sup>3</sup> /s)	Flow (Outlet) (ft <sup>3</sup> /s)	Volume (ft <sup>3</sup> )	Elevation (ft)
14.700	0.04	22.35	22.41	0.03	0.00	2,016	492.94
14.750	0.04	22.36	22.43	0.03	0.00	2,017	492.94
14.800	0.04	22.38	22.44	0.03	0.00	2,018	492.94
14.850	0.04	22.39	22.46	0.03	0.00	2,020	492.94
14.900	0.04	22.41	22.47	0.03	0.00	2,021	492.94
14.950	0.04	22.42	22.48	0.03	0.00	2,022	492.94
15.000	0.04	22.43	22.49	0.03	0.00	2,023	492.94
15.050	0.04	22.44	22.50	0.03	0.00	2,023	492.95
15.100	0.04	22.44	22.51	0.03	0.00	2,024	492.95
15.150	0.04	22.45	22.52	0.03	0.00	2,025	492.95
15.200	0.04	22.46	22.52	0.03	0.00	2,025	492.95
15.250	0.04	22.46	22.53	0.03	0.00	2,026	492.95
15.300	0.03	22.47	22.53	0.03	0.00	2,026	492.95
15.350	0.03	22.47	22.53	0.03	0.00	2,026	492.95
15.400	0.03	22.47	22.54	0.03	0.00	2,026	492.95
15.450	0.03	22.47	22.54	0.03	0.00	2,026	492.95
15.500	0.03	22.47	22.53	0.03	0.00	2,026	492.95
15.550	0.03	22.47	22.53	0.03	0.00	2,026	492.95
15.600	0.03	22.46	22.53	0.03	0.00	2,026	492.95
15.650	0.03	22.46	22.52	0.03	0.00	2,025	492.95
15.700	0.03	22.45	22.52	0.03	0.00	2,025	492.95
15.750	0.03	22.45	22.51	0.03	0.00	2,024	492.95
15.800	0.03	22.44	22.50	0.03	0.00	2,024	492.95
15.850	0.03	22.43	22.50	0.03	0.00	2,023	492.94
15.900	0.03	22.42	22.49	0.03	0.00	2,022	492.94
15.950	0.03	22.41	22.47	0.03	0.00	2,021	492.94
16.000	0.03	22.40	22.46	0.03	0.00	2,020	492.94
16.050	0.03	22.38	22.45	0.03	0.00	2,019	492.94
16.100	0.03	22.37	22.43	0.03	0.00	2,017	492.94
16.150	0.03	22.35	22.42	0.03	0.00	2,016	492.94
16.200	0.03	22.34	22.40	0.03	0.00	2,015	492.94
16.250	0.02	22.32	22.39	0.03	0.00	2,013	492.94
16.300	0.02	22.31	22.37	0.03	0.00	2,012	492.94
16.350	0.02	22.29	22.35	0.03	0.00	2,010	492.94
16.400	0.02	22.27	22.34	0.03	0.00	2,009	492.94
16.450	0.02	22.25	22.32	0.03	0.00	2,007	492.94
16.500	0.02	22.23	22.30	0.03	0.00	2,005	492.93
16.550	0.02	22.22	22.28	0.03	0.00	2,004	492.93
16.600	0.02	22.20	22.26	0.03	0.00	2,002	492.93
16.650	0.02	22.18	22.24	0.03	0.00	2,000	492.93
16.700	0.02	22.16	22.22	0.03	0.00	1,998	492.93
16.750	0.02	22.13	22.20	0.03	0.00	1,997	492.93

## Stormwater Hydrologic Calculations

Subsection: Pond Routing Calculations (Total Out)

Return Event: 1 years

Label: SUB-2B (OUT)

Storm Event: 1 year

Scenario: Post-Development 1 year

### Pond Routing Calculations (Total Out)

Time (hours)	Flow (Total In) (ft <sup>3</sup> /s)	2S/t - 0 (ft <sup>3</sup> /s)	2S/t + 0 (ft <sup>3</sup> /s)	Infiltration (ft <sup>3</sup> /s)	Flow (Outlet) (ft <sup>3</sup> /s)	Volume (ft <sup>3</sup> )	Elevation (ft)
16.800	0.02	22.11	22.18	0.03	0.00	1,995	492.93
16.850	0.02	22.09	22.16	0.03	0.00	1,993	492.93
16.900	0.02	22.07	22.13	0.03	0.00	1,991	492.93
16.950	0.02	22.05	22.11	0.03	0.00	1,989	492.92
17.000	0.02	22.02	22.09	0.03	0.00	1,987	492.92
17.050	0.02	22.00	22.06	0.03	0.00	1,985	492.92
17.100	0.02	21.97	22.04	0.03	0.00	1,982	492.92
17.150	0.02	21.95	22.02	0.03	0.00	1,980	492.92
17.200	0.02	21.92	21.99	0.03	0.00	1,978	492.92
17.250	0.02	21.90	21.96	0.03	0.00	1,976	492.92
17.300	0.02	21.87	21.94	0.03	0.00	1,973	492.91
17.350	0.02	21.84	21.91	0.03	0.00	1,971	492.91
17.400	0.02	21.82	21.88	0.03	0.00	1,968	492.91
17.450	0.02	21.79	21.86	0.03	0.00	1,966	492.91
17.500	0.02	21.76	21.83	0.03	0.00	1,963	492.91
17.550	0.02	21.73	21.80	0.03	0.00	1,961	492.91
17.600	0.02	21.70	21.77	0.03	0.00	1,958	492.91
17.650	0.02	21.67	21.74	0.03	0.00	1,956	492.90
17.700	0.02	21.64	21.71	0.03	0.00	1,953	492.90
17.750	0.02	21.61	21.68	0.03	0.00	1,950	492.90
17.800	0.02	21.58	21.65	0.03	0.00	1,947	492.90
17.850	0.02	21.55	21.61	0.03	0.00	1,945	492.90
17.900	0.02	21.52	21.58	0.03	0.00	1,942	492.90
17.950	0.02	21.48	21.55	0.03	0.00	1,939	492.89
18.000	0.02	21.45	21.52	0.03	0.00	1,936	492.89
18.050	0.02	21.42	21.48	0.03	0.00	1,933	492.89
18.100	0.02	21.38	21.45	0.03	0.00	1,930	492.89
18.150	0.02	21.35	21.41	0.03	0.00	1,927	492.89
18.200	0.02	21.31	21.38	0.03	0.00	1,924	492.88
18.250	0.02	21.28	21.34	0.03	0.00	1,921	492.88
18.300	0.02	21.24	21.31	0.03	0.00	1,917	492.88
18.350	0.02	21.21	21.27	0.03	0.00	1,914	492.88
18.400	0.02	21.17	21.24	0.03	0.00	1,911	492.88
18.450	0.02	21.14	21.20	0.03	0.00	1,908	492.88
18.500	0.02	21.10	21.17	0.03	0.00	1,905	492.87
18.550	0.02	21.07	21.13	0.03	0.00	1,902	492.87
18.600	0.02	21.03	21.10	0.03	0.00	1,899	492.87
18.650	0.02	20.99	21.06	0.03	0.00	1,895	492.87
18.700	0.01	20.96	21.02	0.03	0.00	1,892	492.87
18.750	0.01	20.92	20.99	0.03	0.00	1,889	492.86
18.800	0.01	20.89	20.95	0.03	0.00	1,886	492.86
18.850	0.01	20.85	20.92	0.03	0.00	1,882	492.86

## Stormwater Hydrologic Calculations

Subsection: Pond Routing Calculations (Total Out)

Return Event: 1 years

Label: SUB-2B (OUT)

Storm Event: 1 year

Scenario: Post-Development 1 year

### Pond Routing Calculations (Total Out)

Time (hours)	Flow (Total In) (ft <sup>3</sup> /s)	2S/t - 0 (ft <sup>3</sup> /s)	2S/t + 0 (ft <sup>3</sup> /s)	Infiltration (ft <sup>3</sup> /s)	Flow (Outlet) (ft <sup>3</sup> /s)	Volume (ft <sup>3</sup> )	Elevation (ft)
18.900	0.01	20.81	20.88	0.03	0.00	1,879	492.86
18.950	0.01	20.78	20.84	0.03	0.00	1,876	492.86
19.000	0.01	20.74	20.81	0.03	0.00	1,873	492.85
19.050	0.01	20.70	20.77	0.03	0.00	1,869	492.85
19.100	0.01	20.66	20.73	0.03	0.00	1,866	492.85
19.150	0.01	20.63	20.69	0.03	0.00	1,863	492.85
19.200	0.01	20.59	20.66	0.03	0.00	1,859	492.85
19.250	0.01	20.55	20.62	0.03	0.00	1,856	492.84
19.300	0.01	20.51	20.58	0.03	0.00	1,853	492.84
19.350	0.01	20.48	20.54	0.03	0.00	1,849	492.84
19.400	0.01	20.44	20.50	0.03	0.00	1,846	492.84
19.450	0.01	20.40	20.47	0.03	0.00	1,843	492.84
19.500	0.01	20.36	20.43	0.03	0.00	1,839	492.83
19.550	0.01	20.32	20.39	0.03	0.00	1,836	492.83
19.600	0.01	20.28	20.35	0.03	0.00	1,832	492.83
19.650	0.01	20.25	20.31	0.03	0.00	1,829	492.83
19.700	0.01	20.21	20.27	0.03	0.00	1,825	492.83
19.750	0.01	20.17	20.23	0.03	0.00	1,822	492.82
19.800	0.01	20.13	20.19	0.03	0.00	1,818	492.82
19.850	0.01	20.09	20.15	0.03	0.00	1,815	492.82
19.900	0.01	20.05	20.11	0.03	0.00	1,811	492.82
19.950	0.01	20.01	20.07	0.03	0.00	1,808	492.81
20.000	0.01	19.97	20.03	0.03	0.00	1,804	492.81
20.050	0.01	19.93	19.99	0.03	0.00	1,801	492.81
20.100	0.01	19.89	19.95	0.03	0.00	1,797	492.81
20.150	0.01	19.85	19.91	0.03	0.00	1,793	492.81
20.200	0.01	19.81	19.87	0.03	0.00	1,790	492.80
20.250	0.01	19.77	19.83	0.03	0.00	1,786	492.80
20.300	0.01	19.73	19.79	0.03	0.00	1,783	492.80
20.350	0.01	19.69	19.75	0.03	0.00	1,779	492.80
20.400	0.01	19.64	19.71	0.03	0.00	1,775	492.79
20.450	0.01	19.60	19.67	0.03	0.00	1,772	492.79
20.500	0.01	19.56	19.63	0.03	0.00	1,768	492.79
20.550	0.01	19.52	19.59	0.03	0.00	1,764	492.79
20.600	0.01	19.48	19.55	0.03	0.00	1,761	492.79
20.650	0.01	19.44	19.50	0.03	0.00	1,757	492.78
20.700	0.01	19.40	19.46	0.03	0.00	1,753	492.78
20.750	0.01	19.36	19.42	0.03	0.00	1,750	492.78
20.800	0.01	19.31	19.38	0.03	0.00	1,746	492.78
20.850	0.01	19.27	19.34	0.03	0.00	1,742	492.77
20.900	0.01	19.23	19.30	0.03	0.00	1,739	492.77
20.950	0.01	19.19	19.25	0.03	0.00	1,735	492.77

## Stormwater Hydrologic Calculations

Subsection: Pond Routing Calculations (Total Out)

Return Event: 1 years

Label: SUB-2B (OUT)

Storm Event: 1 year

Scenario: Post-Development 1 year

### Pond Routing Calculations (Total Out)

Time (hours)	Flow (Total In) (ft <sup>3</sup> /s)	2S/t - O (ft <sup>3</sup> /s)	2S/t + O (ft <sup>3</sup> /s)	Infiltration (ft <sup>3</sup> /s)	Flow (Outlet) (ft <sup>3</sup> /s)	Volume (ft <sup>3</sup> )	Elevation (ft)
21.000	0.01	19.15	19.21	0.03	0.00	1,731	492.77
21.050	0.01	19.10	19.17	0.03	0.00	1,727	492.77
21.100	0.01	19.06	19.13	0.03	0.00	1,724	492.76
21.150	0.01	19.02	19.08	0.03	0.00	1,720	492.76
21.200	0.01	18.98	19.04	0.03	0.00	1,716	492.76
21.250	0.01	18.93	19.00	0.03	0.00	1,712	492.76
21.300	0.01	18.89	18.96	0.03	0.00	1,708	492.75
21.350	0.01	18.85	18.91	0.03	0.00	1,705	492.75
21.400	0.01	18.80	18.87	0.03	0.00	1,701	492.75
21.450	0.01	18.76	18.83	0.03	0.00	1,697	492.75
21.500	0.01	18.72	18.78	0.03	0.00	1,693	492.74
21.550	0.01	18.67	18.74	0.03	0.00	1,689	492.74
21.600	0.01	18.63	18.70	0.03	0.00	1,685	492.74
21.650	0.01	18.59	18.65	0.03	0.00	1,681	492.74
21.700	0.01	18.54	18.61	0.03	0.00	1,677	492.74
21.750	0.01	18.50	18.56	0.03	0.00	1,673	492.73
21.800	0.01	18.45	18.52	0.03	0.00	1,669	492.73
21.850	0.01	18.41	18.48	0.03	0.00	1,665	492.73
21.900	0.01	18.37	18.43	0.03	0.00	1,661	492.73
21.950	0.01	18.32	18.39	0.03	0.00	1,657	492.72
22.000	0.01	18.28	18.34	0.03	0.00	1,653	492.72
22.050	0.01	18.23	18.30	0.03	0.00	1,649	492.72
22.100	0.01	18.19	18.25	0.03	0.00	1,645	492.72
22.150	0.01	18.14	18.21	0.03	0.00	1,641	492.71
22.200	0.01	18.10	18.16	0.03	0.00	1,636	492.71
22.250	0.01	18.05	18.12	0.03	0.00	1,632	492.71
22.300	0.01	18.01	18.07	0.03	0.00	1,628	492.71
22.350	0.01	17.96	18.03	0.03	0.00	1,624	492.70
22.400	0.01	17.92	17.98	0.03	0.00	1,620	492.70
22.450	0.01	17.87	17.94	0.03	0.00	1,616	492.70
22.500	0.01	17.83	17.89	0.03	0.00	1,612	492.70
22.550	0.01	17.78	17.85	0.03	0.00	1,607	492.69
22.600	0.01	17.74	17.80	0.03	0.00	1,603	492.69
22.650	0.01	17.69	17.76	0.03	0.00	1,599	492.69
22.700	0.01	17.64	17.71	0.03	0.00	1,595	492.69
22.750	0.01	17.60	17.66	0.03	0.00	1,591	492.68
22.800	0.01	17.55	17.62	0.03	0.00	1,586	492.68
22.850	0.01	17.50	17.57	0.03	0.00	1,582	492.68
22.900	0.01	17.46	17.52	0.03	0.00	1,578	492.68
22.950	0.01	17.41	17.48	0.03	0.00	1,574	492.67
23.000	0.01	17.37	17.43	0.03	0.00	1,570	492.67
23.050	0.01	17.32	17.38	0.03	0.00	1,565	492.67

## Stormwater Hydrologic Calculations

Subsection: Pond Routing Calculations (Total Out)

Return Event: 1 years

Label: SUB-2B (OUT)

Storm Event: 1 year

Scenario: Post-Development 1 year

### Pond Routing Calculations (Total Out)

Time (hours)	Flow (Total In) (ft <sup>3</sup> /s)	2S/t - O (ft <sup>3</sup> /s)	2S/t + O (ft <sup>3</sup> /s)	Infiltration (ft <sup>3</sup> /s)	Flow (Outlet) (ft <sup>3</sup> /s)	Volume (ft <sup>3</sup> )	Elevation (ft)
23.100	0.01	17.27	17.34	0.03	0.00	1,561	492.67
23.150	0.01	17.22	17.29	0.03	0.00	1,557	492.66
23.200	0.01	17.18	17.24	0.03	0.00	1,552	492.66
23.250	0.01	17.13	17.20	0.03	0.00	1,548	492.66
23.300	0.01	17.08	17.15	0.03	0.00	1,544	492.66
23.350	0.01	17.03	17.10	0.03	0.00	1,539	492.65
23.400	0.01	16.99	17.05	0.03	0.00	1,535	492.65
23.450	0.01	16.94	17.01	0.03	0.00	1,531	492.65
23.500	0.01	16.89	16.96	0.03	0.00	1,526	492.65
23.550	0.01	16.84	16.91	0.03	0.00	1,522	492.64
23.600	0.01	16.80	16.86	0.03	0.00	1,518	492.64
23.650	0.01	16.75	16.81	0.03	0.00	1,513	492.64
23.700	0.01	16.70	16.77	0.03	0.00	1,509	492.64
23.750	0.01	16.65	16.72	0.03	0.00	1,504	492.63
23.800	0.01	16.60	16.67	0.03	0.00	1,500	492.63
23.850	0.01	16.55	16.62	0.03	0.00	1,496	492.63
23.900	0.01	16.51	16.57	0.03	0.00	1,491	492.63
23.950	0.01	16.46	16.52	0.03	0.00	1,487	492.62
24.000	0.01	16.41	16.47	0.03	0.00	1,482	492.62



# Stormwater Hydrologic Calculations

Subsection: Pond Inflow Summary

Label: SUB-2B (IN)

Scenario: Post-Development 1 year

Return Event: 1 years

Storm Event: 1 year

## Summary for Hydrograph Addition at 'SUB-2B'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-1C-2B

### Node Inflows

Inflow Type	Element	Volume (ft <sup>3</sup> )	Time to Peak (hours)	Flow (Peak) (ft <sup>3</sup> /s)
Flow (From)	PDA-1C-2B	3,293	12.100	0.82
Flow (In)	SUB-2B	3,293	12.100	0.82

## Stormwater Hydrologic Calculations

Subsection: Pond Inflow Summary

Label: SUB-2B (IN)

Scenario: Post-Development 10 year

Return Event: 10 years

Storm Event: 10 year

### Summary for Hydrograph Addition at 'SUB-2B'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-1C-2B

### Node Inflows

Inflow Type	Element	Volume (ft <sup>3</sup> )	Time to Peak (hours)	Flow (Peak) (ft <sup>3</sup> /s)
Flow (From)	PDA-1C-2B	6,259	12.100	1.52
Flow (In)	SUB-2B	6,259	12.100	1.52

# Stormwater Hydrologic Calculations

Subsection: Pond Inflow Summary

Label: SUB-2B (IN)

Scenario: Post-Development 25 year

Return Event: 25 years

Storm Event: 25 year

## Summary for Hydrograph Addition at 'SUB-2B'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-1C-2B

## Node Inflows

Inflow Type	Element	Volume (ft <sup>3</sup> )	Time to Peak (hours)	Flow (Peak) (ft <sup>3</sup> /s)
Flow (From)	PDA-1C-2B	7,949	12.100	1.91
Flow (In)	SUB-2B	7,949	12.100	1.91

# Stormwater Hydrologic Calculations

Subsection: Pond Inflow Summary

Label: SUB-2B (IN)

Scenario: Post-Development 100 year

Return Event: 100 years

Storm Event: 100 year

## Summary for Hydrograph Addition at 'SUB-2B'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-1C-2B

### Node Inflows

Inflow Type	Element	Volume (ft <sup>3</sup> )	Time to Peak (hours)	Flow (Peak) (ft <sup>3</sup> /s)
Flow (From)	PDA-1C-2B	11,407	12.100	2.72
Flow (In)	SUB-2B	11,407	12.100	2.72

## Stormwater Hydrologic Calculations

Subsection: Elevation-Volume-Flow Table (Pond)

Label: SUB-2C

Scenario: Post-Development 1 year

Return Event: 1 years

Storm Event: 1 year

Infiltration	
Infiltration Method (Computed)	Constant
Infiltration Rate (Constant)	0.02 ft <sup>3</sup> /s
Initial Conditions	
Elevation (Water Surface, Initial)	555.50 ft
Volume (Initial)	0 ft <sup>3</sup>
Flow (Initial Outlet)	0.00 ft <sup>3</sup> /s
Flow (Initial Infiltration)	0.00 ft <sup>3</sup> /s
Flow (Initial, Total)	0.00 ft <sup>3</sup> /s
Time Increment	0.050 hours

Elevation (ft)	Outflow (ft <sup>3</sup> /s)	Storage (ft <sup>3</sup> )	Area (ft <sup>2</sup> )	Infiltration (ft <sup>3</sup> /s)	Flow (Total) (ft <sup>3</sup> /s)	2S/t + O (ft <sup>3</sup> /s)
555.50	0.00	0	0	0.00	0.00	0.00
556.00	0.00	203	0	0.02	0.02	2.27
556.50	0.00	639	0	0.02	0.02	7.12
557.00	0.00	1,057	0	0.02	0.02	11.76
557.50	0.00	1,446	0	0.02	0.02	16.08
558.00	0.00	1,790	0	0.02	0.02	19.90
558.50	0.80	2,044	0	0.02	0.82	23.53
559.00	2.82	2,247	0	0.02	2.83	27.80

## Stormwater Hydrologic Calculations

Subsection: Level Pool Pond Routing Summary

Label: SUB-2C (IN)

Scenario: Post-Development 1 year

Return Event: 1 years

Storm Event: 1 year

Infiltration			
Infiltration Method (Computed)	Constant		
Infiltration Rate (Constant)		0.02 ft <sup>3</sup> /s	
Initial Conditions			
Elevation (Water Surface, Initial)		555.50 ft	
Volume (Initial)		0 ft <sup>3</sup>	
Flow (Initial Outlet)		0.00 ft <sup>3</sup> /s	
Flow (Initial Infiltration)		0.00 ft <sup>3</sup> /s	
Flow (Initial, Total)		0.00 ft <sup>3</sup> /s	
Time Increment		0.050 hours	
Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	0.48 ft <sup>3</sup> /s	Time to Peak (Flow, In)	12.100 hours
Infiltration (Peak)	0.02 ft <sup>3</sup> /s	Time to Peak (Infiltration)	11.000 hours
Flow (Peak Outlet)	0.00 ft <sup>3</sup> /s	Time to Peak (Flow, Outlet)	0.000 hours
Peak Values			
Elevation (Water Surface, Peak)		557.19 ft	
Volume (Peak)		1,210 ft <sup>3</sup>	
Mass Balance (ft <sup>3</sup> )			
Volume (Initial)		0 ft <sup>3</sup>	
Volume (Total Inflow)		1,911 ft <sup>3</sup>	
Volume (Total Infiltration)		959 ft <sup>3</sup>	
Volume (Total Outlet Outflow)		0 ft <sup>3</sup>	
Volume (Retained)		953 ft <sup>3</sup>	
Volume (Unrouted)		1 ft <sup>3</sup>	
Error (Mass Balance)		0.1 %	

## Stormwater Hydrologic Calculations

Subsection: Level Pool Pond Routing Summary

Label: SUB-2C (IN)

Scenario: Post-Development 10 year

Return Event: 10 years

Storm Event: 10 year

---

### Infiltration

---

Infiltration Method (Computed)	Constant
Infiltration Rate (Constant)	0.02 ft <sup>3</sup> /s

---

### Initial Conditions

---

Elevation (Water Surface, Initial)	555.50 ft
Volume (Initial)	0 ft <sup>3</sup>
Flow (Initial Outlet)	0.00 ft <sup>3</sup> /s
Flow (Initial Infiltration)	0.00 ft <sup>3</sup> /s
Flow (Initial, Total)	0.00 ft <sup>3</sup> /s
Time Increment	0.050 hours

---



---

### Inflow/Outflow Hydrograph Summary

---

Flow (Peak In)	0.88 ft <sup>3</sup> /s	Time to Peak (Flow, In)	12.100 hours
Infiltration (Peak)	0.02 ft <sup>3</sup> /s	Time to Peak (Infiltration)	8.850 hours
Flow (Peak Outlet)	0.27 ft <sup>3</sup> /s	Time to Peak (Flow, Outlet)	12.400 hours

---

Elevation (Water Surface, Peak)	558.17 ft
Volume (Peak)	1,886 ft <sup>3</sup>

---

### Mass Balance (ft<sup>3</sup>)

---

Volume (Initial)	0 ft <sup>3</sup>
Volume (Total Inflow)	3,632 ft <sup>3</sup>
Volume (Total Infiltration)	1,106 ft <sup>3</sup>
Volume (Total Outlet Outflow)	830 ft <sup>3</sup>
Volume (Retained)	1,699 ft <sup>3</sup>
Volume (Unrouted)	4 ft <sup>3</sup>
Error (Mass Balance)	0.1 %

---

## Stormwater Hydrologic Calculations

Subsection: Level Pool Pond Routing Summary

Label: SUB-2C (IN)

Scenario: Post-Development 25 year

Return Event: 25 years

Storm Event: 25 year

---

### Infiltration

---

Infiltration Method (Computed)	Constant
Infiltration Rate (Constant)	0.02 ft <sup>3</sup> /s

---

### Initial Conditions

---

Elevation (Water Surface, Initial)	555.50 ft
Volume (Initial)	0 ft <sup>3</sup>
Flow (Initial Outlet)	0.00 ft <sup>3</sup> /s
Flow (Initial Infiltration)	0.00 ft <sup>3</sup> /s
Flow (Initial, Total)	0.00 ft <sup>3</sup> /s
Time Increment	0.050 hours

---



---

### Inflow/Outflow Hydrograph Summary

---

Flow (Peak In)	1.11 ft <sup>3</sup> /s	Time to Peak (Flow, In)	12.100 hours
Infiltration (Peak)	0.02 ft <sup>3</sup> /s	Time to Peak (Infiltration)	7.900 hours
Flow (Peak Outlet)	0.69 ft <sup>3</sup> /s	Time to Peak (Flow, Outlet)	12.200 hours

---

Elevation (Water Surface, Peak)	558.43 ft
Volume (Peak)	2,013 ft <sup>3</sup>

---

### Mass Balance (ft<sup>3</sup>)

---

Volume (Initial)	0 ft <sup>3</sup>
Volume (Total Inflow)	4,612 ft <sup>3</sup>
Volume (Total Infiltration)	1,164 ft <sup>3</sup>
Volume (Total Outlet Outflow)	1,699 ft <sup>3</sup>
Volume (Retained)	1,751 ft <sup>3</sup>
Volume (Unrouted)	2 ft <sup>3</sup>
Error (Mass Balance)	0.0 %

---



## Stormwater Hydrologic Calculations

Subsection: Level Pool Pond Routing Summary

Return Event: 100 years

Label: SUB-2C (IN)

Storm Event: 100 year

Scenario: Post-Development 100 year

Infiltration			
Infiltration Method (Computed)	Constant		
Infiltration Rate (Constant)		0.02 ft <sup>3</sup> /s	
Initial Conditions			
Elevation (Water Surface, Initial)		555.50 ft	
Volume (Initial)		0 ft <sup>3</sup>	
Flow (Initial Outlet)		0.00 ft <sup>3</sup> /s	
Flow (Initial Infiltration)		0.00 ft <sup>3</sup> /s	
Flow (Initial, Total)		0.00 ft <sup>3</sup> /s	
Time Increment		0.050 hours	
Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	1.58 ft <sup>3</sup> /s	Time to Peak (Flow, In)	12.100 hours
Infiltration (Peak)	0.02 ft <sup>3</sup> /s	Time to Peak (Infiltration)	6.200 hours
Flow (Peak Outlet)	1.55 ft <sup>3</sup> /s	Time to Peak (Flow, Outlet)	12.100 hours
Peak Conditions			
Elevation (Water Surface, Peak)		558.69 ft	
Volume (Peak)		2,119 ft <sup>3</sup>	
Mass Balance (ft <sup>3</sup> )			
Volume (Initial)		0 ft <sup>3</sup>	
Volume (Total Inflow)		6,619 ft <sup>3</sup>	
Volume (Total Infiltration)		1,247 ft <sup>3</sup>	
Volume (Total Outlet Outflow)		3,586 ft <sup>3</sup>	
Volume (Retained)		1,786 ft <sup>3</sup>	
Volume (Unrouted)		0 ft <sup>3</sup>	
Error (Mass Balance)		0.0 %	

## Stormwater Hydrologic Calculations

Subsection: Pond Routing Calculations (Total Out)

Return Event: 1 years

Label: SUB-2C (OUT)

Storm Event: 1 year

Scenario: Post-Development 1 year

### Pond Routing Calculations (Total Out)

Time (hours)	Flow (Total In) (ft <sup>3</sup> /s)	2S/t - 0 (ft <sup>3</sup> /s)	2S/t + 0 (ft <sup>3</sup> /s)	Infiltration (ft <sup>3</sup> /s)	Flow (Outlet) (ft <sup>3</sup> /s)	Volume (ft <sup>3</sup> )	Elevation (ft)
0.000	0.00	0.00	0.00	0.00	0.00	0	555.50
0.050	0.00	0.00	0.00	0.00	0.00	0	555.50
0.100	0.00	0.00	0.00	0.00	0.00	0	555.50
0.150	0.00	0.00	0.00	0.00	0.00	0	555.50
0.200	0.00	0.00	0.00	0.00	0.00	0	555.50
0.250	0.00	0.00	0.00	0.00	0.00	0	555.50
0.300	0.00	0.00	0.00	0.00	0.00	0	555.50
0.350	0.00	0.00	0.00	0.00	0.00	0	555.50
0.400	0.00	0.00	0.00	0.00	0.00	0	555.50
0.450	0.00	0.00	0.00	0.00	0.00	0	555.50
0.500	0.00	0.00	0.00	0.00	0.00	0	555.50
0.550	0.00	0.00	0.00	0.00	0.00	0	555.50
0.600	0.00	0.00	0.00	0.00	0.00	0	555.50
0.650	0.00	0.00	0.00	0.00	0.00	0	555.50
0.700	0.00	0.00	0.00	0.00	0.00	0	555.50
0.750	0.00	0.00	0.00	0.00	0.00	0	555.50
0.800	0.00	0.00	0.00	0.00	0.00	0	555.50
0.850	0.00	0.00	0.00	0.00	0.00	0	555.50
0.900	0.00	0.00	0.00	0.00	0.00	0	555.50
0.950	0.00	0.00	0.00	0.00	0.00	0	555.50
1.000	0.00	0.00	0.00	0.00	0.00	0	555.50
1.050	0.00	0.00	0.00	0.00	0.00	0	555.50
1.100	0.00	0.00	0.00	0.00	0.00	0	555.50
1.150	0.00	0.00	0.00	0.00	0.00	0	555.50
1.200	0.00	0.00	0.00	0.00	0.00	0	555.50
1.250	0.00	0.00	0.00	0.00	0.00	0	555.50
1.300	0.00	0.00	0.00	0.00	0.00	0	555.50
1.350	0.00	0.00	0.00	0.00	0.00	0	555.50
1.400	0.00	0.00	0.00	0.00	0.00	0	555.50
1.450	0.00	0.00	0.00	0.00	0.00	0	555.50
1.500	0.00	0.00	0.00	0.00	0.00	0	555.50
1.550	0.00	0.00	0.00	0.00	0.00	0	555.50
1.600	0.00	0.00	0.00	0.00	0.00	0	555.50
1.650	0.00	0.00	0.00	0.00	0.00	0	555.50
1.700	0.00	0.00	0.00	0.00	0.00	0	555.50
1.750	0.00	0.00	0.00	0.00	0.00	0	555.50
1.800	0.00	0.00	0.00	0.00	0.00	0	555.50
1.850	0.00	0.00	0.00	0.00	0.00	0	555.50
1.900	0.00	0.00	0.00	0.00	0.00	0	555.50
1.950	0.00	0.01	0.01	0.00	0.00	0	555.50
2.000	0.00	0.01	0.01	0.00	0.00	1	555.50
2.050	0.00	0.01	0.01	0.00	0.00	1	555.50

## Stormwater Hydrologic Calculations

Subsection: Pond Routing Calculations (Total Out)

Return Event: 1 years

Label: SUB-2C (OUT)

Storm Event: 1 year

Scenario: Post-Development 1 year

### Pond Routing Calculations (Total Out)

Time (hours)	Flow (Total In) (ft <sup>3</sup> /s)	2S/t - 0 (ft <sup>3</sup> /s)	2S/t + 0 (ft <sup>3</sup> /s)	Infiltration (ft <sup>3</sup> /s)	Flow (Outlet) (ft <sup>3</sup> /s)	Volume (ft <sup>3</sup> )	Elevation (ft)
2.100	0.00	0.01	0.01	0.00	0.00	1	555.50
2.150	0.00	0.01	0.01	0.00	0.00	1	555.50
2.200	0.00	0.01	0.01	0.00	0.00	1	555.50
2.250	0.00	0.01	0.01	0.00	0.00	1	555.50
2.300	0.00	0.02	0.02	0.00	0.00	1	555.50
2.350	0.00	0.02	0.02	0.00	0.00	2	555.50
2.400	0.00	0.02	0.02	0.00	0.00	2	555.50
2.450	0.00	0.02	0.02	0.00	0.00	2	555.51
2.500	0.00	0.02	0.03	0.00	0.00	2	555.51
2.550	0.00	0.03	0.03	0.00	0.00	2	555.51
2.600	0.00	0.03	0.03	0.00	0.00	3	555.51
2.650	0.00	0.03	0.03	0.00	0.00	3	555.51
2.700	0.00	0.04	0.04	0.00	0.00	3	555.51
2.750	0.00	0.04	0.04	0.00	0.00	3	555.51
2.800	0.00	0.04	0.04	0.00	0.00	4	555.51
2.850	0.00	0.04	0.04	0.00	0.00	4	555.51
2.900	0.00	0.05	0.05	0.00	0.00	4	555.51
2.950	0.00	0.05	0.05	0.00	0.00	5	555.51
3.000	0.00	0.05	0.05	0.00	0.00	5	555.51
3.050	0.00	0.06	0.06	0.00	0.00	5	555.51
3.100	0.00	0.06	0.06	0.00	0.00	5	555.51
3.150	0.00	0.06	0.07	0.00	0.00	6	555.51
3.200	0.00	0.07	0.07	0.00	0.00	6	555.52
3.250	0.00	0.07	0.07	0.00	0.00	6	555.52
3.300	0.00	0.08	0.08	0.00	0.00	7	555.52
3.350	0.00	0.08	0.08	0.00	0.00	7	555.52
3.400	0.00	0.08	0.08	0.00	0.00	8	555.52
3.450	0.00	0.09	0.09	0.00	0.00	8	555.52
3.500	0.00	0.09	0.09	0.00	0.00	8	555.52
3.550	0.00	0.10	0.10	0.00	0.00	9	555.52
3.600	0.00	0.10	0.10	0.00	0.00	9	555.52
3.650	0.00	0.10	0.11	0.00	0.00	9	555.52
3.700	0.00	0.11	0.11	0.00	0.00	10	555.52
3.750	0.00	0.11	0.12	0.00	0.00	10	555.53
3.800	0.00	0.12	0.12	0.00	0.00	11	555.53
3.850	0.00	0.12	0.12	0.00	0.00	11	555.53
3.900	0.00	0.13	0.13	0.00	0.00	12	555.53
3.950	0.00	0.13	0.13	0.00	0.00	12	555.53
4.000	0.00	0.14	0.14	0.00	0.00	12	555.53
4.050	0.00	0.14	0.14	0.00	0.00	13	555.53
4.100	0.00	0.15	0.15	0.00	0.00	13	555.53
4.150	0.00	0.15	0.15	0.00	0.00	14	555.53

## Stormwater Hydrologic Calculations

Subsection: Pond Routing Calculations (Total Out)

Return Event: 1 years

Label: SUB-2C (OUT)

Storm Event: 1 year

Scenario: Post-Development 1 year

### Pond Routing Calculations (Total Out)

Time (hours)	Flow (Total In) (ft <sup>3</sup> /s)	2S/t - O (ft <sup>3</sup> /s)	2S/t + O (ft <sup>3</sup> /s)	Infiltration (ft <sup>3</sup> /s)	Flow (Outlet) (ft <sup>3</sup> /s)	Volume (ft <sup>3</sup> )	Elevation (ft)
4.200	0.00	0.16	0.16	0.00	0.00	14	555.54
4.250	0.00	0.16	0.17	0.00	0.00	15	555.54
4.300	0.00	0.17	0.17	0.00	0.00	15	555.54
4.350	0.00	0.17	0.18	0.00	0.00	16	555.54
4.400	0.00	0.18	0.18	0.00	0.00	16	555.54
4.450	0.00	0.18	0.19	0.00	0.00	17	555.54
4.500	0.00	0.19	0.19	0.00	0.00	17	555.54
4.550	0.00	0.20	0.20	0.00	0.00	18	555.54
4.600	0.00	0.20	0.20	0.00	0.00	18	555.54
4.650	0.00	0.21	0.21	0.00	0.00	19	555.55
4.700	0.00	0.21	0.22	0.00	0.00	19	555.55
4.750	0.00	0.22	0.22	0.00	0.00	20	555.55
4.800	0.00	0.22	0.23	0.00	0.00	20	555.55
4.850	0.00	0.23	0.23	0.00	0.00	21	555.55
4.900	0.00	0.24	0.24	0.00	0.00	21	555.55
4.950	0.00	0.24	0.25	0.00	0.00	22	555.55
5.000	0.00	0.25	0.25	0.00	0.00	23	555.56
5.050	0.01	0.25	0.26	0.00	0.00	23	555.56
5.100	0.01	0.26	0.26	0.00	0.00	24	555.56
5.150	0.01	0.27	0.27	0.00	0.00	24	555.56
5.200	0.01	0.27	0.28	0.00	0.00	25	555.56
5.250	0.01	0.28	0.28	0.00	0.00	25	555.56
5.300	0.01	0.29	0.29	0.00	0.00	26	555.56
5.350	0.01	0.29	0.30	0.00	0.00	26	555.57
5.400	0.01	0.30	0.30	0.00	0.00	27	555.57
5.450	0.01	0.30	0.31	0.00	0.00	28	555.57
5.500	0.01	0.31	0.32	0.00	0.00	28	555.57
5.550	0.01	0.32	0.32	0.00	0.00	29	555.57
5.600	0.01	0.32	0.33	0.00	0.00	29	555.57
5.650	0.01	0.33	0.34	0.00	0.00	30	555.57
5.700	0.01	0.34	0.34	0.00	0.00	31	555.58
5.750	0.01	0.34	0.35	0.00	0.00	31	555.58
5.800	0.01	0.35	0.36	0.00	0.00	32	555.58
5.850	0.01	0.36	0.36	0.00	0.00	32	555.58
5.900	0.01	0.36	0.37	0.00	0.00	33	555.58
5.950	0.01	0.37	0.38	0.00	0.00	34	555.58
6.000	0.01	0.38	0.38	0.00	0.00	34	555.58
6.050	0.01	0.38	0.39	0.00	0.00	35	555.59
6.100	0.01	0.39	0.40	0.00	0.00	35	555.59
6.150	0.01	0.40	0.40	0.00	0.00	36	555.59
6.200	0.01	0.40	0.41	0.00	0.00	37	555.59
6.250	0.01	0.41	0.42	0.00	0.00	37	555.59

## Stormwater Hydrologic Calculations

Subsection: Pond Routing Calculations (Total Out)

Return Event: 1 years

Label: SUB-2C (OUT)

Storm Event: 1 year

Scenario: Post-Development 1 year

### Pond Routing Calculations (Total Out)

Time (hours)	Flow (Total In) (ft <sup>3</sup> /s)	2S/t - 0 (ft <sup>3</sup> /s)	2S/t + 0 (ft <sup>3</sup> /s)	Infiltration (ft <sup>3</sup> /s)	Flow (Outlet) (ft <sup>3</sup> /s)	Volume (ft <sup>3</sup> )	Elevation (ft)
6.300	0.01	0.42	0.43	0.00	0.00	38	555.59
6.350	0.01	0.43	0.43	0.00	0.00	39	555.60
6.400	0.01	0.44	0.44	0.00	0.00	39	555.60
6.450	0.01	0.44	0.45	0.00	0.00	40	555.60
6.500	0.01	0.45	0.46	0.00	0.00	41	555.60
6.550	0.01	0.46	0.47	0.00	0.00	42	555.60
6.600	0.01	0.47	0.48	0.00	0.00	42	555.60
6.650	0.01	0.48	0.48	0.00	0.00	43	555.61
6.700	0.01	0.49	0.49	0.00	0.00	44	555.61
6.750	0.01	0.49	0.50	0.00	0.00	45	555.61
6.800	0.01	0.50	0.51	0.00	0.00	46	555.61
6.850	0.01	0.51	0.52	0.00	0.00	46	555.61
6.900	0.01	0.52	0.53	0.00	0.00	47	555.62
6.950	0.01	0.53	0.54	0.00	0.00	48	555.62
7.000	0.01	0.54	0.55	0.00	0.00	49	555.62
7.050	0.01	0.55	0.56	0.00	0.00	50	555.62
7.100	0.01	0.56	0.57	0.00	0.00	51	555.63
7.150	0.01	0.57	0.58	0.00	0.00	52	555.63
7.200	0.01	0.58	0.59	0.00	0.00	53	555.63
7.250	0.01	0.59	0.60	0.00	0.00	54	555.63
7.300	0.01	0.60	0.61	0.00	0.00	55	555.63
7.350	0.01	0.61	0.62	0.00	0.00	56	555.64
7.400	0.01	0.62	0.63	0.00	0.00	57	555.64
7.450	0.01	0.64	0.64	0.00	0.00	58	555.64
7.500	0.01	0.65	0.66	0.00	0.00	59	555.64
7.550	0.01	0.66	0.67	0.01	0.00	60	555.65
7.600	0.01	0.67	0.68	0.01	0.00	61	555.65
7.650	0.01	0.68	0.69	0.01	0.00	62	555.65
7.700	0.01	0.69	0.70	0.01	0.00	63	555.65
7.750	0.01	0.70	0.72	0.01	0.00	64	555.66
7.800	0.01	0.72	0.73	0.01	0.00	65	555.66
7.850	0.01	0.73	0.74	0.01	0.00	66	555.66
7.900	0.01	0.74	0.75	0.01	0.00	67	555.67
7.950	0.01	0.75	0.76	0.01	0.00	68	555.67
8.000	0.01	0.77	0.78	0.01	0.00	69	555.67
8.050	0.01	0.78	0.79	0.01	0.00	71	555.67
8.100	0.01	0.79	0.80	0.01	0.00	72	555.68
8.150	0.01	0.80	0.82	0.01	0.00	73	555.68
8.200	0.01	0.82	0.83	0.01	0.00	74	555.68
8.250	0.01	0.83	0.84	0.01	0.00	75	555.69
8.300	0.01	0.85	0.86	0.01	0.00	77	555.69
8.350	0.01	0.86	0.87	0.01	0.00	78	555.69

## Stormwater Hydrologic Calculations

Subsection: Pond Routing Calculations (Total Out)

Return Event: 1 years

Label: SUB-2C (OUT)

Storm Event: 1 year

Scenario: Post-Development 1 year

### Pond Routing Calculations (Total Out)

Time (hours)	Flow (Total In) (ft <sup>3</sup> /s)	2S/t - O (ft <sup>3</sup> /s)	2S/t + O (ft <sup>3</sup> /s)	Infiltration (ft <sup>3</sup> /s)	Flow (Outlet) (ft <sup>3</sup> /s)	Volume (ft <sup>3</sup> )	Elevation (ft)
8.400	0.01	0.88	0.89	0.01	0.00	80	555.70
8.450	0.01	0.89	0.91	0.01	0.00	81	555.70
8.500	0.02	0.91	0.92	0.01	0.00	82	555.70
8.550	0.02	0.93	0.94	0.01	0.00	84	555.71
8.600	0.02	0.94	0.96	0.01	0.00	85	555.71
8.650	0.02	0.96	0.97	0.01	0.00	87	555.71
8.700	0.02	0.98	0.99	0.01	0.00	89	555.72
8.750	0.02	1.00	1.01	0.01	0.00	90	555.72
8.800	0.02	1.01	1.03	0.01	0.00	92	555.73
8.850	0.02	1.03	1.05	0.01	0.00	94	555.73
8.900	0.02	1.05	1.07	0.01	0.00	95	555.74
8.950	0.02	1.07	1.09	0.01	0.00	97	555.74
9.000	0.02	1.09	1.11	0.01	0.00	99	555.74
9.050	0.02	1.11	1.13	0.01	0.00	101	555.75
9.100	0.02	1.13	1.15	0.01	0.00	103	555.75
9.150	0.02	1.15	1.17	0.01	0.00	105	555.76
9.200	0.02	1.18	1.19	0.01	0.00	107	555.76
9.250	0.02	1.20	1.22	0.01	0.00	109	555.77
9.300	0.02	1.22	1.24	0.01	0.00	111	555.77
9.350	0.02	1.24	1.26	0.01	0.00	113	555.78
9.400	0.02	1.27	1.28	0.01	0.00	115	555.78
9.450	0.02	1.29	1.31	0.01	0.00	117	555.79
9.500	0.02	1.31	1.33	0.01	0.00	119	555.79
9.550	0.02	1.34	1.36	0.01	0.00	121	555.80
9.600	0.02	1.36	1.38	0.01	0.00	123	555.80
9.650	0.02	1.38	1.41	0.01	0.00	126	555.81
9.700	0.02	1.41	1.43	0.01	0.00	128	555.82
9.750	0.02	1.43	1.46	0.01	0.00	130	555.82
9.800	0.02	1.46	1.48	0.01	0.00	132	555.83
9.850	0.02	1.49	1.51	0.01	0.00	135	555.83
9.900	0.02	1.51	1.54	0.01	0.00	137	555.84
9.950	0.03	1.54	1.56	0.01	0.00	140	555.84
10.000	0.03	1.57	1.59	0.01	0.00	142	555.85
10.050	0.03	1.59	1.62	0.01	0.00	144	555.86
10.100	0.03	1.62	1.64	0.01	0.00	147	555.86
10.150	0.03	1.65	1.67	0.01	0.00	149	555.87
10.200	0.03	1.68	1.70	0.01	0.00	152	555.88
10.250	0.03	1.71	1.73	0.01	0.00	155	555.88
10.300	0.03	1.74	1.77	0.01	0.00	158	555.89
10.350	0.03	1.77	1.80	0.01	0.00	161	555.90
10.400	0.03	1.80	1.83	0.01	0.00	164	555.90
10.450	0.03	1.84	1.87	0.01	0.00	167	555.91

## Stormwater Hydrologic Calculations

Subsection: Pond Routing Calculations (Total Out)

Return Event: 1 years

Label: SUB-2C (OUT)

Storm Event: 1 year

Scenario: Post-Development 1 year

### Pond Routing Calculations (Total Out)

Time (hours)	Flow (Total In) (ft <sup>3</sup> /s)	2S/t - O (ft <sup>3</sup> /s)	2S/t + O (ft <sup>3</sup> /s)	Infiltration (ft <sup>3</sup> /s)	Flow (Outlet) (ft <sup>3</sup> /s)	Volume (ft <sup>3</sup> )	Elevation (ft)
10.500	0.03	1.87	1.90	0.01	0.00	170	555.92
10.550	0.03	1.91	1.94	0.01	0.00	173	555.93
10.600	0.03	1.94	1.97	0.01	0.00	176	555.93
10.650	0.03	1.98	2.01	0.02	0.00	180	555.94
10.700	0.03	2.02	2.05	0.02	0.00	183	555.95
10.750	0.04	2.06	2.09	0.02	0.00	187	555.96
10.800	0.04	2.10	2.13	0.02	0.00	190	555.97
10.850	0.04	2.14	2.17	0.02	0.00	194	555.98
10.900	0.04	2.18	2.21	0.02	0.00	198	555.99
10.950	0.04	2.22	2.26	0.02	0.00	201	556.00
11.000	0.04	2.26	2.30	0.02	0.00	205	556.00
11.050	0.04	2.31	2.34	0.02	0.00	209	556.01
11.100	0.04	2.36	2.39	0.02	0.00	214	556.01
11.150	0.04	2.41	2.44	0.02	0.00	218	556.02
11.200	0.05	2.47	2.50	0.02	0.00	224	556.02
11.250	0.05	2.53	2.56	0.02	0.00	229	556.03
11.300	0.05	2.60	2.63	0.02	0.00	235	556.04
11.350	0.05	2.67	2.70	0.02	0.00	242	556.04
11.400	0.06	2.75	2.78	0.02	0.00	249	556.05
11.450	0.06	2.83	2.87	0.02	0.00	256	556.06
11.500	0.06	2.92	2.95	0.02	0.00	264	556.07
11.550	0.07	3.02	3.06	0.02	0.00	273	556.08
11.600	0.09	3.15	3.18	0.02	0.00	285	556.09
11.650	0.11	3.31	3.34	0.02	0.00	299	556.11
11.700	0.13	3.51	3.55	0.02	0.00	318	556.13
11.750	0.16	3.77	3.80	0.02	0.00	341	556.16
11.800	0.18	4.07	4.11	0.02	0.00	368	556.19
11.850	0.21	4.43	4.46	0.02	0.00	400	556.23
11.900	0.23	4.84	4.87	0.02	0.00	437	556.27
11.950	0.33	5.36	5.40	0.02	0.00	484	556.32
12.000	0.44	6.10	6.13	0.02	0.00	550	556.40
12.050	0.47	6.97	7.01	0.02	0.00	629	556.49
12.100	0.48	7.88	7.92	0.02	0.00	712	556.59
12.150	0.39	8.72	8.75	0.02	0.00	788	556.68
12.200	0.28	9.35	9.39	0.02	0.00	846	556.74
12.250	0.23	9.83	9.87	0.02	0.00	889	556.80
12.300	0.20	10.24	10.27	0.02	0.00	925	556.84
12.350	0.18	10.58	10.62	0.02	0.00	955	556.88
12.400	0.15	10.88	10.91	0.02	0.00	982	556.91
12.450	0.13	11.12	11.16	0.02	0.00	1,003	556.93
12.500	0.10	11.32	11.35	0.02	0.00	1,020	556.96
12.550	0.08	11.47	11.50	0.02	0.00	1,034	556.97

## Stormwater Hydrologic Calculations

Subsection: Pond Routing Calculations (Total Out)

Return Event: 1 years

Label: SUB-2C (OUT)

Storm Event: 1 year

Scenario: Post-Development 1 year

### Pond Routing Calculations (Total Out)

Time (hours)	Flow (Total In) (ft <sup>3</sup> /s)	2S/t - O (ft <sup>3</sup> /s)	2S/t + O (ft <sup>3</sup> /s)	Infiltration (ft <sup>3</sup> /s)	Flow (Outlet) (ft <sup>3</sup> /s)	Volume (ft <sup>3</sup> )	Elevation (ft)
12.600	0.07	11.59	11.62	0.02	0.00	1,045	556.99
12.650	0.06	11.69	11.72	0.02	0.00	1,054	557.00
12.700	0.06	11.78	11.82	0.02	0.00	1,062	557.01
12.750	0.06	11.87	11.90	0.02	0.00	1,070	557.02
12.800	0.06	11.95	11.98	0.02	0.00	1,077	557.03
12.850	0.05	12.02	12.06	0.02	0.00	1,084	557.03
12.900	0.05	12.09	12.13	0.02	0.00	1,091	557.04
12.950	0.05	12.16	12.19	0.02	0.00	1,097	557.05
13.000	0.05	12.22	12.25	0.02	0.00	1,102	557.06
13.050	0.04	12.27	12.31	0.02	0.00	1,107	557.06
13.100	0.04	12.32	12.36	0.02	0.00	1,112	557.07
13.150	0.04	12.37	12.41	0.02	0.00	1,116	557.07
13.200	0.04	12.42	12.45	0.02	0.00	1,121	557.08
13.250	0.04	12.47	12.50	0.02	0.00	1,125	557.09
13.300	0.04	12.51	12.54	0.02	0.00	1,129	557.09
13.350	0.04	12.55	12.59	0.02	0.00	1,133	557.10
13.400	0.04	12.59	12.63	0.02	0.00	1,137	557.10
13.450	0.04	12.63	12.67	0.02	0.00	1,140	557.10
13.500	0.04	12.67	12.71	0.02	0.00	1,144	557.11
13.550	0.04	12.71	12.74	0.02	0.00	1,147	557.11
13.600	0.03	12.74	12.78	0.02	0.00	1,151	557.12
13.650	0.03	12.78	12.81	0.02	0.00	1,154	557.12
13.700	0.03	12.81	12.85	0.02	0.00	1,157	557.13
13.750	0.03	12.84	12.88	0.02	0.00	1,160	557.13
13.800	0.03	12.87	12.91	0.02	0.00	1,162	557.13
13.850	0.03	12.90	12.94	0.02	0.00	1,165	557.14
13.900	0.03	12.93	12.96	0.02	0.00	1,168	557.14
13.950	0.03	12.96	12.99	0.02	0.00	1,170	557.14
14.000	0.03	12.98	13.02	0.02	0.00	1,172	557.15
14.050	0.03	13.01	13.04	0.02	0.00	1,175	557.15
14.100	0.03	13.03	13.06	0.02	0.00	1,177	557.15
14.150	0.03	13.05	13.08	0.02	0.00	1,179	557.15
14.200	0.03	13.07	13.10	0.02	0.00	1,180	557.16
14.250	0.03	13.09	13.12	0.02	0.00	1,182	557.16
14.300	0.03	13.11	13.14	0.02	0.00	1,184	557.16
14.350	0.03	13.13	13.16	0.02	0.00	1,186	557.16
14.400	0.03	13.15	13.18	0.02	0.00	1,188	557.16
14.450	0.03	13.17	13.20	0.02	0.00	1,189	557.17
14.500	0.03	13.18	13.22	0.02	0.00	1,191	557.17
14.550	0.02	13.20	13.23	0.02	0.00	1,192	557.17
14.600	0.02	13.21	13.25	0.02	0.00	1,194	557.17
14.650	0.02	13.23	13.26	0.02	0.00	1,195	557.17



## Stormwater Hydrologic Calculations

Subsection: Pond Routing Calculations (Total Out)

Return Event: 1 years

Label: SUB-2C (OUT)

Storm Event: 1 year

Scenario: Post-Development 1 year

### Pond Routing Calculations (Total Out)

Time (hours)	Flow (Total In) (ft <sup>3</sup> /s)	2S/t - 0 (ft <sup>3</sup> /s)	2S/t + 0 (ft <sup>3</sup> /s)	Infiltration (ft <sup>3</sup> /s)	Flow (Outlet) (ft <sup>3</sup> /s)	Volume (ft <sup>3</sup> )	Elevation (ft)
14.700	0.02	13.24	13.28	0.02	0.00	1,196	557.18
14.750	0.02	13.26	13.29	0.02	0.00	1,198	557.18
14.800	0.02	13.27	13.30	0.02	0.00	1,199	557.18
14.850	0.02	13.28	13.32	0.02	0.00	1,200	557.18
14.900	0.02	13.29	13.33	0.02	0.00	1,201	557.18
14.950	0.02	13.30	13.34	0.02	0.00	1,202	557.18
15.000	0.02	13.32	13.35	0.02	0.00	1,203	557.18
15.050	0.02	13.32	13.36	0.02	0.00	1,204	557.18
15.100	0.02	13.33	13.37	0.02	0.00	1,205	557.19
15.150	0.02	13.34	13.38	0.02	0.00	1,205	557.19
15.200	0.02	13.35	13.38	0.02	0.00	1,206	557.19
15.250	0.02	13.36	13.39	0.02	0.00	1,207	557.19
15.300	0.02	13.36	13.40	0.02	0.00	1,207	557.19
15.350	0.02	13.37	13.40	0.02	0.00	1,208	557.19
15.400	0.02	13.37	13.41	0.02	0.00	1,208	557.19
15.450	0.02	13.38	13.41	0.02	0.00	1,209	557.19
15.500	0.02	13.38	13.42	0.02	0.00	1,209	557.19
15.550	0.02	13.39	13.42	0.02	0.00	1,209	557.19
15.600	0.02	13.39	13.42	0.02	0.00	1,210	557.19
15.650	0.02	13.39	13.42	0.02	0.00	1,210	557.19
15.700	0.02	13.39	13.42	0.02	0.00	1,210	557.19
15.750	0.02	13.39	13.42	0.02	0.00	1,210	557.19
15.800	0.02	13.39	13.42	0.02	0.00	1,210	557.19
15.850	0.02	13.39	13.42	0.02	0.00	1,210	557.19
15.900	0.02	13.39	13.42	0.02	0.00	1,210	557.19
15.950	0.02	13.39	13.42	0.02	0.00	1,209	557.19
16.000	0.02	13.38	13.42	0.02	0.00	1,209	557.19
16.050	0.02	13.38	13.41	0.02	0.00	1,209	557.19
16.100	0.01	13.38	13.41	0.02	0.00	1,209	557.19
16.150	0.01	13.37	13.41	0.02	0.00	1,208	557.19
16.200	0.01	13.37	13.40	0.02	0.00	1,208	557.19
16.250	0.01	13.36	13.40	0.02	0.00	1,207	557.19
16.300	0.01	13.36	13.39	0.02	0.00	1,207	557.19
16.350	0.01	13.35	13.38	0.02	0.00	1,206	557.19
16.400	0.01	13.34	13.38	0.02	0.00	1,206	557.19
16.450	0.01	13.34	13.37	0.02	0.00	1,205	557.19
16.500	0.01	13.33	13.37	0.02	0.00	1,205	557.19
16.550	0.01	13.33	13.36	0.02	0.00	1,204	557.19
16.600	0.01	13.32	13.35	0.02	0.00	1,203	557.18
16.650	0.01	13.31	13.35	0.02	0.00	1,203	557.18
16.700	0.01	13.30	13.34	0.02	0.00	1,202	557.18
16.750	0.01	13.30	13.33	0.02	0.00	1,201	557.18

## Stormwater Hydrologic Calculations

Subsection: Pond Routing Calculations (Total Out)

Return Event: 1 years

Label: SUB-2C (OUT)

Storm Event: 1 year

Scenario: Post-Development 1 year

### Pond Routing Calculations (Total Out)

Time (hours)	Flow (Total In) (ft <sup>3</sup> /s)	2S/t - 0 (ft <sup>3</sup> /s)	2S/t + 0 (ft <sup>3</sup> /s)	Infiltration (ft <sup>3</sup> /s)	Flow (Outlet) (ft <sup>3</sup> /s)	Volume (ft <sup>3</sup> )	Elevation (ft)
16.800	0.01	13.29	13.32	0.02	0.00	1,200	557.18
16.850	0.01	13.28	13.31	0.02	0.00	1,200	557.18
16.900	0.01	13.27	13.30	0.02	0.00	1,199	557.18
16.950	0.01	13.26	13.30	0.02	0.00	1,198	557.18
17.000	0.01	13.25	13.29	0.02	0.00	1,197	557.18
17.050	0.01	13.24	13.28	0.02	0.00	1,196	557.18
17.100	0.01	13.23	13.27	0.02	0.00	1,195	557.17
17.150	0.01	13.22	13.26	0.02	0.00	1,194	557.17
17.200	0.01	13.21	13.25	0.02	0.00	1,194	557.17
17.250	0.01	13.20	13.24	0.02	0.00	1,193	557.17
17.300	0.01	13.19	13.22	0.02	0.00	1,192	557.17
17.350	0.01	13.18	13.21	0.02	0.00	1,190	557.17
17.400	0.01	13.17	13.20	0.02	0.00	1,189	557.17
17.450	0.01	13.16	13.19	0.02	0.00	1,188	557.17
17.500	0.01	13.14	13.18	0.02	0.00	1,187	557.16
17.550	0.01	13.13	13.16	0.02	0.00	1,186	557.16
17.600	0.01	13.12	13.15	0.02	0.00	1,185	557.16
17.650	0.01	13.10	13.14	0.02	0.00	1,184	557.16
17.700	0.01	13.09	13.13	0.02	0.00	1,182	557.16
17.750	0.01	13.08	13.11	0.02	0.00	1,181	557.16
17.800	0.01	13.06	13.10	0.02	0.00	1,180	557.15
17.850	0.01	13.05	13.08	0.02	0.00	1,179	557.15
17.900	0.01	13.04	13.07	0.02	0.00	1,177	557.15
17.950	0.01	13.02	13.05	0.02	0.00	1,176	557.15
18.000	0.01	13.01	13.04	0.02	0.00	1,175	557.15
18.050	0.01	12.99	13.02	0.02	0.00	1,173	557.15
18.100	0.01	12.97	13.01	0.02	0.00	1,172	557.14
18.150	0.01	12.96	12.99	0.02	0.00	1,170	557.14
18.200	0.01	12.94	12.98	0.02	0.00	1,169	557.14
18.250	0.01	12.93	12.96	0.02	0.00	1,167	557.14
18.300	0.01	12.91	12.95	0.02	0.00	1,166	557.14
18.350	0.01	12.90	12.93	0.02	0.00	1,164	557.14
18.400	0.01	12.88	12.91	0.02	0.00	1,163	557.13
18.450	0.01	12.86	12.90	0.02	0.00	1,161	557.13
18.500	0.01	12.85	12.88	0.02	0.00	1,160	557.13
18.550	0.01	12.83	12.86	0.02	0.00	1,158	557.13
18.600	0.01	12.81	12.85	0.02	0.00	1,157	557.13
18.650	0.01	12.80	12.83	0.02	0.00	1,155	557.12
18.700	0.01	12.78	12.81	0.02	0.00	1,154	557.12
18.750	0.01	12.76	12.80	0.02	0.00	1,152	557.12
18.800	0.01	12.75	12.78	0.02	0.00	1,151	557.12
18.850	0.01	12.73	12.76	0.02	0.00	1,149	557.12

## Stormwater Hydrologic Calculations

Subsection: Pond Routing Calculations (Total Out)

Return Event: 1 years

Label: SUB-2C (OUT)

Storm Event: 1 year

Scenario: Post-Development 1 year

### Pond Routing Calculations (Total Out)

Time (hours)	Flow (Total In) (ft <sup>3</sup> /s)	2S/t - O (ft <sup>3</sup> /s)	2S/t + O (ft <sup>3</sup> /s)	Infiltration (ft <sup>3</sup> /s)	Flow (Outlet) (ft <sup>3</sup> /s)	Volume (ft <sup>3</sup> )	Elevation (ft)
18.900	0.01	12.71	12.75	0.02	0.00	1,148	557.11
18.950	0.01	12.70	12.73	0.02	0.00	1,146	557.11
19.000	0.01	12.68	12.71	0.02	0.00	1,145	557.11
19.050	0.01	12.66	12.70	0.02	0.00	1,143	557.11
19.100	0.01	12.64	12.68	0.02	0.00	1,141	557.11
19.150	0.01	12.63	12.66	0.02	0.00	1,140	557.10
19.200	0.01	12.61	12.64	0.02	0.00	1,138	557.10
19.250	0.01	12.59	12.63	0.02	0.00	1,137	557.10
19.300	0.01	12.57	12.61	0.02	0.00	1,135	557.10
19.350	0.01	12.56	12.59	0.02	0.00	1,133	557.10
19.400	0.01	12.54	12.57	0.02	0.00	1,132	557.09
19.450	0.01	12.52	12.56	0.02	0.00	1,130	557.09
19.500	0.01	12.50	12.54	0.02	0.00	1,128	557.09
19.550	0.01	12.49	12.52	0.02	0.00	1,127	557.09
19.600	0.01	12.47	12.50	0.02	0.00	1,125	557.09
19.650	0.01	12.45	12.48	0.02	0.00	1,123	557.08
19.700	0.01	12.43	12.46	0.02	0.00	1,122	557.08
19.750	0.01	12.41	12.45	0.02	0.00	1,120	557.08
19.800	0.01	12.39	12.43	0.02	0.00	1,118	557.08
19.850	0.01	12.37	12.41	0.02	0.00	1,117	557.08
19.900	0.01	12.36	12.39	0.02	0.00	1,115	557.07
19.950	0.01	12.34	12.37	0.02	0.00	1,113	557.07
20.000	0.01	12.32	12.35	0.02	0.00	1,111	557.07
20.050	0.01	12.30	12.33	0.02	0.00	1,110	557.07
20.100	0.01	12.28	12.31	0.02	0.00	1,108	557.06
20.150	0.01	12.26	12.30	0.02	0.00	1,106	557.06
20.200	0.01	12.24	12.28	0.02	0.00	1,104	557.06
20.250	0.01	12.22	12.26	0.02	0.00	1,103	557.06
20.300	0.01	12.20	12.24	0.02	0.00	1,101	557.06
20.350	0.01	12.18	12.22	0.02	0.00	1,099	557.05
20.400	0.01	12.16	12.20	0.02	0.00	1,097	557.05
20.450	0.01	12.15	12.18	0.02	0.00	1,095	557.05
20.500	0.01	12.13	12.16	0.02	0.00	1,094	557.05
20.550	0.01	12.11	12.14	0.02	0.00	1,092	557.04
20.600	0.01	12.09	12.12	0.02	0.00	1,090	557.04
20.650	0.01	12.07	12.10	0.02	0.00	1,088	557.04
20.700	0.01	12.05	12.08	0.02	0.00	1,086	557.04
20.750	0.01	12.03	12.06	0.02	0.00	1,085	557.03
20.800	0.01	12.01	12.04	0.02	0.00	1,083	557.03
20.850	0.01	11.99	12.02	0.02	0.00	1,081	557.03
20.900	0.01	11.97	12.00	0.02	0.00	1,079	557.03
20.950	0.01	11.95	11.98	0.02	0.00	1,077	557.03

## Stormwater Hydrologic Calculations

Subsection: Pond Routing Calculations (Total Out)

Return Event: 1 years

Label: SUB-2C (OUT)

Storm Event: 1 year

Scenario: Post-Development 1 year

### Pond Routing Calculations (Total Out)

Time (hours)	Flow (Total In) (ft <sup>3</sup> /s)	2S/t - O (ft <sup>3</sup> /s)	2S/t + O (ft <sup>3</sup> /s)	Infiltration (ft <sup>3</sup> /s)	Flow (Outlet) (ft <sup>3</sup> /s)	Volume (ft <sup>3</sup> )	Elevation (ft)
21.000	0.01	11.93	11.96	0.02	0.00	1,075	557.02
21.050	0.01	11.91	11.94	0.02	0.00	1,073	557.02
21.100	0.01	11.89	11.92	0.02	0.00	1,072	557.02
21.150	0.01	11.87	11.90	0.02	0.00	1,070	557.02
21.200	0.01	11.85	11.88	0.02	0.00	1,068	557.01
21.250	0.01	11.82	11.86	0.02	0.00	1,066	557.01
21.300	0.01	11.80	11.84	0.02	0.00	1,064	557.01
21.350	0.01	11.78	11.82	0.02	0.00	1,062	557.01
21.400	0.01	11.76	11.80	0.02	0.00	1,060	557.00
21.450	0.01	11.74	11.78	0.02	0.00	1,058	557.00
21.500	0.01	11.72	11.75	0.02	0.00	1,056	557.00
21.550	0.01	11.70	11.73	0.02	0.00	1,055	557.00
21.600	0.01	11.68	11.71	0.02	0.00	1,053	556.99
21.650	0.01	11.66	11.69	0.02	0.00	1,051	556.99
21.700	0.01	11.64	11.67	0.02	0.00	1,049	556.99
21.750	0.01	11.62	11.65	0.02	0.00	1,047	556.99
21.800	0.01	11.59	11.63	0.02	0.00	1,045	556.99
21.850	0.01	11.57	11.61	0.02	0.00	1,043	556.98
21.900	0.01	11.55	11.59	0.02	0.00	1,041	556.98
21.950	0.01	11.53	11.56	0.02	0.00	1,039	556.98
22.000	0.01	11.51	11.54	0.02	0.00	1,038	556.98
22.050	0.01	11.49	11.52	0.02	0.00	1,036	556.97
22.100	0.01	11.47	11.50	0.02	0.00	1,034	556.97
22.150	0.01	11.44	11.48	0.02	0.00	1,032	556.97
22.200	0.01	11.42	11.46	0.02	0.00	1,030	556.97
22.250	0.01	11.40	11.43	0.02	0.00	1,028	556.96
22.300	0.01	11.38	11.41	0.02	0.00	1,026	556.96
22.350	0.01	11.36	11.39	0.02	0.00	1,024	556.96
22.400	0.01	11.33	11.37	0.02	0.00	1,022	556.96
22.450	0.01	11.31	11.35	0.02	0.00	1,020	556.96
22.500	0.01	11.29	11.32	0.02	0.00	1,018	556.95
22.550	0.01	11.27	11.30	0.02	0.00	1,016	556.95
22.600	0.01	11.25	11.28	0.02	0.00	1,014	556.95
22.650	0.01	11.22	11.26	0.02	0.00	1,012	556.95
22.700	0.01	11.20	11.24	0.02	0.00	1,010	556.94
22.750	0.01	11.18	11.21	0.02	0.00	1,008	556.94
22.800	0.01	11.16	11.19	0.02	0.00	1,006	556.94
22.850	0.01	11.13	11.17	0.02	0.00	1,004	556.94
22.900	0.01	11.11	11.14	0.02	0.00	1,002	556.93
22.950	0.01	11.09	11.12	0.02	0.00	1,000	556.93
23.000	0.01	11.07	11.10	0.02	0.00	998	556.93
23.050	0.01	11.04	11.08	0.02	0.00	996	556.93

## Stormwater Hydrologic Calculations

Subsection: Pond Routing Calculations (Total Out)

Return Event: 1 years

Label: SUB-2C (OUT)

Storm Event: 1 year

Scenario: Post-Development 1 year

### Pond Routing Calculations (Total Out)

Time (hours)	Flow (Total In) (ft <sup>3</sup> /s)	2S/t - O (ft <sup>3</sup> /s)	2S/t + O (ft <sup>3</sup> /s)	Infiltration (ft <sup>3</sup> /s)	Flow (Outlet) (ft <sup>3</sup> /s)	Volume (ft <sup>3</sup> )	Elevation (ft)
23.100	0.01	11.02	11.05	0.02	0.00	994	556.92
23.150	0.01	11.00	11.03	0.02	0.00	992	556.92
23.200	0.01	10.97	11.01	0.02	0.00	990	556.92
23.250	0.01	10.95	10.98	0.02	0.00	988	556.92
23.300	0.01	10.93	10.96	0.02	0.00	986	556.91
23.350	0.01	10.90	10.94	0.02	0.00	984	556.91
23.400	0.01	10.88	10.91	0.02	0.00	982	556.91
23.450	0.01	10.86	10.89	0.02	0.00	980	556.91
23.500	0.01	10.83	10.87	0.02	0.00	978	556.90
23.550	0.01	10.81	10.84	0.02	0.00	976	556.90
23.600	0.01	10.79	10.82	0.02	0.00	973	556.90
23.650	0.01	10.76	10.80	0.02	0.00	971	556.90
23.700	0.01	10.74	10.77	0.02	0.00	969	556.89
23.750	0.01	10.72	10.75	0.02	0.00	967	556.89
23.800	0.01	10.69	10.73	0.02	0.00	965	556.89
23.850	0.01	10.67	10.70	0.02	0.00	963	556.89
23.900	0.00	10.64	10.68	0.02	0.00	961	556.88
23.950	0.00	10.62	10.65	0.02	0.00	959	556.88
24.000	0.00	10.60	10.63	0.02	0.00	956	556.88

## Stormwater Hydrologic Calculations

Subsection: Pond Inflow Summary

Label: SUB-2C (IN)

Scenario: Post-Development 1 year

Return Event: 1 years

Storm Event: 1 year

### Summary for Hydrograph Addition at 'SUB-2C'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-1C-2C

### Node Inflows

Inflow Type	Element	Volume (ft <sup>3</sup> )	Time to Peak (hours)	Flow (Peak) (ft <sup>3</sup> /s)
Flow (From)	PDA-1C-2C	1,911	12.100	0.48
Flow (In)	SUB-2C	1,911	12.100	0.48

# Stormwater Hydrologic Calculations

Subsection: Pond Inflow Summary

Label: SUB-2C (IN)

Scenario: Post-Development 10 year

Return Event: 10 years

Storm Event: 10 year

## Summary for Hydrograph Addition at 'SUB-2C'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-1C-2C

### Node Inflows

Inflow Type	Element	Volume (ft <sup>3</sup> )	Time to Peak (hours)	Flow (Peak) (ft <sup>3</sup> /s)
Flow (From)	PDA-1C-2C	3,632	12.100	0.88
Flow (In)	SUB-2C	3,632	12.100	0.88

# Stormwater Hydrologic Calculations

Subsection: Pond Inflow Summary

Label: SUB-2C (IN)

Scenario: Post-Development 25 year

Return Event: 25 years

Storm Event: 25 year

## Summary for Hydrograph Addition at 'SUB-2C'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-1C-2C

### Node Inflows

Inflow Type	Element	Volume (ft <sup>3</sup> )	Time to Peak (hours)	Flow (Peak) (ft <sup>3</sup> /s)
Flow (From)	PDA-1C-2C	4,612	12.100	1.11
Flow (In)	SUB-2C	4,612	12.100	1.11



# Stormwater Hydrologic Calculations

Subsection: Pond Inflow Summary

Label: SUB-2C (IN)

Scenario: Post-Development 100 year

Return Event: 100 years

Storm Event: 100 year

## Summary for Hydrograph Addition at 'SUB-2C'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-1C-2C

### Node Inflows

Inflow Type	Element	Volume (ft <sup>3</sup> )	Time to Peak (hours)	Flow (Peak) (ft <sup>3</sup> /s)
Flow (From)	PDA-1C-2C	6,619	12.100	1.58
Flow (In)	SUB-2C	6,619	12.100	1.58

## ***APPENDIX B***

# ***NYSDEC STORMWATER SIZING CALCULATIONS***

**RUNOFF REDUCTION VOLUME, WATER QUALITY VOLUME AND  
STREAM CHANNEL PROTECTION SIZING CALCULATIONS**

***The Summit Club at Armonk***  
**Bedford Road**  
**Town of North Castle, NY**

JMC Project: **20101**

Drawing Reference: **DA-1, DA-2**

Computed by: **MT**

Checked by: **XX**

**WATER QUALITY VOLUME WORKSHEET  
FOR REDEVELOPMENT PROJECTS**

JMC Project: **20101**  
Design Point: **1C**

*The Summit Club at Armonk* Drainage Area: **PDA-1C-2A,2B,2C,2/10,6,7,10**

**Initial Water Quality Treatment Volume**

DESCRIPTION	Design Storm	Area	Existing Impervious Area	New Impervious Area	Percent Impervious	Runoff Coefficient	Total Required WQ Volume
SYMBOL	P	A	I <sub>E</sub>	I <sub>N</sub>	%I	R <sub>V</sub>	WQ <sub>V</sub>
VALUE	1.5	18.90	6.08	5.28	60.09	0.590794234	<b>60,804</b>
UNITS	In	Ac	Ac	Ac	%	CF	CF
VALUE	Enhanced Phosphorus Removal (WQ <sub>V</sub> = 1-yr Storm Runoff)						

**Runoff Reduction Techniques (Area)**

DESCRIPTION	Total Area	Impervious Area
SYMBOL	A	I
Conservation of Natural Areas		
Sheetflow to Riparian Buffers or Filter Strips		
Vegetated Swale		
Tree Planting / Tree Pit		
Disconnection of Rooftop Runoff		
Stream Daylighting		
<b>TOTAL</b>		
UNITS	Ac	Ac

**Net Water Quality Treatment Volume for Standard Practices (25% I<sub>E</sub> + 100% I<sub>N</sub>)**

DESCRIPTION	Design Storm	Area	Existing Impervious Area	New Impervious Area	Percent Impervious	Runoff Coefficient	Total Required WQ Volume
SYMBOL	P	A	I <sub>E</sub>	I <sub>N</sub>	%I	R <sub>V</sub>	WQ <sub>V</sub>
VALUE	1.5	18.90	1.52	5.28	35.97	0.373751334	<b>38,466</b>
UNITS	In	Ac	Ac	Ac	%	CF	CF

**Net Water Quality Treatment Volume = Adjusted WQ<sub>V</sub> - Provided RR<sub>V</sub>**

<b>Initial Water Quality Treatment Volume</b>	60,804	CF
<b>Adjusted Water Quality Treatment Volume</b>	38,466	CF
<b>Provided Runoff Reduction Volume</b>	31,616	CF
<b>Net Water Quality Treatment Volume</b>	<b>6,851</b>	CF

# RUNOFF REDUCTION VOLUME WORKSHEET

JMC Project: **20101**

Design Point: **1C**

<i>The Summit Club at Armonk</i>	Drainage Area:	<b>PDA-1C's</b>
----------------------------------	----------------	-----------------

Total Water Quality Treatment Volume			
DESCRIPTION	SYMBOL	VALUE	UNITS
Initial Water Quality Volume	WQ <sub>v</sub>	<b>60,804</b>	CF
Adjusted Water Quality Volume	WQ <sub>v</sub>	<b>38,466</b>	CF

Minimum Runoff Reduction Volume			
DESCRIPTION	SYMBOL	VALUE	UNITS
Design Storm [90% Rainfall Event Number] <b>or</b> [1-yr Storm Depth]	P	1.5	In
Total Area of <i>new</i> Impervious Cover	A <sub>ic</sub>	2.62	Ac
Hydrologic Soil Group (HSG) Specific Reduction Factor	S	0.35	
Runoff Coefficient [0.05 + 0.009 x %I]	R <sub>v</sub>	0.95	CF
Impervious Cover targeted for Runoff Reduction [S x A <sub>ic</sub> ]	A <sub>i</sub>	0.92	Ac
<b>TOTAL VOLUME Required [RR<sub>v</sub> = (P x R<sub>v</sub> x A<sub>i</sub>) / 12]</b>	<b>RR<sub>v</sub></b>	<b>4,748</b>	<b>CF</b>

Runoff Reduction Techniques (Volume)			
GREEN INFRASTRUCTURE PRACTICE / SMP	SYMBOL	VALUE	UNITS
<b>Infiltration Basin 1C-2/10</b>	RR <sub>v</sub>	28,728	CF
<b>Subsurface Infiltration System 1C-2B</b>	RR <sub>v</sub>	1,828	CF
<b>Subsurface Infiltration System 1C-2C</b>	RR <sub>v</sub>	1,060	CF
	RR <sub>v</sub>		CF
	RR <sub>v</sub>		CF
	RR <sub>v</sub>		CF
	RR <sub>v</sub>		CF
	RR <sub>v</sub>		CF
	RR <sub>v</sub>		CF
	RR <sub>v</sub>		CF
	RR <sub>v</sub>		CF
	RR <sub>v</sub>		CF
	RR <sub>v</sub>		CF
<b>TOTAL</b>	<b>RR<sub>v</sub></b>	<b>31,616</b>	<b>CF</b>

Runoff Reduction	
Is Total RR <sub>v</sub> > Adjusted WQ <sub>v</sub> ?	<b>NO</b>
Is Total RR <sub>v</sub> > Minimum RR <sub>v</sub> ?	<b>YES</b>

# INFILTRATION WORKSHEET

JMC Project: **20101**

Design Point: **1C**

Drainage Area: **PDA-1C-2/10**

## Infiltration Basin 1C-2/10

### Site Data for Drainage Area to be Treated by Practice

DESCRIPTION	SYMBOL	VALUE	UNITS
Design Storm [90% Rainfall Event Number]	P	1.5	In
Impervious Area	I	5.10	Ac
Area	A	13.80	Ac
Percent Impervious	%I	36.94	%
Runoff Coefficient [0.05 + 0.009 x %I]	R <sub>V</sub>	0.38	CF
<b>TOTAL VOLUME Required</b> [WQ <sub>V</sub> = (P x R <sub>V</sub> x A) / 12]	WQ <sub>V</sub>	<b>28,728</b>	CF
Design Storm [1-yr Storm Depth]	P		In
<b>TOTAL VOLUME Required (TMDL)</b> [WQ <sub>V</sub> = 1-yr Storm Runoff]	WQ <sub>V</sub>		CF

### Water Quality Volume Provided

DESCRIPTION	SYMBOL	VALUE	UNITS
1 Year Storm Entering System	Q <sub>1</sub> IN	46,701	CF
1 Year Storm Exiting System	Q <sub>1</sub> OUT	0	CF
<b>Runoff Volume Infiltrated</b>		<b>46,701</b>	CF

### Runoff Reduction

DESCRIPTION	SYMBOL	VALUE	UNITS
100% Runoff Reduction capacity	RR <sub>V</sub>	46,701	CF
<b>Total Area of Infiltration Basin Provided</b>	A <sub>p</sub>	<b>13,231.00</b>	SF

### Runoff Reduction

DESCRIPTION	SYMBOL	VALUE	UNITS
100% Runoff Reduction capacity	RR <sub>V</sub>	<b>28,728</b>	CF

# INFILTRATION WORKSHEET

JMC Project: **20101**  
 Design Point: **1C**  
 Drainage Area: **PDA-1C-2B**

## Subsurface Infiltration System 1C-2B

### Site Data for Drainage Area to be Treated by Practice

DESCRIPTION	SYMBOL	VALUE	UNITS
Design Storm [90% Rainfall Event Number]	P	1.5	In
Impervious Area	I	0.35	Ac
Area	A	0.35	Ac
Percent Impervious	%I	100.00	%
Runoff Coefficient [0.05 + 0.009 x %I]	R <sub>V</sub>	0.95	CF
<b>TOTAL VOLUME Required</b> [WQ <sub>V</sub> = (P x R <sub>V</sub> x A) / 12]	WQ <sub>V</sub>	<b>1,828</b>	CF
Design Storm [1-yr Storm Depth]	P		In
<b>TOTAL VOLUME Required (TMDL)</b> [WQ <sub>V</sub> = 1-yr Storm Runoff]	WQ <sub>V</sub>		CF

### Water Quality Volume Provided

DESCRIPTION	SYMBOL	VALUE	UNITS
1 Year Storm Entering System	Q <sub>1</sub> IN	3,293	CF
1 Year Storm Exiting System	Q <sub>1</sub> OUT	0	CF
<b>Runoff Volume Infiltrated</b>		<b>3,293</b>	CF

### Runoff Reduction

DESCRIPTION	SYMBOL	VALUE	UNITS
100% Runoff Reduction capacity	RR <sub>V</sub>	<b>3,293</b>	CF
<b>Total Area of Infiltration Basin Provided</b>	A <sub>p</sub>	<b>2,029.00</b>	SF

### Runoff Reduction

DESCRIPTION	SYMBOL	VALUE	UNITS
100% Runoff Reduction capacity	RR <sub>V</sub>	<b>1,828</b>	CF

# INFILTRATION WORKSHEET

JMC Project: **20101**  
 Design Point: **1C**  
 Drainage Area: **PDA-1C-2c**

## Subsurface Infiltration System 1C-2C

### Site Data for Drainage Area to be Treated by Practice

DESCRIPTION	SYMBOL	VALUE	UNITS
Design Storm [90% Rainfall Event Number]	P	1.5	In
Impervious Area	I	0.21	Ac
Area	A	0.21	Ac
Percent Impervious	%I	100.00	%
Runoff Coefficient [0.05 + 0.009 x %I]	R <sub>V</sub>	0.95	CF
<b>TOTAL VOLUME Required</b> [WQ <sub>V</sub> = (P x R <sub>V</sub> x A) / 12]	WQ <sub>V</sub>	<b>1,060</b>	CF
Design Storm [1-yr Storm Depth]	P		In
<b>TOTAL VOLUME Required (TMDL)</b> [WQ <sub>V</sub> = 1-yr Storm Runoff]	WQ <sub>V</sub>		CF

### Water Quality Volume Provided

DESCRIPTION	SYMBOL	VALUE	UNITS
1 Year Storm Entering System	Q <sub>1</sub> IN	1,015	CF
1 Year Storm Exiting System	Q <sub>1</sub> OUT	0	CF
<b>Runoff Volume Infiltrated</b>		<b>1,015</b>	CF

### Runoff Reduction

DESCRIPTION	SYMBOL	VALUE	UNITS
100% Runoff Reduction capacity	RR <sub>V</sub>	<b>1,015</b>	CF
<b>Total Area of Infiltration Basin Provided</b>	A <sub>p</sub>	<b>2,029.00</b>	SF

### Runoff Reduction

DESCRIPTION	SYMBOL	VALUE	UNITS
100% Runoff Reduction capacity	RR <sub>V</sub>	<b>1,060</b>	CF



**PROPRIETARY PRACTICE WORKSHEET**

JMC Project: **20101**  
 Design Point: **1C**  
 Drainage Area: **PDA-1C-2A**

**Water Quality Structure 1C**

Rainfall Distribution Type: **III**

		A	B	C
Coefficients for the equation unit peak	$C_0$	-1.774	0.3301	2.4577
$[R = I_a / P]$	$C_1$	1.8622	-0.7397	-0.4627
$[C_i = A \times R^2 + B \times R + C]$	$C_2$	-0.0648	0.2276	-0.1932

Site Data for Drainage Area to be Treated by Practice			
DESCRIPTION	SYMBOL	VALUE	UNITS
Design Storm [90% Rainfall Event Number]	P	1.5	In
Impervious Area	I	2.39	Ac
Area	A	3.82	Ac
Percent Impervious	%I	62.45	%
Runoff Coefficient $[0.05 + 0.009 \times \%I]$	$R_v$	0.61	CF
<b>TOTAL VOLUME Required <math>[WQ_v = (P \times R_v \times A) / 12]</math></b>	$WQ_v$	<b>12,745</b>	CF
Design Storm [1-yr Storm Depth]	P		In
<b>TOTAL VOLUME Required (TMDL) <math>[WQ_v = 1\text{-yr Storm Runoff}]</math></b>	$WQ_v$		CF

Water Quality Peak Flow Calculation			
DESCRIPTION	SYMBOL	VALUE	UNITS
Water Quality Volume	$WQ_v$	12,745	CF
Design Storm [90% Rainfall Event Number] <b>or</b> [1-yr Storm Depth]	P	1.5	In
Time of Concentration	$t_c$	0.0833	Hr
Runoff Volume $[Q = WQ_v / (A \times 3630)]$	Q	0.92	In
Curve Number $[CN = 1000 / (10 + 5P + 10Q - 10 \times (Q^2 + 1.25 \times QP)^{1/2})]$	CN	93.74	
Curve Number	CN	94	
Initial Abstraction $[I_a = 200 / CN - 2]$	$I_a$	0.13	In
Ratio $[R = I_a / P]$	R	0.09	
$C_0 = A \times R^2 + B \times R + C$	$C_0$	2.47	
$C_1 = A \times R^2 + B \times R + C$	$C_1$	-0.51	
$C_2 = A \times R^2 + B \times R + C$	$C_2$	-0.17	
Unit Peak Discharge	$q_u$	669.08	cfs/mi <sup>2</sup> /in
<b>Peak Discharge <math>[Q_p = q_u \times A \times Q / 640]</math></b>	$Q_p$	<b>3.67</b>	cfs

Proposed Device			
DESCRIPTION	SYMBOL	VALUE	UNITS
<b>Water Quality Peak Flow Provided</b>	$Q_p$	<b>4.1</b>	cfs
<b>Water Quality Volume Provided <math>[WQ_v = 640 \times 3600 \times Q_p / q_u]</math></b>	$WQ_v$	<b>13,946</b>	CF
Model Designation		CS-6	
Quantity		1	

**PROPRIETARY PRACTICE WORKSHEET**

JMC Project: **20101**  
 Design Point: **1C**  
 Drainage Area: **PDA-1C-2B**

**Water Quality Structure 4A**

Rainfall Distribution Type: **III**

		A	B	C
Coefficients for the equation unit peak	$C_0$	-1.774	0.3301	2.4577
$[R = I_a / P]$	$C_1$	1.8622	-0.7397	-0.4627
$[C_i = A \times R^2 + B \times R + C]$	$C_2$	-0.0648	0.2276	-0.1932

Site Data for Drainage Area to be Treated by Practice			
DESCRIPTION	SYMBOL	VALUE	UNITS
Design Storm [90% Rainfall Event Number]	P	1.5	In
Impervious Area	I	3.03	Ac
Area	A	6.29	Ac
Percent Impervious	%I	48.09	%
Runoff Coefficient $[0.05 + 0.009 \times \%I]$	$R_v$	0.48	CF
<b>TOTAL VOLUME Required <math>[WQ_v = (P \times R_v \times A) / 12]</math></b>	$WQ_v$	<b>16,540</b>	CF
Design Storm [1-yr Storm Depth]	P		In
<b>TOTAL VOLUME Required (TMDL) <math>[WQ_v = 1\text{-yr Storm Runoff}]</math></b>	$WQ_v$		CF

Water Quality Peak Flow Calculation			
DESCRIPTION	SYMBOL	VALUE	UNITS
Water Quality Volume	$WQ_v$	16,540	CF
Design Storm [90% Rainfall Event Number] <b>or</b> [1-yr Storm Depth]	P	1.5	In
Time of Concentration	$t_c$	0.1667	Hr
Runoff Volume $[Q = WQ_v / (A \times 3630)]$	Q	0.72	In
Curve Number $[CN = 1000 / (10 + 5P + 10Q - 10 \times (Q^2 + 1.25 \times QP)^{1/2})]$	CN	90.73	
Curve Number	CN	91	
Initial Abstraction $[I_a = 200 / CN - 2]$	$I_a$	0.20	In
Ratio $[R = I_a / P]$	R	0.14	
$C_0 = A \times R^2 + B \times R + C$	$C_0$	2.47	
$C_1 = A \times R^2 + B \times R + C$	$C_1$	-0.53	
$C_2 = A \times R^2 + B \times R + C$	$C_2$	-0.16	
Unit Peak Discharge	$q_u$	605.88	cfs/mi <sup>2</sup> /in
<b>Peak Discharge <math>[Q_p = q_u \times A \times Q / 640]</math></b>	$Q_p$	<b>4.31</b>	cfs

Proposed Device			
DESCRIPTION	SYMBOL	VALUE	UNITS
<b>Water Quality Peak Flow Provided</b>	$Q_p$	<b>5.6</b>	cfs
<b>Water Quality Volume Provided <math>[WQ_v = 640 \times 3600 \times Q_p / q_u]</math></b>	$WQ_v$	<b>21,295</b>	CF
Model Designation		CS-6	
Quantity		1	

**PROPRIETARY PRACTICE WORKSHEET**

JMC Project: **20101**

Design Point: **1C**

Drainage Area: **PDA-1C-2B**

**Water Quality Structure 4B**

Rainfall Distribution Type: **III**

Coefficients for the equation unit peak  $C_0$   
 $[R = I_a / P]$   $C_1$   
 $[C_i = A \times R^2 + B \times R + C]$   $C_2$

	A	B	C
$C_0$	-1.774	0.3301	2.4577
$C_1$	1.8622	-0.7397	-0.4627
$C_2$	-0.0648	0.2276	-0.1932

<b>Site Data for Drainage Area to be Treated by Practice</b>			
DESCRIPTION	SYMBOL	VALUE	UNITS
Design Storm [90% Rainfall Event Number]	P	1.5	In
Impervious Area	I	2.80	Ac
Area	A	7.16	Ac
Percent Impervious	%I	39.09	%
Runoff Coefficient $[0.05 + 0.009 \times \%I]$	$R_v$	0.40	CF
<b>TOTAL VOLUME Required <math>[WQ_v = (P \times R_v \times A) / 12]</math></b>	$WQ_v$	<b>15,665</b>	CF
Design Storm [1-yr Storm Depth]	P		In
<b>TOTAL VOLUME Required (TMDL) <math>[WQ_v = 1\text{-yr Storm Runoff}]</math></b>	$WQ_v$		CF

<b>Water Quality Peak Flow Calculation</b>			
DESCRIPTION	SYMBOL	VALUE	UNITS
Water Quality Volume	$WQ_v$	15,665	CF
Design Storm [90% Rainfall Event Number] <b>or</b> [1-yr Storm Depth]	P	1.5	In
Time of Concentration	$t_c$	0.1667	Hr
Runoff Volume $[Q = WQ_v / (A \times 3630)]$	Q	0.60	In
Curve Number $[CN = 1000 / (10 + 5P + 10Q - 10 \times (Q^2 + 1.25 \times QP)^{1/2})]$	CN	88.44	
Curve Number	CN	88	
Initial Abstraction $[I_a = 200 / CN - 2]$	$I_a$	0.26	In
Ratio $[R = I_a / P]$	R	0.17	
$C_0 = A \times R^2 + B \times R + C$	$C_0$	2.46	
$C_1 = A \times R^2 + B \times R + C$	$C_1$	-0.54	
$C_2 = A \times R^2 + B \times R + C$	$C_2$	-0.16	
Unit Peak Discharge	$q_u$	607.50	cfs/mi <sup>2</sup> /in
<b>Peak Discharge <math>[Q_p = q_u \times A \times Q / 640]</math></b>	$Q_p$	<b>4.10</b>	cfs

<b>Proposed Device</b>			
DESCRIPTION	SYMBOL	VALUE	UNITS
<b>Water Quality Peak Flow Provided</b>	$Q_p$	<b>5.6</b>	cfs
<b>Water Quality Volume Provided <math>[WQ_v = 640 \times 3600 \times Q_p / q_u]</math></b>	$WQ_v$	<b>21,239</b>	CF
Model Designation		CS-6	
Quantity		1	

***APPENDIX C***

***SOIL TESTING DATA***



# CARLIN • SIMPSON & ASSOCIATES

Consulting Geotechnical and Environmental Engineers

---

61 Main Street, Sayreville, New Jersey 08872  
Tel. (732) 432-5757  
Fax. (732) 432-5717

Principal:  
Robert B. Simpson, P.E.

Associates:  
Robert H. Barnes, P.E.  
Meredith R. Anke, P.E.  
Kurt W. Anke  
Eric J. Shaw

13 February 2013  
Revised 16 October 2013

Brynwood Partners, LLC  
c/o Corigin Holdings  
505 Fifth Avenue, 22<sup>nd</sup> Floor  
New York, NY 10017

Attn: Ms. Megan Maciejowski

Re: Report on Subsurface Soil and Foundation Investigation  
Brynwood Club Development  
Bedford Road  
Town of North Castle, NY (12-175)

Dear Ms. Maciejowski:

In accordance with our proposals dated 20 November 2012 and 9 September 2013 and your subsequent authorization, we have completed a Subsurface Soil and Foundation Investigation for the referenced site. The purpose of this study is to preliminarily determine the nature and engineering properties of the subsurface soil and bedrock as well as the groundwater conditions for the planned development, to recommend a practical foundation scheme, to determine the allowable bearing capacity of the site soils, and to determine the subsurface soil and groundwater conditions and soil permeability in the new stormwater management areas.

We understand that the planned construction will consist of 21 new structures, roadways, parking areas, retaining walls, tennis courts, underground utilities, and a stormwater management system. To guide us in our study, you have provided us with a site plan that indicates the existing site conditions and the location of the planned new development.

Our scope of work for this project included the following:

1. Reviewed the proposed layout, the existing site conditions, the expected soil conditions, and planned this study.
2. Retained General Borings, Inc. to advance 11 test borings at the subject site.

3. Retained Traficante Contracting Inc. to excavate 18 test pits at the subject site.
4. Inspected ten (10) supplemental test pits that were excavated at the site by Brynwood Club personnel.
5. Laid out the boring and test pit locations in the field, provided full time inspection of the explorations, obtained soil samples, and prepared detailed logs and a Boring and Test Pit Location Plan.
6. Performed three (3) field percolation tests and one (1) borehole permeability test.
7. Performed soil identification tests on selected soil samples in our laboratory.
8. Analyzed the field and laboratory test data and prepared this report containing the results of this study.

### **SITE DESCRIPTION**

The project site is located on the Brynwood Club property on Bedford Road in North Castle, Westchester County, New York. The subject property is currently occupied by a golf club with a clubhouse building, tennis courts, and a few smaller out-structures. The proposed development area is also occupied by an asphalt paved parking lot and driveways as well as grass lawn areas and wooded areas. There are numerous existing underground utilities located throughout the property.

Within the proposed development area, the existing site grades vary from approximately elevation +610.0 at the southwest corner of the subject site and the westernmost portion of the site, to elevation +640.0 on the east side of the existing clubhouse building, to elevation +674.5 in the existing tennis court area in the northeastern portion of the property.

### **SUBSURFACE CONDITIONS**

To determine the subsurface soil, bedrock, and groundwater conditions, we advanced 11 test borings and 28 test pits at the site. The borings and test pits were performed at the locations shown on the enclosed Boring and Test Pit Location Plan. Detailed logs have been prepared and are included in this report. Our field engineer visually identified all soil samples and selected soil samples were tested in our laboratory. The results of these tests are also included in this report.

#### **Soil**

The soil descriptions shown on the boring and test pit logs are based on the Burmister Classification System. In this system, the soil is divided into three components: Sand (S), Silt (S) and Gravel (G). The major component is indicated in all capital letters, the

lesser in lower case letters. The following modifiers indicate the quantity of each lesser component:

<u>Modifier</u>	<u>Quantity</u>
trace (t)	0 -10%
little (l)	10% - 20%
some (s)	20% - 35%
and (a)	35% - 50%

The subsurface soil conditions observed in the borings and test pits can be summarized as follows:

**Stratum 1**  
Topsoil                      The surface layer at most of the boring and test pit locations consists of brown topsoil that typically ranges from about 0'3" to 1'6" in thickness.

**Stratum 2**  
Existing Fill                Beneath the topsoil and at the surface in three (3) of the borings (B-6, B-8, and B-9) and ten (10) of the test pits (TP-2, TP-9, TP-10, TP-12, TP-14, TP-16, TP-19, TP-21, TP-26, and TP-28) is existing fill that consists of loose to medium dense brown coarse to fine SAND, little (to and) Silt, trace (to some) coarse to fine Gravel. Cobbles, boulders, topsoil, roots, and debris were also present within the fill at some of the test locations. The existing fill was encountered to depths ranging from 1'0" to more than 9'0" beneath the existing ground surface. Test pits TP-9 and TP-28 were terminated in the fill at final depths of 6'9" and 9'0" beneath the ground surface, respectively.

**Stratum 3**  
Sandy Silt or  
Silty Sand                    Underlying the topsoil and existing fill is virgin soil that is comprised of medium dense to dense brown, light brown, or gray brown SILT some (to and), coarse to fine Sand, trace (to little) coarse to fine Gravel or coarse to fine SAND, little (to and) Silt, trace (to and) coarse to fine Gravel, with occasional cobbles and boulders. The Sandy Silt or Silty Sand stratum continued to depths ranging from 2'0" to 12'0" below the existing ground surface. Boring B-8 and test pits TP-8, TP-10, TP-12, TP-19, TP-20, TP-22, and TP-26 were terminated in this stratum at final depths ranging from 5'0" to 12'0" beneath the ground surface.

**Stratum 4**  
Sand or Sandy  
Gravel                        Below the Sandy Silt or Silty Sand at several test locations is completely weathered Gneiss bedrock that generally consists of dense to very dense brown or gray brown coarse to fine SAND, little (to some) Silt, trace (to some) coarse to fine Gravel or coarse to fine GRAVEL and, coarse to fine Sand, trace Silt. Where encountered in the borings and test pits, the completely weathered bedrock was present at depths ranging from 2'0" to 7'0" beneath the ground surface and continued to depths ranging from 4'7" to 15'2" below the existing ground surface.

**Stratum 5**  
Gneiss  
Bedrock

Gneiss bedrock was encountered at 27 of the 39 test locations. Where encountered in the borings and test pits, gneiss bedrock was observed at depths ranging from 1'8" to 15'2" beneath the existing ground surface. In general, the quality of the bedrock will improve with depth.

At boring B-10, the bedrock was cored between the depths of 2'0" and 7'0". The core recovery was 86% and the Rock Quality Designation (RQD) of the recovered core was 53%. This indicates that the quality of the upper five (5) feet of the Gneiss bedrock is fair. The Gneiss bedrock is moderately weathered and in a blocky and seamy condition.

**Groundwater**

Observations for groundwater were made during sampling and upon completion of the drilling operations at each boring location. In auger drilling operations, water is not introduced into the boreholes, and the groundwater position can often be determined by observing water flowing into or out of the boreholes. Furthermore, visual observation of the soil samples retrieved during the auger drilling and in the test pits can often be used in evaluating the groundwater conditions.

Groundwater was encountered in test pit TP-8 at a depth of 4'1" (+609.9), in test pit TP-13 at a depth of 4'10" (+631.2), in boring B-8 at a depth of 3'3" (+608.3), in test pit TP-22 at a depth of 4'6" (+470.5), and in test pit TP-28 at a depth of 8'0" (+491.0) beneath the ground surface. Groundwater was not encountered in any of the other borings or test pits that were performed at the subject site during this investigation.

Variations in the location of the long-term water table may occur as a result of changes in precipitation, evaporation, surface water runoff, and other factors not immediately apparent at the time of this exploration. Based on the site conditions, trapped groundwater may be encountered in the silty site soils and/or along the soil/rock interface during wet periods. Proper groundwater control measures will be required in the event that trapped water is encountered in the site excavations.

**Bedrock**

Bedrock was encountered in 27 of the 39 explorations that were performed at the site during this investigation. Completely weathered bedrock was encountered at ten (10) test locations at depths ranging from 2'0" to 7'0" below the existing ground surface. Harder bedrock was encountered in the remaining locations and below the completely weathered rock at depths ranging from 1'8" to 15'2" beneath the ground surface. These depths correspond to bedrock elevations ranging between approximately elevation +471.0 and elevation +669.8.

Based on the boring and test pit data and the site plans provided to this office, bedrock was encountered above the planned finished floor elevation in portions of the site. The observed depth to bedrock at each boring and test pit location is summarized in Table 1 in the following section of this report.



The bedrock encountered at the site consists of weathered Gneiss. Based on our experience, the in-situ bedrock will range from highly weathered, fractured rock to massive, intact rock. Penetration into the bedrock with excavation equipment will depend of the degree of weathering and fracturing in the rock. We anticipate that the "rippability" of the bedrock will be variable and very limited. Based on our observations, harder rock will be encountered and blasting and/or the use of hydraulic hammers will be required to excavate the harder, intact bedrock. Rock removal is discussed further in a separate section of this report.

## **EVALUATION**

At the time of this report, the proposed layout, the proposed finished floor elevations, and the site grading were preliminary. Therefore, the following evaluation is preliminary in nature and has been generalized for the expected development. The recommendations below are intended for planning purposes only and are not intended for final design and construction. Additional subsurface investigation will be required for the proposed buildings and retaining walls. Preliminarily, we estimate that an additional 12 to 15 explorations will be required for this project. Once the site plans have been further developed, a copy shall be forwarded to our office so that we can review it along with the recommendations in this report. At that time, we will provide specific recommendations for additional subsurface investigation. After the supplemental investigation has been completed, additional geotechnical recommendations will be provided for the project site. As a result, the recommendations within this report are subject to change.

Based on the preliminary site plans, we understand that the planned construction will consist of 21 new structures that will include seven (7) golf residences, seven (7) club villas, five (5) golf cottages, one (1) fairway residences building, and one (1) clubhouse building. The proposed construction will also include new asphalt paved roadways and parking areas, retaining walls, tennis courts, underground utilities, and a stormwater management system.

The grading plan provided to this office indicates that the proposed finished floor elevations vary across the site. In addition, the fairway residences, golf cottages, and golf residences will have basements. Based on the existing and proposed grades, cuts ranging up to approximately 14'0" and fills ranging up to approximately 10'0" are expected to achieve the proposed floor slab subgrade elevations. In the proposed pavement areas, cuts ranging up to approximately 6'0" and fills ranging up to approximately 8'0" are expected to achieve the proposed pavement subgrade elevations.

The boring and test pit data indicates that there is existing fill (Stratum 2) present in portions of the site to depths ranging from 1'0" to more than 9'0" below the existing ground surface. The existing fill generally consists of loose to medium dense Sand with varying amounts of Silt and Gravel and occasional cobbles, boulders, topsoil, roots, and debris. Underlying the existing fill is medium dense to dense Sandy Silt or Silty Sand (Stratum 3). The Sandy Silt or Silty Sand is underlain by dense to very dense completely weathered Gneiss bedrock (Stratum 4) in areas followed by more competent Gneiss bedrock (Stratum 5), which was encountered at depths ranging from 2'0" to 15'2" beneath the existing ground surface. The existing fill and bedrock observations are summarized in Table 1 below.

**Table 1 - Summary of Boring and Test Pit Data**

<b>Boring or Test Pit No.</b>	<b>Approximate Ground Surface Elevation</b>	<b>Depth to Bottom of Existing Fill (Elevation)</b>	<b>Depth to Weathered Bedrock (Elevation)</b>	<b>Depth to Bedrock or Auger Refusal (Elevation)</b>
B-1	+661.0	NE	5'0" (+656.0)	8'0" (+653.0)
B-2	+628.0	NE	NE	7'0" (+621.0)
B-3	+620.0	NE	2'0" (+618.0)	4'9" (+615.3)
B-4	+628.0	NE	2'0" (+626.0)	10'6" (+617.5)
B-5	+623.0	NE	2'0" (+621.0)	8'6" (+614.5)
B-6	+617.0	1'0" (+616.0)	NE	5'6" (+611.5)
B-7	+628.0	NE	5'0" (+623.0)	15'2" (+612.8)
B-8	+609.0	5'6" (+603.5)	NE	NE to 12'0"
B-9	+674.0	7'0" (+667.0)	7'0" (+667.0)	7'6" (+666.5)
B-10	+638.8	NE	NE	2'0" (+636.8)
B-11	+640.0	NE	4'0" (+636.0)	5'6" (+634.5)
TP-1	+662.0	NE	NE	2'0" (+660.0)
TP-2	+672.0	1'10" (+670.2)	NE	4'4" (+667.7)
TP-3	+672.0	NE	NE	2'2" (+669.8)
TP-4	+672.0	NE	NE	3'6" (+668.5)
TP-5	+670.0	NE	3'8" (+666.3)	4'9" (+665.3)
TP-6	+672.0	NE	2'10" (+669.2)	4'7" (+667.4)
TP-7	+620.0	NE	NE	2'8" (+617.3)
TP-8	+614.0	NE	NE	NE to 5'0"
TP-9	+628.0	>6'9" (<+621.3)	NE	NE to 6'9"
TP-10	+625.0	3'0" (+622.0)	NE	NE to 8'0"
TP-11	+642.0	NE	3'9" (+638.3)	6'0" (+636.0)
TP-12	+635.0	5'0" (+630.0)	NE	NE to 6'6"
TP-13	+636.0	NE	NE	7'5" (+628.6)
TP-14	+625.0	5'0" (+620.0)	NE	5'0" (+620.0)
TP-15	+668.0	NE	NE	1'8" (+666.3)
TP-16	+651.0	1'10" (+649.2)	NE	4'10" (+646.2)
TP-17	+655.0	NE	NE	NE to 1'0"
TP-18	+670.0	NE	NE	NE to 7'0"
TP-19	+427.0	2'5" (+424.6)	NE	NE to 7'0"
TP-20	+415.0	NE	NE	NE to 8'0"
TP-21	+478.0	1'4" (+476.7)	NE	7'0" (+471.0)
TP-22	+475.0	NE	NE	NE to 7'6"
TP-23	+496.0	NE	NE	3'10" (+492.2)
TP-24	+564.0	NE	NE	6'8" (+557.3)
TP-25	+633.0	NE	NE	3'4" (+629.7)
TP-26	+669.0	5'6" (+663.5)	NE	NE to 8'0"

<b>Boring or Test Pit No.</b>	<b>Approximate Ground Surface Elevation</b>	<b>Depth to Bottom of Existing Fill (Elevation)</b>	<b>Depth to Weathered Bedrock (Elevation)</b>	<b>Depth to Bedrock or Auger Refusal (Elevation)</b>
TP-27	+561.0	NE	NE	4'4" (+556.7)
TP-28	+499.0	>9'0" (<+490.0)	NE	NE to 9'0"

Notes: NE – Not Encountered

B-8: Groundwater at +608.3

TP-8: Groundwater at +609.9

TP-9: Terminated in the Existing Fill

TP-13: Groundwater at +631.2

TP-22: Groundwater at +470.5

TP-28: Groundwater at +491.0

TP-28: Terminated in the Existing Fill

## **Removal of Existing Structures from New Building and Pavement Areas**

### **Building Areas**

The site plan indicates that existing structures are present in some of the proposed building areas. The existing structures will be removed as part of the proposed development. All debris resulting from the demolition of these items must be completely removed from the new building areas, extending at least ten (10) feet beyond the new building limits, where practical. This shall include the complete removal of all foundations, walls, slabs, utilities, sidewalks, pavement, and miscellaneous debris. Where the removal of existing items or associated materials extends below the planned building, the resulting excavations shall be backfilled with new compacted fill as described below.

Existing utilities, where they are encountered within the planned building areas, should be either abandoned or rerouted around the new structures. Once the utility has been rerouted or abandoned, the section of pipe and any associated structure within the building areas should be completely removed. The removal of the pipe and structure must also include any loose fill around the pipe or structure. After the pipe, associated structure, and associated loose backfill have been removed, the resulting excavation shall be backfilled with new controlled fill as described below.

New compacted fill shall consist of either suitable on-site soil or imported sand and gravel. Imported sand and gravel fill shall contain less than 20% by weight passing a No. 200 sieve. The fill shall be placed in layers not exceeding one (1) foot in loose thickness. In the proposed building area, new fill shall be compacted to at least 95% of its Maximum Modified Dry Density (ASTM D1557). Each layer shall be compacted, tested, and approved prior to placing subsequent layers.

### **Pavement Areas**

In the proposed pavement areas, any existing structures and debris resulting from the demolition of the structures must be completely removed from the new pavement areas, extending at least five (5) feet beyond the new paving limits, where practical. The

excavations resulting from the removal of existing items shall be backfilled using controlled compacted fill. New fill shall consist of either suitable on-site soil or imported sand and gravel placed in one (1) foot loose layers and compacted to at least 92% of its Maximum Modified Dry Density (ASTM D1557).

### **Implications of Existing Fill**

The boring and test pit data indicates that existing fill is present in portions of the site. Where encountered in the borings and test pits, the fill extended to depths ranging from 1'0" to more than 9'0" beneath the existing ground surface. These depths correspond to elevations ranging from approximately +424.6 to elevation +670.2. The depth of the existing fill is expected to be variable and may be deeper in unexplored areas of the site and around the existing site buildings.

The existing fill is not an acceptable bearing material for the new building foundations or floor slabs. The consistency and density of the fill material are not predictable. Certain areas may contain clean dense soils while other areas may contain loose material, topsoil, and/or debris. The existing fill creates the possibility of intolerable differential settlements under loading.

To eliminate the potential for damaging differential settlements, we recommend that the existing fill be completely removed from the new building areas. Based on the existing grades and the proposed finished floor elevations, we expect that some of the existing fill will be removed during the planned building excavations. However, existing fill is expected to be encountered below the planned subgrade elevation in portions of the site. Undercutting of the subgrade will be required in these areas to remove the existing fill or otherwise unsuitable materials from the building areas. The over-excavated areas shall then be replaced with new structural fill, as necessary, to achieve the planned subgrade elevations.

To further evaluate the existing fill conditions in and around the planned building areas, we recommend that a series of supplemental test pits be performed at the time of construction. The test pits should be conducted under the full time observation of a Carlin-Simpson & Associates representative. These test pits will allow us to confirm the consistency, thickness, and horizontal limits of the existing fill material.

Provided that the existing fill and any other unsuitable materials encountered during construction are removed, it is our opinion that the new structural fill and virgin soils can adequately support the new building foundations and floor slabs.

### **Rock Removal - Blasting Issues**

As discussed above, bedrock was encountered at 27 of the 39 test locations during this study. The bedrock was encountered at depths ranging from 1'8" to 15'2" beneath the ground surface. These depths correspond to bedrock elevations ranging between approximately elevation +611.5 and elevation +669.8. Based on the site plans provided to this office, bedrock was encountered above the planned finished floor elevation in portions of the site. Bedrock may also be encountered at higher elevations in the unexplored areas of the site.

The bedrock encountered in the borings and test pits consists of weathered Gneiss. Based on our experience, the in-situ bedrock will range from highly weathered, fractured rock to massive, intact rock. To excavate the rock, the upper 1'0" to 5'0" of rock may be "rippable" by using large construction equipment. The use of hydraulic hammers and/or blasting will be required in order to achieve deeper excavations. Zones of weathered rock may exist deeper than 5'0" but conditions are expected to be highly variable. Hard rock will be encountered during construction.

In order to develop the site, rock removal will be required in areas to achieve the proposed grades. Rock removal may also be required for the new pavement and utilities in portions of the site. Rock blasting will likely be required to achieve the proposed grades in areas. Nearby buildings and existing underground utilities could be affected by the blasting.

The Blasting Contractor should avoid over-blasting the rock. Over-blasting will disturb the deeper intact rock that will be used as bearing material for the proposed foundations and floor slab.

The blasting operation will be monitored by a seismologist using a seismograph. The Peak Particle Velocity emanating from any blast will be restricted to 2.0 in/sec. Each blast will be monitored to insure that this criteria is not exceeded.

The U.S. Bureau of Mines [Nicholas et al (1971)] has established that a threshold of 4.0 in/sec will likely crack plaster and thus they recommend that the safe vibrational criterion be 2.0 in/sec. This criterion has been used successfully in the industry. Each blast will be monitored independently to insure that this criterion is not exceeded. The monitoring results shall be provided to the Blasting Contractor as soon as possible so that the blasting program can be modified if necessary.

We recommend that a minimum of four (4) monitoring points be established, to the north, east, south and west of the planned blast area. The seismograph sensors should be placed near the closest structure and at any structures identified during the pre-blast survey that are considered to be susceptible to vibration damage.

Prior to the start of any construction, a Blasting Management Plan shall be prepared by the Blasting Contractor for this project. This plan shall be in accordance with State regulations and the Explosive Materials Code, NFPA No. 495, National Fire Prevention Association. Additionally, all blasting should adhere to the provisions of 29 CFR Ch. XVII Section 1910.109 for explosives and blasting agents and to all local requirements.

Prior to any blasting work being done, a licensed professional engineer shall be retained to perform a detailed pre-blast survey of existing structures located within 500 feet of the planned blast area. The pre-blast survey shall be conducted in accordance with the requirements of local authorities. A copy of all reports prepared by the licensed engineer shall be submitted to the Town Engineer and the Owner's representative in a timely manner.

Prior to the beginning of blasting, a notice will be sent to all residential and commercial property owners within a 500 foot radius of the blast area. This notification will

be given at least 48 hours before blasting takes place. A contact person will be established and named in this notice to respond to all concerns raised by nearby residents during the blasting phase of the project. The contact person will respond to any inquiries within 24 hours.

### **Preparation of New Building Areas and Removal of Existing Fill**

In order to prepare the building areas for construction, all surface materials such as topsoil, asphalt, and surface vegetation shall be removed from the planned building areas, extending at least ten (10) feet beyond the new construction limits, where feasible.

The boring data indicates that existing fill is present within portions the proposed building areas. Fill material may also be present in other unexplored portions of the site. Where encountered in the test borings, the existing fill extended to depths ranging from about 1'0" to 7'0" below the existing ground surface. As shown in Table 1 above, the approximate bottom of the fill material ranges from elevation +603.5 to elevation +670.2. The existing fill is expected to vary in thickness across the site and may extend deeper in the unexplored areas and around the existing site structures.

After the surface materials are removed, the existing fill shall be excavated from the new building areas. The removal of the existing fill from the new building areas shall extend through the existing fill, down to the virgin soil or weathered bedrock. At the bottom of the excavation, the removal of the unsuitable material shall extend horizontally beyond the building lines a minimum distance of three (3) feet plus a distance equal to the depth of the excavation below the planned finished floor elevation. For example, if the removal of the existing fill extends vertically five (5) feet below the planned finished floor elevation, the excavation must extend horizontally a minimum of eight (8) feet (3 feet plus 5 feet) beyond the new building line at that location.

The removal of the existing fill from the planned building areas shall be performed under the full time observation of Carlin-Simpson & Associates. The on-site representative from Carlin-Simpson & Associates shall direct the Contractor during this operation to ensure that all of the unsuitable material has been removed from the proposed building areas.

During the removal of the unsuitable material from the building areas, the Contractor should segregate the potentially re-usable existing fill material from the non-reusable fill (i.e. debris and topsoil). The on-site representative from Carlin-Simpson & Associate shall evaluate the suitability of the excavated materials for use as structural fill during the excavation and prior to its re-use. Potentially usable fill should be stockpiled and covered with tarps or plastic sheeting for protection from excess moisture. Any fill material that is wet must be dried prior to its re-use.

After the surface materials and existing fill have been removed and prior to the placement of new structural fill, the exposed subgrade must be graded level and proofrolled by several passes of a vibratory drum roller. The proofrolling operation is necessary to densify the underlying soils. Carlin-Simpson & Associates shall be retained to observe the proofrolling of the subgrade. If any soft or otherwise unsuitable soils are noted, the

unsuitable material shall be removed and replaced with new structural fill. Carlin-Simpson & Associates shall be responsible for determining what material, if any, is to be removed and will direct the contractor during this operation.

New structural fill required to achieve final grades shall consist of either suitable on-site soil or imported sand and gravel. Imported fill shall contain less than 20% by weight passing a No. 200 sieve. The structural fill shall be placed in layers not exceeding one (1) foot in loose thickness and each layer shall be compacted to at least 95% of its Maximum Modified Dry Density (ASTM D1557). Each layer must be compacted, tested, and approved prior to placing subsequent layers. The suitability of the excavated soil for reuse as structural fill is discussed in a following section of this report.

After the installation of structural fill has been completed to the required subgrade elevations, the virgin soil and new structural fill may be used to support the proposed building foundations and floor slabs.

### **New Building Foundations**

According to the boring data, the foundation bearing materials will consist of medium dense to dense virgin soil, weathered bedrock, and new structural fill. Foundations for the proposed structures may be designed as a shallow spread footing bearing on the virgin soil, weathered bedrock, or new structural fill utilizing a net allowable bearing pressure of 4,000 psf (2.0 TSF).

Exterior footings shall bear at a depth of at least 42 inches below finished outside grade for protection from frost. Interior column footings may bear on the virgin soil, weathered bedrock, or new structural fill just below the floor slab provided the building is heated during winter. Column footings shall have a minimum dimension of 30 inches. The wall footings shall have a minimum width of 18 inches.

Prior to the placement of formwork, reinforcement steel, and concrete, the bearing subgrade soil shall be cleaned of all loose soil and compacted with several passes of a small vibratory drum trench compactor (i.e. Wacker Model RT560), a heavy vibratory plate tamper (i.e. Wacker BPU 3545A or equivalent), or “jumping jack” style tamper (i.e. Wacker Model BS 600). This must be performed under the inspection of a representative from Carlin-Simpson & Associates. If instability is observed during the compaction of the bearing subgrade, the soft soil shall be removed and replaced with new compacted fill.

Where rock is encountered in the foundation excavations, “Special Construction Procedures” must be employed. When continuous wall footings or closely spaced column footings (20 feet or less) bear on dissimilar material (i.e. rock and soil) the potential for differential movement exists. A footing bearing in rock will not move, whereas a footing bearing on soil will settle slightly due to the compressive nature of all soils when subjected to new loads. The area between movement and non-movement will develop a (shear) stress point. Cracks in foundations and walls will be the result from such movement. Therefore, continuous wall footings must bear either entirely on rock or entirely on soil for any individual building. Alternatively, for larger structures, transition zones can be constructed to create a gradual transition from a soil to a rock bearing subgrade.

Adjacent column footings greater than 20 feet apart may bear on dissimilar material (i.e. soil and rock). Any individual column footing must bear entirely on the same type bearing material (i.e. all soil or all rock).

Where rock and soil both exist at the bearing elevation within a foundation excavation, the footings must either be lowered to bear entirely on rock, or a minimum of 18 inches of rock must be removed from below planned footing bottom. The over-excavated 18 inches must then be filled with a granular material having a maximum particle size of ½-inch and containing at least 15% but not more than 30% material by weight passing a No. 200 sieve. The fill shall be placed in six (6) inch layers and each layer shall be compacted to at least 95% of its Maximum Modified Dry Density (ASTM D1557). This procedure will create a “cushion” atop the rock and reduce the potential for differential movement. For soft, rippable rock, this procedure will not be required.

If during the excavation for continuous foundations, the transition from soil to rock is gradual (i.e. from medium dense soil to dense weathered rock to very dense rock) over a distance of 20 feet or more, the “Special Construction Procedures” may not be required. This would have to be evaluated in the field on a case-by-case basis by the representative from Carlin-Simpson & Associates at the time of construction.

Where the transition from rock to soil is abrupt within the excavation for continuous wall foundations, transition zones can be constructed by over-excavating the rock in steps and increasing the “soil cushion” thickness over a distance of 24 feet or more. To construct the transition zone, the bedrock is over-excavated in a series of steps, each step being six (6) inches in depth and at least eight (8) feet in length. The first step is six (6) inches deep, the second step is 12 inches deep, and the final step is 18 inches deep. The over-excavation is then backfilled with the soil cushion material described above.

### **Floor Slab**

After the footings and foundation walls are installed, fill will be required to backfill the excavations and to raise grades in the building areas to the slab subgrade elevations. New fill for the floor slab shall consist of either suitable on-site soil or imported sand and gravel containing less than 20% material by weight passing a No. 200 sieve. The fill shall be placed in layers not exceeding one (1) foot in loose thickness and each layer shall be compacted to at least 92% of its Maximum Modified Dry Density (ASTM D1557). Fill layers shall be compacted, tested, and approved before placing subsequent layers.

The floor may be designed as a slab on grade, bearing on virgin soil, weathered bedrock, bedrock, or new structural fill. We recommend a Modulus of Subgrade Reaction (k) of 200 pounds per cubic inch (pci) be used for design. A six (6) inch layer of ¾-inch crushed stone is recommended beneath the concrete slab for additional support and drainage. In the event that the floor slab is constructed directly on Gneiss bedrock, a minimum of 12 inches of crushed stone or DGA should be provided beneath the floor slab for drainage and to act as a cushion on the rock. Sump pits and pumps are recommended where basements are planned.



## **Settlement**

Settlement of individual footings, designed in accordance with recommendations presented in this report, is expected to be within tolerable limits for the proposed structure. For footings placed on natural soils or new compacted fill approved by Carlin-Simpson & Associates and constructed in accordance with the requirements outlined in this report, maximum total settlement is expected to be on the order of 1/2-inch or less. Maximum differential settlement between adjacent columns or load bearing walls is expected to be half the total settlement.

The above settlement values are based on our engineering experience with similar soil conditions and the anticipated structural loading, and are to guide the Structural Engineer with his design. To minimize difficulties during the foundation installation phase, it is critical that Carlin-Simpson & Associates be retained to observe the foundation bearing surfaces and to confirm the recommended bearing pressures and that the existing fill and unsuitable materials have been removed from beneath the new foundations.

## **Foundation Walls**

In the event that foundation walls are required, the soil adjacent to the building walls will exert a horizontal pressure against the walls. This pressure is based on the soil density and Coefficient of Earth Pressure at Rest ( $k_o$ ), which is applicable to non-yielding building walls. We estimate that the backfill material will have an in-place (moist) density of about 130 pcf and a  $k_o$  of 0.5. Based on these properties, the soil will produce an Equivalent Fluid Pressure of 65 pcf against the building walls.

For sliding, the coefficient of friction between concrete and the virgin site soils or new structural fill is 0.45. For clean sound rock, a friction coefficient of 0.55 can be used. Where passive lateral earth pressure is to be included in the design of the wall, a design value of 195 psf/ft may be used. This is based on a Coefficient of Passive Earth Pressure ( $k_p$ ) of 3.0, an in-place soil backfill density of 130 pcf, and a factor of safety of 2.0.

Where foundation walls are required, we recommend that a footing drain be placed around the exterior of the new structure to prevent water from accumulating against the foundation wall. This drain may consist of a minimum four (4) inch diameter, rigid wall perforated PVC pipe surrounded by at least 12 inches of 3/4-inch clean crushed stone. The stone shall be wrapped in a geotextile fabric, Mirafi 140N or equivalent. The foundation drainpipe should be extended to daylight or to the stormwater collection system. The outside face of the foundation wall, where it extends below grade, must be damp proofed or waterproofed.

The foundation walls should be backfilled with suitable structural fill placed in layers up to one (1) foot in loose thickness. The new fill should be compacted with a vibratory drum trench compactor (i.e. Wacker Model RT560), a heavy vibratory plate tamper (i.e. Wacker BPU 3545A or equivalent) or "jumping jack" style tamper (i.e. Wacker Model BS 600) to at least 92% of its Maximum Modified Dry Density (ASTM D1557). Heavy equipment should not be operated near the wall as damage to the wall could occur.

Outside the structure, the backfill placed adjacent to the foundation walls and above the footing drain shall consist of either clean crushed stone or an imported sand and gravel mixture containing less than 10% by weight passing a No. 200 sieve and placed in layers not exceeding one (1) foot in thickness. This clean sand and gravel or crushed stone backfill shall extend a minimum of one (1) foot horizontally from the back face of the foundation walls, and shall extend vertically up the wall face to two (2) feet below the finished ground surface elevation.

Beyond this point, the foundation walls should be backfilled with suitable soil placed in layers up to one (1) foot in thickness. The new fill should be compacted with a vibratory drum trench compactor (i.e. Wacker Model RT560), a heavy vibratory plate tamper (i.e. Wacker BPU 3545A or equivalent), or “jumping jack” style tamper (i.e. Wacker Model BS 600) to at least 92% of its Maximum Modified Dry Density (ASTM D1557). Heavy equipment should not be operated near the walls as damage to the walls could occur. Material excavated from the cut areas on site will be suitable for reuse as compacted fill, provided that it remains relatively dry enough to be adequately compacted to the required density and does not contain any debris or organic material (i.e. topsoil and roots).

### **Seismic Design Considerations**

From site-specific test boring data, the Site Class was determined from Table 1615.1.1 of the New York State Building Code. The site-specific data used to determine the Site Class typically includes soil test borings to determine Standard Penetration resistances (N-values). Based on the average N-values in the upper 100 feet of soil profile, the site can be classified as Site Class C – Very Dense Soil and Soft Rock Profile.

New structures should be designed to resist stress produced by lateral forces computed in accordance with Section 1615 of the New York State Building Code. The values in Table 2 shall be used for this project. Based on the information obtained from the borings, it is our opinion that the potential for liquefaction of the native soils at the site due to earthquake activity is relatively low.

**Table 2 – Seismic Design Parameter Values**

Mapped Spectral Response Acceleration for Short Periods, [Fig 1615 (1)]	$S_S=0.347g$
Mapped Spectral Response Acceleration at 1-Second Period, [Fig 1615 (2)]	$S_{S1}=0.070g$
Site Coefficient [Table 1615.1.2 (1)]	$F_a=1.20$
Site Coefficient [Table 1615.1.2 (2)]	$F_v=1.70$
Max Considered Earthquake Spectral Response for Short Periods [Eq 16-16]	$S_{MS}=0.416g$
Max Considered Earthquake Spectral Respond at 1-Second Period [Eq 16-17]	$S_{M1}=0.119g$
Design Spectral Response Acceleration for Short Periods [Eq 16-18]	$S_{DS}=0.278g$
Design Spectral Response Acceleration for 1-Second Period [Eq 16-19]	$S_{D1}=0.079g$

### **Site Retaining Walls**

In order to develop the site, retaining walls will be required in areas. The site retaining walls may be designed as either cast-in-place steel reinforced concrete walls or geogrid reinforced modular block (MSE) walls. The preliminary site plans show five (5)

retaining walls. The maximum exposed height of these walls ranges from approximately seven (7) feet to 12 feet but the top and bottom wall elevations were not finalized at the time of this report.

The following recommendations are preliminary in nature based on the boring and test pit data from other areas of the project site during this investigation. The recommendations below are intended for planning purposes only and are not intended for final design and construction. A supplemental subsurface investigation is required for the proposed retaining walls so that additional design recommendations can be provided.

In the event that existing fill materials are present within the proposed wall areas, these materials must be completely removed from the limits of new wall construction. The removal of the topsoil or other unsuitable fill materials shall extend horizontally a minimum distance of five (5) feet beyond the front face of the new wall or extend horizontally a minimum distance equivalent to the vertical depth of the required excavation below the proposed wall base or foundation bearing elevation, whichever is greater. This is required to ensure that all unsuitable material has been removed from beneath the wall base or foundation zone of influence, which shall be defined by an imaginary plane projecting downward and away from the front edge of the wall base or foundation on a one horizontal to one vertical (1H:1V) projection.

The foundations for the new retaining wall may be placed on the virgin soil, weathered bedrock, or on new compacted fill approved by Carlin-Simpson & Associates. New compacted fill shall consist of either suitable on-site soil or imported sand and gravel. Imported fill shall contain less than 20% by weight passing the No. 200 sieve. The fill shall be placed in one (1) foot thick loose layers and compacted to at least 95% of its Maximum Modified Dry Density. Preliminarily, the footings or base of the wall can be designed using a net design bearing pressure of 4,000 psf (2.0 TSF).

For MSE walls, the wall base or foundation must be adequately embedded for internal and global stability. The embedment depth will be determined by the Wall Design Engineer. For reinforced concrete walls, the footing or base of the wall shall bear at least 42 inches below finished grade of the outside face of the wall for protection from frost. The wall foundation or base may bear at shallower depths when installed directly on the bedrock since rock is not susceptible to frost. Where both soil and rock are encountered within the wall foundation or base excavation, the "Special Construction Procedures" discussed above for the building foundations must be utilized.

Drains must be provided behind the retaining walls to prevent the buildup of hydrostatic pressure against the walls. The drain should consist of a 4-inch diameter perforated PVC pipe, surrounded with 3/4-inch clean crushed stone and wrapped in a geotextile fabric, Mirafi 140N or equivalent. The drain should be installed behind the base or foundation of the retaining wall to collect the water behind the wall and be connected into the site stormwater collection system or extended to daylight beyond the wall area.

Backfill placed directly behind the retaining walls shall consist of either suitable on-site soil or imported sand and gravel containing less than 20% by weight passing a No. 200 sieve. Each layer shall be compacted using a hand guided mechanical tamper to 92% of its

Maximum Modified Dry Density (ASTM D1557). Excessive compaction adjacent to the retaining walls must be avoided. Layers shall be tested and approved before placing subsequent layers. Large compaction equipment must not be used within ten (10) feet of the new walls to prevent potential damage to the walls.

The soil adjacent to the site retaining walls will exert a horizontal pressure against the walls. This pressure is based on the soil density and the Coefficient of Active Earth Pressure ( $k_a$ ). We estimate that the backfill material will have an in-place (moist) density of about 130 pcf and an angle of internal friction ( $\phi$ ) of  $30^\circ$ . For design, soil cohesion is assumed to be zero for the foundation soil, retained soil, and reinforced backfill. The active earth pressure coefficient ( $k_a$ ) is 0.33 provided the grade behind the wall is level. Based on these properties, the retained soil will produce an Equivalent Fluid Pressure of 42.9 pcf against the retaining walls. If a sloping grade exists behind the new walls, the  $k_a$  and the Equivalent Fluid Pressure must be adjusted accordingly. In addition, any surcharge loads from structures, vehicles, or other retaining walls (i.e. tiered walls) must be considered in the wall design.

For sliding, the friction coefficient between mass concrete and the virgin site soils or new compacted fill is 0.45. For clean sound rock, a friction coefficient of 0.55 can be used. Where passive lateral earth pressure is to be included in the design of the wall, a maximum design value of 195 psf/ft may be used. This is based on a Coefficient of Passive Earth Pressure ( $k_p$ ) of 3.0, an in-place soil backfill density of 130 pcf, and a factor of safety of 2.0.

The Wall Design Engineer shall prepare a complete wall design (i.e. drawings, specifications, and calculations), which shall be designed and sealed by a Professional Engineer registered in the State of New York and submitted to Carlin-Simpson & Associates for review and approval. MSE retaining walls shall be designed in accordance with the recommendations of the NCMA Design Manual for Segmental Retaining Walls (Current Edition).

The MSE wall design shall consider the internal stability of the reinforced soil mass and shall be in completed accordance with acceptable engineering practice. In addition, external stability, including sliding, overturning, and bearing, as well as global slope stability shall be evaluated in accordance with acceptable engineering practice.

The MSE Wall Designer Engineer shall be responsible for determining the required geogrid reinforcement lengths and elevations based on his stability analysis (including global stability) and the properties of the geogrid reinforcement used in the design. We anticipate that in the critical areas of the wall, global stability will be the controlling design criteria for the design of the geogrid reinforcement.

### **Stormwater Management Areas**

We understand that the planned development will include one or more stormwater management areas. The preliminary grading plan shows a proposed infiltration basin with a forebay in the western portion of the project site. The plan also indicates that the basin will have a bottom elevation at +610.0. We also understand that there is an alternate stormwater

management area in the southwestern portion of the site, near the proposed fairway residences building. In addition, stormwater management areas will likely be required throughout the golf course property. However, at the time this report was prepared, the proposed stormwater management system had not been designed and the location, grades, and invert elevations of the system had not been finalized.

During this study, four (4) borings, one (1) test pit, one (1) borehole permeability test, and four (4) percolation tests were performed within or near the planned stormwater management areas. An addition ten (10) test pits (TP-19 through TP-28) were excavated at potential stormwater management areas throughout the golf course property. The tests were performed at the locations shown on the attached Boring and Test Pit Location Plan. The proposed test depths were provided by the project Site Engineer. The test depths were modified, however, based on the depth to bedrock encountered at the test locations.

The soil conditions encountered within the proposed infiltration basin area consist of a surface layer of topsoil (Stratum 1), approximately 0'6" to 0'9" in thickness, followed by existing fill (Stratum 2) in boring B-6. Below the topsoil and fill is virgin soil that consists of layers of Sandy Silt, Silty Sand, Sandy Gravel, Gravelly Sand, or Silty Gravelly Sand (Strata 3 and 4) followed by Gneiss bedrock (Stratum 5). Bedrock was encountered in the proposed infiltration basin area at depths ranging from 2'8" to 8'6" beneath the ground surface. These depths correspond to bedrock elevations ranging between elevation +611.5 and elevation +617.3, which is above the proposed bottom elevation of the infiltration basin.

In the alternate stormwater management area, the topsoil was underlain by approximately 5'6" of existing fill (Stratum 2) followed by layers of Sandy Silt and Silty Sand (Stratum 3). Groundwater was encountered in this portion of the site at depths ranging from 0'6" to 3'3" below the ground surface, which corresponds to groundwater levels ranging from approximately elevation +608.3 to elevation +613.2.

The subsurface soil and groundwater conditions encountered in the potential stormwater management areas throughout the golf course property vary across the site. The boring and test pit observations are summarized in Table 1 above.

In December 2012 and January 2013, permeability tests were performed within the proposed stormwater management areas. One (1) borehole permeability test (BP-4) and four (4) percolation tests (P-1 through P-4) were performed. The infiltration rates at the test locations are summarized in Table 3 below.

**Table 3 – Field Permeability Test Results**

<b>Permeability Test No.</b>	<b>Permeability Test Depth (Elevation)</b>	<b>Permeability Rate</b>	<b>Soil Description</b>
BP-4	7'0" (+621.0)	2.4 in/hour	Brown coarse to fine SAND, little Silt, some (+) coarse to fine Gravel
P-1	3'6" (+616.5)	>20 in/hour	Brown coarse to fine GRAVEL and, coarse to fine Sand, trace Silt
P-2	1'8" (+610.3)	NR	<i>Groundwater encountered 0'6" below the ground surface</i>

Permeability Test No.	Permeability Test Depth (Elevation)	Permeability Rate	Soil Description
P-3	2'8" (+613.3)	>20 in/hour	Brown coarse to fine SAND, some Silt, and (-) coarse to fine Gravel
P-4	2'0" (+613.0)	NR	<i>Groundwater encountered 1'10" below the ground surface</i>

NR – Not Recorded

Based on the field tests, the virgin soil in the areas of tests P-1 and P-3 has a permeability rate that exceeds 20 inches per hour. However, these tests were performed at elevations of +616.5 and +613.3, which are approximately 6'6" and 3'3" higher than the planned bottom of the proposed infiltration basin. Bedrock was encountered at depths of 4'9" (+615.3) and 5'6" (+611.5) below the surface at these test locations. In the event the virgin soil in the areas of tests P-1 and P-3 can be utilized for the stormwater management system, a permeability rate of 10 inches per hour should be used for preliminary design. This design permeability rate includes a factor of safety of 2.0.

Field permeability tests could not be performed at test locations P-2 and P-4 during this study since groundwater was encountered at depths of 0'6" (+611.5) and 1'10" (+613.2) below the ground surface, respectively. Should stormwater management areas be planned in other portions of the site, they must be evaluated on a case-by-case basis.

The stormwater management system should be designed in accordance with the applicable New York State Department of Conservation (NYSDEC) regulations and the New York State Stormwater Management Design Manual (August 2010). The testing requirements are outlined in Appendix D of the manual. The testing that was performed during this preliminary study was for initial feasibility testing for the stormwater management areas. Therefore, additional testing within the proposed subsurface system areas will be required to confirm the soil conditions and infiltration rates at the bottom of the system and to finalize the design of the system.

### **Pavement**

We understand that the proposed construction will also include new asphalt paved driveways and parking areas. Based on the preliminary grading plan provided to this office, cuts ranging up to approximately 6'0" and fills ranging up to approximately 8'0" are anticipated to achieve the proposed pavement subgrade elevations. To prepare the new pavement areas, the existing surface materials (i.e. topsoil, vegetation, asphalt, etc.) must be removed from the planned pavement areas.

After all surface materials have been removed; the exposed subgrade that is either at or below the planned subgrade elevation shall be proofrolled with a large vibratory drum roller (i.e. Dynapac 250 or equivalent) to densify the underlying soils. The on-site representative from Carlin-Simpson & Associates shall witness the proofrolling operation. If any excessive movement is noted during the proofrolling, the soft or unsuitable soil shall be removed and replaced with new compacted fill.

Areas where existing fill is encountered shall be compacted in place. Carlin-Simpson & Associates must evaluate these areas for the presence of soft or unsuitable material within the existing fill matrix. Portions of this fill may have to be removed and replaced with new compacted fill. Carlin-Simpson & Associates will determine this during construction.

Where new fill is required to achieve final grades, it shall consist of either suitable on-site soil or imported sand and gravel. Imported sand and gravel shall contain less than 20% by weight passing a No. 200 sieve. New fill shall be placed in layers not exceeding one (1) foot in loose thickness and each layer shall be compacted to at least 92% of its Maximum Modified Dry Density (ASTM D1557). After the planned subgrade has been proofrolled and new compacted fill has been placed as required, the new pavement subbase may be placed on the existing site soils and new compacted fill.

When new fill is placed on a sloped subgrade, the fill layers must be benched a minimum of three (3) feet into the existing embankment. Fill layers shall be placed in horizontal layers, beginning at the base of the slope. End dumping over the top of a slope is not permitted.

The new pavement subbase may be placed on engineer-approved densified existing fill, virgin soil, or new compacted fill. A minimum of six (6) inches of dense graded aggregate (DGA) is recommended for the subbase layer for drainage and additional pavement support. We recommend that the following pavement sections be used for the parking lots and driveways. These pavement sections are subject to local government approval.

#### Parking Lots (Light Duty)

1 ½"	Asphalt Wearing Surface Course	NYSDOT, Type 6F
2"	Asphalt Base Course	NYSDOT, Type 1
6"	Stone Subbase (DGA)	NYSDOT, Type 4
	Approved Compacted Subgrade (Minimum CBR = 10)	

#### Driveways (Medium Duty)

1 ½"	Asphalt Wearing Surface Course	NYSDOT, Type 6F
2 ½"	Asphalt Base Course	NYSDOT, Type 1
8"	Stone Subbase (DGA)	NYSDOT, Type 4
	Approved Compacted Subgrade (Minimum CBR = 10)	

Based on the boring and test pit data, we anticipate that the existing site soils and new compacted fill will provide a CBR value that is equal to or greater than 10, which can adequately support the above pavement sections.

#### Utilities

New utilities may bear in the virgin soil, existing fill, new compacted fill, weathered rock, or rock. The bottom of all trenches should be excavated clean so a hard bottom is provided for pipe support. If any soft areas or unsuitable existing fill conditions are

encountered during the construction operation, these materials must be removed and replaced with new compacted fill.

In the event that the trench bottom becomes soft due to the inflow of surface or trapped water, the soft soil shall be removed and the excavation filled with a minimum of six (6) inches of 3/4-inch clean crushed stone to provide a firm base for support of the pipe. Sump pits and pumps should be adequate to keep the excavations dry.

After the utility is installed, the trench must be backfilled with compacted fill. The fill shall consist of suitable on-site soil or imported sand and gravel containing less than 20% by weight passing a No. 200 sieve. Large rock fragments must not be placed directly against the pipe. Controlled compacted fill shall be placed in one (1) foot loose layers and each layer shall be compacted to at least 92% of its Maximum Modified Dry Density (ASTM D1557). The backfill must be free of topsoil, debris and large boulders or rock fragments.

### **Temporary Construction Excavations**

Temporary construction excavations shall be conducted in accordance with the most recent OSHA guidelines or applicable federal, state, or local codes. Based on the results of the borings and test pits, we believe the site soils and rock would have the following classifications as defined by OSHA guidelines.

<b><u>Soil/Rock Type</u></b>	<b><u>Possible Classification</u></b>
On Site Fill	Type "C"
Virgin Sandy Soils	Type "B" or "C"
Weathered or Intact Bedrock	Type "A" or Stable Rock

Further evaluation of the site soil deposits will be required in the field by a qualified person at the time of the excavation to determine the proper OSHA classification and allowable slope configuration. Temporary support (i.e. sheeting and shoring) should be used for any excavation that cannot be sloped or benched in accordance with the applicable regulations.

### **Suitability of the In-Situ Soils for Use as Compacted Fill**

The suitability of each soil stratum for use as compacted fill is discussed below.

**Stratum 1**  
Topsoil      Topsoil is not suitable for use as compacted fill. During construction, it may be stockpiled on site for later use in the landscaped areas or removed from the site.

**Stratum 2**  
Existing Fill      The existing fill that was encountered at the site generally consists of brown coarse to fine Sand, little (to and) Silt, trace (to some) coarse to fine Gravel with occasional cobbles, boulders, topsoil, roots, and debris. Some of the existing fill may be suitable for use as compacted fill at the site



provided that it remains relatively dry for optimum compaction and that any debris (i.e. concrete, wood, etc.) and organic material (i.e. topsoil, roots, etc.) have been removed prior to its reuse.

**Strata 3 & 4** The virgin site soils that may be excavated during construction consist of layers of Sandy Silt, Silty Sand, Sand or Sandy Gravel with occasional cobbles and boulders. This material is generally suitable for use as compacted fill, provided that it remains relatively dry for optimum compaction. Large cobbles and boulders shall not be used as new structural fill in the proposed building areas or in utility trenches.

**Stratum 5** Excavated rock may also be used as fill material for the building and paved areas provided that the material conforms to the required gradation, is well-graded, and has been approved prior to use by Carlin-Simpson & Associates. All rock fill must be well blended with smaller rock fragments and/or soil. Open voids within the rock fill matrix must be avoided. Small boulders up to 24 inches in diameter may be placed in parking lot fills deeper than ten (10) feet below the finished pavement. Boulders must not be clustered and must be sufficiently surrounded with soil fill. We recommend that the boulders and excavated rock be processed by a crusher to provide suitable fill material for the building and pavement areas.

Rock fill shall be placed in 12-inch loose layers and compacted with multiple passes of a large vibratory roller to a firm and non-yielding state as determined by the on-site representative from Carlin-Simpson & Associates. Rock fill should not be used where it will interfere with the installation of foundations or utilities. Also, it shall not be used as backfill directly against concrete walls or utilities. Use of rock fill within the planned building and pavement areas shall be limited to the gradations limitations provided in Table 4 below.

**Table 4 - Gradation Limitations for Rock Fill**

<b>Area</b>	<b>Location</b>	<b>Maximum Particle Size</b>
Building Area	Within 4 feet of Finished Floor	3 inches
	More than 4 feet below Finished Floor	12 inches
Pavement Area	Within 4 feet of Finished Grade	6 inches
	More than 4 feet below Finished Grade	18 inches
	More than 10 feet below Finished Grade	24 inches

Proper moisture conditioning of the soil will be required. In the event that the on-site material is too wet at the time of placement and cannot be adequately compacted, the soil should be aerated and allowed to dry or the material removed and a drier cleaner fill material used. In the event that the on-site material is too dry at the time of placement and cannot be adequately compacted, water may be needed to increase the soil moisture content for proper compaction.

The in-situ soils which exist throughout the site may become soft and weave if exposed to excessive moisture and construction traffic. The instability will occur quickly when exposed to these elements and it will be difficult to stabilize the subgrade. We recommend that adequate site drainage be implemented early in the construction schedule and if the subgrade becomes wet, the Contractor should limit construction activity until the soil has dried.

## **GENERAL**

The findings, conclusions and recommendations presented in this report represent our professional opinions concerning subsurface conditions at the site. The opinions presented are relative to the dates of our site work and should not be relied on to represent conditions at later dates or at locations not explored. The opinions included herein are based on information provided to us, the data obtained at specific locations during the study and our past experience. If additional information becomes available that might impact our geotechnical opinions, it will be necessary for Carlin-Simpson & Associates to review the information, reassess the potential concerns, and re-evaluate our conclusions and recommendations. Additional subsurface exploration may be required.

Regardless of the thoroughness of a geotechnical exploration, there is the possibility that conditions between borings and test pits will differ from those encountered at specific boring or test pit locations, that conditions are not as anticipated by the designers and/or the contractors, or that either natural events or the construction process have altered the subsurface conditions. These variations are an inherent risk associated with subsurface conditions in this region and the approximate methods used to obtain the data. These variations may not be apparent until construction.

The professional opinions presented in this geotechnical report are not final. Field observations and foundation installation monitoring by the geotechnical engineer, as well as soil density testing and other quality assurance functions associated with site earthwork and foundation construction, are an extension of this report. Therefore, Carlin-Simpson & Associates should be retained by the Owner to observe all earthwork and foundation construction, to document that the conditions anticipated in this study actually exist, and to finalize or amend our conclusions and recommendations. Carlin-Simpson & Associates is not responsible or liable for the conclusions and recommendations presented in this report if Carlin-Simpson & Associates does not perform these observation and testing services.

Therefore, in order to preserve continuity in this project, the Owner must retain the services of Carlin-Simpson & Associates to provide full time geotechnical related monitoring and testing during construction. At a minimum, this shall include the observation and testing of the following: 1) the removal of existing fill and unsuitable soil, where required; 2) the proofrolling of the subgrade soil prior to the placement of new compacted fill; 3) the placement and compaction of controlled fill; 4) the excavation for the building foundations; 5) the preparation of the subgrade for the floor slabs and pavement areas; and 6) the construction of the proposed retaining walls.

This report has been prepared in accordance with generally accepted geotechnical engineering practice. No other warranty is expressed or implied. The evaluations and

recommendations presented in this report are based on the available project information, as well as on the results of the exploration. Carlin-Simpson & Associates should be given the opportunity to review the final drawings and site plans for this project to determine if changes to the recommendations outlined in this report are needed. Should the nature of the project change, these recommendations should be re-evaluated.

This report is provided for the exclusive use of Brynwood Partners, LLC and the project specific design team and may not be used or relied upon in connection with other projects or by other third parties. Carlin-Simpson & Associates disclaims liability for any such third party use or reliance without express written permission. Use of this report or the findings, conclusions or recommendations by others will be at the sole risk of the user. Carlin-Simpson & Associates is not responsible or liable for the interpretation by others of the data in this report, nor their conclusions, recommendations or opinions.

If the conditions encountered during construction vary significantly from those stated in this report, this office should be notified immediately so that additional recommendations can be made.

Thank you for allowing us to assist you with this project. Should you have any questions or comments, please contact this office.

Very truly yours,

CARLIN-SIMPSON & ASSOCIATES



MEREDITH R. ANKE, P.E.  
Project Engineer



ROBERT B. SIMPSON, P.E.



<b>Project:</b> Proposed Renovations, Byrwood Club Development, North Castle, NY	<b>SHEET NO.:</b> 1 of 1
<b>Client:</b> JBM Realty	<b>JOB NUMBER:</b> 12-175
<b>Drilling Contractor:</b> General Borings, Inc.	<b>ELEVATION:</b> +661.0

GROUNDWATER				CASING	SAMPLE	CORE	TUBE	DATUM:
DATE	TIME	DEPTH	CASING	TYPE	HSA	SS		START DATE:
No water encountered					DIA.	3 1/4"	1 3/8"	18 Dec 12
				WGHT		140#		FINISH DATE:
				FALL		30"		DRILLER:
								INSPECTOR:

Depth (ft.)	Casing Blows per Foot	Sample No.	Blows on Sample Spoon per 6"	SYMBOL	IDENTIFICATION	REMARKS
			7		<u>Clay Tennis Court</u>	
1		S-1	9		Br \$ a (+), cf S, l (-) mf G	Rec = 17"
			12			moist
2			14			
			19	same		
3		S-2	23		<u>Brown SILT and (+), coarse to fine Sand, little (-) medium to fine Gravel</u>	Rec = 15"
			50/3"			moist
4						possible weathered rock in tip
						5'0"
5						
			29		Br cf S, l (+) \$ (completely weathered gneiss)	
6		S-3	75/4"		<u>Brown coarse to fine SAND, little (+) Silt (completely weathered Gneiss)</u>	Rec = 6"
						moist
7						
		S-4	70/3"			Rec = 3"
8						moist
					<u>End of Boring @ 8'0"</u>	Auger refusal @ 8'0"
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						

<b>Project:</b> Proposed Renovations, Byrwood Club Development, North Castle, NY	<b>SHEET NO.:</b> 1 of 1
<b>Client:</b> JBM Realty	<b>JOB NUMBER:</b> 12-175
<b>Drilling Contractor:</b> General Borings, Inc.	<b>ELEVATION:</b> +628.0

GROUNDWATER				CASING	SAMPLE	CORE	TUBE	DATUM:
DATE	TIME	DEPTH	CASING	TYPE	HSA	SS		START DATE:
No water encountered					DIA.	3 1/4"	1 3/8"	18 Dec 12
				WGHT		140#		FINISH DATE:
				FALL		30"		DRILLER:
								INSPECTOR:

Depth (ft.)	Casing Blows per Foot	Sample No.	Blows on Sample Spoon per 6"	Sym	IDENTIFICATION	REMARKS
			2		<u>Topsoil</u>	
1		S-1	3		Br \$ a (+), cf S, t mf G	Rec = 15" moist
			2			
2			2		<u>Brown SILT and (+), coarse to fine Sand, trace medium to fine Gravel</u>	Rec = 16" moist
3		S-2	3	same		
			9			
4			11			
			15			
5						
6		S-3	10	same		Rec = 17" moist
			12			
			16			
7			50/3"			weathered rock in tip
					<u>End of Boring @ 7'0"</u>	Auger refusal @ 7'0"
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						

Project: <b>Proposed Renovations, Byrwood Club Development, North Castle, NY</b>	SHEET NO.: 1 of 1
Client: <b>JBM Realty</b>	JOB NUMBER: 12-175
Drilling Contractor: <b>General Borings, Inc.</b>	ELEVATION: +620.0

GROUNDWATER				CASING	SAMPLE	CORE	TUBE	DATUM:
DATE	TIME	DEPTH	CASING	TYPE	HSA	SS		START DATE: 18 Dec 12
No water encountered				DIA.	3 1/4"	1 3/8"		FINISH DATE: 18 Dec 12
				WGHT		140#		DRILLER: T. McGovern
				FALL		30"		INSPECTOR: JB

Depth (ft.)	Casing Blows per Foot	Sample No.	Blows on Sample Spoon per 6"	Sym	IDENTIFICATION		REMARKS
			3		<u>Topsoil</u>		
1		S-1	6		Br \$ a (-), cf S, t mf G		Rec = 17" moist
2			6		<u>Brown SILT and (-), coarse to fine Sand, trace medium to fine Gravel</u>		
			14		2'0"		
3		S-2	25/5"		Lt br cf G a, cf S, t \$ (completely weathered gneiss)		Rec = 5" moist
4					<u>Light brown coarse to fine GRAVEL and, coarse to fine Sand, trace Silt (completely weathered Gneiss)</u>		
5							
5		S-3	23		Br cf G s, cf S, t \$ (completely weathered gneiss)		Rec = 6" moist
6			75/3"		<u>End of Boring @ 4'9"</u>		
6							Auger refusal @ 4'9"
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

Project: <b>Proposed Renovations, Byrwood Club Development, North Castle, NY</b>	SHEET NO.: 1 of 1
Client: <b>JBM Realty</b>	JOB NUMBER: 12-175
Drilling Contractor: <b>General Borings, Inc.</b>	ELEVATION: +628.0

GROUNDWATER				CASING	SAMPLE	CORE	TUBE	DATUM:
DATE	TIME	DEPTH	CASING	TYPE	HSA	SS		START DATE: 18 Dec 12
No water encountered				DIA.	3 1/4"	1 3/8"		FINISH DATE: 18 Dec 12
				WGHT		140#		DRILLER: T. McGovern
				FALL		30"		INSPECTOR: JB

Depth (ft.)	Casing Blows per Foot	Sample No.	Blows on Sample Spoon per 6"	Sym	IDENTIFICATION	REMARKS
			2		<u>Topsoil</u>	
1		S-1	1		Br cf S, a \$, t f G	Rec = 14" moist
2			2		<u>Brown coarse to fine SAND, and Silt, trace fine Gravel</u>	
			10		Gr cf S t \$, a cf G (completely weathered gneiss)	
3		S-2	20			Rec = 13" moist
			45			weathered rock 3'-4'
4			35			
5						
			9		Br cf S, l \$, s (+) cf G (completely weathered gneiss)	
6		S-3	11			Rec = 17" moist
			13		<u>Brown coarse to fine SAND, little Silt, some (+) coarse to fine Gravel</u>	
7			10		<u>(completely weathered Gneiss)</u>	
			18	same		
8		S-4	26			Rec = 14" moist
			30			
9			43			
10						
		S-5	75/6"	same		Refusal on spoon @ 10'6"
11						<u>End of Boring @ 10'6"</u>
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						

<b>Project:</b> Proposed Renovations, Byrwood Club Development, North Castle, NY	<b>SHEET NO.:</b> 1 of 1
<b>Client:</b> JBM Realty	<b>JOB NUMBER:</b> 12-175
<b>Drilling Contractor:</b> General Borings, Inc.	<b>ELEVATION:</b> +623.0

GROUNDWATER				CASING	SAMPLE	CORE	TUBE	DATUM:
DATE	TIME	DEPTH	CASING	TYPE	HSA	SS		START DATE:
No water encountered								18 Dec 12
				DIA.	3 1/4"	1 3/8"		FINISH DATE:
				WGHT		140#		DRILLER:
				FALL		30"		INSPECTOR:
								JB

Depth (ft.)	Casing Blows per Foot	Sample No.	Blows on Sample Spoon per 6"	Sym	IDENTIFICATION	REMARKS
1		S-1	2		Br cf S, s (+) \$, t f G <b><u>Brown coarse to fine SAND, some (+) Silt, trace fine Gravel</u></b>	Rec = 17" moist
			2			
			3			
2			13		2'0"	
		S-2	22		Br cf S, l \$, s cf G  <b><u>Brown coarse to fine SAND, little Silt, some coarse to fine Gravel (completely weathered Gneiss)</u></b>	Rec = 17" moist weathered rock in tip
3			10			
			16			
4			26			
5						
		S-3	23		same, weathered gneiss	Rec = 18" moist weathered rock
6			62			
			55			
7			81			
8					8'6"	Auger refusal @ 8'6"
9					<b><u>End of Boring @ 8'6"</u></b>	
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						



<b>Project:</b> Proposed Renovations, Byrnwood Club Development, North Castle, NY	<b>SHEET NO.:</b> 1 of 1
<b>Client:</b> JBM Realty	<b>JOB NUMBER:</b> 12-175
<b>Drilling Contractor:</b> General Borings, Inc.	<b>ELEVATION:</b> +617.0

GROUNDWATER				CASING	SAMPLE	CORE	TUBE	DATUM:
DATE	TIME	DEPTH	CASING	TYPE	HSA	SS		START DATE:
No water encountered					DIA.	3 1/4"	1 3/8"	19 Dec 12
				WGHT		140#		FINISH DATE:
				FALL		30"		DRILLER:
								INSPECTOR:

Depth (ft.)	Casing Blows per Foot	Sample No.	Blows on Sample Spoon per 6"	Sym	IDENTIFICATION		REMARKS
			2			0'6"	
1		S-1	6		FILL (Br cf S, l \$)	1'0"	Rec = 10" moist
2			5		FILL (Brown coarse to fine SAND, little Silt)		
			10				
			12		Br cf S, s \$, a (-) cf G		
3		S-2	11				Rec = 11" moist
4			11		same		
			52		<u>Brown coarse to fine SAND, some Silt, and (-) coarse to fine Gravel</u>		
5							
		S-3	75/2"			5'6"	No recovery
6						<u>End of Boring @ 5'6"</u>	Auger refusal @ 5'6"
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

<b>Project:</b> Proposed Renovations, Byrwood Club Development, North Castle, NY	<b>SHEET NO.:</b> 1 of 1
<b>Client:</b> JBM Realty	<b>JOB NUMBER:</b> 12-175
<b>Drilling Contractor:</b> General Borings, Inc.	<b>ELEVATION:</b> +628.0

GROUNDWATER				CASING	SAMPLE	CORE	TUBE	DATUM:
DATE	TIME	DEPTH	CASING	TYPE	HSA	SS		START DATE:
No water encountered					DIA.	3 1/4"	1 3/8"	19 Dec 12
				WGHT		140#		FINISH DATE:
				FALL		30"		DRILLER:
								INSPECTOR:

Depth (ft.)	Casing Blows per Foot	Sample No.	Blows on Sample Spoon per 6"	Sym	IDENTIFICATION	REMARKS
			2		<u>Topsoil</u>	
1		S-1	4		Br cf S, l \$, l f G	Rec = 18" moist
2			5			
3		S-2	13	same	<u>Brown coarse to fine SAND, little Silt, little fine Gravel</u>	Rec = 17" moist
4			28			
5			22			
6		S-3	12		Br cf S, l \$, t f G (completely weathered gniess)	Rec = 15" moist very dense augering 7'-10'
7			14			
8			19			
9		S-4	28		<u>Brown coarse to fine SAND, little Silt, trace fine Gravel (completely weathered Geniss)</u>	
10			75			
11		S-4	50/3"	same		Rec = 6" moist very dense augering 10'-15'
12						
13						
14		S-4				
15						
16			50/2"	same	<u>End of Boring @ 15'2"</u>	No recovery Spoon bouncing @ 15'2"
17						
18						
19						
20						
21						
22						

<b>Project:</b> Proposed Renovations, Byrnwood Club Development, North Castle, NY	<b>SHEET NO.:</b> 1 of 1
<b>Client:</b> JBM Realty	<b>JOB NUMBER:</b> 12-175
<b>Drilling Contractor:</b> General Borings, Inc.	<b>ELEVATION:</b> +609.0

GROUNDWATER				CASING	SAMPLE	CORE	TUBE	DATUM:
DATE	TIME	DEPTH	CASING	TYPE	HSA	SS		START DATE:
19 Dec 12	1130	3'3"	None	DIA.	3 1/4"	1 3/8"		19 Dec 12
				WGHT		140#		FINISH DATE:
				FALL		30"		19 Dec 12
								DRILLER:
								T. McGovern
								INSPECTOR:
								KWA

Depth (ft.)	Casing Blows per Foot	Sample No.	Blows on Sample Spoon per 6"	Sym	IDENTIFICATION		REMARKS
			2		<u>Brown Topsoil</u>		
1		S-1	4		FILL (Br cf S, a \$, t cf G)		Rec = 4" moist
			8				
2			7				
			10		FILL (same)		
3		S-2	11		<u>FILL (Brown coarse to fine SAND, and Silt, trace coarse to fine Gravel)</u>		No recovery moist
			11				
4			13				
5							
			13		FILL (same)		5'6"
6		S-3	8		Mtdl gr, or br Cy \$ s, cf S, w/t roots		Rec = 18" moist
			7		<u>Mottled gray, orange brown Clayey SILT some, coarse to fine Sand, with roots</u>		
7			8				
			8				7'0"
8		S-4	8		Gr br cf S, s (+) \$, l cf G		Rec = 15" wet
			7				
9			8		<u>Gray brown coarse to fine SAND, some (+) Silt, little coarse to fine Gravel</u>		
10							
			15		same, l cf G		
11		S-5	25				Rec = 16" wet
			26				
12			35				
					<u>End of Boring @ 12'0"</u>		12'0"
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

<b>Project:</b> Proposed Renovations, Byrwood Club Development, North Castle, NY	<b>SHEET NO.:</b> 1 of 1
<b>Client:</b> JBM Realty	<b>JOB NUMBER:</b> 12-175
<b>Drilling Contractor:</b> General Borings, Inc.	<b>ELEVATION:</b> +674.0

GROUNDWATER				CASING	SAMPLE	CORE	TUBE	DATUM:
DATE	TIME	DEPTH	CASING	TYPE	HSA	SS		START DATE:
No water encountered					DIA.	3 1/4"	1 3/8"	19 Dec 12
				WGHT		140#		FINISH DATE:
				FALL		30"		DRILLER:
								INSPECTOR:

Depth (ft.)	Casing Blows per Foot	Sample No.	Blows on Sample Spoon per 6"	SYMBOL	IDENTIFICATION	REMARKS
			8		<u>Clay Tennis Court</u>	
1		S-1	8		FILL (Br cf S, s \$, s (+) cf G)	Rec = 17" moist
2			17			
3		S-2	12		FILL (same)	Rec = 15" moist
4			7		<u>FILL (Brown coarse to fine Sand, some Silt, some (+) coarse to fine Gravel)</u>	
5			13			
6		S-3	4		FILL (Br cf S, s \$, l cf G)	Rec = 15" moist
7			5			
8		S-4	11			7'0"
9			50/3"		<u>Highly to moderately weathered Gneiss</u>	Rec = 3" moist
10					<u>Eknd of Boring @ 7'6"</u>	Auger refusal @ 7'0"
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						

<b>Project:</b> Proposed Renovations, Byrwood Club Development, North Castle, NY	<b>SHEET NO.:</b> 1 of 1
<b>Client:</b> JBM Realty	<b>JOB NUMBER:</b> 12-175
<b>Drilling Contractor:</b> General Borings, Inc.	<b>ELEVATION:</b> +638.8

GROUNDWATER				CASING	SAMPLE	CORE	TUBE	DATUM:
DATE	TIME	DEPTH	CASING	TYPE	HSA	SS		START DATE:
No water encountered								19 Dec 12
				DIA.	3 1/4"	1 3/8"		FINISH DATE:
				WGHT		140#		DRILLER:
				FALL		30"		INSPECTOR:
								JB

Depth (ft.)	Casing Blows per Foot	Sample No.	Blows on Sample Spoon per 6"	S y m	IDENTIFICATION	REMARKS	
			2		<u>Topsoil</u> 0'1"		
1		S-1	3		Br cf \$ s, cf S, l cf G <u>Brown coarse to fine SILT some, coarse to fine Sand, little coarse to fine Gravel</u> 2'0"	Rec = 15" moist Auger refusal @ 2'0"	
2			6				
			50/3"				
3		Run #1			<u>Gray, white Gneiss</u>	Run #1 2'0"-7'0" Run = 60" Rec = 52" = 86% RQD = 53%	
4							
5							5'0"
6							<u>Soil seam</u> 5'8"
7							<u>Gray, white Gneiss</u> 7'0"
8					<u>End of Boring @ 7'0"</u>		
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

<b>Project:</b> Proposed Renovations, Byrwood Club Development, North Castle, NY	<b>SHEET NO.:</b> 1 of 1
<b>Client:</b> JBM Realty	<b>JOB NUMBER:</b> 12-175
<b>Drilling Contractor:</b> General Borings, Inc.	<b>ELEVATION:</b> +640.0

GROUNDWATER				CASING	SAMPLE	CORE	TUBE	DATUM:
DATE	TIME	DEPTH	CASING	TYPE	HSA	SS		START DATE:
No water encountered					DIA.	3 1/4"	1 3/8"	19 Dec 12
				WGHT		140#		FINISH DATE:
				FALL		30"		DRILLER:
								INSPECTOR:

Depth (ft.)	Casing Blows per Foot	Sample No.	Blows on Sample Spoon per 6"	Sym	IDENTIFICATION	REMARKS
			2		<u>Topsoil</u>	
1		S-1	3			Rec = 20"
					Br cf S, l (+) \$	moist
2			7			
					same, dk br	
3		S-2	6		<u>Brown coarse to fine SAND,</u>	Rec = 17"
			8		<u>little (+) Silt</u>	moist
4			23			4'0"
5					<u>Completely to highly weathered</u>	
					<u>Gneiss</u>	
6						5'6" Auger refusal @ 5'6"
7					<u>End of Boring @ 5'6"</u>	
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						

3 January 2013

**TEST PIT LOGS**

<b><u>TP-1</u></b>	Elevation +662		
0-0'9"	Brown Topsoil		
0'9"-2'0"	Brown coarse to fine SAND, and Silt, trace (+) medium to fine Gravel	medium dense	moist
2'0"	Gneiss bedrock No water encountered		
<b><u>TP-2</u></b>	Elevation +672		
0-1'10"	FILL (Brown coarse to fine SAND, some silt, little (-) coarse to fine Gravel, with topsoil)	medium dense	moist
1'10"-4'4"	Light brown coarse to fine SAND, some (+) Silt	medium dense	moist
4'4"	Gneiss bedrock No water encountered		
<b><u>TP-3</u></b>	Elevation +672		
0-0'9"	Dark brown Topsoil with surface debris		
0'9"-2'2"	Brown coarse to fine SAND, some Silt	medium dense	moist
2'2"	Gneiss bedrock No water encountered		

3 January 2013

**TEST PIT LOGS**

<b><u>TP-4</u></b>	Elevation +672		
0-0'6"	Brown Topsoil		
0'6"-3'6"	Brown coarse to fine SAND, and (-) Silt, some coarse to fine Gravel	medium dense	moist
3'6"	Gneiss bedrock No water encountered		
<b><u>TP-5</u></b>	Elevation +670		
0-0'7"	Brown Topsoil		
0'7"-3'8"	Light brown coarse to fine SAND, some (+) Silt	medium dense	moist
3'8"-4'9"	Brown coarse to fine SAND, some Silt (completely weathered gneiss)	dense	moist
4'9"	Gneiss bedrock No water encountered		



3 January 2013

**TEST PIT LOGS**

<b><u>TP-6</u></b>	Elevation +672		
0-0'10"	Brown Topsoil		
0'10"-2'10"	Light brown coarse to fine SAND, some (-) Silt, little coarse to fine Gravel	medium dense	moist
2'10"-4'7"	Brown coarse to fine SAND, some Silt, little coarse to fine Gravel (completely weathered gneiss)	dense	moist
4'7"	Gneiss bedrock No water encountered		
<b><u>TP-7</u></b>	Elevation +620		
0-0'9"	Brown Topsoil		
0'9"-2'8"	Brown coarse to fine SAND, some Silt, trace coarse to fine Gravel	medium dense	moist
2'8"	Probable Gneiss bedrock  Test pit abandoned No water encountered		
<b><u>TP-8</u></b>	Elevation +614		
0-0'8"	Dark brown Topsoil		
0'8"-5'0"	Mottled orange brown, gray coarse to fine SAND, and (-) Silt	medium dense	moist
	Groundwater encountered @ 4'1"	slow inflow	

3 January 2013

**TEST PIT LOGS**

<b><u>TP-9</u></b>	Elevation +628		
0-0'4"	Topsoil		
0'4"-6'9"	FILL (Brown coarse to fine SAND, some (+) Silt, some (+) coarse to fine Gravel, with cobbles and boulders)	medium dense	moist
6'9"	FILL (Gray coarse to fine SAND, trace (+) Silt)	medium dense	moist
	Possible cover over for utility Test pit was abandoned		
	No water encountered		
<b><u>TP-10</u></b>	Elevation +625		
0-0'4"	Topsoil		
0'4"-3'0"	FILL (Boulders with topsoil)	loose	moist
3'0"-8'0"	Brown coarse to fine SAND, some (+) Silt	medium dense	moist
	No water encountered		

3 January 2013

**TEST PIT LOGS**

<b><u>TP-11</u></b>	Elevation +642		
0-0'6"	Brown Topsoil		
0'6"-3'9"	Brown coarse to fine SAND, some Silt, little coarse to fine Gravel, with occasional cobbles and boulders	medium dense	moist
3'9"-6'0"	Brown coarse to fine SAND, little (+) Silt, some coarse to fine Gravel (completely weathered gneiss)	dense	moist
6'0"	Weathered Gneiss bedrock No water encountered		
<b><u>TP-12</u></b>	Elevation +635		
0-0'6"	Brown Topsoil		
0'6"-5'0"	FILL (Brown coarse to fine SAND, some (+) Silt, little (-) coarse to fine Gravel, with trace of debris)	loose	moist
5'0"-6'6"	Orange brown, gray coarse to fine SAND and Silt	dense	moist
	Refusal on boulder No water encountered		

4 January 2013

**TEST PIT LOGS**

<b><u>TP-13</u></b>	Elevation +636		
0-0'9"	Brown Topsoil with roots		
0'9"-6'3"	Brown coarse to fine SAND, and Silt, little coarse to fine Gravel	medium dense	moist
6'3"-7'5"	Brown coarse to fine SAND, some (+) Silt, little (-) coarse to fine Gravel	dense	moist
7'5"	Gneiss bedrock		
	Groundwater encountered @ 4'10"	slow inflow	
<b><u>TP-14</u></b>	Elevation +625		
0-0'3"	Brown Topsoil		
0'3"-3'4"	FILL (Gray brown coarse to fine SAND, some Silt, little coarse to fine Gravel, with cobbles and boulders)	loose	moist
3'4"-5'0"	FILL (Brown coarse to fine SAND, little Silt)	medium dense	moist
5'0"	Gneiss bedrock No water encountered		

4 January 2013

**TEST PIT LOGS**

<b><u>TP-15</u></b>	Elevation +668		
0-0'3"	Brown Topsoil		
0'3"-1'8"	Brown coarse to fine SAND, some (+) Silt, some (-) coarse to fine Gravel, with occasional cobbles and boulders	medium dense	moist
1'8"	Gneiss bedrock No water encountered		
<b><u>TP-16</u></b>	Elevation +651		
0-0'8"	Dark brown Topsoil		
0'8"-1'10"	FILL (Brown coarse to fine SAND, some (+) Silt, trace medium to fine Gravel, with cobbles)	medium dense	moist
1'10"-4'10"	Brown coarse to fine SAND, some (+) Silt, trace medium to fine Gravel	medium dense	moist
4'10"	Gneiss bedrock No water encountered		

4 January 2013

**TEST PIT LOGS**

<b><u>TP-17</u></b>	Elevation +655		
0-0'3"	Topsoil		
0'3"-1'0"	Brown coarse to fine SAND, some (+) Silt, little coarse to fine Gravel	medium dense	moist
	Encountered irrigation pipes Test pit abandoned No water encountered		
<b><u>TP-18</u></b>	Elevation +670		
0-0'10"	Brown Topsoil		
0'10"-7'0"	Brown SILT and, coarse to fine Sand, little (-) medium to fine Gravel	medium dense	moist
	No water encountered		

Brynwood Club Development  
Bedford Road  
Town of North Castle, NY  
(12-175)

13 September 2013

**TEST PIT LOGS**

**TP-19**

0-2'5"	FILL (Brown coarse to fine SAND, some Silt, some coarse to fine Gravel, with topsoil, cobbles, boulders)	loose	moist
2'5"-7'0"	Brown coarse to fine SAND, some Silt, little coarse to fine Gravel	medium dense	moist
	No water encountered		

**TP-20**

0-0'6"	Brown Topsoil		
0'6"-4'3"	Brown, orange brown coarse to fine SAND, some Silt, little coarse to fine Gravel	medium dense	moist
4'3"-8'0"	Orange brown coarse to fine SAND, little (-) Silt, some coarse to fine Gravel, with occasional cobbles	medium dense	moist
	No water encountered		

Brynwood Club Development  
 Bedford Road  
 Town of North Castle, NY  
 (12-175)

13 September 2013

**TEST PIT LOGS**

**TP-21**

0-0'6"	Dark brown Topsoil		
0'6"-1'4"	FILL (Brown coarse to fine SAND, some (-) Silt, trace medium to fine Gravel, with few roots)	medium dense	moist
1'4"-7'0"	Brown coarse to fine SAND, little Silt, trace (+) coarse to fine Gravel, with occasional cobbles	medium dense	moist
7'0"	Possible weathered bedrock		
	No water encountered		

**TP-22**

0-1'6"	Dark brown Topsoil, with roots		
1'6"-2'8"	Mottled gray brown, orange brown Clayey SILT, little medium to fine Sand	medium dense	moist
2'8"-3'6"	Brown coarse to fine SAND, some (+) Silt, little medium to fine Gravel	medium dense	moist
3'6"-6'0"	Brown coarse to fine SAND, little (+) Silt, come coarse to fine Gravel	medium dense	wet
6'0"-7'6"	Gray brown SILT little, coarse to fine Sand, trace medium to fine Gravel	medium dense	wet
	Groundwater encountered @ 4'6"	slow inflow	



Brynwood Club Development  
Bedford Road  
Town of North Castle, NY  
(12-175)

13 September 2013

**TEST PIT LOGS**

**TP-23**

0-0'7"	Brown Topsoil		
0'7"-3'10"	Brown coarse to fine SAND, and (-) Silt, little (-) coarse to fine Gravel	dense	moist
3'10"	Weathered bedrock		
	No water encountered		

**TP-24**

0-0'8"	Brown Topsoil		
0'8"-6'8"	Brown coarse to fine SAND, some (+) Silt, little (-) coarse to fine Gravel, with occasional cobbles	medium dense	moist
6'8"	Possible weathered bedrock or boulder		
	No water encountered		

**TP-25**

0-0'4"	Brown Topsoil		
0'4"-3'4"	Brown coarse to fine SAND, and Silt, trace medium to fine Gravel	medium dense	moist
3'4"	Possible bedrock or boulder		
	No water encountered		

Brynwood Club Development  
Bedford Road  
Town of North Castle, NY  
(12-175)

13 September 2013

**TEST PIT LOGS**

**TP-26**

0-0'6"	Brown Topsoil		
0'6"-2'8"	FILL (Brown coarse to fine SAND, some (-) Silt, little coarse to fine Gravel, with cobbles and boulders)	medium dense	moist
2'8"-4'0"	FILL (Brown Topsoil, with trace roots)		
4'0"-5'6"	FILL (Dark gray brown Clayey SILT, and, coarse to fine Sand, with trace roots, trace debris)	medium stiff	moist
5'6"-8'0"	Brown coarse to fine SAND, and (-) Silt, trace coarse to fine Gravel	medium dense	moist
	No water encountered		

**TP-27**

0-0'9"	Brown Topsoil, with roots		
0'9"-4'4"	Light brown coarse to fine SAND, little Silt, trace coarse to fine Gravel	medium dense	dry
4'4"	Probable weathered bedrock		
	No water encountered		

Brynwood Club Development  
Bedford Road  
Town of North Castle, NY  
(12-175)

13 September 2013

**TEST PIT LOGS**

**TP-28**

0-0'4"	Brown Topsoil		
0'4"-8'6"	FILL (Brown coarse to fine SAND, little Silt, little coarse to fine Gravel, with organics, debris)	loose	moist
8'6"-9'0"	FILL (Gray coarse to fine SAND, some Silt, little coarse to fine Gravel, with organics)	medium dense	wet
	Groundwater encountered @ 8'0"		

18 -19 December 2012

**Borehole Permeability Test (B-4)**

Ground Surface Elevation: +628.0

Top of Casing Elevation: +631.5

Bottom of Test Hole Elevation: +621.0

Test Hole Depth from Ground Surface Elevation: 7'0" (84")

**Pre-Soak:**

Start Date: 18 Dec 2012      Time: 1545      Water Level\*: 4'4"

End Date: 19 Dec 2012      Time: 0900      Water Level\*: 7'1"

***33" drop H<sub>2</sub>O in 1035 minutes (17 hr. 15 min.) = 0.03 inches per minute***

**Test:**

Start Date: 19 Dec 2012      Time: 1000      Water Level\*: 4'3"

End Date: 19 Dec 2012      Time: 1515      Water Level\*: 5'3.5"

***12.5" drop H<sub>2</sub>O in 315 minutes (5 hr. 15 min.) = 0.04 inches per minute***

<b>Time</b>	<b>Water Level*</b>	<b>Interval Water Level Drop (Inches)</b>	<b>Cumulative Water Level Drop (Inches)</b>
1000	4'3"	0	0
1100	4'6"	3	3
1200	4'8"	2	5
1300	4'10"	2	7
1400	5'1"	3	10
1515	5'3.5"	2.5	12.5

Water Level\* - Depth below top of casing (elevation +631.5)

Byrnwood Club Development  
Bedford Road  
Town of New Castle, NY  
(12-175)

3 January 2013

**Percolation Test P-1**  
**(Elevation +620)**

Test hole depth 42" from ground surface elevation

Pre-Soak

0-10 min, 22" drop of H<sub>2</sub>O (pipe drained)  
22" drop H<sub>2</sub>O in 10 minutes = 2.20 inches per minute

Test Run #1

5 min, 15" drop H<sub>2</sub>O (re-filled pipe)

Test Run #2

5 min, 14" drop H<sub>2</sub>O (re-filled pipe)

Test Run #3

5 min, 12" drop H<sub>2</sub>O (re-filled pipe)

Final Test Reading

Start @ 1245, 14" from top of pipe  
Finish @ 1300, 36" drop from top of pipe (pipe drained)  
***22" drop H<sub>2</sub>O in 15 minutes = 1.46 inches per minute***

**Percolation Hole P-2**  
**(Elevation + 612)**

Test hole depth 20" from ground elevation  
Groundwater @ 0'6" below surface  
Percolation test unable to be performed

3 January 2013

**Percolation Test P-3**  
**(Elevation + 616)**

Test hole depth 32" from ground surface elevation

Pre-Soak

0-24 min, 17" drop of H<sub>2</sub>O (pipe drained)  
17" drop H<sub>2</sub>O in 24 minutes = 0.71 inches per minute

Test Run #1

5 min, 5" drop H<sub>2</sub>O (re-filled pipe)

Test Run #2

5 min, 5" drop H<sub>2</sub>O (re-filled pipe)

Test Run #3

5 min, 4" drop H<sub>2</sub>O (re-filled pipe)

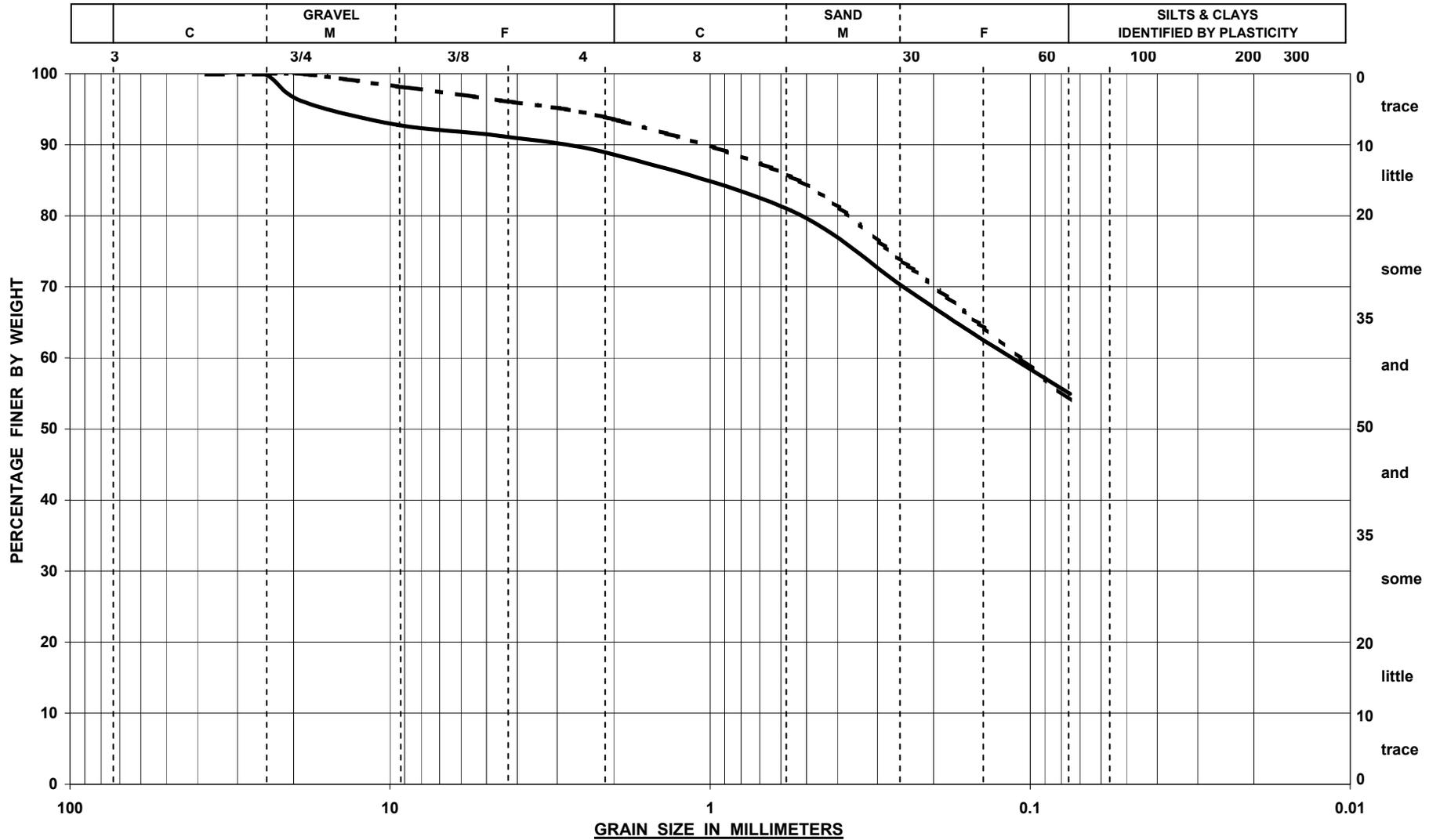
Final Test Reading

Start @ 1535, 15" from top of pipe  
Finish @ 1605, 28" drop from top of pipe  
*13" drop H<sub>2</sub>O in 30 minutes = 0.43 inches per minute*

**Percolation Hole P-4**  
**(Elevation + 615)**

Test hole depth 24" from ground elevation  
Groundwater @ 1'10" below surface  
Percolation test unable to be performed

**SIEVE ANALYSIS**



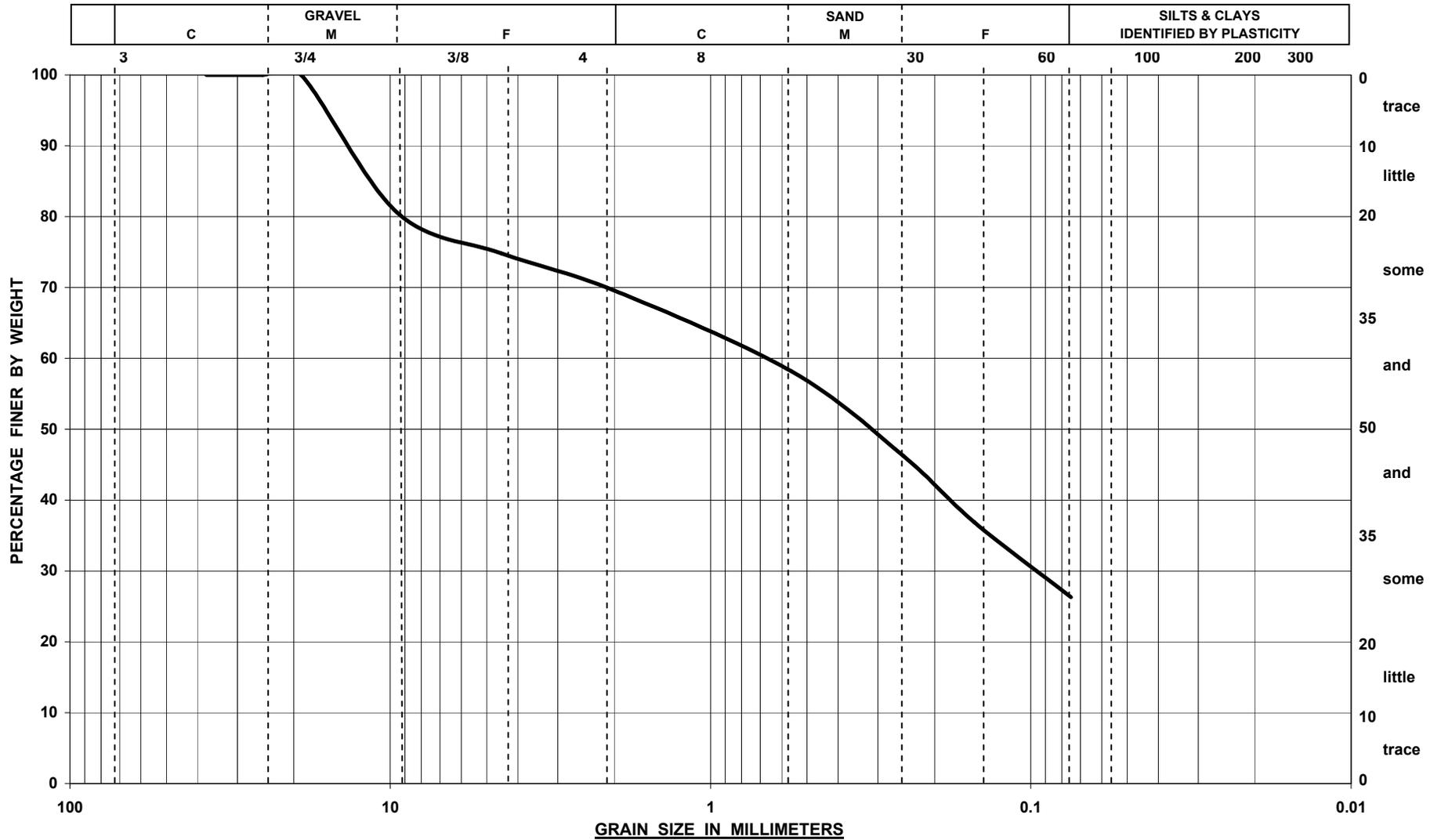
SYMBOL	BORING	SAMPLE	DEPTH	DESCRIPTION	NAT MC
—	B-1	S-1	0' 0" - 2' 0"	Brown SILT and (+), coarse to fine Sand, little (-) medium to fine Gravel	14.0%
- -	B-2	S-2	2' 0" - 4' 0"	Brown SILT and (+), coarse to fine Sand, trace medium to fine Gravel	14.2%





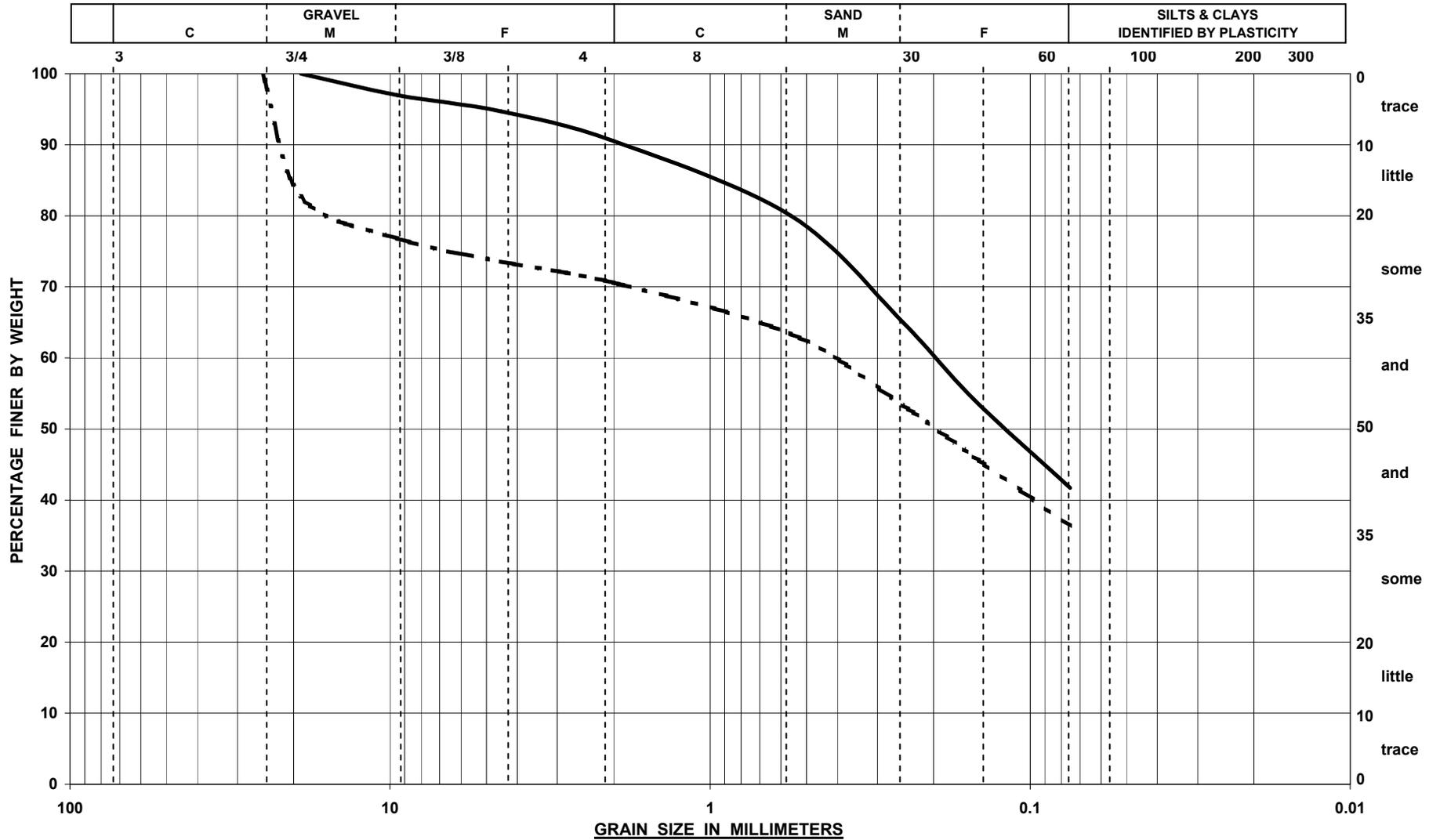


**SIEVE ANALYSIS**



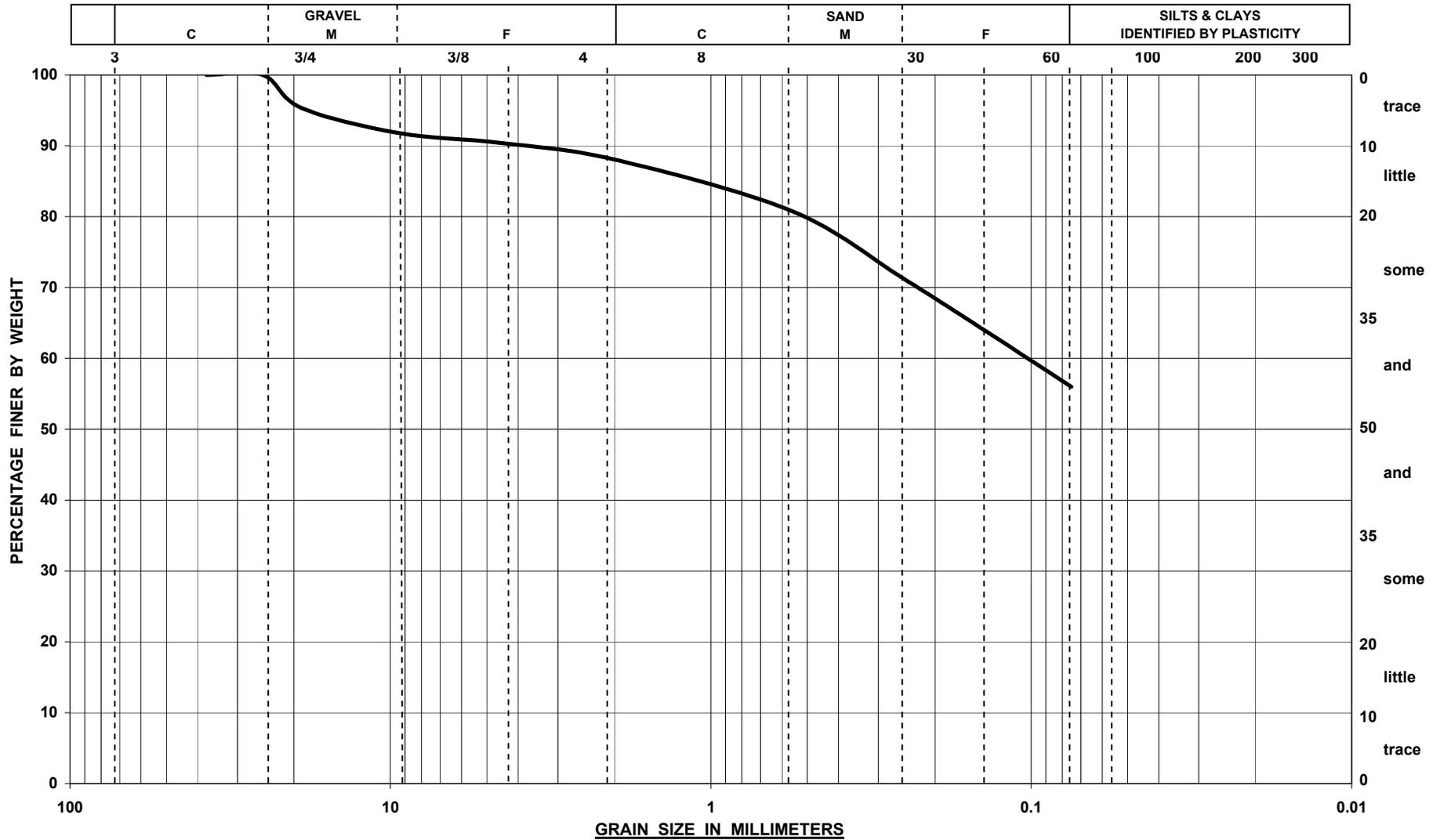
SYMBOL	BORING	SAMPLE	DEPTH	DESCRIPTION	NAT MC
—	B-9	S-2	2' 0" - 4' 0"	FILL (brown coarse to fine Sand, some Silt, some (+) medium to fine Gravel)	15.0%

**SIEVE ANALYSIS**



SYMBOL	Test Pit	SAMPLE	DEPTH	DESCRIPTION	NAT MC
—	TP-1	S-1		Brown coarse to fine SAND, and Silt, trace (+) medium to fine Gravel	18.2%
- -	TP-4	S-1		Brown coarse to fine Sand, and (-) Silt, some coarse to fine Gravel	14.0%

**SIEVE ANALYSIS**



SYMBOL	Test Pit	SAMPLE	DEPTH	DESCRIPTION	NAT MC
—	TP-18	S-1	0' 10" - 7' 0"	Brown SILT and, coarse to fine Sand, little (-) medium to fine Gravel	18.0%



- GENERAL NOTES:**
1. GENERAL LAYOUT WAS OBTAINED FROM A DRAWING PREPARED BY JOHN MEYER CONSULTING, PC ENTITLED "TEST PIT PLAN, BRYNWOOD CLUB, BEDFORD ROAD (NY 22), TOWN OF NORTH CASTLE NEW YORK," DRAWING TP-1, DATED DECEMBER 17, 2012.
  2. BORING, TEST PIT, PERMEABILITY TEST, AND PERCOLATION TEST LOCATIONS WERE LAID OUT IN THE FIELD BY CARLIN-SIMPSON & ASSOCIATES (CSA).
  3. BORINGS (B-1 THROUGH B-11) WERE PERFORMED BY GENERAL BORINGS, INC. ON 18 & 19 DECEMBER 2012 UNDER THE FULL TIME INSPECTION OF CSA.
  4. THE BOREHOLE PERMEABILITY TEST (BP-4) WAS PERFORMED BY CSA ON 18 & 19 DECEMBER 2012.
  5. PERCOLATION TESTS (P-1, P-2, AND P-3) WERE PERFORMED BY CSA ON 3 JANUARY 2013.
  6. TEST PITS (TP-1 THROUGH TP-18) WERE PERFORMED BY TRAFICANTE CONTRACTING, INC ON 3 & 4 JANUARY 2013 UNDER THE FULL TIME INSPECTION OF CSA.
  7. TEST PITS (TP-19 THROUGH TP-28) WERE PERFORMED BY BRYNWOOD CLUB PERSONNEL IN SEPTEMBER 2013 UNDER THE FULL TIME INSPECTION OF CSA.
  8. LOCATIONS ARE APPROXIMATE.

- LEGEND:**
- ◆ - BORING LOCATION (DEC. 2012)
  - - TEST PIT LOCATION (JAN. 2013)
  - - TEST PIT LOCATION (SEPT. 2013)
  - ◆ - PERCOLATION TEST LOCATION (JAN. 2013)
  - ◆ - BOREHOLE PERMEABILITY TEST LOCATION (DEC. 2012)

<b>ROBERT B. SIMPSON, P.E.</b> PROFESSIONAL ENGINEER	
LICENSE NO. _____	SIGNATURE _____
<b>BORING &amp; TEST PIT LOCATION PLAN</b>	
BRYNWOOD CLUB DEVELOPMENT NORTH CASTLE, NEW YORK	
DRAWN MRA	SCALE 1" = 120'
CHECKED RBS	DATE 16 OCT 13
PROJECT NO. 12-175	DWG. NO. FIG -1
APPROVED _____	CARLIN-SIMPSON AND ASSOCIATES 61 Main Street Sayreville, NJ 08872  Consulting Geotechnical and Environmental Engineers



**APPENDIX D**

**TEMPORARY & PERMANENT EROSION  
AND SEDIMENT CONTROL INSPECTION  
AND MAINTENANCE CHECKLIST**

**Temporary Erosion and Sediment Control Inspection and Maintenance Checklist**

<b>Erosion and Sediment Control Measure</b>	<b>Inspection/Maintenance Intervals</b>	<b>Inspection/Maintenance Requirements</b>
Stabilized Construction Entrance	Daily	<ul style="list-style-type: none"> <li>• Periodic top dressing with additional aggregate as required</li> <li>• Clean sediment in public right-of-ways immediately</li> </ul>
Silt Fence	Weekly + After Each Rain	<ul style="list-style-type: none"> <li>• Remove &amp; redistribute sediment when bulges develop in the silt fence.</li> </ul>
Inlet Protection	Weekly + After Each Rain	<ul style="list-style-type: none"> <li>• Remove sediment as necessary and replace filter fabric, crushed stone etc.</li> <li>• Any broken and damaged components should be replaced.</li> <li>• Check all materials for proper anchorage and secure as necessary.</li> </ul>
Concrete Washout	Daily	<ul style="list-style-type: none"> <li>• Damaged or leaking facilities shall be deactivated and repaired or replaced immediately.</li> </ul>
	After Each Rain	<ul style="list-style-type: none"> <li>• Pump excess rainwater that has accumulated over hardened concrete to a stabilized area.</li> </ul>
		<ul style="list-style-type: none"> <li>• Remove accumulated hardened material when 75% of the storage capacity of the structure is filled. Replace plastic liner with each cleaning of the washout facility.</li> </ul>

**Temporary Erosion and Sediment Control Inspection and Maintenance Checklist**  
**(Cont'd)**

<b>Erosion and Sediment Control Measure</b>	<b>Inspection/Maintenance Intervals</b>	<b>Inspection/Maintenance Requirements</b>
Level Spreader	Weekly + After Each Rain	<ul style="list-style-type: none"> <li>• Remove sediment accumulated as needed to ensure the level spreader operates properly and large flows are prevented from carrying sediment over the level lip.</li> <li>• Check for rilling within/around the level spreader and repair as required.</li> </ul>
Temporary Sediment Basin	Weekly + After Each Rain	<ul style="list-style-type: none"> <li>• Remove and redistribute sediment when it reaches an elevation indicated on the construction documents.</li> <li>• Check for rilling within and around the sediment basin and repair as required.</li> <li>• Remove all sediment and debris from the outlet control structure as maybe required.</li> </ul>



**Permanent Stormwater Management Practice Inspection and Maintenance Checklist**

<b>Stormwater Management Practice</b>	<b>Inspection/Maintenance Intervals</b>	<b>Inspection/Maintenance Requirements</b>
Rip-Rap Apron/Energy Dissipator and Check Dams	Annually + After Major Storms	<ul style="list-style-type: none"> <li>• Check for evidence of flows going around the structure.</li> <li>• Check for evidence at downstream toe and repair as needed.</li> <li>• Clean sediment and install additional aggregate as necessary.</li> </ul>
Stormwater Management Basin	Monthly	<ul style="list-style-type: none"> <li>• Check Permanent Pool for undesirable vegetative growth and floatings or floatable debris. Remove as needed.</li> <li>• Check Forebays for sediment and cleanout when it depth &lt;50% design depth.</li> <li>• Check Dry Pond areas for adequate vegetation, undesirable vegetative growth, low flow channels are clear of obstructions, standing water or wet spots and sediment and/or trash accumulation. Repair/remove as necessary.</li> </ul>
StormTech Subsurface Retention Facility	(See Maintenance Guidelines in Appendix D)	<ul style="list-style-type: none"> <li>• Check level of sediment accumulated within the isolator row through the access manhole. If 3 inches of sediment or greater, clean out utilizing a high pressure water nozzle to scour and suspend sediments.</li> <li>• Flush all sediment to access manhole and remove using a vacuum truck.</li> </ul>

**Permanent Stormwater Management Practice Inspection and Maintenance Checklist (Cont'd)**

<b>Stormwater Management Practice</b>	<b>Inspection/Maintenance Intervals</b>	<b>Inspection/Maintenance Requirements</b>
Stormwater Management Basin	Annually + After Major Storms	<ul style="list-style-type: none"> <li>• Check adequacy of vegetation and ground cover; for evidence of embankment erosion, animal burrows, unauthorized plantings and cracking, bulging or sliding of dam, clear/properly functioning drains, seeps/leaks on downstream face, failure of slope protection or riprap. Repair/remove as necessary.</li> <li>• Confirm emergency spillway is clear of obstructions and debris.</li> <li>• Confirm all inlets and outlet structures/pipes are operating properly.</li> </ul>
Drain Inlets	Monthly	<ul style="list-style-type: none"> <li>• Check for blockage and/or erosion at top of each inlet. Repair/remove as necessary.</li> <li>• Check for sediment and debris collected within sumps and clean out as necessary.</li> </ul>
Subsurface Stormwater Management Detention Facility	Annually + After Major Storms	<ul style="list-style-type: none"> <li>• Check level of sediment and debris accumulated within the system.</li> <li>• Check structural integrity of the system pipes, structures, etc. for cracking, bulging or deterioration. Repair/remove as necessary.</li> <li>• Confirm all inlets and outlet structures/pipes are operating properly.</li> </ul>

**Permanent Stormwater Management Practice Inspection and Maintenance Checklist (Cont'd)**

<b>Stormwater Management Practice</b>	<b>Inspection/Maintenance Intervals</b>	<b>Inspection/Maintenance Requirements</b>
Porous Pavement and Permeable Pavers	Monthly and As Needed	<ul style="list-style-type: none"> <li>• Ensure that paving area is clean of debris</li> <li>• Ensure that paving dewaterers between storms</li> <li>• Ensure that the area is clean of sediments</li> <li>• Mow upland and adjacent areas, and seed bare areas</li> </ul>
	Quarterly	<ul style="list-style-type: none"> <li>• Vacuum sweep frequently to keep surface free of sediments</li> </ul>
	Annually	<ul style="list-style-type: none"> <li>• Inspect the surface for deterioration or spalling</li> </ul>
Hydrodynamic Water Quality Structure	(See Maintenance Guidelines in Appendix D)	<ul style="list-style-type: none"> <li>• Open access cover for visual inspection and measure the distance from the standing water surface to the sediment pile with a measuring stick or tape. If less than 4 feet, insert hose from vacuum truck into the sump and screen through both access covers to clean out the standing water, layer of oil, sediment, trash, etc.</li> <li>• The screen must be powerwashed to ensure it is free of trash and debris.</li> </ul>

The owner/operator responsible for inspection and maintenance as outlined above:

Summit Club Partners, LLC

Mr. Jeff Mendell

10 Glenville Street, 1<sup>st</sup> Floor

Greenwich, CT 06831

Phone: 203-813-3264

Fax:

Email: [jbmendell@greenwichdp.com](mailto:jbmendell@greenwichdp.com)

*p:\2020\20101\drainage\20101-temporary & permanent s&e inspection and maintenance checklist.docx*

## Cascade Separator<sup>®</sup> Inspection and Maintenance Guide



## Maintenance

The Cascade Separator® system should be inspected at regular intervals and maintained when necessary to ensure optimum performance. The rate at which the system collects sediment and debris will depend upon on-site activities and site pollutant characteristics. For example, unstable soils or heavy winter sanding will cause the sediment storage sump to fill more quickly but regular sweeping of paved surfaces will slow accumulation.

## Inspection

Inspection is the key to effective maintenance and is easily performed. Pollutant transport and deposition may vary from year to year and regular inspections will help ensure that the system is cleaned out at the appropriate time. At a minimum, inspections should be performed twice per year (i.e. spring and fall). However, more frequent inspections may be necessary in climates where winter sanding operations may lead to rapid accumulations, or in equipment wash-down areas. Installations should also be inspected more frequently where excessive amounts of trash are expected.

A visual inspection should ascertain that the system components are in working order and that there are no blockages or obstructions in the inlet chamber, flumes or outlet channel. The inspection should also quantify the accumulation of hydrocarbons, trash and sediment in the system. Measuring pollutant accumulation can be done with a calibrated dipstick, tape measure or other measuring instrument. If absorbent material is used for enhanced removal of hydrocarbons, the level of discoloration of the sorbent material should also be identified during inspection. It is useful and often required as part of an operating permit to keep a record of each inspection. A simple form for doing so is provided in this Inspection and Maintenance Guide.

Access to the Cascade Separator unit is typically achieved through one manhole access cover. The opening allows for inspection and cleanout of the center chamber (cylinder) and sediment storage sump, as well as inspection of the inlet chamber and slanted skirt. For large units, multiple manhole covers allow access to the chambers and sump.

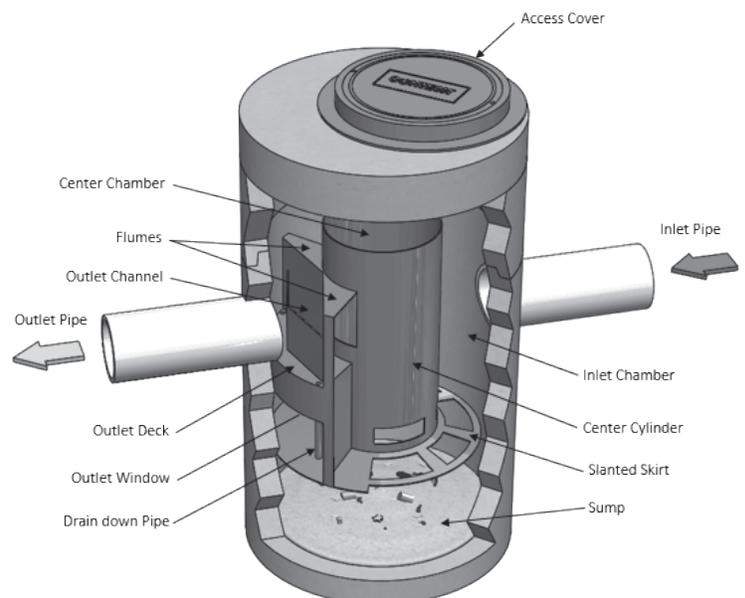
The Cascade Separator system should be cleaned before the level of sediment in the sump reaches the maximum sediment depth and/or when an appreciable level of hydrocarbons and trash has accumulated. If sorbent material is used, it must be replaced when significant discoloration has occurred. Performance may be impacted when maximum sediment storage capacity is exceeded. Contech recommends maintaining the system when sediment level reaches 50% of maximum storage volume. The level of sediment is easily determined by measuring the distance from the system outlet invert (standing water level) to the top of the sediment pile. To avoid underestimating the level of sediment in the chamber, the measuring device must be lowered to the top of the sediment pile carefully. Finer, silty particles at the top of the pile typically offer less resistance to the end of the rod than larger particles toward the bottom of the pile. Once this measurement is recorded, it should be compared to the chart in this document to determine if the height of the sediment pile off the bottom of the sump floor exceeds 50% of the maximum sediment storage.

## Cleaning

Cleaning of a Cascade Separator system should be done during dry weather conditions when no flow is entering the system. The use of a vacuum truck is generally the most effective and convenient method of removing pollutants from the system. Simply remove the manhole cover and insert the vacuum tube down through the center chamber and into the sump. The system should be completely drained down and the sump fully evacuated of sediment. The areas outside the center chamber and the slanted skirt should also be washed off if pollutant build-up exists in these areas.

In installations where the risk of petroleum spills is small, liquid contaminants may not accumulate as quickly as sediment. However, the system should be cleaned out immediately in the event of an oil or gasoline spill. Motor oil and other hydrocarbons that accumulate on a more routine basis should be removed when an appreciable layer has been captured. To remove these pollutants, it may be preferable to use absorbent pads since they are usually less expensive to dispose than the oil/water emulsion that may be created by vacuuming the oily layer. Trash and debris can be netted out to separate it from the other pollutants. Then the system should be power washed to ensure it is free of trash and debris.

Manhole covers should be securely seated following cleaning activities to prevent leakage of runoff into the system from above and to ensure proper safety precautions. Confined space entry procedures need to be followed if physical access is required. Disposal of all material removed from the Cascade Separator system must be done in accordance with local regulations. In many locations, disposal of evacuated sediments may be handled in the same manner as disposal of sediments removed from catch basins or deep sump manholes. Check your local regulations for specific requirements on disposal. If any components are damaged, replacement parts can be ordered from the manufacturer.



# Cascade Separator® Maintenance Indicators and Sediment Storage Capacities

Model Number	Diameter		Distance from Water Surface to Top of Sediment Pile		Sediment Storage Capacity	
	ft	m	ft	m	y <sup>3</sup>	m <sup>3</sup>
CS-3	3	0.9	1.5	0.5	0.4	0.3
CS-4	4	1.2	1.5	0.5	0.7	0.5
CS-5	5	1.3	1.5	0.5	1.1	0.8
CS-6	6	1.8	1.5	0.5	1.6	1.2
CS-8	8	2.4	1.5	0.5	2.8	2.1
CS-10	10	3.0	1.5	0.5	4.4	3.3
CS-12	12	3.6	1.5	0.5	6.3	4.8

Note: The information in the chart is for standard units. Units may have been designed with non-standard sediment storage depth.



A Cascade Separator unit can be easily cleaned in less than 30 minutes.



A vacuum truck excavates pollutants from the systems.





***APPENDIX E***

***CONTRACTOR'S CERTIFICATION***



Site Planning  
 Civil Engineering  
 Landscape Architecture  
 Land Surveying  
 Transportation Engineering

Environmental Studies  
 Entitlements  
 Construction Services  
 3D Visualization  
 Laser Scanning

JMC Project 20101  
 The Summit Club at Armonk  
 568 & 570 Bedford Road (NY-22)  
 Armonk, NY

**CONTRACTOR'S CERTIFICATION**

“I hereby certify under penalty of law that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the qualified inspector during a site inspection. I also understand that the owner or operator must comply with the terms and conditions of the most current version of the New York State Pollutant Discharge Elimination System ("SPDES") general permit for stormwater discharges from construction activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards. Furthermore, I am aware that there are significant penalties for submitting false information, that I do not believe to be true, including the possibility of fine and imprisonment for knowing violations”

Company Name: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone Number: \_\_\_\_\_

Name and Title: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Permit Identification No.: \_\_\_\_\_

Name and Title of Trained Contractor: \_\_\_\_\_

Elements of the SWPPP Contractor is responsible for: \_\_\_\_\_

p:\2020\20101\drainage\20101-nys contractors certification.docx

***APPENDIX F***

***TEMPORARY SEDIMENT BASIN  
DESIGN DATA SHEETS***

# TEMPORARY SEDIMENT BASIN DESIGN DATA SHEET

Computed by MT Date 6/8/21 Checked by \_\_\_\_\_ Date 06/08/21  
Project Summit Club at Armonk Basin # \_\_\_\_\_  
Location \_\_\_\_\_ Total Area draining to basin ( $\leq 50$  Ac.) 13.56 Acres

## BASIN SIZE DESIGN

- Sediment storage zone volume = 1,000 cu. ft. x number of disturbed acres = 13,560 cu. ft., Top of Zone Elev. 622
- Dewatering zone volume = 3,600 cu. ft. x number of drainage area acres = 48,816 cu. ft., Top of Zone Elev. 625
- Length to width ratio = 3.5:1
- A. Cleanout at 50% of sediment storage zone volume, Elev. 621.50  
B. Distance below top of riser 0.5 feet
- Minimum surface area is larger of  $0.01 Q_{(10)}$  .369 or,  $0.015 DA$  = 2.034 use .369 acres

## DESIGN OF SPILLWAYS & ELEVATIONS

### Runoff

- $Q_{p(10)} =$  36.90 cfs (Attach runoff computation sheets)

### Pipe Spillway ( $Q_{ps}$ )

- Min. pipe spillway cap.,  $Q_{ps} = 0.2 \times$  13.56 Drainage Area, acres = 2.71 cfs  
Note: If there is no emergency spillway, then required  $Q_{ps} = Q_{p(10)} =$  \_\_\_\_\_ cfs.
- H, head = 3 ft. Barrel length = 32 ft
- Barrel: Diam. 24 inches;  $Q_{ps} = (Q)$  2.71 x (cor.fac.) 27.5 = 74.5 cfs.
- Riser: Diam. 42 inches; Length 1 ft.; h = 1 ft. Crest Elev. 622
- Trash Rack: Diameter = 60 inches; H, height = 19 inches

### Emergency Spillway Design

- Emergency Spillway Flow,  $Q_{es} = Q_p - Q_{ps} =$  36.90 - 74.5 = 0 cfs.
- Width \_\_\_\_\_ ft.;  $H_p$  \_\_\_\_\_ ft. Crest elevation \_\_\_\_\_; Design High Water Elev. \_\_\_\_\_  
Entrance channel slope \_\_\_\_\_ %; Top of Dam Elev. \_\_\_\_\_  
Exit channel slope \_\_\_\_\_ %

## ANTI-SEEP COLLAR/SEEPAGE DIAPHRAGM DESIGN

### Collars:

- $y =$  1 ft.;  $z =$  3 :1; pipe slope = 1 %,  $L_s =$  7.29 ft.  
Use 1 collars, 2 - 2 inches square; projection = 0.5 ft.

### Diaphragms:

# \_\_\_\_\_ width \_\_\_\_\_ ft. height \_\_\_\_\_ ft.

## DEWATERING ORIFICE SIZING

(Determined from the Dewatering Device Standard)

- Dewatering orifice diameter = 5 inches. Skimmer \_\_\_\_\_ or Riser x (check one)
- Design dewatering time 2 days (Min. 2 days required)

# ***APPENDIX G***

## ***DRAWINGS***

NOT FOR CONSTRUCTION



**EXISTING DRAINAGE LEGEND**

- EXISTING GRADE
- FLAGGED WETLANDS WITH FLAG NUMBERS
- EXISTING STONE WALL
- WATERSHED BOUNDARY LINE
- BOUNDARY OF COVER TYPE LINE
- FLOW PATH LINE
- SOIL DESIGNATION AND HYDROLOGIC SOIL GROUP

**SOIL TYPE TABLE**

DESIGNATION	HYDROLOGIC GROUP	DESCRIPTION
Ub	B	UDORTENTS, SMOOTHED
PnB	C	PAXTON FINE SANDY LOAM, 3 TO 8 PERCENT SLOPES
CrC	B	CHARLTON-CHATFIELD COMPLEX, 0 TO 15 PERCENT SLOPES, VERY ROCKY
PnC	C	PAXTON FINE SANDY LOAM, 8 TO 15 PERCENT SLOPES
CdB	B	CHARLTON-CHATFIELD COMPLEX, 15 TO 35 PERCENT SLOPES, VERY ROCKY

No.	Date	Revisions
1.	06/14/2021	RESPONSE TO TOWN COMMENTS
2.	07/10/2022	RESPONSE TO TOWN COMMENTS
3.	03/28/2022	RESPONSE TO TOWN COMMENTS

**SUMMIT CLUB PARTNERS, LLC**  
 568 BEDFORD ROAD (NY-22)  
 ARMONK, NY 10504

**GRANOFF ARCHITECTS**  
 330 RAILROAD AVENUE  
 GREENWICH, CT 06850

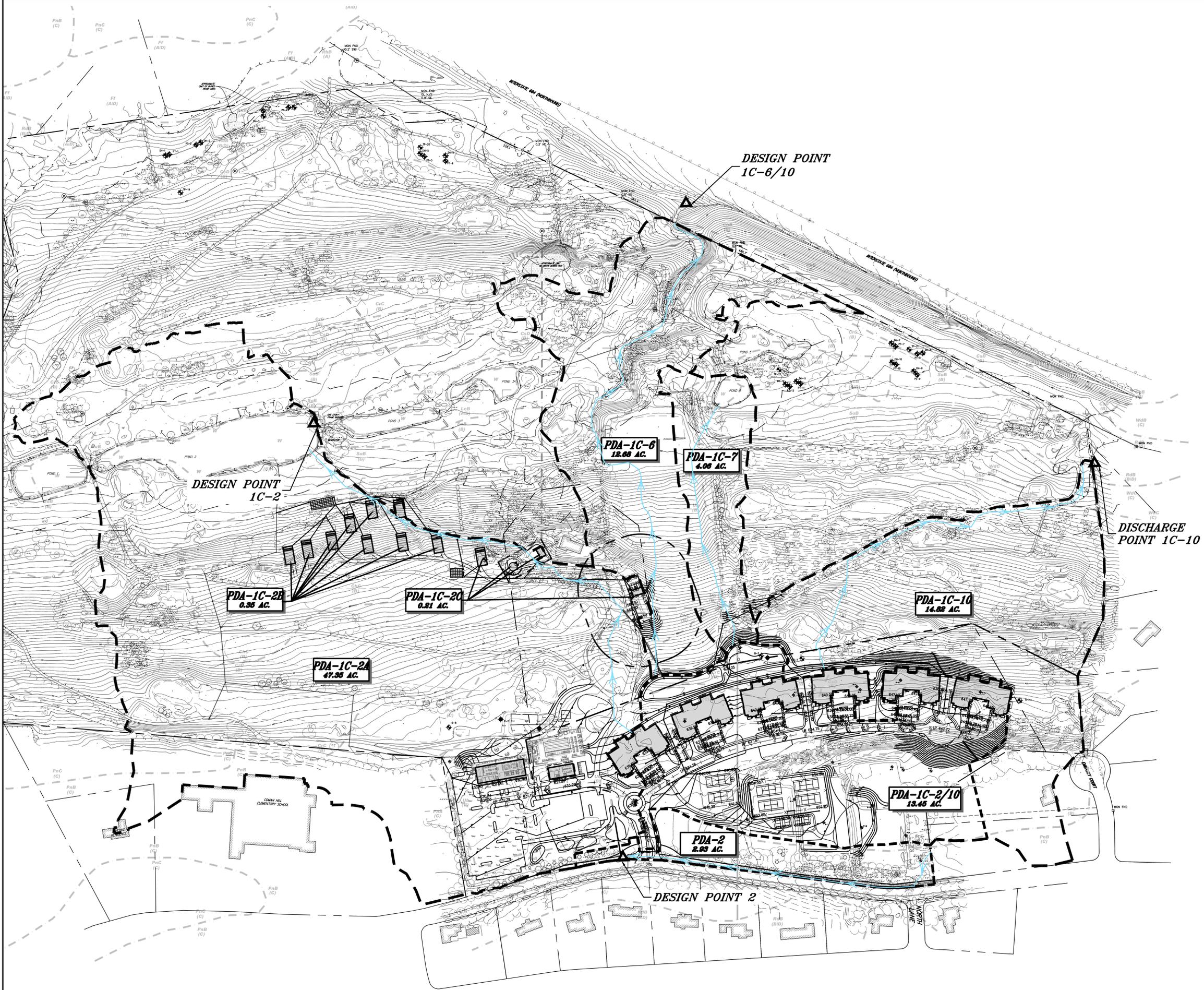
JMC Planning, Engineering, Landscape Architecture & Land Surveying, PLLC  
 JMC Site Development Consultants, LLC  
 John Meyer Consulting, Inc.  
 120 BEDFORD ROAD - ARMONK, NY 10554  
 PHONE: 914.233.2222 - FAX: 914.233.2192  
 www.jmcp.com



**EXISTING DRAINAGE AREA MAP**  
 THE SUMMIT CLUB AT ARMONK (RESIDENTIAL PHASE)  
 568 & 570 BEDFORD ROAD (NY-22)  
 ARMONK, NY 10504

ANY ALTERATION OF PLANS, SPECIFICATIONS, PLATS AND REPORTS BEARING THE SEAL OF A LICENSED PROFESSIONAL ENGINEER OR LICENSED LAND SURVEYOR IS A VIOLATION OF SECTION 7209 OF THE NEW YORK STATE EDUCATION LAW, EXCEPT AS PROVIDED FOR BY SECTION 7209, SUBSECTION 2.

Drawn	NC	Approved	AG
Scale:	1" = 60'		
Date:	06/14/2021		
Project No.:	20101		
2020 STANDARD	EDA		
Drawing No.:	DA-1		



**PROPOSED DRAINAGE LEGEND**

- EXISTING GRADE
- PROPOSED FINISHED GRADE
- FLAGGED WETLANDS WITH FLAG NUMBERS
- EXISTING STONE WALL
- WATERSHED BOUNDARY LINE
- LIMIT OF SOIL GROUPS LINE
- FLOW PATH LINE
- PROPOSED BUILDING LINE
- PROPOSED CONCRETE CURB
- PROPOSED MANHOLE (MH)
- EXISTING DRAIN INLET
- PROPOSED DRAIN INLET (DI)
- PROPOSED END SECTION (ES)
- RIP RAP ENERGY DISSIPATOR
- SOIL DESIGNATION AND HYDROLOGIC SOIL GROUP

**SOIL TYPE TABLE**

DESIGNATION	HYDROLOGIC GROUP	DESCRIPTION
Ub	B	UDORTHERTS, SMOOTHED
PhB	C	PAXTON FINE SANDY LOAM, 3 TO 8 PERCENT SLOPES
OC	B	CHARLTON-CHATFIELD COMPLEX, 0 TO 15 PERCENT SLOPES, VERY ROCKY
PhC	C	PAXTON FINE SANDY LOAM, 8 TO 15 PERCENT SLOPES
CdD	B	CHARLTON-CHATFIELD COMPLEX, 15 TO 35 PERCENT SLOPES, VERY ROCKY

**REVISIONS**

No.	Date	By	NC	NC	NC
1.	06/14/2021	NC			
2.	07/10/2022	NC			
3.	03/28/2022	NC			

SUMMIT CLUB PARTNERS, LLC  
 568 BEDFORD ROAD (NY-22)  
 ARMONK, NY 10504  
 GRANOFF ARCHITECTS  
 330 RAILROAD AVENUE  
 GREENWICH, CT 06850

JMC Planning, Engineering, Landscape Architecture & Land Surveying, PLLC  
 JMC Site Development Consultants, LLC  
 John Meyer Consulting, Inc.  
 120 BEDFORD ROAD - ARMONK, NY 10504  
 PH: 914.233.2222 - FAX: 914.233.2192  
 www.jmcp.com



**PROPOSED DRAINAGE AREA MAP**  
**THE SUMMIT CLUB AT ARMONK (RESIDENTIAL PHASE)**  
 568 & 570 BEDFORD ROAD (NY-22)  
 ARMONK, NY 10504

ANY ALTERATION OF PLANS, SPECIFICATIONS, PLATS AND REPORTS BEARING THE SEAL OF A LICENSED PROFESSIONAL ENGINEER OR LICENSED LAND SURVEYOR IS A VIOLATION OF SECTION 7209 OF THE NEW YORK STATE EDUCATION LAW, EXCEPT AS PROVIDED FOR BY SECTION 7209, SUBSECTION 2.

Drawn: NC Approved: AG  
 Scale: 1" = 60'  
 Date: 06/14/2021  
 Project No: 20101  
 2010 SUMMA PDA  
 DA-2

NOT FOR CONSTRUCTION