Dartmouth Hitchcock Medical Center
253 Pleasant Street
Concord, New Hampshire

PROJECT NARRATIVE

The subject site consists of the existing Dartmouth Hitchcock Clinic located at 253 Pleasant Street in Concord, New Hampshire catalogued locally as Tax Map 734 Lot 22 (8.52 acres) and Tax Map 734 Lot 21 (0.99 acres). The site is currently developed with an approximately 65,000 square foot medical clinic, associated parking areas, internal driveways, and supporting infrastructure. The adjacent Lot 21 is currently developed with paved parking that served previously demolished buildings.

The Site is located within the Institutional District (IS) as defined by the City of Concord Zoning Map. The property is bound by Pleasant Street (U.S. Route 202) to the north, Langley Parkway to the west and south, and residential apartments to the east. The southern portion of the site contains an existing stormwater management pond which discharges to on-site wetlands.

The proposed project consists of the construction of an approximately 41,000 square foot addition to the existing medical clinic, along with associated site improvements. These improvements include the expansion and reconfiguration of parking areas, modifications to internal circulation, grading, utility upgrades, and stormwater management improvements. As part of the project, Tax Map 734 Lot 21 will be merged with Lot 22 to create a single unified parcel.

Proposed utility improvements are required to support the expanded facility. These include the installation of a new utility pole along Pleasant Street, new fiber optic service, and both temporary and permanent electrical feeds to serve the construction and completed facility. A new natural gas service is proposed to serve both the existing building and the new addition. Additional upgrades include a new generator, an upgraded transformer, installation of a new fire hydrant adjacent to the proposed addition to meet fire protection requirements, and a new sanitary sewer service connecting to an existing manhole located south of the addition.

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Concord, NH 03301
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Stormwater improvements are proposed to mitigate runoff associated with the increase in impervious surface. These improvements include the installation of an underground infiltration gallery and a subsurface filtering gallery with an impervious liner and underdrain system. Modifications to the existing closed drainage system are also proposed to direct runoff to these systems and ultimately to the existing stormwater pond.

The proposed stormwater management system has been designed to meet the site plan regulations to the maximum extent practicable and is intended to improve water quality treatment, maintain existing drainage patterns to the south, and prevent adverse impacts to downstream wetlands.

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July 8, 2026
File No. 100781.000

City of Concord – Planning Board
41 Green Street
Concord, NH 03301
(603) 522-6205

Re: Waiver Request for Major Site Plan Application
Dartmouth Hitchcock Medical Center
Tax Map 734Z Lots 21-22
Concord, NH 03301

On behalf of The Dartmouth Hitchcock Clinic, the applicant requests a waiver from the following sections of the City of Concord Site Plan Regulations:

1. Section 6.03 (2)(c)
2. Section 11.05
3. Section 12.02 (1)(a)
4. Section 12.07
5. Section 16.02 (19)
6. Section 18.17
7. Section 18.22
8. Section 20.05
9. Section 20.06
10. Section 20.07
11. Section 22.07 (3)
12. Section 32.08
13. Section 29.2-1-2(a)(1)

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5 Criteria for Waivers:

1) The granting of the waiver will not be detrimental to the public safety, health, or welfare or injurious to other property;

Granting the above waivers will not be detrimental to the public safety as most of the waivers are related to preexisting conditions and to omit information on the plans that do not enhance the plans and project. This project will enhance the public safety, health and welfare of the public and will be a great improvement for the City of Concord.

2) The conditions upon which the request for a waiver is based are unique to the property for which the waiver is sought and are not applicable generally to other property;

The conditions supporting this waiver request are unique to the subject property and are not generally applicable to other sites. The property is an already developed site with established topography and existing drainage infrastructure that significantly constrain the ability to fully comply with current design standards. Existing parking lot grades and surrounding terrain limit the feasibility of modifying certain areas, such as reducing slopes exceeding 5 percent, without substantial reconstruction. Additionally, existing stormwater infrastructure, including trench drains and inlets, restricts the relocation of solid waste facilities, resulting in separations of less than 25 feet in some areas. Relocating these features would require unnecessary disturbance to otherwise functioning systems. Collectively, these site-specific constraints create unique conditions that limit design flexibility and justify the requested waivers.

3) *Because of the particular physical surroundings, shape, or topographical conditions of the specific property involved, a particular and unnecessary hardship to the owner would result, as distinguished from a mere inconvenience, if the strict letter of these regulations are carried out;*

The site is confined by the existing grades and established stormwater infrastructure locations. These conditions significantly limit the ability to design conventional site improvements. Due to the existing site conditions and the site's challenging topography, strict adherence to the regulations would impose a substantial and unnecessary hardship on the property owner.

4) Specific circumstances relative to the site plan or conditions of the land where a site plan is proposed indicate that the waiver will properly carry out, or not be contrary to, the spirit and intent of these regulations;

Granting the waivers will still allow the Board and the public to conduct a full review of the project, meeting the spirit and intent of the regulations.

5) The waivers will not in any manner vary the provisions of the Zoning Ordinance, Master Plan Reports, or Zoning Map.

The waivers do not vary from the Zoning Ordinance, Master Plan or Zoning Map.

If you have questions or require additional information, please contact us at (603) 513-1018 or gseibert@nobis-group.com.

Sincerely,

NOBIS GROUP®

Garrett Seibert

Garrett Seibert, PE
Project Manager

Dartmouth Hitchcock Medical Center - Site Plan Waiver Requests 7/08/2026			
No.	**Section**	**Regulation Wording**	**Waiver Request**
1	6.03(2)(c)	**Major Site Plan:** There are three possible stages for all Major Site Plans: (1) the Preliminary Conceptual Consultation Phase which is optional; (2) the Design Review Phase which is also optional; and, (3) the Site Plan Phase which is mandatory. Major Site Plans are only considered by the Planning Board. (**c) Site Plan:** The Site Plan Phase is a two-step process. The first step is a determination by the Board, after recommendation by the Clerk, that a site plan is complete or incomplete. When determined complete, a site plan is then scheduled for a public hearing by the Board at the next regular meeting. Public notice and abutter notice by certified mail is required for all determinations of completeness, and all public hearings by the Board for any site plan application. Public notice and abutter notice by regular mail is required for all further consideration by the Board after the public hearing(s) are closed.	A waiver is requested to allow the project to be determined complete and open for public hearing within the same planning board meeting date. The applicant is requesting this so the construction can begin before winter starts.
2	11.05	**Determination of Completeness:** Upon receipt of a site plan application, the Board shall determine if the application is complete. The next available published deadline date shall constitute the official submittal date of the application from which the statutory period for determination of completeness shall be calculated as set forth in NH RSA 676:4. Applications received prior to the deadline date shall be considered for completeness at the next scheduled regular meeting of the Planning Board after the deadline date. Continued Planning Board meetings and special meetings are not considered regular meetings of the Planning Board where an application can be determined complete. A completed application will contain the required information listed in Section 16, Application Requirements for Major Site Plans will be legible and competently prepared. If it is determined that the application is complete, the Board shall accept the application for consideration and set a date for the public hearing on the complete application no sooner than the next regular meeting of the Board. If it is determined that the application is incomplete, the Board shall specify the reasons the application is deemed incomplete and take no further action on said application. In making a determination of completeness, the Board shall consider the written recommendation of the Clerk, as well as any written communications from the applicant, abutters, and parties of interest; however, no hearing shall be opened nor shall testimony be received on a determination of completeness. An application which is determined to be incomplete may be revised and resubmitted to a subsequent meeting of the Board for another determination of completeness.	A waiver is requested to allow the project to be determined complete and open for public hearing within the same planning board meeting date. The applicant is requesting this so the construction can begin before winter starts.
3	12.02(1)(a)	***All Applications:*** The following information shall be required on all plans and drawings except for the Preliminary Conceptual Consultation Phase: (1) Title Block: (a) Title of plan; (b) Name and address of the owner and applicant; (c) The date the plan was prepared and date of subsequent revisions; and (d) Name, address and seal of the licensed professionals who prepared the plan. (2) Scale. (3) North Arrow and Bar Scale except for detail drawings	A waiver is requested for the Existing Conditions Plat, as it is titled to reflect the Owner of Record rather than a specific project, and its plan title differs from those used for the other civil plans.
4	12.07	***Wetland Delineations:*** Wetland delineations are to be prepared by a New Hampshire Certified Wetland Scientist who shall sign and seal the existing condition plan and site plan. The date of the wetland delineation shall be noted on plans.	A waiver is requested to permit the wetland delineations to be shown solely on the survey plan. The site plan is overlaid onto the survey plan; therefore, certification of the survey plan also constitutes certification of the site plan.
5	16.02(19)	***Required Information: Traffic Control Plan:*** Where work is required or proposed within or immediately adjacent to a travel way of a public street or common private drive, a traffic control plan shall be submitted to the satisfaction of the City Engineer.	A waiver is requested to provide this information prior to construction to be completed by the site contractor.

6	18.17	***Tree Plantings:*** Tree plantings in and around parking areas shall be provided as set forth in Article 28-7, Access Circulation and Parking of the City of Concord Zoning Ordinance, and Section 27, Landscaping and Erosion Control of these regulations. One tree shall be planted for each 1000 square feet of any proposed parking area including parking spaces, internal landscape islands, access aisles, driveways, fire lanes, and other vehicular circulation areas. Perimeter landscaping, sidewalks, patios, impervious vehicular storage areas for the sale and rental of vehicles, and paved outside storage areas, where allowed, shall not be included in the area used to determine the amount of tree planting required. Trees required shall be planted within the internal parking lot islands, around the perimeter of the parking area within twenty (20) feet or the parking lot, or in landscaped areas between buildings and the parking field. Existing trees preserved on the site may count on a one for one basis when located within twenty (20) feet of any parking lot, access aisle, vehicular sale or rental area, driveway or loading area.	A waiver is requested from the requirement to provide tree plantings at a rate of one tree per 1,000 square feet of parking area. The applicant proposes to apply the alternative standard of one tree per 2,000 square feet of pavement, as permitted under Article 28-7 of the City of Concord Zoning Ordinance, and to apply this standard only to the new parking area proposed as part of the project which is consistent with the variances approved by the City.
7	18.22	***Parking Lot Design Standards: Grades:*** Slopes of parking spaces shall not exceed five (5%) percent in any direction	A waiver is requested from the maximum 5% parking area grade to allow localized slopes of approximately 6% due to existing site conditions and grading constraints. Portions of the existing parking area already approach 6% and have functioned adequately, and the proposed design maintains these limited conditions while minimizing earthwork and site disturbance. Areas exceeding 5% are minor in extent and will not impact ADA-compliant accessible parking or primary pedestrian routes. The slight deviation maintains safe operation and drainage while avoiding unnecessary environmental impacts; therefore, approval of this waiver is respectfully requested.
8	20.05	**Screening of Loading Areas:** Loading areas shall be screened from view from abutting properties and abutting streets to the maximum extent possible. Where loading areas are located within or abutting a residential district, or are abutting an existing residential use in a mixed use or non-residential district, a solid opaque fence not less than six (6) feet nor more than ten (10) feet in height which shall be erected and maintained in good condition around the loading area, and a landscaped area with a minimum width of ten (10) feet containing trees and shrubs shall be planted between the fence and the abutting residential district or residential use. The design of the screening shall be compatible with the architecture of the proposed development.	A waiver is requested from the requirement to provide full screening of loading areas in accordance with the ordinance. The proposed project will maintain the existing loading area location, which is already screened to the maximum extent practicable by existing buildings and site features, thereby effectively limiting visibility from abutting properties and public ways. As no modifications to the location or configuration are proposed, the existing condition will remain. Due to site constraints, including established grading and layout, installation of additional fencing and required landscaping is not practicable. The existing arrangement provides effective screening consistent with the intent of the regulation, and the requested waiver will allow the continued use of this configuration without unnecessary disturbance to the site.
9	20.06	**Solid Waste Facility Screening**: All solid waste disposal or waste recycling facilities, dumpsters, bins or other outside storage facilities or areas, shall be screened from view from abutting properties or from public ways by a solid opaque fence not less than six (6) feet nor more than eight (8) feet in height which shall be erected and maintained in good condition around the storage facility. A landscaped area with a minimum width of eight (8) feet containing trees and shrubs shall be planted between the fence and the abutting residential district or residential use. A solid waste disposal or recycling facility unless blocked from view from the public right-of-way and abutting properties by buildings or walls, shall be provided with solid opaque gates for the fenced enclosure.	A waiver is requested from the requirement to provide full screening in accordance with the Solid Waste Facility Screening standards. The proposed project will maintain the existing dumpster locations, which are currently screened on three sides by a building and an existing masonry wall, effectively limiting visibility from abutting properties and public ways. Given that these structural elements already provide substantial visual screening, installation of additional fencing, landscaping, or gates is not necessary. As no changes to the existing condition are proposed, the current configuration will remain.
10	20.07	**Design of Solid Waste Disposal Areas:** All solid waste recycling facilities, dumpsters, bins or other outside storage facilities or areas shall be constructed on a pad as set forth in the City of Concord Construction Standards and Details. All solid waste storage facilities shall be designed to minimize noise and odor impacts on abutting properties. The design of the screening shall be compatible with the architecture of the proposed development.	A waiver is requested from the requirement to locate solid waste disposal areas a minimum distance from drainage structures in accordance with the City of Concord Construction Standards and Details. The proposed project will maintain the existing dumpster locations, which are currently located within 25 feet of an existing trench drain. As no changes to this configuration are proposed, the existing condition will remain in place. Due to challenging grading and drainage constraints, relocation of the trench drain or dumpster areas is not practicable.

11	22.07(3)	**Storm Water Design Standards for Site Plans with Significant Impact: Off-Site Flows:** For new development, the volume of off-site discharge after project development shall not exceed the volume of discharge before development for the 10-year storm event. The peak rate of discharge after project development shall not exceed the peak rate of discharge before development for the 2-year, 10-year, 25-year and 100-year storms. On-site retention or detention facilities shall be provided as necessary to manage the off-site flows, and to prevent the overloading of existing downstream facilities.	A waiver is requested from the requirement that the volume of off-site discharge following development not exceed pre-development conditions for the 10-year storm event. Stormwater management controls have been designed to meet applicable peak discharge rate requirements for the 2-year, 10-year, 25-year, and 100-year storm events, and on-site mitigation measures are provided to prevent adverse downstream impacts. Strict compliance with the 10-year volume standard is not practicable due to site constraints, including the necessity to cut site grades, which would result in stormwater practices being too close to the seasonal high groundwater table (SHWT) to allow effective infiltration. However, the design effectively controls peak flow rates and incorporates feasible stormwater management practices to minimize increases in runoff volume to the extent practicable, ensuring no significant adverse impact to downstream systems and maintaining the overall intent of the regulation.
12	32.08	**Elements of a Traffic Study:** The following items shall be considered the minimum information required to be provided to the Board to accurately assess the traffic, safety, and quality of life impacts on residential streets. Elements of the study may be modified by the Clerk as agreed to at the scoping session. The Planning Board may require additional information as deemed necessary to address the potential impacts of the site plan on the roadway, network, pedestrian, bicycle, and transit system requirements and impacts of traffic on affected residential neighborhoods and streets.	A waiver is requested from the requirement to provide a full traffic study, meeting all listed elements at the time of site plan application submission. An abbreviated traffic study has been submitted to support the application and provides sufficient preliminary information for initial review; however, completion of a comprehensive study has been delayed due to malfunctioning and vandalized Automatic Traffic Recorders (ATRs) used to collect traffic data. The applicant is actively addressing these issues and will continue to coordinate with Planning and Engineering staff to complete the full traffic analysis, and the requested waiver will allow the application to proceed without impairing the Board's ability to assess potential impacts as additional information will be provided.
13	29.2-1-2(a)(1)	Per Section 29.2-1-2(a)(1), any person or entity which seeks to undertake new development within the City of Concord, shall pay impact fees to the City in the manner and in the amounts set forth in the ordinance. Per Article 29.2-1-2(e)(1) of the Zoning Ordinance, an applicant may apply for a waiver of all or part of the impact fees that are payable with respect to new development or redevelopment. Per Article 29.2-1-2(e)(4)(a) of the Zoning Ordinance, an applicant for the development of permitted nonresidential uses shall qualify for a waiver of the transportation facilities impact fees. The Clerk determines the impact fee at the time of building permit application, and the applicant must request the waiver prior to the date of the	The proposed project is a permitted non-residential use. A waiver is requested to defer all impact fees.

LEGEND

- •GRASS/TREES
- •PARKING LOT
- •EXISTING BUILDING
- •PROPOSED BUILDING
- •HANDICAPPED
- •WALKWAYS

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NOT ISSUED FOR CONSTRUCTION

DARTMOUTH HITCHCOCK MEDICAL CENTER

253 PLEASANT STREET
CONCORD, NH 03301

TAX MAP 734/Z LOT 21 & 22

OWNER/APPLICANT:
DARTMOUTH HITCHCOCK CLINIC
1 MEDICAL CENTER DRIVE
LEBANON, NH 03756

NO.	DATE	DESCRIPTION

REVISIONS

0 40' 80'
GRAPHIC SCALE

DATE:	APRIL 2026
NOBIS PROJECT NO.	100781.000
DRAWN BY:	GAK/GWS
CHECKED BY:	JCN
CAD DRAWING FILE:	100781.000-C-200-SITE.dwg

SHEET TITLE

COLORED OVERVIEW PLAN

SHEET
C-0

J:\100781.000-Dartmouth Hitchcock Medical Center Concord, NH\CAD\DWG\100781.000-C-200-SITE.dwg 6/11/2026 9:10 AM

Site Photos

Photo #1 – View looking west at parking lot south of the existing medical center building

Photo #2 – View looking north along eastern driveway of medical center

Photo #3 – View looking south at the northeast corner of the medical center building

Photo #4 – View looking southwest at the front entrance of the medical center

Photo #5 - View looking south at the front entrance of the medical center

Photo #6 – View looking north of the medical center front entrance

Photo #7 – View looking west at western parking lot

Photo #8 - View looking southeast of the parking lot behind the medical center building

Photo #9 – View looking east of the southern parking lot.

Photo #10 – View looking north at loading dock area.

Photo #11 – View looking west at abandoned parking lot east of site.

Photo #12 – View looking west of the east side of the medical center building

Photo #13 – View looking west at western parking lot

Photo #14 – View looking north along west side of the medical center building

Traffic Assessment

Date: June 17, 2026

To: **Garrett Seiber, PE**
Project Manager
Nobis Group

From: Jacob W. Sirois, EI
Engineer II
Barton & Loguidice, LLC

John Q. Adams, PE, PTOE
Senior Associate
Barton & Loguidice, LLC
ME PE 11083, PTOE 2808

TJ Therriault, PE
Associate
Barton & Loguidice, LLC
NH PE 20643

Re: **Medical Office Expansion**
253 Pleasant Street, Concord, New Hampshire

1 Introduction

The applicant is proposing a 41,000 square foot (sf) expansion to the existing medical office building located at 253 Pleasant Street (Route 202) in the City of Concord, New Hampshire. The development site is circled in Image 1, below. The existing building is 65,802 sf and was built around 1990. Access to the development site is provided via two full-access driveway entrances. One is located on Route 202, approximately 290 feet southeast of the Route 202 and Langley Parkway intersection. The other is located on Langley Parkway, approximately 745 feet south of the Route 202 and Langley Parkway intersection.

The purpose of this traffic assessment is to evaluate the level of impact on traffic operations and safety resulting with the development of the proposed project. Site generated trip projections are provided for "key" peak hour time periods throughout a typical week; road safety conditions were determined based upon a review of local crash data, and intersection sight distance was field reviewed and measured to ensure safe and acceptable sight distance is provided at the existing site driveway intersections with Route 202 and Langley Parkway.

Image 1 – Site Location

383 U.S. Route 1, Suite 2E, Scarborough, ME 04038

It should be noted that the City of Concord has requested a full traffic study at the intersections of; Langley Parkway at Route 202; Langley Parkway at Route 13 (Clinton Street), and Route 202 at East Drive. In addition, it may add the intersection of Fruit Street at Route 202 once it has reviewed our traffic counts and site trip assignments to the are roadway network. The full traffic study will be completed and will follow as a supplemental submission to this initial traffic assessment. Due to the timing of the project schedule and our ability to get the traffic counts completed in time, we are not able to submit the full traffic study at this time. The full traffic study will evaluate traffic operations at study intersections including, average vehicle delay and level-of-service by lane or movement, and vehicle queueing.

2 Trip Generation

Daily and peak hour site trip generation estimates have been prepared for the proposed development based on the trip generation tables in the latest (12th) edition of the Institute of Transportation Engineers (ITE) *Trip Generation Manual*. The ITE Manual provides numerous land use codes (LUCs) and the volume of site generated trips produced by each category.

The trip generation calculations for the LUC 720 – Medical-Dental Office Building (stand-alone). The trip generation plots are included in the appendix. The trip generation calculations are summarized below in Table 2:

Table 2
ITE Trip Generation Calculations

Land Use	Medical-Dental Office						
Time Period	**Sq. Footage (1k)**	**R^2**	**Fitted Curve Equation/Avg. Rate**	**Trips Generated (T)**	**Distribution Entering / Exiting**	**Enter**	**Exit**
Weekday	41	0.95	T = 40.60(X) - 75.15	1589	50% / 50%	795	794
AM Weekday Peak Hour (Street)	41	0.80	Ln(T) = 0.90 Ln(X) + 1.33	107	78% / 22%	83	24
PM Weekday Peak Hour (Street)	41	0.76	3.42	140	30% / 70%	42	98
AM Weekday Peak Hour (Generator)	41	0.94	T = 4.17(X) + 0.70	172	55% / 45%	95	77
PM Weekday Peak Hour (Generator)	41	0.96	T = 5.40(X) - 8.32	213	40% / 60%	85	128
Saturday Peak Hour	41	n/a	1.03	42	55% / 45%	23	19

Table 2 shows that the proposed development is expected to generate 107 trips during the AM peak hour of the adjacent street and 140 trips during the PM peak hour of the adjacent street. During the peak hours of the generator, the proposed development is expected to generate 172 trips in the AM peak hour and a maximum of 213 trips during the PM peak hour. The proposed project is expected to generate 42 trips during the Saturday peak hour.

3 Sight Distance

Intersection sight distances were measured in the field from the site approaches at the existing intersections with Langley Parkway and Route 202, in accordance with AASHTO and NHDOT criteria.

Our sight distance measurements were recorded in accordance with AASHTO recommendations. Sight distance was measured to and from the point on the centerline of the access that is located 15 feet from the edge of the traveled way. The height of the hypothetical person's view is considered to be 3½ feet above the pavement, and the height of the object being viewed is considered to be 3½ feet above the pavement.

The sections of Route 202 and Langley Parkway fronting the site are posted at 30 mph. Considering approach grades, we calculated the stopping sight distance (SSD) and intersection sight distance (ISD) at the two site intersections. The calculations and measurements are summarized below in Table 3:

Table 3
Sight Distance Summary

Intersection/Condition	Stopping Sight Distance (ft.)		Intersection Sight Distance (ft.)	
	To/From South	To/From North	To/From South	To/From North
Langley Parkway at Site Driveway				
Measured	**400[a]**	**375**	**400[a]**	**375**
AASHTO Requirement	200	215	362	362
NHDOT All Season Safe Sight Distance	400	400	400	400
Route 202 at Site Driveway				
Measured	**500+**	**500+**	**500+**	**500+**
AASHTO Requirement	200	200	441	441
NHDOT All Season Safe Sight Distance	400	400	400	400

Note a: Clearing is required to provide the noted sightline.

Langley Parkway at Site Driveway: *Looking left* from the site driveway (to/from south), the existing sightline is obstructed by vegetation and small trees that are located along Langley Parkway. To provide a 400-foot sightline, as noted above, minor clearing is required. The recommended clearing area is shown in the sight distance graphic attached in the appendix. The sightlines are shown in Image 5A and 5B.

Looking right, we measured a sight distance of 375 feet. This satisfies AASHTO's ISD (362 feet for left turns) and SSD (215 feet on the southbound downgrade). Additional sight distance is obstructed by the retaining wall located on the northern side of Langley Parkway.

Route 202 at Site Driveway: *Looking left* and *right*, we measured sight distances in excess of 500 feet, exceeding AASHTO and state requirements. The sightlines are shown in Image 5C and 5D.

Image 5A – Site @ Langley Pkwy, Looking Left

Image 5B – Site @ Langley Pkwy, Looking Right

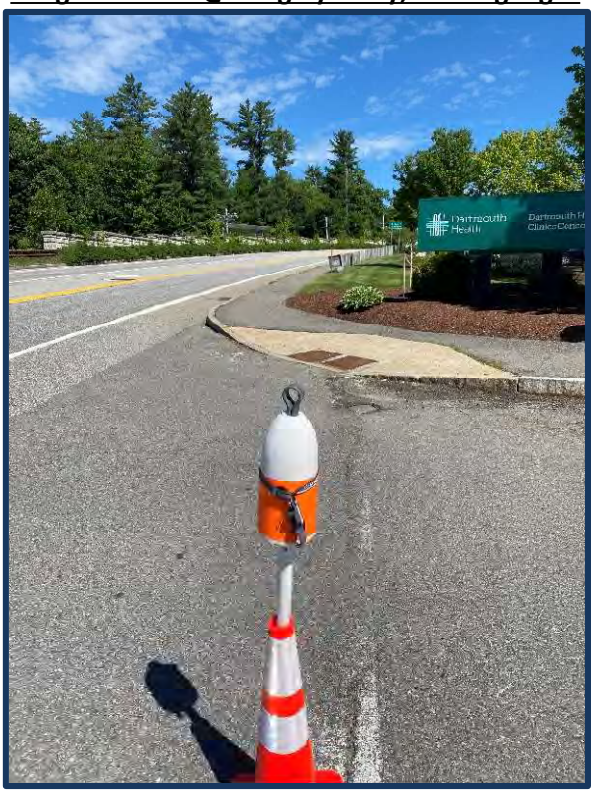


Image 5C – Site @ Route 202, Looking Left

Image 5D – Site @ Route 202, Looking Right

4 Existing Road Safety Conditions

The Concord Police Department has provided crash data for the 5-year period between 2021 and 2025, and the year-to-date crash data for 2026, for the following intersections:

- Route 202 at East Drive
- Route 202 at Site Driveway
- Route 202 at Langley Parkway
- Langley Parkway at Site Driveway
- Langley Parkway at Route 13

The total crash data for each intersection is summarized below in Table 4:

Table 4
2021-2026 Crash Data Summary

INTERSECTION/SECTION	Total Crashes
Route 202 at East Ave/Bradhill Ln	0
Route 202 at Site Driveway	0
Route 202 at Langley Pkwy	22
Langley Pkwy at Site Driveway	0
Langley Pkwy at Route 13	16

Within the 5.5-year analysis period, the crash data shows that there were zero reported crashes at either site intersection. At the intersection of Route 202 and Langley Parkway, 22 crashes were reported, resulting in 4 injuries. At the intersection of Langley Parkway and Route 13, there were 16 crashes and 2 injuries.

Overall, the reviewed crash data does not identify any significant crash concerns at the signalized intersections within the general vicinity of the site, given the 5.5-year analysis period and total crashes recorded. Additionally, the crash data shows that there were no crashes at the site driveway intersections with Route 202 and Langley Parkway.

5 Summary

- The proposed expansion is expected to generate 107 new trips during the AM peak hour of the adjacent street and 140 new trips during the PM peak hour of the adjacent street. During the peak hours of the generator, the proposed development is expected to generate 172 new trips in the AM peak hour and a maximum of 213 new trips during the PM peak hour. The proposed project is expected to generate 42 new trips during the Saturday peak hour.

- Vehicle sight distances measurements were field recorded, looking left and right from the site's existing driveways on Langley Parkway and Route 202.

  Langley Parkway at Site Driveway: *Looking left* from the site driveway (to/from south), the existing sightline is obstructed by vegetation and small trees that are located along Langley Parkway. To provide a 400-foot sightline, as noted above, minor clearing is required on the site's

property. The recommended clearing area is shown in the sight distance graphic attached in the appendix. *Looking right*, we measured a sight distance of 375 feet. This satisfies AASHTO's ISD (362 feet for left turns) and SSD (215 feet on the southbound downgrade). Additional sight distance is obstructed by the retaining wall located on the northern side of Langley Parkway.

Route 202 at Site Driveway: *Looking left* and *right*, we measured sight distances in excess of 500 feet, exceeding AASHTO and state requirements.

- The Concord Police Department has provided crash data for the 5-year period between 2021 and 2025, and the year-to-date crash data for 2026, for the following intersections:

  - Route 202 at East Drive
  - Route 202 at Site Driveway
  - Route 202 at Langley Parkway
  - Langley Parkway at Site Driveway
  - Langley Parkway at Route 13

  Within the 5.5-year analysis period, the crash data shows that there were zero reported crashes at either site intersection. At the intersection of Route 202 and Langley Parkway, 22 crashes were reported, resulting in 4 injuries. At the intersection of Langley Parkway and Route 13, there were 16 crashes and 2 injuries.

  Overall, the reviewed crash data does not identify any significant crash concerns at the signalized intersections within the general vicinity of the site given the 5.5-year analysis time period and the total number of crashes recorded. Additionally, the crash data shows that there were no crashes at the site driveway intersections with Route 202 and Langley Parkway.

- It should be noted that a full traffic study will be completed and will follow as supplemental submission to this initial traffic assessment. Due to the timing of the project schedule and our ability to get the traffic counts completed in time, we are not able to submit the full traffic study at this time. The full traffic study will evaluate traffic operations at study intersections including, average vehicle delay and level-of-service by lane or movement, and vehicle queueing.

APPENDIX

ITE Trip Generation Plots
Sight Distance Graphic

Land Use: 720
Medical-Dental Office Building

Description

A medical-dental office building is a facility or clinic with one or more tenants that provides diagnoses and outpatient care on a routine basis. Tenants range from individual private physicians and dentists to large medical practices. Patient visits are by appointment only. Walk-in clinic (Land Use 630) is a related use.

Land Use Subcategory

Analysis of medical-dental office building data found that trip generation rates differ measurably between sites located within or adjacent to a hospital campus and sites that are stand-alone. Data plots are presented for these two land use subcategories.

Additional Data

The sites were surveyed in the 1990s, the 2000s, the 2010s, and the 2020s in California, Connecticut, Hawaii, Minnesota, New Jersey, New York, Oregon, Pennsylvania, South Dakota, Texas, Washington, and Wisconsin.

Source Numbers

357, 384, 444, 509, 601, 867, 879, 901, 902, 908, 959, 1208, 1219, 1241

Medical-Dental Office Building - Stand-Alone (720)

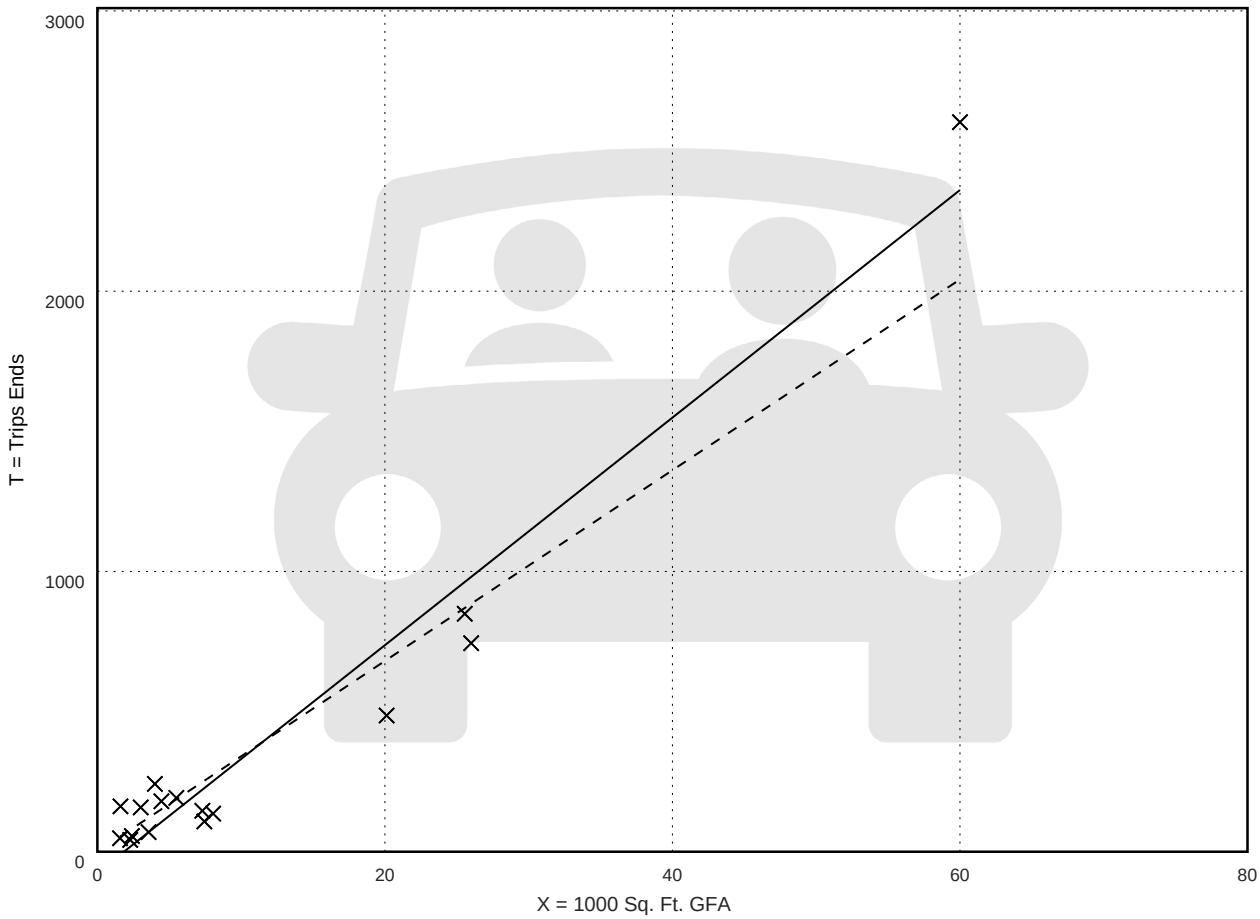
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 16
Avg. 1000 Sq. Ft. GFA: 11
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
34.03	14.52 - 100.75	12.64

Data Plot and Equation



Fitted Curve Equation: T = 40.60(X) - 75.15

R^2= 0.95

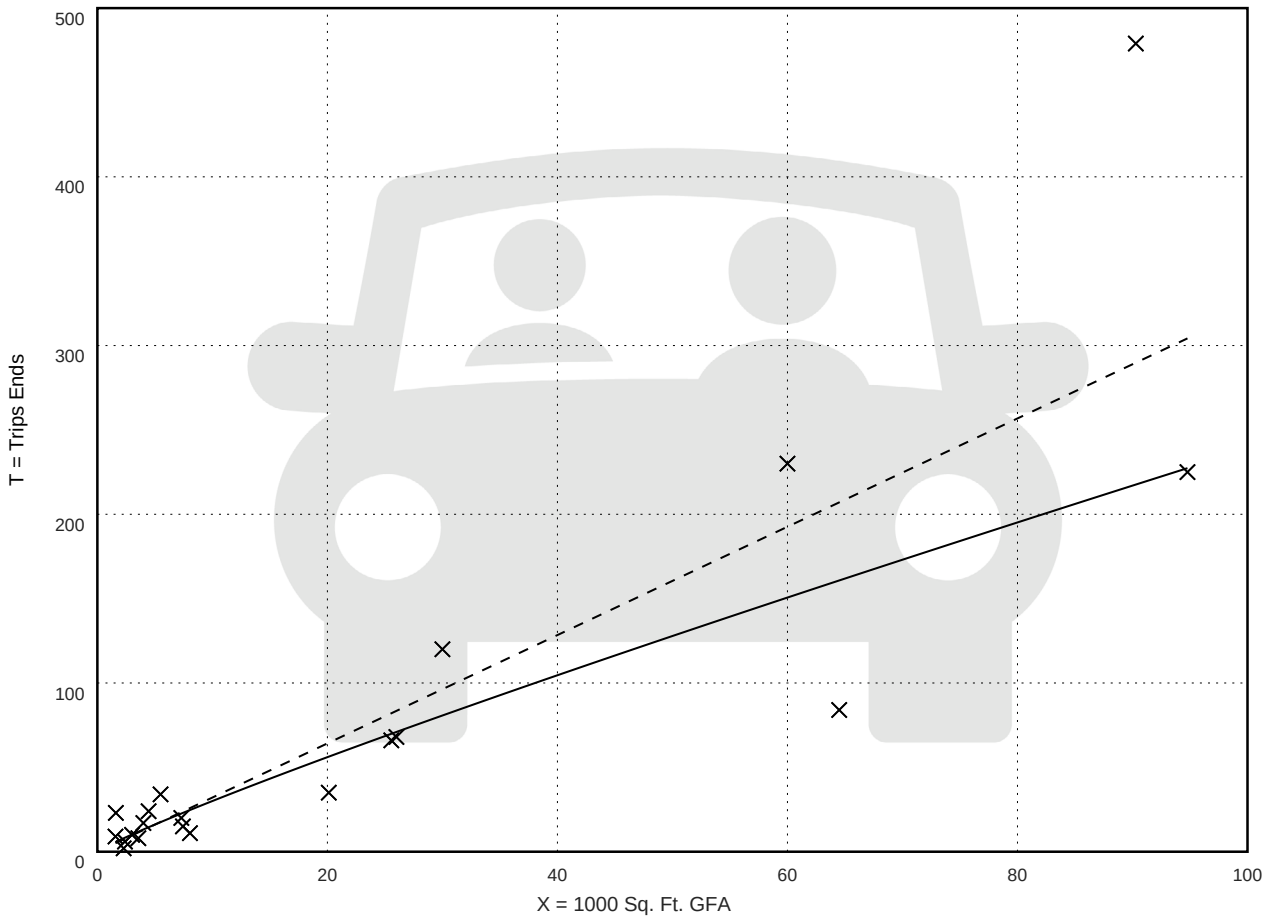
Medical-Dental Office Building - Stand-Alone (720)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 7 and 9 a.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	20
Avg. 1000 Sq. Ft. GFA:	23
Directional Distribution:	78% entering, 22% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
3.21	0.87 - 14.30	1.61

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.90 Ln(X) + 1.33

R^2= 0.80

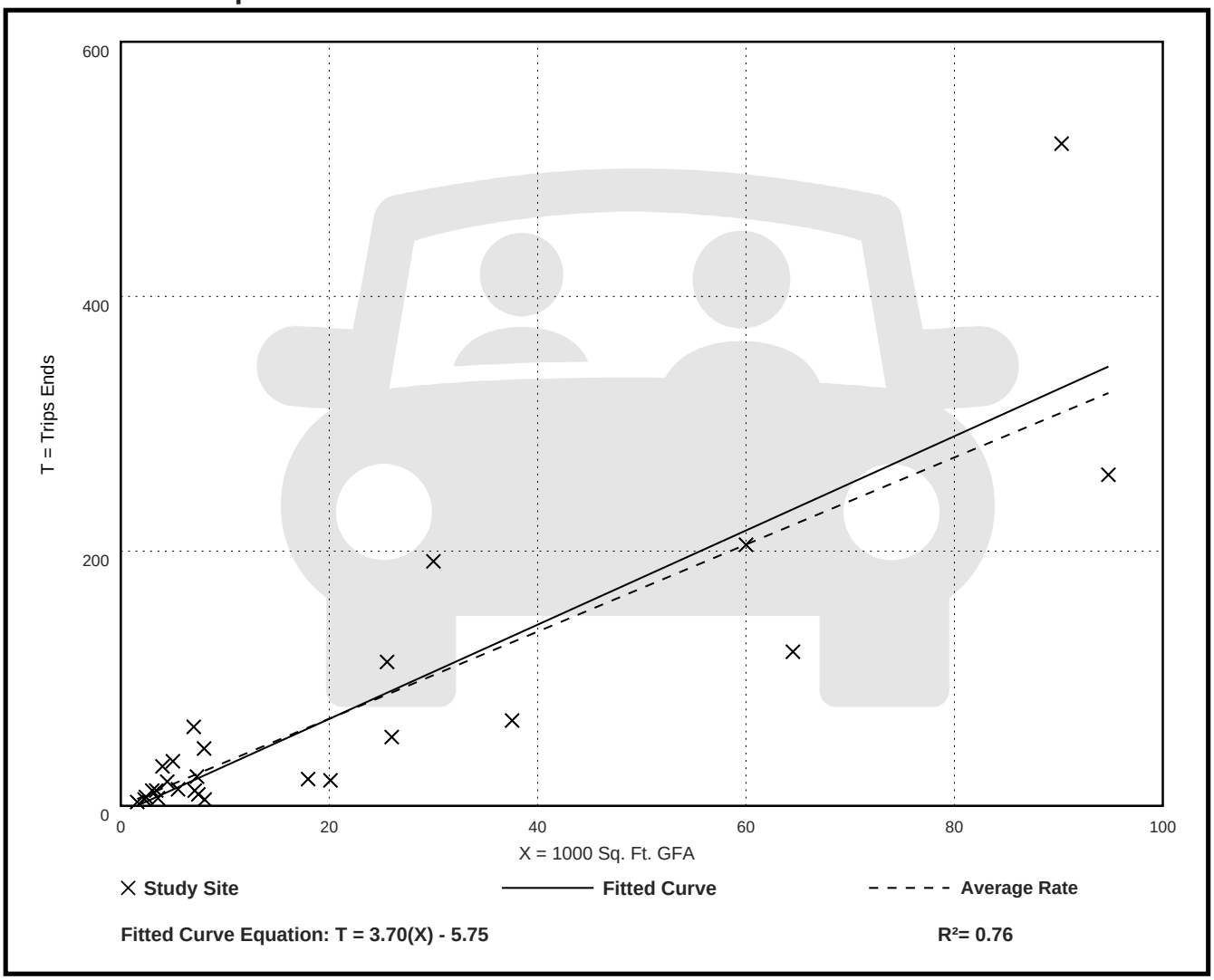
Medical-Dental Office Building - Stand-Alone (720)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 4 and 6 p.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	26
Avg. 1000 Sq. Ft. GFA:	21
Directional Distribution:	30% entering, 70% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
3.42	0.62 - 8.86	1.89

Data Plot and Equation



Fitted Curve Equation: T = 3.70(X) - 5.75

R^2= 0.76

Medical-Dental Office Building - Stand-Alone (720)

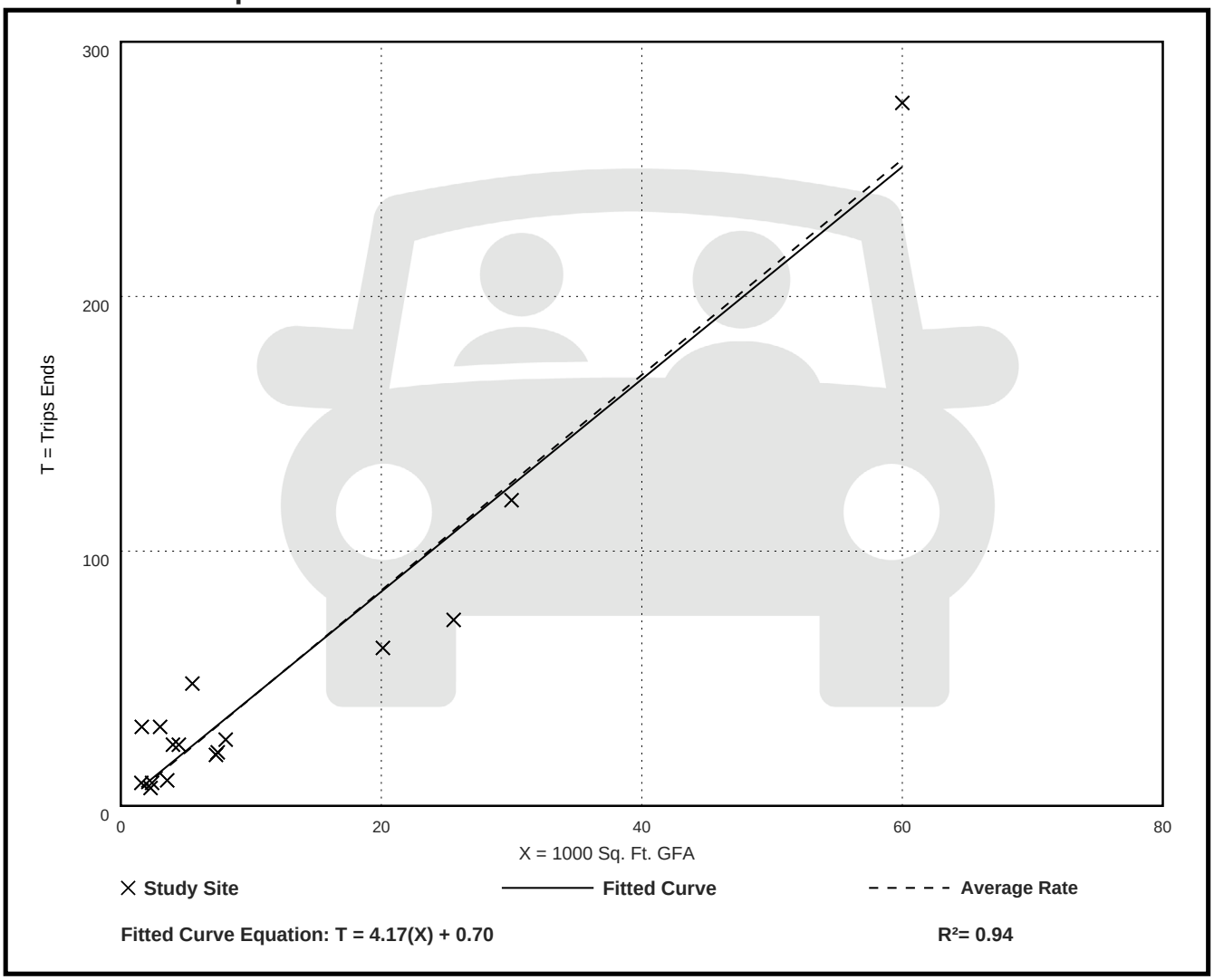
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
AM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 16
Avg. 1000 Sq. Ft. GFA: 12
Directional Distribution: 55% entering, 45% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
4.23	2.74 - 19.28	2.06

Data Plot and Equation



Fitted Curve Equation: T = 4.17(X) + 0.70

R^2= 0.94

Medical-Dental Office Building - Stand-Alone (720)

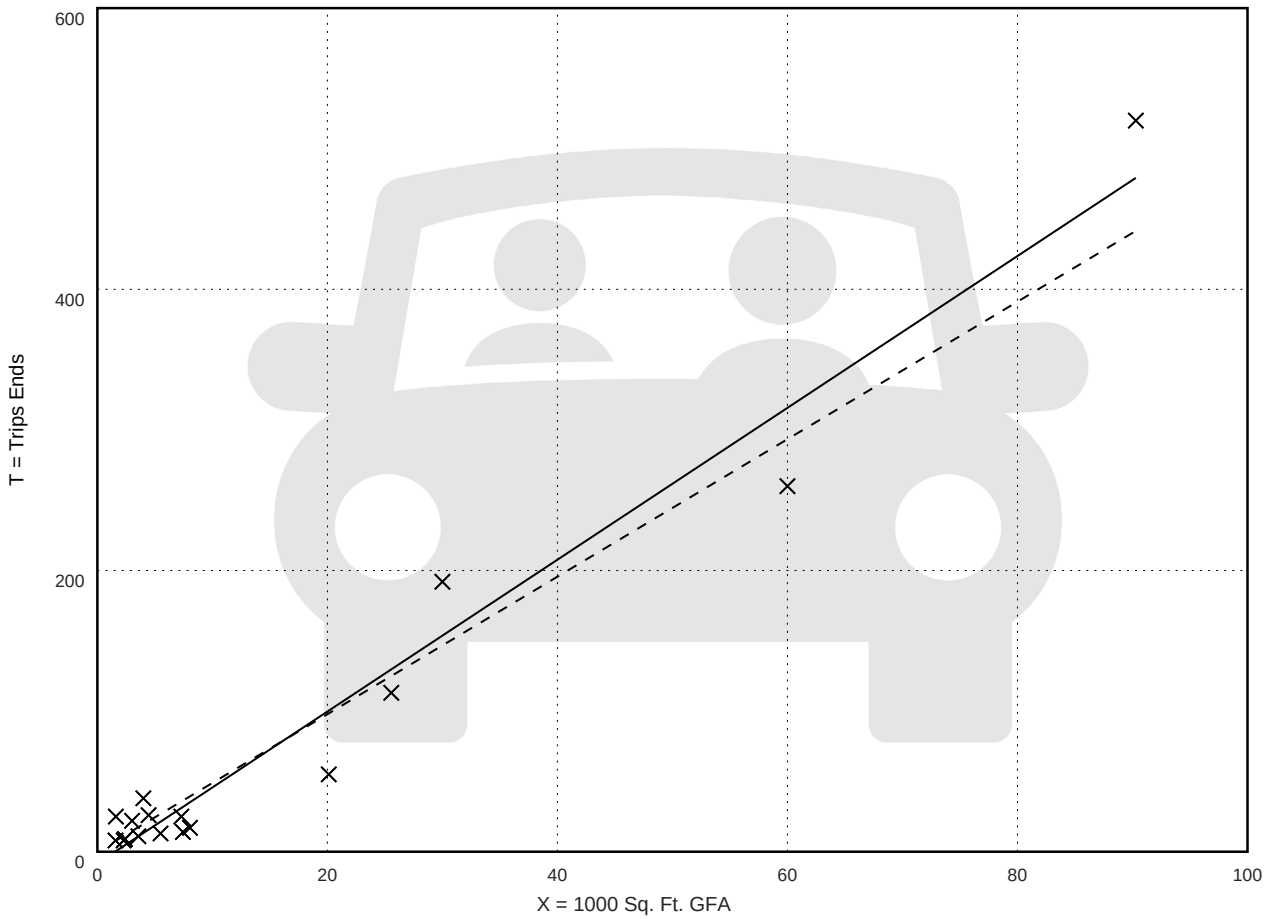
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
PM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 17
Avg. 1000 Sq. Ft. GFA: 16
Directional Distribution: 40% entering, 60% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
4.89	1.88 - 15.55	1.69

Data Plot and Equation



Fitted Curve Equation: T = 5.40(X) - 8.32

R^2= 0.96

Medical-Dental Office Building - Stand-Alone (720)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Saturday

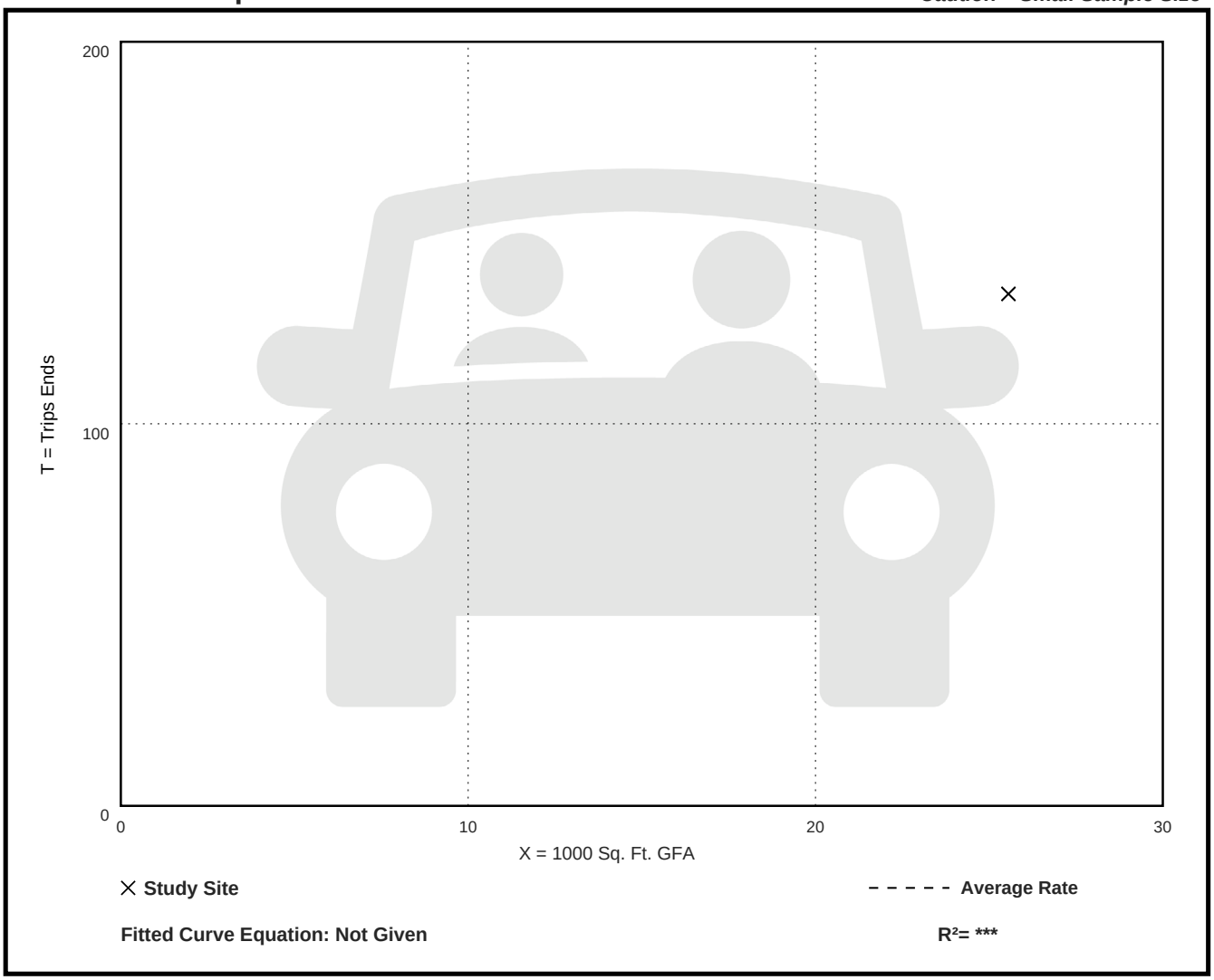
Setting/Location: General Urban/Suburban
Number of Studies: 1
Avg. 1000 Sq. Ft. GFA: 26
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
5.24	5.24 - 5.24	***

Data Plot and Equation

Caution – Small Sample Size



Fitted Curve Equation: Not Given

R^2= *

Medical-Dental Office Building - Stand-Alone (720)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Saturday, Peak Hour of Generator**

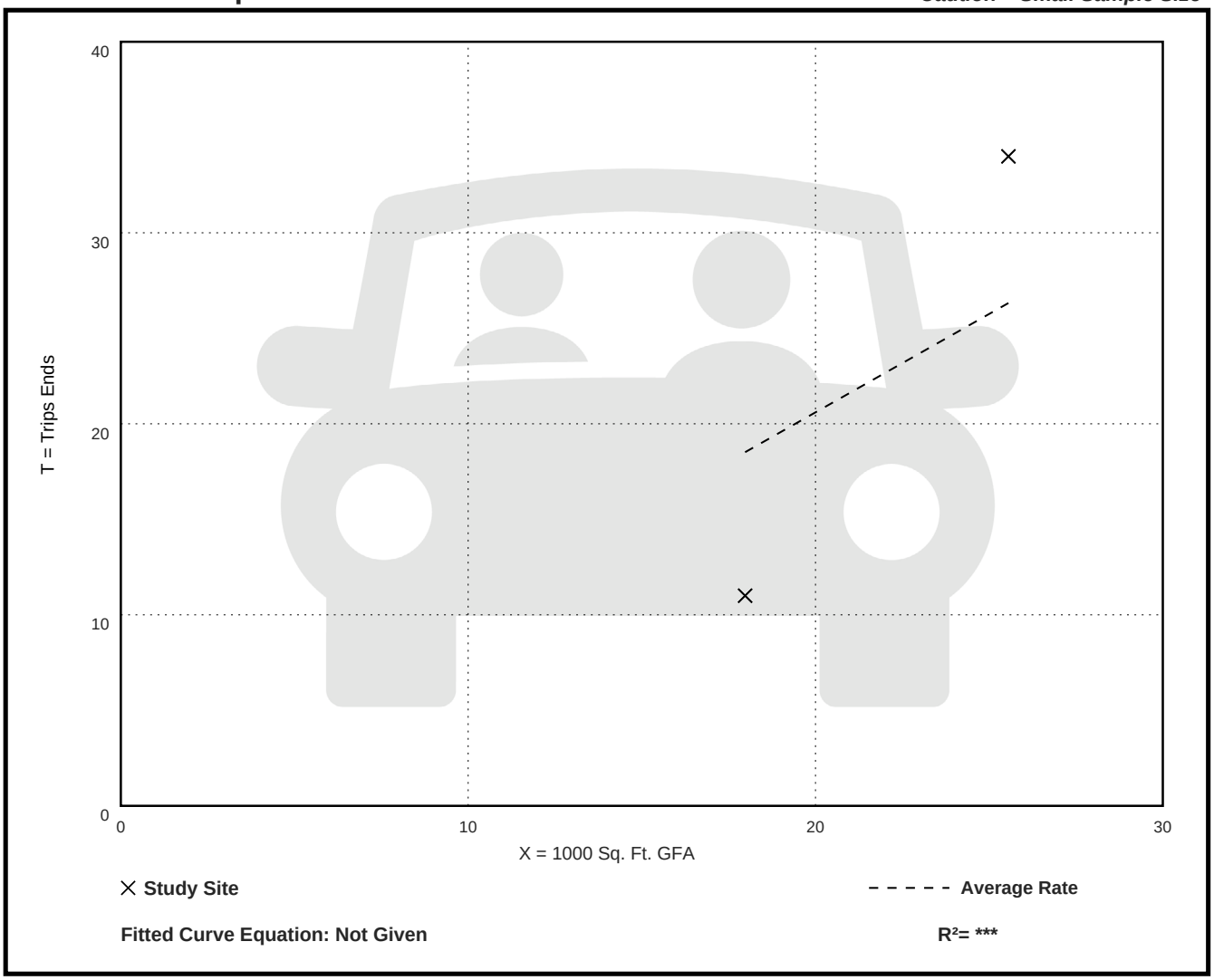
Setting/Location: **General Urban/Suburban**
Number of Studies: 2
Avg. 1000 Sq. Ft. GFA: 22
Directional Distribution: 55% entering, 45% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.03	0.61 - 1.33	***

Data Plot and Equation

Caution – Small Sample Size



Fitted Curve Equation: Not Given

R^2= ***

Medical-Dental Office Building - Stand-Alone (720)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Sunday

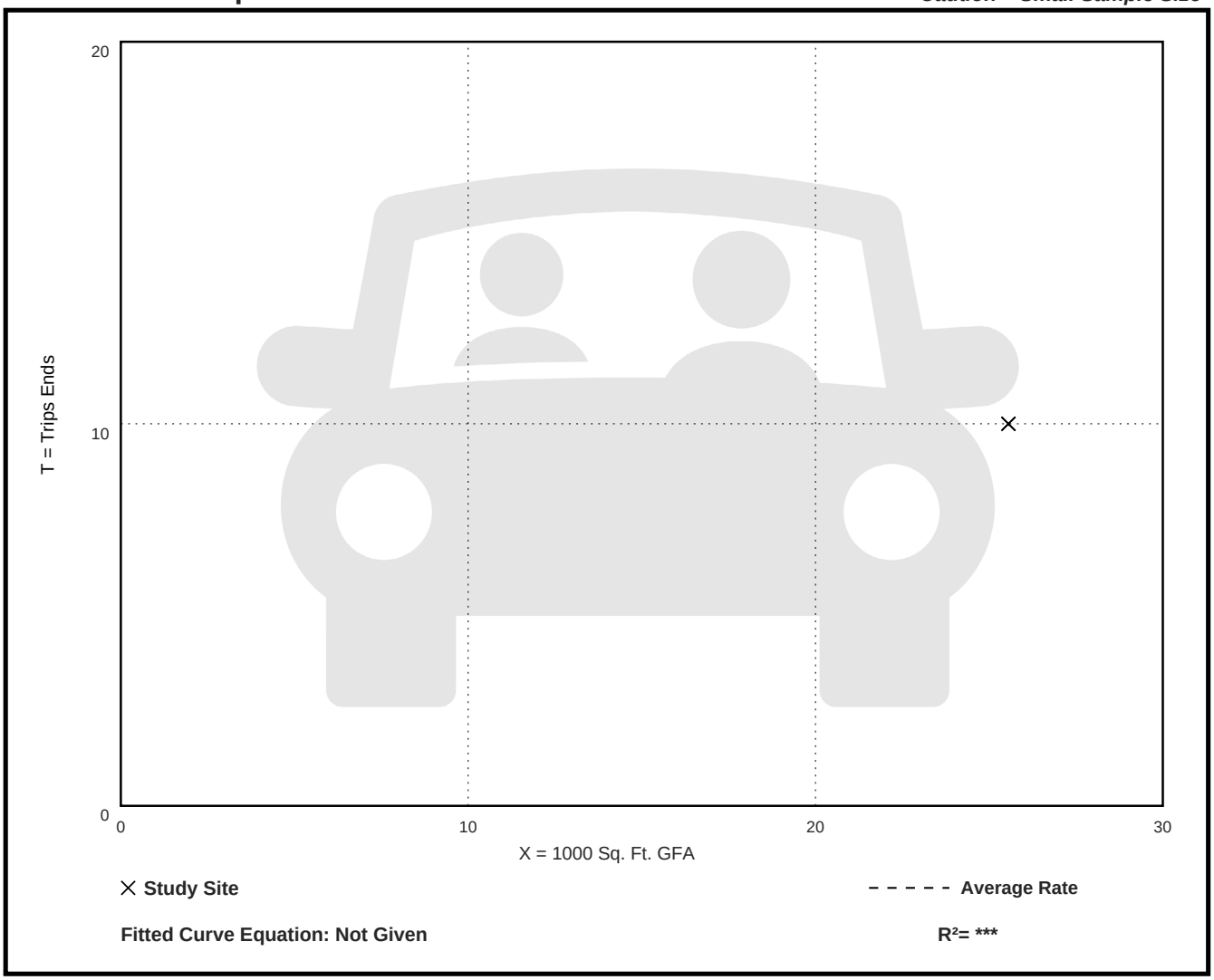
Setting/Location: General Urban/Suburban
Number of Studies: 1
Avg. 1000 Sq. Ft. GFA: 26
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.39	0.39 - 0.39	***

Data Plot and Equation

Caution – Small Sample Size



× **Study Site**

– – – – – **Average Rate**

Fitted Curve Equation: Not Given

R^2= *

Medical-Dental Office Building - Stand-Alone (720)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Sunday, Peak Hour of Generator

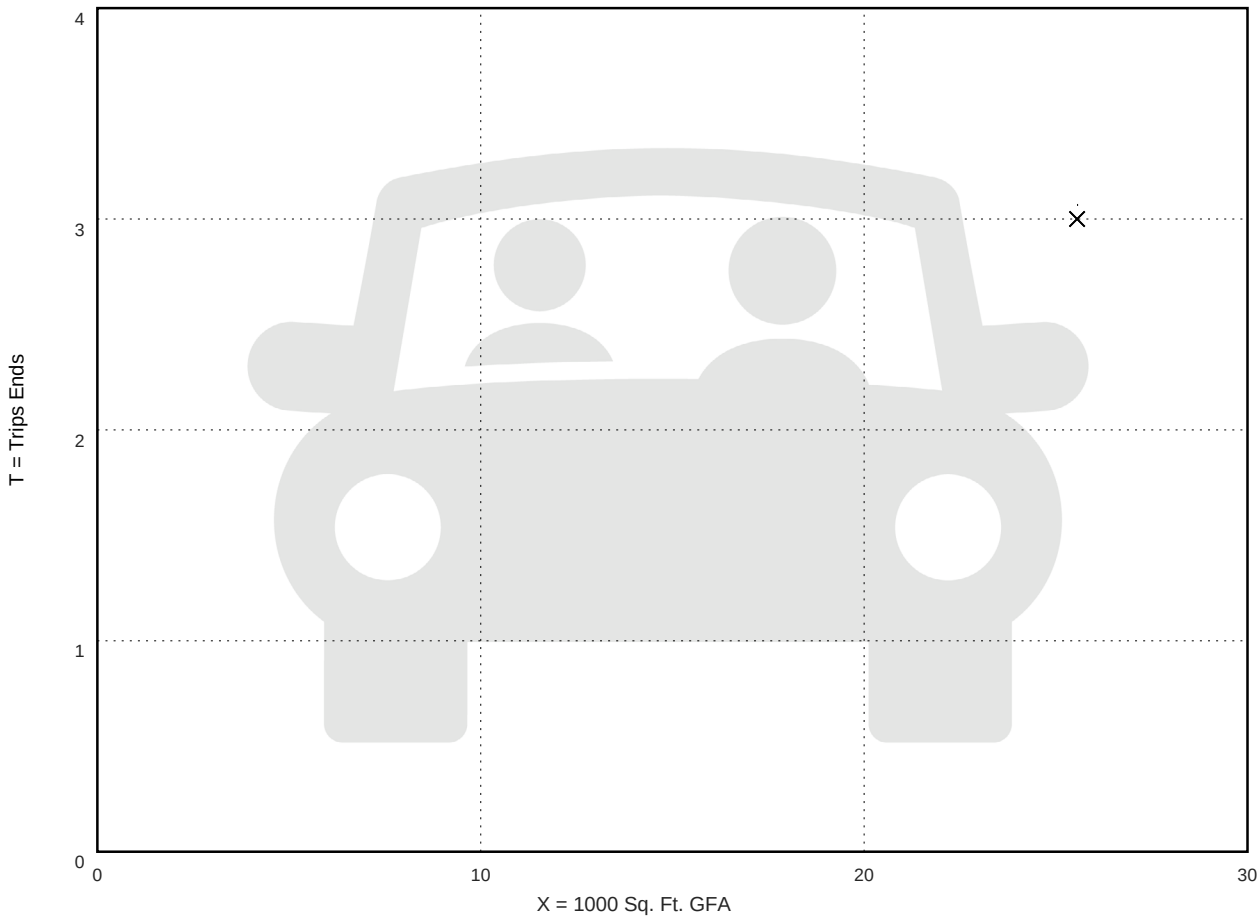
Setting/Location: General Urban/Suburban
Number of Studies: 1
Avg. 1000 Sq. Ft. GFA: 26
Directional Distribution: Not Available

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.12	0.12 - 0.12	***

Data Plot and Equation

Caution – Small Sample Size



Fitted Curve Equation: Not Given

R^2= *

Medical-Dental Office Building - Stand-Alone (720)

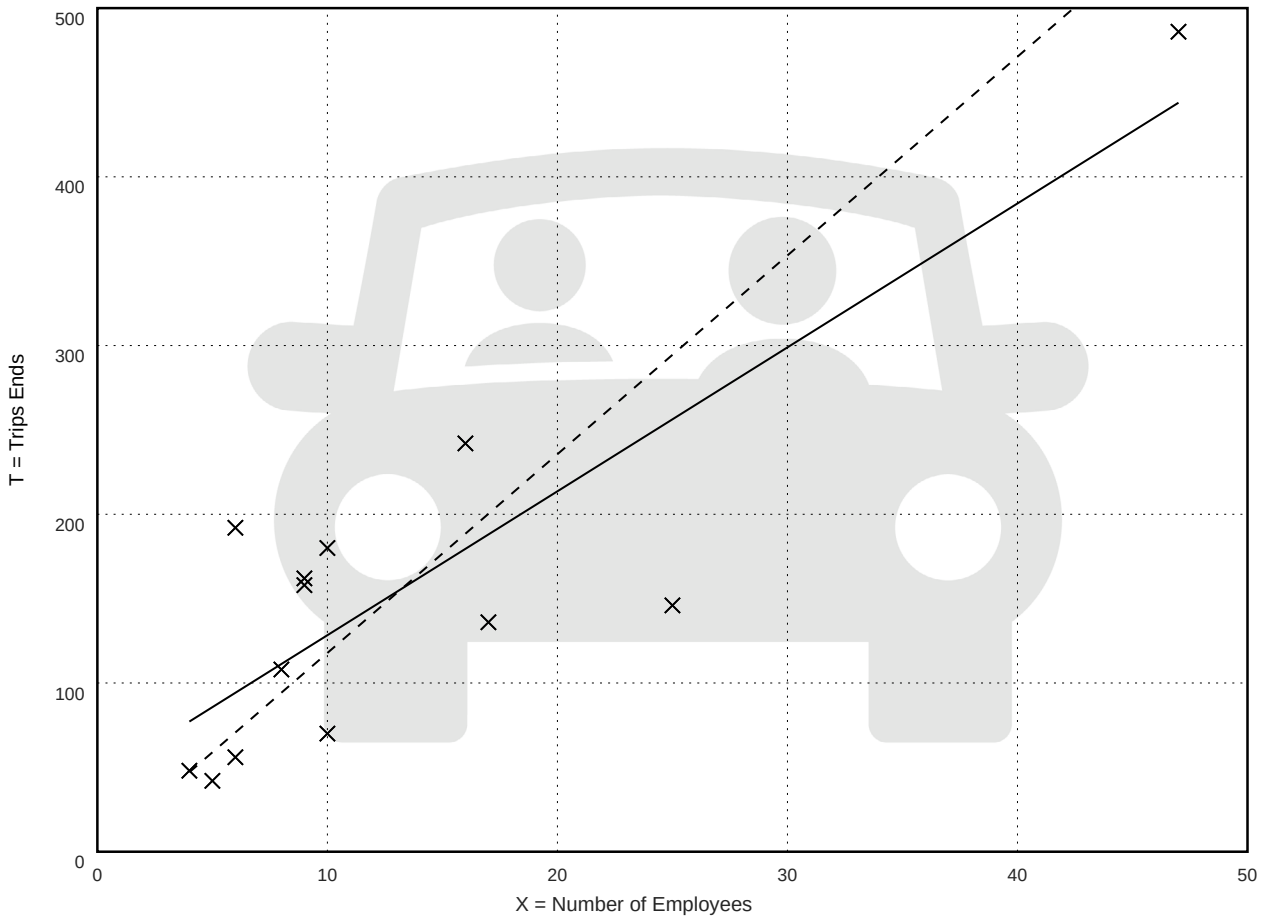
Vehicle Trip Ends vs: Employees
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 13
Avg. Num. of Employees: 13
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
11.78	5.84 - 32.00	5.74

Data Plot and Equation



Fitted Curve Equation: T = 8.53(X) + 43.02

R^2= 0.73

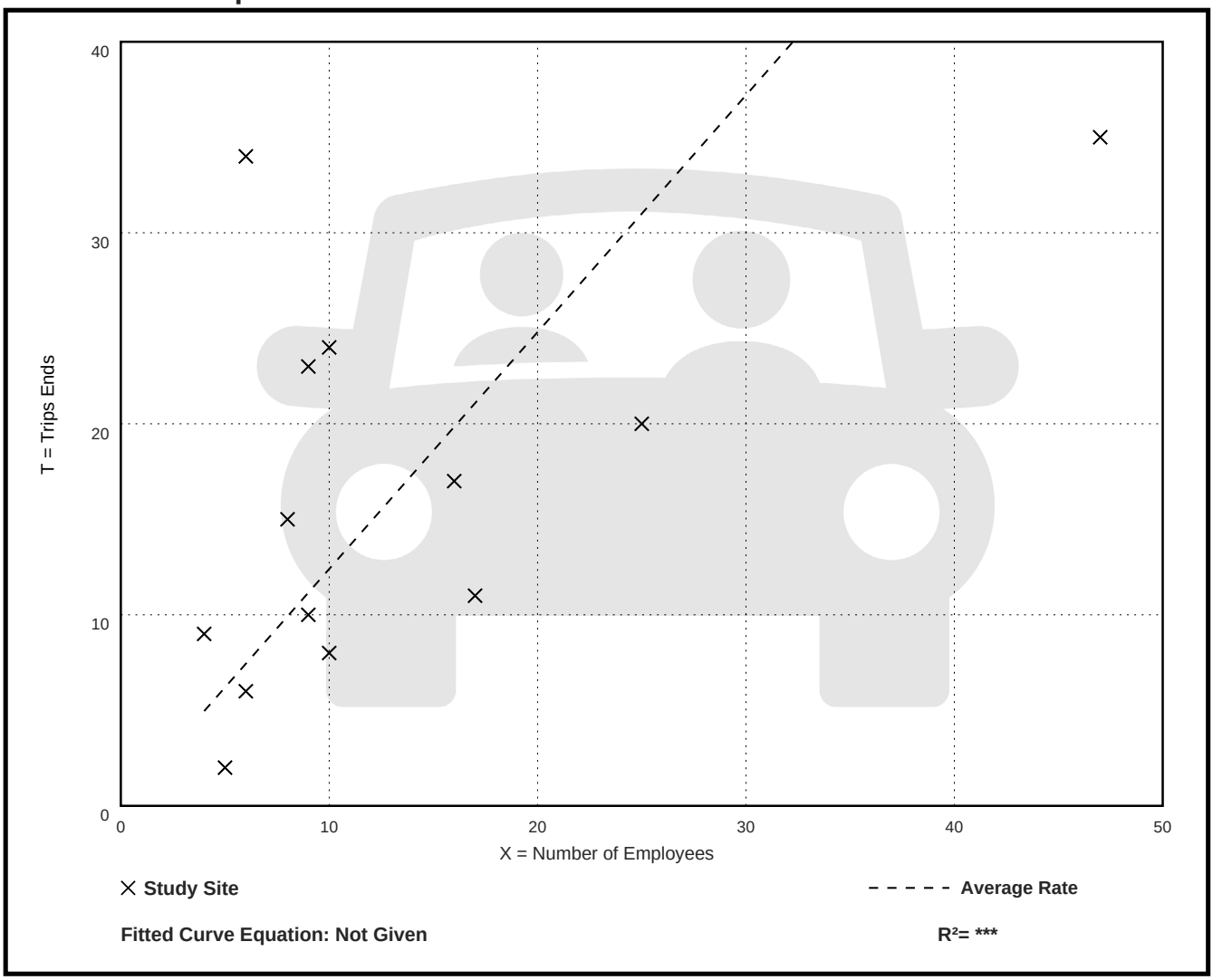
Medical-Dental Office Building - Stand-Alone (720)

Vehicle Trip Ends vs:	**Employees**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 7 and 9 a.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	13
Avg. Num. of Employees:	13
Directional Distribution:	70% entering, 30% exiting

Vehicle Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
1.24	0.40 - 5.67	1.07

Data Plot and Equation



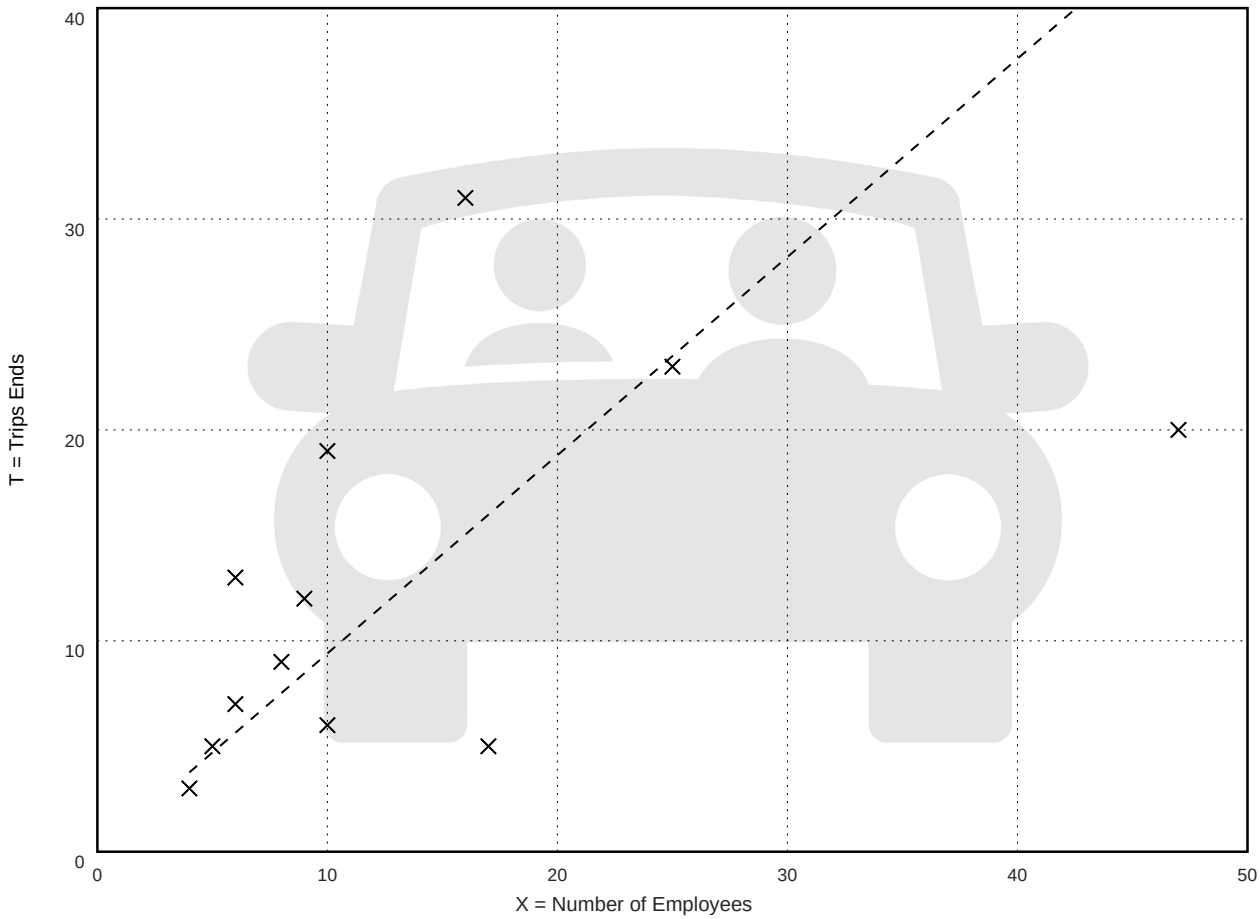
Medical-Dental Office Building - Stand-Alone (720)

Vehicle Trip Ends vs:	**Employees**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 4 and 6 p.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	12
Avg. Num. of Employees:	14
Directional Distribution:	45% entering, 55% exiting

Vehicle Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
0.94	0.29 - 2.17	0.62

Data Plot and Equation



Fitted Curve Equation: Not Given

R^2= *

Medical-Dental Office Building - Stand-Alone (720)

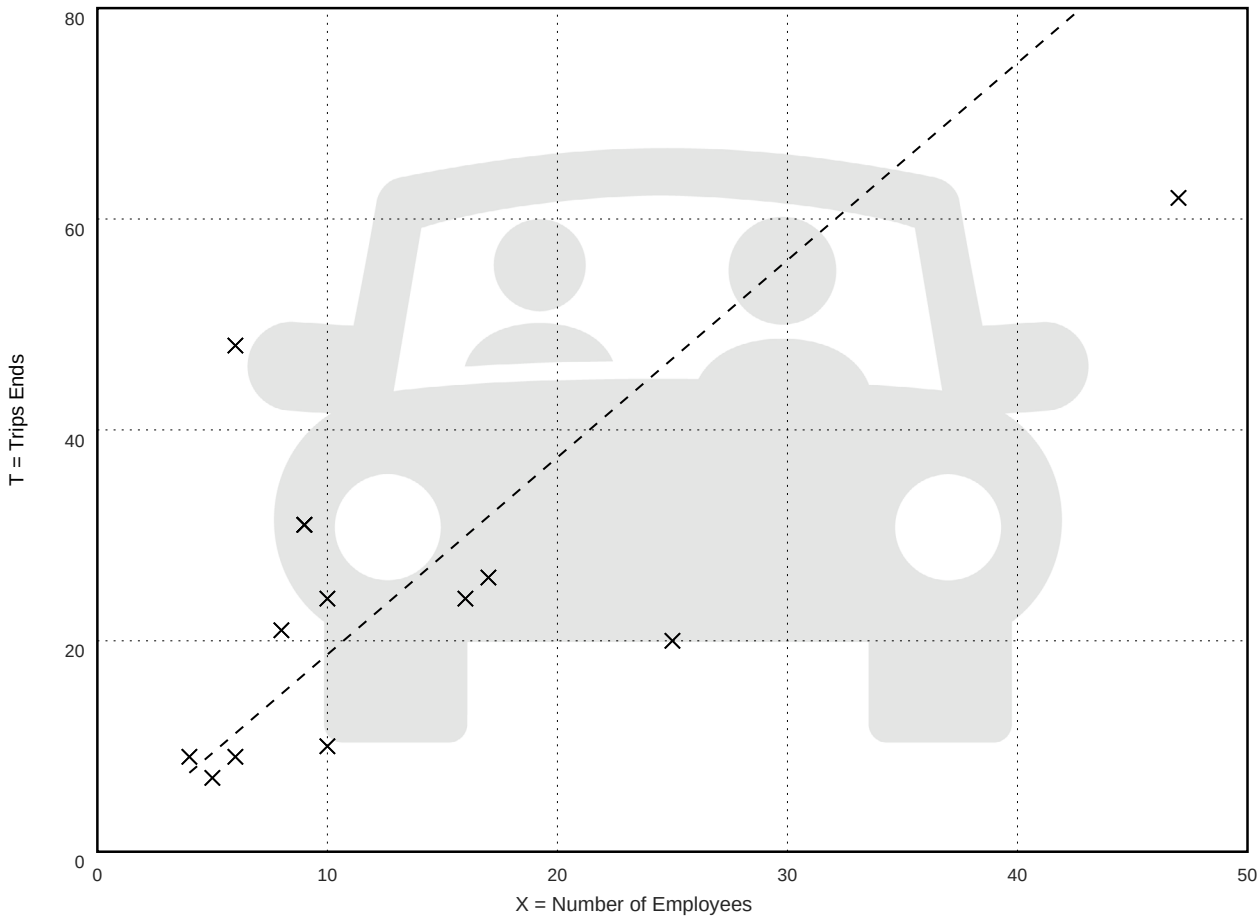
Vehicle Trip Ends vs: **Employees**
On a: **Weekday,**
AM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 13
Avg. Num. of Employees: 13
Directional Distribution: 52% entering, 48% exiting

Vehicle Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
1.87	0.80 - 8.00	1.45

Data Plot and Equation



Fitted Curve Equation: Not Given

R^2= ***

Medical-Dental Office Building - Stand-Alone (720)

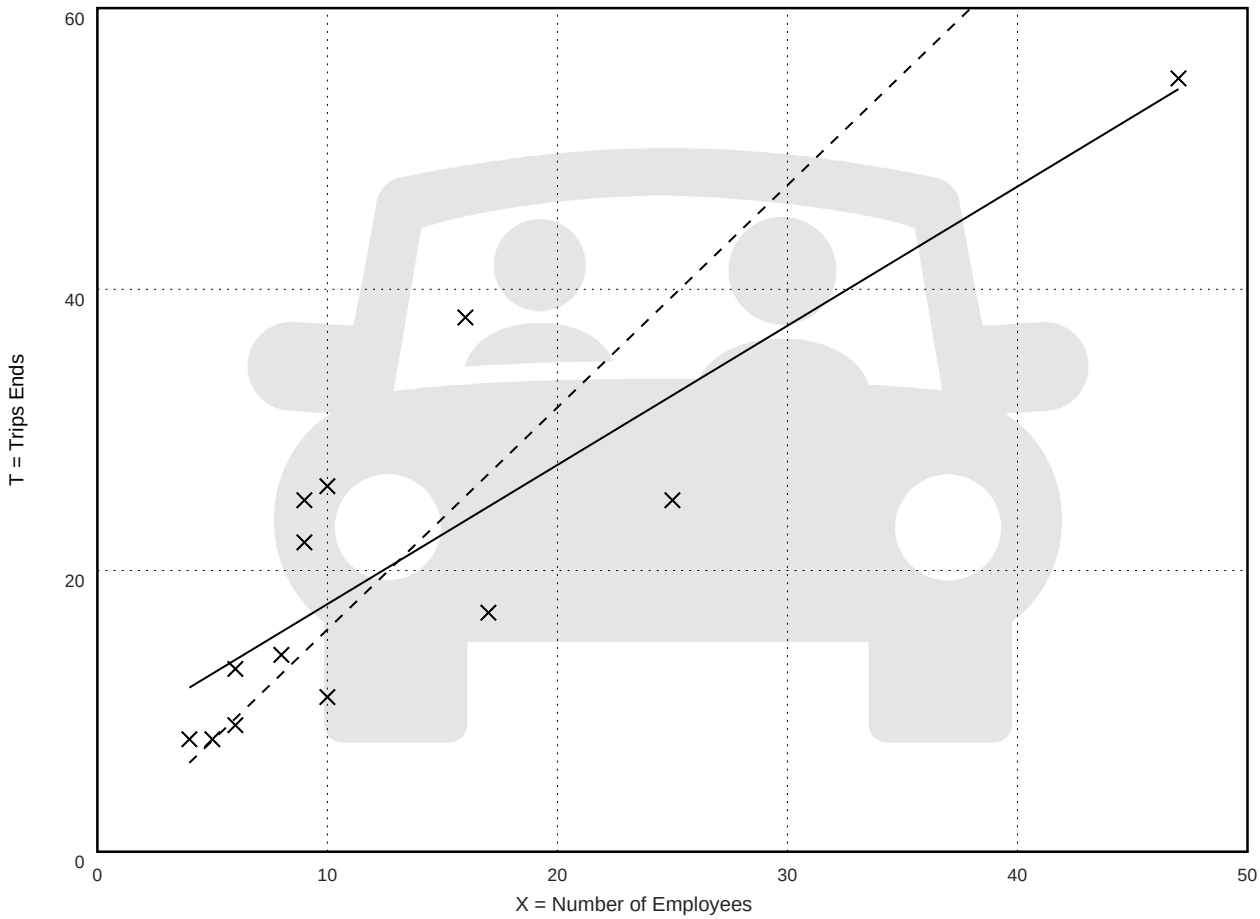
Vehicle Trip Ends vs: **Employees**
On a: **Weekday,**
PM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 13
Avg. Num. of Employees: 13
Directional Distribution: 52% entering, 48% exiting

Vehicle Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
1.58	1.00 - 2.78	0.65

Data Plot and Equation



Fitted Curve Equation: T = 0.99(X) + 7.71

R^2= 0.73

Medical-Dental Office Building
Within/Near Hospital Campus (720)

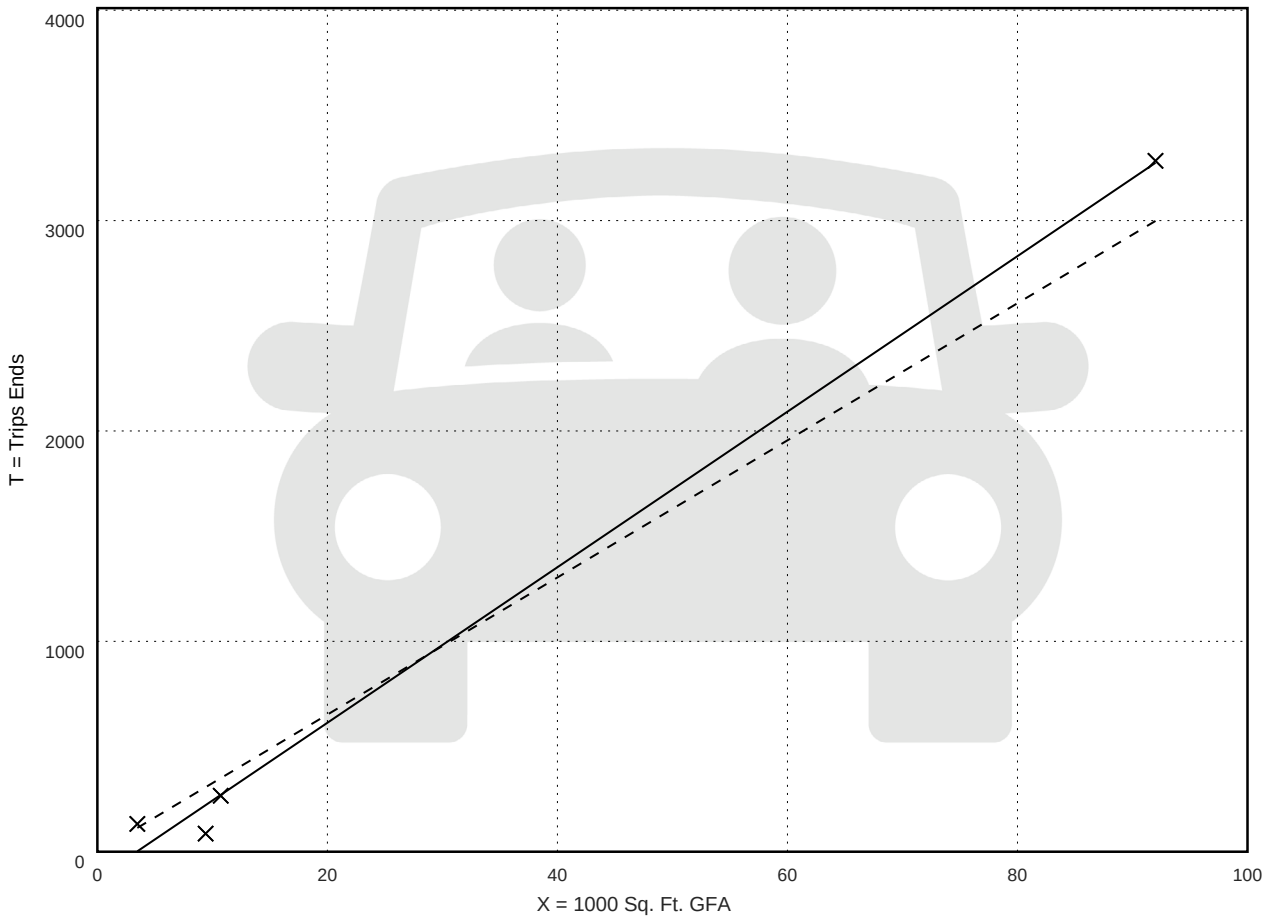
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 4
Avg. 1000 Sq. Ft. GFA: 29
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
32.59	9.14 - 37.99	8.87

Data Plot and Equation



Fitted Curve Equation: T = 36.97(X) - 126.53

R^2= 1.00

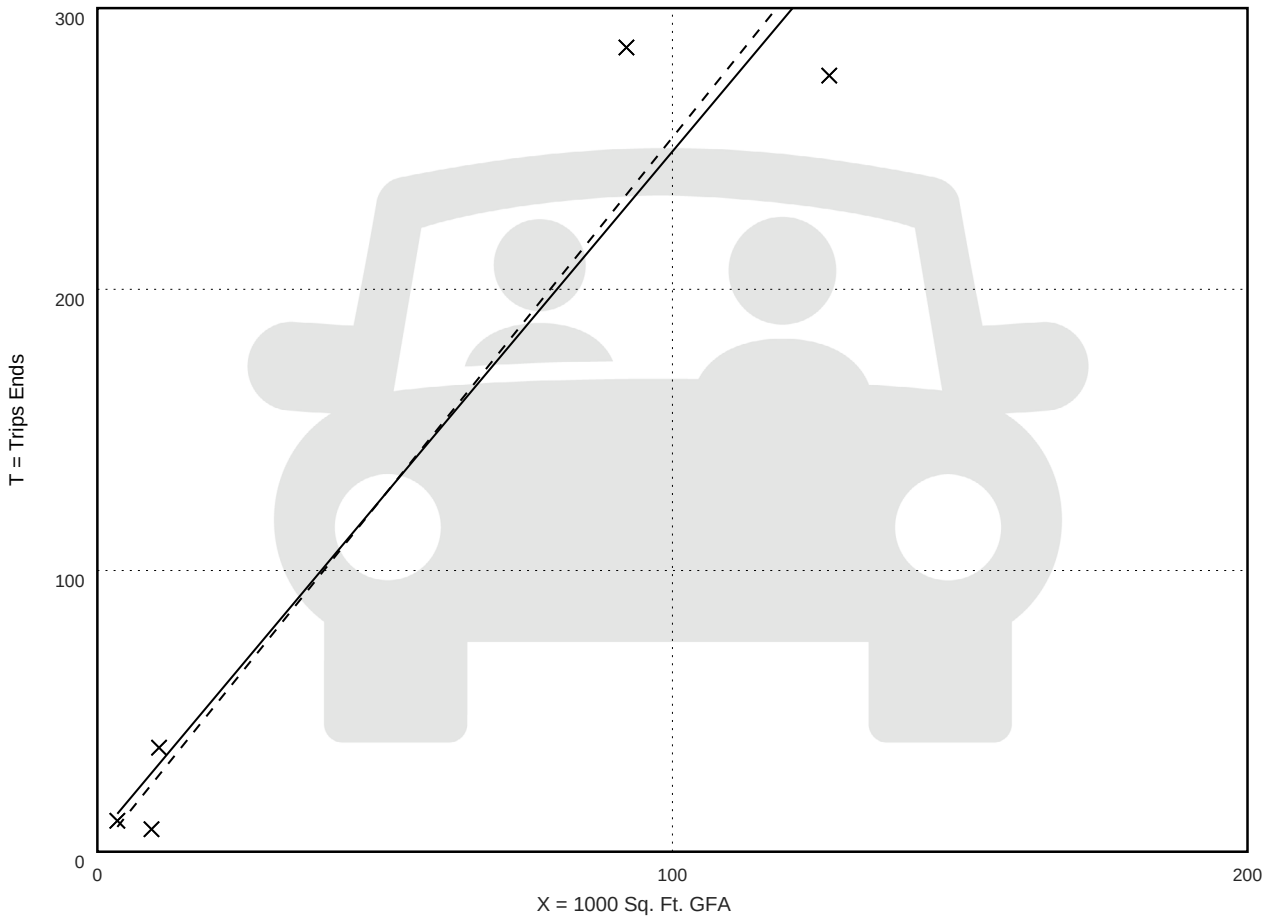
Medical-Dental Office Building
Within/Near Hospital Campus (720)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 7 and 9 a.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	5
Avg. 1000 Sq. Ft. GFA:	49
Directional Distribution:	79% entering, 21% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
2.54	0.85 - 3.45	0.66

Data Plot and Equation



Fitted Curve Equation: T = 2.44(X) + 5.01

R^2= 0.94

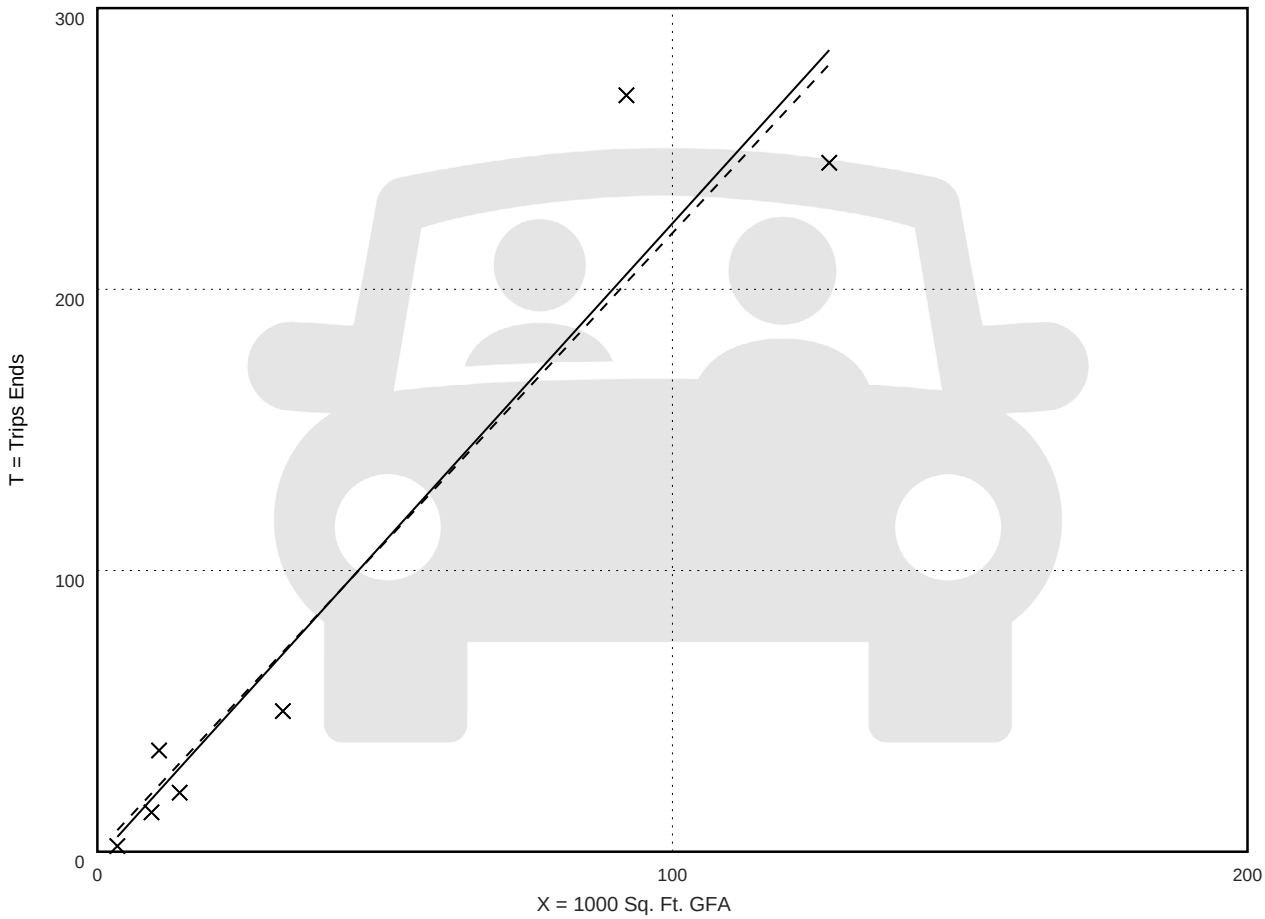
Medical-Dental Office Building
Within/Near Hospital Campus (720)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 4 and 6 p.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	7
Avg. 1000 Sq. Ft. GFA:	41
Directional Distribution:	23% entering, 77% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
2.20	0.58 - 3.36	0.66

Data Plot and Equation



Fitted Curve Equation: T = 2.26(X) - 2.57

R^2= 0.92

Medical-Dental Office Building
Within/Near Hospital Campus (720)

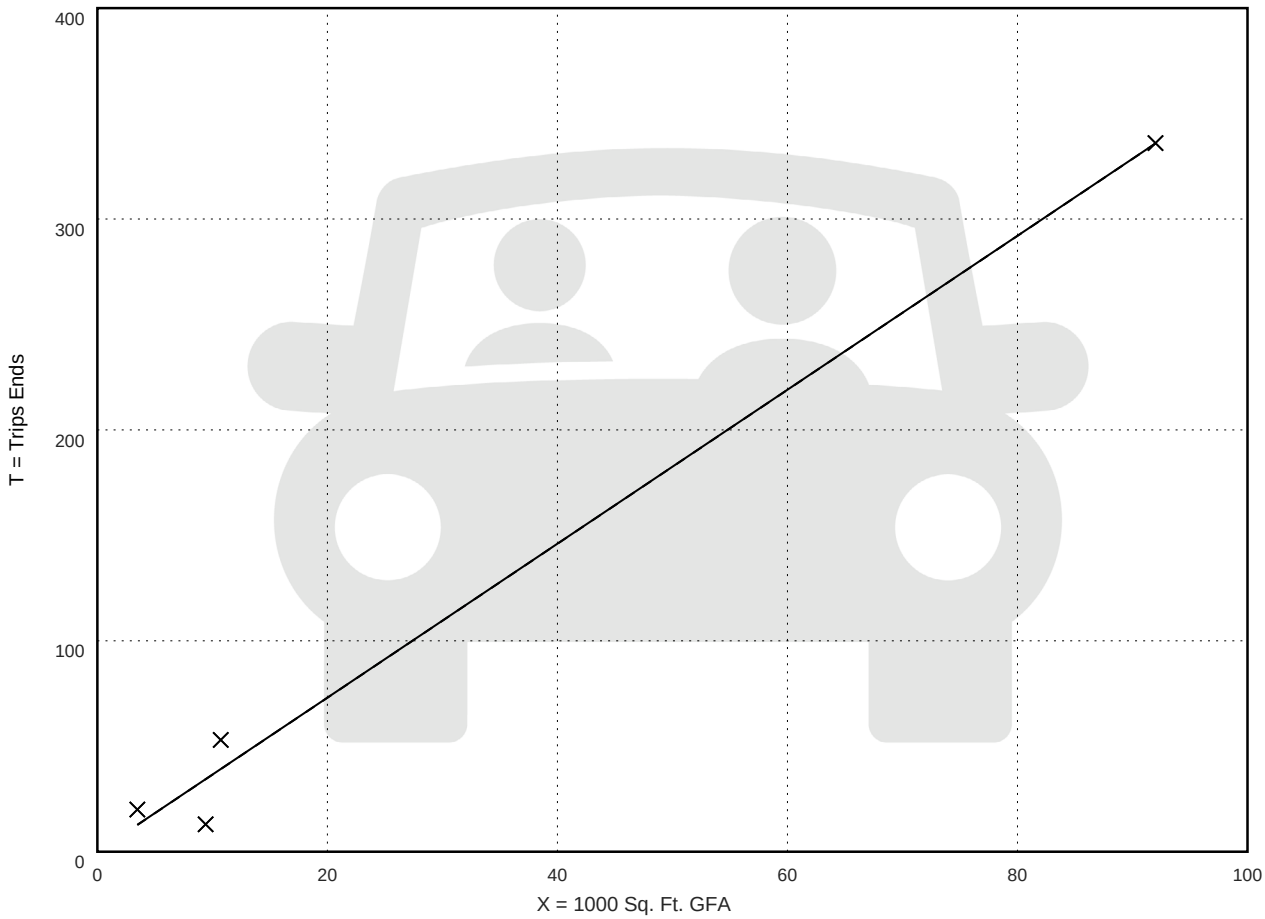
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
AM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 4
Avg. 1000 Sq. Ft. GFA: 29
Directional Distribution: 52% entering, 48% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
3.65	1.38 - 5.76	0.97

Data Plot and Equation



Fitted Curve Equation: T = 3.65(X) + 0.05

R^2= 0.99

Medical-Dental Office Building
Within/Near Hospital Campus (720)

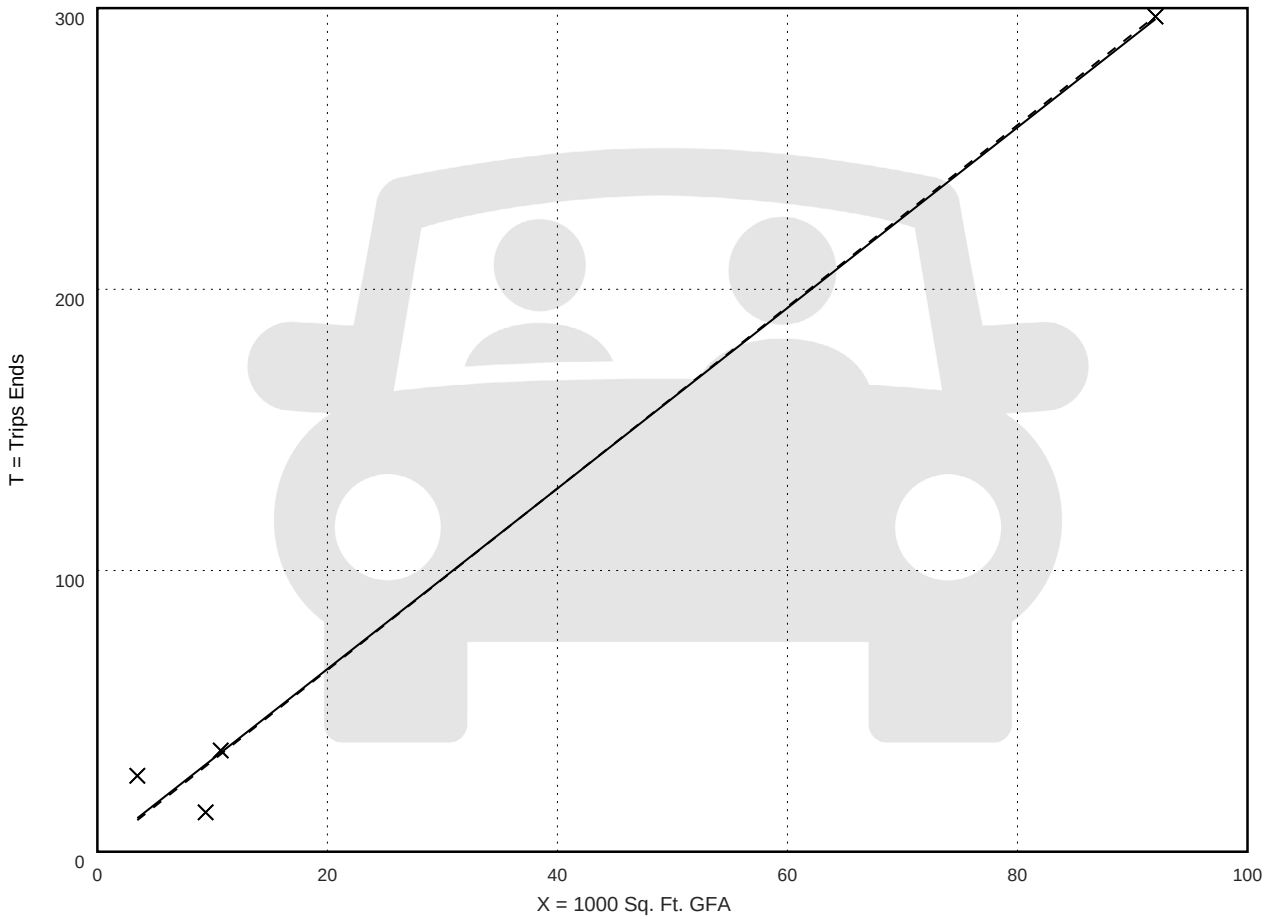
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
PM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 4
Avg. 1000 Sq. Ft. GFA: 29
Directional Distribution: 40% entering, 60% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
3.23	1.49 - 7.77	1.08

Data Plot and Equation



Fitted Curve Equation: T = 3.21(X) + 0.77

R^2= 0.99

Medical-Dental Office Building
Within/Near Hospital Campus (720)

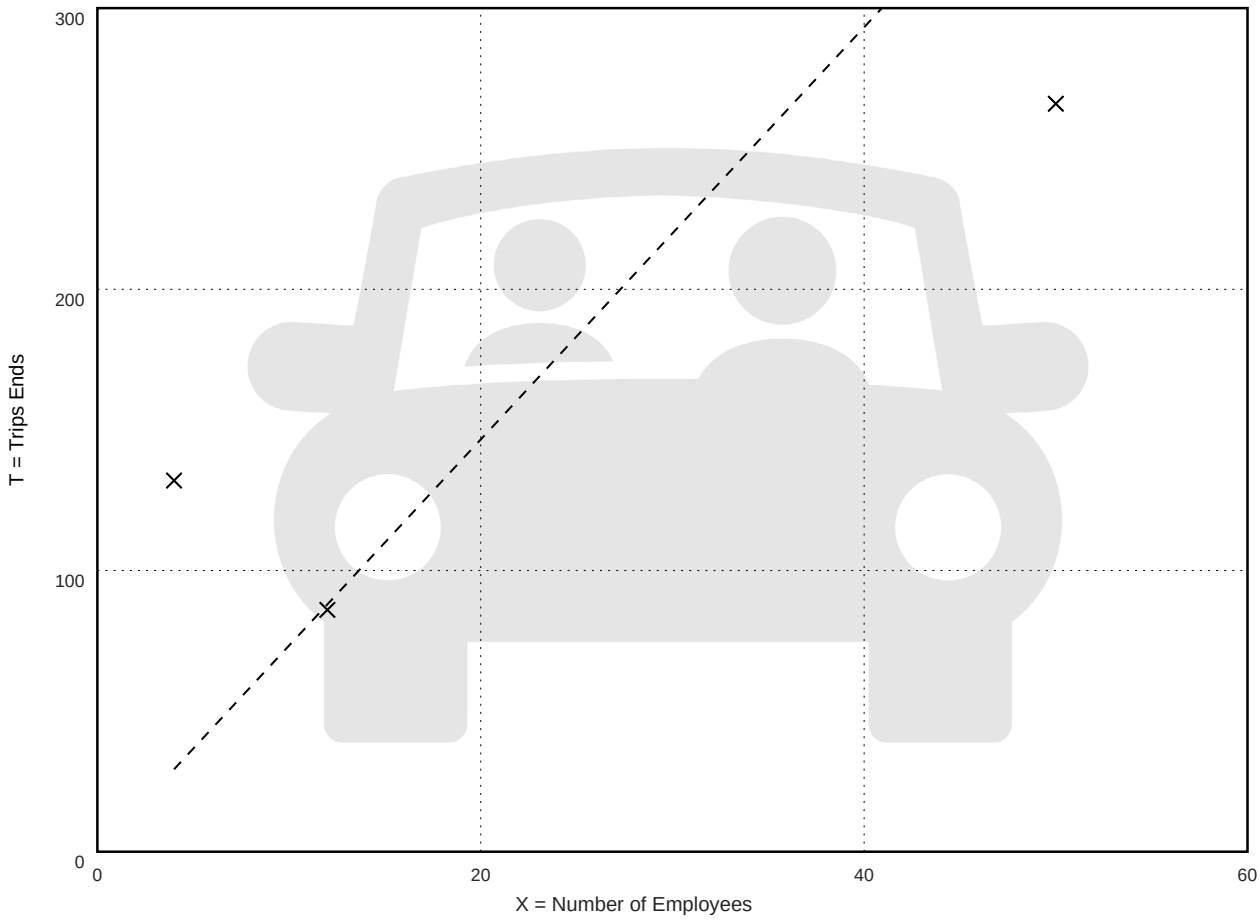
Vehicle Trip Ends vs: Employees
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 3
Avg. Num. of Employees: 22
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
7.33	5.32 - 33.00	8.03

Data Plot and Equation



Fitted Curve Equation: Not Given

R^2= *

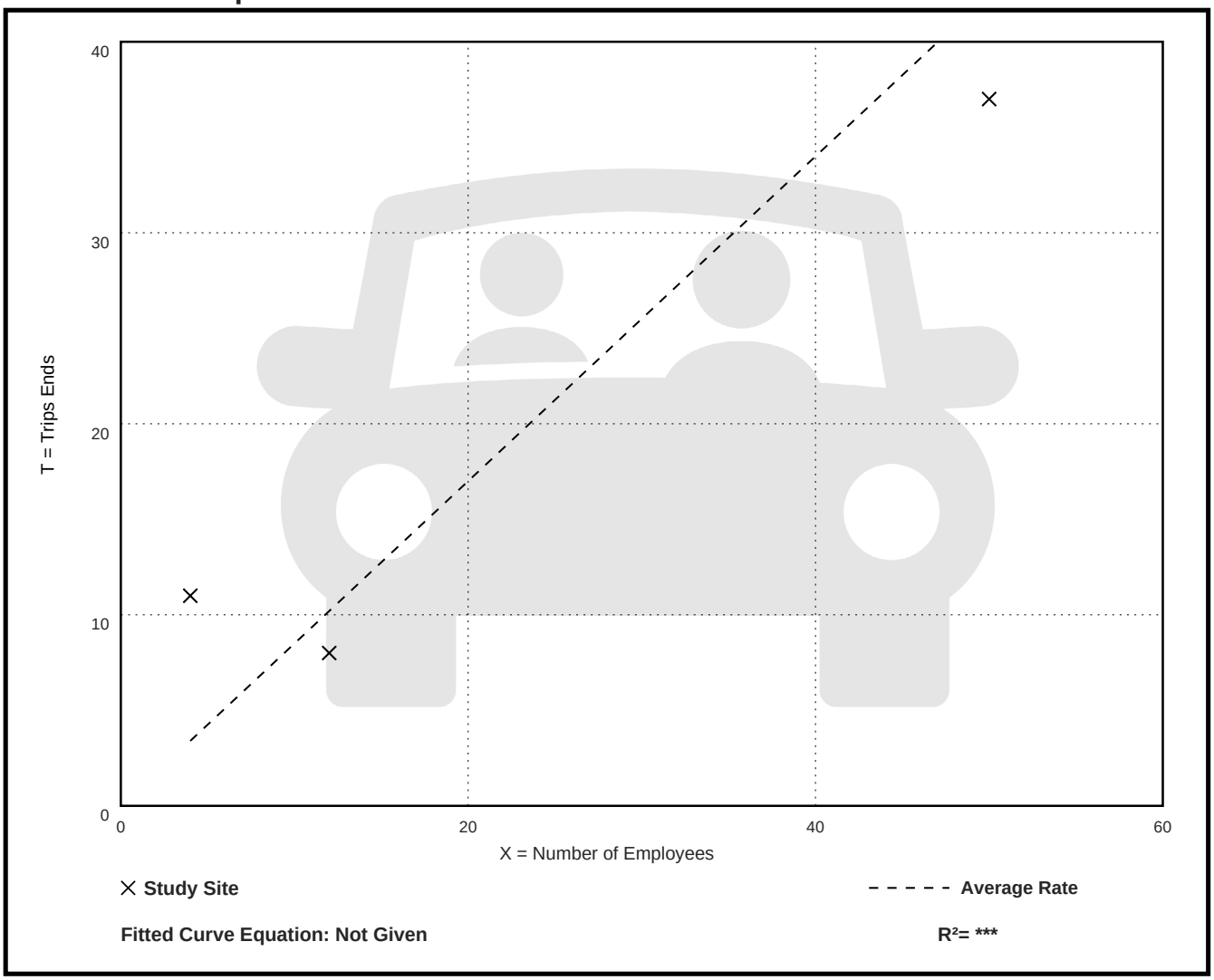
Medical-Dental Office Building
Within/Near Hospital Campus (720)

Vehicle Trip Ends vs:	**Employees**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 7 and 9 a.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	3
Avg. Num. of Employees:	22
Directional Distribution:	91% entering, 9% exiting

Vehicle Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
0.85	0.67 - 2.75	0.59

Data Plot and Equation



Fitted Curve Equation: Not Given

R^2= ***

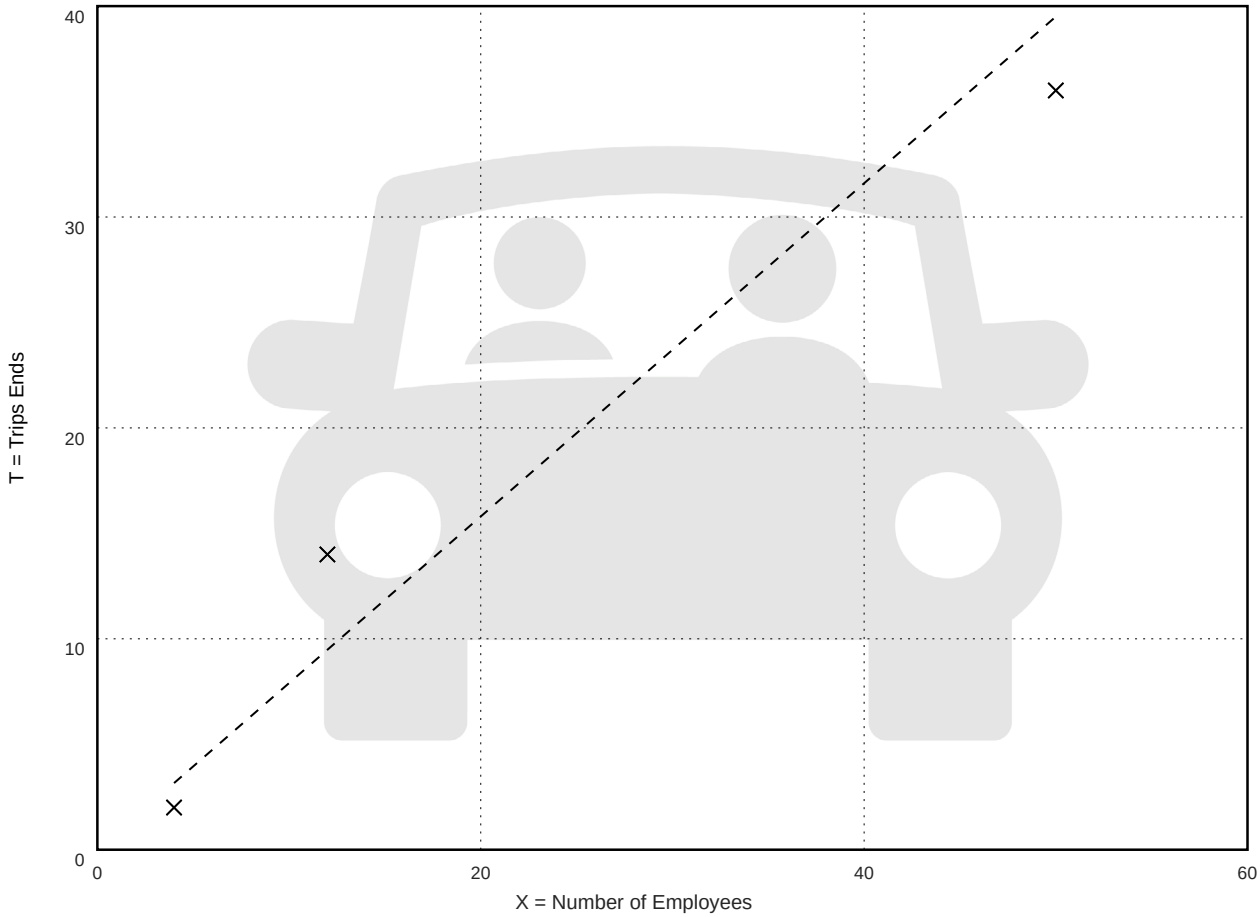
Medical-Dental Office Building
Within/Near Hospital Campus (720)

Vehicle Trip Ends vs:	**Employees**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 4 and 6 p.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	3
Avg. Num. of Employees:	22
Directional Distribution:	10% entering, 90% exiting

Vehicle Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
0.79	0.50 - 1.17	0.23

Data Plot and Equation



Fitted Curve Equation: Not Given

R^2= ***

Medical-Dental Office Building
Within/Near Hospital Campus (720)

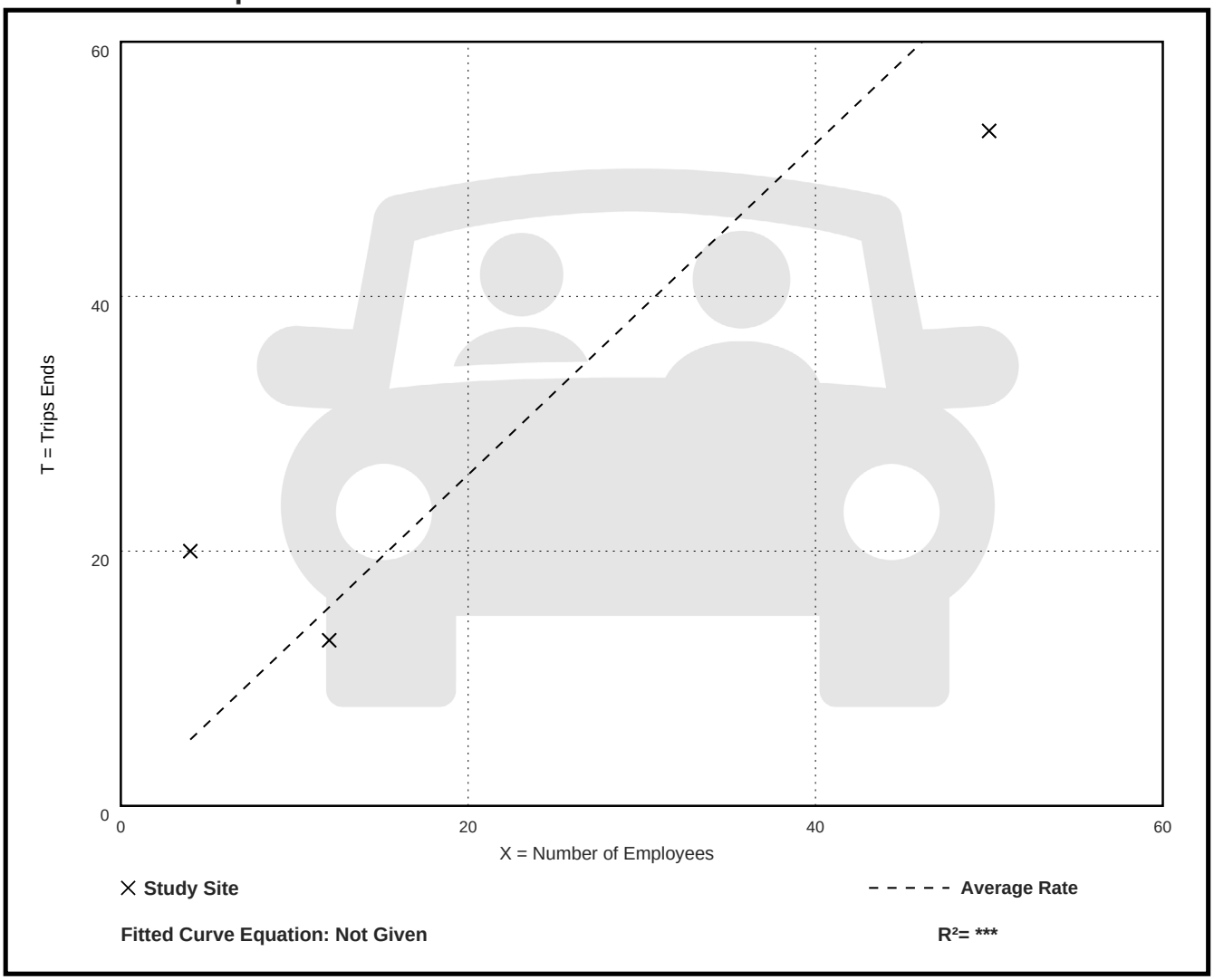
Vehicle Trip Ends vs: Employees
On a: Weekday,
AM Peak Hour of Generator

Setting/Location: General Urban/Suburban
Number of Studies: 3
Avg. Num. of Employees: 22
Directional Distribution: 49% entering, 51% exiting

Vehicle Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
1.30	1.06 - 5.00	1.15

Data Plot and Equation



Medical-Dental Office Building
Within/Near Hospital Campus (720)

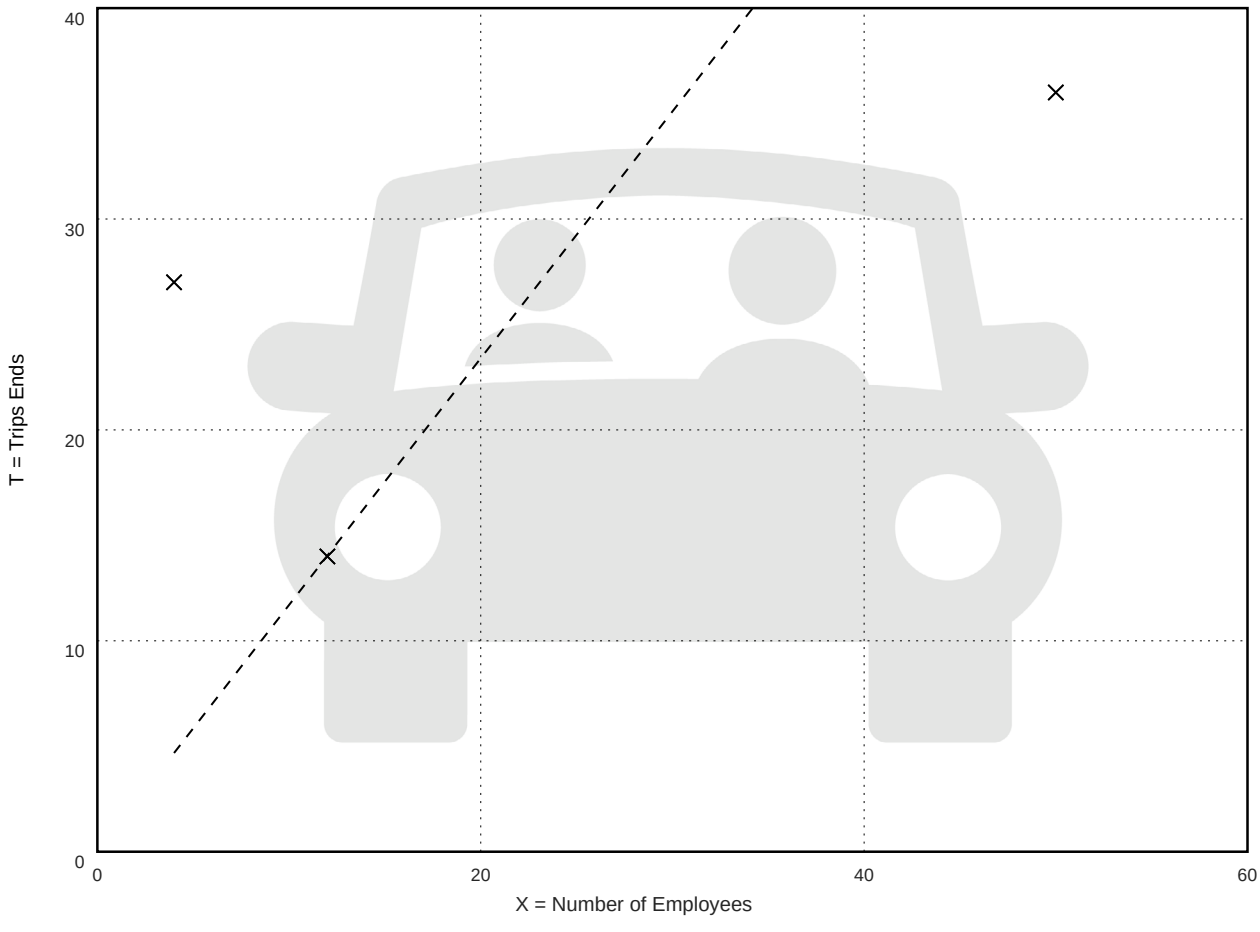
Vehicle Trip Ends vs: **Employees**
On a: **Weekday,**
PM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 3
Avg. Num. of Employees: 22
Directional Distribution: 23% entering, 77% exiting

Vehicle Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
1.17	0.72 - 6.75	1.75

Data Plot and Equation



Fitted Curve Equation: Not Given

R^2= *

Pleasant St
Concord Hospital
202
9
Langley Pkwy
Concord Hospital
CLEAR VEGETATION IN SIGHT DISTANCE TRIANGLE AND MAINTAIN ANNUALLY.
ADDITIONAL SIGHT DISTANCE IS BLOCKED BY RETAINING WALL
400' SIGHTLINE
375' SIGHTLINE
3.5' OBJECT
15'
3.5' EYE HEIGHT (TYP.)
PLAN
40 0 40 80
Scale of Feet

Barton & Loguidice

PROJ MANAGER	JOHN Q ADAMS	BY	DATE
DESIGN-DETAILED	JWS	JWS	6/24
CHECKED-REVIEWED	JQA	JQA	6/24
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

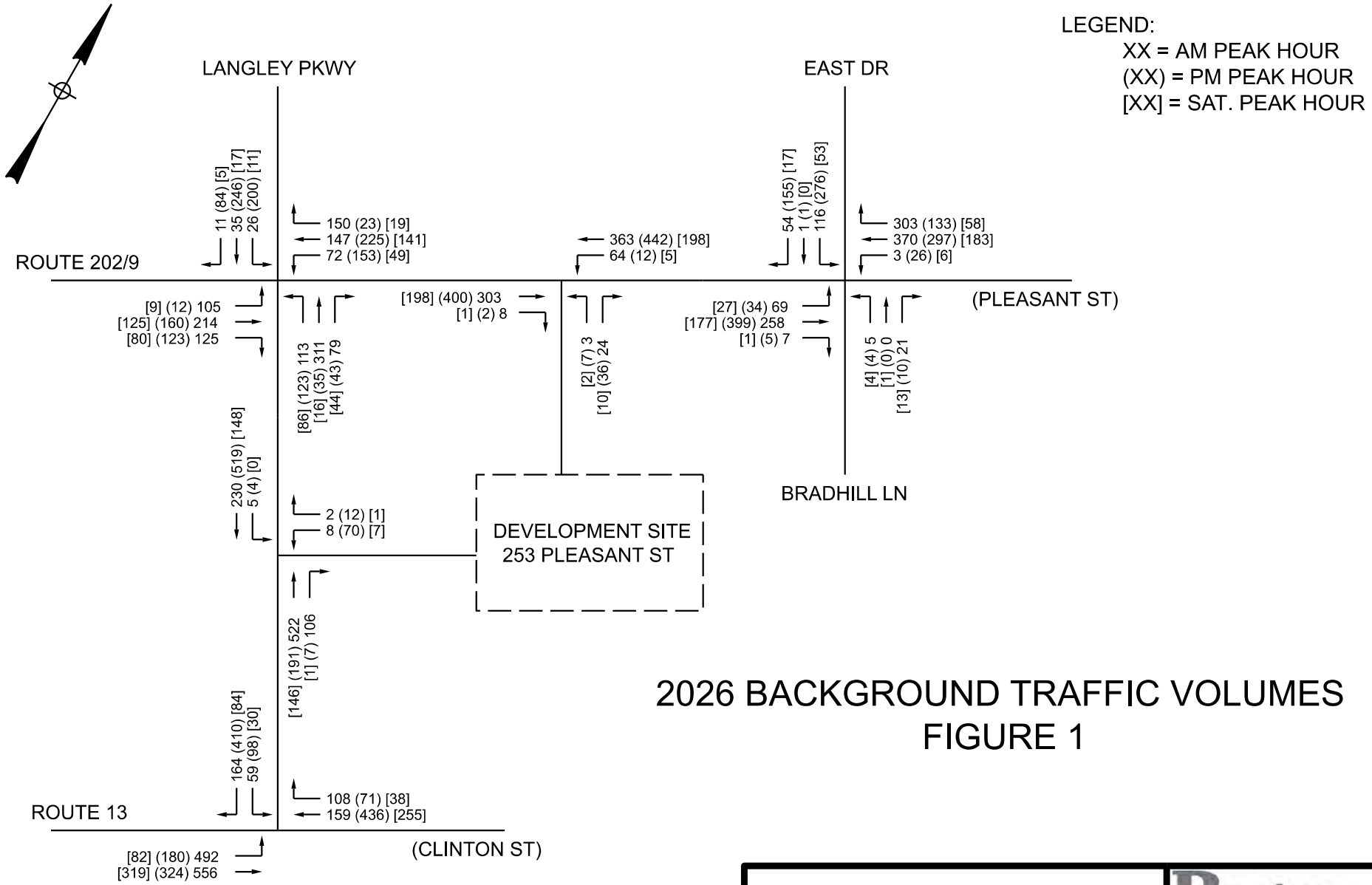
CONCORD
253 PLEASANT STREET

SIGHT DISTANCE GRAPHIC

SHEET NUMBER
1
OF 1

Date: 6/17/2026
Username: jsirois

Filename: I:\Projects\4600\4685.001.001_Concord 253 Pleasant St\dgn\Model_Langley Pkwy Sight Distance.dgn

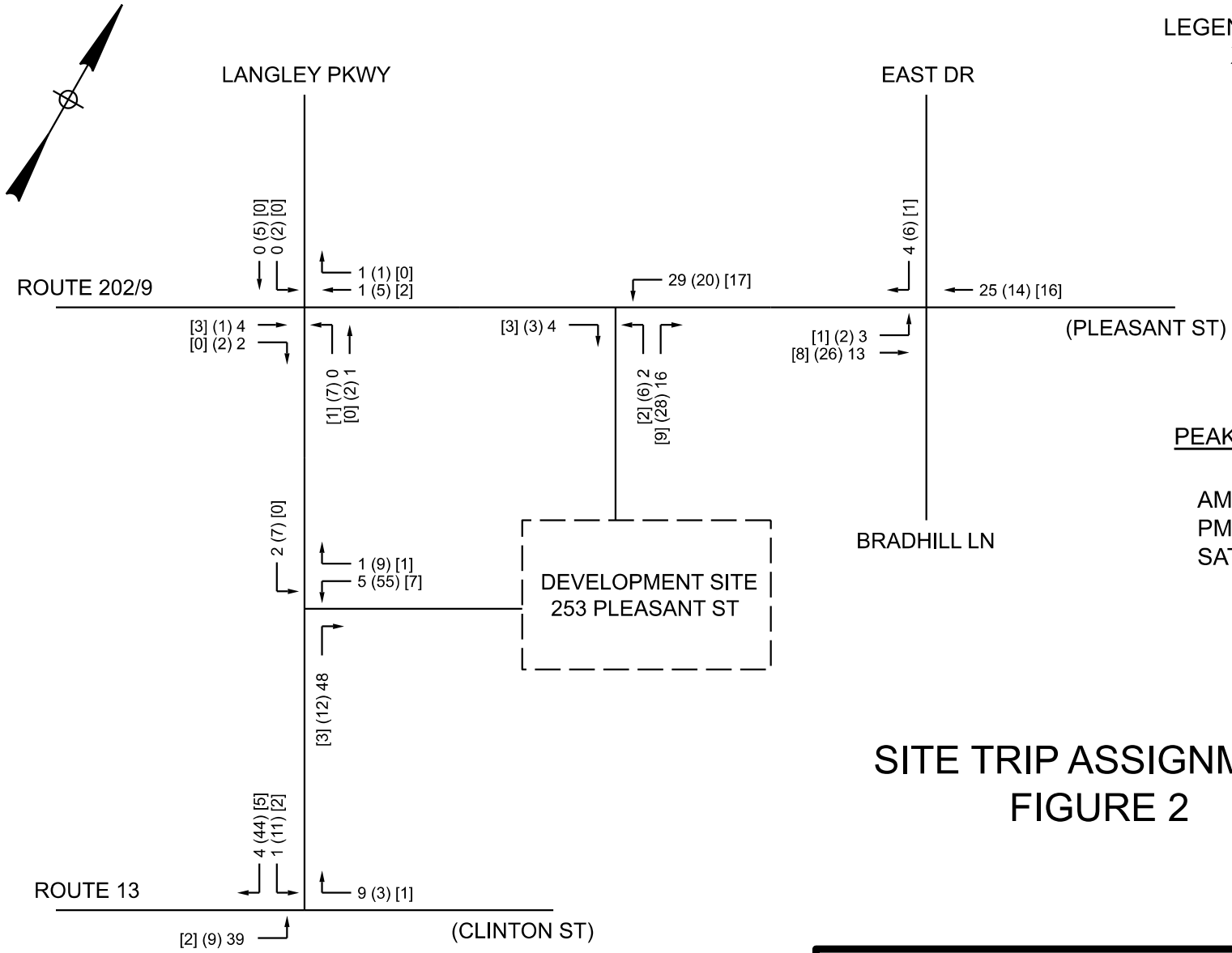


2026 BACKGROUND TRAFFIC VOLUMES
FIGURE 1

253 PLEASANT STREET
CONCORD, NEW HAMPSHIRE

4685.001.001 DATE: JUNE., 2026

Barton & Loguidice



LEGEND:
XX = AM PEAK HOUR
(XX) = PM PEAK HOUR
[XX] = SAT. PEAK HOUR

PEAK HOUR TRIP GENERATION

	ENTER	EXIT
AM:	83	24
PM:	42	98
SAT:	23	19

SITE TRIP ASSIGNMENT
FIGURE 2

253 PLEASANT STREET
CONCORD, NEW HAMPSHIRE

4685.001.001 DATE: JUNE., 2026

Barton & Loguidice

EcoSystems
LAND PLANNING

Subject: Wetland Descriptions
Dartmouth Hitchcock
Langley Parkway
Concord, NH

Dear Mr. Nadeau

Wetland delineation and assessment were completed for the above-referenced property to identify and characterize jurisdictional wetland resources. Field work was conducted in early spring 2026 under suitable conditions for identification of hydrophytic vegetation, hydric soils, and wetland hydrology.

Wetlands on the site were delineated in accordance with New Hampshire Department of Environmental Services (NHDES) Env-Wt 406 and the U.S. Army Corps of Engineers Wetlands Delineation Manual (Technical Report Y-87-1, 1987), utilizing current regional supplements, soil indicators, and plant lists.

The site contains a series of emergent, scrub-shrub, and forested wetlands associated with low-gradient basins and drainage features influenced in part by adjacent infrastructure.

These wetlands provide a range of functions including water quality treatment, hydrologic storage, and wildlife habitat. Additional services, including permitting support and detailed functional assessments, are available upon request.

Please feel free to contact us with any questions or to discuss next steps.

Sincerely,

John St. John
Certified Wetland Scientist #221

36 Dunklee Street, Concord, NH 03301 Phone: (603) 224-6244 Info@ecosystemslandplanning.com

Wetland Descriptions and Classification

Wetland A – PEM1C

Palustrine emergent wetland occupying a depressional basin adjacent to Langley Parkway embankment with seasonal inundation and concentrated surface runoff inputs. Vegetation is dominated by cattail (*Typha latifolia*), reed canary grass (*Phalaris arundinacea*), and other hydrophytic graminoids with limited shrub development along margins. Soils are hydric, consistent with 533A – Raynham silt loam (0–3% slopes), exhibiting poor drainage and prolonged saturation, supporting functions including sediment retention, nutrient attenuation, and localized flood storage.

Wetland B – PEM1C

Palustrine emergent wetland within a shallow basin exhibiting seasonal ponding and low-gradient surface flow. Vegetation consists of dense emergent species including cattail (*Typha latifolia*) and soft rush (*Juncus effusus*), with developing shrub margins including alder (*Alnus incana*). Soils are hydric Raynham silt loam, characterized by a high water table and slow permeability, supporting water quality treatment, nutrient uptake, and amphibian habitat.

Wetland C – PSS1C

Palustrine scrub-shrub wetland associated with a narrow drainage corridor and shallow channelized flow. Vegetation is dominated by speckled alder (*Alnus incana*), red-osier dogwood (*Cornus sericea*), and mixed hydrophytic shrubs with an herbaceous understory. Soils are hydric Raynham silt loam with persistent saturation, supporting functions including flow conveyance, nutrient filtration, and wildlife cover.

Wetland D – PEM1C

Extensive palustrine emergent marsh occupying a broad, low-gradient basin with widespread seasonal inundation. Vegetation is dominated by graminoid species including tussock sedge (*Carex stricta*), bluejoint grass (*Calamagrostis canadensis*), and scattered shrub stems. Soils are hydric Raynham silt loam, promoting high water storage capacity, sediment trapping, and nutrient retention across the wetland system.

Wetland E – PFO1C

Palustrine forested wetland in a low-gradient setting with seasonally saturated soils and diffuse groundwater influence. Vegetation is dominated by red maple (*Acer rubrum*), American beech (*Fagus grandifolia*), and yellow birch (*Betula alleghaniensis*), with a sparse shrub layer and leaf litter ground cover. Soils are hydric Raynham silt loam, supporting groundwater interaction, nutrient cycling, and high-quality wildlife habitat.

Wetland Functions and Values

The wetlands on this site provide moderate to high functional value, supported by poorly drained Raynham silt loam soils and a range of wetland community types including emergent marsh, scrub-shrub, and forested systems. The emergent wetlands (Wetlands A, B, and D) provide the greatest capacity for water storage, sediment retention, and nutrient attenuation, particularly where influenced by surface runoff and low-gradient flow. The scrub-shrub wetland (Wetland C) contributes to flow conveyance and water quality treatment along a defined drainage feature, while the forested wetland (Wetland E) provides the highest habitat quality due to structural diversity and cover. Collectively, the wetlands function as an interconnected system supporting hydrologic regulation, water quality protection, and habitat for amphibians, birds, and mammals within a partially developed landscape.

Representative Site Photos

Wetland Area A – Photo 1: Emergent basin adjacent to roadway embankment

Wetland Area B (Northeast Detention Basin)

Wetland Area C (Southeast Wetland)

Wetland Area D (West Side Marsh)

Wetland Area E (West Side Swamp)

STORMWATER MANAGEMENT PLAN

DARTMOUTH HITCHCOCK MEDICAL CENTER
253 PLEASANT STREET
CONCORD, NEW HAMPSHIRE 03301

FOR

Lavallee Brensinger Architects
155 Dow Street, Suite 400
Manchester, NH 03301

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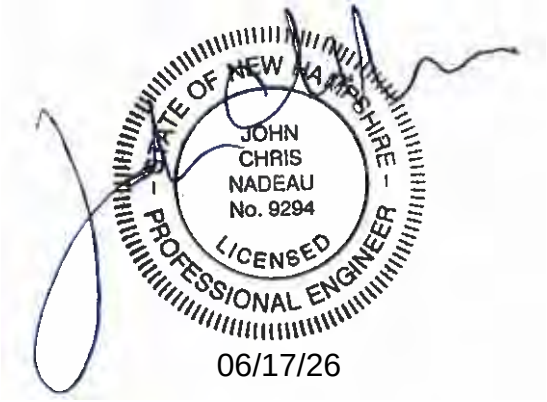
Nobis Project No. 100781.000

JUNE 17TH, 2026



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DARTMOUTH HITCHCOCK MEDICAL CENTER
253 PLEASANT STREET, CONCORD, NH

1.0 PROJECT NARRATIVE

1.1 PROJECT DESCRIPTION

The subject site (Site) consists of the existing Dartmouth Hitchcock Medical Clinic located at 253 Pleasant Street in Concord, New Hampshire. The clinic is currently situated on Tax Map 734 Lot 22, which is approximately 8.52 acres. As part of the proposed project, the adjacent parcel identified as Tax Map 734 Lot 21, consisting of approximately 0.99 acres, will be merged with the existing lot.

The proposed project consists of an addition to the existing clinic building, along with associated site improvements including expanded parking areas to support the increased facility capacity. The development will result in an increase in impervious surfaces, primarily due to the building expansion and new parking areas.

The purpose of this report is to demonstrate that the proposed improvements will not adversely affect surrounding resources through the implementation of specific stormwater best management practices (BMPs) designed to control both stormwater quality and quantity.

1.2 EXISTING SITE CONDITIONS

The existing site consists of the developed Dartmouth Hitchcock Clinic located at 253 Pleasant Street in Concord, New Hampshire. The primary parcel (Tax Map 734 Lot 22) is developed with an existing medical clinic building of approximately 65,000 square feet, along with associated parking areas, access drives, and landscaped areas. The adjacent parcel (Tax Map 734 Lot 21), consisting of approximately 0.99 acres, is mainly undeveloped and has a small parking area from a previous use.

Topography across the project area generally slopes from north to south. Existing drainage patterns reflect this topography, with stormwater runoff conveyed via a combination of sheet flow over pervious and impervious surfaces and collection through an existing closed drainage system.

Runoff ultimately discharges to an existing on-site stormwater management pond. The pond outlets to adjacent wetlands located on the property, which serve as the receiving resource for stormwater discharge from the site.

1.3 PROPOSED SITE CONDITIONS

The proposed development consists of the construction of an approximately 41,000 square foot addition to the south of the existing Dartmouth Hitchcock Clinic, along with associated site improvements including expanded parking areas and modifications to the existing drainage infrastructure.

Stormwater management for the project includes the installation of two stormwater gallery systems designed to address both runoff quantity and quality associated with the increased impervious area. An infiltration gallery is proposed on the northern portion of the site to promote groundwater recharge by capturing and infiltrating stormwater runoff from contributing drainage areas. A second system, consisting of a filtering gallery, is proposed on the southern portion of the site. This system will include an impervious liner and underdrain and is designed to provide water quality treatment prior to discharge by filtering runoff from the new impervious surfaces.

Modifications to the existing closed drainage system are also proposed to accommodate the site improvements and redirect runoff to the new stormwater management systems. These improvements are designed to integrate with the existing stormwater pond and overall drainage patterns on-site.

Collectively, the proposed stormwater management measures are intended to effectively manage runoff generated by the development, reduce potential impacts to downstream resources, and maintain compliance with applicable local and state stormwater regulations.

1.4 SOILS

Soil information for the project area was obtained from a Site-Specific Soil Survey prepared by TES Environmental Consultants (June 2026) in accordance with SSSNNE standards for New Hampshire. The mapping area included the entirety of Tax Map 734 Lot 21 and portions of Lot 22 associated with the proposed development. [SSS Report...Hitchcock | PDF]

The site is characterized by a mix of native and previously disturbed soils resulting from past development activities, including excavation, filling, and regrading. Native soils identified on-site primarily consist of Montauk fine sandy loam, which is classified as a well-drained soil formed in sandy glacial till deposits. These soils generally correspond to Hydrologic Soil Group C.

Much of the site, however, is mapped as Udorthents (sandy and loamy), representing disturbed or filled soils associated with prior development. These soils vary in drainage characteristics from excessively drained sandy materials (Hydrologic Soil Group A) to well-drained loamy soils (Hydrologic Soil Groups B and C), depending on the extent and nature of fill placement. In developed portions of the site, including paved areas, soil conditions are assumed to reflect underlying adjacent soil drainage characteristics.

Test pit data indicate that soils across the site generally consist of sandy loam, loamy sand, and sand near the surface, typically underlain by denser glacial till materials at depth. In many locations, no restrictive layers were encountered within the upper several feet, although firm till was observed below approximately 2 to 4 feet in some areas. Seasonal high groundwater levels

were not consistently observed, but where identified, were generally at significant depth or associated with localized low-lying areas near the existing stormwater basin.

Overall, site soils exhibit variable but generally favorable drainage characteristics, particularly within areas of sandy fill and glaciofluvial deposits. However, due to the variability associated with disturbed soils, field verification—including test pits and infiltration testing—will be required during construction to confirm soil conditions, groundwater elevations, and infiltration capacity at proposed stormwater management locations.

1.5 SLOPES

Site topography varies across the project area, with the steepest grades occurring along the Pleasant Street frontage. Existing slopes descend into the site at approximately 3:1 in this area, forming a pronounced transition from the roadway to the developed portions of the property. As shown on the grading plan, this area will be regraded under proposed conditions, with elevations raised adjacent to Pleasant Street to accommodate the building addition and associated site improvements while maintaining a controlled slope down into the site.

The northern portion of the site, including existing parking areas, is characterized by relatively gentle slopes with broad, low-gradient contours. Grades gradually increase moving south and east along the primary access driveway toward the rear of the building. Along this eastern driveway corridor, slopes become moderately steep, with parking lot drive aisles reaching grades of up to approximately 8 percent in certain locations. These general grading patterns are maintained under proposed conditions, with only minor adjustments to support the expanded building footprint and parking layout.

1.6 POINTS OF INTEREST

Two (2) points of interest (POIs) were evaluated as part of the stormwater analysis for the project.

POI 1 is defined as the outlet of the existing on-site stormwater management pond located at the southern portion of the property. This pond functions as the primary collection and attenuation feature for runoff from the existing site and discharges to adjacent wetlands.

POI 2 is located at the northwest portion of the site and represents an existing drainage point where stormwater currently leaves the project area under pre-development conditions.

Under proposed conditions, drainage patterns have been modified such that no stormwater runoff from the project area will be directed to POI 2. Instead, runoff from the developed areas will be captured and routed through the proposed stormwater management systems and ultimately conveyed to POI 1. This results in a consolidation of discharge locations and eliminates off-site flow to the northwest.

The analysis at these POIs has been used to evaluate changes in runoff rates and volumes and to confirm that the proposed development will not adversely impact downstream resources.

1.7 EROSION AND SEDIMENT CONTROL PRACTICES / SITE STABILIZATION

Temporary erosion/sediment control during construction will include use of silt fence, hydro-seeding, inlet protection, and an entry tracking pad in accordance with best management practices. Steep slopes (3 to 1 and steeper) will be stabilized using permanent erosion control matting in order to promote a healthy stand of vegetation. The contractor will be responsible for all temporary erosion and sediment control measures during construction, while the project owner (lessee) will be responsible for maintaining all permanent erosion and sediment control measures as may be required.

1.8 SUMMARY OF RESULTS

POI DESCRIPTION		STORM EVENT					Volume
		2 Yr (cfs)	10 Yr (cfs)	25 Yr (cfs)	50 Yr (cfs)	100 Yr (cfs)	10 Yr (ac-ft)
POI 1 flow leaving the existing	EXIST. =	5.18	7.1	8.3	14.0	21.39	1.02
detention pond	PROP. =	4.6	6.0	7.0	8.5	15.7	1.25*
*POI 2 flow leaving the	EXIST. =	0.5	1.2	1.7	2.2	2.85	0.07
northeastern property line	PROP. =	0.0	0.0	0.0	0.0	0.0	0.0

* Although post-development conditions result in a slight increase in runoff volume at POI 1, the increase is minimal, on the order of approximately 0.23 acre-feet. This increase is primarily attributable to changes in site drainage patterns rather than a significant increase in impervious area.

Under existing conditions, a portion of stormwater runoff is directed toward POI 2 located at the northwest portion of the site. Under proposed conditions, this runoff has been re-directed and consolidated into the primary drainage system conveying flow to POI 1, the outlet of the existing stormwater pond. As a result, the contributing drainage area to POI 1 increases, which correspondingly increases the total runoff volume at that location.

Opportunities for additional infiltration to fully offset this increase were limited due to site grading constraints. Specifically, proposed grading requires cutting into existing slopes, which reduces the vertical separation between the ground surface and the seasonal high water table (SHWT). As a result, adequate separation required for infiltration practices in accordance with NHDES standards cannot be consistently achieved in certain areas of the site.

A waiver from the volume control requirements of the City of Concord Site Plan Regulations has been requested due to these site constraints. Despite this limitation, the proposed stormwater

management system incorporates infiltration and treatment practices to the maximum extent practicable, and the minor increase in volume to POI 1 is not expected to result in any adverse impacts to downstream resources, including the on-site wetlands.

1.9 CONCLUSIONS

The preceding table and following calculations reflect the results of the proposed project on the peak storm water discharge rates and volumes. The peak flow has been retained on the Site and therefore will not impact off-site systems or downgradient properties in the modeled storm events. The post development peak flow rates will be less than the existing flow rates as a result of attenuation provided by the proposed stormwater detention basins. Calculations are included for the 2-year, 10-year, 25-year, 50-year and 100-year storm events.

NRCS SOIL INFORMATION

Hydrologic Soil Group—Merrimack and Belknap Counties, New Hampshire
(Dartmouth Hitchcock - Concord, NH)

Map Scale: 1:1,670 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Merrimack and Belknap Counties, New Hampshire
Survey Area Data: Version 31, Sep 10, 2025

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Oct 6, 2022—Oct 22, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
250C	Chatfield-Montauk-Hollis complex, 8 to 15 percent slopes, very rocky	B	5.7	56.4%
533A	Raynham silt loam, 0 to 3 percent slopes	C/D	2.6	26.0%
799C	Urban land-Canton complex, 0 to 15 percent slopes		1.8	17.6%
Totals for Area of Interest			**10.1**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

ADDITIONAL CALCULATIONS

TES ENVIRONMENTAL CONSULTANTS, L.L.C.

Environmental Planning and Permitting
Soil and Wetlands Investigation

SITE-SPECIFIC SOIL SURVEY REPORT

performed at

Dartmouth Hitchcock Clinic
Tax Map 734Z, Lots 21 and 22
247/249 and 253 Pleasant Street, Concord, New Hampshire

prepared for

Ecosystems Land Planning
36 Dunklee Street
Concord, NH 03301

TES Project # 26-0007

1494 Route 3A, Unit 1
Bow, NH 03304
(603) 856-8925

tom@tesenviro.comcastbiz.net

June 9, 2026

Mr. John St. John, CWS, CPESC
Ecosystems Land Planning
36 Dunklee Street
Concord, NH 03301

RE: Site Specific Soil Map for Dartmouth Hitchcock Clinic
Tax Map 734Z, Lots 21 and 22
247/249 and 253 Pleasant Street, Concord, New Hampshire

Dear Mr. St. John:

On April 16, 2026 I performed field work on the above-referenced properties in Concord, New Hampshire to perform a Site Specific Soil Survey as you requested. This Site Specific Soil Survey was completed utilizing SSSNNE Special Publication No. 3; Site Specific Soil Mapping Standards for New Hampshire and Vermont, Version 7.0, July 2021, and Publication No. 5, "Hydrologic Soil Indices and Ksat Values for New Hampshire Soils", September 2025. The soil legend used for this soil map conforms to the New Hampshire State-Wide Numerical Soils Legend, Issue #10, January 2011 established and maintained by the Natural Resources Conservation Service. This soil survey was prepared to support a New Hampshire Alteration of Terrain permit application for a residential development.

The Soil Survey encompassed the entire 1-acre Lot 21 parcel, and approximately 2 acres of the 28-acre Lot 22 parcel, which encompass the proposed area of disturbance for a project involving expanded parking and stormwater management areas. The portion of Lot 22 mapped consisted of an area depicted on a site plan provided by Nobis Group, which involves areas along the western side of the property that are mostly developed, except for an area of lawn at the north end of the parcel. Lot 21 currently has an asphalt-paved parking area adjacent to Pleasant Street, but formerly was occupied by three buildings that may have been an old farmhouse and barns. The soil mapping area is bounded by residential apartments to the east, Pleasant Steet (NH Route 202) and Concord Hospital to the north, Langley Parkway and the Carmelite Monastery to the west, and Langley Parkway and undeveloped forest and wetlands to the south. Nobis Group provided an existing conditions plan to serve as the base map for this soil survey, which was printed on a 22" X 34" sheet at a scale of 1" = 30', with contour intervals of 2 feet. This soil survey was prepared to support a New Hampshire Alteration of Terrain permit application for proposed parking lot and stormwater management improvements.

Field work for this survey included the examination of numerous soil profiles via hand dug test pits and hand auger borings taken at intervals sufficient to delineate the boundaries between soil map units. I also observed and logged six (6) soil test pits dug by excavator and spaced across the soil mapping area on April 16, 2026 for site design purposes (logs included in this report).

The soil mapping area was previously reviewed for wetlands by you prior to my site visit, and the sole wetland identified by you consisted of a vegetated stormwater detention basin at the

southern end of the soil mapping area on Lot 22. I concur with your determination of that wetland and its boundaries.

The Soil Survey of Merrimack and Belknap Counties, New Hampshire (USDA – Natural Resource Conservation Service) was reviewed (via Web Soil Survey) prior to site work for reference. This publication indicates that soils in the developed portion of Lot 22 consist mostly of Chatfield-Montauk-Hollis complex, very rocky (250C), and on Lot 23 the soils are shown as Urban land-Canton complex (799C). The southernmost portion of the soil mapping area on Lot 22, in the vicinity of the existing stormwater detention basin, is depicted as Raynham silt loam (533A). This mapping is generally consistent with my observations, including a break in soil parent materials along the property boundary between Lots 21 and 22 where Lot 22 had clearly been excavated in the past below former grade as evidenced by a sharp 2-foot (+/-) drop along the stone wall marking that property line. No shallow bedrock was observed as would be the case if Chatfield-Montauk-Hollis complex were present, but the Montauk component of that complex was noted across most of the site, though in most areas it had been disturbed by past excavation or regrading. The soils present on Lot 21 are complicated by past development, demolition of the former structures, subsequent backfilling and regrading, and conversion to a parking area. Also, the proximity to a significant change in parent material (Montauk, a well drained soil formed in sandy, dense glacial till deposits, exists along the western property line) nearby adds further complexity to the mapping of soils. There is no NRCS-mapped sandy glaciofluvial-based soils in the vicinity, although there are Ninigret soils (513B) to the southeast, though that soil is a loamy glaciofluvial soil. The decision was made to map the soils in the northern portion of Lot 21 as altered, excessively drained soils formed in sandy glaciofluvial deposits based on the two test pits in that area. The observed deep sands may have been backfill added over deeper glacial till, but both of those test pits (1 and 2) showed sands to at least 86".

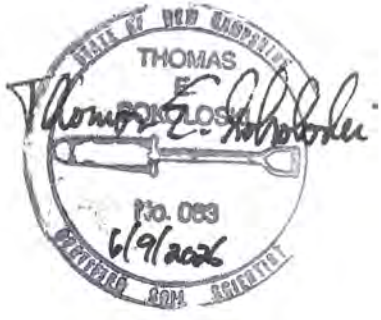
Ground locational control for this soil survey was more than sufficient, with well-marked property boundaries, development features on and adjacent to the site, and wetland boundary flagging at the existing stormwater basin.

The following report includes a Site Specific Soil Map Key with accompanying Hydrologic Soil Groups and High Intensity Soil Survey codes, as well as soil map unit descriptions.

If you have any questions regarding the soils on this site and the accompanying report, please contact our office.

Very truly yours,

Thomas E. Sokoloski
Certified Soil Scientist #063



SITE SPECIFIC SOIL MAP UNIT KEY

Symbol*	Map Unit	Slope Class	Drainage Class	HISS Symbol	Hydrologic Soil Index
44B	Montauk fine sandy loam	0-8%	Well	223BH	C
44C	Montauk fine sandy loam	8-15%	Well	223CH	C
44D	Montauk fine sandy loam	15-25%	Well	223DH	C
400B/abaaa	Udorthents, sandy	0-8%	Excessively	161BH	A
400C/abaaa	Udorthents, sandy	8-15%	Excessively	161CH	A
400D/abaaa	Udorthents, sandy	15-25%	Excessively	161DH	A
400B/hbhaa	Udorthents, sandy	0-8%	Undeterminable**	761BH	A
500B/ccabb	Udorthents, loamy	0-8%	Well	261BH	B
500E/ccabb	Udorthents, loamy	25% +	Well	261EH	B
500B/ccccc	Udorthents, loamy	0-8%	Well	263BH	C
500C/ccccc	Udorthents, loamy	8-15%	Well	263CH	C
500D/ccccc	Udorthents, loamy	15-25%	Well	263DH	C
500B/fdgbb	Udorthents, loamy	0-8%	Poorly	565BH	D
500B/hchcc	Udorthents, loamy	0-8%	Undeterminable**	763BH	C

* Refer to accompanying report for 5-unit supplemental symbol explanation for disturbed soils.

** Impervious surfaces - assumed to be excessively (400) or well drained (500) as are respective surrounding soils.

This detailed Site-Specific Soil Map, prepared in April 2026 by Thomas E. Sokoloski, Certified Soil Scientist #063 of TES Environmental Consultants, L.L.C. in Bow, New Hampshire, conforms to the standards of SSSNNE Publication No. 3, Version 7.0, "Site-Specific Soil Mapping Standards for New Hampshire and Vermont", July 2021, and Publication No. 5, "Hydrologic Soil Indices and Ksat Values for New Hampshire Soils", September 2025. This map has been prepared to comply with soil mapping requirements of RSA 485 A: 17 and NHDES Env-Wq 1500, Alteration of Terrain. See accompanying report for methodology, map symbol legend, and interpretations. Use of the map symbol denominators for disturbed or altered soils, where given, is at the discretion of the Certified Soil Scientist.

This map product is within the technical standards of the National Cooperative Soil Survey. It is a special purpose product, intended for use in support of a New Hampshire Alteration Terrain permit application. It was produced by a certified Soil Scientist, and is not a product of the USDA Natural Resources Conservation Service. There is a narrative report that accompanies this map.

Supplemental Symbols

The five components of the Disturbed Soil Mapping Unit Supplement are as follows:

Symbol 1: Drainage Class
a-Excessively Well Drained
b-Somewhat Excessively Drained
c-Well Drained
d-Moderately Well Drained
e-Somewhat Poorly Drained
f-Poorly Drained
g-Very Poorly Drained
h-Not Determined

Symbol 2 -: Parent Material (of naturally formed soil only, if present)
a-No natural soil within 60"
b-Glaciofluvial Deposits (outwash/terraces of sand or sand and gravel)
c-Glacial Till Material (active ice)
d-Glaciolacustrine very fine sand and silt deposits (glacial lakes)
e-Loamy/sandy over silt/clay deposits
f-Marine Silt and clay deposits (ocean waters)
g-Alluvial Deposits (floodplains)
h-Organic Materials-Fresh water Bogs, etc
i- Organic Materials-Tidal Marsh

Symbol 3: Restrictive/Impervious Layers
a-None
b-Bouldery surface with more than 15% of the surface covered with boulders
c-Mineral restrictive layer(s) are present in the soil profile less than 40 inches below the soil surface such as hardpan, platy structure or clayey texture with consistence of at least firm, i.e. more than 20 newtons. For other examples of soil characteristics that qualify for restrictive layer, see "Soil Manual for Site evaluations in NH" 2nd Ed., page 3-17, figure 2-14
d-Bedrock in the soil profile 0-20 inches
e-Bedrock in the soil profile 20-60 inches
f-Areas where depth to bedrock is so variable that a single soil type cannot be applied, will be mapped as a complex of soil types
g-Subject to Flooding
h –man-made impervious surface including pavement, concrete, or built-up surfaces (i.e. buildings) with no morphological restrictive layer within control section

Symbol 4 Estimated Ksat* (most restrictive layer excluding symbol 3h above).
a- High
b-Moderate
c-Low
d-Not determined
*See "Guidelines for Ksat Class Placement" in Chapter 3 of the Soil Survey Manual, USDA

Symbol 5: Hydrologic Soil Group*
a-Group A
b-Group B
c-Group C
d-Group D
e-Not determined

*excluding man-made impervious/restrictive layers

SITE SPECIFIC SOIL MAP UNIT DESCRIPTIONS

Map Unit Symbol: 44

Map Unit Name: Montauk fine sandy loam

Landscape Settings: Hilltops and upper hillsides of glacial till uplands

Surface Features: None

Drainage Class: Well

Parent Material: Sandy glacial till deposits with mineral restrictive features (hardpan)

Complex: Yes ( ) No (X)

Nature of Dissimilar Inclusions, Locations and Estimated Percent:

None.

Additional Notes:

Lawn and forested slopes in eastern part of soil mapping area, Lot 21 only.

Typical observed soil profile description:

Depth	Horizon	Color	Texture	Structure	Consistency	Redox	Notes
0-8"	Af	10YR 3/2	Sandy loam	Granular	Very friable	--	
8-36"	Bw	2.5Y 5/6	Loamy sand	Single grain	Loose	--	
36-94"	Cd	2.5Y 6/3	Sandy loam	Massive	Firm	None	

Tax Map 734Z, Lot 21. Soil generally undisturbed (added topsoil in places).

SHWT >40".

Thomas E. Sokoloski April 2026

SITE SPECIFIC SOIL MAP UNIT DESCRIPTIONS

Map Unit Symbol: 400B-D/abaaa

Map Unit Name: Udorthents, sandy

Landscape Settings: Altered (regraded or filled) soils

Surface Features: Sandy fill material

Drainage Class: Excessively

Parent Material: Sandy material (fill) over deeper sandy glaciofluvial deposits with no mineral restrictive features

Complex: Yes ( ) No (X)

Nature of Dissimilar Inclusions, Locations and Estimated Percent:

None.

Additional Notes:

Backfilled former house, barn locations.

Typical observed soil profile description:

Depth	Horizon	Color	Texture	Structure	Consistency	Redox	Notes
0-15"	F1	10YR 3/2	Sandy loam	Granular	Very friable	None	
15-34"	F2	2.5Y 6/6	Gravelly sand	Single grain	Loose	None	
34-96"	C	2.5Y 6/4	Sand	Single grain	Loose	None	

Tax Map 734Z, Lot 21. Backfilled former building locations. SHWT >40".

Thomas E. Sokoloski April 2026

SITE SPECIFIC SOIL MAP UNIT DESCRIPTIONS

Map Unit Symbol: 400B/hbhaa

Map Unit Name: Udorthents, sandy

Landscape Settings: Developed landscapes (impervious surfaces – buildings or pavement)

Surface Features: Asphalt pavement

Drainage Class: Undeterminable (assumed to be well drained as are most adjacent soils)

Parent Material: Sandy material (fill) over deeper sandy glaciofluvial deposits with no mineral restrictive features (based on adjacent undeveloped soils)

Complex: Yes ( ) No (X)

Nature of Dissimilar Inclusions, Locations and Estimated Percent:

None.

Additional Notes:

Asphalt-paved parking lot.

Typical observed soil profile description:

Depth	Horizon	Color	Texture	Structure	Consistency	Redox	Notes

Soil not observed due to asphalt pavement.

Tax Map 734Z, Lot 21. Asphalt-paved parking lot. SHWT >40".

Thomas E. Sokoloski April 2026

SITE SPECIFIC SOIL MAP UNIT DESCRIPTIONS

Map Unit Symbol: 500B-E/ccabb

Map Unit Name: Udorthents, loamy

Landscape Settings: Altered (regraded or filled) soils

Surface Features: Loamy fill material

Drainage Class: Well

Parent Material: Loamy material (fill) over deeper, natural loamy and sandy glacial till with no mineral restrictive features

Complex: Yes ( ) No (X)

Nature of Dissimilar Inclusions, Locations and Estimated Percent:

None.

Additional Notes:

Loamy fill material (topsoil and subsoil material mixed) overlying loose, loamy glacial till.

Typical observed soil profile description:

Depth	Horizon	Color	Texture	Structure	Consistency	Redox	Notes
0-8"	Af	10YR 3/2	Sandy loam	Granular	Very friable	None	
8-36"	F	10YR 5/6	Sandy loam	Blocky	Friable	None	10YR 3/2 & 4/2 mixed
36-45"	Bw	2.5Y 5/6	Sandy loam	Blocky	Friable	None	Buried subsoil
45-78"	C	2.5Y 5/4	Sandy loam	Blocky	Friable	10YR 5/6 @53"	

Tax Map 734Z, Lot 22. Southern portion of site, between parking lot and stormwater basin. SHWT >40".

Thomas E. Sokoloski April 2026

SITE SPECIFIC SOIL MAP UNIT DESCRIPTIONS

Map Unit Symbol: 500B-D/ccccc

Map Unit Name: Udorthents, loamy

Landscape Settings: Altered (excavated, regraded or filled) soils

Surface Features: Loamy fill material

Drainage Class: Well

Parent Material: Loamy or sandy fill over dense glacial till with mineral restrictive features (hardpan)

Complex: Yes ( ) No (X)

Nature of Dissimilar Inclusions, Locations and Estimated Percent:

May have inclusion of soils without dense glacial till parent material, southern end of mapping area on Lot 22, near existing detention pond, estimated at less than 10% of map unit area.

Additional Notes: Disturbed soils in landscaped areas and lawns across site.

Typical observed soil profile description:

Depth	Horizon	Color	Texture	Structure	Consistency	Redox	Notes
0-16"	Af	10YR 3/2	Sandy loam	Granular	Very friable	None	
16-36"	Bw	2.5Y 5/6	Loamy sand	Single grain	Loose	None	
36-94"	Cd	2.5YR 6/3	Sandy loam	Massive	Firm	None	

Tax Map 734-Z, Lot 22. Locations across soil mapping area. SHWT >40".

Thomas E. Sokoloski April 2026

SITE SPECIFIC SOIL MAP UNIT DESCRIPTIONS

Map Unit Symbol: 500B/fdgbb

Map Unit Name: Udorthents, loamy

Landscape Settings: Altered (excavated, regraded or filled) soils

Surface Features: Loamy fill material

Drainage Class: Poorly

Parent Material: Loamy material (fill) over deeper, natural loamy and sandy glacial till with no mineral restrictive features

Complex: Yes ( ) No (X)

Nature of Dissimilar Inclusions, Locations and Estimated Percent:

None.

Additional Notes:

Existing stormwater basin at southern end of soil mapping area.

Typical observed soil profile description:

Depth	Horizon	Color	Texture	Structure	Consistency	Redox	Notes
0-8"	Af	10YR 2/2	Mucky sandy loam	Granular	Friable	None	
8-26"	Bg	2.5Y 5/2	Sandy loam	Blocky	Friable	10YR 5/8 @8"	

Tax Map 734Z, Lot 22. Southern end of parcel, between parking lot and natural wetlands further south of the stormwater basin. SHWT above soil surface.

Thomas E. Sokoloski April 2026

SITE SPECIFIC SOIL MAP UNIT DESCRIPTIONS

Map Unit Symbol: 500B/hchcc

Map Unit Name: Udorthents, loamy

Landscape Settings: Developed landscapes (impervious surfaces – buildings or pavement)

Surface Features: Asphalt pavement

Drainage Class: Undeterminable (assumed to be well drained as are most adjacent soils)

Parent Material: Loamy fill over dense glacial till with mineral restrictive features (hardpan)

Complex: Yes ( ) No (X)

Nature of Dissimilar Inclusions, Locations and Estimated Percent:

None.

Additional Notes: Existing asphalt-paved parking lots.

Typical observed soil profile description:

Depth	Horizon	Color	Texture	Structure	Consistency	Redox	Notes

Not observed due to impervious pavement.

Tax Map 734Z, Lot 22. Throughout Lot 22 mapping area. SHWT assumed to be similar to surrounding undisturbed soils (>40").

Thomas E. Sokoloski April 2026

TES

TES ENVIRONMENTAL CONSULTANTS, L.L.C.

TEST PIT LOG SHEET

Date: 4/16/2026	Project No: 26-0007	Lot: Map 734Z/Lot 21
CSS: Thomas E. Sokoloski	Project Name: Nobis/DHC/Pleasant St./Concord	Test Pit No: 1

HOR	DEPTH	COLOR	TEXTURE	STRUCTURE	CONSISTENCY	REDOX FEATURES	NOTES
F1	0-15"	10YR 3/2	Sandy loam	Weak granular	Friable	None	Common fine roots.
F2	15-34"	2.5Y 6/6	Gravelly sand	Single grain	Loose	Many, coarse, distinct 10YR 5/8 stains (not SHWT)	10% rounded stones to 8" diameter.
C	34-96"	2.5Y 6/4	Sand	Single grain	Loose	Many, coarse, distinct 10YR 5/8 stains (not SHWT)	Natural soil?

ESHWT: N/O

ROOTS: 15"

OBSERVED WATER: N/O

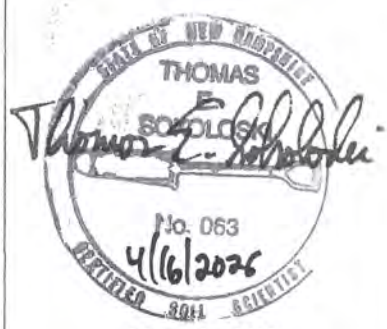
LEDGE: N/O

RESTRICTIVE LAYER: N/O

NOTES: Occasional layers of stones in deeper part of C horizon.

Open lawn next to paved parking area.

Sandy composition, appears to be fill over glaciofluvial deposits, unlike most of site. Stains resembling redox features deemed to be relict.



CSS STAMP

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TES ENVIRONMENTAL CONSULTANTS, L.L.C.

TEST PIT LOG SHEET

Date: 4/16/2026	Project No: 26-0007	Lot: Map 734Z/Lot 21
CSS: Thomas E. Sokoloski	Project Name: Nobis/DHC/Pleasant St./Concord	Test Pit No: 2

HOR	DEPTH	COLOR	TEXTURE	STRUCTURE	CONSISTENCY	REDOX FEATURES	NOTES
Ap	0-10"	10YR 3/2	Sandy loam	Weak granular	Very friable	None	Many fine, medium and coarse roots.
Bw	10-20"	10YR 5/6	Gravelly loamy sand	Single grain	Loose	None	Common fine roots.
C1	20-86"	2.5Y 6/4	Sand	Single grain	Loose	Few, coarse, prominent 7.5YR 5/8 stains (not SHWT)	Few fine roots.
C2	86-118"	2.5Y 5/3	Sandy loam	Subangular blocky	Friable	None	Deep texture change.

ESHWT: N/O

ROOTS: 30"

OBSERVED WATER: N/O

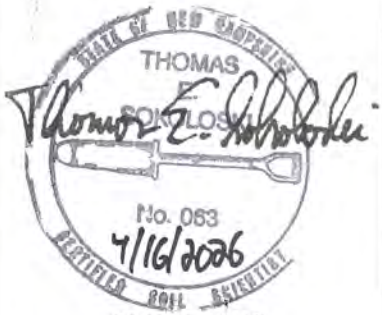
LEDGE: N/O

RESTRICTIVE LAYER: N/O

NOTES: Stones 0-10% to 24" diameter in B and C horizons. Large boulders at 100-118", likely not bedrock (appear to be tightly nested boulders).

Natural soil profile in open lawn next to paved parking area.

Sandy composition, appears to be glaciofluvial deposits, unlike most of site. Stains only on stone faces.



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TES ENVIRONMENTAL CONSULTANTS, L.L.C.

TEST PIT LOG SHEET

Date: 4/16/2026	Project No: 26-0007	Lot: Map 734Z/Lot 21
CSS: Thomas E. Sokoloski	Project Name: Nobis/DHC/Pleasant St./Concord	Test Pit No: 3

HOR	DEPTH	COLOR	TEXTURE	STRUCTURE	CONSISTENCY	REDOX FEATURES	NOTES
Ap	0-11"	10YR 3/2	Sandy loam	Weak granular	Very friable	None	Common fine and medium roots.
Bw	11-21"	10YR 5/6	Sandy loam	Subangular blocky	Friable	None	Common fine and medium roots.
C1	21-27"	2.5Y 5/4	Sandy loam	Subangular blocky	Friable	None	No roots.
C2d	27-96"	2.5Y 5/4	Sandy loam/ loamy sand	Massive	Firm	None	No roots.

ESHWT: N/O

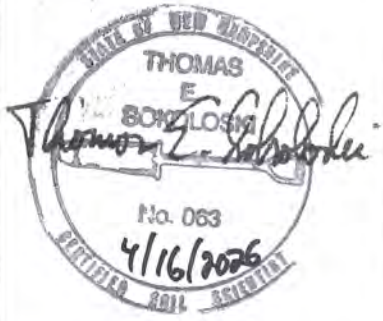
ROOTS: 27"

OBSERVED WATER: N/O

LEDGE: N/O

RESTRICTIVE LAYER: 27"

NOTES: Natural soil profile in weedy area next to tree line along stone wall/property line.



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TEST PIT LOG SHEET

Date: 4/16/2026	Project No: 26-0007	Lot: Map 734Z/Lot 21
CSS: Thomas E. Sokoloski	Project Name: Nobis/DHC/Pleasant St./Concord	Test Pit No: 4

HOR	DEPTH	COLOR	TEXTURE	STRUCTURE	CONSISTENCY	REDOX FEATURES	NOTES
A	0-5"	10YR 3/2	Sandy loam	Weak granular	Very friable	None	Many fine and medium roots.
Bw	5-26"	2.5Y 5/4	Sandy loam	Subangular blocky	Friable	None	Common medium roots.
Cd	26-108"	2.5Y 5/4	Sandy loam	Massive	Firm	Many, coarse, faint 10YR 7/6 stains @40" (not SHWT)	Few fine roots.

ESHWT: N/O

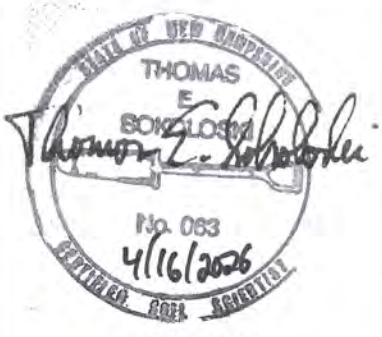
ROOTS: 28"

OBSERVED WATER: N/O

LEDGE: N/O

RESTRICTIVE LAYER: 26"

NOTES: Test pit partially in natural soil and partially in rubble backfill (west side - old foundation, some stones mortared, along with asphalt, brick, and rebars) in lawn south of existing paved parking area.



CSS STAMP

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TES ENVIRONMENTAL CONSULTANTS, L.L.C.

TEST PIT LOG SHEET

Date: 4/16/2026	Project No: 26-0007	Lot: Map 734Z/Lot 22
CSS: Thomas E. Sokoloski	Project Name: Nobis/DHC/Pleasant St./Concord	Test Pit No: 5

HOR	DEPTH	COLOR	TEXTURE	STRUCTURE	CONSISTENCY	REDOX FEATURES	NOTES
Af	0-8"	10YR 3/2	Sandy loam	Weak granular	Very friable	None	Fill - many fine and medium roots.
F	8-36"	10YR 5/6 10YR 3/2 10YR 4/2	Sandy loam	Subangular blocky	Friable	None	Few fine roots.
Bw	36-45"	2.5Y 5/4	Sandy loam	Subangular blocky	Friable	None	No roots.
C	45-78"	2.5Y 5/4	Sandy loam	Subangular blocky	Friable	Many, coarse, faint 10YR 5/6 concentrations @53"	No roots.

ESHWT: 53"

ROOTS: 18"

OBSERVED WATER: N/O

LEDGE: N/O

RESTRICTIVE LAYER: N/O

NOTES: Backfilled berm and adjacent upland next to existing stormwater basin. Fill over natural B and C horizons.

CSS STAMP

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TES ENVIRONMENTAL CONSULTANTS, L.L.C.

TEST PIT LOG SHEET

Date: 4/16/2026	Project No: 26-0007	Lot: Map 734Z/Lot 22
CSS: Thomas E. Sokoloski	Project Name: Nobis/DHC/Pleasant St./Concord	Test Pit No: 6

HOR	DEPTH	COLOR	TEXTURE	STRUCTURE	CONSISTENCY	REDOX FEATURES	NOTES
Af	0-16"	10YR 3/2	Sandy loam	Weak granular	Very friable	None	Fill - many fine roots.
Bw	16-36"	2.5Y 5/6	Loamy sand	Subangular blocky	Loose	None	No roots.
Cd	36-94"	2.5Y 6/3	Sandy loam	Massive	Firm	None	No roots.

ESHWT: N/O

ROOTS: 16"

OBSERVED WATER: N/O

LEDGE: N/O

RESTRICTIVE LAYER: 36"

NOTES: Open lawn in front of (North of) existing clinic building. 10% stones to 8" diameter in Bw and Cd horizons.

CSS STAMP

NOTES:

1. THIS MAP PRODUCT IS WITHIN THE TECHNICAL STANDARDS OF THE NATIONAL COOPERATIVE SOIL SURVEY. IT IS A SPECIAL PURPOSE PRODUCT, PRODUCED BY A CERTIFIED SOIL SCIENTIST AND NOT A PRODUCT OF THE USDA NATURAL RESOURCES CONSERVATION SERVICE. THERE IS A NARRATIVE REPORT THAT ACCOMPANIES THIS MAP AND MAP KEY.

2. THOMAS E. SOKOLOSKI, CERTIFIED SOIL SCIENTIST #063, OF ECOSYSTEMS LAND PLANNING IN CONCORD, NEW HAMPSHIRE, PERFORMED THE SITE-SPECIFIC SOIL MAPPING ON APRIL 16, 2026.

3. THIS MAPPING WAS PERFORMED ACCORDING TO THE STANDARDS PUBLISHED IN "SITE-SPECIFIC SOIL MAPPING STANDARDS FOR NEW HAMPSHIRE AND VERMONT", SOCIETY OF SOIL SCIENTISTS OF NORTHERN NEW ENGLAND, SPECIAL PUBLICATION NO. 3, VERSION 5.0.

SITE SPECIFIC SOIL MAP UNIT KEY

SYMBOL	MAP UNIT	SLOPE CLASS	DRAINAGE CLASS	HISS SYMBOL	HYDRO. SOIL GROUP
44B	MONTAUK FINE SANDY LOAM	0-8%	WELL	223BH	C
44C	MONTAUK FINE SANDY LOAM	8-15%	WELL	223CH	C
44D	MONTAUK FINE SANDY LOAM	15-25%	WELL	223DH	C
400B/ABAAA	UDORTHENTS, SANDY	0-8%	EXCESSIVELY	161BH	A
400C/ABAAA	UDORTHENTS, SANDY	8-15%	EXCESSIVELY	161CH	A
400D/ABAAA	UDORTHENTS, SANDY	15-25%	EXCESSIVELY	161DH	A
400B/HBHAA	UDORTHENTS, SANDY	0-8%	UNDETERMINABLE	761BH	A
500B/CCABB	UDORTHENTS, LOAMY	0-8%	WELL	261BH	B
500E/CCABB	UDORTHENTS, LOAMY	25%	WELL	261EH	B
500B/CCCCC	UDORTHENTS, LOAMY	0-8%	WELL	263BH	C
500C/CCCCC	UDORTHENTS, LOAMY	8-15%	WELL	263CH	C
500D/CCCCC	UDORTHENTS, LOAMY	15-25%	WELL	263DH	C
500B/FDGBB	UDORTHENTS, LOAMY	0-8%	POORLY	565BH	D
500B/HCHCC	UDORTHENTS, LOAMY	0-8%	UNDETERMINABLE	763BH	C

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NOT ISSUED FOR CONSTRUCTION

DARTMOUTH HITCHCOCK MEDICAL CENTER

253 PLEASANT STREET
CONCORD, NH 03301

TAX MAP 734/Z LOT 21 & 22

OWNER/APPLICANT:
DARTMOUTH HITCHCOCK CLINIC
1 MEDICAL CENTER DRIVE
LEBANON, NH 03756

NO.	DATE	DESCRIPTION

REVISIONS

0 40' 80'
GRAPHIC SCALE

DATE:	APRIL 2026
NOBIS PROJECT NO.	100781.000
DRAWN BY:	GAK/GWS
CHECKED BY:	JCN
CAD DRAWING FILE:	100781.000-C-800-SOILS Existing.dwg

SHEET TITLE

SOIL MAP
PRE-DEVELOPMENT

FIGURE
1

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NOTES:

1. THIS MAP PRODUCT IS WITHIN THE TECHNICAL STANDARDS OF THE NATIONAL COOPERATIVE SOIL SURVEY. IT IS A SPECIAL PURPOSE PRODUCT, PRODUCED BY A CERTIFIED SOIL SCIENTIST AND NOT A PRODUCT OF THE USDA NATURAL RESOURCES CONSERVATION SERVICE. THERE IS A NARRATIVE REPORT THAT ACCOMPANIES THIS MAP AND MAP KEY.
2. THOMAS E. SOKOLOSKI, CERTIFIED SOIL SCIENTIST #063, OF ECOSYSTEMS LAND PLANNING IN CONCORD, NEW HAMPSHIRE, PERFORMED THE SITE-SPECIFIC SOIL MAPPING ON APRIL 16, 2026.
3. THIS MAPPING WAS PERFORMED ACCORDING TO THE STANDARDS PUBLISHED IN "SITE-SPECIFIC SOIL MAPPING STANDARDS FOR NEW HAMPSHIRE AND VERMONT", SOCIETY OF SOIL SCIENTISTS OF NORTHERN NEW ENGLAND, SPECIAL PUBLICATION NO. 3, VERSION 5.0.

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44B	MONTAUK FINE SANDY LOAM	0-8%	WELL	223BH	C
44C	MONTAUK FINE SANDY LOAM	8-15%	WELL	223CH	C
44D	MONTAUK FINE SANDY LOAM	15-25%	WELL	223DH	C
400B/ABAAA	UDORTHENTS, SANDY	0-8%	EXCESSIVELY	161BH	A
400C/ABAAA	UDORTHENTS, SANDY	8-15%	EXCESSIVELY	161CH	A
400D/ABAAA	UDORTHENTS, SANDY	15-25%	EXCESSIVELY	161DH	A
400B/HBHAA	UDORTHENTS, SANDY	0-8%	UNDETERMINABLE	761BH	A
500B/CCABB	UDORTHENTS, LOAMY	0-8%	WELL	261BH	B
500E/CCABB	UDORTHENTS, LOAMY	25%	WELL	261EH	B
500B/CCCCC	UDORTHENTS, LOAMY	0-8%	WELL	263BH	C
500C/CCCCC	UDORTHENTS, LOAMY	8-15%	WELL	263CH	C
500D/CCCCC	UDORTHENTS, LOAMY	15-25%	WELL	263DH	C
500B/FDGBB	UDORTHENTS, LOAMY	0-8%	POORLY	565BH	D
500B/HCHCC	UDORTHENTS, LOAMY	0-8%	UNDETERMINABLE	763BH	C

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NOT ISSUED FOR CONSTRUCTION

DARTMOUTH HITCHCOCK MEDICAL CENTER

253 PLEASANT STREET
CONCORD, NH 03301

TAX MAP 734/Z LOT 21 & 22

OWNER/APPLICANT:
DARTMOUTH HITCHCOCK CLINIC
1 MEDICAL CENTER DRIVE
LEBANON, NH 03756

NO.	DATE	DESCRIPTION

REVISIONS

0 1' 2'
GRAPHIC SCALE

DATE:	JUNE 17, 2026
NOBIS PROJECT NO.	100781.000
DRAWN BY:	GAK/GWS
CHECKED BY:	JCN
CAD DRAWING FILE:	100781.000-C-800-SOILS Proposed.dwg

SHEET TITLE

SOIL MAP
POST-DEVELOPMENT

FIGURE
2

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SITE DESIGN CRITERIA

INFILTRATION PRACTICE CRITERIA
(Env-Wq 1508.07)

Type/Node Name: **Infiltration Gallery (G-1)**

Enter the type of infiltration practice (such as basin, trench) and the node name in the drainage analysis, if applicable.

Yes		Have you reviewed Env-Wq 1508.07(a) to ensure that infiltration is allowed?	← **yes**
0.36	ac	A = Area draining to the practice	
0.27	ac	A_I = Impervious area draining to the practice	
0.75	decimal	I = Percent impervious area draining to the practice, in decimal form	
0.73	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)	
0.26	ac-in	WQV= 1" x Rv x A	
947	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")	
237	cf	25% x WQV (check calc for sediment forebay volume)	
Isolator Row		Method of pretreatment? (not required for clean or roof runoff)	
	cf	V_{SED} = Sediment forebay volume, if used for pretreatment	≥ **25%WQV**
2,454	cf	V = Volume[1] (attach a stage-storage table)	≥ **WQV**
1,018	sf	A_{SA} = Surface area of the bottom of the pond	
5.00	iph	$Ksat_{DESIGN}$ = Design infiltration rate[2]	
2.2	hours	T_{DRAIN} = Drain time = V / (A_{SA} * I_{DESIGN})	≤ **72-hrs**
333.30	feet	E_{BTM} = Elevation of the bottom of the basin	
330.30	feet	E_{SHWT} = Elevation of SHWT (if none found, enter the lowest elevation of the test pit)	
330.30	feet	E_{ROCK} = Elevation of bedrock (if none found, enter the lowest elevation of the test pit)	
3.00	feet	D_{SHWT} = Separation from SHWT	≥ *[3]
3.0	feet	D_{ROCK} = Separation from bedrock	≥ *[3]
	ft	D_{amend} = Depth of amended soil, if applicable due high infiltation rate	≥ **24"**
	ft	D_T = Depth of trench, if trench proposed	**4 - 10 ft**
Yes	Yes/No	If a trench or underground system is proposed, has observation well been provided?	←**yes**
		If a trench is proposed, does material meet Env-Wq 1508.07(k)(2) requirements.[4]	← **yes**
	Yes/No	If a basin is proposed, Is the perimeter curvilinear, and basin floor flat?	← **yes**
	:1	If a basin is proposed, pond side slopes.	≥**3:1**
335.15	ft	Peak elevation of the 10-year storm event (infiltration can be used in analysis)	
336.39	ft	Peak elevation of the 50-year storm event (infiltration can be used in analysis)	
337.15	ft	Elevation of the top of the practice (if a basin, this is the elevation of the berm)	
YES		10 peak elevation ≤ Elevation of the top of the trench?[5]	← **yes**
YES		If a basin is proposed, 50-year peak elevation ≤ Elevation of berm?	← **yes**

1. Volume below the lowest invert of the outlet structure and excludes forebay volume
2. $Ksat_{DESIGN}$ includes a factor of safety. See Env-Wq 1504.14 for requirements for determining the infiltr. rate
3. 1' separation if treatment not required; 4' for treatment in GPAs & WSIPAs; & 3' in all other areas.
4. Clean, washed well graded diameter of 1.5 to 3 inches above the in-situ soil.
5. If 50-year peak elevation exceeds top of trench, the overflow must be routed in HydroCAD as secondary discharge.

Designer's Notes: Elevation of Bedrock and SHWT based on TP 6 completed by Nobis Group on 4/16/2026. Infiltration testing will be completed prior to construction to verify assumptions.

Stage-Area-Storage for Pond G-1: INFILTRATION GALLERY (DMH 1,2,3)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
333.40	**1,058**	0
333.45	1,058	21
333.50	1,058	42
333.55	1,058	63
333.60	1,058	85
333.65	1,058	106
333.70	1,058	127
333.75	1,058	148
333.80	1,058	169
333.85	1,058	190
333.90	1,058	212
333.95	1,058	256
334.00	1,058	300
334.05	1,058	343
334.10	1,058	387
334.15	1,058	430
334.20	1,058	474
334.25	1,058	517
334.30	1,058	560
334.35	1,058	603
334.40	1,058	646
334.45	1,058	689
334.50	1,058	731
334.55	1,058	773
334.60	1,058	815
334.65	1,058	857
334.70	1,058	899
334.75	1,058	941
334.80	1,058	982
334.85	1,058	1,023
334.90	1,058	1,064
334.95	1,058	1,105
335.00	1,058	1,145
335.05	1,058	1,185
335.10	1,058	1,225
335.15	1,058	1,265
335.20	1,058	1,304
335.25	1,058	1,343
335.30	1,058	1,382
335.35	1,058	1,421
335.40	1,058	1,459
335.45	1,058	1,497
335.50	1,058	1,535
335.55	1,058	1,572
335.60	1,058	1,609
335.65	1,058	1,645
335.70	1,058	1,681
335.75	1,058	1,717
335.80	1,058	1,752
335.85	1,058	1,787
335.90	1,058	1,821
335.95	1,058	1,855
336.00	1,058	1,888
336.05	1,058	1,921
336.10	1,058	1,953
336.15	1,058	1,984
336.20	1,058	2,015
336.25	1,058	2,045
336.30	1,058	2,073
336.35	1,058	2,100
336.40	1,058	2,126
336.45	1,058	2,151
336.50	1,058	2,175
336.55	1,058	2,198
336.60	1,058	2,220
336.65	1,058	2,242
336.70	1,058	2,263
336.75	1,058	2,284
336.80	1,058	2,306
336.85	1,058	2,327
336.90	1,058	2,348
336.95	1,058	2,369
337.00	1,058	2,390
337.05	1,058	2,411
337.10	1,058	2,433
337.15	1,058	**2,454**

FILTRATION PRACTICE DESIGN CRITERIA
(Env-Wq 1508.08)

Type/Node Name: **G-2 Filtration Gallery**

Enter the type of filtration practice (e.g., bioretention system) and the node name in the drainage analysis, if applicable.

		Check if you reviewed the restrictions on unlined systems outlined in Env-Wq 1508.08(a).	
2.52	ac	A = Area draining to the practice	
1.98	ac	A_I = Impervious area draining to the practice	
0.79	decimal	I = Percent impervious area draining to the practice, in decimal form	
0.76	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)	
1.91	ac-in	WQV= 1" x Rv x A	
6,925	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")	
1,731	cf	25% x WQV (check calc for sediment forebay volume)	
5,194	cf	75% x WQV (check calc for surface sand filter volume)	
Isolator Row		Method of Pretreatment? (not required for clean or roof runoff)	
	cf	V_{SED} = Sediment forebay volume, if used for pretreatment	**≥ 25%WQV**
Calculate time to drain if system IS NOT underdrained:			
	sf	A_{SA} = Surface area of the practice	
	iph	$Ksat_{DESIGN}$ = Design infiltration rate[1]	
		If Ksat (prior to factor of safety) is < 0.50 iph, has an underdrain been provided?	
	Yes/No	(Use the calculations below)	
-	hours	T_{DRAIN} = Drain time = V / (A_{SA} * I_{DESIGN})	**≤ 72-hrs**
Calculate time to drain if system IS underdrained:			
314.75	ft	E_{WQV} = Elevation of WQV (attach stage-storage table)	
1.21	cfs	Q_{WQV} = Discharge at the E_{WQV} (attach stage-discharge table)	
3.18	hours	T_{DRAIN} = Drain time = 2WQV/Q_{WQV}	**≤ 72-hrs**
312.25	feet	E_{FC} = Elevation of the bottom of the filter course material[2]	
311.25	feet	E_{UD} = Invert elevation of the underdrain (UD), if applicable	
Lined	feet	E_{SHWT} = Elevation of SHWT (if none found, enter the lowest elevation of the test pit)	
306.40	feet	E_{ROCK} = Elevation of bedrock (if none found, enter the lowest elevation of the test pit)	
1.00	feet	$D_{FC\ to\ UD}$ = Depth to UD from the bottom of the filter course	**≥ 1'**
5.85	feet	$D_{FC\ to\ ROCK}$ = Depth to bedrock from the bottom of the filter course	**≥ 1'**
#VALUE!	feet	$D_{FC\ to\ SHWT}$ = Depth to SHWT from the bottom of the filter course	**≥ 1'**
316.61	ft	Peak elevation of the 50-year storm event (infiltration can be used in analysis)	
317.50	ft	Elevation of the top of the practice	
YES		50 peak elevation ≤ Elevation of the top of the practice	**← yes**
If a surface sand filter or underground sand filter is proposed:			
YES	ac	Drainage Area check.	**< 10 ac**
11,993	cf	V = Volume of storage[3] (attach a stage-storage table)	**≥ 75%WQV**
18.0	inches	D_{FC} = Filter course thickness	**18", or 24" if within GPA**
Sheet		Note what sheet in the plan set contains the filter course specification.	
Yes	Yes/No	Access grate provided?	**← yes**

If a bioretention area is proposed:			
YES	ac	Drainage Area no larger than 5 ac?	**← yes**
	cf	V = Volume of storage[3] (attach a stage-storage table)	**≥ WQV**
	inches	D_{FC} = Filter course thickness	**18", or 24" if within GPA**
Sheet		Note what sheet in the plan set contains the filter course specification	
	:1	Pond side slopes	**≥ 3:1**
Sheet		Note what sheet in the plan set contains the planting plans and surface cover	
If porous pavement is proposed:			
		Type of pavement proposed (Concrete? Asphalt? Pavers? Etc.)	
	acres	A_{SA} = Surface area of the pervious pavement	
	:1	Ratio of the contributing area to the pervious surface area	**≤ 5:1**
	inches	D_{FC} = Filter course thickness	**12", or 18" if within GPA mod. 304.1 (see spec)**
Sheet		Note what sheet in the plan set contains the filter course spec.	

1. Rate of the limiting layer (either the filter course or the underlying soil). $Ksat_{design}$ includes factor of safey. See Env-Wq 1504.14 for guidance on determining the infiltration rate.

2. See lines 34, 40 and 48 for required depths of filter media.

3. Volume without depending on infiltration. The volume includes the storage above the filter (but below the invert of the outlet stucture, if any), the filter media voids, and the pretreatment area. The storage above the filter media shall not include the volume above the outlet structure, if any.

Designer's Notes: Depth to bedrock based on boring NB-4 completed on February 19, 2026 by Nobis Group

Stage-Area-Storage for Pond G-2: DMH 6 & 7 FILTRATION GALLERY

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
310.83	4,428	0
310.93	4,428	177
311.03	4,428	354
311.13	4,428	531
311.23	4,428	708
311.33	4,428	889
311.43	4,428	1,073
311.53	4,428	1,259
311.63	4,428	1,444
311.73	4,428	1,627
311.83	4,428	1,804
311.93	4,428	1,981
312.03	9,225	2,134
312.13	9,225	2,230
312.23	9,225	2,326
312.33	14,022	2,422
312.43	14,022	2,518
312.53	14,022	2,614
312.63	14,022	2,710
312.73	14,022	2,806
312.83	14,022	2,902
312.93	14,022	2,998
313.03	14,022	3,093
313.13	14,022	3,189
313.23	14,022	3,285
313.33	14,022	3,381
313.43	14,022	3,477
313.53	14,022	3,573
313.63	14,022	3,669
313.73	**14,022**	3,765
313.83	**19,232**	3,951
313.93	19,232	4,159
314.03	19,232	4,368
314.13	19,232	4,576
314.23	19,232	4,785
314.33	19,232	5,176
314.43	19,232	5,612
314.53	19,232	6,046
314.63	19,232	6,476
314.73	19,232	6,904
314.83	19,232	7,328
314.93	19,232	7,747
315.03	19,232	8,163
315.13	19,232	8,574
315.23	19,232	8,981
315.33	19,232	9,382
315.43	19,232	9,777
315.53	19,232	10,165
315.63	19,232	10,547
315.73	19,232	10,922
315.83	19,232	11,289
315.93	19,232	11,647
316.03	19,232	11,993
316.13	19,232	12,329
316.23	19,232	12,652
316.33	19,232	12,961
316.43	19,232	13,250
316.53	19,232	13,511
316.63	19,232	13,745
316.73	19,232	13,963
316.83	19,232	14,172
316.93	19,232	14,380
317.03	19,232	14,589
317.13	19,232	14,797
317.23	19,232	**15,006**
317.33	19,232	**15,047**
317.43	19,232	15,047

Stage-Discharge for Pond G-2: DMH 6 & 7 FILTRATION GALLERY

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
310.83	0.00	0.00	0.00
310.93	0.00	0.00	0.00
311.03	0.00	0.00	0.00
311.13	0.00	0.00	0.00
311.23	0.00	0.00	0.00
311.33	0.00	0.00	0.00
311.43	0.00	0.00	0.00
311.53	0.04	0.00	0.04
311.63	0.15	0.00	0.15
311.73	0.27	0.00	0.27
311.83	0.39	0.00	0.39
311.93	0.44	0.00	0.44
312.03	0.49	0.00	0.49
312.13	0.54	0.00	0.54
312.23	0.58	0.00	0.58
312.33	0.61	0.00	0.61
312.43	0.65	0.00	0.65
312.53	0.68	0.00	0.68
312.63	0.72	0.00	0.72
312.73	0.75	0.00	0.75
312.83	0.78	0.00	0.78
312.93	0.81	0.00	0.81
313.03	0.83	0.00	0.83
313.13	0.86	0.00	0.86
313.23	0.89	0.00	0.89
313.33	0.91	0.00	0.91
313.43	0.94	0.00	0.94
313.53	0.96	0.00	0.96
313.63	0.98	0.00	0.98
313.73	1.01	0.00	1.01
313.83	1.03	0.00	1.03
313.93	1.05	0.00	1.05
314.03	1.07	0.00	1.07
314.13	1.09	0.00	1.09
314.23	1.11	0.00	1.11
314.33	1.13	0.00	1.13
314.43	1.15	0.00	1.15
314.53	1.17	0.00	1.17
314.63	1.19	0.00	1.19
314.73	1.21	0.00	1.21
314.83	1.23	0.00	1.23
314.93	1.25	0.00	1.25
315.03	1.27	0.00	1.27
315.13	1.29	0.00	1.29
315.23	1.30	0.00	1.30
315.33	1.32	0.00	1.32
315.43	1.34	0.00	1.34
315.53	1.36	0.00	1.35
315.63	1.46	0.09	1.37
315.73	1.67	0.28	1.39
315.83	1.97	0.56	1.40
315.93	2.35	0.93	1.42
316.03	2.82	1.38	1.44
316.13	3.36	1.90	1.45
316.23	3.95	2.48	1.47
316.33	4.59	3.11	1.48
316.43	5.28	3.78	1.50
316.53	5.98	4.47	1.51
316.63	6.70	5.17	1.53
316.73	7.40	5.86	1.54
316.83	8.06	6.50	1.56
316.93	8.65	7.07	1.57
317.03	9.10	7.51	1.59
317.13	9.58	7.98	1.60
317.23	10.04	8.42	1.61
317.33	10.47	8.84	1.63
317.43	**10.89**	**9.24**	**1.64**

GROUNDWATER RECHARGE VOLUME (GRV)
(Env-Wq 1504.12)

0.29	ac	Area of HSG A soil that was replaced by impervious cover	0.40"
	ac	Area of HSG B soil that was replaced by impervious cover	0.25"
0.65	ac	Area of HSG C soil that was replaced by impervious cover	0.10"
	ac	Area of HSG D soil or impervious cover that was replaced by impervious cover	0.0"
0.19	inches	Rd = Weighted groundwater recharge depth	
0.181	ac-in	GRV = AI * Rd	
657	cf	GRV conversion (ac-in x 43,560 sf/ac x 1ft/12”)	
	← Y/N	Is a stage-storage table attached showing that the GRV can be stored below the lowest invert of the outlet structure (if applicable)? Multiple stormwater control measures may be used to meet the GRV requirements.	

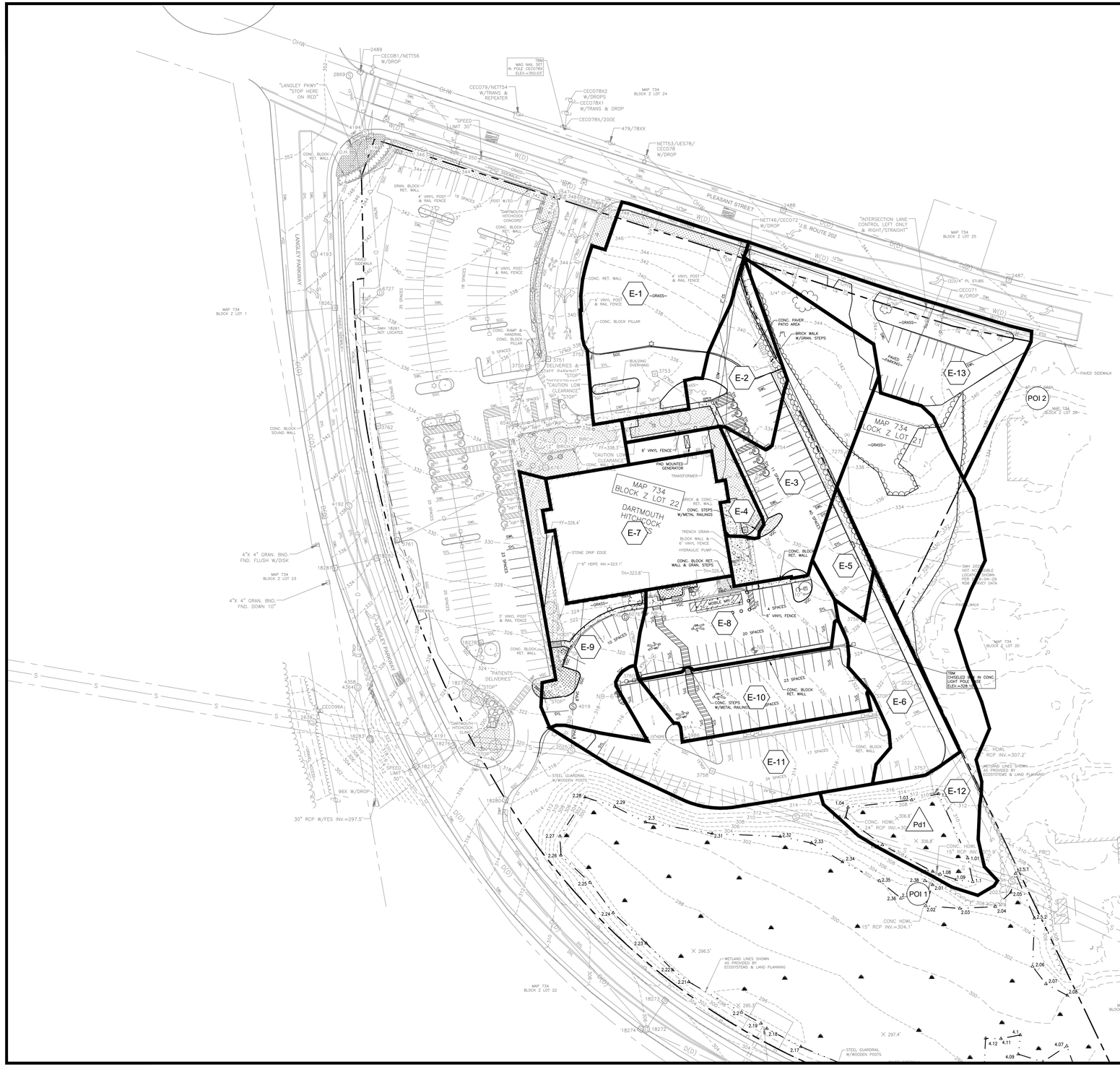
Provide calculations/discussion below showing that the project meets the groundwater recharge requirements (Env-Wq 1507.04):

Lowest Invert = 336.1 for Infiltration Gallery (G-1)

Stage-Area-Storage for Pond G-1: INFILTRATION GALLERY (DMH 1,2,3)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
333.40	**1,058**	0
333.45	1,058	21
333.50	1,058	42
333.55	1,058	63
333.60	1,058	85
333.65	1,058	106
333.70	1,058	127
333.75	1,058	148
333.80	1,058	169
333.85	1,058	190
333.90	1,058	212
333.95	1,058	256
334.00	1,058	300
334.05	1,058	343
334.10	1,058	387
334.15	1,058	430
334.20	1,058	474
334.25	1,058	517
334.30	1,058	560
334.35	1,058	603
334.40	1,058	646
334.45	1,058	689
334.50	1,058	731
334.55	1,058	773
334.60	1,058	815
334.65	1,058	857
334.70	1,058	899
334.75	1,058	941
334.80	1,058	982
334.85	1,058	1,023
334.90	1,058	1,064
334.95	1,058	1,105
335.00	1,058	1,145
335.05	1,058	1,185
335.10	1,058	1,225
335.15	1,058	1,265
335.20	1,058	1,304
335.25	1,058	1,343
335.30	1,058	1,382
335.35	1,058	1,421
335.40	1,058	1,459
335.45	1,058	1,497
335.50	1,058	1,535
335.55	1,058	1,572
335.60	1,058	1,609
335.65	1,058	1,645
335.70	1,058	1,681
335.75	1,058	1,717
335.80	1,058	1,752
335.85	1,058	1,787
335.90	1,058	1,821
335.95	1,058	1,855
336.00	1,058	1,888
336.05	1,058	1,921
336.10	1,058	1,953
336.15	1,058	1,984
336.20	1,058	2,015
336.25	1,058	2,045
336.30	1,058	2,073
336.35	1,058	2,100
336.40	1,058	2,126
336.45	1,058	2,151
336.50	1,058	2,175
336.55	1,058	2,198
336.60	1,058	2,220
336.65	1,058	2,242
336.70	1,058	2,263
336.75	1,058	2,284
336.80	1,058	2,306
336.85	1,058	2,327
336.90	1,058	2,348
336.95	1,058	2,369
337.00	1,058	2,390
337.05	1,058	2,411
337.10	1,058	2,433
337.15	1,058	**2,454**

SITE DESIGN CRITERIA



LEGEND

- DRAINAGE AREA BOUNDARY
- FLOW PATH (TIME OF CONCENTRATION)
- E-1 — EXISTING CONDITIONS SUBCATCHMENT DESIGNATION
- POI 1 — POINT OF INTEREST
- R-1 — REACH
- Pd1 — POND

NOTES:

1. IN AREAS WHERE Tc WAS CALCULATED AS LESS THAN 5 MINUTES, "DIRECT ENTRY" METHOD WAS USED IN THE HYDROCAD MODEL. THESE Tc LINES ARE NOT SHOWN

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NOT ISSUED FOR CONSTRUCTION

DARTMOUTH HITCHCOCK MEDICAL CENTER

253 PLEASANT STREET
CONCORD, NH 03301

TAX MAP 734/Z LOT 21 & 22

OWNER/APPLICANT:
DARTMOUTH HITCHCOCK CLINIC
1 MEDICAL CENTER DRIVE
LEBANON, NH 03756

NO.	DATE	DESCRIPTION

REVISIONS

0 50' 100'
GRAPHIC SCALE

DATE:	APRIL 2026
NOBIS PROJECT NO.	100781.000
DRAWN BY:	GAK/GWS
CHECKED BY:	JCN
CAD DRAWING FILE:	100781.000-C-700-DAP-EXISTING.dwg

SHEET TITLE

PRE-CONSTRUCTION DRAINAGE AREA PLAN

FIGURE
3

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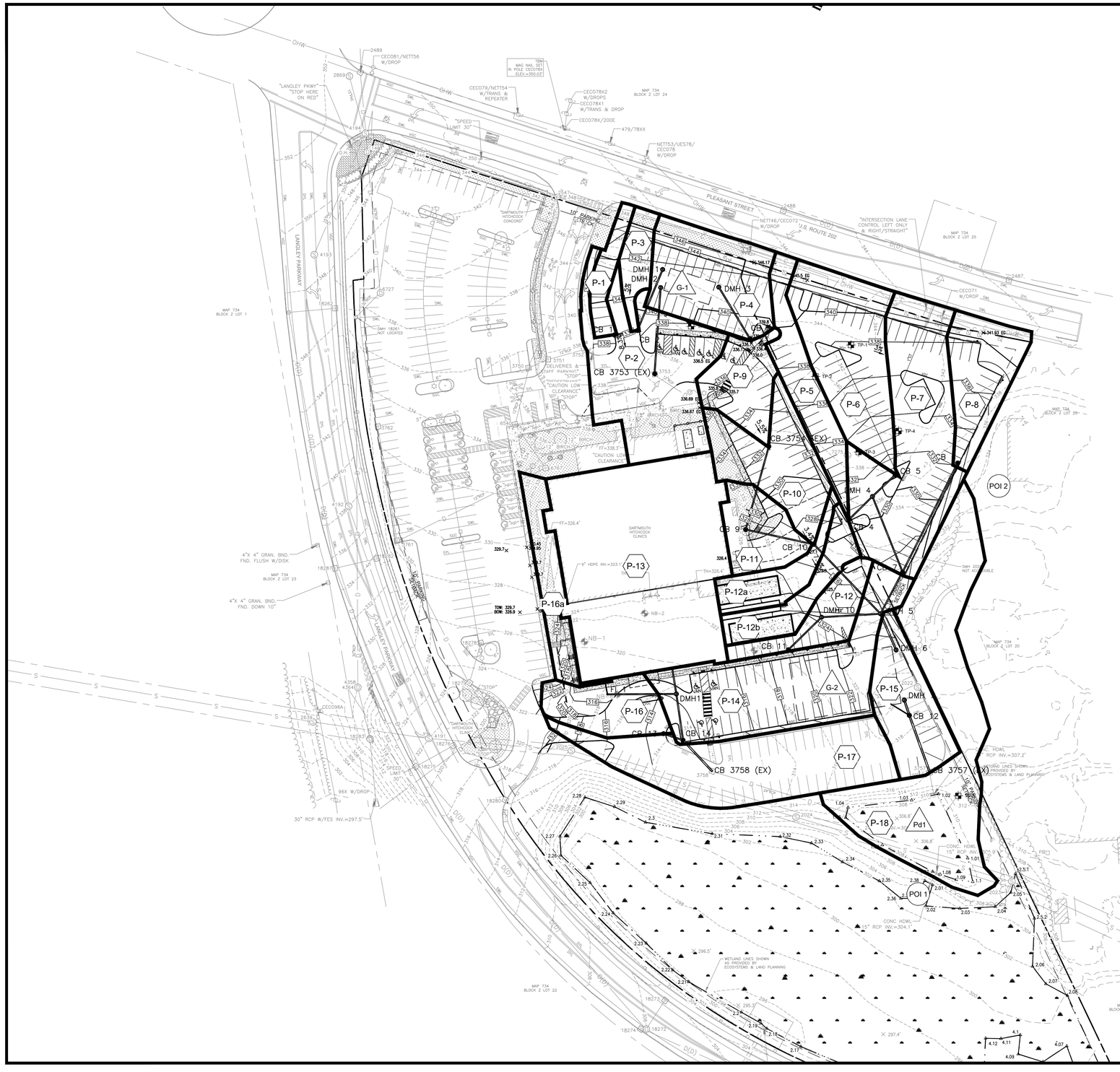

LEGEND

- DRAINAGE AREA BOUNDARY
- FLOW PATH (TIME OF CONCENTRATION)
- P-1 — PROPOSED CONDITIONS SUBCATCHMENT DESIGNATION
- POI 1 — POINT OF INTEREST
- R-1 — REACH
- Pd1 — POND

NOTES:

1. IN AREAS WHERE Tc WAS CALCULATED AS LESS THAN 6 MINUTES, "DIRECT ENTRY" METHOD WAS USED IN THE HYDROCAD MODEL. THESE Tc LINES ARE NOT SHOWN

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DARTMOUTH HITCHCOCK MEDICAL CENTER

253 PLEASANT STREET
CONCORD, NH 03301

TAX MAP 734/Z LOT 21 & 22

OWNER/APPLICANT:
DARTMOUTH HITCHCOCK CLINIC
1 MEDICAL CENTER DRIVE
LEBANON, NH 03756

NO.	DATE	DESCRIPTION

REVISIONS

0 50' 100'
GRAPHIC SCALE

DATE:	APRIL 2026
NOBIS PROJECT NO.	100781.000
DRAWN BY:	GAK/GWS
CHECKED BY:	JCN
CAD DRAWING FILE:	100781.000-C-700-DAP-PROP.dwg

SHEET TITLE

POST-CONSTRUCTION DRAINAGE AREA PLAN

FIGURE
4

J:\100781.000--Dartmouth Hitchcock Medical Center Concord, NH\CAD\DWG\100781.000-C-700--DAP--PROP.dwg 6/16/2026 2:16 AM

Extreme Precipitation Tables

Northeast Regional Climate Center

Data represents point estimates calculated from partial duration series. All precipitation amounts are displayed in inches.

Metadata for Point	
Smoothing	Yes
State	New Hampshire
Location	New Hampshire, United States
Latitude	43.196 degrees North
Longitude	71.563 degrees West
Elevation	90 feet
Date/Time	Thu Jun 11 2026 08:26:42 GMT-0400 (Eastern Daylight Time)

Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.26	0.39	0.49	0.64	0.80	1.01	**1yr**	0.69	0.98	1.17	1.48	1.87	2.37	2.56	**1yr**	2.09	2.46	2.89	3.59	4.12	**1yr**
2yr	0.31	0.48	0.60	0.79	1.00	1.25	**2yr**	0.86	1.15	1.45	1.81	2.26	2.81	3.14	**2yr**	2.49	3.02	3.50	4.19	4.78	**2yr**
5yr	0.37	0.58	0.73	0.97	1.25	1.58	**5yr**	1.08	1.44	1.83	2.28	2.83	3.50	3.99	**5yr**	3.10	3.83	4.43	5.20	5.90	**5yr**
10yr	0.42	0.66	0.83	1.14	1.48	1.89	**10yr**	1.27	1.71	2.19	2.73	3.37	4.13	4.77	**10yr**	3.66	4.59	5.29	6.13	6.91	**10yr**
25yr	0.50	0.79	1.01	1.39	1.85	2.38	**25yr**	1.60	2.15	2.76	3.44	4.23	5.15	6.06	**25yr**	4.56	5.82	6.69	7.62	8.52	**25yr**
50yr	0.57	0.91	1.17	1.63	2.19	2.84	**50yr**	1.89	2.55	3.30	4.11	5.03	6.09	7.26	**50yr**	5.39	6.98	7.99	8.99	10.00	**50yr**
100yr	0.65	1.05	1.35	1.91	2.60	3.39	**100yr**	2.25	3.02	3.95	4.91	5.98	7.20	8.70	**100yr**	6.37	8.37	9.55	10.62	11.73	**100yr**
200yr	0.74	1.21	1.57	2.24	3.09	4.04	**200yr**	2.67	3.60	4.72	5.85	7.11	8.52	10.44	**200yr**	7.54	10.04	11.43	12.54	13.76	**200yr**
500yr	0.89	1.47	1.91	2.77	3.88	5.10	**500yr**	3.35	4.52	5.96	7.38	8.93	10.65	13.29	**500yr**	9.43	12.78	14.48	15.63	17.01	**500yr**

Lower Confidence Limits

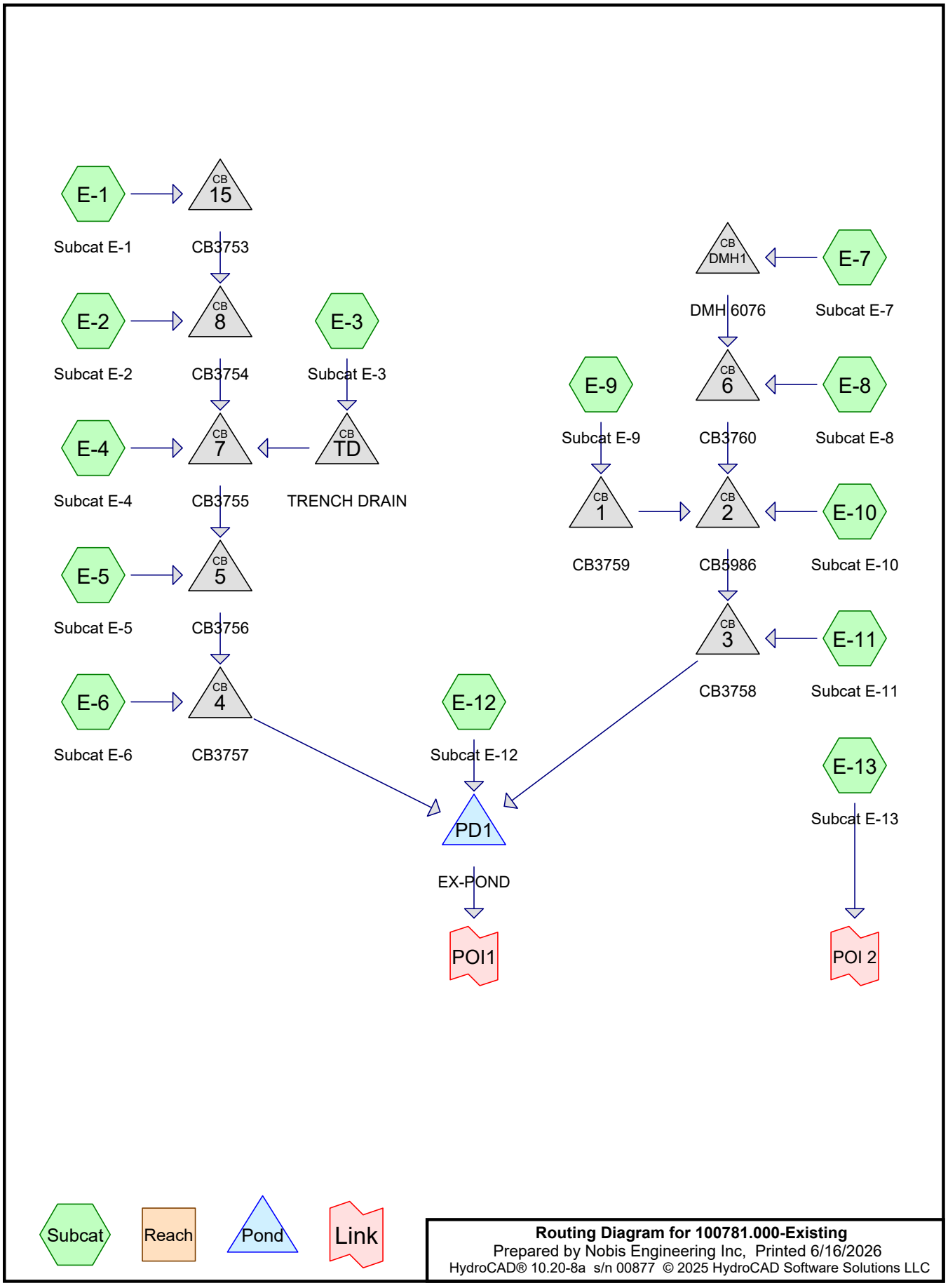
	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.21	0.32	0.39	0.53	0.65	0.87	**1yr**	0.56	0.85	1.04	1.35	1.58	2.01	2.40	**1yr**	1.78	2.31	2.64	3.25	3.80	**1yr**
2yr	0.30	0.47	0.57	0.78	0.96	1.14	**2yr**	0.83	1.12	1.30	1.72	2.19	2.73	3.04	**2yr**	2.42	2.92	3.40	4.05	4.64	**2yr**
5yr	0.34	0.53	0.65	0.90	1.14	1.36	**5yr**	0.98	1.33	1.53	1.99	2.56	3.26	3.68	**5yr**	2.88	3.54	4.08	4.84	5.52	**5yr**
10yr	0.38	0.58	0.72	1.00	1.29	1.54	**10yr**	1.12	1.50	1.73	2.23	2.86	3.71	4.26	**10yr**	3.28	4.09	4.69	5.51	6.29	**10yr**
25yr	0.43	0.66	0.82	1.16	1.53	1.79	**25yr**	1.32	1.75	2.04	2.59	3.32	4.40	5.14	**25yr**	3.90	4.95	5.59	6.56	7.46	**25yr**
50yr	0.47	0.72	0.89	1.29	1.73	2.01	**50yr**	1.49	1.97	2.31	2.91	3.72	5.02	5.93	**50yr**	4.44	5.71	6.38	7.48	8.40	**50yr**
100yr	0.53	0.79	1.00	1.44	1.97	2.26	**100yr**	1.70	2.21	2.62	3.26	4.17	5.72	6.85	**100yr**	5.06	6.59	7.30	8.54	9.54	**100yr**
200yr	0.58	0.87	1.11	1.60	2.23	2.54	**200yr**	1.93	2.48	2.96	3.67	4.68	6.52	7.90	**200yr**	5.77	7.60	8.32	9.77	10.83	**200yr**
500yr	0.67	0.99	1.28	1.85	2.64	2.95	**500yr**	2.28	2.88	3.50	4.29	5.48	7.73	9.54	**500yr**	6.85	9.18	9.83	11.69	12.84	**500yr**

Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.29	0.45	0.55	0.74	0.91	1.09	**1yr**	0.78	1.07	1.19	1.59	1.98	2.51	2.76	**1yr**	2.22	2.65	3.16	3.85	4.38	**1yr**
2yr	0.33	0.51	0.62	0.84	1.04	1.25	**2yr**	0.90	1.22	1.40	1.83	2.33	2.91	3.26	**2yr**	2.58	3.14	3.64	4.33	4.95	**2yr**
5yr	0.41	0.63	0.78	1.07	1.37	1.58	**5yr**	1.18	1.55	1.79	2.29	2.90	3.75	4.31	**5yr**	3.32	4.15	4.79	5.55	6.29	**5yr**
10yr	0.49	0.75	0.93	1.31	1.69	1.92	**10yr**	1.46	1.88	2.16	2.71	3.44	4.58	5.34	**10yr**	4.06	5.13	5.93	6.72	7.59	**10yr**
25yr	0.63	0.96	1.19	1.70	2.24	2.50	**25yr**	1.93	2.45	2.78	3.40	4.29	5.94	7.09	**25yr**	5.26	6.82	7.85	8.65	9.71	**25yr**
50yr	0.75	1.15	1.43	2.06	2.77	3.06	**50yr**	2.39	2.99	3.35	4.05	5.08	7.25	8.80	**50yr**	6.42	8.46	9.72	10.48	11.87	**50yr**
100yr	0.92	1.39	1.74	2.51	3.44	3.74	**100yr**	2.97	3.66	4.06	4.81	6.03	8.86	10.94	**100yr**	7.84	10.52	12.06	12.69	14.35	**100yr**
200yr	1.11	1.67	2.11	3.06	4.26	4.58	**200yr**	3.68	4.48	4.90	5.72	7.15	10.81	13.58	**200yr**	9.57	13.06	14.99	15.39	17.35	**200yr**
500yr	1.43	2.13	2.75	3.99	5.67	5.99	**500yr**	4.90	5.86	6.31	7.20	8.98	14.10	18.12	**500yr**	12.48	17.43	20.00	19.85	22.31	**500yr**

Powered by ACIS Northeast Regional Climate Center

Existing Conditions



Routing Diagram for 100781.000-Existing
Prepared by Nobis Engineering Inc, Printed 6/16/2026

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-Year	Type III 24-hr		Default	24.00	1	2.81	2
2	10-Year	Type III 24-hr		Default	24.00	1	4.13	2
3	25-Year	Type III 24-hr		Default	24.00	1	5.15	2
4	50-Year	Type III 24-hr		Default	24.00	1	6.09	2
5	100-Year	Type III 24-hr		Default	24.00	1	7.20	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.390	39	>75% Grass cover, Good, HSG A (E-1, E-12, E-13, E-2, E-3)
0.124	61	>75% Grass cover, Good, HSG B (E-12, E-6)
1.171	74	>75% Grass cover, Good, HSG C (E-1, E-12, E-13, E-2, E-3, E-4, E-5, E-6, E-7, E-8, E-9)
0.144	80	>75% Grass cover, Good, HSG D (E-12)
0.236	98	Paved parking, HSG A (E-12, E-13, E-2, E-3)
0.004	98	Paved parking, HSG B (E-12)
2.574	98	Paved parking, HSG C (E-1, E-10, E-11, E-12, E-13, E-2, E-3, E-4, E-5, E-6, E-7, E-8, E-9)
0.004	98	Paved parking, HSG D (E-12)
0.050	30	Woods, Good, HSG A (E-1, E-13, E-2, E-3)
0.313	70	Woods, Good, HSG C (E-12, E-13, E-2, E-3)
5.010	**84**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.676	HSG A	E-1, E-12, E-13, E-2, E-3
0.128	HSG B	E-12, E-6
4.058	HSG C	E-1, E-10, E-11, E-12, E-13, E-2, E-3, E-4, E-5, E-6, E-7, E-8, E-9
0.149	HSG D	E-12
0.000	Other	
5.010		**TOTAL AREA**

Time span=0.00-30.00 hrs, dt=0.01 hrs, 3001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment E-1: Subcat E-1 Runoff Area=24,019 sf 27.69% Impervious Runoff Depth=1.11"
Tc=6.0 min CN=80 Runoff=0.70 cfs 0.051 af

Subcatchment E-10: Subcat E-10 Runoff Area=12,975 sf 100.00% Impervious Runoff Depth=2.58"
Tc=6.0 min CN=98 Runoff=0.81 cfs 0.064 af

Subcatchment E-11: Subcat E-11 Runoff Area=19,770 sf 100.00% Impervious Runoff Depth=2.58"
Tc=6.0 min CN=98 Runoff=1.23 cfs 0.098 af

Subcatchment E-12: Subcat E-12 Runoff Area=39,032 sf 2.03% Impervious Runoff Depth=0.65"
Flow Length=321' Tc=6.4 min CN=71 Runoff=0.58 cfs 0.049 af

Subcatchment E-13: Subcat E-13 Runoff Area=20,046 sf 48.65% Impervious Runoff Depth=0.84"
Tc=0.0 min CN=75 Runoff=0.51 cfs 0.032 af

Subcatchment E-2: Subcat E-2 Runoff Area=11,125 sf 43.31% Impervious Runoff Depth=1.17"
Tc=6.0 min CN=81 Runoff=0.34 cfs 0.025 af

Subcatchment E-3: Subcat E-3 Runoff Area=23,610 sf 45.96% Impervious Runoff Depth=0.57"
Tc=6.0 min CN=69 Runoff=0.29 cfs 0.026 af

Subcatchment E-4: Subcat E-4 Runoff Area=4,449 sf 58.53% Impervious Runoff Depth=1.65"
Tc=6.0 min CN=88 Runoff=0.20 cfs 0.014 af

Subcatchment E-5: Subcat E-5 Runoff Area=4,054 sf 78.69% Impervious Runoff Depth=2.07"
Tc=6.0 min CN=93 Runoff=0.22 cfs 0.016 af

Subcatchment E-6: Subcat E-6 Runoff Area=10,473 sf 82.69% Impervious Runoff Depth=2.17"
Tc=6.0 min CN=94 Runoff=0.59 cfs 0.043 af

Subcatchment E-7: Subcat E-7 Runoff Area=20,227 sf 100.00% Impervious Runoff Depth=2.58"
Tc=6.0 min CN=98 Runoff=1.26 cfs 0.100 af

Subcatchment E-8: Subcat E-8 Runoff Area=14,755 sf 95.72% Impervious Runoff Depth=2.47"
Tc=6.0 min CN=97 Runoff=0.90 cfs 0.070 af

Subcatchment E-9: Subcat E-9 Runoff Area=13,708 sf 60.82% Impervious Runoff Depth=1.73"
Tc=6.0 min CN=89 Runoff=0.64 cfs 0.045 af

Pond 1: CB3759 Peak Elev=309.60' Inflow=0.64 cfs 0.045 af
12.0" Round Culvert n=0.011 L=38.0' S=0.0303 '/' Outflow=0.64 cfs 0.045 af

Pond 2: CB5986 Peak Elev=308.96' Inflow=3.61 cfs 0.279 af
15.0" Round Culvert n=0.011 L=36.0' S=0.0169 '/' Outflow=3.61 cfs 0.279 af

Pond 3: CB3758 Peak Elev=308.29' Inflow=4.84 cfs 0.376 af
24.0" Round Culvert n=0.011 L=136.0' S=0.0076 '/' Outflow=4.84 cfs 0.376 af

Pond 4: CB3757 Peak Elev=311.34' Inflow=2.34 cfs 0.175 af
18.0" Round Culvert n=0.011 L=18.2' S=0.0055 '/' Outflow=2.34 cfs 0.175 af

Pond 5: CB3756 Peak Elev=318.53' Inflow=1.76 cfs 0.132 af
15.0" Round Culvert n=0.011 L=156.2' S=0.0103 '/' Outflow=1.76 cfs 0.132 af

Pond 6: CB3760 Peak Elev=315.25' Inflow=2.17 cfs 0.170 af
12.0" Round Culvert n=0.011 L=75.0' S=0.0863 '/' Outflow=2.17 cfs 0.170 af

Pond 7: CB3755 Peak Elev=327.71' Inflow=1.54 cfs 0.116 af
12.0" Round Culvert n=0.011 L=138.7' S=0.0661 '/' Outflow=1.54 cfs 0.116 af

Pond 8: CB3754 Peak Elev=328.03' Inflow=1.05 cfs 0.076 af
12.0" Round Culvert n=0.011 L=80.2' S=0.0036 '/' Outflow=1.05 cfs 0.076 af

Pond 15: CB3753 Peak Elev=330.79' Inflow=0.70 cfs 0.051 af
12.0" Round Culvert n=0.011 L=128.0' S=0.0237 '/' Outflow=0.70 cfs 0.051 af

Pond DMH1: DMH 6076 Peak Elev=318.13' Inflow=1.26 cfs 0.100 af
12.0" Round Culvert n=0.011 L=75.0' S=0.0416 '/' Outflow=1.26 cfs 0.100 af

Pond PD1: EX-POND Peak Elev=307.29' Storage=2,059 cf Inflow=7.74 cfs 0.600 af
Outflow=5.18 cfs 0.600 af

Pond TD: TRENCH DRAIN Peak Elev=327.87' Inflow=0.29 cfs 0.026 af
6.0" Round Culvert n=0.010 L=11.5' S=0.0435 '/' Outflow=0.30 cfs 0.026 af

Link POI 2: Inflow=0.51 cfs 0.032 af
Primary=0.51 cfs 0.032 af

Link POI1: Inflow=5.18 cfs 0.600 af
Primary=5.18 cfs 0.600 af

Total Runoff Area = 5.010 ac Runoff Volume = 0.633 af Average Runoff Depth = 1.52"
43.75% Pervious = 2.192 ac 56.25% Impervious = 2.818 ac

Time span=0.00-30.00 hrs, dt=0.01 hrs, 3001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment E-1: Subcat E-1 Runoff Area=24,019 sf 27.69% Impervious Runoff Depth=2.15"
Tc=6.0 min CN=80 Runoff=1.39 cfs 0.099 af

Subcatchment E-10: Subcat E-10 Runoff Area=12,975 sf 100.00% Impervious Runoff Depth=3.89"
Tc=6.0 min CN=98 Runoff=1.20 cfs 0.097 af

Subcatchment E-11: Subcat E-11 Runoff Area=19,770 sf 100.00% Impervious Runoff Depth=3.89"
Tc=6.0 min CN=98 Runoff=1.83 cfs 0.147 af

Subcatchment E-12: Subcat E-12 Runoff Area=39,032 sf 2.03% Impervious Runoff Depth=1.48"
Flow Length=321' Tc=6.4 min CN=71 Runoff=1.48 cfs 0.111 af

Subcatchment E-13: Subcat E-13 Runoff Area=20,046 sf 48.65% Impervious Runoff Depth=1.76"
Tc=0.0 min CN=75 Runoff=1.15 cfs 0.068 af

Subcatchment E-2: Subcat E-2 Runoff Area=11,125 sf 43.31% Impervious Runoff Depth=2.23"
Tc=6.0 min CN=81 Runoff=0.67 cfs 0.047 af

Subcatchment E-3: Subcat E-3 Runoff Area=23,610 sf 45.96% Impervious Runoff Depth=1.35"
Tc=6.0 min CN=69 Runoff=0.82 cfs 0.061 af

Subcatchment E-4: Subcat E-4 Runoff Area=4,449 sf 58.53% Impervious Runoff Depth=2.85"
Tc=6.0 min CN=88 Runoff=0.34 cfs 0.024 af

Subcatchment E-5: Subcat E-5 Runoff Area=4,054 sf 78.69% Impervious Runoff Depth=3.35"
Tc=6.0 min CN=93 Runoff=0.35 cfs 0.026 af

Subcatchment E-6: Subcat E-6 Runoff Area=10,473 sf 82.69% Impervious Runoff Depth=3.45"
Tc=6.0 min CN=94 Runoff=0.92 cfs 0.069 af

Subcatchment E-7: Subcat E-7 Runoff Area=20,227 sf 100.00% Impervious Runoff Depth=3.89"
Tc=6.0 min CN=98 Runoff=1.87 cfs 0.151 af

Subcatchment E-8: Subcat E-8 Runoff Area=14,755 sf 95.72% Impervious Runoff Depth=3.78"
Tc=6.0 min CN=97 Runoff=1.35 cfs 0.107 af

Subcatchment E-9: Subcat E-9 Runoff Area=13,708 sf 60.82% Impervious Runoff Depth=2.95"
Tc=6.0 min CN=89 Runoff=1.07 cfs 0.077 af

Pond 1: CB3759 Peak Elev=309.81' Inflow=1.07 cfs 0.077 af
12.0" Round Culvert n=0.011 L=38.0' S=0.0303 '/' Outflow=1.07 cfs 0.077 af

Pond 2: CB5986 Peak Elev=309.46' Inflow=5.49 cfs 0.431 af
15.0" Round Culvert n=0.011 L=36.0' S=0.0169 '/' Outflow=5.49 cfs 0.431 af

Pond 3: CB3758 Peak Elev=308.62' Inflow=7.32 cfs 0.579 af
24.0" Round Culvert n=0.011 L=136.0' S=0.0076 '/' Outflow=7.32 cfs 0.579 af

Pond 4: CB3757 Peak Elev=311.73' Inflow=4.47 cfs 0.327 af
18.0" Round Culvert n=0.011 L=18.2' S=0.0055 '/' Outflow=4.47 cfs 0.327 af

Pond 5: CB3756 Peak Elev=318.87' Inflow=3.56 cfs 0.258 af
15.0" Round Culvert n=0.011 L=156.2' S=0.0103 '/' Outflow=3.56 cfs 0.258 af

Pond 6: CB3760 Peak Elev=315.65' Inflow=3.22 cfs 0.257 af
12.0" Round Culvert n=0.011 L=75.0' S=0.0863 '/' Outflow=3.22 cfs 0.257 af

Pond 7: CB3755 Peak Elev=328.27' Inflow=3.21 cfs 0.232 af
12.0" Round Culvert n=0.011 L=138.7' S=0.0661 '/' Outflow=3.21 cfs 0.232 af

Pond 8: CB3754 Peak Elev=328.60' Inflow=2.06 cfs 0.146 af
12.0" Round Culvert n=0.011 L=80.2' S=0.0036 '/' Outflow=2.06 cfs 0.146 af

Pond 15: CB3753 Peak Elev=330.99' Inflow=1.39 cfs 0.099 af
12.0" Round Culvert n=0.011 L=128.0' S=0.0237 '/' Outflow=1.39 cfs 0.099 af

Pond DMH1: DMH 6076 Peak Elev=318.29' Inflow=1.87 cfs 0.151 af
12.0" Round Culvert n=0.011 L=75.0' S=0.0416 '/' Outflow=1.87 cfs 0.151 af

Pond PD1: EX-POND Peak Elev=307.96' Storage=4,967 cf Inflow=13.25 cfs 1.016 af
Outflow=7.09 cfs 1.016 af

Pond TD: TRENCH DRAIN Peak Elev=329.46' Inflow=0.82 cfs 0.061 af
6.0" Round Culvert n=0.010 L=11.5' S=0.0435 '/' Outflow=0.82 cfs 0.061 af

Link POI 2: Inflow=1.15 cfs 0.068 af
Primary=1.15 cfs 0.068 af

Link POI1: Inflow=7.09 cfs 1.016 af
Primary=7.09 cfs 1.016 af

Total Runoff Area = 5.010 ac Runoff Volume = 1.084 af Average Runoff Depth = 2.60"
43.75% Pervious = 2.192 ac 56.25% Impervious = 2.818 ac

Time span=0.00-30.00 hrs, dt=0.01 hrs, 3001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment E-1: Subcat E-1 Runoff Area=24,019 sf 27.69% Impervious Runoff Depth=3.02"
Tc=6.0 min CN=80 Runoff=1.95 cfs 0.139 af

Subcatchment E-10: Subcat E-10 Runoff Area=12,975 sf 100.00% Impervious Runoff Depth=4.91"
Tc=6.0 min CN=98 Runoff=1.50 cfs 0.122 af

Subcatchment E-11: Subcat E-11 Runoff Area=19,770 sf 100.00% Impervious Runoff Depth=4.91"
Tc=6.0 min CN=98 Runoff=2.29 cfs 0.186 af

Subcatchment E-12: Subcat E-12 Runoff Area=39,032 sf 2.03% Impervious Runoff Depth=2.23"
Flow Length=321' Tc=6.4 min CN=71 Runoff=2.28 cfs 0.167 af

Subcatchment E-13: Subcat E-13 Runoff Area=20,046 sf 48.65% Impervious Runoff Depth=2.57"
Tc=0.0 min CN=75 Runoff=1.70 cfs 0.099 af

Subcatchment E-2: Subcat E-2 Runoff Area=11,125 sf 43.31% Impervious Runoff Depth=3.12"
Tc=6.0 min CN=81 Runoff=0.93 cfs 0.066 af

Subcatchment E-3: Subcat E-3 Runoff Area=23,610 sf 45.96% Impervious Runoff Depth=2.07"
Tc=6.0 min CN=69 Runoff=1.29 cfs 0.093 af

Subcatchment E-4: Subcat E-4 Runoff Area=4,449 sf 58.53% Impervious Runoff Depth=3.81"
Tc=6.0 min CN=88 Runoff=0.45 cfs 0.032 af

Subcatchment E-5: Subcat E-5 Runoff Area=4,054 sf 78.69% Impervious Runoff Depth=4.35"
Tc=6.0 min CN=93 Runoff=0.44 cfs 0.034 af

Subcatchment E-6: Subcat E-6 Runoff Area=10,473 sf 82.69% Impervious Runoff Depth=4.46"
Tc=6.0 min CN=94 Runoff=1.17 cfs 0.089 af

Subcatchment E-7: Subcat E-7 Runoff Area=20,227 sf 100.00% Impervious Runoff Depth=4.91"
Tc=6.0 min CN=98 Runoff=2.34 cfs 0.190 af

Subcatchment E-8: Subcat E-8 Runoff Area=14,755 sf 95.72% Impervious Runoff Depth=4.80"
Tc=6.0 min CN=97 Runoff=1.70 cfs 0.135 af

Subcatchment E-9: Subcat E-9 Runoff Area=13,708 sf 60.82% Impervious Runoff Depth=3.92"
Tc=6.0 min CN=89 Runoff=1.40 cfs 0.103 af

Pond 1: CB3759 Peak Elev=310.37' Inflow=1.40 cfs 0.103 af
12.0" Round Culvert n=0.011 L=38.0' S=0.0303 '/' Outflow=1.40 cfs 0.103 af

Pond 2: CB5986 Peak Elev=310.24' Inflow=6.94 cfs 0.550 af
15.0" Round Culvert n=0.011 L=36.0' S=0.0169 '/' Outflow=6.94 cfs 0.550 af

Pond 3: CB3758 Peak Elev=308.91' Inflow=9.22 cfs 0.736 af
24.0" Round Culvert n=0.011 L=136.0' S=0.0076 '/' Outflow=9.22 cfs 0.736 af

Pond 4: CB3757 Peak Elev=312.03' Inflow=6.23 cfs 0.454 af
18.0" Round Culvert n=0.011 L=18.2' S=0.0055 '/' Outflow=6.23 cfs 0.454 af

Pond 5: CB3756 Peak Elev=319.24' Inflow=5.07 cfs 0.365 af
15.0" Round Culvert n=0.011 L=156.2' S=0.0103 '/' Outflow=5.07 cfs 0.365 af

Pond 6: CB3760 Peak Elev=316.06' Inflow=4.04 cfs 0.326 af
12.0" Round Culvert n=0.011 L=75.0' S=0.0863 '/' Outflow=4.04 cfs 0.326 af

Pond 7: CB3755 Peak Elev=329.04' Inflow=4.62 cfs 0.331 af
12.0" Round Culvert n=0.011 L=138.7' S=0.0661 '/' Outflow=4.62 cfs 0.331 af

Pond 8: CB3754 Peak Elev=329.73' Inflow=2.89 cfs 0.205 af
12.0" Round Culvert n=0.011 L=80.2' S=0.0036 '/' Outflow=2.89 cfs 0.205 af

Pond 15: CB3753 Peak Elev=331.14' Inflow=1.95 cfs 0.139 af
12.0" Round Culvert n=0.011 L=128.0' S=0.0237 '/' Outflow=1.95 cfs 0.139 af

Pond DMH1: DMH 6076 Peak Elev=318.42' Inflow=2.34 cfs 0.190 af
12.0" Round Culvert n=0.011 L=75.0' S=0.0416 '/' Outflow=2.34 cfs 0.190 af

Pond PD1: EX-POND Peak Elev=308.50' Storage=7,986 cf Inflow=17.71 cfs 1.357 af
Outflow=8.30 cfs 1.357 af

Pond TD: TRENCH DRAIN Peak Elev=332.02' Inflow=1.29 cfs 0.093 af
6.0" Round Culvert n=0.010 L=11.5' S=0.0435 '/' Outflow=1.29 cfs 0.093 af

Link POI 2: Inflow=1.70 cfs 0.099 af
Primary=1.70 cfs 0.099 af

Link POI1: Inflow=8.30 cfs 1.357 af
Primary=8.30 cfs 1.357 af

Total Runoff Area = 5.010 ac Runoff Volume = 1.455 af Average Runoff Depth = 3.49"
43.75% Pervious = 2.192 ac 56.25% Impervious = 2.818 ac

Time span=0.00-30.00 hrs, dt=0.01 hrs, 3001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment E-1: Subcat E-1 Runoff Area=24,019 sf 27.69% Impervious Runoff Depth=3.86"
Tc=6.0 min CN=80 Runoff=2.49 cfs 0.177 af

Subcatchment E-10: Subcat E-10 Runoff Area=12,975 sf 100.00% Impervious Runoff Depth=5.85"
Tc=6.0 min CN=98 Runoff=1.78 cfs 0.145 af

Subcatchment E-11: Subcat E-11 Runoff Area=19,770 sf 100.00% Impervious Runoff Depth=5.85"
Tc=6.0 min CN=98 Runoff=2.71 cfs 0.221 af

Subcatchment E-12: Subcat E-12 Runoff Area=39,032 sf 2.03% Impervious Runoff Depth=2.97"
Flow Length=321' Tc=6.4 min CN=71 Runoff=3.07 cfs 0.222 af

Subcatchment E-13: Subcat E-13 Runoff Area=20,046 sf 48.65% Impervious Runoff Depth=3.36"
Tc=0.0 min CN=75 Runoff=2.22 cfs 0.129 af

Subcatchment E-2: Subcat E-2 Runoff Area=11,125 sf 43.31% Impervious Runoff Depth=3.97"
Tc=6.0 min CN=81 Runoff=1.18 cfs 0.084 af

Subcatchment E-3: Subcat E-3 Runoff Area=23,610 sf 45.96% Impervious Runoff Depth=2.78"
Tc=6.0 min CN=69 Runoff=1.76 cfs 0.126 af

Subcatchment E-4: Subcat E-4 Runoff Area=4,449 sf 58.53% Impervious Runoff Depth=4.71"
Tc=6.0 min CN=88 Runoff=0.54 cfs 0.040 af

Subcatchment E-5: Subcat E-5 Runoff Area=4,054 sf 78.69% Impervious Runoff Depth=5.27"
Tc=6.0 min CN=93 Runoff=0.53 cfs 0.041 af

Subcatchment E-6: Subcat E-6 Runoff Area=10,473 sf 82.69% Impervious Runoff Depth=5.39"
Tc=6.0 min CN=94 Runoff=1.39 cfs 0.108 af

Subcatchment E-7: Subcat E-7 Runoff Area=20,227 sf 100.00% Impervious Runoff Depth=5.85"
Tc=6.0 min CN=98 Runoff=2.77 cfs 0.226 af

Subcatchment E-8: Subcat E-8 Runoff Area=14,755 sf 95.72% Impervious Runoff Depth=5.73"
Tc=6.0 min CN=97 Runoff=2.01 cfs 0.162 af

Subcatchment E-9: Subcat E-9 Runoff Area=13,708 sf 60.82% Impervious Runoff Depth=4.82"
Tc=6.0 min CN=89 Runoff=1.71 cfs 0.126 af

Pond 1: CB3759 Peak Elev=311.27' Inflow=1.71 cfs 0.126 af
12.0" Round Culvert n=0.011 L=38.0' S=0.0303 '/' Outflow=1.71 cfs 0.126 af

Pond 2: CB5986 Peak Elev=311.07' Inflow=8.27 cfs 0.660 af
15.0" Round Culvert n=0.011 L=36.0' S=0.0169 '/' Outflow=8.27 cfs 0.660 af

Pond 3: CB3758 Peak Elev=309.22' Inflow=10.98 cfs 0.881 af
24.0" Round Culvert n=0.011 L=136.0' S=0.0076 '/' Outflow=10.98 cfs 0.881 af

Pond 4: CB3757 Peak Elev=312.35' Inflow=7.89 cfs 0.576 af
18.0" Round Culvert n=0.011 L=18.2' S=0.0055 '/' Outflow=7.89 cfs 0.576 af

Pond 5: CB3756 Peak Elev=319.72' Inflow=6.50 cfs 0.469 af
15.0" Round Culvert n=0.011 L=156.2' S=0.0103 '/' Outflow=6.50 cfs 0.469 af

Pond 6: CB3760 Peak Elev=316.52' Inflow=4.78 cfs 0.388 af
12.0" Round Culvert n=0.011 L=75.0' S=0.0863 '/' Outflow=4.78 cfs 0.388 af

Pond 7: CB3755 Peak Elev=330.04' Inflow=5.97 cfs 0.428 af
12.0" Round Culvert n=0.011 L=138.7' S=0.0661 '/' Outflow=5.97 cfs 0.428 af

Pond 8: CB3754 Peak Elev=331.14' Inflow=3.67 cfs 0.262 af
12.0" Round Culvert n=0.011 L=80.2' S=0.0036 '/' Outflow=3.67 cfs 0.262 af

Pond 15: CB3753 Peak Elev=331.80' Inflow=2.49 cfs 0.177 af
12.0" Round Culvert n=0.011 L=128.0' S=0.0237 '/' Outflow=2.49 cfs 0.177 af

Pond DMH1: DMH 6076 Peak Elev=318.58' Inflow=2.77 cfs 0.226 af
12.0" Round Culvert n=0.011 L=75.0' S=0.0416 '/' Outflow=2.77 cfs 0.226 af

Pond PD1: EX-POND Peak Elev=308.76' Storage=9,607 cf Inflow=21.91 cfs 1.680 af
Outflow=14.03 cfs 1.680 af

Pond TD: TRENCH DRAIN Peak Elev=335.58' Inflow=1.76 cfs 0.126 af
6.0" Round Culvert n=0.010 L=11.5' S=0.0435 '/' Outflow=1.76 cfs 0.126 af

Link POI 2: Inflow=2.22 cfs 0.129 af
Primary=2.22 cfs 0.129 af

Link POI1: Inflow=14.03 cfs 1.680 af
Primary=14.03 cfs 1.680 af

Total Runoff Area = 5.010 ac Runoff Volume = 1.809 af Average Runoff Depth = 4.33"
43.75% Pervious = 2.192 ac 56.25% Impervious = 2.818 ac

Time span=0.00-30.00 hrs, dt=0.01 hrs, 3001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment E-1: Subcat E-1 Runoff Area=24,019 sf 27.69% Impervious Runoff Depth=4.88"
Tc=6.0 min CN=80 Runoff=3.12 cfs 0.224 af

Subcatchment E-10: Subcat E-10 Runoff Area=12,975 sf 100.00% Impervious Runoff Depth=6.96"
Tc=6.0 min CN=98 Runoff=2.10 cfs 0.173 af

Subcatchment E-11: Subcat E-11 Runoff Area=19,770 sf 100.00% Impervious Runoff Depth=6.96"
Tc=6.0 min CN=98 Runoff=3.21 cfs 0.263 af

Subcatchment E-12: Subcat E-12 Runoff Area=39,032 sf 2.03% Impervious Runoff Depth=3.89"
Flow Length=321' Tc=6.4 min CN=71 Runoff=4.03 cfs 0.291 af

Subcatchment E-13: Subcat E-13 Runoff Area=20,046 sf 48.65% Impervious Runoff Depth=4.33"
Tc=0.0 min CN=75 Runoff=2.85 cfs 0.166 af

Subcatchment E-2: Subcat E-2 Runoff Area=11,125 sf 43.31% Impervious Runoff Depth=4.99"
Tc=6.0 min CN=81 Runoff=1.47 cfs 0.106 af

Subcatchment E-3: Subcat E-3 Runoff Area=23,610 sf 45.96% Impervious Runoff Depth=3.68"
Tc=6.0 min CN=69 Runoff=2.34 cfs 0.166 af

Subcatchment E-4: Subcat E-4 Runoff Area=4,449 sf 58.53% Impervious Runoff Depth=5.79"
Tc=6.0 min CN=88 Runoff=0.66 cfs 0.049 af

Subcatchment E-5: Subcat E-5 Runoff Area=4,054 sf 78.69% Impervious Runoff Depth=6.37"
Tc=6.0 min CN=93 Runoff=0.64 cfs 0.049 af

Subcatchment E-6: Subcat E-6 Runoff Area=10,473 sf 82.69% Impervious Runoff Depth=6.49"
Tc=6.0 min CN=94 Runoff=1.66 cfs 0.130 af

Subcatchment E-7: Subcat E-7 Runoff Area=20,227 sf 100.00% Impervious Runoff Depth=6.96"
Tc=6.0 min CN=98 Runoff=3.28 cfs 0.269 af

Subcatchment E-8: Subcat E-8 Runoff Area=14,755 sf 95.72% Impervious Runoff Depth=6.84"
Tc=6.0 min CN=97 Runoff=2.38 cfs 0.193 af

Subcatchment E-9: Subcat E-9 Runoff Area=13,708 sf 60.82% Impervious Runoff Depth=5.90"
Tc=6.0 min CN=89 Runoff=2.07 cfs 0.155 af

Pond 1: CB3759 Peak Elev=312.51' Inflow=2.07 cfs 0.155 af
12.0" Round Culvert n=0.011 L=38.0' S=0.0303 '/' Outflow=2.07 cfs 0.155 af

Pond 2: CB5986 Peak Elev=312.23' Inflow=9.83 cfs 0.790 af
15.0" Round Culvert n=0.011 L=36.0' S=0.0169 '/' Outflow=9.83 cfs 0.790 af

Pond 3: CB3758 Peak Elev=309.57' Inflow=13.04 cfs 1.053 af
24.0" Round Culvert n=0.011 L=136.0' S=0.0076 '/' Outflow=13.04 cfs 1.053 af

Pond 4: CB3757 Peak Elev=312.75' Inflow=9.89 cfs 0.725 af
18.0" Round Culvert n=0.011 L=18.2' S=0.0055 '/' Outflow=9.89 cfs 0.725 af

Pond 5: CB3756 Peak Elev=320.45' Inflow=8.23 cfs 0.595 af
15.0" Round Culvert n=0.011 L=156.2' S=0.0103 '/' Outflow=8.23 cfs 0.595 af

Pond 6: CB3760 Peak Elev=317.16' Inflow=5.67 cfs 0.462 af
12.0" Round Culvert n=0.011 L=75.0' S=0.0863 '/' Outflow=5.67 cfs 0.462 af

Pond 7: CB3755 Peak Elev=331.58' Inflow=7.59 cfs 0.546 af
12.0" Round Culvert n=0.011 L=138.7' S=0.0661 '/' Outflow=7.59 cfs 0.546 af

Pond 8: CB3754 Peak Elev=333.31' Inflow=4.59 cfs 0.330 af
12.0" Round Culvert n=0.011 L=80.2' S=0.0036 '/' Outflow=4.59 cfs 0.330 af

Pond 15: CB3753 Peak Elev=334.34' Inflow=3.12 cfs 0.224 af
12.0" Round Culvert n=0.011 L=128.0' S=0.0237 '/' Outflow=3.12 cfs 0.224 af

Pond DMH1: DMH 6076 Peak Elev=318.79' Inflow=3.28 cfs 0.269 af
12.0" Round Culvert n=0.011 L=75.0' S=0.0416 '/' Outflow=3.28 cfs 0.269 af

Pond PD1: EX-POND Peak Elev=308.95' Storage=10,794 cf Inflow=26.94 cfs 2.069 af
Outflow=21.39 cfs 2.069 af

Pond TD: TRENCH DRAIN Peak Elev=341.37' Inflow=2.34 cfs 0.166 af
6.0" Round Culvert n=0.010 L=11.5' S=0.0435 '/' Outflow=2.34 cfs 0.166 af

Link POI 2: Inflow=2.85 cfs 0.166 af
Primary=2.85 cfs 0.166 af

Link POI1: Inflow=21.39 cfs 2.069 af
Primary=21.39 cfs 2.069 af

Total Runoff Area = 5.010 ac Runoff Volume = 2.235 af Average Runoff Depth = 5.35"
43.75% Pervious = 2.192 ac 56.25% Impervious = 2.818 ac

Summary for Subcatchment E-1: Subcat E-1

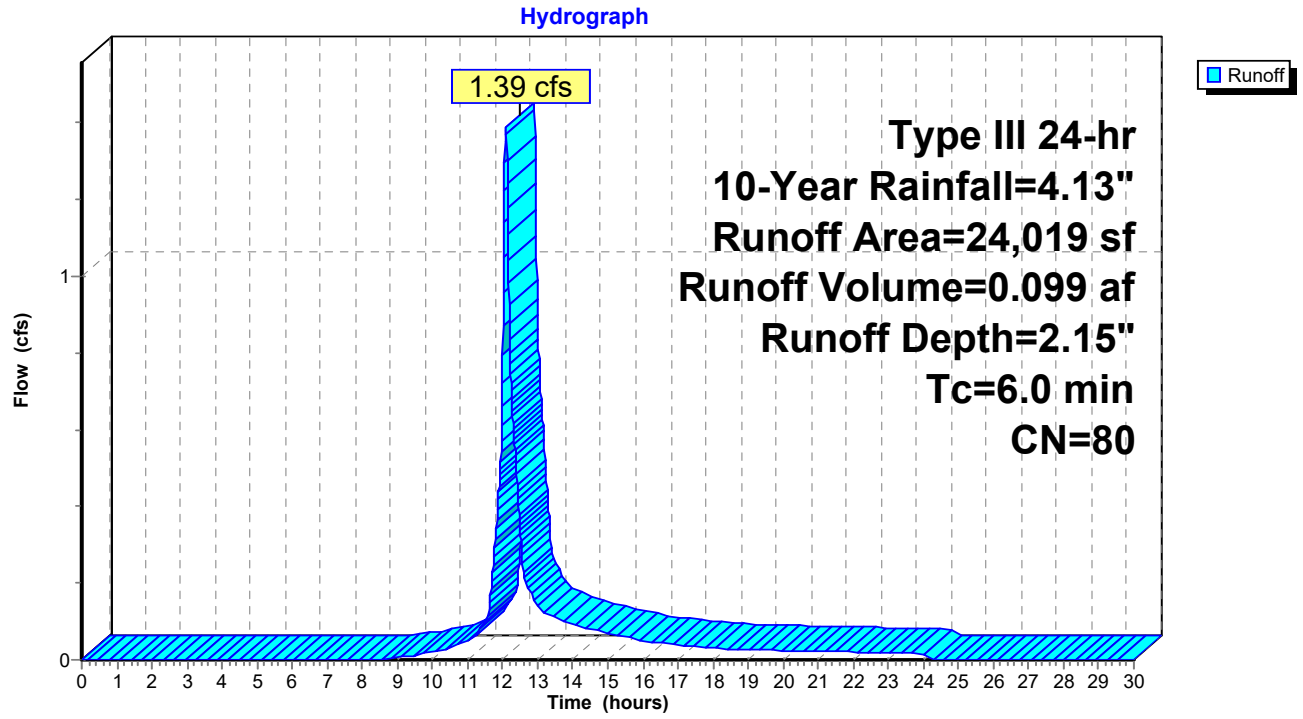
Runoff = 1.39 cfs @ 12.09 hrs, Volume= 0.099 af, Depth= 2.15"
Routed to Pond 15 : CB3753

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.13"

Area (sf)	CN	Description
148	39	>75% Grass cover, Good, HSG A
17,211	74	>75% Grass cover, Good, HSG C
6,652	98	Paved parking, HSG C
8	30	Woods, Good, HSG A
24,019	80	Weighted Average
17,367		72.31% Pervious Area
6,652		27.69% Impervious Area

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

Subcatchment E-1: Subcat E-1



Summary for Subcatchment E-10: Subcat E-10

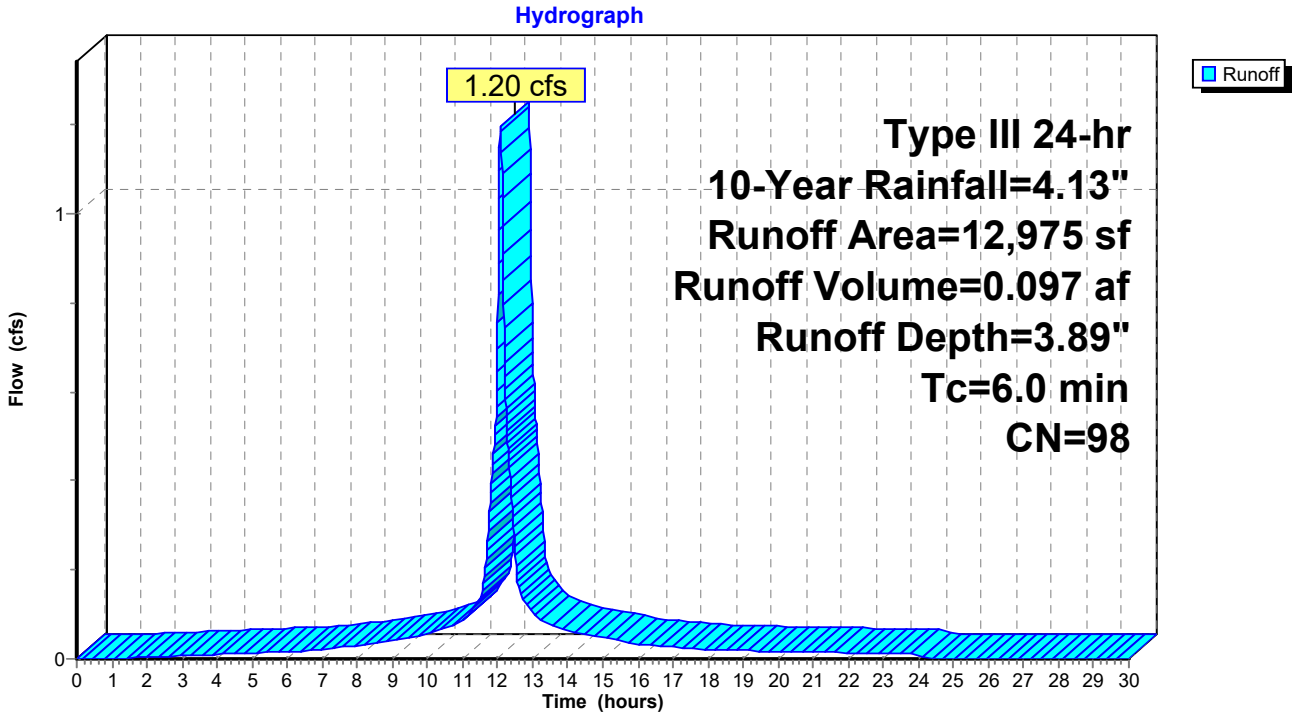
Runoff = 1.20 cfs @ 12.08 hrs, Volume= 0.097 af, Depth= 3.89"
Routed to Pond 2 : CB5986

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.13"

Area (sf)	CN	Description
12,975	98	Paved parking, HSG C
12,975		100.00% Impervious Area

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

Subcatchment E-10: Subcat E-10



Summary for Subcatchment E-11: Subcat E-11

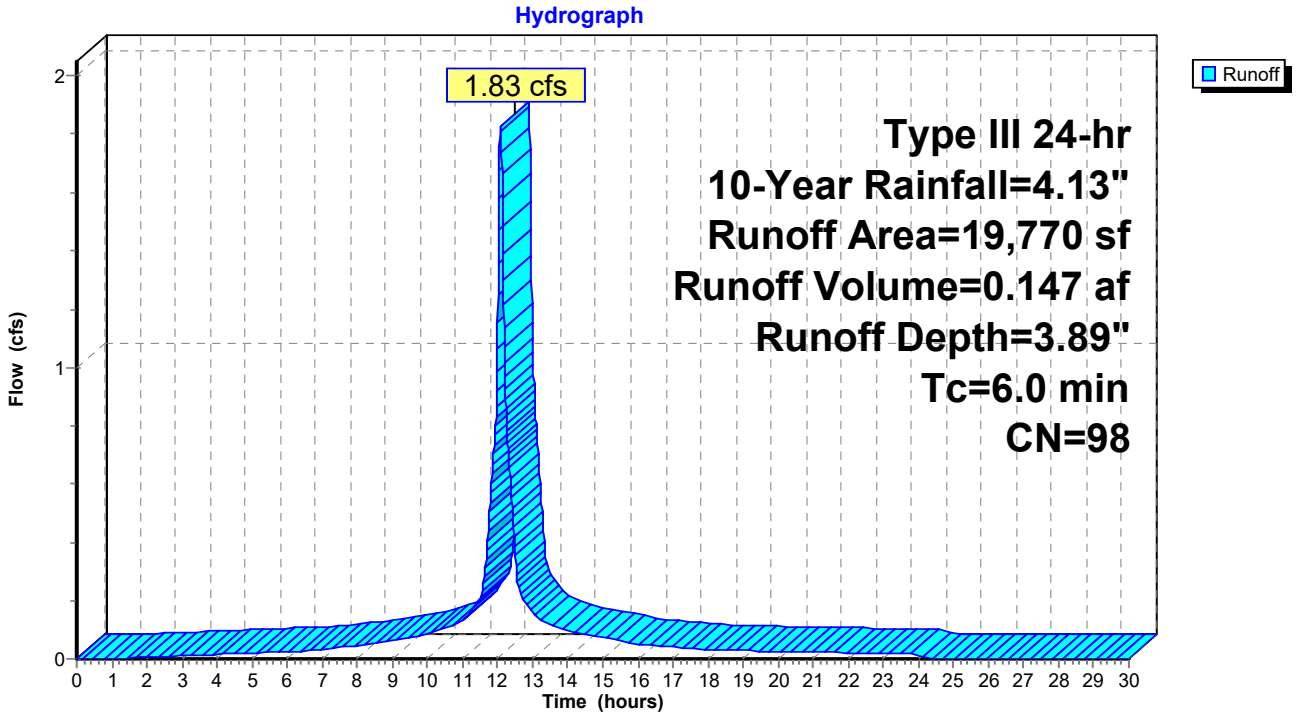
Runoff = 1.83 cfs @ 12.08 hrs, Volume= 0.147 af, Depth= 3.89"
Routed to Pond 3 : CB3758

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.13"

Area (sf)	CN	Description
19,770	98	Paved parking, HSG C
19,770		100.00% Impervious Area

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

Subcatchment E-11: Subcat E-11



Summary for Subcatchment E-12: Subcat E-12

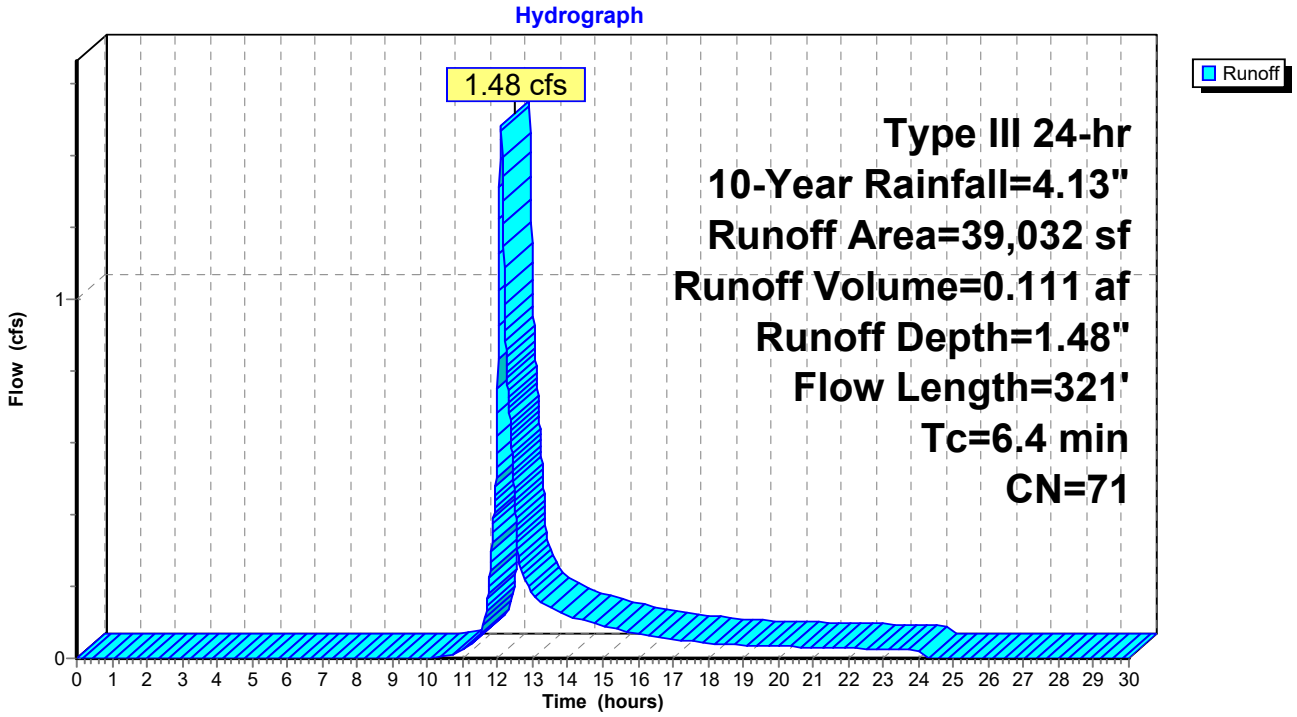
Runoff = 1.48 cfs @ 12.10 hrs, Volume= 0.111 af, Depth= 1.48"
Routed to Pond PD1 : EX-POND

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.13"

Area (sf)	CN	Description
1,339	39	>75% Grass cover, Good, HSG A
5,361	61	>75% Grass cover, Good, HSG B
13,171	74	>75% Grass cover, Good, HSG C
6,282	80	>75% Grass cover, Good, HSG D
100	98	Paved parking, HSG A
174	98	Paved parking, HSG B
321	98	Paved parking, HSG C
196	98	Paved parking, HSG D
12,087	70	Woods, Good, HSG C
39,032	71	Weighted Average
38,241		97.97% Pervious Area
791		2.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.5	100	0.1000	0.30		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.81"
0.9	221	0.0810	4.27		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
6.4	321	Total			

Subcatchment E-12: Subcat E-12



Summary for Subcatchment E-13: Subcat E-13

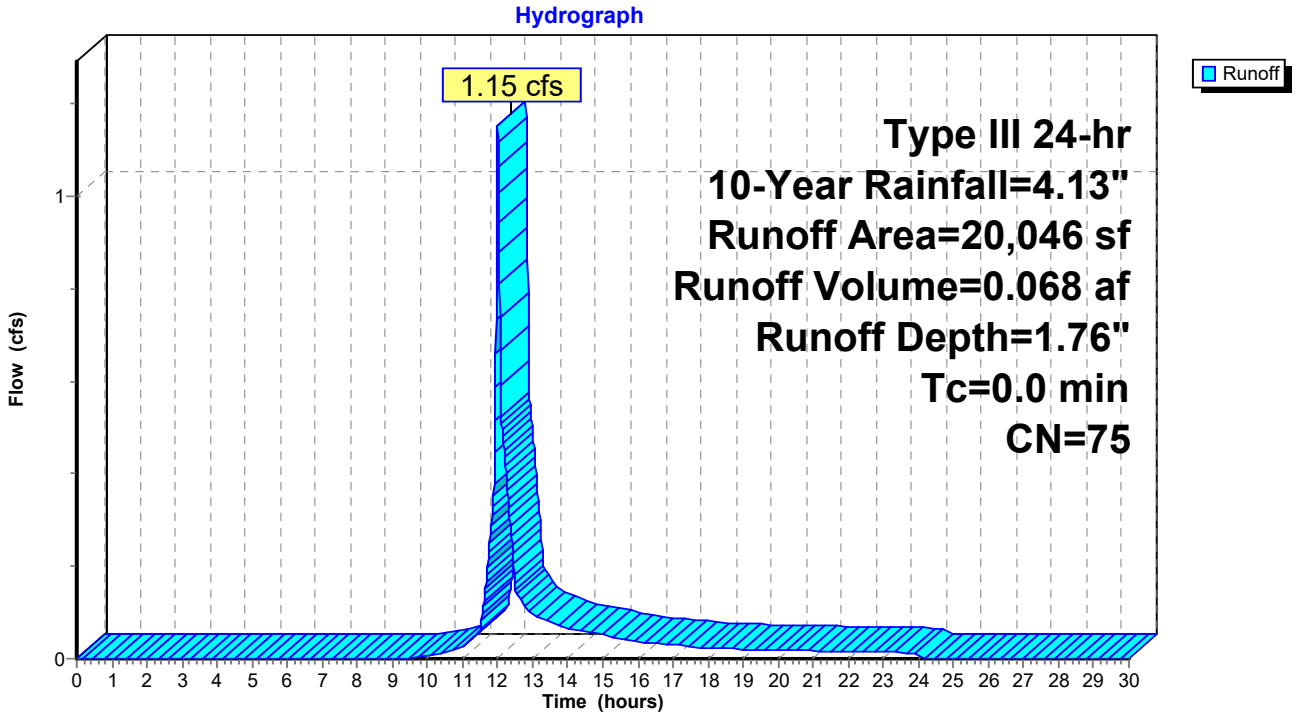
[46] Hint: Tc=0 (Instant runoff peak depends on dt)

Runoff = 1.15 cfs @ 12.00 hrs, Volume= 0.068 af, Depth= 1.76"
Routed to Link POI 2 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.13"

Area (sf)	CN	Description
6,174	39	>75% Grass cover, Good, HSG A
3,170	74	>75% Grass cover, Good, HSG C
9,615	98	Paved parking, HSG A
137	98	Paved parking, HSG C
20	30	Woods, Good, HSG A
929	70	Woods, Good, HSG C
20,046	75	Weighted Average
10,293		51.35% Pervious Area
9,752		48.65% Impervious Area

Subcatchment E-13: Subcat E-13



Summary for Subcatchment E-2: Subcat E-2

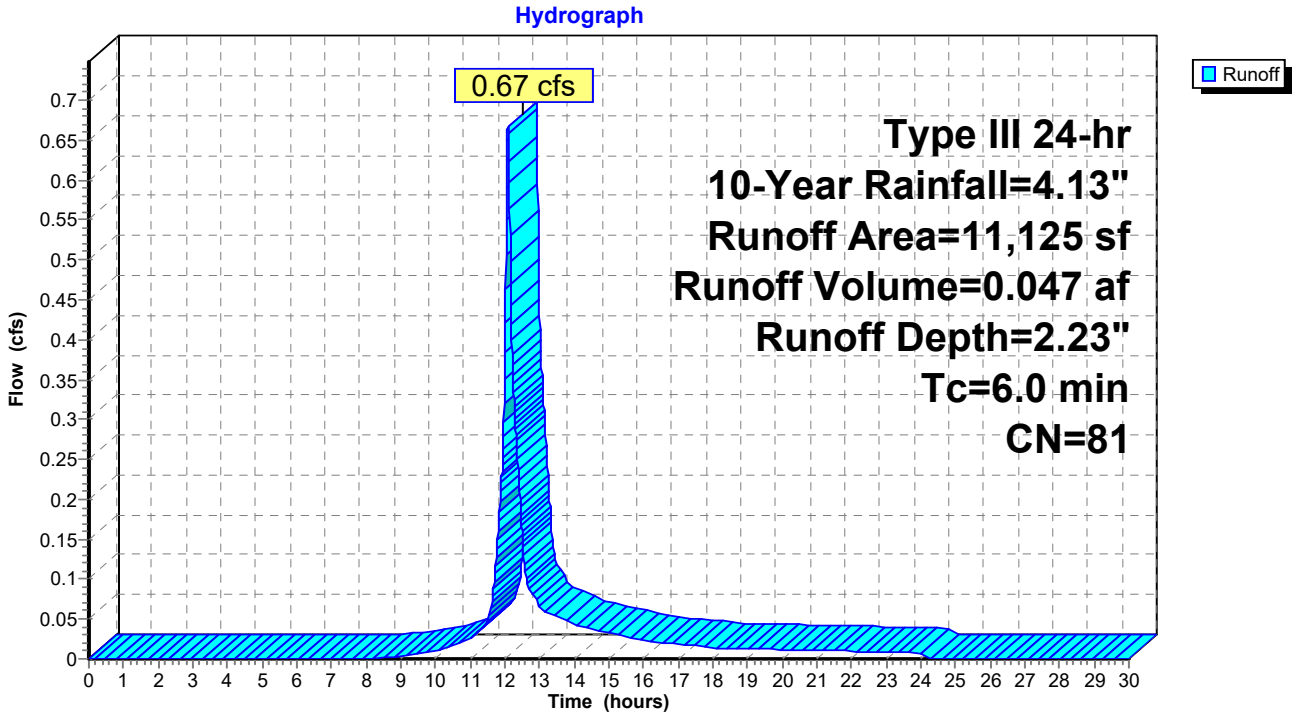
Runoff = 0.67 cfs @ 12.09 hrs, Volume= 0.047 af, Depth= 2.23"
Routed to Pond 8 : CB3754

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.13"

Area (sf)	CN	Description
47	39	>75% Grass cover, Good, HSG A
5,343	74	>75% Grass cover, Good, HSG C
1	98	Paved parking, HSG A
4,817	98	Paved parking, HSG C
782	30	Woods, Good, HSG A
135	70	Woods, Good, HSG C
11,125	81	Weighted Average
6,307		56.69% Pervious Area
4,818		43.31% Impervious Area

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

Subcatchment E-2: Subcat E-2



Summary for Subcatchment E-3: Subcat E-3

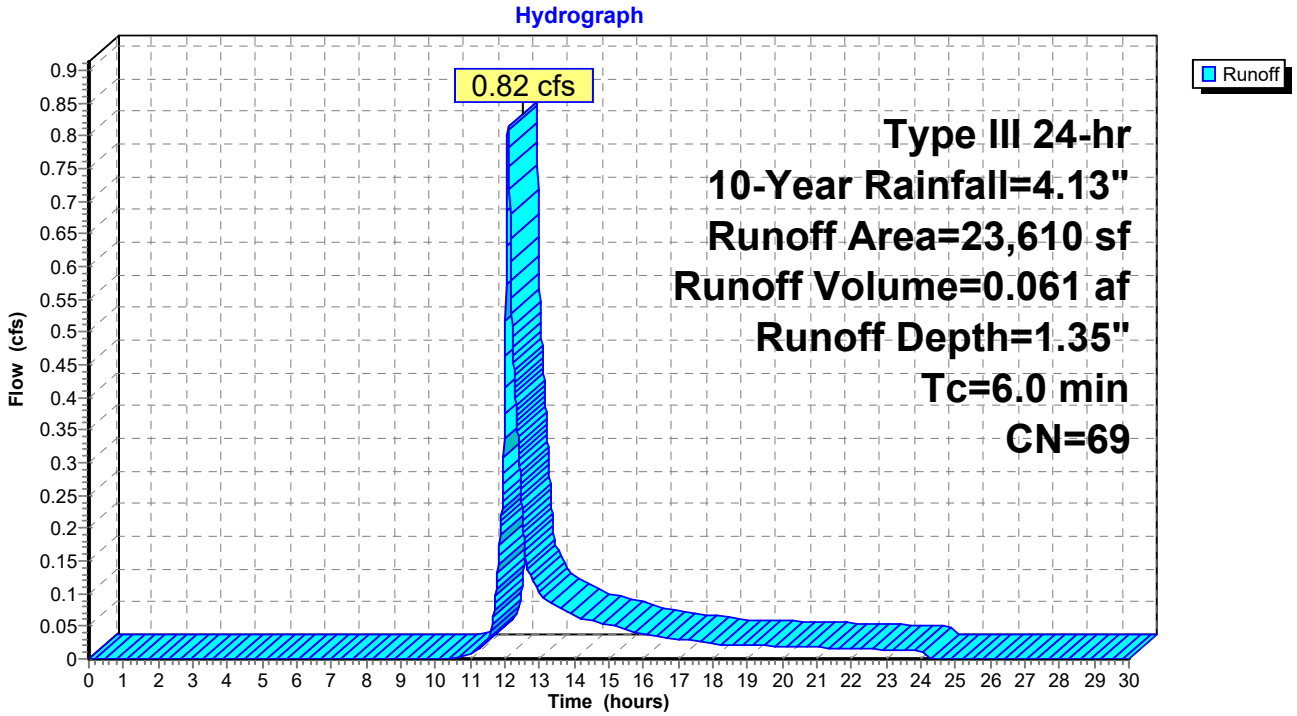
Runoff = 0.82 cfs @ 12.10 hrs, Volume= 0.061 af, Depth= 1.35"
Routed to Pond TD : TRENCH DRAIN

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.13"

Area (sf)	CN	Description
9,302	39	>75% Grass cover, Good, HSG A
1,609	74	>75% Grass cover, Good, HSG C
543	98	Paved parking, HSG A
10,308	98	Paved parking, HSG C
1,352	30	Woods, Good, HSG A
496	70	Woods, Good, HSG C
23,610	69	Weighted Average
12,759		54.04% Pervious Area
10,851		45.96% Impervious Area

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

Subcatchment E-3: Subcat E-3



Summary for Subcatchment E-4: Subcat E-4

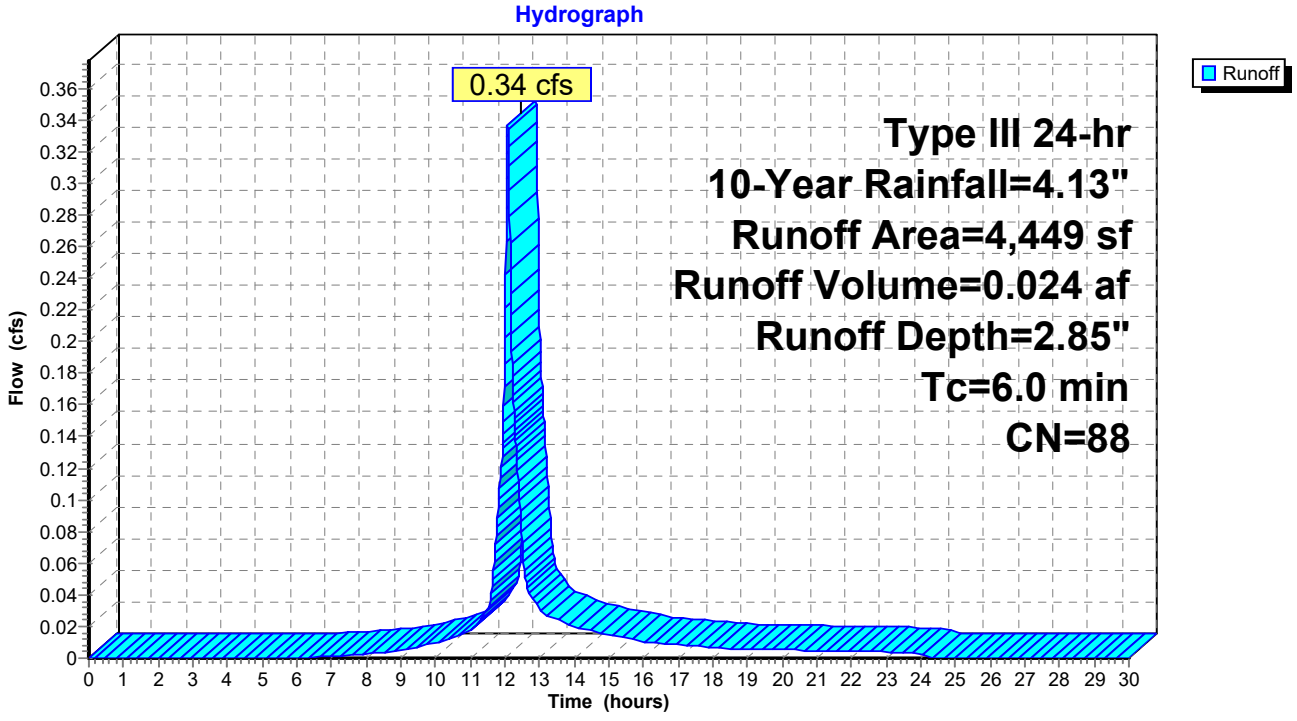
Runoff = 0.34 cfs @ 12.09 hrs, Volume= 0.024 af, Depth= 2.85"
Routed to Pond 7 : CB3755

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.13"

Area (sf)	CN	Description
1,845	74	>75% Grass cover, Good, HSG C
2,604	98	Paved parking, HSG C
4,449	88	Weighted Average
1,845		41.47% Pervious Area
2,604		58.53% Impervious Area

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

Subcatchment E-4: Subcat E-4



Summary for Subcatchment E-5: Subcat E-5

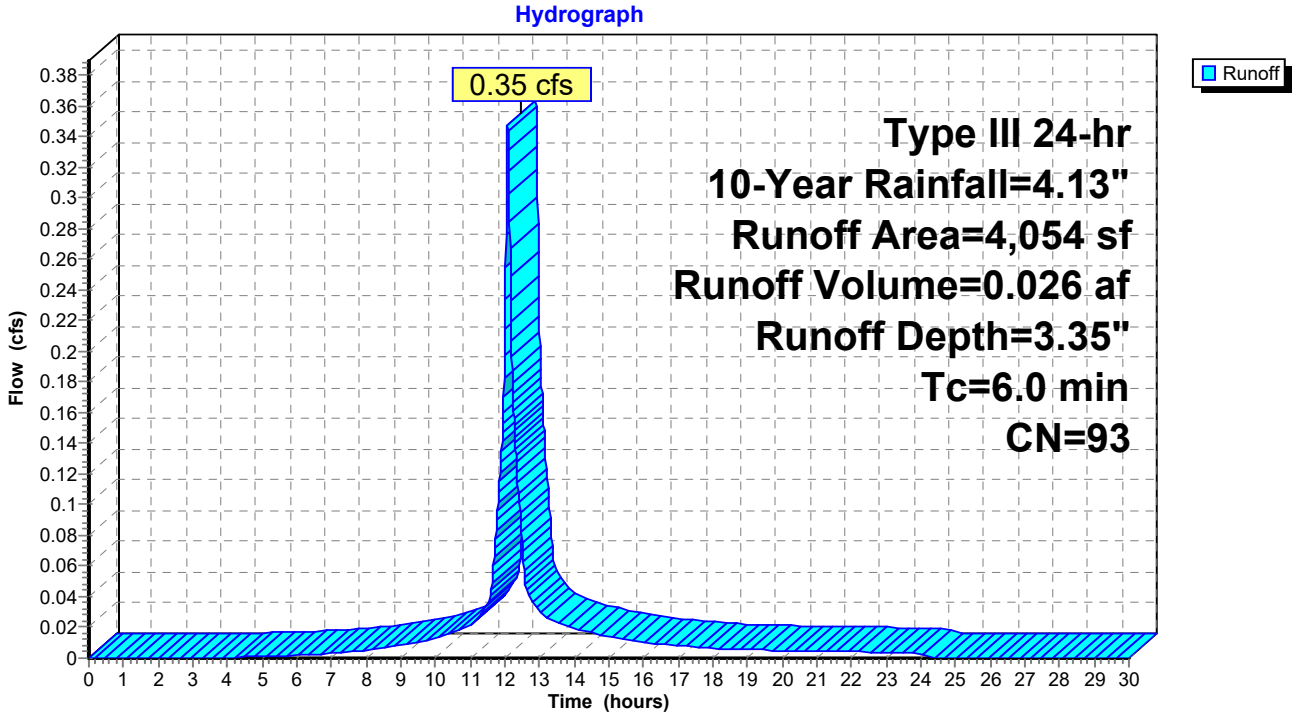
Runoff = 0.35 cfs @ 12.08 hrs, Volume= 0.026 af, Depth= 3.35"
Routed to Pond 5 : CB3756

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.13"

Area (sf)	CN	Description
864	74	>75% Grass cover, Good, HSG C
3,190	98	Paved parking, HSG C
4,054	93	Weighted Average
864		21.31% Pervious Area
3,190		78.69% Impervious Area

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

Subcatchment E-5: Subcat E-5



Summary for Subcatchment E-6: Subcat E-6

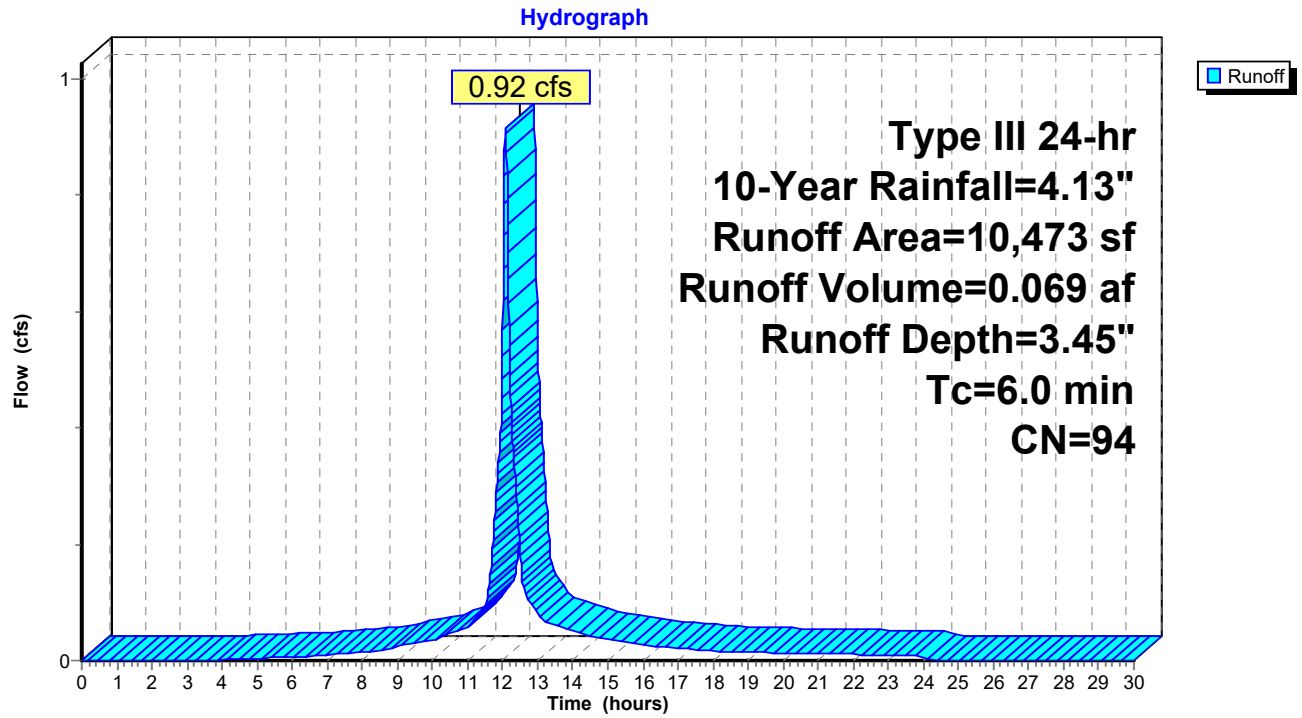
Runoff = 0.92 cfs @ 12.08 hrs, Volume= 0.069 af, Depth= 3.45"
Routed to Pond 4 : CB3757

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.13"

Area (sf)	CN	Description
34	61	>75% Grass cover, Good, HSG B
1,779	74	>75% Grass cover, Good, HSG C
8,660	98	Paved parking, HSG C
10,473	94	Weighted Average
1,813		17.31% Pervious Area
8,660		82.69% Impervious Area

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

Subcatchment E-6: Subcat E-6



Summary for Subcatchment E-7: Subcat E-7

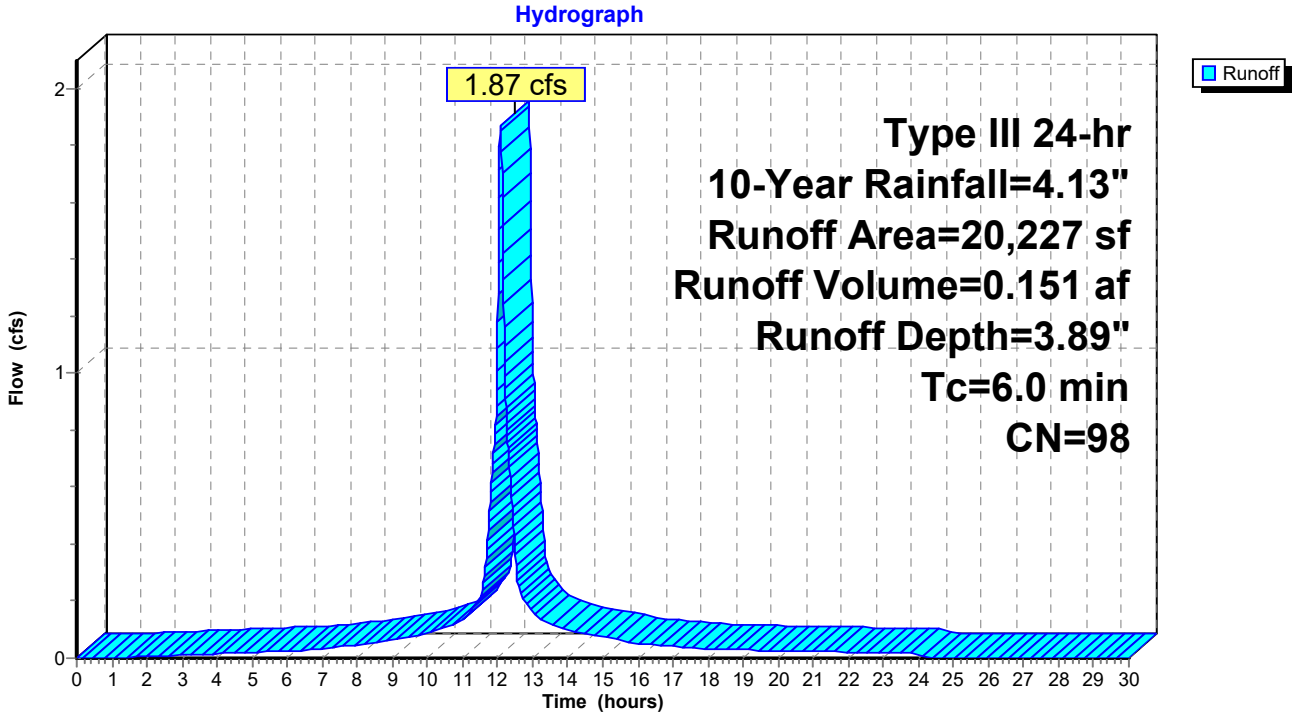
Runoff = 1.87 cfs @ 12.08 hrs, Volume= 0.151 af, Depth= 3.89"
Routed to Pond DMH1 : DMH 6076

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.13"

Area (sf)	CN	Description
0	74	>75% Grass cover, Good, HSG C
20,227	98	Paved parking, HSG C
20,227	98	Weighted Average
0		0.00% Pervious Area
20,227		100.00% Impervious Area

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

Subcatchment E-7: Subcat E-7



Summary for Subcatchment E-8: Subcat E-8

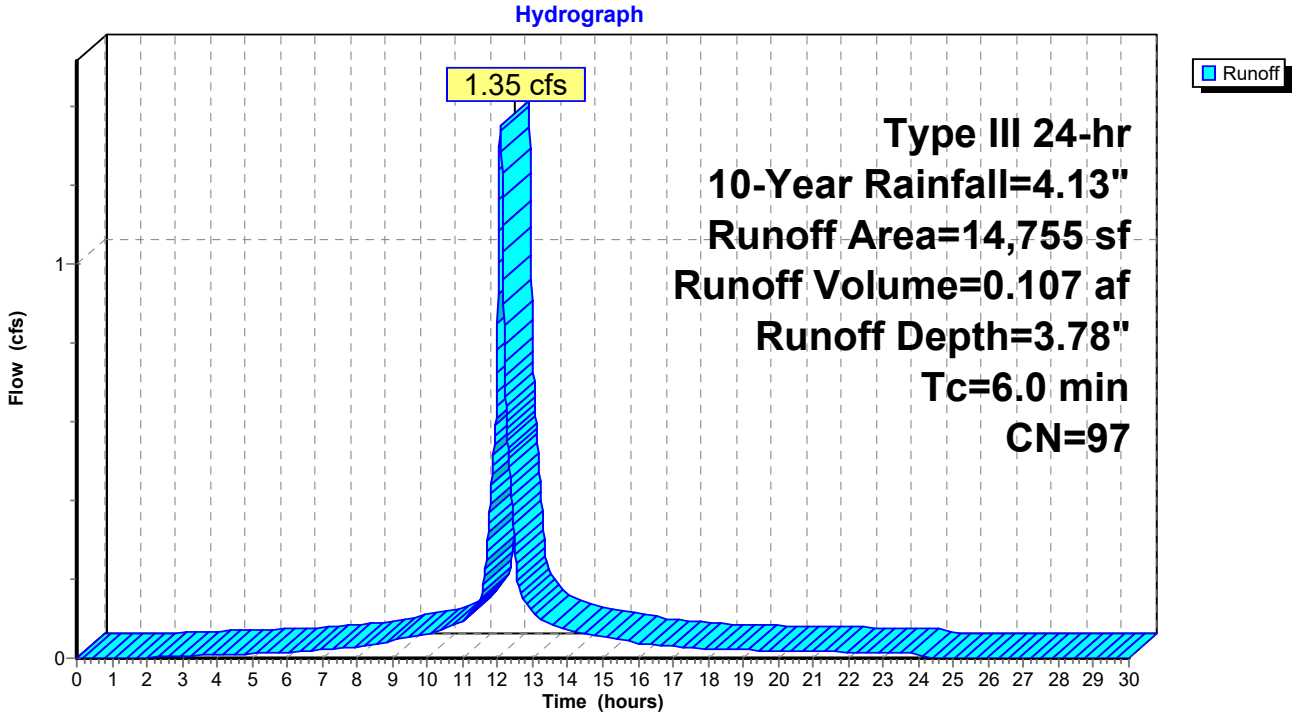
Runoff = 1.35 cfs @ 12.08 hrs, Volume= 0.107 af, Depth= 3.78"
Routed to Pond 6 : CB3760

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.13"

Area (sf)	CN	Description
632	74	>75% Grass cover, Good, HSG C
14,123	98	Paved parking, HSG C
14,755	97	Weighted Average
632		4.28% Pervious Area
14,123		95.72% Impervious Area

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

Subcatchment E-8: Subcat E-8



Summary for Subcatchment E-9: Subcat E-9

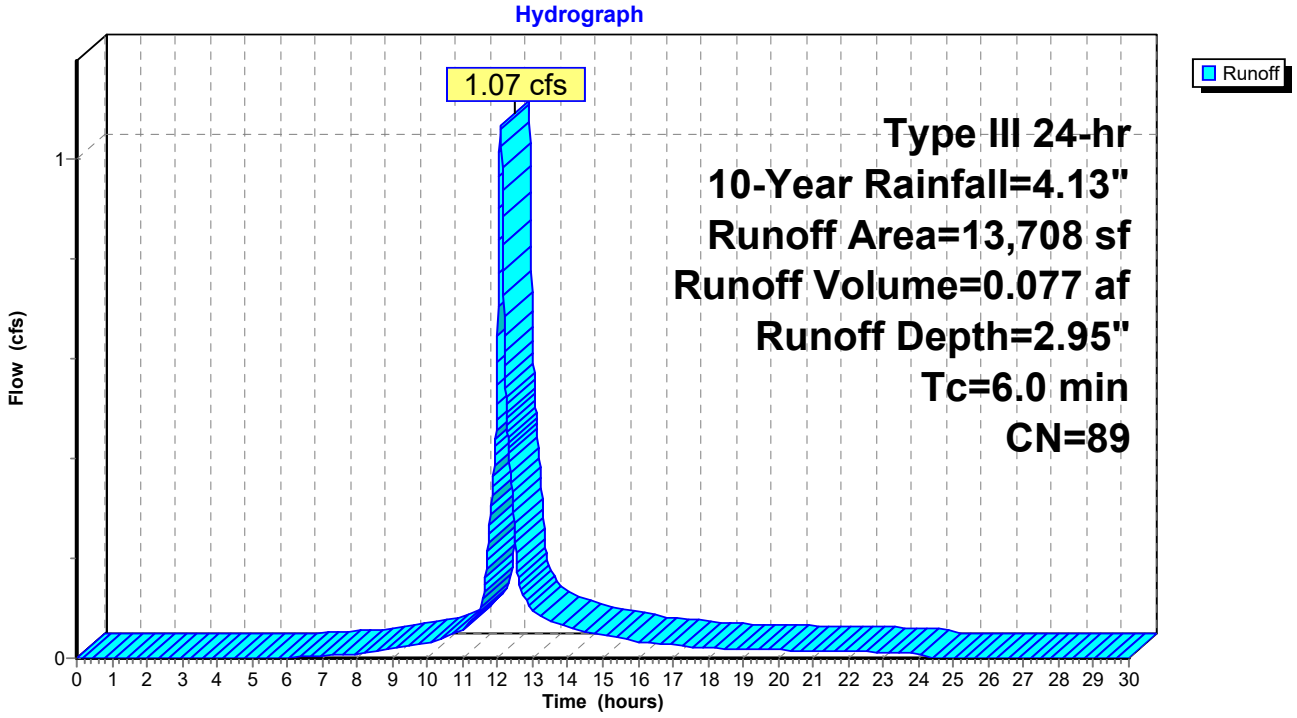
Runoff = 1.07 cfs @ 12.09 hrs, Volume= 0.077 af, Depth= 2.95"
Routed to Pond 1 : CB3759

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.13"

Area (sf)	CN	Description
5,371	74	>75% Grass cover, Good, HSG C
8,337	98	Paved parking, HSG C
13,708	89	Weighted Average
5,371		39.18% Pervious Area
8,337		60.82% Impervious Area

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

Subcatchment E-9: Subcat E-9



Summary for Pond 1: CB3759

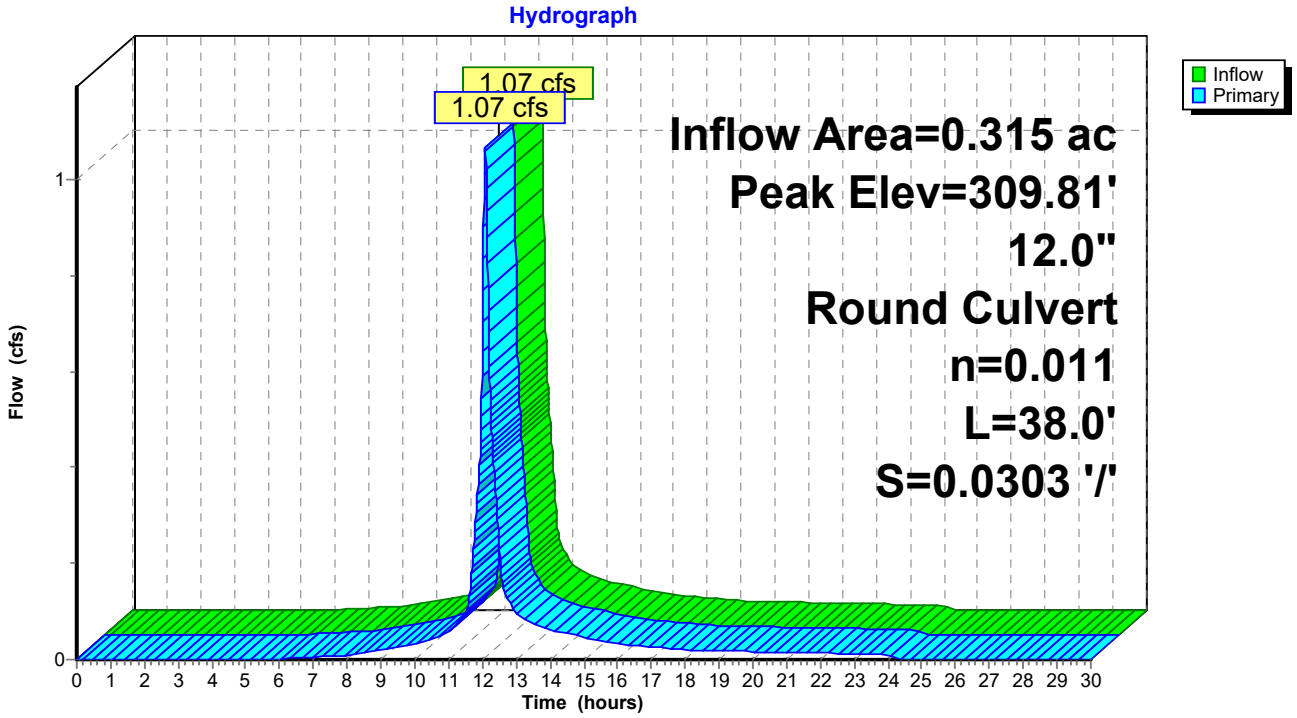
Inflow Area = 0.315 ac, 60.82% Impervious, Inflow Depth = 2.95" for 10-Year event
Inflow = 1.07 cfs @ 12.09 hrs, Volume= 0.077 af
Outflow = 1.07 cfs @ 12.09 hrs, Volume= 0.077 af, Atten= 0%, Lag= 0.0 min
Primary = 1.07 cfs @ 12.09 hrs, Volume= 0.077 af
Routed to Pond 2 : CB5986

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 309.81' @ 12.10 hrs
Flood Elev= 314.58'

Device	Routing	Invert	Outlet Devices
#1	Primary	309.20'	**12.0" Round Culvert** L= 38.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 309.20' / 308.05' S= 0.0303 '/' Cc= 0.900 n= 0.011, Flow Area= 0.79 sf

Primary OutFlow Max=1.03 cfs @ 12.09 hrs HW=309.80' TW=309.45' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.03 cfs @ 3.03 fps)

Pond 1: CB3759



Summary for Pond 2: CB5986

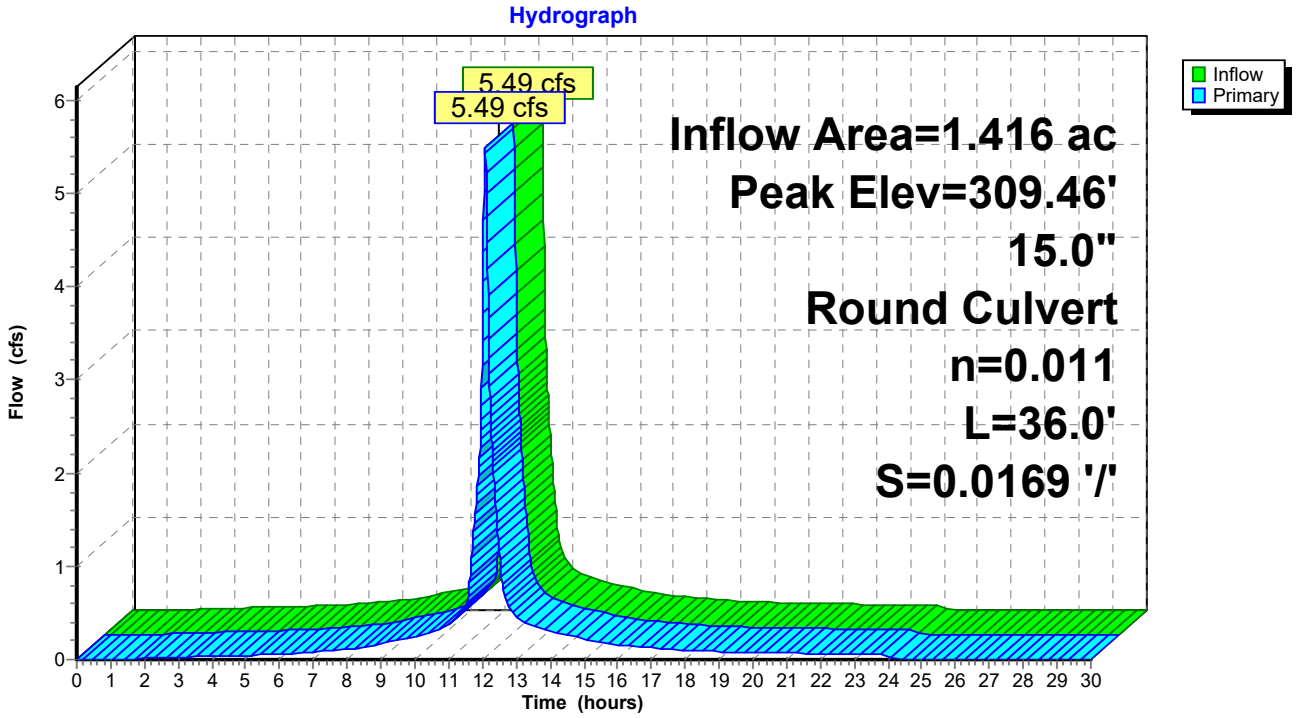
Inflow Area = 1.416 ac, 90.26% Impervious, Inflow Depth = 3.66" for 10-Year event
Inflow = 5.49 cfs @ 12.08 hrs, Volume= 0.431 af
Outflow = 5.49 cfs @ 12.08 hrs, Volume= 0.431 af, Atten= 0%, Lag= 0.0 min
Primary = 5.49 cfs @ 12.08 hrs, Volume= 0.431 af
Routed to Pond 3 : CB3758

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 309.46' @ 12.09 hrs
Flood Elev= 313.05'

Device	Routing	Invert	Outlet Devices
#1	Primary	307.95'	**15.0" Round Culvert** L= 36.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 307.95' / 307.34' S= 0.0169 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf

Primary OutFlow Max=5.41 cfs @ 12.08 hrs HW=309.44' TW=308.61' (Dynamic Tailwater)
1=Culvert (Inlet Controls 5.41 cfs @ 4.41 fps)

Pond 2: CB5986



Summary for Pond 3: CB3758

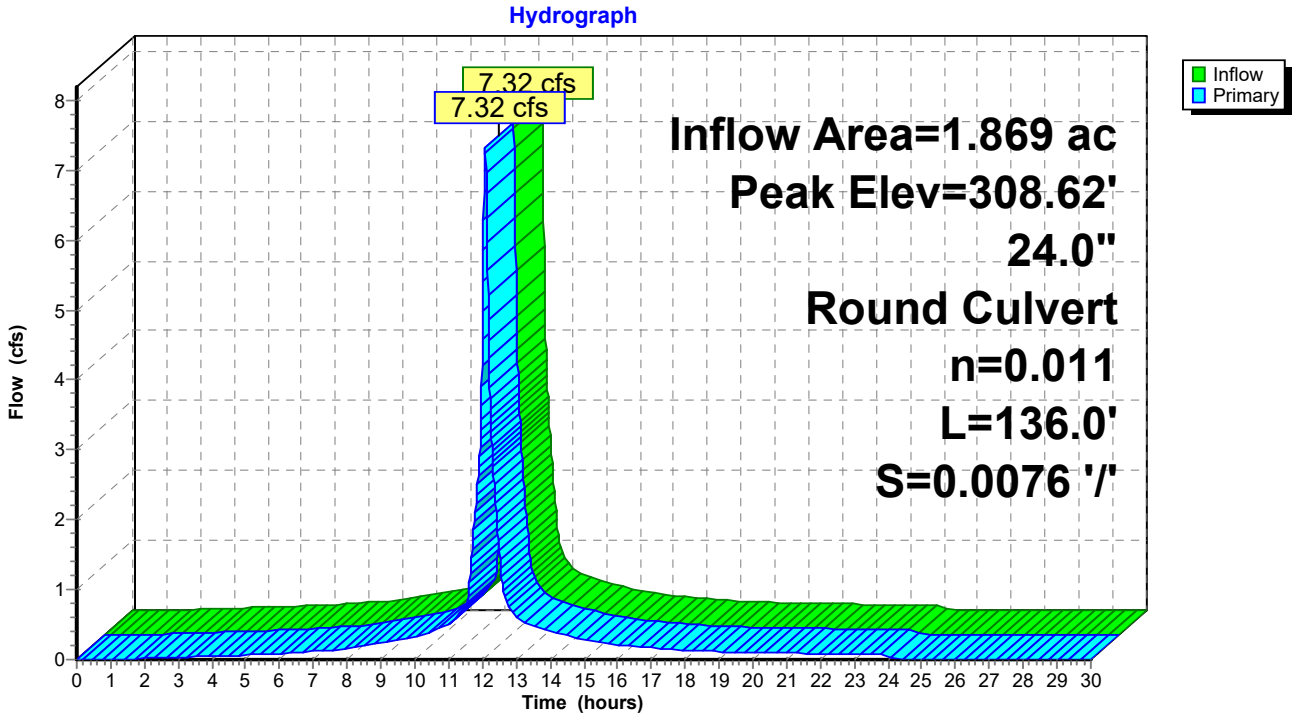
Inflow Area = 1.869 ac, 92.63% Impervious, Inflow Depth = 3.71" for 10-Year event
Inflow = 7.32 cfs @ 12.08 hrs, Volume= 0.579 af
Outflow = 7.32 cfs @ 12.08 hrs, Volume= 0.579 af, Atten= 0%, Lag= 0.0 min
Primary = 7.32 cfs @ 12.08 hrs, Volume= 0.579 af
Routed to Pond PD1 : EX-POND

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 308.62' @ 12.10 hrs
Flood Elev= 312.30'

Device	Routing	Invert	Outlet Devices
#1	Primary	307.34'	**24.0" Round Culvert** L= 136.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 307.34' / 306.30' S= 0.0076 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 3.14 sf

Primary OutFlow Max=7.09 cfs @ 12.08 hrs HW=308.61' TW=307.60' (Dynamic Tailwater)
1=Culvert (Outlet Controls 7.09 cfs @ 4.83 fps)

Pond 3: CB3758



Summary for Pond 4: CB3757

[57] Hint: Peaked at 311.73' (Flood elevation advised)

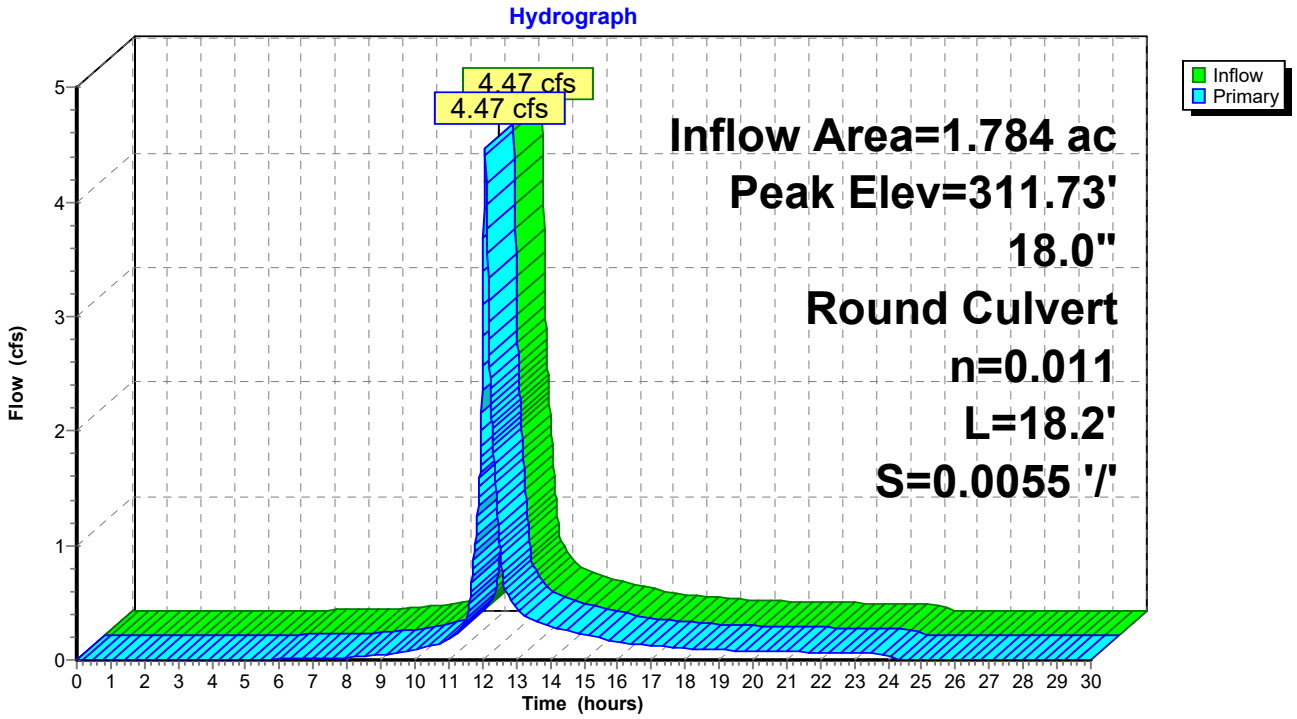
Inflow Area = 1.784 ac, 47.31% Impervious, Inflow Depth = 2.20" for 10-Year event
Inflow = 4.47 cfs @ 12.09 hrs, Volume= 0.327 af
Outflow = 4.47 cfs @ 12.09 hrs, Volume= 0.327 af, Atten= 0%, Lag= 0.0 min
Primary = 4.47 cfs @ 12.09 hrs, Volume= 0.327 af
Routed to Pond PD1 : EX-POND

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 311.73' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	310.50'	**18.0" Round Culvert** L= 18.2' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 310.50' / 310.40' S= 0.0055 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf

Primary OutFlow Max=4.47 cfs @ 12.09 hrs HW=311.73' TW=307.63' (Dynamic Tailwater)
1=Culvert (Barrel Controls 4.47 cfs @ 3.92 fps)

Pond 4: CB3757



Summary for Pond 5: CB3756

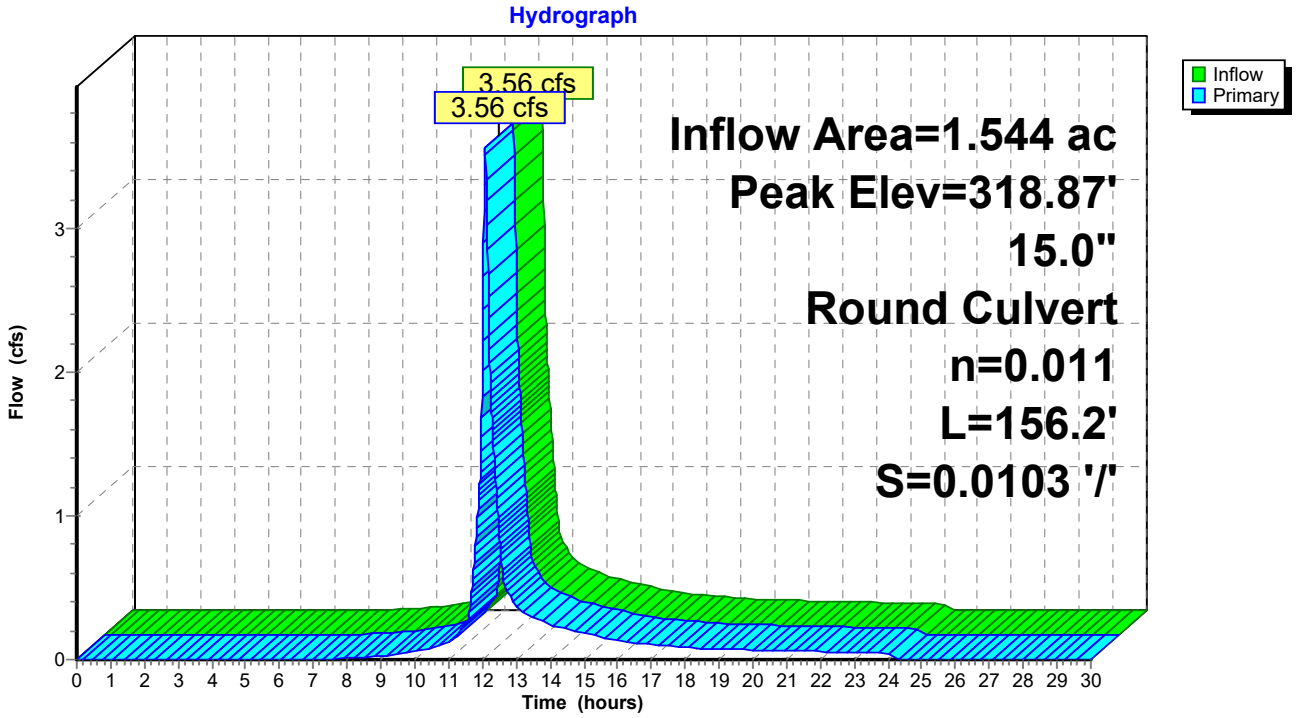
Inflow Area = 1.544 ac, 41.80% Impervious, Inflow Depth = 2.00" for 10-Year event
Inflow = 3.56 cfs @ 12.09 hrs, Volume= 0.258 af
Outflow = 3.56 cfs @ 12.09 hrs, Volume= 0.258 af, Atten= 0%, Lag= 0.0 min
Primary = 3.56 cfs @ 12.09 hrs, Volume= 0.258 af
Routed to Pond 4 : CB3757

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 318.87' @ 12.09 hrs
Flood Elev= 326.03'

Device	Routing	Invert	Outlet Devices
#1	Primary	317.88'	**15.0" Round Culvert** L= 156.2' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 317.88' / 316.27' S= 0.0103 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf

Primary OutFlow Max=3.56 cfs @ 12.09 hrs HW=318.87' TW=311.73' (Dynamic Tailwater)
1=Culvert (Inlet Controls 3.56 cfs @ 3.40 fps)

Pond 5: CB3756



Summary for Pond 6: CB3760

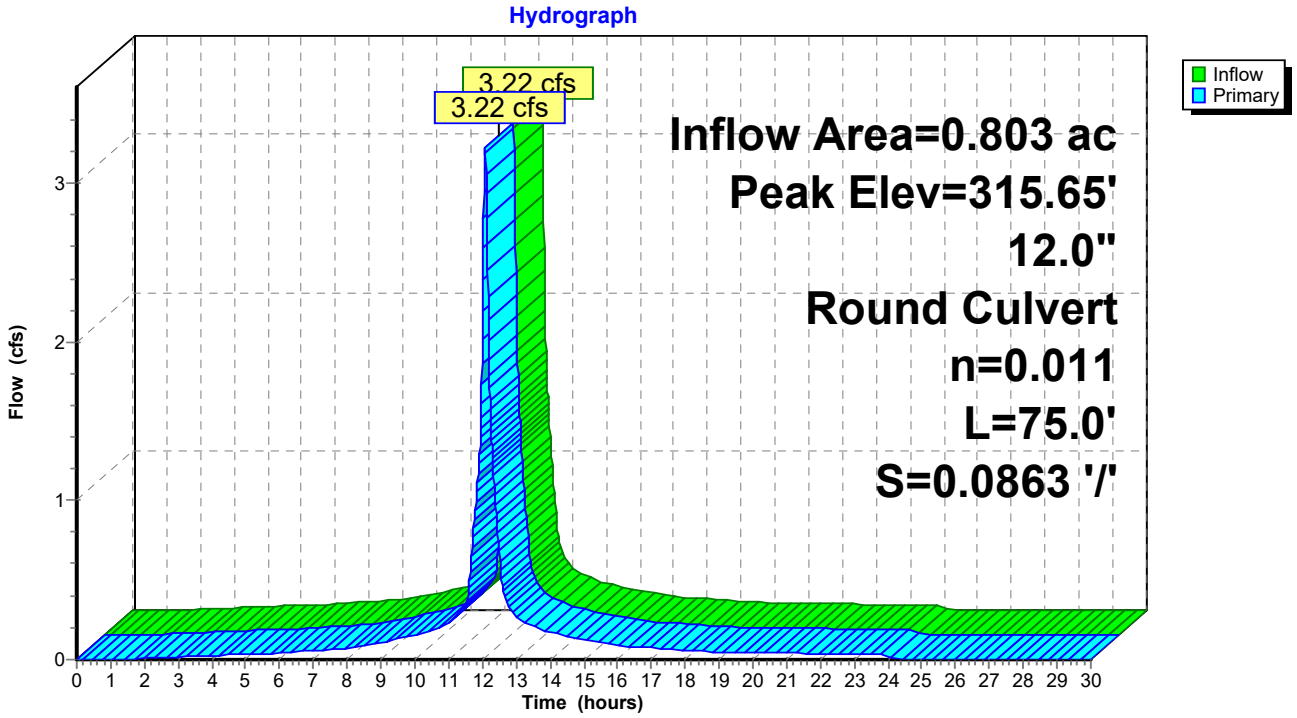
Inflow Area = 0.803 ac, 98.19% Impervious, Inflow Depth = 3.85" for 10-Year event
Inflow = 3.22 cfs @ 12.08 hrs, Volume= 0.257 af
Outflow = 3.22 cfs @ 12.08 hrs, Volume= 0.257 af, Atten= 0%, Lag= 0.0 min
Primary = 3.22 cfs @ 12.08 hrs, Volume= 0.257 af
Routed to Pond 2 : CB5986

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 315.65' @ 12.08 hrs
Flood Elev= 319.06'

Device	Routing	Invert	Outlet Devices
#1	Primary	314.42'	**12.0" Round Culvert** L= 75.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 314.42' / 307.95' S= 0.0863 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=3.22 cfs @ 12.08 hrs HW=315.64' TW=309.44' (Dynamic Tailwater)
1=Culvert (Inlet Controls 3.22 cfs @ 4.10 fps)

Pond 6: CB3760



Summary for Pond 7: CB3755

[58] Hint: Peaked 2.77' above defined flood level
[80] Warning: Exceeded Pond TD by 4.52' @ 24.15 hrs (1.54 cfs 0.948 af)

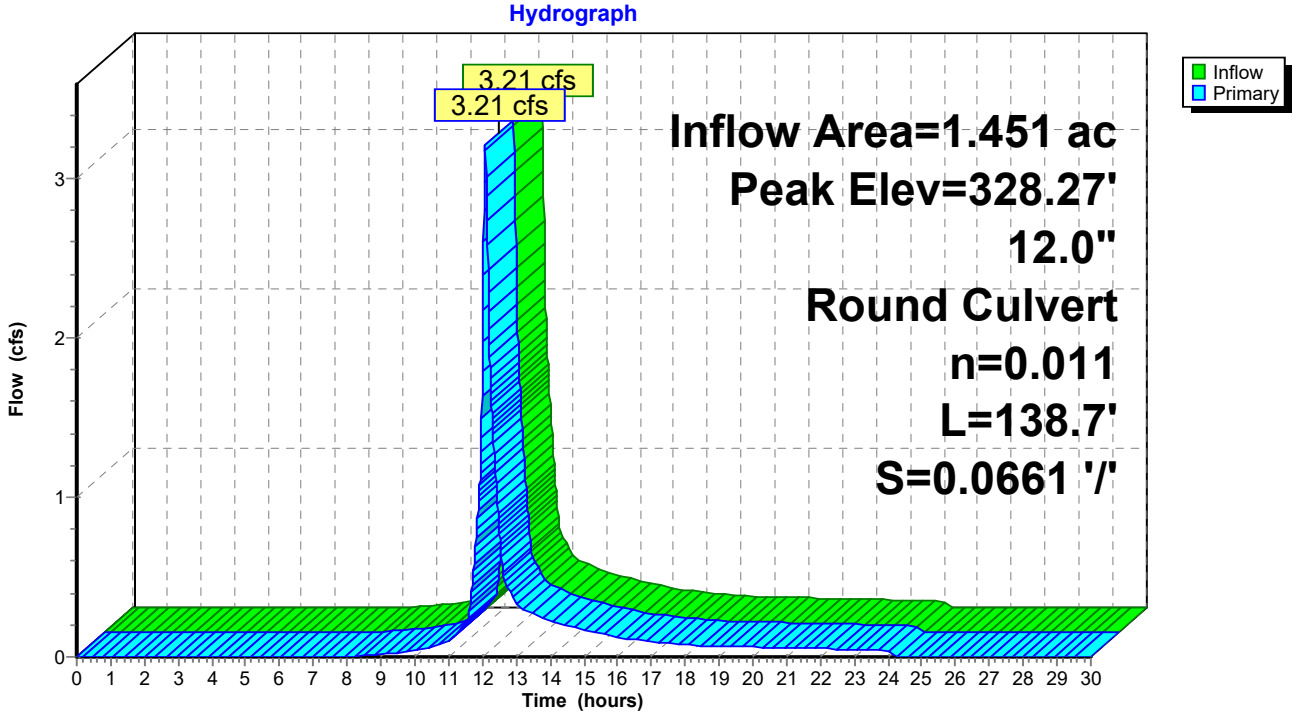
Inflow Area = 1.451 ac, 39.44% Impervious, Inflow Depth = 1.92" for 10-Year event
Inflow = 3.21 cfs @ 12.09 hrs, Volume= 0.232 af
Outflow = 3.21 cfs @ 12.09 hrs, Volume= 0.232 af, Atten= 0%, Lag= 0.0 min
Primary = 3.21 cfs @ 12.09 hrs, Volume= 0.232 af
Routed to Pond 5 : CB3756

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 328.27' @ 12.09 hrs
Flood Elev= 325.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	327.05'	**12.0" Round Culvert** L= 138.7' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 327.05' / 317.88' S= 0.0661 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=3.21 cfs @ 12.09 hrs HW=328.27' TW=318.87' (Dynamic Tailwater)
1=Culvert (Inlet Controls 3.21 cfs @ 4.08 fps)

Pond 7: CB3755



Summary for Pond 8: CB3754

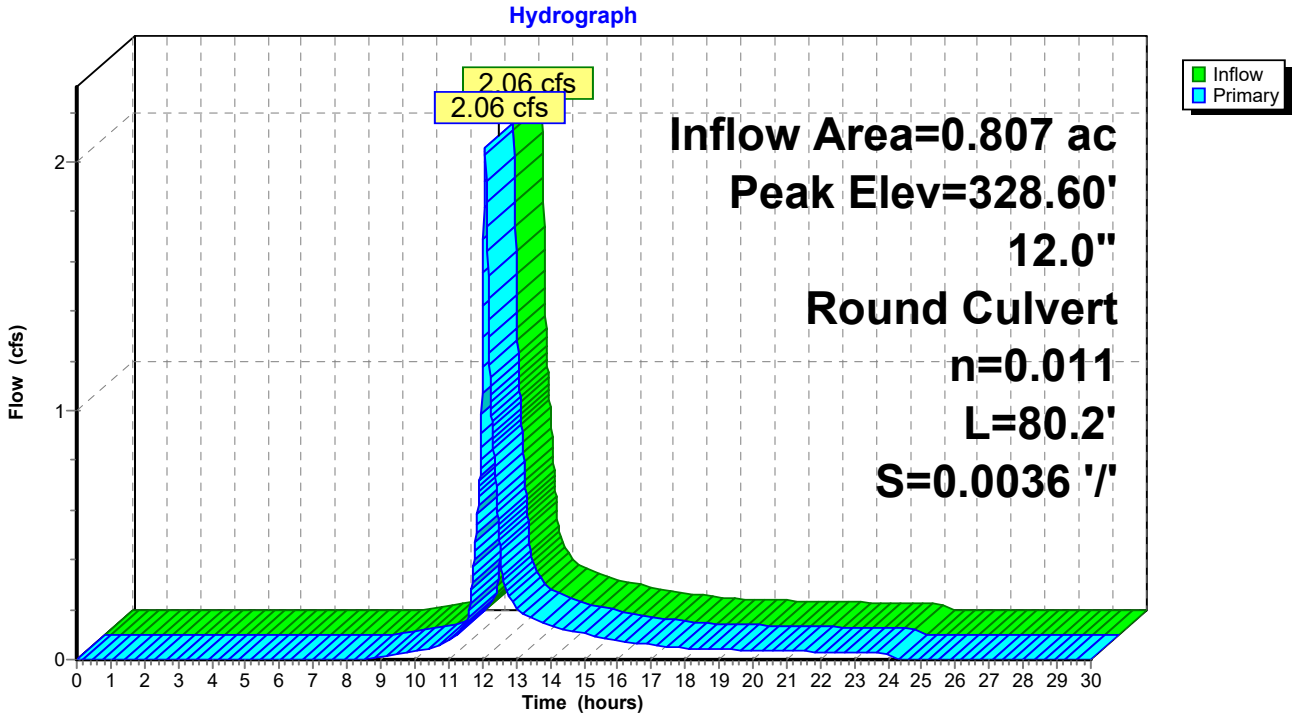
Inflow Area = 0.807 ac, 32.64% Impervious, Inflow Depth = 2.18" for 10-Year event
Inflow = 2.06 cfs @ 12.09 hrs, Volume= 0.146 af
Outflow = 2.06 cfs @ 12.09 hrs, Volume= 0.146 af, Atten= 0%, Lag= 0.0 min
Primary = 2.06 cfs @ 12.09 hrs, Volume= 0.146 af
Routed to Pond 7 : CB3755

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 328.60' @ 12.10 hrs
Flood Elev= 333.05'

Device	Routing	Invert	Outlet Devices
#1	Primary	327.34'	**12.0" Round Culvert** L= 80.2' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 327.34' / 327.05' S= 0.0036 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=2.01 cfs @ 12.09 hrs HW=328.59' TW=328.27' (Dynamic Tailwater)
1=Culvert (Outlet Controls 2.01 cfs @ 2.63 fps)

Pond 8: CB3754



Summary for Pond 15: CB3753

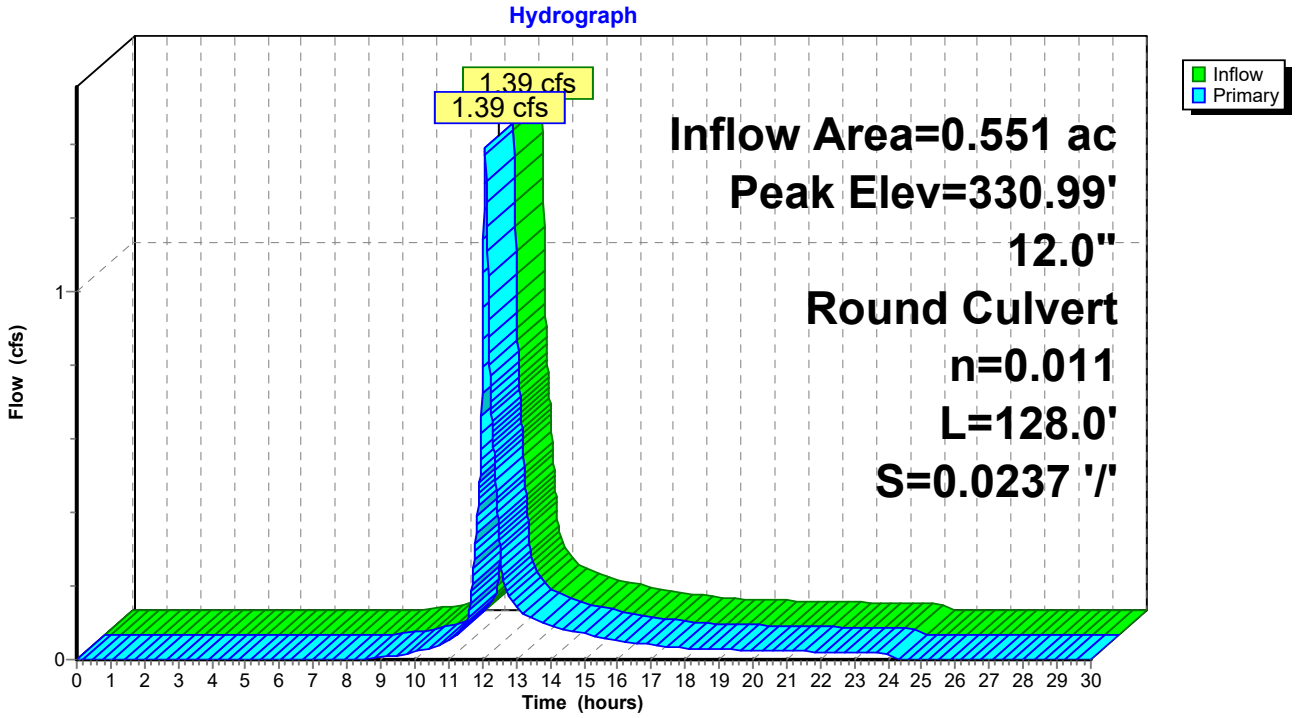
Inflow Area = 0.551 ac, 27.69% Impervious, Inflow Depth = 2.15" for 10-Year event
Inflow = 1.39 cfs @ 12.09 hrs, Volume= 0.099 af
Outflow = 1.39 cfs @ 12.09 hrs, Volume= 0.099 af, Atten= 0%, Lag= 0.0 min
Primary = 1.39 cfs @ 12.09 hrs, Volume= 0.099 af
Routed to Pond 8 : CB3754

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 330.99' @ 12.09 hrs
Flood Elev= 335.48'

Device	Routing	Invert	Outlet Devices
#1	Primary	330.37'	**12.0" Round Culvert** L= 128.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 330.37' / 327.34' S= 0.0237 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=1.39 cfs @ 12.09 hrs HW=330.99' TW=328.59' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.39 cfs @ 2.69 fps)

Pond 15: CB3753



Summary for Pond DMH1: DMH 6076

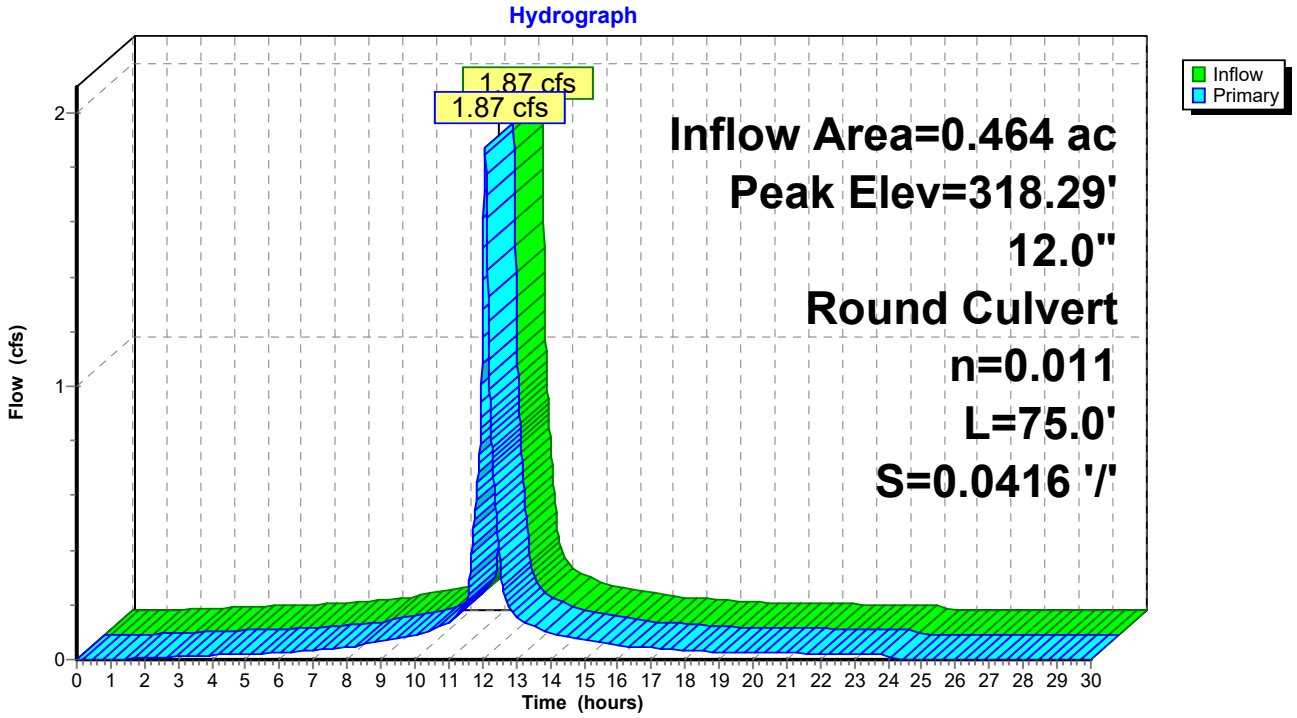
Inflow Area = 0.464 ac,100.00% Impervious, Inflow Depth = 3.89" for 10-Year event
Inflow = 1.87 cfs @ 12.08 hrs, Volume= 0.151 af
Outflow = 1.87 cfs @ 12.08 hrs, Volume= 0.151 af, Atten= 0%, Lag= 0.0 min
Primary = 1.87 cfs @ 12.08 hrs, Volume= 0.151 af
Routed to Pond 6 : CB3760

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 318.29' @ 12.08 hrs
Flood Elev= 321.96'

Device	Routing	Invert	Outlet Devices
#1	Primary	317.54'	**12.0" Round Culvert** L= 75.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 317.54' / 314.42' S= 0.0416 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=1.87 cfs @ 12.08 hrs HW=318.29' TW=315.64' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.87 cfs @ 2.95 fps)

Pond DMH1: DMH 6076



Summary for Pond PD1: EX-POND

Inflow Area = 4.550 ac, 57.01% Impervious, Inflow Depth = 2.68" for 10-Year event
Inflow = 13.25 cfs @ 12.09 hrs, Volume= 1.016 af
Outflow = 7.09 cfs @ 12.22 hrs, Volume= 1.016 af, Atten= 47%, Lag= 8.0 min
Primary = 7.09 cfs @ 12.22 hrs, Volume= 1.016 af
Routed to Link POI1 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 307.96' @ 12.22 hrs Surf.Area= 5,252 sf Storage= 4,967 cf

Plug-Flow detention time= 5.2 min calculated for 1.016 af (100% of inflow)
Center-of-Mass det. time= 5.2 min (794.5 - 789.3)

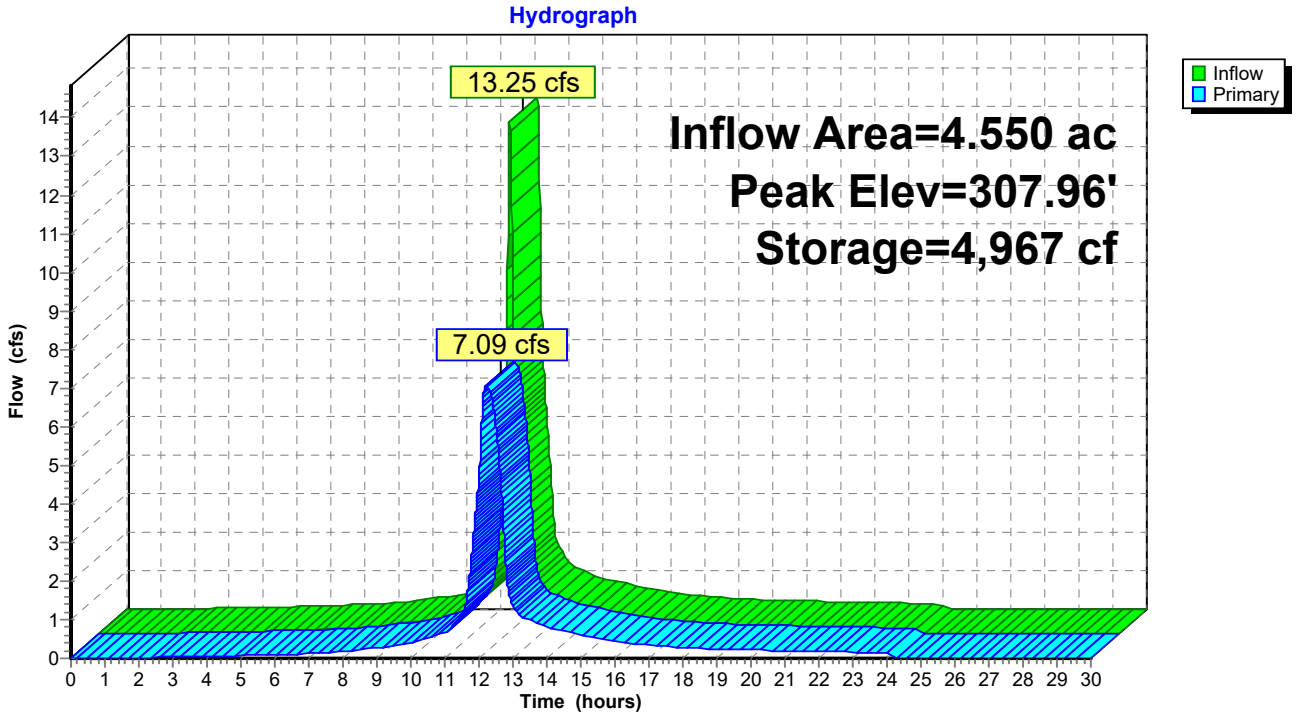
Volume	Invert	Avail.Storage	Storage Description
#1	305.90'	11,147 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
305.90	78	34.6	0	0	78
306.80	1,818	200.0	682	682	3,168
307.00	2,815	253.9	460	1,141	5,115
308.00	5,359	3,332.0	4,019	5,161	883,474
309.00	6,636	356.0	5,986	11,147	1,756,877

Device	Routing	Invert	Outlet Devices
#1	Primary	305.90'	**15.0" Round Culvert** L= 13.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 305.90' / 304.10' S= 0.1385 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Primary	308.50'	**16.0' long x 6.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=7.09 cfs @ 12.22 hrs HW=307.96' TW=0.00' (Dynamic Tailwater)
1=Culvert (Inlet Controls 7.09 cfs @ 5.77 fps)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond PD1: EX-POND



Summary for Pond TD: TRENCH DRAIN

[57] Hint: Peaked at 329.46' (Flood elevation advised)

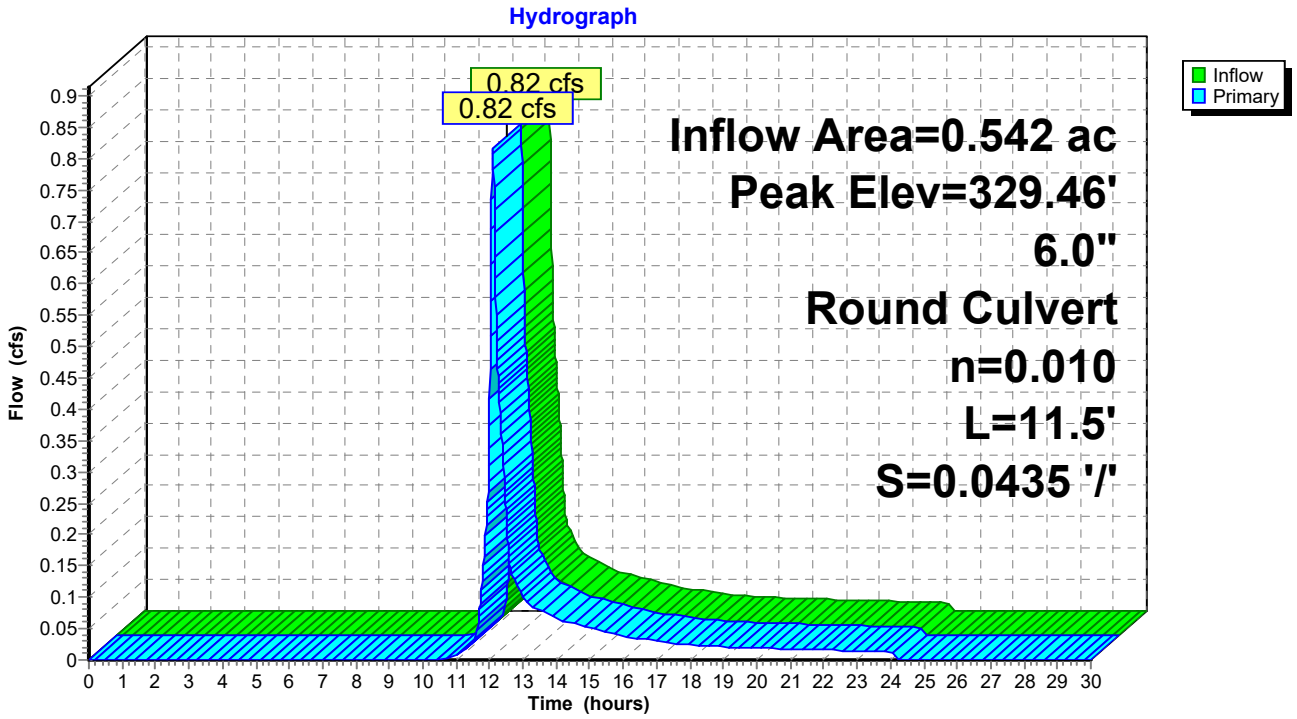
Inflow Area = 0.542 ac, 45.96% Impervious, Inflow Depth = 1.35" for 10-Year event
Inflow = 0.82 cfs @ 12.10 hrs, Volume= 0.061 af
Outflow = 0.82 cfs @ 12.09 hrs, Volume= 0.061 af, Atten= 0%, Lag= 0.0 min
Primary = 0.82 cfs @ 12.09 hrs, Volume= 0.061 af
Routed to Pond 7 : CB3755

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 329.46' @ 12.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	322.55'	**6.0" Round Culvert** L= 11.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 322.55' / 322.05' S= 0.0435 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.81 cfs @ 12.09 hrs HW=329.45' TW=328.27' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 0.81 cfs @ 4.14 fps)

Pond TD: TRENCH DRAIN

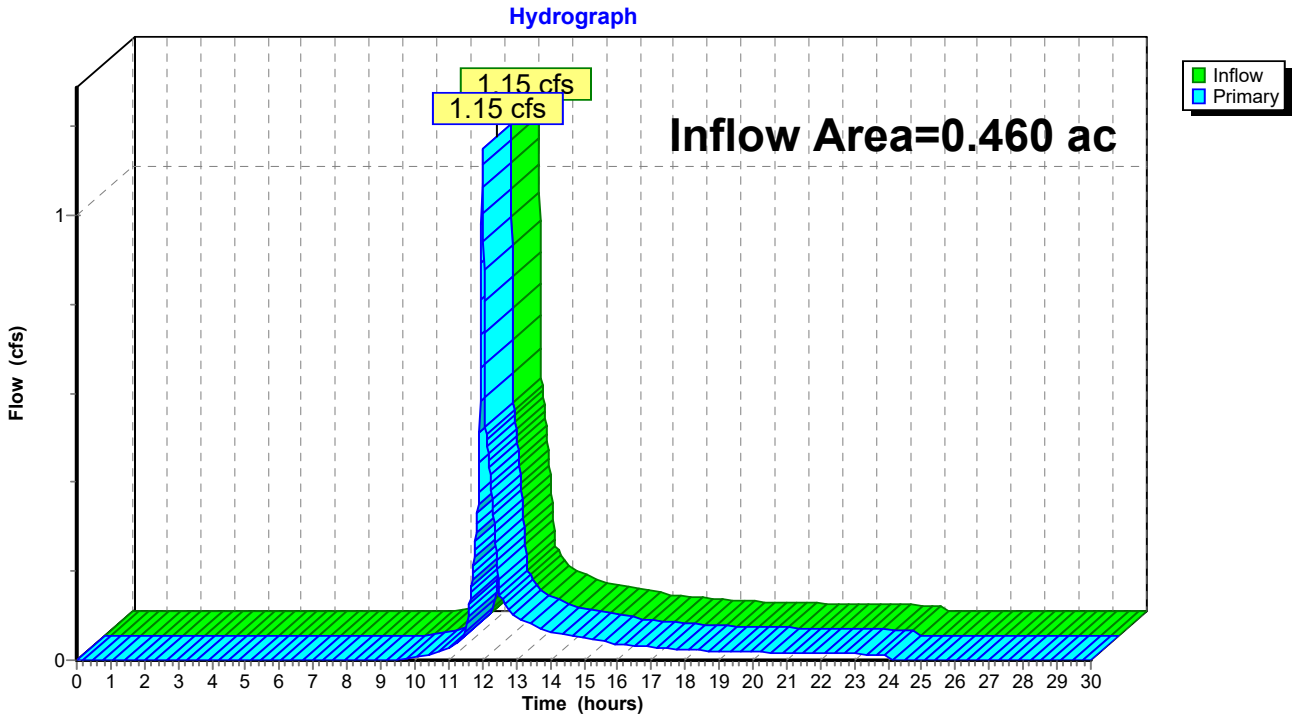


Summary for Link POI 2:

Inflow Area = 0.460 ac, 48.65% Impervious, Inflow Depth = 1.76" for 10-Year event
Inflow = 1.15 cfs @ 12.00 hrs, Volume= 0.068 af
Primary = 1.15 cfs @ 12.00 hrs, Volume= 0.068 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Link POI 2:

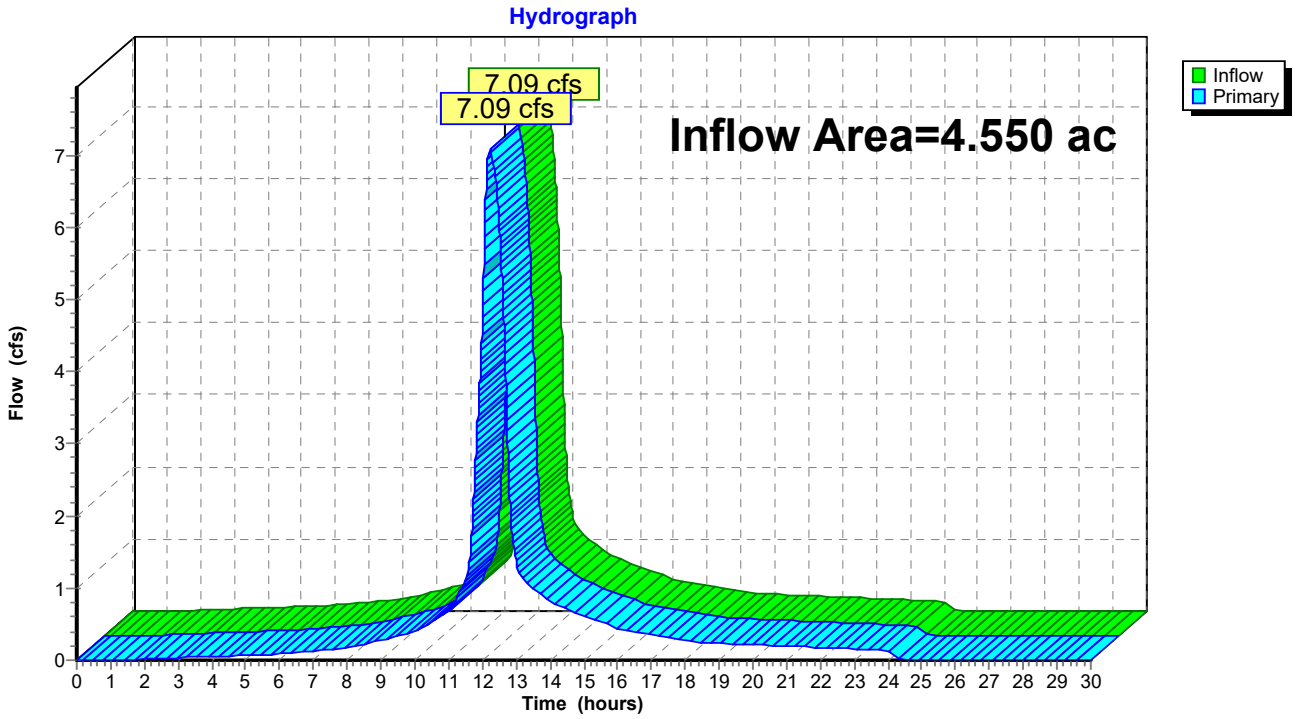


Summary for Link POI1:

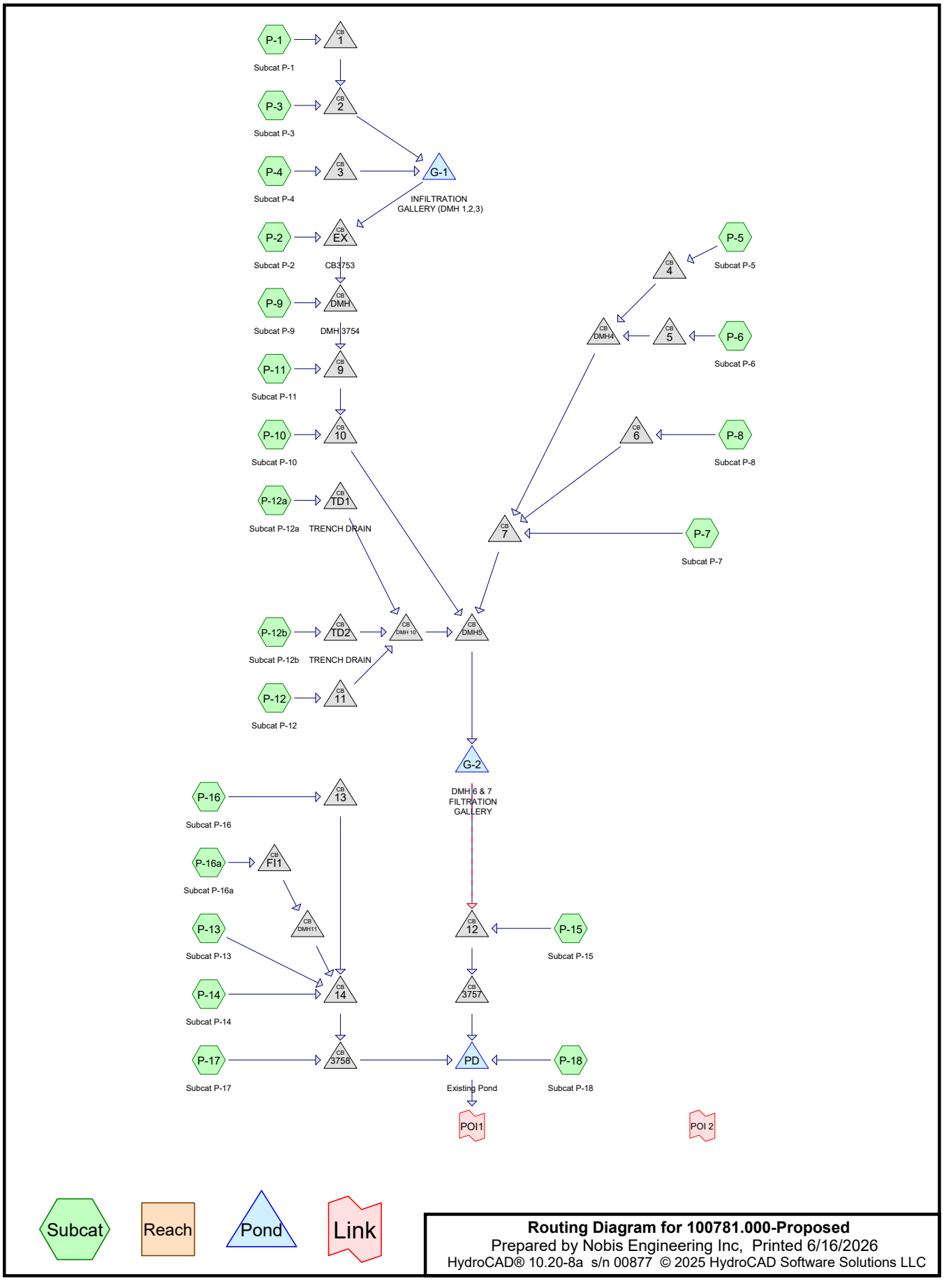
Inflow Area = 4.550 ac, 57.01% Impervious, Inflow Depth = 2.68" for 10-Year event
Inflow = 7.09 cfs @ 12.22 hrs, Volume= 1.016 af
Primary = 7.09 cfs @ 12.22 hrs, Volume= 1.016 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Link POI1:



Proposed Conditions



Routing Diagram for 100781.000-Proposed
Prepared by Nobis Engineering Inc, Printed 6/16/2026
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Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-Year	Type III 24-hr		Default	24.00	1	2.81	2
2	10-Year	Type III 24-hr		Default	24.00	1	4.13	2
3	25-Year	Type III 24-hr		Default	24.00	1	5.15	2
4	50-Year	Type III 24-hr		Default	24.00	1	6.09	2
5	100-Year	Type III 24-hr		Default	24.00	1	7.20	2

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.164	39	>75% Grass cover, Good, HSG A (P-4, P-5, P-6, P-7, P-8)
0.128	61	>75% Grass cover, Good, HSG B (P-15, P-18)
0.761	74	>75% Grass cover, Good, HSG C (P-1, P-10, P-11, P-12, P-12a, P-12b, P-14, P-15, P-16, P-16a, P-18, P-2, P-3, P-4, P-7, P-8, P-9)
0.149	80	>75% Grass cover, Good, HSG D (P-18)
0.512	98	Paved parking, HSG A (P-4, P-5, P-6, P-7, P-8, P-9)
2.480	98	Paved parking, HSG C (P-1, P-10, P-11, P-12, P-12a, P-12b, P-13, P-14, P-15, P-16, P-16a, P-17, P-2, P-3, P-4, P-5, P-6, P-7, P-8, P-9)
0.771	98	Roofs, HSG C (P-12a, P-12b, P-13, P-2)
0.046	70	Woods, Good, HSG C (P-18)
5.010	**91**	**TOTAL AREA**

Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.676	HSG A	P-4, P-5, P-6, P-7, P-8, P-9
0.128	HSG B	P-15, P-18
4.058	HSG C	P-1, P-10, P-11, P-12, P-12a, P-12b, P-13, P-14, P-15, P-16, P-16a, P-17, P-18, P-2, P-3, P-4, P-5, P-6, P-7, P-8, P-9
0.149	HSG D	P-18
0.000	Other	
5.010		**TOTAL AREA**

Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentP-1: Subcat P-1 Runoff Area=2,301 sf 69.31% Impervious Runoff Depth=1.89"
Tc=6.0 min CN=91 Runoff=0.11 cfs 0.008 af

SubcatchmentP-10: Subcat P-10 Runoff Area=8,886 sf 78.30% Impervious Runoff Depth=2.07"
Tc=6.0 min CN=93 Runoff=0.47 cfs 0.035 af

SubcatchmentP-11: Subcat P-11 Runoff Area=5,179 sf 78.37% Impervious Runoff Depth=2.07"
Tc=6.0 min CN=93 Runoff=0.28 cfs 0.021 af

SubcatchmentP-12: Subcat P-12 Runoff Area=4,564 sf 93.79% Impervious Runoff Depth=2.47"
Tc=6.0 min CN=97 Runoff=0.27 cfs 0.022 af

SubcatchmentP-12a: Subcat P-12a Runoff Area=3,935 sf 97.50% Impervious Runoff Depth=2.47"
Tc=6.0 min CN=97 Runoff=0.24 cfs 0.019 af

SubcatchmentP-12b: Subcat P-12b Runoff Area=4,655 sf 91.57% Impervious Runoff Depth=2.37"
Tc=6.0 min CN=96 Runoff=0.27 cfs 0.021 af

SubcatchmentP-13: Subcat P-13 Runoff Area=31,699 sf 100.00% Impervious Runoff Depth=2.58"
Tc=6.0 min CN=98 Runoff=1.93 cfs 0.156 af

SubcatchmentP-14: Subcat P-14 Runoff Area=17,793 sf 92.30% Impervious Runoff Depth=2.37"
Tc=6.0 min CN=96 Runoff=1.04 cfs 0.081 af

SubcatchmentP-15: Subcat P-15 Runoff Area=7,662 sf 79.90% Impervious Runoff Depth=2.07"
Tc=6.0 min CN=93 Runoff=0.41 cfs 0.030 af

SubcatchmentP-16: Subcat P-16 Runoff Area=5,705 sf 66.00% Impervious Runoff Depth=1.81"
Tc=6.0 min CN=90 Runoff=0.27 cfs 0.020 af

SubcatchmentP-16a: Subcat P-16a Runoff Area=4,663 sf 24.80% Impervious Runoff Depth=1.11"
Tc=6.0 min CN=80 Runoff=0.13 cfs 0.010 af

SubcatchmentP-17: Subcat P-17 Runoff Area=17,264 sf 100.00% Impervious Runoff Depth=2.58"
Tc=6.0 min CN=98 Runoff=1.05 cfs 0.085 af

SubcatchmentP-18: Subcat P-18 Runoff Area=23,903 sf 0.00% Impervious Runoff Depth=0.70"
Tc=6.0 min CN=72 Runoff=0.39 cfs 0.032 af

SubcatchmentP-2: Subcat P-2 Runoff Area=15,815 sf 69.84% Impervious Runoff Depth=1.89"
Tc=6.0 min CN=91 Runoff=0.78 cfs 0.057 af

SubcatchmentP-3: Subcat P-3 Runoff Area=2,609 sf 79.29% Impervious Runoff Depth=2.07"
Tc=6.0 min CN=93 Runoff=0.14 cfs 0.010 af

SubcatchmentP-4: Subcat P-4 Runoff Area=10,730 sf 76.39% Impervious Runoff Depth=1.81"
Tc=6.0 min CN=90 Runoff=0.51 cfs 0.037 af

Subcatchment P-5: Subcat P-5 Runoff Area=6,344 sf 93.09% Impervious Runoff Depth=2.17"
Tc=6.0 min CN=94 Runoff=0.35 cfs 0.026 af

Subcatchment P-6: Subcat P-6 Runoff Area=13,002 sf 81.91% Impervious Runoff Depth=1.57"
Tc=6.0 min CN=87 Runoff=0.54 cfs 0.039 af

Subcatchment P-7: Subcat P-7 Runoff Area=18,882 sf 83.67% Impervious Runoff Depth=1.89"
Tc=6.0 min CN=91 Runoff=0.93 cfs 0.068 af

Subcatchment P-8: Subcat P-8 Runoff Area=7,287 sf 57.09% Impervious Runoff Depth=1.00"
Tc=6.0 min CN=78 Runoff=0.18 cfs 0.014 af

Subcatchment P-9: Subcat P-9 Runoff Area=5,374 sf 87.12% Impervious Runoff Depth=2.26"
Tc=6.0 min CN=95 Runoff=0.31 cfs 0.023 af

Pond 1: Peak Elev=334.90' Inflow=0.11 cfs 0.008 af
12.0" Round Culvert n=0.013 L=22.5' S=0.0067 '/' Outflow=0.11 cfs 0.008 af

Pond 2: Peak Elev=334.74' Inflow=0.25 cfs 0.019 af
12.0" Round Culvert n=0.013 L=63.9' S=0.0049 '/' Outflow=0.25 cfs 0.019 af

Pond 3: Peak Elev=334.39' Inflow=0.51 cfs 0.037 af
12.0" Round Culvert n=0.013 L=45.8' S=0.0144 '/' Outflow=0.51 cfs 0.037 af

Pond 4: Peak Elev=326.67' Inflow=0.35 cfs 0.026 af
12.0" Round Culvert n=0.013 L=31.4' S=0.0064 '/' Outflow=0.35 cfs 0.026 af

Pond 5: Peak Elev=326.74' Inflow=0.54 cfs 0.039 af
12.0" Round Culvert n=0.013 L=30.2' S=0.0066 '/' Outflow=0.54 cfs 0.039 af

Pond 6: Peak Elev=327.31' Inflow=0.18 cfs 0.014 af
12.0" Round Culvert n=0.013 L=118.2' S=0.0423 '/' Outflow=0.18 cfs 0.014 af

Pond 7: Peak Elev=321.39' Inflow=2.01 cfs 0.148 af
12.0" Round Culvert n=0.013 L=44.0' S=0.0739 '/' Outflow=2.01 cfs 0.148 af

Pond 9: Peak Elev=322.13' Inflow=1.36 cfs 0.101 af
15.0" Round Culvert n=0.013 L=63.7' S=0.0063 '/' Outflow=1.36 cfs 0.101 af

Pond 10: Peak Elev=321.59' Inflow=1.84 cfs 0.136 af
12.0" Round Culvert n=0.013 L=93.0' S=0.0376 '/' Outflow=1.84 cfs 0.136 af

Pond 11: Peak Elev=319.33' Inflow=0.27 cfs 0.022 af
12.0" Round Culvert n=0.013 L=45.0' S=0.0056 '/' Outflow=0.27 cfs 0.022 af

Pond 12: Peak Elev=312.03' Inflow=1.36 cfs 0.408 af
18.0" Round Culvert n=0.013 L=18.2' S=0.1121 '/' Outflow=1.36 cfs 0.408 af

Pond 13: Peak Elev=308.97' Inflow=0.27 cfs 0.020 af
12.0" Round Culvert n=0.013 L=19.9' S=0.0050 '/' Outflow=0.27 cfs 0.020 af

Pond 14: Peak Elev=308.96' Inflow=3.37 cfs 0.267 af
15.0" Round Culvert n=0.013 L=41.2' S=0.0160 '/' Outflow=3.37 cfs 0.267 af

Pond 3757: Peak Elev=309.87' Inflow=1.36 cfs 0.408 af
24.0" Round Culvert n=0.011 L=20.9' S=0.0100 '/' Outflow=1.36 cfs 0.408 af

Pond 3758: Peak Elev=307.69' Inflow=4.43 cfs 0.352 af
24.0" Round Culvert n=0.011 L=137.1' S=0.0018 '/' Outflow=4.43 cfs 0.352 af

Pond DMH: DMH 3754 Peak Elev=327.59' Inflow=1.09 cfs 0.081 af
12.0" Round Culvert n=0.013 L=83.5' S=0.0653 '/' Outflow=1.09 cfs 0.081 af

Pond DMH 10: Peak Elev=319.10' Inflow=0.78 cfs 0.061 af
12.0" Round Culvert n=0.013 L=57.0' S=0.0228 '/' Outflow=0.78 cfs 0.061 af

Pond DMH11: Peak Elev=309.30' Inflow=0.13 cfs 0.010 af
12.0" Round Culvert n=0.013 L=45.2' S=0.0221 '/' Outflow=0.13 cfs 0.010 af

Pond DMH4: Peak Elev=326.48' Inflow=0.89 cfs 0.065 af
12.0" Round Culvert n=0.013 L=78.7' S=0.0496 '/' Outflow=0.89 cfs 0.065 af

Pond DMH5: Peak Elev=318.30' Inflow=4.62 cfs 0.345 af
18.0" Round Culvert n=0.013 L=38.2' S=0.0709 '/' Outflow=4.62 cfs 0.345 af

Pond EX: CB3753 Peak Elev=330.82' Inflow=0.78 cfs 0.057 af
12.0" Round Culvert n=0.011 L=128.0' S=0.0237 '/' Outflow=0.78 cfs 0.057 af

Pond FI1: Peak Elev=309.80' Inflow=0.13 cfs 0.010 af
12.0" Round Culvert n=0.013 L=66.7' S=0.0060 '/' Outflow=0.13 cfs 0.010 af

Pond G-1: INFILTRATIONGALLERY (DMH Peak Elev=334.39' Storage=634 cf Inflow=0.76 cfs 0.056 af
Discarded=0.16 cfs 0.056 af Primary=0.00 cfs 0.000 af Outflow=0.16 cfs 0.056 af

Pond G-2: DMH 6 & 7 FILTRATIONGALLERY Peak Elev=314.53' Storage=6,058 cf Inflow=4.62 cfs 0.345 af
Primary=0.00 cfs 0.000 af Secondary=1.08 cfs 0.377 af Outflow=1.08 cfs 0.313 af

Pond PD: Existing Pond Peak Elev=307.12' Storage=1,503 cf Inflow=6.15 cfs 0.791 af
Outflow=4.59 cfs 0.791 af

Pond TD1: TRENCH DRAIN Peak Elev=321.35' Inflow=0.24 cfs 0.019 af
6.0" Round Culvert n=0.013 L=50.0' S=0.0470 '/' Outflow=0.24 cfs 0.019 af

Pond TD2: TRENCH DRAIN Peak Elev=321.39' Inflow=0.27 cfs 0.021 af
6.0" Round Culvert n=0.013 L=30.0' S=0.0750 '/' Outflow=0.27 cfs 0.021 af

Link POI 2:
Primary=0.00 cfs 0.000 af

Link POI1: Inflow=4.59 cfs 0.791 af
Primary=4.59 cfs 0.791 af

Total Runoff Area = 5.010 ac Runoff Volume = 0.815 af Average Runoff Depth = 1.95"
24.89% Pervious = 1.247 ac 75.11% Impervious = 3.763 ac

Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment P-1: Subcat P-1 Runoff Area=2,301 sf 69.31% Impervious Runoff Depth=3.14"
Tc=6.0 min CN=91 Runoff=0.18 cfs 0.014 af

Subcatchment P-10: Subcat P-10 Runoff Area=8,886 sf 78.30% Impervious Runoff Depth=3.35"
Tc=6.0 min CN=93 Runoff=0.74 cfs 0.057 af

Subcatchment P-11: Subcat P-11 Runoff Area=5,179 sf 78.37% Impervious Runoff Depth=3.35"
Tc=6.0 min CN=93 Runoff=0.43 cfs 0.033 af

Subcatchment P-12: Subcat P-12 Runoff Area=4,564 sf 93.79% Impervious Runoff Depth=3.78"
Tc=6.0 min CN=97 Runoff=0.41 cfs 0.033 af

Subcatchment P-12a: Subcat P-12a Runoff Area=3,935 sf 97.50% Impervious Runoff Depth=3.78"
Tc=6.0 min CN=97 Runoff=0.35 cfs 0.028 af

Subcatchment P-12b: Subcat P-12b Runoff Area=4,655 sf 91.57% Impervious Runoff Depth=3.67"
Tc=6.0 min CN=96 Runoff=0.41 cfs 0.033 af

Subcatchment P-13: Subcat P-13 Runoff Area=31,699 sf 100.00% Impervious Runoff Depth=3.89"
Tc=6.0 min CN=98 Runoff=2.86 cfs 0.236 af

Subcatchment P-14: Subcat P-14 Runoff Area=17,793 sf 92.30% Impervious Runoff Depth=3.67"
Tc=6.0 min CN=96 Runoff=1.57 cfs 0.125 af

Subcatchment P-15: Subcat P-15 Runoff Area=7,662 sf 79.90% Impervious Runoff Depth=3.35"
Tc=6.0 min CN=93 Runoff=0.64 cfs 0.049 af

Subcatchment P-16: Subcat P-16 Runoff Area=5,705 sf 66.00% Impervious Runoff Depth=3.04"
Tc=6.0 min CN=90 Runoff=0.45 cfs 0.033 af

Subcatchment P-16a: Subcat P-16a Runoff Area=4,663 sf 24.80% Impervious Runoff Depth=2.15"
Tc=6.0 min CN=80 Runoff=0.26 cfs 0.019 af

Subcatchment P-17: Subcat P-17 Runoff Area=17,264 sf 100.00% Impervious Runoff Depth=3.89"
Tc=6.0 min CN=98 Runoff=1.56 cfs 0.129 af

Subcatchment P-18: Subcat P-18 Runoff Area=23,903 sf 0.00% Impervious Runoff Depth=1.55"
Tc=6.0 min CN=72 Runoff=0.95 cfs 0.071 af

Subcatchment P-2: Subcat P-2 Runoff Area=15,815 sf 69.84% Impervious Runoff Depth=3.14"
Tc=6.0 min CN=91 Runoff=1.27 cfs 0.095 af

Subcatchment P-3: Subcat P-3 Runoff Area=2,609 sf 79.29% Impervious Runoff Depth=3.35"
Tc=6.0 min CN=93 Runoff=0.22 cfs 0.017 af

Subcatchment P-4: Subcat P-4 Runoff Area=10,730 sf 76.39% Impervious Runoff Depth=3.04"
Tc=6.0 min CN=90 Runoff=0.84 cfs 0.062 af

Subcatchment P-5: Subcat P-5 Runoff Area=6,344 sf 93.09% Impervious Runoff Depth=3.45"
Tc=6.0 min CN=94 Runoff=0.54 cfs 0.042 af

Subcatchment P-6: Subcat P-6 Runoff Area=13,002 sf 81.91% Impervious Runoff Depth=2.76"
Tc=6.0 min CN=87 Runoff=0.94 cfs 0.069 af

Subcatchment P-7: Subcat P-7 Runoff Area=18,882 sf 83.67% Impervious Runoff Depth=3.14"
Tc=6.0 min CN=91 Runoff=1.51 cfs 0.113 af

Subcatchment P-8: Subcat P-8 Runoff Area=7,287 sf 57.09% Impervious Runoff Depth=1.99"
Tc=6.0 min CN=78 Runoff=0.38 cfs 0.028 af

Subcatchment P-9: Subcat P-9 Runoff Area=5,374 sf 87.12% Impervious Runoff Depth=3.56"
Tc=6.0 min CN=95 Runoff=0.47 cfs 0.037 af

Pond 1: Peak Elev=335.18' Inflow=0.18 cfs 0.014 af
12.0" Round Culvert n=0.013 L=22.5' S=0.0067 '/' Outflow=0.18 cfs 0.014 af

Pond 2: Peak Elev=335.18' Inflow=0.40 cfs 0.031 af
12.0" Round Culvert n=0.013 L=63.9' S=0.0049 '/' Outflow=0.40 cfs 0.031 af

Pond 3: Peak Elev=335.18' Inflow=0.84 cfs 0.062 af
12.0" Round Culvert n=0.013 L=45.8' S=0.0144 '/' Outflow=0.84 cfs 0.062 af

Pond 4: Peak Elev=326.81' Inflow=0.54 cfs 0.042 af
12.0" Round Culvert n=0.013 L=31.4' S=0.0064 '/' Outflow=0.54 cfs 0.042 af

Pond 5: Peak Elev=326.92' Inflow=0.94 cfs 0.069 af
12.0" Round Culvert n=0.013 L=30.2' S=0.0066 '/' Outflow=0.94 cfs 0.069 af

Pond 6: Peak Elev=327.41' Inflow=0.38 cfs 0.028 af
12.0" Round Culvert n=0.013 L=118.2' S=0.0423 '/' Outflow=0.38 cfs 0.028 af

Pond 7: Peak Elev=321.89' Inflow=3.37 cfs 0.252 af
12.0" Round Culvert n=0.013 L=44.0' S=0.0739 '/' Outflow=3.37 cfs 0.252 af

Pond 9: Peak Elev=322.40' Inflow=2.17 cfs 0.165 af
15.0" Round Culvert n=0.013 L=63.7' S=0.0063 '/' Outflow=2.17 cfs 0.165 af

Pond 10: Peak Elev=321.94' Inflow=2.91 cfs 0.222 af
12.0" Round Culvert n=0.013 L=93.0' S=0.0376 '/' Outflow=2.91 cfs 0.222 af

Pond 11: Peak Elev=319.45' Inflow=0.41 cfs 0.033 af
12.0" Round Culvert n=0.013 L=45.0' S=0.0056 '/' Outflow=0.41 cfs 0.033 af

Pond 12: Peak Elev=312.10' Inflow=1.72 cfs 0.633 af
18.0" Round Culvert n=0.013 L=18.2' S=0.1121 '/' Outflow=1.72 cfs 0.633 af

Pond 13: Peak Elev=309.39' Inflow=0.45 cfs 0.033 af
12.0" Round Culvert n=0.013 L=19.9' S=0.0050 '/' Outflow=0.45 cfs 0.033 af

Pond 14: Peak Elev=309.38' Inflow=5.15 cfs 0.413 af
15.0" Round Culvert n=0.013 L=41.2' S=0.0160 '/' Outflow=5.15 cfs 0.413 af

Pond 3757: Peak Elev=309.94' Inflow=1.72 cfs 0.633 af
24.0" Round Culvert n=0.011 L=20.9' S=0.0100 '/' Outflow=1.72 cfs 0.633 af

Pond 3758: Peak Elev=307.99' Inflow=6.70 cfs 0.542 af
24.0" Round Culvert n=0.011 L=137.1' S=0.0018 '/' Outflow=6.70 cfs 0.542 af

Pond DMH: DMH 3754 Peak Elev=327.77' Inflow=1.73 cfs 0.132 af
12.0" Round Culvert n=0.013 L=83.5' S=0.0653 '/' Outflow=1.73 cfs 0.132 af

Pond DMH 10: Peak Elev=319.29' Inflow=1.17 cfs 0.094 af
12.0" Round Culvert n=0.013 L=57.0' S=0.0228 '/' Outflow=1.17 cfs 0.094 af

Pond DMH11: Peak Elev=309.49' Inflow=0.26 cfs 0.019 af
12.0" Round Culvert n=0.013 L=45.2' S=0.0221 '/' Outflow=0.26 cfs 0.019 af

Pond DMH4: Peak Elev=326.65' Inflow=1.48 cfs 0.110 af
12.0" Round Culvert n=0.013 L=78.7' S=0.0496 '/' Outflow=1.48 cfs 0.110 af

Pond DMH5: Peak Elev=318.76' Inflow=7.46 cfs 0.568 af
18.0" Round Culvert n=0.013 L=38.2' S=0.0709 '/' Outflow=7.46 cfs 0.568 af

Pond EX: CB3753 Peak Elev=330.96' Inflow=1.27 cfs 0.095 af
12.0" Round Culvert n=0.011 L=128.0' S=0.0237 '/' Outflow=1.27 cfs 0.095 af

Pond FI1: Peak Elev=309.90' Inflow=0.26 cfs 0.019 af
12.0" Round Culvert n=0.013 L=66.7' S=0.0060 '/' Outflow=0.26 cfs 0.019 af

Pond G-1: INFILTRATIONGALLERY (DMH Peak Elev=335.18' Storage=1,291 cf Inflow=1.24 cfs 0.093 af
Discarded=0.19 cfs 0.093 af Primary=0.00 cfs 0.000 af Outflow=0.19 cfs 0.093 af

Pond G-2: DMH 6 & 7 FILTRATION Peak Elev=315.52' Storage=10,131 cf Inflow=7.46 cfs 0.568 af
Primary=0.00 cfs 0.000 af Secondary=1.26 cfs 0.584 af Outflow=1.26 cfs 0.536 af

Pond PD: Existing Pond Peak Elev=307.56' Storage=3,092 cf Inflow=9.37 cfs 1.246 af
Outflow=6.02 cfs 1.246 af

Pond TD1: TRENCH DRAIN Peak Elev=321.47' Inflow=0.35 cfs 0.028 af
6.0" Round Culvert n=0.013 L=50.0' S=0.0470 '/' Outflow=0.35 cfs 0.028 af

Pond TD2: TRENCH DRAIN Peak Elev=321.55' Inflow=0.41 cfs 0.033 af
6.0" Round Culvert n=0.013 L=30.0' S=0.0750 '/' Outflow=0.41 cfs 0.033 af

Link POI 2:
Primary=0.00 cfs 0.000 af

Link POI1: Inflow=6.02 cfs 1.246 af
Primary=6.02 cfs 1.246 af

Total Runoff Area = 5.010 ac Runoff Volume = 1.323 af Average Runoff Depth = 3.17"
24.89% Pervious = 1.247 ac 75.11% Impervious = 3.763 ac

Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment P-1: Subcat P-1 Runoff Area=2,301 sf 69.31% Impervious Runoff Depth=4.13"
Tc=6.0 min CN=91 Runoff=0.24 cfs 0.018 af

Subcatchment P-10: Subcat P-10 Runoff Area=8,886 sf 78.30% Impervious Runoff Depth=4.35"
Tc=6.0 min CN=93 Runoff=0.95 cfs 0.074 af

Subcatchment P-11: Subcat P-11 Runoff Area=5,179 sf 78.37% Impervious Runoff Depth=4.35"
Tc=6.0 min CN=93 Runoff=0.56 cfs 0.043 af

Subcatchment P-12: Subcat P-12 Runoff Area=4,564 sf 93.79% Impervious Runoff Depth=4.80"
Tc=6.0 min CN=97 Runoff=0.51 cfs 0.042 af

Subcatchment P-12a: Subcat P-12a Runoff Area=3,935 sf 97.50% Impervious Runoff Depth=4.80"
Tc=6.0 min CN=97 Runoff=0.44 cfs 0.036 af

Subcatchment P-12b: Subcat P-12b Runoff Area=4,655 sf 91.57% Impervious Runoff Depth=4.68"
Tc=6.0 min CN=96 Runoff=0.52 cfs 0.042 af

Subcatchment P-13: Subcat P-13 Runoff Area=31,699 sf 100.00% Impervious Runoff Depth=4.91"
Tc=6.0 min CN=98 Runoff=3.58 cfs 0.298 af

Subcatchment P-14: Subcat P-14 Runoff Area=17,793 sf 92.30% Impervious Runoff Depth=4.68"
Tc=6.0 min CN=96 Runoff=1.98 cfs 0.159 af

Subcatchment P-15: Subcat P-15 Runoff Area=7,662 sf 79.90% Impervious Runoff Depth=4.35"
Tc=6.0 min CN=93 Runoff=0.82 cfs 0.064 af

Subcatchment P-16: Subcat P-16 Runoff Area=5,705 sf 66.00% Impervious Runoff Depth=4.02"
Tc=6.0 min CN=90 Runoff=0.58 cfs 0.044 af

Subcatchment P-16a: Subcat P-16a Runoff Area=4,663 sf 24.80% Impervious Runoff Depth=3.02"
Tc=6.0 min CN=80 Runoff=0.37 cfs 0.027 af

Subcatchment P-17: Subcat P-17 Runoff Area=17,264 sf 100.00% Impervious Runoff Depth=4.91"
Tc=6.0 min CN=98 Runoff=1.95 cfs 0.162 af

Subcatchment P-18: Subcat P-18 Runoff Area=23,903 sf 0.00% Impervious Runoff Depth=2.31"
Tc=6.0 min CN=72 Runoff=1.45 cfs 0.106 af

Subcatchment P-2: Subcat P-2 Runoff Area=15,815 sf 69.84% Impervious Runoff Depth=4.13"
Tc=6.0 min CN=91 Runoff=1.64 cfs 0.125 af

Subcatchment P-3: Subcat P-3 Runoff Area=2,609 sf 79.29% Impervious Runoff Depth=4.35"
Tc=6.0 min CN=93 Runoff=0.28 cfs 0.022 af

Subcatchment P-4: Subcat P-4 Runoff Area=10,730 sf 76.39% Impervious Runoff Depth=4.02"
Tc=6.0 min CN=90 Runoff=1.09 cfs 0.083 af

Subcatchment P-5: Subcat P-5 Runoff Area=6,344 sf 93.09% Impervious Runoff Depth=4.46"
Tc=6.0 min CN=94 Runoff=0.69 cfs 0.054 af

Subcatchment P-6: Subcat P-6 Runoff Area=13,002 sf 81.91% Impervious Runoff Depth=3.71"
Tc=6.0 min CN=87 Runoff=1.24 cfs 0.092 af

Subcatchment P-7: Subcat P-7 Runoff Area=18,882 sf 83.67% Impervious Runoff Depth=4.13"
Tc=6.0 min CN=91 Runoff=1.96 cfs 0.149 af

Subcatchment P-8: Subcat P-8 Runoff Area=7,287 sf 57.09% Impervious Runoff Depth=2.84"
Tc=6.0 min CN=78 Runoff=0.55 cfs 0.040 af

Subcatchment P-9: Subcat P-9 Runoff Area=5,374 sf 87.12% Impervious Runoff Depth=4.57"
Tc=6.0 min CN=95 Runoff=0.59 cfs 0.047 af

Pond 1: Peak Elev=335.92' Inflow=0.24 cfs 0.018 af
12.0" Round Culvert n=0.013 L=22.5' S=0.0067 '/' Outflow=0.24 cfs 0.018 af

Pond 2: Peak Elev=335.92' Inflow=0.52 cfs 0.040 af
12.0" Round Culvert n=0.013 L=63.9' S=0.0049 '/' Outflow=0.52 cfs 0.040 af

Pond 3: Peak Elev=335.92' Inflow=1.09 cfs 0.083 af
12.0" Round Culvert n=0.013 L=45.8' S=0.0144 '/' Outflow=1.09 cfs 0.083 af

Pond 4: Peak Elev=326.92' Inflow=0.69 cfs 0.054 af
12.0" Round Culvert n=0.013 L=31.4' S=0.0064 '/' Outflow=0.69 cfs 0.054 af

Pond 5: Peak Elev=327.05' Inflow=1.24 cfs 0.092 af
12.0" Round Culvert n=0.013 L=30.2' S=0.0066 '/' Outflow=1.24 cfs 0.092 af

Pond 6: Peak Elev=327.47' Inflow=0.55 cfs 0.040 af
12.0" Round Culvert n=0.013 L=118.2' S=0.0423 '/' Outflow=0.55 cfs 0.040 af

Pond 7: Peak Elev=322.47' Inflow=4.44 cfs 0.335 af
12.0" Round Culvert n=0.013 L=44.0' S=0.0739 '/' Outflow=4.44 cfs 0.335 af

Pond 9: Peak Elev=322.69' Inflow=2.79 cfs 0.215 af
15.0" Round Culvert n=0.013 L=63.7' S=0.0063 '/' Outflow=2.79 cfs 0.215 af

Pond 10: Peak Elev=322.32' Inflow=3.74 cfs 0.289 af
12.0" Round Culvert n=0.013 L=93.0' S=0.0376 '/' Outflow=3.74 cfs 0.289 af

Pond 11: Peak Elev=319.65' Inflow=0.51 cfs 0.042 af
12.0" Round Culvert n=0.013 L=45.0' S=0.0056 '/' Outflow=0.51 cfs 0.042 af

Pond 12: Peak Elev=312.34' Inflow=3.15 cfs 0.822 af
18.0" Round Culvert n=0.013 L=18.2' S=0.1121 '/' Outflow=3.15 cfs 0.822 af

Pond 13: Peak Elev=309.86' Inflow=0.58 cfs 0.044 af
12.0" Round Culvert n=0.013 L=19.9' S=0.0050 '/' Outflow=0.58 cfs 0.044 af

Pond 14: Peak Elev=309.84' Inflow=6.51 cfs 0.528 af
15.0" Round Culvert n=0.013 L=41.2' S=0.0160 '/' Outflow=6.51 cfs 0.528 af

Pond 3757: Peak Elev=310.18' Inflow=3.15 cfs 0.822 af
24.0" Round Culvert n=0.011 L=20.9' S=0.0100 '/' Outflow=3.15 cfs 0.822 af

Pond 3758: Peak Elev=308.27' Inflow=8.46 cfs 0.690 af
24.0" Round Culvert n=0.011 L=137.1' S=0.0018 '/' Outflow=8.46 cfs 0.690 af

Pond DMH: DMH 3754 Peak Elev=327.90' Inflow=2.23 cfs 0.172 af
12.0" Round Culvert n=0.013 L=83.5' S=0.0653 '/' Outflow=2.23 cfs 0.172 af

Pond DMH 10: Peak Elev=319.57' Inflow=1.47 cfs 0.120 af
12.0" Round Culvert n=0.013 L=57.0' S=0.0228 '/' Outflow=1.47 cfs 0.120 af

Pond DMH11: Peak Elev=309.86' Inflow=0.37 cfs 0.027 af
12.0" Round Culvert n=0.013 L=45.2' S=0.0221 '/' Outflow=0.37 cfs 0.027 af

Pond DMH4: Peak Elev=326.77' Inflow=1.93 cfs 0.146 af
12.0" Round Culvert n=0.013 L=78.7' S=0.0496 '/' Outflow=1.93 cfs 0.146 af

Pond DMH5: Peak Elev=319.28' Inflow=9.65 cfs 0.743 af
18.0" Round Culvert n=0.013 L=38.2' S=0.0709 '/' Outflow=9.65 cfs 0.743 af

Pond EX: CB3753 Peak Elev=331.06' Inflow=1.64 cfs 0.125 af
12.0" Round Culvert n=0.011 L=128.0' S=0.0237 '/' Outflow=1.64 cfs 0.125 af

Pond FI1: Peak Elev=310.04' Inflow=0.37 cfs 0.027 af
12.0" Round Culvert n=0.013 L=66.7' S=0.0060 '/' Outflow=0.37 cfs 0.027 af

Pond G-1: INFILTRATIONGALLERY (DMH Peak Elev=335.91' Storage=1,831 cf Inflow=1.61 cfs 0.122 af
Discarded=0.22 cfs 0.122 af Primary=0.00 cfs 0.000 af Outflow=0.22 cfs 0.122 af

Pond G-2: DMH 6 & 7 FILTRATION Peak Elev=316.07' Storage=12,140 cf Inflow=9.65 cfs 0.743 af
Primary=1.60 cfs 0.059 af Secondary=1.30 cfs 0.699 af Outflow=2.90 cfs 0.712 af

Pond PD: Existing Pond Peak Elev=307.92' Storage=4,722 cf Inflow=11.88 cfs 1.618 af
Outflow=6.97 cfs 1.618 af

Pond TD1: TRENCH DRAIN Peak Elev=321.60' Inflow=0.44 cfs 0.036 af
6.0" Round Culvert n=0.013 L=50.0' S=0.0470 '/' Outflow=0.44 cfs 0.036 af

Pond TD2: TRENCH DRAIN Peak Elev=321.73' Inflow=0.52 cfs 0.042 af
6.0" Round Culvert n=0.013 L=30.0' S=0.0750 '/' Outflow=0.52 cfs 0.042 af

Link POI 2:
Primary=0.00 cfs 0.000 af

Link POI1: Inflow=6.97 cfs 1.618 af
Primary=6.97 cfs 1.618 af

Total Runoff Area = 5.010 ac Runoff Volume = 1.726 af Average Runoff Depth = 4.13"
24.89% Pervious = 1.247 ac 75.11% Impervious = 3.763 ac

Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentP-1: Subcat P-1 Runoff Area=2,301 sf 69.31% Impervious Runoff Depth=5.05"
Tc=6.0 min CN=91 Runoff=0.29 cfs 0.022 af

SubcatchmentP-10: Subcat P-10 Runoff Area=8,886 sf 78.30% Impervious Runoff Depth=5.27"
Tc=6.0 min CN=93 Runoff=1.14 cfs 0.090 af

SubcatchmentP-11: Subcat P-11 Runoff Area=5,179 sf 78.37% Impervious Runoff Depth=5.27"
Tc=6.0 min CN=93 Runoff=0.67 cfs 0.052 af

SubcatchmentP-12: Subcat P-12 Runoff Area=4,564 sf 93.79% Impervious Runoff Depth=5.73"
Tc=6.0 min CN=97 Runoff=0.61 cfs 0.050 af

SubcatchmentP-12a: Subcat P-12a Runoff Area=3,935 sf 97.50% Impervious Runoff Depth=5.73"
Tc=6.0 min CN=97 Runoff=0.52 cfs 0.043 af

SubcatchmentP-12b: Subcat P-12b Runoff Area=4,655 sf 91.57% Impervious Runoff Depth=5.62"
Tc=6.0 min CN=96 Runoff=0.62 cfs 0.050 af

SubcatchmentP-13: Subcat P-13 Runoff Area=31,699 sf 100.00% Impervious Runoff Depth=5.85"
Tc=6.0 min CN=98 Runoff=4.24 cfs 0.355 af

SubcatchmentP-14: Subcat P-14 Runoff Area=17,793 sf 92.30% Impervious Runoff Depth=5.62"
Tc=6.0 min CN=96 Runoff=2.35 cfs 0.191 af

SubcatchmentP-15: Subcat P-15 Runoff Area=7,662 sf 79.90% Impervious Runoff Depth=5.27"
Tc=6.0 min CN=93 Runoff=0.99 cfs 0.077 af

SubcatchmentP-16: Subcat P-16 Runoff Area=5,705 sf 66.00% Impervious Runoff Depth=4.93"
Tc=6.0 min CN=90 Runoff=0.70 cfs 0.054 af

SubcatchmentP-16a: Subcat P-16a Runoff Area=4,663 sf 24.80% Impervious Runoff Depth=3.86"
Tc=6.0 min CN=80 Runoff=0.47 cfs 0.034 af

SubcatchmentP-17: Subcat P-17 Runoff Area=17,264 sf 100.00% Impervious Runoff Depth=5.85"
Tc=6.0 min CN=98 Runoff=2.31 cfs 0.193 af

SubcatchmentP-18: Subcat P-18 Runoff Area=23,903 sf 0.00% Impervious Runoff Depth=3.07"
Tc=6.0 min CN=72 Runoff=1.93 cfs 0.140 af

SubcatchmentP-2: Subcat P-2 Runoff Area=15,815 sf 69.84% Impervious Runoff Depth=5.05"
Tc=6.0 min CN=91 Runoff=1.98 cfs 0.153 af

SubcatchmentP-3: Subcat P-3 Runoff Area=2,609 sf 79.29% Impervious Runoff Depth=5.27"
Tc=6.0 min CN=93 Runoff=0.34 cfs 0.026 af

SubcatchmentP-4: Subcat P-4 Runoff Area=10,730 sf 76.39% Impervious Runoff Depth=4.93"
Tc=6.0 min CN=90 Runoff=1.33 cfs 0.101 af

Subcatchment P-5: Subcat P-5 Runoff Area=6,344 sf 93.09% Impervious Runoff Depth=5.39"
Tc=6.0 min CN=94 Runoff=0.82 cfs 0.065 af

Subcatchment P-6: Subcat P-6 Runoff Area=13,002 sf 81.91% Impervious Runoff Depth=4.60"
Tc=6.0 min CN=87 Runoff=1.53 cfs 0.115 af

Subcatchment P-7: Subcat P-7 Runoff Area=18,882 sf 83.67% Impervious Runoff Depth=5.05"
Tc=6.0 min CN=91 Runoff=2.37 cfs 0.182 af

Subcatchment P-8: Subcat P-8 Runoff Area=7,287 sf 57.09% Impervious Runoff Depth=3.66"
Tc=6.0 min CN=78 Runoff=0.70 cfs 0.051 af

Subcatchment P-9: Subcat P-9 Runoff Area=5,374 sf 87.12% Impervious Runoff Depth=5.50"
Tc=6.0 min CN=95 Runoff=0.71 cfs 0.057 af

Pond 1: Peak Elev=336.40' Inflow=0.29 cfs 0.022 af
12.0" Round Culvert n=0.013 L=22.5' S=0.0067 '/' Outflow=0.29 cfs 0.022 af

Pond 2: Peak Elev=336.39' Inflow=0.62 cfs 0.049 af
12.0" Round Culvert n=0.013 L=63.9' S=0.0049 '/' Outflow=0.62 cfs 0.049 af

Pond 3: Peak Elev=336.40' Inflow=1.33 cfs 0.101 af
12.0" Round Culvert n=0.013 L=45.8' S=0.0144 '/' Outflow=1.33 cfs 0.101 af

Pond 4: Peak Elev=327.02' Inflow=0.82 cfs 0.065 af
12.0" Round Culvert n=0.013 L=31.4' S=0.0064 '/' Outflow=0.82 cfs 0.065 af

Pond 5: Peak Elev=327.17' Inflow=1.53 cfs 0.115 af
12.0" Round Culvert n=0.013 L=30.2' S=0.0066 '/' Outflow=1.53 cfs 0.115 af

Pond 6: Peak Elev=327.52' Inflow=0.70 cfs 0.051 af
12.0" Round Culvert n=0.013 L=118.2' S=0.0423 '/' Outflow=0.70 cfs 0.051 af

Pond 7: Peak Elev=323.15' Inflow=5.42 cfs 0.413 af
12.0" Round Culvert n=0.013 L=44.0' S=0.0739 '/' Outflow=5.42 cfs 0.413 af

Pond 9: Peak Elev=323.08' Inflow=3.35 cfs 0.270 af
15.0" Round Culvert n=0.013 L=63.7' S=0.0063 '/' Outflow=3.35 cfs 0.270 af

Pond 10: Peak Elev=322.76' Inflow=4.50 cfs 0.359 af
12.0" Round Culvert n=0.013 L=93.0' S=0.0376 '/' Outflow=4.50 cfs 0.359 af

Pond 11: Peak Elev=320.14' Inflow=0.61 cfs 0.050 af
12.0" Round Culvert n=0.013 L=45.0' S=0.0056 '/' Outflow=0.61 cfs 0.050 af

Pond 12: Peak Elev=312.66' Inflow=5.36 cfs 1.005 af
18.0" Round Culvert n=0.013 L=18.2' S=0.1121 '/' Outflow=5.36 cfs 1.005 af

Pond 13: Peak Elev=310.38' Inflow=0.70 cfs 0.054 af
12.0" Round Culvert n=0.013 L=19.9' S=0.0050 '/' Outflow=0.70 cfs 0.054 af

Pond 14: Peak Elev=310.35' Inflow=7.77 cfs 0.634 af
15.0" Round Culvert n=0.013 L=41.2' S=0.0160 '/' Outflow=7.77 cfs 0.634 af

Pond 3757: Peak Elev=310.48' Inflow=5.36 cfs 1.005 af
24.0" Round Culvert n=0.011 L=20.9' S=0.0100 '/' Outflow=5.36 cfs 1.005 af

Pond 3758: Peak Elev=308.58' Inflow=10.08 cfs 0.828 af
24.0" Round Culvert n=0.011 L=137.1' S=0.0018 '/' Outflow=10.08 cfs 0.828 af

Pond DMH: DMH 3754 Peak Elev=328.05' Inflow=2.69 cfs 0.217 af
12.0" Round Culvert n=0.013 L=83.5' S=0.0653 '/' Outflow=2.69 cfs 0.217 af

Pond DMH 10: Peak Elev=320.11' Inflow=1.75 cfs 0.143 af
12.0" Round Culvert n=0.013 L=57.0' S=0.0228 '/' Outflow=1.75 cfs 0.143 af

Pond DMH11: Peak Elev=310.36' Inflow=0.47 cfs 0.034 af
12.0" Round Culvert n=0.013 L=45.2' S=0.0221 '/' Outflow=0.47 cfs 0.034 af

Pond DMH4: Peak Elev=326.88' Inflow=2.35 cfs 0.180 af
12.0" Round Culvert n=0.013 L=78.7' S=0.0496 '/' Outflow=2.35 cfs 0.180 af

Pond DMH5: Peak Elev=319.87' Inflow=11.66 cfs 0.916 af
18.0" Round Culvert n=0.013 L=38.2' S=0.0709 '/' Outflow=11.66 cfs 0.916 af

Pond EX: CB3753 Peak Elev=331.15' Inflow=1.98 cfs 0.161 af
12.0" Round Culvert n=0.011 L=128.0' S=0.0237 '/' Outflow=1.98 cfs 0.161 af

Pond FI1: Peak Elev=310.40' Inflow=0.47 cfs 0.034 af
12.0" Round Culvert n=0.013 L=66.7' S=0.0060 '/' Outflow=0.47 cfs 0.034 af

Pond G-1: INFILTRATIONGALLERY (DMH Peak Elev=336.39' Storage=2,122 cf Inflow=1.95 cfs 0.150 af
Discarded=0.24 cfs 0.142 af Primary=0.35 cfs 0.008 af Outflow=0.59 cfs 0.150 af

Pond G-2: DMH 6 & 7 FILTRATION Peak Elev=316.41' Storage=13,197 cf Inflow=11.66 cfs 0.916 af
Primary=3.65 cfs 0.147 af Secondary=1.31 cfs 0.781 af Outflow=4.96 cfs 0.884 af

Pond PD: Existing Pond Peak Elev=308.52' Storage=8,131 cf Inflow=14.22 cfs 1.973 af
Outflow=8.48 cfs 1.973 af

Pond TD1: TRENCH DRAIN Peak Elev=321.74' Inflow=0.52 cfs 0.043 af
6.0" Round Culvert n=0.013 L=50.0' S=0.0470 '/' Outflow=0.52 cfs 0.043 af

Pond TD2: TRENCH DRAIN Peak Elev=321.93' Inflow=0.62 cfs 0.050 af
6.0" Round Culvert n=0.013 L=30.0' S=0.0750 '/' Outflow=0.62 cfs 0.050 af

Link POI 2:
Primary=0.00 cfs 0.000 af

Link POI1: Inflow=8.48 cfs 1.973 af
Primary=8.48 cfs 1.973 af

Total Runoff Area = 5.010 ac Runoff Volume = 2.102 af Average Runoff Depth = 5.04"
24.89% Pervious = 1.247 ac 75.11% Impervious = 3.763 ac

Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentP-1: Subcat P-1 Runoff Area=2,301 sf 69.31% Impervious Runoff Depth=6.14"
Tc=6.0 min CN=91 Runoff=0.35 cfs 0.027 af

SubcatchmentP-10: Subcat P-10 Runoff Area=8,886 sf 78.30% Impervious Runoff Depth=6.37"
Tc=6.0 min CN=93 Runoff=1.37 cfs 0.108 af

SubcatchmentP-11: Subcat P-11 Runoff Area=5,179 sf 78.37% Impervious Runoff Depth=6.37"
Tc=6.0 min CN=93 Runoff=0.80 cfs 0.063 af

SubcatchmentP-12: Subcat P-12 Runoff Area=4,564 sf 93.79% Impervious Runoff Depth=6.84"
Tc=6.0 min CN=97 Runoff=0.72 cfs 0.060 af

SubcatchmentP-12a: Subcat P-12a Runoff Area=3,935 sf 97.50% Impervious Runoff Depth=6.84"
Tc=6.0 min CN=97 Runoff=0.62 cfs 0.052 af

SubcatchmentP-12b: Subcat P-12b Runoff Area=4,655 sf 91.57% Impervious Runoff Depth=6.72"
Tc=6.0 min CN=96 Runoff=0.73 cfs 0.060 af

SubcatchmentP-13: Subcat P-13 Runoff Area=31,699 sf 100.00% Impervious Runoff Depth=6.96"
Tc=6.0 min CN=98 Runoff=5.02 cfs 0.422 af

SubcatchmentP-14: Subcat P-14 Runoff Area=17,793 sf 92.30% Impervious Runoff Depth=6.72"
Tc=6.0 min CN=96 Runoff=2.79 cfs 0.229 af

SubcatchmentP-15: Subcat P-15 Runoff Area=7,662 sf 79.90% Impervious Runoff Depth=6.37"
Tc=6.0 min CN=93 Runoff=1.18 cfs 0.093 af

SubcatchmentP-16: Subcat P-16 Runoff Area=5,705 sf 66.00% Impervious Runoff Depth=6.02"
Tc=6.0 min CN=90 Runoff=0.85 cfs 0.066 af

SubcatchmentP-16a: Subcat P-16a Runoff Area=4,663 sf 24.80% Impervious Runoff Depth=4.88"
Tc=6.0 min CN=80 Runoff=0.59 cfs 0.044 af

SubcatchmentP-17: Subcat P-17 Runoff Area=17,264 sf 100.00% Impervious Runoff Depth=6.96"
Tc=6.0 min CN=98 Runoff=2.73 cfs 0.230 af

SubcatchmentP-18: Subcat P-18 Runoff Area=23,903 sf 0.00% Impervious Runoff Depth=4.00"
Tc=6.0 min CN=72 Runoff=2.52 cfs 0.183 af

SubcatchmentP-2: Subcat P-2 Runoff Area=15,815 sf 69.84% Impervious Runoff Depth=6.14"
Tc=6.0 min CN=91 Runoff=2.38 cfs 0.186 af

SubcatchmentP-3: Subcat P-3 Runoff Area=2,609 sf 79.29% Impervious Runoff Depth=6.37"
Tc=6.0 min CN=93 Runoff=0.40 cfs 0.032 af

SubcatchmentP-4: Subcat P-4 Runoff Area=10,730 sf 76.39% Impervious Runoff Depth=6.02"
Tc=6.0 min CN=90 Runoff=1.60 cfs 0.124 af

Subcatchment P-5: Subcat P-5 Runoff Area=6,344 sf 93.09% Impervious Runoff Depth=6.49"
Tc=6.0 min CN=94 Runoff=0.98 cfs 0.079 af

Subcatchment P-6: Subcat P-6 Runoff Area=13,002 sf 81.91% Impervious Runoff Depth=5.67"
Tc=6.0 min CN=87 Runoff=1.86 cfs 0.141 af

Subcatchment P-7: Subcat P-7 Runoff Area=18,882 sf 83.67% Impervious Runoff Depth=6.14"
Tc=6.0 min CN=91 Runoff=2.85 cfs 0.222 af

Subcatchment P-8: Subcat P-8 Runoff Area=7,287 sf 57.09% Impervious Runoff Depth=4.66"
Tc=6.0 min CN=78 Runoff=0.89 cfs 0.065 af

Subcatchment P-9: Subcat P-9 Runoff Area=5,374 sf 87.12% Impervious Runoff Depth=6.60"
Tc=6.0 min CN=95 Runoff=0.84 cfs 0.068 af

Pond 1: Peak Elev=336.61' Inflow=0.35 cfs 0.027 af
12.0" Round Culvert n=0.013 L=22.5' S=0.0067 '/' Outflow=0.35 cfs 0.027 af

Pond 2: Peak Elev=336.61' Inflow=0.75 cfs 0.059 af
12.0" Round Culvert n=0.013 L=63.9' S=0.0049 '/' Outflow=0.75 cfs 0.059 af

Pond 3: Peak Elev=336.64' Inflow=1.60 cfs 0.124 af
12.0" Round Culvert n=0.013 L=45.8' S=0.0144 '/' Outflow=1.60 cfs 0.124 af

Pond 4: Peak Elev=327.18' Inflow=0.98 cfs 0.079 af
12.0" Round Culvert n=0.013 L=31.4' S=0.0064 '/' Outflow=0.98 cfs 0.079 af

Pond 5: Peak Elev=327.34' Inflow=1.86 cfs 0.141 af
12.0" Round Culvert n=0.013 L=30.2' S=0.0066 '/' Outflow=1.86 cfs 0.141 af

Pond 6: Peak Elev=327.58' Inflow=0.89 cfs 0.065 af
12.0" Round Culvert n=0.013 L=118.2' S=0.0423 '/' Outflow=0.89 cfs 0.065 af

Pond 7: Peak Elev=324.12' Inflow=6.58 cfs 0.506 af
12.0" Round Culvert n=0.013 L=44.0' S=0.0739 '/' Outflow=6.58 cfs 0.506 af

Pond 9: Peak Elev=324.35' Inflow=4.01 cfs 0.341 af
15.0" Round Culvert n=0.013 L=63.7' S=0.0063 '/' Outflow=4.01 cfs 0.341 af

Pond 10: Peak Elev=323.85' Inflow=5.38 cfs 0.449 af
12.0" Round Culvert n=0.013 L=93.0' S=0.0376 '/' Outflow=5.38 cfs 0.449 af

Pond 11: Peak Elev=321.10' Inflow=0.72 cfs 0.060 af
12.0" Round Culvert n=0.013 L=45.0' S=0.0056 '/' Outflow=0.72 cfs 0.060 af

Pond 12: Peak Elev=313.37' Inflow=9.02 cfs 1.232 af
18.0" Round Culvert n=0.013 L=18.2' S=0.1121 '/' Outflow=9.02 cfs 1.232 af

Pond 13: Peak Elev=311.13' Inflow=0.85 cfs 0.066 af
12.0" Round Culvert n=0.013 L=19.9' S=0.0050 '/' Outflow=0.85 cfs 0.066 af

Pond 14: Peak Elev=311.26' Inflow=9.26 cfs 0.760 af
15.0" Round Culvert n=0.013 L=41.2' S=0.0160 '/' Outflow=9.26 cfs 0.760 af

Pond 3757: Peak Elev=310.90' Inflow=9.02 cfs 1.232 af
24.0" Round Culvert n=0.011 L=20.9' S=0.0100 '/' Outflow=9.02 cfs 1.232 af

Pond 3758: Peak Elev=308.96' Inflow=11.99 cfs 0.990 af
24.0" Round Culvert n=0.011 L=137.1' S=0.0018 '/' Outflow=11.99 cfs 0.990 af

Pond DMH: DMH 3754 Peak Elev=328.27' Inflow=3.21 cfs 0.278 af
12.0" Round Culvert n=0.013 L=83.5' S=0.0653 '/' Outflow=3.21 cfs 0.278 af

Pond DMH 10: Peak Elev=321.07' Inflow=2.07 cfs 0.171 af
12.0" Round Culvert n=0.013 L=57.0' S=0.0228 '/' Outflow=2.07 cfs 0.171 af

Pond DMH11: Peak Elev=311.10' Inflow=0.59 cfs 0.044 af
12.0" Round Culvert n=0.013 L=45.2' S=0.0221 '/' Outflow=0.59 cfs 0.044 af

Pond DMH4: Peak Elev=327.06' Inflow=2.85 cfs 0.220 af
12.0" Round Culvert n=0.013 L=78.7' S=0.0496 '/' Outflow=2.85 cfs 0.220 af

Pond DMH5: Peak Elev=320.71' Inflow=14.03 cfs 1.127 af
18.0" Round Culvert n=0.013 L=38.2' S=0.0709 '/' Outflow=14.03 cfs 1.127 af

Pond EX: CB3753 Peak Elev=331.26' Inflow=2.38 cfs 0.210 af
12.0" Round Culvert n=0.011 L=128.0' S=0.0237 '/' Outflow=2.38 cfs 0.210 af

Pond FI1: Peak Elev=311.11' Inflow=0.59 cfs 0.044 af
12.0" Round Culvert n=0.013 L=66.7' S=0.0060 '/' Outflow=0.59 cfs 0.044 af

Pond G-1: INFILTRATIONGALLERY (DMH Peak Elev=336.60' Storage=2,221 cf Inflow=2.35 cfs 0.182 af
Discarded=0.25 cfs 0.158 af Primary=0.95 cfs 0.024 af Outflow=1.20 cfs 0.182 af

Pond G-2: DMH 6 & 7 FILTRATION Peak Elev=316.92' Storage=14,364 cf Inflow=14.03 cfs 1.127 af
Primary=7.04 cfs 0.264 af Secondary=1.31 cfs 0.874 af Outflow=8.31 cfs 1.095 af

Pond PD: Existing Pond Peak Elev=308.81' Storage=9,907 cf Inflow=19.52 cfs 2.405 af
Outflow=15.66 cfs 2.404 af

Pond TD1: TRENCH DRAIN Peak Elev=321.94' Inflow=0.62 cfs 0.052 af
6.0" Round Culvert n=0.013 L=50.0' S=0.0470 '/' Outflow=0.62 cfs 0.052 af

Pond TD2: TRENCH DRAIN Peak Elev=322.21' Inflow=0.73 cfs 0.060 af
6.0" Round Culvert n=0.013 L=30.0' S=0.0750 '/' Outflow=0.73 cfs 0.060 af

Link POI 2:
Primary=0.00 cfs 0.000 af

Link POI1: Inflow=15.66 cfs 2.404 af
Primary=15.66 cfs 2.404 af

Total Runoff Area = 5.010 ac Runoff Volume = 2.551 af Average Runoff Depth = 6.11"
24.89% Pervious = 1.247 ac 75.11% Impervious = 3.763 ac

Summary for Subcatchment P-1: Subcat P-1

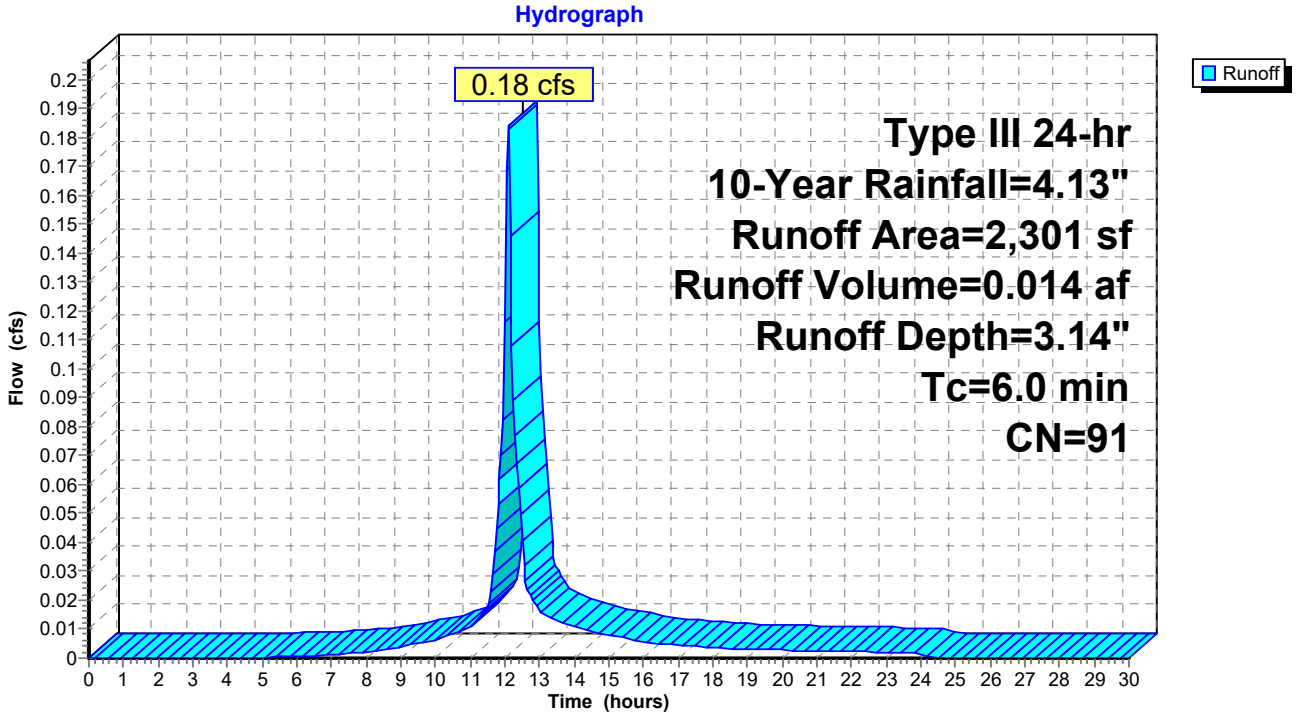
Runoff = 0.18 cfs @ 12.09 hrs, Volume= 0.014 af, Depth= 3.14"
Routed to Pond 1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.13"

Area (sf)	CN	Description
706	74	>75% Grass cover, Good, HSG C
1,595	98	Paved parking, HSG C
2,301	91	Weighted Average
706		30.69% Pervious Area
1,595		69.31% Impervious Area

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

Subcatchment P-1: Subcat P-1



Summary for Subcatchment P-10: Subcat P-10

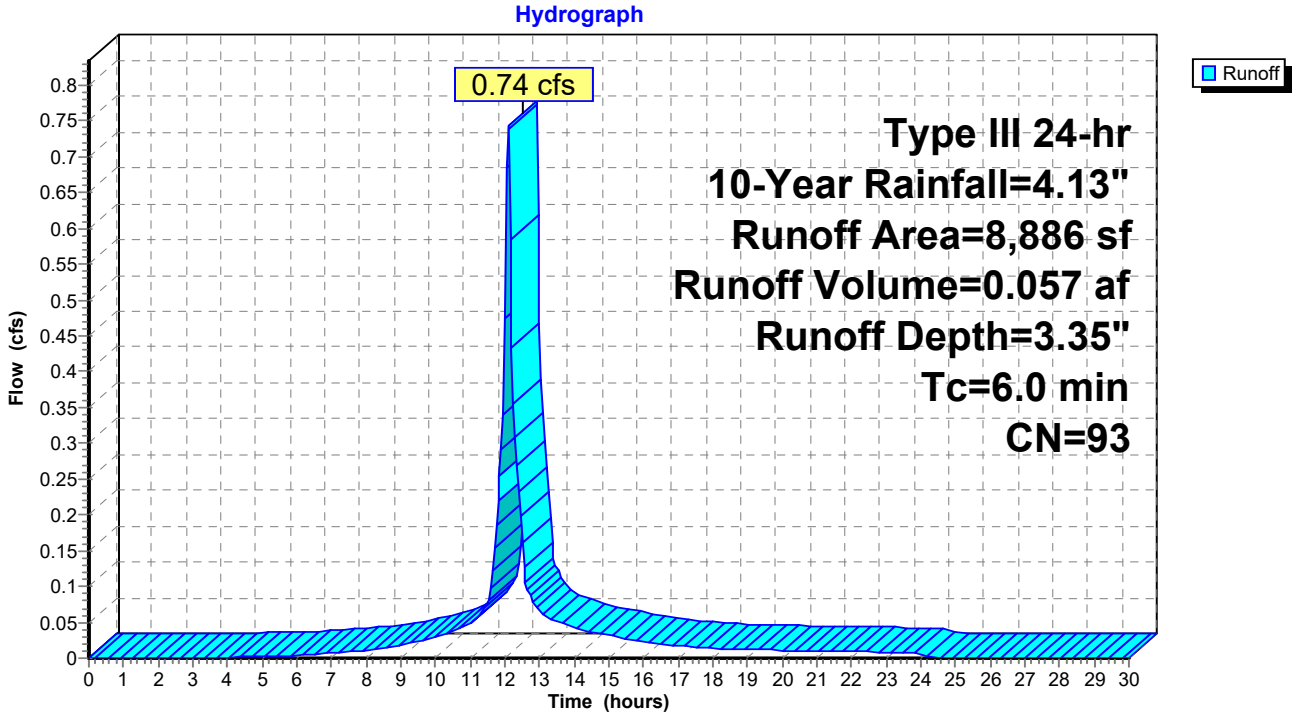
Runoff = 0.74 cfs @ 12.09 hrs, Volume= 0.057 af, Depth= 3.35"
Routed to Pond 10 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.13"

Area (sf)	CN	Description
1,928	74	>75% Grass cover, Good, HSG C
6,958	98	Paved parking, HSG C
8,886	93	Weighted Average
1,928		21.70% Pervious Area
6,958		78.30% Impervious Area

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

Subcatchment P-10: Subcat P-10



Summary for Subcatchment P-11: Subcat P-11

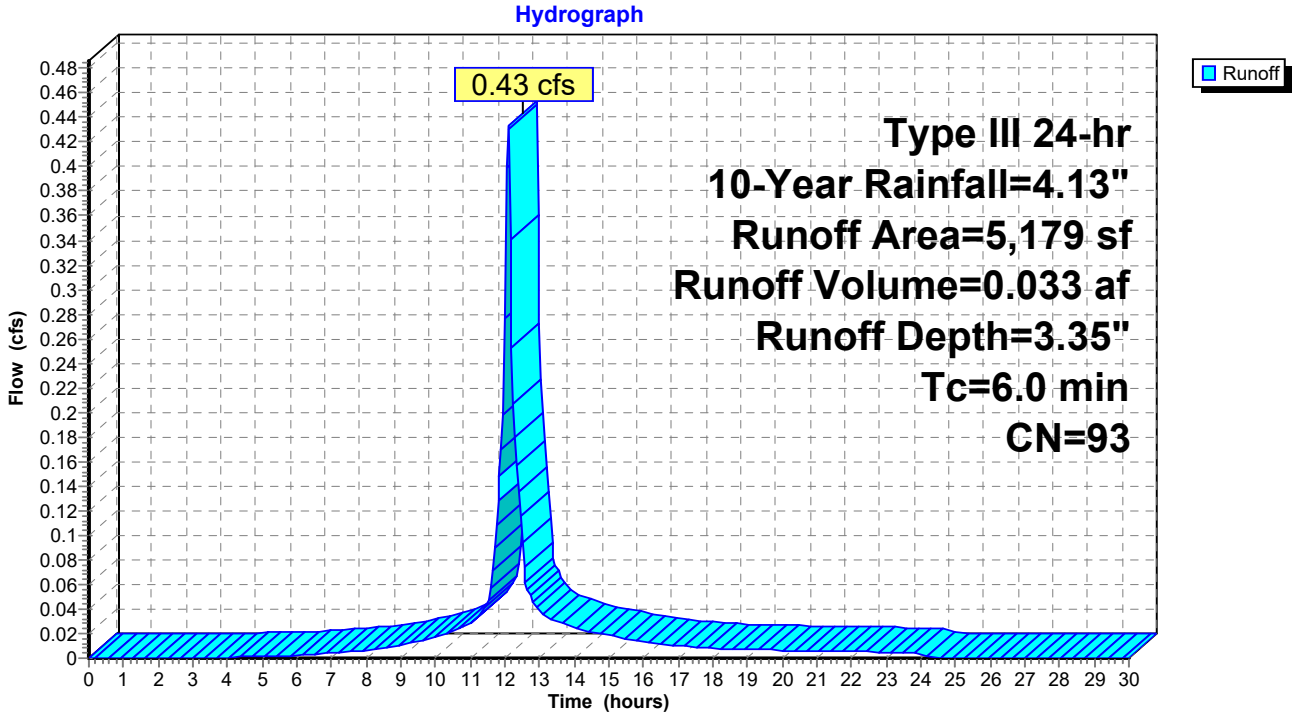
Runoff = 0.43 cfs @ 12.09 hrs, Volume= 0.033 af, Depth= 3.35"
Routed to Pond 9 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.13"

Area (sf)	CN	Description
1,120	74	>75% Grass cover, Good, HSG C
4,059	98	Paved parking, HSG C
5,179	93	Weighted Average
1,120		21.63% Pervious Area
4,059		78.37% Impervious Area

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

Subcatchment P-11: Subcat P-11



Summary for Subcatchment P-12: Subcat P-12

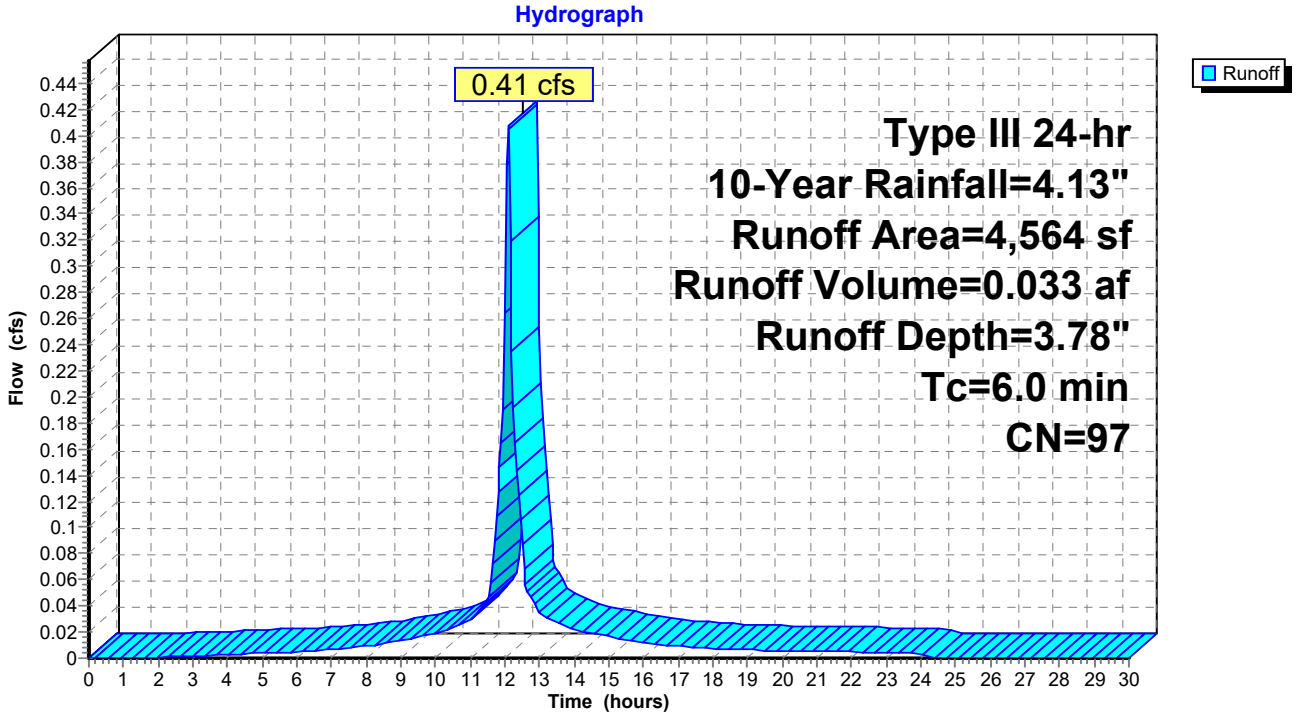
Runoff = 0.41 cfs @ 12.09 hrs, Volume= 0.033 af, Depth= 3.78"
Routed to Pond 11 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.13"

Area (sf)	CN	Description
284	74	>75% Grass cover, Good, HSG C
4,281	98	Paved parking, HSG C
4,564	97	Weighted Average
284		6.21% Pervious Area
4,281		93.79% Impervious Area

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

Subcatchment P-12: Subcat P-12



Summary for Subcatchment P-12a: Subcat P-12a

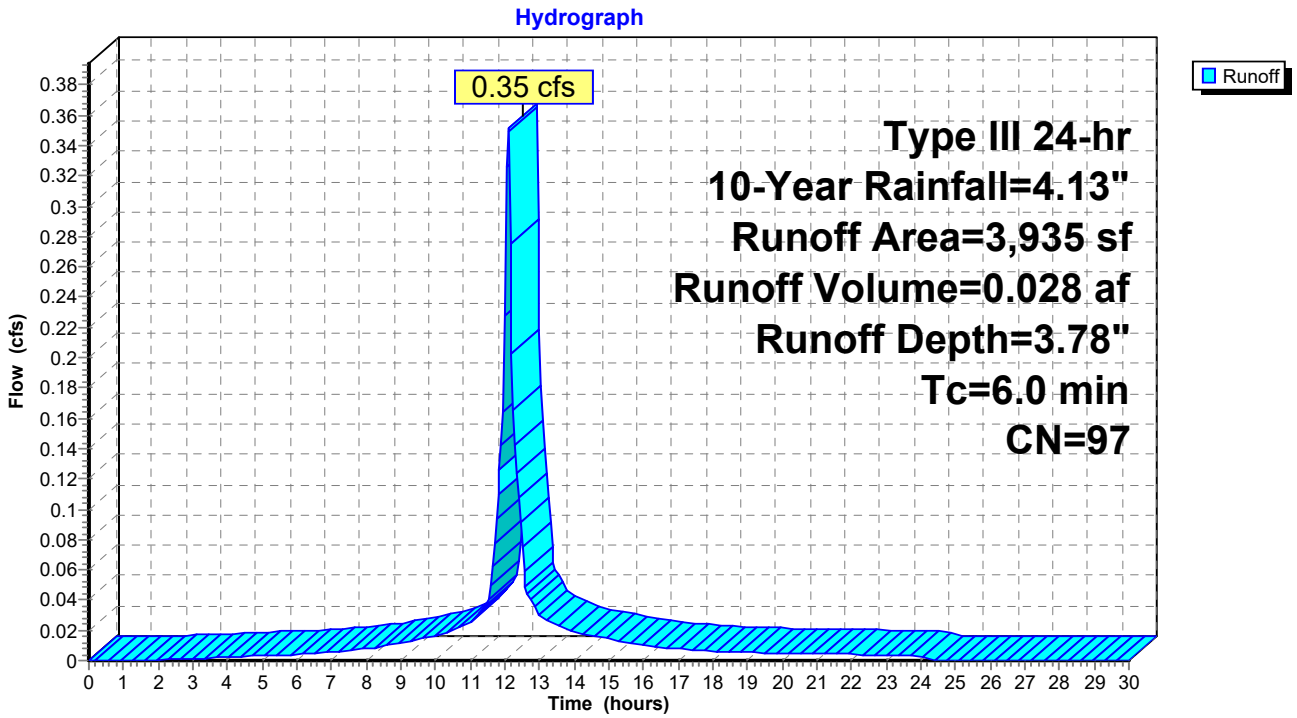
Runoff = 0.35 cfs @ 12.09 hrs, Volume= 0.028 af, Depth= 3.78"
Routed to Pond TD1 : TRENCH DRAIN

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.13"

Area (sf)	CN	Description
98	74	>75% Grass cover, Good, HSG C
3,546	98	Paved parking, HSG C
291	98	Roofs, HSG C
3,935	97	Weighted Average
98		2.50% Pervious Area
3,837		97.50% Impervious Area

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

Subcatchment P-12a: Subcat P-12a



Summary for Subcatchment P-12b: Subcat P-12b

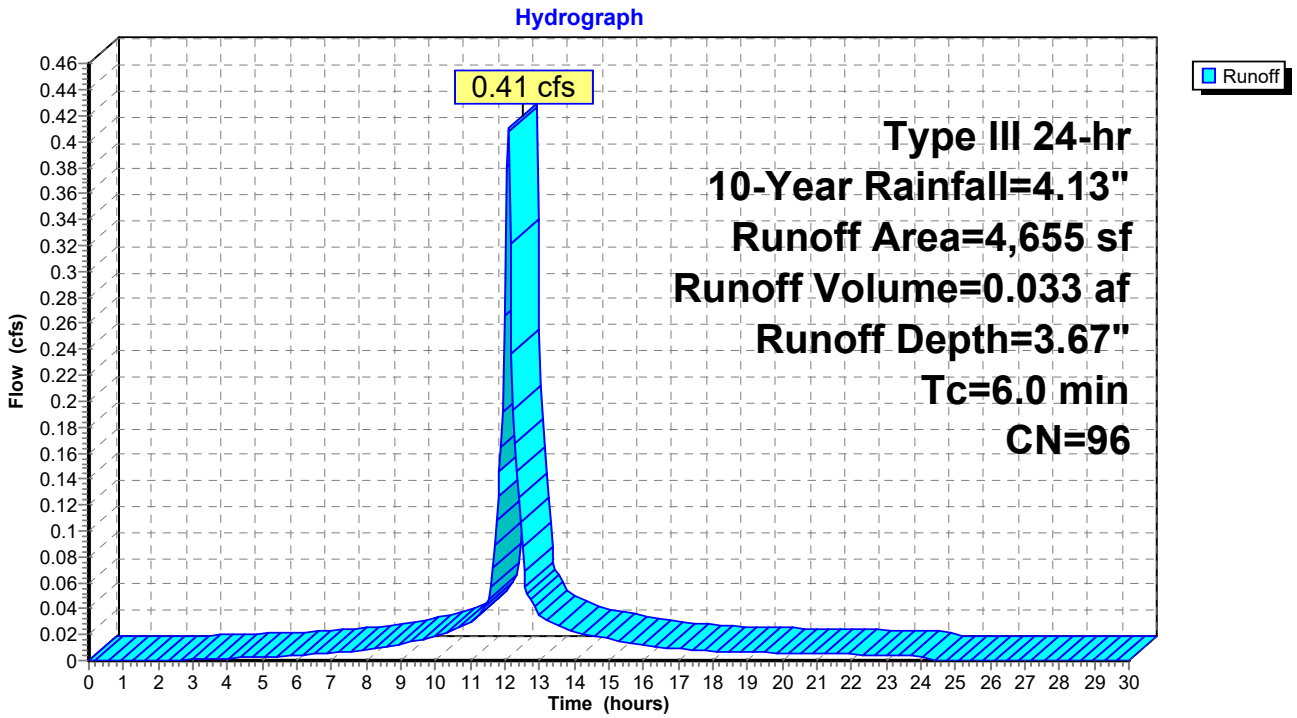
Runoff = 0.41 cfs @ 12.09 hrs, Volume= 0.033 af, Depth= 3.67"
Routed to Pond TD2 : TRENCH DRAIN

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.13"

Area (sf)	CN	Description
393	74	>75% Grass cover, Good, HSG C
3,950	98	Paved parking, HSG C
312	98	Roofs, HSG C
4,655	96	Weighted Average
393		8.43% Pervious Area
4,262		91.57% Impervious Area

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

Subcatchment P-12b: Subcat P-12b



Summary for Subcatchment P-13: Subcat P-13

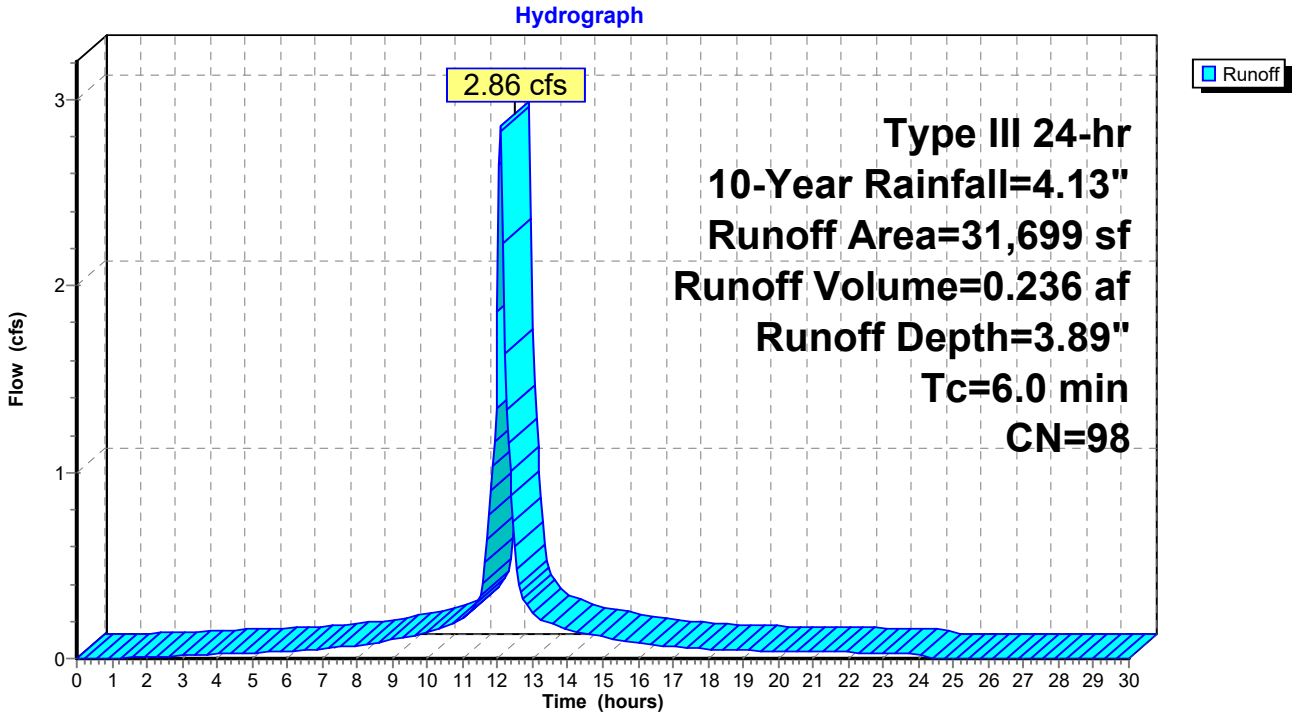
Runoff = 2.86 cfs @ 12.09 hrs, Volume= 0.236 af, Depth= 3.89"
Routed to Pond 14 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.13"

Area (sf)	CN	Description
12	98	Paved parking, HSG C
31,687	98	Roofs, HSG C
31,699	98	Weighted Average
31,699		100.00% Impervious Area

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

Subcatchment P-13: Subcat P-13



Summary for Subcatchment P-14: Subcat P-14

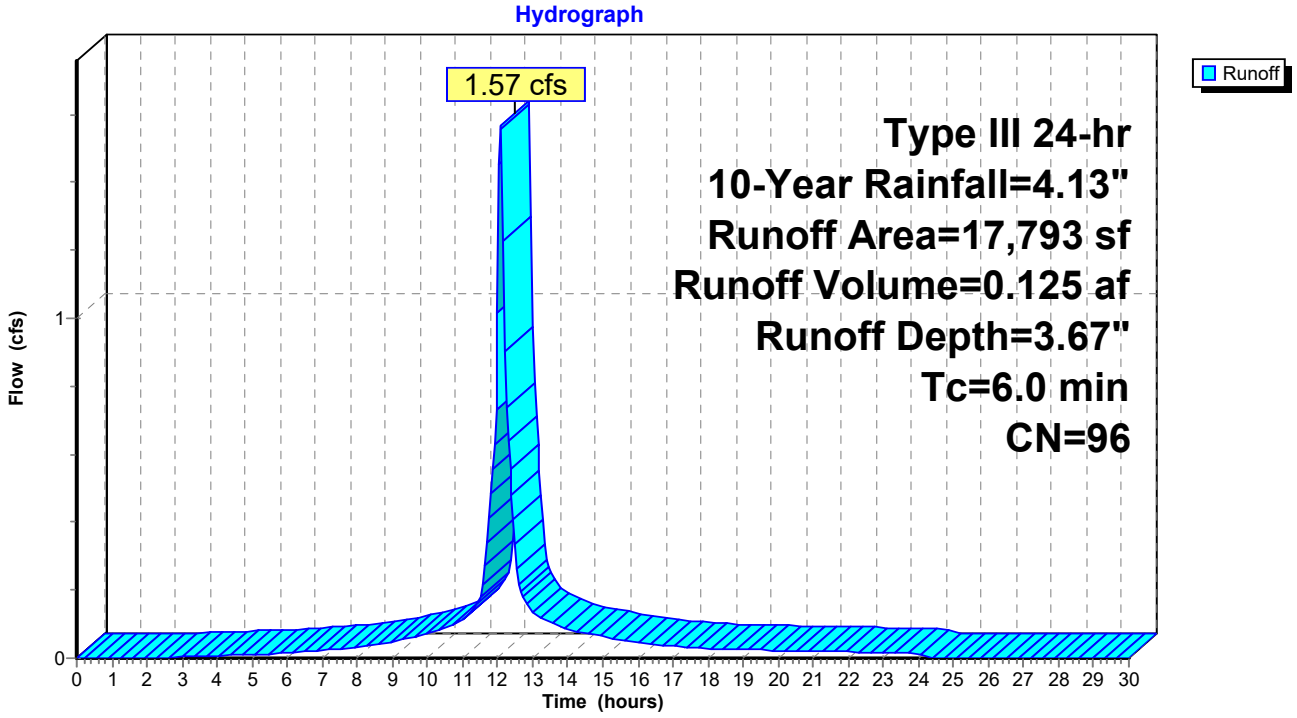
Runoff = 1.57 cfs @ 12.09 hrs, Volume= 0.125 af, Depth= 3.67"
Routed to Pond 14 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.13"

Area (sf)	CN	Description
1,370	74	>75% Grass cover, Good, HSG C
16,423	98	Paved parking, HSG C
17,793	96	Weighted Average
1,370		7.70% Pervious Area
16,423		92.30% Impervious Area

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

Subcatchment P-14: Subcat P-14



Summary for Subcatchment P-15: Subcat P-15

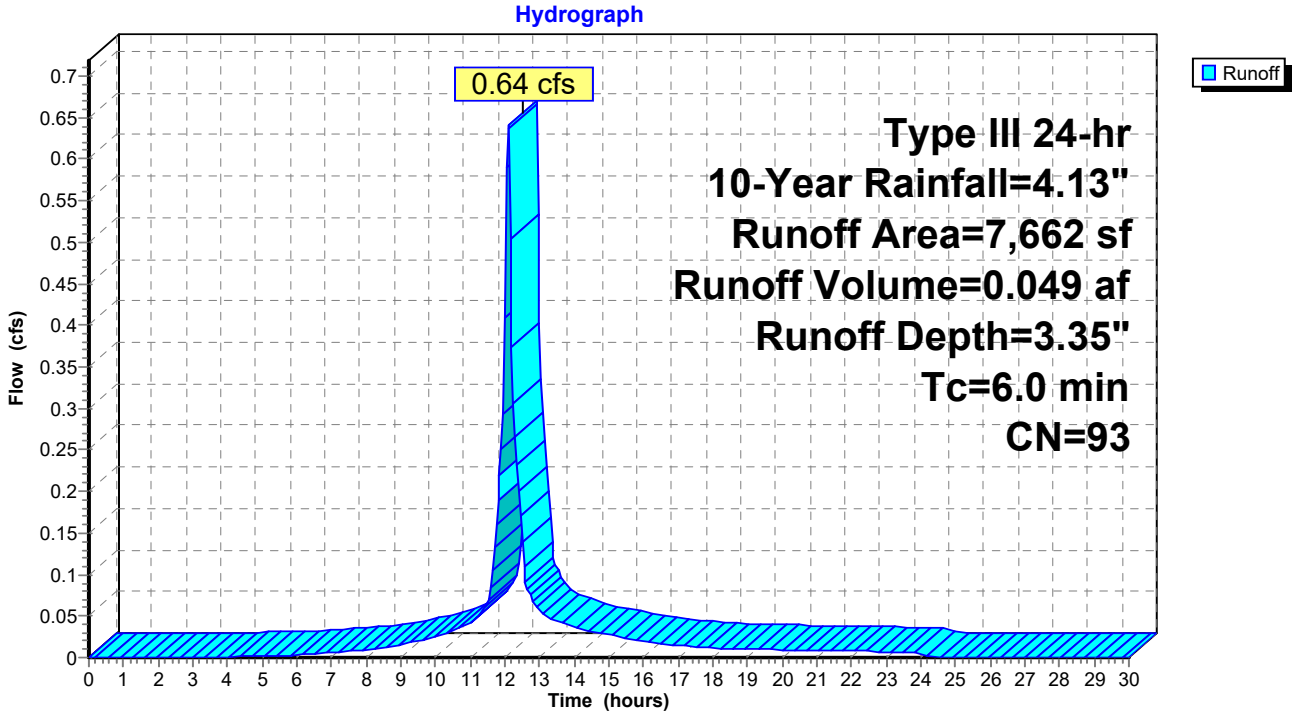
Runoff = 0.64 cfs @ 12.09 hrs, Volume= 0.049 af, Depth= 3.35"
Routed to Pond 12 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.13"

Area (sf)	CN	Description
34	61	>75% Grass cover, Good, HSG B
1,506	74	>75% Grass cover, Good, HSG C
6,122	98	Paved parking, HSG C
7,662	93	Weighted Average
1,540		20.10% Pervious Area
6,122		79.90% Impervious Area

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

Subcatchment P-15: Subcat P-15



Summary for Subcatchment P-16: Subcat P-16

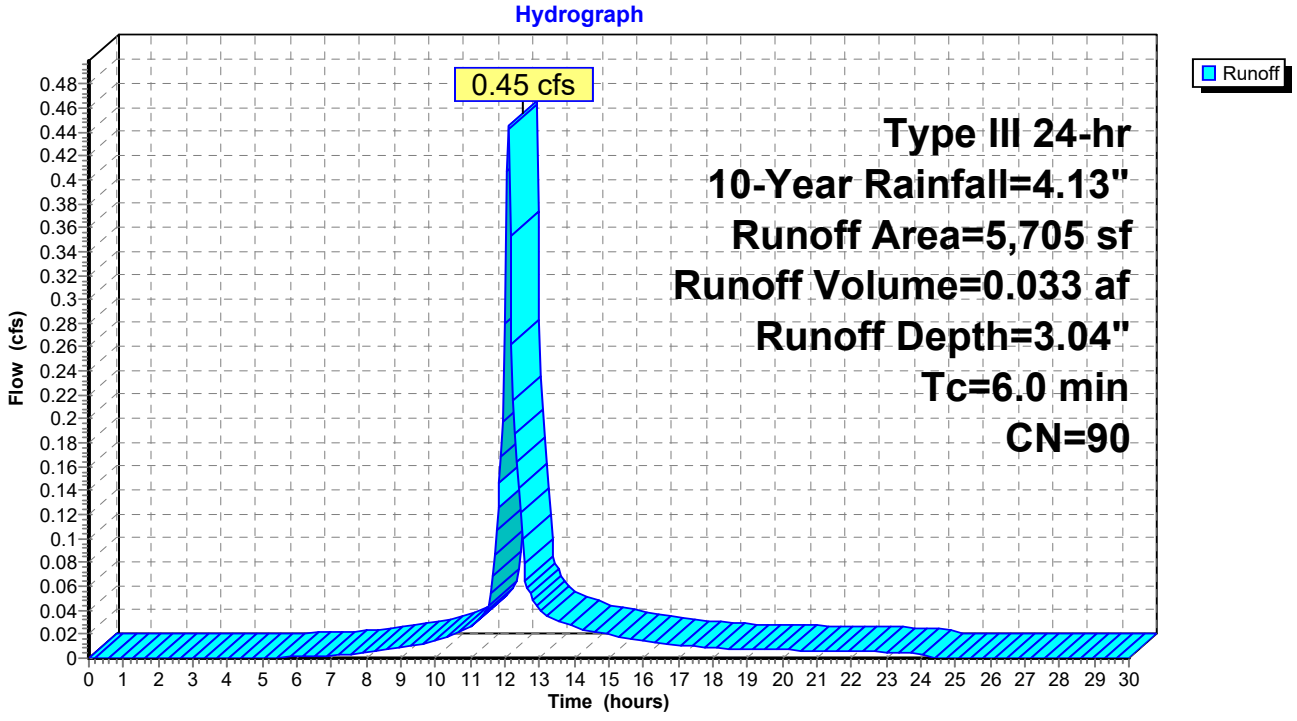
Runoff = 0.45 cfs @ 12.09 hrs, Volume= 0.033 af, Depth= 3.04"
Routed to Pond 13 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.13"

Area (sf)	CN	Description
1,940	74	>75% Grass cover, Good, HSG C
3,765	98	Paved parking, HSG C
5,705	90	Weighted Average
1,940		34.00% Pervious Area
3,765		66.00% Impervious Area

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

Subcatchment P-16: Subcat P-16



Summary for Subcatchment P-16a: Subcat P-16a

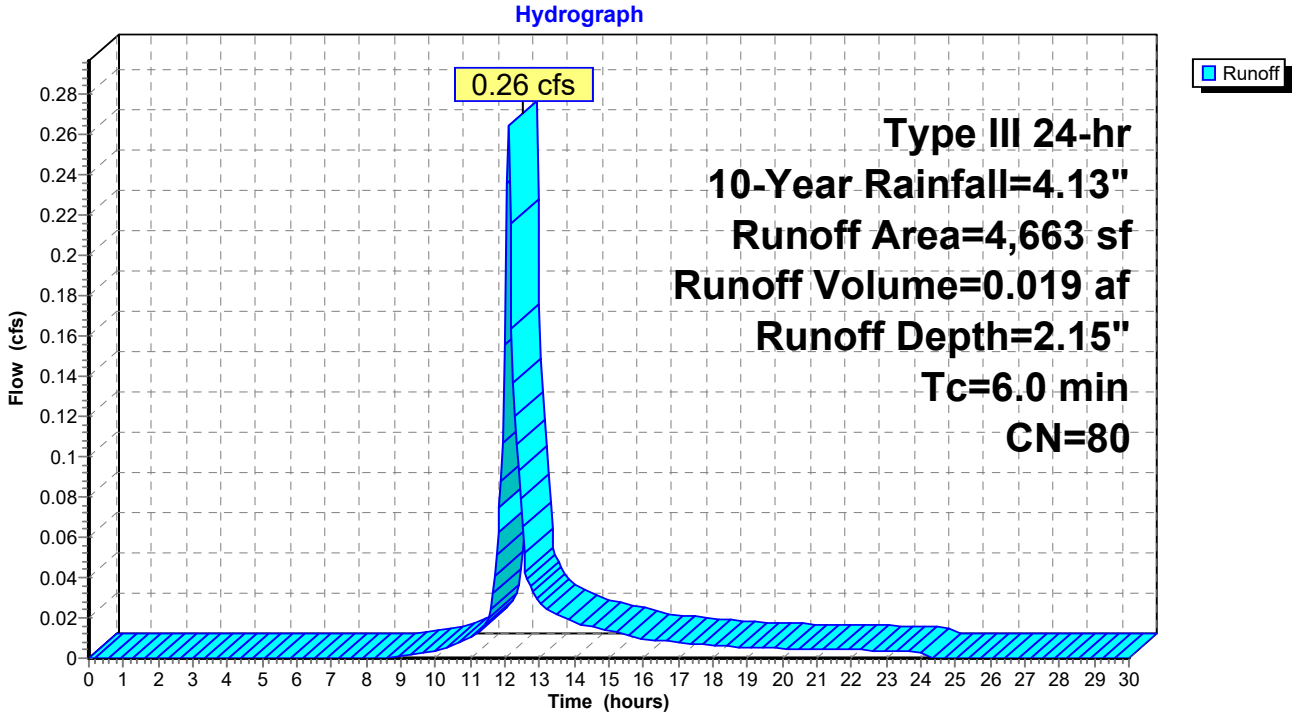
Runoff = 0.26 cfs @ 12.09 hrs, Volume= 0.019 af, Depth= 2.15"
Routed to Pond FI1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.13"

Area (sf)	CN	Description
3,506	74	>75% Grass cover, Good, HSG C
1,156	98	Paved parking, HSG C
4,663	80	Weighted Average
3,506		75.20% Pervious Area
1,156		24.80% Impervious Area

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

Subcatchment P-16a: Subcat P-16a



Summary for Subcatchment P-17: Subcat P-17

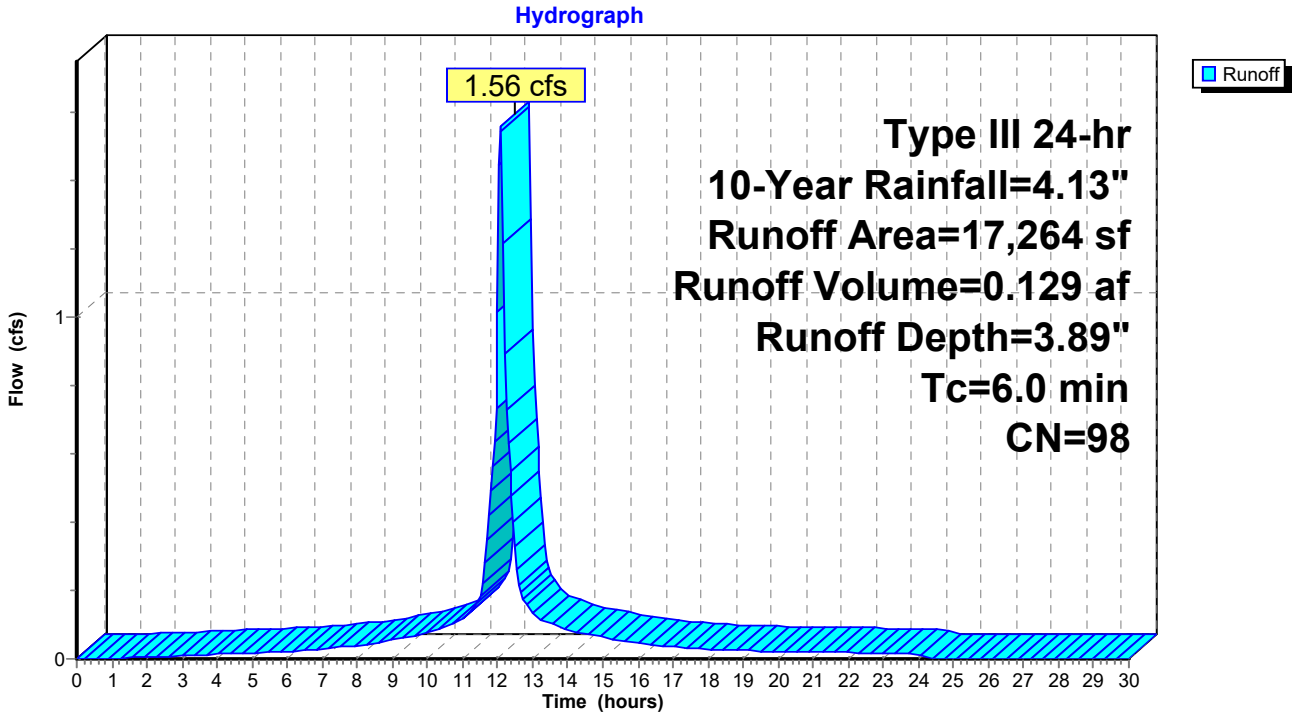
Runoff = 1.56 cfs @ 12.09 hrs, Volume= 0.129 af, Depth= 3.89"
Routed to Pond 3758 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.13"

Area (sf)	CN	Description
17,264	98	Paved parking, HSG C
17,264		100.00% Impervious Area

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

Subcatchment P-17: Subcat P-17



Summary for Subcatchment P-18: Subcat P-18

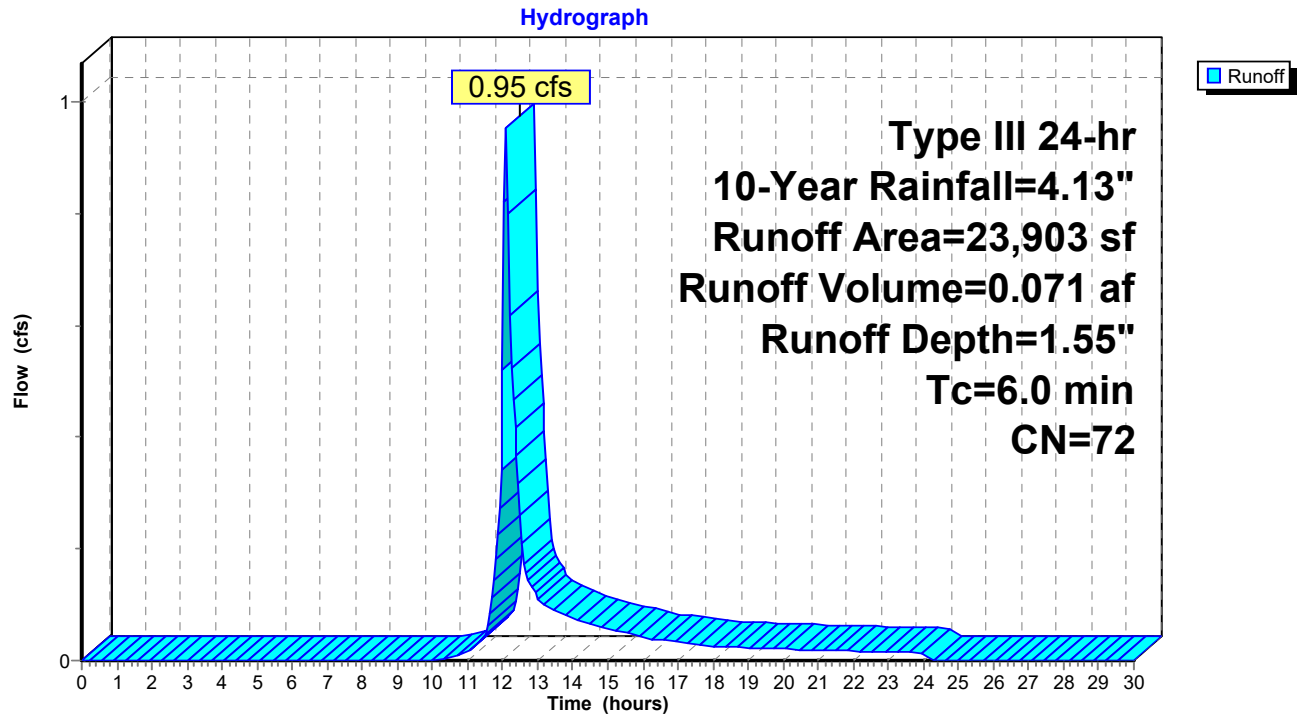
Runoff = 0.95 cfs @ 12.10 hrs, Volume= 0.071 af, Depth= 1.55"
Routed to Pond PD : Existing Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.13"

Area (sf)	CN	Description
5,535	61	>75% Grass cover, Good, HSG B
9,873	74	>75% Grass cover, Good, HSG C
6,478	80	>75% Grass cover, Good, HSG D
2,016	70	Woods, Good, HSG C
23,903	72	Weighted Average
23,903		100.00% Pervious Area

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

Subcatchment P-18: Subcat P-18



Summary for Subcatchment P-2: Subcat P-2

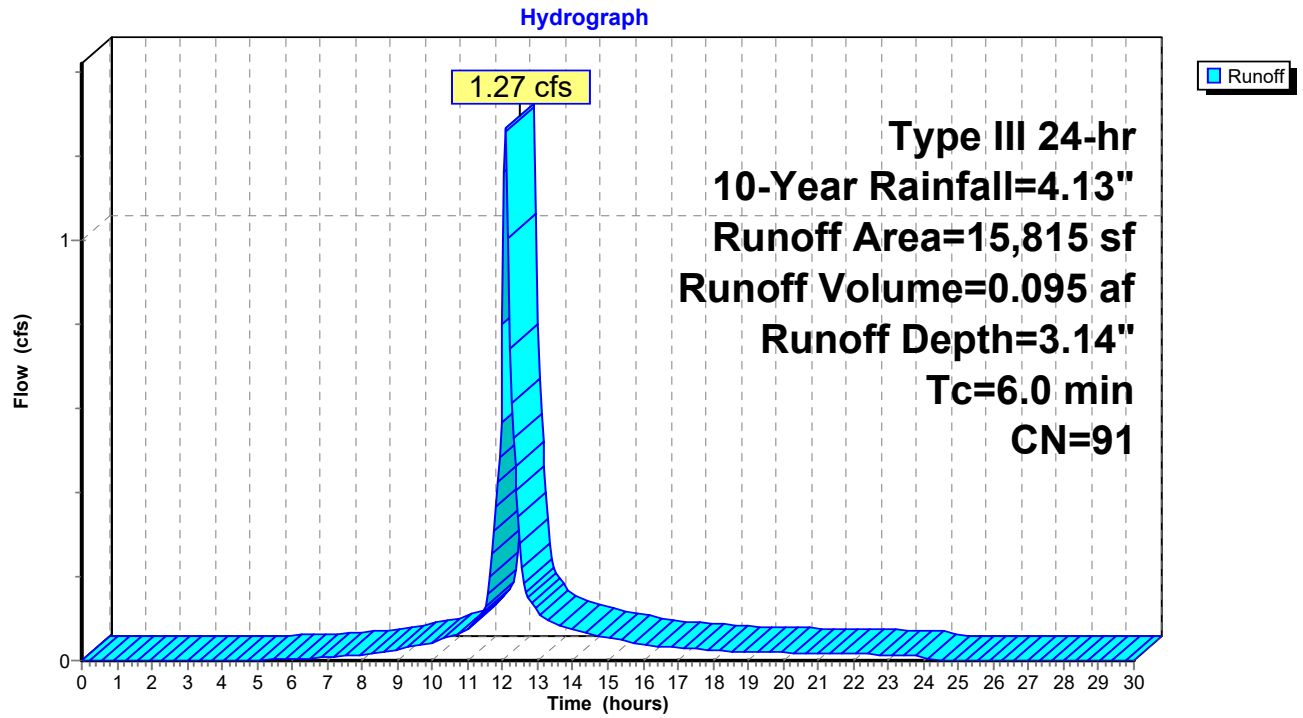
Runoff = 1.27 cfs @ 12.09 hrs, Volume= 0.095 af, Depth= 3.14"
Routed to Pond EX : CB3753

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.13"

Area (sf)	CN	Description
4,771	74	>75% Grass cover, Good, HSG C
9,731	98	Paved parking, HSG C
1,313	98	Roofs, HSG C
15,815	91	Weighted Average
4,771		30.16% Pervious Area
11,045		69.84% Impervious Area

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

Subcatchment P-2: Subcat P-2



Summary for Subcatchment P-3: Subcat P-3

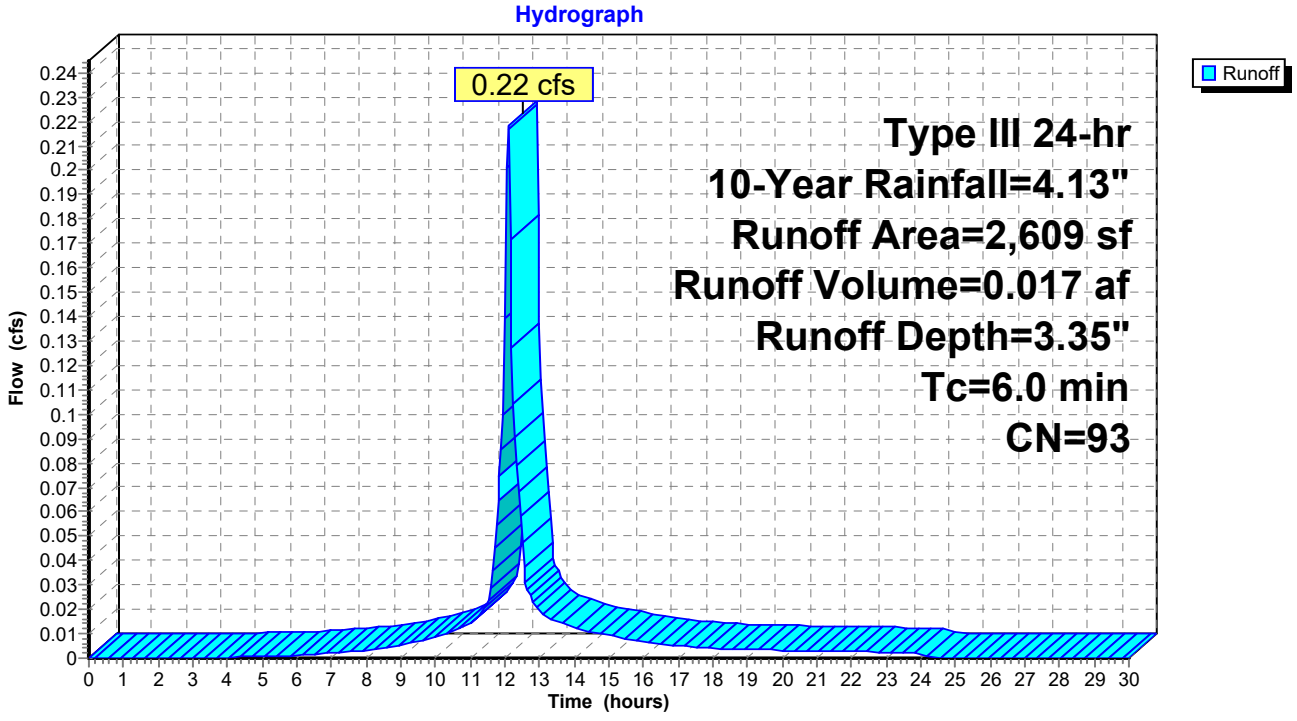
Runoff = 0.22 cfs @ 12.09 hrs, Volume= 0.017 af, Depth= 3.35"
Routed to Pond 2 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.13"

Area (sf)	CN	Description
540	74	>75% Grass cover, Good, HSG C
2,068	98	Paved parking, HSG C
2,609	93	Weighted Average
540		20.71% Pervious Area
2,068		79.29% Impervious Area

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

Subcatchment P-3: Subcat P-3



Summary for Subcatchment P-4: Subcat P-4

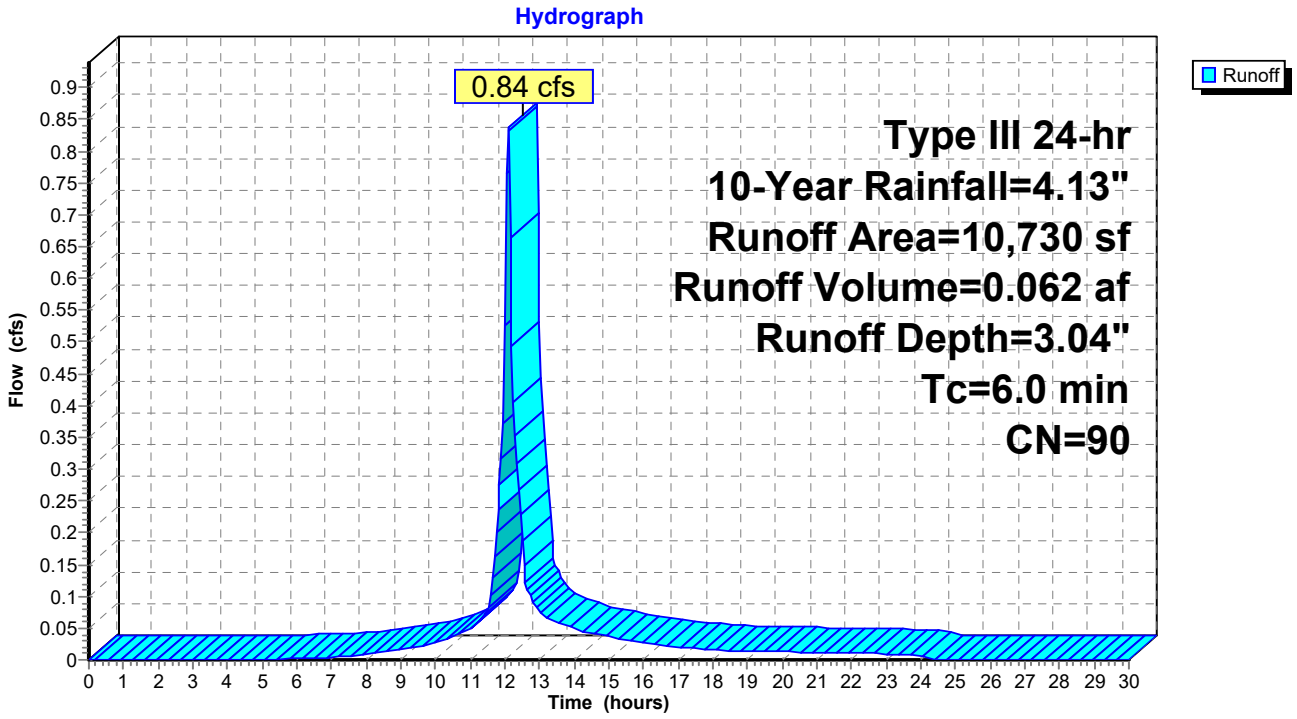
Runoff = 0.84 cfs @ 12.09 hrs, Volume= 0.062 af, Depth= 3.04"
Routed to Pond 3 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.13"

Area (sf)	CN	Description
617	39	>75% Grass cover, Good, HSG A
1,916	74	>75% Grass cover, Good, HSG C
1,320	98	Paved parking, HSG A
6,877	98	Paved parking, HSG C
10,730	90	Weighted Average
2,533		23.61% Pervious Area
8,197		76.39% Impervious Area

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

Subcatchment P-4: Subcat P-4



Summary for Subcatchment P-5: Subcat P-5

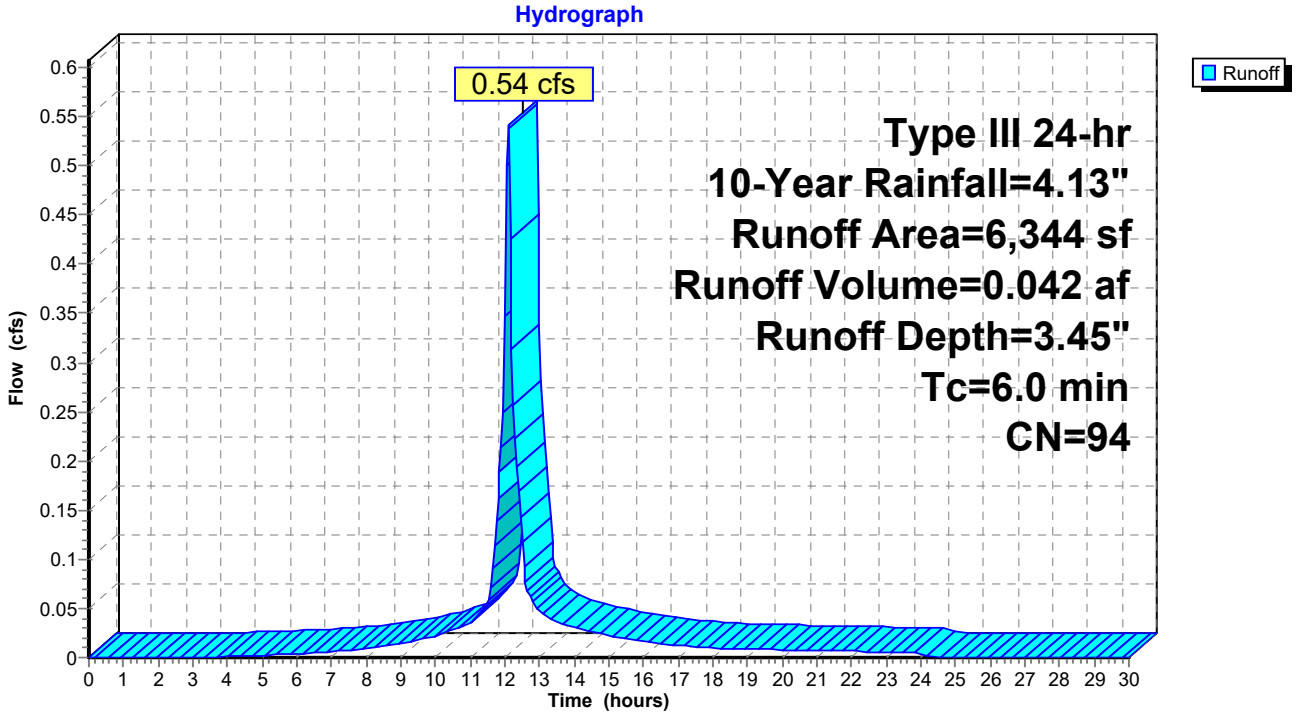
Runoff = 0.54 cfs @ 12.09 hrs, Volume= 0.042 af, Depth= 3.45"
Routed to Pond 4 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.13"

Area (sf)	CN	Description
439	39	>75% Grass cover, Good, HSG A
4,447	98	Paved parking, HSG A
1,458	98	Paved parking, HSG C
6,344	94	Weighted Average
439		6.91% Pervious Area
5,906		93.09% Impervious Area

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

Subcatchment P-5: Subcat P-5



Summary for Subcatchment P-6: Subcat P-6

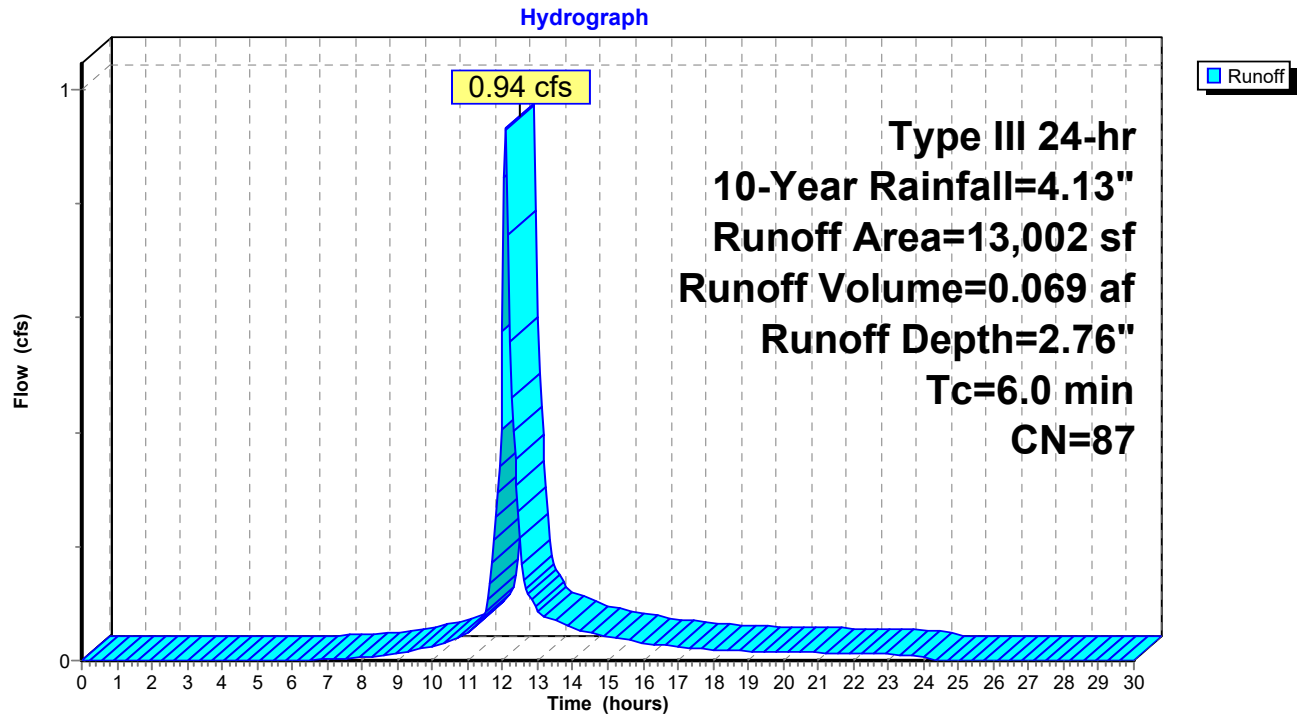
Runoff = 0.94 cfs @ 12.09 hrs, Volume= 0.069 af, Depth= 2.76"
Routed to Pond 5 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.13"

Area (sf)	CN	Description
2,352	39	>75% Grass cover, Good, HSG A
9,631	98	Paved parking, HSG A
1,019	98	Paved parking, HSG C
13,002	87	Weighted Average
2,352		18.09% Pervious Area
10,650		81.91% Impervious Area

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

Subcatchment P-6: Subcat P-6



Summary for Subcatchment P-7: Subcat P-7

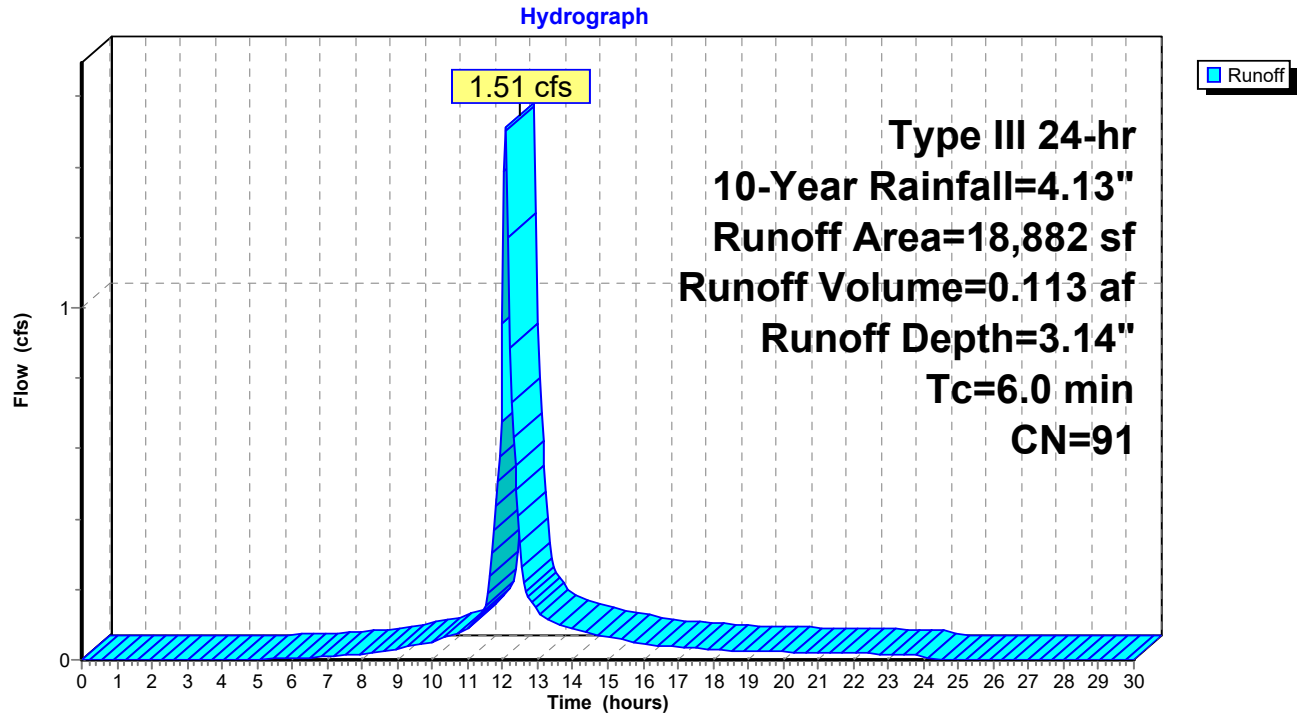
Runoff = 1.51 cfs @ 12.09 hrs, Volume= 0.113 af, Depth= 3.14"
Routed to Pond 7 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.13"

Area (sf)	CN	Description
1,707	39	>75% Grass cover, Good, HSG A
1,377	74	>75% Grass cover, Good, HSG C
4,721	98	Paved parking, HSG A
11,077	98	Paved parking, HSG C
18,882	91	Weighted Average
3,084		16.33% Pervious Area
15,798		83.67% Impervious Area

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

Subcatchment P-7: Subcat P-7



Summary for Subcatchment P-8: Subcat P-8

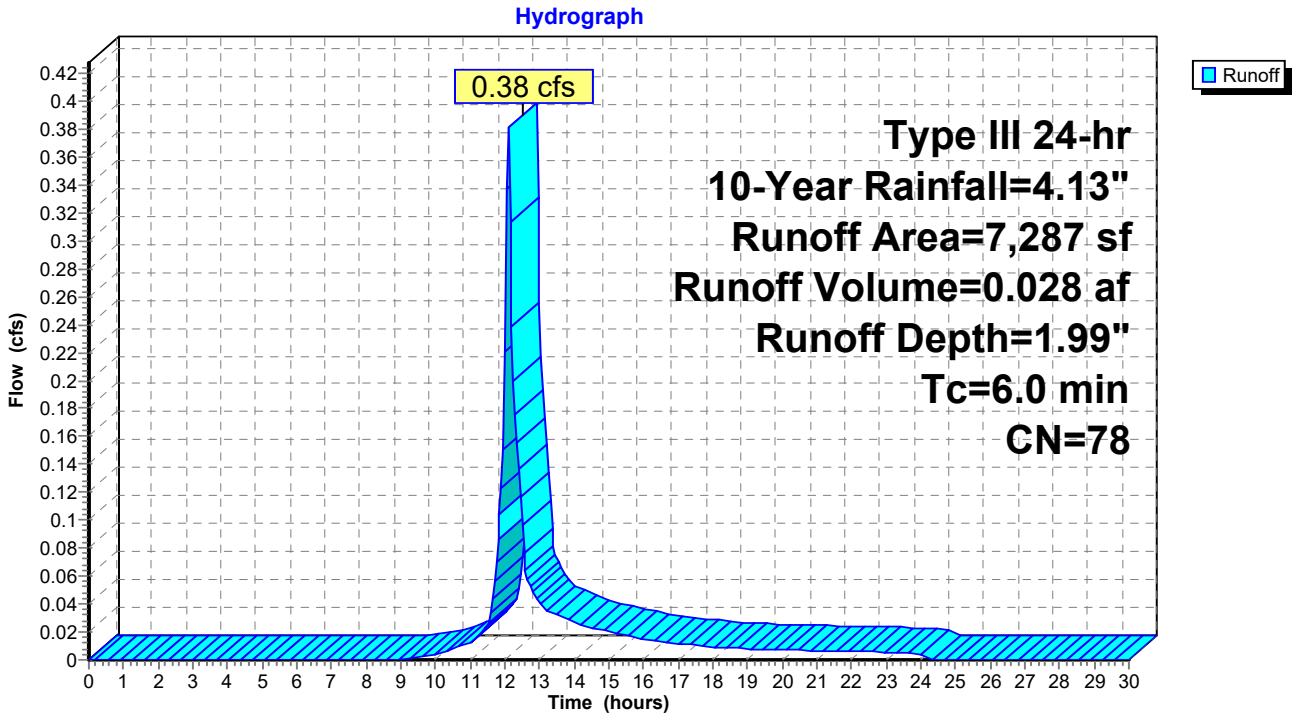
Runoff = 0.38 cfs @ 12.09 hrs, Volume= 0.028 af, Depth= 1.99"
Routed to Pond 6 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.13"

Area (sf)	CN	Description
2,009	39	>75% Grass cover, Good, HSG A
1,117	74	>75% Grass cover, Good, HSG C
2,048	98	Paved parking, HSG A
2,113	98	Paved parking, HSG C
7,287	78	Weighted Average
3,126		42.91% Pervious Area
4,160		57.09% Impervious Area

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

Subcatchment P-8: Subcat P-8



Summary for Subcatchment P-9: Subcat P-9

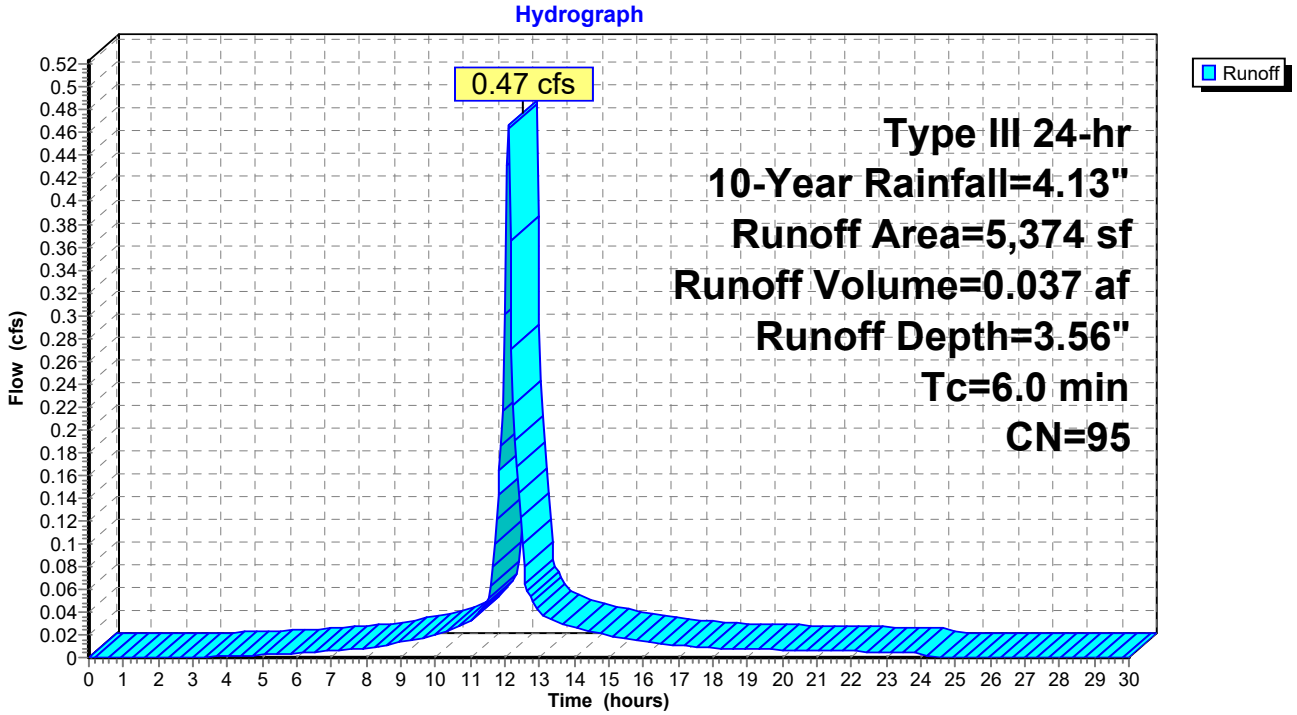
Runoff = 0.47 cfs @ 12.09 hrs, Volume= 0.037 af, Depth= 3.56"
Routed to Pond DMH : DMH 3754

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.13"

Area (sf)	CN	Description
692	74	>75% Grass cover, Good, HSG C
137	98	Paved parking, HSG A
4,545	98	Paved parking, HSG C
5,374	95	Weighted Average
692		12.88% Pervious Area
4,681		87.12% Impervious Area

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

Subcatchment P-9: Subcat P-9



Summary for Pond 1:

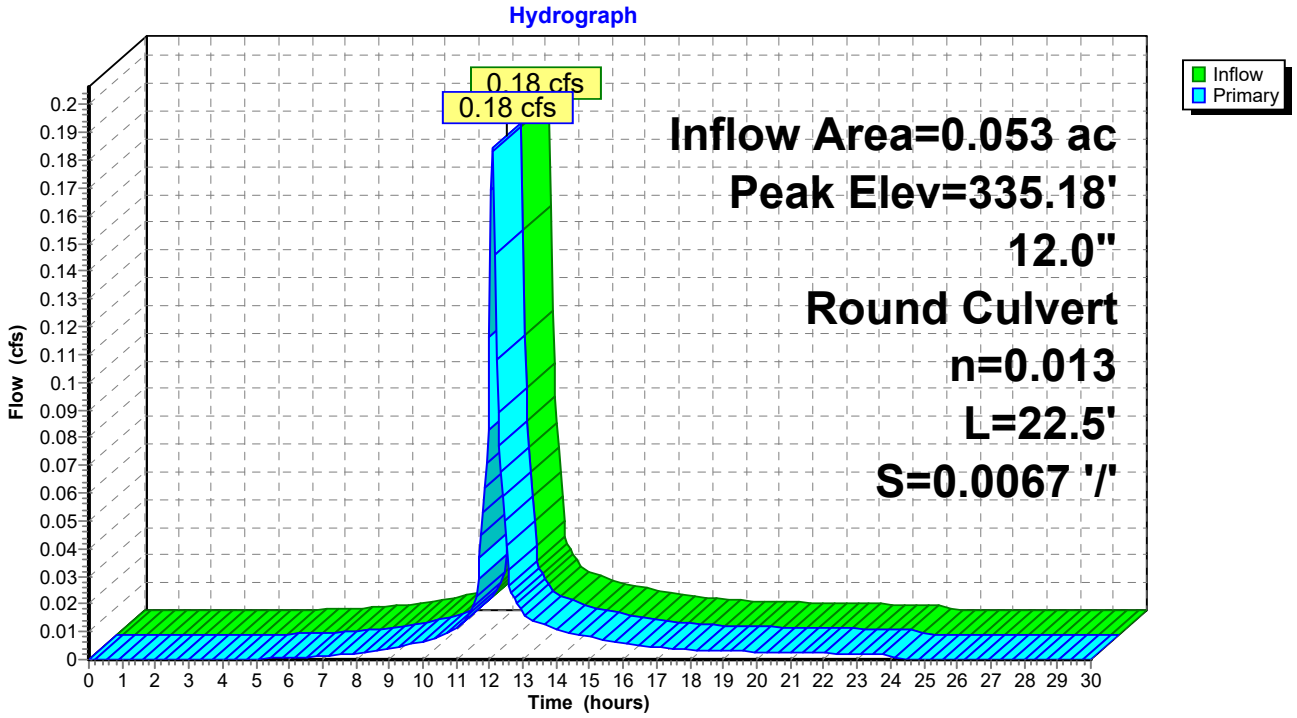
Inflow Area = 0.053 ac, 69.31% Impervious, Inflow Depth = 3.14" for 10-Year event
Inflow = 0.18 cfs @ 12.09 hrs, Volume= 0.014 af
Outflow = 0.18 cfs @ 12.09 hrs, Volume= 0.014 af, Atten= 0%, Lag= 0.0 min
Primary = 0.18 cfs @ 12.09 hrs, Volume= 0.014 af
Routed to Pond 2 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 335.18' @ 12.58 hrs
Flood Elev= 338.30'

Device	Routing	Invert	Outlet Devices
#1	Primary	334.70'	**12.0" Round Culvert** L= 22.5' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 334.70' / 334.55' S= 0.0067 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.18 cfs @ 12.09 hrs HW=334.96' TW=334.82' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 0.18 cfs @ 1.64 fps)

Pond 1:



Summary for Pond 2:

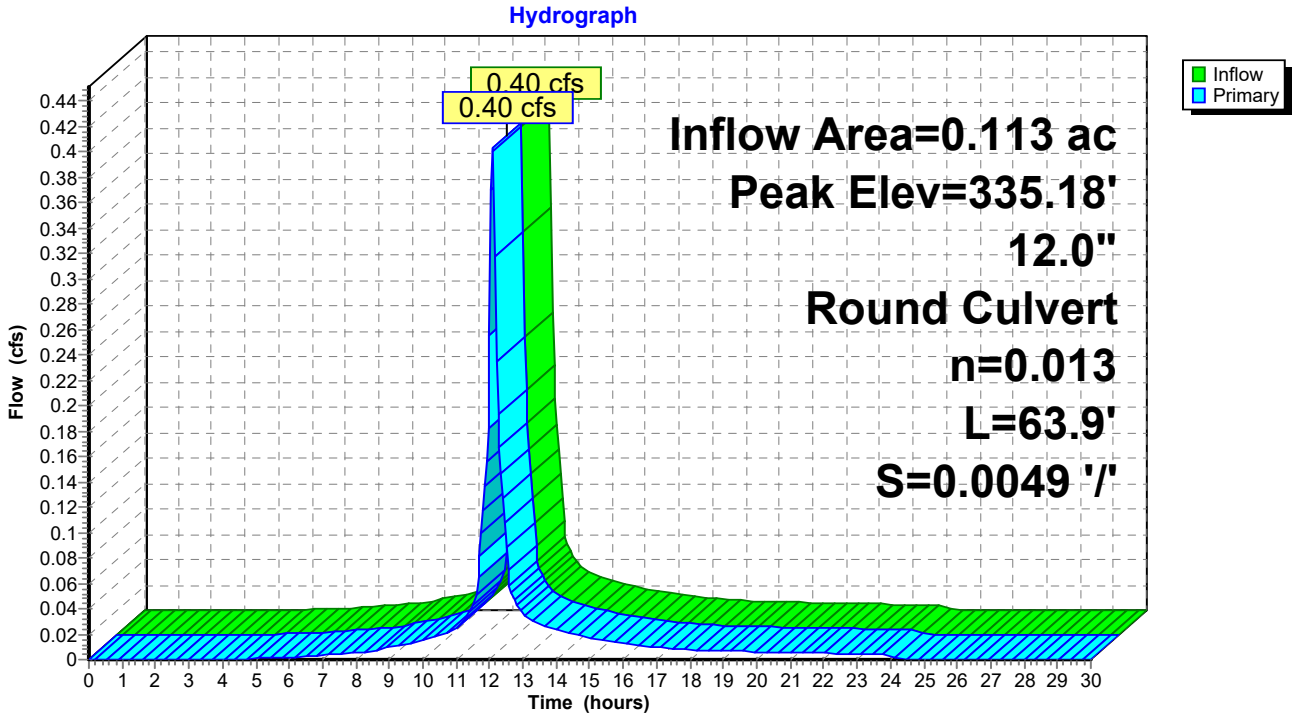
Inflow Area = 0.113 ac, 74.61% Impervious, Inflow Depth = 3.25" for 10-Year event
Inflow = 0.40 cfs @ 12.09 hrs, Volume= 0.031 af
Outflow = 0.40 cfs @ 12.09 hrs, Volume= 0.031 af, Atten= 0%, Lag= 0.0 min
Primary = 0.40 cfs @ 12.09 hrs, Volume= 0.031 af
Routed to Pond G-1 : INFILTRATION GALLERY (DMH 1,2,3)

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 335.18' @ 12.58 hrs
Flood Elev= 337.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	334.45'	**12.0" Round Culvert** L= 63.9' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 334.45' / 334.14' S= 0.0049 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.40 cfs @ 12.09 hrs HW=334.82' TW=334.39' (Dynamic Tailwater)
↑**1=Culvert** (Barrel Controls 0.40 cfs @ 2.25 fps)

Pond 2:



Summary for Pond 3:

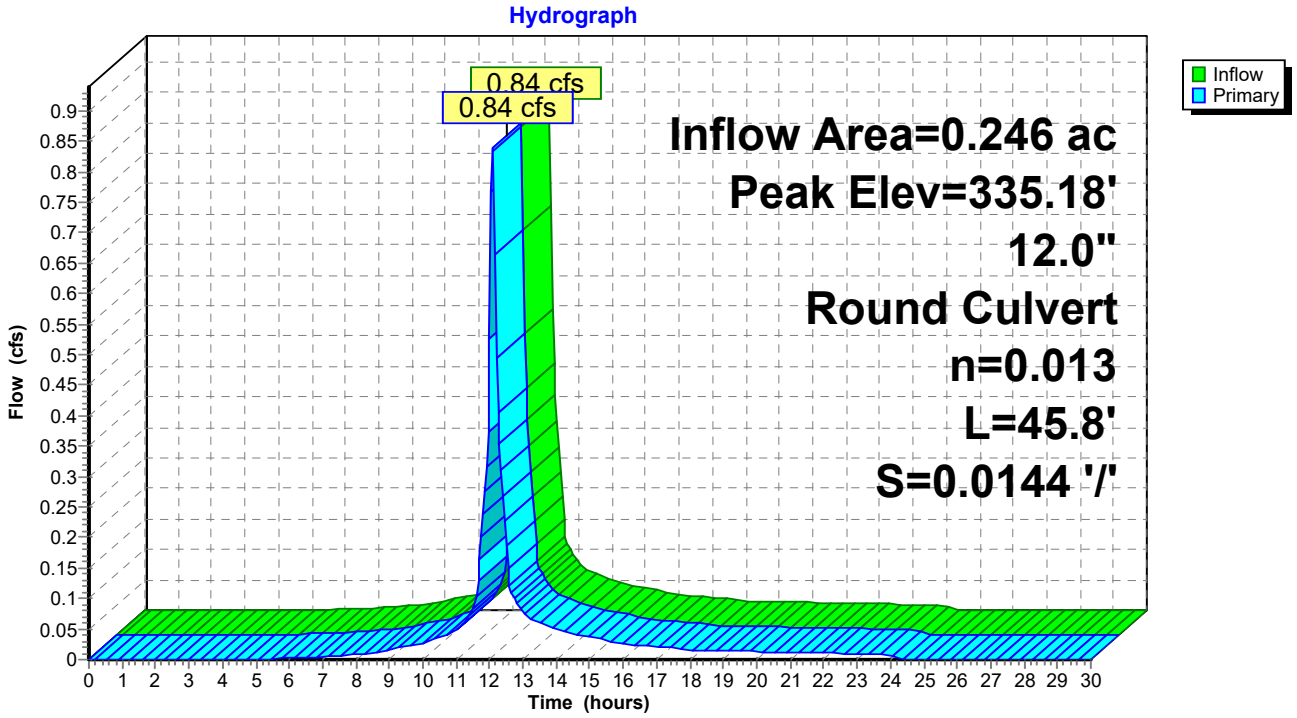
Inflow Area = 0.246 ac, 76.39% Impervious, Inflow Depth = 3.04" for 10-Year event
Inflow = 0.84 cfs @ 12.09 hrs, Volume= 0.062 af
Outflow = 0.84 cfs @ 12.09 hrs, Volume= 0.062 af, Atten= 0%, Lag= 0.0 min
Primary = 0.84 cfs @ 12.09 hrs, Volume= 0.062 af
Routed to Pond G-1 : INFILTRATION GALLERY (DMH 1,2,3)

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 335.18' @ 12.58 hrs
Flood Elev= 338.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	333.80'	**12.0" Round Culvert** L= 45.8' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 333.80' / 333.14' S= 0.0144 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.83 cfs @ 12.09 hrs HW=334.55' TW=334.40' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.83 cfs @ 1.84 fps)

Pond 3:



Summary for Pond 4:

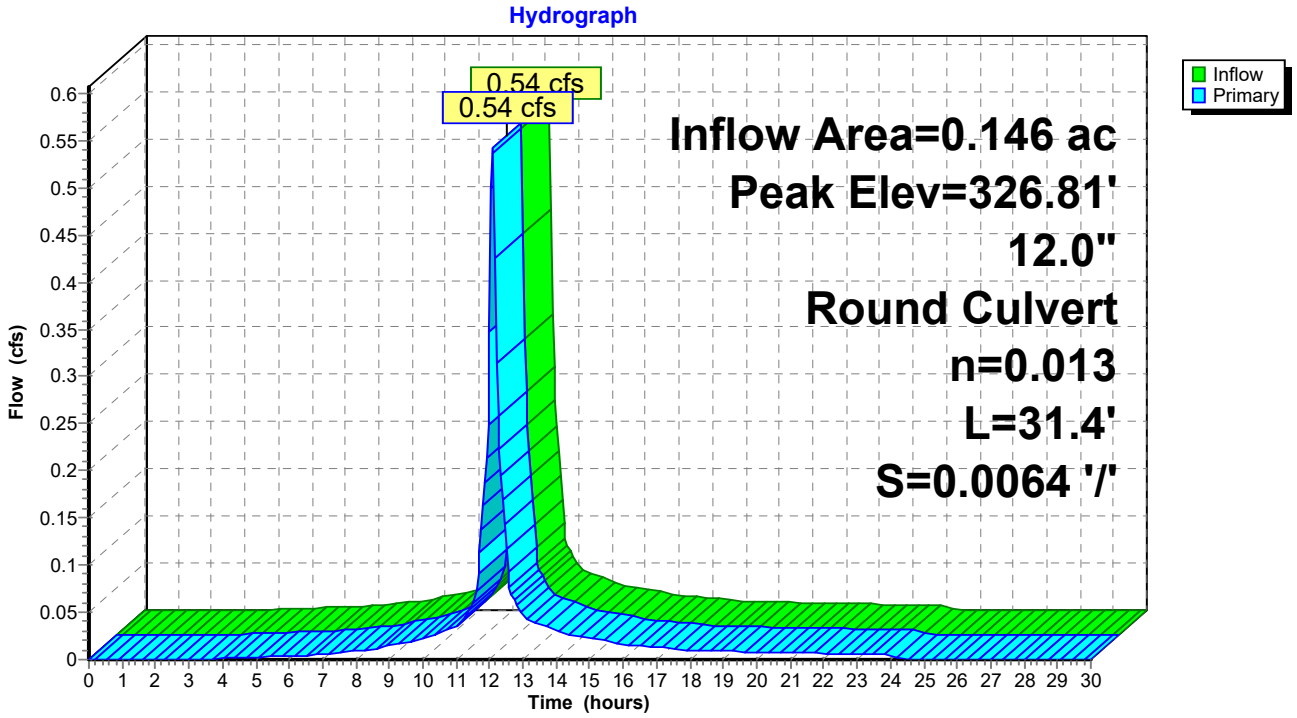
Inflow Area = 0.146 ac, 93.09% Impervious, Inflow Depth = 3.45" for 10-Year event
Inflow = 0.54 cfs @ 12.09 hrs, Volume= 0.042 af
Outflow = 0.54 cfs @ 12.09 hrs, Volume= 0.042 af, Atten= 0%, Lag= 0.0 min
Primary = 0.54 cfs @ 12.09 hrs, Volume= 0.042 af
Routed to Pond DMH4 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 326.81' @ 12.09 hrs
Flood Elev= 330.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	326.30'	**12.0" Round Culvert** L= 31.4' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 326.30' / 326.10' S= 0.0064 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.53 cfs @ 12.09 hrs HW=326.80' TW=326.64' (Dynamic Tailwater)
↑**1=Culvert** (Outlet Controls 0.53 cfs @ 1.95 fps)

Pond 4:



Summary for Pond 5:

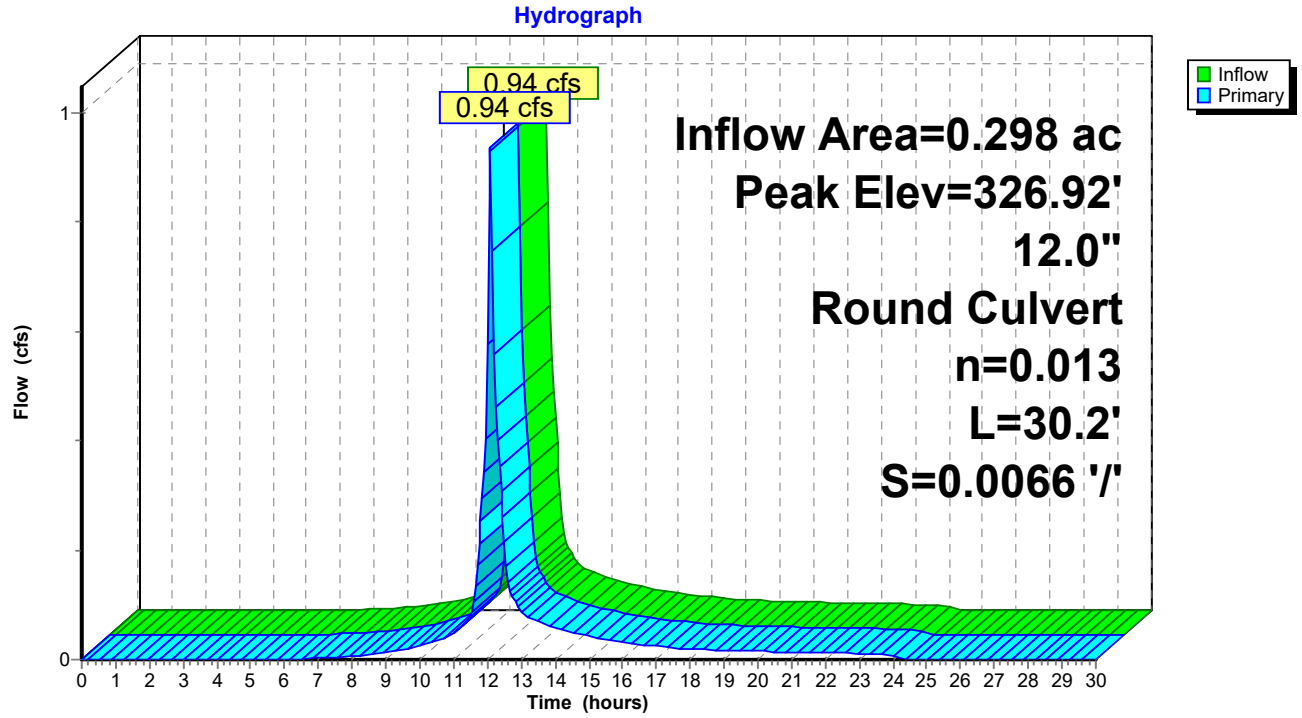
Inflow Area = 0.298 ac, 81.91% Impervious, Inflow Depth = 2.76" for 10-Year event
Inflow = 0.94 cfs @ 12.09 hrs, Volume= 0.069 af
Outflow = 0.94 cfs @ 12.09 hrs, Volume= 0.069 af, Atten= 0%, Lag= 0.0 min
Primary = 0.94 cfs @ 12.09 hrs, Volume= 0.069 af
Routed to Pond DMH4 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 326.92' @ 12.09 hrs
Flood Elev= 331.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	326.30'	**12.0" Round Culvert** L= 30.2' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 326.30' / 326.10' S= 0.0066 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.91 cfs @ 12.09 hrs HW=326.91' TW=326.64' (Dynamic Tailwater)
↑**1=Culvert** (Outlet Controls 0.91 cfs @ 2.62 fps)

Pond 5:



Summary for Pond 6:

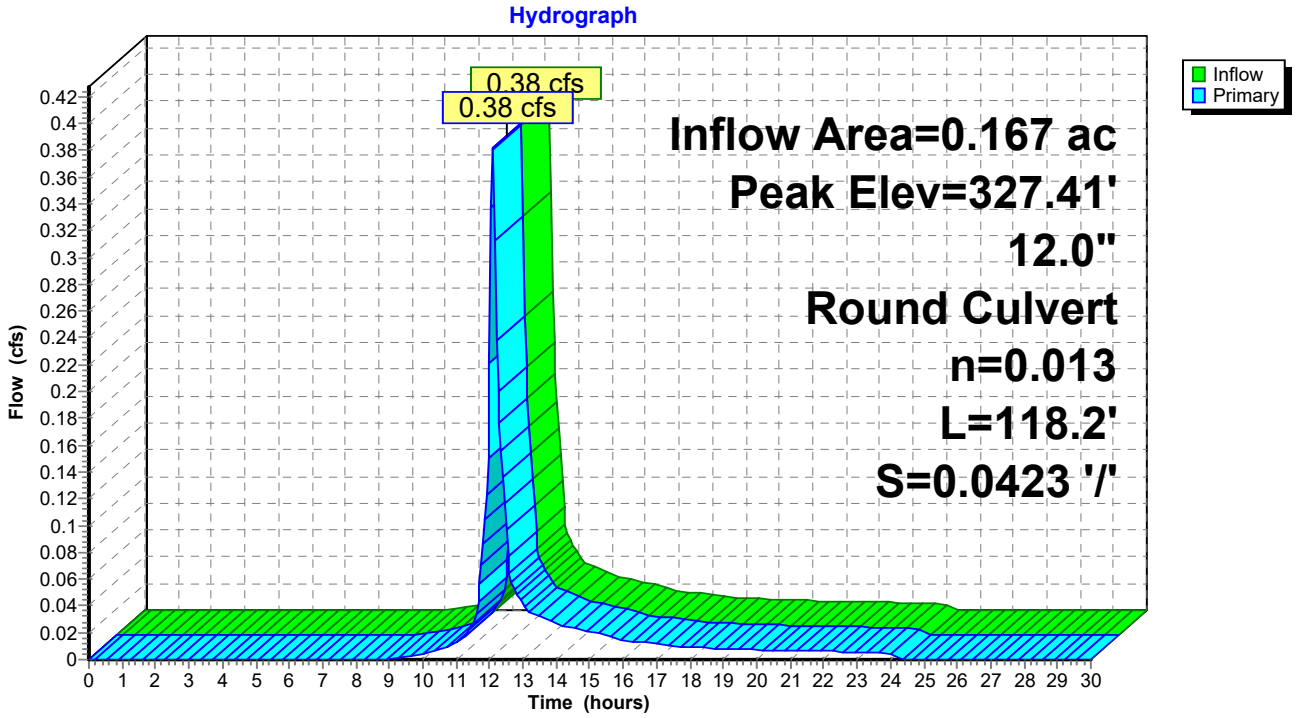
Inflow Area = 0.167 ac, 57.09% Impervious, Inflow Depth = 1.99" for 10-Year event
Inflow = 0.38 cfs @ 12.09 hrs, Volume= 0.028 af
Outflow = 0.38 cfs @ 12.09 hrs, Volume= 0.028 af, Atten= 0%, Lag= 0.0 min
Primary = 0.38 cfs @ 12.09 hrs, Volume= 0.028 af
Routed to Pond 7 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 327.41' @ 12.09 hrs
Flood Elev= 332.10'

Device	Routing	Invert	Outlet Devices
#1	Primary	327.10'	**12.0" Round Culvert** L= 118.2' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 327.10' / 322.10' S= 0.0423 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.38 cfs @ 12.09 hrs HW=327.40' TW=321.87' (Dynamic Tailwater)
↑**1=Culvert** (Inlet Controls 0.38 cfs @ 1.87 fps)

Pond 6:



Summary for Pond 7:

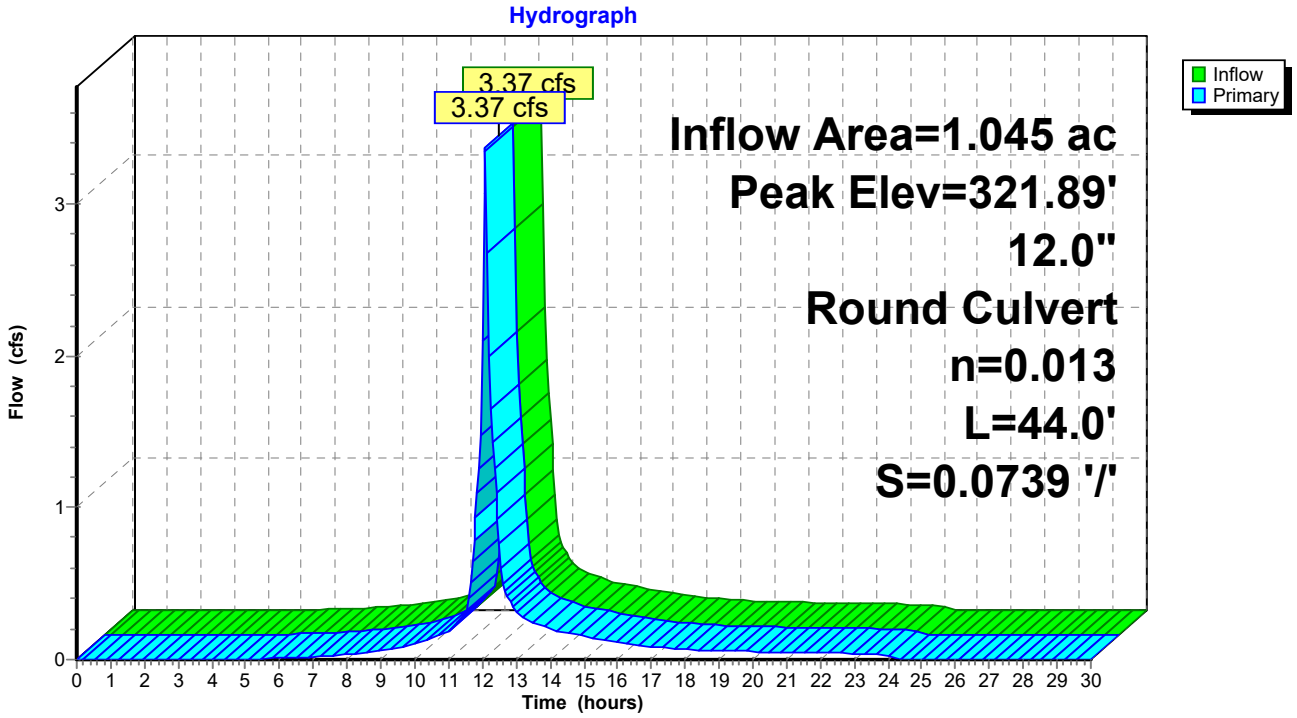
Inflow Area = 1.045 ac, 80.22% Impervious, Inflow Depth = 2.89" for 10-Year event
Inflow = 3.37 cfs @ 12.09 hrs, Volume= 0.252 af
Outflow = 3.37 cfs @ 12.09 hrs, Volume= 0.252 af, Atten= 0%, Lag= 0.0 min
Primary = 3.37 cfs @ 12.09 hrs, Volume= 0.252 af
Routed to Pond DMH5 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 321.89' @ 12.09 hrs
Flood Elev= 327.10'

Device	Routing	Invert	Outlet Devices
#1	Primary	320.60'	**12.0" Round Culvert** L= 44.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 320.60' / 317.35' S= 0.0739 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=3.30 cfs @ 12.09 hrs HW=321.86' TW=318.73' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 3.30 cfs @ 4.20 fps)

Pond 7:



Summary for Pond 9:

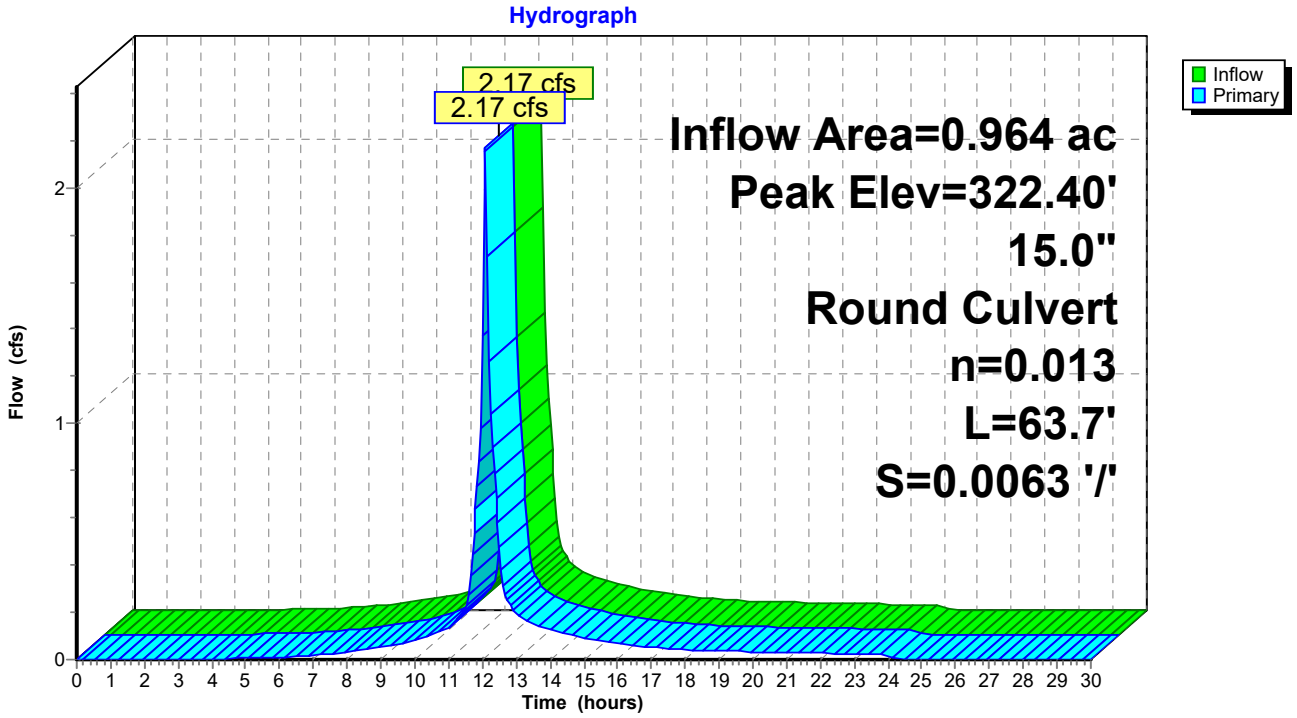
Inflow Area = 0.964 ac, 75.33% Impervious, Inflow Depth = 2.05" for 10-Year event
Inflow = 2.17 cfs @ 12.09 hrs, Volume= 0.165 af
Outflow = 2.17 cfs @ 12.09 hrs, Volume= 0.165 af, Atten= 0%, Lag= 0.0 min
Primary = 2.17 cfs @ 12.09 hrs, Volume= 0.165 af
Routed to Pond 10 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 322.40' @ 12.09 hrs
Flood Elev= 325.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	321.50'	**15.0" Round Culvert** L= 63.7' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 321.50' / 321.10' S= 0.0063 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=2.12 cfs @ 12.09 hrs HW=322.38' TW=321.91' (Dynamic Tailwater)
↑**1=Culvert** (Outlet Controls 2.12 cfs @ 3.21 fps)

Pond 9:



Summary for Pond 10:

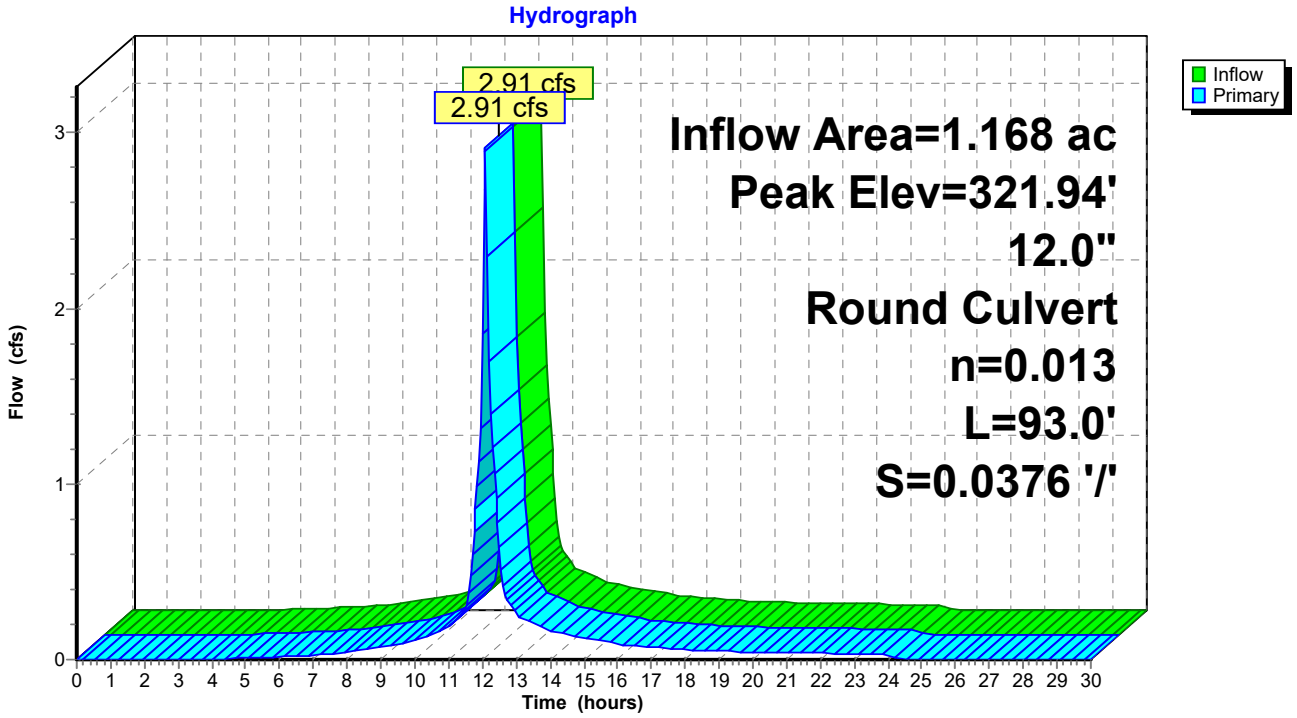
Inflow Area = 1.168 ac, 75.85% Impervious, Inflow Depth = 2.28" for 10-Year event
Inflow = 2.91 cfs @ 12.09 hrs, Volume= 0.222 af
Outflow = 2.91 cfs @ 12.09 hrs, Volume= 0.222 af, Atten= 0%, Lag= 0.0 min
Primary = 2.91 cfs @ 12.09 hrs, Volume= 0.222 af
Routed to Pond DMH5 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 321.94' @ 12.09 hrs
Flood Elev= 327.35'

Device	Routing	Invert	Outlet Devices
#1	Primary	320.85'	**12.0" Round Culvert** L= 93.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 320.85' / 317.35' S= 0.0376 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.84 cfs @ 12.09 hrs HW=321.91' TW=318.73' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 2.84 cfs @ 3.62 fps)

Pond 10:



Summary for Pond 11:

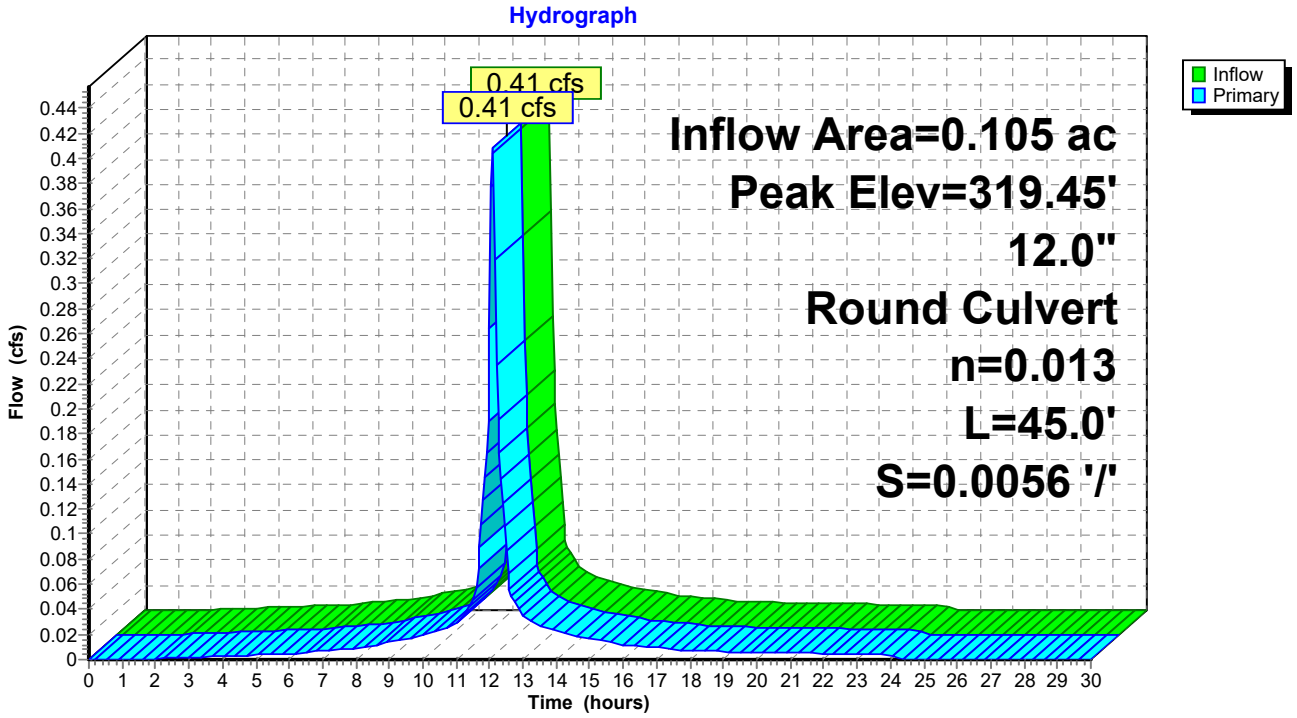
Inflow Area = 0.105 ac, 93.79% Impervious, Inflow Depth = 3.78" for 10-Year event
Inflow = 0.41 cfs @ 12.09 hrs, Volume= 0.033 af
Outflow = 0.41 cfs @ 12.09 hrs, Volume= 0.033 af, Atten= 0%, Lag= 0.0 min
Primary = 0.41 cfs @ 12.09 hrs, Volume= 0.033 af
Routed to Pond DMH 10 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 319.45' @ 12.09 hrs
Flood Elev= 322.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	319.00'	**12.0" Round Culvert** L= 45.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 319.00' / 318.75' S= 0.0056 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.40 cfs @ 12.09 hrs HW=319.44' TW=319.27' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 0.40 cfs @ 1.75 fps)

Pond 11:



Summary for Pond 12:

[80] Warning: Exceeded Pond G-2 by 0.67' @ 0.00 hrs (0.17 cfs 0.171 af)

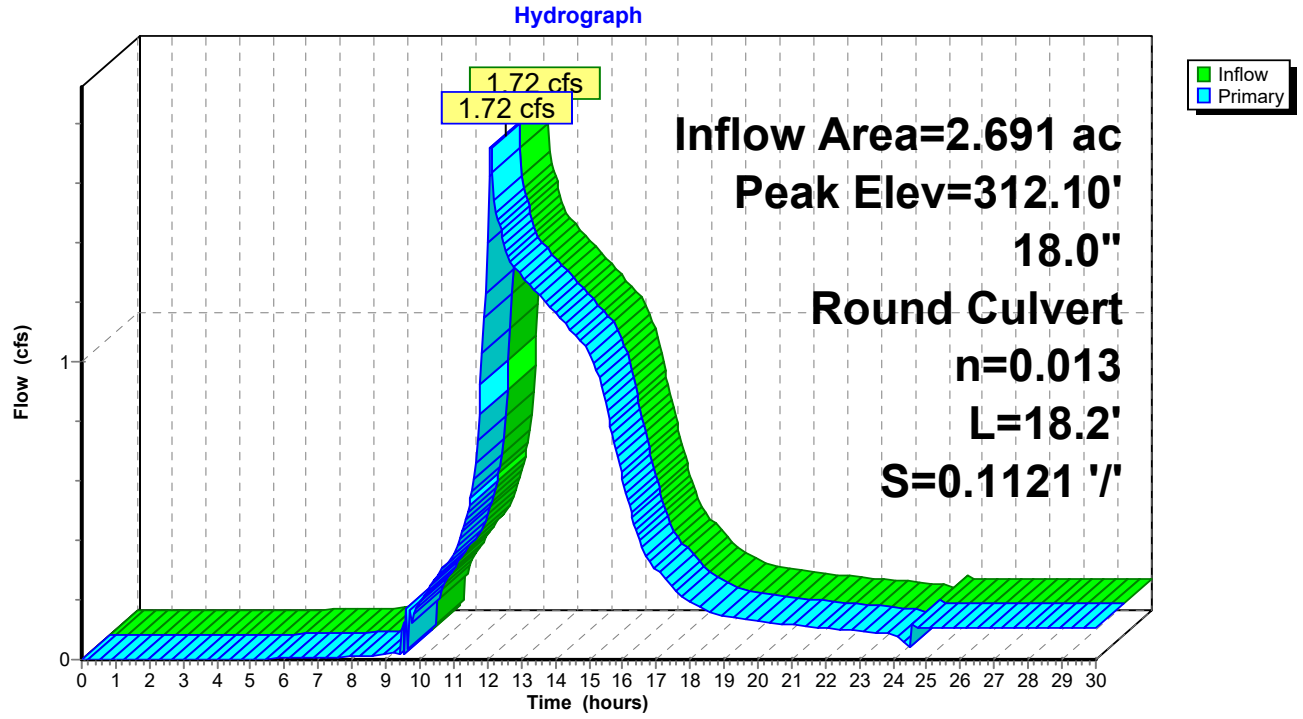
Inflow Area = 2.691 ac, 79.86% Impervious, Inflow Depth > 2.82" for 10-Year event
Inflow = 1.72 cfs @ 12.10 hrs, Volume= 0.633 af
Outflow = 1.72 cfs @ 12.10 hrs, Volume= 0.633 af, Atten= 0%, Lag= 0.0 min
Primary = 1.72 cfs @ 12.10 hrs, Volume= 0.633 af
Routed to Pond 3757 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 312.10' @ 12.10 hrs
Flood Elev= 318.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	311.50'	**18.0" Round Culvert** L= 18.2' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 311.50' / 309.46' S= 0.1121 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=1.72 cfs @ 12.10 hrs HW=312.10' TW=309.94' (Dynamic Tailwater)
↳**1=Culvert** (Inlet Controls 1.72 cfs @ 2.63 fps)

Pond 12:



Summary for Pond 13:

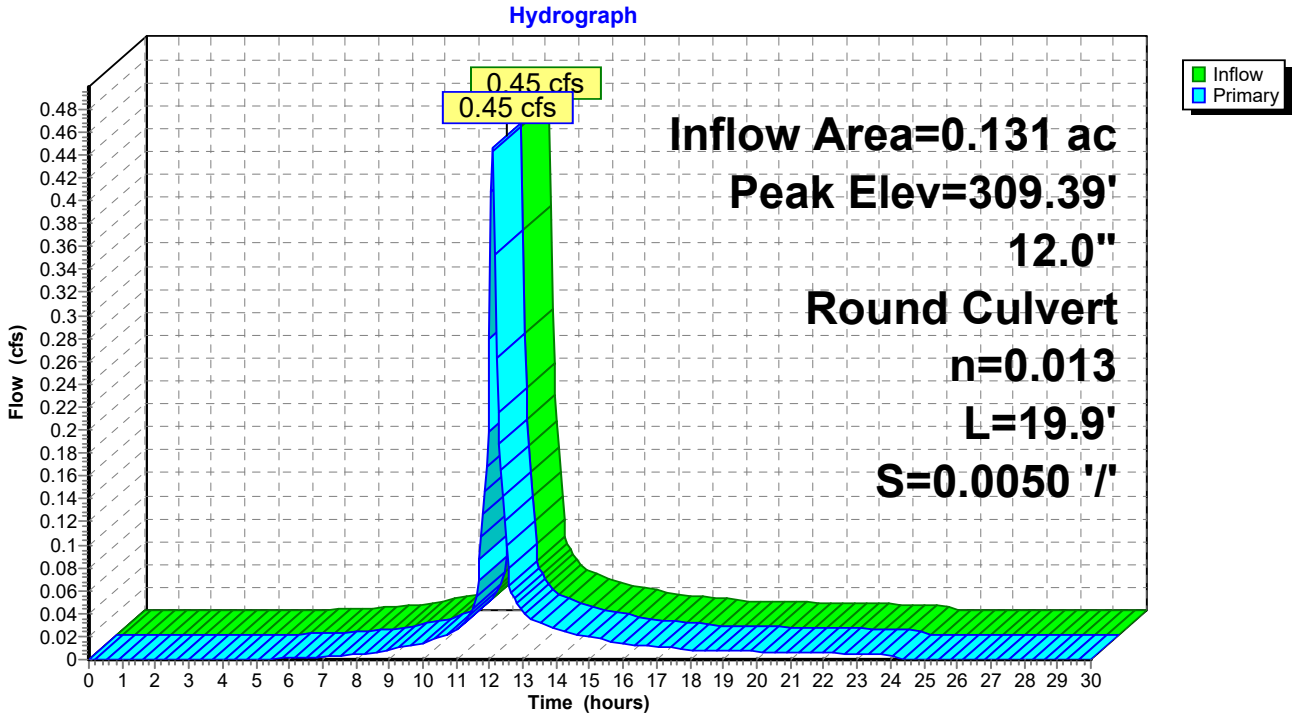
Inflow Area = 0.131 ac, 66.00% Impervious, Inflow Depth = 3.04" for 10-Year event
Inflow = 0.45 cfs @ 12.09 hrs, Volume= 0.033 af
Outflow = 0.45 cfs @ 12.09 hrs, Volume= 0.033 af, Atten= 0%, Lag= 0.0 min
Primary = 0.45 cfs @ 12.09 hrs, Volume= 0.033 af
Routed to Pond 14 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 309.39' @ 12.09 hrs
Flood Elev= 313.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	308.20'	**12.0" Round Culvert** L= 19.9' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 308.20' / 308.10' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.44 cfs @ 12.09 hrs HW=309.36' TW=309.35' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.44 cfs @ 0.55 fps)

Pond 13:



Summary for Pond 14:

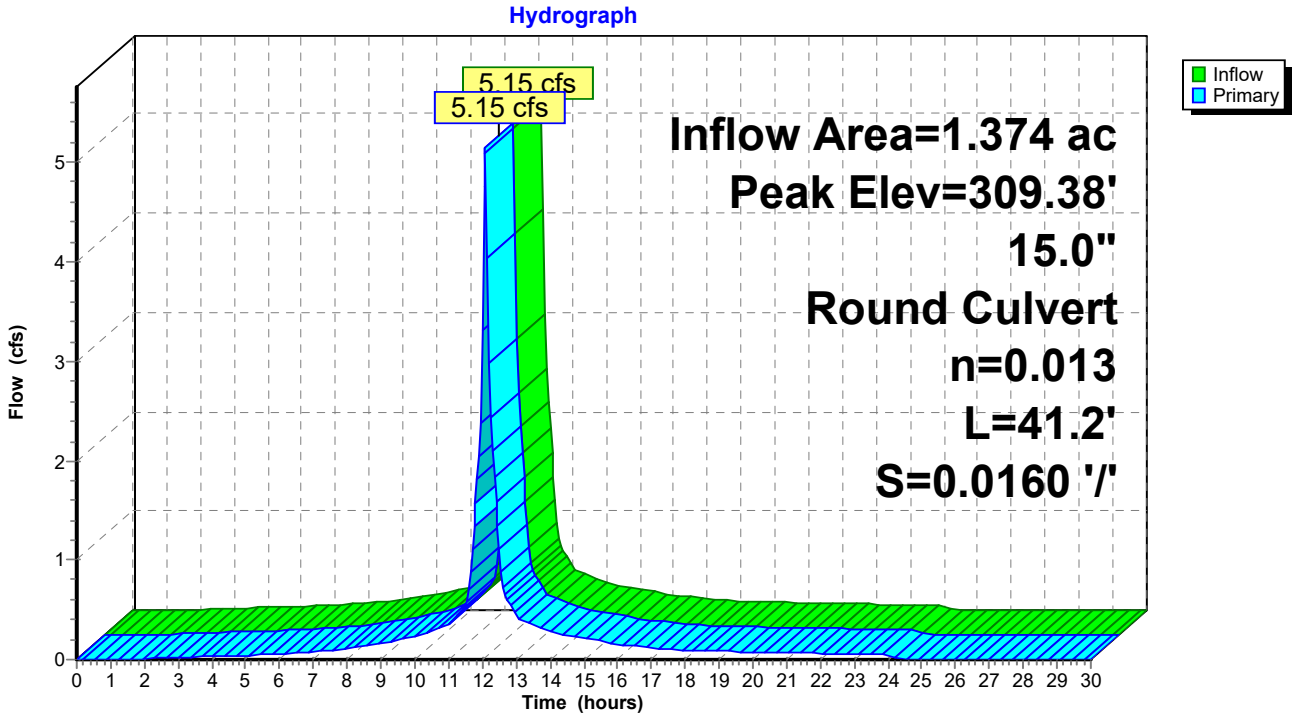
Inflow Area = 1.374 ac, 88.61% Impervious, Inflow Depth = 3.61" for 10-Year event
Inflow = 5.15 cfs @ 12.09 hrs, Volume= 0.413 af
Outflow = 5.15 cfs @ 12.09 hrs, Volume= 0.413 af, Atten= 0%, Lag= 0.0 min
Primary = 5.15 cfs @ 12.09 hrs, Volume= 0.413 af
Routed to Pond 3758 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 309.38' @ 12.09 hrs
Flood Elev= 313.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	308.00'	**15.0" Round Culvert** L= 41.2' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 308.00' / 307.34' S= 0.0160 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=5.01 cfs @ 12.09 hrs HW=309.34' TW=307.98' (Dynamic Tailwater)
↑**1=Culvert** (Inlet Controls 5.01 cfs @ 4.08 fps)

Pond 14:



Summary for Pond 3757:

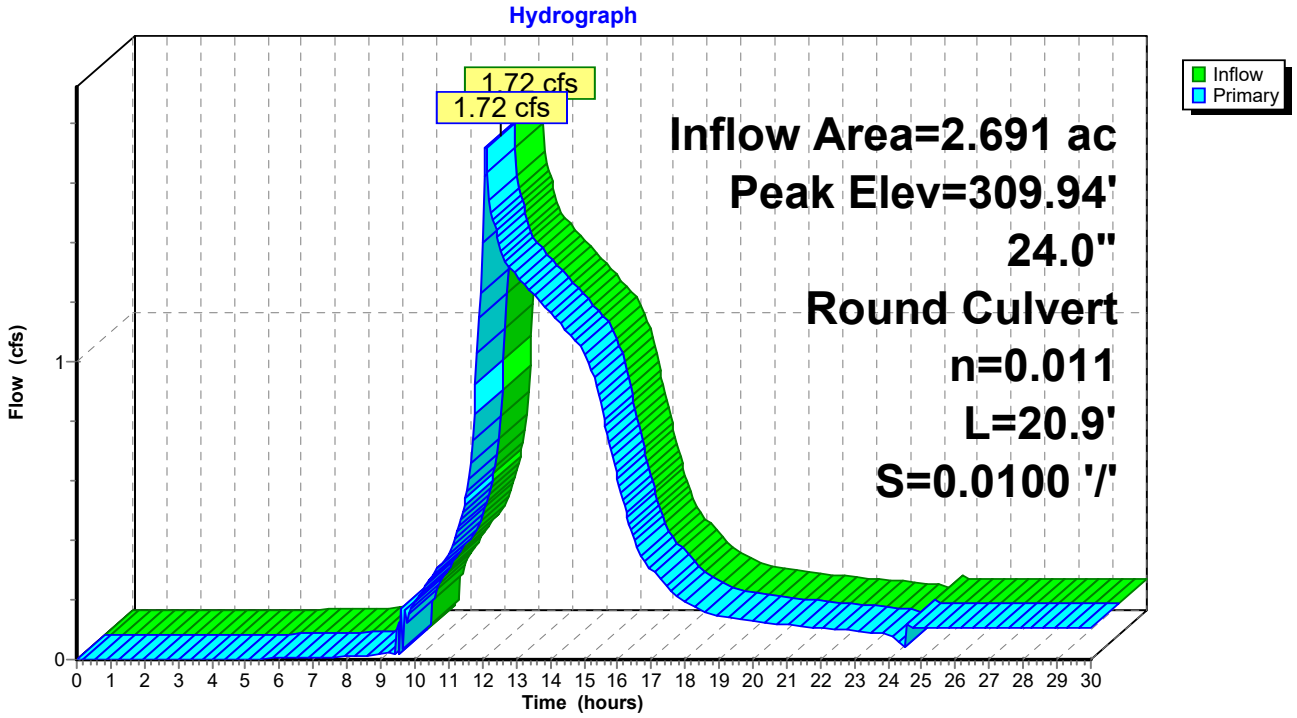
Inflow Area = 2.691 ac, 79.86% Impervious, Inflow Depth > 2.82" for 10-Year event
Inflow = 1.72 cfs @ 12.10 hrs, Volume= 0.633 af
Outflow = 1.72 cfs @ 12.10 hrs, Volume= 0.633 af, Atten= 0%, Lag= 0.0 min
Primary = 1.72 cfs @ 12.10 hrs, Volume= 0.633 af
Routed to Pond PD : Existing Pond

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 309.94' @ 12.10 hrs
Flood Elev= 315.71'

Device	Routing	Invert	Outlet Devices
#1	Primary	309.36'	**24.0" Round Culvert** L= 20.9' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 309.36' / 309.15' S= 0.0100 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 3.14 sf

Primary OutFlow Max=1.72 cfs @ 12.10 hrs HW=309.94' TW=307.40' (Dynamic Tailwater)
1=Culvert (Barrel Controls 1.72 cfs @ 3.42 fps)

Pond 3757:



Summary for Pond 3758:

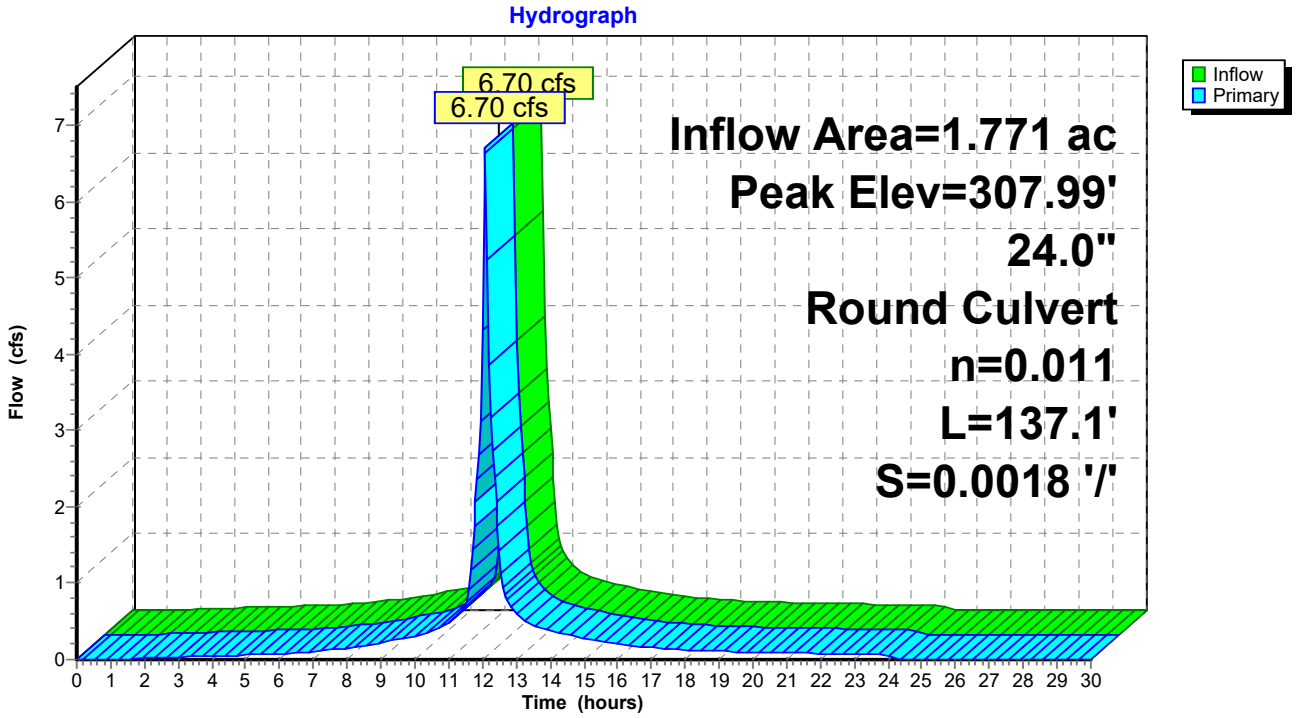
Inflow Area = 1.771 ac, 91.16% Impervious, Inflow Depth = 3.67" for 10-Year event
Inflow = 6.70 cfs @ 12.09 hrs, Volume= 0.542 af
Outflow = 6.70 cfs @ 12.09 hrs, Volume= 0.542 af, Atten= 0%, Lag= 0.0 min
Primary = 6.70 cfs @ 12.09 hrs, Volume= 0.542 af
Routed to Pond PD : Existing Pond

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 307.99' @ 12.10 hrs
Flood Elev= 312.66'

Device	Routing	Invert	Outlet Devices
#1	Primary	306.55'	**24.0" Round Culvert** L= 137.1' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 306.55' / 306.30' S= 0.0018 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 3.14 sf

Primary OutFlow Max=6.57 cfs @ 12.09 hrs HW=307.98' TW=307.34' (Dynamic Tailwater)
1=Culvert (Barrel Controls 6.57 cfs @ 3.84 fps)

Pond 3758:



Summary for Pond DMH: DMH 3754

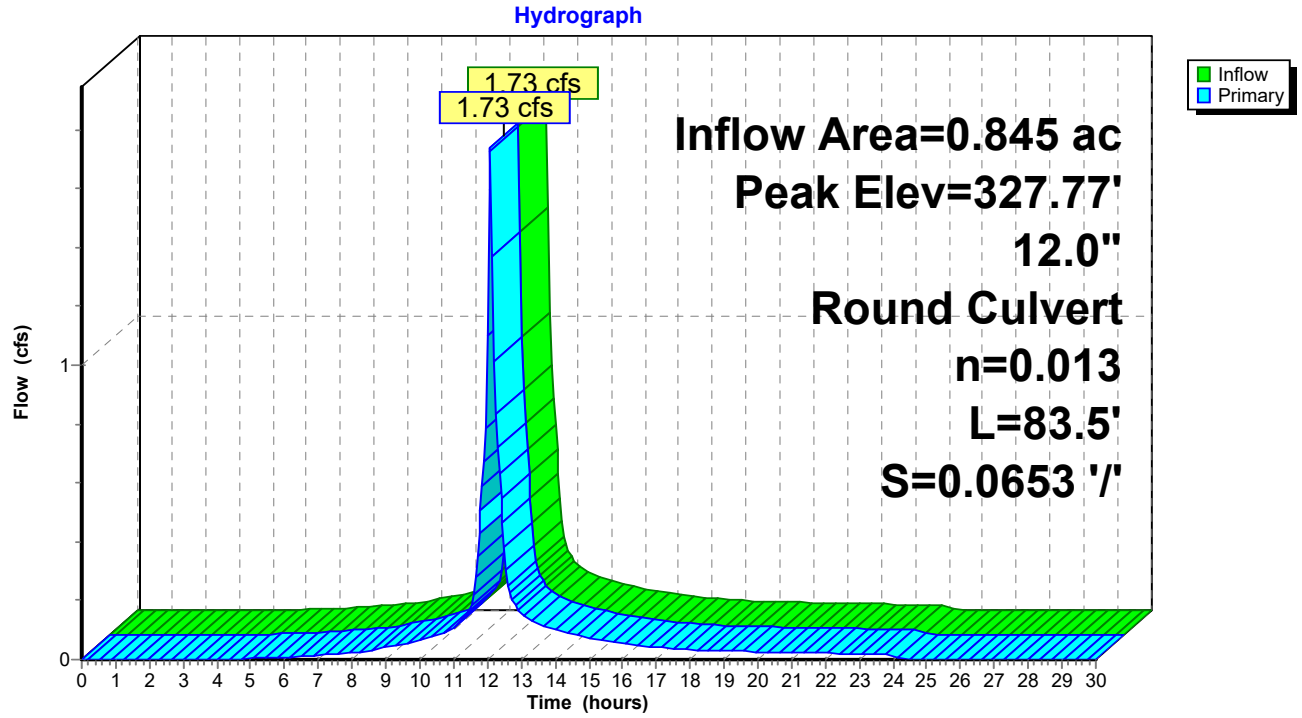
Inflow Area = 0.845 ac, 74.90% Impervious, Inflow Depth = 1.87" for 10-Year event
Inflow = 1.73 cfs @ 12.09 hrs, Volume= 0.132 af
Outflow = 1.73 cfs @ 12.09 hrs, Volume= 0.132 af, Atten= 0%, Lag= 0.0 min
Primary = 1.73 cfs @ 12.09 hrs, Volume= 0.132 af
Routed to Pond 9 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 327.77' @ 12.09 hrs
Flood Elev= 331.95'

Device	Routing	Invert	Outlet Devices
#1	Primary	327.05'	**12.0" Round Culvert** L= 83.5' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 327.05' / 321.60' S= 0.0653 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.69 cfs @ 12.09 hrs HW=327.75' TW=322.38' (Dynamic Tailwater)
↑**1=Culvert** (Inlet Controls 1.69 cfs @ 2.86 fps)

Pond DMH: DMH 3754



Summary for Pond DMH 10:

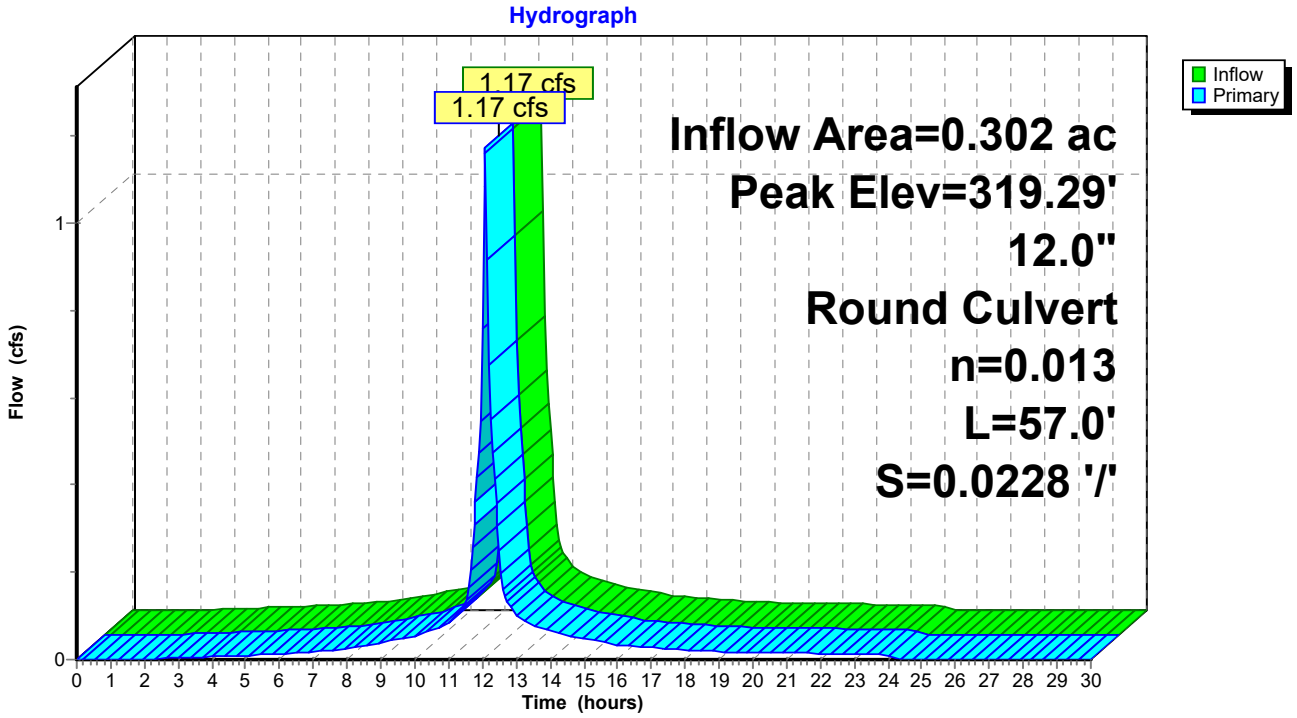
Inflow Area = 0.302 ac, 94.11% Impervious, Inflow Depth = 3.74" for 10-Year event
Inflow = 1.17 cfs @ 12.09 hrs, Volume= 0.094 af
Outflow = 1.17 cfs @ 12.09 hrs, Volume= 0.094 af, Atten= 0%, Lag= 0.0 min
Primary = 1.17 cfs @ 12.09 hrs, Volume= 0.094 af
Routed to Pond DMH5 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 319.29' @ 12.09 hrs
Flood Elev= 324.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	318.65'	**12.0" Round Culvert** L= 57.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 318.65' / 317.35' S= 0.0228 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.14 cfs @ 12.09 hrs HW=319.27' TW=318.72' (Dynamic Tailwater)
↳**1=Culvert** (Outlet Controls 1.14 cfs @ 3.20 fps)

Pond DMH 10:



Summary for Pond DMH11:

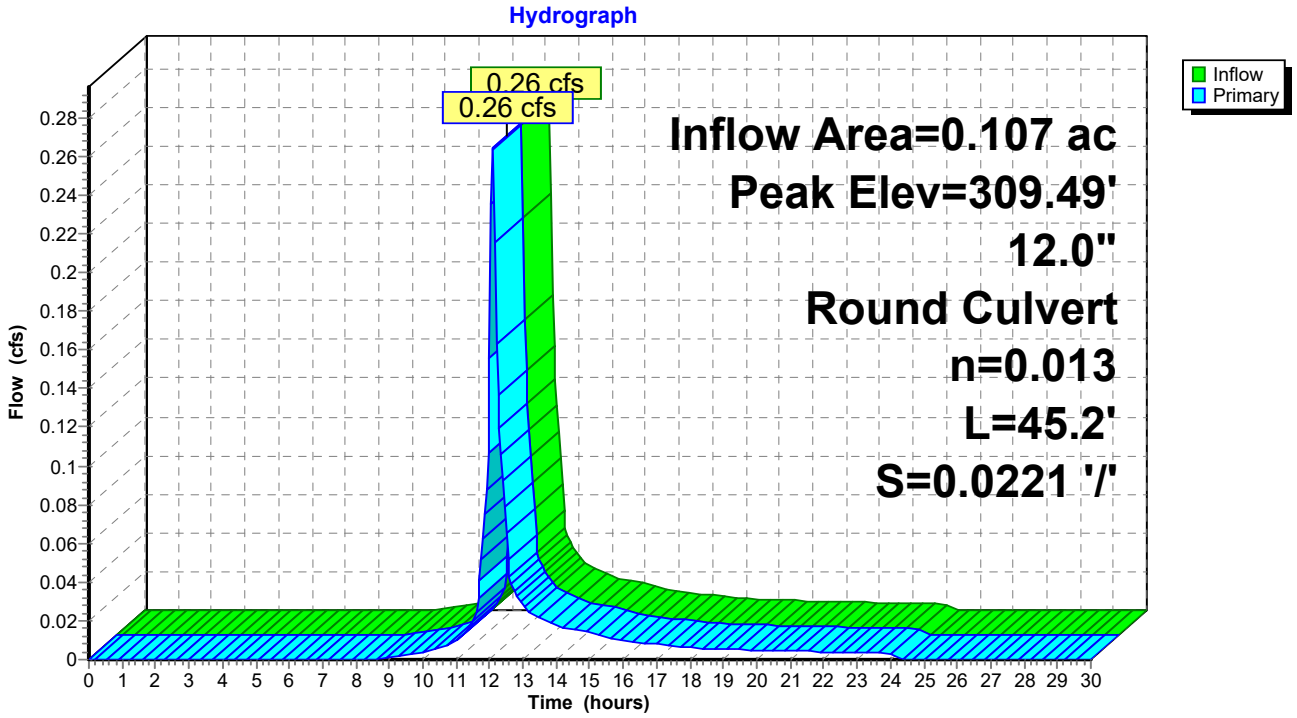
Inflow Area = 0.107 ac, 24.80% Impervious, Inflow Depth = 2.15" for 10-Year event
Inflow = 0.26 cfs @ 12.09 hrs, Volume= 0.019 af
Outflow = 0.26 cfs @ 12.09 hrs, Volume= 0.019 af, Atten= 0%, Lag= 0.0 min
Primary = 0.26 cfs @ 12.09 hrs, Volume= 0.019 af
Routed to Pond 14 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 309.49' @ 12.09 hrs
Flood Elev= 314.10'

Device	Routing	Invert	Outlet Devices
#1	Primary	309.10'	**12.0" Round Culvert** L= 45.2' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 309.10' / 308.10' S= 0.0221 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.26 cfs @ 12.09 hrs HW=309.48' TW=309.36' (Dynamic Tailwater)
↑**1=Culvert** (Outlet Controls 0.26 cfs @ 1.41 fps)

Pond DMH11:



Summary for Pond DMH4:

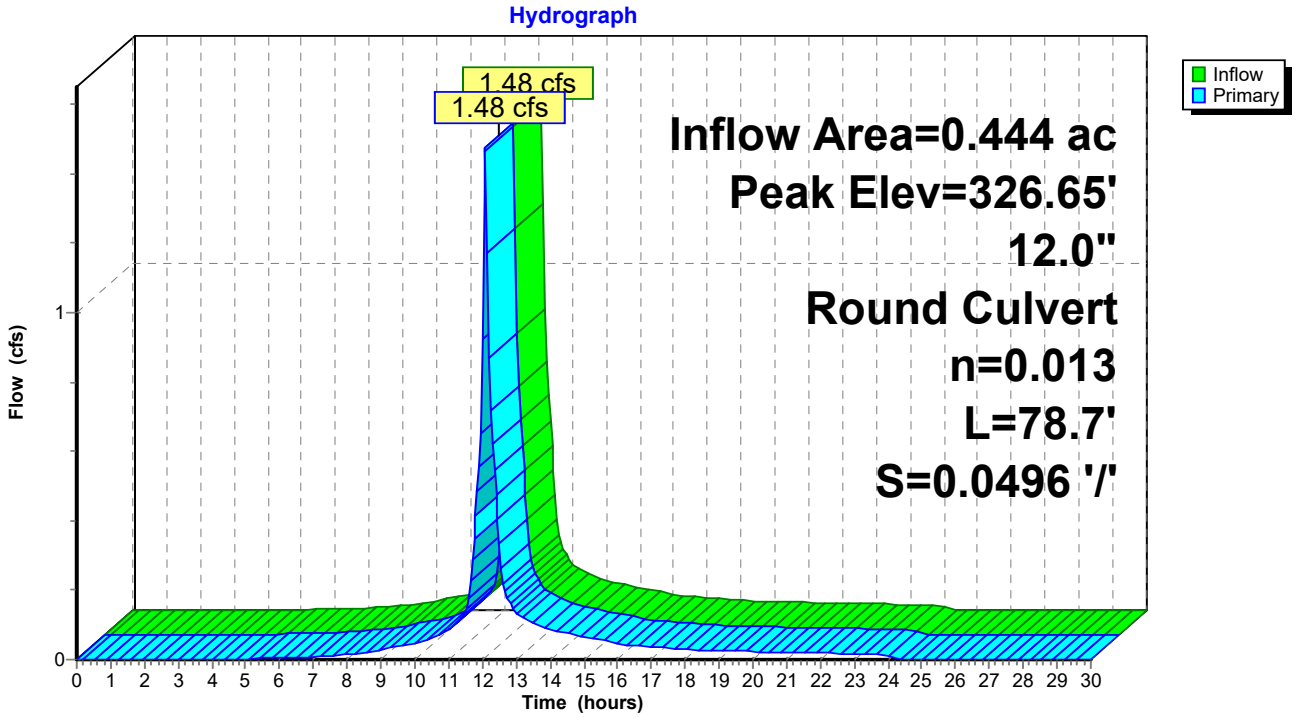
Inflow Area = 0.444 ac, 85.57% Impervious, Inflow Depth = 2.98" for 10-Year event
Inflow = 1.48 cfs @ 12.09 hrs, Volume= 0.110 af
Outflow = 1.48 cfs @ 12.09 hrs, Volume= 0.110 af, Atten= 0%, Lag= 0.0 min
Primary = 1.48 cfs @ 12.09 hrs, Volume= 0.110 af
Routed to Pond 7 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 326.65' @ 12.09 hrs
Flood Elev= 331.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	326.00'	**12.0" Round Culvert** L= 78.7' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 326.00' / 322.10' S= 0.0496 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.44 cfs @ 12.09 hrs HW=326.64' TW=321.86' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.44 cfs @ 2.72 fps)

Pond DMH4:



Summary for Pond DMH5:

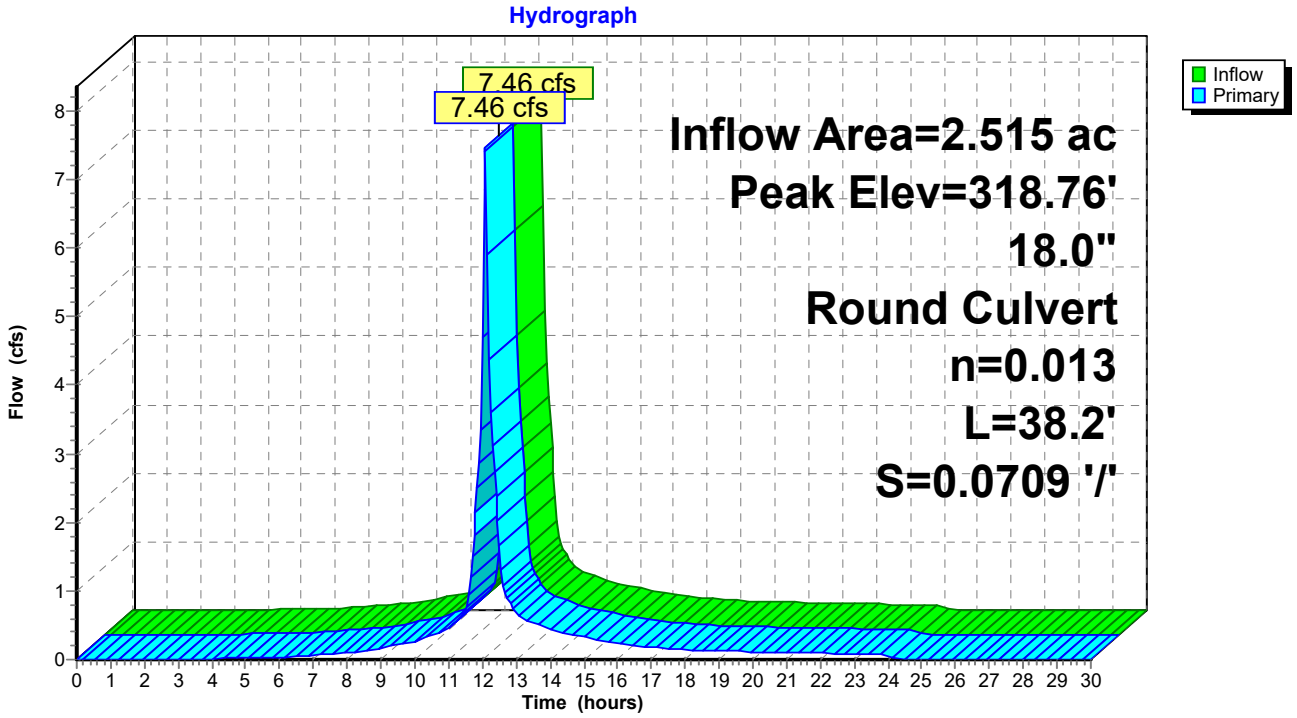
Inflow Area = 2.515 ac, 79.86% Impervious, Inflow Depth = 2.71" for 10-Year event
Inflow = 7.46 cfs @ 12.09 hrs, Volume= 0.568 af
Outflow = 7.46 cfs @ 12.09 hrs, Volume= 0.568 af, Atten= 0%, Lag= 0.0 min
Primary = 7.46 cfs @ 12.09 hrs, Volume= 0.568 af
Routed to Pond G-2 : DMH 6 & 7 FILTRATION GALLERY

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 318.76' @ 12.09 hrs
Flood Elev= 325.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	317.25'	**18.0" Round Culvert** L= 38.2' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 317.25' / 314.54' S= 0.0709 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=7.30 cfs @ 12.09 hrs HW=318.73' TW=314.62' (Dynamic Tailwater)
↑**1=Culvert** (Inlet Controls 7.30 cfs @ 4.14 fps)

Pond DMH5:



Summary for Pond EX: CB3753

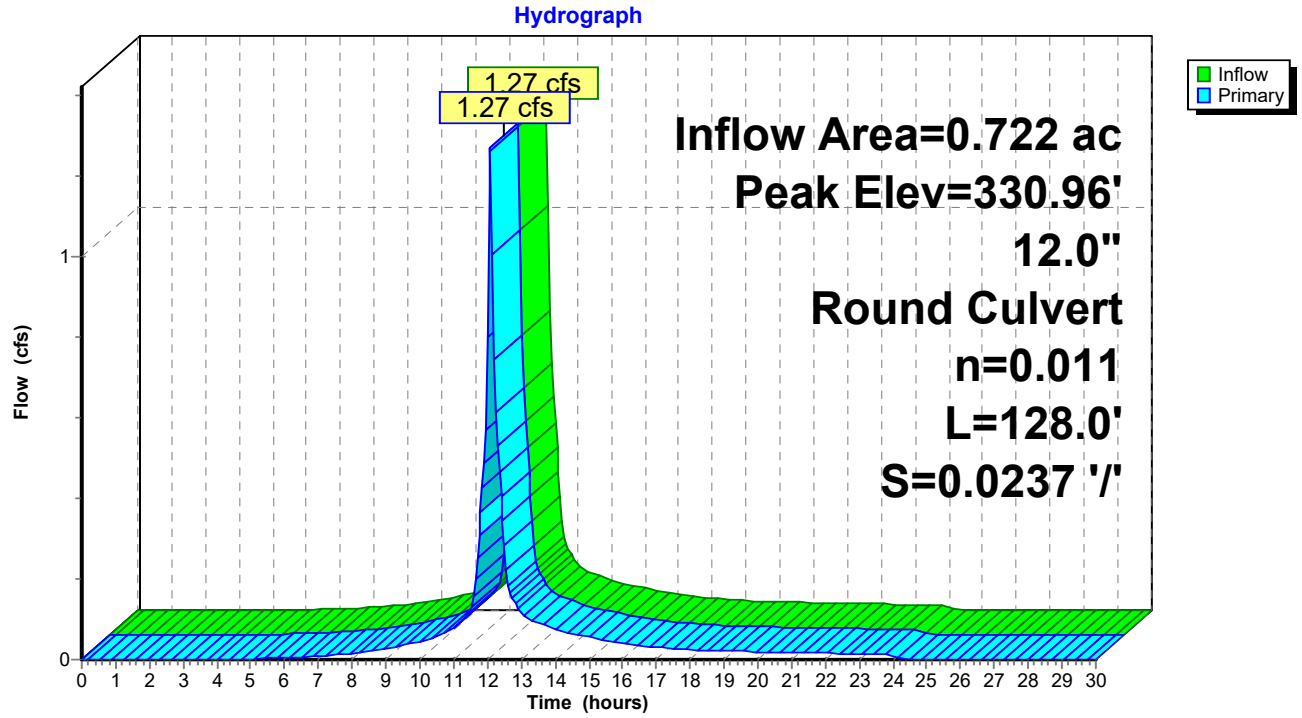
Inflow Area = 0.722 ac, 72.82% Impervious, Inflow Depth = 1.58" for 10-Year event
Inflow = 1.27 cfs @ 12.09 hrs, Volume= 0.095 af
Outflow = 1.27 cfs @ 12.09 hrs, Volume= 0.095 af, Atten= 0%, Lag= 0.0 min
Primary = 1.27 cfs @ 12.09 hrs, Volume= 0.095 af
Routed to Pond DMH : DMH 3754

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 330.96' @ 12.09 hrs
Flood Elev= 335.48'

Device	Routing	Invert	Outlet Devices
#1	Primary	330.37'	**12.0" Round Culvert** L= 128.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 330.37' / 327.34' S= 0.0237 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf

Primary OutFlow Max=1.24 cfs @ 12.09 hrs HW=330.95' TW=327.76' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.24 cfs @ 2.60 fps)

Pond EX: CB3753



Summary for Pond FI1:

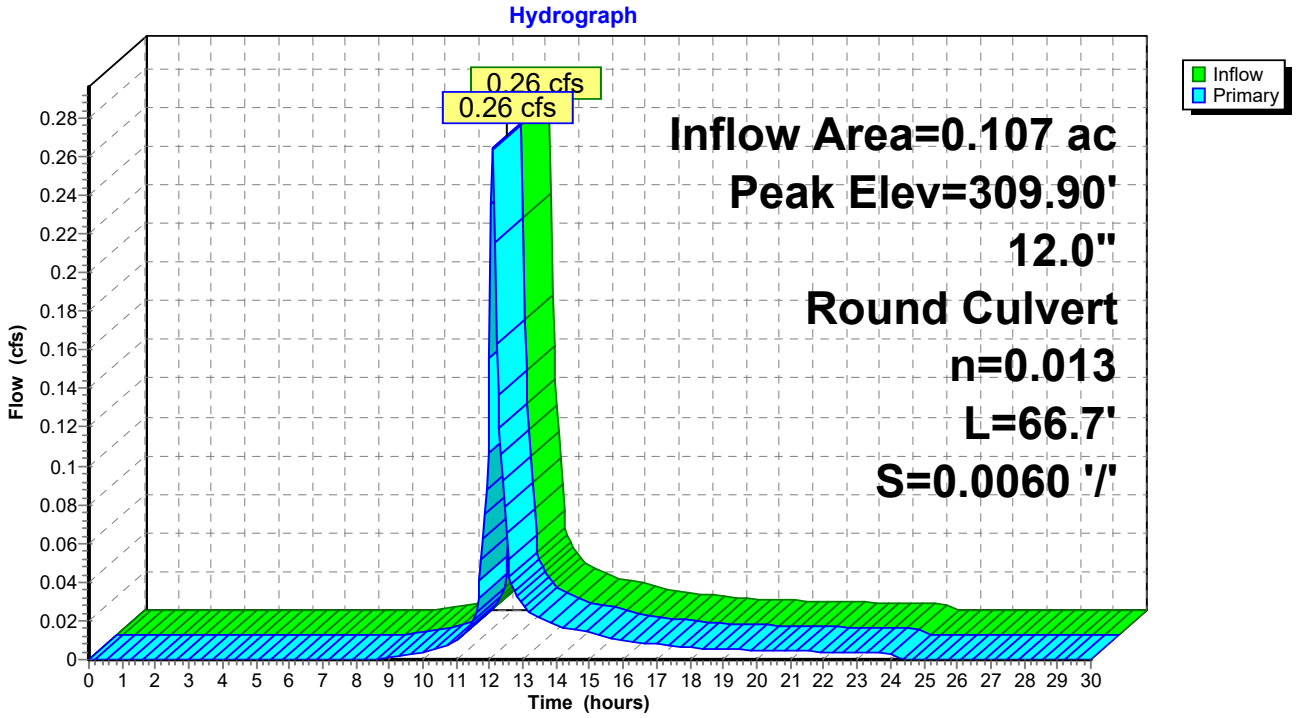
Inflow Area = 0.107 ac, 24.80% Impervious, Inflow Depth = 2.15" for 10-Year event
Inflow = 0.26 cfs @ 12.09 hrs, Volume= 0.019 af
Outflow = 0.26 cfs @ 12.09 hrs, Volume= 0.019 af, Atten= 0%, Lag= 0.0 min
Primary = 0.26 cfs @ 12.09 hrs, Volume= 0.019 af
Routed to Pond DMH11 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 309.90' @ 12.09 hrs
Flood Elev= 314.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	309.60'	**12.0" Round Culvert** L= 66.7' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 309.60' / 309.20' S= 0.0060 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.26 cfs @ 12.09 hrs HW=309.89' TW=309.48' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.26 cfs @ 2.03 fps)

Pond FI1:



Summary for Pond G-1: INFILTRATION GALLERY (DMH 1,2,3)

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=75)

Inflow Area = 0.359 ac, 75.83% Impervious, Inflow Depth = 3.11" for 10-Year event
Inflow = 1.24 cfs @ 12.09 hrs, Volume= 0.093 af
Outflow = 0.19 cfs @ 12.59 hrs, Volume= 0.093 af, Atten= 84%, Lag= 29.8 min
Discarded = 0.19 cfs @ 12.59 hrs, Volume= 0.093 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Pond EX : CB3753

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 335.18' @ 12.59 hrs Surf.Area= 1,058 sf Storage= 1,291 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 49.2 min (843.6 - 794.4)

Volume	Invert	Avail.Storage	Storage Description
#1A	333.40'	1,010 cf	**19.75'W x 53.58'L x 3.75'H Field A** 3,969 cf Overall - 1,444 cf Embedded = 2,525 cf x 40.0% Voids
#2A	333.90'	1,444 cf	**ADS_StormTech SC-800 +Cap** x 28 Inside #1 Effective Size= 45.0"W x 33.0"H => 7.11 sf x 7.12'L = 50.6 cf Overall Size= 51.0"W x 33.0"H x 7.55'L with 0.43' Overlap 28 Chambers in 4 Rows Cap Storage= 3.4 cf x 2 x 4 rows = 27.4 cf
		2,454 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	333.40'	**5.000 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 330.30'
#2	Primary	336.10'	**12.0" Round Culvert** L= 81.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 336.10' / 330.47' S= 0.0695 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Discarded OutFlow Max=0.19 cfs @ 12.59 hrs HW=335.18' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.19 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=333.40' TW=330.37' (Dynamic Tailwater)
↑—**2=Culvert** (Controls 0.00 cfs)

Pond G-1: INFILTRATION GALLERY (DMH 1,2,3) - Chamber Wizard Field A

Chamber Model = ADS_StormTechSC-800 +Cap (ADS StormTech®SC-800 with cap volume)
Effective Size= 45.0"W x 33.0"H => 7.11 sf x 7.12'L = 50.6 cf
Overall Size= 51.0"W x 33.0"H x 7.55'L with 0.43' Overlap
Cap Storage= 3.4 cf x 2 x 4 rows = 27.4 cf

51.0" Wide + 3.0" Spacing = 54.0" C-C Row Spacing

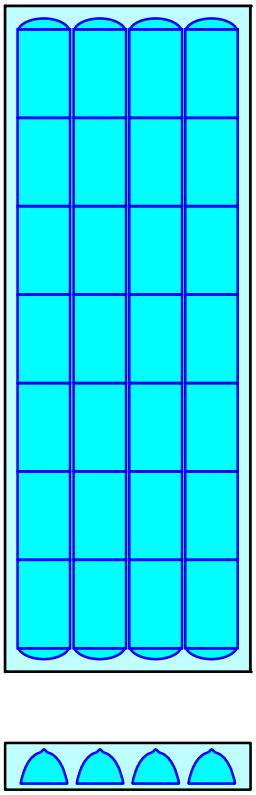
7 Chambers/Row x 7.12' Long +0.88' Cap Length x 2 = 51.58' Row Length +12.0" End Stone x 2 = 53.58' Base Length
4 Rows x 51.0" Wide + 3.0" Spacing x 3 + 12.0" Side Stone x 2 = 19.75' Base Width
6.0" Stone Base + 33.0" Chamber Height + 6.0" Stone Cover = 3.75' Field Height

28 Chambers x 50.6 cf + 3.4 cf Cap Volume x 2 x 4 Rows = 1,443.9 cf Chamber Storage

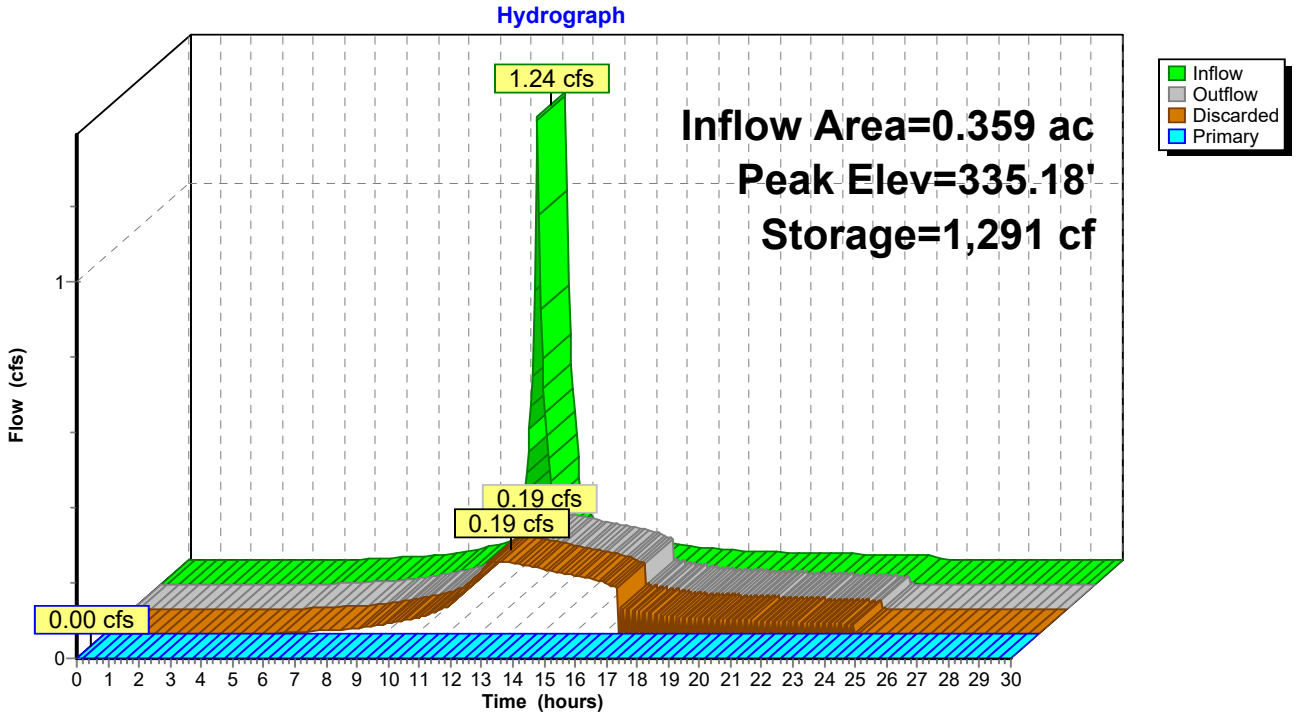
3,968.5 cf Field - 1,443.9 cf Chambers = 2,524.6 cf Stone x 40.0% Voids = 1,009.8 cf Stone Storage

Chamber Storage + Stone Storage = 2,453.8 cf = 0.056 af
Overall Storage Efficiency = 61.8%
Overall System Size = 53.58' x 19.75' x 3.75'

28 Chambers
147.0 cy Field
93.5 cy Stone



Pond G-1: INFILTRATION GALLERY (DMH 1,2,3)



Summary for Pond G-2: DMH 6 & 7 FILTRATION GALLERY

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=2)

Inflow Area = 2.515 ac, 79.86% Impervious, Inflow Depth = 2.71" for 10-Year event
Inflow = 7.46 cfs @ 12.09 hrs, Volume= 0.568 af
Outflow = 1.26 cfs @ 12.57 hrs, Volume= 0.536 af, Atten= 83%, Lag= 28.8 min
Primary = 0.00 cfs @ 12.56 hrs, Volume= 0.000 af
Routed to Pond 12 :
Secondary = 1.26 cfs @ 12.58 hrs, Volume= 0.584 af
Routed to Pond 12 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 315.52' @ 12.56 hrs Surf.Area= 19,232 sf Storage= 10,131 cf
Flood Elev= 317.50' Surf.Area= 19,232 sf Storage= 15,047 cf

Plug-Flow detention time= 116.1 min calculated for 0.536 af (94% of inflow)
Center-of-Mass det. time= 85.4 min (873.8 - 788.3)

Volume	Invert	Avail.Storage	Storage Description
#1	310.83'	2,050 cf	**82.00'W x 54.00'L x 1.17'H 14" Stone** 5,181 cf Overall - 55 cf Embedded = 5,126 cf x 40.0% Voids
#2	311.25'	55 cf	**6.0" Round Pipe Storage** Inside #1 L= 280.0'
#3	312.00'	240 cf	**82.00'W x 58.50'L x 0.25'H 3" Pea Gravel** 1,199 cf Overall x 20.0% Voids
#4	312.25'	1,439 cf	**82.00'W x 58.50'L x 1.50'H 18" Sand** 7,196 cf Overall x 20.0% Voids
#5A	313.75'	4,648 cf	**58.50'W x 89.06'L x 3.50'H Field A** 18,234 cf Overall - 6,615 cf Embedded = 11,619 cf x 40.0% Voids
#6A	314.25'	6,615 cf	**ADS_StormTech SC-740 +Cap** x 144 Inside #5 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 144 Chambers in 12 Rows
		15,047 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	315.50'	**18.0" Round Culvert** L= 74.3' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 315.50' / 312.00' S= 0.0471 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Secondary	311.25'	**6.0" Round Culvert** L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 311.25' / 306.25' S= 0.1000 '/' Cc= 0.900 n= 0.013, Flow Area= 0.20 sf
#3	Device 2	310.83'	**5.000 in/hr Exfiltration over Surface area**

Primary OutFlow Max=0.00 cfs @ 12.56 hrs HW=315.52' TW=312.03' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 0.00 cfs @ 0.48 fps)

Secondary OutFlow Max=1.26 cfs @ 12.58 hrs HW=315.52' TW=312.03' (Dynamic Tailwater)
└**2=Culvert** (Outlet Controls 1.26 cfs @ 6.42 fps)
└**3=Exfiltration** (Passes 1.26 cfs of 2.23 cfs potential flow)

Pond G-2: DMH 6 & 7 FILTRATION GALLERY - Chamber Wizard Field A

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

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

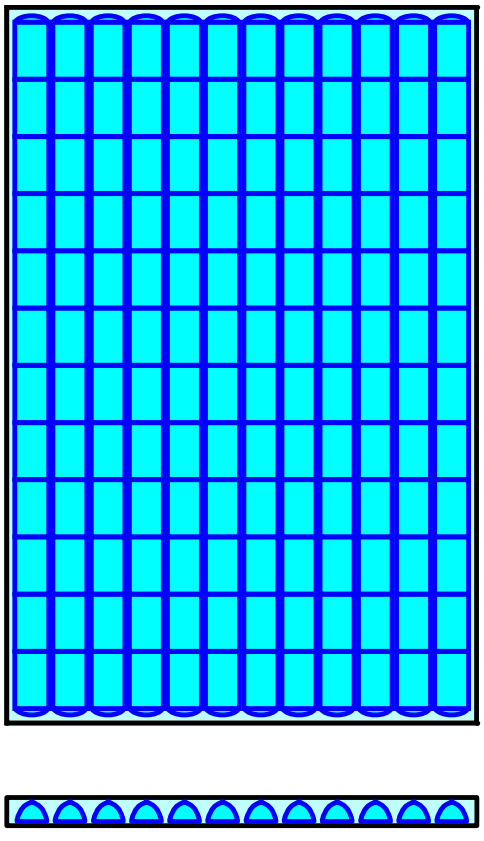
12 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 87.06' Row Length +12.0" End Stone x 2 = 89.06' Base Length
12 Rows x 51.0" Wide + 6.0" Spacing x 11 + 12.0" Side Stone x 2 = 58.50' Base Width
6.0" Stone Base + 30.0" Chamber Height + 6.0" Stone Cover = 3.50' Field Height

144 Chambers x 45.9 cf = 6,615.4 cf Chamber Storage

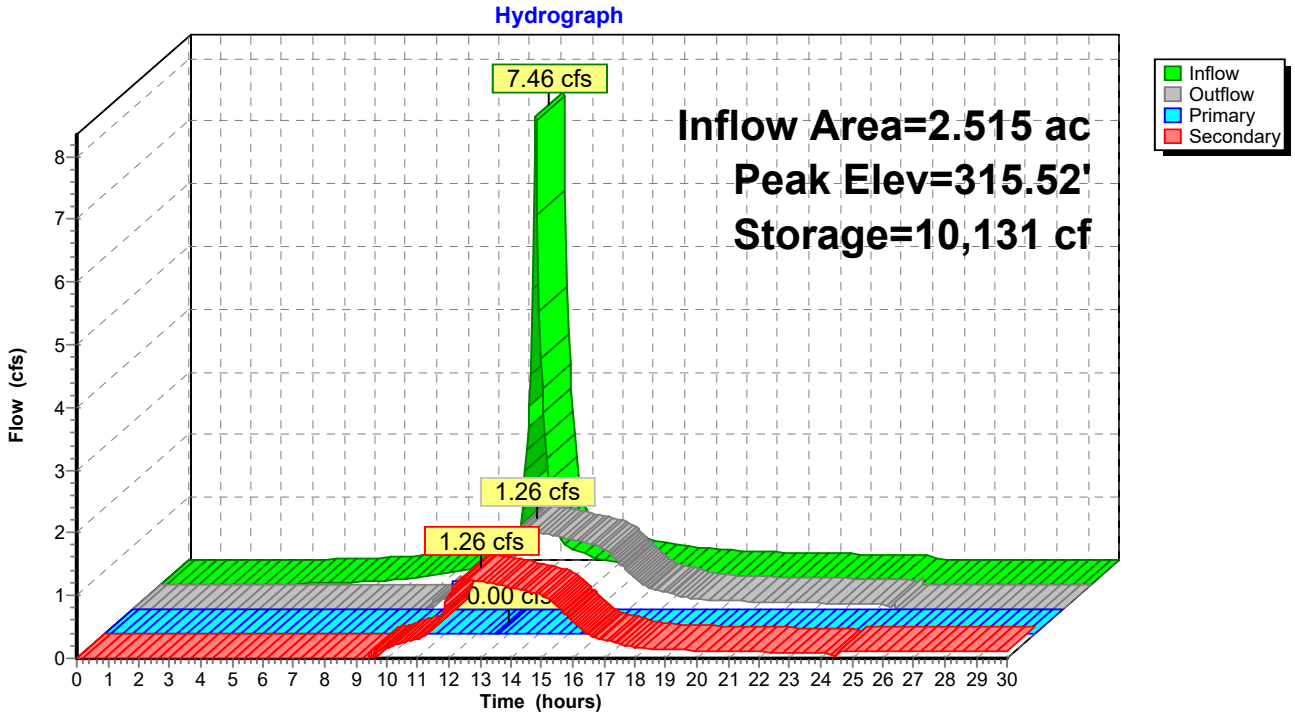
18,234.4 cf Field - 6,615.4 cf Chambers = 11,619.0 cf Stone x 40.0% Voids = 4,647.6 cf Stone Storage

Chamber Storage + Stone Storage = 11,263.0 cf = 0.259 af
Overall Storage Efficiency = 61.8%
Overall System Size = 89.06' x 58.50' x 3.50'

144 Chambers
675.3 cy Field
430.3 cy Stone



Pond G-2: DMH 6 & 7 FILTRATION GALLERY



Summary for Pond PD: Existing Pond

Inflow Area = 5.010 ac, 75.11% Impervious, Inflow Depth > 2.98" for 10-Year event
Inflow = 9.37 cfs @ 12.09 hrs, Volume= 1.246 af
Outflow = 6.02 cfs @ 12.21 hrs, Volume= 1.246 af, Atten= 36%, Lag= 7.2 min
Primary = 6.02 cfs @ 12.21 hrs, Volume= 1.246 af
Routed to Link POI1 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 307.56' @ 12.21 hrs Surf.Area= 4,149 sf Storage= 3,092 cf

Plug-Flow detention time= 3.9 min calculated for 1.244 af (100% of inflow)
Center-of-Mass det. time= 3.5 min (852.3 - 848.8)

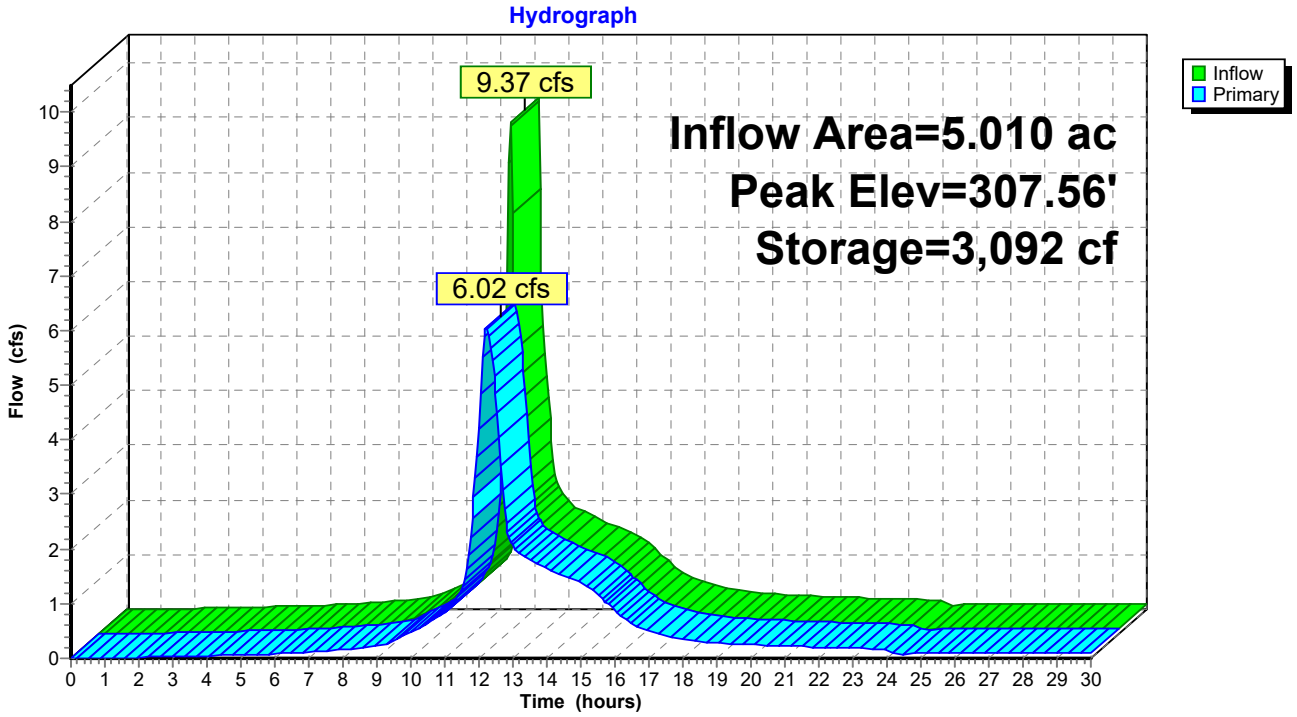
Volume	Invert	Avail.Storage	Storage Description
#1	305.90'	11,147 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
305.90	78	34.6	0	0	78
306.80	1,818	200.0	682	682	3,168
307.00	2,815	253.9	460	1,141	5,115
308.00	5,359	3,332.0	4,019	5,161	883,474
309.00	6,636	356.0	5,986	11,147	1,756,877

Device	Routing	Invert	Outlet Devices
#1	Primary	305.90'	**15.0" Round Culvert** L= 13.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 305.90' / 304.10' S= 0.1385 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Primary	308.50'	**16.0' long x 6.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=6.01 cfs @ 12.21 hrs HW=307.56' TW=0.00' (Dynamic Tailwater)
1=Culvert (Inlet Controls 6.01 cfs @ 4.90 fps)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond PD: Existing Pond



Summary for Pond TD1: TRENCH DRAIN

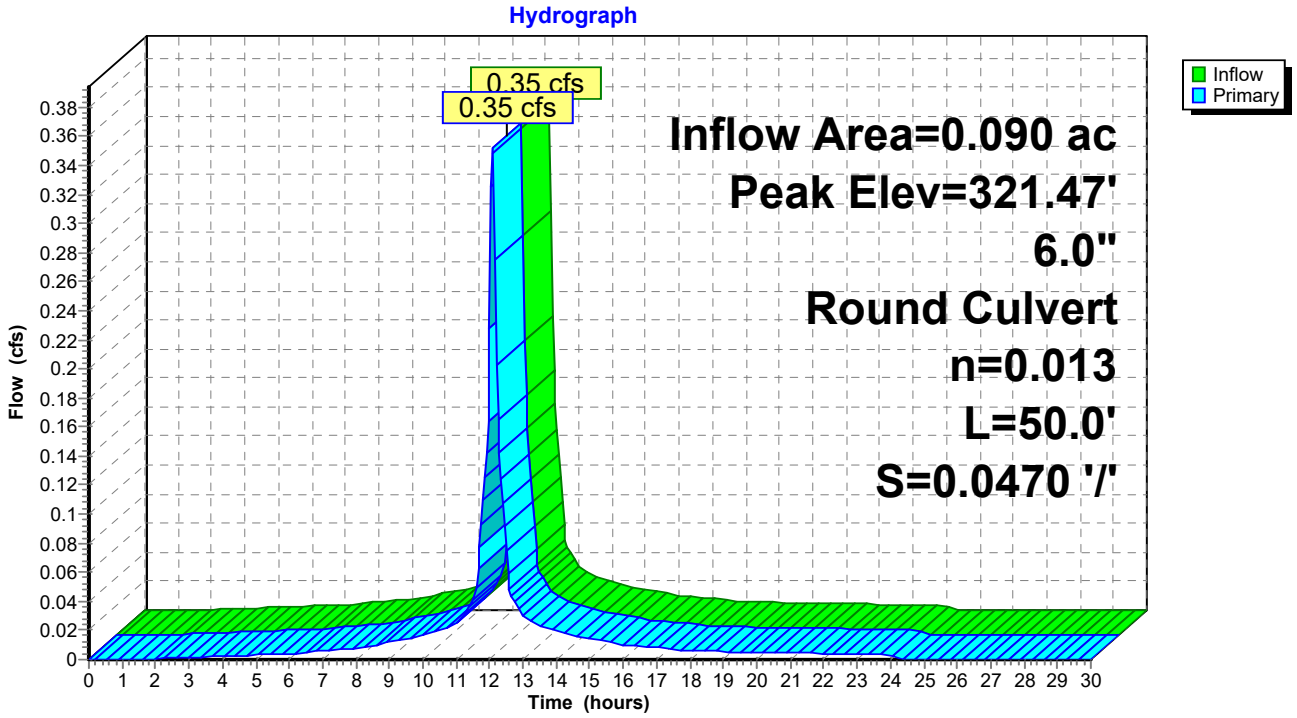
Inflow Area = 0.090 ac, 97.50% Impervious, Inflow Depth = 3.78" for 10-Year event
Inflow = 0.35 cfs @ 12.09 hrs, Volume= 0.028 af
Outflow = 0.35 cfs @ 12.09 hrs, Volume= 0.028 af, Atten= 0%, Lag= 0.0 min
Primary = 0.35 cfs @ 12.09 hrs, Volume= 0.028 af
Routed to Pond DMH 10 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 321.47' @ 12.09 hrs
Flood Elev= 323.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	321.00'	**6.0" Round Culvert** L= 50.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 321.00' / 318.65' S= 0.0470 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.34 cfs @ 12.09 hrs HW=321.46' TW=319.27' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.34 cfs @ 1.82 fps)

Pond TD1: TRENCH DRAIN



Summary for Pond TD2: TRENCH DRAIN

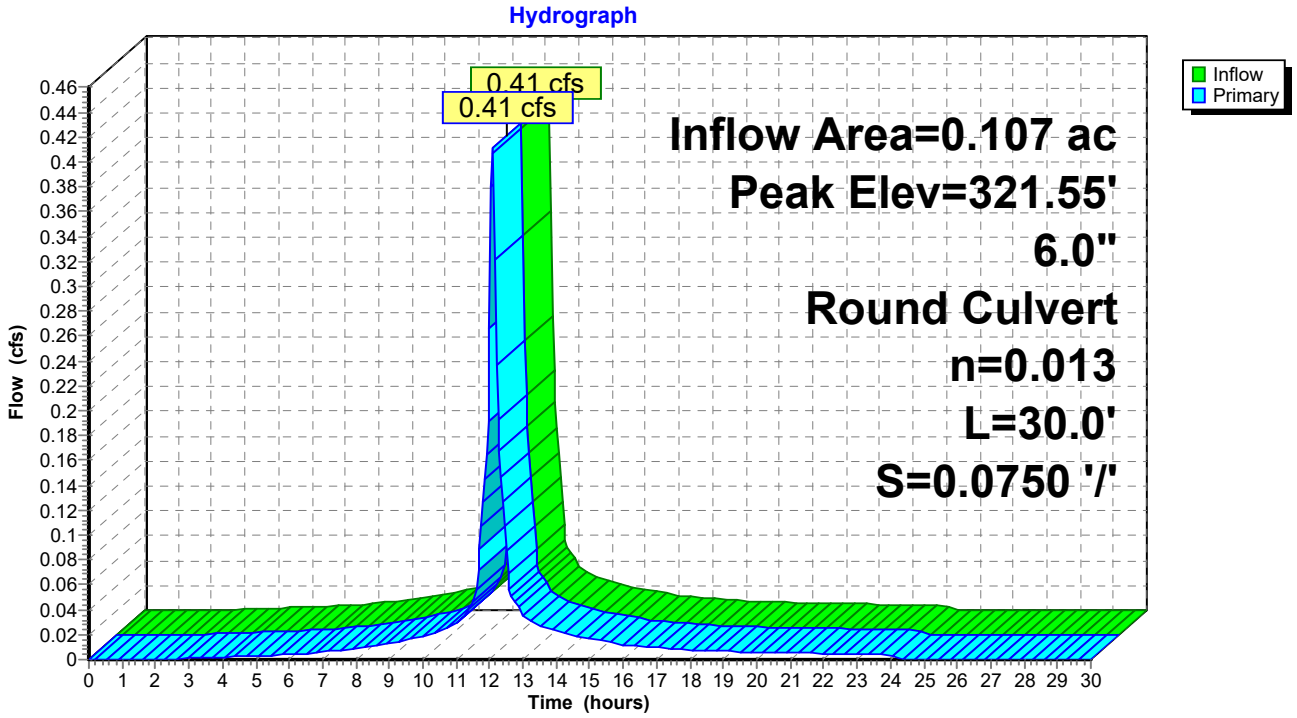
Inflow Area = 0.107 ac, 91.57% Impervious, Inflow Depth = 3.67" for 10-Year event
Inflow = 0.41 cfs @ 12.09 hrs, Volume= 0.033 af
Outflow = 0.41 cfs @ 12.09 hrs, Volume= 0.033 af, Atten= 0%, Lag= 0.0 min
Primary = 0.41 cfs @ 12.09 hrs, Volume= 0.033 af
Routed to Pond DMH 10 :

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 321.55' @ 12.09 hrs
Flood Elev= 323.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	321.00'	**6.0" Round Culvert** L= 30.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 321.00' / 318.75' S= 0.0750 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.40 cfs @ 12.09 hrs HW=321.54' TW=319.27' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.40 cfs @ 2.04 fps)

Pond TD2: TRENCH DRAIN



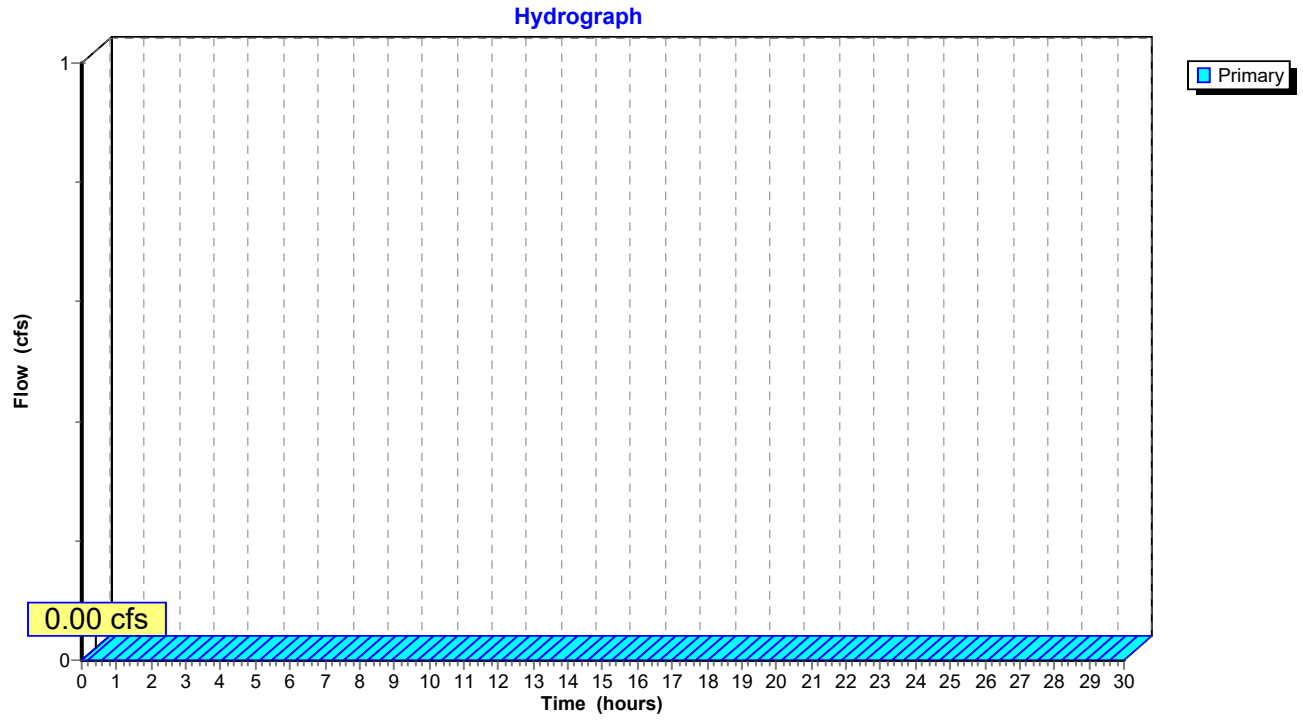
Summary for Link POI 2:

[43] Hint: Has no inflow (Outflow=Zero)

Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Link POI 2:

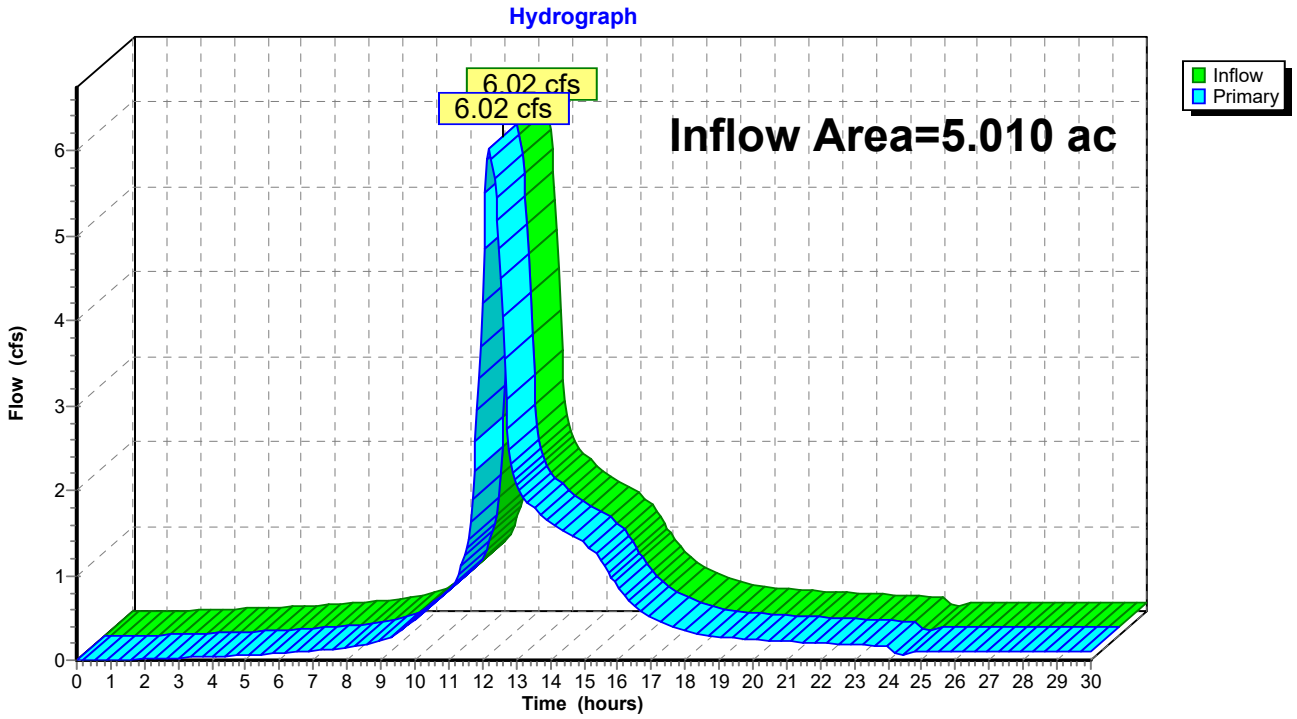


Summary for Link POI1:

Inflow Area = 5.010 ac, 75.11% Impervious, Inflow Depth > 2.98" for 10-Year event
Inflow = 6.02 cfs @ 12.21 hrs, Volume= 1.246 af
Primary = 6.02 cfs @ 12.21 hrs, Volume= 1.246 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs

Link POI1:



INFILTRATION FEASIBILITY REPORT

INSPECTION AND MAINTENANCE PROCEDURES

RESPONSIBLE PARTIES

Dartmouth Hitchcock Clinic
Tim Bishop
253 Pleasant Street
Concord, NH 03301
Timothy.M.Bishop@hitchcock.org

INSPECTION SCHEDULE

Catch Basins, Manholes Drainage Piping	Each catch basin and drain manhole will be inspected when the system is installed and prior to directing storm water to it. Structure inverts will be measured and documented at this time as a baseline reference for future inspections. Catch basins, drain manholes, and connecting piping will be inspected annually (minimum). Inspection results will be recorded using the Inspection Forms included at the end of this document.
Subsurface Galleries	Each chamber gallery will be inspected when the system is installed and prior to directing storm water to it. The isolator rows will be inspected via the inspection ports annually (minimum). If, upon visual inspection, it is found that sediment has accumulated, a stadia rod will be inserted to determine the depth of sediment. Inlet/outlet structures and manifolds will be inspected annually (minimum). Inspection results will be recorded using the Inspection Forms included at the end of this document.

MAINTENANCE PROCEDURES

Catch Basins, Manholes, Drain Piping, Trench Drains	Debris will be removed from catch basin inlet grates, and inlet/outlet pipes inside the structures. Sediment will be removed from the interior of the structures and connecting pipes by vactor truck. Water and sediment from cleanout procedures must be disposed of in accordance with federal, state, and local regulations at an approved off-site disposal facility, and must not be discharged into sanitary sewer

	systems. Maintenance will be recorded in the Inspection and Maintenance Log included at the end of this document.
Subsurface Galleries	Each chamber gallery shall be maintained in accordance with the attached manufacturer recommendations. When the average depth of sediment in the isolator row exceeds 3 inches, clean out will be performed with the JetVac process. Trash and debris will be removed from the inlet/outlet structures when observed during inspections. Maintenance will be recorded in the Inspection and Maintenance Log included at the end of this document.

RECORD KEEPING

Record keeping and inspection/maintenance activity will begin upon completion of all terrain activities that direct storm water to the practices described herein. All records, including records from maintenance subcontractors, will be maintained by Dartmouth Hitchcock Clinic, and will be made available to the City of Concord upon request. Photo documentation of inspections is required.

Should invasive species begin to grow in the infiltration basin (or other areas on site), refer to the guidance regarding “Methods for Disposing of Non-Native Invasive Plants” prepared by the University of New Hampshire Cooperative Extension included at the end of this document. Herbicides will not be applied.

Winter maintenance activities will include plowing snow and applying sand in operation areas. Salt or other deicing materials may be applied at the driveway entrance to ensure safe access. In the event that deicing materials are used on the site, a Deicing Log is included at the end of this document.

Inspection Checklist

General Information	
Date of Inspection	
Inspector's Name(s)	
Inspector's Title(s)	
Type of Inspection:	❑ Routine (annual) ❑ Post-storm event _____inches

❑ Inspection of Catch Basins/Drain Manholes/Drain Piping/Trench Drains

❑ No Follow Up Action Required ❑ Follow Up Action Required as Detailed Below

Location	Visible Damage?	Maintenance Required? Provide detail below
	❑Yes ❑No	❑Yes ❑No

Corrective Action Needed and Notes

❑ Inspection of Stormwater Subsurface Galleries Performed

❑ No Follow Up Action Required ❑ Follow Up Action Required as Detailed Below

Location	Visible Damage?	Maintenance Required? Provide detail below
	❑Yes ❑No	❑Yes ❑No

Corrective Action Needed and Notes

Inspection and Maintenance Log

Date:		
Performed by:		
Catch Basins /Drain Piping/Drain Manholes/Trench Drains ❑Inspection ❑Maintenance	Stormwater Galleries ❑Inspection ❑Maintenance	

Date:		
Performed by:		
Catch Basins /Drain Piping/Drain Manholes/Trench Drains ❑Inspection ❑Maintenance	Stormwater Galleries ❑Inspection ❑Maintenance	

Date:		
Performed by:		
Catch Basins /Drain Piping/Drain Manholes/Trench Drains ❑Inspection ❑Maintenance	Stormwater Galleries ❑Inspection ❑Maintenance	

Date:		
Performed by:		
Catch Basins /Drain Piping/Drain Manholes ❑Inspection ❑Maintenance	Stormwater Galleries ❑Inspection ❑Maintenance	

Deicing Log

Date/Location of Application: Amount and Type of Material Applied: Performed by:
Date/Location of Application: Amount and Type of Material Applied: Performed by:
Date/Location of Application: Amount and Type of Material Applied: Performed by:
Date/Location of Application: Amount and Type of Material Applied: Performed by:
Date/Location of Application: Amount and Type of Material Applied: Performed by:

AERIAL SITE PHOTOGRAPH

Site Photos

Photo #1 – View looking west at parking lot south of the existing medical center building

Photo #2 – View looking north along eastern driveway of medical center

Photo #3 – View looking south at the northeast corner of the medical center building

Photo #4 – View looking southwest at the front entrance of the medical center

Photo #5 - View looking south at the front entrance of the medical center

Photo #6 – View looking north of the medical center front entrance

Photo #7 – View looking west at western parking lot

Photo #8 - View looking southeast of the parking lot behind the medical center building

Photo #9 – View looking east of the southern parking lot.

Photo #10 – View looking north at loading dock area.

Photo #11 – View looking west at abandoned parking lot east of site.

Photo #12 – View looking west of the east side of the medical center building

Photo #13 – View looking west at western parking lot

Photo #14 – View looking north along west side of the medical center building