



STORMWATER MANAGEMENT STATEMENT

To: Township of West Orange Planning Board

Project: Proposed Site Improvements
Tax Block 134.02, Lots 75.03, 79 & 81
66 Franklin Avenue
Township of West Orange, Essex County, New Jersey

Dated: October 8, 2024

Reference: Preliminary & Final Major Site Plan
(prepared by Stonefield Engineering & Design, LLC, October 8, 2024)

The Applicant is proposing to maintain an existing 1,924 SF commercial building with exterior improvements. The subject property is designated as Block 134.02, Lots 75.03, 79 & 81, commonly known as 66 Franklin Avenue. The site is located within Zone B-1, Retail Business Zone in the Township of West Orange, NJ. The lot is currently bounded by an existing commercial building to the north, Franklin Avenue to the west and existing residential developments to the south and east.

The proposed project area is 10,000 SF (0.23 AC) and is currently occupied by an existing commercial building with an asphalt parking lot. The project consists of the improvement of the existing structures. Additional site improvements include landscaping, and lighting. The overall disturbance area associated with the project is 10,362 SF (0.24 AC), consisting of the entire subject property, along with some proposed improvements in the right-of-way of Franklin Avenue.

This Stormwater Management Statement has been prepared to analyze the potential stormwater runoff impacts of the project and measures proposed to conform to stormwater management requirements set forth by the Township of West Orange, Hudson Essex Passaic Soil Conservation District, and the New Jersey Department of Environmental Protection (NJDEP).



Stormwater Management Statement

Proposed Site Improvements

Township of West Orange, New Jersey

October 8, 2024

PRE-DEVELOPMENT DRAINAGE CONDITIONS

The existing condition of the site consists of one (1) drainage area (E-1) including the entirety of the developed lot. The site drains via overland flow to Franklin Avenue, and the southern and eastern neighboring properties, from where it is conveyed into the local stormwater system located within Chestnut Street. The following table summarizes the qualities of Drainage Area E-1 utilized in the stormwater analysis:

TABLE 1: PRE-DEVELOPMENT DRAINAGE AREAS

Drainage Area	Description	Area Extents	Impervious Area	Time of Concentration
E-1	Pre-Development Drainage to Chestnut street	10,000 SF	8,524 SF	6 Minutes

PROPOSED DRAINAGE CONDITIONS

Under proposed conditions, the site is comprised of one (1) drainages area referred to as (P-1). The roof drainage of the existing building is currently conveyed to a drainage pipe, along with surface runoff captured at the southwest Corner of the property via one trench drain connected to one storm inlet on site via 6" PVC pipe, and daylights into the Franklin Avenue via one 8" PVC pipe. A portion of the site also drains to the adjacent neighboring properties. Eventually all of the stormwater on site is directed to the existing conveyance system located in Chestnut Street.

TABLE 2: POST-DEVELOPMENT DRAINAGE AREAS

Drainage Area	Description	Area Extents	Impervious Area	Time of Concentration
P-1	Post-Development Drainage to Chestnut Street	10,000 SF	8,348 SF	6 Minutes

STORMWATER MANAGEMENT ANALYSIS

The project aims to disturb less than one acre of land and has reduced impervious surfaces by 176 SF and has increased motor vehicle surface by less than a 0.25 AC and therefore is not considered a Major Development as indicated by the Municipal Ordinance and New Jersey Department of Environmental Protection (NJDEP). The subject property is located within an urban redevelopment area (metropolitan planning area (PA-1)) and is therefore exempt from compaction remediation. The project is designed to conform to the stormwater management requirements set forth by the Township of West Orange, Hudson Essex Passaic County Soil Conservation District, and the NJDEP.

A hydrograph comparison has been performed to evaluate the pre- and post-construction runoff. Due to a reduction in impervious cover relative to the existing condition, the included hydrologic analysis demonstrates that for stormwater leaving the site, post-construction runoff hydrographs for the 2, 10 and 100-year storm events do not exceed, at any point in time, the pre-construction runoff hydrographs for the same events.



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TABLE 3: STORMWATER PEAK DISCHARGE

Storm Event	Pre-Development Peak Discharge	Post-Development Peak Discharge	Rate of Reduction
2-Year	0.68 CFS	0.68 CFS	0.00%
10-Year	1.07 CFS	1.06 CFS	0.94%
100-Year	1.83 CFS	1.82 CFS	0.55%

TABLE 4: STORMWATER DISCHARGE VOLUME

Storm Event	Pre-Development Volume	Post-Development Volume	Volume Reduction
2-Year	2,425 CF	2,396 CF	29 CF
10-Year	3,852 CF	3,816 CF	36 CF
100-Year	6,660 CF	6,617 CF	43 CF

No adverse impacts to the municipal drainage system or adjacent properties are anticipated as a result of the project. Detailed hydrologic calculations and mapping can be found in the Appendix of this Statement.

Prepared by:

Afton Savitz, PE

NJ PE License No. 57674

Stonefield Engineering and Design, LLC



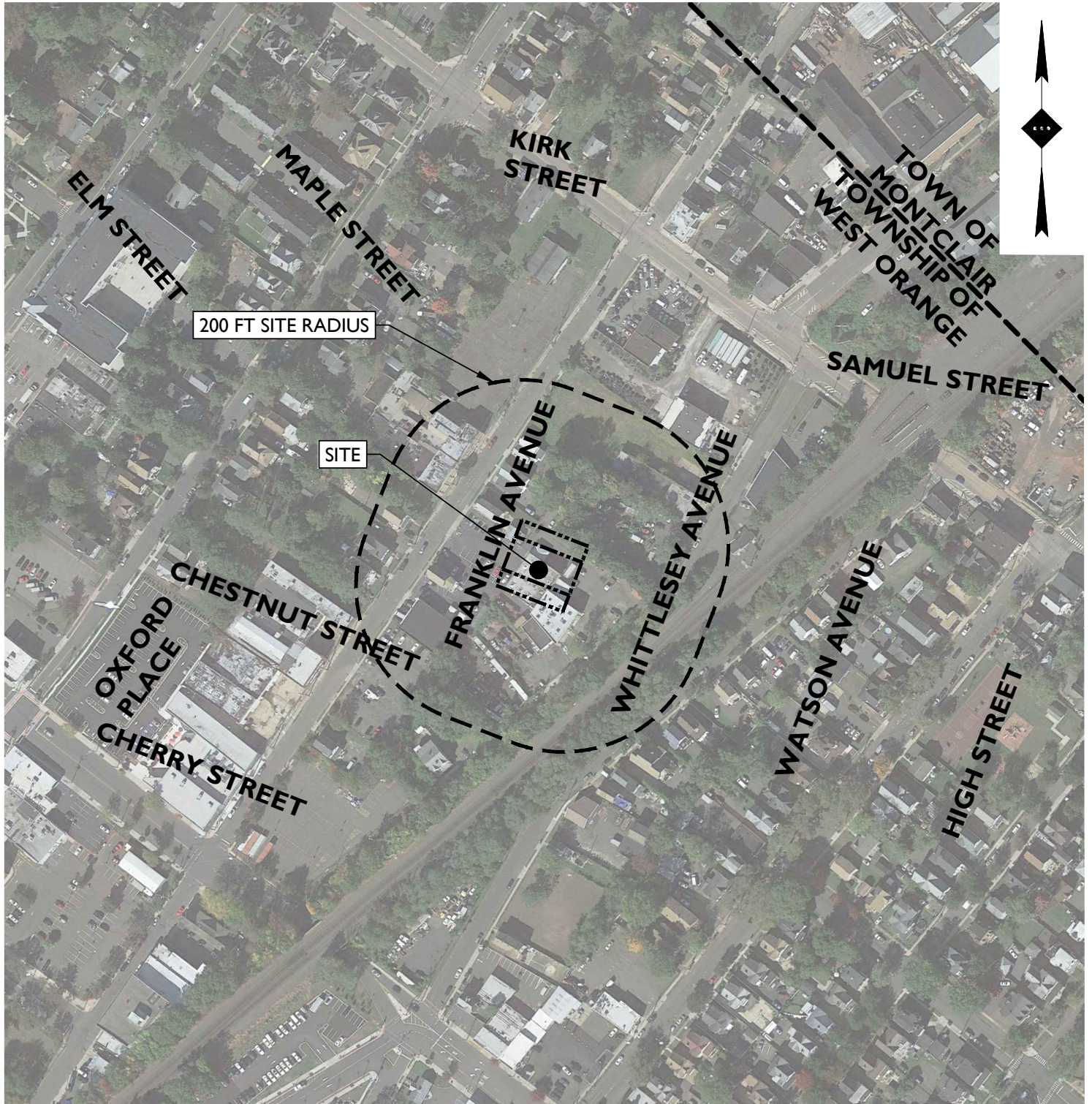
Stormwater Management Statement

Proposed Site Improvements

Township of West Orange, New Jersey

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**APPENDIX A
AERIAL MAP
USGS QUAD MAP
TAX & ZONING MAP**



200' 0' 200' 400'



GRAPHIC SCALE IN FEET

1" = 200'

AERIAL MAP

SOURCE: GOOGLE EARTH PRO, DATED 10/13/2020

PROPOSED RENOVATION & ADDITION

BLOCK 134.02, LOTS 75.03, 79 & 81
66 FRANKLIN AVENUE
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY, NEW JERSEY

DRAWN BY:

NRK

CHECKED BY:

AMS

DATE:

07/22/2021

SCALE:

1" = 200'

PROJECT ID:

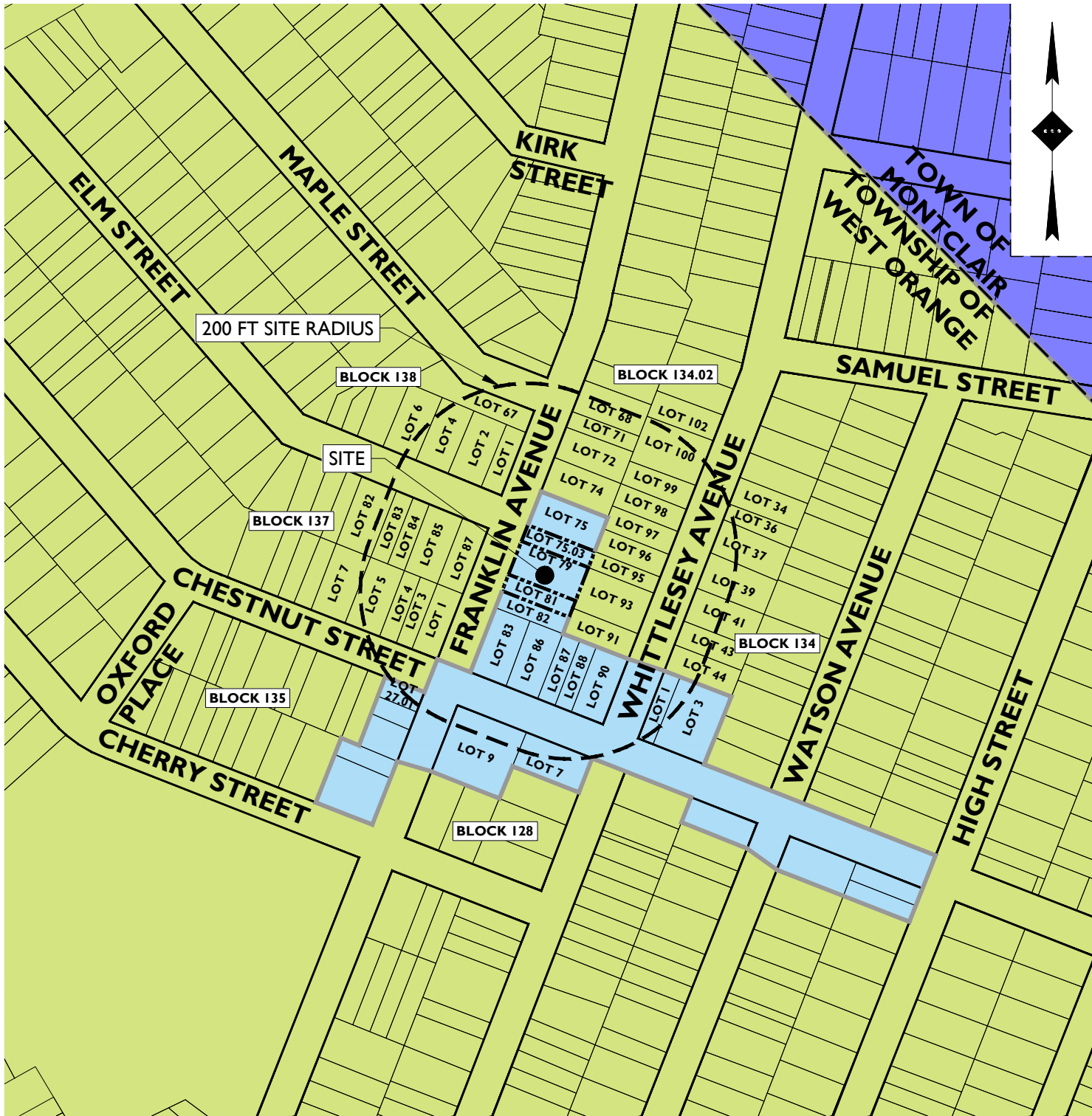
RUT-210050



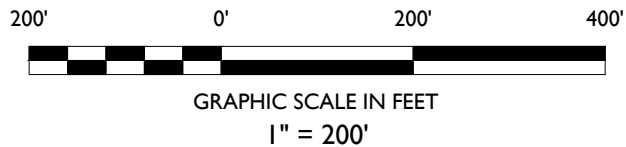
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www.stonefieldeng.com

Headquarters: 92 Park Avenue, Rutherford, NJ 07070
Phone 201.340.4468 · Fax 201.340.4472



TAX & ZONING MAP



SOURCE: TOWNSHIP OF WEST ORANGE TAX MAPS SHEETS 48, 49, 56, 57, 58 DATED 2011 AND ZONING MAP DATED 2020 & TOWN OF MONTCLAIR TAX MAP SHEET 19 DATED 1972

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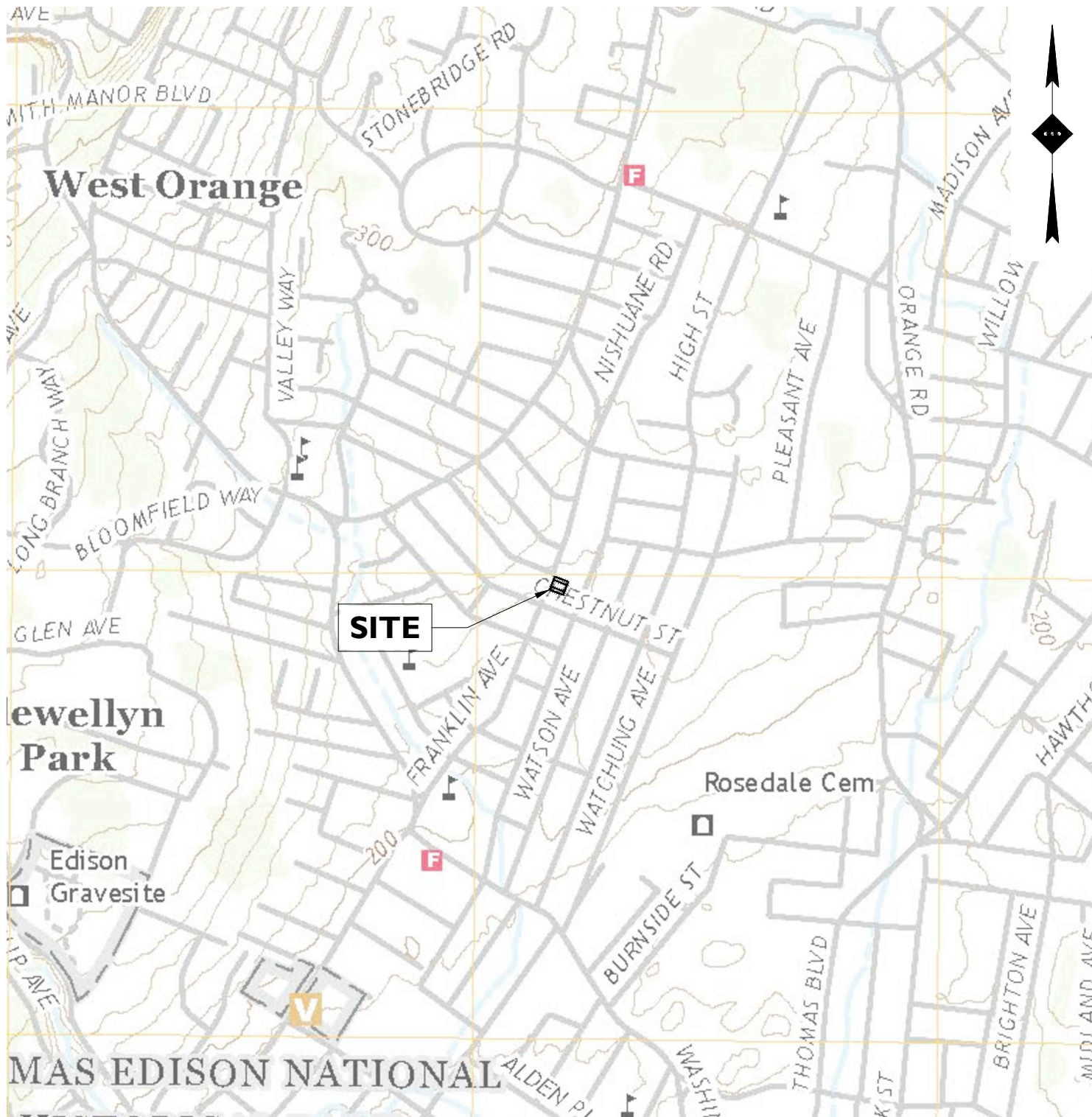
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USGS QUADRANGLE MAP

1000' 0' 1000' 2000'



GRAPHIC SCALE IN FEET

1" = 1000'

SOURCE: USGS QUADRANGLE MAP 7.5 MINUTE SERIES, ORANGE, NJ, DATED 2019

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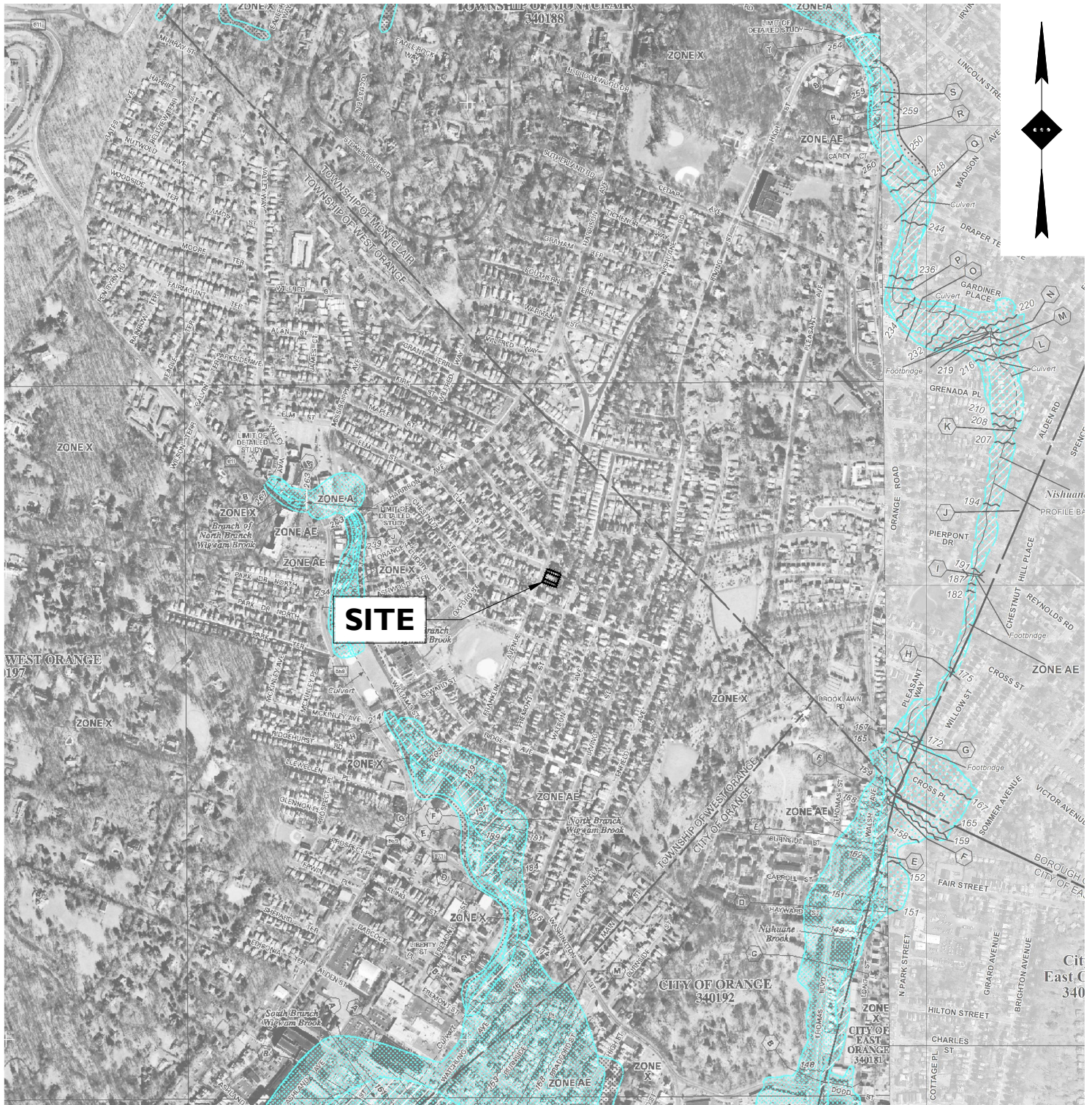
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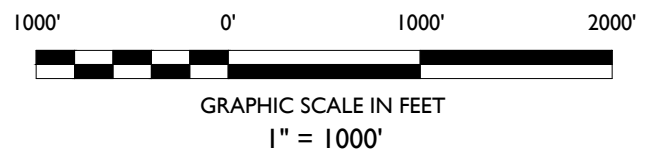
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FEMA EFFECTIVE MAP



SOURCE: FEMA FLOOD INSURANCE RATE MAPS #34013C0111F, DATED 06/04/2007 & #34013C0112G, DATED 04/03/2020

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DRAWN BY:	NRK
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APPENDIX B
NRCS SOIL REPORT



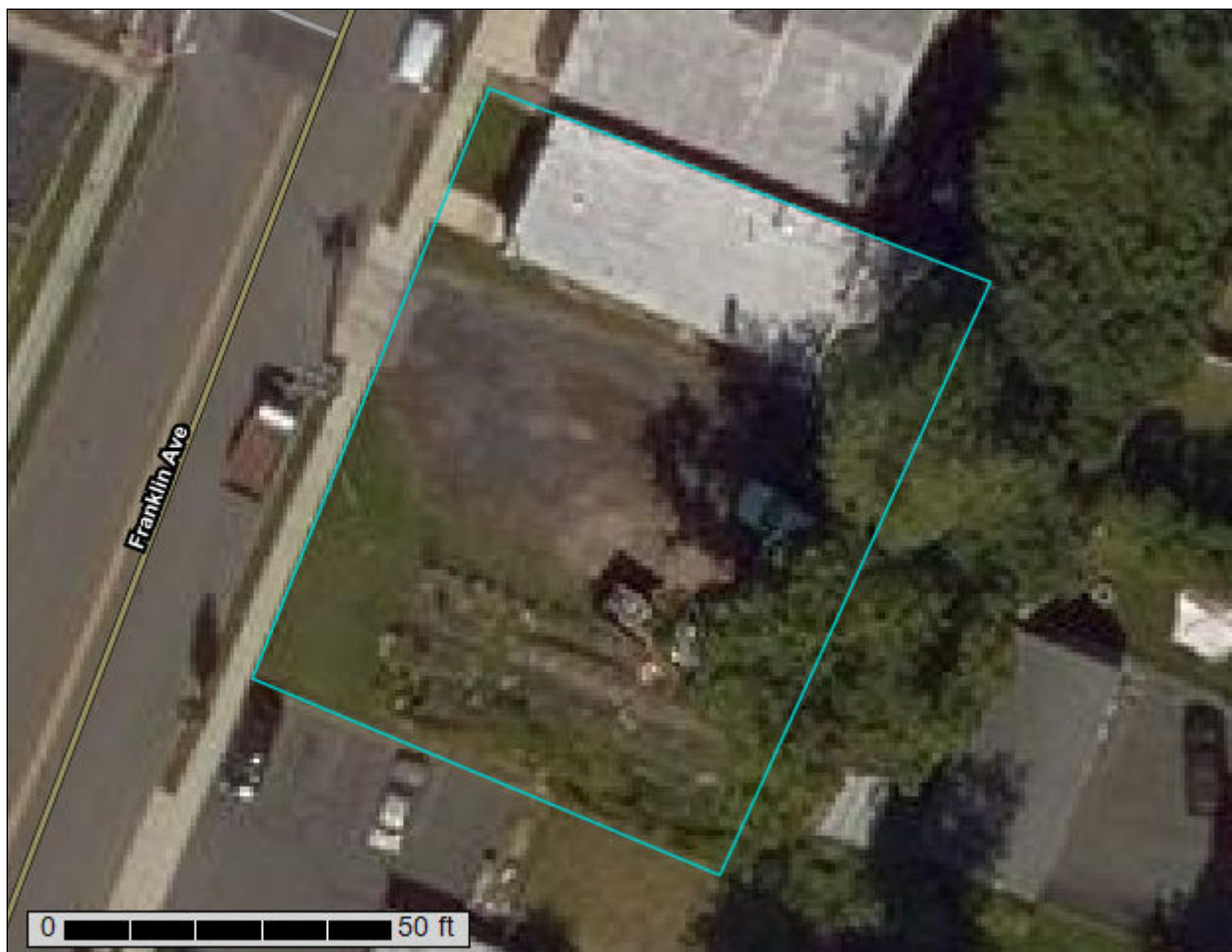
United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for **Essex County, New Jersey**



March 2, 2021

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

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Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map



Custom Soil Resource Report

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features

 Blowout

 Borrow Pit

 Clay Spot

 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water

 Perennial Water

 Rock Outcrop

 Saline Spot

 Sandy Spot

 Severely Eroded Spot

 Sinkhole

 Slide or Slip

 Sodic Spot

 Spoil Area

 Stony Spot

 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

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 1:12,000.

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: Essex County, New Jersey
Survey Area Data: Version 16, Jun 1, 2020

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

Date(s) aerial images were photographed: Aug 25, 2014—Sep 27, 2014

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.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
USBOOB	Urban land, Boonton substratum - Boonton complex, red sandstone lowland, 0 to 8 percent slopes	0.2	100.0%
Totals for Area of Interest		0.2	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however,

onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Essex County, New Jersey

USBOOB—Urban land, Boonton substratum - Boonton complex, red sandstone lowland, 0 to 8 percent slopes

Map Unit Setting

National map unit symbol: w9c3

Elevation: 0 to 560 feet

Mean annual precipitation: 30 to 64 inches

Mean annual air temperature: 46 to 79 degrees F

Frost-free period: 131 to 178 days

Farmland classification: Not prime farmland

Map Unit Composition

Urban land, boonton red sandstone lowland substratum: 60 percent

Boonton, red sandstone lowland, and similar soils: 30 percent

Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Urban Land, Boonton Red Sandstone Lowland Substratum

Setting

Landform: Ground moraines

Landform position (three-dimensional): Lower third of mountainflank

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Surface covered by pavement, concrete, buildings, and other structures underlain by disturbed and natural soil material

Typical profile

H1 - 0 to 12 inches: material

H2 - 12 to 67 inches: gravelly loam

2CB - 67 to 83 inches: gravelly sandy loam

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 8s

Hydric soil rating: Unranked

Description of Boonton, Red Sandstone Lowland

Setting

Landform: Ground moraines

Down-slope shape: Convex

Across-slope shape: Linear

Parent material: Coarse-loamy till derived from sandstone and shale

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material

A - 1 to 3 inches: silt loam

BE - 3 to 10 inches: loam

Bw - 10 to 27 inches: gravelly loam

Bx1 - 27 to 40 inches: gravelly fine sandy loam

Bx2 - 40 to 67 inches: gravelly fine sandy loam

BCx - 67 to 83 inches: gravelly sandy loam

Custom Soil Resource Report

Properties and qualities

Slope: 3 to 8 percent

Depth to restrictive feature: 20 to 36 inches to fragipan

Drainage class: Well drained

Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water capacity: Low (about 4.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: C

Ecological site: F144AY037MA - Moist Dense Till Uplands

Hydric soil rating: No

Minor Components

Udorthents, boonton red sandstone lowland substratum

Percent of map unit: 10 percent

Landform: Ground moraines

Landform position (three-dimensional): Lower third of mountainflank

Down-slope shape: Convex

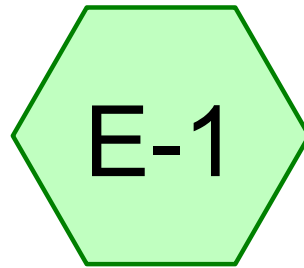
Across-slope shape: Linear

Hydric soil rating: No

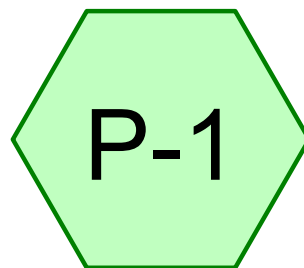


APPENDIX C-I

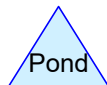
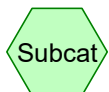
- **HYDROCAD ROUTING DIAGRAM**
- **2-YEAR HYDROGRAPHS**
- **10-YEAR HYDROGRAPHS**
- **100-YEAR HYDROGRAPH**
- **2-YEAR, 10 YEAR, 25 YEAR & 100-YEAR
COMPARISON HYDROGRAPHS**



Existing Drainage to Franklin Avenue Municipal System



Proposed Drainage to Franklin Avenue Municipal System



Summary for Subcatchment E-1: Existing Drainage to Franklin Avenue Municipal System

Runoff = 0.68 cfs @ 12.13 hrs, Volume= 2,425 cf, Depth= 2.91"

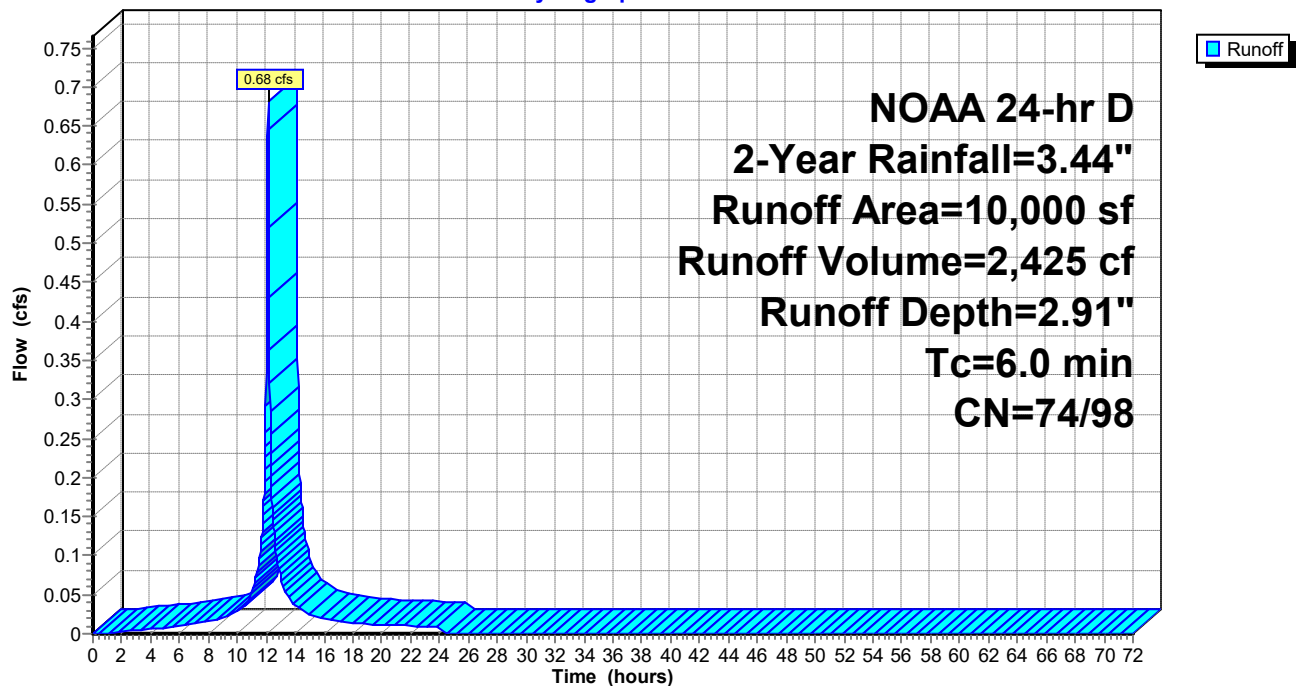
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
NOAA 24-hr D 2-Year Rainfall=3.44"

	Area (sf)	CN	Description
*	8,524	98	Impervious Area
	1,476	74	>75% Grass cover, Good, HSG C
	10,000	94	Weighted Average
	1,476	74	14.76% Pervious Area
	8,524	98	85.24% Impervious Area

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

Subcatchment E-1: Existing Drainage to Franklin Avenue Municipal System

Hydrograph



2024-10-08_HydroCAD Calcs

NOAA 24-hr D 2-Year Rainfall=3.44"

Prepared by Stonefield Engineering & Design

Printed 10/8/2024

HydroCAD® 10.20-5a s/n 10626 © 2023 HydroCAD Software Solutions LLC

Page 3

Hydrograph for Subcatchment E-1: Existing Drainage to Franklin Avenue Municipal System

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	0.00
0.20	0.01	0.00	0.00	0.00
0.40	0.02	0.00	0.00	0.00
0.60	0.02	0.00	0.00	0.00
0.80	0.03	0.00	0.00	0.00
1.00	0.04	0.00	0.00	0.00
1.20	0.05	0.00	0.00	0.00
1.40	0.06	0.00	0.00	0.00
1.60	0.06	0.00	0.00	0.00
1.80	0.07	0.00	0.00	0.00
2.00	0.08	0.00	0.01	0.00
2.20	0.09	0.00	0.01	0.00
2.40	0.10	0.00	0.01	0.00
2.60	0.11	0.00	0.02	0.00
2.80	0.12	0.00	0.02	0.00
3.00	0.13	0.00	0.03	0.00
3.20	0.14	0.00	0.03	0.01
3.40	0.15	0.00	0.04	0.01
3.60	0.16	0.00	0.04	0.01
3.80	0.17	0.00	0.05	0.01
4.00	0.18	0.00	0.06	0.01
4.20	0.19	0.00	0.06	0.01
4.40	0.20	0.00	0.07	0.01
4.60	0.21	0.00	0.08	0.01
4.80	0.22	0.00	0.09	0.01
5.00	0.24	0.00	0.09	0.01
5.20	0.25	0.00	0.10	0.01
5.40	0.26	0.00	0.11	0.01
5.60	0.27	0.00	0.12	0.01
5.80	0.28	0.00	0.13	0.01
6.00	0.29	0.00	0.14	0.01
6.20	0.31	0.00	0.15	0.01
6.40	0.32	0.00	0.16	0.01
6.60	0.33	0.00	0.17	0.01
6.80	0.35	0.00	0.18	0.01
7.00	0.36	0.00	0.20	0.01
7.20	0.38	0.00	0.21	0.01
7.40	0.39	0.00	0.22	0.01
7.60	0.41	0.00	0.24	0.01
7.80	0.43	0.00	0.25	0.02
8.00	0.45	0.00	0.27	0.02
8.20	0.47	0.00	0.29	0.02
8.40	0.48	0.00	0.30	0.02
8.60	0.50	0.00	0.32	0.02
8.80	0.52	0.00	0.34	0.02
9.00	0.55	0.00	0.36	0.02
9.20	0.57	0.00	0.38	0.02
9.40	0.59	0.00	0.40	0.02
9.60	0.62	0.00	0.43	0.03
9.80	0.65	0.00	0.46	0.03
10.00	0.68	0.00	0.49	0.03
10.20	0.72	0.00	0.52	0.03

2024-10-08_HydroCAD Calcs

NOAA 24-hr D 2-Year Rainfall=3.44"

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Hydrograph for Subcatchment E-1: Existing Drainage to Franklin Avenue Municipal System (continued)

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
10.40	0.75	0.00	0.55	0.03
10.60	0.79	0.00	0.59	0.04
10.80	0.84	0.01	0.64	0.05
11.00	0.89	0.01	0.69	0.05
11.20	0.96	0.02	0.75	0.07
11.40	1.04	0.03	0.83	0.08
11.60	1.15	0.05	0.94	0.11
11.80	1.31	0.09	1.09	0.16
12.00	1.65	0.20	1.43	0.37
12.20	2.13	0.41	1.91	0.43
12.40	2.29	0.49	2.06	0.16
12.60	2.40	0.55	2.17	0.11
12.80	2.48	0.60	2.25	0.09
13.00	2.55	0.63	2.32	0.07
13.20	2.60	0.67	2.37	0.06
13.40	2.65	0.69	2.42	0.05
13.60	2.69	0.72	2.46	0.04
13.80	2.72	0.74	2.49	0.04
14.00	2.76	0.76	2.53	0.04
14.20	2.79	0.78	2.56	0.03
14.40	2.82	0.80	2.59	0.03
14.60	2.85	0.81	2.62	0.03
14.80	2.87	0.83	2.64	0.03
15.00	2.89	0.84	2.66	0.02
15.20	2.92	0.85	2.68	0.02
15.40	2.94	0.87	2.70	0.02
15.60	2.96	0.88	2.72	0.02
15.80	2.97	0.89	2.74	0.02
16.00	2.99	0.90	2.76	0.02
16.20	3.01	0.92	2.78	0.02
16.40	3.03	0.93	2.80	0.02
16.60	3.05	0.94	2.81	0.02
16.80	3.06	0.95	2.83	0.02
17.00	3.08	0.96	2.85	0.02
17.20	3.09	0.97	2.86	0.02
17.40	3.11	0.98	2.87	0.02
17.60	3.12	0.99	2.89	0.01
17.80	3.13	0.99	2.90	0.01
18.00	3.15	1.00	2.91	0.01
18.20	3.16	1.01	2.93	0.01
18.40	3.17	1.02	2.94	0.01
18.60	3.18	1.03	2.95	0.01
18.80	3.19	1.03	2.96	0.01
19.00	3.20	1.04	2.97	0.01
19.20	3.22	1.05	2.98	0.01
19.40	3.23	1.06	2.99	0.01
19.60	3.24	1.06	3.01	0.01
19.80	3.25	1.07	3.02	0.01
20.00	3.26	1.08	3.03	0.01
20.20	3.27	1.08	3.04	0.01
20.40	3.28	1.09	3.05	0.01
20.60	3.29	1.10	3.06	0.01

2024-10-08_HydroCAD Calcs

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Hydrograph for Subcatchment E-1: Existing Drainage to Franklin Avenue Municipal System (continued)

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
20.80	3.30	1.10	3.07	0.01
21.00	3.31	1.11	3.08	0.01
21.20	3.32	1.12	3.09	0.01
21.40	3.33	1.12	3.10	0.01
21.60	3.34	1.13	3.11	0.01
21.80	3.35	1.14	3.12	0.01
22.00	3.36	1.14	3.12	0.01
22.20	3.37	1.15	3.13	0.01
22.40	3.38	1.15	3.14	0.01
22.60	3.38	1.16	3.15	0.01
22.80	3.39	1.17	3.16	0.01
23.00	3.40	1.17	3.17	0.01
23.20	3.41	1.18	3.18	0.01
23.40	3.42	1.18	3.18	0.01
23.60	3.42	1.19	3.19	0.01
23.80	3.43	1.19	3.20	0.01
24.00	3.44	1.20	3.21	0.01
24.20	3.44	1.20	3.21	0.00
24.40	3.44	1.20	3.21	0.00
24.60	3.44	1.20	3.21	0.00
24.80	3.44	1.20	3.21	0.00
25.00	3.44	1.20	3.21	0.00
25.20	3.44	1.20	3.21	0.00
25.40	3.44	1.20	3.21	0.00
25.60	3.44	1.20	3.21	0.00
25.80	3.44	1.20	3.21	0.00
26.00	3.44	1.20	3.21	0.00
26.20	3.44	1.20	3.21	0.00
26.40	3.44	1.20	3.21	0.00
26.60	3.44	1.20	3.21	0.00
26.80	3.44	1.20	3.21	0.00
27.00	3.44	1.20	3.21	0.00
27.20	3.44	1.20	3.21	0.00
27.40	3.44	1.20	3.21	0.00
27.60	3.44	1.20	3.21	0.00
27.80	3.44	1.20	3.21	0.00
28.00	3.44	1.20	3.21	0.00
28.20	3.44	1.20	3.21	0.00
28.40	3.44	1.20	3.21	0.00
28.60	3.44	1.20	3.21	0.00
28.80	3.44	1.20	3.21	0.00
29.00	3.44	1.20	3.21	0.00
29.20	3.44	1.20	3.21	0.00
29.40	3.44	1.20	3.21	0.00
29.60	3.44	1.20	3.21	0.00
29.80	3.44	1.20	3.21	0.00
30.00	3.44	1.20	3.21	0.00
30.20	3.44	1.20	3.21	0.00
30.40	3.44	1.20	3.21	0.00
30.60	3.44	1.20	3.21	0.00
30.80	3.44	1.20	3.21	0.00
31.00	3.44	1.20	3.21	0.00

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Hydrograph for Subcatchment E-1: Existing Drainage to Franklin Avenue Municipal System (continued)

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
31.20	3.44	1.20	3.21	0.00
31.40	3.44	1.20	3.21	0.00
31.60	3.44	1.20	3.21	0.00
31.80	3.44	1.20	3.21	0.00
32.00	3.44	1.20	3.21	0.00
32.20	3.44	1.20	3.21	0.00
32.40	3.44	1.20	3.21	0.00
32.60	3.44	1.20	3.21	0.00
32.80	3.44	1.20	3.21	0.00
33.00	3.44	1.20	3.21	0.00
33.20	3.44	1.20	3.21	0.00
33.40	3.44	1.20	3.21	0.00
33.60	3.44	1.20	3.21	0.00
33.80	3.44	1.20	3.21	0.00
34.00	3.44	1.20	3.21	0.00
34.20	3.44	1.20	3.21	0.00
34.40	3.44	1.20	3.21	0.00
34.60	3.44	1.20	3.21	0.00
34.80	3.44	1.20	3.21	0.00
35.00	3.44	1.20	3.21	0.00
35.20	3.44	1.20	3.21	0.00
35.40	3.44	1.20	3.21	0.00
35.60	3.44	1.20	3.21	0.00
35.80	3.44	1.20	3.21	0.00
36.00	3.44	1.20	3.21	0.00
36.20	3.44	1.20	3.21	0.00
36.40	3.44	1.20	3.21	0.00
36.60	3.44	1.20	3.21	0.00
36.80	3.44	1.20	3.21	0.00
37.00	3.44	1.20	3.21	0.00
37.20	3.44	1.20	3.21	0.00
37.40	3.44	1.20	3.21	0.00
37.60	3.44	1.20	3.21	0.00
37.80	3.44	1.20	3.21	0.00
38.00	3.44	1.20	3.21	0.00
38.20	3.44	1.20	3.21	0.00
38.40	3.44	1.20	3.21	0.00
38.60	3.44	1.20	3.21	0.00
38.80	3.44	1.20	3.21	0.00
39.00	3.44	1.20	3.21	0.00
39.20	3.44	1.20	3.21	0.00
39.40	3.44	1.20	3.21	0.00
39.60	3.44	1.20	3.21	0.00
39.80	3.44	1.20	3.21	0.00
40.00	3.44	1.20	3.21	0.00
40.20	3.44	1.20	3.21	0.00
40.40	3.44	1.20	3.21	0.00
40.60	3.44	1.20	3.21	0.00
40.80	3.44	1.20	3.21	0.00
41.00	3.44	1.20	3.21	0.00
41.20	3.44	1.20	3.21	0.00
41.40	3.44	1.20	3.21	0.00

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Hydrograph for Subcatchment E-1: Existing Drainage to Franklin Avenue Municipal System (continued)

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
41.60	3.44	1.20	3.21	0.00
41.80	3.44	1.20	3.21	0.00
42.00	3.44	1.20	3.21	0.00
42.20	3.44	1.20	3.21	0.00
42.40	3.44	1.20	3.21	0.00
42.60	3.44	1.20	3.21	0.00
42.80	3.44	1.20	3.21	0.00
43.00	3.44	1.20	3.21	0.00
43.20	3.44	1.20	3.21	0.00
43.40	3.44	1.20	3.21	0.00
43.60	3.44	1.20	3.21	0.00
43.80	3.44	1.20	3.21	0.00
44.00	3.44	1.20	3.21	0.00
44.20	3.44	1.20	3.21	0.00
44.40	3.44	1.20	3.21	0.00
44.60	3.44	1.20	3.21	0.00
44.80	3.44	1.20	3.21	0.00
45.00	3.44	1.20	3.21	0.00
45.20	3.44	1.20	3.21	0.00
45.40	3.44	1.20	3.21	0.00
45.60	3.44	1.20	3.21	0.00
45.80	3.44	1.20	3.21	0.00
46.00	3.44	1.20	3.21	0.00
46.20	3.44	1.20	3.21	0.00
46.40	3.44	1.20	3.21	0.00
46.60	3.44	1.20	3.21	0.00
46.80	3.44	1.20	3.21	0.00
47.00	3.44	1.20	3.21	0.00
47.20	3.44	1.20	3.21	0.00
47.40	3.44	1.20	3.21	0.00
47.60	3.44	1.20	3.21	0.00
47.80	3.44	1.20	3.21	0.00
48.00	3.44	1.20	3.21	0.00
48.20	3.44	1.20	3.21	0.00
48.40	3.44	1.20	3.21	0.00
48.60	3.44	1.20	3.21	0.00
48.80	3.44	1.20	3.21	0.00
49.00	3.44	1.20	3.21	0.00
49.20	3.44	1.20	3.21	0.00
49.40	3.44	1.20	3.21	0.00
49.60	3.44	1.20	3.21	0.00
49.80	3.44	1.20	3.21	0.00
50.00	3.44	1.20	3.21	0.00
50.20	3.44	1.20	3.21	0.00
50.40	3.44	1.20	3.21	0.00
50.60	3.44	1.20	3.21	0.00
50.80	3.44	1.20	3.21	0.00
51.00	3.44	1.20	3.21	0.00
51.20	3.44	1.20	3.21	0.00
51.40	3.44	1.20	3.21	0.00
51.60	3.44	1.20	3.21	0.00
51.80	3.44	1.20	3.21	0.00

2024-10-08_HydroCAD Calcs

NOAA 24-hr D 2-Year Rainfall=3.44"

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Hydrograph for Subcatchment E-1: Existing Drainage to Franklin Avenue Municipal System (continued)

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
52.00	3.44	1.20	3.21	0.00
52.20	3.44	1.20	3.21	0.00
52.40	3.44	1.20	3.21	0.00
52.60	3.44	1.20	3.21	0.00
52.80	3.44	1.20	3.21	0.00
53.00	3.44	1.20	3.21	0.00
53.20	3.44	1.20	3.21	0.00
53.40	3.44	1.20	3.21	0.00
53.60	3.44	1.20	3.21	0.00
53.80	3.44	1.20	3.21	0.00
54.00	3.44	1.20	3.21	0.00
54.20	3.44	1.20	3.21	0.00
54.40	3.44	1.20	3.21	0.00
54.60	3.44	1.20	3.21	0.00
54.80	3.44	1.20	3.21	0.00
55.00	3.44	1.20	3.21	0.00
55.20	3.44	1.20	3.21	0.00
55.40	3.44	1.20	3.21	0.00
55.60	3.44	1.20	3.21	0.00
55.80	3.44	1.20	3.21	0.00
56.00	3.44	1.20	3.21	0.00
56.20	3.44	1.20	3.21	0.00
56.40	3.44	1.20	3.21	0.00
56.60	3.44	1.20	3.21	0.00
56.80	3.44	1.20	3.21	0.00
57.00	3.44	1.20	3.21	0.00
57.20	3.44	1.20	3.21	0.00
57.40	3.44	1.20	3.21	0.00
57.60	3.44	1.20	3.21	0.00
57.80	3.44	1.20	3.21	0.00
58.00	3.44	1.20	3.21	0.00
58.20	3.44	1.20	3.21	0.00
58.40	3.44	1.20	3.21	0.00
58.60	3.44	1.20	3.21	0.00
58.80	3.44	1.20	3.21	0.00
59.00	3.44	1.20	3.21	0.00
59.20	3.44	1.20	3.21	0.00
59.40	3.44	1.20	3.21	0.00
59.60	3.44	1.20	3.21	0.00
59.80	3.44	1.20	3.21	0.00
60.00	3.44	1.20	3.21	0.00
60.20	3.44	1.20	3.21	0.00
60.40	3.44	1.20	3.21	0.00
60.60	3.44	1.20	3.21	0.00
60.80	3.44	1.20	3.21	0.00
61.00	3.44	1.20	3.21	0.00
61.20	3.44	1.20	3.21	0.00
61.40	3.44	1.20	3.21	0.00
61.60	3.44	1.20	3.21	0.00
61.80	3.44	1.20	3.21	0.00
62.00	3.44	1.20	3.21	0.00
62.20	3.44	1.20	3.21	0.00

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Hydrograph for Subcatchment E-1: Existing Drainage to Franklin Avenue Municipal System (continued)

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
62.40	3.44	1.20	3.21	0.00
62.60	3.44	1.20	3.21	0.00
62.80	3.44	1.20	3.21	0.00
63.00	3.44	1.20	3.21	0.00
63.20	3.44	1.20	3.21	0.00
63.40	3.44	1.20	3.21	0.00
63.60	3.44	1.20	3.21	0.00
63.80	3.44	1.20	3.21	0.00
64.00	3.44	1.20	3.21	0.00
64.20	3.44	1.20	3.21	0.00
64.40	3.44	1.20	3.21	0.00
64.60	3.44	1.20	3.21	0.00
64.80	3.44	1.20	3.21	0.00
65.00	3.44	1.20	3.21	0.00
65.20	3.44	1.20	3.21	0.00
65.40	3.44	1.20	3.21	0.00
65.60	3.44	1.20	3.21	0.00
65.80	3.44	1.20	3.21	0.00
66.00	3.44	1.20	3.21	0.00
66.20	3.44	1.20	3.21	0.00
66.40	3.44	1.20	3.21	0.00
66.60	3.44	1.20	3.21	0.00
66.80	3.44	1.20	3.21	0.00
67.00	3.44	1.20	3.21	0.00
67.20	3.44	1.20	3.21	0.00
67.40	3.44	1.20	3.21	0.00
67.60	3.44	1.20	3.21	0.00
67.80	3.44	1.20	3.21	0.00
68.00	3.44	1.20	3.21	0.00
68.20	3.44	1.20	3.21	0.00
68.40	3.44	1.20	3.21	0.00
68.60	3.44	1.20	3.21	0.00
68.80	3.44	1.20	3.21	0.00
69.00	3.44	1.20	3.21	0.00
69.20	3.44	1.20	3.21	0.00
69.40	3.44	1.20	3.21	0.00
69.60	3.44	1.20	3.21	0.00
69.80	3.44	1.20	3.21	0.00
70.00	3.44	1.20	3.21	0.00
70.20	3.44	1.20	3.21	0.00
70.40	3.44	1.20	3.21	0.00
70.60	3.44	1.20	3.21	0.00
70.80	3.44	1.20	3.21	0.00
71.00	3.44	1.20	3.21	0.00
71.20	3.44	1.20	3.21	0.00
71.40	3.44	1.20	3.21	0.00
71.60	3.44	1.20	3.21	0.00
71.80	3.44	1.20	3.21	0.00
72.00	3.44	1.20	3.21	0.00

Summary for Subcatchment P-1: Proposed Drainage to Franklin Avenue Municipal System

Runoff = 0.68 cfs @ 12.13 hrs, Volume= 2,396 cf, Depth= 2.87"

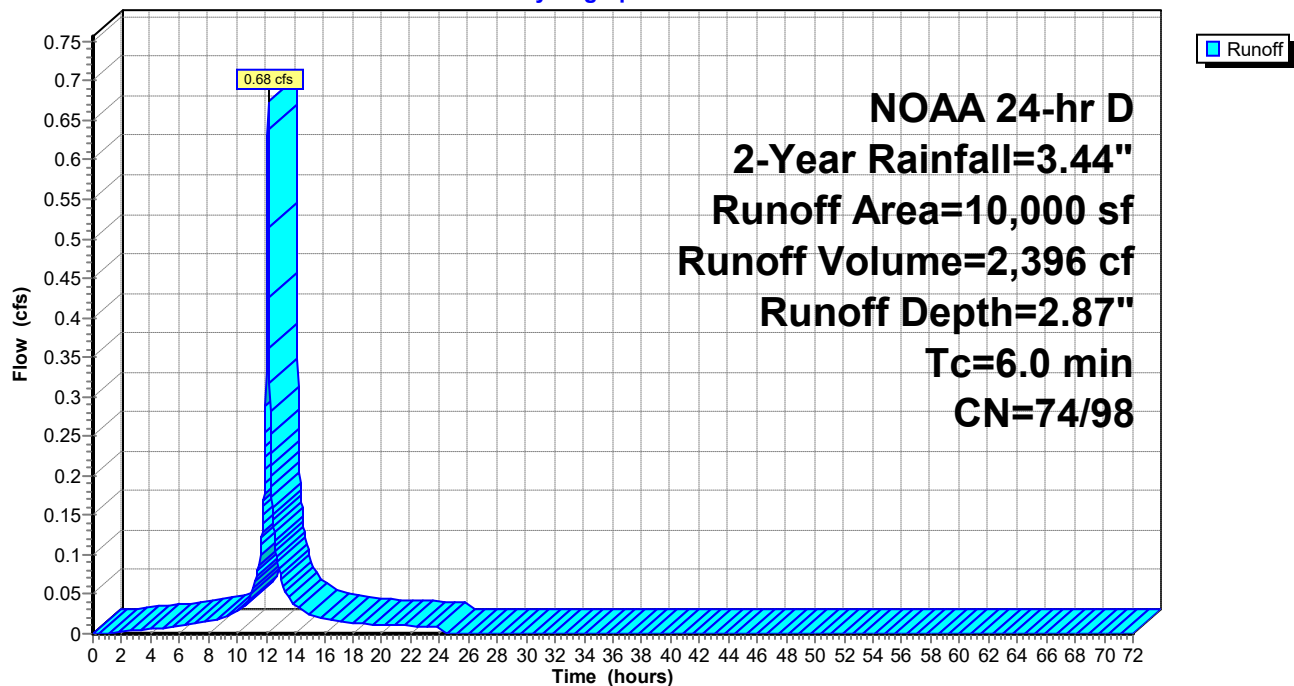
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
NOAA 24-hr D 2-Year Rainfall=3.44"

	Area (sf)	CN	Description
*	8,348	98	Impervious Area
	1,652	74	>75% Grass cover, Good, HSG C
	10,000	94	Weighted Average
	1,652	74	16.52% Pervious Area
	8,348	98	83.48% Impervious Area

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

Subcatchment P-1: Proposed Drainage to Franklin Avenue Municipal System

Hydrograph



2024-10-08_HydroCAD Calcs

NOAA 24-hr D 2-Year Rainfall=3.44"

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Hydrograph for Subcatchment P-1: Proposed Drainage to Franklin Avenue Municipal System

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	0.00
0.20	0.01	0.00	0.00	0.00
0.40	0.02	0.00	0.00	0.00
0.60	0.02	0.00	0.00	0.00
0.80	0.03	0.00	0.00	0.00
1.00	0.04	0.00	0.00	0.00
1.20	0.05	0.00	0.00	0.00
1.40	0.06	0.00	0.00	0.00
1.60	0.06	0.00	0.00	0.00
1.80	0.07	0.00	0.00	0.00
2.00	0.08	0.00	0.01	0.00
2.20	0.09	0.00	0.01	0.00
2.40	0.10	0.00	0.01	0.00
2.60	0.11	0.00	0.02	0.00
2.80	0.12	0.00	0.02	0.00
3.00	0.13	0.00	0.03	0.00
3.20	0.14	0.00	0.03	0.01
3.40	0.15	0.00	0.04	0.01
3.60	0.16	0.00	0.04	0.01
3.80	0.17	0.00	0.05	0.01
4.00	0.18	0.00	0.06	0.01
4.20	0.19	0.00	0.06	0.01
4.40	0.20	0.00	0.07	0.01
4.60	0.21	0.00	0.08	0.01
4.80	0.22	0.00	0.09	0.01
5.00	0.24	0.00	0.09	0.01
5.20	0.25	0.00	0.10	0.01
5.40	0.26	0.00	0.11	0.01
5.60	0.27	0.00	0.12	0.01
5.80	0.28	0.00	0.13	0.01
6.00	0.29	0.00	0.14	0.01
6.20	0.31	0.00	0.15	0.01
6.40	0.32	0.00	0.16	0.01
6.60	0.33	0.00	0.17	0.01
6.80	0.35	0.00	0.18	0.01
7.00	0.36	0.00	0.20	0.01
7.20	0.38	0.00	0.21	0.01
7.40	0.39	0.00	0.22	0.01
7.60	0.41	0.00	0.24	0.01
7.80	0.43	0.00	0.25	0.01
8.00	0.45	0.00	0.27	0.02
8.20	0.47	0.00	0.29	0.02
8.40	0.48	0.00	0.30	0.02
8.60	0.50	0.00	0.32	0.02
8.80	0.52	0.00	0.34	0.02
9.00	0.55	0.00	0.36	0.02
9.20	0.57	0.00	0.38	0.02
9.40	0.59	0.00	0.40	0.02
9.60	0.62	0.00	0.43	0.02
9.80	0.65	0.00	0.46	0.03
10.00	0.68	0.00	0.49	0.03
10.20	0.72	0.00	0.52	0.03

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Hydrograph for Subcatchment P-1: Proposed Drainage to Franklin Avenue Municipal System (continued)

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
10.40	0.75	0.00	0.55	0.03
10.60	0.79	0.00	0.59	0.04
10.80	0.84	0.01	0.64	0.04
11.00	0.89	0.01	0.69	0.05
11.20	0.96	0.02	0.75	0.07
11.40	1.04	0.03	0.83	0.08
11.60	1.15	0.05	0.94	0.11
11.80	1.31	0.09	1.09	0.16
12.00	1.65	0.20	1.43	0.37
12.20	2.13	0.41	1.91	0.43
12.40	2.29	0.49	2.06	0.16
12.60	2.40	0.55	2.17	0.11
12.80	2.48	0.60	2.25	0.09
13.00	2.55	0.63	2.32	0.07
13.20	2.60	0.67	2.37	0.06
13.40	2.65	0.69	2.42	0.05
13.60	2.69	0.72	2.46	0.04
13.80	2.72	0.74	2.49	0.04
14.00	2.76	0.76	2.53	0.04
14.20	2.79	0.78	2.56	0.03
14.40	2.82	0.80	2.59	0.03
14.60	2.85	0.81	2.62	0.03
14.80	2.87	0.83	2.64	0.03
15.00	2.89	0.84	2.66	0.02
15.20	2.92	0.85	2.68	0.02
15.40	2.94	0.87	2.70	0.02
15.60	2.96	0.88	2.72	0.02
15.80	2.97	0.89	2.74	0.02
16.00	2.99	0.90	2.76	0.02
16.20	3.01	0.92	2.78	0.02
16.40	3.03	0.93	2.80	0.02
16.60	3.05	0.94	2.81	0.02
16.80	3.06	0.95	2.83	0.02
17.00	3.08	0.96	2.85	0.02
17.20	3.09	0.97	2.86	0.02
17.40	3.11	0.98	2.87	0.02
17.60	3.12	0.99	2.89	0.01
17.80	3.13	0.99	2.90	0.01
18.00	3.15	1.00	2.91	0.01
18.20	3.16	1.01	2.93	0.01
18.40	3.17	1.02	2.94	0.01
18.60	3.18	1.03	2.95	0.01
18.80	3.19	1.03	2.96	0.01
19.00	3.20	1.04	2.97	0.01
19.20	3.22	1.05	2.98	0.01
19.40	3.23	1.06	2.99	0.01
19.60	3.24	1.06	3.01	0.01
19.80	3.25	1.07	3.02	0.01
20.00	3.26	1.08	3.03	0.01
20.20	3.27	1.08	3.04	0.01
20.40	3.28	1.09	3.05	0.01
20.60	3.29	1.10	3.06	0.01

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Hydrograph for Subcatchment P-1: Proposed Drainage to Franklin Avenue Municipal System (continued)

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
20.80	3.30	1.10	3.07	0.01
21.00	3.31	1.11	3.08	0.01
21.20	3.32	1.12	3.09	0.01
21.40	3.33	1.12	3.10	0.01
21.60	3.34	1.13	3.11	0.01
21.80	3.35	1.14	3.12	0.01
22.00	3.36	1.14	3.12	0.01
22.20	3.37	1.15	3.13	0.01
22.40	3.38	1.15	3.14	0.01
22.60	3.38	1.16	3.15	0.01
22.80	3.39	1.17	3.16	0.01
23.00	3.40	1.17	3.17	0.01
23.20	3.41	1.18	3.18	0.01
23.40	3.42	1.18	3.18	0.01
23.60	3.42	1.19	3.19	0.01
23.80	3.43	1.19	3.20	0.01
24.00	3.44	1.20	3.21	0.01
24.20	3.44	1.20	3.21	0.00
24.40	3.44	1.20	3.21	0.00
24.60	3.44	1.20	3.21	0.00
24.80	3.44	1.20	3.21	0.00
25.00	3.44	1.20	3.21	0.00
25.20	3.44	1.20	3.21	0.00
25.40	3.44	1.20	3.21	0.00
25.60	3.44	1.20	3.21	0.00
25.80	3.44	1.20	3.21	0.00
26.00	3.44	1.20	3.21	0.00
26.20	3.44	1.20	3.21	0.00
26.40	3.44	1.20	3.21	0.00
26.60	3.44	1.20	3.21	0.00
26.80	3.44	1.20	3.21	0.00
27.00	3.44	1.20	3.21	0.00
27.20	3.44	1.20	3.21	0.00
27.40	3.44	1.20	3.21	0.00
27.60	3.44	1.20	3.21	0.00
27.80	3.44	1.20	3.21	0.00
28.00	3.44	1.20	3.21	0.00
28.20	3.44	1.20	3.21	0.00
28.40	3.44	1.20	3.21	0.00
28.60	3.44	1.20	3.21	0.00
28.80	3.44	1.20	3.21	0.00
29.00	3.44	1.20	3.21	0.00
29.20	3.44	1.20	3.21	0.00
29.40	3.44	1.20	3.21	0.00
29.60	3.44	1.20	3.21	0.00
29.80	3.44	1.20	3.21	0.00
30.00	3.44	1.20	3.21	0.00
30.20	3.44	1.20	3.21	0.00
30.40	3.44	1.20	3.21	0.00
30.60	3.44	1.20	3.21	0.00
30.80	3.44	1.20	3.21	0.00
31.00	3.44	1.20	3.21	0.00

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Hydrograph for Subcatchment P-1: Proposed Drainage to Franklin Avenue Municipal System (continued)

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
31.20	3.44	1.20	3.21	0.00
31.40	3.44	1.20	3.21	0.00
31.60	3.44	1.20	3.21	0.00
31.80	3.44	1.20	3.21	0.00
32.00	3.44	1.20	3.21	0.00
32.20	3.44	1.20	3.21	0.00
32.40	3.44	1.20	3.21	0.00
32.60	3.44	1.20	3.21	0.00
32.80	3.44	1.20	3.21	0.00
33.00	3.44	1.20	3.21	0.00
33.20	3.44	1.20	3.21	0.00
33.40	3.44	1.20	3.21	0.00
33.60	3.44	1.20	3.21	0.00
33.80	3.44	1.20	3.21	0.00
34.00	3.44	1.20	3.21	0.00
34.20	3.44	1.20	3.21	0.00
34.40	3.44	1.20	3.21	0.00
34.60	3.44	1.20	3.21	0.00
34.80	3.44	1.20	3.21	0.00
35.00	3.44	1.20	3.21	0.00
35.20	3.44	1.20	3.21	0.00
35.40	3.44	1.20	3.21	0.00
35.60	3.44	1.20	3.21	0.00
35.80	3.44	1.20	3.21	0.00
36.00	3.44	1.20	3.21	0.00
36.20	3.44	1.20	3.21	0.00
36.40	3.44	1.20	3.21	0.00
36.60	3.44	1.20	3.21	0.00
36.80	3.44	1.20	3.21	0.00
37.00	3.44	1.20	3.21	0.00
37.20	3.44	1.20	3.21	0.00
37.40	3.44	1.20	3.21	0.00
37.60	3.44	1.20	3.21	0.00
37.80	3.44	1.20	3.21	0.00
38.00	3.44	1.20	3.21	0.00
38.20	3.44	1.20	3.21	0.00
38.40	3.44	1.20	3.21	0.00
38.60	3.44	1.20	3.21	0.00
38.80	3.44	1.20	3.21	0.00
39.00	3.44	1.20	3.21	0.00
39.20	3.44	1.20	3.21	0.00
39.40	3.44	1.20	3.21	0.00
39.60	3.44	1.20	3.21	0.00
39.80	3.44	1.20	3.21	0.00
40.00	3.44	1.20	3.21	0.00
40.20	3.44	1.20	3.21	0.00
40.40	3.44	1.20	3.21	0.00
40.60	3.44	1.20	3.21	0.00
40.80	3.44	1.20	3.21	0.00
41.00	3.44	1.20	3.21	0.00
41.20	3.44	1.20	3.21	0.00
41.40	3.44	1.20	3.21	0.00

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Hydrograph for Subcatchment P-1: Proposed Drainage to Franklin Avenue Municipal System (continued)

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
41.60	3.44	1.20	3.21	0.00
41.80	3.44	1.20	3.21	0.00
42.00	3.44	1.20	3.21	0.00
42.20	3.44	1.20	3.21	0.00
42.40	3.44	1.20	3.21	0.00
42.60	3.44	1.20	3.21	0.00
42.80	3.44	1.20	3.21	0.00
43.00	3.44	1.20	3.21	0.00
43.20	3.44	1.20	3.21	0.00
43.40	3.44	1.20	3.21	0.00
43.60	3.44	1.20	3.21	0.00
43.80	3.44	1.20	3.21	0.00
44.00	3.44	1.20	3.21	0.00
44.20	3.44	1.20	3.21	0.00
44.40	3.44	1.20	3.21	0.00
44.60	3.44	1.20	3.21	0.00
44.80	3.44	1.20	3.21	0.00
45.00	3.44	1.20	3.21	0.00
45.20	3.44	1.20	3.21	0.00
45.40	3.44	1.20	3.21	0.00
45.60	3.44	1.20	3.21	0.00
45.80	3.44	1.20	3.21	0.00
46.00	3.44	1.20	3.21	0.00
46.20	3.44	1.20	3.21	0.00
46.40	3.44	1.20	3.21	0.00
46.60	3.44	1.20	3.21	0.00
46.80	3.44	1.20	3.21	0.00
47.00	3.44	1.20	3.21	0.00
47.20	3.44	1.20	3.21	0.00
47.40	3.44	1.20	3.21	0.00
47.60	3.44	1.20	3.21	0.00
47.80	3.44	1.20	3.21	0.00
48.00	3.44	1.20	3.21	0.00
48.20	3.44	1.20	3.21	0.00
48.40	3.44	1.20	3.21	0.00
48.60	3.44	1.20	3.21	0.00
48.80	3.44	1.20	3.21	0.00
49.00	3.44	1.20	3.21	0.00
49.20	3.44	1.20	3.21	0.00
49.40	3.44	1.20	3.21	0.00
49.60	3.44	1.20	3.21	0.00
49.80	3.44	1.20	3.21	0.00
50.00	3.44	1.20	3.21	0.00
50.20	3.44	1.20	3.21	0.00
50.40	3.44	1.20	3.21	0.00
50.60	3.44	1.20	3.21	0.00
50.80	3.44	1.20	3.21	0.00
51.00	3.44	1.20	3.21	0.00
51.20	3.44	1.20	3.21	0.00
51.40	3.44	1.20	3.21	0.00
51.60	3.44	1.20	3.21	0.00
51.80	3.44	1.20	3.21	0.00

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Hydrograph for Subcatchment P-1: Proposed Drainage to Franklin Avenue Municipal System (continued)

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
52.00	3.44	1.20	3.21	0.00
52.20	3.44	1.20	3.21	0.00
52.40	3.44	1.20	3.21	0.00
52.60	3.44	1.20	3.21	0.00
52.80	3.44	1.20	3.21	0.00
53.00	3.44	1.20	3.21	0.00
53.20	3.44	1.20	3.21	0.00
53.40	3.44	1.20	3.21	0.00
53.60	3.44	1.20	3.21	0.00
53.80	3.44	1.20	3.21	0.00
54.00	3.44	1.20	3.21	0.00
54.20	3.44	1.20	3.21	0.00
54.40	3.44	1.20	3.21	0.00
54.60	3.44	1.20	3.21	0.00
54.80	3.44	1.20	3.21	0.00
55.00	3.44	1.20	3.21	0.00
55.20	3.44	1.20	3.21	0.00
55.40	3.44	1.20	3.21	0.00
55.60	3.44	1.20	3.21	0.00
55.80	3.44	1.20	3.21	0.00
56.00	3.44	1.20	3.21	0.00
56.20	3.44	1.20	3.21	0.00
56.40	3.44	1.20	3.21	0.00
56.60	3.44	1.20	3.21	0.00
56.80	3.44	1.20	3.21	0.00
57.00	3.44	1.20	3.21	0.00
57.20	3.44	1.20	3.21	0.00
57.40	3.44	1.20	3.21	0.00
57.60	3.44	1.20	3.21	0.00
57.80	3.44	1.20	3.21	0.00
58.00	3.44	1.20	3.21	0.00
58.20	3.44	1.20	3.21	0.00
58.40	3.44	1.20	3.21	0.00
58.60	3.44	1.20	3.21	0.00
58.80	3.44	1.20	3.21	0.00
59.00	3.44	1.20	3.21	0.00
59.20	3.44	1.20	3.21	0.00
59.40	3.44	1.20	3.21	0.00
59.60	3.44	1.20	3.21	0.00
59.80	3.44	1.20	3.21	0.00
60.00	3.44	1.20	3.21	0.00
60.20	3.44	1.20	3.21	0.00
60.40	3.44	1.20	3.21	0.00
60.60	3.44	1.20	3.21	0.00
60.80	3.44	1.20	3.21	0.00
61.00	3.44	1.20	3.21	0.00
61.20	3.44	1.20	3.21	0.00
61.40	3.44	1.20	3.21	0.00
61.60	3.44	1.20	3.21	0.00
61.80	3.44	1.20	3.21	0.00
62.00	3.44	1.20	3.21	0.00
62.20	3.44	1.20	3.21	0.00

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Hydrograph for Subcatchment P-1: Proposed Drainage to Franklin Avenue Municipal System (continued)

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
62.40	3.44	1.20	3.21	0.00
62.60	3.44	1.20	3.21	0.00
62.80	3.44	1.20	3.21	0.00
63.00	3.44	1.20	3.21	0.00
63.20	3.44	1.20	3.21	0.00
63.40	3.44	1.20	3.21	0.00
63.60	3.44	1.20	3.21	0.00
63.80	3.44	1.20	3.21	0.00
64.00	3.44	1.20	3.21	0.00
64.20	3.44	1.20	3.21	0.00
64.40	3.44	1.20	3.21	0.00
64.60	3.44	1.20	3.21	0.00
64.80	3.44	1.20	3.21	0.00
65.00	3.44	1.20	3.21	0.00
65.20	3.44	1.20	3.21	0.00
65.40	3.44	1.20	3.21	0.00
65.60	3.44	1.20	3.21	0.00
65.80	3.44	1.20	3.21	0.00
66.00	3.44	1.20	3.21	0.00
66.20	3.44	1.20	3.21	0.00
66.40	3.44	1.20	3.21	0.00
66.60	3.44	1.20	3.21	0.00
66.80	3.44	1.20	3.21	0.00
67.00	3.44	1.20	3.21	0.00
67.20	3.44	1.20	3.21	0.00
67.40	3.44	1.20	3.21	0.00
67.60	3.44	1.20	3.21	0.00
67.80	3.44	1.20	3.21	0.00
68.00	3.44	1.20	3.21	0.00
68.20	3.44	1.20	3.21	0.00
68.40	3.44	1.20	3.21	0.00
68.60	3.44	1.20	3.21	0.00
68.80	3.44	1.20	3.21	0.00
69.00	3.44	1.20	3.21	0.00
69.20	3.44	1.20	3.21	0.00
69.40	3.44	1.20	3.21	0.00
69.60	3.44	1.20	3.21	0.00
69.80	3.44	1.20	3.21	0.00
70.00	3.44	1.20	3.21	0.00
70.20	3.44	1.20	3.21	0.00
70.40	3.44	1.20	3.21	0.00
70.60	3.44	1.20	3.21	0.00
70.80	3.44	1.20	3.21	0.00
71.00	3.44	1.20	3.21	0.00
71.20	3.44	1.20	3.21	0.00
71.40	3.44	1.20	3.21	0.00
71.60	3.44	1.20	3.21	0.00
71.80	3.44	1.20	3.21	0.00
72.00	3.44	1.20	3.21	0.00

Summary for Subcatchment E-1: Existing Drainage to Franklin Avenue Municipal System

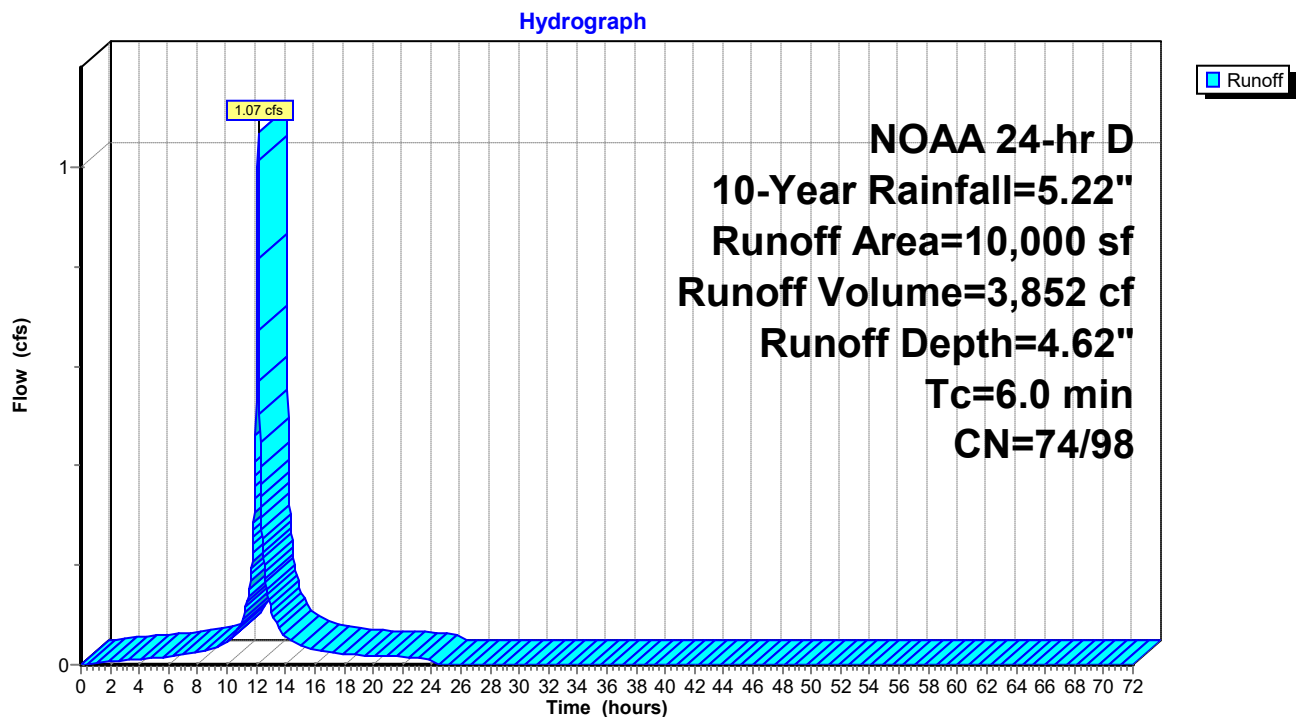
Runoff = 1.07 cfs @ 12.13 hrs, Volume= 3,852 cf, Depth= 4.62"

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
NOAA 24-hr D 10-Year Rainfall=5.22"

	Area (sf)	CN	Description
*	8,524	98	Impervious Area
	1,476	74	>75% Grass cover, Good, HSG C
	10,000	94	Weighted Average
	1,476	74	14.76% Pervious Area
	8,524	98	85.24% Impervious Area

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

Subcatchment E-1: Existing Drainage to Franklin Avenue Municipal System



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Hydrograph for Subcatchment E-1: Existing Drainage to Franklin Avenue Municipal System

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	0.00
0.20	0.01	0.00	0.00	0.00
0.40	0.02	0.00	0.00	0.00
0.60	0.04	0.00	0.00	0.00
0.80	0.05	0.00	0.00	0.00
1.00	0.06	0.00	0.00	0.00
1.20	0.07	0.00	0.00	0.00
1.40	0.09	0.00	0.01	0.00
1.60	0.10	0.00	0.01	0.00
1.80	0.11	0.00	0.02	0.01
2.00	0.13	0.00	0.02	0.01
2.20	0.14	0.00	0.03	0.01
2.40	0.15	0.00	0.04	0.01
2.60	0.17	0.00	0.05	0.01
2.80	0.18	0.00	0.06	0.01
3.00	0.20	0.00	0.07	0.01
3.20	0.21	0.00	0.08	0.01
3.40	0.23	0.00	0.09	0.01
3.60	0.24	0.00	0.10	0.01
3.80	0.26	0.00	0.11	0.01
4.00	0.27	0.00	0.12	0.01
4.20	0.29	0.00	0.14	0.01
4.40	0.31	0.00	0.15	0.01
4.60	0.32	0.00	0.16	0.01
4.80	0.34	0.00	0.18	0.01
5.00	0.36	0.00	0.19	0.01
5.20	0.37	0.00	0.21	0.01
5.40	0.39	0.00	0.22	0.01
5.60	0.41	0.00	0.24	0.02
5.80	0.43	0.00	0.25	0.02
6.00	0.45	0.00	0.27	0.02
6.20	0.46	0.00	0.29	0.02
6.40	0.48	0.00	0.30	0.02
6.60	0.51	0.00	0.32	0.02
6.80	0.53	0.00	0.34	0.02
7.00	0.55	0.00	0.36	0.02
7.20	0.57	0.00	0.39	0.02
7.40	0.60	0.00	0.41	0.02
7.60	0.62	0.00	0.43	0.02
7.80	0.65	0.00	0.46	0.02
8.00	0.68	0.00	0.48	0.03
8.20	0.71	0.00	0.51	0.03
8.40	0.73	0.00	0.54	0.03
8.60	0.77	0.00	0.57	0.03
8.80	0.80	0.00	0.59	0.03
9.00	0.83	0.00	0.63	0.03
9.20	0.86	0.01	0.66	0.03
9.40	0.90	0.01	0.70	0.04
9.60	0.94	0.02	0.74	0.04
9.80	0.99	0.02	0.78	0.04
10.00	1.03	0.03	0.82	0.05
10.20	1.09	0.04	0.87	0.05

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Hydrograph for Subcatchment E-1: Existing Drainage to Franklin Avenue Municipal System (continued)

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
10.40	1.14	0.05	0.93	0.05
10.60	1.20	0.06	0.99	0.06
10.80	1.27	0.08	1.06	0.07
11.00	1.36	0.10	1.14	0.09
11.20	1.46	0.13	1.24	0.11
11.40	1.58	0.18	1.36	0.13
11.60	1.75	0.24	1.53	0.18
11.80	1.99	0.34	1.76	0.26
12.00	2.50	0.61	2.27	0.59
12.20	3.23	1.06	3.00	0.67
12.40	3.47	1.22	3.24	0.25
12.60	3.64	1.33	3.40	0.17
12.80	3.76	1.42	3.53	0.14
13.00	3.86	1.50	3.63	0.11
13.20	3.95	1.56	3.71	0.09
13.40	4.02	1.61	3.78	0.08
13.60	4.08	1.65	3.84	0.07
13.80	4.13	1.70	3.90	0.06
14.00	4.19	1.73	3.95	0.06
14.20	4.23	1.77	4.00	0.05
14.40	4.28	1.80	4.04	0.05
14.60	4.32	1.83	4.08	0.05
14.80	4.36	1.86	4.12	0.04
15.00	4.39	1.89	4.16	0.04
15.20	4.42	1.91	4.19	0.04
15.40	4.45	1.94	4.22	0.03
15.60	4.49	1.96	4.25	0.03
15.80	4.51	1.98	4.28	0.03
16.00	4.54	2.01	4.31	0.03
16.20	4.57	2.03	4.33	0.03
16.40	4.60	2.05	4.36	0.03
16.60	4.62	2.07	4.39	0.03
16.80	4.65	2.09	4.41	0.03
17.00	4.67	2.10	4.43	0.03
17.20	4.69	2.12	4.46	0.03
17.40	4.71	2.14	4.48	0.02
17.60	4.74	2.16	4.50	0.02
17.80	4.76	2.17	4.52	0.02
18.00	4.77	2.19	4.54	0.02
18.20	4.79	2.20	4.56	0.02
18.40	4.81	2.21	4.57	0.02
18.60	4.83	2.23	4.59	0.02
18.80	4.85	2.24	4.61	0.02
19.00	4.86	2.26	4.63	0.02
19.20	4.88	2.27	4.64	0.02
19.40	4.90	2.28	4.66	0.02
19.60	4.91	2.30	4.68	0.02
19.80	4.93	2.31	4.69	0.02
20.00	4.95	2.32	4.71	0.02
20.20	4.96	2.33	4.73	0.02
20.40	4.98	2.35	4.74	0.02
20.60	4.99	2.36	4.76	0.02

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Hydrograph for Subcatchment E-1: Existing Drainage to Franklin Avenue Municipal System (continued)

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
20.80	5.01	2.37	4.77	0.02
21.00	5.02	2.38	4.79	0.02
21.20	5.04	2.39	4.80	0.02
21.40	5.05	2.41	4.82	0.02
21.60	5.07	2.42	4.83	0.02
21.80	5.08	2.43	4.84	0.02
22.00	5.09	2.44	4.86	0.02
22.20	5.11	2.45	4.87	0.02
22.40	5.12	2.46	4.88	0.01
22.60	5.13	2.47	4.90	0.01
22.80	5.15	2.48	4.91	0.01
23.00	5.16	2.49	4.92	0.01
23.20	5.17	2.50	4.94	0.01
23.40	5.18	2.51	4.95	0.01
23.60	5.20	2.52	4.96	0.01
23.80	5.21	2.53	4.97	0.01
24.00	5.22	2.54	4.98	0.01
24.20	5.22	2.54	4.98	0.00
24.40	5.22	2.54	4.98	0.00
24.60	5.22	2.54	4.98	0.00
24.80	5.22	2.54	4.98	0.00
25.00	5.22	2.54	4.98	0.00
25.20	5.22	2.54	4.98	0.00
25.40	5.22	2.54	4.98	0.00
25.60	5.22	2.54	4.98	0.00
25.80	5.22	2.54	4.98	0.00
26.00	5.22	2.54	4.98	0.00
26.20	5.22	2.54	4.98	0.00
26.40	5.22	2.54	4.98	0.00
26.60	5.22	2.54	4.98	0.00
26.80	5.22	2.54	4.98	0.00
27.00	5.22	2.54	4.98	0.00
27.20	5.22	2.54	4.98	0.00
27.40	5.22	2.54	4.98	0.00
27.60	5.22	2.54	4.98	0.00
27.80	5.22	2.54	4.98	0.00
28.00	5.22	2.54	4.98	0.00
28.20	5.22	2.54	4.98	0.00
28.40	5.22	2.54	4.98	0.00
28.60	5.22	2.54	4.98	0.00
28.80	5.22	2.54	4.98	0.00
29.00	5.22	2.54	4.98	0.00
29.20	5.22	2.54	4.98	0.00
29.40	5.22	2.54	4.98	0.00
29.60	5.22	2.54	4.98	0.00
29.80	5.22	2.54	4.98	0.00
30.00	5.22	2.54	4.98	0.00
30.20	5.22	2.54	4.98	0.00
30.40	5.22	2.54	4.98	0.00
30.60	5.22	2.54	4.98	0.00
30.80	5.22	2.54	4.98	0.00
31.00	5.22	2.54	4.98	0.00

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Hydrograph for Subcatchment E-1: Existing Drainage to Franklin Avenue Municipal System (continued)

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
31.20	5.22	2.54	4.98	0.00
31.40	5.22	2.54	4.98	0.00
31.60	5.22	2.54	4.98	0.00
31.80	5.22	2.54	4.98	0.00
32.00	5.22	2.54	4.98	0.00
32.20	5.22	2.54	4.98	0.00
32.40	5.22	2.54	4.98	0.00
32.60	5.22	2.54	4.98	0.00
32.80	5.22	2.54	4.98	0.00
33.00	5.22	2.54	4.98	0.00
33.20	5.22	2.54	4.98	0.00
33.40	5.22	2.54	4.98	0.00
33.60	5.22	2.54	4.98	0.00
33.80	5.22	2.54	4.98	0.00
34.00	5.22	2.54	4.98	0.00
34.20	5.22	2.54	4.98	0.00
34.40	5.22	2.54	4.98	0.00
34.60	5.22	2.54	4.98	0.00
34.80	5.22	2.54	4.98	0.00
35.00	5.22	2.54	4.98	0.00
35.20	5.22	2.54	4.98	0.00
35.40	5.22	2.54	4.98	0.00
35.60	5.22	2.54	4.98	0.00
35.80	5.22	2.54	4.98	0.00
36.00	5.22	2.54	4.98	0.00
36.20	5.22	2.54	4.98	0.00
36.40	5.22	2.54	4.98	0.00
36.60	5.22	2.54	4.98	0.00
36.80	5.22	2.54	4.98	0.00
37.00	5.22	2.54	4.98	0.00
37.20	5.22	2.54	4.98	0.00
37.40	5.22	2.54	4.98	0.00
37.60	5.22	2.54	4.98	0.00
37.80	5.22	2.54	4.98	0.00
38.00	5.22	2.54	4.98	0.00
38.20	5.22	2.54	4.98	0.00
38.40	5.22	2.54	4.98	0.00
38.60	5.22	2.54	4.98	0.00
38.80	5.22	2.54	4.98	0.00
39.00	5.22	2.54	4.98	0.00
39.20	5.22	2.54	4.98	0.00
39.40	5.22	2.54	4.98	0.00
39.60	5.22	2.54	4.98	0.00
39.80	5.22	2.54	4.98	0.00
40.00	5.22	2.54	4.98	0.00
40.20	5.22	2.54	4.98	0.00
40.40	5.22	2.54	4.98	0.00
40.60	5.22	2.54	4.98	0.00
40.80	5.22	2.54	4.98	0.00
41.00	5.22	2.54	4.98	0.00
41.20	5.22	2.54	4.98	0.00
41.40	5.22	2.54	4.98	0.00

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Hydrograph for Subcatchment E-1: Existing Drainage to Franklin Avenue Municipal System (continued)

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
41.60	5.22	2.54	4.98	0.00
41.80	5.22	2.54	4.98	0.00
42.00	5.22	2.54	4.98	0.00
42.20	5.22	2.54	4.98	0.00
42.40	5.22	2.54	4.98	0.00
42.60	5.22	2.54	4.98	0.00
42.80	5.22	2.54	4.98	0.00
43.00	5.22	2.54	4.98	0.00
43.20	5.22	2.54	4.98	0.00
43.40	5.22	2.54	4.98	0.00
43.60	5.22	2.54	4.98	0.00
43.80	5.22	2.54	4.98	0.00
44.00	5.22	2.54	4.98	0.00
44.20	5.22	2.54	4.98	0.00
44.40	5.22	2.54	4.98	0.00
44.60	5.22	2.54	4.98	0.00
44.80	5.22	2.54	4.98	0.00
45.00	5.22	2.54	4.98	0.00
45.20	5.22	2.54	4.98	0.00
45.40	5.22	2.54	4.98	0.00
45.60	5.22	2.54	4.98	0.00
45.80	5.22	2.54	4.98	0.00
46.00	5.22	2.54	4.98	0.00
46.20	5.22	2.54	4.98	0.00
46.40	5.22	2.54	4.98	0.00
46.60	5.22	2.54	4.98	0.00
46.80	5.22	2.54	4.98	0.00
47.00	5.22	2.54	4.98	0.00
47.20	5.22	2.54	4.98	0.00
47.40	5.22	2.54	4.98	0.00
47.60	5.22	2.54	4.98	0.00
47.80	5.22	2.54	4.98	0.00
48.00	5.22	2.54	4.98	0.00
48.20	5.22	2.54	4.98	0.00
48.40	5.22	2.54	4.98	0.00
48.60	5.22	2.54	4.98	0.00
48.80	5.22	2.54	4.98	0.00
49.00	5.22	2.54	4.98	0.00
49.20	5.22	2.54	4.98	0.00
49.40	5.22	2.54	4.98	0.00
49.60	5.22	2.54	4.98	0.00
49.80	5.22	2.54	4.98	0.00
50.00	5.22	2.54	4.98	0.00
50.20	5.22	2.54	4.98	0.00
50.40	5.22	2.54	4.98	0.00
50.60	5.22	2.54	4.98	0.00
50.80	5.22	2.54	4.98	0.00
51.00	5.22	2.54	4.98	0.00
51.20	5.22	2.54	4.98	0.00
51.40	5.22	2.54	4.98	0.00
51.60	5.22	2.54	4.98	0.00
51.80	5.22	2.54	4.98	0.00

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Hydrograph for Subcatchment E-1: Existing Drainage to Franklin Avenue Municipal System (continued)

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
52.00	5.22	2.54	4.98	0.00
52.20	5.22	2.54	4.98	0.00
52.40	5.22	2.54	4.98	0.00
52.60	5.22	2.54	4.98	0.00
52.80	5.22	2.54	4.98	0.00
53.00	5.22	2.54	4.98	0.00
53.20	5.22	2.54	4.98	0.00
53.40	5.22	2.54	4.98	0.00
53.60	5.22	2.54	4.98	0.00
53.80	5.22	2.54	4.98	0.00
54.00	5.22	2.54	4.98	0.00
54.20	5.22	2.54	4.98	0.00
54.40	5.22	2.54	4.98	0.00
54.60	5.22	2.54	4.98	0.00
54.80	5.22	2.54	4.98	0.00
55.00	5.22	2.54	4.98	0.00
55.20	5.22	2.54	4.98	0.00
55.40	5.22	2.54	4.98	0.00
55.60	5.22	2.54	4.98	0.00
55.80	5.22	2.54	4.98	0.00
56.00	5.22	2.54	4.98	0.00
56.20	5.22	2.54	4.98	0.00
56.40	5.22	2.54	4.98	0.00
56.60	5.22	2.54	4.98	0.00
56.80	5.22	2.54	4.98	0.00
57.00	5.22	2.54	4.98	0.00
57.20	5.22	2.54	4.98	0.00
57.40	5.22	2.54	4.98	0.00
57.60	5.22	2.54	4.98	0.00
57.80	5.22	2.54	4.98	0.00
58.00	5.22	2.54	4.98	0.00
58.20	5.22	2.54	4.98	0.00
58.40	5.22	2.54	4.98	0.00
58.60	5.22	2.54	4.98	0.00
58.80	5.22	2.54	4.98	0.00
59.00	5.22	2.54	4.98	0.00
59.20	5.22	2.54	4.98	0.00
59.40	5.22	2.54	4.98	0.00
59.60	5.22	2.54	4.98	0.00
59.80	5.22	2.54	4.98	0.00
60.00	5.22	2.54	4.98	0.00
60.20	5.22	2.54	4.98	0.00
60.40	5.22	2.54	4.98	0.00
60.60	5.22	2.54	4.98	0.00
60.80	5.22	2.54	4.98	0.00
61.00	5.22	2.54	4.98	0.00
61.20	5.22	2.54	4.98	0.00
61.40	5.22	2.54	4.98	0.00
61.60	5.22	2.54	4.98	0.00
61.80	5.22	2.54	4.98	0.00
62.00	5.22	2.54	4.98	0.00
62.20	5.22	2.54	4.98	0.00

2024-10-08_HydroCAD Calcs

NOAA 24-hr D 10-Year Rainfall=5.22"

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Hydrograph for Subcatchment E-1: Existing Drainage to Franklin Avenue Municipal System (continued)

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
62.40	5.22	2.54	4.98	0.00
62.60	5.22	2.54	4.98	0.00
62.80	5.22	2.54	4.98	0.00
63.00	5.22	2.54	4.98	0.00
63.20	5.22	2.54	4.98	0.00
63.40	5.22	2.54	4.98	0.00
63.60	5.22	2.54	4.98	0.00
63.80	5.22	2.54	4.98	0.00
64.00	5.22	2.54	4.98	0.00
64.20	5.22	2.54	4.98	0.00
64.40	5.22	2.54	4.98	0.00
64.60	5.22	2.54	4.98	0.00
64.80	5.22	2.54	4.98	0.00
65.00	5.22	2.54	4.98	0.00
65.20	5.22	2.54	4.98	0.00
65.40	5.22	2.54	4.98	0.00
65.60	5.22	2.54	4.98	0.00
65.80	5.22	2.54	4.98	0.00
66.00	5.22	2.54	4.98	0.00
66.20	5.22	2.54	4.98	0.00
66.40	5.22	2.54	4.98	0.00
66.60	5.22	2.54	4.98	0.00
66.80	5.22	2.54	4.98	0.00
67.00	5.22	2.54	4.98	0.00
67.20	5.22	2.54	4.98	0.00
67.40	5.22	2.54	4.98	0.00
67.60	5.22	2.54	4.98	0.00
67.80	5.22	2.54	4.98	0.00
68.00	5.22	2.54	4.98	0.00
68.20	5.22	2.54	4.98	0.00
68.40	5.22	2.54	4.98	0.00
68.60	5.22	2.54	4.98	0.00
68.80	5.22	2.54	4.98	0.00
69.00	5.22	2.54	4.98	0.00
69.20	5.22	2.54	4.98	0.00
69.40	5.22	2.54	4.98	0.00
69.60	5.22	2.54	4.98	0.00
69.80	5.22	2.54	4.98	0.00
70.00	5.22	2.54	4.98	0.00
70.20	5.22	2.54	4.98	0.00
70.40	5.22	2.54	4.98	0.00
70.60	5.22	2.54	4.98	0.00
70.80	5.22	2.54	4.98	0.00
71.00	5.22	2.54	4.98	0.00
71.20	5.22	2.54	4.98	0.00
71.40	5.22	2.54	4.98	0.00
71.60	5.22	2.54	4.98	0.00
71.80	5.22	2.54	4.98	0.00
72.00	5.22	2.54	4.98	0.00

Summary for Subcatchment P-1: Proposed Drainage to Franklin Avenue Municipal System

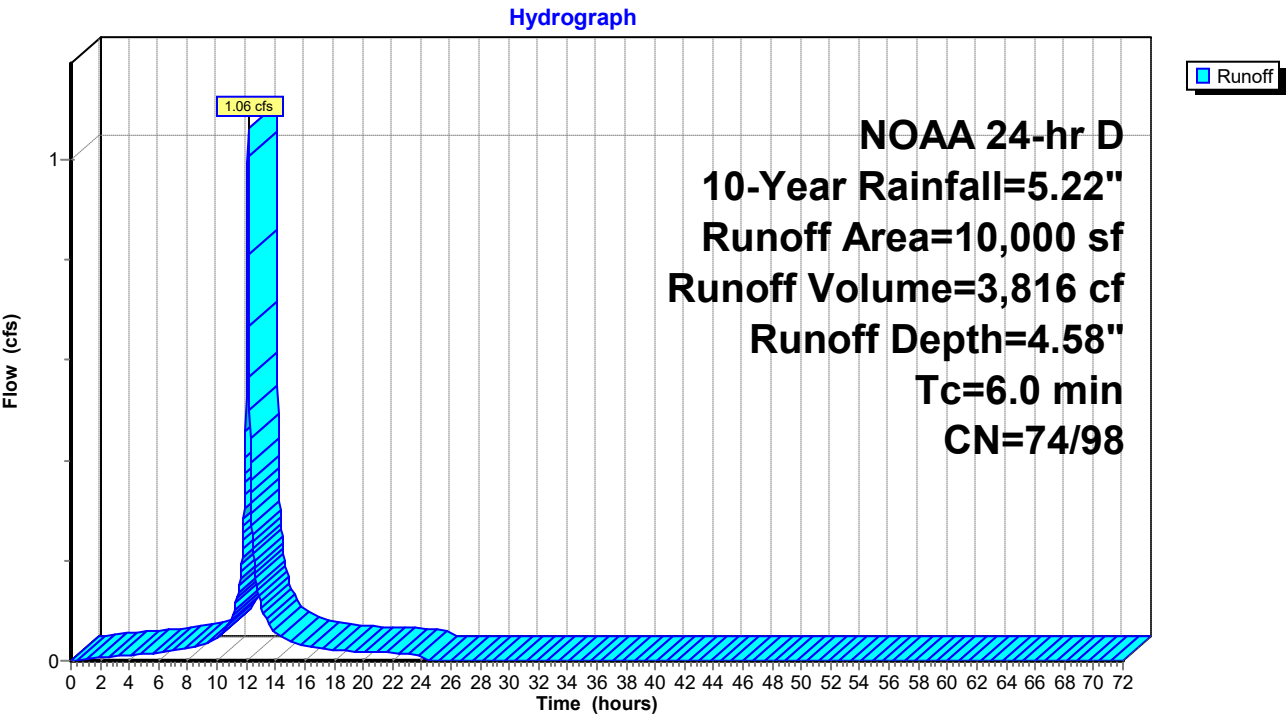
Runoff = 1.06 cfs @ 12.13 hrs, Volume= 3,816 cf, Depth= 4.58"

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
NOAA 24-hr D 10-Year Rainfall=5.22"

	Area (sf)	CN	Description
*	8,348	98	Impervious Area
	1,652	74	>75% Grass cover, Good, HSG C
	10,000	94	Weighted Average
	1,652	74	16.52% Pervious Area
	8,348	98	83.48% Impervious Area

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

Subcatchment P-1: Proposed Drainage to Franklin Avenue Municipal System



2024-10-08_HydroCAD Calcs

NOAA 24-hr D 10-Year Rainfall=5.22"

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Hydrograph for Subcatchment P-1: Proposed Drainage to Franklin Avenue Municipal System

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	0.00
0.20	0.01	0.00	0.00	0.00
0.40	0.02	0.00	0.00	0.00
0.60	0.04	0.00	0.00	0.00
0.80	0.05	0.00	0.00	0.00
1.00	0.06	0.00	0.00	0.00
1.20	0.07	0.00	0.00	0.00
1.40	0.09	0.00	0.01	0.00
1.60	0.10	0.00	0.01	0.00
1.80	0.11	0.00	0.02	0.01
2.00	0.13	0.00	0.02	0.01
2.20	0.14	0.00	0.03	0.01
2.40	0.15	0.00	0.04	0.01
2.60	0.17	0.00	0.05	0.01
2.80	0.18	0.00	0.06	0.01
3.00	0.20	0.00	0.07	0.01
3.20	0.21	0.00	0.08	0.01
3.40	0.23	0.00	0.09	0.01
3.60	0.24	0.00	0.10	0.01
3.80	0.26	0.00	0.11	0.01
4.00	0.27	0.00	0.12	0.01
4.20	0.29	0.00	0.14	0.01
4.40	0.31	0.00	0.15	0.01
4.60	0.32	0.00	0.16	0.01
4.80	0.34	0.00	0.18	0.01
5.00	0.36	0.00	0.19	0.01
5.20	0.37	0.00	0.21	0.01
5.40	0.39	0.00	0.22	0.01
5.60	0.41	0.00	0.24	0.01
5.80	0.43	0.00	0.25	0.02
6.00	0.45	0.00	0.27	0.02
6.20	0.46	0.00	0.29	0.02
6.40	0.48	0.00	0.30	0.02
6.60	0.51	0.00	0.32	0.02
6.80	0.53	0.00	0.34	0.02
7.00	0.55	0.00	0.36	0.02
7.20	0.57	0.00	0.39	0.02
7.40	0.60	0.00	0.41	0.02
7.60	0.62	0.00	0.43	0.02
7.80	0.65	0.00	0.46	0.02
8.00	0.68	0.00	0.48	0.02
8.20	0.71	0.00	0.51	0.03
8.40	0.73	0.00	0.54	0.03
8.60	0.77	0.00	0.57	0.03
8.80	0.80	0.00	0.59	0.03
9.00	0.83	0.00	0.63	0.03
9.20	0.86	0.01	0.66	0.03
9.40	0.90	0.01	0.70	0.04
9.60	0.94	0.02	0.74	0.04
9.80	0.99	0.02	0.78	0.04
10.00	1.03	0.03	0.82	0.05
10.20	1.09	0.04	0.87	0.05

2024-10-08_HydroCAD Calcs

NOAA 24-hr D 10-Year Rainfall=5.22"

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Hydrograph for Subcatchment P-1: Proposed Drainage to Franklin Avenue Municipal System (continued)

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
10.40	1.14	0.05	0.93	0.05
10.60	1.20	0.06	0.99	0.06
10.80	1.27	0.08	1.06	0.07
11.00	1.36	0.10	1.14	0.08
11.20	1.46	0.13	1.24	0.11
11.40	1.58	0.18	1.36	0.13
11.60	1.75	0.24	1.53	0.18
11.80	1.99	0.34	1.76	0.26
12.00	2.50	0.61	2.27	0.58
12.20	3.23	1.06	3.00	0.67
12.40	3.47	1.22	3.24	0.25
12.60	3.64	1.33	3.40	0.17
12.80	3.76	1.42	3.53	0.14
13.00	3.86	1.50	3.63	0.11
13.20	3.95	1.56	3.71	0.09
13.40	4.02	1.61	3.78	0.08
13.60	4.08	1.65	3.84	0.07
13.80	4.13	1.70	3.90	0.06
14.00	4.19	1.73	3.95	0.06
14.20	4.23	1.77	4.00	0.05
14.40	4.28	1.80	4.04	0.05
14.60	4.32	1.83	4.08	0.05
14.80	4.36	1.86	4.12	0.04
15.00	4.39	1.89	4.16	0.04
15.20	4.42	1.91	4.19	0.04
15.40	4.45	1.94	4.22	0.03
15.60	4.49	1.96	4.25	0.03
15.80	4.51	1.98	4.28	0.03
16.00	4.54	2.01	4.31	0.03
16.20	4.57	2.03	4.33	0.03
16.40	4.60	2.05	4.36	0.03
16.60	4.62	2.07	4.39	0.03
16.80	4.65	2.09	4.41	0.03
17.00	4.67	2.10	4.43	0.03
17.20	4.69	2.12	4.46	0.03
17.40	4.71	2.14	4.48	0.02
17.60	4.74	2.16	4.50	0.02
17.80	4.76	2.17	4.52	0.02
18.00	4.77	2.19	4.54	0.02
18.20	4.79	2.20	4.56	0.02
18.40	4.81	2.21	4.57	0.02
18.60	4.83	2.23	4.59	0.02
18.80	4.85	2.24	4.61	0.02
19.00	4.86	2.26	4.63	0.02
19.20	4.88	2.27	4.64	0.02
19.40	4.90	2.28	4.66	0.02
19.60	4.91	2.30	4.68	0.02
19.80	4.93	2.31	4.69	0.02
20.00	4.95	2.32	4.71	0.02
20.20	4.96	2.33	4.73	0.02
20.40	4.98	2.35	4.74	0.02
20.60	4.99	2.36	4.76	0.02

2024-10-08_HydroCAD Calcs

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Hydrograph for Subcatchment P-1: Proposed Drainage to Franklin Avenue Municipal System (continued)

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
20.80	5.01	2.37	4.77	0.02
21.00	5.02	2.38	4.79	0.02
21.20	5.04	2.39	4.80	0.02
21.40	5.05	2.41	4.82	0.02
21.60	5.07	2.42	4.83	0.02
21.80	5.08	2.43	4.84	0.02
22.00	5.09	2.44	4.86	0.02
22.20	5.11	2.45	4.87	0.02
22.40	5.12	2.46	4.88	0.01
22.60	5.13	2.47	4.90	0.01
22.80	5.15	2.48	4.91	0.01
23.00	5.16	2.49	4.92	0.01
23.20	5.17	2.50	4.94	0.01
23.40	5.18	2.51	4.95	0.01
23.60	5.20	2.52	4.96	0.01
23.80	5.21	2.53	4.97	0.01
24.00	5.22	2.54	4.98	0.01
24.20	5.22	2.54	4.98	0.00
24.40	5.22	2.54	4.98	0.00
24.60	5.22	2.54	4.98	0.00
24.80	5.22	2.54	4.98	0.00
25.00	5.22	2.54	4.98	0.00
25.20	5.22	2.54	4.98	0.00
25.40	5.22	2.54	4.98	0.00
25.60	5.22	2.54	4.98	0.00
25.80	5.22	2.54	4.98	0.00
26.00	5.22	2.54	4.98	0.00
26.20	5.22	2.54	4.98	0.00
26.40	5.22	2.54	4.98	0.00
26.60	5.22	2.54	4.98	0.00
26.80	5.22	2.54	4.98	0.00
27.00	5.22	2.54	4.98	0.00
27.20	5.22	2.54	4.98	0.00
27.40	5.22	2.54	4.98	0.00
27.60	5.22	2.54	4.98	0.00
27.80	5.22	2.54	4.98	0.00
28.00	5.22	2.54	4.98	0.00
28.20	5.22	2.54	4.98	0.00
28.40	5.22	2.54	4.98	0.00
28.60	5.22	2.54	4.98	0.00
28.80	5.22	2.54	4.98	0.00
29.00	5.22	2.54	4.98	0.00
29.20	5.22	2.54	4.98	0.00
29.40	5.22	2.54	4.98	0.00
29.60	5.22	2.54	4.98	0.00
29.80	5.22	2.54	4.98	0.00
30.00	5.22	2.54	4.98	0.00
30.20	5.22	2.54	4.98	0.00
30.40	5.22	2.54	4.98	0.00
30.60	5.22	2.54	4.98	0.00
30.80	5.22	2.54	4.98	0.00
31.00	5.22	2.54	4.98	0.00

2024-10-08_HydroCAD Calcs

NOAA 24-hr D 10-Year Rainfall=5.22"

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Hydrograph for Subcatchment P-1: Proposed Drainage to Franklin Avenue Municipal System (continued)

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
31.20	5.22	2.54	4.98	0.00
31.40	5.22	2.54	4.98	0.00
31.60	5.22	2.54	4.98	0.00
31.80	5.22	2.54	4.98	0.00
32.00	5.22	2.54	4.98	0.00
32.20	5.22	2.54	4.98	0.00
32.40	5.22	2.54	4.98	0.00
32.60	5.22	2.54	4.98	0.00
32.80	5.22	2.54	4.98	0.00
33.00	5.22	2.54	4.98	0.00
33.20	5.22	2.54	4.98	0.00
33.40	5.22	2.54	4.98	0.00
33.60	5.22	2.54	4.98	0.00
33.80	5.22	2.54	4.98	0.00
34.00	5.22	2.54	4.98	0.00
34.20	5.22	2.54	4.98	0.00
34.40	5.22	2.54	4.98	0.00
34.60	5.22	2.54	4.98	0.00
34.80	5.22	2.54	4.98	0.00
35.00	5.22	2.54	4.98	0.00
35.20	5.22	2.54	4.98	0.00
35.40	5.22	2.54	4.98	0.00
35.60	5.22	2.54	4.98	0.00
35.80	5.22	2.54	4.98	0.00
36.00	5.22	2.54	4.98	0.00
36.20	5.22	2.54	4.98	0.00
36.40	5.22	2.54	4.98	0.00
36.60	5.22	2.54	4.98	0.00
36.80	5.22	2.54	4.98	0.00
37.00	5.22	2.54	4.98	0.00
37.20	5.22	2.54	4.98	0.00
37.40	5.22	2.54	4.98	0.00
37.60	5.22	2.54	4.98	0.00
37.80	5.22	2.54	4.98	0.00
38.00	5.22	2.54	4.98	0.00
38.20	5.22	2.54	4.98	0.00
38.40	5.22	2.54	4.98	0.00
38.60	5.22	2.54	4.98	0.00
38.80	5.22	2.54	4.98	0.00
39.00	5.22	2.54	4.98	0.00
39.20	5.22	2.54	4.98	0.00
39.40	5.22	2.54	4.98	0.00
39.60	5.22	2.54	4.98	0.00
39.80	5.22	2.54	4.98	0.00
40.00	5.22	2.54	4.98	0.00
40.20	5.22	2.54	4.98	0.00
40.40	5.22	2.54	4.98	0.00
40.60	5.22	2.54	4.98	0.00
40.80	5.22	2.54	4.98	0.00
41.00	5.22	2.54	4.98	0.00
41.20	5.22	2.54	4.98	0.00
41.40	5.22	2.54	4.98	0.00

2024-10-08_HydroCAD Calcs

NOAA 24-hr D 10-Year Rainfall=5.22"

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Hydrograph for Subcatchment P-1: Proposed Drainage to Franklin Avenue Municipal System (continued)

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
41.60	5.22	2.54	4.98	0.00
41.80	5.22	2.54	4.98	0.00
42.00	5.22	2.54	4.98	0.00
42.20	5.22	2.54	4.98	0.00
42.40	5.22	2.54	4.98	0.00
42.60	5.22	2.54	4.98	0.00
42.80	5.22	2.54	4.98	0.00
43.00	5.22	2.54	4.98	0.00
43.20	5.22	2.54	4.98	0.00
43.40	5.22	2.54	4.98	0.00
43.60	5.22	2.54	4.98	0.00
43.80	5.22	2.54	4.98	0.00
44.00	5.22	2.54	4.98	0.00
44.20	5.22	2.54	4.98	0.00
44.40	5.22	2.54	4.98	0.00
44.60	5.22	2.54	4.98	0.00
44.80	5.22	2.54	4.98	0.00
45.00	5.22	2.54	4.98	0.00
45.20	5.22	2.54	4.98	0.00
45.40	5.22	2.54	4.98	0.00
45.60	5.22	2.54	4.98	0.00
45.80	5.22	2.54	4.98	0.00
46.00	5.22	2.54	4.98	0.00
46.20	5.22	2.54	4.98	0.00
46.40	5.22	2.54	4.98	0.00
46.60	5.22	2.54	4.98	0.00
46.80	5.22	2.54	4.98	0.00
47.00	5.22	2.54	4.98	0.00
47.20	5.22	2.54	4.98	0.00
47.40	5.22	2.54	4.98	0.00
47.60	5.22	2.54	4.98	0.00
47.80	5.22	2.54	4.98	0.00
48.00	5.22	2.54	4.98	0.00
48.20	5.22	2.54	4.98	0.00
48.40	5.22	2.54	4.98	0.00
48.60	5.22	2.54	4.98	0.00
48.80	5.22	2.54	4.98	0.00
49.00	5.22	2.54	4.98	0.00
49.20	5.22	2.54	4.98	0.00
49.40	5.22	2.54	4.98	0.00
49.60	5.22	2.54	4.98	0.00
49.80	5.22	2.54	4.98	0.00
50.00	5.22	2.54	4.98	0.00
50.20	5.22	2.54	4.98	0.00
50.40	5.22	2.54	4.98	0.00
50.60	5.22	2.54	4.98	0.00
50.80	5.22	2.54	4.98	0.00
51.00	5.22	2.54	4.98	0.00
51.20	5.22	2.54	4.98	0.00
51.40	5.22	2.54	4.98	0.00
51.60	5.22	2.54	4.98	0.00
51.80	5.22	2.54	4.98	0.00

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NOAA 24-hr D 10-Year Rainfall=5.22"

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Hydrograph for Subcatchment P-1: Proposed Drainage to Franklin Avenue Municipal System (continued)

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
52.00	5.22	2.54	4.98	0.00
52.20	5.22	2.54	4.98	0.00
52.40	5.22	2.54	4.98	0.00
52.60	5.22	2.54	4.98	0.00
52.80	5.22	2.54	4.98	0.00
53.00	5.22	2.54	4.98	0.00
53.20	5.22	2.54	4.98	0.00
53.40	5.22	2.54	4.98	0.00
53.60	5.22	2.54	4.98	0.00
53.80	5.22	2.54	4.98	0.00
54.00	5.22	2.54	4.98	0.00
54.20	5.22	2.54	4.98	0.00
54.40	5.22	2.54	4.98	0.00
54.60	5.22	2.54	4.98	0.00
54.80	5.22	2.54	4.98	0.00
55.00	5.22	2.54	4.98	0.00
55.20	5.22	2.54	4.98	0.00
55.40	5.22	2.54	4.98	0.00
55.60	5.22	2.54	4.98	0.00
55.80	5.22	2.54	4.98	0.00
56.00	5.22	2.54	4.98	0.00
56.20	5.22	2.54	4.98	0.00
56.40	5.22	2.54	4.98	0.00
56.60	5.22	2.54	4.98	0.00
56.80	5.22	2.54	4.98	0.00
57.00	5.22	2.54	4.98	0.00
57.20	5.22	2.54	4.98	0.00
57.40	5.22	2.54	4.98	0.00
57.60	5.22	2.54	4.98	0.00
57.80	5.22	2.54	4.98	0.00
58.00	5.22	2.54	4.98	0.00
58.20	5.22	2.54	4.98	0.00
58.40	5.22	2.54	4.98	0.00
58.60	5.22	2.54	4.98	0.00
58.80	5.22	2.54	4.98	0.00
59.00	5.22	2.54	4.98	0.00
59.20	5.22	2.54	4.98	0.00
59.40	5.22	2.54	4.98	0.00
59.60	5.22	2.54	4.98	0.00
59.80	5.22	2.54	4.98	0.00
60.00	5.22	2.54	4.98	0.00
60.20	5.22	2.54	4.98	0.00
60.40	5.22	2.54	4.98	0.00
60.60	5.22	2.54	4.98	0.00
60.80	5.22	2.54	4.98	0.00
61.00	5.22	2.54	4.98	0.00
61.20	5.22	2.54	4.98	0.00
61.40	5.22	2.54	4.98	0.00
61.60	5.22	2.54	4.98	0.00
61.80	5.22	2.54	4.98	0.00
62.00	5.22	2.54	4.98	0.00
62.20	5.22	2.54	4.98	0.00

2024-10-08_HydroCAD Calcs

NOAA 24-hr D 10-Year Rainfall=5.22"

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Hydrograph for Subcatchment P-1: Proposed Drainage to Franklin Avenue Municipal System (continued)

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
62.40	5.22	2.54	4.98	0.00
62.60	5.22	2.54	4.98	0.00
62.80	5.22	2.54	4.98	0.00
63.00	5.22	2.54	4.98	0.00
63.20	5.22	2.54	4.98	0.00
63.40	5.22	2.54	4.98	0.00
63.60	5.22	2.54	4.98	0.00
63.80	5.22	2.54	4.98	0.00
64.00	5.22	2.54	4.98	0.00
64.20	5.22	2.54	4.98	0.00
64.40	5.22	2.54	4.98	0.00
64.60	5.22	2.54	4.98	0.00
64.80	5.22	2.54	4.98	0.00
65.00	5.22	2.54	4.98	0.00
65.20	5.22	2.54	4.98	0.00
65.40	5.22	2.54	4.98	0.00
65.60	5.22	2.54	4.98	0.00
65.80	5.22	2.54	4.98	0.00
66.00	5.22	2.54	4.98	0.00
66.20	5.22	2.54	4.98	0.00
66.40	5.22	2.54	4.98	0.00
66.60	5.22	2.54	4.98	0.00
66.80	5.22	2.54	4.98	0.00
67.00	5.22	2.54	4.98	0.00
67.20	5.22	2.54	4.98	0.00
67.40	5.22	2.54	4.98	0.00
67.60	5.22	2.54	4.98	0.00
67.80	5.22	2.54	4.98	0.00
68.00	5.22	2.54	4.98	0.00
68.20	5.22	2.54	4.98	0.00
68.40	5.22	2.54	4.98	0.00
68.60	5.22	2.54	4.98	0.00
68.80	5.22	2.54	4.98	0.00
69.00	5.22	2.54	4.98	0.00
69.20	5.22	2.54	4.98	0.00
69.40	5.22	2.54	4.98	0.00
69.60	5.22	2.54	4.98	0.00
69.80	5.22	2.54	4.98	0.00
70.00	5.22	2.54	4.98	0.00
70.20	5.22	2.54	4.98	0.00
70.40	5.22	2.54	4.98	0.00
70.60	5.22	2.54	4.98	0.00
70.80	5.22	2.54	4.98	0.00
71.00	5.22	2.54	4.98	0.00
71.20	5.22	2.54	4.98	0.00
71.40	5.22	2.54	4.98	0.00
71.60	5.22	2.54	4.98	0.00
71.80	5.22	2.54	4.98	0.00
72.00	5.22	2.54	4.98	0.00

Summary for Subcatchment E-1: Existing Drainage to Franklin Avenue Municipal System

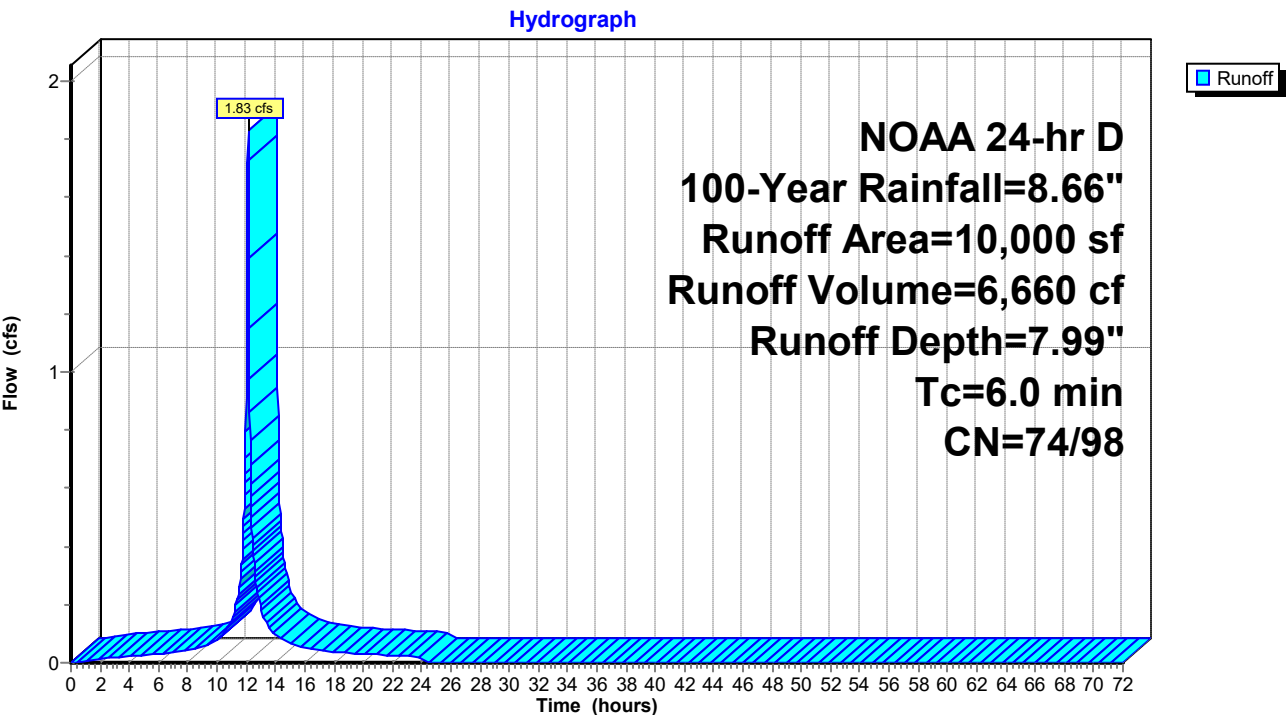
Runoff = 1.83 cfs @ 12.13 hrs, Volume= 6,660 cf, Depth= 7.99"

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
NOAA 24-hr D 100-Year Rainfall=8.66"

	Area (sf)	CN	Description
*	8,524	98	Impervious Area
	1,476	74	>75% Grass cover, Good, HSG C
	10,000	94	Weighted Average
	1,476	74	14.76% Pervious Area
	8,524	98	85.24% Impervious Area

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

Subcatchment E-1: Existing Drainage to Franklin Avenue Municipal System



2024-10-08_HydroCAD Calcs

NOAA 24-hr D 100-Year Rainfall=8.66"

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Hydrograph for Subcatchment E-1: Existing Drainage to Franklin Avenue Municipal System

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	0.00
0.20	0.02	0.00	0.00	0.00
0.40	0.04	0.00	0.00	0.00
0.60	0.06	0.00	0.00	0.00
0.80	0.08	0.00	0.01	0.00
1.00	0.10	0.00	0.01	0.01
1.20	0.12	0.00	0.02	0.01
1.40	0.14	0.00	0.03	0.01
1.60	0.16	0.00	0.05	0.01
1.80	0.19	0.00	0.06	0.01
2.00	0.21	0.00	0.08	0.02
2.20	0.23	0.00	0.09	0.02
2.40	0.25	0.00	0.11	0.02
2.60	0.28	0.00	0.13	0.02
2.80	0.30	0.00	0.15	0.02
3.00	0.33	0.00	0.17	0.02
3.20	0.35	0.00	0.19	0.02
3.40	0.38	0.00	0.21	0.02
3.60	0.40	0.00	0.23	0.02
3.80	0.43	0.00	0.25	0.02
4.00	0.45	0.00	0.28	0.02
4.20	0.48	0.00	0.30	0.02
4.40	0.51	0.00	0.33	0.02
4.60	0.54	0.00	0.35	0.02
4.80	0.56	0.00	0.38	0.03
5.00	0.59	0.00	0.40	0.03
5.20	0.62	0.00	0.43	0.03
5.40	0.65	0.00	0.46	0.03
5.60	0.68	0.00	0.48	0.03
5.80	0.71	0.00	0.51	0.03
6.00	0.74	0.00	0.54	0.03
6.20	0.77	0.00	0.57	0.03
6.40	0.80	0.00	0.60	0.03
6.60	0.84	0.01	0.64	0.03
6.80	0.87	0.01	0.67	0.03
7.00	0.91	0.01	0.71	0.04
7.20	0.95	0.02	0.74	0.04
7.40	0.99	0.02	0.78	0.04
7.60	1.03	0.03	0.82	0.04
7.80	1.08	0.04	0.87	0.04
8.00	1.12	0.05	0.91	0.05
8.20	1.17	0.06	0.96	0.05
8.40	1.22	0.07	1.00	0.05
8.60	1.27	0.08	1.05	0.05
8.80	1.32	0.09	1.10	0.05
9.00	1.37	0.11	1.16	0.05
9.20	1.43	0.13	1.21	0.06
9.40	1.49	0.15	1.27	0.07
9.60	1.56	0.17	1.34	0.07
9.80	1.64	0.20	1.42	0.08
10.00	1.72	0.23	1.49	0.08
10.20	1.80	0.26	1.58	0.09

2024-10-08_HydroCAD Calcs

NOAA 24-hr D 100-Year Rainfall=8.66"

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Hydrograph for Subcatchment E-1: Existing Drainage to Franklin Avenue Municipal System (continued)

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
10.40	1.89	0.30	1.67	0.10
10.60	1.99	0.35	1.77	0.11
10.80	2.11	0.40	1.88	0.13
11.00	2.25	0.47	2.02	0.15
11.20	2.42	0.57	2.19	0.19
11.40	2.63	0.68	2.40	0.22
11.60	2.90	0.85	2.67	0.31
11.80	3.29	1.10	3.06	0.45
12.00	4.15	1.71	3.91	1.01
12.20	5.37	2.66	5.13	1.15
12.40	5.76	2.98	5.52	0.43
12.60	6.03	3.21	5.79	0.30
12.80	6.24	3.39	6.00	0.23
13.00	6.41	3.53	6.17	0.19
13.20	6.55	3.65	6.31	0.16
13.40	6.67	3.75	6.43	0.13
13.60	6.77	3.84	6.53	0.11
13.80	6.86	3.92	6.62	0.10
14.00	6.94	3.99	6.70	0.10
14.20	7.02	4.06	6.78	0.09
14.40	7.10	4.13	6.86	0.08
14.60	7.17	4.19	6.93	0.08
14.80	7.23	4.24	6.99	0.07
15.00	7.29	4.29	7.05	0.07
15.20	7.34	4.34	7.10	0.06
15.40	7.39	4.38	7.15	0.06
15.60	7.44	4.43	7.20	0.06
15.80	7.49	4.47	7.25	0.05
16.00	7.54	4.51	7.30	0.05
16.20	7.58	4.55	7.34	0.05
16.40	7.63	4.59	7.39	0.05
16.60	7.67	4.63	7.43	0.05
16.80	7.71	4.67	7.47	0.05
17.00	7.75	4.70	7.51	0.04
17.20	7.79	4.73	7.55	0.04
17.40	7.82	4.77	7.58	0.04
17.60	7.86	4.80	7.62	0.04
17.80	7.89	4.83	7.65	0.04
18.00	7.92	4.85	7.68	0.04
18.20	7.95	4.88	7.71	0.03
18.40	7.98	4.91	7.74	0.03
18.60	8.01	4.93	7.77	0.03
18.80	8.04	4.96	7.80	0.03
19.00	8.07	4.99	7.83	0.03
19.20	8.10	5.01	7.86	0.03
19.40	8.12	5.04	7.88	0.03
19.60	8.15	5.06	7.91	0.03
19.80	8.18	5.09	7.94	0.03
20.00	8.21	5.11	7.97	0.03
20.20	8.23	5.13	7.99	0.03
20.40	8.26	5.16	8.02	0.03
20.60	8.28	5.18	8.04	0.03

2024-10-08_HydroCAD Calcs

NOAA 24-hr D 100-Year Rainfall=8.66"

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Hydrograph for Subcatchment E-1: Existing Drainage to Franklin Avenue Municipal System (continued)

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
20.80	8.31	5.20	8.07	0.03
21.00	8.33	5.23	8.09	0.03
21.20	8.36	5.25	8.12	0.03
21.40	8.38	5.27	8.14	0.03
21.60	8.41	5.29	8.17	0.03
21.80	8.43	5.31	8.19	0.03
22.00	8.45	5.33	8.21	0.03
22.20	8.47	5.35	8.23	0.03
22.40	8.50	5.37	8.26	0.03
22.60	8.52	5.39	8.28	0.02
22.80	8.54	5.41	8.30	0.02
23.00	8.56	5.43	8.32	0.02
23.20	8.58	5.45	8.34	0.02
23.40	8.60	5.47	8.36	0.02
23.60	8.62	5.49	8.38	0.02
23.80	8.64	5.50	8.40	0.02
24.00	8.66	5.52	8.42	0.02
24.20	8.66	5.52	8.42	0.00
24.40	8.66	5.52	8.42	0.00
24.60	8.66	5.52	8.42	0.00
24.80	8.66	5.52	8.42	0.00
25.00	8.66	5.52	8.42	0.00
25.20	8.66	5.52	8.42	0.00
25.40	8.66	5.52	8.42	0.00
25.60	8.66	5.52	8.42	0.00
25.80	8.66	5.52	8.42	0.00
26.00	8.66	5.52	8.42	0.00
26.20	8.66	5.52	8.42	0.00
26.40	8.66	5.52	8.42	0.00
26.60	8.66	5.52	8.42	0.00
26.80	8.66	5.52	8.42	0.00
27.00	8.66	5.52	8.42	0.00
27.20	8.66	5.52	8.42	0.00
27.40	8.66	5.52	8.42	0.00
27.60	8.66	5.52	8.42	0.00
27.80	8.66	5.52	8.42	0.00
28.00	8.66	5.52	8.42	0.00
28.20	8.66	5.52	8.42	0.00
28.40	8.66	5.52	8.42	0.00
28.60	8.66	5.52	8.42	0.00
28.80	8.66	5.52	8.42	0.00
29.00	8.66	5.52	8.42	0.00
29.20	8.66	5.52	8.42	0.00
29.40	8.66	5.52	8.42	0.00
29.60	8.66	5.52	8.42	0.00
29.80	8.66	5.52	8.42	0.00
30.00	8.66	5.52	8.42	0.00
30.20	8.66	5.52	8.42	0.00
30.40	8.66	5.52	8.42	0.00
30.60	8.66	5.52	8.42	0.00
30.80	8.66	5.52	8.42	0.00
31.00	8.66	5.52	8.42	0.00

2024-10-08_HydroCAD Calcs

NOAA 24-hr D 100-Year Rainfall=8.66"

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Hydrograph for Subcatchment E-1: Existing Drainage to Franklin Avenue Municipal System (continued)

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
31.20	8.66	5.52	8.42	0.00
31.40	8.66	5.52	8.42	0.00
31.60	8.66	5.52	8.42	0.00
31.80	8.66	5.52	8.42	0.00
32.00	8.66	5.52	8.42	0.00
32.20	8.66	5.52	8.42	0.00
32.40	8.66	5.52	8.42	0.00
32.60	8.66	5.52	8.42	0.00
32.80	8.66	5.52	8.42	0.00
33.00	8.66	5.52	8.42	0.00
33.20	8.66	5.52	8.42	0.00
33.40	8.66	5.52	8.42	0.00
33.60	8.66	5.52	8.42	0.00
33.80	8.66	5.52	8.42	0.00
34.00	8.66	5.52	8.42	0.00
34.20	8.66	5.52	8.42	0.00
34.40	8.66	5.52	8.42	0.00
34.60	8.66	5.52	8.42	0.00
34.80	8.66	5.52	8.42	0.00
35.00	8.66	5.52	8.42	0.00
35.20	8.66	5.52	8.42	0.00
35.40	8.66	5.52	8.42	0.00
35.60	8.66	5.52	8.42	0.00
35.80	8.66	5.52	8.42	0.00
36.00	8.66	5.52	8.42	0.00
36.20	8.66	5.52	8.42	0.00
36.40	8.66	5.52	8.42	0.00
36.60	8.66	5.52	8.42	0.00
36.80	8.66	5.52	8.42	0.00
37.00	8.66	5.52	8.42	0.00
37.20	8.66	5.52	8.42	0.00
37.40	8.66	5.52	8.42	0.00
37.60	8.66	5.52	8.42	0.00
37.80	8.66	5.52	8.42	0.00
38.00	8.66	5.52	8.42	0.00
38.20	8.66	5.52	8.42	0.00
38.40	8.66	5.52	8.42	0.00
38.60	8.66	5.52	8.42	0.00
38.80	8.66	5.52	8.42	0.00
39.00	8.66	5.52	8.42	0.00
39.20	8.66	5.52	8.42	0.00
39.40	8.66	5.52	8.42	0.00
39.60	8.66	5.52	8.42	0.00
39.80	8.66	5.52	8.42	0.00
40.00	8.66	5.52	8.42	0.00
40.20	8.66	5.52	8.42	0.00
40.40	8.66	5.52	8.42	0.00
40.60	8.66	5.52	8.42	0.00
40.80	8.66	5.52	8.42	0.00
41.00	8.66	5.52	8.42	0.00
41.20	8.66	5.52	8.42	0.00
41.40	8.66	5.52	8.42	0.00

2024-10-08_HydroCAD Calcs

NOAA 24-hr D 100-Year Rainfall=8.66"

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Hydrograph for Subcatchment E-1: Existing Drainage to Franklin Avenue Municipal System (continued)

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
41.60	8.66	5.52	8.42	0.00
41.80	8.66	5.52	8.42	0.00
42.00	8.66	5.52	8.42	0.00
42.20	8.66	5.52	8.42	0.00
42.40	8.66	5.52	8.42	0.00
42.60	8.66	5.52	8.42	0.00
42.80	8.66	5.52	8.42	0.00
43.00	8.66	5.52	8.42	0.00
43.20	8.66	5.52	8.42	0.00
43.40	8.66	5.52	8.42	0.00
43.60	8.66	5.52	8.42	0.00
43.80	8.66	5.52	8.42	0.00
44.00	8.66	5.52	8.42	0.00
44.20	8.66	5.52	8.42	0.00
44.40	8.66	5.52	8.42	0.00
44.60	8.66	5.52	8.42	0.00
44.80	8.66	5.52	8.42	0.00
45.00	8.66	5.52	8.42	0.00
45.20	8.66	5.52	8.42	0.00
45.40	8.66	5.52	8.42	0.00
45.60	8.66	5.52	8.42	0.00
45.80	8.66	5.52	8.42	0.00
46.00	8.66	5.52	8.42	0.00
46.20	8.66	5.52	8.42	0.00
46.40	8.66	5.52	8.42	0.00
46.60	8.66	5.52	8.42	0.00
46.80	8.66	5.52	8.42	0.00
47.00	8.66	5.52	8.42	0.00
47.20	8.66	5.52	8.42	0.00
47.40	8.66	5.52	8.42	0.00
47.60	8.66	5.52	8.42	0.00
47.80	8.66	5.52	8.42	0.00
48.00	8.66	5.52	8.42	0.00
48.20	8.66	5.52	8.42	0.00
48.40	8.66	5.52	8.42	0.00
48.60	8.66	5.52	8.42	0.00
48.80	8.66	5.52	8.42	0.00
49.00	8.66	5.52	8.42	0.00
49.20	8.66	5.52	8.42	0.00
49.40	8.66	5.52	8.42	0.00
49.60	8.66	5.52	8.42	0.00
49.80	8.66	5.52	8.42	0.00
50.00	8.66	5.52	8.42	0.00
50.20	8.66	5.52	8.42	0.00
50.40	8.66	5.52	8.42	0.00
50.60	8.66	5.52	8.42	0.00
50.80	8.66	5.52	8.42	0.00
51.00	8.66	5.52	8.42	0.00
51.20	8.66	5.52	8.42	0.00
51.40	8.66	5.52	8.42	0.00
51.60	8.66	5.52	8.42	0.00
51.80	8.66	5.52	8.42	0.00

2024-10-08_HydroCAD Calcs

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Hydrograph for Subcatchment E-1: Existing Drainage to Franklin Avenue Municipal System (continued)

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
52.00	8.66	5.52	8.42	0.00
52.20	8.66	5.52	8.42	0.00
52.40	8.66	5.52	8.42	0.00
52.60	8.66	5.52	8.42	0.00
52.80	8.66	5.52	8.42	0.00
53.00	8.66	5.52	8.42	0.00
53.20	8.66	5.52	8.42	0.00
53.40	8.66	5.52	8.42	0.00
53.60	8.66	5.52	8.42	0.00
53.80	8.66	5.52	8.42	0.00
54.00	8.66	5.52	8.42	0.00
54.20	8.66	5.52	8.42	0.00
54.40	8.66	5.52	8.42	0.00
54.60	8.66	5.52	8.42	0.00
54.80	8.66	5.52	8.42	0.00
55.00	8.66	5.52	8.42	0.00
55.20	8.66	5.52	8.42	0.00
55.40	8.66	5.52	8.42	0.00
55.60	8.66	5.52	8.42	0.00
55.80	8.66	5.52	8.42	0.00
56.00	8.66	5.52	8.42	0.00
56.20	8.66	5.52	8.42	0.00
56.40	8.66	5.52	8.42	0.00
56.60	8.66	5.52	8.42	0.00
56.80	8.66	5.52	8.42	0.00
57.00	8.66	5.52	8.42	0.00
57.20	8.66	5.52	8.42	0.00
57.40	8.66	5.52	8.42	0.00
57.60	8.66	5.52	8.42	0.00
57.80	8.66	5.52	8.42	0.00
58.00	8.66	5.52	8.42	0.00
58.20	8.66	5.52	8.42	0.00
58.40	8.66	5.52	8.42	0.00
58.60	8.66	5.52	8.42	0.00
58.80	8.66	5.52	8.42	0.00
59.00	8.66	5.52	8.42	0.00
59.20	8.66	5.52	8.42	0.00
59.40	8.66	5.52	8.42	0.00
59.60	8.66	5.52	8.42	0.00
59.80	8.66	5.52	8.42	0.00
60.00	8.66	5.52	8.42	0.00
60.20	8.66	5.52	8.42	0.00
60.40	8.66	5.52	8.42	0.00
60.60	8.66	5.52	8.42	0.00
60.80	8.66	5.52	8.42	0.00
61.00	8.66	5.52	8.42	0.00
61.20	8.66	5.52	8.42	0.00
61.40	8.66	5.52	8.42	0.00
61.60	8.66	5.52	8.42	0.00
61.80	8.66	5.52	8.42	0.00
62.00	8.66	5.52	8.42	0.00
62.20	8.66	5.52	8.42	0.00

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Hydrograph for Subcatchment E-1: Existing Drainage to Franklin Avenue Municipal System (continued)

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
62.40	8.66	5.52	8.42	0.00
62.60	8.66	5.52	8.42	0.00
62.80	8.66	5.52	8.42	0.00
63.00	8.66	5.52	8.42	0.00
63.20	8.66	5.52	8.42	0.00
63.40	8.66	5.52	8.42	0.00
63.60	8.66	5.52	8.42	0.00
63.80	8.66	5.52	8.42	0.00
64.00	8.66	5.52	8.42	0.00
64.20	8.66	5.52	8.42	0.00
64.40	8.66	5.52	8.42	0.00
64.60	8.66	5.52	8.42	0.00
64.80	8.66	5.52	8.42	0.00
65.00	8.66	5.52	8.42	0.00
65.20	8.66	5.52	8.42	0.00
65.40	8.66	5.52	8.42	0.00
65.60	8.66	5.52	8.42	0.00
65.80	8.66	5.52	8.42	0.00
66.00	8.66	5.52	8.42	0.00
66.20	8.66	5.52	8.42	0.00
66.40	8.66	5.52	8.42	0.00
66.60	8.66	5.52	8.42	0.00
66.80	8.66	5.52	8.42	0.00
67.00	8.66	5.52	8.42	0.00
67.20	8.66	5.52	8.42	0.00
67.40	8.66	5.52	8.42	0.00
67.60	8.66	5.52	8.42	0.00
67.80	8.66	5.52	8.42	0.00
68.00	8.66	5.52	8.42	0.00
68.20	8.66	5.52	8.42	0.00
68.40	8.66	5.52	8.42	0.00
68.60	8.66	5.52	8.42	0.00
68.80	8.66	5.52	8.42	0.00
69.00	8.66	5.52	8.42	0.00
69.20	8.66	5.52	8.42	0.00
69.40	8.66	5.52	8.42	0.00
69.60	8.66	5.52	8.42	0.00
69.80	8.66	5.52	8.42	0.00
70.00	8.66	5.52	8.42	0.00
70.20	8.66	5.52	8.42	0.00
70.40	8.66	5.52	8.42	0.00
70.60	8.66	5.52	8.42	0.00
70.80	8.66	5.52	8.42	0.00
71.00	8.66	5.52	8.42	0.00
71.20	8.66	5.52	8.42	0.00
71.40	8.66	5.52	8.42	0.00
71.60	8.66	5.52	8.42	0.00
71.80	8.66	5.52	8.42	0.00
72.00	8.66	5.52	8.42	0.00

Summary for Subcatchment P-1: Proposed Drainage to Franklin Avenue Municipal System

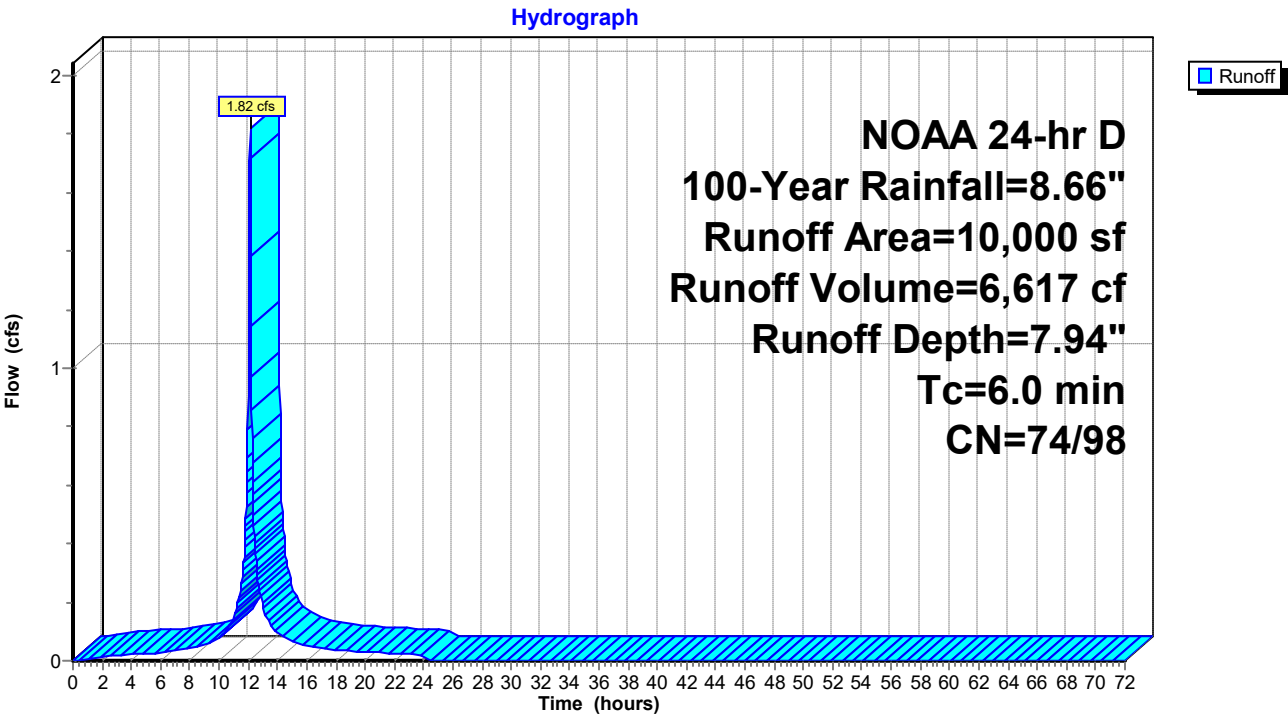
Runoff = 1.82 cfs @ 12.13 hrs, Volume= 6,617 cf, Depth= 7.94"

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
NOAA 24-hr D 100-Year Rainfall=8.66"

	Area (sf)	CN	Description
*	8,348	98	Impervious Area
	1,652	74	>75% Grass cover, Good, HSG C
	10,000	94	Weighted Average
	1,652	74	16.52% Pervious Area
	8,348	98	83.48% Impervious Area

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

Subcatchment P-1: Proposed Drainage to Franklin Avenue Municipal System



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Hydrograph for Subcatchment P-1: Proposed Drainage to Franklin Avenue Municipal System

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	0.00
0.20	0.02	0.00	0.00	0.00
0.40	0.04	0.00	0.00	0.00
0.60	0.06	0.00	0.00	0.00
0.80	0.08	0.00	0.01	0.00
1.00	0.10	0.00	0.01	0.01
1.20	0.12	0.00	0.02	0.01
1.40	0.14	0.00	0.03	0.01
1.60	0.16	0.00	0.05	0.01
1.80	0.19	0.00	0.06	0.01
2.00	0.21	0.00	0.08	0.01
2.20	0.23	0.00	0.09	0.02
2.40	0.25	0.00	0.11	0.02
2.60	0.28	0.00	0.13	0.02
2.80	0.30	0.00	0.15	0.02
3.00	0.33	0.00	0.17	0.02
3.20	0.35	0.00	0.19	0.02
3.40	0.38	0.00	0.21	0.02
3.60	0.40	0.00	0.23	0.02
3.80	0.43	0.00	0.25	0.02
4.00	0.45	0.00	0.28	0.02
4.20	0.48	0.00	0.30	0.02
4.40	0.51	0.00	0.33	0.02
4.60	0.54	0.00	0.35	0.02
4.80	0.56	0.00	0.38	0.02
5.00	0.59	0.00	0.40	0.03
5.20	0.62	0.00	0.43	0.03
5.40	0.65	0.00	0.46	0.03
5.60	0.68	0.00	0.48	0.03
5.80	0.71	0.00	0.51	0.03
6.00	0.74	0.00	0.54	0.03
6.20	0.77	0.00	0.57	0.03
6.40	0.80	0.00	0.60	0.03
6.60	0.84	0.01	0.64	0.03
6.80	0.87	0.01	0.67	0.03
7.00	0.91	0.01	0.71	0.04
7.20	0.95	0.02	0.74	0.04
7.40	0.99	0.02	0.78	0.04
7.60	1.03	0.03	0.82	0.04
7.80	1.08	0.04	0.87	0.04
8.00	1.12	0.05	0.91	0.04
8.20	1.17	0.06	0.96	0.05
8.40	1.22	0.07	1.00	0.05
8.60	1.27	0.08	1.05	0.05
8.80	1.32	0.09	1.10	0.05
9.00	1.37	0.11	1.16	0.05
9.20	1.43	0.13	1.21	0.06
9.40	1.49	0.15	1.27	0.06
9.60	1.56	0.17	1.34	0.07
9.80	1.64	0.20	1.42	0.08
10.00	1.72	0.23	1.49	0.08
10.20	1.80	0.26	1.58	0.09

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Hydrograph for Subcatchment P-1: Proposed Drainage to Franklin Avenue Municipal System (continued)

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
10.40	1.89	0.30	1.67	0.09
10.60	1.99	0.35	1.77	0.11
10.80	2.11	0.40	1.88	0.13
11.00	2.25	0.47	2.02	0.15
11.20	2.42	0.57	2.19	0.18
11.40	2.63	0.68	2.40	0.22
11.60	2.90	0.85	2.67	0.31
11.80	3.29	1.10	3.06	0.44
12.00	4.15	1.71	3.91	1.01
12.20	5.37	2.66	5.13	1.14
12.40	5.76	2.98	5.52	0.43
12.60	6.03	3.21	5.79	0.29
12.80	6.24	3.39	6.00	0.23
13.00	6.41	3.53	6.17	0.19
13.20	6.55	3.65	6.31	0.16
13.40	6.67	3.75	6.43	0.13
13.60	6.77	3.84	6.53	0.11
13.80	6.86	3.92	6.62	0.10
14.00	6.94	3.99	6.70	0.10
14.20	7.02	4.06	6.78	0.09
14.40	7.10	4.13	6.86	0.08
14.60	7.17	4.19	6.93	0.08
14.80	7.23	4.24	6.99	0.07
15.00	7.29	4.29	7.05	0.06
15.20	7.34	4.34	7.10	0.06
15.40	7.39	4.38	7.15	0.06
15.60	7.44	4.43	7.20	0.06
15.80	7.49	4.47	7.25	0.05
16.00	7.54	4.51	7.30	0.05
16.20	7.58	4.55	7.34	0.05
16.40	7.63	4.59	7.39	0.05
16.60	7.67	4.63	7.43	0.05
16.80	7.71	4.67	7.47	0.05
17.00	7.75	4.70	7.51	0.04
17.20	7.79	4.73	7.55	0.04
17.40	7.82	4.77	7.58	0.04
17.60	7.86	4.80	7.62	0.04
17.80	7.89	4.83	7.65	0.04
18.00	7.92	4.85	7.68	0.04
18.20	7.95	4.88	7.71	0.03
18.40	7.98	4.91	7.74	0.03
18.60	8.01	4.93	7.77	0.03
18.80	8.04	4.96	7.80	0.03
19.00	8.07	4.99	7.83	0.03
19.20	8.10	5.01	7.86	0.03
19.40	8.12	5.04	7.88	0.03
19.60	8.15	5.06	7.91	0.03
19.80	8.18	5.09	7.94	0.03
20.00	8.21	5.11	7.97	0.03
20.20	8.23	5.13	7.99	0.03
20.40	8.26	5.16	8.02	0.03
20.60	8.28	5.18	8.04	0.03

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Hydrograph for Subcatchment P-1: Proposed Drainage to Franklin Avenue Municipal System (continued)

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
20.80	8.31	5.20	8.07	0.03
21.00	8.33	5.23	8.09	0.03
21.20	8.36	5.25	8.12	0.03
21.40	8.38	5.27	8.14	0.03
21.60	8.41	5.29	8.17	0.03
21.80	8.43	5.31	8.19	0.03
22.00	8.45	5.33	8.21	0.03
22.20	8.47	5.35	8.23	0.03
22.40	8.50	5.37	8.26	0.03
22.60	8.52	5.39	8.28	0.02
22.80	8.54	5.41	8.30	0.02
23.00	8.56	5.43	8.32	0.02
23.20	8.58	5.45	8.34	0.02
23.40	8.60	5.47	8.36	0.02
23.60	8.62	5.49	8.38	0.02
23.80	8.64	5.50	8.40	0.02
24.00	8.66	5.52	8.42	0.02
24.20	8.66	5.52	8.42	0.00
24.40	8.66	5.52	8.42	0.00
24.60	8.66	5.52	8.42	0.00
24.80	8.66	5.52	8.42	0.00
25.00	8.66	5.52	8.42	0.00
25.20	8.66	5.52	8.42	0.00
25.40	8.66	5.52	8.42	0.00
25.60	8.66	5.52	8.42	0.00
25.80	8.66	5.52	8.42	0.00
26.00	8.66	5.52	8.42	0.00
26.20	8.66	5.52	8.42	0.00
26.40	8.66	5.52	8.42	0.00
26.60	8.66	5.52	8.42	0.00
26.80	8.66	5.52	8.42	0.00
27.00	8.66	5.52	8.42	0.00
27.20	8.66	5.52	8.42	0.00
27.40	8.66	5.52	8.42	0.00
27.60	8.66	5.52	8.42	0.00
27.80	8.66	5.52	8.42	0.00
28.00	8.66	5.52	8.42	0.00
28.20	8.66	5.52	8.42	0.00
28.40	8.66	5.52	8.42	0.00
28.60	8.66	5.52	8.42	0.00
28.80	8.66	5.52	8.42	0.00
29.00	8.66	5.52	8.42	0.00
29.20	8.66	5.52	8.42	0.00
29.40	8.66	5.52	8.42	0.00
29.60	8.66	5.52	8.42	0.00
29.80	8.66	5.52	8.42	0.00
30.00	8.66	5.52	8.42	0.00
30.20	8.66	5.52	8.42	0.00
30.40	8.66	5.52	8.42	0.00
30.60	8.66	5.52	8.42	0.00
30.80	8.66	5.52	8.42	0.00
31.00	8.66	5.52	8.42	0.00

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Hydrograph for Subcatchment P-1: Proposed Drainage to Franklin Avenue Municipal System (continued)

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
31.20	8.66	5.52	8.42	0.00
31.40	8.66	5.52	8.42	0.00
31.60	8.66	5.52	8.42	0.00
31.80	8.66	5.52	8.42	0.00
32.00	8.66	5.52	8.42	0.00
32.20	8.66	5.52	8.42	0.00
32.40	8.66	5.52	8.42	0.00
32.60	8.66	5.52	8.42	0.00
32.80	8.66	5.52	8.42	0.00
33.00	8.66	5.52	8.42	0.00
33.20	8.66	5.52	8.42	0.00
33.40	8.66	5.52	8.42	0.00
33.60	8.66	5.52	8.42	0.00
33.80	8.66	5.52	8.42	0.00
34.00	8.66	5.52	8.42	0.00
34.20	8.66	5.52	8.42	0.00
34.40	8.66	5.52	8.42	0.00
34.60	8.66	5.52	8.42	0.00
34.80	8.66	5.52	8.42	0.00
35.00	8.66	5.52	8.42	0.00
35.20	8.66	5.52	8.42	0.00
35.40	8.66	5.52	8.42	0.00
35.60	8.66	5.52	8.42	0.00
35.80	8.66	5.52	8.42	0.00
36.00	8.66	5.52	8.42	0.00
36.20	8.66	5.52	8.42	0.00
36.40	8.66	5.52	8.42	0.00
36.60	8.66	5.52	8.42	0.00
36.80	8.66	5.52	8.42	0.00
37.00	8.66	5.52	8.42	0.00
37.20	8.66	5.52	8.42	0.00
37.40	8.66	5.52	8.42	0.00
37.60	8.66	5.52	8.42	0.00
37.80	8.66	5.52	8.42	0.00
38.00	8.66	5.52	8.42	0.00
38.20	8.66	5.52	8.42	0.00
38.40	8.66	5.52	8.42	0.00
38.60	8.66	5.52	8.42	0.00
38.80	8.66	5.52	8.42	0.00
39.00	8.66	5.52	8.42	0.00
39.20	8.66	5.52	8.42	0.00
39.40	8.66	5.52	8.42	0.00
39.60	8.66	5.52	8.42	0.00
39.80	8.66	5.52	8.42	0.00
40.00	8.66	5.52	8.42	0.00
40.20	8.66	5.52	8.42	0.00
40.40	8.66	5.52	8.42	0.00
40.60	8.66	5.52	8.42	0.00
40.80	8.66	5.52	8.42	0.00
41.00	8.66	5.52	8.42	0.00
41.20	8.66	5.52	8.42	0.00
41.40	8.66	5.52	8.42	0.00

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Hydrograph for Subcatchment P-1: Proposed Drainage to Franklin Avenue Municipal System (continued)

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
41.60	8.66	5.52	8.42	0.00
41.80	8.66	5.52	8.42	0.00
42.00	8.66	5.52	8.42	0.00
42.20	8.66	5.52	8.42	0.00
42.40	8.66	5.52	8.42	0.00
42.60	8.66	5.52	8.42	0.00
42.80	8.66	5.52	8.42	0.00
43.00	8.66	5.52	8.42	0.00
43.20	8.66	5.52	8.42	0.00
43.40	8.66	5.52	8.42	0.00
43.60	8.66	5.52	8.42	0.00
43.80	8.66	5.52	8.42	0.00
44.00	8.66	5.52	8.42	0.00
44.20	8.66	5.52	8.42	0.00
44.40	8.66	5.52	8.42	0.00
44.60	8.66	5.52	8.42	0.00
44.80	8.66	5.52	8.42	0.00
45.00	8.66	5.52	8.42	0.00
45.20	8.66	5.52	8.42	0.00
45.40	8.66	5.52	8.42	0.00
45.60	8.66	5.52	8.42	0.00
45.80	8.66	5.52	8.42	0.00
46.00	8.66	5.52	8.42	0.00
46.20	8.66	5.52	8.42	0.00
46.40	8.66	5.52	8.42	0.00
46.60	8.66	5.52	8.42	0.00
46.80	8.66	5.52	8.42	0.00
47.00	8.66	5.52	8.42	0.00
47.20	8.66	5.52	8.42	0.00
47.40	8.66	5.52	8.42	0.00
47.60	8.66	5.52	8.42	0.00
47.80	8.66	5.52	8.42	0.00
48.00	8.66	5.52	8.42	0.00
48.20	8.66	5.52	8.42	0.00
48.40	8.66	5.52	8.42	0.00
48.60	8.66	5.52	8.42	0.00
48.80	8.66	5.52	8.42	0.00
49.00	8.66	5.52	8.42	0.00
49.20	8.66	5.52	8.42	0.00
49.40	8.66	5.52	8.42	0.00
49.60	8.66	5.52	8.42	0.00
49.80	8.66	5.52	8.42	0.00
50.00	8.66	5.52	8.42	0.00
50.20	8.66	5.52	8.42	0.00
50.40	8.66	5.52	8.42	0.00
50.60	8.66	5.52	8.42	0.00
50.80	8.66	5.52	8.42	0.00
51.00	8.66	5.52	8.42	0.00
51.20	8.66	5.52	8.42	0.00
51.40	8.66	5.52	8.42	0.00
51.60	8.66	5.52	8.42	0.00
51.80	8.66	5.52	8.42	0.00

2024-10-08_HydroCAD Calcs

NOAA 24-hr D 100-Year Rainfall=8.66"

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Hydrograph for Subcatchment P-1: Proposed Drainage to Franklin Avenue Municipal System (continued)

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
52.00	8.66	5.52	8.42	0.00
52.20	8.66	5.52	8.42	0.00
52.40	8.66	5.52	8.42	0.00
52.60	8.66	5.52	8.42	0.00
52.80	8.66	5.52	8.42	0.00
53.00	8.66	5.52	8.42	0.00
53.20	8.66	5.52	8.42	0.00
53.40	8.66	5.52	8.42	0.00
53.60	8.66	5.52	8.42	0.00
53.80	8.66	5.52	8.42	0.00
54.00	8.66	5.52	8.42	0.00
54.20	8.66	5.52	8.42	0.00
54.40	8.66	5.52	8.42	0.00
54.60	8.66	5.52	8.42	0.00
54.80	8.66	5.52	8.42	0.00
55.00	8.66	5.52	8.42	0.00
55.20	8.66	5.52	8.42	0.00
55.40	8.66	5.52	8.42	0.00
55.60	8.66	5.52	8.42	0.00
55.80	8.66	5.52	8.42	0.00
56.00	8.66	5.52	8.42	0.00
56.20	8.66	5.52	8.42	0.00
56.40	8.66	5.52	8.42	0.00
56.60	8.66	5.52	8.42	0.00
56.80	8.66	5.52	8.42	0.00
57.00	8.66	5.52	8.42	0.00
57.20	8.66	5.52	8.42	0.00
57.40	8.66	5.52	8.42	0.00
57.60	8.66	5.52	8.42	0.00
57.80	8.66	5.52	8.42	0.00
58.00	8.66	5.52	8.42	0.00
58.20	8.66	5.52	8.42	0.00
58.40	8.66	5.52	8.42	0.00
58.60	8.66	5.52	8.42	0.00
58.80	8.66	5.52	8.42	0.00
59.00	8.66	5.52	8.42	0.00
59.20	8.66	5.52	8.42	0.00
59.40	8.66	5.52	8.42	0.00
59.60	8.66	5.52	8.42	0.00
59.80	8.66	5.52	8.42	0.00
60.00	8.66	5.52	8.42	0.00
60.20	8.66	5.52	8.42	0.00
60.40	8.66	5.52	8.42	0.00
60.60	8.66	5.52	8.42	0.00
60.80	8.66	5.52	8.42	0.00
61.00	8.66	5.52	8.42	0.00
61.20	8.66	5.52	8.42	0.00
61.40	8.66	5.52	8.42	0.00
61.60	8.66	5.52	8.42	0.00
61.80	8.66	5.52	8.42	0.00
62.00	8.66	5.52	8.42	0.00
62.20	8.66	5.52	8.42	0.00

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NOAA 24-hr D 100-Year Rainfall=8.66"

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Hydrograph for Subcatchment P-1: Proposed Drainage to Franklin Avenue Municipal System (continued)

Time (hours)	Precip. (inches)	Perv.Excess (inches)	Imp.Excess (inches)	Runoff (cfs)
62.40	8.66	5.52	8.42	0.00
62.60	8.66	5.52	8.42	0.00
62.80	8.66	5.52	8.42	0.00
63.00	8.66	5.52	8.42	0.00
63.20	8.66	5.52	8.42	0.00
63.40	8.66	5.52	8.42	0.00
63.60	8.66	5.52	8.42	0.00
63.80	8.66	5.52	8.42	0.00
64.00	8.66	5.52	8.42	0.00
64.20	8.66	5.52	8.42	0.00
64.40	8.66	5.52	8.42	0.00
64.60	8.66	5.52	8.42	0.00
64.80	8.66	5.52	8.42	0.00
65.00	8.66	5.52	8.42	0.00
65.20	8.66	5.52	8.42	0.00
65.40	8.66	5.52	8.42	0.00
65.60	8.66	5.52	8.42	0.00
65.80	8.66	5.52	8.42	0.00
66.00	8.66	5.52	8.42	0.00
66.20	8.66	5.52	8.42	0.00
66.40	8.66	5.52	8.42	0.00
66.60	8.66	5.52	8.42	0.00
66.80	8.66	5.52	8.42	0.00
67.00	8.66	5.52	8.42	0.00
67.20	8.66	5.52	8.42	0.00
67.40	8.66	5.52	8.42	0.00
67.60	8.66	5.52	8.42	0.00
67.80	8.66	5.52	8.42	0.00
68.00	8.66	5.52	8.42	0.00
68.20	8.66	5.52	8.42	0.00
68.40	8.66	5.52	8.42	0.00
68.60	8.66	5.52	8.42	0.00
68.80	8.66	5.52	8.42	0.00
69.00	8.66	5.52	8.42	0.00
69.20	8.66	5.52	8.42	0.00
69.40	8.66	5.52	8.42	0.00
69.60	8.66	5.52	8.42	0.00
69.80	8.66	5.52	8.42	0.00
70.00	8.66	5.52	8.42	0.00
70.20	8.66	5.52	8.42	0.00
70.40	8.66	5.52	8.42	0.00
70.60	8.66	5.52	8.42	0.00
70.80	8.66	5.52	8.42	0.00
71.00	8.66	5.52	8.42	0.00
71.20	8.66	5.52	8.42	0.00
71.40	8.66	5.52	8.42	0.00
71.60	8.66	5.52	8.42	0.00
71.80	8.66	5.52	8.42	0.00
72.00	8.66	5.52	8.42	0.00

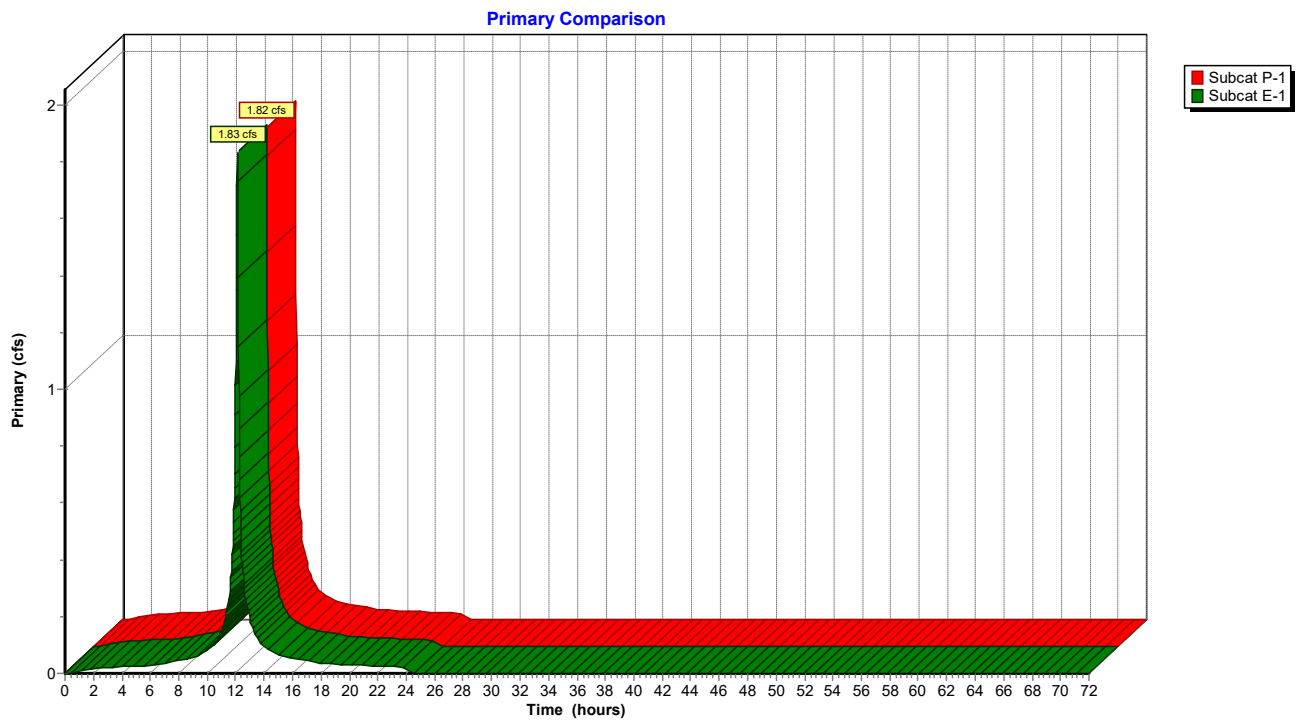
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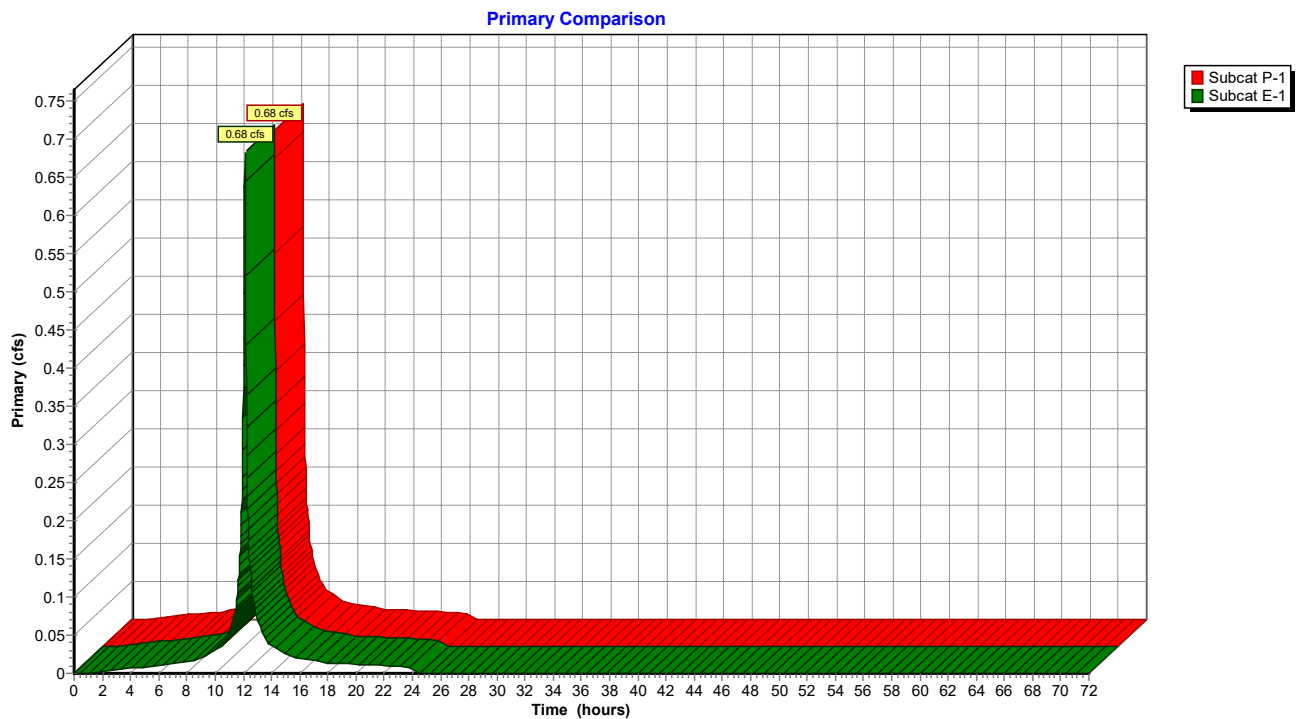
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NOAA 24-hr D 2-Year Rainfall=3.44"

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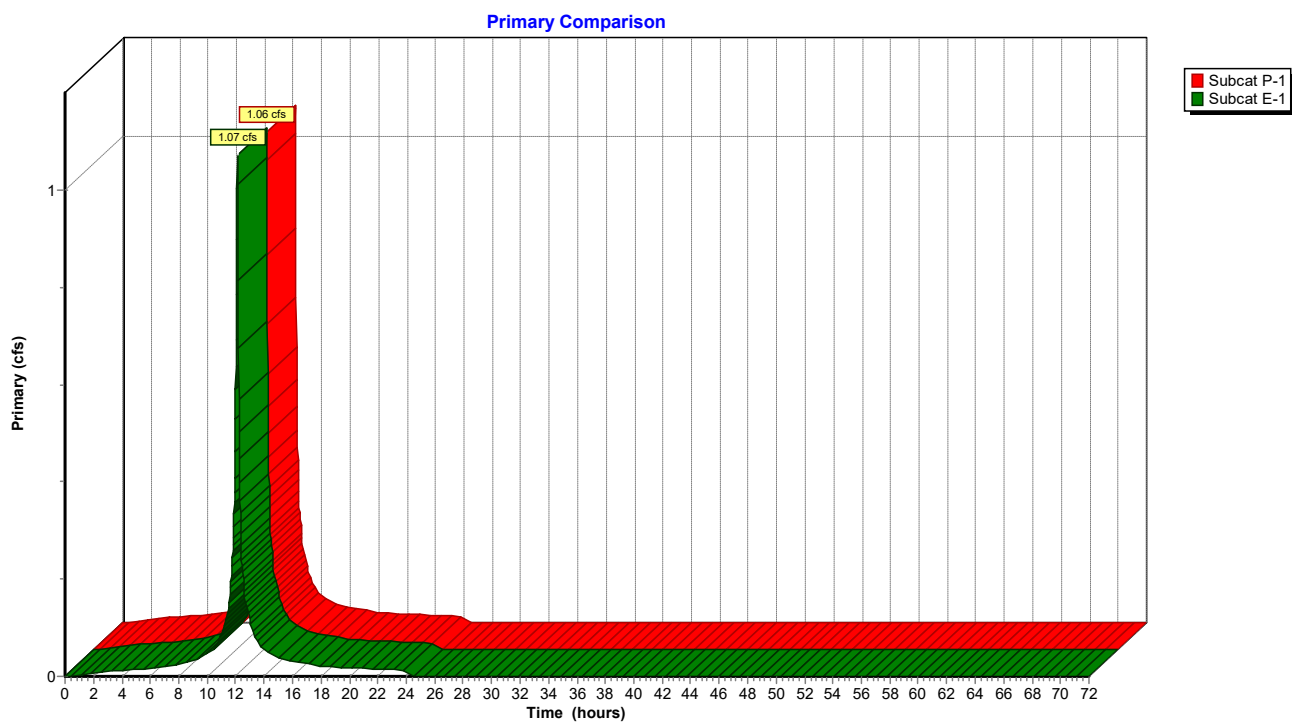
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NOAA 24-hr D 10-Year Rainfall=5.22"

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Stormwater Management Statement

Proposed Site Improvements

Township of West Orange, New Jersey

October 8, 2024

APPENDIX D DRAINAGE AREA MAPS



DESCRIPTION

NOT APPROVED FOR CONSTRUCTION



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www.stonefieldeng.com

Headquarters: 92 Park Avenue, Rutherford, NJ 07070
Phone 201.340.4468 • Fax 201.340.4472
www.stonefieldeng.com

AFTON SAVITZ, P.E.
NEW JERSEY LICENSE No. 57674
LICENSED PROFESSIONAL ENGINEER



SCALE: 1" = 10' **PROJECT ID:** RUT-210050

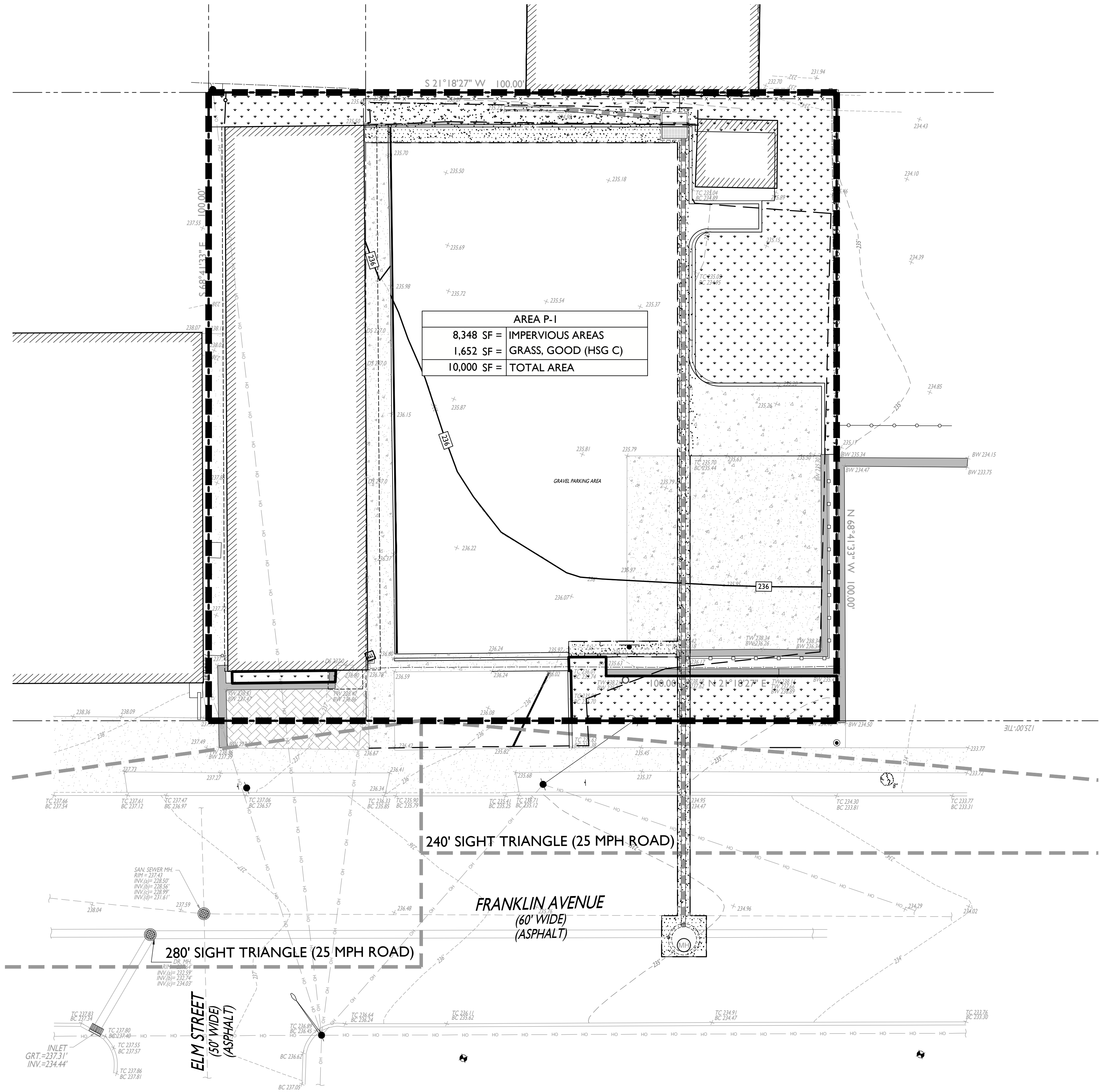
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EXISTING DRAINAGE AREA MAP

DRAWING

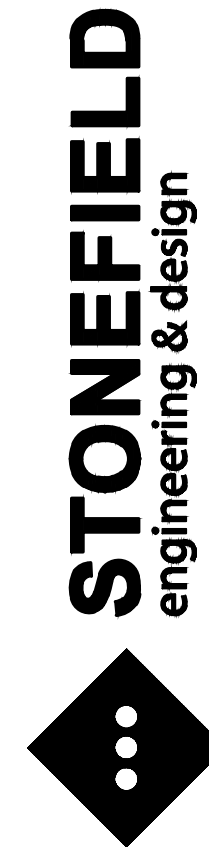
1 OF 2

Z:\RUTHERFORD\170317\170317-16052 MANUEL VEGA - 14 FRANKLIN AVENUE WEST CHANGE, 14 CADASHHUBIT DRAINAGE AREA MAPS\2021-08-25_DRAINAGE AREA MAPS.DWG



SYMBOL	DESCRIPTION
	PROPERTY LINE
	PROPOSED SITE DRAINAGE AREA
	PROPOSED PERVIOUS AREA

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www.stonefieldeng.com
Headquarters: 92 Park Avenue, Rutherford, NJ 07070
Phone 201.340.4468 · Fax 201.340.4472

PRELIMINARY & FINAL MAJOR SITE PLAN

MANUEL VEGA
PROPOSED RENOVATION &
ADDITION

BLOCK 134.02, LOTS 75.03, 79 & 81
66 FRANKLIN AVENUE
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY, NEW JERSEY

AFTON SAVITZ, P.E.
NEW JERSEY LICENSE No. 57674
LICENSED PROFESSIONAL ENGINEER



SCALE: 1" = 10' PROJECT ID: RUT-210050

TITLE:
PROPOSED DRAINAGE
AREA MAP

DRAWING: